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Article Summary: The Nebraska State Historical Society provided an analysis of historical resources to guide archeological excavations at Fort Kearny in 1960 and 1961. Archeologists were able to compare their findings with period maps and plans from the Society's collections.

Scroll down for complete article.

Cataloging Information:

Names: Daniel P Woodbury

Nebraska Place Names: Table Creek (Nebraska City), Platte River (Grand Island)

Features of Fort Kearny: parade ground, blacksmith-carpenter shop, guardhouse, adobe storehouse, stockade, rifle pit, barracks, quartermaster warehouse, commissary warehouse

Keywords: Fort Childs (name changed to Fort Kearny in 1849), Missouri Mounted Volunteers, Fort Mitchel (name changed to East Fort)

Photographs / Images: Fort Kearny in the 1950s; composite plan of Fort Kearny in 1864; aerial view of Fort Kearny; Fort Kearny parade ground, 1858; sketch showing the building of Fort Kearny, June 3, 1849; artist's view of Fort Kearny, 1870; crew excavating blacksmith-carpenter shop; remains of blacksmith shop forge; floor depression of guardhouse after excavation; trench exposing postholes marking barracks foundation; Fort Mitchel earthworks before excavation; trench through mound and ditch of Fort Mitchel fortification; excavating east side of Fort Mitchel; angular trench at Fort Mitchel: part of earlier building; wall of sod structure cut by fortification ditch; collapsed sod wall of building at Fort Mitchel site; objects found during excavation: smoking pipes, personal objects, tools, utensils, wagon hardware, harness and horse gear, weapons, door and window hardware, miscellaneous objects, bottle

DIGGING AT FORT KEARNY

BY ROGER T. GRANGE, JR.

FORT Kearny, established in 1848, remained an active military post until 1871. It played an important role in the settlement of the western United States by providing assistance and protection for the thousands of immigrants who passed along the overland trails in the 1850's. During the Civil War it continued to protect the trails and developing settlements, but the usefulness of the Fort waned as the focus of the Indian Wars shifted to the west. Fort Kearny was abandoned as a military post in 1871, and the site was opened to homesteaders in the mid-1870's.

Time, the needs of settlers in the area and modern agricultural practices have destroyed the visible remains of Fort Kearny. Today there are only a few depressions and mounds to serve as reminders of the many buildings which once surrounded the parade ground. In 1929 a portion of the headquarters area was made into a State Park. The Nebraska State Game, Forestation and Parks Commission administers the site and is presently developing Fort

Dr. Grange, Assistant Museum Director on the Society staff, was in charge of the archaeological work the Society did at Fort Kearny on contract with the Game, Forestation and Parks Commission.

Kearny State Historical Park for the intrinsic historic value of the site and to bolster the state's tourist economy.

The Nebraska State Historical Society has been called upon to render technical assistance in some phases of the Fort Kearny project. Archaeological excavations were made during the summers of 1960 and 1961 by the Society.¹ The work combined the field research methods of archaeology with analysis of historical sources, a blending of scholarly techniques in an approach called historic site archaeology.

Among the available Fort Kearny records are several maps illustrating the layout of buildings at the post at different times. The Fort Kearny plans, characteristic of any such series of plans, often contradict one another. There are differences resulting from the addition of new buildings and the subtraction of old ones, but some plans also include proposed buildings which were never built, while others omit existing structures which were not considered important at the time.

Plots of the presumed position of buildings can be made from the post maps but archaeological work is necessary to locate and identify the actual structural sites. In addition to locating and identifying buildings archaeology was used to locate areas lacking significant historical remains which could therefore be available for park development. Excavation also provided a representative collection of objects for research and for future museum display.

In order to find remains of structures, verify the absence of significant remains and to recover specimens the Society's archaeological crews engaged in extensive testing rather than intensive work in restricted areas. Some locations were subjected to more concentrated efforts but the site of no structure was completely exposed. The archaeological study of Fort Kearny is far from complete, but

¹Grange, Roger T. Jr., *Preliminary Report, Excavations at Fort Kearny, Nebraska*, 1960. Ms., Nebraska State Historical Society, 1961. Grange, Roger T. Jr., *Excavations At Fort Kearny, Nebraska*, 1961. Ms., Nebraska State Historical Society, 1962.

much new information was obtained in the two seasons' work.

Fort Kearny was first established in 1846 at Table Creek, the site of the present town of Nebraska City. The post consisted of log quarters for the troops and a log blockhouse. In 1847 an exploratory party was sent out to locate a more suitable site to protect the trail along the Platte River. The site selected was at the head of Grand Island. Lt. Daniel P. Woodbury, U. S. Army Engineers, wrote a glowing report detailing the advantages of the site. Nearby sources of timber and clay for construction purposes were among the important reasons for selecting this spot.²

The new Platte River post was established in May 1848 by men of the Missouri Mounted Volunteers under command of Col. Ludwig Powell. As an engineer officer, Lt. Woodbury directed the men in construction activities. The post was designated the "1st Military Station on the Route to Oregon." Lt. Woodbury named the post Fort Childs, but the name was changed to Fort Kearny after Col. Stephen Watts Kearny in January, 1849.³ In October of 1848 two companies of the Regiment of Mounted Riflemen relieved the volunteers as post garrison and Capt. Charles Ruff became post commander.

Structures of all types eventually rose at the Fort; frame, log, sod, adobe, brick and rammed earth were among the construction materials employed. The old post at Table Creek supplied ". . . a large quantity of ready made doors

² The history of Fort Kearny has been summarized in several publications of the Nebraska State Historical Society. Most of the references cited here may be found in *Fort Kearny-Founding-History-Abandonment-Restoration* by Willman, Lillian M., Sheldon, Addison E. and others, Publications of the Nebraska State Historical Society, Volume XXI, 1930.

³ Woodbury to Totten, June 3, 1848. Nebraska State Historical Society Publications, Volume XXI, 1930, p. 256. Totten to Woodbury, January 23, 1849. Nebraska State Historical Society Publications, Volume XXI, 1930, p. 257. Mantor, Lyle E. *Fort Kearny and the Westward Movement*. Nebraska History, Volume XXIX, No. 3, Sept. 1948, p. 176.

and window sashes, shingles and pine boards. . . ."⁴ In August of 1848 Lt. Woodbury reported that 175 men were at work "mainly as follows":

- "20 men moulding and burning bricks.
- 60 men moulding adobes.
- 25 men working as carpenters; at the saw mill; and getting out timber.
- 20 men building a sod stable—top boarded and covered with hard rammed earth.
- 50 men hauling and laying adobes.

The bricks—about 60,000—have been burnt but the kiln is still hot and I do not know the quality of the bricks.

Continued rains during the last week have almost entirely suspended our operations in adobes, and I am about to resort as an occasional substitute to the plan of ramming earth between moulds."⁵

By October a four room sod building for temporary officers quarters had been finished and another nearly so, while the adobe storehouse was also nearing completion. The men of the Mounted Riflemen were about to start building stables for their horses.

December found the adobe storehouse finished, two temporary stables for 48 horses each and four other large buildings completed. "The officers and men are in tolerable quarters," Lt. Woodbury reported.⁶

The year 1849 saw continued progress towards the construction of Fort Kearny. Lt. Woodbury reported on June 2nd that the new hospital had been covered and weather-boarded and would be shingled within a day. Work on the post continued through the summer and in September Lt. Woodbury sent a plan of the Fort to Col. Totten. The plan shows both proposed and completed buildings, and Lt. Woodbury commented that he had found it necessary to reduce his original plans to a more economical scale. Despite his initial enthusiasm in 1847 the engineer officer had

⁴ Woodbury to Totten, March 2, 1848. Publications of the Nebraska State Historical Society, Volume XXI, 1930, p. 255.

⁵ Woodbury to Totten, August 2, 1848. Publications of the Nebraska State Historical Society, Volume XXI, 1930, p. 256.

⁶ Woodbury to Totten, August 2, 1848. Publications of the Nebraska State Historical Society, Volume XXI, 1930, p. 257.

developed misgivings about Fort Kearny which he discussed in his report of February 14, 1850. He suggested that the area could be adequately protected by sending a squadron of Dragoons from Fort Leavenworth into the field for the traveling season, because only the Pawnee bothered the immigrants along this portion of the trail. In contrast to his original report, Lt. Woodbury emphasized the scarcity and poor quality of construction materials available at the site, the difficulties in obtaining supplies and the serious problem of inducing farmers to settle nearby to produce food for the troops. Lime was burned and hauled to the post from a location 100 miles away, while shingles, lath, doors, and other items had to be hauled from St. Louis at great expense. Woodbury proposed a middle course between completion and abandonment for Fort Kearny; he suggested that the garrison be reduced in size to fit the quarters already available at Kearny and thenceforth to concentrate on construction at the second of the proposed posts along the Oregon Trail, Fort Laramie.

Like most military posts on the Plains, Fort Kearny was a collection of buildings arranged around an open square or parade ground. Initial plans did call for a surrounding stockade fortification with blockhouse on two opposite corners, but this defensive "fence" was never constructed.⁷

Around the parade ground in 1852 were six buildings. On the east side, in the middle, was a frame two story soldiers quarters or barracks for 100 men. At the southeast corner was the largest building at Fort Kearny, the massive adobe storehouse for quartermaster and commissary supplies. It was a low one story thick walled building with its roof covered with sheet lead. At the center of the south side of the parade ground stood a two story frame officers quarters. Nearby on the southwest corner was the post hospital, a one story frame building with two rooms in the

⁷ Map of Fort Kearny, October 28, 1952. Copies of this and other plans of the post on file at the Nebraska State Historical Society, have been used in this project but are not cited individually in this account of the work.

attic. The commanding officers quarters was in a central location on the west side of the parade ground and the tiny frame guardhouse was on the north. There were other buildings at Fort Kearny at this time, among them the sod stables, outbuildings and other structures, but none of these were recorded on the plan Lt. Woodbury submitted. Some of these "lost" buildings can be located and identified by archaeological techniques. An unofficial plan of Fort Kearny in 1856 shows commanding officers stables, adjutants office, laundresses quarters, a bakery, and a powder magazine among the additional buildings illustrated.

Although the post was not ten years old, the condition of Fort Kearny had seriously deteriorated by June of 1857 when it was reported that repairs were needed. In December of the same year Lt. Marshall said that the buildings were hardly habitable and that the post must either be repaired or abandoned. The situation grew even worse. By March of 1858 the adobe storehouse was falling to pieces and was no longer useable; immediate construction of two new storehouses was proposed. These new quartermaster and commissary warehouses were apparently built very soon but they do not appear on official post plans until 1864.

The annual report of inspection of buildings in June, 1864, indicates that the officers and enlisted men's quarters were in poor but repairable condition. The 7th Iowa Cavalry became the post garrison in the fall of 1863 and after their arrival they constructed a log and earth magazine, a new hospital and new log laundresses quarters. The mound marking the magazine is still visible at the site.

Indian uprisings in the Plains began in 1862 after the removal of regular army troops to fight in the Civil War. War parties raided the Nebraska settlements and stage stations along the Platte and Blue Rivers in August of 1864. These attacks prompted the construction of a series of fortifications at key locations around the Fort Kearny building area. Capt. Lee P. Gillette of the 1st Cavalry Ne-

braska Veteran Volunteers was post commander at the time and indicates in his reports that the work was done during the month of November, 1864.⁸ The fortifications are shown on the 1864 plans of the post. West Fort or Fort Livingston was to the northwest some distance away from the parade ground near the sutler's store. Fort Gillette was associated with a corral on the north side of the parade ground. East Fort or Fort Mitchel was a short distance to the southeast of the parade ground and connected to a long rifle pit or trench which protected the south side of the parade ground. These fortifications were never used as Fort Kearny was not attacked by Indians. The rifle pit is still visible, and the large rectangular earthwork of Fort Mitchel in the southeastern area of the park is the most prominent surface feature at Fort Kearny today.

The area surrounding Fort Kearny is used for irrigated farming today, and the forty acre park has been much less disturbed than the other portions of the post. Those outside the limits of the park to the north and west have been virtually obliterated. A county road along the western park boundary has destroyed the sites of the commanding officers quarters and other buildings which lined the western side of the parade ground. The parade ground area has been made a parking lot and traces of the former brick cross walks may be seen in drainage ditches there. North of the parade ground area are depressions and mounds marking warehouse and powder magazine sites while large cottonwood trees delimit the perimeter of the parade ground itself. Other large trees in the park area were planted by homesteader William O. Dungan. In the east central area a low mound marks the site of the former blacksmith and carpenter shops. In the southeastern corner of the park area is a series of rectangular earthworks.

A survey of historical records, particularly of plans of the post, provided tentative building locations within the park area while mounds and depressions marked possible

⁸ Post Returns, November, 1864. Nebraska State Historical Society, MS 240, microfilm copies of various Fort Kearny records.

building sites on the ground. Archaeological excavations were planned to test or cross section these features so that positive building identifications could be made. The excavations were accomplished by hand, using the usual array of archaeological tools ranging from shovels to ice picks. A photographic and map record was maintained along with other detailed notes. All excavations are permanently destructive and it is by means of careful observations and detailed notes and records that the archaeologist finds and preserves the data that the casual excavator does not even notice. Fort Kearny, like many historic sites, has suffered at the hands of the relic hunter and vandal.

In the first season, 1960, one major archaeological project produced very little positive data but nevertheless constituted a highly important aspect of the field work. Numerous test excavations were made in the northeastern and southern sections of the park which, on the basis of map study, appeared to be free of important structures. The tests confirmed this and two large areas of the park were "cleared" for non-historical developmental use.

The blacksmith-carpenter shop first appears on an 1866 plan of the post although it must have been in existence at a much earlier date since such a building would have been one of the first needed at a functioning military post of the day. The site of the sod blacksmith-carpenter shop is marked today by a low irregular mound about ninety feet in diameter located in the east central portion of the park. A system of cross-trenches was excavated to determine the limits of the building. The excavations revealed only faint traces of the original sod walls but a pattern of rubble filled post holes was found. These rectangular roof support posts were incorporated in the walls of the building. One post on both the north and south ends and two each on the east and west sides were found. Measurements from these post molds indicate a building size of 35' by 70' corresponding approximately with the 30'6" by 72' dimensions indicated on the 1866 plan of the Fort. Two

post molds inside the building were identified as internal roof supports.

The earth comprising the mound was composed of dark grey to black soil and refuse consisting of charcoal, ash, brick rubble and artifacts. Detailed study of the north-south longitudinal trench revealed that the building had been divided into two rooms by an interior sod wall. A layer of ash was found on the earthen floor of the northern room, along with scrap iron, broken blacksmith tools, window and bottle glass fragments and food bones. The most prominent feature of the excavated area was a large concentration of ash, clinkers, brick rubble and scrap iron surrounding a small section of standing bricks mortared together. This feature has been tentatively identified as the remains of a forge. The layer of floor ash runs continuously underneath the mortared bricks, demonstrating that this particular forge was a later addition to the building. Outside the northern room of the building to the west was a depression which may mark a worn spot or mudhole at an entrance of the building. Associated with this depression was found a mass of worn-out horse and mule shoes, wagon parts and other scrap iron which appears to be a waste iron pile. The southern room of the building lacks the well defined layer of ash on the floor although two ash filled pits were found in the floor level. Fragments of saws and files as well as scrap iron were found in this section of the building which has been tentatively identified as the carpenter shop area.

Some excavations were carried out on the north side and at the southeast corner of the parade ground. The officers quarters on the south, and soldiers barracks on the east, erected at Fort Kearny in 1849, were not investigated by the Historical Society field party since both sites were explored by the architectural firm of Clark and Enerson in 1948⁹ and the barracks site had been subsequently damaged

⁹ *Fort Kearny State Park Master Plan*. Clark and Enerson, Architects, Site Planners, Lincoln, Nebraska, August 28, 1948. Ms., Nebraska State Game, Forestation and Parks Commission.

by the road to the parking lot.

An 1852 plan of Fort Kearny shows a small guardhouse on the north side of the parade ground. At the plotted location a low oval mound some 25 feet across and with a rectangular central depression was observed and investigated. Cross-trenches were excavated to determine the limits of the building and then the adjacent area was cleared to expose the major portion of the floor. Nearly complete excavation of this building was undertaken when it was discovered that modern picnic trash pits had already damaged the archaeological remains and it was feared that the structural evidence might be destroyed in the near future by vandalism.

The building was found to be defined by a rectangular excavated floor pit and a short projecting entrance passage which connected with a gravel walkway running between the rows of stately cottonwoods lining the northern side of the parade ground. Little evidence remained of wall or support posts. Charred cedar log fragments, probably roof timbers, in the center of the floor depression suggest that the building may have burned although there was not a great quantity of charcoal or ash in the mound fill.

Two interesting specimens recovered from the floor of the structure are a Pond's Extract bottle bearing an 1846 patent date, and a piece of lime solidified in the form of a tub. Lime was used extensively in the military sanitation of the Fort Kearny period. Military insignia, glass, nails and other refuse were also recovered.

Evidence based on location of this feature suggests that it is the 1852 guardhouse, but it is difficult to reconcile the central sub-floor depression and its 8 by 15 foot dimensions with the historical map data concerning this structure. The lack of positive evidence of walls beyond the limits of the floor pit may indicate that poor preservation prevents an accurate archaeological delineation of the building.



Fort Kearny in the 1950's

KEY

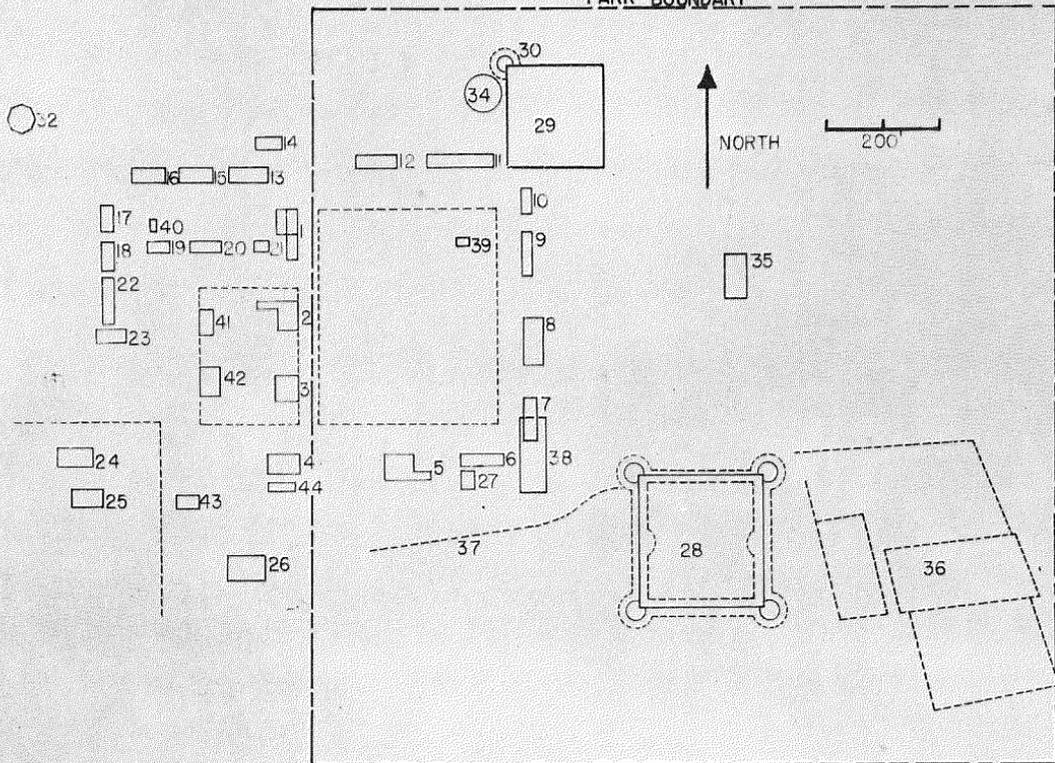
1. Adjutant's Office
2. Commanding Officer's Quarters
3. Quartermaster Office
4. Telegraph Office (Former Hospital)
5. Officers' Quarters
6. Soldiers' Quarters
7. Soldiers' Quarters
8. Soldiers' Quarters
9. Warehouse (used as barracks)
10. Guardhouse and Prison
11. Commissary Warehouse
12. Quartermaster Warehouse
13. Soldiers Families Quarters
14. Soldiers Families Quarters
15. Soldiers Families Quarters
16. Soldiers Families Quarters
17. News Office
18. Post Office
19. Warehouse
20. Warehouse
21. Saddler's Shop
22. Laundry
23. Bakery
24. Hospital
25. Surgeon's Quarters
26. Warehouse or Icehouse
27. Soldiers Kitchen
28. Fort Mitchel or East Fort
29. Corral
30. Fort Gillette
31. Post Sutler Store
32. Fort Livingston or West Fort
33. Stables
34. Powder Magazine
35. Blacksmith-Carpenter Shop
36. Unidentified Earthworks
37. Rifle Pit
38. Site of Adobe Storehouse
39. Site of Guardhouse
40. Unidentified
41. Headquarters Stable
42. Stable
43. Stage Stable
44. Stable
45. Post Sutler Warehouse

FORT KEARNY

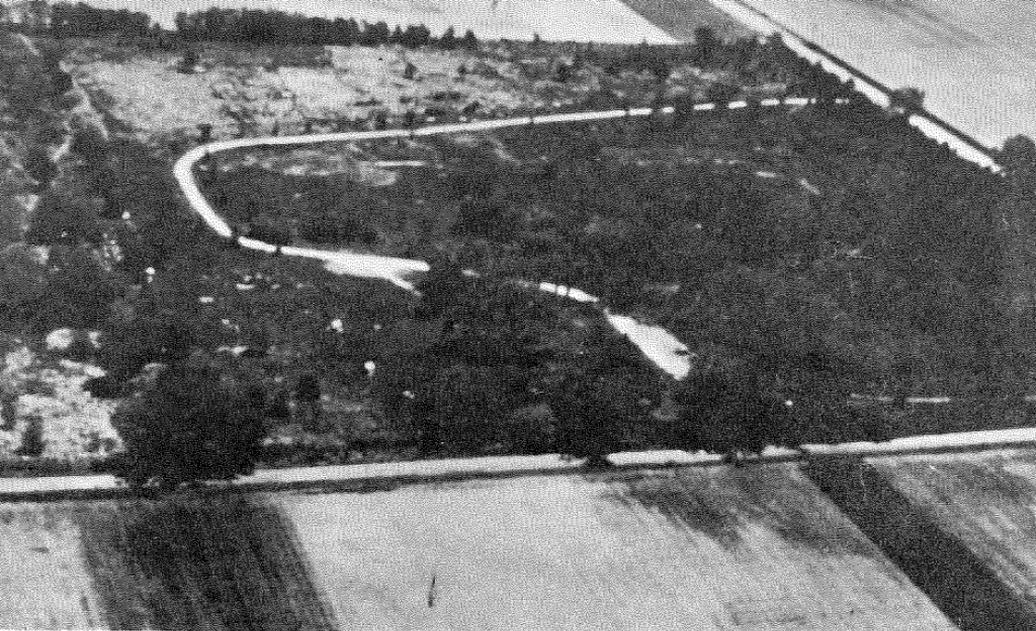
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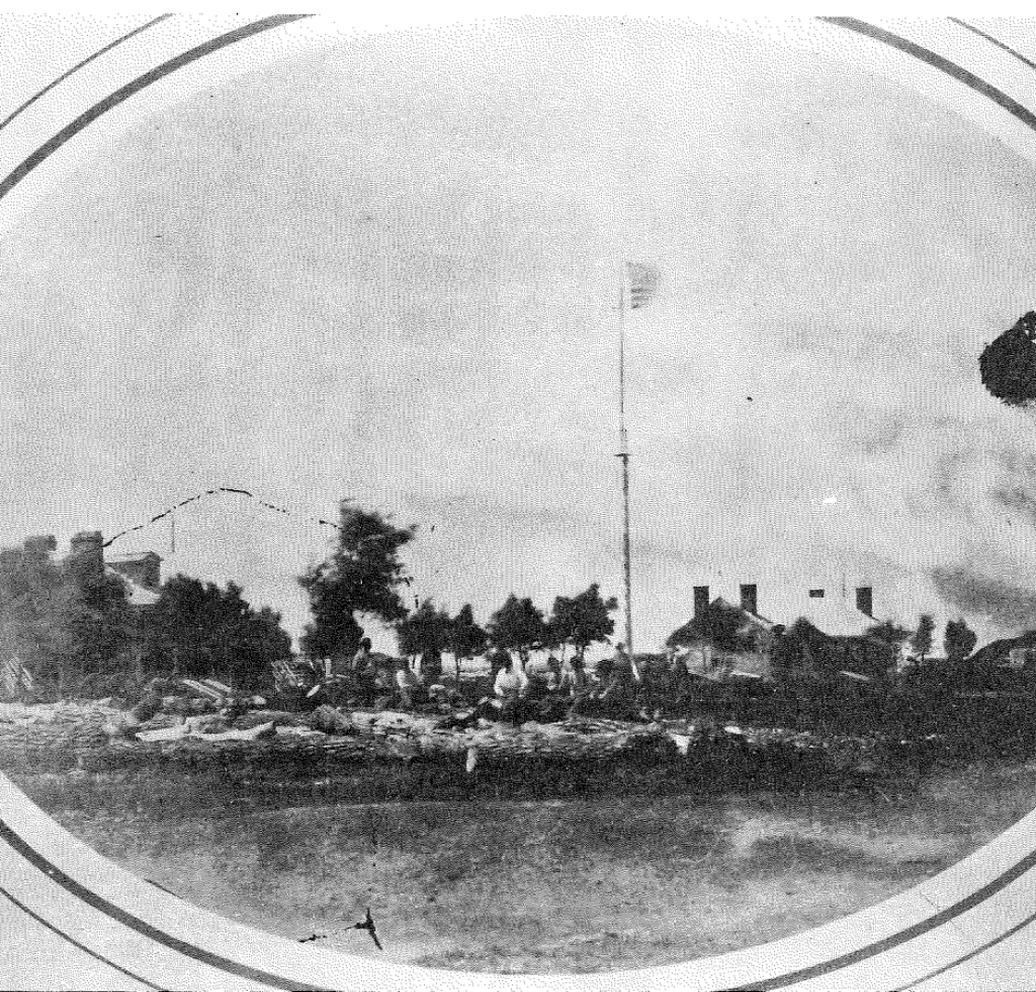
PARK BOUNDARY

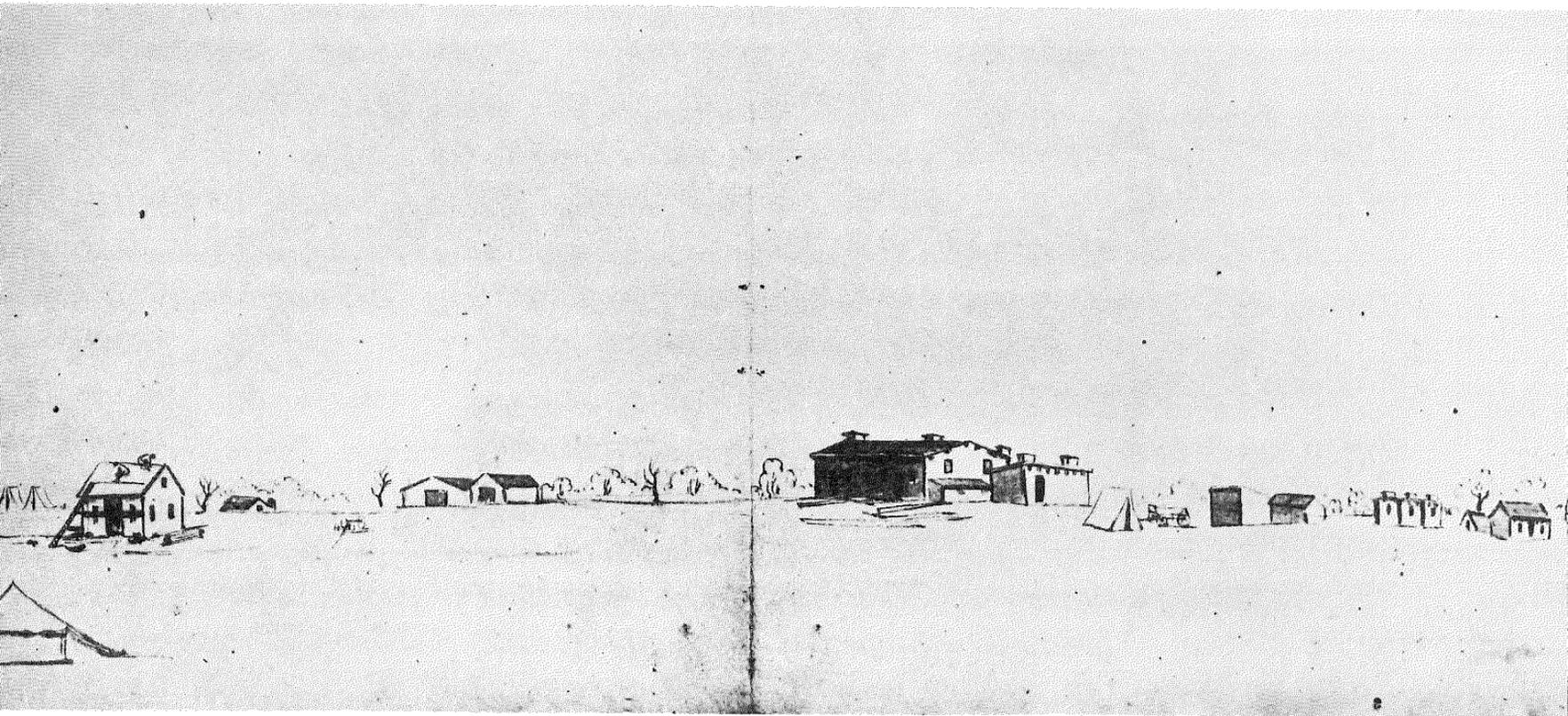


Composite Plan of Fort Kearny in 1864

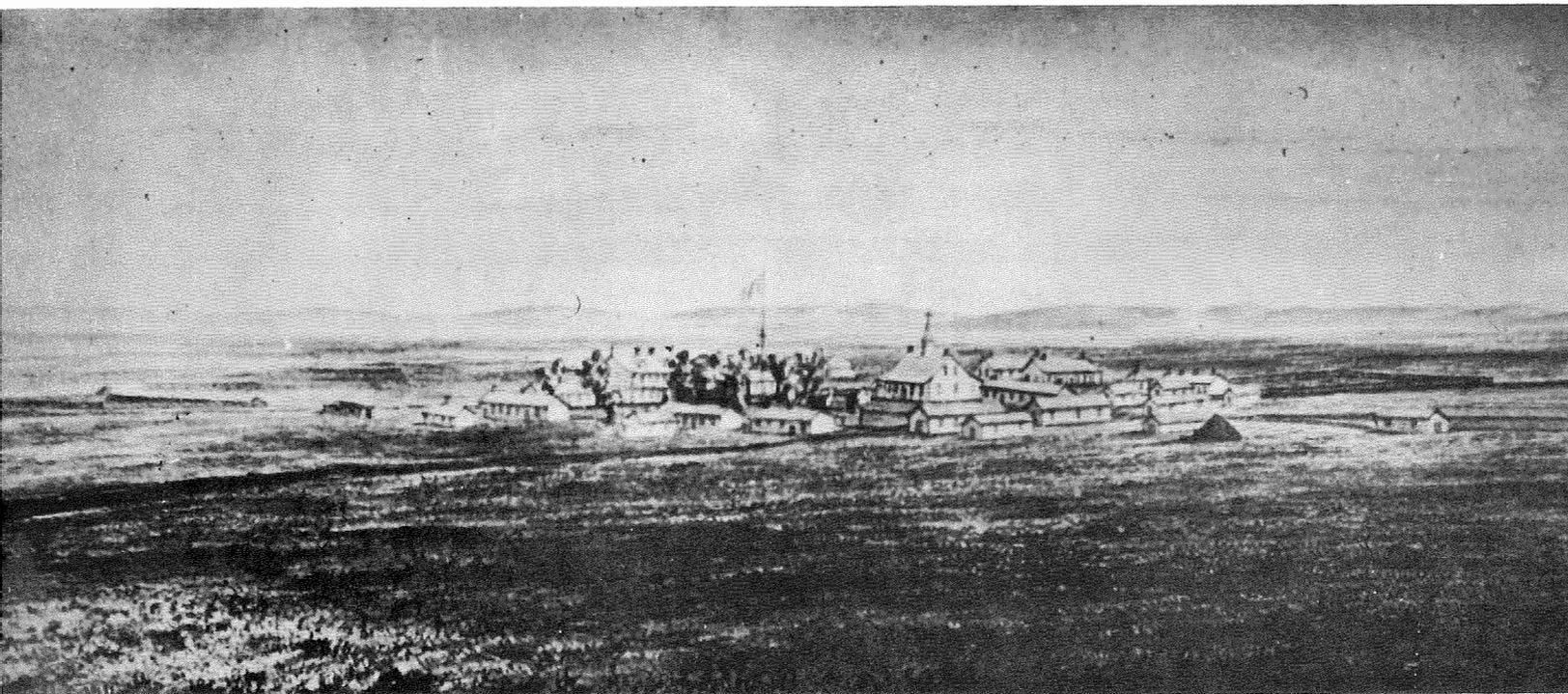


Above—Air view of Fort Kearny, looking east, 1961.
Below—Fort Kearny parade ground, view to southwest, 1858.
(Courtesy Library of Congress)

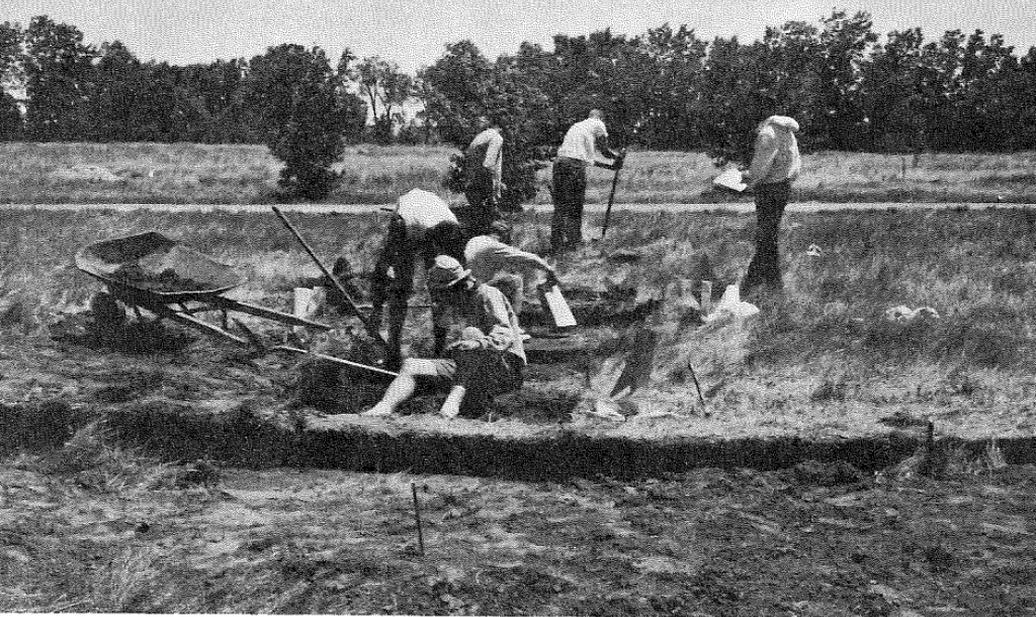




Building Fort Kearny, view to north, June 3, 1849.



Fort Kearny, artist's view to southwest, 1870.
(Courtesy University of Wyoming Library)



Above—Crew excavating blacksmith-carpenter shop.
Below—Remains of blacksmith shop forge.





Above—Floor depression of guardhouse after excavation.

Below—Trench exposing postholes marking barracks foundation.





Above—Fort Mitchel earthworks before excavation.

Below—Trench through mound and ditch of Fort Mitchel fortification.





Above—Excavating east side of Fort Mitchel.

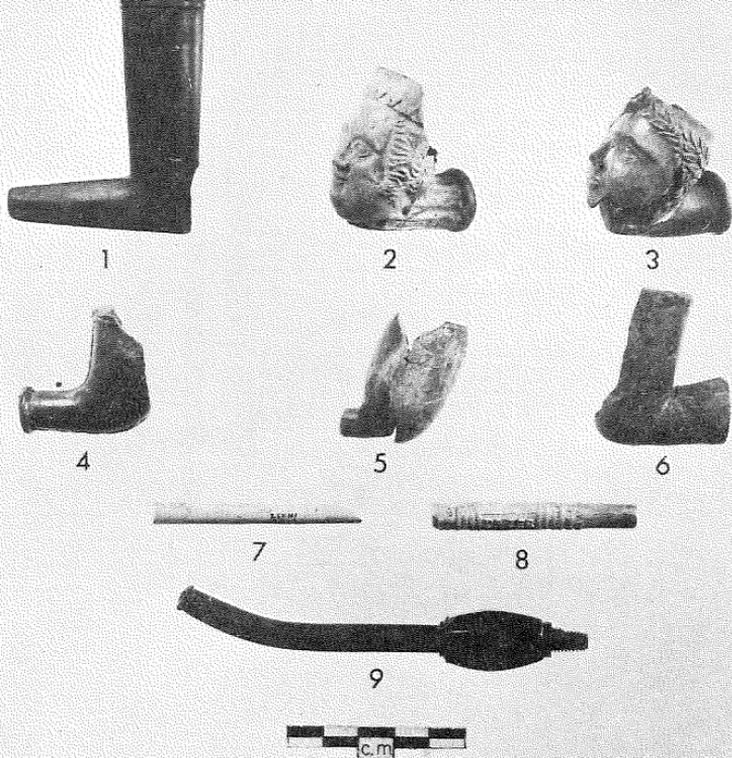
Below—East side, Fort Mitchel; angular trench is part of earlier building.





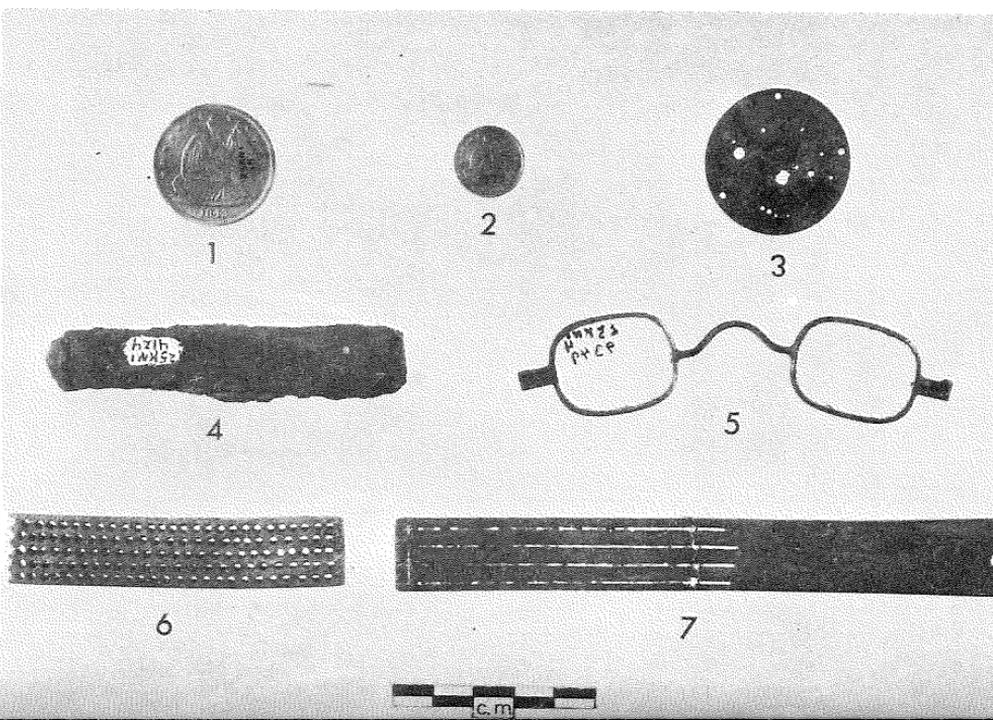
Above—Wall of sod structure cut by fortification ditch.
Below—Collapsed sod wall of building in Fort Mitchel site.

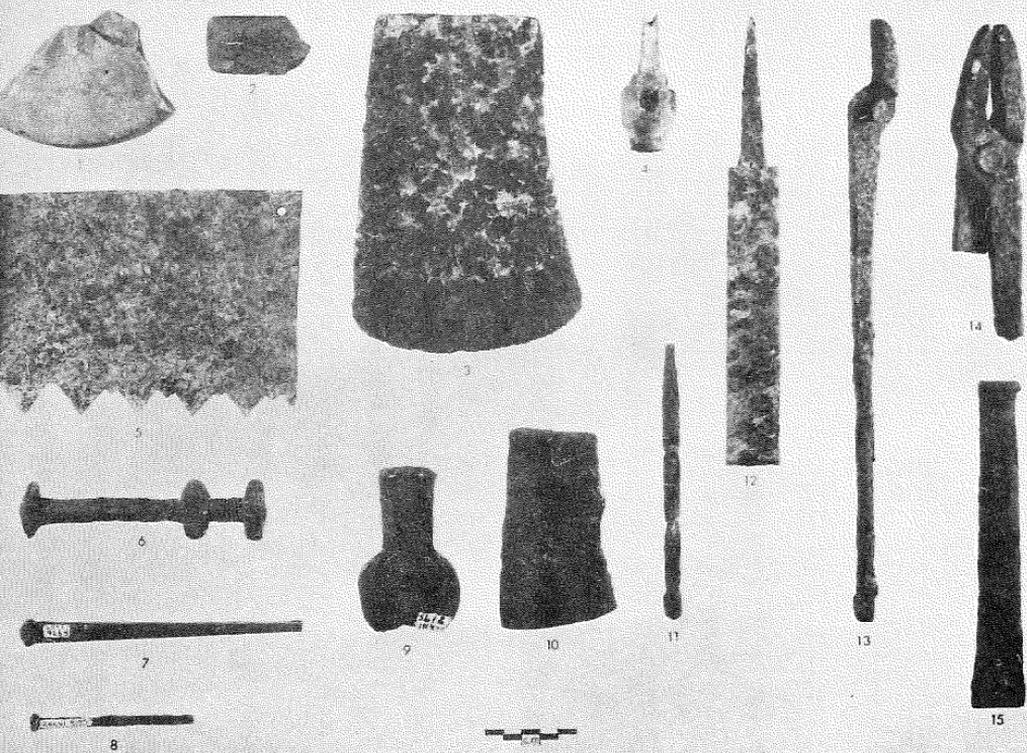




Above—Smoking Pipes. 1, catlinite pipe (Indian); 2, George Washington effigy clay pipe bowl; 3, Millard Fillmore clay pipe bowl; 4, 5, 6, plain clay pipe bowls; 7, 8, clay pipe stems; 9, hard rubber pipe stem.

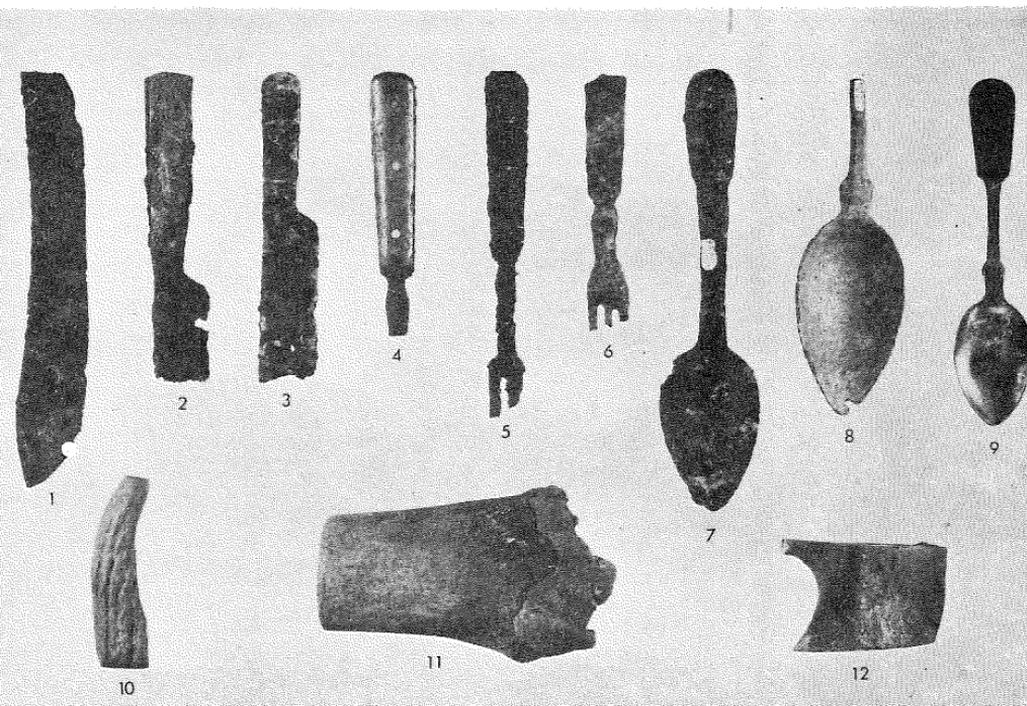
Below—Personal Objects. 1, 1843 U.S. half dollar; 2, 1839 U.S. dime; 3, pocket watch plate; 4, pocket knife; 5, spectacles; 6, 7, brush handles.

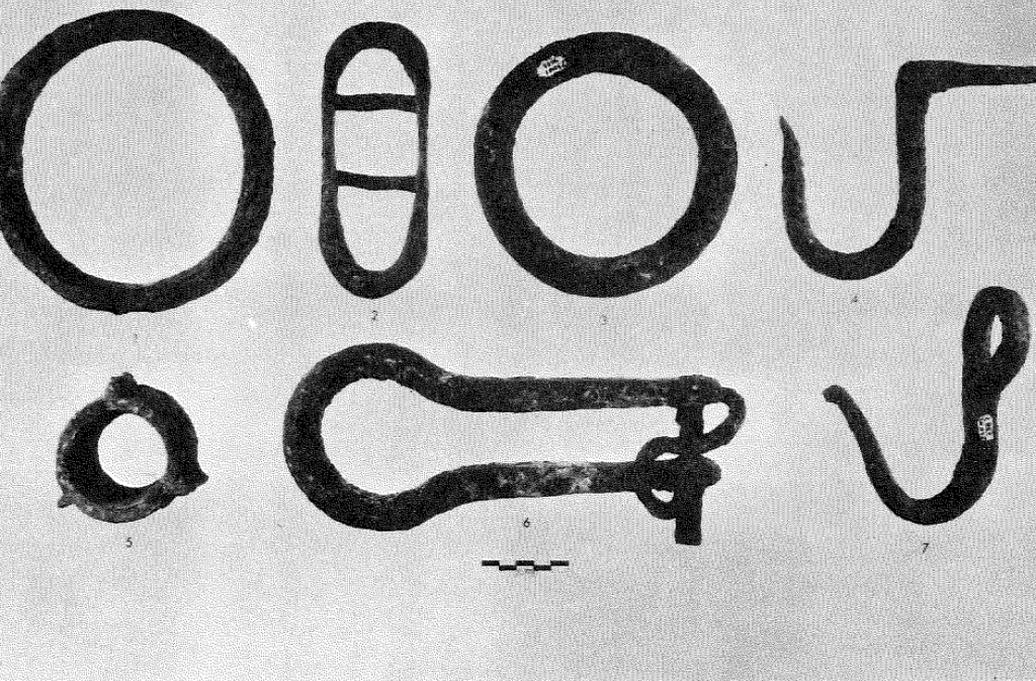




Above—Tools. 1, grindstone; 2, whetstone; 3, axe blade; 4, carpenter's brace head; 5, saw blade fragment; 6, bolt; 7, spike; 8, cut nail; 9, 10, hatchets; 11, drill bit; 12, file; 13, 14, blacksmith tongs; 15, chisel.

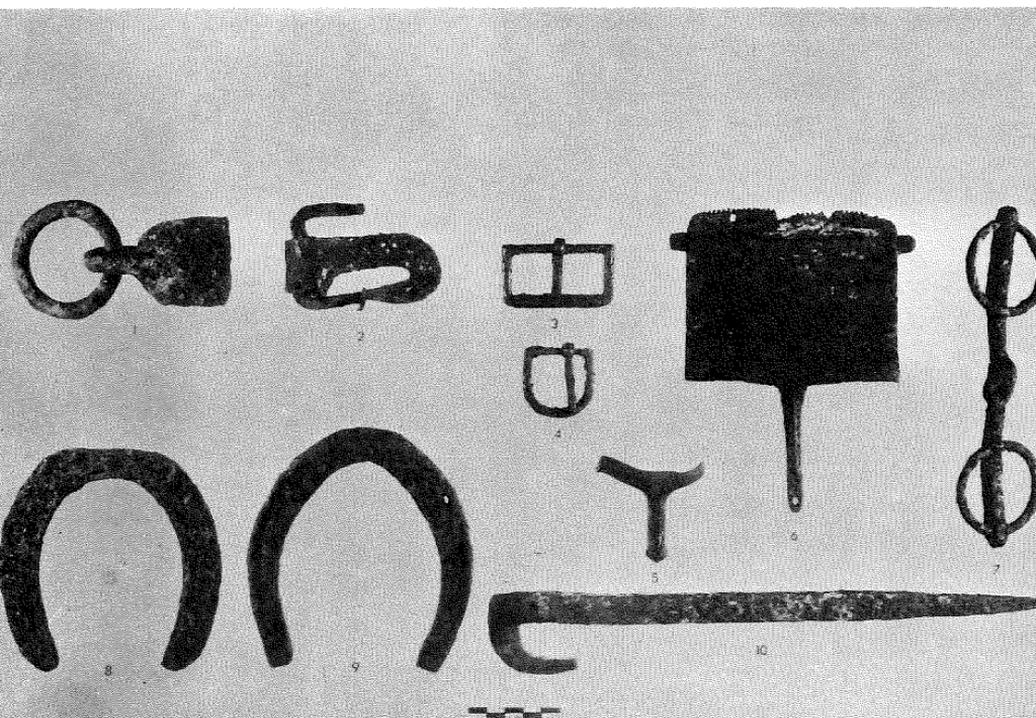
Below—Utensils. 1, butcher knife blade; 2, 3, table knives; 4, 5, 6, forks; 7, 8, 9, spoons; 10, antler knife handle; 11, 12, sawed animal bones.

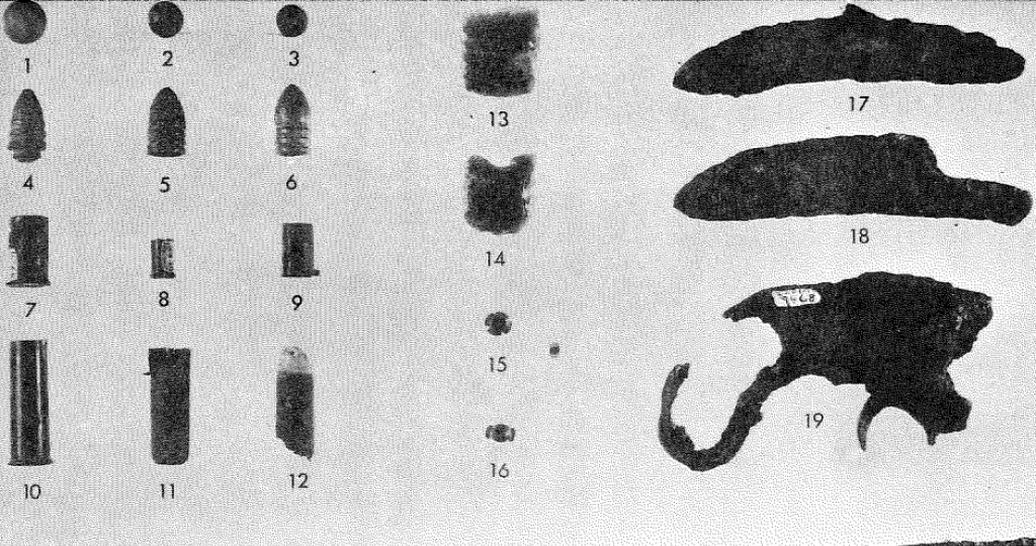




Above—Wagon Hardware. 1, wheel hub band; 2, double ended fitting; 3, iron ring; 4, 7, hooks; 5, wheel bearing; 6, clevis.

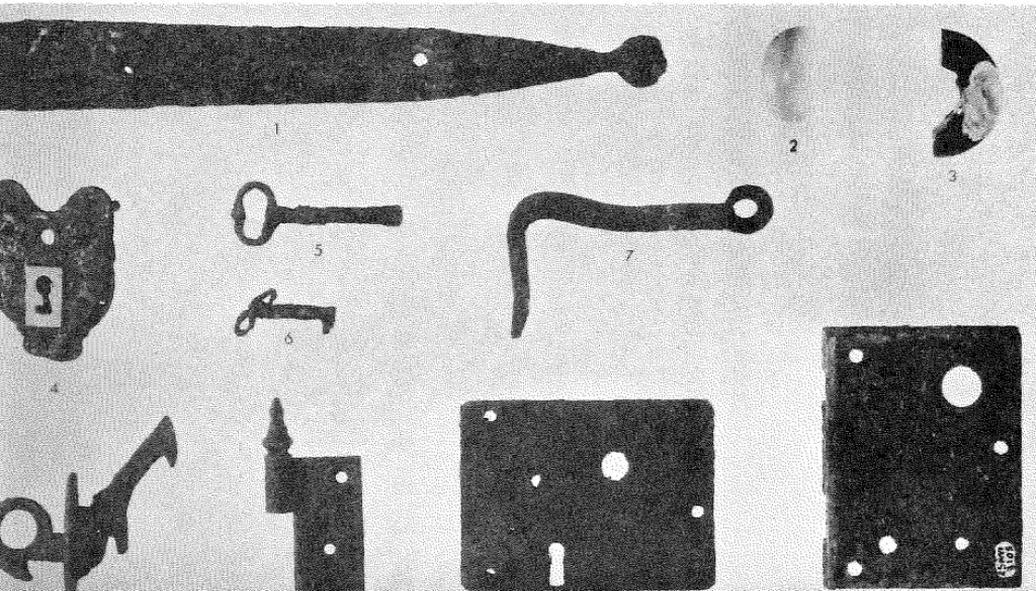
Below—Harness and Horse Gear. 1, ring from singletree; 2, harness snap; 3, 4, harness buckles; 5, spur fragment; 6, curry comb; 7, bit; 8, 9, horseshoes; 10, picket pin.

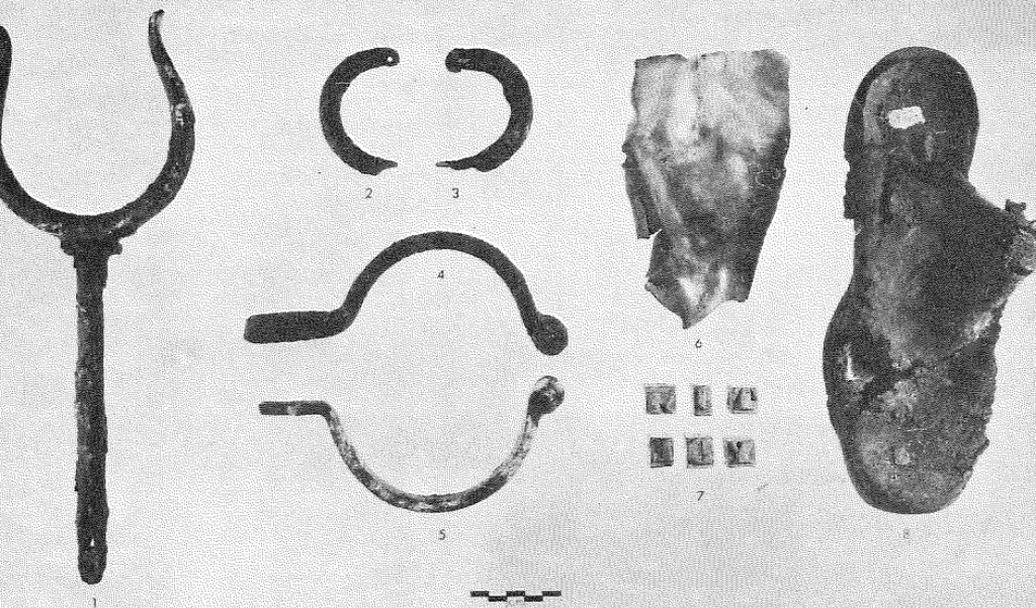




Above—Weapons. 1, lead ball, .62 cal.; 2, lead ball, .50 cal.; 3, lead ball, .45 cal.; 4, lead bullet with rim for linen cartridge, .52 cal.; 5, 6, lead bullets, .52 cal.; 7, rim fire cartridge case, .56 cal. Spencer; 8, rim fire cartridge case, .32 cal. Smith and Wesson revolver; 9, pin-fire cartridge case, Lefauchaux revolver; 10, center fire cartridge case, .50 cal. 1866 Springfield; 11, conical base waxed cartridge case, .51 cal. Gallagher carbine; 12, cartridge case and bullet, .50 cal. Morse or Maynard carbine; 13, 14, gunflints; 15, 16, percussion caps; 17, flintlock plate with powder pan; 18, lock plate; 19, butt of pepperbox revolver; 20, sword blade fragment.

Below—Door and Window Hardware. 1, strap hinge; 2, 3, ceramic door knobs; 4, padlock; 5, 6, keys; 7, latch hook; 8, window shutter latch; 9, door hinge; 10, 11, door lock plates.





Above—Miscellaneous Objects. 1, oarlock; 2, 3, handcuff parts; 4, 5, leg iron parts; 6, sheet lead; 7, printers type; 8, soldier's boot.

Below—Red Jacket Bitters bottle.



On the south and east sides of the southeast corner of the parade ground two soldiers barracks are shown on plans of the post as it appeared in the 1860's. These long rectangular one story frame buildings were 70 feet long and 24 feet wide. The barracks on the south had an associated soldiers kitchen in the form of a southward extending wing 50 feet long and 25 feet wide.

No trace of either of these structures can be clearly seen on the existing surface although some artifacts were present. The probable locations were determined by analysis of the historical maps and then trenches were excavated to explore the area for evidence which would confirm their identification. Post molds and cedar posts were found in the trenching operation; in one case an underlying horizontal cedar plank had been used to shore up a rotted foundation pillar. Measurements based on the post pattern suggest a building width of 24 feet comparing favorably with the map dimensions of the structures. Length of the buildings was not tested archaeologically.

The fill from this area consisted of stained soil mixed with brick rubble, plaster fragments and specimens such as broken window and bottle glass. Some large size printers type was one of the most unusual finds from the area.

The kitchen wing was not tested but a depression to the south was excavated and proved to be a refuse filled well. One of the post plans shows a well in this approximate location. The inter-relationships of several archaeological features thus confirm the identification of the barracks sites.

One of the most important original buildings at Fort Kearny was the adobe storehouse which was completed in 1849. This building was located at the southeast corner of the parade ground and served as both commissary and quartermaster storehouse. It fell into serious disrepair and was replaced by new warehouse structures about 1859. Subsequent plans of the post show the barracks described above on the former site of the adobe storehouse.

Cross-trenches were excavated to explore the presumed site of the storehouse. There was a heavy layer of refuse, some of it plaster and other rubble from the later barracks structures. A layer of yellow clay not present in other areas was found stratigraphically below the barracks plaster refuse and in one place within the yellow clay the faint outlines of a rectangular brick were seen. The yellow clay is apparently derived from the erosion of the unfired adobe clay bricks used in building the storehouse, and seems to be confirmation of identification by type of material. The post records indicate that the storehouse was roofed with sheet lead and fragments of sheet lead were recovered from the site during excavation. It was quite likely that such material would have been salvaged, and sheet lead was recovered from other areas of the post.

The plans of this building on post maps show rather thick adobe exterior and interior walls. Some raised yellow clay deposits found in clearing the floor level are apparently the footing remnants of these interior room dividers. No evidence of other than an earthen floor was found, but traces of white lime were found on the floor. Liming the floors was a common sanitation practice of the period. A few glass trade beads were recovered from the floor, as was an 1843 half dollar (U.S.).

It is interesting to note that the archaeological evidence of stratigraphy, in which the rubble of the two 1859 barracks structures and also the floor support posts of one of these buildings were stratigraphically above the yellow clay layer and floor of the adobe storehouse, confirms physically the chronological relationships of these buildings as determined by historical records. In the absence of the records the archaeological reconstruction of these events would have been correct.

The new quartermaster and commissary warehouses erected in 1859 were placed some distance to the north of the parade ground as can be seen on several maps of Fort Kearny. The site of the commissary building is marked by

a low rectangular mound within the western portion of which there was a depression. Plans indicate that the building was large; 132 feet long and 24'4" wide. Archaeological evidence of the length of the structure was not sought; excavation consisted of a single cross trench through the depression at right angles to the long axis of the building. The depression proved to be a deep straight-sided pit within the limits of the poorly defined storehouse area. The mold of a vertical roof support post and a split cedar log were found on the sandy floor of the pit. The pit was interpreted as a deep root cellar, an hypothesis consistent with the identification of the building as the commissary storehouse. Excavations were not sufficiently extensive for further comment and few specimens were recovered from this structure.

In the southeastern corner of the park are four rectangular earthworks still readily visible as surface features marked by ditches and adjacent linear mounds. They appear to be undisturbed except for the intrusion of the park access road. Tests were dug within the earthwork enclosures and across the ditch in one location. The ditch had originally been six feet wide at the top and three feet deep but was found to be filled with dark soil and refuse. Metal and glass objects recovered from the area suggest that these earthworks were most likely of military construction despite the fact that no official record of them has yet been found. It is possible that they may have been corrals or perhaps fortified military camp sites of the Civil War period.

Portions of the rifle pit which protected the southern approach to the parade ground in the Civil War period are still visible as a shallow elongated depression. A trench cross-sectioning the feature revealed that the ditch had inward sloping walls and was originally 3 feet wide at the top and 1 foot wide at the bottom. The maximum depth was 1½ feet and although there was no evidence of a mound or parapet such a feature seems likely to have been a part of the rifle pit.

The most intensive excavations of the 1960 season and the entire 1961 field season were concentrated on the Civil War period earthwork called East Fort or Fort Mitchel. Erected during November of 1864 as one of a series of fortifications around the perimeter of the parade ground, Fort Mitchel was a temporary earthwork, typical of Civil War period field fortification, which soon fell into disuse. The fortification consisted of an earthwork mound and exterior ditch, with a wooden stockade superstructure atop the earthen parapet. The fortification is shown on the post maps of 1864 vintage and is depicted in an artist's view made in 1870.

During the two seasons' work the eastern side of Fort Mitchel was extensively excavated and a series of cross-trenches were excavated to determine the nature of a sod building found in association with the earthwork. The southeastern bastion and part of the northeastern bastion were also excavated.

The fortification is rectangular in outline and has a circular bastion at each corner. The bastions are mounded extensions of the linear parapet mound and the ditch follows the contour around the bastion perimeter. The 1864 plans of the post indicate dimensions of 221 by 262 feet for Fort Mitchel while archaeological measurements of 238 by 278 feet were obtained. The latter dimensions were taken from the outer limits of the ditch and the discrepancy may be resolved if the military measurements were made from points on or within the parapet. The earthwork mound is fifteen feet wide and $2\frac{1}{2}$ to 3 feet high today; it was originally higher and narrower but has been eroded. The ditch is from 6 to 11 feet wide.

Along the northern interior side at the northeastern corner it was observed that the fortification mound was wider than elsewhere. Some evidence of a sod wall related to this internal mound was found during the excavation of the east side of the mound. This broader area probably represents an interior sod building but it was not excavated.

Other mounds or depressions which may represent structures inside the fortification were also observed but could not be excavated.

The color and texture of the soil is extremely important in archaeological research since such differences are the physical record from which the archaeologist reconstructs the past.

The area enclosed by the earthwork has a layer of dark stained soil including scattered refuse. The fill of the earthwork mound is mottled in nature, ranging in color from yellow to black, and consists of soil removed from the associated ditch. Scattered artifacts were found in the mound; these were either from the former surface trash or refuse deposited in the mound fill.

In the center of the mound a layer of two courses of sod blocks was clearly seen in the north-south profile of the southern third of the earthwork. In the central portion of the fortification mound the mottled fill tapered and was replaced by a layer of dark soil and brownish organic material. This section of the parapet was formed by the eroded earth and rubble of a collapsed sod building which was in ruins when the fortification was constructed in 1864.

The ditch was filled with a dark black soil containing artifacts and other refuse; in some areas a layer of military trash is stratigraphically above the ditch fill. This would indicate a rapid filling of the ditch before the 1871 the abandonment of Fort Kearny. Part of the earth filling the ditch can be derived from the collapse of a layer of sod blocks on the inner face of the fortification ditch.

The scarp or inner face of the ditch was lined with sod blocks which could be seen cross-sectioned in the trench profiles and in horizontal outline along the ditch. The ditch fill is uniformly dark and similar in color and texture to sod blocks observed elsewhere in the excavations. The mound fill is primarily light colored and mottled. These

data support a hypothesis that the bulk of the ditch fill was derived from the collapse of the scarp of the parapet mound when these sod blocks fell into the ditch. The volume of earth necessary to produce this fill suggests that the mound must have been 2 to 3 feet higher than at present. These data suggest that the fortification probably did not have a berm or step on its exterior side. The double row of sod blocks incorporated in the mound fill may represent a banquette or step on the inner side of the parapet but the evidence obtained was far from conclusive on this point. A completely accurate reconstruction of the fortification cannot yet be made but the present evidence indicates that it duplicates most features of field fortifications illustrated in officers' manuals of the Civil War period.

Historical records indicated that a stockade of split ash logs surmounted the three or four foot high earthworks.¹⁰ The Game, Forestation and Parks Commission had planned to reconstruct the Fort Mitchel stockade so a concerted effort was made during both field seasons to expose the post pattern of the stockade construction.

A total of 11 post molds or post pit outlines were found which could be related to the stockade. These did not develop a regular pattern of stockade posts. The post molds occurred at irregular intervals and were offset to the east and west as well as being on the centerline of the mound. Posts were also found in association with the southeast bastion but not in sufficient quantity to establish a structural pattern.

The posts were round in cross section and were set in rectangular pits excavated into the yellow sub-soil and filled with mottled soil to hold the posts erect. Some evidence found suggests that the posts were placed before the construction of the parapet mound which was formed with

¹⁰ Mantor, Lyle S. *History of Fort Kearny, Ms.*, unpublished doctoral dissertation.

Mantor, Lyle S. "Fort Kearny and the Westward Movement." *Nebraska History*, Vol. XXIX, No. 3, 1948, p. 203.

the soil removed during excavation of the fortification ditch.

The archaeological evidence has been interpreted as indicating that the stockade was not a continuous log palisade but rather a heavy fence consisting of main support posts between which horizontal stringers were affixed to hold the facing planks of the superstructure. No archaeological evidence identifying the nature of the facing planks was recovered—only the incomplete pattern of main support posts.

The southeastern bastion was completely excavated but only an incomplete pattern of posts was found. Some kind of superstructure was apparently present on the bastion but its nature could not be determined from the data recovered.

The northeastern bastion was not fully excavated but a portion of it was exposed. In this area evidence was found that the ditch had been dug too far north by the soldiers and the curve from the east ditch around the bastion was rebuilt of sod blocks and fill. This archaeological reconstruction of a builder's error is an interesting side light on the construction of Fort Mitchel.

The lack of evidence concerning the superstructure may in part be due to the unexpected complexity of the east side of the earthwork because the foundations, posts and rubble of an earlier sod building were found underlying the parapet and cut by the ditch. Furthermore, the upper portion of the mound has eroded considerably and it is likely that most evidence of the rotted butts of the stockade facing planks has been destroyed by natural forces.

Trenches excavated within the Fort Mitchel enclosure in 1960 revealed the presence of a large sod structure which at the close of that season was thought to have been totally inside the earthwork. This hypothesis was revised when 1961 excavations showed that the fortification ditch cut through the walls of the sod building, clearly demonstrat-

ing that the building was an earlier structure and that it was in ruins when the fortification was built. The sod building does not appear on any of the maps of Fort Kearny and is not oriented on the cardinal points as are the other structures of major importance. It seems most likely that the sod building was a temporary structure built in 1848 to shelter men and perhaps animals during the first winter at the site. Demolished by the elements or by the troops after it had served its purpose, it was not included on any official post plans.

A mounded refuse area marks the site of this structure which is in the east central part of Fort Mitchel. The Fort Kearny monument was on the mound and numerous trees and shrubs were growing there at the time of excavation.

The limits of the building were defined by profile study of a series of interconnected cross-trenches which had been excavated. Layered sod blocks of the walls could be seen, and in some areas the sod wall blocks could be seen outlined in the floor of the trench. The building was not excavated completely; its dimensions and limits were determined by projection of the wall outlines as revealed in the exploratory trenches. The dimensions of the building were not determined with exactitude because the east end of the structure is difficult to locate precisely. The building was 37 feet wide and between 140 and 155 feet long. Additional archaeological evidence to the south may be an L-shaped wing; but it might be a separate structure or debris from the long sod building itself.

A layer of trash and refuse is superimposed on the building remains, and below this layer was found a mat of rotted roof material; leaves, grass and rotten wood. A layer of stained soil was encountered below the roof material; this soil represents eroded wall remains and the earthen floor of the structure.

The sod walls could be detected by the presence of alternately dark and light layers of soil in the mound profiles with the dark layers on the low side of each banded

pair; sod walls were usually laid grass side down, and the darker zone is the topsoil-sod layer of the original block. The layers were about 3 inches thick. Where sod blocks could be seen horizontally and measured they were slightly over two feet long and $1\frac{1}{2}$ feet in width.

An associated pattern of post molds and post pits were found in the area of the structure; the posts were set in squared pits but were themselves round in cross section. Posts associated with the exterior walls were paired; one inside and one outside the sod blocks of the wall. The interior posts were rafter support timbers. The exterior ones may have supported a veranda or porch roof or may have been short posts holding a protective splash board vertically against the foot of the sod wall. The spacing of these paired posts is uncertain since only a few were excavated, but an interval of 6 to 8 feet between pairs can be suggested.

The posts exposed in the floor areas within the limits of the building form a pattern which suggests the presence of three parallel lines of internal rafter support posts running the length of the building. One of these lines of posts ran along the centerline of the building; the others were intermediate between the centerline and the exterior wall.

The present test evidence is inconclusive but it suggests that the building was divided into rooms. A concentration of brick and plaster in refuse in the northeastern half of the north wall adjacent to evidence of a fireplace hearth suggests that there was at least one area of the building with an interior plaster wall finish; this feature was not found elsewhere in the building.

Among the interior features found were a rectangular pit with a rounded extension on the exterior side associated with the north wall of the building. Burned earth here as well as the form of the feature indicates a hearth and chimney area.

Basin shaped pits were found in the dirt floor of the building; no precise function was determined for these. A

deep rectangular pit with inward sloping sides was also found in the floor of the structure. These various pits may have been water sumps or pits associated with heating stoves.

The remains of a barrel were located near the south exterior wall of the building and may represent a rain barrel for water or a waste receptacle. Beyond the limits of the southern wall were found an irregular dark stained soil-filled pit and three posts. The posts may be vertical supports for a veranda and the pit a mud hole in a walkway next to the building.

Detailed studies of the artifacts recovered during the two seasons' excavations have not yet been made. Scraps of iron and broken or worn out iron fittings and tools of various kinds are the most common specimens recovered. These include horse and mule shoes, iron bars, wagon wheel hubs, hooks from singletrees, shutter latches, parts of door locks, gun parts, iron rings, chains, saw blades, sword blades, hinges, buckles of various sizes, bolts, nuts, and hundreds of cut nails. Broken bottles and fragments of window glass are found in great profusion. Pieces of ironstone and blue transfer china are somewhat less common. Lead plates, brass thimbles, brass washers, fragments of copper, leather boot soles and heels and animal bone from the kitchen garbage were also among the trash. Bricks, plaster, rotted wood and other materials were found associated with some of the building remains. Military insignia, buttons, printing type, clay pipes, glass beads, ivory brush handles, an 1839 dime and an 1843 fifty cent piece were among the less common items recovered. The collection of specimens will provide an important series for comparative research and materials for interpretive museum exhibits.

The archaeological work at Fort Kearny was fruitful. Areas free of significant historical remains were tested and defined. The blacksmith shop, the guardhouse, the commissary storehouse, two barracks and the adobe storehouse

were located and identified by archaeological methods. These buildings provide base points for correlating actual structural sites with the historical records of the post. A large quantity of specimens for research and exhibit was recovered. Not all problems concerning the nature of Fort Mitchel, the Civil War earthwork, were resolved, but much new data was recovered. Another result of the excavations was the discovery of the early sod building on the site of Fort Mitchel and the reconstruction of its temporal relationship to the Civil War fortification. These data are a totally new contribution to the history of Fort Kearny and represent an example of how historic site archaeology supplements and adds to the documentary record.

The field techniques of excavation employed in the investigation of an historic site do not differ materially from those followed in the exploration of prehistoric sites, yet historic site archaeology has its own distinguishing qualities. These are primarily found in the added dimension of the historic record, often incomplete or inconsistent, with which the basic archaeological evidence must be successfully correlated.

The objectives for which the Fort Kearny field project was undertaken were accomplished. Much more archaeological work can be done at the site in the future as the need arises to investigate specific problems by full excavation of areas and building sites only tested or left untouched during 1960 and 1961.