

**EXCAVATION OF SIX TEST PITS AT LA 3546,  
U.S. VETERANS HOSPITAL NO. 55,  
FORT BAYARD, GRANT COUNTY, NEW MEXICO**

**SUSAN M. MOGA AND ANN L. W. STODDER**



**OFFICE OF ARCHAEOLOGICAL STUDIES**



**MUSEUM OF NEW MEXICO**

**ARCHAEOLOGICAL NOTES 473**

**2015**



NMCRIS Activity No.: 133594

MUSEUM OF NEW MEXICO  
OFFICE OF ARCHAEOLOGICAL STUDIES

# EXCAVATION OF SIX TEST PITS AT LA 3546, U.S. VETERANS HOSPITAL No. 55, FORT BAYARD, NM

SUSAN M. MOGA AND ANN L. W. STODDER

WITH CONTRIBUTIONS BY

Nancy J. Akins  
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PRINCIPAL INVESTIGATOR

**ERIC BLINMAN, PH.D.**

NMCRIS Activity No. 133594  
MNM Project No. 41.1022  
General Archaeological Permits: NM-15-027-T

ARCHAEOLOGY NOTES 473  
SANTA FE 2015 NEW MEXICO



## NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

| <b>1. NMCRIS Activity No.:</b><br>133594   | <b>2a. Lead (Sponsoring) Agency:</b><br>New Mexico General Services Department (GSD) | <b>2b. Other Permitting Agency(ies):</b><br>NA  | <b>3. Lead Agency Report No.:</b>  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
|--|--|---|--|-----------------------------|---------------------|--------------|---------------------------------------|-------------|---|------------------------------|---------------------|--|-------------------------------------|---------------------|--------|--|--|--|---------------|----------|----------|
| <b>4. Title of Report:</b> Excavation of Six Test Pits at LA 3546, U.S. Veterans Hospital No. 55, in Fort Bayard, New Mexico<br><br><b>Author(s):</b> Susan M. Moga and Ann L. W. Stodder  |  |   | <b>5. Type of Report</b><br><input type="checkbox"/> Negative <input checked="" type="checkbox"/> Positive |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| <b>6. Investigation Type</b><br><input type="checkbox"/> Research Design <input type="checkbox"/> Survey/Inventory <input checked="" type="checkbox"/> Test Excavation <input type="checkbox"/> Excavation <input type="checkbox"/> Collections/Non-Field Study<br><input type="checkbox"/> Overview/Lit Review <input type="checkbox"/> Monitoring <input type="checkbox"/> Ethnographic study <input type="checkbox"/> Site specific visit <input type="checkbox"/> Other  |  |   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| <b>7. Description of Undertaking (what does the project entail?):</b><br>Six test pits were strategically placed around the hospital to investigate whether intact deposits or historic building foundations were present. There are plans for U.S. Veterans Hospital No. 55 to be demolished in the fall of 2015.   |  | <b>8. Dates of Investigation: (from: 6/6/15 to: 6/10/15)</b><br><br><b>9. Report Date:</b> 11/20/2015   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| <b>10. Performing Agency/Consultant:</b> Sherry Keefe<br><b>Principal Investigator:</b> Eric Blinman, Ph.D.<br><b>Field Supervisor:</b> Susan M. Moga<br><b>Field Personnel Names:</b> Vernon Foster, Ann L. W. Stodder, and C. Dean Wilson  |  | <b>11. Performing Agency/Consultant Report No.:</b><br>Archaeology Notes 473<br><br><b>12. Applicable Cultural Resource Permit No(s):</b><br>State Permit No. NM-15-027-T |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| <b>13. Client/Customer (project proponent):</b> GSD<br><b>Contact:</b> Sherry Keefe, Facilities Management Division<br><b>Address:</b> State of New Mexico<br><b>Phone:</b> (505) 470-8329   |  | <b>14. Client/Customer Project No.:</b> Log 101546  |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| <b>15. Land Ownership Status (<i>Must be indicated on project map</i>):</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="text-align: left;">Land Owner</th> <th style="text-align: center;">Acres Surveyed</th> <th style="text-align: center;">Acres in APE</th> </tr> </thead> <tbody> <tr> <td>Veteran's Bureau, State of New Mexico</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td style="text-align: right;"><b>TOTALS</b></td> <td style="text-align: center;"><b>0</b></td> <td style="text-align: center;"><b>0</b></td> </tr> </tbody> </table> |  |   |  | Land Owner                  | Acres Surveyed      | Acres in APE | Veteran's Bureau, State of New Mexico | 0           | 0 |                              |                     |  |                                     |                     |        |  |  |  | <b>TOTALS</b> | <b>0</b> | <b>0</b> |
| Land Owner   | Acres Surveyed   | Acres in APE  |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| Veteran's Bureau, State of New Mexico  | 0  | 0   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
|  |  |   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
|  |  |   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
|  |  |   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| <b>TOTALS</b>  | <b>0</b>   | <b>0</b>  |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| <b>16 Records Search(es):</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="text-align: left;">Date(s) of ARMS File Review</th> <th style="text-align: left;">Name of Reviewer(s)</th> <th> </th> </tr> </thead> <tbody> <tr> <td>5/2015</td> <td>Ann Stodder</td> <td> </td> </tr> <tr> <td>Date(s) of NR/SR File Review</td> <td>Name of Reviewer(s)</td> <td> </td> </tr> <tr> <td>Date(s) of Other Agency File Review</td> <td>Name of Reviewer(s)</td> <td>Agency</td> </tr> </tbody> </table>  |  |   |  | Date(s) of ARMS File Review | Name of Reviewer(s) |              | 5/2015                                | Ann Stodder |   | Date(s) of NR/SR File Review | Name of Reviewer(s) |  | Date(s) of Other Agency File Review | Name of Reviewer(s) | Agency |  |  |  |               |          |          |
| Date(s) of ARMS File Review  | Name of Reviewer(s)  |   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| 5/2015   | Ann Stodder  |   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| Date(s) of NR/SR File Review   | Name of Reviewer(s)  |   |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |
| Date(s) of Other Agency File Review  | Name of Reviewer(s)  | Agency  |  |                             |                     |              |                                       |             |   |                              |                     |  |                                     |                     |        |  |  |  |               |          |          |

**17. Survey Data:**

- a. Source Graphics  NAD 27  NAD 83  
 USGS 7.5' (1:24,000) topo map  Other topo map, Scale:  
 GPS Unit Accuracy  <1.0m  1-10m  10-100m  >100m

b. USGS 7.5' Topographic Map Name USGS Quad Code

|             |      |
|-------------|------|
| Silver City | 1927 |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |
|             |      |

c. County(ies): Grant

**17. Survey Data (continued):**

d. Nearest City or Town: Silver City

e. Legal Description:

| Township (N/S) | Range (E/W) | Section | 1/4 | 1/4 | 1/4 |
|----------------|-------------|---------|-----|-----|-----|
|                |             |         |     |     |     |
|                |             |         |     |     |     |
|                |             |         |     |     |     |
|                |             |         |     |     |     |
|                |             |         |     |     |     |
|                |             |         |     |     |     |
|                |             |         |     |     |     |
|                |             |         |     |     |     |
|                |             |         |     |     |     |

Projected legal description? Yes , No  Unplatted

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.):

**18. Survey Field Methods:**

- Intensity:  100% coverage  <100% coverage  
Configuration:  block survey units  linear survey units (l x w):  other survey units (specify):  
Scope:  non-selective (all sites recorded)  selective/thematic (selected sites recorded)  
Coverage Method:  systematic pedestrian coverage  other method (describe)  
Survey Interval (m): Crew Size: Fieldwork Dates:  
Survey Person Hours: Recording Person Hours: Total Hours:  
Additional Narrative:

**19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.):** Located in Grant County, New Mexico, Fort Bayard National Historic District is at an elevation of 6142 ft. The setting is a broad, grassy floodplain at the foothills of the Los Pinos Mountains. The fort is situated between two branches of San Vicente Arroyo, a tributary of the Mogollon River seven miles south of the fort, Cameron Creek on the east, and Twin Sisters Creek to the west. The fort grounds were landscaped and used for agricultural purposes predating Anglo occupation.

The geology of Fort Bayard has the oldest rocks in the area, fossiliferous Pennsylvanian carbonates that are overlain with red shales and sandstones of the Permian Abo Formation. The Abo formation was stripped off during a period of erosion that lasted until the Late Cretaceous which was covered by clean sandstones of the Late Cretaceous Beartooth quartzite. The Beartooth got covered with a thick sequence of greenish gray to tan shales and sandstones of the Late Cretaceous Colorado Formation. The Colorado beds are overlain with volcanic breccia containing volcanic varieties of andesite or quartz diorite. The breccia sequence contains volcanoclastic sandstone. These rocks were uplifted during the Laramide orogeny.

The major tree and shrub species at Fort Bayard are pinyon pine, alligator juniper, one seed juniper, oak, brickellia, mountain mahogany, sagebrush, skunkbush sumac, and Wright's silktassel. The abundant grasses include blue gramma, side oats gramma, three awn, drop seed, and wolf tail. The forbs are globemallow, ragweed, wall flower, trailing four o'clock, and buffalo gourd. Succulents are cholla and prickly pear.


Wildlife, including elk and Coue's white-tailed, can be seen year-round, especially along Cameron Creek and on the hospital grounds. Tarantula, a variety of lizard species, jackrabbit, coyote, and mule deer are the other species present. Birds viewed in the area are red-tailed and Cooper's hawks, Montezuma quail, band tailed pigeon, great horned and long eared owls, wild turkey, western and Cassin's kingbird, shipping sparrow, and plain titmouse. Black bear, bobcat, badger, and porcupine are seasonal visitors to the Fort Bayard area.

**20. a. Percent Ground Visibility:**      **b. Condition of Survey Area (grazed, bladed, undisturbed, etc.):**

**21. CULTURAL RESOURCE FINDINGS**     **Yes, See Page 3**       **No, Discuss Why:**

|   |  |   |
|---|--|---|
| <b>22. Required Attachments (check all appropriate boxes):</b><br><input checked="" type="checkbox"/> USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn<br><input type="checkbox"/> Copy of NMCRIS Mapserver Map Check<br><input type="checkbox"/> LA Site Forms - new sites ( <i>with sketch map &amp; topographic map</i> )<br><input type="checkbox"/> LA Site Forms (update) - previously recorded & un-relocated sites ( <i>first 2 pages minimum</i> )<br><input type="checkbox"/> Historic Cultural Property Inventory Forms<br><input type="checkbox"/> List and Description of isolates, if applicable<br><input type="checkbox"/> List and Description of Collections, if applicable |  | <b>23. Other Attachments:</b><br><input checked="" type="checkbox"/> Photographs and Log<br><input type="checkbox"/> Other Attachments<br>(Describe): |
|---|--|---|

**24. I certify the information provided above is correct and accurate and meets all applicable agency standards.**

**Principal Investigator/Responsible Archaeologist:** Eric Blinman  
**Signature**       **Date:** 11/20/2015      **Title (if not PI):**

|   |   |
|---|---|
| <b>25. Reviewing Agency:</b><br><br><b>Reviewer's Name/Date</b><br><br><b>Accepted ( ) Rejected ( )</b><br><br><b>Tribal Consultation (if applicable):</b> <input type="checkbox"/> Yes <input type="checkbox"/> No | <b>26. SHPO</b><br><b>Reviewer's Name/Date:</b><br><br><b>HPD Log #:</b><br><b>SHPO File Location:</b><br><b>Date sent to ARMS:</b> |
|---|---|

**CULTURAL RESOURCE FINDINGS**

*[fill in appropriate section(s)]*

|  |  |                                   |
|--|--|-----------------------------------|
| <b>1. NMCRIS Activity No.:</b><br>133594 | <b>2. Lead (Sponsoring) Agency:</b><br>GSD | <b>3. Lead Agency Report No.:</b> |
|--|--|-----------------------------------|

**SURVEY RESULTS:**

Sites discovered and registered:  
 Sites discovered and NOT registered:  
 Previously recorded sites revisited (site update form required):  
 Previously recorded sites not relocated (site update form required):  
**TOTAL SITES VISITED:**  
 Total isolates recorded:                      Non-selective isolate recording?   
 Total structures recorded (new and previously recorded, including acequias):

**MANAGEMENT SUMMARY:** The six test pits excavated on the hospital grounds revealed insignificant information regarding the hospital history and prehistory of the immediate vicinity. Intact cultural deposits were not present and there was no evidence of historic building foundations. If the southern end of the parade grounds extended onto the present day front lawn of the hospital, Test Pits 1, 2, and 3 revealed very little evidence of the activities that may have taken place on the parade grounds during the Fort years. The only military paraphernalia collected consisted of a conical bullet and a .50 caliber centerfire copper cartridge case. A few prehistoric artifacts were collected—Alma Plain ceramics and several lithics, including a brown chert biface flake. Medical supplies were also scarce and consisted of a few broken patent medicine bottles, a Dr. Pitcher’s laxative bottle, and a rubber nozzle. Most of the soils yielding these artifacts had been redeposited. The building and razing of hospitals on the same location have produced rubble that was buried in the lawn to the north of the current hospital. Sechrist also encountered foundation rubble during the 2009 trenching for fire hydrants in Trench 2 along the north central sidewalks. OAS Test Pit 2 was located directly east of Sechrist’s Trench 2. Foundation rubble was also discovered in OAS Test Pit 3. Oral tradition of local residents recalls that bulldozers eventually covered the rubble and leveled the area with soils from either the immediate vicinity or elsewhere. The lawn was planted to produce a serene atmosphere for hospital patients. OAS believes that no intact archaeological deposits remain in the immediate vicinity of the existing hospital construction footprint. Intact deposits may remain underneath the layer of demolition debris under the lawn to the north and northwest of the existing hospital building. OAS recommends that no monitoring is needed as long as building demolition activities are confined to the area of the construction footprint of the existing building and the areas adjacent to the building to the south. OAS recommends that any subsurface excavation to the north of the building be monitored by an archaeologist if those excavations penetrate the existing layer of demolition rubble. OAS recommends that utility demolition be monitored only if removal requires trench excavation outside of the immediate vicinity of the existing hospital.

**IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.**

**SURVEY LA NUMBER LOG**

Sites Discovered:

| LA No. | Field/Agency No. | Eligible? (Y/N, applicable criteria) |
|--------|------------------|--------------------------------------|
|        |                  |                                      |
|        |                  |                                      |
|        |                  |                                      |
|        |                  |                                      |

Previously recorded revisited sites:

| LA No. | Field/Agency No. | Eligible? (Y/N, applicable criteria) |
|--------|------------------|--------------------------------------|
|        |                  |                                      |
|        |                  |                                      |
|        |                  |                                      |
|        |                  |                                      |

**MONITORING LA NUMBER LOG (site form required)**

Sites Discovered (site form required) :                      Previously recorded sites (Site update form required):

| LA No. | Field/Agency No. | LA No. | Field/Agency No. |
|--------|------------------|--------|------------------|
|        |                  |        |                  |
|        |                  |        |                  |
|        |                  |        |                  |

Areas outside known nearby site boundaries monitored? Yes , No  If no explain why:



**TESTING & EXCAVATION LA NUMBER LOG** *(site form required)*

**Tested LA number(s)**

**Excavated LA number(s)**

| Tested LA number(s) | Excavated LA number(s) |
|---------------------|------------------------|
| LA 3546             |                        |
|                     |                        |
|                     |                        |
|                     |                        |



## ADMINISTRATIVE SUMMARY

At the request of Sherry Keefe, Facilities Management Division, New Mexico General Services Department (NMGSD), the Office of Archaeological Studies (OAS) excavated six test pits at U.S. Veterans Hospital No. 55 (LA 3546) at Fort Bayard in Grant County, New Mexico between June 6 and June 10, 2015. NMGSD plans to demolish the three-story hospital, which was constructed in 1922 as a tuberculosis treatment center. Archaeological testing was conducted in order to determine whether intact archaeological deposits or foundations of earlier Fort Bayard buildings were present within the demolition zone. No intact deposits or foundations were encountered in the test excavations, but there is a thick layer of earlier demolition debris under the lawn to the north of the existing hospital. This layer may protect intact deposits, but if demolition activities are confined to the original construction footprint of the hospital, demolition will not affect these deposits.

OAS recommends that no monitoring is required as long as demolition activities are confined to the original hospital construction footprint and the area south of the hospital building. OAS recommends that no monitoring of utility lines is required unless lines have to be removed by excavation outside of the immediate vicinity of the hospital building. Monitoring is recommended if demolition activities require excavation through the early demolition rubble layer to the north of the hospital building or if demolition of basement walls requires excavation beyond the northeastern or northern limits of the original hospital construction footprint. If demolition excavation exposes intact stratigraphic profiles of the original hospital construction cut, those profiles are recommended for documentation prior to backfilling of the demolition cut.

**MNM Project No. 41.1022**

**NMCRIS Activity No. 133594**

**State Permit No. NM-15-027-T**



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# 1 ↘ Introduction

At the request of Sherry Keefe of the Facilities Management Division of the New Mexico General Services Department, the Office of Archaeological Studies (OAS) completed testing at U.S. Veterans Hospital No. 55 (LA 3546) at Fort Bayard in Grant County, New Mexico (Fig. 1.1) between June 6 and June 10, 2015.

The testing phase occurred between June 6 and June 10, 2015. Intact deposits were not found in the test pits; instead, archaeologists found the mostly re-deposited stratigraphy and foundation rubble from previous hospitals that had been built on the same location (Fig. 1.2). Two features (Features 1 and 2) were recorded, but two local ranchers, whose fam-

ilies have resided in the area for more than 80 years, assured archaeologists that the features were only foundation rubble from previous structures. OAS archaeologists who performed testing activities were Susan M. Moga, Ann L. W. Stodder, C. Dean Wilson, Isaiah Coan, and Vernon Foster. Eric Blinman served as principal investigator of the project.

Appreciation is extended to Ann L. W. Stodder, for her in-depth research on the history of Fort Bayard; Isaiah Coan, GIS specialist, for locating our test pits in the field and for producing maps for this report; and to the crew, who completed this project exuberantly and in a timely fashion.

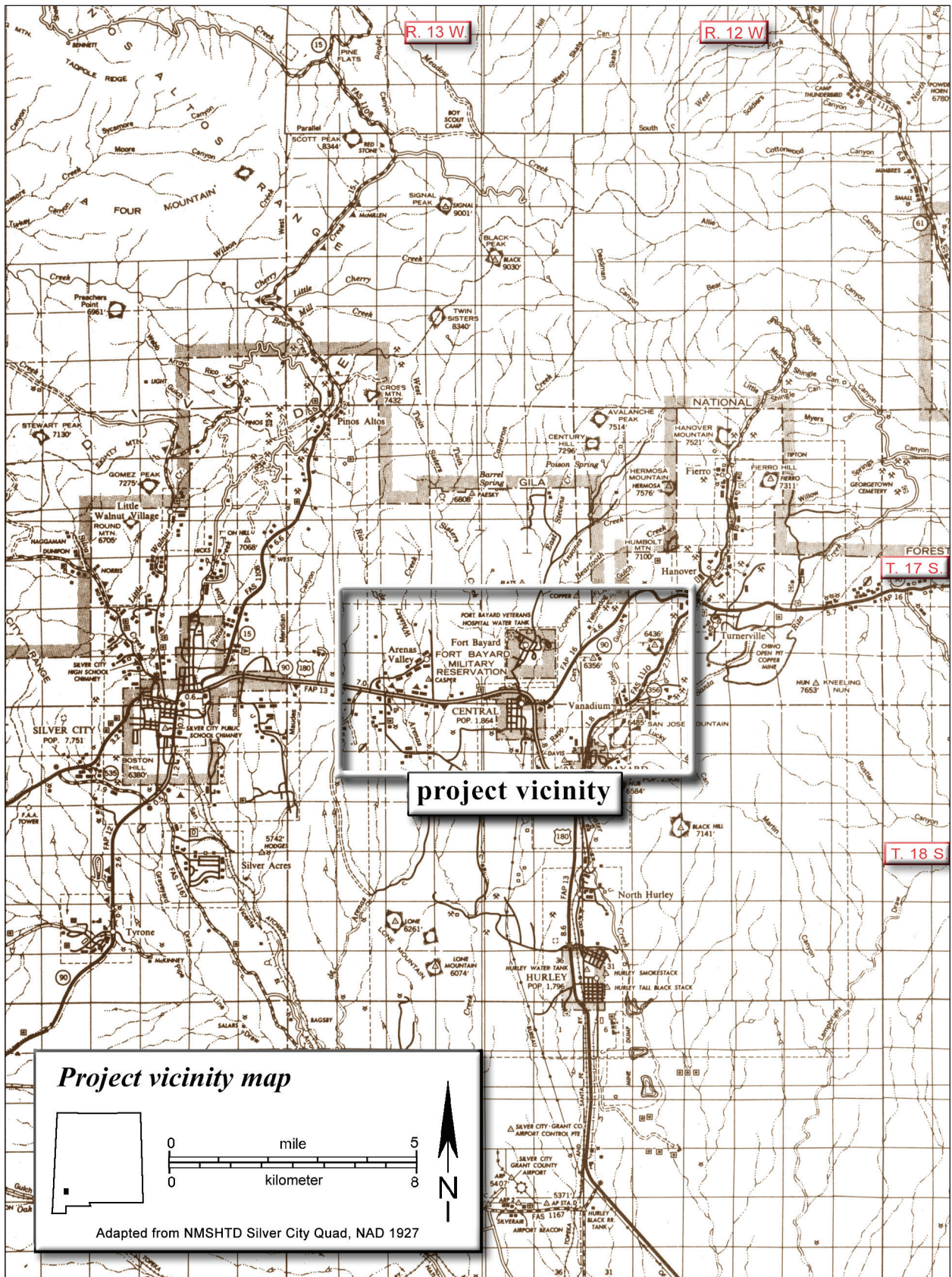


Figure 1.1. Project vicinity map.



Figure 1.2. Aerial view of the project area.



## 2 Environmental Setting

Susan M. Moga

Located in Grant County, New Mexico, the Fort Bayard National Historic District sits at an elevation of 1,872 m (6,142 ft) on a broad, grassy floodplain in the foothills of the Los Pinos Mountains. The fort is situated between Cameron Creek to the east and Twin Sisters Creek to the west. Both creeks branch off from the San Vicente Arroyo—a tributary of the Mogollon River about 11.2 km (7 mi) south of the fort. Studies show that the land had been used for agricultural purposes long before the Anglo occupation of the region (Stodder 2015:5, 8).

The geology of Fort Bayard features some of the oldest rocks in the area. Fossiliferous Pennsylvanian carbonates are overlain with the red shale and sandstone of the Permian Abo Formation, which was stripped down during a period of erosion that lasted until the beginning of the Late Cretaceous period, when it was covered by the clean sandstone known as Beartooth quartzite.

The Beartooth quartzite is covered by a thick sequence of shale and sandstone—greenish-gray to tan in color—from the Late Cretaceous Colorado Formation. The Colorado beds are overlain with volcanic breccia containing andesite or quartz diorite; the breccia sequence contains volcanoclastic sandstone. These rocks were uplifted during the Laramide orogeny.

The Kneeling Nun monolith (Fig. 2.1) is made up of rotated blocks of a younger, crystal-rich, welded, ash flow tuff, probably from debris flows or rock avalanche deposits (Skotnicki 2007:1–3). The monolith is 122 m (400 ft) high and has survived two earthquakes—one in 1885, the other in 1887 (Ackerly 1998:3). There are many versions of the legend associated with the monolith, but the basic story is that of a nun, Teresa, of the Mission of the Knights of the Holy Grail, who had a forbidden love affair with a handsome soldier and was turned to stone for abandoning her vows (Hendrickson 2003:1).

Major tree and shrub species at Fort Bayard include pinyon pine, alligator juniper, one-seed juniper, oak, brickellia, mountain mahogany, sage-

brush, skunkbush sumac, and Wright silktassle. Abundant grasses include blue grama, side-oats grama, three-awn, dropseed, and wolftail. Herbaceous flowering plants, or forbs, include globe-mallow, ragweed, wallflower, trailing four o'clock, and buffalo gourd. Cholla and prickly pear are the most frequently appearing succulents.

Intensive pinyon/juniper control has been enforced at Fort Bayard in recent times. In 1970, the trees were mechanically removed with bulldozers and the debris set on fire. A prescribed burn was initiated in the same area in 1993 (Tafoya 1999:4, 34).

Wildlife, including elk and Coues' white-tailed deer, can be seen year-round, especially along Cameron Creek and on the hospital grounds. Tarantulas, jackrabbits, coyotes, mule deer, and a variety of lizard species also are present. Birds in the area include the red-tailed hawk, the Cooper's hawk, the Montezuma quail, the band-tailed pigeon, the great horned owl, the long-eared owl, the wild turkey, the western kingbird, the Cassin's kingbird, the chipping sparrow, and the plain titmouse. Black bear, bobcat, badger, and porcupine are seasonal visitors to the area ([www.wildlifeviewingareas.com](http://www.wildlifeviewingareas.com)).

Early weather observations were first recorded by U.S. Army surgeons at Fort Bayard in March 1867. In 1877, the responsibility was transferred to the U.S. Signal Service in Silver City; however, the surgeons continued recording their own observations to a limited degree. Both weather stations were also telegraph repair offices and were called Special River Stations. The exact location of the Fort Bayard office is a little sketchy, but it is assumed to have been located in the quartermaster's or commanding officers' headquarters across the parade ground from the first hospital.

The surgeons kept a daily journal and recorded minimum and maximum temperatures, rainfall, time of sunset, and wind direction. The Fort Bayard office relayed the information daily, via telegraph, to the Silver City office. The Silver City weather observation station was disbanded in March 1883.



Figure 2.1. Kneeling Nun Monolith, near Fort Bayard.

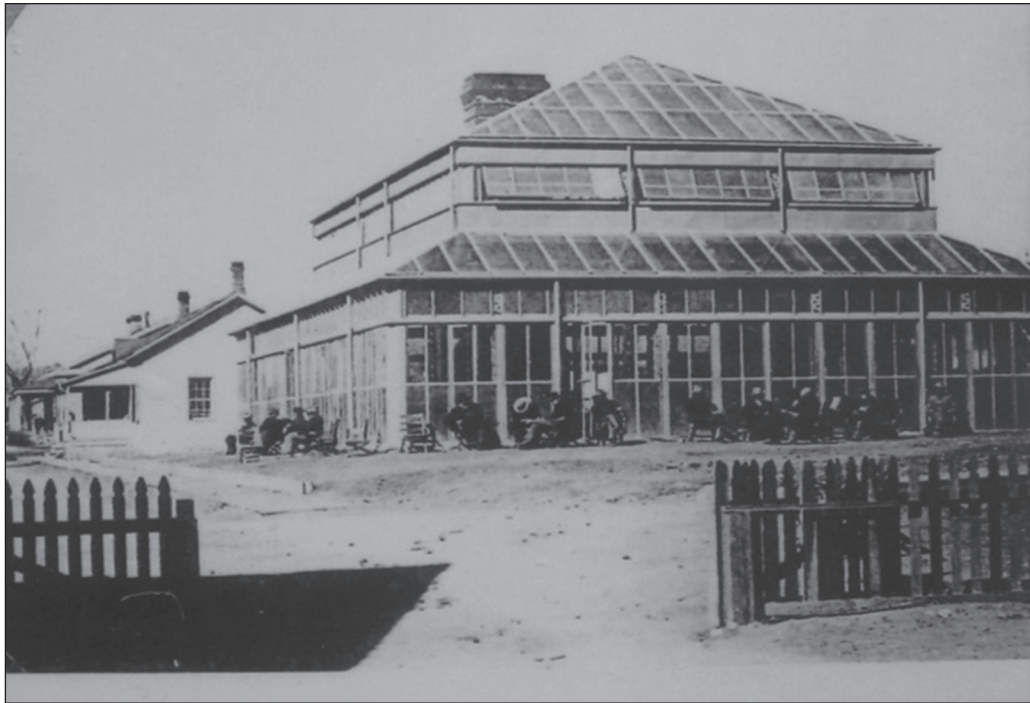
Weather information for Fort Bayard and Silver City from 1893–1901 could not be found (Grice 2005:2, 9–10, 20). Weather statistics recorded during the Fort Bayard era also were not available for comparison with current observations.

According to the 2015 National Oceanic and Atmospheric Administration (NOAA) station, Fort Bayard's minimum temperature is 4.99° C (40.99° F); its maximum temperature is 21.1° C (70.19° F). Average annual precipitation is 41 cm (16.25 in), which occurs mostly during the monsoon season, from July through September. The average annual

snowfall is 23.6 cm (9.3 in). Snow accumulates during December, January, and February ([www.climate-charts.com](http://www.climate-charts.com)).

The semi-arid climate at Fort Bayard was believed to be beneficial for tuberculosis patients. The high elevation and dry climate was often referred to as “a zone of immunity.” During the late 1800s and early 1900s, a solarium at Fort Bayard (Fig. 2.2) offered afflicted soldiers exposure to the sun year-round. Patients sat on the hospital terrace and “took the cure,” holding mirrors to reflect sunlight onto their throats (Fig. 2.3).





*Figure 2.2. Solarium at Fort Bayard, as seen on an interpretive sign at the modern-day Fort Bayard National Historic District (original image courtesy of Lily Roberts Estate.)*



*Figure 2.3. Patients “taking the cure” at the Fort Bayard sanatorium for the treatment of tuberculosis, as seen on an interpretive sign at the modern-day Fort Bayard National Historic District.*



### 3 Cultural Overview

Ann L. W. Stodder

The local archaeological record in the Fort Bayard area does not include any resources dated to the Paleoindian period (12,000/9500 BC–5500 BC, start dates vary among researchers) or to the Archaic period (7000/5500 BC–AD 200). However, early people undoubtedly utilized the resources of the region.

Traces of Paleoindian occupations—isolated projectile points, kill sites, game- and hide-processing sites, and base camps—have been recorded in southeastern New Mexico, in the Fort Bliss/El Paso area, at Mockingbird Gap and Water Canyon near Socorro, and in Rio Rancho near Albuquerque (LeBlanc and Whalen 1980; Stuart and Gauthier 1984).

Isolated Folsom points have been recorded at the Tularosa Basin—LA 6294, the Lone Butte Folsom site—in Otero County (LeBlanc and Whalen 1980).

Debate continues over pre-Paleoindian sites like Pendejo Cave in the Tularosa Basin in southwestern New Mexico and the pre-Clovis Sandia Cave near Albuquerque (Akins et al. 2015).

Little is known about the Paleoindian period in southwestern New Mexico (Turnbow 2000); however, two late Paleoindian sites are relatively close to the project area.

LA 98744 (Burro Cienega No. 9) in Grant County has been dated to the late Paleoindian period based on a Midland-style Folsom point found there.

The site is located on the grasslands both south and west of Fort Bayard, and the lithic assemblage found there suggests that the site may represent either a kill site or a short-term camp (Fitting and Price 1968).

LA 126127 (the Cloverdale Creek Paleoindian site) in Hidalgo County has been classified as either a late or terminal Paleoindian site; this determination is based on an un-typed point with a concave basal indentation similar to those found on Folsom points.

Cloverdale Creek was interpreted as a workshop locality by Fitting and Price (1968); LeBlanc and

Whalen posited that both LA 98744 and LA 126127 were probably camp sites (1980:46).

The record of Archaic period sites in southwestern New Mexico is more extensive and reflects regional population increases, patterns of aggregation and dispersion, and an expanded range of subsistence strategies and resources relative to the Paleoindian period. More intensive plant processing, signaled by ground stone artifacts and the consumption of smaller game animals, also has been indicated.

Sechrist's 2009 survey of a 5 by 10 km area at Cameron Creek in the Fort Bayard area yielded no Archaic sites in the NMCRIS system, but LA 9071 (Bobcat Cave) and LA 34800 (Eaton), in Grant and Hidalgo counties, respectively, are relatively close and are typical of many Archaic period sites.

Lithics found at these two sites represent components classified as Unspecified Archaic. Both sites also revealed later Mogollon components.

Archaic sites are notoriously difficult to identify—as emphasized by Lekson in 1992—since the absence of ceramics cannot be treated as evidence of a pre-ceramic cultural or temporal affiliation and ground stone artifacts may not be temporally or culturally diagnostic (Nelson 1980).

Late Archaic/early Agricultural components at LA 78089 (the Forest Home site), LA 99631 (the Wood Canyon site), and LA 121158 (the Beargrass site) along NM 90, between Deming and Silver City, include structures, storage facilities, hearths, burials, and thick cultural deposits. This suggests nearly year-round occupation and maize production occurring between 800 BC and AD 200 (Turnbow 2000).

While, given new perspectives on Paleoindian subsistence, the transition from Paleoindian to Archaic is no longer seen as a punctuated event, the transition from Archaic to early Agricultural is also blurred, as terminology reflects, by the presence of cultigens like cotton and corn at late Archaic sites (Akins et al. 2015; Turnbow 2000) as well as by ev-

idence of increasing sedentism prior to the start of ceramic production.

The early (AD 200–AD 550/600) and late (AD 550/600–AD 1000) Pithouse periods encompass the Georgetown, San Francisco, and Three Circle phases. Early Pithouse is characterized by pithouse villages located in high, defensible locations (LeBlanc and Whalen 1980; Lekson 1992; Turnbow 2000); this suggests varying degrees of sedentism during this time.

Early Pithouse components at NM 90 sites LA 78089 (Forest Home) and LA 121210 (Power) include seasonally occupied agricultural settlements and early evidence of ceramic manufacturing. The population of the Mimbres Valley is estimated to have tripled during the early Pithouse period (Turnbow 2000).

According to Turnbow (2000:2), the population increased at least fourfold in the Mimbres Valley during the late Pithouse period. Painted ceramics appear at this time, and there is more variability in ceramic types. Residential sites are located at lower elevations, on terraces of major drainages. Changes in pithouse shapes and pottery assemblages characterize the Georgetown, San Francisco, and Three Circle phases, with black-on-white and other painted wares first appearing during the San Francisco phase.

The size and form of ceremonial structures evolves at this time as well. Great kivas have been identified at some early Pithouse sites, like LA 34813 (Winn Canyon). The Three Circle phase component at the Beargrass site reflects a mixed foraging-and-farming subsistence economy at work in a relatively large community with multiple structures and extramural features (Turnbow 2000).

Very large communities existed in the Mimbres and Upper Gila drainages during this phase as well; Galaz Ranch Ruin had as many as 100 pithouses (Lekson 1992).

Sites from the Early Pueblo period (AD 1000–AD 1150/1200, the Classic Mimbres phase), and Late Pueblo period (AD 1200–AD 1400, Post Classic and Terminal Mimbres phases) dominate the archaeological record of southwestern New Mexico, as they do the immediate vicinity of Fort Bayard. Although there is a shift to above-ground dwellings, many late Pithouse period sites continue to be occupied. Subsistence regimes continue, and Three Circle phase black-on-white pottery develops into

the iconic Mimbres Black-on-white (Lekson 1992; Turnbow 2000).

Changes in social and political complexity are implied for the large villages comprised of as many as six roomblocks, with an average of 20 storage and habitation rooms, arranged around plazas. Population growth continues and residential sites expand into more marginal areas where agricultural potential is enhanced by water-control features like check dams (Turnbow 2000).

The population in the Mimbres heartland peaks by AD 1130 and begins to decline around the time of the cessation of major building episodes at Chaco Canyon (Nelson 2010). Along with the demographic decline in Post Classic and Terminal Mimbres comes distinct changes in architecture and pottery styles. Many residential sites are abandoned and smaller, U-shaped, pueblos with less formal organization become typical during the Salado/Cliff phase (AD 1300–AD 1450).

The dramatic population decline in southwestern New Mexico was for many years thought of as a collapse, and the Mimbrenos were cast as either disappearing under mysterious circumstances or as migrating to Casas Grandes (Paquime). Current understanding of the Post Classic Mimbres phase focuses on settlement reorganization as evidence of resilience; people created smaller farming communities, made different pottery, and forged new local and regional connections (Nelson 1999, 2010).

## FORT BAYARD AND SOUTHWESTERN NEW MEXICO

Arrival dates for the Apaches and other Athabaskan speaking groups in the Southwest is placed at, or shortly before, 1500 AD (Wilshusen 2010), sometimes much earlier; however, the identity of the various non-sedentary indigenous people mentioned in the early Spanish chronicles is far from clear (Opler 1983). There is some uncertainty about which Apache bands are mentioned in later Spanish documents pertaining to the study area.

Apaches in southern New Mexico and Arizona, and in Sonora and Chihuahua, clashed with Spanish and Mexican authorities, missionaries, and civilians throughout the eighteenth century. The Chiricahua Apaches, whose seasonal grounds included the Mimbres uplands, were said to be particularly resistant to Spanish efforts to remove, relocate, or reduce tribal members. A lapse in

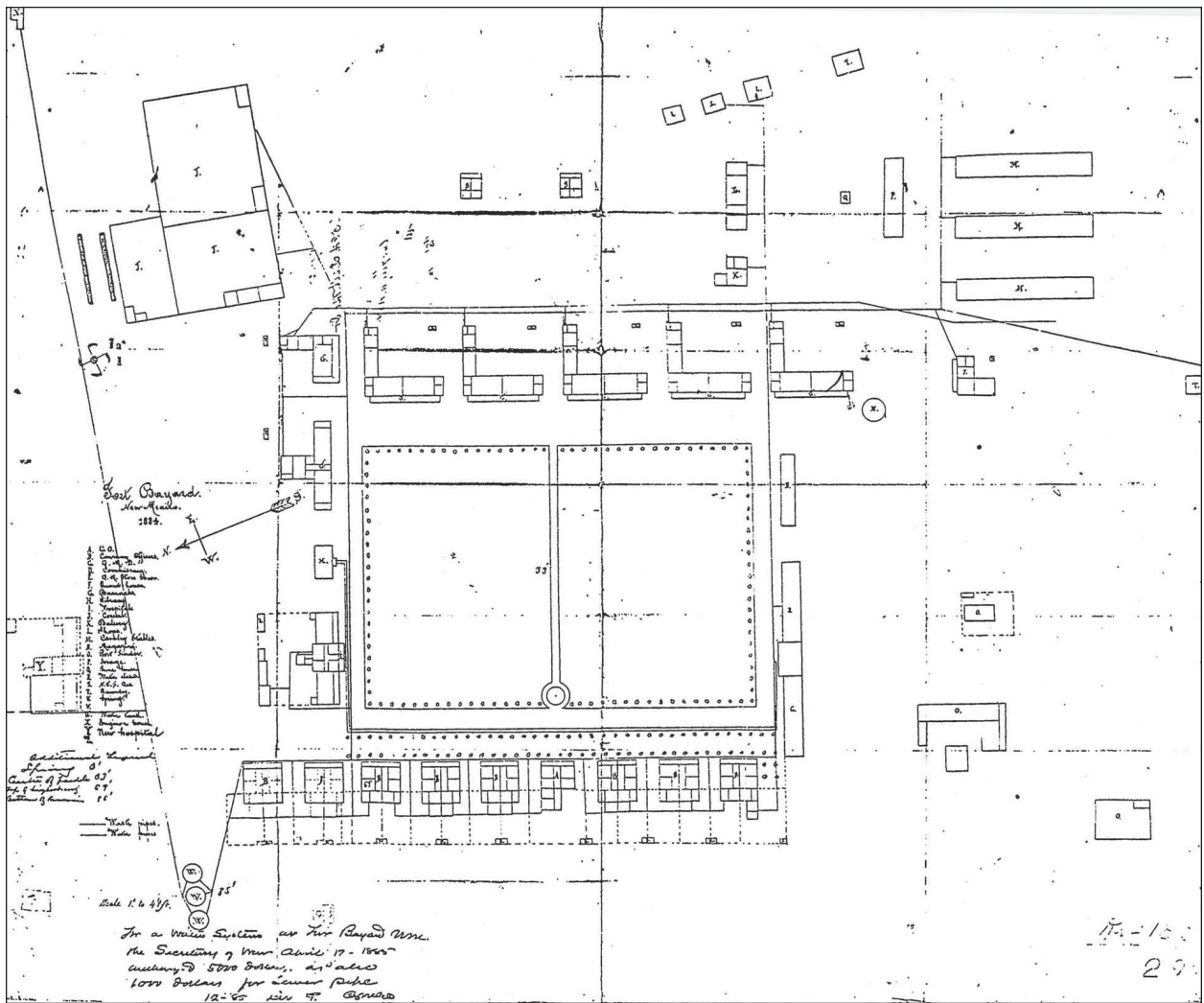


Figure 3.1. This 1885 plan view of Fort Bayard shows parade ground, center; officers' quarters, right; and barracks, left (image from National Registry of Historic Places nomination form, NM Historic Preservation Division).

these efforts during Mexico's war of independence against Spain resulted in a period of "brittle truce" (Opler 1983:403).

The Spanish and Mexican governments negotiated treaties and managed a certain level of intermittent détente with the Chiricahua and Warm Springs Apaches, and mining operations at Santa Rita del Cobre began in 1799 (Opler 1983:403).

The Americans, however, had no such conciliatory policies. Settlements were attacked and mining operations frequently suspended in the face of Apache hostilities during the first half of the nineteenth century.

As summarized in Table 3.1, largely based on Kammer (2001), Fort Bayard was established in 1866 to serve as yet another military outpost to offer pro-

tection from the Apaches to miners, settlers, and travelers.

Following the influx of miners, settlers, and soldiers who took over the Apaches' seasonal campsites, disrupted the tribes' access to resources and sacred hot springs, and impeded the tribes' travel between summer and winter territories (Lekson 2010), Geronimo, leader of the Chiricahua Apaches, took up the fight against U.S. military forces. Fort Bayard soldiers, and their scouts, responded by participating in a number of raids against the Apaches as the tribal members grew increasingly aggressive.

The fort was initially made up of a series of poorly constructed buildings arranged around the parade ground.

An 1885 diagram (Fig. 3.1) shows the parade



Figure 3.2. Fort Bayard hospital as seen in 1885 (original image National Archives RG92-F-7-9).



Figure 3.3. The foundation of the 1885 hospital, as seen today.



Figure 3.4. Geronimo, right, and his Apache warriors, 1886 (original image from Sharlot Hall Museum Archives IN-A-158PB).

ground at the center of the fort with the officers' quarters to the west and the barracks to the east. Building H, north of the parade ground, was the site of the original infirmary. Building Y, also north of the parade ground, was where the second, later hospital (Fig. 3.2) was built. Figure 3.3 depicts the now broken foundation of original hospital.

The earliest troops stationed at Fort Bayard included Company B of the Colored U.S. Infantry, a group that came to be known as the Buffalo Soldiers. The fort was expanded in 1869 and the construction of permanent buildings authorized in 1870. Work on the new officers' quarters—west of the parade ground—was completed in 1877. An 1879 census lists 325 enlisted men, a complement of officers and civilian employees, and 25 Navajo scouts at the fort. In 1884, new barracks, stables, and corrals were built on the east side of the property; a library and hospital were built on the north side. The officers' quarters were rebuilt in 1884 and again in 1904 (Kammer 2001).

Following Geronimo's surrender (Fig. 3.4) to American forces and the close of the Apache Wars

in 1886, frontier forts declined in importance. Fort Bayard was decommissioned in 1899 and became the first military hospital to function as a sanatorium for the treatment of tuberculosis (Fig. 3.5).

Between 1899 and 1920, fort structures were renovated extensively, and the grounds were modified to make the sanatorium nearly self-sufficient. Orchards, a dairy, steam and electric plants, a fire department, a post office, a hotel, and a variety of social clubs were also added (Kammer 2001). The Atchison, Topeka and Santa Fe Railway built a spur at Bayard to supply the hospital.

In 1920, the Army closed the hospital, and the U.S. Public Health Service took over operations. One year later, the Veterans Bureau assumed control, and U.S. Veterans Hospital No. 55, a modern, three-story, H-shaped building (Fig. 3.6), was built south of the parade ground. Some believe the hospital was built directly on the south parade ground; this theory will be discussed more thoroughly in Chapter 5 of this report. The 1925 plans (Fig. 3.7) show the new structure in relation to the parade ground, the staff residences, and other facil-



Figure 3.5. A 1909 panoramic photograph of Fort Bayard, view east (image Library of Congress).

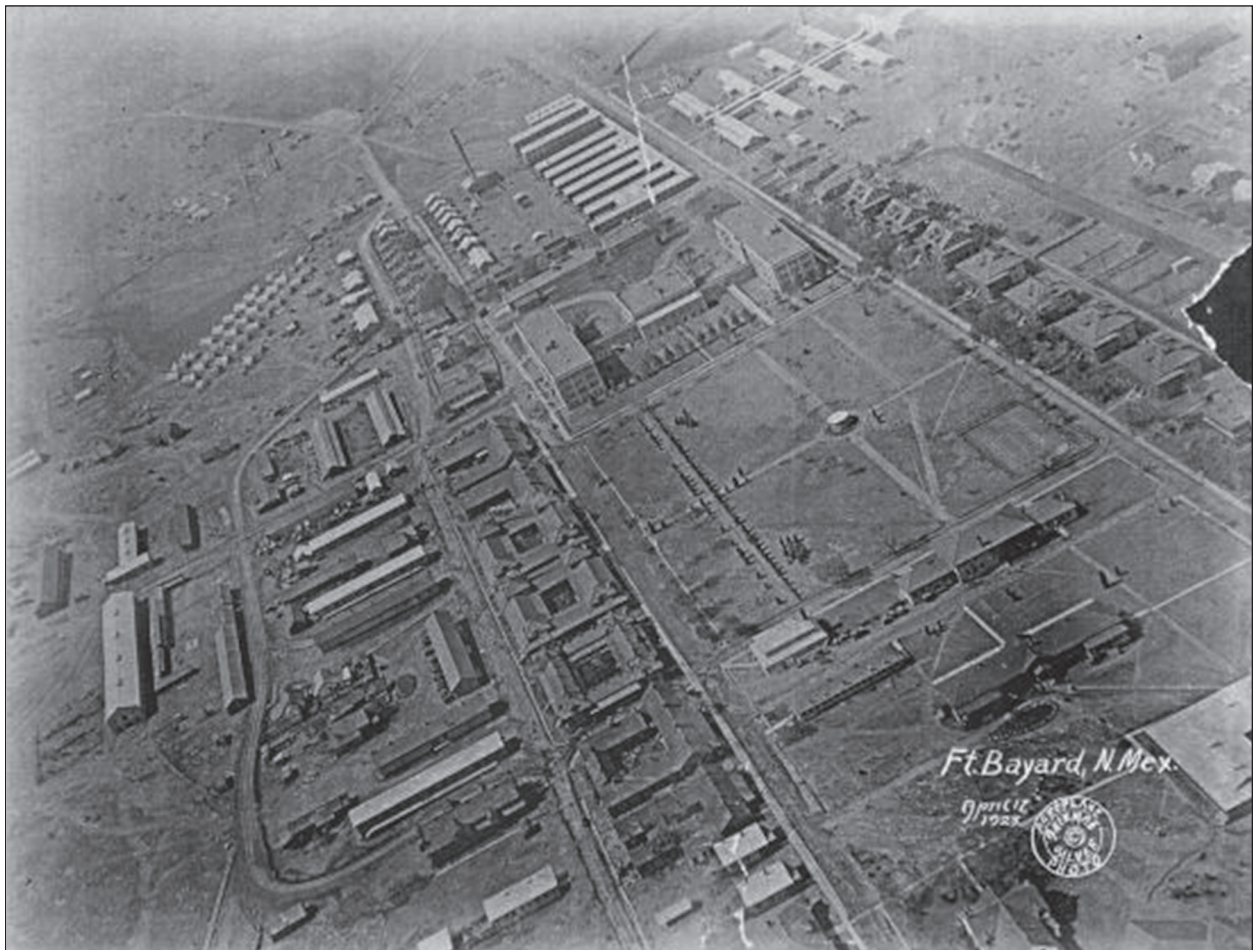


Figure 3.6. Aerial photograph of Fort Bayard, as seen on an interpretive sign at the modern-day Fort Bayard National Historic District. The 1922 hospital appears in the upper half of the image (original image courtesy of Andrea Jaquez).



Table 3.1. A brief history of Fort Bayard and the surrounding area.

|                  |   |
|------------------|---|
| <b>1799-1800</b> | Santa Rita del Cobre mine opened.   |
| <b>1837</b>      | Apache massacre and retaliation. Abandonment of Santa Rita  |
| <b>1851-1852</b> | Fort Webster established 14 miles north of San Vicente de la Cienega, later renamed Silver City, to protect miners and settlers.  |
| <b>1866</b>      | Fort Bayard established to protect miners in the Santa Rita and Pinos Altos districts from the Apaches. Company B of the 125 <sup>th</sup> Colored U.S. Infantry (Buffalo Soldiers) and two cavalry companies under commander Lt. James Kerr. First buildings made of adobe, cobbles, logs, wood shingles. Sally port and adjacent storerooms along south side of the parade ground among earliest structures.  |
| <b>1868</b>      | Grant County established.   |
| <b>1869</b>      | Thirteen square mile area is designated the Fort Bayard Military Reservation. Settlers and miners, some of them former military, begin occupation of San Vicente de la Cienega, formerly the traditional camping place of the Warm Springs Apaches. The village of Santa Clara, 1 mile south of Fort Bayard, is settled to provide supplies and services to Fort Bayard.  |
| <b>1870</b>      | Construction of first permanent buildings at Fort Bayard is authorized by U.S. Secretary of War.  |
| <b>1871</b>      | Settlement at San Vicente de la Cienega renamed Silver City .   |
| <b>1877</b>      | Officers quarters completed on the west side of the parade ground. Officers quarters were rebuilt in 1884 and again in 1904.  |
| <b>1879</b>      | Fort Bayard population consists of 325 enlisted men, 1 lieutenant colonel, 4 captains, 11 lieutenants, 14 laundresses, 14 civilian employees, 25 Navajo scouts, 280 horses, 89 mules.   |
| <b>1884</b>      | Barracks, stables, and corrals built on the east side of parade ground. Library and hospital built on the north side.   |
| <b>1886</b>      | Geronimo surrenders, and frontier military establishments lose importance. The "new" Fort Bayard hospital is built on a hill just north of the parade ground.   |
| <b>1899-1920</b> | Fort Bayard ceases to be a military fort and is converted to the first military sanatorium for treatment of tuberculosis. Extensive renovations help create a largely self-sufficient community with extensive farms, orchards, and a dairy. Work includes newly built and renovated staff and officers' quarters, landscaping and sidewalks, electrical and refrigeration plants, dam and pumping system, a library, a post office, a telephone system, a fire department, a hotel, baseball fields, and several segregated social clubs. Patient population increases to several hundred. Additional wards are constructed east and south of the parade ground. |
| <b>1900</b>      | AT&SF Railway constructs Bayard siding along the Santa Rita spur to provide supply a depot for the Fort Bayard hospital.  |
| <b>1920</b>      | U.S. Army closes Fort Bayard hospital. Facility is reopened by the U.S. Public Health Service.  |
| <b>1921-1922</b> | Modern, three-story, H-shaped hospital built on southern edge of the parade ground. Fort Bayard becomes jurisdiction of the Veterans Bureau and is designated U.S. Veterans Hospital 55 for the treatment of tuberculosis. New hospital is designed to treat more than 1,250 patients. Additional new construction undertaken for staff residences, hospital infrastructure.  |
| <b>1930s</b>     | Works Progress Administration (WPA) projects are completed at Fort Bayard and include masonry-lined drainage system, tree planting, completion of "cultural landscape" of the historic district.  |

Table 3.1 (continued)

|                   |   |
|-------------------|---|
| <b>1940</b>       | German POWs interned at Lordsburg assist in building projects, including Mission/Revival-style theater (Building 79).                           |
| <b>Post WW II</b> | Hospital converted from tuberculosis treatment center to general hospital. Many buildings removed; agricultural features abandoned.             |
| <b>1956</b>       | Portions of fort property are transferred to the U.S. Forest Service.   |
| <b>1965</b>       | State of New Mexico takes over control of hospital and 484 acres of land.   |
| <b>1967</b>       | Fort Bayard assigned LA 3546.   |
| <b>1976</b>       | Fort Bayard cemetery designated a national cemetery.  |
| <b>1992</b>       | Fort Bayard selected as the site for statue commemorating the Buffalo Soldiers.   |
| <b>2001-2004</b>  | Fort Bayard placed on New Mexico State Register, named a National Historic District and National Historic Landmark                              |
| <b>Today</b>      | Aside from some partial foundations and retaining walls, only one fort-era building remains: a house, ca. 1895 (#223 on Historic District map). |

Sources: Opler 1983; Kammer 2001; Sechrist 2009; Rogge and Johnson 2009.

ities surrounding the hospital, which was designed to treat more than 1,000 patients (Kammer 2001).

Landscaping and construction continued at the fort during the 1930s and 1940s. Following World War II, the sanatorium was converted into a general hospital. Several buildings were removed from the fort grounds and agricultural and dairy projects were discontinued. The acreage of the fort was decreased following a land transfer to the U.S. Forest Service in 1956, and the fort was turned over to the State of New Mexico in 1965. Remodeling and renovation projects continued through 1999. Today, only one of the fort’s Territorial period buildings remains—a home dated to about 1895.

The Fort Bayard Historic District retains the basic layout of the frontier fort. The parade ground remains the fort’s central feature, along with the abandoned hospital that played such an important role in the treatment of tuberculosis. Remnants of the orchard, the dairy farm, the power plant, and the old cemetery on the hill still convey the scope of the fort and the mission of the sanatorium community.

#### ADDITIONAL HISTORIC NOTES OF INTEREST

SUSAN M. MOGA

A number of historic characters and incidents have enhanced the drama of Fort Bayard over the years.

Tuberculosis brought an influx of patients to the

Southwest. John Henry Holliday—better known as Doc Holliday—became a well-known figure following the 1881 gunfight at the O.K. Corral, in Tombstone, Arizona. Holliday had travelled to the Southwest looking for a cure for his tuberculosis. He died of the disease in 1887 in a hotel in Glenwood Springs, Colorado. He was 36 (Byerly 2013).

In 1922, the hospital at Fort Bayard was under the management of the Veterans Bureau. Activities often were arranged for patients and staff, and a baseball field and grandstand were built southwest of the Red Cross building. The Fort Bayard team was not “organized.” It was an “outlaw league” that included players banned from professional baseball. Several Fort Bayard players had been members of the 1919 Chicago White Sox and were believed to have thrown that year’s World Series. Known as the “Black Sox,” the men held jobs at the former post where they worked as firemen or motor pool employees (Krammer 2001).

A ghost known as Rita, believed to be a former resident of New York City, is said by modern-day employees to haunt the theater at Fort Bayard. She is sometimes seen when workers are cleaning the theatre and has often sent them running and screaming from the building. Other tales associated with the hospital include doors slamming by themselves, objects moving on their own, wheelchairs rolling across rooms, ghostly faces in empty windows, mysterious shadows, and the eerie sounds of someone crying.

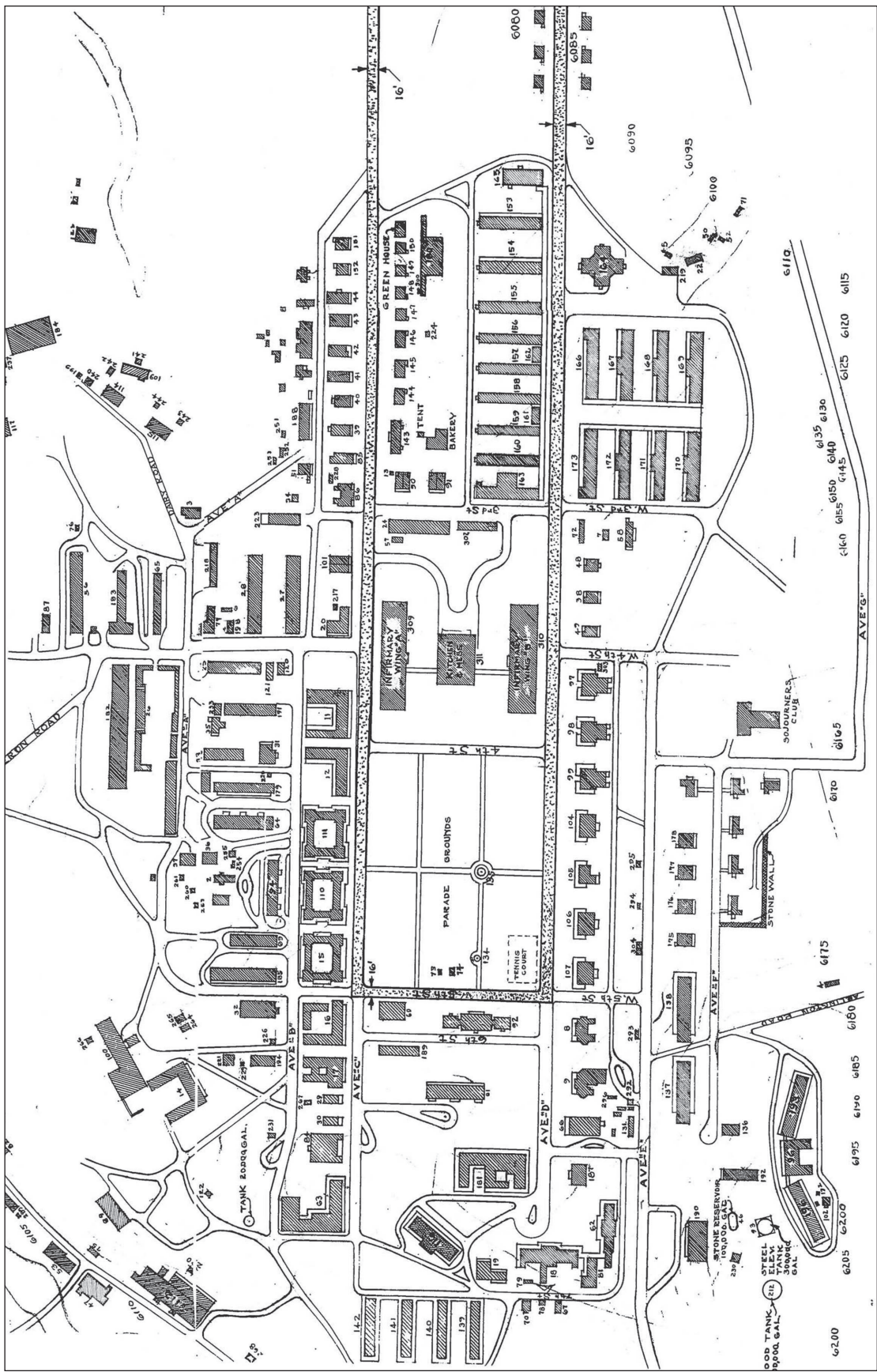


Figure 3.7. 1925 survey map of Fort Bayard showing new hospital driveways and storage buildings (image image from National Registry of Historic Places nomination form, NM Historic Preservation Division).



## 4 ↘ Buffalo Soldiers at Fort Bayard

Susan M. Moga

On July 28, 1866, Congress authorized the creation of six African-American regiments. One of the first regiments was organized on September 21, 1866, at Fort Leavenworth, Kansas. These were the members of the 10th Cavalry Regiment of the United States Army, who, because of their curly hair, would soon be referred to as “Buffalo Soldiers” by Native American tribes (Fig. 4.1).

In August 1866, eight companies of the 125th Infantry were transferred to several forts in New Mexico, including Fort Bayard (Billington 1987:70). Fort Bayard had been established on August 21, 1866, by Company B of the 125th United States Colored Infantry, under the command of Lt. James M. Kerr. The troops lived in canvas tents while building temporary quarters, using logs, cobbles, and adobe bricks, with earthen floors and flat dirt roofs that leaked during monsoon season.

The sally port (Fig. 4.2) was one of the first permanent structures to be built at the fort; it was completed in 1870. The sally port was located at the southwestern corner of the parade ground, a location now occupied by the former U.S. Veterans Hospital. A driveway went through the middle of the sally port, so the contents of wagons could be inspected before entering the fort.

Calvary barracks were built later. In July 1870, the Secretary of War earmarked \$45,000 for the construction of permanent quarters at the fort, and a row of officers’ quarters (Fig. 4.3) was built at the western edge of the parade ground in 1877 (Kammer 2015). None of these structures are standing today.

While building temporary quarters and permanent roads, the Buffalo Soldiers also fulfilled additional military duties. They served as escorts for military personnel, civilians, mail carriers, and supply trains. In the Santa Rita and Pinos Altos districts the soldiers reduced Native American raids on settlers’ livestock and protected miners from Apache attacks.

More and more settlers were moving into the area and encroaching on Apache hunting grounds. The Butterfield Stage had extended its routes further



*Figure 4.1. U.S. 10th Cavalry sergeant mounted for field patrol at Fort Bayard, 1886–1889 (University of Arizona Library of Special Collections).*

south, between Santa Rita and Pinos Altos, and was subjected to Apache raids. It became difficult for the three-company garrison at Fort Bayard to provide protection to all who needed it.

By 1867, the fort’s cavalry contingent had increased to four companies, and the fort’s infantry increased to two. This was insufficient, however, due to the widespread discharge of soldiers. Eventually, by the late 1870s, additional troops were assigned to Fort Bayard (Kammer 2015). In 1883, a Silver City judge and his wife were killed and their son taken captive by the Apaches.

While the conflict between the United States and the Apaches continued, the Army decided to group several different Apache bands together on the same reservation when inter-band tensions were already extremely high. Geronimo and Nana, another Apache leader, fled the San Carlos Reservation in Arizona and continued attacks in the area (Kammer 2015).



*Figure 4.2. Sally port building at Fort Bayard, circa 1870 (Arizona Historical Society).*



*Figure 4.3. Officers' quarters at Fort Bayard, view southeast. This building was constructed in 1877.*



Figure 4.4. A group of 6th Cavalry officers and their families with Gen. John L. Pershing, fourth from left, first row, at Fort Bayard. This photo was taken in 1886 (Associated Press).

Heliographic signals were used to transmit Morse code to locate Apache bands. Stations were located between Fort Bayard and Fort Stanton (Kammer 2015). According to the *Oxford Dictionary*, a heliograph is a signaling device by which sunlight is reflected in flashes from a movable mirror.

Geronimo's surrender in 1886 marked the official end of the Apache conflict with the United States, and the importance of Fort Bayard began to diminish. In 1890, four years after Geronimo's surrender, a small raid was carried out by the Apaches, but the era of the western frontier had come to an end. Fort Bayard was scheduled for closure in 1899, and the last detachment of the 9th U.S. Cavalry left Fort Bayard on January 12, 1900 (Kammer 2015).

Since the time of their inception, the Buffalo Soldiers had been confronted with racial prejudice. These were the first black soldiers in post-slavery America to be allowed to serve in the U.S. Army. Time spent in service secured the soldiers' claim on citizenship (Schubert 2015) and offered social and economic opportunities otherwise denied to them in civilian life.

Black men enlisted for five years of service for \$13 a month with allotments for food, clothing, and shelter. Members of the U.S. Army, as well as

civilians, reacted vocally and violently toward the Buffalo Soldiers. Some white officers refused to serve with black units (Reedstrom 1992:103).

General John L. Pershing served with the 10th Cavalry at Fort Bayard between 1895 and 1897 (Fig. 4.4). Pershing recognized the Buffalo Soldiers as "good soldiers." Cadets and officers at West Point looked down on him and called him "Nigger Jack." Later, the press changed the insulting term to "Black Jack" (Vandiver 1977).

The Buffalo Soldiers played an integral role in maintaining law and order on the New Mexico frontier. Many were awarded the Congressional Medal of Honor (Schubert 2015). An estimated 90 Buffalo Soldiers from the 9th and 10th Cavalry and from the 24th and 25th Infantry are buried at the Fort Bayard National Cemetery.

#### FROM SLAVE TO SERVICEMAN

According to Cynthia Savage (1997), Cathay Williams, a former slave from Independence, Missouri, served as a Buffalo Soldier from 1866 to 1868 under the pseudonym William Cathay. Williams first participated in military life during the Civil War,

when she worked as a paid cook. Williams traveled with the Union Army and witnessed a number of southern raids.

After the Civil War, freed slaves found themselves in need of work, and since medical examinations were not required to enlist, Williams became a soldier in the 38th U.S. Infantry in St. Louis, Missouri.

In 1867, the company marched from the Jefferson Barracks in Missouri to Fort Riley and Fort Harker, in Kansas, then 500 miles to Fort Cummings, New Mexico, where some of the 38th infantry soldiers started a brief mutiny. Following a series of court martials at Fort Seldon, the remainder of the company marched to Fort Bayard on June 6, 1868.

Williams became disenchanted with the Army, and on July 13, 1868, she was admitted to the Fort Bayard hospital where she was diagnosed with neuralgia. After the post-surgeon discovered that she was a woman, Williams was honorably discharged from Fort Bayard, with a certificate of disability on October 14, 1868.

During her two-year stint in the Army, Williams participated in garrison duties but never in direct

combat. After leaving the Army, Williams moved to Pueblo, Colorado where she worked as a laundress and married a "scoundrel" who stole her money, her team of horses, and her wagon. Williams had him arrested, and he was thrown in jail. Not long after, she moved to Trinidad, Colorado; she knew people there and hoped to purchase land near the railroad.

While in Trinidad, Williams was hospitalized for over a year. Completely lacking any funds at the time of her release, Williams filed for military pension. Additional exams by an Army surgeon stated that Williams was 49 years old and was stout and in good health. Despite the amputation of two toes, which forced Williams to use a crutch to walk, the surgeon determined she had no existing disabilities. Williams was denied any pension or disability pay, since her service in the military was considered illegal.

Williams eventually moved to Raton, New Mexico, where she operated a boarding house. She died in Raton in 1924. She was 82 years old. Williams will always be remembered as the only female Buffalo Soldier in U.S. history.



## 5 Previous Archaeological Work at Fort Bayard

Ann L. W. Stodder

Fort Bayard and the surrounding areas have been the location of several archaeological surveys, a monitoring program, and two testing programs. Hough recorded Mimbres site Pueblos 156, said to be on the grounds of the old fort hospital, in 1907. Presumably, Hough was referring to the original infirmary at the northern end of the parade ground. The second hospital, in use when Hough was at Fort Bayard, was built in 1886 and was further north (Kammer 2001).

In 1973, Hough's site was re-recorded as LA 18372. The fort was recorded as an archaeological resource (LA 3546) in 1965. A major survey was conducted in the 1970s (NMCRIS Activity No. 30712) in association with a proposed land swap with the U.S. Forest Service. The land swap did not take place at that time, but survey results were compiled later (Martin 1992).

Other surveys were associated with the Fort Bayard Wildlife Interaction Study, NMCRIS Activity No. 29883; a land transfer for a Grant County recreation site, NMCRIS 38903 (Martin 1992); the Cameron Creek survey by the University of Texas in Austin, NMCRIS 45930 (Pool 1994); the Grant County Shooting Range survey, NMCRIS 104743 (Schiowitz 2007); and the 2009 Gila National Forest Condition Survey, NMCRIS 115737. Several additional survey projects are summarized in Pool 1994.

A survey of the Fort Bayard National Cemetery, NMCRIS Activity No. 115962, was conducted in 2009 prior to improvement work at the cemetery (Rogge and Johnson 2009). Surface artifacts recorded in the cemetery were related to the military post (1880–1890) and to the early twentieth-century tuberculosis sanatorium (Rogge and Johnson 2009:12).

A number of the above surveys mention Mogollon and Classic Mimbres sites, a few Apache sites, and Anglo sites associated with mining and agriculture. These supplement a few Territorial-era discoveries as well as the many recent historic features found in the Fort Bayard Historic District (Kammer 2001).

Historic and prehistoric cultural sites in the im-

mediate vicinity of the current project area are listed in Table 5.1 and Appendixes 1, 2, and 4. Two of these sites are located about 500 m (1,640 ft) northeast of the original fort's hospital and parade ground complex—in the level area near Cameron Creek.

LA 18372, a Mimbres roomblock with an associated artifact scatter, was described by Hough as being on the site of the original Fort Bayard hospital. Hough discussed ceramics at site, including "smooth and coiled vases and bowls of white with red-brown and black decoration." Hough also noted "one vase particularly shows by its form, color, and decoration the influence of Casas Grandes culture" (Hough 1907:86).

Maps and photos of Fort Bayard in the late 1800s and early 1900s show the original hospital north of the parade ground (Fig. 5.1). On ARMS maps, LA 18372 is east of the old hospital site and is closer to an area identified as the "old hospital dump" on the Fort Bayard Historic District map.

Findings at LA 105133, north and east of U.S. Veterans Hospital No. 55, consist of two Mimbres roomblocks and a large artifact scatter that includes diagnostic ceramics. Pool (1994) cites an undated survey by LaVerne Harrington that indicates there had probably been a third roomblock at this site with as many as 150 rooms. There is also a historic component at LA 105133—a residential foundation and artifacts dated to the Territorial period. Landscaping and road construction impacted both site components.

There are also three additional prehistoric sites in the area—LA 83186, LA 83185, and LA 83184. These residential sites are situated on the ridge just above the eastern side of Cameron Creek. A prehistoric check dam, at LA 156150, is located between LA 83185 and LA 83184.

One of three prehistoric (Mimbres) artifact scatters, LA 83183, is on the same ridge, south of the check dam. Two other artifact scatters have been recorded south and west of the fort at LA 15282 and LA 15285. A Mogollon field house (LA 105127) and a

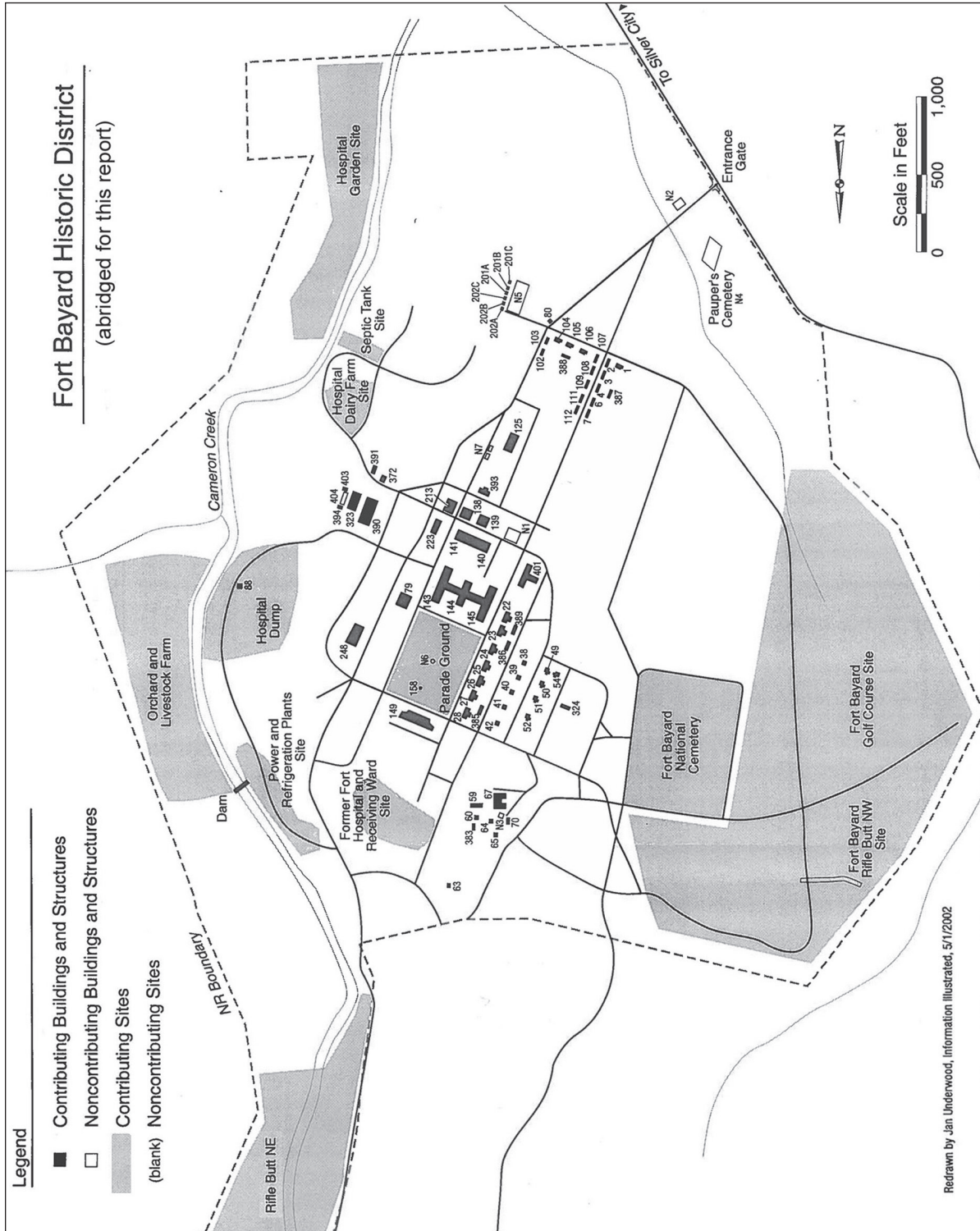


Figure 5.1. Fort Bayard Historic District map (redrawn by Jan Underwood, Information Illustrated, 2002).

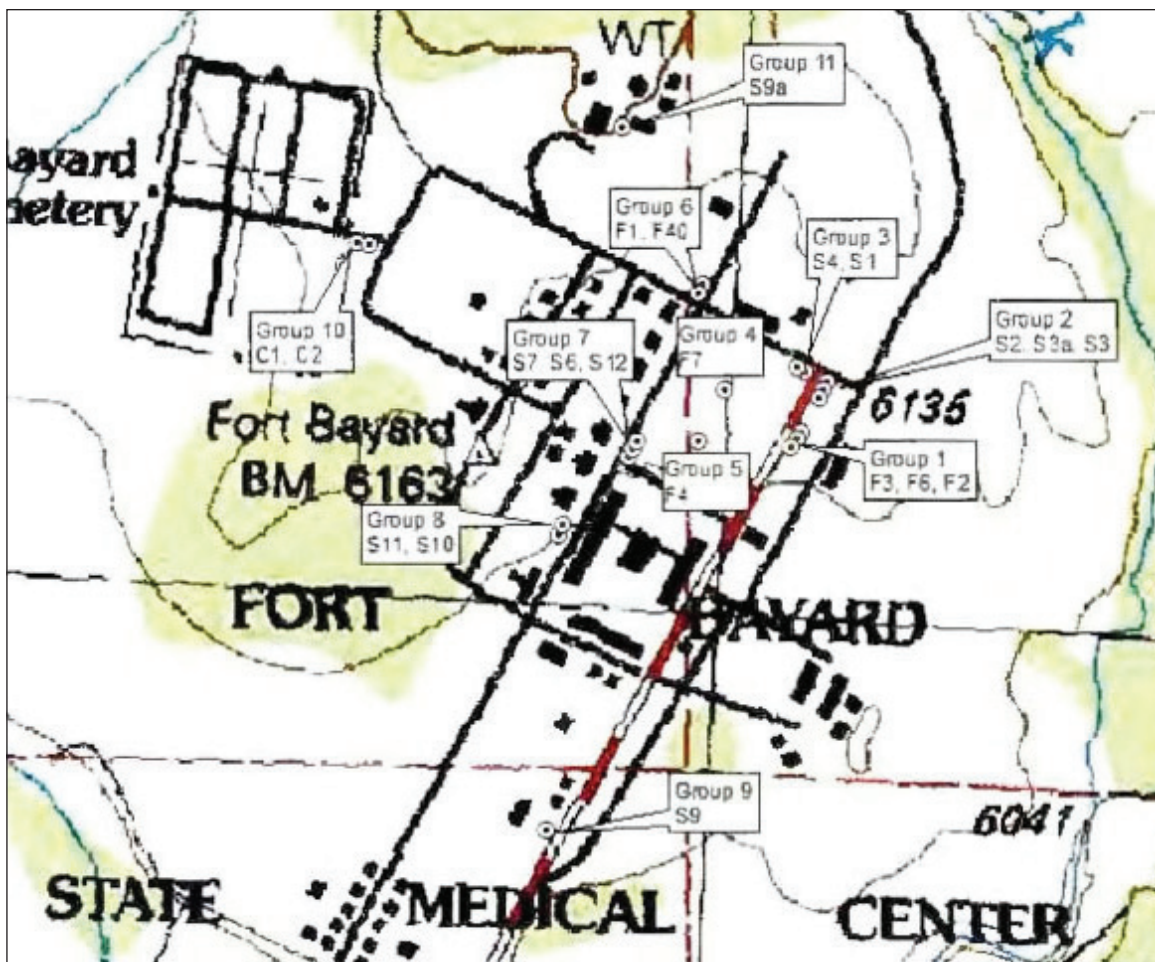


Figure 5.2. Test unit locations, as associated with the Interpretive Signage Testing project (Kirkpatrick 2007).

stone circle, interpreted as an Apache wikipup site, are on a ridge northeast of the fort, above Cameron Creek.

Other sites in the vicinity represent the Territorial Fort Bayard and the conversion of the grounds into a military tuberculosis hospital and, eventually, the Veterans Hospital. Remnants of a line camp and the camp's associated trash dump (LA 105129 and LA 105130, respectively) on a ridge above Cameron Creek. A complex of sewage ponds, levees, and pipelines (LA 156147) also have been noted.

#### ARCHAEOLOGICAL TESTING AND MONITORING PROJECTS AT FORT BAYARD

**Interpretive Signage Testing, NMCRS Activity No. 103229:** In 2007, Human Systems Research was hired by the Fort Bayard Historical Society to conduct test excavations at locations where interpretive signs were to be installed on fort grounds (Kirkpatrick 2007).

Twenty-one test units, dug near sidewalks and streets, were scattered throughout the central fort area—near the cemetery, the parade ground, the nurses' quarters, the steam plant and the sanatorium (Fig. 5.2).

Holes were dug with clamshell posthole diggers—diameter not specified. Nineteen units were 53 cm (21 in) deep. The rest ranged from 25–58 cm (10–23 in) deep. A total of 0.14 cu m (4.92 cu ft) of soil was screened through 1/8-inch-mesh hardware cloth. Ten units were devoid of cultural material.

One architectural feature was encountered—a clay sewer pipe thought to be associated with the nurses' quarters. Historic artifacts recovered included square nails and other metal artifacts, window and bottle glass, glass fragments from hurricane lamps, a glazed earthenware sherd, and coal clinkers (Kirkpatrick 2007).

No test units were dug in the current project area, which is immediately adjacent to the Veterans

Table 5.1. Historic and prehistoric cultural sites previously recorded in the project area.

| LA No. | Site Type   | NMCRIS Activity No.   | Recorder, Report Date   | Comments   |
|--------|---|---|---|--|
| 3546   | Fort Bayard Historic District: SR 1803. National Historic Landmark: 0200726. Contributing to Historic District: 70 buildings, 10 sites, and eight structures. | 16311<br>30712<br>31186<br>103229<br>115737<br>115946<br>115962<br>108832 | ARMS 1965; Kammer 2001; Kirkpatrick 2007; Flowers and Gibbs 2008; Sechrist 2009                               | Oldest extant fort building dates to 1895 in the Territorial Period. Three testing projects in the Fort Bayard Historic District reveal almost exclusively disturbed sub-surface deposits with both historic and prehistoric artifacts, although prehistoric artifacts are far fewer. Soil sometimes mixed with construction debris and landscaping disturbance resulting from over 125 years of historic use. Mimbres sites LA 18372, LA 10153, and LA 156150 are all within the historic district. |
|        | Fort Bayard National Cemetery at the Fort Bayard Historic District and National Historic Landmark.  | 115962  | Cemetery survey for Development Master Plan Rogge and Johnson 2009  | Determined there were no adverse effects of proposed cemetery improvements on resources in the 35 acre survey area, which included historic structures, 10 artifact locations with historic bottle glass (1880-1920), square cut and wire nails (pre-1890), white earthenware ceramics, cartridge casings (1880), Mimbres ware (?), and Black-on-white pottery sherd (750-1150).   |
| *18372 | Prehistoric architectural feature, and artifacts.   |   | Hough's 1907 Site 156, ARMS record; USFS 1973   | Mimbres Early Pueblo or later roomblock (AD 200-1400). Includes ceramics and lithics. Described in Hough (1907) as site of former Fort Bayard Hospital, north of parade ground. Mapped location appears to be site of former hospital dump and is adjacent to Cameron Creek.   |
| 83183  | Prehistoric architectural feature, small artifact scatter, historic trash.  | 30712<br>93160<br>38903<br>104743   | Martin 1992 draft report; 1979 survey of proposed land exchange; updated, Ackerly 2005 survey of PNM pipeline | Small cobble room and sparse artifact scatter. Located on first bench above Cameron Creek south and west of LA 83184.  |
| 83184  | Prehistoric architectural features and artifact scatter.  | 30712<br>38903<br>104743<br>115962  | Martin 1992; Schiowitz 2007   | Mimbres (Early Pueblo, AD 1000-1175) roomblock, outlier, possible pithouse, sherds, lithics. On SE facing aspect of ridge on E side of Cameron Creek. S of LA 83184.   |
| 83185  | Prehistoric architectural feature and artifact scatter.   |   |   | Mimbres (Early Pueblo AD 1000-1175) roomblock, sherds, lithics. On SE facing aspect of ridge on E side of Cameron Creek. N of LA 83184, S of LA 83186.   |

Table 5.1 (continued)

| LA No.  | Site Type  | NMCRIS Activity No.                | Recorder, Report Date       | Comments   |
|---------|--|------------------------------------|-----------------------------|--|
| 83186   | Prehistoric architectural feature and artifact scatter.  | 30712<br>38903<br>104743<br>115962 | Martin 1992; Schiowitz 2007 | Mimbres, Late Pithouse (AD 600-1000), or Early Pueblo (AD 1000-1175). Three small Mimbres roomblocks and two possible pithouse depressions. Sherds, lithics, and ground stone. On the south-east facing aspect of ridge on east side of Cameron Creek.   |
| 105127  | Prehistoric architecture and artifacts.  | 45930                              | UT Austin, Pool 1994        | Mimbres, Early Pueblo (AD 1000-1150). Single room or field house and large artifact scatter: lithics, debitage, ground stone, and diagnostic ceramics (Alma Plain).  |
| 102158  | Historic (Apache) architectural remains.   |                                    |                             | Apache, Post-Pueblo Revolt to Territorial period (AD 1700-1900). Possible wikiup foundation: stone ring, 1 to 2 courses of irregular, unworked stones, 2.5 by 3.5 m in diameter with a 70 cm wide entrance facing SE. On ridgetop.   |
| 105129  | Historic architecture and artifacts.   |                                    |                             | Limited activity structure, probably a line camp (Territorial to recent). Architectural refuse: window glass, bricks, metal roofing, and burned faunal remains.  |
| 105130  | Historic architecture and artifacts.   |                                    |                             | Historic dump (Territorial to recent). Refuse: charcoal, coal, bricks with mortar, and metal debris.   |
| *105133 | Prehistoric architecture and artifacts. Historic home foundation, and garden plot along with additional historic features and artifacts. |                                    |                             | Mimbres component, Late Pithouse to Classic Mimbres (AD 750-1150). Two or three large room blocks, possibly 150 rooms. Large artifact scatter with lithics, debitage, ground stone, and diagnostic ceramics including Three Circle Black-on-white, San Francisco Red, Alma Plain, Mimbres Boldface, Mimbres Black-on-white. Historic component (Territorial to recent). Home foundation, glass and metal artifacts. Several historic diagnostic ceramics also found. |
| 152185  | Prehistoric artifact scatter and bedrock grinding slick.   | 97912                              | Oster 2006                  | Mimbres, Late Pithouse to Early Pueblo (AD 750-1200). Lithics, Mimbres Style 3 and undifferentiated Mimbres sherds, ground stone tools, historic glass.  |
| 152382  | Prehistoric artifact scatter. Historic artifact scatter.   |                                    |                             | Mimbres, Late Pithouse to Early Pueblo (AD 750-1200). Lithics, diagnostic Mimbres ceramics, and historic metal artifacts.  |

Table 5.1 (continued)

| LA No. | Site Type   | NMCRIS Activity No. | Recorder, Report Date   | Comments  |
|--------|---|---------------------|---|---|
| 156147 | Historic (abandoned) sewerage-related structures. | 104743              | Schiowitz 2007 report, Grant County Shooting Range permitting | Multiple-component resource including ditch from hospital to sewage ponds, levee pipeline, road, all located southwest of old Fort Bayard Hospital                                  |
| 156150 | Prehistoric agricultural features.                | 104743              | Schiowitz 2007 report, Grant County Shooting Range permitting | Nine cobble check dams (two to three courses) along 60 m stretch of a small drainage. West of LA 83184 and associated with Mimbres habitations at LA 83183, LA 83185, and LA 83186. |

\*Sites within 500 m of central wing of Fort Bayard Hospital.

Hospital. The units closest to the hospital, in Group 8, were dug in an area that had been leveled and filled during the construction of a retaining wall about 45 cm (1.5 ft) from the test units themselves (Kirkpatrick 2007). No cultural materials were recovered from the Group 8 units. The Group 4 test unit, on the parade ground, was in an area that had been frequently inundated by water; the Group 5 test unit was in a flower bed. No artifacts were recovered from either unit.

Test unit locations had been determined by the planned locations of interpretive signs and were not based on the likelihood of finding preserved subsurface deposits. The relative paucity of cultural material recovered from tested areas notwithstanding, the report recommended archaeological testing or monitoring of any ground-disturbing activities on the fort grounds as well as consultation with archival maps that could indicate the previous locations of buildings and other subsurface features (Kirkpatrick 2007).

**Biomass Facility Testing, NMCRS Activity No. 108832:** In 2008, testing was conducted in association with the construction of a biomass facility adjacent to the steam plant (Building 125, Fig. 5.1). The project required the removal and replacement of the boiler and the construction of a silo.

Two trenches were excavated at the north-eastern corner of the building; five trenches were located immediately east of the building. In addition, a 1 by 1 m test unit was hand dug in each of the two excavation areas. The total area investigated was 57.9 sq m (623 sq ft). Trenches ranged in length from

1.5–25 m (4.9–82 ft). Most were approximately 1 m (3.2 ft) deep. Other trenches ranged from .9–1.3 m, or 3–4 ft deep (Flowers and Gibbs 2008:4).

No building foundations were encountered. Disturbed strata were observed in the trenches and test units, but no intact subsurface deposits were present. Test units yielded a mix of historic and prehistoric artifacts, coal, and coal slag. Previously undocumented utility lines were encountered, as well as a very large concrete block that may have provided stabilization for a smokestack removed from the steam plant in the 1950s.

Prehistoric artifacts included chipped stone flakes and ceramics. The assemblage of historic artifacts included non-diagnostic bottle glass, window glass, nails, ceramics, architectural refuse, and domestic faunal remains. A detailed analysis of the cultural materials was not presented in the testing report.

The absence of undisturbed strata attests to the impact of the many episodes of construction at the fort. The report concluded that “the existence of any undisturbed, intact cultural deposits, including remnant historic building foundations, in this area of the Fort Bayard complex is unlikely” (Flowers and Gibbs 2008).

**Fire Loop Monitoring, NMCRS No. 115946:** The second-most recent archaeological project conducted at Fort Bayard was the 2009 monitoring of trench work necessary for the installation of new fire hydrants at the fort; water line upgrades were also completed at this time.

According to Sechrist (2009), six trenches were

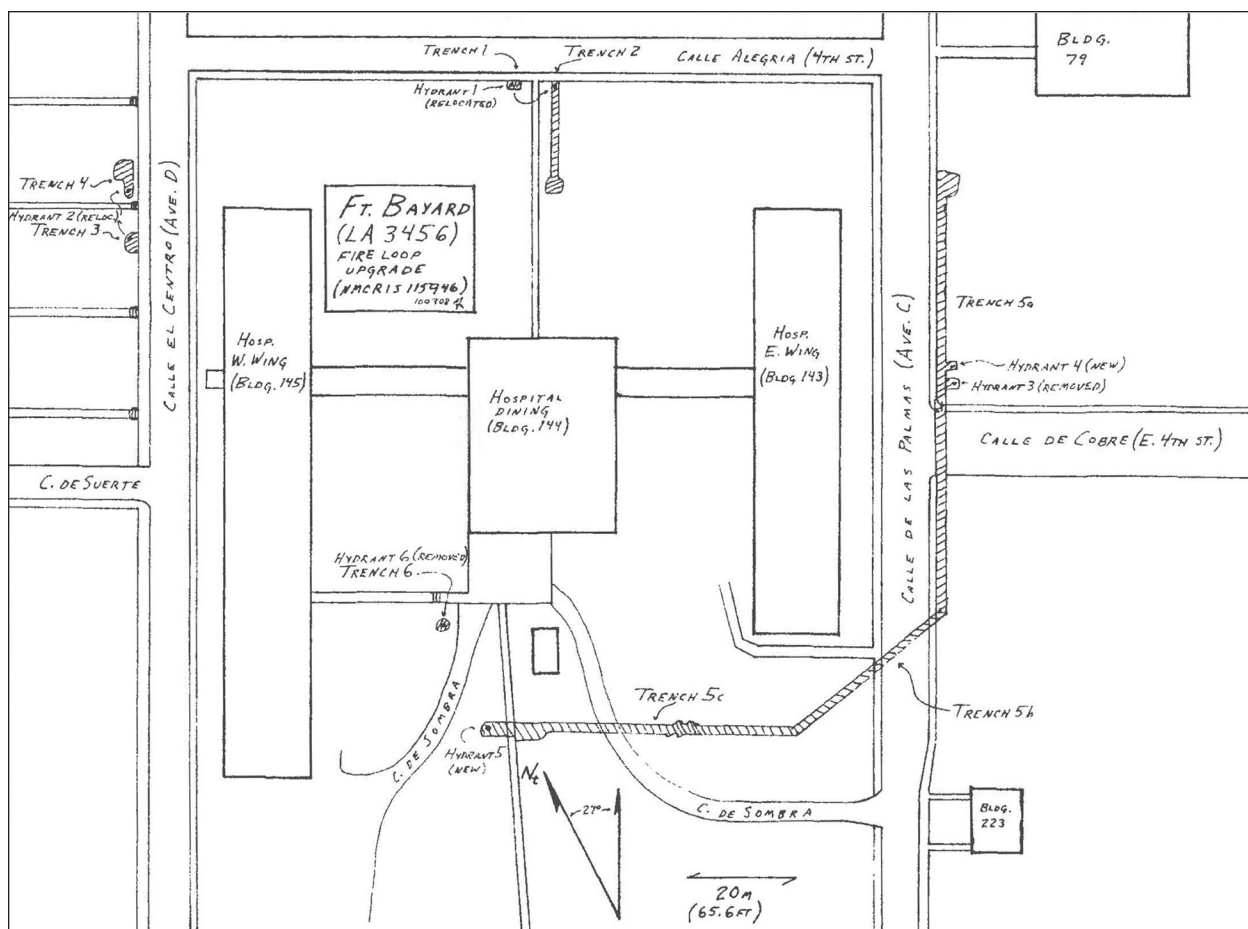


Figure 5.3. Test units on and near hospital grounds, as identified in the Fire Loop Monitoring project (Sechrist 2009).

excavated on and adjacent to the Veterans Hospital (Fig. 5.3); four of these trenches were located in the current project area. The trenches dug in 2009 were from 2–168 m (6.5–551 ft) long and 0.50–1.80 m (1.6–5.9 ft) deep, with a total excavated area of about 212 sq m (2,281 sq ft).

Historic cultural materials were found in all but one trench. These features included steam-pipe tunnels, a charcoal lens, a WPA era (1937–1940) drainage ditch that extended along the eastern portion of the Veterans Hospital grounds (Fig. 5.4), and an upright post, possibly a remnant of one of the early fort buildings.

Trench 2 followed the central sidewalk starting at the north end of the Veterans Hospital grounds. Feature 1, in the central portion of Trench 2, was an upright wooden post, the upper end of which was 60 cm (23 in) below the ground surface. The upper portion of the post showed signs of burning as did the surrounding rocks and soil; partially melted

window glass also suggested that the post had probably burned in situ (Sechrist 2009:26).

After consulting the 1971 and 1884 plans of Fort Bayard, Sechrist suggested that this post may have been part of the fort's original commissary building. Rubble in the surrounding stratum may have been part of the foundation, which was likely further damaged during construction of the Veterans Hospital building in 1922.

Trenches 5b and 5c crossed the current project area, with Trench 5b trending southwest from the Veterans Hospital building's east wing and Trench 5c trending west beyond the center of the grounds and south of the hospital (Fig. 5.5). The masonry-lined ditch system, intersected by Trench 5b, was built by WPA workers between 1937 and 1940 (Kammer 2001, Sechrist 2009). Trench 5b intersected four buried ceramic and steel pipes. Excavation of Trench 5c revealed a number of buried utility pipes and concrete steam-pipe tunnels in the areas just

south of the hospital's east and south wings (Fig. 5.6). No fort building remnants were encountered.

Trench 6 was a small, hand-dug pit created for the purpose of removing a hydrant south of the Veterans Hospital's central and western wings. Sechrist's review (2009:51) of the 1884 map of the fort identifies this as the site of one of the fort's former trader buildings; however, no architectural debris or cultural material was found in this small excavation which reached 0.5 m (1.6 ft) below ground surface.

Historic cultural material was found in all but one trench and included bottle glass, two fragments were identified as having been manufactured before 1913; window glass; a whiteware ceramic sherd; part of a porcelain doorknob or plumbing fixture; cut lumber; sheet metal; a large animal bone; a square-cut nail; wire nails dated to post-1890; barbed wire; mortar and brick fragments; iron and ceramic pipe fragments; and a cartridge casing typical of the large-caliber military rifles of the late nineteenth century. One possible ground stone tool or fire-cracked rock was the only artifact considered potentially prehistoric (Sechrist 2009:48).

Disturbed depositional contexts were the rule, especially in areas of multiple buried utilities. The potential for buried artifacts was characterized as high, but, as with the projects summarized above, cultural materials did not appear to be in primary, undisturbed contexts. The southern half of Trench 2—in the yard north of the Veterans Hospital—was relatively undisturbed (Sechrist 2009:54).

Trenches 5b and 5c, located south of the Veterans Hospital building, held mixed intrusive deposits related to utility-pipe installation and, most likely, to the construction of the Veterans Hospital building. Sechrist (2009:4) concluded that "there are important deposits buried in areas around the hospital grounds" and asserted that the use of archival maps was essential to the interpretation of sub-surface findings on the Fort Bayard grounds.

The importance of maps was underscored by a fundamental question about the history of the Veterans Hospital grounds. Kammer's history of the hospital, which was built in 1921, states that the hospital was "located on what had been the south end of the parade ground." He also described the "now truncated parade ground" as being "to the north" of the hospital (2001:36).

The 1885 and 1925 maps submitted as part of



Figure 5.4. WPA drainage ditch that extends along the eastern border of the hospital grounds.

the *National Register of Historic Places* nomination form does not clearly indicate whether the parade ground was truncated. Sechrist's use of additional archival maps led him to the same conclusion, hence his emphasis on the archival information as essential to the understanding of the site's archaeological deposits.

Additional maps and local historians may one day resolve the issue, but at present it is unclear whether the Veterans Hospital building was built on the southern portion of the parade ground. If the hospital was indeed constructed at this location, there may be cultural deposits associated with military activity in the northern yard of the hospital, beyond the footprint of the area disturbed during the excavation of the hospital basement. Or, as suggested by Sechrist, there may be remnants of original fort buildings that were originally located on the northern end of the parade ground.

What is clear is that there have been multiple episodes of building, demolition, and utilities installation work on the grounds of the Veterans Hospital building and that the results of such activities



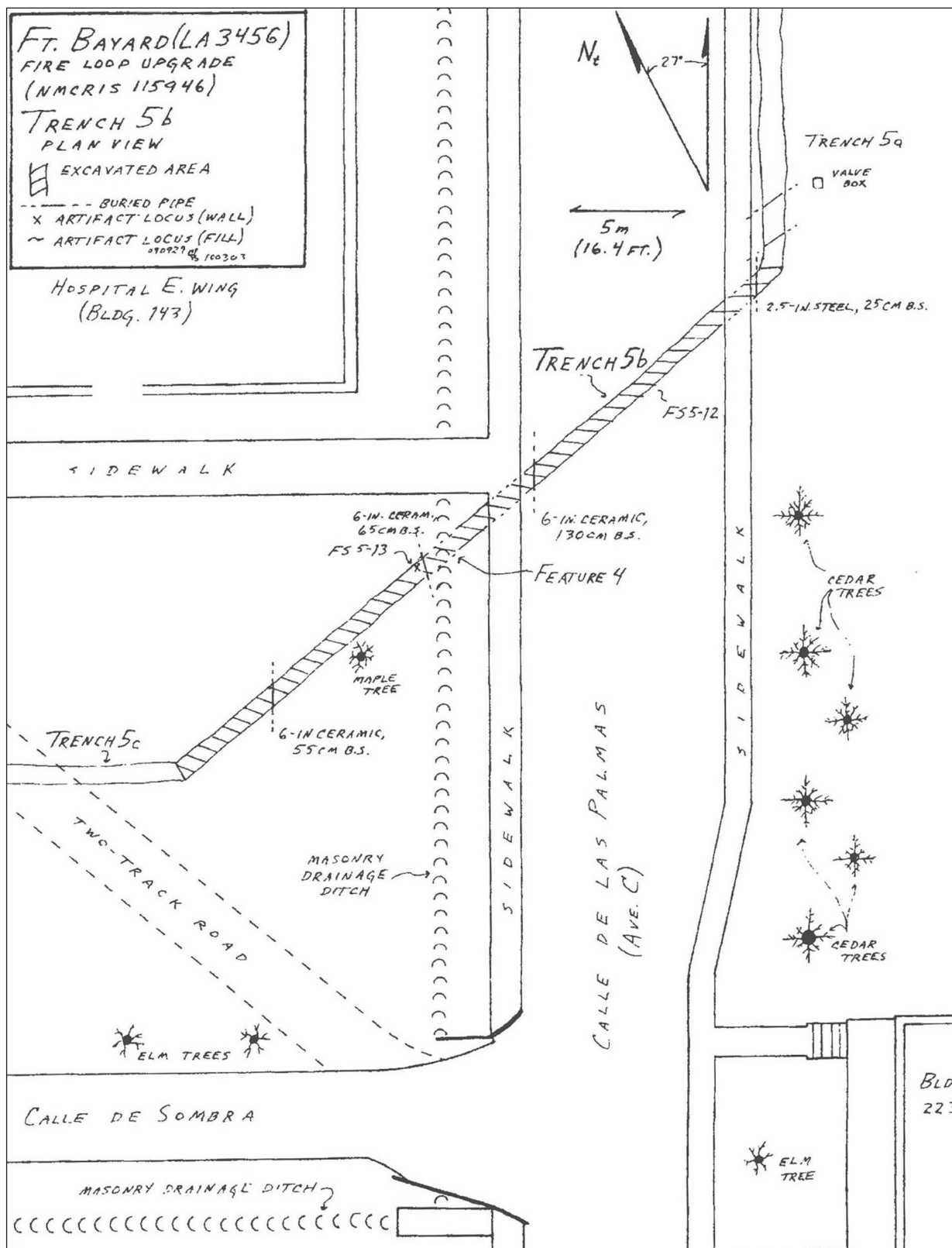


Figure 5.5. Trench 5b, Trench 5c, and WPA masonry drainage ditch, as identified during the Fire Loop Monitoring project, in the southeastern quadrant of the Fort Bayard hospital grounds (Sechrist 2009)

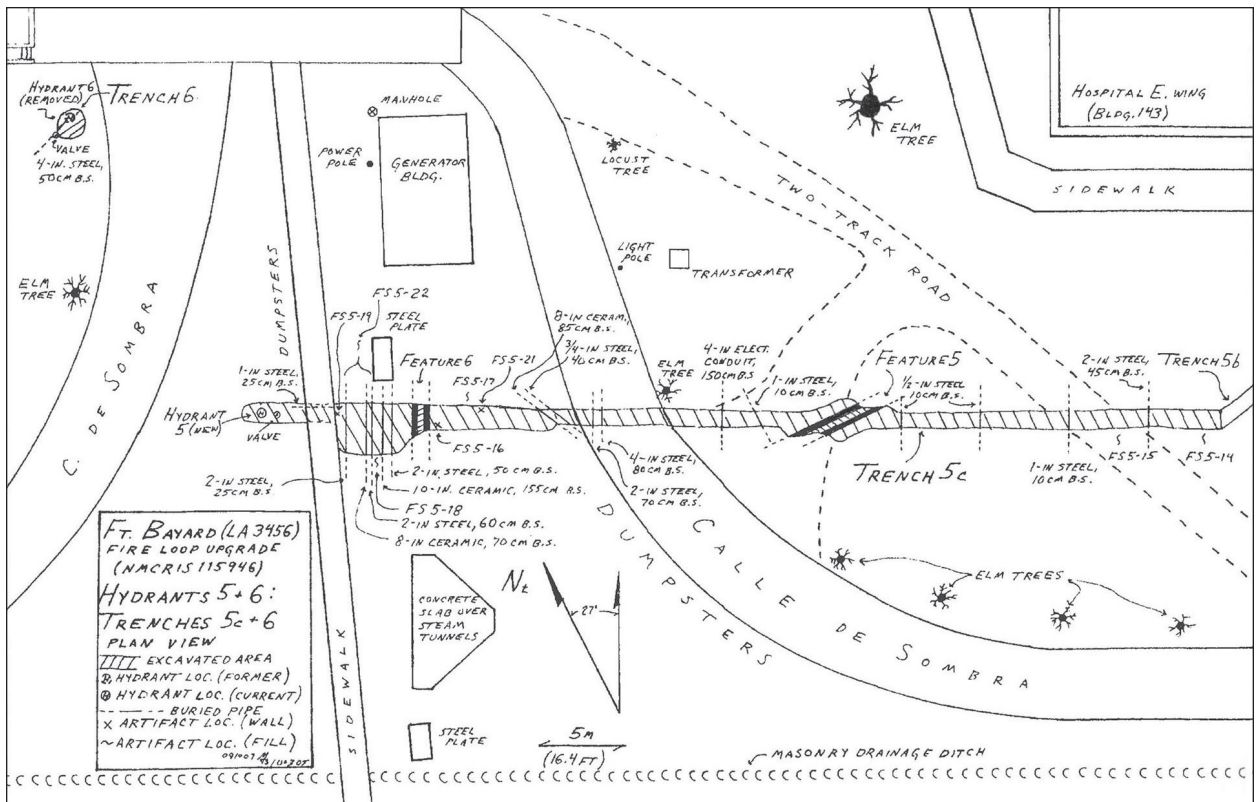


Figure 5.6. Trench 5c and Trench 6, as identified during the Fire Loop Monitoring project, in the southeastern and southwestern quadrants of the Fort Bayard hospital grounds (Sechrist 2009).

are likely to be encountered—in either disturbed deposits or in mixed-artifact assemblages—at the site of any future test excavations.

Current utility-location data can assist future teams hoping to avoid more recently installed utility lines during their placement of test units, but older

infrastructural remains will likely be encountered. The LA 3546 site form (1965) indicates that there are “buried artifacts in all areas around hospital and adjacent yard” and lists diagnostic historic glass, historic metal, and ceramic artifacts, with subsurface deposit depths estimated at 1 m (3.2 ft).

## 6 ↘ Historic Utility Locations at Fort Bayard

Ann L. W. Stodder

The Fort Bayard hospital grounds have been part of the “built environment” for 150 years. The area was undoubtedly used by indigenous people for many centuries before the Territorial period fort was established.

Utility maps, drawn on 1951 and 1952 plans of the Veterans Hospital grounds (Figs. 6.1–6.4), indicate that most of the gas, sewer, and steam lines were located on the hospital’s southern grounds and crossed the yard on the eastern and western sides of the building. The approximate locations of 1950s utilities lines—and the locations of water lines, hydrants, and sprinkler and gas valves, all compiled from multiple sources—have been superimposed on a photograph of the current hospital building (Fig. 6.5).

While utility locations were confirmed with a locator service prior to excavation, this rough composite suggests that some portions of the hospital grounds are more likely to have undisturbed, or relatively undisturbed, subsurface deposits—especially in the northern portion of the yard. The absence of a basement in the northern part of Building 245—the west wing of the Veterans Hospital—suggests that there is a greater chance of uncovering undisturbed deposits in this area.

Prospective locations for the six test units are shown on Fig. 2.1. Unit 1 was eventually placed in the northwestern section of the Veterans Hospital yard and Units 2 and 3 in the larger, northeastern section. According to Sechrist (2009), these units were more likely to contain materials associated with the original parade ground as fort-era buildings had originally been built at the southern end of the parade ground.

Unit 4 was located in the southwestern quadrant of the Veterans Hospital yard, with the precise location of the unit determined by additional ground examination and the location of utilities. Unit 5 was placed in the far southwestern quadrant.

Unit 6 was dug in the southern portion of Building 22’s front yard, with the southernmost portion of the officers’ quarters on the western end of the parade ground directly opposite the hospital’s ambulance portico.

The location of the officers’ quarters dates back to the 1870s fort, but, according to Kammer (2001) Building 22 and other adjacent structures were rebuilt in 1904. Thus, if the building footprint had been found to be sufficiently limited in scope, the front yard may have held relatively undisturbed subsurface deposits from any era of human activity.

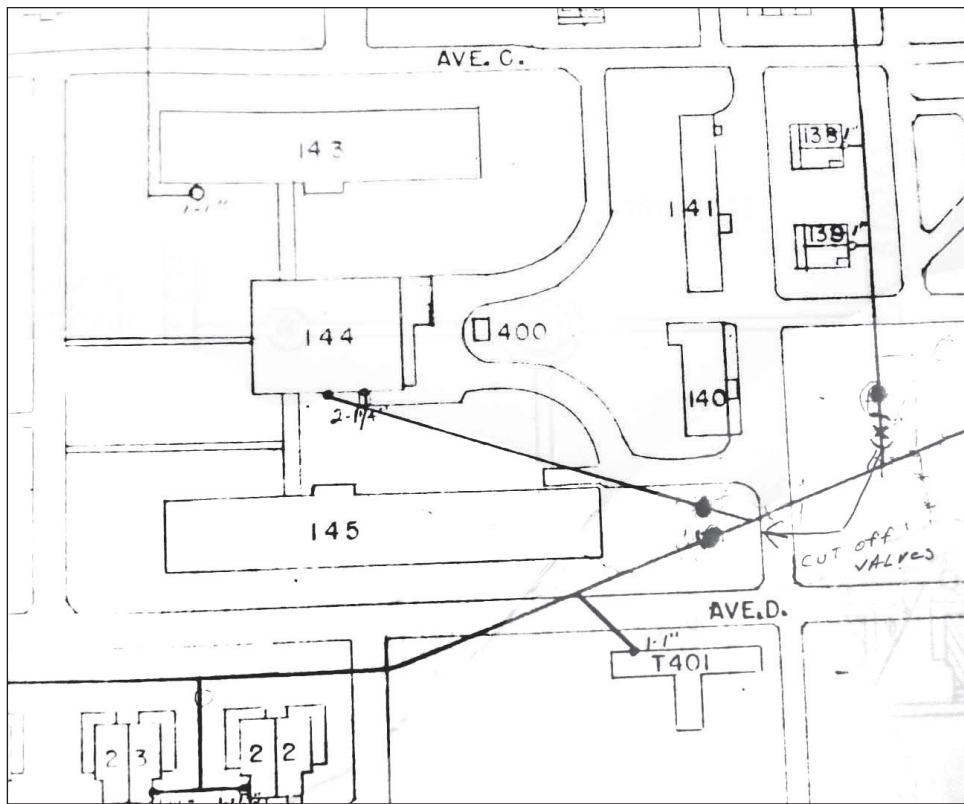


Figure 6.1. Gas line tie-in locations, Fort Bayard, 1951 (NM General Services Department).

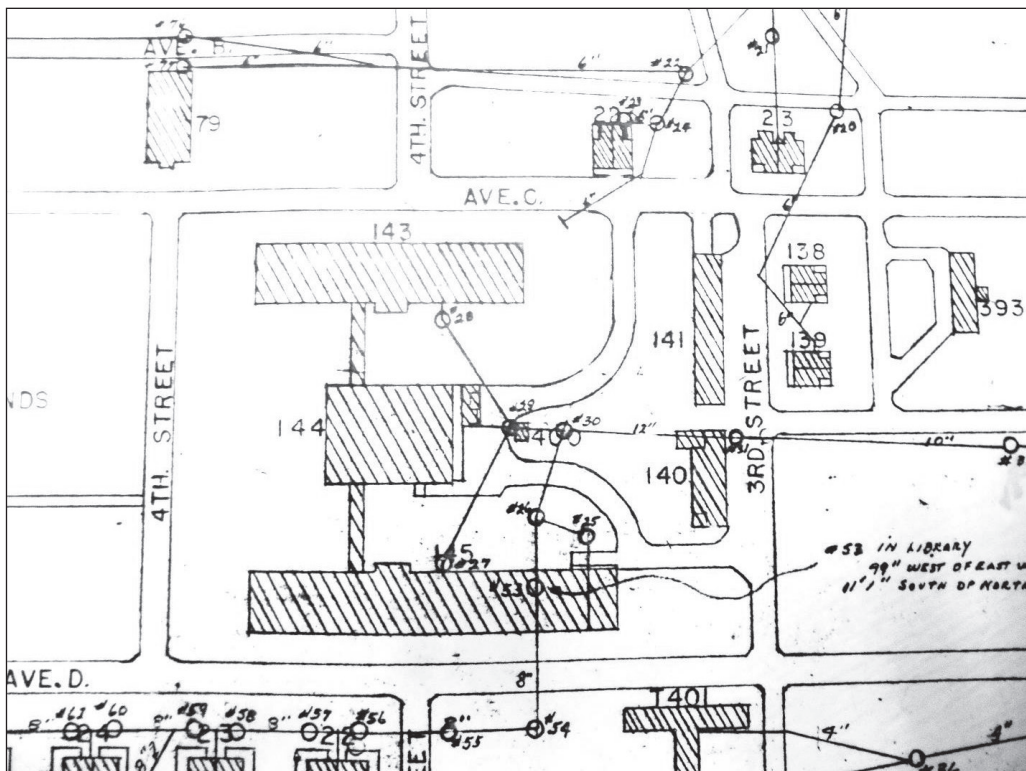


Figure 6.2. Sewer line and manhole locations, Fort Bayard, 1952 (NM General Services Department).

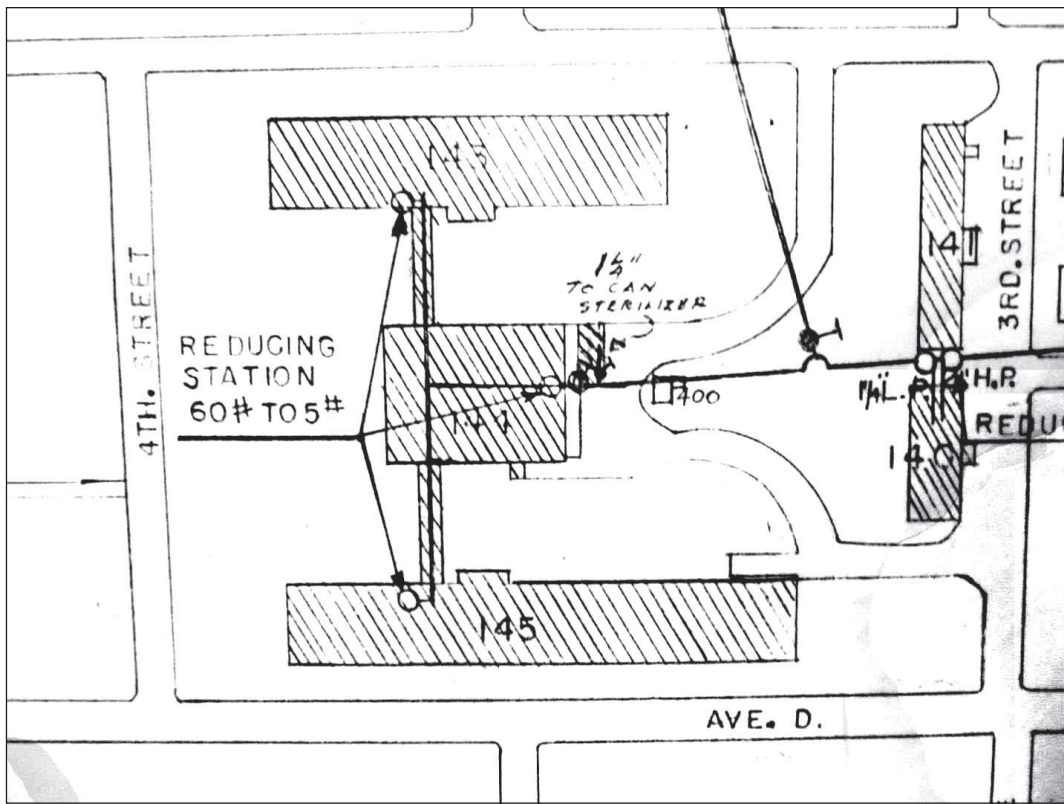


Figure 6.3. Steam lines and manholes, Fort Bayard, 1952 (NM General Services Department).

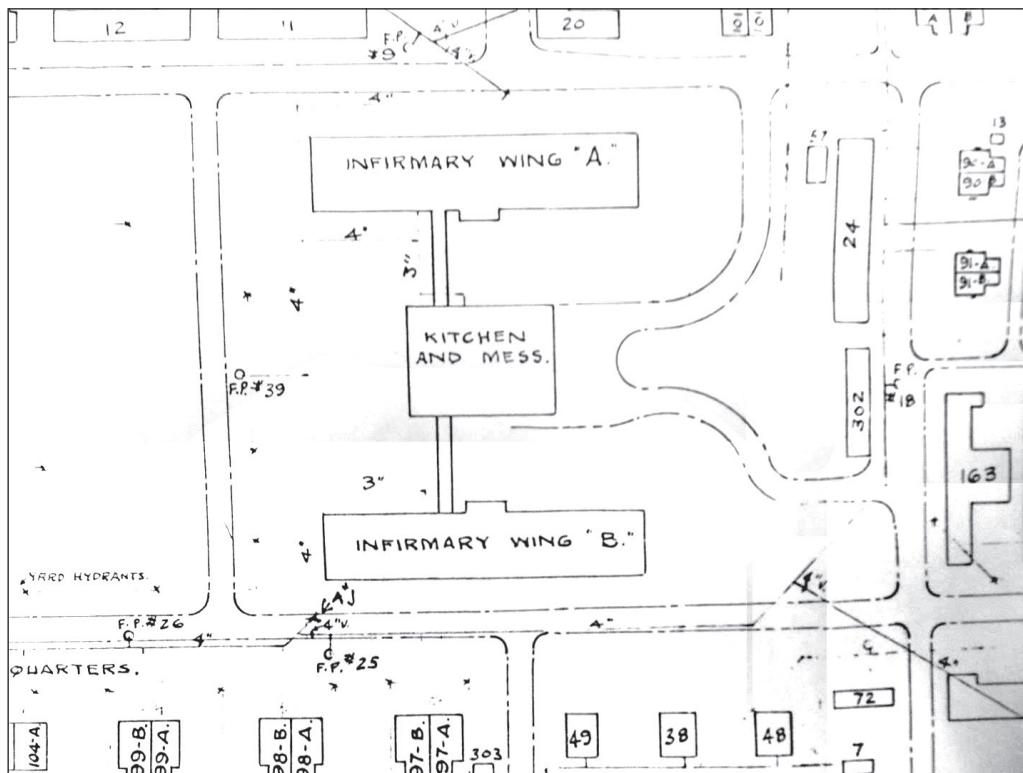


Figure 6.4. Water line locations, Fort Bayard, 1922 (NM General Services Department).

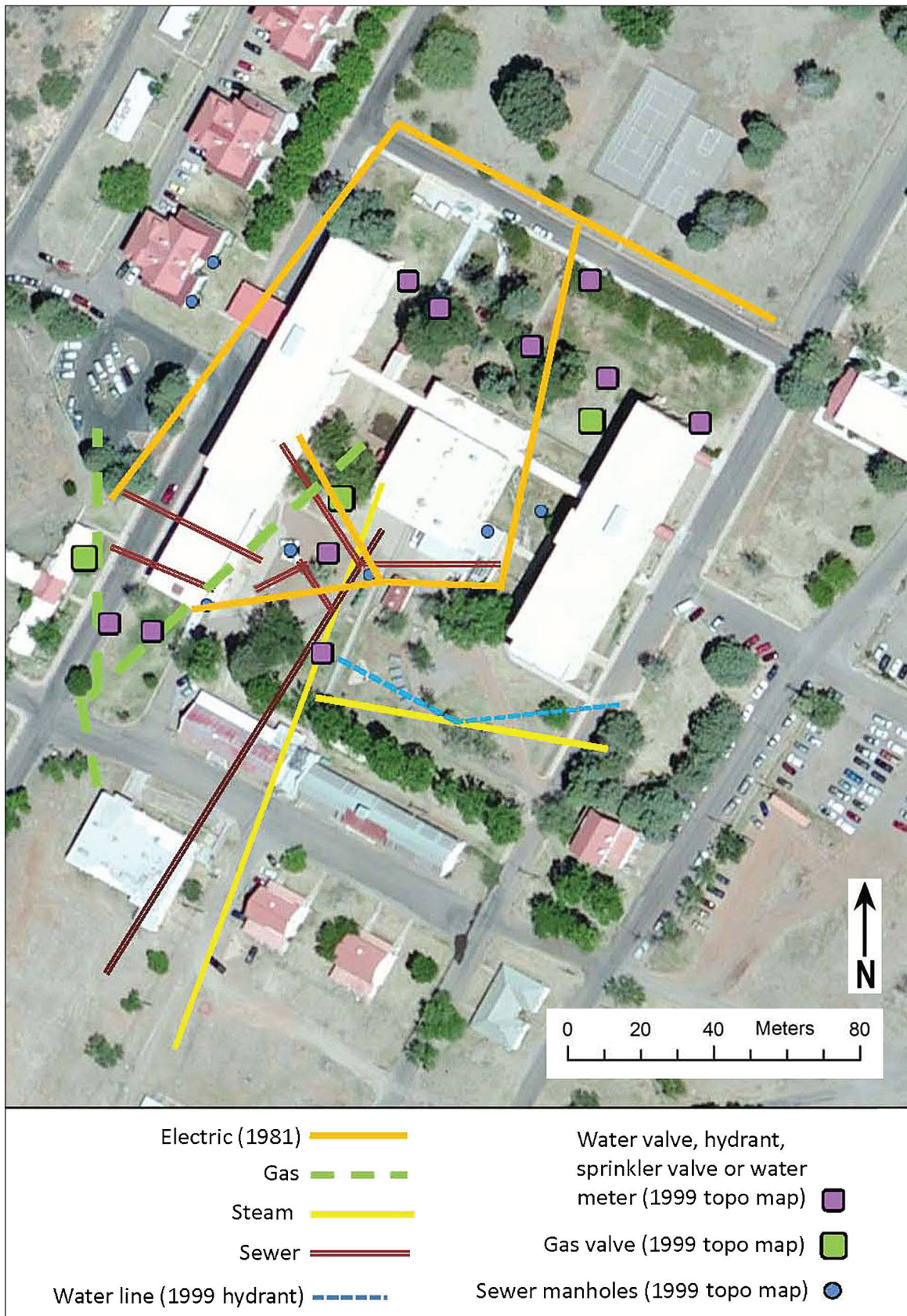


Figure 6.5. LA 3546

## 7 Methodology

Susan M. Moga

Prior to arrival in the field, OAS personnel made plans to situate six test pits around the periphery of the current hospital building. Historic maps were consulted in an attempt to avoid the numerous utility lines splayed across the site. Areas which appeared to have the least amount of intrusive utilities were chosen for excavation. Once chosen, the six 1 by 1 m units were given test pit numbers (Test Pits 1-6) previously determined by OAS.

In the field, the southwestern corner of each unit was assigned northing and easting points using a Trimble Geo Explorer Geo XH3000 series GPS unit (Appendix 8).

A datum, with line levels set .10 cm above ground surface, was also placed in the southwestern corner of each test pit. Surface photographs were taken of each test pit prior to excavation using a north arrow, a metric scale, and a photo board indicating site number, date, and test pit number.

Each 1 by 1 m unit was hand excavated to sterile soil or to a maximum depth of 1.35 m (4.4 ft), as designated by OSHA regulations. All excavated soils were screened through 1/4 inch screens; if a prolific number of artifacts or charcoal laden soils were present 1/8 inch screens were used. An auger hole was situated at the center base of each unit upon

completion of excavation to ensure sterility or estimate the depth of cultural materials below the 1.35 m (4.4 ft) limit. If a feature became visible during excavation but was unrecognizable, excavation continued until the feature could be typed.

OAS formats were used to record features and stratigraphy in each unit. Grid forms were used to document each .10 cm level excavated along with associated artifacts. Features, stratigraphy, and unique artifacts were photographed. One face of each unit was chosen for a profile. Stratigraphy was identified, and colors were assigned according to the Munsell soil-color chart.

Artifacts collected from each level were given a field specimen (FS) number, recorded on the appropriate grid form, and bagged with level information. Upon arrival at OAS, the artifacts were washed, re-bagged in plastic for future curation, and distributed to the appropriate analysts for analysis. Analysts produced final reports documenting their findings (Appendixes 1-5).

After excavation, and after the completion of paperwork in each unit, the unit was lined with geotextile fabric and manually filled in. The surface of the unit was leveled to blend in with the surrounding environment.





## 8 $\searrow$ Testing Results, Test Pits, and Features

Susan M. Moga

The following text outlines archaeological results yielded from six test pits and associated features excavated at the U.S. Veterans Hospital No. 55 at Fort Bayard, LA 3546 (Fig. 8.1). Location, soil type, and artifacts are described for each pit. Soils in each test pit were redeposited as the result of past utility trenching or earlier demolition and construction activities.

### TEST PITS

**Test Pit 1** was located in the northwestern corner of the Veterans Hospital lawn. The upper two levels, both Stratum 1, consisted of dark yellowish-brown (Munsell 10YR 4/4) redeposited sandy soil with numerous tree roots. Both levels were void of artifacts. Near the middle of Level 2, two metal utility pipes were encountered. One 3/4 inch diameter pipe skirted the west face of the grid. The other pipe, a 3/4 inch elbow pipe was located in the southeast grid corner with a massive tree root (Fig. 8.2).

The brown (Munsell 7.5YR 5/3) loamy sand became more compacted (Stratum 3) by Level 3. The root systems continued and one artifact, an intact prehistoric, brown chert biface flake was collected. In Level 4 a square nail and two chert flakes were found. By Level 5, the brown (Munsell 5YR 4/4) clayey sand became compacted with white fragments of caliche (Stratum 4). This stratum continued to the bottom of Level 9. The upper levels are redeposited soils from utility trenches.

Artifacts were not found again until Level 7 when one Prehistoric sherd, an Alma Plain (Appendix 1) was discovered. A square nail was recovered from Level 8. Level 9 was void of artifacts, but rodent activity was plentiful as the soils became more compacted. Excavation of Test Pit 1 was completed at this point and an auger hole placed in the center bottom of the unit. Augering continued from Level 10 to Level 17. Stratum 4 continued into the first auger hole at Level 10.

Stratum 5 soils—a yellowish-brown (Munsell

10YR 5/4) loose, soft sand with caliche flecks—remained the same from Auger Hole 2 to Auger Hole 6, in Levels 11–15. Stratum 10 yellowish-brown (Munsell 10YR 5/6) fine grained sand with large chunks of white caliche was encountered at Level 16. The last auger hole (No. 8 at Level 17) was a brownish-yellow (Munsell 10YR 6/6) sterile, fine grained sand (Stratum 11). When a rock was encountered near the bottom of the auger hole, work was discontinued. All auger samples were void of cultural materials (Fig. 8.3).

**Test Pit 2** was placed on the northcentral lawn of the Veterans Hospital. Only two levels were excavated in Test Pit 2 (Fig. 8.4). Level 1 was a dark yellowish-brown (Munsell 10YR 4/4) compacted sandy loam (Stratum 1) mottled with cobbles, coal fragments, pieces of concrete and plaster. Artifacts (n = 6) included an unidentified lead conical bullet, a piece of window glass, and round and square nails.

Stratum 2, a dark brown (Munsell 10YR 3/3) platy, compacted clay with excessive roots, rodent disturbances, plaster and concrete chunks (8 cm), and artifacts became visible in Level 2. The frequency of artifacts (n = 17) increased by Level 2. Collected artifacts included window glass, bottle glass fragments, round and square nails, and animal bones.

Near the base of Level 2, large flat lying rock slabs were encountered. These slabs continued across the entire grid and may have originally been part of a slab sidewalk or patio.

Excavation in the unit was discontinued at this point. The west face was profiled (Figs. 8.5 and 8.6) and the rock slabs, which were made of rhyolite and sandstone, were assigned a feature number (Feature 1). A strip of decomposing concrete was present along the southern edge of the slabs; however, it did not appear that the concrete had been used as mortar, since there was no concrete between the slabs. A few artifacts (n = 3), of bottle glass and animal bone, were recovered from the feature fill.

**Test Pit 3** was situated in the northeastern



Figure 8.1. LA 3546, U.S. Veterans Hospital No. 55 at Fort Bayard, view south.



Figure 8.2. LA 3546, Test Pit 1, excavated, view north.

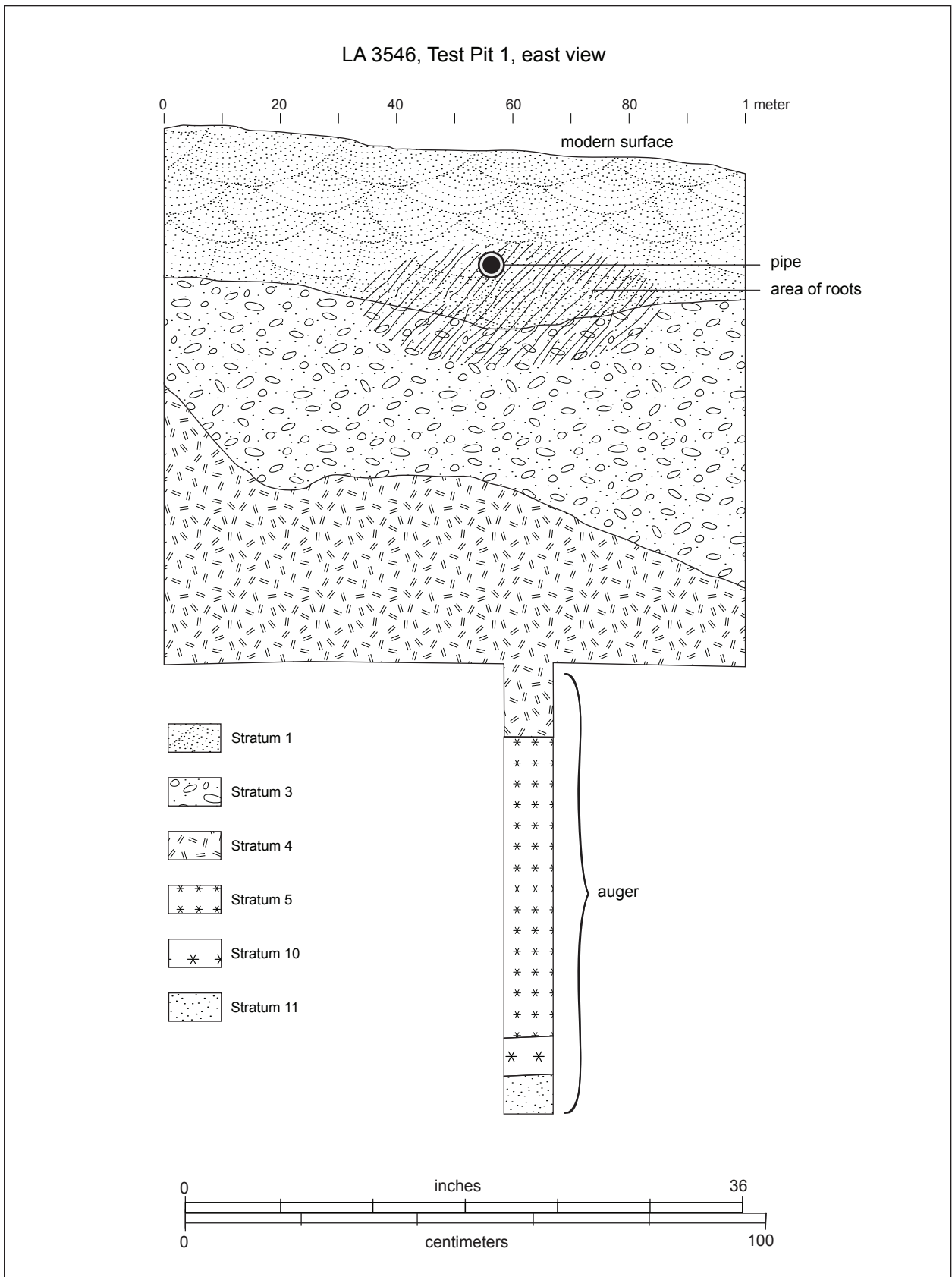


Figure 8.3. LA 3546, Test Pit 1, profile, view east.



Figure 8.4. LA 3546, Test Pit 2, excavated, view north.



Figure 8.5. LA 3546, Test Pit 2, excavated, view west.

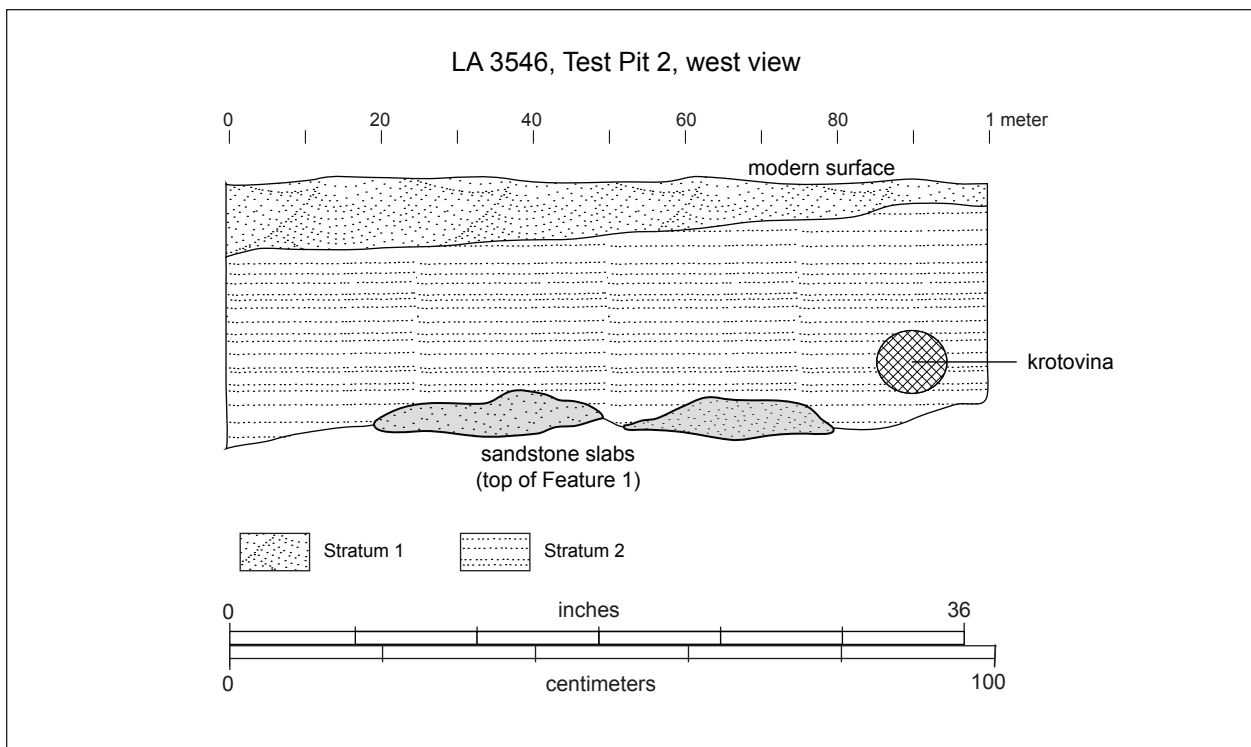


Figure 8.6. LA 3546, Test Pit 2, profile, view west.

corner of the Veterans Hospital lawn. Level 1 of Test Pit 3 consists of a dark brown (Munsell 10YR 3/3) platy clay, Stratum 2, with deep grass roots and large tree roots throughout the level (Fig. 8.7).

Cultural materials were not found. Stratum 2 continued into Level 2 and a very large sandstone cobble measuring 36 by 25 cm was encountered along the eastern edge of the unit, as well as two smaller cobbles in the northwestern quadrant.

A few historic artifacts ( $n = 5$ ) were retrieved from the Level 2 fill. These included a piece from an unknown white ironstone vessel, an edge piece from a medicine bottle, a piece of clear bottle glass, a window glass fragment, and a square nail.

A brown (Munsell 5 YR 4/4) compacted clayey sand (Stratum 4) with more cobbles was found at the base of Level 3 (Fig. 8.8). Milled lumber fragments were present between the cobbles but were not collected.

Collected artifacts ( $n = 9$ ) from Level 3 fill included several thin glass pieces from a kerosene lamp chimney, unknown sheet metal fragments, a piece of window glass, a medicine bottle finish, and a small fragment of ceramic sewer pipe. The cobbles in Test Pit 3 appeared to have been tossed in the vi-

cinity and were not intentionally arranged, as seen in Test Pit 2.

The cobbles in Test Pit 3 were probably rubble from previously razed hospital structures in the same vicinity as the current Veterans Hospital. Regardless, the cobbles were assigned a feature number, Feature 2, perchance it develops into some larger feature during the demolition of the hospital.

Two local ranchers assured the OAS crew that both Feature 1 and Feature 2 were demolition rubble, since both ranching families have lived in the area for more than 80 years and have witnessed the architectural changes that have taken place at Fort Bayard over the decades.

**Test Pit 4** was located behind the Veterans Hospital in the southeastern corner of the property. The surface of the grid was covered with thick grasses and evidence of tire tracks and deer feces. Level 1 was a dark yellowish-brown (Munsell 10YR 4/4) compacted sandy loam with few artifacts ( $n = 5$ ). Artifacts included several unknown glass bottle fragments and a few broken red-clay roofing tiles. Level 1 soils were redeposited, since asphalt, plaster, Styrofoam, black rubber fragments, aluminum foil, and pieces of plastic were also present.



Figure 8.7. LA 3546. Test Pit 3, Feature 2, excavated, view north.



Figure 8.8. LA 3546, Test Pit 4, excavated, view west.

By Level 2, a dark brown (Munsell 10YR 3/3) compacted clayey loam with caliche, small sandstone cobbles, roots, plaster chunks, coal fragments, and artifacts became visible. The frequency of artifacts (n = 43) increased, with mostly unidentified broken glass bottles (n = 29), domestic animal bones, round and square nails, a few metal hardware objects, and several broken red clay roofing tiles being evident. One prehistoric ceramic, an Alma Plain sherd, was also present.

In Level 3 to Level 9, Stratum 6, a dark reddish-brown (Munsell 5YR 3/4) slightly compacted clayey sand was present. Level 3 had the highest frequency of artifacts (n = 32) with a few lithics, some metal fragments, a Euroamerican ceramic piece, and broken glass bottle fragments (n = 26). Levels 4, 5, 6, and 7 contained less than eight artifacts each. Artifacts were not present in Levels 8, 9, and 10, but some coal was visible in Level 8 and Level 9. By Level 10, the soil had become a dark brown (Munsell 7.5YR 3/4) compacted clayey sand (Stratum 7) (Fig. 8.9). After three sterile levels, an auger was placed in the base of Level 10. An additional eight levels (Levels 11 to 18) were augered. Stratum 7 continued through Auger Holes 11 to 13. A soil change was noted by Level 14, a dark yellowish brown (Munsell 10YR 4/4) clay with coarse grained sand (Stratum 12). Artifacts were not present in any of the auger holes.

**Test Pit 5** was located behind the Veterans Hospital in the southwestern corner of the property in thick, short grasses. In Level 1, Stratum 1, a dark yellowish-brown (Munsell 10YR 4/4) compacted sandy loam) was present (Fig. 8.10). Only one artifact, an amber glass bottle base fragment was collected. A brown (Munsell 7.5 YR 3/4) loamy clay (Stratum 8) was present in Level 2 and was slightly harder than Stratum 1 in Level 1.

Five artifacts (n = 5) were retrieved from Level 2: a medical-related rubber nozzle; a round nail; and several pieces of broken bottle glass. Level 3 was a reddish brown (Munsell 5YR 5/4) extremely hard sandy clay with fragments of either bedrock or foundation rubble (Stratum 9). Artifacts here included a few pieces of bottle glass (n = 4) in a variety of colors.

Stratum 9 continued into Level 4 and bedrock or rubble became more prominent in the northern portion of the grid (Fig. 8.11). No artifacts were present in Level 4. An auger hole was placed near

the center base of Level 4. Levels 5, 6, and 7 were augered, with a consistent Stratum 9. No artifacts were found. Auguring was discontinued in Level 7 due to the presence of large rocks.

**Test Pit 6** (Fig. 8.12) was situated on the southeastern portion of the front lawn of the former officers' quarters across the street from the Veterans Hospital ambulance entrance. The roots and the tall surface grasses of Test Pit 6 extended to the base of Level 1, which was a dark yellowish-brown (Munsell 10YR 4/4) compacted sandy loam with few artifacts (n = 3). Artifacts included a broken glass bottle fragment, a window glass fragment, and a square nail.

Stratum 2 continued into Level 2 with several red-brick fragments in the fill. The brick was recorded, but not collected. Some sawn animal bones (n = 4), window glass (n = 1), and square nails (n = 4) were collected here.

By Level 3, Stratum 4, the soil was a brown (Munsell 5YR 4/4) compacted clay with larger red brick and white-sandstone brick fragments; these were not collected. A 1 inch diameter iron pipe, possibly a water line to the officers' quarters, was encountered in the northeastern section of the grid (Fig. 8.13). A very large trench had been excavated to lay the pipe, which encompassed a good portion of the 1 by 1 m unit. The bricks probably originated from redeposited fill from the immediate vicinity and are likely remnants of the razing and rebuilding of a number of structures over the past several decades.

Artifacts recovered from Level 3 probably came from the same redeposited soils. A unique collection of artifacts (n = 14) included a few unknown glass bottle fragments, window glass, a portion of a Dr. Pitcher's laxative bottle dated from 1871, a panel from a medicine bottle, a tiny sheet of copper, square nails, and a .50 caliber, center-fire, copper cartridge casing dating from 1866. The mean date of these artifacts is approximately 1870.

Stratum 4 continued into Levels 4, 5, 6, 7, and 8. Artifact frequencies decreased from one to six artifacts in these levels. Artifacts were of window glass, bottle glass, and nails. The deeper the excavation, the larger the pipe trench became and the more obvious that Stratum 4 fill had been redeposited in this unit. Excavation was discontinued and an auger hole placed in the center base of Level 8. Only Level 9 and Level 10 were excavated before rock was en-

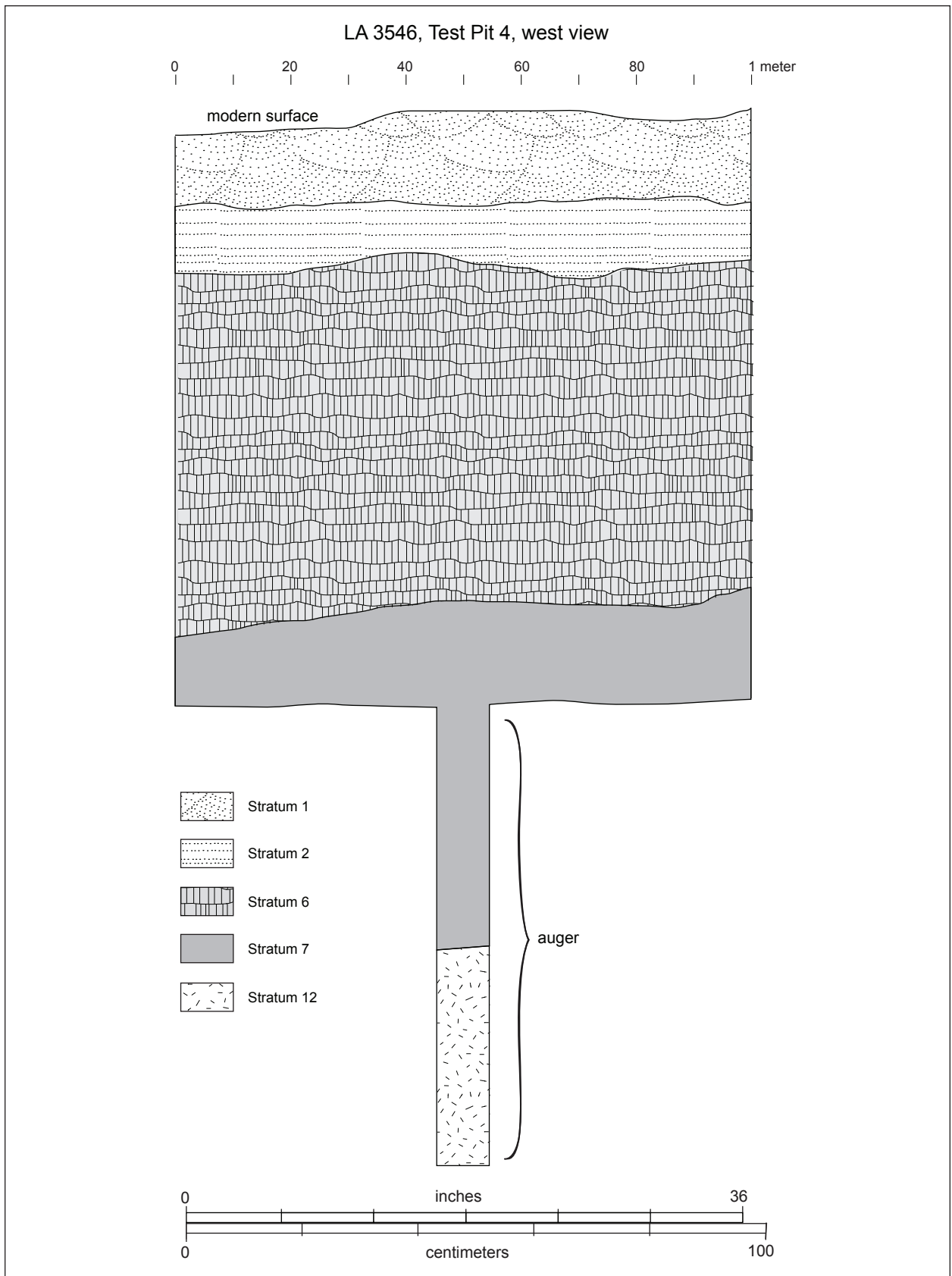


Figure 8.9. LA 3546, Test Pit 4, profile, view west.





Figure 8.10. LA 3546, Test Pit 5, excavated, view north.

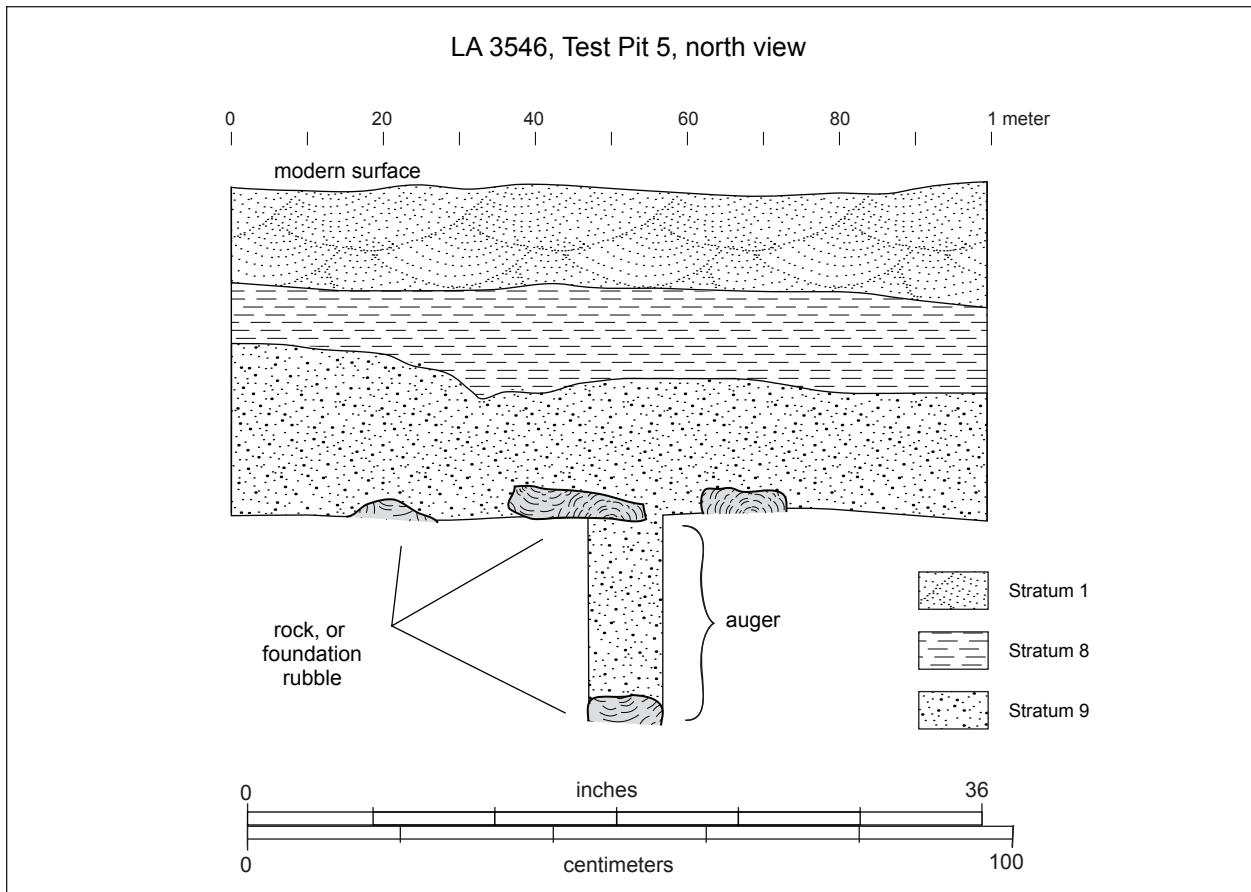


Figure 8.11. LA 3546, Test Pit 5, profile, view north.



Figure 8.12. LA 3546, Test Pit 6, Level 3, view north.

countered. Stratum 4 was present in both levels. Both auger levels were void of cultural materials.

### FEATURES

**Feature 1** consisted of flat rock slabs (Fig. 8.14). The feature was found in Stratum 2 at the bottom of Level 2 in Test Pit 2. Large sandstone and rhyolite slabs were set flat across the entire 1 by 1 m unit at the base of Level 2. An irregular strip of decomposing concrete was situated along the southern edge of the grid, but concrete mortar was not found between the slabs. Slabs ranged in size from 40 by 25 cm, to 30 by 25 cm, to 30 by 10 cm. Stratum 2—a dark yellowish-brown (Munsell 10YR 3/3) compacted clay—was found on and between the rock slabs.

Three artifacts were collected from Stratum 2 fill: a clear glass bottle fragment and two animal bones. Feature 1 is assumed to have been a walkway or a portion of a patio area since it was found in front of the Veterans Hospital entrance along with several

other north–south and east–west cement sidewalks. Local ranchers informed the archaeological crew that Feature 1 was likely foundation rubble from the razing of previous hospitals at the same site. Further information may be revealed during the demolition phase.

**Feature 2** consisted of a cobbled area discovered in Level 3 of Test Pit 3 (Fig. 8.15). Test Pit 3 was situated on the northeastern lawn of the Veterans Hospital. Large sandstone and rhyolite cobbles covered the bottom of Level 3. The cobbles ranged in size from 50 by 35 cm to 20 by 10 cm. The cobbles appeared to have been tossed into the area and probably extend beyond the boundaries of the 1 by 1 m grid.

The cobbles were covered with Stratum 4 soils consisting of a brown (Munsell 5YR 4/4) compacted sandy loam with caliche fragments. No evidence of mortar or other artifacts was associated with Feature 2. Due to the haphazardly appearance of the cobbles, it is likely that Feature 2 is rubble from a historic foundation.

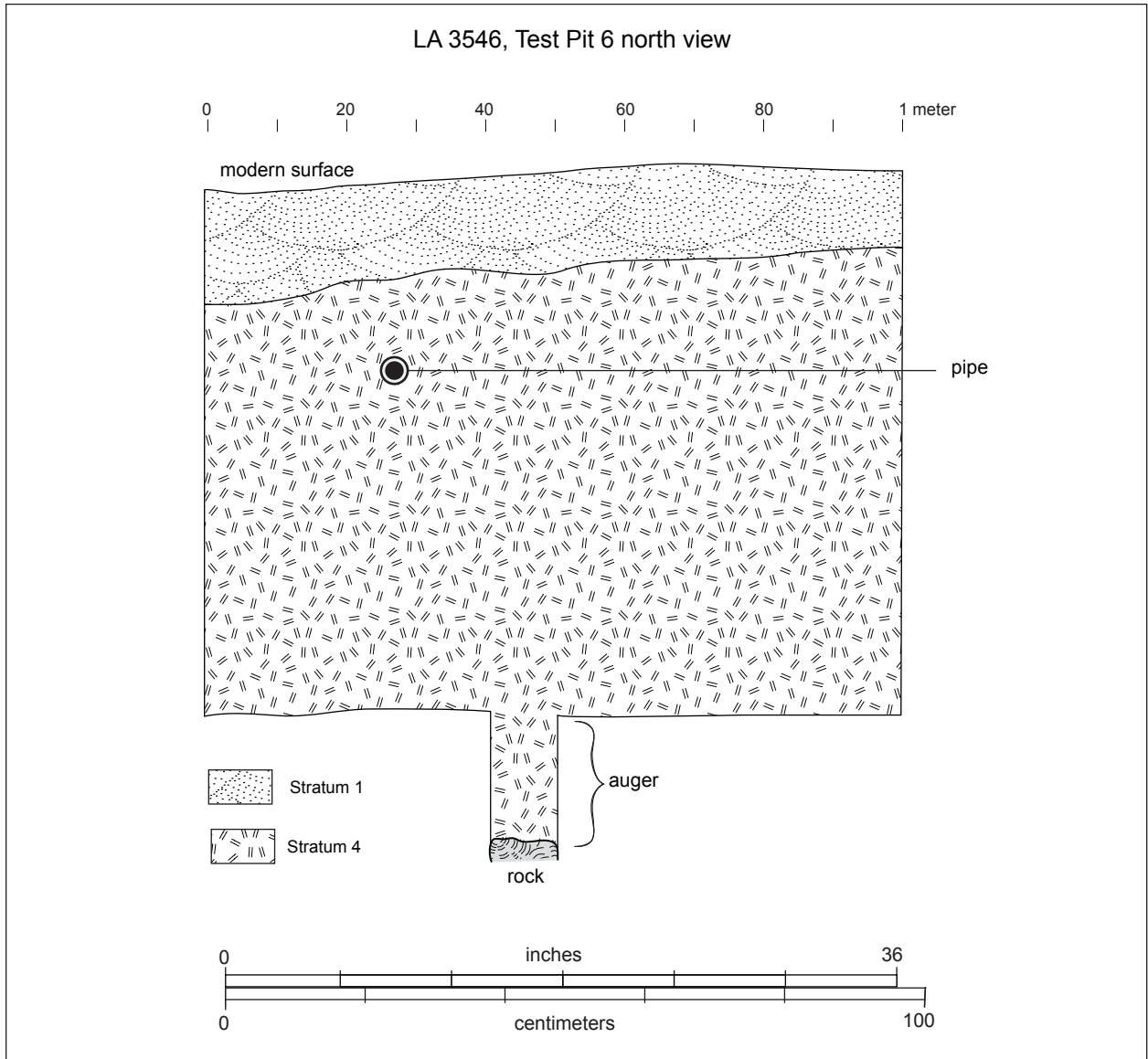


Figure 8.13. LA 3546, Test Pit 6, profile, view north.



Figure 8.14. LA 3546, Test Pit 2, Feature 1, rock slabs.



Figure 8.15. LA 3546, Test Pit 3, Feature 2, cobbled area.

## 9 Summary and Recommendations

Fort Bayard has survived many dramatic changes, but the fort's fascinating history continues to diminish as changes occur to the abandoned landscape (Fig. 9.1). Yet another chapter of Fort Bayard's history will end following the planned demolition of U.S. Veterans Hospital No. 55.

The six test pits excavated by OAS on the hospital grounds revealed little significant information about the hospital's history and any prehistoric events in its immediate vicinity. Intact archaeological deposits were not present. Evidence of historic building foundations was also lacking. If the southern end of the parade ground had extended to the present-day front lawn of the existing Veterans Hospital building, Test Pits 1, 2, and 3 revealed very little evidence of any activities that may have taken place there during the fort's active years.

The only military paraphernalia collected during this project consisted of a conical bullet and a .50 caliber center-fire, copper cartridge. A few prehistoric artifacts were collected including Alma Plain ceramics and a brown chert, biface flake, but there is no evidence of any intact prehistoric components in the hospital vicinity. Medical supplies were found in low frequencies and consisted of a few broken medicine bottles, a Dr. Pitcher's laxative bottle, and a rubber nozzle. The soils housing these artifacts had been redeposited through prior episodes of construction and demolition activity at Fort Bayard.

The building and razing of a number of hospitals and treatment centers on the same site produced great amounts of rubble, which appears to have been buried under the lawn surrounding the Veterans Hospital. Sechrist encountered foundation rubble in Trench 2 along the north-central sidewalk during the 2009 trenching of the grounds for the in-

stallation of fire hydrants. OAS Test Pit 2 was located directly east of Sechrist's Trench 2. Foundation rubble was discovered here, as well as in OAS Test Pit 3. Oral tradition of local residents reported that bulldozers eventually covered the rubble and leveled the area to the north of the existing hospital using soils from either the immediate area or elsewhere, and a lawn was planted to provide a more serene atmosphere for patients.

OAS recommends only limited and contingent monitoring of the hospital demolition. No monitoring is needed for demolition activities that are confined to the original construction footprint of the hospital building, the area to the south of the hospital, and utility demolition that consists of capping or is confined to the original utility trench limits. The greatest potential for the exposure of intact deposits would be if any excavations associated with demolition penetrated beneath the layer of rubble to the north of the hospital building or extended beyond the original construction limits of the hospital basement in the northwestern portion of the project area. If excavation is planned for those areas, OAS recommends that those demolition activities be monitored by an archaeologist. Similarly, if utilities must be removed by excavation outside of the original trenches and away from the original construction footprint of the hospital, an archaeologist should monitor those excavations. Finally, if building removal in the north and northwestern corner of the project area exposes the face of the original building excavation cut (as differentiated from exposing fill placed against the exterior of the basement wall), OAS recommends that the stratigraphy of the face be documented prior to backfilling of the demolition cut.



*Figure 9.1. The Fort Bayard National Historic District, today (image by Rick Scibelli Jr., for The Wall Street Journal).*

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# Appendix 1 $\downarrow$ Native Ceramics Analysis

C. Dean Wilson

Testing conducted during the Fort Bayard project at U.S. Veterans Hospital No. 55 resulted in the recovery of two body sherds that have been assigned to Alma Plain. The sherds are polished on both sides but could not be assigned to a particular vessel form given the common occurrence of polishing found on both surfaces of Mogollon Brown ware vessel forms.

The temper identified for both sherds is a fine and varied volcanic rock with rounded sand fragments. Paste cross sections are gray brown, and surfaces are tan brown. The combination of paste and temper indicates the use of self-tempered clays weathered from local volcanic formations and commonly used in the production of Mimbres or Mogollon tradition pottery across the Mogollon Highlands.

Despite similarities noted for these two sherds, differences in temper and paste indicate they originated from different vessels. One of these sherds,

which weighed 3.5 grams, was recovered from Level 7 of Test Pit 1, while the other, weighing 9.5 grams, was recovered from Level 2 of Test Pit 4.

Alma Plain represents the dominant pottery type associated with most of the Mogollon sequence. It is present, in decreasing frequencies, in components dating to the entire sequence. Thus, pottery recovered during testing could be associated with components dating from AD 200–1200, or later given the end of occupation of this area by Mogollon groups (Haury 1936; Wilson 1999).

It is likely that this pottery is associated with a Mimbres site known to underlie areas of Fort Bayard, which may include other components dating from AD 750–1200. A more precise evaluation of the dating of the prehistoric component from this part of Fort Bayard would be dependent on the recovery of better dated, textured, or painted pottery types.



## Appendix 2 $\searrow$ Euroamerican Artifact Analysis

Susan M. Moga

Euroamerican artifacts (n = 174) were recovered from six test pits excavated around Veterans Hospital No. 55 (LA 3546) at Fort Bayard (Table A2.1). The hospital was built in 1922 and will be demolished in the near future. Test pits are required as part of an archaeological clearance project that must be conducted before the structure can be razed.

Several structures had previously been built on the same location as the Veterans Hospital. These building episodes produced foundation rubble in the immediate vicinity of the hospital. The rubble was later covered with soil and seeded in order to produce a more serene and relaxing environment. In two of the test pits, rubble became visible around 30 cm below the ground surface. Fewer than 20 Euroamerican artifacts were retrieved from the redeposited fill in these pits.

Artifacts collected during excavation were assigned field specimen (FS) numbers in the field and were bagged according to material type. Upon arrival at the Office of Archaeological Studies, the artifacts were cleaned, placed in plastic bags for future curation, and analyzed. The OAS Historic Artifact Standardized Code format (Boyer et al. 1994) was implemented during analysis.

The code is a detailed format consisting of descriptive attributes including category, function, fragment, material type, aging, date of manufacture (Table A2.2), manufacturing technique, brand name, color, finish type, ceramic paste and ware, and decorative motifs. These were recorded for each artifact. The recorded attributes were then entered into the Statistical Package for the Social Sciences, or SPSS, an electronic database, and used to compare to similar databases on file at OAS.

### ANALYTICAL RESULTS

The 174 Euroamerican artifacts recovered from the six test pits at the Veterans Hospital were assigned to six of twelve functional categories (Table A2.3). Artifacts will be discussed by these functional cate-

gories to reveal artifact type, frequency, and use and discard patterns.

**Unassignable Items:** Artifacts that could not be assigned to a category because they were lacking in specific attributes were classified as unassignable (n = 91). The majority of these items consisted of glass bottle fragments that could not be classified under other categories like food, indulgences, chemicals, cleaning products, toiletries, or other personal hygiene products. Some flat glass, portions of a metal can, and other unknown fragments also were placed in this category.

**Domestic:** Domestic items (n = 2) were few and included a couple of broken pieces from an unknown ironstone vessel. Ironstone dinnerware has a thick body, is white with a clear glaze, and is undecorated. Ironstone dinnerware dates from 1840–1930.

**Furnishings:** A few pieces of extremely thin, curved, clear glass, usually associated with chimneys for kerosene lamps (n = 5) were collected. This glass was far too delicate to be bottle glass and the curvature too extreme for medicinal vials. Kerosene lamps were introduced to the public in 1853 and were well established by 1866, when Fort Bayard came into existence.

**Construction and Maintenance:** It is no surprise the construction and maintenance category (n = 68) was represented by the largest number of artifacts in the Euroamerican assemblage. Redeposited soils included artifacts from across the site and from a variety of time periods. Some little oddities were unknown are probably associated with this category. These items included metal straps, small sheet-metal fragments, a metal disc, and a wire spring. Other small hardware items were datable and included: square nails (1820–1900); masonry nails (1850+); round nails (1890+); and finish nails (1890+). Window glass fragments were small and were available in three colors: clear, light green, and aqua. All colors of window glass found in New Mexico are usually dated from 1800, since window glass was originally brought to the area via the Santa Fe Trail and eventually by rail in 1880. A few tiny pieces of ceramic sewer pipe also were collected.

Table A2.1. LA 3546, Euroamerican artifacts discovered at the site, by test pit, level, and description.

| Level                | Artifact                  | Test Pit 1 | Test Pit 2 | Test Pit 3 | Test Pit 4 | Test Pit 5 | Test Pit 6 | Item total |
|----------------------|---------------------------|------------|------------|------------|------------|------------|------------|------------|
| Level 1              | Bottle, Indeterminate     | -          | -          | -          | 3          | 1          | 1          | 5          |
|                      | Nail, square              | -          | 3          | -          | -          | -          | 1          | 4          |
|                      | Window glass              | -          | 1          | -          | -          | -          | 1          | 2          |
|                      | Clay roofing tiles        | -          | -          | -          | 2          | -          | -          | 2          |
|                      | Conical bullet            | -          | 1          | -          | -          | -          | -          | 1          |
|                      | <b>Total</b>              | -          | <b>5</b>   | -          | <b>5</b>   | <b>1</b>   | <b>3</b>   | <b>14</b>  |
| Level 2              | Unidentifiable            | -          | 8          | 1          | -          | -          | -          | 9          |
|                      | Bottle, Indeterminate     | -          | 1          | -          | 29         | 3          | -          | 33         |
|                      | Can, Indeterminate        | -          | 2          | -          | -          | -          | -          | 2          |
|                      | Vessel, Indeterminate     | -          | -          | 1          | -          | -          | -          | 1          |
|                      | Kerosene lamp chimney     | -          | -          | 1          | -          | -          | -          | 1          |
|                      | Disc (metal)              | -          | -          | -          | 1          | -          | -          | 1          |
|                      | Nail, round               | -          | 1          | -          | 2          | 1          | -          | 4          |
|                      | Nail, square              | -          | 1          | 1          | 1          | -          | 4          | 7          |
|                      | Nail, masonry             | -          | 1          | -          | -          | -          | -          | 1          |
|                      | Wire spring               | -          | -          | -          | 1          | -          | -          | 1          |
|                      | Window glass              | -          | 1          | -          | -          | -          | 1          | 2          |
|                      | Clay roofing tiles        | -          | -          | -          | 8          | -          | -          | 8          |
|                      | Medicine bottle           | -          | -          | 1          | -          | -          | -          | 1          |
|                      | Nozzle, rubber            | -          | -          | -          | -          | 1          | -          | 1          |
| <b>Total</b>         | -                         | <b>15</b>  | <b>5</b>   | <b>42</b>  | <b>5</b>   | <b>5</b>   | <b>72</b>  |            |
| Level 3              | Bottle, Indeterminate     | -          | -          | -          | 23         | 4          | 2          | 29         |
|                      | Flat glass                | -          | -          | -          | 2          | -          | -          | 2          |
|                      | Kerosene lamp chimney     | -          | -          | 3          | -          | -          | -          | 3          |
|                      | Vessel, Indeterminate     | -          | -          | -          | 1          | -          | -          | 1          |
|                      | Metal strap or band       | -          | -          | -          | 2          | -          | -          | 2          |
|                      | Sheet metal fragments     | -          | -          | -          | -          | -          | 1          | 1          |
|                      | Nail, square              | -          | -          | 3          | -          | -          | 2          | 5          |
|                      | Window glass              | -          | -          | 1          | 3          | -          | 5          | 9          |
|                      | Laxative bottle           | -          | -          | -          | -          | -          | 2          | 2          |
|                      | Medicine bottle           | -          | -          | 1          | -          | -          | 1          | 2          |
|                      | Center-fire cartridge     | -          | -          | 1          | -          | -          | 1          | 1          |
| Sewer pipe fragments | -                         | -          | 1          | -          | -          | -          | 1          |            |
| <b>Total</b>         | -                         | -          | <b>9</b>   | <b>31</b>  | <b>4</b>   | <b>14</b>  | <b>58</b>  |            |
| Level 4              | Bottle, Indeterminate     | -          | -          | -          | 3          | -          | 1          | 4          |
|                      | Nail, round               | -          | -          | -          | -          | -          | 1          | 1          |
|                      | Nail, square              | 1          | -          | -          | -          | -          | -          | 1          |
|                      | <b>Total</b>              | <b>1</b>   | -          | -          | <b>3</b>   | -          | <b>2</b>   | <b>6</b>   |
| Level 5              | Flat glass, Indeterminate | -          | -          | -          | 1          | -          | -          | 1          |
|                      | Kerosene lamp chimney     | -          | -          | -          | 1          | -          | -          | 1          |
|                      | Sheet metal fragments     | -          | -          | -          | -          | -          | 1          | 1          |
|                      | Sewer pipe fragments      | -          | -          | -          | 1          | -          | -          | 1          |
|                      | <b>Total</b>              | -          | -          | -          | <b>3</b>   | -          | <b>1</b>   | <b>4</b>   |

Table A2.1 (continued)

| Level                  | Artifact              | Test Pit 1 | Test Pit 2 | Test Pit 3 | Test Pit 4 | Test Pit 5 | Test Pit 6 | Item total |
|------------------------|-----------------------|------------|------------|------------|------------|------------|------------|------------|
| Level 6                | Bottle, Indeterminate | -          | -          | -          | 3          | -          | -          | 3          |
|                        | Metal strap or band   | -          | -          | -          | 1          | -          | -          | 1          |
|                        | Sheet metal fragments | -          | -          | -          | -          | -          | 1          | 1          |
|                        | Nail, round           | -          | -          | -          | 1          | -          | -          | 1          |
|                        | Nail, square          | -          | -          | -          | 1          | -          | 1          | 2          |
|                        | Window glass          | -          | -          | -          | 2          | -          | 1          | 3          |
|                        | <b>Total</b>          | -          | -          | -          | <b>8</b>   | -          | <b>3</b>   | <b>11</b>  |
| Level 7                | Bottle, Indeterminate | -          | -          | -          | 1          | -          | 1          | 2          |
|                        | Nail, finish          | -          | -          | -          | -          | -          | 1          | 1          |
|                        | Nail, square          | -          | -          | -          | -          | -          | 1          | 1          |
|                        | Window glass          | -          | -          | -          | -          | -          | 2          | 2          |
|                        | <b>Total</b>          | -          | -          | -          | <b>1</b>   | -          | <b>5</b>   | <b>6</b>   |
| Level 8                | Bottle, Indeterminate | -          | -          | -          | -          | -          | 1          | 1          |
|                        | Nail, round           | 1          | -          | -          | -          | -          | -          | 1          |
|                        | Nail, square          | -          | -          | -          | -          | -          | 1          | 1          |
|                        | <b>Total</b>          | <b>1</b>   | -          | -          | -          | -          | <b>2</b>   | <b>3</b>   |
| <b>Test pit totals</b> |                       | <b>2</b>   | <b>20</b>  | <b>14</b>  | <b>93</b>  | <b>10</b>  | <b>35</b>  | <b>174</b> |

These were made of molded, unrefined earthenware with an exterior brown and salt-glaze. Sewer pipes were probably brought to the New Mexico territory by train from about 1880 onward and were manufactured east of the Mississippi River. The red-clay tile fragments found during the excavation are a bit more of a mystery. Some were found near the water tower and may have been used in an irrigation system. Others were located near the original hospital, which may have had a red-clay tile roof like the other structures still standing at the fort (Fig. A2.1). This seemed the most appropriate reasoning, so the tiles were recorded as roofing materials.

**Personal Effects:** Personal Effects (n = 6) are items owned by the individuals who lived at, worked at, or visited the site. These items include clothing, shoes and boots, jewelry, personal hygiene items, medicinal items, money, and religious objects. All of the items collected during excavation were related to medical services. Two molded medicine bottle fragments were thrown in the assemblage. One body fragment was made of clear glass dating from 1880. The other was a panel fragment from an aqua glass, patented medicine bottle. A few embossed letters were visible on the panel of this fragment, but a brand name could not be deciphered. The fragment was dated, by bottle color, to between 1880 and 1920. The neck and patent finish

of a purple, hand-blown medicine bottle also was dated to between 1880 and 1920. Two panel fragments from an aqua bottle had "...OR..." embossed on them. Since the similarities to Dr. S. Pitcher's Castoria bottles dating from 1871 were the same, the fragments were classified as pieces of a laxative bottle. The last medical item acquired at the site is unique and was classified as a rubber nozzle. The function of this object is unclear. Initially, it was thought to be part of an enema syringe, but research proved otherwise, and the item could be classified only as a rubber nozzle. Vulcanized rubber has been in use since 1844 and the item would have become hard and desiccated over time, even if it was produced during the 1922 Veterans Hospital era. Therefore, this object could not be dated.

**Military & Arms:** The military and arms category encompasses a wide range of equipment including small and large arms, explosives, military clothing, insignia, and other military accoutrement. Two artifacts classified as small arms were found during testing. One was an intact, iron, conical bullet with three grooves around the base and appeared to have been fired into the air and then returned to the ground. Upon its return to earth, the bullet apparently made contact with another object, as two scooped-out impressions are visible on the sides of the bullet head. A horizontal line has also been cut through one of the

Table A2.2. LA 3546, Euroamerican artifacts discovered at the site, by test pit and date of manufacture.

| Date      | Artifact                  | Test Pit 1 | Test Pit 2 | Test Pit 3 | Test Pit 4 | Test Pit 5 | Test Pit 6 | Total      |
|-----------|---------------------------|------------|------------|------------|------------|------------|------------|------------|
| 1800      | Window Glass              | -          | 1          | -          | 5          | -          | 10         | 16         |
|           | Bottle, Indeterminate     | -          | -          | -          | 2          | -          | -          | 2          |
| 1820-1900 | Nail, square              | 1          | 4          | 4          | 2          | -          | 10         | 21         |
| 1840-1930 | Vessel, Indeterminate     | -          | -          | 1          | 1          | -          | -          | 2          |
| 1850      | Nail, Masonry             | -          | 1          | -          | -          | -          | -          | 1          |
| 1853      | Kerosene lamp chimney     | -          | -          | 4          | 1          | -          | -          | 5          |
| 1866      | Clay roofing tiles        | -          | -          | -          | 10         | -          | -          | 10         |
|           | Center-fire Cartridge     | -          | -          | -          | -          | -          | 1          | 1          |
| 1871      | Laxative bottle           | -          | -          | -          | -          | -          | 2          | 2          |
| 1880      | Unidentifiable            | -          | 7          | 1          | -          | -          | -          | 8          |
|           | Bottle, Indeterminate     | -          | 1          | -          | 59         | 8          | 6          | 74         |
|           | Flat glass, Indeterminate | -          | -          | -          | 3          | -          | -          | 3          |
|           | Window Glass              | -          | 1          | 1          | -          | -          | -          | 2          |
|           | Sewer pipe fragments      | -          | -          | 1          | 1          | -          | -          | 2          |
|           | Medicine Bottle           | -          | -          | 2          | -          | -          | 1          | 3          |
| 1890      | Bottle, Indeterminate     | -          | -          | -          | 1          | -          | -          | 1          |
|           | Nail, round               | 1          | 1          | -          | 3          | 1          | 1          | 7          |
|           | Nail, finish              | -          | -          | -          | -          | -          | 1          | 1          |
| 1904      | Can, Indeterminate        | -          | 2          | -          | -          | -          | -          | 2          |
|           | <b>Total</b>              | <b>2</b>   | <b>18</b>  | <b>14</b>  | <b>88</b>  | <b>9</b>   | <b>32</b>  | <b>163</b> |

scoops possibly as part of an investigative maneuver conducted at a later date. The caliber or date of manufacture of the bullet is not known.

A .50-70 government issue, center-fire cartridge (.50 caliber) made of copper also was collected. This was the first official center-fire cartridge type used by the U.S. military for the Springfield rifle and is dated between 1866 and 1873. It was also popular for hunting buffalo and other large game. Soldiers soon discovered that the copper expanded in the rifle breech upon firing and the cartridge had to be manually extracted. This proved the ammunition useless in combat (Fox 1993). In 1873, the .50-70 was replaced with the .45-70 cartridge (Barnes 2003:357).

#### RESULTS OF ARCHAEOLOGICAL INVESTIGATIONS

The Euroamerican artifacts collected from the six test pits at the U.S. Veterans Hospital No. 55 at Fort Bayard were used to date the deposits and interpret the various activities that occurred during the his-

toric period of its occupancy. Artifacts recovered from Test Pits 1–6 are summarized below:

**Test Pit 1:** Test Pit 1 was one of the deepest pits on the site with the lowest frequency of Euroamerican artifacts recovered (n = 2). A square nail was found in Level 4 and a round nail in Level 8. These artifacts represent construction activities.

**Test Pit 2:** In Test Pit 2, artifacts (n = 20) were recovered only in the upper two levels, since a flagstone surface (Feature 1) was encountered at the bottom of Level 2. Several square nails, a piece of window glass, and a conical bullet were found in Level 1. Small hardware items continued in Level 2, along with several unidentifiable objects, a window glass fragment, and a few can fragments. All these artifacts reflect previous episodes of demolition at the site.

**Test Pit 3:** Similar to Test Pit 2, a layer of rock rubble (Feature 2), from demolition, was visible by Levels 2 and 3 and was filled with cobbles. Excavation was discontinued. Level 1 was void of ob-



Table A2.3. LA 3546, Euroamerican artifacts discovered at the site, by test pit and functional category.

| Category                            | Artifact                  | Test Pit 1 | Test Pit 2 | Test Pit 3 | Test Pit 4 | Test Pit 5 | Test Pit 6 | Total |
|-------------------------------------|---------------------------|------------|------------|------------|------------|------------|------------|-------|
| <b>Unassignable</b>                 | Unidentifiable            | -          | 8          | 1          | -          | -          | -          | 9     |
|                                     | Bottle, Indeterminate     | -          | 1          | -          | 62         | 8          | 6          | 77    |
|                                     | Can, Indeterminate        | -          | 2          | -          | -          | -          | -          | 2     |
|                                     | Flat glass, Indeterminate | -          | -          | -          | 3          | -          | -          | 3     |
|                                     | <b>Total</b>              | -          | 11         | 1          | 65         | 8          | 6          | 91    |
| <b>Domestic</b>                     | Vessel, Indeterminate     | -          | -          | 1          | 1          | -          | -          | 2     |
|                                     | <b>Total</b>              | -          | -          | 1          | 1          | -          | -          | 2     |
| <b>Furnishings</b>                  | Kerosene lamp chimney     | -          | -          | 4          | 1          | -          | -          | 5     |
|                                     | <b>Total</b>              | -          | -          | 4          | 1          | -          | -          | 5     |
| <b>Construction and Maintenance</b> | Metal strap or band       | -          | -          | -          | 3          | -          | -          | 3     |
|                                     | Sheet metal fragments     | -          | -          | -          | -          | -          | 3          | 3     |
|                                     | Disc, metal               | -          | -          | -          | 1          | -          | -          | 1     |
|                                     | Nail, round               | 1          | 1          | -          | 3          | 1          | 1          | 7     |
|                                     | Nail, finish              | -          | -          | -          | -          | -          | 1          | 1     |
|                                     | Nail, square              | 1          | 4          | 4          | 2          | -          | 10         | 21    |
|                                     | Nail, masonry             | -          | 1          | -          | -          | -          | -          | 1     |
|                                     | Wire spring               | -          | -          | -          | 1          | -          | -          | 1     |
|                                     | Window glass              | -          | 2          | 1          | 5          | -          | 10         | 18    |
|                                     | Clay roofing tiles        | -          | -          | -          | 10         | -          | -          | 10    |
|                                     | Sewer pipe fragments      | -          | -          | 1          | 1          | -          | -          | 2     |
| <b>Total</b>                        | 2                         | 8          | 6          | 26         | 1          | 25         | 68         |       |
| <b>Personal Effects</b>             | Laxative bottle           | -          | -          | -          | -          | -          | 2          | 2     |
|                                     | Medicine bottle           | -          | -          | 2          | -          | -          | 1          | 3     |
|                                     | Rubber nozzle             | -          | -          | -          | -          | 1          | -          | 1     |
|                                     | <b>Total</b>              | -          | -          | 2          | -          | 1          | 3          | 6     |
| <b>Military and Arms</b>            | Center-fire cartridge     | -          | -          | -          | -          | -          | 1          | 1     |
|                                     | Conical bullet            | -          | 1          | -          | -          | -          | -          | 1     |
|                                     | <b>Total</b>              | -          | 1          | -          | -          | -          | 1          | 2     |
| <b>Test pit total</b>               |                           | 2          | 20         | 14         | 93         | 10         | 35         | 174   |

jects. Artifacts (n = 5) from Level 2 included an unknown glass bottle, a piece from an ironstone vessel, a fragment of a kerosene chimney lamp, a square nail, and a portion of a medicine bottle. Level 3 artifacts (n = 9) included: additional fragments from the glass chimney; square nails; a broken medicine-bottle; a fragment of salt-glazed sewer pipe; and a .50 caliber, copper, center-fire cartridge case.

**Test Pit 4:** Test Pit 4 was the most prolific of all the test pits. Eight levels were excavated, and Euroamerican artifacts (n = 93) were collected from seven levels. The soils were completely different

when compared to the other test pits, but the redeposited soils were still present. Styrofoam, plastic, and aluminum foil were found in Level 1 along with red-clay roof tile fragments and some bottle glass. The frequency of glass bottle fragments (n = 29) increased at Level 2, but was slightly lower (n = 23) in Level 3. Small hardware items, nails, and various metal fragments were present in almost every level. The largest frequency of red-clay tiles (n = 10) in the assemblage was found in the two upper levels of Test Pit 4. In Level 2, a single Alma Plain Native sherd (n = 1) was found mixed with Euroamerican



Figure A2.1. Fort Bayard structure with red-clay roof tiles.

artifacts, indicating the presence of redeposited soils.

**Test Pit 5:** Soils of Test Pit 5 consisted of a hard, compact clay that revealed an insignificant number of artifacts (n = 9). Artifacts included several unknown glass bottle fragments, a round nail, and a rubber nozzle. The nozzle is probably a medical item.

**Test Pit 6:** A small amount of Euroamerican artifacts (n = 35) were collected from each of the eight excavated levels at Test Pit 6. These included unknown glass bottle fragments, round and square nails, window glass, metal fragments, medicine bottles, and a .50-70 government-issue, center-fire copper cartridge. This cache of artifacts was mixed in with sawn animal bones, red-brick fragments, and pieces of white sandstone brick. Near the surface of Level 3 an iron pipe, assumed to be a historic water pipe to the officers' quarters, was encountered. Some artifacts were found in the redeposited soils of the pipe trench.

## CONCLUSIONS

Euroamerican artifacts (n = 174) recovered from the six test pits at the Fort Bayard Veterans Hospital came from previously razed hospitals in the same vicinity.

In two test pits, rock rubble from old foundations and a flagstone walkway was encountered. Both rubble piles were covered by redeposited soils and a planted lawn. Minor occurrences of military items were discovered, with a slightly higher frequency of identified medical items.

Unknown glass bottle fragments (n = 77) may have been associated with medical use, but identification was impossible since the artifacts lacked brand names and manufacturers. Most of the found Euroamerican artifacts were classified as construction items, with a few hardware items, window glass fragments, and red-clay roofing tiles.

## Appendix 3 Faunal Analysis

Table A3.1. LA 3546, faunal analysis by FS number, provenience, and element.

| FS No. | Provenience   | Taxon                                       | Element   | Comments  |
|--------|---|---|---|---|
| 3      | TP 2 3633095N<br>205003E L.2<br>1844–1834               | large ungulate                              | rib shaft fragment (< 5%)   | mature, pitted  |
|        |   | cf. large ungulate                          | flat bone fragment (< 5%)   | mature, checked, edges cut parallel, probably not sawn, edges rounded from cooking or weathering, steak cut (?) |
|        |   | cf. large ungulate                          | flat bone fragment (< 5%)<br>probably innominate                                | mature, rounded, cut-like marks are probably vessel tracks  |
| 6      | TP 2 3633095N<br>205003E L.2<br>1844–1834;<br>Feature 1 | cf. <i>Bos taurus</i> (cattle)              | thoracic vertebra spinous process fragment (< 10%)                              | mature, checked   |
|        |   | cf. large ungulate                          | flat bone, probably carpal or tarsal fragment (< 10%)                           | mature, impact fracture   |
| 10     | TP 4 3632993N<br>204963E L.2                            | <i>Bos taurus</i> (cattle)                  | thoracic vertebra, posterior body on left side (10-20%) two pieces, fresh break | mature (fused epiphysis), sawn transverse and vertical  |
|        |   | large ungulate                              | flat bone, probably the epiphysis portion of a vertebral body (< 5%)            | mature  |
| 18     | TP 6 3633092<br>204893E,<br>Level 2<br>1848–1838        | <i>Bos taurus</i> (cattle)                  | scapula spine fragment (< 5%)<br>two pieces, fresh break                        | mature, sawn, horizontal cuts, thick steak or roast cut   |
|        |   | <i>Ovis/Capra</i> (sheep or goat)           | left radius; proximal shaft (about 30%)   | mature, defleshing cuts on anterior shaft, gnawed by carnivore  |
|        |   | medium artiodactyl, deer-sized but not deer | left auditory meatus fragment (< 5%)  | mature, pitted, possibly cut off, edges rounded   |



## Appendix 4 $\searrow$ Chipped Stone Analysis

James L. Moore

Six chipped stone specimens were recovered during excavation work at Fort Bayard—three each from Test Pits 1 and 4. Specimens were examined under a binocular microscope; measurements were taken using digital calipers, a goniometer, and a scale. Due to its small size and uncertain temporal association, no formal analysis was conducted on this assemblage. Attributes necessary for assignment of each artifact to morphological and functional categories were noted, as were any other characteristics considered potentially important to the interpretation of the artifacts. Each artifact is described separately here according to test-pit location and level of recovery. This is followed by a discussion of the assemblage.

### TEST PIT 1

**Level 3 (FS 2):** A single chipped stone specimen was recovered from this 10 cm level at a depth of 20–30 cm below the modern ground surface. The artifact is a complete, fine grained, brown chert, biface flake that measures 22 by 19 by 3 mm and weighs 1.4 g. The specimen is unutilized and has a feather termination with no evidence of cortex. The platform is retouched and lipped with an angle of less than 45 degrees. There is a glossy sheen to this flake that suggests it was thermally altered to facilitate flaking. An opposing scar has been noted on the specimen's dorsal surface and the platform is waisted. Both attributes are potential evidence of removal from a biface.

**Level 4 (FS 4):** Two chipped stone specimens were recovered from this 10 cm level at a depth of 30–40 cm below the modern ground surface. One specimen is the distal end of a fine grained, white chert, core flake that measures 24 by 10 by 4 mm and weighs .9 g. The platform is missing and appears to have been removed by a snap fracture; this may have occurred either during or after the flake was struck from its core. No evidence of cortex was noted. A variation between a glossy luster on the

specimen's ventral surface and a dull, matte luster on a portion of the dorsal surface indicates that this artifact was thermally altered. Both edges show damage and scar patterns indicative of cultural use. The attrition pattern, on both edges, is mostly unidirectional with a few bidirectional scars also present. One slightly concave edge has an angle of 24–77 degrees, and a slightly convex edge has an angle of 26–29 degrees. The latter exhibits several retouch scars at one end. The second specimen is a medial fragment of a coarse grained, chert, core flake and ranges from reddish-brown to gray in color. This flake fragment measures 19 by 36 by 12 mm and weighs 5.4 g. No evidence of thermal alteration, cortex, or cultural use was noted on this piece.

### TEST PIT 4

**Level 3 (FS 12):** Three chipped stone specimens were recovered from this 10 cm level at a depth of 20–30 cm below the modern ground surface. At least one of these specimens is of a questionable nature: One unutilized piece of chert, angular debris ranges in texture from fine to medium and in color from white to translucent. There is no cortex on this piece, but metal adhesions in the form of small lumps of brown metal, probably steel, have been noted on its surface. While this piece could feasibly be a chipped stone artifact, the metal adhesions, in addition to the highly faceted and angular shape of the piece, suggest it is most likely a piece of gravel that was on the surface in the not-so-distant past. The second specimen is a coarse grained, white chert, core flake that measures 9 by 12 by 3 mm and weighs 0.3 g. This flake is complete, with a multi-faceted platform and a feathered distal termination. The platform angle is greater than 45 degrees, and there is no evidence of lipping. No evidence of thermal alteration, cortex, or cultural use was noted on this piece. The third specimen is a fine grained, tan chert, core flake fragment representing the medial portion of its distal end. The piece measures 9 by 11 by 2 mm

and weighs .3 g. The platform of this flake appears to have been removed by a snap fracture, and it has a feather termination. No evidence of thermal alteration, cortex, or cultural use was noted.

## DISCUSSION

Though this assemblage is quite small, it does have some interpretive value. Three specimens each were recovered from Test Pit 1 and Test Pit 4; there is a significant contrast between these sub-assemblages.

Artifacts from Test Pit 1 are definitely of a cultural origin. The biface flake was removed during the manufacture of a large bifacial tool; the white chert, core flake is an informal tool in its own right. And while not as attractive in appearance as the other two artifacts from Test Pit 1, the coarse grained chert, core flake fragment is definitely cultural in origin and represents a single section of a flake that likely fragmented after being struck with excessive force.

In contrast, the three specimens from Test Pit 4 are of questionable origin. In general, they are made of a lower quality material than the two thermally altered flakes from Test Pit 1. The Test Pit 4 specimen with a multi-facet platform may have originated through cultural processes, but the likelihood of this is uncertain for the other two specimens also from Test Pit 4. The piece of angular debris is more faceted than tends to be the norm for angular debris produced during chipped stone reduction, and the presence of several metal adhesions on this piece raises immediate warning flags. While metal adhesions commonly occur on the edges of strike-a-light flints, this specimen exhibits no evidence of such use. Also, in this instance, metal adhesions have been located on facet surfaces instead of along an edge. Metal adhesions sometimes occur on the surface of chipped stone artifacts found in historic midden deposits—due to ferric metal rusting while in contact with a chipped stone artifact—but this

specimen was not recovered from a midden deposit and is, most likely, a piece of gravel.

The third specimen—the tan chert, core flake fragment—is also suspicious. While this specimen possesses what appears to be a legitimate striking platform and bulb of percussion, a second possible striking platform and bulb of percussion have been noted on another edge. Bipolar reduction sometimes results in this type of pattern, but, in that case, the two platforms should be at opposite ends of the flake. The second possible platform on the tan chert, core flake from Test Pit 4 is on an adjacent edge rather than on the opposite end. Thus, this specimen may also be a piece of gravel with false flake characteristics having occurred during the crushing process.

Since all three Test Pit 4 specimens were found at the same level, and two of them appear to represent pieces of gravel rather than purposely struck pieces of debitage, it can be concluded that the third specimen has a similar origin. After examining discarded pieces of gravel at crusher locations it became clear that the crushing process often results in gravel that possesses many of the characteristics of culturally generated debitage. This is probably the case for these three specimens.

Only the three specimens from Test Pit 1 represent purposely struck chipped stone artifacts. While such small assemblages are rarely dated accurately, the characteristics of these few artifacts suggest a prehistoric derivation, possibly during the Archaic period. This is considering that two of the three artifacts from Test Pit 1 are thermally altered and that the biface flake was apparently struck during the manufacture of a large bifacial tool, which tends to be most common before the Ceramic period.

However, no firm date can be assigned on the basis of these characteristics in such a small assemblage; temporal assignment should be considered tentative and open to question.

## Appendix 5 Stratigraphic Description

Table A5.1. LA 3546, stratigraphic description, by stratum and Munsell soil color.

| Stratum    | Munsell Soil Color                 | Description  |
|------------|------------------------------------|--|
| Stratum 1  | dark yellowish-brown<br>(10YR 4/4) | compacted, sandy loam  |
| Stratum 2  | dark brown<br>(10YR 3/3)           | platy, compacted clay with root systems                                  |
| Stratum 3  | brown<br>(7.5YR 5/3)               | slightly compacted, sandy loam<br>with small pebbles and roots           |
| Stratum 4  | brown<br>(5YR 4/4)                 | compacted, sandy loam<br>with caliche fragments                          |
| Stratum 5  | yellowish-brown<br>(10YR 5/4)      | loose, soft sand with some caliche                                       |
| Stratum 6  | dark reddish-brown<br>(5YR 3/4)    | slightly compacted, clayey sand  |
| Stratum 7  | dark brown<br>(7.5YR 3/4)          | compacted, clayey sand   |
| Stratum 8  | brown<br>(7.5YR 4/3)               | loamy clay   |
| Stratum 9  | reddish-brown<br>(5YR 5/4)         | extremely hard, sandy clay, fragments<br>of bedrock or foundation rubble |
| Stratum 10 | yellowish-brown<br>(10YR 5/6)      | fine grained sand with large caliche chunks                              |
| Stratum 11 | yellowish-brown<br>(10YR 6/6)      | sterile sand   |
| Stratum 12 | dark yellowish-brown<br>(10YR 4/4) | clay with coarse grained sand  |

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