MUSEUM OF NEW MEXICO

OFFICE OF ARCHAEOLOGICAL STUDIES

PIGEON'S RANCH AND THE GLORIETA BATTLEFIELD: AN ARCHAEOLOGICAL ASSESSMENT

Yvonne R. Oakes

with contributions by
Don E. Alberts
Betsy Swanson

Submitted by Timothy D. Maxwell
Principal Investigator

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ADMINISTRATIVE SUMMARY

An archaeological testing program was conducted by the Office of Archaeological Studies, Museum of New Mexico, at Pigeon's Ranch (LA 49315), the Glorieta Battlefield (LA 8031), and a historic homesite (LA 49265) in May and June 1986 and July 1989. The battlefield is in the *National Register of Historic Places* and the *New Mexico State Register of Cultural Properties*. It is also registered as a National Historic Landmark. Investigations were initiated at the request of the New Mexico State Highway and Transportation Department prior to proposed road improvements along NM 50 under a memorandum of agreement between the Federal Highway Administration, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation dated December 20, 1985.

The purpose of the testing program was to determine the nature and extent of any surface and subsurface cultural features. Several cultural features were encountered at Pigeon's Ranch on the Glorieta Battlefield, including a house foundation, several historic trash pits, a subterranean cellar, and a collapsed garage structure--all associated with an occupation between 1925 and approximately 1970 by Thomas Greer and his family. A portion of this land surrounds a 1850s well. The surface soils had been removed with mechanical equipment by Mr. Greer, apparently to facilitate parking by tourists during the 1920s to 1950s. Therefore, earlier structures or features from the mid-to-late nineteenth century no longer remain on the site. Broken bottle fragments and debris from an 1880s saloon that once stood on the property were the only pre-1900 material found, with the exception of an isolated Minié ball, 14 cartridges, and assorted artillery from the Battle of Glorieta in 1862 and several prehistoric lithic artifacts.

The historic homesite (LA 49265) extended partly into the proposed right-of-way. The remaining foundation dates to the late 1800s. Research focused on the history of the homesite and on tracing the nearby Pigeon's Ranch from its beginning in approximately 1850, through its use as a stronghold and hospital during the Battle of Glorieta, to its popularity as a tourist attraction in the 1920s to 1950s. Archival records, old photographs, military documents, diaries, and land conveyances aided in producing the most complete record of the ranch and battlefield that exists today.

The testing program within the proposed new right-of-way revealed no cultural features or deposits likely to yield additional information important to the prehistory or history of the area. No further archaeological investigations are recommended.

Submitted in fulfillment of Joint Powers Agreement F00389 between the New Mexico State Highway and Transportation Department and the Office of Archaeological Studies, Museum of New Mexico, Office of Cultural Affairs.

NMSHTD Project No. RS-1416(1), CN 0730.
MNM Project No. 41.348 (Pigeon's Ranch).
Memorandum of Agreement, Federal Highway Administration, New Mexico State Historic Preservation Officer, Federal Advisory Council on Historic Preservation.

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The author would like to thank many people for their assistance in completing this project. The late Mr. Jack Burttram and his wife, former landowners of the Pigeon's Ranch property, are thanked for sharing their knowledge of the site with us. I also appreciate the great interest and involvement of Betsy Swanson and Don Alberts, historians, who researched little-known historical and military documents and contributed much of their own research on the area. Betsy also took many of the photographs used in this report. Marc Simmons provided access to his files on the Glorieta area, and we are indebted to him for his generosity. To the crews who worked on the project, I extend a special thank-you. The 1986 crew included Dorothy Zamora (assistant), Aedelaido Quintana, Abbie Farrally, Ignacio Ortiz, and Natasha Williamson. Bill George, Gilda and Howard Brown, Selma and Larry Held, Marc Bailey, and Drew Morton served as volunteers. The 1989 crew consisted of Dorothy Zamora (assistant), Rhonda Main, Byron Hamilton, Mike Hannaford, Vernon Lujan, and Bob Killian (volunteer). Dean Williamson loaned us an EDM (electronic distance meter) with which to map the battlefield, and we appreciate his patience in teaching us how to use it. Local residents interviewed include Julian Roybal, Remijio Valencia, and Ron Porter. Barry Christian and Drew Morton are thanked for using their sophisticated metal detectors to examine the battlefield surface for us. Dorothy Zamora performed the analysis of the historic artifacts and was variously assisted by Selma Held, Shirley Frucht, Bill George, and Bob Killian.

Robert Utley is thanked for sharing his expertise on Civil War battle tactics with Betsy Swanson, and Jacqueline Meketa for information on the New Mexico Volunteers. Richard Salazar, chief of archival services, and Kay Dorman, archivist, of the New Mexico State Records Center and Archives made special efforts to locate material pertaining to the Battle of Glorieta and Pigeon's Ranch. Orlando Romero, of the Museum of New Mexico photoarchives, is appreciated for his help in providing old photographs of the area.

INTRODUCTION

The Office of Archaeological Studies, Museum of New Mexico, conducted a testing program at a historic homesite, Pigeon's Ranch, and Glorieta Battlefield along NM 50 near Glorieta, Santa Fe County, New Mexico. The New Mexico State Highway and Transportation Department (NMSHTD) requested the testing program because of possible reconstruction of the road (NMSHTD Project RS-1461[1]).

An initial survey of the project area was conducted in 1984 (Maxwell 1985). Testing was completed within highway right-of-way acquired from private sources (Fig. 1 and Appendix 1). The testing program revealed several cultural features at Pigeon's Ranch (LA 49135). These include an old well from the 1850s, saloon remnants from the 1880s, house foundations, an associated cellar, and a gas pump locale from the 1920s to 1950s. The Glorieta Battlefield (LA 8031) was also tested within the right-of-way, but no cultural features were found. The battlefield is in the *National Register of Historic Places* and the *State Register of Cultural Properties,* and it is a national historic landmark. Part of the foundation of a historic homestead (LA 49265) dating to the late 1880s was also examined.

The project director was Yvonne R. Oakes, assisted by Dorothy A. Zamora. Fieldwork took place during May and June 1986 and July 1989. A revision of proposed NMSHTD roadwork necessitated archaeological examination of additional right-of-way during the 1989 session.

Artifacts recovered from the testing program, along with archival data, court and military records, and photographic documentation were used to examine the changing role of Pigeon's Ranch from its beginning in the 1850s up to the present and to look at the surrounding settlement patterns of this portion of the Glorieta Pass.

This project complies with the provisions of the National Historic Preservation Act of 1966, as amended, and applicable regulations. The report is consistent with applicable federal and state standards for cultural resource management.

PHYSICAL SETTING

Pigeon's Ranch and the nearby homesite are located in the long, narrow valley of Glorieta adjacent to Glorieta Creek. The valley is bordered by the steep slopes of Glorieta Mesa to the south and the foothills of the Santa Fe Mountains to the north. Capt. George M. Wheeler, who surveyed the area in the 1870s, called Glorieta Mesa "the Great Mesa" (Wheeler 1881:370). The area is thick with piñon, juniper, and pine trees, and has lush ground cover. Areas of wetlands border the creek. The elevation of the valley is about 7,300 ft. Berries, piñon nuts, and fruit trees are plentiful, and patches of cultivated land occur throughout the valley in small clearings.

Glorieta Pass is a natural corridor that winds through the mountains separating the eastern plains of New Mexico from the Río Grande Valley. From early prehistory, the pass has been a route of travel. Numerous prehistoric sites are located in the Glorieta Valley, and the large pueblo of Pecos is situated at its eastern end. Spanish explorers, mountain men, traders, merchants, and settlers all poured through the pass during New Mexico's early historical period. The Santa Fe Trail utilized the pass as part of its route from Missouri to Santa Fe and beyond. Stage travel on the Santa Fe Trail was discontinued in about 1880 because of the advent of the railroad. Today, a modern interstate highway extends the length of the pass.

The Pigeon's Ranch complex sits between the base of two steep escarpments known as Sharpshooter's Ridge and Artillery Hill (named after strategic Civil War strongholds), facing Glorieta Creek. A large open field extends to the west. The historic homesite lies 3/4 mile to the northwest along the existing highway. In March 1862, 5th Sgt. Alfred B. Peticolas, a Confederate soldier present at the Battle of Glorieta, described the area, saying that the road ran "through a densely wooded pine country where you cannot see a man 20 steps unless he is moving. The hills slope up from the valley gradually, rising more abruptly as they near the mountains. Heavy masses of rock, too, crown most of these hills and the timber is low and dense" (Alberts 1984:78).

On Wheeler's 1874 map of the region (Fig. 2), Glorieta Creek was called Pinos Creek for the tall pines that grew in the canyon. Capt. Randolph B. Marcy, in his handbook for overland expeditions (1859), called the stream Cottonwood Creek. Large pines and cottonwoods are still present today (Fig. 3). The creek flows at least 80 percent of the time, with a water table estimated at 35-45 ft below the ground surface (Santa Fe Planning Associates 1985).

Figure 2. Detail of Lt. George M. Wheeler's USGS map, Atlas Sheet No. 77(B), 1874-76. Photo by Betsy Swanson.

Figure 3. Glorieta Valley from ledge behind Pigeon's Ranch. Photo by Betsy Swanson.

EARLY SETTLEMENT OF THE GLORIETA AREA

The earliest known account of the Glorieta-Pecos area was written during the Spanish expedition of Capt. Hernando de Alvarado, whom Coronado sent to Pecos Pueblo in 1540. Other Spanish explorers included the Rodríguez-Chamuscado exploration party in 1581 and the Espejo-Beltran expedition, which visited the area in 1582. In 1590, Castaño de Sosa captured Pecos Pueblo, causing the Indian inhabitants to disperse (Kidder 1962:80). When Juan de Oñate returned to Pecos in 1598, the Pueblo peoples had returned, but he encountered no resistance to Spanish presence. By 1620, a small church had been established at the pueblo (Sanchez 1988:63). Between 1680 and 1692, no Spaniards remained in the area because of the Pueblo Indian Revolt. In 1692, Don Diego de Vargas retook the pueblo for Spain.

Plains Indians from present-day eastern New Mexico, Colorado, Oklahoma, and Texas set up trade relations with Pecos Pueblo, probably by the late 1600s. By the close of the next century, native New Mexicans of Spanish descent filtered into the area from the Río Grande Valley. In June 1744, a single Frenchman at Pecos said he had deserted from an Illinois group (Kessell 1979:387). By the early 1800s, several hundred families were living in scattered placitas in the Pecos Valley (Meinig 1971:30). The settlers petitioned the Mexican government for vacant pueblo lands along the Río Pecos, both above and below Pecos Pueblo. By 1820, the San José del Vado area had 735 settlers, and new towns had sprung up at Cañon de Pecos, Los Triegos, Las Ruidas, and El Gusana (Almaráz 1988:88). In Pecos today, the date 1828 is scrawled on an interior beam in one standing structure (Betsy Swanson, personal communication, 1987).

As late as 1860, Anglo occupation of New Mexico, including the Pecos area, was minimal. Col. George A. McCall, who was sent by President Zachary Taylor to New Mexico, claimed 1,200 Anglos were in the territory, while Richard T. Weightman, a territorial delegate, stated there were only 600 (Larson 1985:251).

New Mexico remained a Spanish colony from the time of the Spanish entradas in 1540 until September 1821, when Mexico won its independence from Spain. It then became a Mexican territory until Stephen Kearny of the U.S. Army marched across the Santa Fe Trail and claimed New Mexico for the United States in 1846.

HISTORY OF THE SANTA FE TRAIL

"A Trail, to be important, must lead between two markets."

R. L. Duffus, *The Santa Fe Trail*

The Santa Fe Trail was the first overland trail linking the United States with outlying territories. The trail served mostly as a commercial, rather than a passenger, route between the midwest frontier of the United States, Missouri, and the Mexican community of Santa Fe beginning in 1821. The route of the Santa Fe Trail over Glorieta Pass, however, was used for several centuries before this

> by Pueblo Indians when they went buffalo hunting on the Plains; [as] a two-way pass for barter and war between Pueblo and Plains tribes; a portal through the mountains for Spanish explorers, traders, and buffalo hunters; for the St. Louis caravan traders with Santa Fe; for pioneer Anglo-American settlers; for Spanish and Saxon Indian fighters; for Civil War armies; and for a transcontinental railroad passing through the Southwest. (Bolton 1949)

One of the first references to what was probably the precursor of the Santa Fe Trail was made during the 1640s and 1650s, when the Spanish governor warned travelers between Pecos Pueblo and Santa Fe to be alert for Apache attacks as they came through the mountains. Again, in approximately 1706, a letter from Father Alvarez to his superiors remarked on the rough, mountainous road and the threat of Apaches (Kessell 1979:222, 304).

The Mallette brothers entered Santa Fe in July 1739, followed by several French traders in 1763, and Baptiste La Lande, a French Creole, in 1804. In 1805, James Purcell was the first of many trappers to arrive in Santa Fe. The well-known Zebulon Pike expedition of 1807 ended in the imprisonment of Pike by Spanish authorities. In 1812, another group, led by James Baird, was arrested and sent to a Chihuahua prison for 12 years (James 1966:107, 111). That same year, an expedition led by Robert McKnight of Boone's Lick, Missouri, also failed to open up trade with the Spaniards (Beachum 1982:3). In 1817 the Spaniards gave permission to fur traders Auguste P. Chouteau and Julius De Munn to trap in New Mexico's mountains, but they were subsequently imprisoned also. One reason for the animosity of Spain toward foreigners in New Mexico was the ongoing competition with France for new territories. Spain feared that France, by sending traders and trappers to New Mexico, would somehow claim the territory for France. Therefore, Spain treated intruders harshly, often confiscating their goods and imprisoning them (Beachum 1982:20).

In 1821, the year Mexico acquired its independence from Spain, William Becknell traveled to Santa Fe on what subsequently came to be known as the Santa Fe Trail (Fig. 4). Becknell had advertised in the *Missouri Intelligencer* for a company of men to head west with him to trade horses and mules and capture wild animals. Seventy men made the trip, which took three months. Becknell and his group saw no other humans until they encountered Spaniards on New Mexico's eastern plains. Becknell was well received in Santa Fe and returned to Missouri, having earned a handsome profit on his venture (Beachum 1982:28). During his second expedition, in 1822, he found a shorter route known as the Cimarron Cutoff, decreasing travel time to 48 days. On this trip, he was the first to use wagons in place of pack animals to traverse the trail. By 1824, Becknell had cut the length of the trip from Missouri to Santa Fe to 34 days. Because of the large profits Becknell gained from trading in Santa Fe, other merchandizing firms in Missouri soon entered this new market. Most of the goods

leaving Missouri were manufactured items, including textiles, clothing, tools, medicines, and books, which were sold or traded for hides, wool, gold, and silver (Beck 1962:110,118; Moorhead 1971:111).

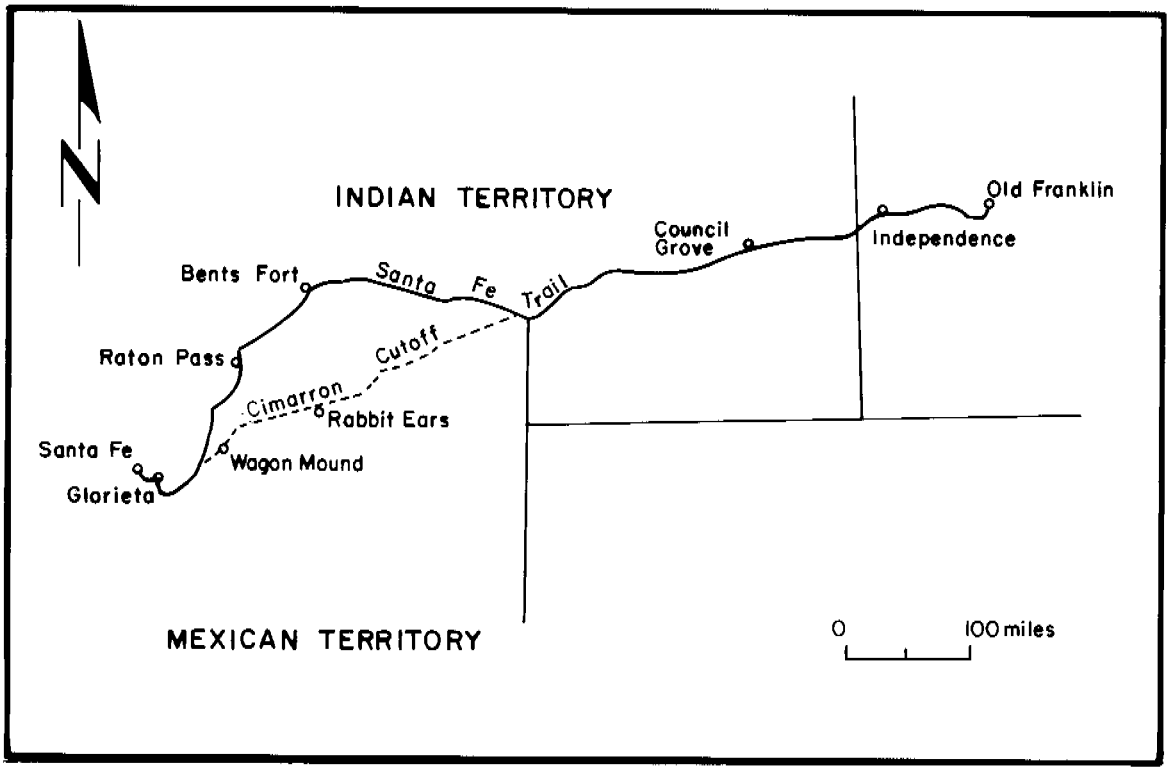

Figure 4. The Santa Fe Trail.

For a while, between the 1820s and 1830s, fur trapping became a very profitable enterprise for Missouri merchants. Profitability was short-lived because of a drop in demand by consumers and the export duty charged by the Mexican government (Beachum 1982:43). But the trappers paved the way for numerous other entrepreneurs to seek out the resources of New Mexico.

Travel along the Santa Fe Trail was often dangerous because of the potential for Indian attacks, severe weather, and lack of medical assistance. Merchants in Missouri circulated petitions to their legislature to demand protection for the many caravans heading west. In 1825, money was authorized by the U.S. Congress for surveying and marking a route. The newly appointed Santa Fe Road Commission included George C. Sibley of Missouri, who later led the Confederate brigade against Union troops at the Battle of Glorieta in 1862. Results of the survey were never used by the U.S. government, perhaps because the commission wanted Taos, rather than Santa Fe, selected as the end of the route (James 1966:111, 113).

Before 1818, the main departure point for the Santa Fe Trail was Franklin, Missouri. However, when a flood that wiped out the town in 1828, Independence became the major trailhead (Gregg 1844).

their merchandise straight through to Mexico without dealing in Santa Fe (de Buys 1985:99).

With the acquisition of New Mexico as a territory by the United States in 1846, and because of the economic importance of the Santa Fe Trail trade, the focus of the trail switched from international trade to transcontinental commerce between the Southwest and the eastern United States. The U.S. government built four permanent and numerous other temporary military forts along the trail to protect travelers. The permanent forts were forts Larned, Dodge, and Lyon in Kansas, and Fort Union in New Mexico, established in 1851. The New Mexico fort soon became the main destination for military supplies to the Southwest, and numerous military supply wagons shared the trail with commercial freighters. In 1858, at least 1,827 wagons passed over the trail, carrying $3.5 million worth of goods (James 1966:117).

By the 1860s, the Cimarron Cutoff was seldom traveled because of the fear of attack from Plains Indians. Instead, the longer Mountain Branch past Bent's Fort in Colorado and over Raton Pass was used (Fig. 4).

Stagecoach services were provided on the Santa Fe Trail by the late 1840s or early 1850s (James 1966:117; Simmons 1986). The stages carried mail and passengers, with room for about seven persons inside the coach and two on top. The cost was about $150 for a trip of 835 miles lasting 25 to 30 days (James 1966:117). Numerous journals were kept by passengers traveling the trail. Many are by women, and they note such details as preparation for trips, the send-off, Indian encounters, and the spotting of buffalo (Myres 1982:98-99).

The Santa Fe Trail was a stimulus to the economy of the U.S. frontier, particularly the state of Missouri, because Mexican silver stabilized the monetary system. Prior to the opening of the trail, Missouri was cash-poor and suffered from an influx of counterfeit money (Moorhead 1971:105). Trade over the trail resulted in multimillion-dollar profits for Missouri businessmen as raw products poured into the state (Simmons 1984:1).

In New Mexico, trail trade resulted in new and cheaper merchandise, which allowed for a higher standard of living. Many New Mexico merchants became very wealthy. The trade also created a dependence on imported goods and strengthened economic ties to the United States (Moorehead 1971:106). In 1880, a new transportation system, the Atchison, Topeka & Santa Fe Railroad, virtually replaced the slower wagon caravans along the Santa Fe Trail.

LOCATION OF THE SANTA FE TRAIL NEAR THE TIME OF THE CIVIL WAR

Betsy Swanson

The Santa Fe Trail wound through Glorieta Pass in a canyon cut between the terminating slopes of the Sangre de Cristo Mountains and the massive tablelands of Glorieta Mesa. Exposed limestone and sandstone bluffs line the canyon bottom. At the time of the Civil War, the mesa and the mountain slopes to the north were more heavily forested with pine trees than today. Small, level openings in the canyon, called parks or valleys, had been cleared for farming and grazing. Pigeon's Ranch was located in a little valley about 1/4 mile wide, surrounded by pine forests and rocky escarpments.

The deeply ravined Glorieta Creek (then referred to as Pinos or Cottonwood Creek) meandered through the valley opening and passed close by the buildings of Pigeon's Ranch. Ben Wittick's 1880 photographs show that the depth of the ravine was about the same as it is today: 15-20 ft. The Santa Fe Trail followed the south side of Glorieta Creek on a northwest course from the eastern end of the valley at Koslowski's Ranch and Stage Stop, near the Pecos River, close to the ruin of the Pecos Mission Church (Wheeler map, 1774-76).

As the trail neared Pigeon's Ranch, it hugged a slightly elevated terrace at the north base of a long, narrow mesa, today called Arrowhead Mesa, actually a low projection of Glorieta Mesa. A portion of the trail is still in use at this location as a dirt road, crossing between NM 50 and old U.S. Highway 84-85, one-half mile east of Pigeon's Ranch. At the point where the road bends sharply to cross Glorieta Creek and joins NM 50, the continuation of the trail route can be seen running northwest along the north side of Arrowhead Mesa.

The location of the Santa Fe Trail at this point was plotted in the field notes of William White (1892), U.S. deputy surveyor, who surveyed the trail from Section 28 to 35 in Townships 15N and 16N (see Fig. 1). His notes place the road about 33 ft from the base of the mesa and the creek, 285 ft east of the road. A second road, running in the same northwest direction, was located about 575 ft east of the creek and 850 ft east of the first road. This road is the present NM 50 to Pecos. Apparently this road did not exist at the time of the Civil War. It does not appear on maps until the 1880s. From White's notes, it cannot be determined if it or any roadway passed through the Pigeon's Ranch complex, as the highway does today.

The Santa Fe Trail ran northwest along the side of Arrowhead Mesa towards Pigeon's Ranch, between the mesa and the creek ravine. Typically, old wagon roads in New Mexico skirted valley bottoms and ran along the terracing of hills, where better drainage provided firmer road beds. When wagon ruts became deep, erosion created arroyos, and the roadbed would then be shifted to a nearby location. Along the entire route of the Santa Fe Trail, shifting of the road created numerous parallel road beds, ruts, and arroyos.

There is no evidence to show that the Santa Fe Trail at any point crossed Glorieta Creek at the time of the Civil War. Of course, wagons avoided water crossings, if possible. The trail came closest to the creek at Pigeon's Ranch, and a roadway may have branched over the creek into the ranch complex. There is no mention of bridges in any historical or military accounts, nor does a bridge appear in 1880 photographs of Pigeon's Ranch. The trail apparently passed by the ranch buildings at the base of the mesa on the south side of the creek. An 1869 pen-and-ink drawing of

Pigeon's Ranch by Vincent Colyer titled "Pigeon's Ranch, A Famous Stopping Place en Route to Santa Fe from Fort Bascom, May 1869" shows the road looping widely south of the building complex, rather than passing in front of the house as it does today. Aerial photographs from 1935 and 1948 show what appear to be traces of the old trail bordering the mesa on the south side of the creek.

Most mid-nineteenth-century maps, of small scale and lacking detail, do not show the creek. However, the creek, with the road running on the south side, is clearly delineated on two maps of the period. On one of these, "Map of Explorations and Surveys in New Mexico and Utah," made under the direction of the secretary of war by Captain J. N. Macomb in 1860, this portion of the Santa Fe Trail is labeled "Captain Macomb's Wagon Road" (Fig. 5).

The road is again shown on the south side of the creek on Wheeler's map (Fig. 2), which shows the two branches of the trail at the summit of Glorieta Pass and labels the Pigeon's Ranch establishment "La Glorieta." However, the symbol for the corralled building is placed between the creek and the road.

Photographs of 1880 show that the Santa Fe Trail was moved to its present location under NM 50 as it passes through the ranch complex. A Ben Wittick photograph (Fig. 6) shows what could be the old trail route and a narrow arroyo bordering the base of the mesa opposite the ranch complex, between the mesa and the arroyo of Glorieta Creek and running parallel to the creek. This narrow arroyo probably marked the position of the Santa Fe Trail as it was located some years before 1880. Today, this arroyo is occupied by the creek. The meander of the creek moved or was diverted into the narrow arroyo. The abandoned meander is now the location of a man-made pond built in the 1920s.

Old aerial photographs appear to show trail traces moving northwest from the base of the mesa across the open valley west of the ranch buildings. The traces join and overlap the present NM 50 on the side of a series of hills and arroyos. The Santa Fe Trail may, at different times, have followed parallel routes on the hill terraces and in the creek bottom. Present arroyos running parallel to the current highway may have once been trail routes. Aerial photographs appear to show multiple traces of trail ruts running between the highway and the creek.

Old maps, from which precise measurements cannot be taken, indicate that the Santa Fe Trail branched at a point about 3/4 mile northwest of the buildings at Pigeon's Ranch (Wheeler map, 1874-1876; Richard H. Kern, 1850, "Map of a Military Reconnaissance of the Rio Pecos"). One branch continued more or less on the present route of NM 50 and looped around a mountain peak to the north. The other branch of the trail, a shorter route, turned westward and closely skirted the base of Glorieta Mesa at the summit of the pass, running through what is now the town of Glorieta. The two trail branches joined again at Galisteo Creek, just over the summit on the west side of the pass. Military records indicate that in 1862 Confederate troops approached Pigeon's Ranch on the route that skirted the base of the mesa on Captain Macomb's wagon road.

Measurements for what may have been the positions of these trail branches are given in the field notes of U.S. deputy surveyor, John Taylor (1882). He surveyed the line between Sections 27 and 28 that crossed the routes at the summit of the pass. He describes a road running east-west 376 ft from the base of the mesa, 119 ft behind the "main street" of Glorieta and 284 ft behind the railroad tracks. This may have been the shorter route around the base of the mesa. At 264 ft north of the railroad tracks, Taylor crossed the east-west Santa Fe and Las Vegas wagon road. He

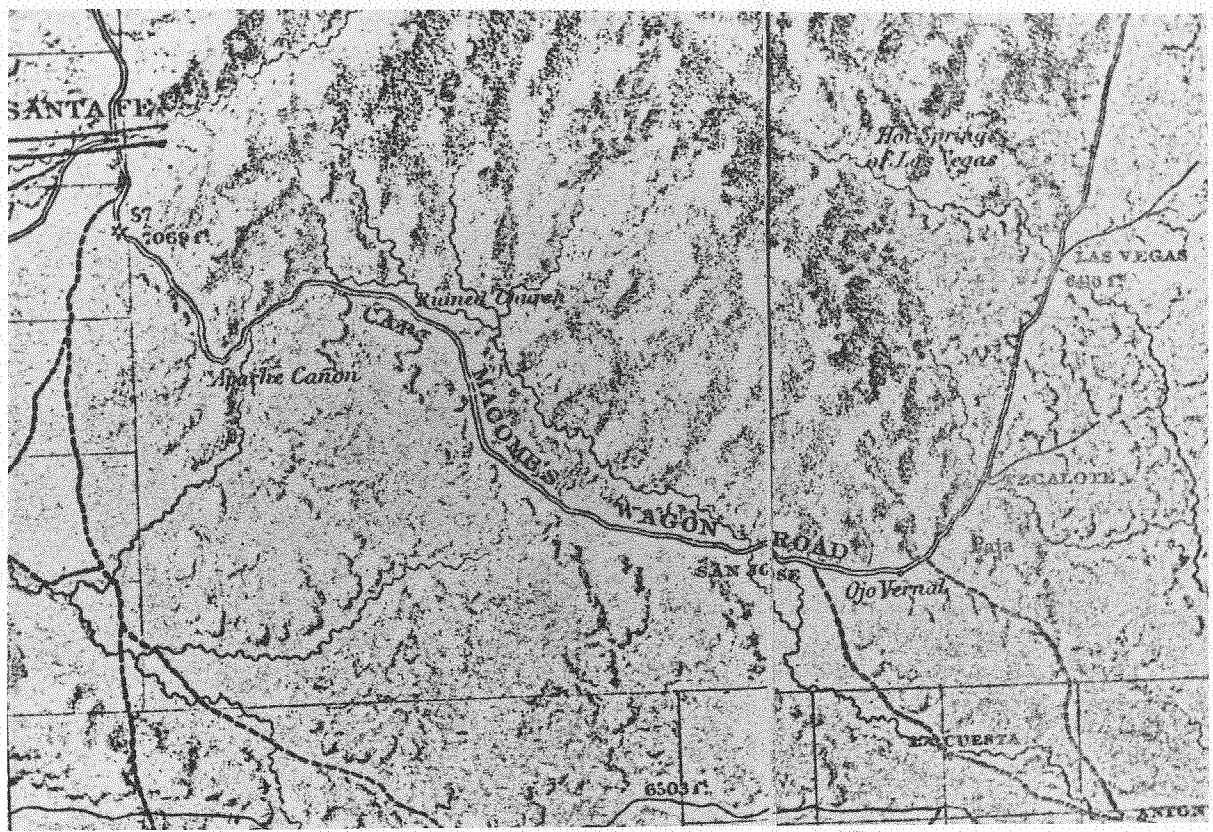

Figure 5. Captain Macomb's Wagon Road, 1860, part of Santa Fe Trail. Courtesy Museum of New Mexico History Library.

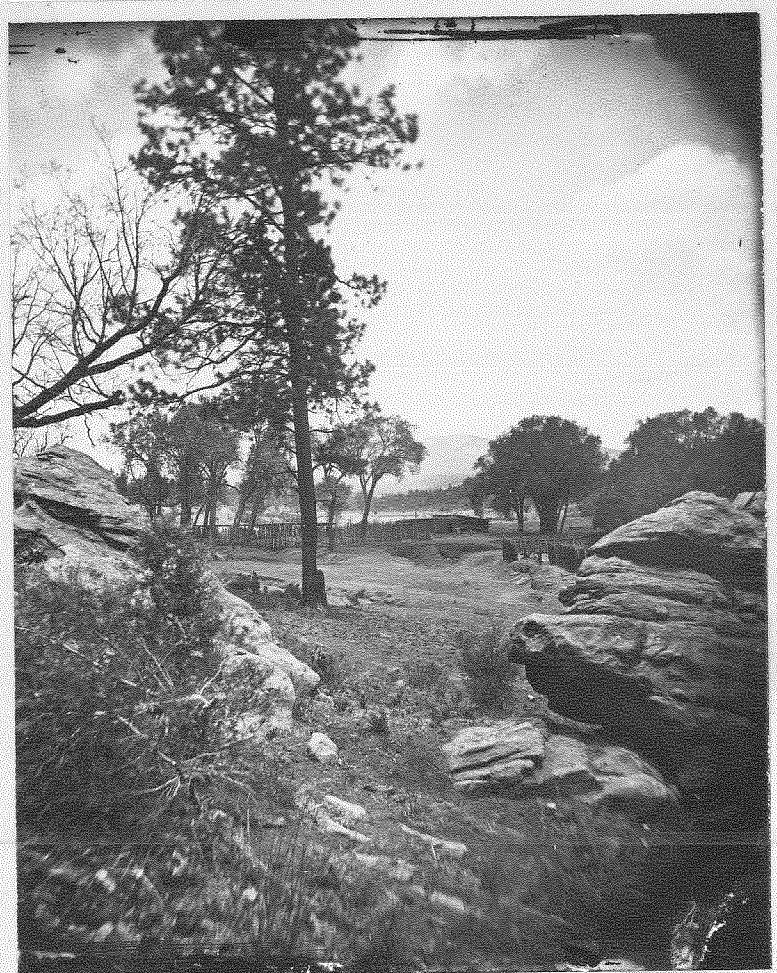

Figure 6. Santa Fe Trail at Pigeon's Ranch, 1880. Photo by Ben Wittick. Courtesy School of American Research Collections of the Museum of New Mexico, Neg. No. 15788.

located another road running northeast at 832 ft north of the railroad tracks. This may have been another branch of the Santa Fe Trail. Traces of these 1882 road positions are visible on aerial photographs, along with scars of numerous other routes. When Confederate troops mounted the summit in 1862, the principal routes could have been in slightly different locations. However, Taylor's (1882) measurements appear to be the earliest accurate documentation of road locations at the summit of the pass.

Data Sources

The base topography of the maps with this report was reconstructed from old aerial and ground-level photographs, old maps, and historical descriptions. The aerial photographs date from 1935 (Soil Conservation Service, Rio Grande Project) to 1948 (USGS, Sioux Falls, South Dakota).

The most useful ground-level photographs were those taken in 1880 by Ben Wittick (Museum of New Mexico Photo Archives, Santa Fe, and the Centennial Museum, El Paso). The old maps helped to reconstruct the routes of the Santa Fe Trail through the battlefield. Captain J. N. Macomb's 1860 map and Lt. George M. Wheeler's Atlas Sheet No. 77(B) of the U.S. Geological Surveys West of the 100th Meridian (1874-76) give the clearest delineations of the battle-period topography. These maps show the Santa Fe Trail on the south side of Glorieta Creek. The 1879, updated Wheeler Sheet No. 77(B), which shows the route of the railroad through the pass, appears to be the first map to show the trail on the north side of the creek in the vicinity of Pigeon's Ranch. More recent early maps, also useful in showing the location of roads in the area, are the 1894 USGS Santa Fe Quadrangle map and the 1899 "Map of the Pecos River Forest Reserve" by N. L. King.

The cadastral survey records of the United States Surveyor General's Office, on microfiche at the Bureau of Land Management, Santa Fe, were also useful in the topographical reconstruction mapping, as were descriptions of the landscape in the battle accounts and records.

PIGEON'S RANCH

Yvonne R. Oakes and Betsy Swanson

Alexander Valle

Alexander Valle, founder of Pigeon's Ranch and its owner at the time of the Battle of Glorieta in 1862, was a man whose life history is full of contradictions. Even his name is controversial, appearing in documents and records as Alexander Valle or Encher Pigeon (hence the name, Pigeon's Ranch).

Alexander Valle was supposedly born in France in approximately 1814 and was living in St. Charles, Missouri, by about 1825. He came to New Mexico by 1843, near the age of 29. Former chief justice and register of the U.S. Land Office, Joab Houghton, claimed to have known him since 1843 (Houghton 1870), as did Donaciano Vigil, prominent political of the time and former governor of New Mexico. Vigil stated that Valle was his neighbor for 15 years (Vigil 1870). Valle settled at Pigeon's Ranch in approximately 1850. He apparently squatted on land formerly occupied by Pecos Indians (Hall 1984:149), because no documents have been found that establish his purchase or ownership of the land. Therefore, we do not know the extent of the property claimed by Alexander Valle. However, the quitclaim deed from the person who subsequently bought the land from Valle indicates the property covered 160 acres along Glorieta Creek and the Santa Fe Trail.

Valle could neither read nor write and signed official documents with a mark of (X). "Pigeon" is considered by some to be a nickname for the man, and folktales abound on how he obtained such a name. One story says he got the name because of the way he flapped his arms when dancing at local fandangos (Hall 1984:324). Another version is recalled by Reuter (1939), who interviewed Teodosio Ortiz, age 86 at the time. Reuter quotes Ortiz as saying, "This Frenchman spoke a peculiarly accented English which they called 'Pigeon English,' and so the ranch got to be called the Pigeon Ranch." To add to the confusion, Valle had a brother in Carondelet, Missouri, named J. Hyacinth Pigeon (Stadler 1973). Failing to locate birth records, we cannot determine if Valle was his real name or whether Valle was a name he acquired *after* coming to New Mexico. Hall (1984:149, 323) believes Pigeon was his real name and that he was French American. He refers to an 1863 deed from J. Hyacinth Pigeon of St. Louis to his brother, Alejandro Valle of Santa Fe (Pigeon 1863). Keleher (1952:266) said his name was Encher Pigeon and that he was a French Canadian, basing his statement on an article in the *Las Vegas Gazette* (Jan. 9, 1875).

To complicate the issue of his name, in May 1860 there were two Valles residing in St. Louis: Felix and Jules, part of the business firm of Chouteau, Harrison, and Valle. Auguste Chouteau was mentioned earlier in this report as a fur trader who came to New Mexico in 1817 and was imprisoned by the Spanish government. There may have been a connection between the Chouteau family and Alexander Valle.

In the New Mexico territorial census of December 1850, Alexander Valle was listed as 36 years old and residing in the city of Santa Fe with his wife, Carmen Sevalles, age 25, who was born in New Mexico. Included in his household were Leonidas Sevalles, age 11, Maria Antonia Sanchez, age 26, and Antonio Gabaldon, age 19. Gabaldon was Valle's ranch manager and foreman in

1861-62 at La Glorieta. He was in charge of the "stables, corrals, granaries, stock, forage, stores and supplies and all matters connected with his [Valle's] business in and about his premises" (Gabaldon 1870). In his own words, Valle was the regular appointed and recognized forage agent for U.S. troops and supply trains of the U.S. Army that passed by on the Santa Fe Trail. He also kept a house of entertainment for travelers and the public (Valle 1870).

The 1860 U.S. census lists Alejandro Valle as a 52-year-old farmer from France living in or near the town of Pecos. It should be noted that his age in 1860 was 16 years older than he stated in 1850. In a claim for damages after the Civil War, in 1870, Valle stated he was 53 years old, a gain of only one year since 1860 (Valle 1870). His wife, Carmen, had gained only four years in age since the 1850 census. Valle's real estate in 1860 was valued at $6,000 and his personal estate at $8,000.

The 1860 census indicated that Antonio Romero, later a guide and spy for U.S. troops during the Civil War, had lived in Glorieta since 1859 (Romero 1871). Five children are included in the 1860 census tally of Romero's household: three females, ages 5, 10, and 19; and 2 males, ages 8 and 10. Four of the children had been born in New Mexico, but one, Mary Valle, was born in Ireland. Her real name was Mary Tobin, and she had been adopted by Valle when an infant. Her mother had been killed and her father, William Tobin, was a soldier stationed with the U.S. Army garrison in Santa Fe (Tobin 1859). Her father attempted to regain custody of her, and Valle refused to give her up. Valle apparently won the case (William Tobin vs. Alejandro del Valle, Jan. 25, 1859).

Before the destruction brought upon his property as a result of the Battle of Glorieta, Alexander Valle was a prosperous man. Whitford (1906:85) mentions that he was a genial, vivacious, and obliging host. Valle dealt heavily in real estate, buying and selling property in Santa Fe and the Pecos area (Fig. 7 and Table 1). Included among his clients were Archbishop John B. Lamy and Levi Spielberg, a prominent Santa Fe merchant. He may also have speculated in Missouri real estate while in New Mexico. There is a record of his brother, Hyacinth, conveying a lot in Carondelet, Missouri, to him on May 13, 1863 (Pigeon 1863). In addition to owning his ranch in Glorieta, on July 15, 1850, Valle acquired an unknown amount of land in Las Ruedas (Rowe) for $14.50 (Hall 1984:149, 164).

In 1851, Valle purchased what has come to be known as the Alejandro Valle Land Grant, north of Pecos, covering approximately 573 acres (Fig. 7). However, de Buys (1985:323) believes the grant consisted of 1,202 acres. The grant had originally been awarded to Juan de Dios Peña in 1815 as the Cañon de Pecos or Cañon de San Antonio del Río Pecos Grant (Kessell 1979:441). Juan Estevan Pino bought the land in 1820 from the original grantees. After his death, Pino's sons sold part of the grant to Alexander Valle on January 6, 1851. Justice of the Peace Manuel Varela assisted Valle in his acquisition of the land, and Donaciano Vigil witnessed and recorded the deed. The purchase price was 5,275 pesos, or $1,200 (Hall 1984:125, 149). On April 10, 1886, the grant became part of the Valley Ranch Company according to a deed recorded in the Santa Fe County Courthouse.

In 1865, Valle sold his farm and premises at La Glorieta and by May 1877 was living in Pecos, where he was a witness to Donaciano Vigil's will (Hall 1980:66). Alexander Valle died in Pecos on June 2, 1880, at age 68, according to the *Santa Fe New Mexican Weekly* (June 14, 1880). The paper states that Valle came from Carondelet, Missouri, and comments that he was several times a person of wealth but died a poor man.

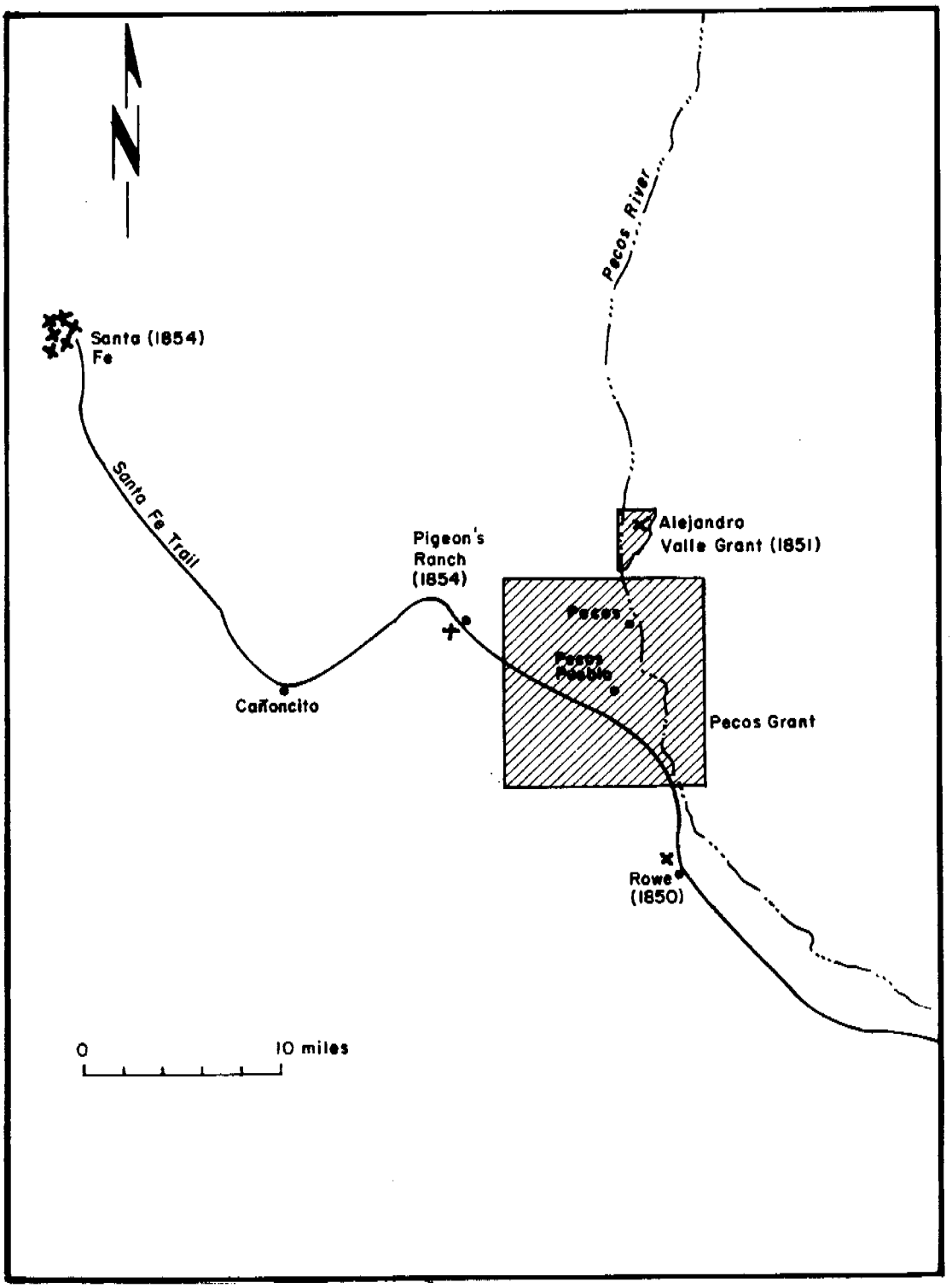

Figure 7. Land holdings of Alexander Valle.

Table 1. Land sales of Alexander Valle

From Valle and Wife to	Location	Date	Record*
William S. Messervy	Santa Fe plaza	Mar. 3, 1854	Deed Book A, p. 312
Levi Spiegelberg and S. Jacob	Santa Fe plaza	Jan. 10, 1856	Deed Book B, p. 145
Archbishop John B. Lamy	Santa Fe	Apr. 31, 1856	Deed Book C, p. 21
Juan W. Dunn	Santa Fe	Dec. 10, 1858	Spanish Deeds C, p. 172
Delores Saens	Santa Fe	Jan. 14, 1870	Deed Book E, p. 293
George Hebert	Pigeon's Ranch	1865	

* Santa Fe County Courthouse

To Valle and Wife from	Location	Date	Record
Justo Pastor Piño	Santa Fe	Oct. 30, 1853	Deed Book A, p. 245
Thomas K. McCutchen (?)	Santa Fe plaza, south	April 28, 1855	Deed Book B, p. 94

Ranch Structures and Layout

At La Glorieta, Alexander Valle operated a farm, ranch stage stop, inn, house of entertainment (a saloon?), and a forage and supply station for the U.S. Army. His place was a regular stop on the route of the Barlow and Sanderson stage on its way to Santa Fe. The establishment included a number of corrals, stables, lots, granaries, outhouses, enclosures, a water tank, cisterns, wells, and bake ovens, as well as a large central structure containing his residence and inn. Valle's inn could house and feed 30 to 40 persons each night, and the corrals and granaries could contain and feed several hundred animals from two or three wagon trains (Vigil 1870).

There are no known photographs of Pigeon's Ranch from the 1850s and early 1860s. We can assume from 1880s photographs and earlier accounts that the ranch complex consisted of a large adobe building forming almost a square with an interior courtyard. The south facade was originally about 100 ft long. Several rooms along the south side still stand today. Adjoining the west side of the main structure was an adobe-walled enclosure containing numerous stables along two sides. Across the road from the main building were small adobe and rock outbuildings and corral enclosures of upright poles and pickets. Other log and adobe buildings sat west of the creek on the north side of the road. Santa Fe Planning Associates (1985) drew a reconstruction of the basic plan of the ranch complex as an enclosed patio with rows of rooms on all four sides. The front of the main house faced south and had a portico. The two units facing south were separated by a zaguan gate. Santa Fe Planning Associates believes a narrow porch bordered the patio on

three sides. A corral with stables joined the west end of the house area. Another gable-roofed building was north of the corral.

Stage stops throughout the Southwest were generally surrounded by high walls, which formed protective enclosures for humans, animals, and freight at night. Indian raids were a frequent threat, and the complexes were fortified. Dwelling units, stables, and storage buildings were all placed within the high walls and self-contained, with adequate storage for food and forage and at least one source of water. The compounds were frequently built around a spring or over the course of a creek and usually contained one or more wells. The existing well on Pigeon's Ranch can be traced back to Alexander Valle's time.

The stage stops in the Southwest were similar in design to the traditional New Mexican casa-corral, in which the dwelling unit with an interior court was backed by one or more adjoining courtyard units for storage and animal housing. The main structure at Pigeon's Ranch follows this form, but it may have originally been surrounded by adobe-walled corrals with outbuildings.

The appearance of the Pigeon's Ranch complex at the time of the Battle of Glorieta cannot be clearly established. Battle accounts describe the buildings as enclosed behind a high adobe wall or walls that stretched nearly across the canyon. There is the suggestion that the adobe corrals extended out into the valley on the west side of the creek. The Union troops partially hid behind these walls, and the Confederate artillery was ordered to knock them down (Alberts 1984:81).

As a result of the battle action, Alexander Valle claimed that he "sustained serious damage and losses to my farm improvements and premises, by the wear, breakage and destruction of enclosures, fences, walls, doors, gates, water tanks, cisterns or wells, timbers, furniture, . . . a lucrative business entirely suspended and destroyed and a pleasant house almost entirely devastated." In the summer of 1862, he "did at great expense and labor, refit and remove to my said farm and premises and continue my said occupation thereon" (Valle 1870). Valle's reconstruction efforts at that time may be reflected in the photographs of the ranch made by Ben Wittick in 1880.

The earliest known representation of the ranch buildings is a pen-and-ink drawing by Vincent Colyer executed in May 1869 (Fig. 8). In the drawing, the part of the building facing the road has a cross-gabled roof. In 1880, Ben Wittick took several photographs of the ranch complex from various viewpoints. The photographs show that, by this time, the gabled roof of the main building had been replaced with a shed roof (Fig. 9). Figure 10 is an excellent overall view of the Pigeon's Ranch complex taken by Wittick from the rock escarpment behind the buildings. In another photograph, a sign reading "SALOON" hangs in front of the sod-roofed log structure across the road from the main building, and another sign on the main structure has two pigeons painted on it (Fig. 11). Another view, taken from the west, shows the main ranch building and the saloon (Fig. 12). Numerous outbuildings shown in Figures 9, 10, and 11 are built of adobe or logs. A large, enclosed corral and stables are just west of the building complex (Fig. 13). A picket fence meanders across the fields in some of the photographs. Another fence runs behind the outbuildings near the creek. There is no evidence of the adobe wall crossing the valley that is mentioned in accounts of the Battle of Glorieta.

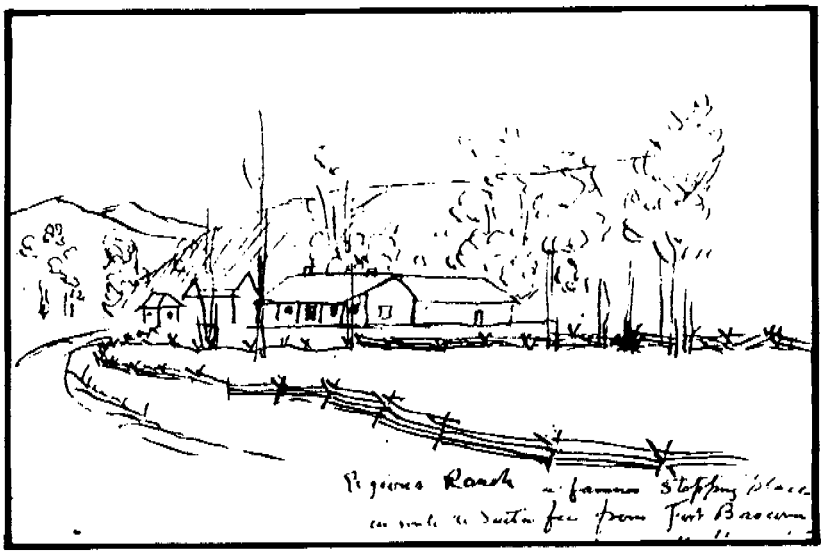

Figure 8. Pen and ink drawing of Pigeon's Ranch by Vincent Colyer, 1869. The handwriting reads, "Pigeon's Ranch, a famous stopping place on route to Santa Fe from Fort Bascom, May, 1869." Courtesy Albuquerque Museum.

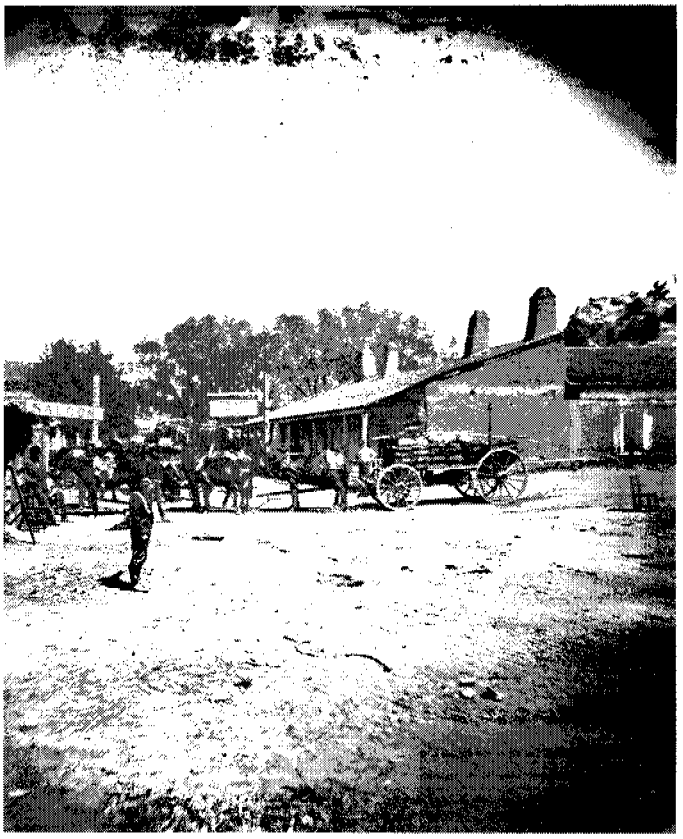

Figure 10. Pigeon's Ranch, 1880. Photo by Ben Wittick. Courtesy School of American Research Collections in the Museum of New Mexico, Neg. No. 15782.

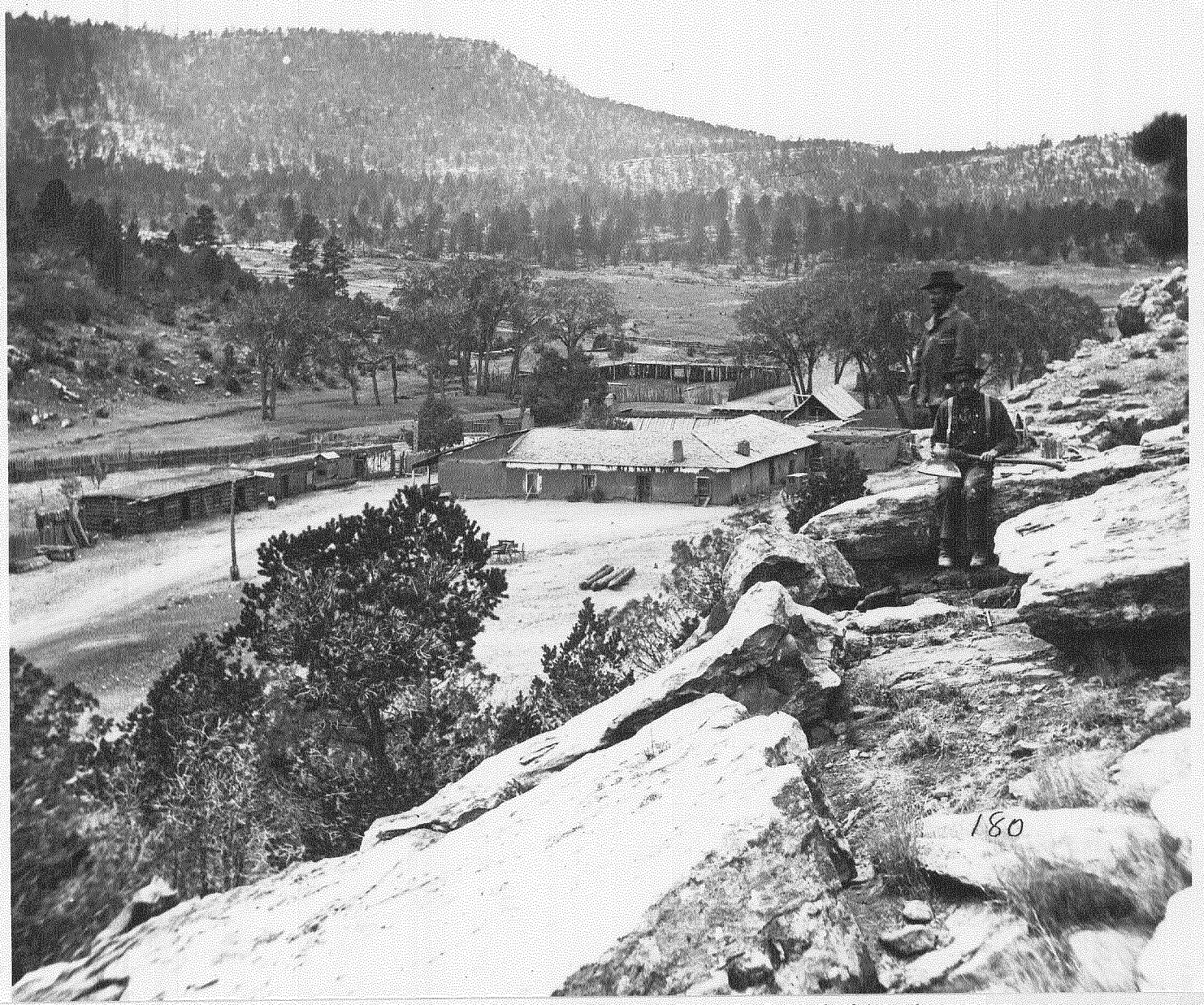

Figure 10. Overview of Pigeon's Ranch, 1880. Photo by Ben Wittick. Courtesy School of American Research Collections in the Museum of New Mexico, Neg. No. 15782.

Figure 11. Ox teams and wagons at Pigeon's Ranch, 1880. Note the sign with a painted pigeon. Courtesy School of American Research Collections in the Museum of New Mexico, Neg. No. 15783.

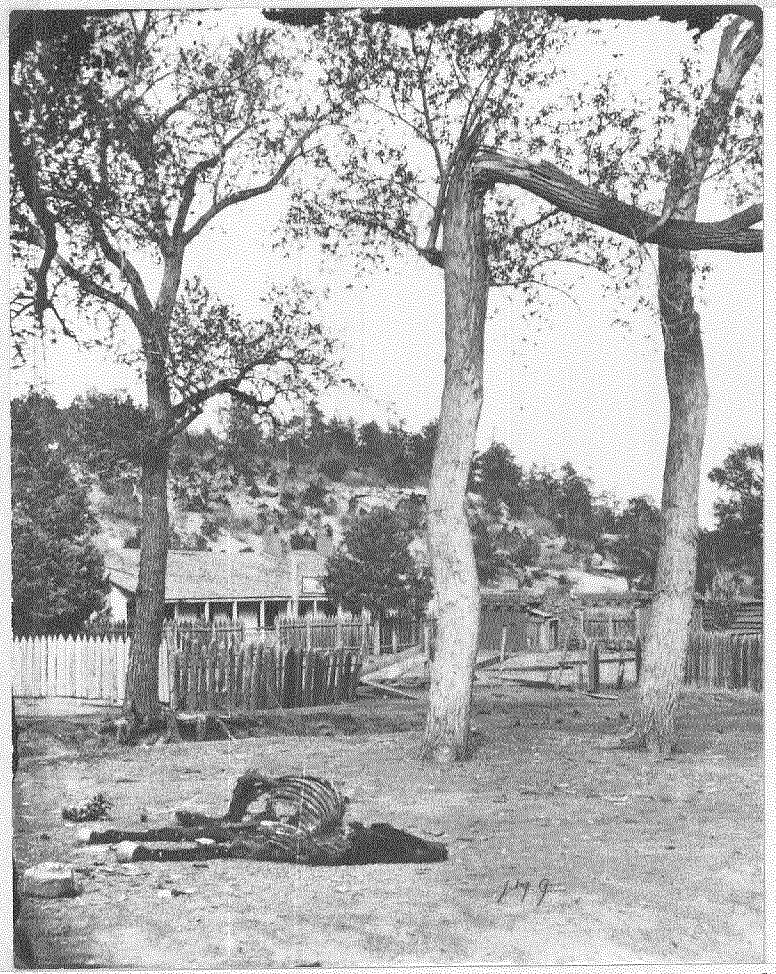

Figure 12. Pigeon's Ranch from the southwest, 1880. Photo by Ben Wittick. Courtesy El Paso Centennial Museum, El Paso, Texas.

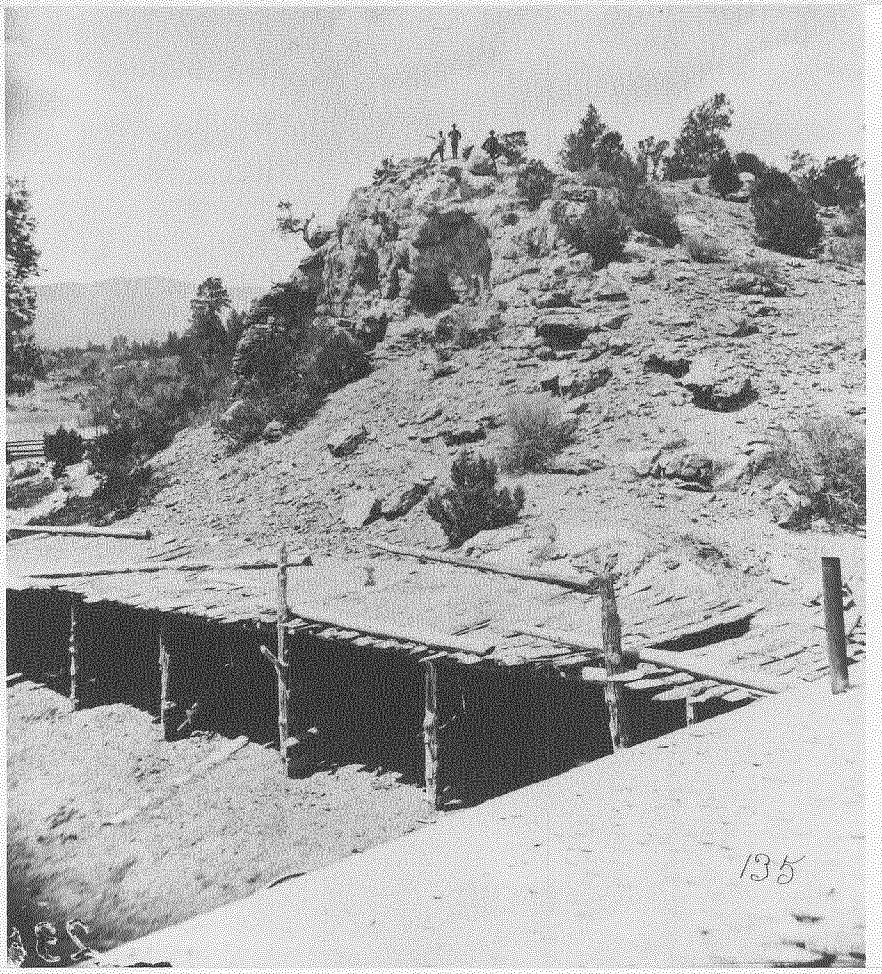

Figure 13. Corral and stables at Pigeon's Ranch, 1880. Photograph by Ben Wittick. Courtesy Museum of New Mexico, Neg. No. 15790.

THE CIVIL WAR IN NEW MEXICO

Betsy Swanson

The battleground of the American Civil War stretched for more than 2,000 miles from the Atlantic coast to the territory of New Mexico, which, at the opening of the war, included the present state of Arizona. In 1861, the western boundary of the Confederate States of America was drawn at the New Mexico-Texas border. The Confederate plan was to extend that boundary to the Pacific Ocean, and the New Mexico Territory was the key to expansion in that direction (Whitford 1906; Kerby 1958; Colton 1959; Hall 1960; Rogan 1961; Lewis 1961; Twitchell 1963).

In the following section, only primary accounts of the battle and official records were used to trace the movements of troops.

The Role of New Mexico in the War

Acquisition of the territory of New Mexico alone was not of great importance to the Confederacy, but New Mexico was the gateway to other potential holdings in the West, which offered valuable military, economic, and political advantages. Uniting the Confederacy with the transportation routes that crossed New Mexico to the ports and gold fields of California would have bolstered both the economy and international recognition of the Southern states. Confederate possession of the Santa Fe Trail in northern New Mexico was essential, as was control over the proposed Southern Pacific Railroad route near the Mexican border. In 1853, the Gadsden Purchase resulted in the acquisition of disputed boundary territory from the Mexican government, including land suitable for a transcontinental railroad route. At the time of the Civil War, the railroad was still under construction in the swamps of Louisiana, but U.S. Army Corps of Engineers surveyors, as well as the civilian surveyors of private companies, had been mapping railroad routes across the West during the previous decade.

The agriculturally based economy of the South lacked the necessary industrial plants for the production of arms and other manufactured items. The South needed gold to buy products from foreign nations and avenues of trade free of Union naval blockades. After occupying New Mexico, the Confederates planned to seize the gold fields of Colorado. For political and religious reasons, Southerners also hoped that the Mormons of the territory of Utah, which then included the present state of Nevada, would join the Confederacy. They also planned to annex the northern states of Mexico. The Confederacy envisioned this vast territory they hoped to acquire as part of a slave-based economy stretching from sea to sea.

Many Southerners believed that the people of New Mexico were predominately sympathetic to the cause of slavery. However, when the Confederates invaded New Mexico, they failed to find the support they expected from the inhabitants in expelling Federal troops from the territory. Slavery was not a major issue in the West, but the question of the sovereignty of the states was of vital interest to the political and economic development of the western states and territories. New Mexico was divided in its sympathies between the North and South, but when Confederates from Texas invaded New Mexico, long-standing animosity between Texans and New Mexicans prompted popular support for the Union.

Initially, the Confederate occupation of New Mexico was successful. In July 1861, Col. John R. Baylor and his force of Texans easily took Fort Bliss near El Paso and Fort Fillmore near Las Cruces. Baylor proclaimed the lower third of what is today New Mexico and Arizona "the Confederate Territory of Arizona" and named himself military governor. Panic-stricken, but loyal, Union garrisons burned their posts and retreated to Fort Union in northeastern New Mexico to regroup under Col. Edward Canby, Federal commander of the Department of New Mexico.

Later in 1861, Confederate Brig. Gen. Henry Sibley marched about 2,600 Texans, known as Sibley's Brigade, from San Antonio to the lower Río Grande near El Paso. They moved into New Mexico in February 1862. They were called "Texas Rangers" and described as frontiersmen mounted on mustangs, armed with rifles, tomahawks, Bowie knives, Colt revolvers, and lassos for roping the enemy's horses.

Colonel Canby of the Union forces, meanwhile, advanced with part of his force down the Río Grande to Fort Craig, south of Socorro. On February 21, 1862, after a desperate battle on the Río Grande at nearby Valverde, Union troops retreated to Fort Craig. Sibley bypassed the fort to occupy Albuquerque on March 2 and Santa Fe on March 10.

While his men took over the capital of Santa Fe, Sibley made plans to capture Fort Union, the protector of the Santa Fe Trail. This large post, the headquarters and supply depot for the Department of New Mexico, was the key to controlling the entire territory. It lay east of Santa Fe, across the Sangre de Cristo Mountains by way of Glorieta Pass. But Sibley never engaged Fort Union nor gained another success in the New Mexico campaign. His victories on the Río Grande marked the high point of the Confederate campaign in the West.

Elsewhere in the trans-Mississippi campaigns, the Confederates were beginning to suffer devastating reverses, crushing their dreams of expansion. They were driven from parts of Missouri; from Nashville, Tennessee; and from "the Gibraltar of the Confederacy," Columbus, Kentucky. They were defeated at Pea Ridge, Arkansas, and in the slaughter at Shiloh. The battles fought in Glorieta Pass were part of a closing-in of the Confederacy, which was to culminate a month later with the fall of New Orleans and the sealing of the mouth of the Mississippi River by the Union fleet.

But Sibley's men were flushed with victory as they advanced toward Glorieta Pass and Fort Union. General Sibley remained in Albuquerque, while Maj. Charles L. Pyron, in command of about 300 mounted men, advanced from Santa Fe along the Santa Fe Trail. Col. William L. Scurry, with several hundred Texans and a supply train of 80 wagons, moved forward from Albuquerque toward Galisteo, southeast of Santa Fe. The two forces were to unite along the trail.

Pyron halted at the western end of Glorieta Pass, at Cañoncito, where the pass and trail were intersected by the canyons of Apache Creek and Río de los Indes. Here he camped in leisure at Johnson's Ranch and Stage Stop. Because Colonel Canby had been left behind at Fort Craig, the Texans expected Fort Union to fall easily. They were unaware that Colorado troops had come to the defense of the fort and were camped at Bernal Springs, not far from the opposite end of the pass.

The Colorado Volunteers, under Col. John P. Slough, had left Denver for New Mexico in February, while Sibley's Brigade was moving up the Río Grande. Motivated largely by the restless urge of his Rocky Mountain miner-volunteers to fight, Slough left Fort Union with 1,342

men on March 22 to launch raiding operations.

Besides Colorado troops, the force included regular U.S. Army cavalry and artillery units, and several companies of New Mexico Volunteers. Participation by the New Mexico Volunteers in the Battle of Glorieta is not well documented in the official records. Published histories emphasize the role of the Colorado troops, stating that most of the Hispanic New Mexicans deserted before the battle. Allusions to desertion by New Mexicans are found in the reports of several officers, and these statements have prompted historians to discount New Mexican participation in the Glorieta fighting. However, Col. Slough listed among his units the command of Capt. James H. Ford, of the Second Regiment Colorado Volunteers, which was comprised of three companies of New Mexico Volunteers. These companies were recruited at Fort Union. Also present at Glorieta was a mounted detachment of New Mexicans under Lt. Col. Manuel Chávez of the Second New Mexico Volunteers. These troops apparently met Slough's force in the Glorieta area and were not officially part of his command. Chávez helped to lead a Union contingent over Glorieta Mesa, and his men participated in the destruction of the Confederate supply train at Cañoncito. Some New Mexico Volunteers apparently also fought at Pigeon's Ranch, although the records are not specific as to their role in the battle (Slough 1862; Chávez 1870; Valle 1870; Meketa 1986:383).

While camped at Bernal Springs, Slough sent an advance raiding party of 418 men toward Santa Fe. It was led by Maj. John M. Chivington, a former missionary and Methodist Church elder, whom his men called "the fighting parson." Late on the night of March 25, 1862, they reached Koslowski's Ranch and Stage Stop, near the ruins of the Pecos Indian Pueblo and Mission Church on the Pecos River. Here they camped beside a spring.

On the morning of March 26, Chivington advanced through the pass. He reached the summit of the Glorieta divide in the early afternoon. On the descending slope he surprised the Confederates moving up the Santa Fe Trail near the intersection of the steep-walled Apache Canyon. The Union troops rushed the Texans. Though taken off guard, Major Pyron ordered the formation of a skirmish line. Chivington employed enveloping tactics by sending companies of riflemen up the mountain sides to shoot down at the enemy's line. Pyron then ordered his men to pull back, ending what was officially called the First Skirmish of Apache Canyon.

The Confederates established a new defense line further along the trail, where the canyon abruptly curved around a steep rocky bluff. They made the precipice their "fortress" and destroyed a bridge below it by which the trail crossed a deep arroyo. In the road they planted their howitzers and their red flag emblazoned with the "Lone Star" of Texas. Chivington used the same enveloping tactics as before, and hand-to-hand fighting ensued among the rocks and scrub trees. After an hour of fighting, Pyron's troops withdrew when Union skirmishers began to flank his artillery. As the Texans retreated, the Union cavalry reserve charged through the canyon. Finding the bridge at the arroyo torn up, the horsemen leapt the 16 ft span and galloped into the midst of the retreating army. Only one horse failed to make the jump and fell with its rider into the gulch. The Texans were routed, and some were captured, wounded, or killed. It was the Confederacy's first defeat in New Mexico.

At sundown, Chivington abandoned pursuit and withdrew to Pigeon's Ranch, where a hospital was established for his wounded. Pyron retreated to Johnson's Ranch and sent a courier to Scurry, on the Galisteo road, requesting reinforcements. Chivington sent notice to Slough for assistance and fell back the next day to Koslowski's Ranch, where water was more plentiful.

After a night march over snow-covered mountains, Scurry arrived at Johnson's Ranch at 3:00 a.m. on March 27. Slough reached the Union camp at Koslowski's at 2:00 a.m. that same morning. Both armies hesitated at each end of the pass; then, on the morning of March 28, they simultaneously advanced and met at Pigeon's Ranch. The encounter there, called the Battle of Glorieta, was the decisive Civil War engagement in the West.

The Battle of Glorieta

On March 27, 1862, the armies of the North and South were poised at either end of Glorieta Pass (Fig. 14), recuperating from the battles in Apache Canyon. Both armies were waiting for the other to make a move.

Col. John P. Slough, commanding Federal forces of about 1,340 officers and men, was camped east of the pass, at Koslowski's Ranch, where a spring provided an adequate water supply. (The spring exists today, as do some portions of Koslowski's ranch house, now incorporated in the walls of the foreman's house on the Forked Lightning Ranch, south of Pecos). The Union force consisted of ten companies of the First Regiment Colorado Volunteers, one company of the Second Regiment Colorado Volunteers, two companies of the Fifth Regiment United States Infantry, three companies of the Fourth Regiment New Mexico Volunteers, detachments of the First and Third United States Cavalry, and two U.S. artillery batteries of four guns each.

Colonel Scurry, commanding about 1,000 Confederates from Texas, was camped at Johnson's Ranch at Cañoncito, at the west end of the pass. The Confederate forces consisted of five companies of the Second Texas Mounted Volunteers, four companies of the Fifth Texas Mounted Volunteers, the Fourth Texas Mounted Volunteers, five companies of the Seventh Texas Mounted Volunteers, one independent company of volunteers, and a battery of the First Texas Artillery consisting of four guns. On the morning of March 28, both forces moved toward each other through the pass (Chivington 1870; Halcomb 1930; Hollister 1863; Whitford 1906; *Santa Fe New Mexican Daily,* Aug. 6, 7, 8, 1906; Valle 1862, 1870, 1871).

Colonel Slough divided his forces. He sent about 450 men under Major Chivington to flank the Confederate rear. Chivington's force departed from the main body about two miles west of Koslowski's Ranch along the Santa Fe Trail and climbed Glorieta Mesa on the Galisteo Road. After following the road for some miles, he was guided by Lieutenant Colonel Chávez and civilian James Collins across the forested mesa toward the Confederate camp at Cañoncito.

The rest of Slough's command, consisting of about 850 men, continued toward Santa Fe on the trail. They were followed by a train of 100 supply wagons under the supervision of Capt. H. M. Enos of the U.S. Quartermaster's Department at Fort Union. The immediate command of the infantry and artillery was placed under Lt. Col. Samuel F. Tappan of the First Colorado Volunteers.

Colonel Scurry left about 200 to 250 men and one cannon at Cañoncito to guard his supply train of about 80 wagons and advanced eastward through the pass toward Pigeon's Ranch with about 700-800 men. Colonel Scurry led the Fourth Texas Mounted Volunteers, Major John S. Shropshire headed the Fifth, and Major Powhatan Jordan led the Seventh Texas Mounted Volunteers.

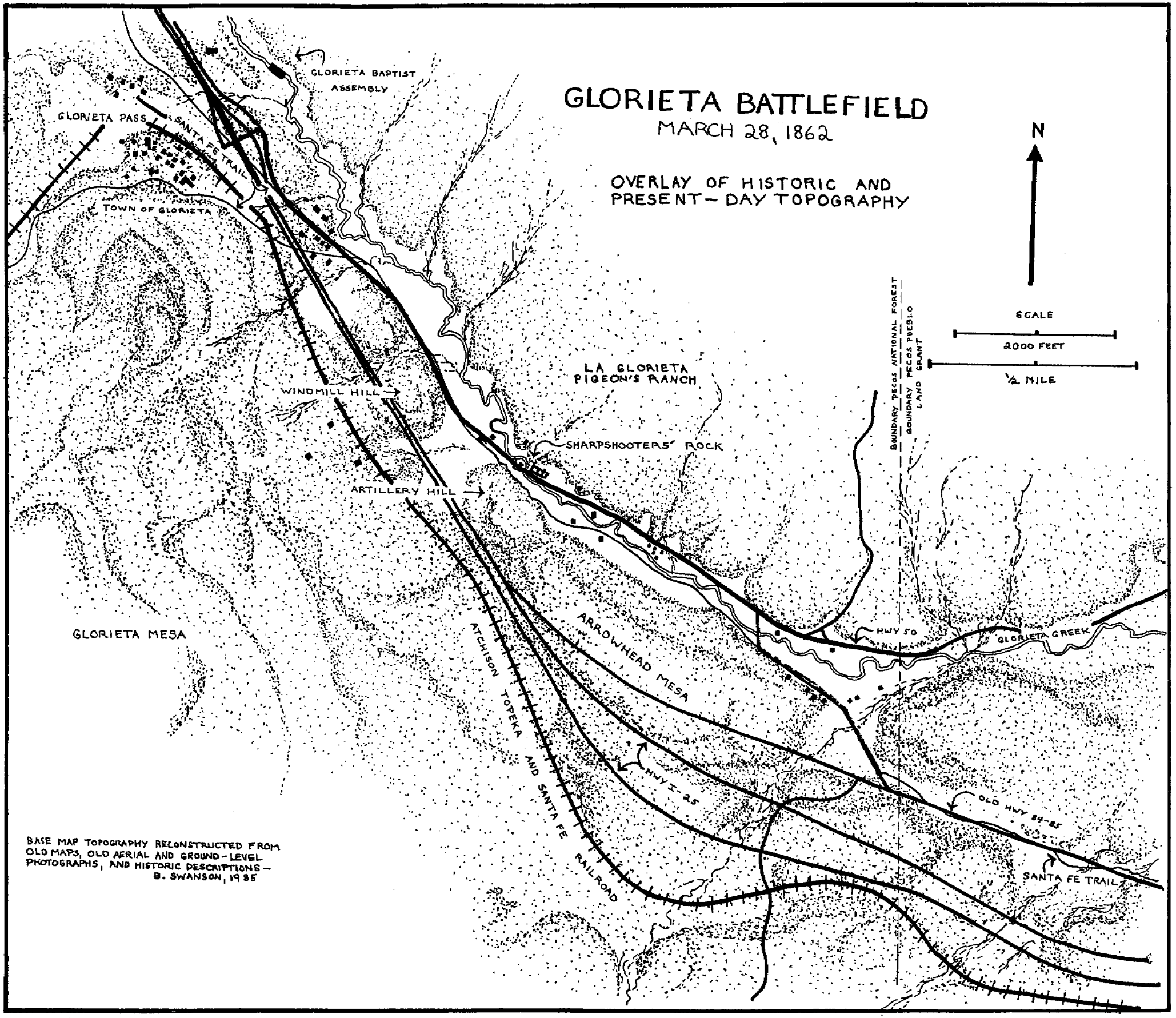

Figure 14. Glorieta Battlefield.

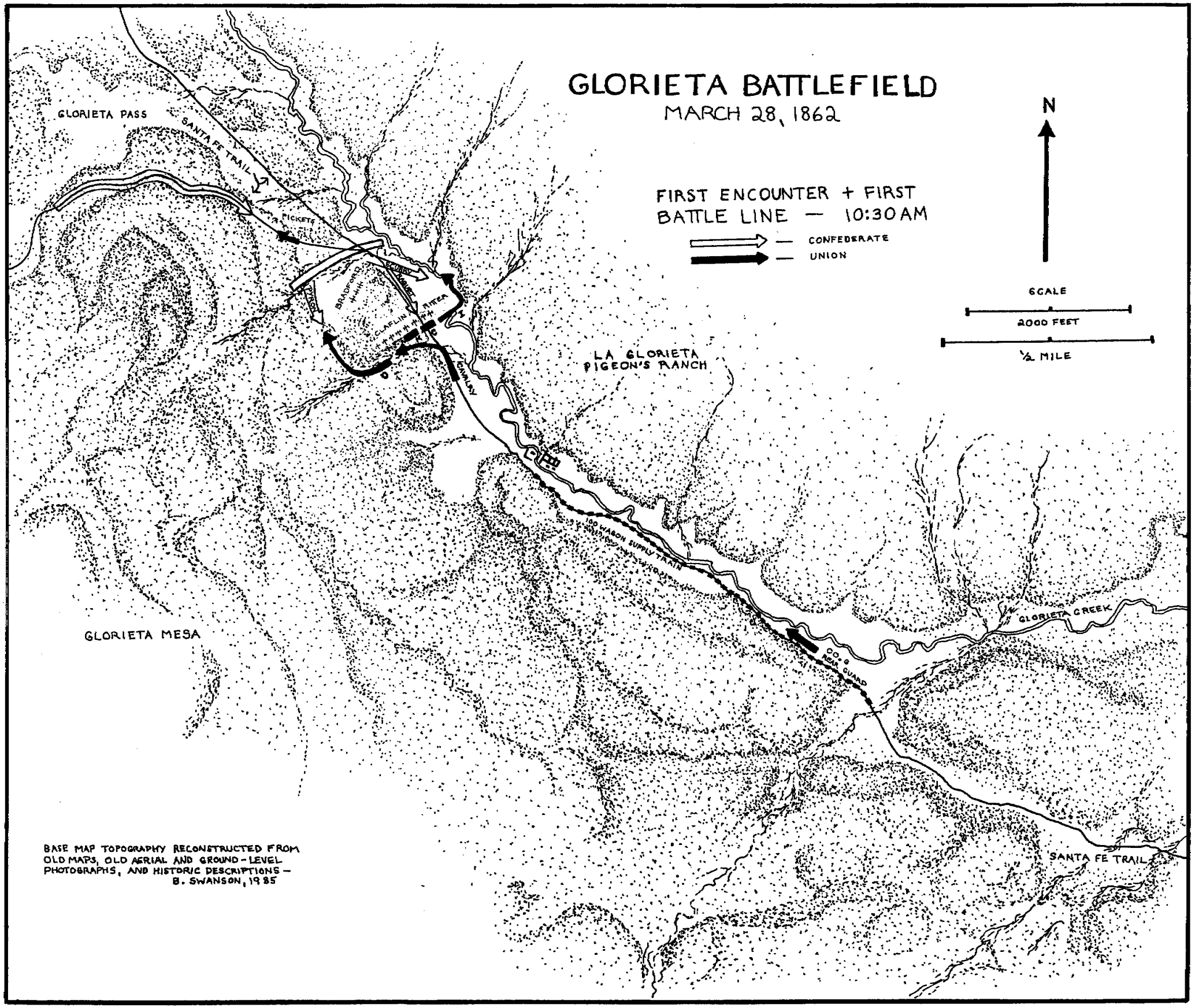

Figure 14a. First encounter and first battle line.

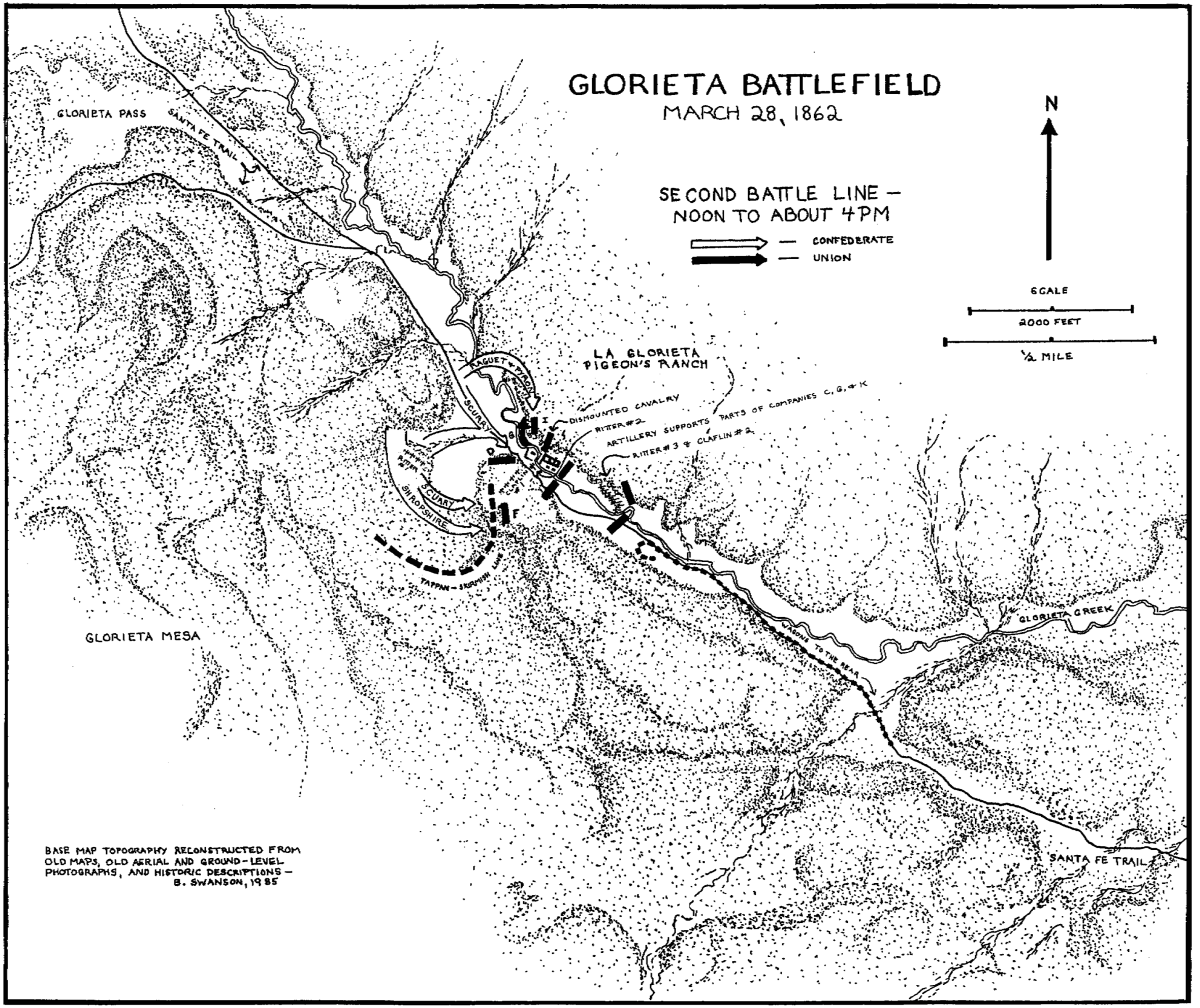

Figure 14b. Second battle line.

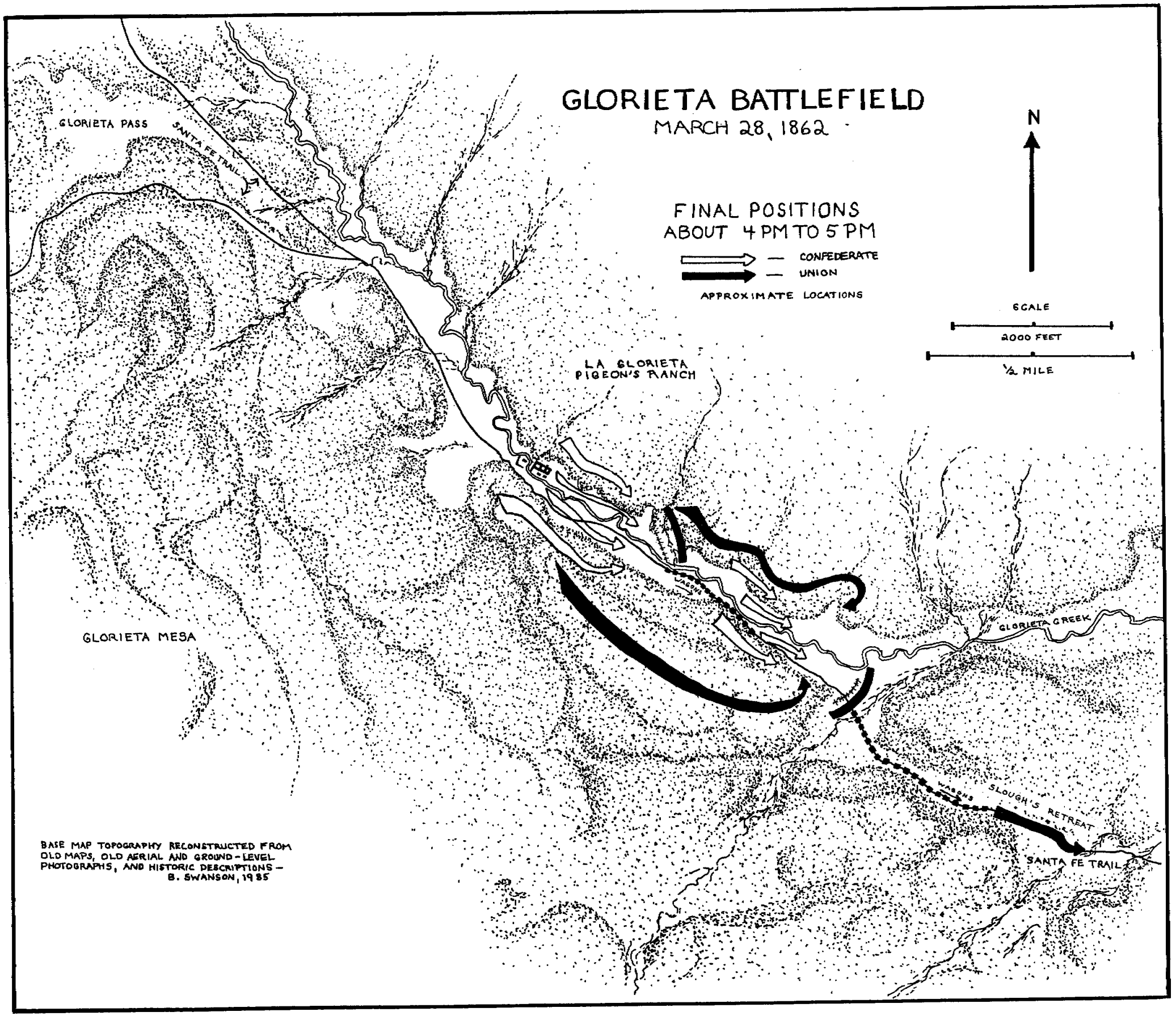

Figure 14c. Final positions.

By 10:30 a.m., Colonel Slough's entire Union force had drawn up at Pigeon's Ranch to rest and fill their canteens. Their wounded had been left at the ranch house after the battle at Apache Cañon. The head of the 100-wagon supply train had pulled up near the ranch buildings. The rear of the train was halted about a mile down the trail. Behind the train was the rear guard, which consisted of Company G of the First Colorado Volunteers (Enos 1862; Hollister 1962:110).

A picket guard had been sent out nearly a mile up the trail west of the ranch complex, toward the summit of the pass. Hardly had the last Union infantry arrived at Pigeon's Ranch and settled down to rest, when the pickets came upon the advance guard of the Confederate army, rounding a bend in the road about 250 yards in front of them. The Union pickets exchanged fire with the Texans and fell back to Pigeon's Ranch. These first shots of the Battle of Glorieta were fired in the vicinity of the present-day town of Glorieta, probably near the railroad tracks and the access ramp of I-25 (Fig. 14a). The Santa Fe Trail branched here. One branch, the road labeled "Captain Macomb's Wagon Road" on his 1860 map, bent sharply toward the west to skirt the edge of Glorieta Mesa. Sergeant Alfred B. Peticolas of Company C, Fourth Regiment of Texas Mounted Volunteers, recorded in his journal, "When within about a mile of their camp, they suddenly made their appearance around a bend in the road about 250 yards off" (Alberts 1984). Colonel Scurry, in his official report of March 31, 1862, also placed the encounter "about one mile west of Pigeon's Ranch, in Cañon Glorieta."

The Union cavalry had started to advance and were about 600 yards west along the trail from Pigeon's Ranch when the Union pickets fell back upon them. The pickets reported the position of the enemy, and the cavalry and artillery were sent forward to meet them. According to Colonel Slough, they found that the Texans "had taken position in a thick grove of trees, with their line extending from mesa to mesa across the canon" (Slough 1862). This first position assumed by the Texans was recalled by Confederate veteran Harvey Halcomb:

> We formed a battle line where a branch or ravine crosses the road and were soon under a heavy fire and a charge by the Federals. We let them charge up to about 30 yards of us, and then we rose up out of the ravine with a Texas yell, and a volley of rifle fire and drove them back with some loss on both sides. We kept that up for sometime. (Halcomb 1930)

The only ravine in this area that crosses the route of the trail is 3,400 feet northwest of Pigeon's Ranch. This area has long been cleared of vegetation and was formerly farmed, as shown by old aerial photographs. It is occupied today by scattered residences and a church and is crossed by I-25 and NM 50. The U.S. surveyor general's cadastral survey map of 1882 shows three houses in this area, just northwest of the arroyo, between 400 and 1,000 feet southeast of the access ramp of I-25 and on either side of NM 50. Two of the houses are mentioned as "ranches" in the survey field notes. The houses are not mentioned in battle accounts, but fenced fields were reported in battle descriptions on either side of the trail and canyon at this location.

Regarding the vicinity of the first Confederate battle line, Peticolas wrote, "The road here down Apache Canion runs through a densely wooded pine country where you cannot see a man 20 steps unless he is moving. . . . On our right was an old field fenced in with pine poles. To this field a good many of us repaired when the firing grew hot, and shot at our enemy on the [Union] left." Peticolas also mentions an "old field on our left, or rather about the center of the Canion" (Alberts 1984:77-79) through which ran the arroyo of Glorieta Creek. Scurry also noted that the field on the Confederate left, in the creek bottom, was enclosed with a fence (Scurry 1862).

Describing the first Confederate battle line, Scurry said, "The artillery was pushed forward to a slight elevation in the cañon and immediately opened fire. The infantry was rapidly deployed into line, extending across the cañon from a fence on our left up into the pine forest on our right" (Scurry 1862). The slight elevation he mentions was the rise of the hill immediately southeast of the arroyo. The top of the hill levels off and rises gently and continuously up the slopes of Glorieta Mesa. This area was at least partially cleared for farming or grazing in 1862, according to the accounts. Peticolas said his company "was directly in the rear of the cannon" before retiring to the "old field fenced in with pine poles" on his right. His position before retiring further to the right was on the Confederate right flank (Alberts 1984). This suggests that the cannon may have been situated toward the northwestern side of the canyon, near present-day I-25. The suggestion is supported by the report of Captain Enos, who noted that "the general direction, at this time, of the Confederate shots, was obliquely across that of our batteries, and aimed at the bluff on our right" (Enos 1862). The bluff is the rock escarpment at the foot of the mountains on the eastern side of the canyon, opposite Glorieta Creek.

Enos said that the first position taken by the Union artillery was "on the second rise of ground beyond Pigeon's Ranch, where the road makes a bend to the left, [Capt. John F.] Ritter's in the road, and [Capt. Ira W.] Claflins' battery immediately to its left. The cavalry fell back, and took a position in a hollow to the left of the road, and about ten yards in rear of the batteries" (Enos 1862). The position he describes is at the lower southeastern side of the hill where the Confederates had placed their cannon. This first Union cannon position was about 2,200 feet up the trail from the Pigeon's Ranch complex. The hollow into which the cavalry fell back, immediately behind the cannon placement, is a broad, flat arroyo containing an intermittent tributary of Glorieta Creek.

Captain Ritter, Fifteenth U.S. Infantry, was positioned in the Santa Fe Trail with a light battery of two twelve-pounder howitzers and two six-pounder guns (Ritter 1862). Captain Claflin, Sixth U.S. Cavalry, commanded a battery of four twelve-pounder mountain howitzers on the hillside slightly above Ritter's battery (Claflin 1862). A somewhat cleared stretch of ground flanking the southwest side of NM 50 may have been an older or alternate trail route upon which Claflin's battery was placed. Artillery requires a clear field of fire, so Claflin's guns could not have been surrounded by even small trees.

The Union infantry was sent forward from Pigeon's Ranch and deployed in skirmish lines on either side of the batteries, Company D to the left and Company I to the right. Company C was assigned to support Ritter's battery in the road, and Company K was to support Claflin's battery on the hillside. The cavalry were soon sent to the rear, where they positioned themselves behind the protection of the Pigeon's Ranch buildings and the rock bluff (Tappan 1862; Walker 1862).

Both armies now attempted to flank the positions of each other, on the right and the left of the skirmish lines of both sides. The Confederates also charged directly down the center of the canyon at the Union artillery. Scurry said,

> About the same time these dispositions were made the enemy rapidly advanced in separate columns both upon our right and left. I dispatched Major Pyron to the right to check them in that direction, and placing the center in command of Major [Henry W.] Raguet I hastened with the remainder of the command to the left. A large body of infantry, availing themselves of a gulch that ran up the center of an inclosed field to our left, were moving under its cover past our left flank to the rear of our position. Crossing the fence on foot,

> we advanced over the clearing some 200 yards under a heavy fire from the foe, and dashed into the gulch in their midst, pistol and knife in hand. For a few moments a most desperate and deadly hand-to-hand conflict raged along the gulch, when they broke before the steady courage of our men and fled in the wildest disorder and confusion. (Scurry 1862)

Peticolas, who was on the Confederate right, said, "Our men were steadily pressing in on the right, and to these I joined myself as soon as we left the fence" (Alberts 1984:79). He was attached to Major Pyron's right flank movement against Capt. Jacob Downing's Company D on the Union left. Pyron's route was probably along the present-day railroad tracks, toward the Union skirmish position in the arroyo, 1,000 feet to the southeast.

Meanwhile, Peticolas said,

> A party of our men were sent over on the left on the opposite mountain and we all fought the same way, advancing steadily from tree to tree and shooting at every enemy that showed himself. About this time the enemy was discovered in force in a deep gully in the old field on our left. . . . Our boys dashed down upon them with a yell and plunging into the gully came to a hand-to-hand conflict with them. (Alberts 1984:79)

Union Company I had been deployed to the Union right in an attempt to flank the Confederate left by advancing under cover of the arroyo of Glorieta Creek. Led in this movement by Lt. Charles Kerber, Company I was composed largely of German immigrant miners from Colorado. To reach the creek arroyo, the company ran across an open field, exposing themselves to enemy fire, and suffered severely. As described by Scurry, the Texans also exposed themselves to fire as they charged over the clearing to meet the Federal troops advancing in the arroyo. After fierce hand-to-hand fighting in the arroyo, the Union troops were driven back to the ledge of rocks at the base of the mountains on the other side of the creek. They mounted the rocks and, pursued by Confederate skirmishers, retreated to the rock ledge northeast of the Pigeon's Ranch complex. These survivors of Company I formed on the rock ledge, the far right flank of the Union position.

The fight in the arroyo probably occurred about 3,000 feet northwest of the ranch complex. The Colorado troops suffered a number of casualties there, including the highest-ranking Union officer killed in the battle, Lt. John Baker. Baker's stripped and mutilated body was found the next morning. In his battle report, Lt. Colonel Tappan said,

> Lt. Baker was severely wounded the early part of the engagement, and afterward beaten to death by the enemy with the butt of a musket or club, and his body stripped of its clothing. He was found the next morning, his head scarcely recognizable, so horribly mangled. He fought gallantly, and the vengeance of the foe pursued him after death. (Tappan 1862)

Meanwhile, Major Raguet led a charge from the Confederate center against the Union artillery. Raguet's force was repulsed by the Union artillery support troops. The Union artillery and riflemen succeeded in disabling the Confederate battery, killing and wounding some of the artillery men and killing the artillery horses. Texas artillery commander Lt. James Bradford was carried from the field of battle, mortally wounded. The Confederates then withdrew their guns from the battlefield, but Colonel Scurry ordered two of them returned (Scurry 1862).

The Confederates were successful in their flank movements on both the left and the right: the Union line was slowly driven back. Fearing for the safety of their wagon train in the rear, the Federal forces fell back to Pigeon's Ranch, where they established a line of battle stretching from the rock escarpment to the north of the ranch complex (Sharpshooter's Ridge) up onto the pine-forested mesa to the south. The Confederates moved their battle line forward to the edge of the hills ringing the northwest side of the small valley at Pigeon's Ranch, a quarter of a mile from the ranch complex and the Union battle line. These were the second battle line positions drawn up by both sides (Fig. 14b). Each army had shifted their lines about 2,000 ft down the canyon. The battle had been raging for about an hour, and it was now about noon (Tappan 1862).

The two still-functional Confederate cannon under the command of Pvt. W. D. Kirk and 3rd Corp. James N. Patrick were brought to the brow of the hill opposite Pigeon's Ranch, which is now called Windmill Hill. From this elevation, the guns commanded the valley and the ranch complex. The Union troops had taken cover behind the buildings and adobe walls of the corrals, and the rocks and trees. Scurry said, "It was impossible to tell whether their main body was stationed behind a long adobe wall that ran nearly across the cañon or had taken a position behind a large ledge of rocks in the rear" (Scurry report, March 31, 1862). He ordered the artillery to fire upon these locations to draw out the enemy's position. Peticolas said that during this "temporary lull . . . our artillery was ordered to tear the corrals in pieces from this eminence" (Alberts 1984:81).

Upon falling back to this battle position, the Union batteries first attempted to assume flanking positions above the valley. Claflin's battery was placed on top of the north end of Arrowhead Mesa, which was called Artillery Hill. This hill, about 100 feet high, is on the south side of Pigeon's Ranch. Ritter's battery was placed on a smaller hill, west of Claflin's unit, which now forms part of the roadbed of I-25. Ritter said,

> Here I was exposed to a galling fire without being able to return it effectually, the enemy being some distance off and entirely sheltered by trees, etc. and I was also some distance from my ammunition wagons. The supports to the battery were all ordered away with the exception of about one platoon of Colorado Volunteers, and I deemed it proper to return to the road, which I did after firing a few rounds. It was here that Lt. McGrath was fatally wounded. (Ritter 1862)

Ritter reported,

> I then took position nearly in front of Pigeon's Ranch, and established one six-pounder in the road, while the limber-boxes of the pieces, two at a time, went to the rear to be replenished. [A limber-box was carried on a limber, a two-wheeled vehicle for carrying tools and items necessary for firing a cannon. Both batteries were without caissons, ammunition carts for moving artillery.] Here one of the enemy's pieces was dismounted by a round shot striking it full in the muzzle, and another was disabled and a limber-box was blown up by a case shot striking it. Private Kelly, Company E, Fifth Infantry, was gunner at the piece which did this execution. (Ritter 1862)

At this time, Company G, which had been serving as rear guard behind the wagon train, came forward, and, along with Company C, served as support for Ritter's battery (Walker 1862).

Sharpshooter's Ridge, the rock ledge protruding from the mountainside on the north side

of the Pigeon's Ranch buildings, was occupied by dismounted Union cavalry, while their horses were protected in what was probably a corral behind this ledge. Company I, which had fought earlier in the creek arroyo, formed the right flank of the Union battle line further north on the rock ledge (Tappan 1862: Walker 1862).

Another Union skirmish line rimmed the valley of Pigeon's Ranch on the south and west sides under the command of Lieutenant Colonel Tappan. In his report, Tappan said that he placed his men

> in front of and to the left of the batteries on the summit of the hill, extending my line of skirmishers for nearly three-quarters of a mile in a half-circle and at nearly a right angle from the road occupied by our train of 100 wagons. This position commanded the valley in part, and the irregularities of the surface afforded excellent position for the men from the fire of the enemy. Remained here for about four hours. Occasionally small parties of the enemy would attempt to ascend the hill toward my line, but were driven back as often as they made their appearance. (Tappan 1862)

Tappan's skirmish line apparently extended from Artillery Hill to the slopes of Glorieta Mesa, where the railroad tracks are today, and looped southeastward in a semicircle around the contours of elevated land, where former NM 84-85 now dead-ends at I-25.

The Confederates continued to employ flank attacks on the Union position, as well as courageous charges down the Santa Fe Trail and across the open valley toward Ritter's artillery position near the ranch buildings. Their losses were heavy among both officers and men. Major Shropshire and Capt. Charles B. Buckholts were killed at the head of an assault column ascending the southwest side of Artillery Hill in an attempt to flank the Union left. Majors Raguet and Pyron led an attack on the rock ledge on the Union right, while Colonel Scurry led a frontal attack toward the ranch complex. To keep from being flanked, Claflin removed his battery from Artillery Hill and joined Ritter's battery, which had been ordered to leave the area of the Santa Fe Trail near Pigeon's Ranch and "cross the ravine to the other side of the canon and take up a position there" (Ritter 1862). This was the third cannon position of the battle for Claflin and the fourth position for Ritter, although it is possible that both batteries briefly assumed intermediary positions to fire a few shots while moving to these positions of record (Tappan 1862).

The precise positions that the batteries took up at this time cannot be clearly documented, but they may have been on the site of present-day NM 50, about 1,000 ft east of Pigeon's Ranch. Pvt. Ovando J. Hollister, of the Union Company F, was posted on Sharpshooter's Ridge when he observed Ritter's battery retire "three or four hundred yards" (Hollister 1962:112). Other accounts indicate that Alexander Valle's house, outbuildings, and corrals were centrally located between the two forces for some time. These accounts are somewhat conflicting. Capt. R. F. Bernard, First Cavalry, wrote nine years after the battle that "Slough's command was surprised and attacked by the Rebel forces and within thirty minutes driven back about a quarter of a mile placing Mr. Valle's house midway between the two armies. This state of affairs continued about an hour when the Union forces were again driven back between a quarter and a half mile, where the fighting continued until dark" (Bernard 1871).

Surgeon E. J. Bailey, who attended the wounded in Valle's house, also wrote nine years later, "The house, being near where the action was fought, was only in the possession of our forces for a short time--I should not think more than an hour and a half" (Bailey 1871). He recalls that

the Union forces retreated from Pigeon's Ranch "in the forenoon." Other accounts suggest that the Union forces moved back from the ranch complex in the early afternoon. Hollister said, "About noon we were forced to retire our whole line half a mile" (Hollister 1962:114). Scurry did not note the time of the retreat, but he said, "The foe were driven from the ranch to the ledge of rocks . . . where they made their final and most desperate stand" (Scurry 1862). The accounts may seem to conflict because the Union artillery and infantry in the canyon made several retreats and stands east of Pigeon's Ranch. The first stand may have been only several hundred yards behind the ranch complex. Lieutenant Colonel Tappan held his skirmish line on Artillery Hill and on the south and west sides of the valley long after the Union forces in the canyon near the ranch and on the rock ledge north of the buildings had retreated (Tappan 1862).

The Confederates made several desperate charges at the center, left, and right of the Union line before portions of their line fell back. Union skirmishers on the rock ledge north of the ranch complex were forced to retreat after hand-to-hand fighting with the advancing Confederates. When the Texans gained the ledge of rocks overlooking the buildings, they were able to fire down upon the Union artillery batteries in the canyon. The Union batteries suffered such losses of men that it was necessary for them to retreat again (Scurry 1862; Ritter 1862).

Ritter reported, "I then took position some distance farther to the rear . . . in front of a deep ravine, where the supports were entirely sheltered from the enemy's fire. The supply train was in the road about 40 yards from the left of the battery" (Ritter 1862). This position may have been about 1,600 ft southeast of Valle's ranch house, where a small rock ledge borders present-day NM 50 and an intermittent stream in an arroyo crosses the road and joins Glorieta Creek (Fig. 14c). The Santa Fe Trail was on the south side of the creek.

Here the Confederates made their last desperate charge. Some attacked through the canyon, and others ran through rocks and trees on the elevations bordering the canyon. The Union wagon train was for a time threatened, and the Union troops found it necessary to cut loose the teams of two of their wagons and set fire to the wagons to prevent their capture. Major Raguet was killed in this last large conflict of the battle (Scurry 1862).

By about 4:30 in the afternoon, the Union army began its retreat eastward to Koslowski's Ranch. The Confederates pursued for a short distance, firing at the retiring army. According to Captain Enos, the Federal forces took a last stand about three-quarters of a mile east of Pigeon's Ranch, where a few shots were fired by both the artillery and the riflemen (Enos 1862). Hollister (1962:115) describes this last battle position as being "beyond a large open space." Undoubtedly, this position was opposite, beyond, and inclusive of the large rock outcropping where the historical markers commemorating the battle now stand. Here, where the Santa Fe Trail rounds the south end of Arrowhead Mesa, the flat bottomlands of the creek widen into a cleared, cultivated area.

This final action during the Union retreat was short-lived. The armies had been fighting for about six hours, and they were both exhausted. The Confederate troops camped for the night at Pigeon's Ranch. Colonel Scurry found it necessary to send an emissary with a white flag to Colonel Slough to request that he send parties to tend to the Union wounded and to bury the Union dead, because the Texans were too weary to do so (Alberts 1984:86).

Scurry reported 36 killed and 60 wounded (Scurry 1862). Slough reported 29 killed and 42 wounded (Slough 1862). Losses on both sides were actually greater.

The Battle of Glorieta was a Confederate victory won in vain. Simultaneous with the battle, another action took place at the west end of the pass, which turned the Confederate win into a tactical victory for the Union army. During the battle, a Union detachment under the command of Major Chivington, consisting of Colorado Volunteers, Army Regulars, and New Mexico Volunteers, took a path over the top of Glorieta Mesa, on the south side of the pass, to attack the enemy's rear. They were guided by Lieutenant Colonel Chávez and James Collins to the heights of the mesa overlooking the Confederate wagon park at Cañoncito.

Hand-over-hand, they climbed down the sheer rock cliff, routed, captured, or killed the guards, burned the wagons, killed the horses and mules, spiked (i.e., jammed) the one cannon, and climbed back up the mesa to rejoin the Union camp that night. When Scurry received word that his supply train, containing his army's ammunition, food, and blankets had been destroyed, he realized that the apparent victory was in fact a crippling defeat. Chivington's action resulted in subsequent Confederate retreat to Santa Fe and eventually from New Mexico, during which many Texans died from hunger, thirst, and Indian attack. Only one-third of Sibley's army returned safely to Texas. The Battle of Glorieta was a disaster for the Confederacy and forced it to abandon its plans of conquest in the West (Fig. 15).

Figure 15. Glorieta Battlefield, looking east toward Pigeon's Ranch. Sharpshooter's Ridge is on the left, and Artillery Hill is on the right. Photo by Betsy Swanson.

CIVIL WAR ARMAMENTS AND ACCOUTREMENTS AT THE BATTLE OF GLORIETA

Don E. Alberts

This chapter describes the armaments (artillery and small arms) used during the Battle of Glorieta and the projectiles and other associated artifacts that may be located on the battlefield. It further describes the dress of the Union and Confederate participants in the Battle of Glorieta, based on such sources as quartermaster reports, contemporary sketches, and journals and diaries kept by these soldiers.

Federal Artillery

The Federal forces brought two artillery batteries into the Battle of Glorieta. Both batteries, the basic artillery unit before and during the Civil War, were equipped with four cannons. Capt. John F. Ritter's battery was equipped with two 6-pounder field guns and two 12-pounder field howitzers. Both were bronze, muzzleloading, smoothbore cannons mounted on field carriages (Fig. 16).

These artillery pieces were designated by the weight of a solid iron ball that fit the bore of the cannon. A 6-pounder gun had a bore of 3.67 inches, while the bore of a 12-pounder piece measured 4.62 inches. Both types weighed approximately 3,000 pounds on their field carriages. The trajectory of the 6-pounder gun, which was intended as a long-range (1,500 yards) weapon, was flatter than that of the field howitzer. The latter, with its larger bore and heavier charge, was more effective at medium (800 yards) and close ranges. At Glorieta, where ranges varied from a few yards to about 800 yards, both types of artillery were quite accurate and effective against troop concentrations and in repelling Confederate charges against the Union batteries.

Lt. Ira W. Claflin's battery comprised four 12-pounder mountain howitzers--small, muzzleloading smoothbores intended for close ranges. A mountain howitzer, which weighed approximately 500 pounds, could be broken down and packed on a pair of mules or pulled, fully assembled, by a single mule or horse. Since no mention was made of pack mules in accounts of the battle, and since the artillery traveled exclusively along the Santa Fe Trail, the mountain howitzers at Glorieta were undoubtedly pulled rather than packed. Although its effectiveness in firing at opposing guns from the crest of Artillery Hill would be doubtful, it was quite effective in repelling, at close range, the Texan charges against the Federal center.

Federal Small Arms

Nine of the ten companies of the First Colorado Volunteers regiment were equipped as infantry and had been issued standard infantry weapons at Fort Union two weeks before the Battle of Glorieta. They, along with the regular infantrymen and New Mexico Volunteers, fought with the U.S. rifle-musket, Model 1855 or 1861. This weapon, commonly called the "Springfield musket" or "minnie-gun," was the rifle with which Federal infantrymen, and to a great extent, Confederates, fought throughout the Civil War. A simple, reliable, rifled muzzleloader, it fired a .58-caliber bullet and was accurate on man-sized targets to approximately 300 yards--considerably more when used by trained troops. The Springfield musket was equipped with a detachable socket bayonet normally carried on the soldier's waist belt. There is no official record

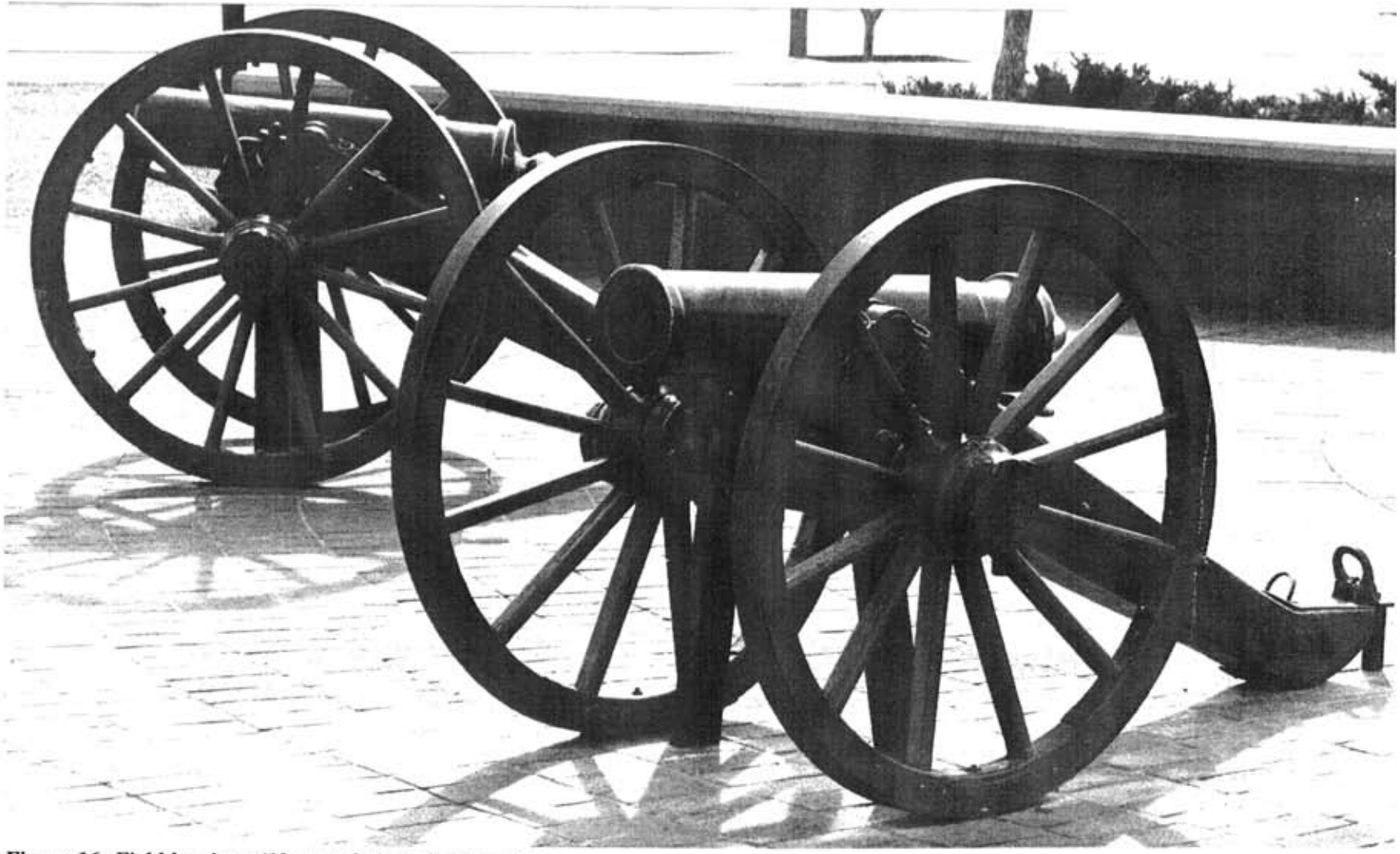

Figure 16. Field howitzer (12-pounder) on field carriage.

of the bayonet being used at Glorieta, but several broken bayonets have been found on the battlefield by local residents.

Detachments from several companies of the First and Third U.S. Cavalry regiments, along with Company E of the Third Cavalry and Company F of the First Colorado Volunteers, which was equipped as cavalry, fought dismounted at Glorieta. The cavalryman's armament consisted of a carbine, pistol, and sabre. From projectiles found on the battlefield, it is clear that the carbine used was the Sharps Model 1852 or 1859, a single-shot, breechloading, rifled gun of .52 caliber. The Sharps carbine was slung on the trooper's right side from a wide leather belt that passed over his left shoulder.

The Union cavalryman's pistol was either the .36-caliber Colt Navy model of 1851 or the .44-caliber Colt Army model of 1860. Both sizes of Colt bullets have been found on the battlefield. These pistols were six-shot revolvers carried in a leather holster on the right side of the sabre belt.

Although it is believed that no sabres have been found on the Glorieta Battlefield, it is highly probable that, so early in the Civil War and on the frontier, the older U.S. Model 1840 Cavalry Sabre was used by the regular horsemen and issued to the Colorado Volunteers. A handier weapon, the Model 1861 Light Cavalry Sabre, was used throughout the Civil War in the East, but it is unlikely that such weapons could have been manufactured, shipped across the Santa Fe Trail to New Mexico, and issued in time for the Battle of Glorieta.

Officers were armed differently from the enlisted men. They were issued one of the previously mentioned Colt revolvers or could purchase their own sidearms from the civilian market. On that market was a great variety of pistols in many different calibers, but by far the most popular was the Colt Navy revolver, the civilian version almost identical to the military-issue weapon. Colt revolver parts have been found on the battlefield, along with a small .22-caliber pistol found on Artillery Hill.

Confederate Artillery

The Texans brought a single three-piece artillery battery onto the field at Glorieta, having left their fourth cannon at Cañoncito to guard their supply train. Lt. James Bradford, First Texas Artillery, commanded the Confederate battery, which was manned by approximately 40 volunteers from the various regiments of the Sibley Brigade. Although it has long been believed that all the Texan cannons were 6-pounder field guns, both 6-pounder and 12-pounder shell fragments and canister components have been found near various Federal positions on the battlefield.

The type of 12-pounder components are such that they could only have been fired by a 12-pounder field howitzer; therefore, at least one of the three Confederate cannons was such a piece. Both types of Confederate cannons were identical in mobility and effectiveness to similar pieces used by their Federal opponents. But one of the three cannons in the Texan battery was disabled early in the battle, greatly reducing the overall ability of Scurry's artillery to break down the adobe wall protecting the Union troops and to support the Texan assaults on those troops.

Confederate Small Arms

The Confederate Texans who fought at Glorieta were armed with a much greater variety of small arms than their Federal opponents. Artifact evidence indicates that many used the same .58-caliber "minnie-gun" as did the Union infantrymen, and a few Sharps carbines similar to those of the opposing cavalry. These were undoubtedly drawn from the stocks of surrendered Federal arms taken over by Texas officials during the early days of the Civil War or taken from Union casualties, prisoners, or deserters after the Sibley Brigade entered New Mexico. A much more common weapon, however, was the U.S. musket, Model 1842, a .69-caliber, muzzleloading, smoothbore arm used during the Mexican War. It also was recovered in Texas and taken in large numbers from fleeing New Mexico Volunteers during the Battle of Valverde in February 1862. This obsolete musket, which lacked even such refinements as a rear sight, was ineffective at ranges much over 100 yards. It was equipped with a detachable socket bayonet for close combat.

Yet another Federal weapon used by Texans at Glorieta was the .54-caliber U.S. rifle, Model 1841, commonly known as the "Mississippi rifle." Also obsolete by the time of the Civil War, it was nevertheless still widely used by civilians and some Union troops. A short, reliable rifle, it fired either a round ball or elongated bullet with much greater accuracy than any smoothbore musket but had no provision for a bayonet.

In addition, many Texans armed themselves with hunting rifles and shotguns brought from home. One recruiting announcement required each Sibley Brigade volunteer to furnish himself with "a good double barrel shot gun or rifle certain, a bowie knife and six shooter, if the latter can possibly be obtained." Although the use of shotguns at Glorieta is indicated by artifact evidence, such use was probably minimal due to the availability of more effective weapons captured after leaving Texas. Some foreign military arms were also used, including imported .58-caliber Austrian Lorenz muskets, the projectiles from which I have found in Union positions on Sharpshooter's Ridge.

The Confederates used as wide a variety of sidearms, including the same .36- and .44-caliber Colt revolvers, as carried by Union soldiers. In addition, such obsolete weapons as the .54-caliber, single-shot U.S. pistol, Model 1842, a smoothbore handgun used by U.S. forces before and during the Mexican War, were used at Glorieta.

To a much greater extent than their Union counterparts, the Texans armed themselves with a variety of swords and fighting knives. These may have included confiscated and captured Federal cavalry sabres, as well as short swords and Bowie knives of homemade and commercial manufacture. Since no mounted action by either side occurred during the Glorieta fighting, the sabres would have been virtually useless, and there is little indication that knives were utilized except during a brief hand-to-hand fight between a small group of Texans and Company I, First Colorado Volunteers, early in the battle.

Projectiles

Projectiles fired by artillery and small arms are the most numerous artifacts I have found on the Glorieta Battlefield. Examples of such projectiles, although not found during the current testing project, are shown in Figures 17-25. These projectiles are usually nonferrous, or if made of iron or steel, are in fairly large pieces and tend to be well preserved. Their specific locations

can be indicators of key positions during the fighting. Artillery positions and troop concentrations, for example, tended to draw artillery and small arms counterfire, while dropped cartridges and primers often indicate firing positions. The location and direction of fire of artillery batteries can be further pinpointed by the primers used to fire muzzleloading cannons and the sabot straps that bound the artillery cartridges together.

Artillery

Before and during the Civil War there were five basic types of artillery ammunition in use by Federal and Confederate forces: solid shot, explosive shell, spherical case (or case shot), canister, and grapeshot. All were used at Glorieta, not because all were necessarily effective in such a battle, but because regulations prescribed a certain mix of these rounds in the ammunition chests that accompanied each piece.

Solid shot was a solid iron ball of a weight that gave its size designation to the cannon from which it was fired (i.e., 6- or 12-pounder). Solid shot was useful against fortifications, adobe walls, or other substantial targets but was otherwise almost worthless as a projectile. The ball was fastened to a wooden sabot, or base, by tinned iron straps (Fig. 17). A canvas or paper bag preloaded with the proper powder charge was, in turn, tied to the groove in the sabot, the whole forming a cartridge that was inserted into the muzzle of the cannon in one motion. To fire the piece, a cannoneer punctured the powder bag with a sharp pick thrust into the powder chamber through a small vent hole in the cannon's breech. With the powder exposed, a friction primer was inserted into the vent hole. The gunner then fastened his lanyard to the primer's friction device, and when he jerked the lanyard, a spark ignited the primer's explosive charge, which flashed through the vent hole, igniting the exposed main powder charge and firing the cannon. After firing, and subsequent recoil, the cannon was run forward to its prior position, cooled by swabbing the bore with water, which quickly evaporated, and the procedure was repeated. This procedure was quite efficient and allowed a firing rate of two to four rounds per minute, depending on the skill and training of the gun crew.

Upon firing, the wooden sabot shattered, and the sabot straps broke into short lengths. Remaining strap fragments have withstood weathering quite well (Fig. 17) and indicate the direction of firing. Few solid shot have been found at Glorieta during recent years, but one such 6-pounder projectile (Fig. 18), still strapped to its sabot, was located at the Cañoncito site of the burned Texan supply train, evidently blown out of an exploding ammunition wagon.

A second type of projectile, also relatively ineffective, was the explosive shell. It was a hollow, cast-iron sphere filled with powder and exploded after a predetermined flight time by a fuse inserted into the bursting charge from outside the shell. The fuse was ignited by the main powder charge as the shell left the muzzle of the cannon. Two types of fuses were used. One type was a tube of powder wrapped in paper and marked so that it could be cut at different lengths that matched seconds of flight. Another type, known as the Bormann fuse, was a weatherproof, screw-in plug containing a powder train that could be punctured at the desired number of flight seconds, marked on the fuse, and then ignited by the main powder charge. The Bormann fuse was relatively new at the start of the Civil War, and since the ammunition used at Glorieta by both sides was of prewar issue, it is doubtful that any Bormann fuses were used. No shell fragments with threaded holes used by the Bormann fuse have been found on the battlefield, nor have any of the fired fuses.

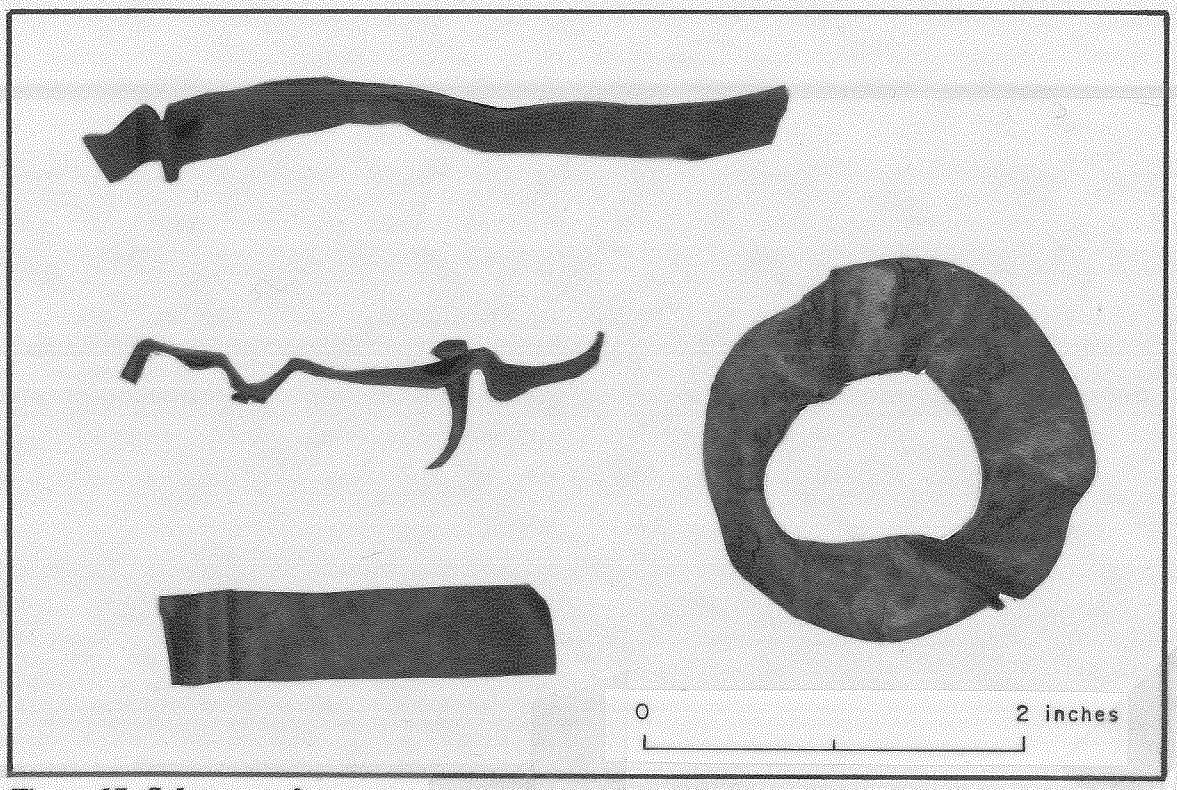

Figure 17. Sabot strap fragments.

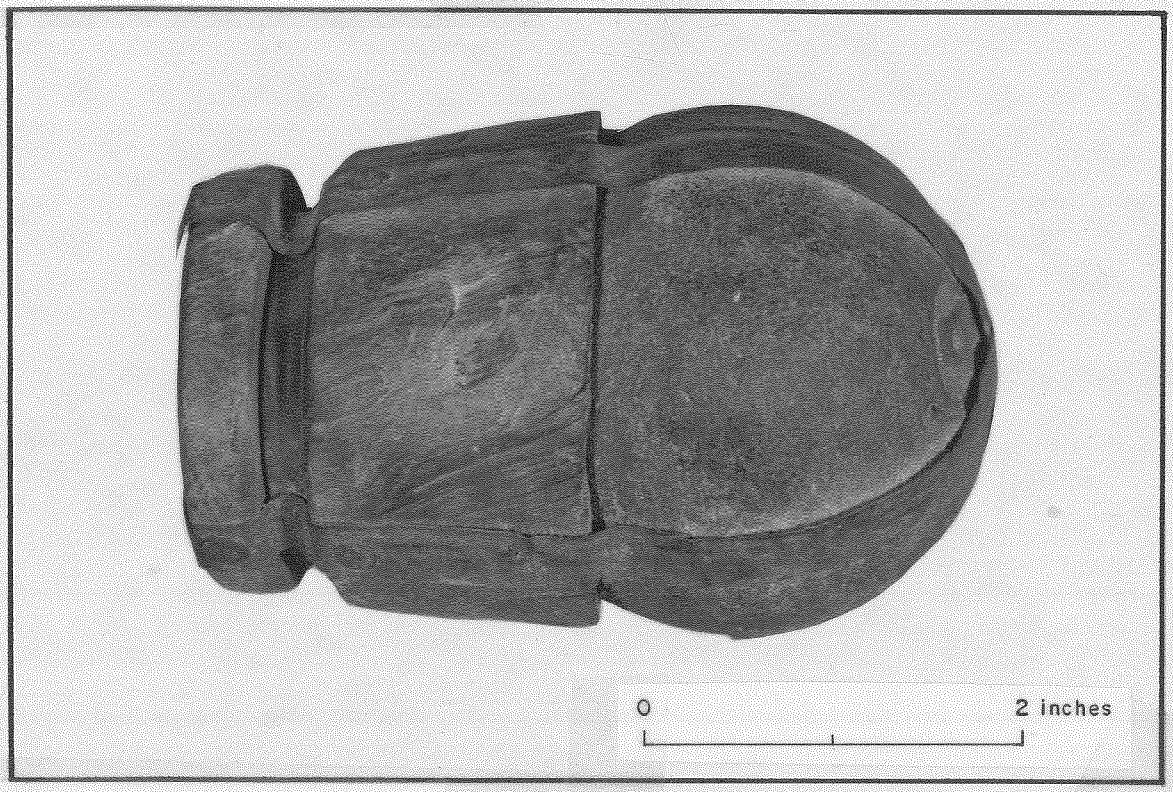

Figure 18. Solid shot (6-pounder).

The case-shot projectile was similar to the explosive shell but contained a reduced internal bursting charge and was filled with lead balls of approximately .64-inch diameter, although size varied considerably (Fig. 19). Rather than causing damage through concussion, as with explosive shell, case shot exploded in mid-air in the same pretimed manner, but sent its lead balls and shell fragments in all directions. Essentially early-day shrapnel, it was a very effective antipersonnel projectile and was used extensively at Glorieta. While its shell fragments are indistinguishable from those of an explosive shell, the fired case-shot balls are quite easily identified. The lead balls were forced against one another at the instant of firing, leaving from six to eight prominent flat spots on each ball and actually fusing two or three balls together in some cases. The fragments and balls are frequently found to have been fired into opposing artillery positions and at troop concentrations on the Glorieta Battlefield.

Both sides also used canisters at Glorieta. As the name implies, this specially made tin can filled with iron balls (Fig. 20) could be fired from any of the cannons used in the battle. A short-range round, effective from the muzzle to approximately 300 yards, was deadly against charging troops. It turned the artillery piece into a gigantic shotgun, with the can and sabot disintegrating shortly after leaving the muzzle and the balls forming a dispersing cone of projectiles. Each canister round had a mild iron base to absorb the shock of firing, and this base is sometimes found in the direction of firing, with a very distinctive indentation pattern from the fired balls. The iron balls are often crudely cast (Fig. 21) and vary in size. The 6-pounder gun fired 27 balls of 1.15-inch diameter; the 12-pounder field howitzer fired 48 balls of 1.07-inch diameter; and the 12-pounder mountain howitzer fired 148 balls of .64-inch diameter--probably the same as those used in the case shot.

Grape shot quickly went out of use during the Civil War because of its ineffectiveness. Prewar ammunition chests included "stands of grape," as the round was usually called. Each round contained nine iron balls, considerably larger than canister balls, held together by iron end plates and a through bolt. A few grape shot and end plates have been found at Glorieta. Intended as antipersonnel loads similar in concept to canister, the individual grapeshot balls varied in diameter, while the end plates, of course, were slightly smaller than the bore of the gun from which they were fired. Iron grapeshot for the 6-pounder gun was 1.86 inches in diameter, and that for the 12-pounder field howitzer measured 2.04 inches in diameter.

Other artillery accessories such as powder picks (Fig. 22a), cannon friction primers (Fig. 22a), and primer components (Fig. 22c) have also been found at or near the sites of the Union and Confederate batteries. The primers were occasionally dropped and are found complete or more commonly were blown out the vent hole when the cannon fired, the components falling to earth within approximately a ten-yard radius of the gun's position. The primer friction tape of serrated brass (Fig. 22d), which was attached to the gunner's firing lanyard, was discarded after each shot and is an excellent indicator of the exact position from which each piece was fired.

Small Arms

The variety of small-arms projectiles fired at the Battle of Glorieta was at least as great as the variety of guns from which they were fired. The Federal forces, however, contributed little to this variety. The standard infantry weapon, the Springfield rifle-musket, shot a .58-caliber (.577-inch-diameter), hollow-base, lead bullet known as a Minié ball (after its inventor, a Frenchman, Capt. Claude Étienne Minié). The Minié ball was wrapped in a waterproof paper tube along with a premeasured powder charge to form a cartridge. Each infantryman carried 40 such cartridges

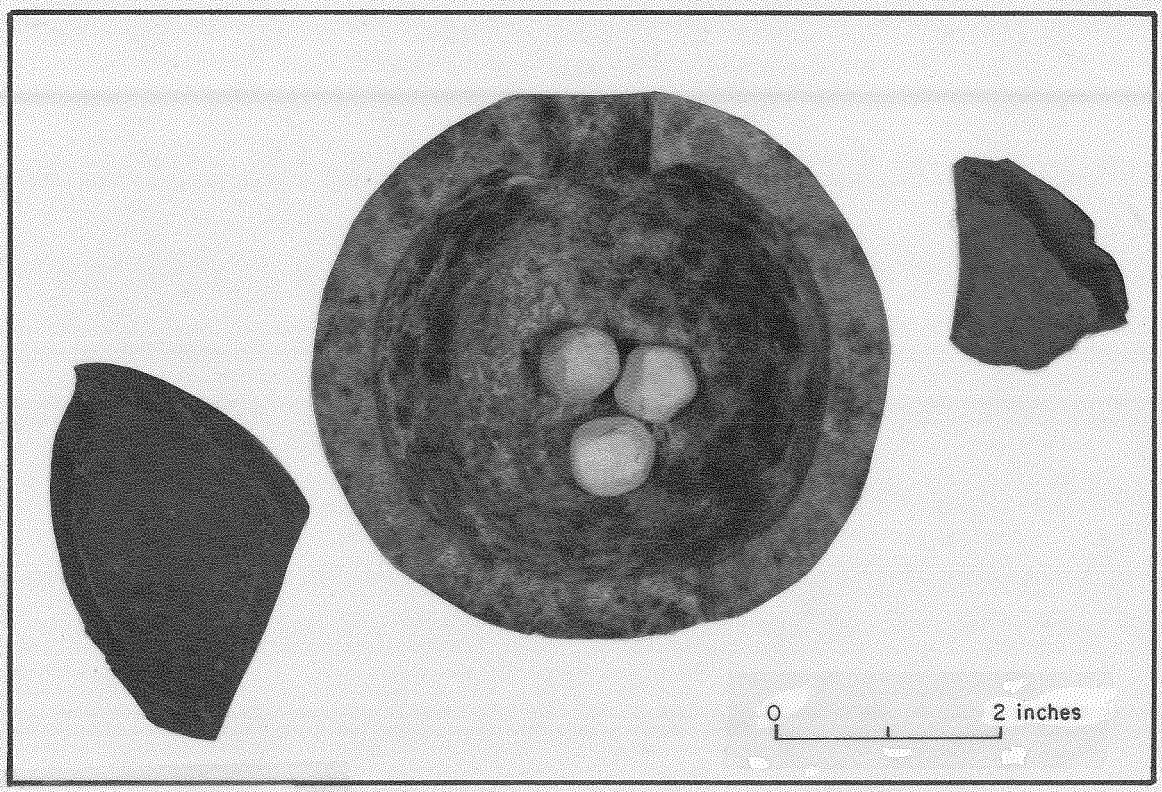

Figure 19. Case shot.

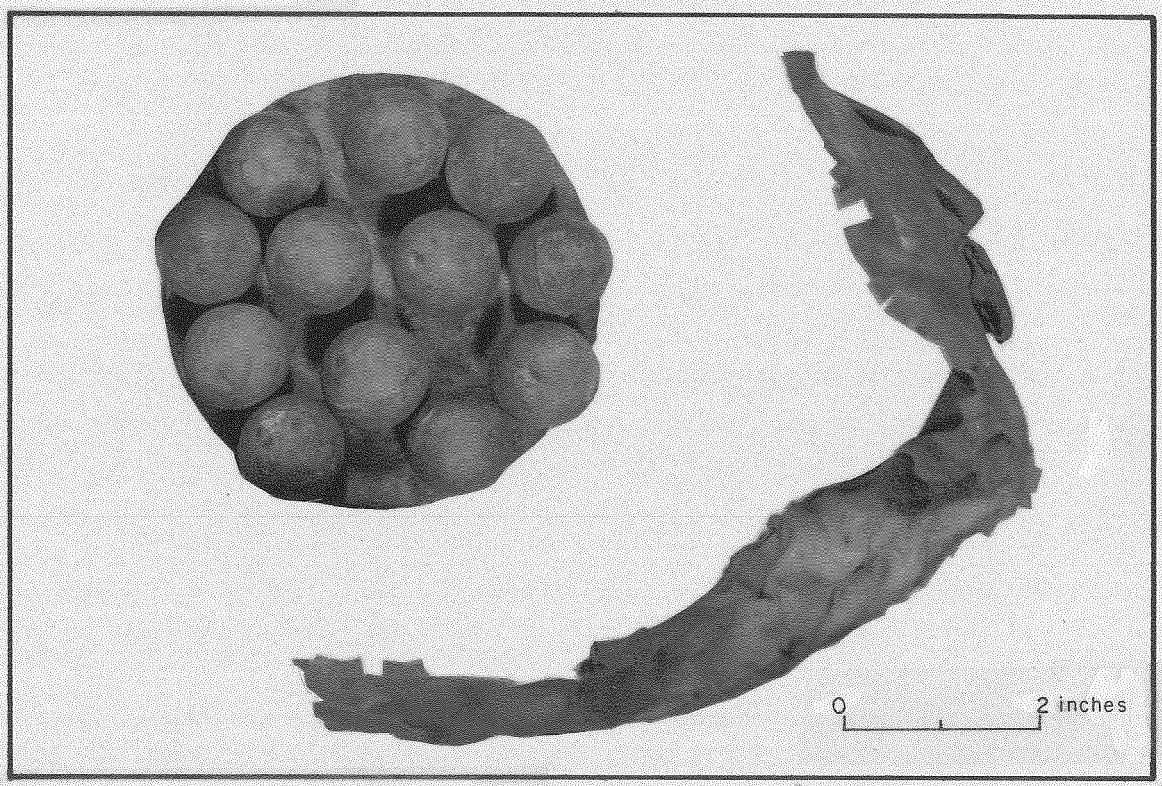

Figure 20. Canister (12-pounder).

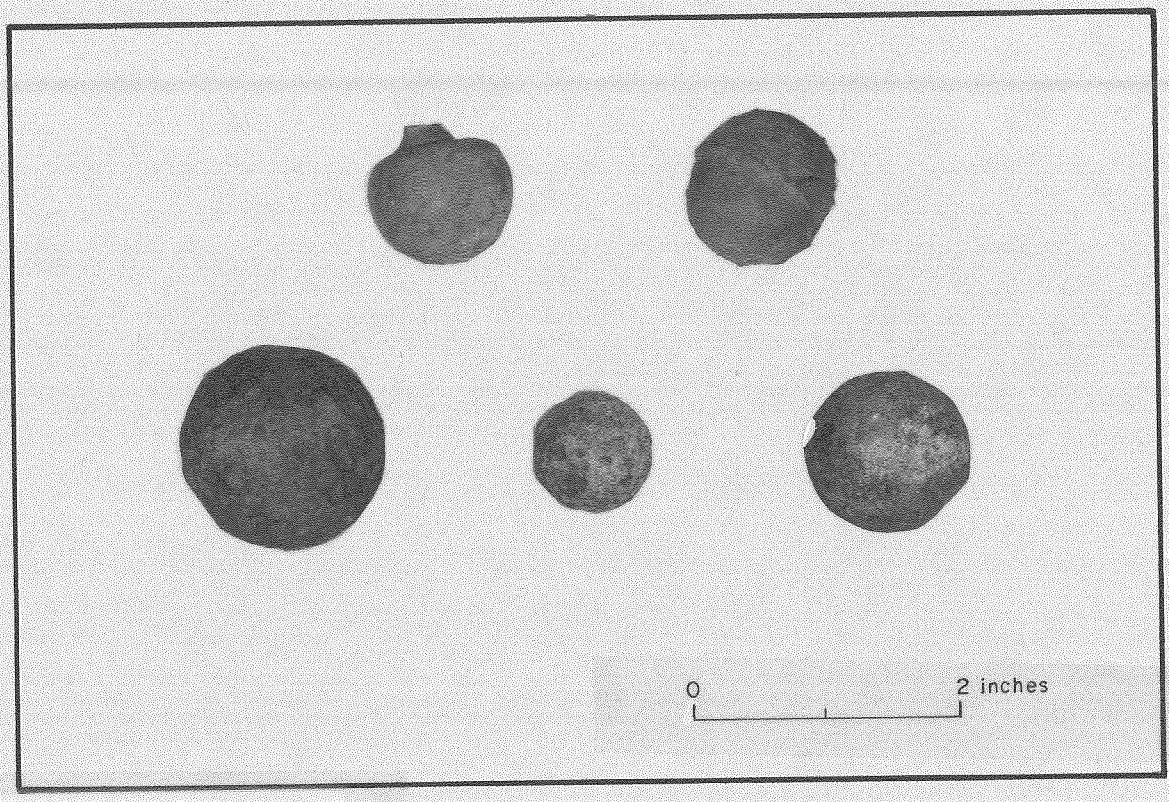

Figure 21. Canister balls.

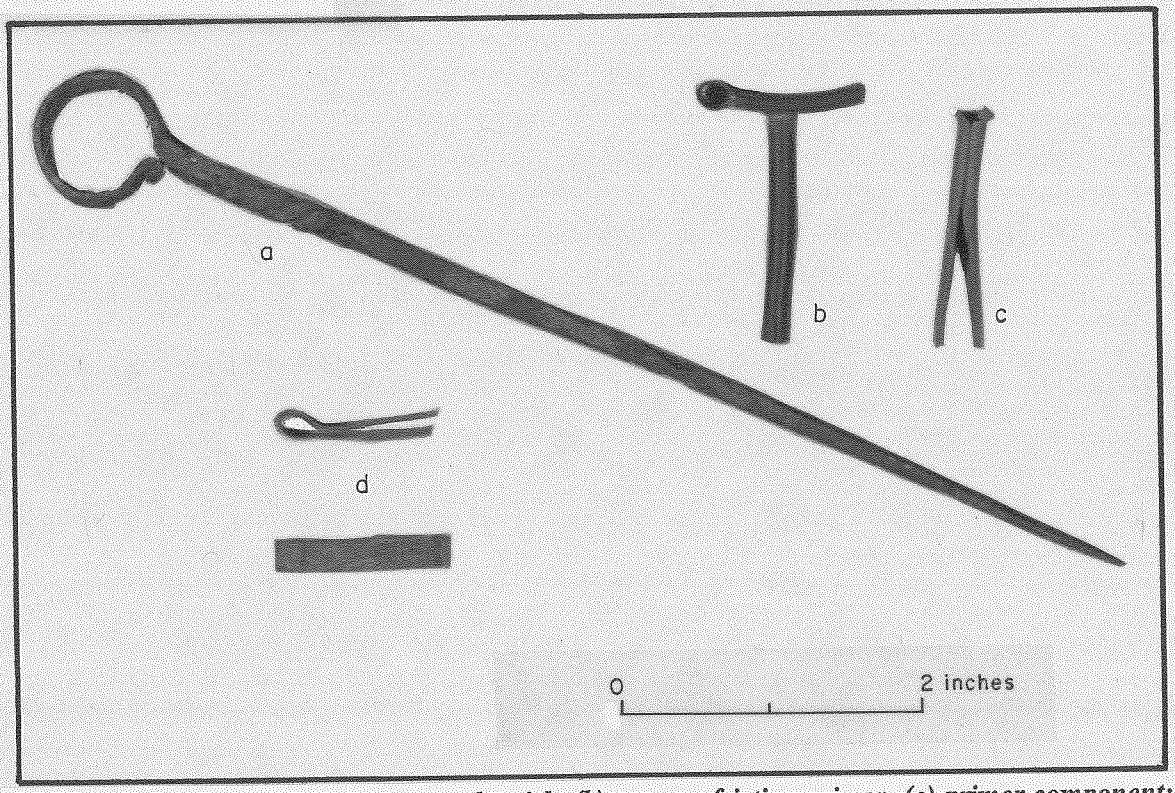

Figure 22. Artillery accessories: (a) powder pick; (b) cannon friction primer; (c) primer component; (d) primer friction tape.

in a leather box slung on his right hip. Minié balls were produced in many variations (Fig. 23), having either two or three lubricant grooves, different base and nose shapes, and in some cases, solid bases. The latter type bullets were commonly imported from England, and at Glorieta they were almost certainly fired by Confederates. Fired Minié balls, or any bullets for that matter, have longitudinal marks from the gun's rifling grooves impressed into the lead, while bullets that were dropped have no such marks. In the case of cartridges dropped on the battlefield, the powder and paper wrapping have decayed, and only the bullet remains.

The Sharps carbines used by Union Regulars and Colorado cavalrymen, as well as some Texans, fired a combustible linen cartridge containing powder and a distinctive, .52-caliber, flat-base bullet (Fig. 24). The Sharps bullet has a shallow groove or grooves near its base, into which the linen cartridge casing was tied. The Sharps carbine utilized a tube of disk primers to fire the cartridge, and these brass tubes (about .15 inch-diameter) have been found in positions assumed to have been occupied by dismounted cavalrymen on Sharpshooter's Ridge.

The .69-caliber, smoothbore U.S. musket used extensively by the Confederates at Glorieta fired either a round ball (.54-inch diameter), a Minié ball (.65-inch diameter), or a "buck and ball" cartridge containing one round ball and three buckshot (Figs. 25a-25b). Fired .69-caliber balls usually show no rifling grooves but are slightly flattened and melted by the force and heat of the propelling powder explosion.

As previously mentioned, the Texans were also armed with the .54-caliber Mississippi rifle and the U.S. Model 1842 single-shot pistol. The rifle fired either a Minié ball or round ball of approximately .525-inch diameter, while the pistol fired only the round ball. As with similar weapons, projectiles fired from rifles show rifling grooves, flattened and melted bases, or both.

Other projectiles fired from rifles or muskets at Glorieta include a .58-caliber, solid-base, cylindro-conical bullet from an Austrian Lorenz rifled musket, a .40-caliber iron musket ball, and various similar but unidentifiable bullets (Figs. 25c-25e), undoubtedly cast by individual Confederates in molds designed for their own privately provided weapons.

Since .36- and .44-caliber Colt revolvers were used by the horsemen of both sides, as well as by Union and Confederate officers, the projectiles from these pistols could reasonably be expected to be found in large numbers on the battlefield (Figs. 25f-25i). A few have been found, but the handguns were apparently little used. The standard Colt revolver cartridge was similar to those used in shoulder arms, containing a premeasured powder charge and a proper-size bullet or ball (.37-inch or .45-inch diameter wrapped in waterproofed paper. Similar but smaller .31-caliber Colt revolvers were also popular civilian arms of the period, and a few bullets from these "pocket pistols" have been located. In addition, .31-caliber round balls, fired from these pistols or as buckshot from Texan shotguns, are occasionally found.

Accoutrements

Federal

While at Fort Union before the Battle of Glorieta, in addition to being rearmed with standard U.S. weapons, the First Colorado Volunteers were issued Federal uniforms. Since the regular infantrymen and New Mexico Volunteers who fought at Glorieta also came from Fort

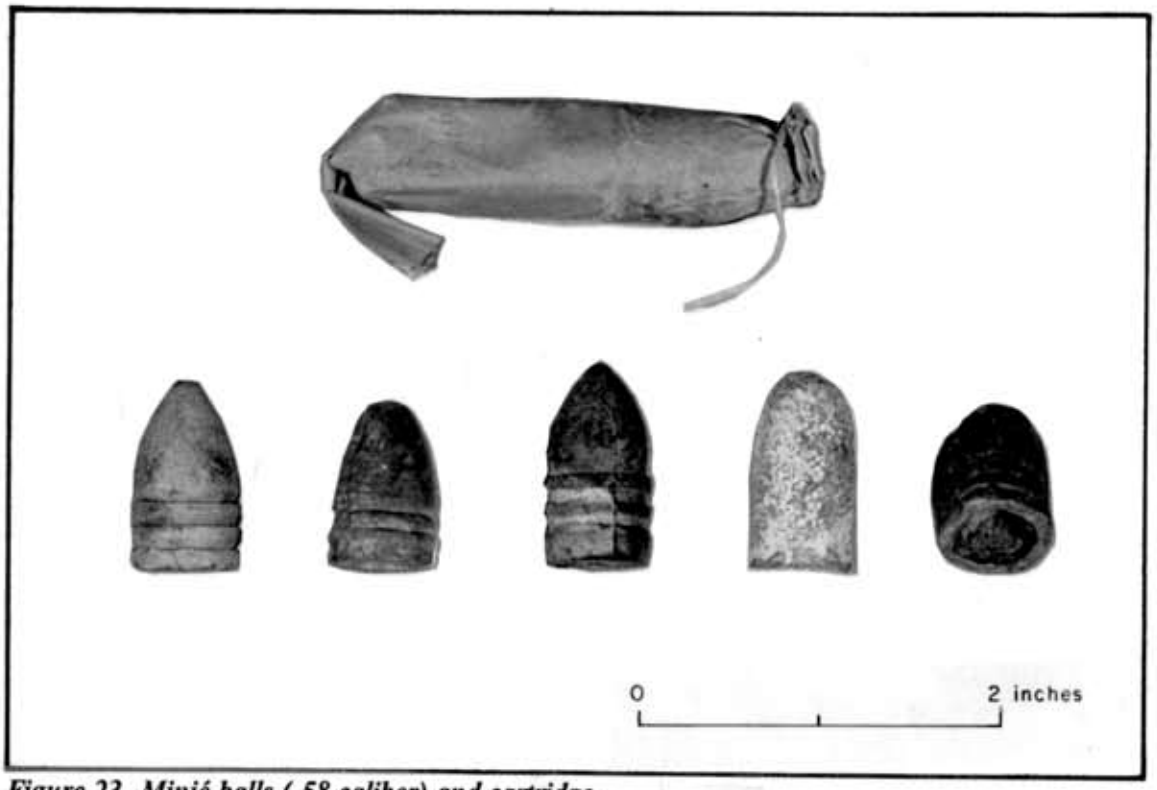

Figure 23. Minié balls (.58 caliber) and cartridge.

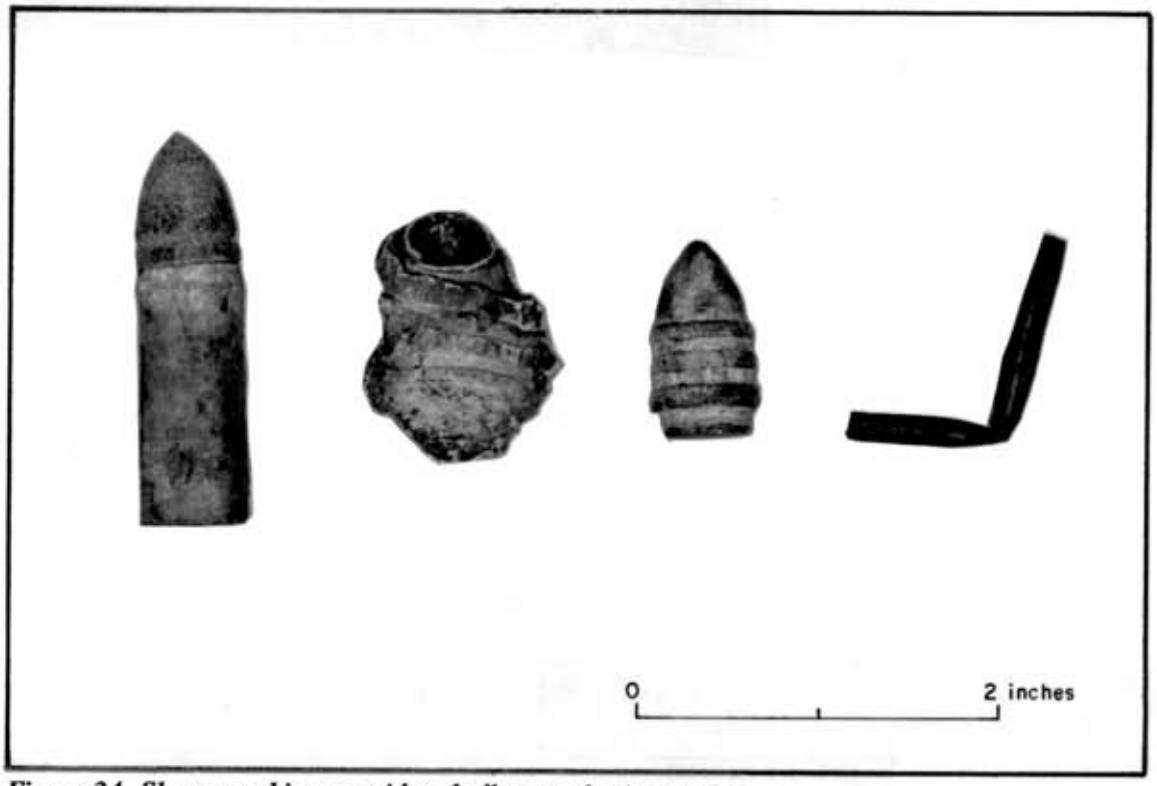

Figure 24. Sharps carbine cartridge, bullets, and primer tube.

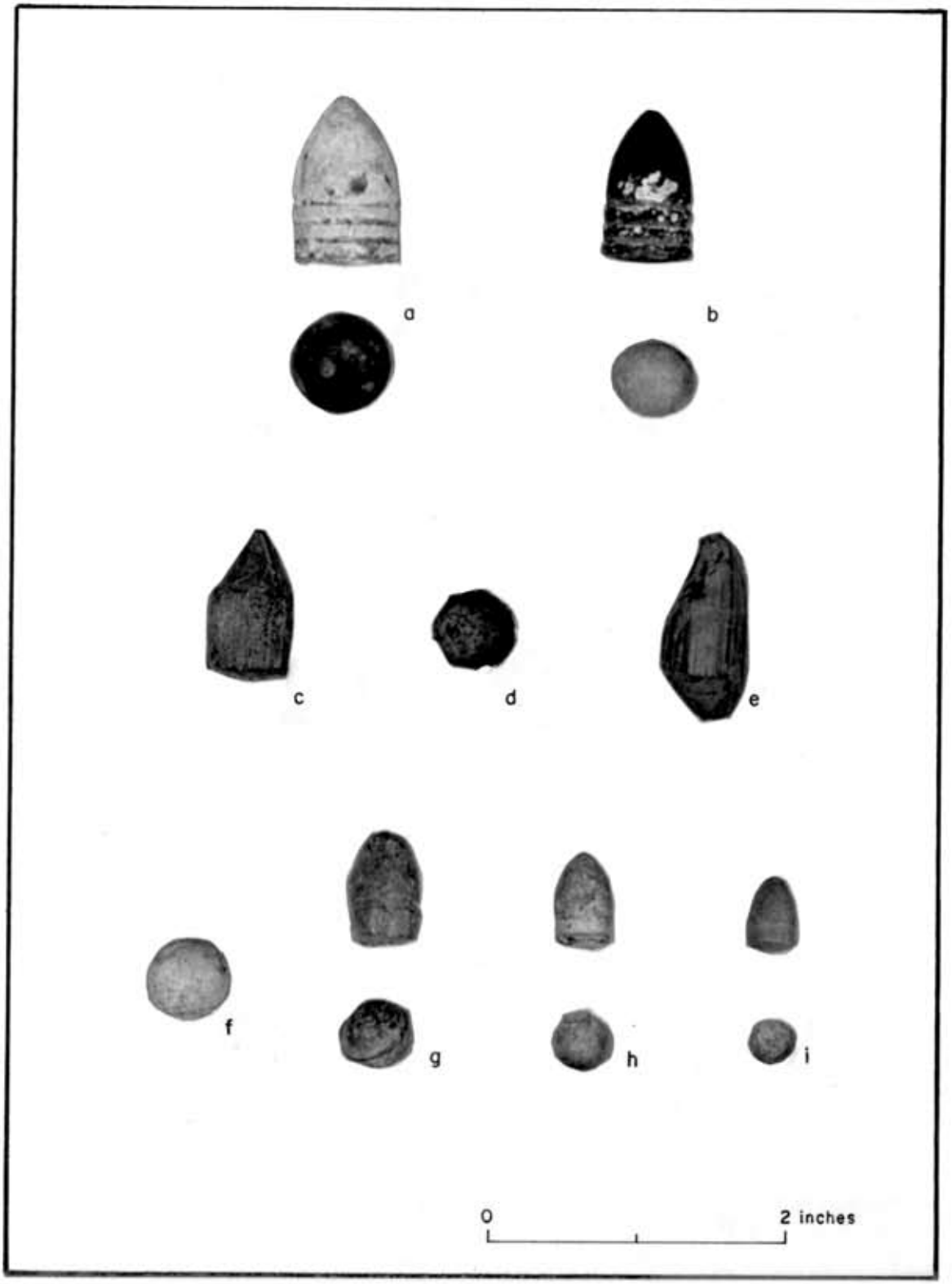

Figure 25. (a) .69-caliber and (b) .54-caliber projectiles; (c-e) miscellaneous bullets from Glorieta Battlefield; (f-i) pistol bullets.

Union, it is reasonable to assume that all the Federal foot soldiers were uniformed similarly. Their sky blue, woolen trousers were topped by a dark blue, woolen blouse and cap, perhaps also with regulation dark blue overcoats because of the cold weather, although no Federal participants mentioned the latter article. Equipment included canteens, bayonets and scabbards, cap boxes, and cartridge boxes. The rolled blanket was not in use this early in the Civil War, but the knapsack was. However, there is no mention of knapsacks having been brought onto the field at Glorieta. They were almost certainly left in the accompanying supply wagons to allow the soldiers greater freedom of movement during the fighting.

The Federal regular and volunteer cavalrymen were equipped with short, woolen jackets, high-topped leather boots, pistol holsters, sabres, cartridge boxes on waist belts, and carbines slung from leather shoulder belts.

Relatively few Federal items of apparel or equipment have been recovered at Glorieta. Items that have been found include the standard oval U.S. belt plate, uniform buttons, and four-hole, pewter underwear buttons (Fig. 26). The uniform buttons are brass, with a plain eagle design for enlisted men's uniforms. Officers' buttons contained within the shield the letter I, A, C, or D for their branch of service: infantry, artillery, cavalry, or dragoons, respectively. In addition, Union cavalrymen and officers used a rectangular, cast-brass plate (Fig. 26) on their sword or sabre belts, and although none have been found at Glorieta, such artifacts could possibly be recovered.

Items of personal equipment that could be recovered include musket tools (Fig. 27a), the brass tips of bayonet scabbards (Fig. 27b), and bayonets (Fig. 27d). In addition, all the firearms previously mentioned, except the Sharps carbines, used small, stamped-brass percussion caps to ignite their main powder charges (Fig. 27c). These hat-shaped caps contained a waterproofed wafer of fulminate of mercury and were placed over the hollow nipple that led to the gun's powder chamber. When the trigger was pulled, the gun's hammer crushed the cap, and the resulting flash from the fulminate traveled from the nipple through a narrow hole and into the chamber, firing the gun. These caps, whether for pistol, rifle, musket, or shotgun, were difficult to handle in the heat of battle; consequently, many can be found in infantry positions occupied by both sides, where they were either dropped or discarded after firing.

Confederate

About the uniforms and equipment worn and used by the Confederate Texans, much less can be said with certainty. Diaries and journals of several participants in the Battle of Glorieta indicate that many of them were dressed in civilian clothing of the era, including perhaps a "soldier shirt" sewn by a loved one back in Texas. In addition, from the few extant sketches of Sibley Brigade members, it is apparent that many were also dressed in whole or part in Federal uniform components taken from U.S. stocks at the beginning of the Civil War, from quartermaster stores, or from captured, deserting, or dead Union soldiers (see sketch of Confederate soldier by A. B. Peticolas in Alberts [1984:124]). If any gray Confederate uniform items were available and issued to the invading Texans, there is no clear indication of it, either written, sketched, or photographed. Because the Sibley Brigade left Texas in October and November 1861, very early in the war, it is doubtful if much Confederate apparel or equipment was available to them. No Confederate item has been found on the Glorieta battlefield. Exceptions might be civilian belt buckles, buttons, suspender buckles, etc. Unique equipment, such as Bowie knives, was highly valued and seldom lost or discarded.

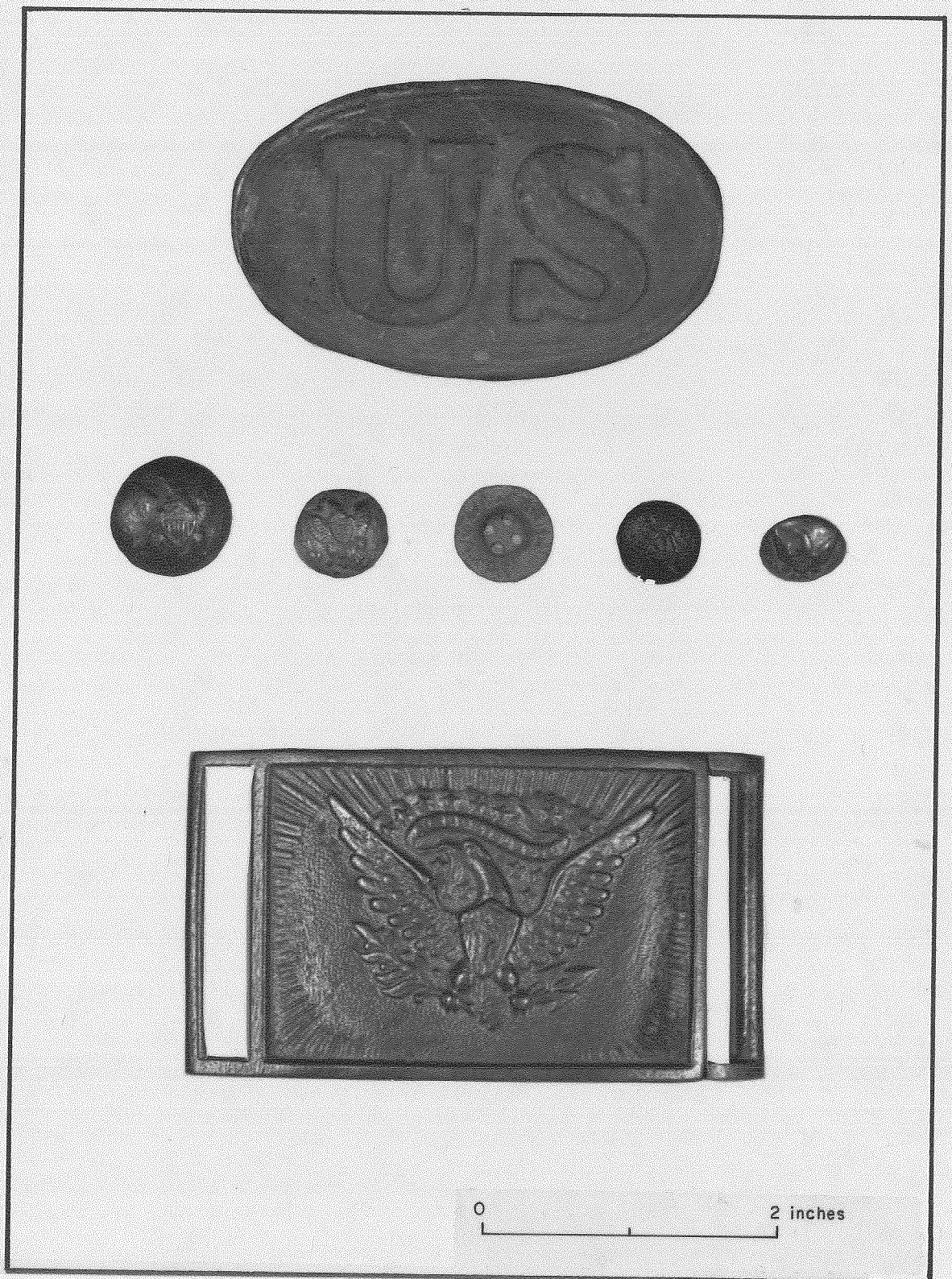

Figure 26. Federal belt plate (top), buttons, and sabre-belt plate.

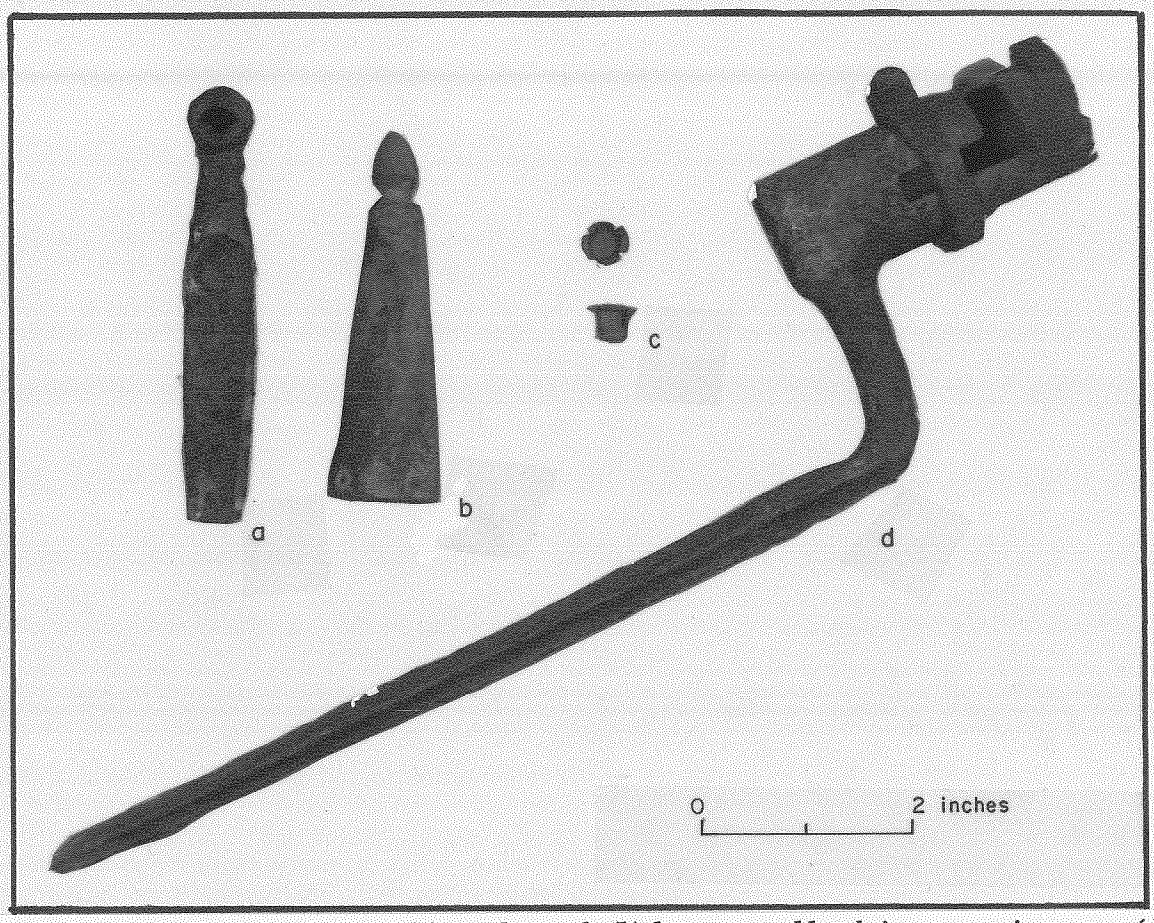

Figure 27. Federal equipment: (a) musket tool; (b) bayonet scabbard tip; percussion caps; (d) bayonet.

Other Artifacts

As previously mentioned, the Santa Fe Trail, with its heavy civilian traffic before and after the Battle of Glorieta, ran through the battlefield itself. As a result, many artifacts found on the site are undoubtedly from these civilian sources. In addition, a Pigeon's Ranch corral was located where the Federal artillery batteries stood during much of the battle, so that finding horse equipment, ox shoes, and other related hardware is not uncommon. Such artifacts are often found alongside battle-connected items such as cavalry horse accoutrements and hospital appliances. The difficulty of discriminating between these military and nonmilitary artifacts must not be underestimated.

PIGEON'S RANCH AFTER THE CIVIL WAR

Valle's Claim for Damages

According to Alexander Valle, the Battle of Glorieta at Pigeon's Ranch left the compound in shambles. In an official claim to the Office of the Quartermaster General, Valle stated that the Federal troops took his keys and used his residence as a hospital for those wounded at Apache Canyon and Glorieta (Valle 1870). He also notes that Confederate prisoners of war were kept in his residence until May 1862. He said that his corrals, stables, lots, granaries, and outhouses were taken over by the United States troops.

Union forces were also quartered at Valle's ranch before and during the Battle of Glorieta. Valle demanded vouchers for the forage and stores they used and was guaranteed that the amount would be paid at the proper time. He was told that it was not proper to make such a demand during the skirmish: "I was preemptorily [sic] refused the privilege, and was actually prevented from removing to a secure place any jewelry, clothing, relics, or furniture pertaining to myself and family." He claimed "serious damage and losses to my farm improvements and premises by the wear, breakage and destruction of inclosures, fences, walls, doors, gates, water tanks, cisterns, wells, timbers, furniture, clothing, relics, jewelry, money, carriages, etc. amounting to fully $4,000." When he applied for payment from the U.S. government under provisions of an Act of Congress approved July 4, 1864, however, his claim came to $8,529.37 (Valle 1870; Table 2).

Table 2. Alexander Valle's war claims, July 25, 1870

8 dozen plates (heavy) @ $6 dozen
12 mess pans @ $1 each
8 dozen cups and saucers @ $4 dozen
8 frying pans @ $1.50 each
6 stew kettles @ $3 each
6 dozen spoons @ $3 dozen
6 dozen knives and forks @ $6 dozen
7 butchers knives @ $.75 each
4 camp kettles @ $3 each
14 wash bowls and pitchers @ $4.50 each
3 ½ dozen dishes @ $5.75 dozen
6 dozen glass tumblers @ $3 dozen
114 wool blankets @ $6 each
32 bedspreads @ $3.50 each
36 wool mattresses (double) @ $12 each
46 pairs bed sheets @ $3 each
14 dozen linen towels @ $6 each
1 dozen linen table covers @ $36 each
70 pillows and cushions (wool) @ $1 each
95 pillow and cushion covers @ $.50 each
120 yards carpeting @ $1 yard
9 china chamber pots @ $2.50 each
1 pair revolving pistols @ $40
1 pair extra fine silver revolving pistols @ $100
3 hunter's rifles @ $40 each
1 sportsman's shotgun @ $40
1 sportsman's shotgun (extra fine) @ $60
8 picket ropes @ $1.35 each
31,000 lbs shelled corn @ $.08 lb
3,000 lbs fodder @ $.02 ½ lb
5 tons hay @ $.02 ½ lb
120 dozen bundles sheaf oats @ $2.50 dozen
4 harness mules @ $150 each
2 fine carriage horses @ $300 each
1 light wagon @ $125
5 riding bridles @ $4 each
5 saddles @ $20 each
1 harness (extra fine) @ $60
7 heavy wagon covers @ $30 each
1 large cook stove @ $120
4 small bake ovens @ $4 each
1 dress cloth coat @ $30
1 cloth coat @ $40
1 heavy overcoat @ $45
1 heavy coat @ $35
1 dozen linen shirts @ $54
10 linen bosum shirts @ $3 each
2 dozen wool-thread hose @ $6 dozen
7 silk handkerchiefs @ $2 each
10 pairs cotton and wool drawers @ $2 each
3 pairs fine pants @ $12
2 pairs ordinary pants @ $8 each
240 yards domestic cotton @ $.20 yd
6 spades @ $2 each
4 axes @ $3 each
2 large boxes carpenter tools @ $6.25

On August 20, 1870, Wendel Debus submitted an affidavit to the Office of the Quartermaster General supporting the prices Valle was claiming for his damaged goods. Debus was a merchant, trader, and produce dealer in the city of Santa Fe. Prices given by Debus for goods in Santa Fe at the time are given in Table 3.

Table 3. Prices of goods in Santa Fe in 1861-62

Super fine sugar, $10-18 100 lbs
Sugar, $.75-1.00 lb
Coffee, $.75
Rice, $.50 lb
Beans, $12-18 fanega (140 lbs)
Lard, $.50-.75 lb
Tea, $2.50 lb
Side bacon, $.50 lb
Fresh beef, $.10-.15 lb
Fresh mutton, $.80 lb
Bar soap, $.25 lb
Star candles, $.50-.75 lb
Bourbon and Monongohela whiskey, $6-8 gal
Syrup molasses, $6 gal
Vinegar, $3 gal
Pickles, $3 gal
Sauerkraut, $1.50 gal
Black pepper, $.50-.75 lb
Beef cattle, $40-75 head
Live hogs, $20-35 head
Chickens, $.50 each
Irish potatoes, $12-15 fanega
Cabbage, $.50-.75 head
Salt (ground), $.09 lb
Corn meal, 12 ½ cents lb
Butter, $.75 lb
Shelled corn, $12-18 fanega
Fodder, 2 ½-3 cents lb
Hay, 2 ½-3 cents lb
Sheaf oats, $2.50-3 dozen bundles
Mules (ordinary), $150 head
Mules (good), $400-500 pair
Horses (same as mules)
Light wagons, $125
Riding bridles, $4-6
Axes, $3
Cooking stove, $50-125
Bake ovens, $4-5
Mess pans, $1.50-2.50
Cups and saucers, $4-6 dozen
Frying pans, $15 dozen
Stew kettles, $3-5
Knives and forks, $8-12 dozen
Camp kettles, $3-5
Wash bowls and pitchers, $5-7
Glass tumblers, $4-9 dozen
Blankets, $6-10
Bed spreads, $6-8
Bed sheets, $3-5 pair
Linen towels, $6-12 dozen
Table covers, $4-10
Pillows and cushions, $2.50-4
Wool mattresses, $10-18
Pillow slips, $.50-$1.00
Mexican carpeting, $.50-.65 vara
American carpeting, $1-1.50 yd
Chamber pots, $2-4.50
Revolving pistols (repeaters), $50 pair
Revolving pistols (extra fine), $75 pair
Hunter's rifles, $25-100
Shotguns, $30-75
Dress coats, $50-75
Overcoats, $50-75
Linen shirts, $6
Linen bosum shirts, $2.50-5
Silk handkerchiefs, $1.50-3
Cotton drawers, $1.25
Woolen drawers, $2-4
Casimer pants, $15-20
Casimer pants (ordinary), $8-10
Domestic cotton, 33-62 denire,[1] ½ cent yard
Spades, $2.50-3
Picket ropes, $1-1.50

[1] A unit of weight for measuring the thickness of threads

Whether there was collusion between Valle and Debus to falsify the prices is unknown. However, a receipt from Felipe Delgado, apparently a storekeeper in Santa Fe, reports the sale of the following goods to the Confederates at considerably less than the Valle or Debus quotes. These include sugar @ 40¢/lb (vs. 75¢), coffee @ 30¢/lb (vs. 75¢), coats @ $7 (vs. $50), and pants @ $4 (vs. $8). The lists, while obviously not totally accurate, present an interesting insight into consumer prices of the period. In our opinion, some of the prices reported by Valle and Debus

seem overly high; however, we must remember that a war was being waged in and around Santa Fe during this time, and prices consequently may have been inflated.

Whether or not Valle's list is a fair assessment of the amount of his goods on hand at the time of the battle, we can still conclude that the ranch was indeed a large stage-stop operation and very well supplied. Apparently the quartermaster general of the U.S. Army had difficulty believing Valle's claim. A letter from Union captain H. M. Enos on August 25, 1871, to the quartermaster general states, "I do not believe that an animal-saddle, buckle, or harness was taken from Valle." He also said that on the morning of March 28, the premises were intact, but that after the battle the rebels gained possession of Valle's place. Another letter from the deputy quartermaster general, J. C. McFerran, on June 26, 1871, states that the rebels took possession of Valle's house for 10-12 hours. He also notes that Valle had already been paid for his fodder losses.

Valle, in turn, gathered an impressive group of people to testify in his behalf to the quartermaster general. Joab Houghton, prominent Santa Fe resident, former chief justice, and registrar of the U.S. Land Office, states in an affidavit of July 28, 1870, that it was his custom to stop at the well-furnished house of Valle when traveling from Santa Fe to Fort Union. He notes that, subsequent to the battle, he "found his [Valle's] premises utterly stripped of everything" and that he and his family were forced to sleep on the bedding they brought with them. George W. Howland, captain of the U.S. troops at Glorieta and later postmaster at Santa Fe, swore in an affidavit on August 20, 1870, that U.S. forces did indeed occupy Valle's property. Maj. John M. Chivington, who led the U.S. raid on Apache Canyon, wrote on October 4, 1870, that U.S. troops did take over Valle's house and supplies. He also notes that when retreating to Koslowski's ranch, he took "all the grains and other supplies...that were not necessary for the men" so the supplies would not fall into enemy hands. Manuel Chávez, another prominent New Mexican and leader of the New Mexico Volunteers, swore in an affidavit on July 29, 1870, that he heard the order given by Chivington to "occupy farm and premises and to take and use the supplies, forage, stores." E. J. Bailey, surgeon of the U.S. Army, said on May 8, 1871, that Valle's bedding may have been used as shrouds to bury the dead. Dr. J. H. Cadogan, a Union hospital attendant at Pigeon's Ranch, stated in an affidavit of August 4, 1870, that the dead were definitely wrapped in Valle's blankets, bedding, and clothing.

By May 1872, the U.S. Army still had not ruled on Valle's claim, and his lawyer, Justus I. McCarty, wrote to ask about the delay. Apparently the United States decided not to accept Valle's claim for damages, because no record can be found validating that claim. It is evident from military records that several Union officers thought Valle was a Confederate sympathizer, since his friends and acquaintances wrote many letters to the Quartermaster General stating that he was a strong Union supporter. For example, on July 28, 1870, Joab Houghton noted specifically that Valle was loyal to the U.S. government. One of the caretakers at Pigeon's Ranch, Antonio Romero, swore in an affidavit on January 30, 1871, that Valle was a guide and a spy for U.S. troops. Major Chivington noted on October 4, 1870, that Valle furnished him valuable and reliable information on the enemy.

In 1865, Alexander Valle sold his property at Pigeon's Ranch to George Hebert. On July 1 of that year, the U.S. Congressional Doolittle Committee, investigating the condition of Indian tribes, stayed overnight at Pigeon's Ranch on July 1. Kit Carson, who by now was about 60 years old, was staying there at the same time (White 1975:40-44).

Ownership of Pigeon's Ranch

Table 4 tracks all land transfers from the time of Valle's holdings up to the present. A discussion of each landowner follows.

Table 4. Pigeon's Ranch property transactions, 1850-present

Date	New Owner	Transaction
ca. 1850	Valle	Apparently none. He settles at present Pigeon's Ranch.
1865	Hebert	Valle sells ranch to Hebert. Unknown acreage.
Sept. 24, 1883	Hebert	Homestead of 160 acres (including Pigeon's Ranch) filed on by Hebert
June 3, 1887	Taber	Quitclaim deed, Hebert to William B. Taber
Aug. 6, 1887	Taber	Homestead relinquished by Hebert and filed on by Taber
Aug. 4, 1891	Taber	Homestead patent to Taber
May 24, 1892	Taber	Quitclaim deed, Taber to Walter M. Taber
Nov. 8, 1923	Taber/Williams	Warranty deed, Taber to David L. Williams (2 acres)
1925	Greer	Warranty deed, Martha B. Taber to Thomas L. Greer

George Hebert was a young rancher in the Santa Fe area in 1862. He married a widow from the Santa Fe Academy, a school for women, and bought Pigeon's Ranch from Alexander Valle in 1865 (Russell 1954:95-96). In 1867, he stated that he was the owner of the Santa Fe Trail trading post and hotel (Hall 1984:113). At this time, he also applied to the U.S. government for permission to run an agency, without pay, to oversee deserted Pecos Pueblo lands. The reason for this rather generous offer may have been to ward off growing competition from Martin Koslowski, who ran another trading post near Pecos Pueblo and who had already taken over some Pecos Pueblo lands. Koslowski complained to authorities about the inappropriateness of Hebert's offer (Hall 1984:113). It is believed that Hebert was not awarded the agency because no records can be found of the transaction.

The *Santa Fe Weekly Gazette*, on August 17, 1867, reported that Hebert deeded a tract of land to the U.S. government for a burial ground for Union soldiers killed at the Battle of Glorieta. No records of this transaction can be found in legal documents, however.

Apparently during Hebert's ownership, the earliest known drawing of Pigeon's Ranch was done in May 1869 by Vincent Colyer (see Fig. 8). The drawing is now the property of the Albuquerque Museum. Two photographs were taken of the ranch complex in about 1885 by J. R. Riddle (Figs. 28 and 29).

Figure 28. Pigeon's Ranch in about 1885, when it was owned by George Hebert. Looking west. Photo by J. R. Riddle. Courtesy CPRC Files, New Mexico State Records Center and Archives, #21850.

Figure 29. Pigeon's Ranch, ca. 1885, looking east. Photo by J. R. Riddle. Courtesy Museum of New Mexico Photo Archives, #76032.

In 1882, Hebert was busy running Pigeon's Ranch and participating in the real estate market, selling property in Santa Fe and Glorieta. Although he owned Pigeon's Ranch, he filed for a homestead patent on the property on September 24, 1883. For unknown reasons, he relinquished his claim on August 6, 1887. Prior to this, on June 3, 1887, he gave a quitclaim deed for the property to Walter M. Taber for $350. When Hebert then gave up his homestead claim, Taber filed on it the same day. George Hebert stayed in the Pecos area at least through 1896.

Hebert is listed in census records as one of two non-Spanish voters in Pecos, fighting against incorporation of the town. The other, Martin Koslowski, played a role similar to that of Alexander Valle during the Battle of Glorieta and was instrumental in the economic growth of the Pecos area. Koslowski was born on April 24, 1827, in Warsaw, Poland. Prior to coming to the United States in 1853, he was a refugee in England (Whitford 1906:84). In the U.S., he served five years in the First Dragoons fighting Indians in New Mexico. Koslowski mustered out in 1858 and settled on a ranch of 600 acres near Pecos Pueblo. His property was a way station and hostelry along the Santa Fe Trail and became a meal stop for the Barlow and Sanderson Overland stage line (Simmons 1988:97).

During the Civil War engagement at Glorieta, Federal troops from Fort Union occupied Koslowski's ranch and used it as a headquarters and hospital during the battle, calling the place Camp Lewis. Koslowski is quoted as saying that the Union troops "made my tavern their hospital for over two months after their battles.... [T]hey never robbed me of anything, not even a chicken" (Whitford 1906:84). Perhaps we can now understand why Valle recovered no Federal support for his war damages at Pigeon's Ranch. How could the same Union men within a period of a few days wreak havoc upon one man's ranch and leave another man's property unscathed? At stake were large military contracts, for example, for the storage of fodder. By filing claims against the government, Valle sacrificed his chances of winning these contracts, leaving Koslowski in a good position. Probably both men were stretching the facts for their own personal benefit.

In 1868, Koslowski moved on to Pecos Pueblo land, as did many settlers of the region. He actually was living in the Pecos mission church. At the time, he complained that some people had tried to dispossess non-Indians of land in the Pecos Grant, mentioning George Hebert specifically (Hall 1984:113). Later, in 1878, Koslowski was cited in the *New Mexican* for vandalizing Pecos Church and using the structure for building materials. Sometime after this, he supposedly went insane and killed his son, for which he spent two years in prison (Hall 1984:124). However, he was still living at Pecos Pueblo in 1896, one of two non-Indian voters. His age at the time would have been 72.

Back at Pigeon's Ranch, Walter M. Taber filed a homestead claim on the property in August 1887. By August 1891 he received the homestead patent. Several members of the Taber family show up in court documents regarding this property, including Taber and his wife, Martha B. Taber; his brother, William B. Taber; William's wife, Sarah H. Taber; and Taber's son, Walter G. Taber. The Pigeon's Ranch property stayed in the Taber family from 1887 through 1925. On July 2, 1894, Walter M. Taber acquired another homestead patent (#1998) for 180 acres immediately east of Pigeon's Ranch, which included the present-day Arrowhead Lodge. In a 1906 visit to Pigeon's Ranch, Whitford notes that the buildings were greatly dilapidated (Figs. 30, 31; Whitford 1906:85). Walter M. Taber died before June 1916, and his widow eventually sold the property to Thomas L. Greer. During this time, Mrs. Taber and her son also sold two acres of the north portion of the original homestead to David L. Williams.

Figure 30. Pigeon's Ranch in about 1890, when it was owned by Walter Taber. Photo by William C. Whitford. Courtesy Betsy Swanson.

Figure 31. Pigeon's Ranch in 1917, when it was owned by Walter Taber. Courtesy Museum of New Mexico.

Walter M. Taber took ownership of Pigeon's Ranch in 1887. A. B. Wadleigh (1952:20-21), Taber's brother, confirmed that Taber bought the ranch at that time. He states that the inn "had a bad name as being the rendezvous of gamblers and other tough characters." Wadleigh also mentions that his brother built another house off of the road and engaged in agricultural pursuits, often picking up Minié balls and small shot from the Glorieta battlefield.

THOMAS GREER, ENTREPRENEUR, 1925-1971

Yvonne R. Oakes

Thomas L. Greer acquired Pigeon's Ranch in 1925 from Mrs. Walter Taber. Greer subsequently turned Pigeon's Ranch into one of the Santa Fe area's major tourist attractions by capitalizing on the historical aspects of the ranch as well as creating a few attractions of his own.

The man led a fascinating life prior to purchasing Pigeon's Ranch. He was supposedly born in Arizona to owners of the largest cattle and horse ranch in the northern part of the state. In his early days he was a cowboy roper and also ran wild horses for the Navajos. Then he spent seven years fighting in Mexico during the Mexican Revolution, where he was captured and sentenced to be shot as a spy. Apparently, he escaped. Next, Greer was the manager of a wild West show for ten years before going back into the cattle business (Cook n.d.).

Greer was asked by Cook (n.d.) how he acquired Pigeon's Ranch. His reply was, "I just went plum busted in the cattle business and I looked around for a place to settle down in. I had run cattle through this pass and thought it a likely place to settle in. I bought this old trading post. He states that the original ranch had 22 rooms with a courtyard in the center.

Greer used the last standing building of the former Pigeon's Ranch as a trading post. He covered the walls with the skins and heads of grizzly bears and deer, antlers, rifles, oxen yokes used on the Santa Fe Trail, and branding irons from the old Greer Ranch (Fig. 32). Some of the sayings painted on the walls by Greer, still legible today, were recorded by the project crew and are listed in Table 5.

Greer built an adobe house for himself, his wife, and his son, Thomas, Jr., south of the highway. The building was still standing in 1972 but was in poor shape (McCoy 1983). No photographs of this house could be found, but the front porch can be seen to the extreme left in a postcard from the ranch (Fig. 33). Thomas Greer is also in the picture, standing on the bluffs above the ranch. Some time in the mid-1970s, a local resident, Ron Porter, remembers tearing down the Greer house. He said it consisted of two bedrooms, a living room, and a kitchen. There was an outside privy. The project team found the foundations of the Greer residence, which is described in the following section.

Not much is known about Thomas Greer and his family. According to local residents, his son, Tom, Jr., is living in Colorado. Greer's wife supposedly moved close to Las Vegas, New Mexico, sometime after Greer's death, but attempts to locate her were unsuccessful. However, we found evidence that she may be buried on the property. A cemetery in the woods southwest of Pigeon's Ranch is probably the Greer family plot. A total of 13 individual graves could be identified, the earliest dated 1930 and the latest 1979. Mainly two families, Reid and Greer, are represented. Thomas Greer apparently lost an infant daughter, Ina May Greer, who was born on August 3, 1929, and died on June 9, 1930. She was the first interment in the graveyard. Another Greer, Estella Reid Greer, called "Mom" on the tombstone, lived from 1904 to 1964 (Fig. 34). We believe this could be Greer's wife. In this case, the local residents might be in error about her moving to Las Vegas.

Figure 32. Thomas L. Greer in the Pigeon's Ranch building used as a trading post, ca. 1935. Note the sayings on the wall and the Indian wares for sale on the table. Photo by T. Harmon Parkhurst. Courtesy Museum of New Mexico, Neg. No. 68908.

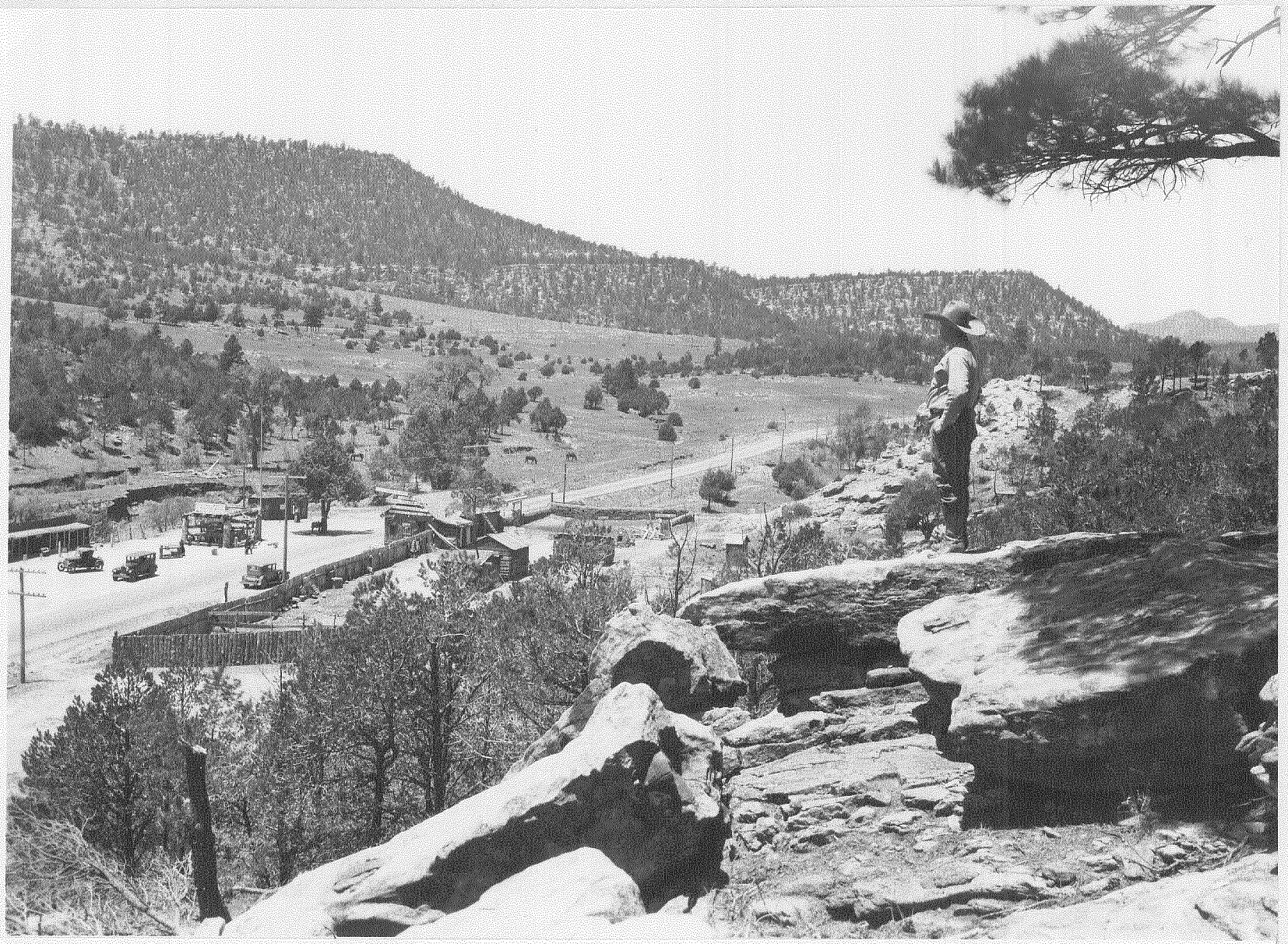

Figure 33. Thomas Greer viewing the Pigeon's Ranch complex from the east, ca. 1935. Photo by T. Harmon Parkhurst. Courtesy Museum of New Mexico, Neg. No. 9616.

Figure 34. Gravestone of Estella Greer in Greer cemetery. The marker to the left was not identified.

There are six other Reids in the cemetery, probably Greer's in-laws, if in fact Estella was his wife. Three infant girls were buried in the graveyard, with no indication of their relationship to the rest of the cemetery occupants: Susie Hickman, 1963-1965; Jeanette Marie Alward, 1969-1969; and Sarah Glass, 1970-1970. There are also two unmarked graves.

The Greer complex included his residence, the trading post, a garage and gas station, the entrance to the "Indian caves," a pond for fishing, pens for several bears, and a well advertised as "the most historic and wonderful old Indian Spanish American well." This layout can be seen in a photograph taken from the ridge overlooking the ranch in about 1935 (see Fig. 33). An unknown photographer took a picture of the single remaining structure at Pigeon's Ranch, probably immediately after its acquisition by Greer in 1925 (Fig. 35). Note the lack of tourist signs and the new pitched roof. A later photograph shows the building as it began to be embellished with signs by Greer (Fig. 36).

By 1935, Greer had hired an Indian to sell jewelry under the trees across from the Ranch building (Fig. 37). Pieces of historic Indian pottery were recovered from this same area during the recent testing program. He had also stocked the pond he had dug out of the Glorieta Creek stream bed with goldfish. Some goldfish were seen in the pond as late as the 1970s. In front of the trading post can be seen a stone marker not visible on any earlier photographs of the building. It gives the date August 18, 1846, and states: "Gen. Stephens [sic] Kearny, Dispersed Spanish Forces of General Armijo Then Declared Same American Terry" (Fig. 38).

Table 5. Inscriptions by Thomas Greer on the walls of Pigeon's Ranch

Location	Wall	Inscription
Room 1	west	First on S... Trail Old Post Office
Room 1	east	THE BIGGEST COW MAN THE WEST ever had
Doorway between Rooms 1 and 2		Dogs Not Allowed
Room 2 floor		These old floors are Hand made 100 years old
Room 2	east	The First Cattle Brands Recorded in Texas McH 4th 1832 (CH) R.H. Chisolm, Gonzales Texas ...e Brands O... ... West. Historical Symbols of Indians In By Gone Days
Room 2	west	Twas way out West Where the Antelope roam, And the Coyote howls Found the Cowboys home Where the Mountains Frail are covered Chapperel And the Valley are checkered With the Cattle trail, Where the Miner digs For the Golden Viens And the Cowboy rides O'er the Silent Plains
Room 2	east wall	I'm a Jolly ... From the West now I hail, I've... my r... Poney I'm Ready for the Trail Drove ...hing, Pray ... They're Free From Care and Strife Behind a herd of ... I'll journey all my life. Now Oh Lord, a cow... prayer may seem strange, But I want you to ... our cattle range. Bless the Round Up year by year, And don't Forget One Growing Steer: Water the land with ... and rills For my cattle that ... a Thousand Hills, One thing more and then I'm thru, -- Instead of one calf give my cows two. Where men live Raw in the Desert Maw and Death was Nothing to Shun; Where they Buried 'em Neat, without Breaker or sheet and writ on their tombstone crude but sweet This Jasper was slow with his Gun.

Figure 35. Pigeon's Ranch, probably immediately after its purchase by Greer in 1925. Photo courtesy of Museum of New Mexico, Neg. No.47938.

Figure 36. Ranch building with tourist signs placed by Greer after 1925. Photo by John C. Howard. Courtesy Museum of New Mexico, Neg. No. 51738.

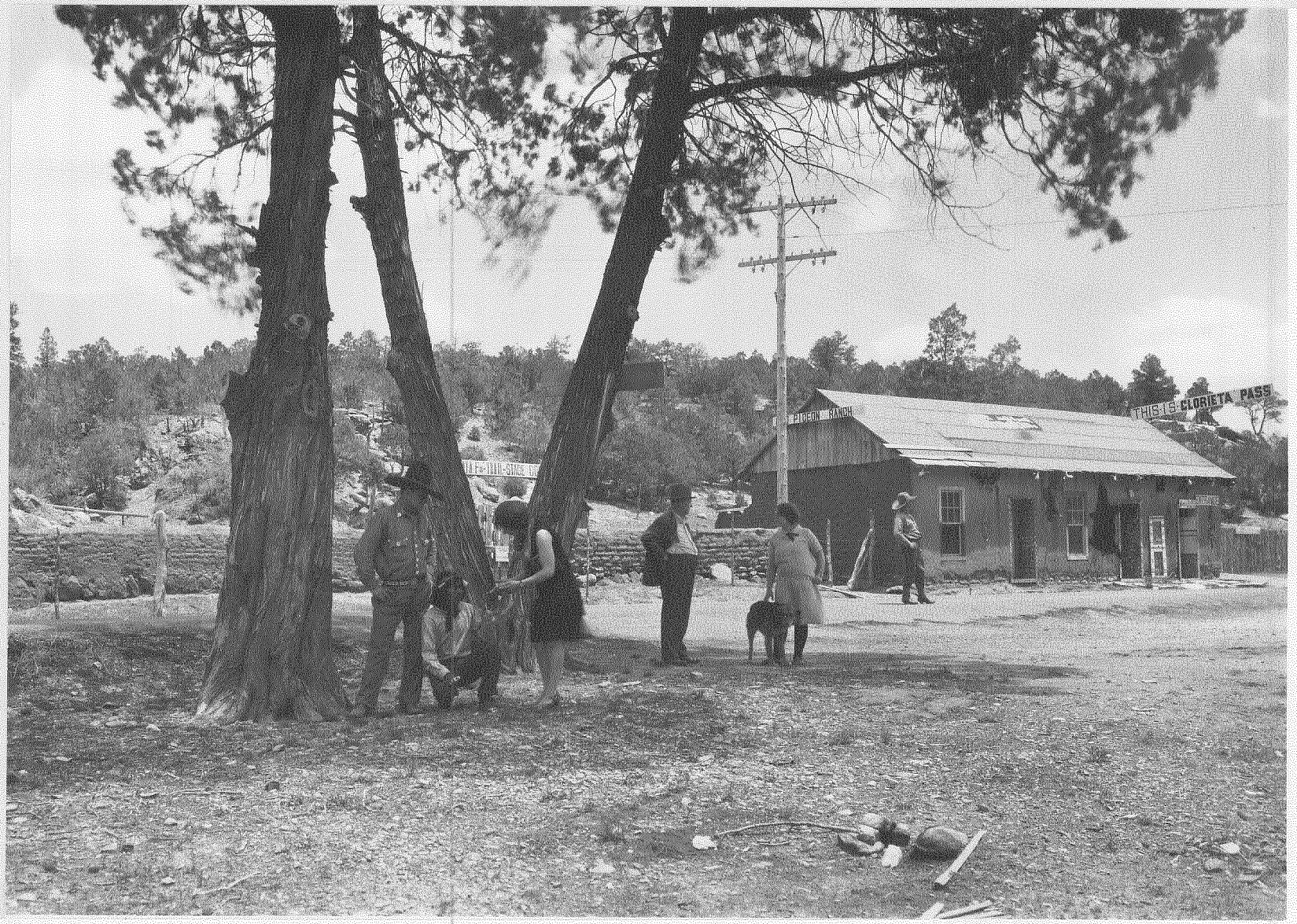

Figure 37. An Indian selling jewelry under the trees at Pigeon's Ranch in 1935. Greer is in the background to the right. Photo by T. Harmon Parkhurst. Courtesy Museum of New Mexico, Neg. No. 9689.

Figure 38. Thomas Greer with Kearny monument in front of Pigeon's Ranch, ca. 1935. Photo by T. Harmon Parkhurst. Courtesy Museum of New Mexico, Neg. No. 68907.

Figure 39. View from behind Pigeon's Ranch showing corral, auto station across the road, bear pens (top left above parked cars), and Greer's residence (left of the roof covering the old well). Photo by T. Harmon Parkhurst. Courtesy Museum of New Mexico, Neg. No. 9688.

Across the road, southeast of the ranch building and near Greer's residence, were several bear pens, barely visible in Figure 39. Greer kept an unknown number of brown bears as tourist attractions. Judging from a postcard of 1939 or later (Fig. 40), he may have allowed the bears to roam freely, although this seems improbable. Two of the bears were named Franky and Eleanor.

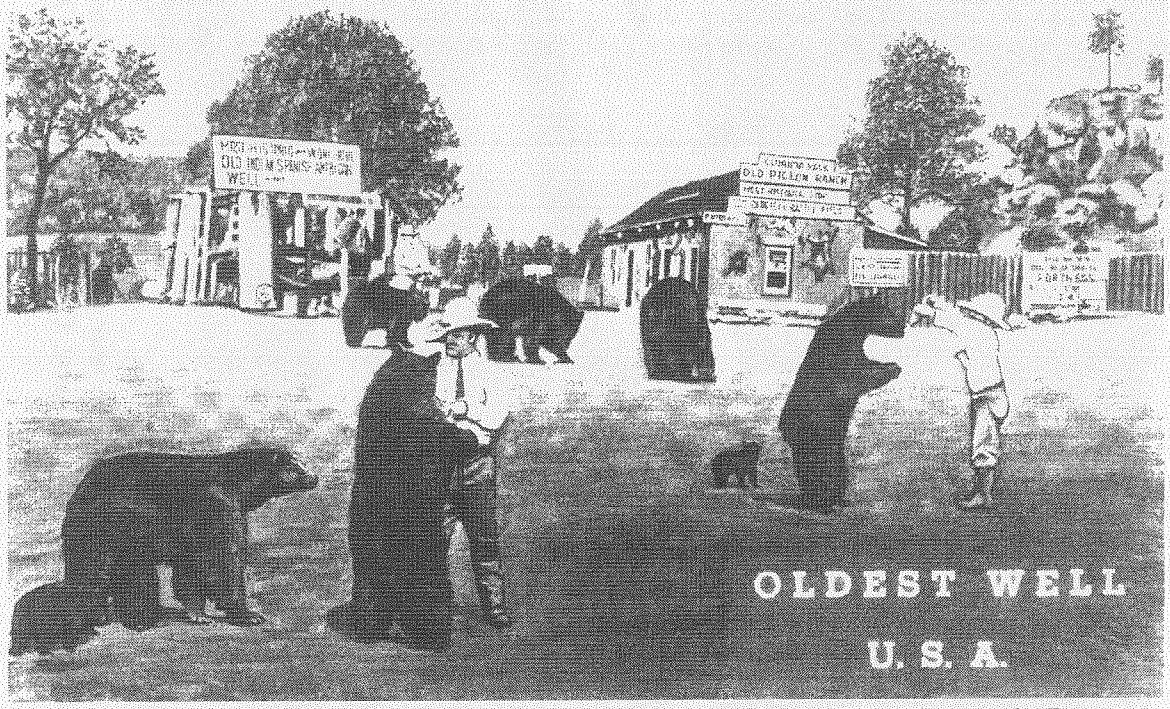

Figure 40. Greer's dancing bears, ca. 1939. Back of postcard reads, "Visit the Franky Bears . . . (Franky and Eleanor), born Jan. 10, 1939, are always full of fun and very glad to see everybody."

Behind the ranch building stood a small adobe structure (Fig. 41) in front of which Greer posed the same Indian shown in Figure 37 along with a sign that read: "These Old Walls are all that remain of the Old Govrn't Hospital Used after the Battle of Pigeon Ranch Mch 28 1862. Parts of these Old Walls are Supposed to have been built nearly 200 years ago." Greer also claimed that a cave in the hill behind the ranch had once been used by Indians.

From the signs that are visible in the photographs taken during Greer's ownership of the ranch, we note a strong tendency by Greer to use the word "Old." He employs it to describe various areas of the ranch: Old Spanish Fortress; Old Indian Caves; Oldest Well; Old Pigeon Ranch; Old Glorieta Battlefield; Old Post Office; Old Santa Fe Trail; Oldest Trail; Old Walls; Old Government Hospital; and Old Trading Post.

When Cook (n.d.) interviewed Greer sometime in the late 1920s or 1930s, Greer commented that he "didn't dream that I'd bought the oldest well in the United States. It was all boarded up and filled up and I didn't know its history." Where Greer got the notion that the well directly across the road from the ranch building was of great antiquity is a mystery. His claims for the age of the well show up on several signs in photographs taken between 1925 and 1935. He changed the well from one that was board-covered to one surrounded by massive concrete pillars, as documented in old postcards printed at that time (Figs. 42 and 43).

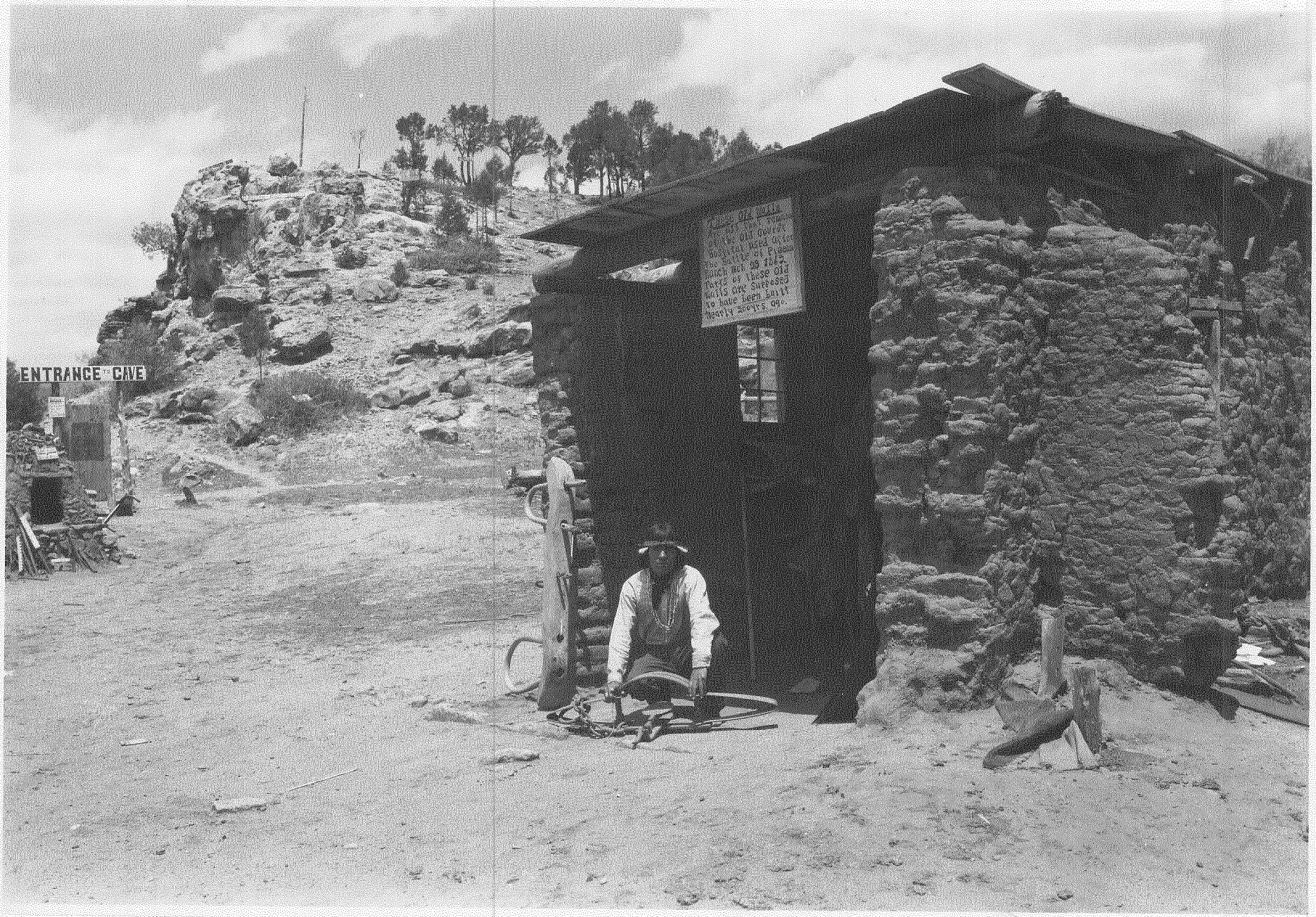

Figure 41. Part of alleged old hospital from Battle of Glorieta, Pigeon's Ranch , ca. 1935. Photo by T. Harmon Parkhurst. Courtesy of Museum of New Mexico, Neg. No. 9690.

Figure 42. A postcard showing Greer's remodeling of the old well, ca. 1935. The sign on the side of the well reads: "This old well was built about the time the Santa Fe Trail was opened up in 1822. Many of the oldtimers drank from this well which was quartered in old bldg."

Figure 43. A postcard showing further remodeling of the old well, ca. 1935. The well was actually 100 years old, not 250.

Greer's claims for the antiquity of the well were denied by several local residents in the 1930s and 1940s. Reuter (1939) notes that the "well attracted no special attention . . . until Mr. Greer became its possessor and acclaimed it as being of great antiquity." Reuter interviewed several older residents of the area who remembered their relatives mentioning the well. He said that "all of the old timers smile in derision at Mr. Greer's claims that the well is of great antiquity."

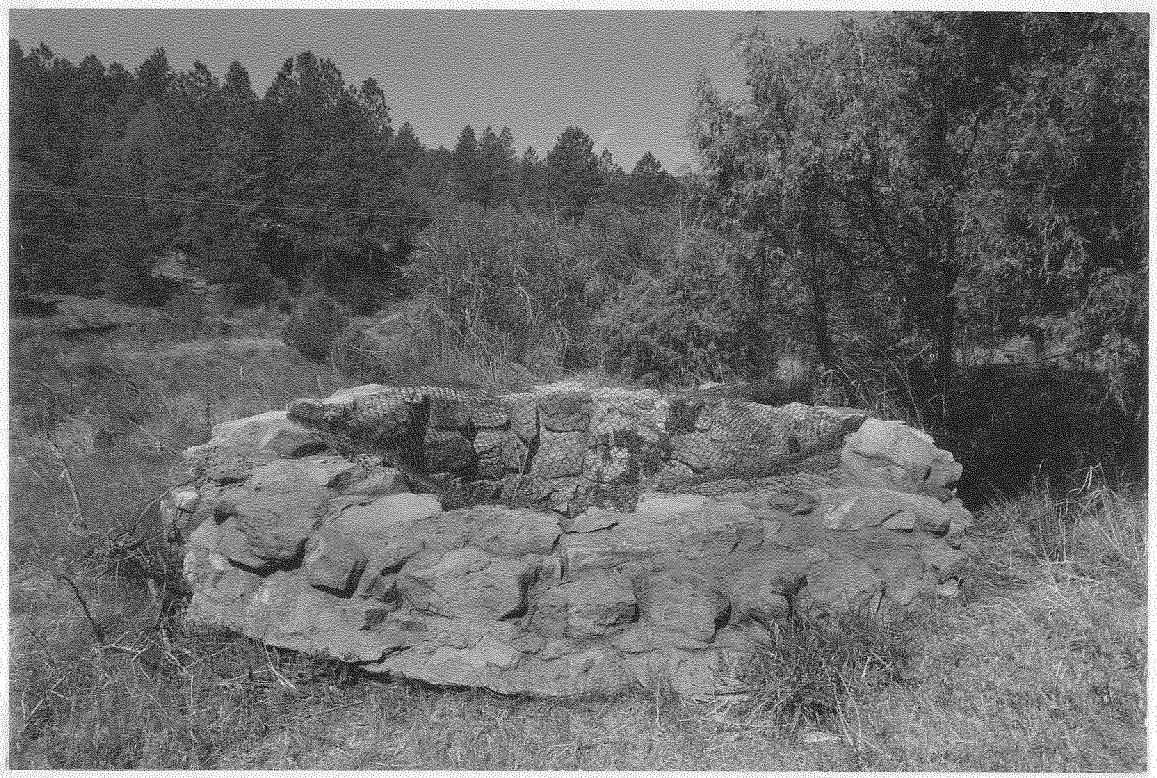

Figure 44. The old well as it looks today, looking southwest.

One resident, Octaviano Segura, knew Alexander Valle and a man who helped Valle dig the well. Segura is quoted by Reuter (1939) as saying, "Mr. Valle...had the well dug to obtain clear water for his people at that ranch, because his herds of cattle and sheep were polluting the little stream close to the well." Teodosio Ortiz names the three men who dug the well: Luis Montoya, Rafael Lucero, and Antonio Gabaldon (Valle's foreman). Ortiz said the well was partially dug in 1851, but then work on it was suspended until 1858, when it was completed.

Before Greer acquired Pigeon's Ranch in 1925, some reconstruction had been completed on the well. Beginning in 1904, the area suffered two years of very dry conditions. M. R. Williams, in charge of the water supply for the nearby Atchison, Topeka & Santa Fe Railroad made arrangements with the owners of the ranch to use the well. As a result, the well, at this time, was enlarged and sunk to a deeper level.

We could not discover when or where Thomas L. Greer died. It is possible that he moved to Colorado, where his son now lives. He sold Pigeon's Ranch to William Mahan and his wife, Joyce, in 1971 (McCoy 1983). The well was remodeled again between 1971 and 1973 when Mahan hired some craftsmen from Pecos to build a new stone-wall curb around the well. He then covered the opening of the well with heavy wire fencing. This covering is still in place today (Fig. 44).

RECENT USE OF PIGEON'S RANCH

William Mahan apparently bought Pigeon's Ranch in 1971 with the idea of restoring it to its 1861 appearance, building a museum, and then deeding it to either the federal or New Mexico state government as a historic site. He also tried to get NM 50 relocated so that it would skirt the ranch complex. He talked of spending up to a million dollars on the project. Mahan tried to obtain financial and community backing for the work but had little luck.

In 1971, Mahan conducted a trenching program at the ranch and found several foundations of former structures. The amount of disturbance caused by this activity is unknown (Santa Fe Planning Associates 1985:24). However, he removed several standing structures on the property at that time, probably including Greer's home, the garage, and numerous outbuildings shown on photographs from the 1920s.

Mahan had aerial photographs taken of the ranch in 1972 and did some temporary stabilization of the old ranch building. He also used metal detectors to collect numerous Battle of Glorieta artifacts. But without backing he could do little else and eventually sold the property in 1979 (McCoy 1983). It is ironic that all of Mahan's visions for the preservation and restoration of Pigeon's Ranch are today being implemented by various local and federal entities. He was apparently a man twenty years ahead of his time.

A Santa Fe attorney, Julian Burttram, bought Pigeon's Ranch in 1979. The ranch complex remains intact (Fig. 45), but surrounding portions of the battlefield, particularly to the northwest of the ranch, have been subdivided as homesites. Today, the National Park Service is in the process of acquiring the ranch and battlefield property and creating a national historic landmark.

Figure 45. Pigeon's Ranch today, facing old ranch building from goldfish pond.

ARCHAEOLOGICAL SITES

Yvonne R. Oakes

This report has focused on the national, regional, and local factors that provide a contextual setting for the historical sites of Pigeon's Ranch and the Williams homesite. As parts of a broader cultural milieu and as archaeological entities, the two sites should exhibit behavioral processes characteristic of their encompassing cultural systems. We present the existing archival and archaeological data for the sites to examine those behavioral dynamics. This chapter discusses methods of the archaeological testing program and cultural features recorded, and describes the material remains.

Pigeon's Ranch (LA 49315)

Field Methods

Pigeon's Ranch consists of a complex of standing structures and architectural remnants focused around the former 1850s ranch building of Alexander Valle and the controversial well. A portion of the site lies within the proposed highway right-of-way, on the south side of NM 50 (Fig. 46). Within this right-of-way also exists a part of the surrounding Glorieta Battlefield. Testing procedures were geared to examine both the ranch complex and the more extensive fields comprising the battlefield.

The testing program began by establishing a primary datum near the old well with a transit and stadia rod, from which a 1 by 1 m grid system was staked out over the ranch area within the proposed right-of-way. This allowed for the systematic collection of surface artifacts and the controlled examination of subsurface cultural material. All areas with visible architectural remains were tested, as well as any surface depressions and places with artifactual or architectural debris. A total of 154 sq m were excavated with hand tools to depths ranging from 10 to 70 cm, an average depth of 35 cm. These tests included 2 by 1 m grids and 11 hand-dug trenches to ensure that subsurface cultural features would be located.

Testing of the Pigeon's Ranch site was conducted in arbitrary 20 cm levels until a cultural feature or sterile soil was reached. Augers were used to ensure that the soil was culturally sterile. Frequently, when a cultural feature was located, the grid unit was expanded to provide better detail or determine the identity of the feature. No mechanical equipment was used during the testing program.

Hand tools were used to excavate all test units, and all soil was screened through 1/4 inch mesh wire. Artifacts were collected by provenience level and sorted by type. Profiles and plan drawings were made and photographs taken of all features. A site map was produced with the transit and stadia rod showing the location of all cultural features and test units (Figs. 46 and 47). All test units were backfilled at the completion of the project.

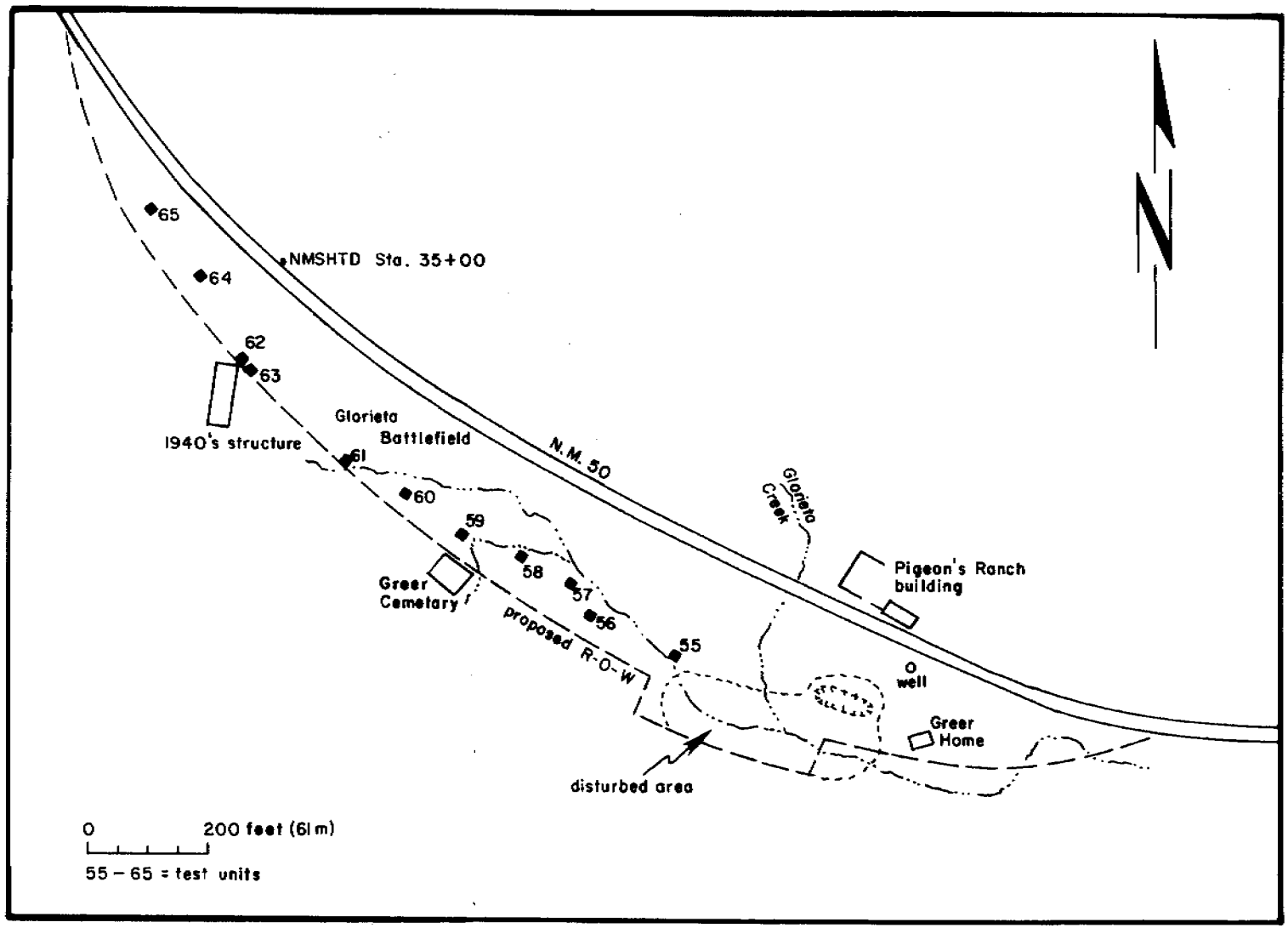

Figure 46. Testing area, Glorieta Battlefield.

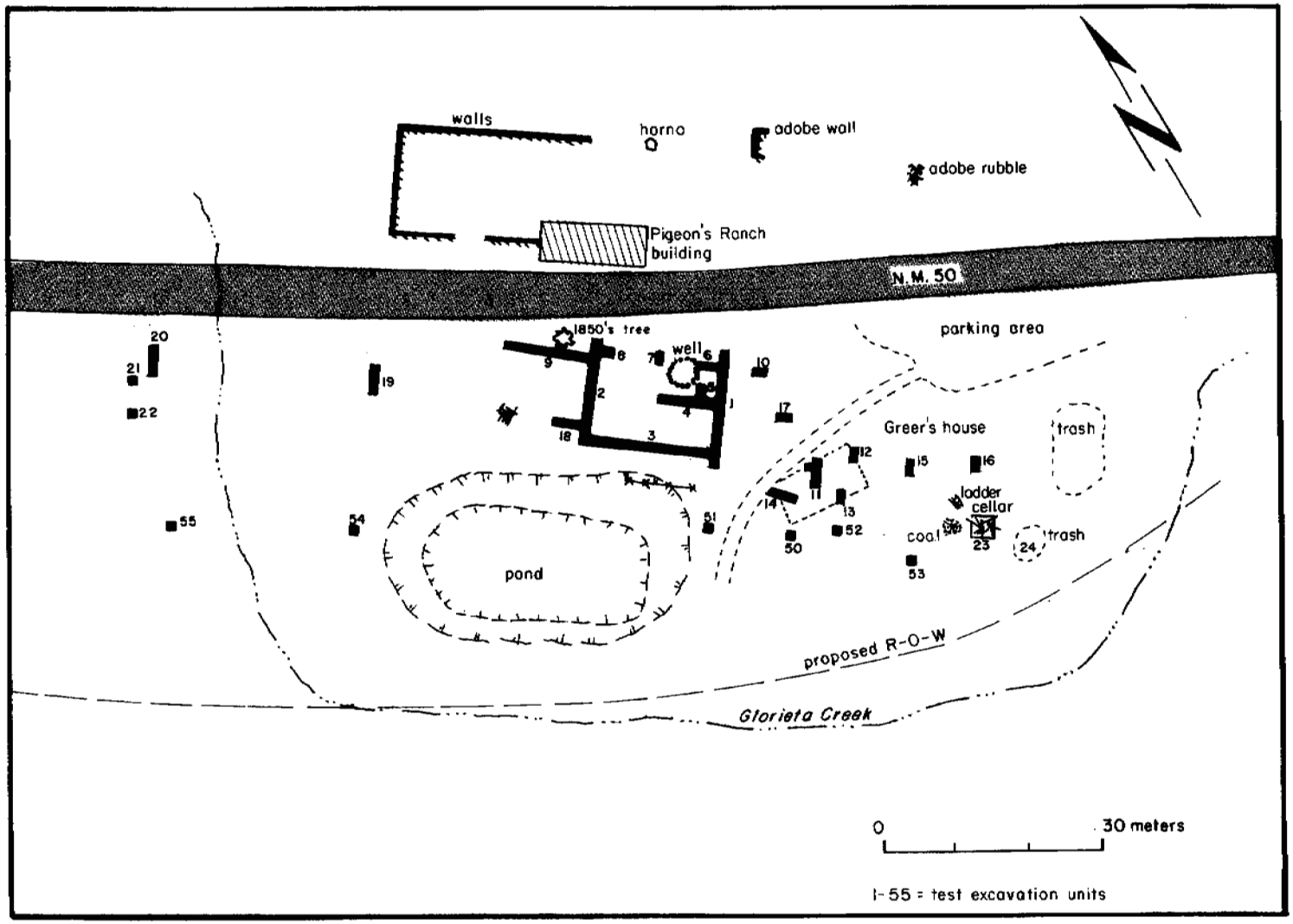

Figure 47. Cultural features and test units, Pigeon's Ranch.

Today, the surface of the site is covered with medium-height to tall grasses, vines, scattered conifers, and domesticated trees. It should be remembered that the modern surface near the old well was removed with mechanical equipment by Thomas Greer in the 1920s. No stratigraphic deposits were revealed except within archaeological features.

All cultural material recovered from the testing program was cleaned and analyzed in the OAS laboratory. Analysis of the artifact assemblage focused on function and temporal placement as related to the various occupations of the site. All notes, photographs, maps, and archival data are stored in the New Mexico Cultural Records Information System, Historic Preservation Division, Santa Fe.

Archaeological Features

The various occupations of Pigeon's Ranch from its beginning in the 1850s up through the recent past have been recorded and confirmed through the testing program. The following descriptions of the archaeological features are grouped according to their respective occupation periods.

The Old Well (1850s). Statements from local residents, quoted earlier, establish that the existing well was built by Alexander Valle in the 1850s. Our initial testing plans included pumping the standing water out of the well, determining its depth, and dredging the accumulated silt for possible artifacts. However, through information obtained from local residents and archival data, we ascertained that the well had been enlarged and sunk to a deeper level in 1904 and was also remodeled with new curbing in the early 1970s. Therefore, plans to excavate the well were abandoned. Historical documentation and photographs of the well through time can be found in the chapter on Thomas Greer.

Today, the well is a circular, sandstone block feature of rough-cut stone. It measures 4 m (14.7 ft) in diameter with a curbing .9 m (3.2 ft) high and a depth to standing water averaging 5.2 m (17.1 ft). There was at least 1.5 m (5 ft) of standing water at the time of the testing program. The height of the walls above the present ground surface ranges from .5 to .8 m (1.8 to 2.9 ft). Access to the well is currently prevented by a covering of heavy wire mesh (see Fig. 44). Around the well, in the thick brush, were the remains of ten upright cut posts and portions of four large, round posts lying on the ground (Fig. 48). These are probably remnants of the various superstructures that Thomas Greer constructed around the well in the 1930s and 1940s (see Figs. 42 and 43).

The Saloon (1880s-1890s). Archival records and old photographs indicate that a saloon and several outbuildings of frame construction once stood just west of the old well on the south side of the highway (see Figs. 9-11). These structures were known to have existed during the late 1880s, probably when George Hebert owned the land.

Today, there is no physical evidence of the saloon that once occupied the land near the old well. Thomas Greer is known to have cleared the land in this area for construction of a small garage. However, our trenches (numbers 2, 8, and the east end of 9) revealed the presence of wood board fragments and artifacts suggesting a late 1800s structure was located at this spot: mostly window glass, glass containers, and cut nails from the late 1800s; small amounts of wood, adobe, brick, and coal fragments; and an 1890 Liberty Head nickel (Fig. 48) .

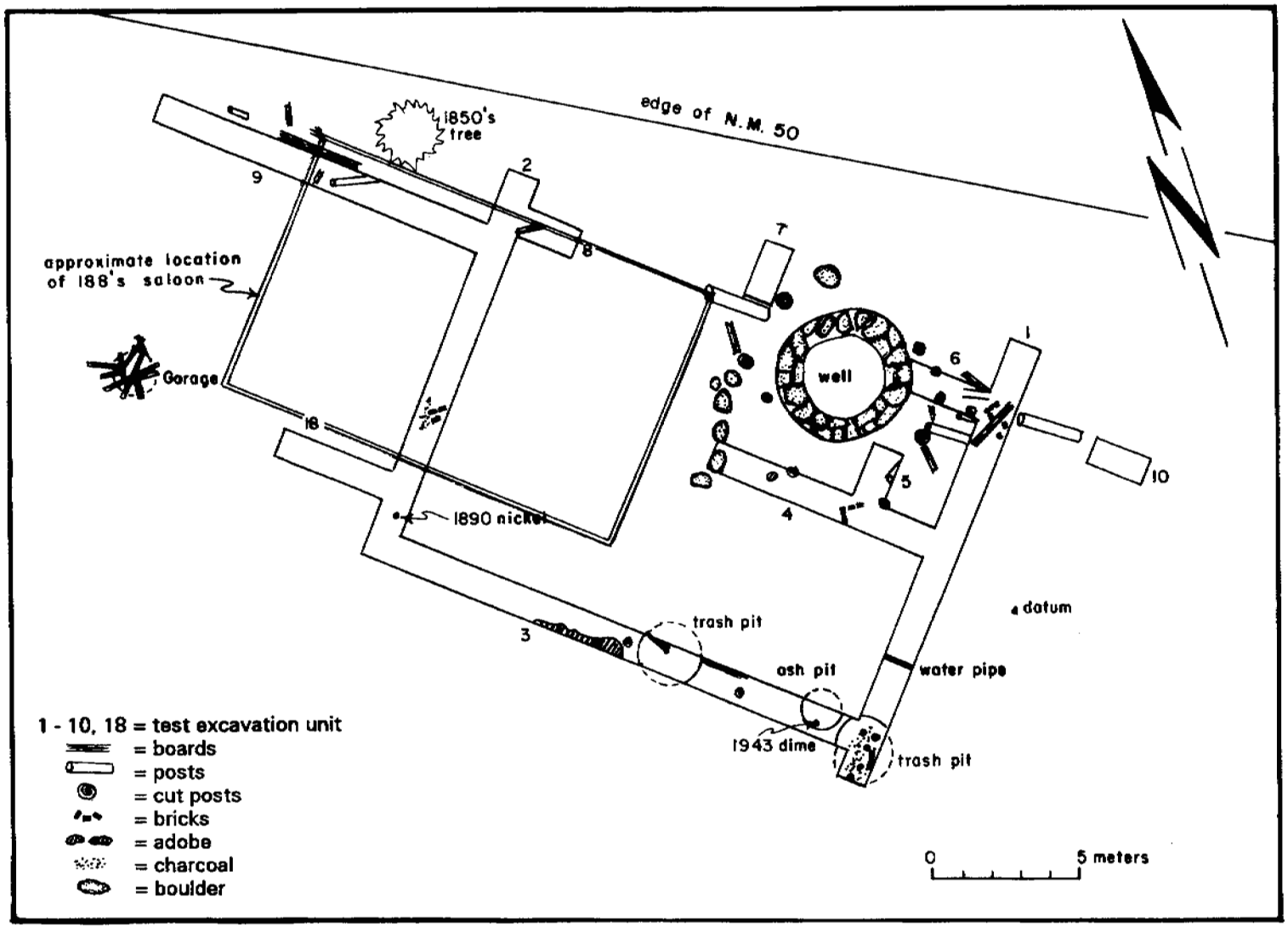

Figure 48. Map of tested area around old well, Pigeon's Ranch.

Thomas Greer's House (1920s-1930s). Thomas Greer built his home south of NM 50 within the proposed highway right-of-way. A small portion of his home is visible in a postcard picture from the 1930s (see Fig. 39). The testing program uncovered the foundations of this structure (Fig. 49). Some wall alignments were found only 5 cm (2 in) beneath the present surface. Only the bottom course of irregularly shaped stones remains. They measure .5 m high by .6 m wide (1.9 ft by 24 in). A concrete slab measuring 1.75 by 1.2 m (5.75 by 4.1 ft) is situated in front of the house and served as the foundation for a small porch or entryway. There were some pieces of concrete with chicken wire attached lying outside of the north wall. This suggests that the wall was stuccoed. Near the house, several pieces of an old white picket fence were lying on the ground.

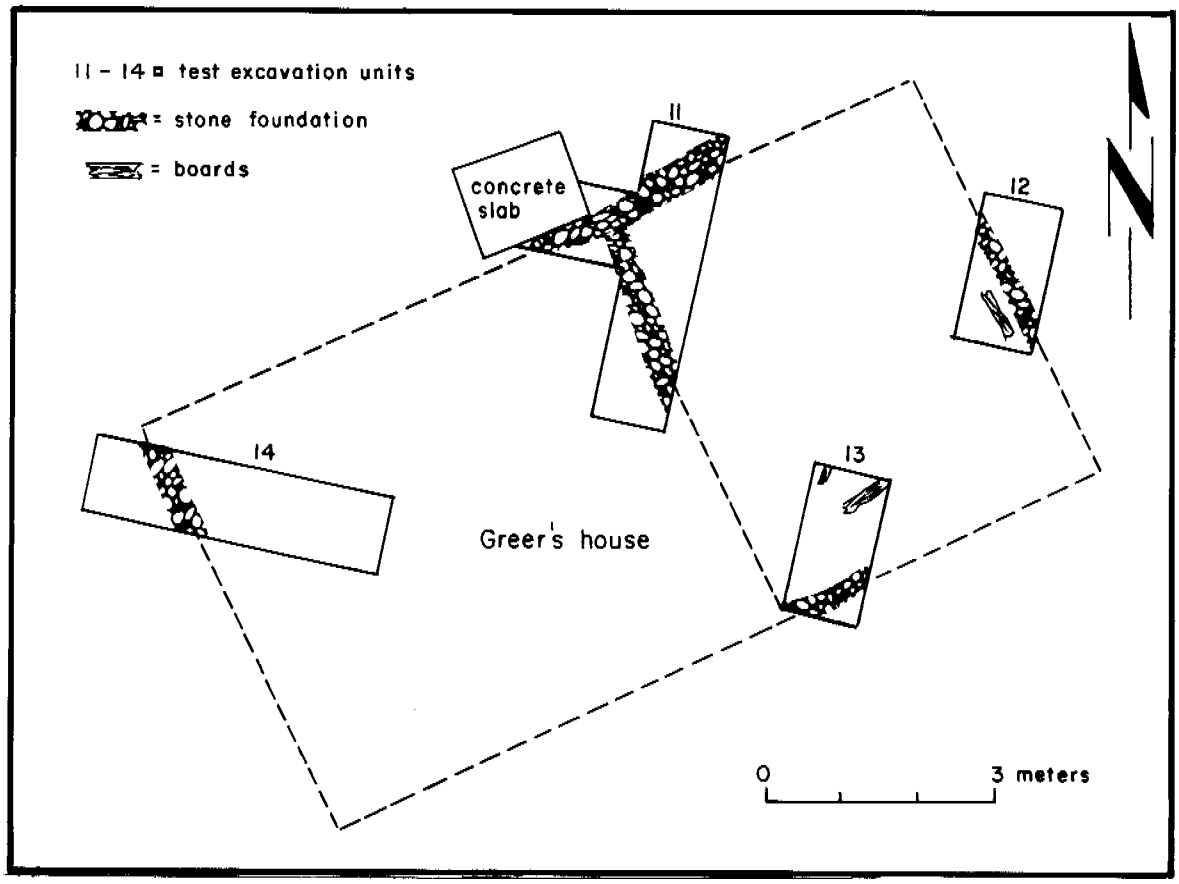

Figure 49. Plan of Greer's house showing excavated stone foundation.

A local resident, Ron Porter, informed us that he and his father had mechanically removed the remains of the Greer house in the 1970s and pushed the building debris to the east of the structure. We did find a large disturbed area east of the house and adjacent to a former stream channel. It was littered with trash compatible with a 1930-1950s time period. A list of this material was made for the site files.

Greer's house foundation measured 11 by 6 m (36 by 19.7 ft), an area of 216 sq m (709 sq ft). According to Ron Porter, the house was constructed of adobe and had two bedrooms, a living room, and a kitchen, with wood floors and a flat roof. There was a small porch on the front of the house. No bathroom area was uncovered, and Porter confirmed that Greer had an outdoor privy. Artifacts found within Greer's house foundations include pieces of milled wood, wire nails, recent window glass, glass container fragments, and roofing paper.

Outside Cellar (1930s). A test unit (no. 23) was excavated within a small depression southeast of the Greer home (Fig. 50). The depression proved to be an underground cellar dug into the native soil. It measured .9 by .9 m (3 by 3 ft) and was 1.9 m (6.4 ft) deep. The straight-sided walls were of 8 by 8 inch beams, and neither the floor or walls had been plastered. Evidence of the type of roofing was not present. A ladder would have been necessary to descend into the cellar, and a wooden one was found 6 ft northwest of the cellar just beneath the grass cover. No architectural features were found within the structure. The fill contained collapsed beams, pieces of 2 by 4 milled lumber, wire nails, pieces of concrete, roofing paper, and shingles. Other materials, such as fragments of glass, metal, and plastic, suggest the cellar was filled with trash, perhaps when Porter tore down the Greer homesite. Because of the relatively late date of the artifacts, presumably the structure was associated with the Greer occupation of the site.

Auto Garage. It is known from postcard pictures that Greer had a small auto garage southwest of the old well (see Fig. 39). In this vicinity, we located old boards and trash within a small depression and surmised that this was the location of Greer's garage (see Fig. 48). Recovered artifacts in the south end of nearby Trench 2 include several car parts and accessories.

Trash Pit. A pit dug into the ground surface and measuring about 2.2 by 1.9 m (7.5 by 6.5 ft) was uncovered at the east end of Test Pit 3 (Fig. 51). Within the pit were numerous artifacts from the 1930s to 1950s, such as used toothpaste tubes and broken toys, as well as pieces of adobe and charcoal. The pit, 13.7 m (45 ft) west of Greer's house, likely contained his household trash.

Artifact Assemblage

A total of 9,824 artifacts were recovered during the testing program at Pigeon's Ranch. A list of all artifacts by provenience and functional category is on file at the New Mexico Cultural Resources Information System (NMCRIS), Historic Preservation Division, Santa Fe. Table 6 is a summary of the artifacts by functional category.

Each artifact was analyzed within a functional framework and placed into a discrete category. These functional categories represent a wide variety of human activities and allow for an examination of the behavioral context in which the artifacts were used and discarded. Functional categories used in this analysis include:

1. Foodstuffs. Items related to the storage and consumption or processing of food.
2. Indulgences. Liquid refreshment and medicinal items, including smoking accoutrements.
3. Domestic Routine. Tableware, kitchen utensils, domestic furniture, household items, and lighting apparatus.
4. Construction/Maintenance. Construction hardware and tools used in daily activities.
5. Personal Effects. Items of clothing, adornment, grooming, and personal possessions.
6. Entertainment/Leisure. Games, musical instruments, and children's toys.
7. Arms. Ammunition and guns.
8. Stable/Barn. Farm tools and machinery, stable and barn equipment.
9. Indeterminate. Items whose function could not be determined.

From Table 6, it can be seen that most artifacts on the site consist of construction items and indeterminate glass and nail fragments. This is to be expected because of the great amount of building activity conducted over the life of the property, especially during the land tenures of Alexander Valle and Thomas Greer.

Figure 50. Cellar lined with timbers near Greer's house.

Figure 51. Trash pit in Test Pit 3, Pigeon's Ranch. A fencepost can be seen in the upper left-hand corner of the trench.

Table 6. Number and percentage of artifacts by function, Pigeon's Ranch

Function	Number	Percent
1.000 Foodstuffs	68	.7
2.000 Indulgences	1873	19.1
3.000 Domestic Routine	784	8.0
4.000 Construction/Maintenance	3162	32.2
5.000 Domestic Routine	90	1.0
6.000 Entertainment/Leisure	37	.3
7.000 Arms	53	.5
8.000 Stable/Barn	48	.4
9.000 Indeterminate	3709	37.8
Grand total	9,824	100.0

Civil War Artifacts. The testing program within the Pigeon's Ranch complex recovered 36 artifacts, which may date to the time of the Civil War battle that took place on the grounds. They were randomly and sparsely scattered throughout the fill of the trenches (Fig. 52). Most were found generally near the old well, while three were recovered within Greer's house foundation (Table 7). Figures 53 and 54 show some of these armaments and other artifacts found at Pigeon's Ranch.

Table 7. Civil War artifacts recovered from Pigeon's Ranch

Trench	Artifact
1	.38 revolver part
1F	.22 long case, .22 short case (3)
1G	.22 long case
2B	.44 case
2C	.44-.40 cartridge
2D	.44-.40 cartridge
2	.32 long cartridge, 10 gauge shotgun shell
3	.44-.40 cartridge
3C	.44-.40 cartridge
3D	.22 long case, .22 short case, .22 long cartridge (2), .22 short cartridge
3	.22 long cartridge, .22 short case, .44 case, .32 centerfire case (2)
3F	.22 long case, .44-.40 cartridge
4B	Minié ball

4C	.22 short case
6A	.32 long cartridge
8	.44-.40 cartridge
12	.22 short case
14	.22 short cartridge
18	.22 long case (2), .22 short case, .22 short cartridge, .32 long cartridge
50	Minié ball

Lord (1965:14) states that small-arms ammunition used in the Civil War ranged from .40 to .69 caliber, but he also notes the use of .32-, .36-, and .38-caliber revolver bullets (Lord 1965:18). Included in the above list are .22-caliber cartridges and cases because they were introduced by Smith & Wesson in 1857 for use in their new revolver (Barnes 1965:69).

Barry Christian, a volunteer, used a high-powered metal detector to systematically cover the grounds within the right-of-way by walking transects spaced 5 m apart across the entire ranch to search for additional artifacts from the battle. He did recover several artifacts from the Civil War and from other site occupations and donated several others that had been found previous to our explorations. His findings are included in Table 8. Thomas Greer, William Mahan, and many recent Civil War buffs are also known to have collected Civil War relics from the grounds.

Table 8. Donated artifacts from Pigeon's Ranch

.36-caliber combustible cartridge bullet, fired
.45-caliber carbine bullet, mushroomed head, post 1873
.58-caliber Minié balls, fired (2)
.33 inch ball
.425 inch bullet, fired
.60 inch case shot, flattened
canister ball from 6-pounder gun
pistol cartridge, brass, stamped S.A.W on base
metal fragments, possibly case shot
brass plate, elongated oval, 3 by 3/4 inches, with holes at each end for attachment, stamped "Dodson Manufacturing Co., Chicago, Pat. No. 1658431, Made in U.S.A."
brass plate, oval, 3 3/8 by 2 1/4 inches, stamped US. 1840-1870
cut nails (5)
1936 buffalo head nickel
1941 Lincoln penny
1945 Lincoln penny
1945 Mercury dime

The Old Well Artifacts close to the old well are representative of all time periods of site occupation. This well was obviously a focal point of activity from its construction by Alexander Valle in the 1850s through the 1950s, when it was remodeled. A Minié ball and a rusted military button are definitely from the Battle of Glorieta. Other artifacts that may be from this period

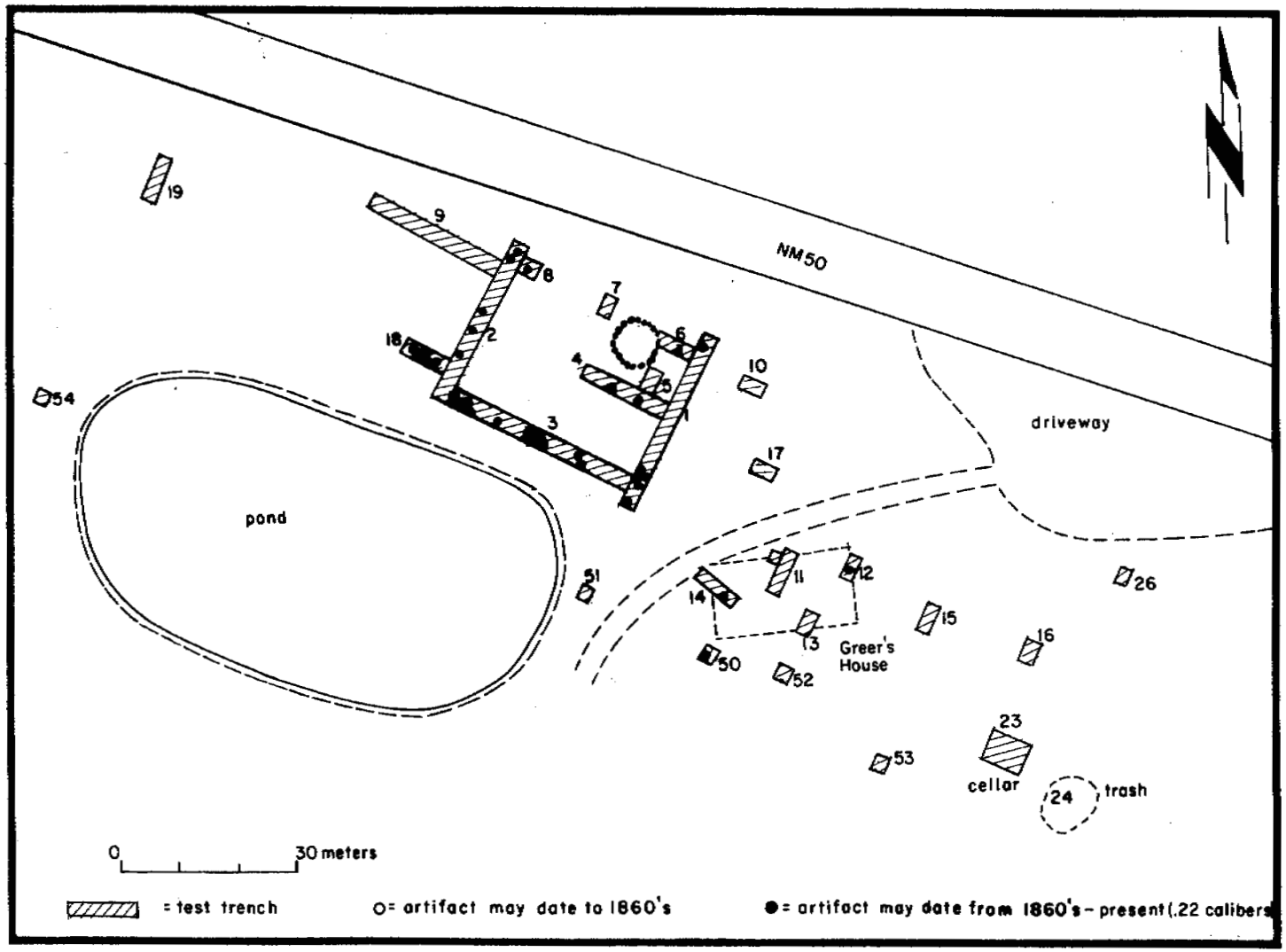

Figure 52. Location of possible Civil War artifacts.

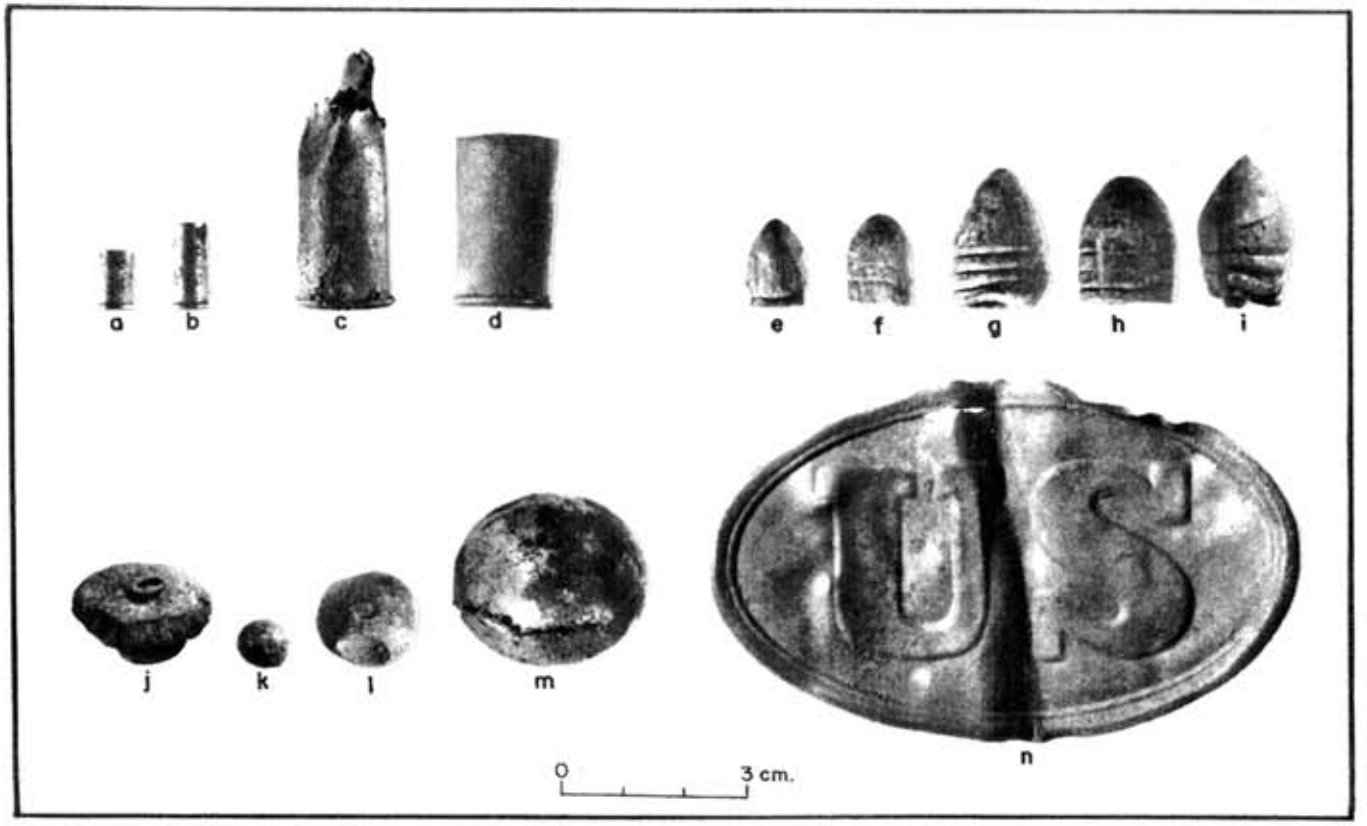

Figure 53. Armaments and belt plate from Glorieta Battlefield: (a) rimfire cartridge, .22 caliber Winchester, 1888-1942; (b) rimfire Super X cartridge, .22 long, Western Cartridge Co., 1857-present; (c) centerfire, probably a .40-90 caliber Bullard, post-1886; (d) rimfire cartridge, .56-50 Spencer carbine, Sage Ammunition Works, 1860s-1920; (e) slug, .38 caliber cap and ball; (f) slug, .405 caliber Winchester or .40-70 caliber Remington, possibly for a pistol, ca. 1880-98 or 1904-present; (g) Minié ball, probably .58 caliber, Civil War; (h) Minié ball reproduction, no patina, grooves modern, .58 caliber, possibly from Buffalo Bullet Co. (could have been used in a reenactment); (i) Minié ball, .577 or .58 caliber, Civil War; (j) unknown, .45-46 caliber, possibly late 1865–late 1800s; (k) buckshot, .33 caliber, probably Civil War; (l) buck and ball, .66 caliber, Civil War; (m) cannister shot, 91.2 g, Civil War; (n) belt buckle plate, brass or brass substitute, like several retrieved from Civil War grave.

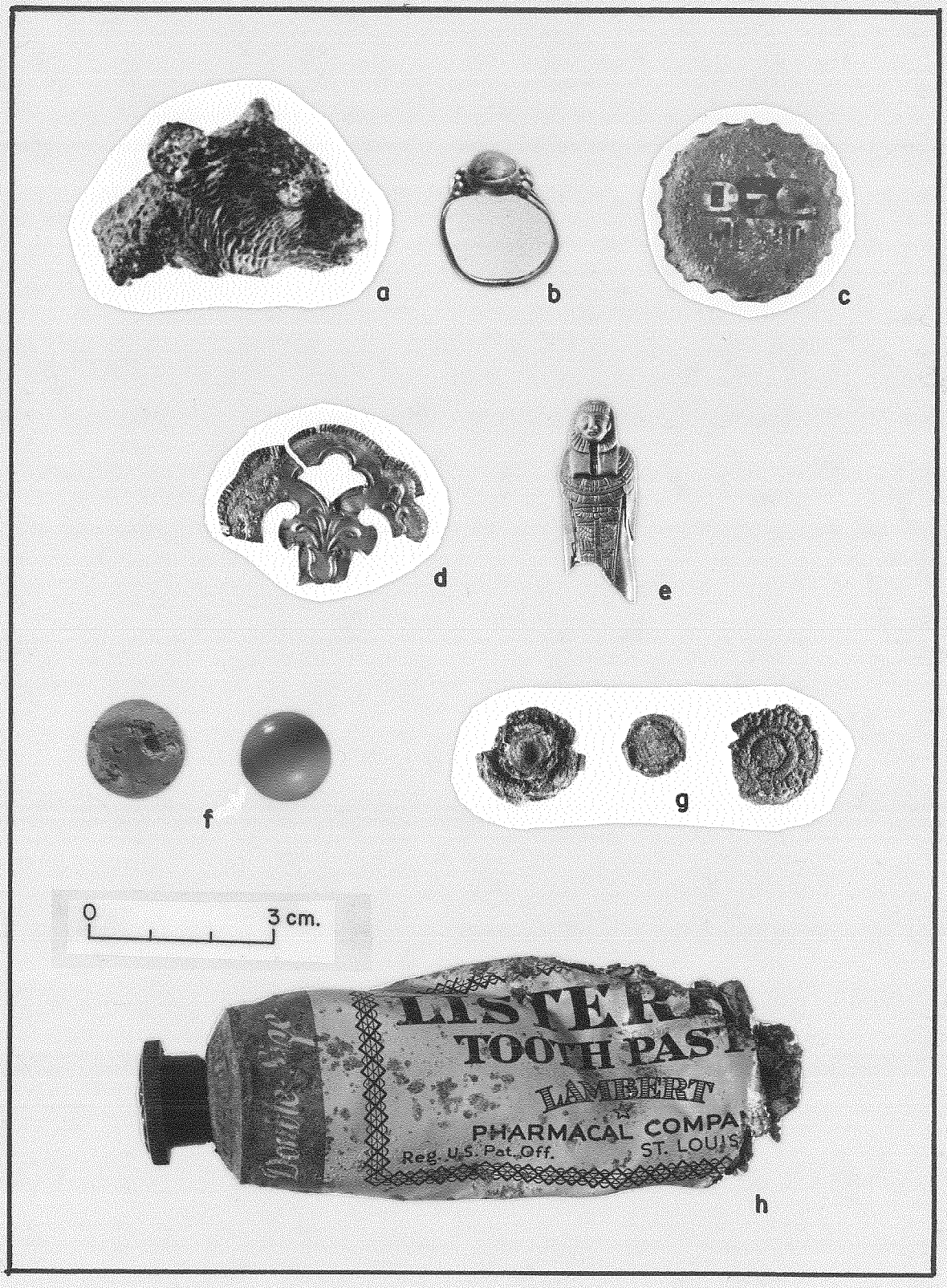

Figure 54. Artifacts recovered from testing at Pigeon's Ranch: (a) cast iron bear head, Trench 1G; (b) turquoise ring, Trench 2; (c) Crown soda cap, Trench 5; (d) metal adornment, Trench 2B; (e) plastic Egyptian figure, Trench 2D; (f) ceramic marbles, surface collection; (g) metal overall buttons, Trench 2A; (h) toothpaste tube, Trench 3E.

include 10 horseshoe nails and 54 cut nails. Fifty-eight pieces of ironstone or earthenware could also be from the later 1880s saloon that stood adjacent to the well. Other artifacts that probably derive from the saloon are 122 pieces of early window glass, 73 glass container fragments, and 1 1880s beer bottle fragment.

Greer's blading of the area around the well after 1930 also left 1930s to 1950s artifacts in the vicinity of the well. Some of these are 78 beer bottle fragments, 193 fragments from glass containers, 69 pieces of modern window glass, 163 wire nails, 2 sanitary cans, 1 ice cube tray, 2 pieces of pressed glass, 2 glass tumblers, a 1920 penny, a 1935 penny, and a 1947 nickel.

The Saloon. The percentage of cut nails vs. wire nails (made after 1890) and early vs. late window glass (made after 1930) is a strong indicator of the presence of early structures in the ranch complex. In the area where the saloon once stood, 152 cut nails and only 59 wire nails were recovered. Only two fragments of glass probably date to the pre-saloon period. Probable saloon-related items include 169 pieces of earthenware or ironstone, 251 fragments of early window glass, 210 glass container pieces, 1 ceramic ale bottle, and 7 beer bottles.

Later items dating to after 1930 are 86 beer bottle fragments, 386 pieces of glass, 1 brandy bottle, and 1 mirror. Again, Greer's construction activities seem to have spread the 1930s materials over much of the site.

Thomas Greer's House. Most material recovered from the remains of Thomas Greer's house are construction items left after it was bladed to the ground in the 1970s. These include 216 pieces of asphalt paper, 106 wire nails, 9 cut nails, 11 roofing nails, small fragments of milled lumber, 2 pieces of light bulb, 110 pieces of modern window glass, 82 fragments of glass containers, 82 beer bottle pieces, 1 wine bottle piece, and 50 soda bottle pieces. Few domestic items were found, including 4 pieces of ironstone, 6 condiment bottle fragments, and 1 sardine can. Personal items are represented by 2 pocket watch parts, 2 pieces from a record, 1 shoe part, 2 buttons, 1 buckle, 1 suspender buckle, and a piece of costume jewelry. Three marbles are the only indication of children in the house. Also found were 1947, 1950, and 1956 pennies (1 each), and a 1942 quarter.

Cellar. Artifacts found in the cellar near Greer's house all date to after 1930 except for nine pieces of early window glass. Material recovered includes 11 pieces of asphalt roofing paper, 12 wire nails (no cut nails), 9 roofing nails, 28 pieces of glass, 2 beer bottles, 1 soda bottle, 2 crown bottle caps, 1 piece of porcelain, 1 rubber band, 3 pieces of rubber hose, 1 motor oil can, and a 1958 New Mexico license plate.

Auto Garage. The proximity of Greer's auto garage to the location of the 1880s saloon can be seen in the mix of artifacts recovered there. Cut nails (48) and wire nails (19) were found in the nearby trenches. There were also 217 pieces of pre-1930 glass and 95 pieces of post-1930 glass. Forty-two pieces of early window glass and only one piece of modern glass were present. The artifacts indicate that a high degree of mixing has taken place. Items probably related directly to the operation of the auto garage include 19 wire nails, 3 metal nuts, washers, bolts, 1 metal clamp, 1 battery clamp, 1 tire air cup, 38 metal dowels, a rubber hose, and 2 indeterminate car parts. A 1945 dime was also recovered.

Trash Pit. The trash pit in Trench 3 seems to be associated with Greer's occupation of the site. However, artifacts from the 1880s are mixed with the later items. Materials probably deposited

by Greer include 112 wire nails, 16 pieces of glass, 9 fragments of modern window glass, 7 pieces of foil, 8 sanitary cans, 8 beer bottles, 1 Mentholatum jar, a suspender buckle, and 1 indeterminate car part. Earlier items that were mixed with the later are 111 cut nails, 104 pieces of glass, 38 fragments of early window glass, possibly 56 pieces of ironstone, and 2 ceramic ale bottle portions.

To make the artifact data meaningful, we examined the spatial patterns produced by the recovered items. Such procedures allowed us to determine the locus of several site activities at various points in the history of the ranch. All artifacts were plotted on site maps by functional classification. These are on file at NMCRIS. Only selected patterns are shown in this report. Of interest are the artifact density plots of time-diagnostic items such as early (1880-1910) window glass, square cut nails (1850-1890), and early glass containers (1880-1914) versus the collections of more recent items, which confirm the locations of earlier structures such as the saloon and later structures such as Greer's home, well reconstructions, and trash pits (Figs. 55-59).

Figures 55a and 55b show the dispersal of old (pre-1910) window glass, with bubbles and a frequent aqua tint, vs. new (post-1910), clear window glass. The highest frequencies of old window glass occur in the suggested location of the old saloon, based on early photographs in this report. Later glass is randomly dispersed near the old well.

In Figures 56a and 56b, early cut nails (pre-1890) and later wire nails (post-1890) are present where the saloon once stood. However, the vast majority are cut nails (see above), indicating a pre-1890s structure.

In the test units placed near Greer's house foundation, the reverse pattern holds. In Figures 57a, 57b, 58a, 58b, 59a, and 59b, there are very few pre-1930 beer bottle fragments, glass containers, window glass, or cut nails. There are, however, much higher counts of these materials from 1930-1950, when Greer presumably occupied the house.

Comparisons with artifact patterning at other New Mexico historical sites (e.g., Oakes 1983, Maxwell 1983) were not attempted because of the impossibility of separating most of the Pigeon's Ranch artifacts into discrete temporal categories.

The Glorieta Battlefield (LA 49315)

Field Methods

In contrast to the complex of architectural features associated with Pigeon's Ranch, the Glorieta Battlefield, west of the structures, consists of open, rolling fields. No historic structures dating from any time in the 1800s are documented within this area. Therefore, we expected to recover only remains of Civil War armaments.

Within the right-of-way through the battlefield, 11 test units of 1 by 1 m were placed generally at 30 m intervals until a broad coverage of the right-of-way corridor was obtained (see Fig. 46). An additional three test pits were situated at the west edge of the battlefield where it crosses Glorieta Creek (see Fig. 47). An old adobe wall is supposedly located in this vicinity, based on comments in numerous diaries kept during the Battle of Glorieta. The wall ran across the valley bottom just west of the ranch. During the battle, Union soldiers took cover behind this wall as Confederates were approaching from the west. The test units revealed no traces of the wall. It is possible that Greer leveled this feature when preparing the land for his tourist stop.

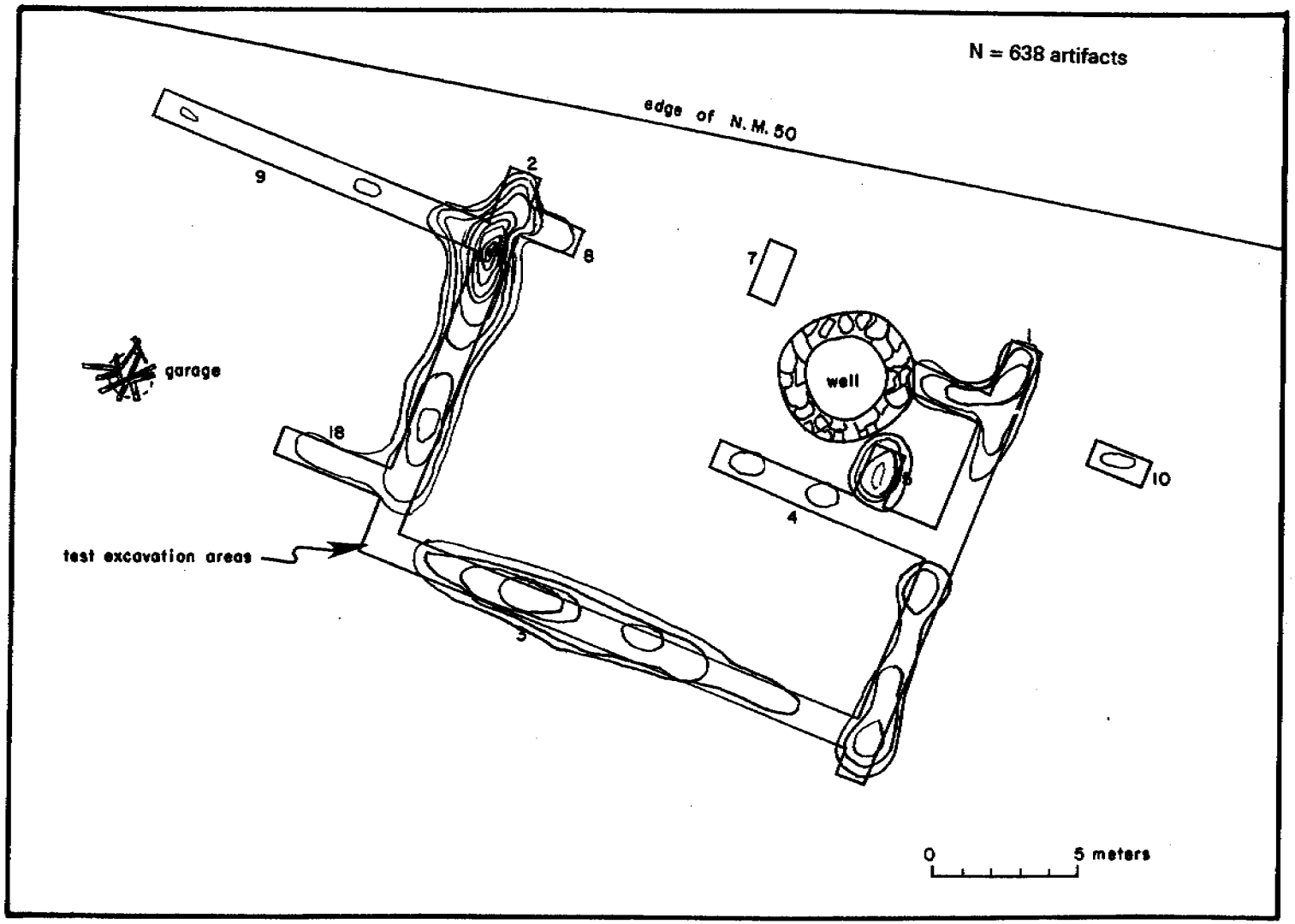

Figure 55a. Density plot of early window glass near well, Pigeon's Ranch.

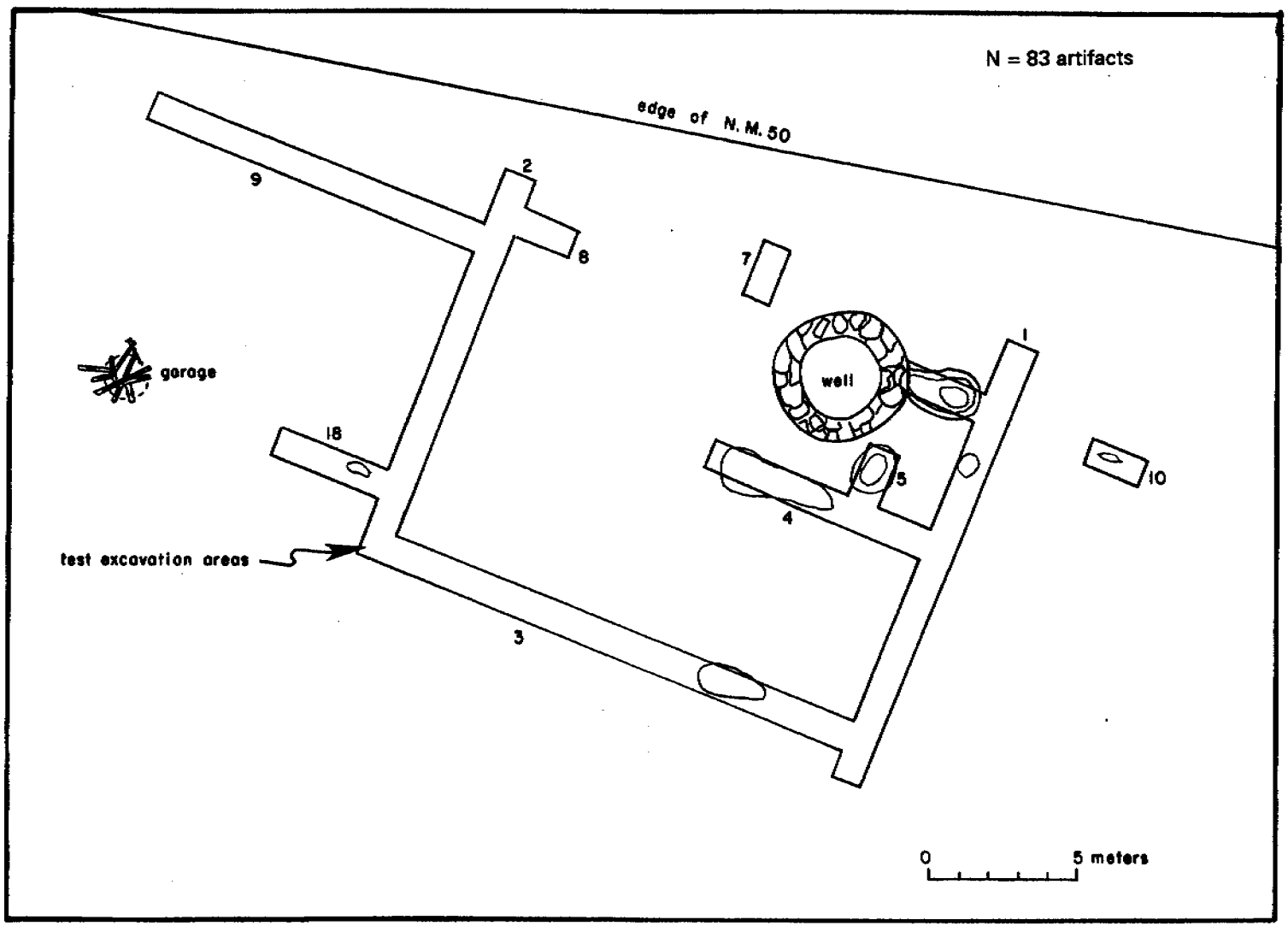

Figure 55b. Density plot of late window glass near well, Pigeon's Ranch.

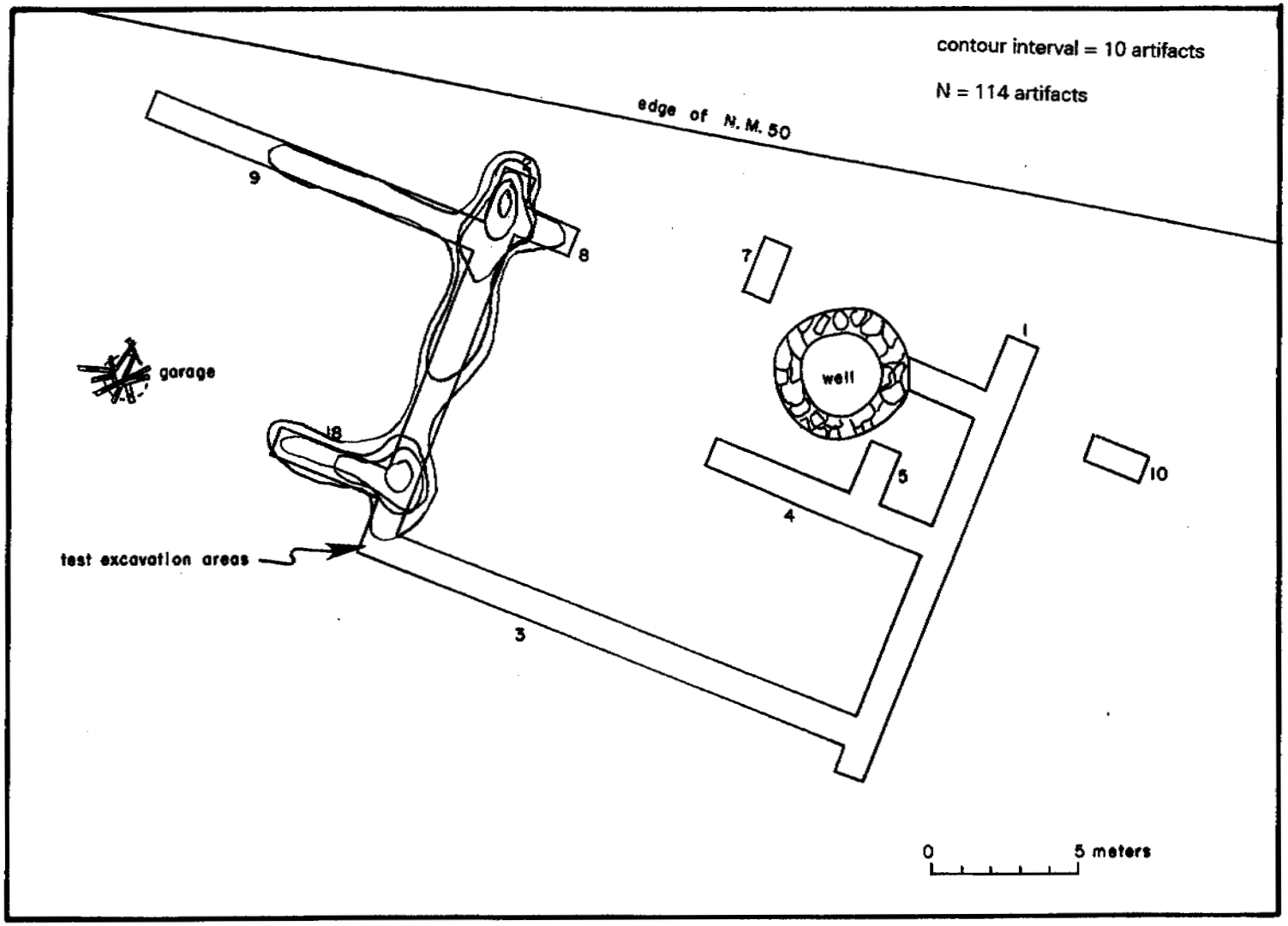

Figure 56a. Density plot of cut nails in area of saloon, Pigeon's Ranch.

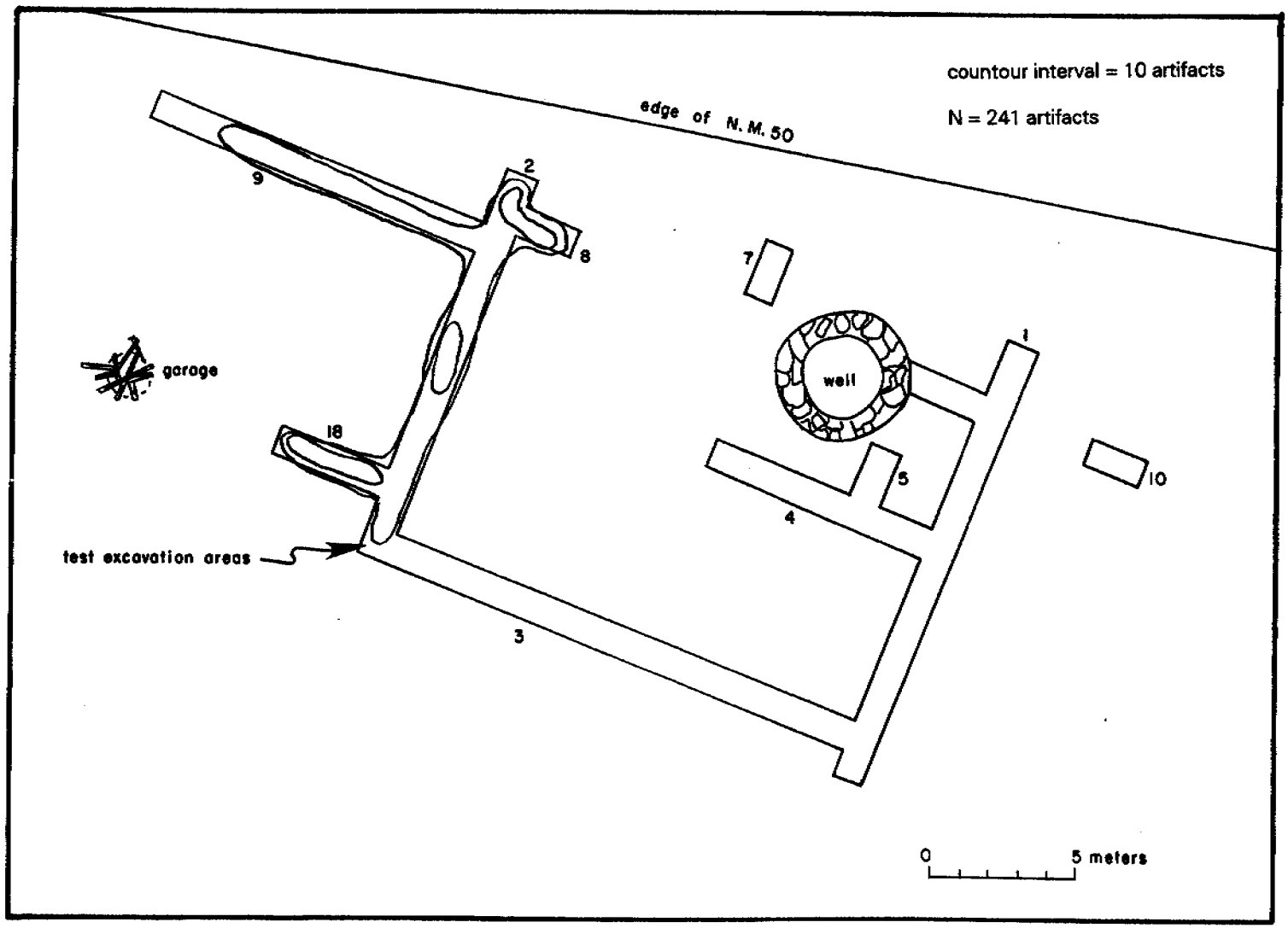

Figure 56b. Density plot of wire nails in area of saloon, Pigeon's Ranch.

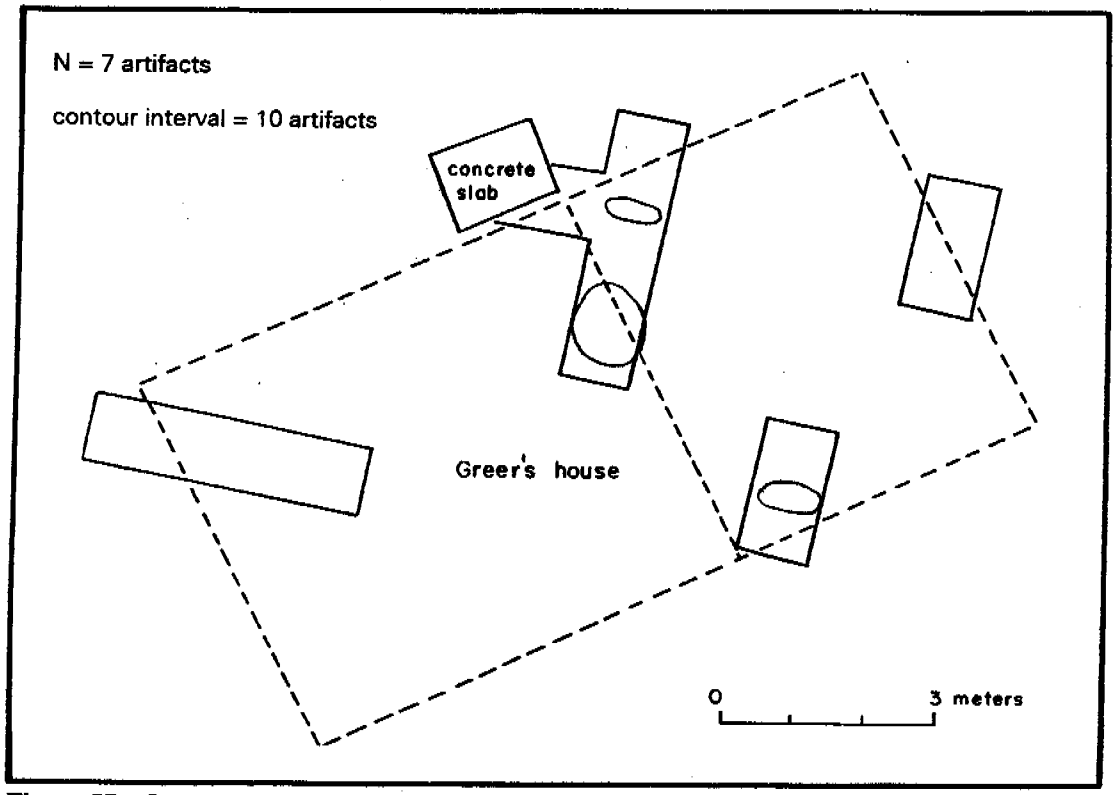

Figure 57a. Density plot of early beer bottles and glass containers near Greer's house, Pigeon's Ranch.

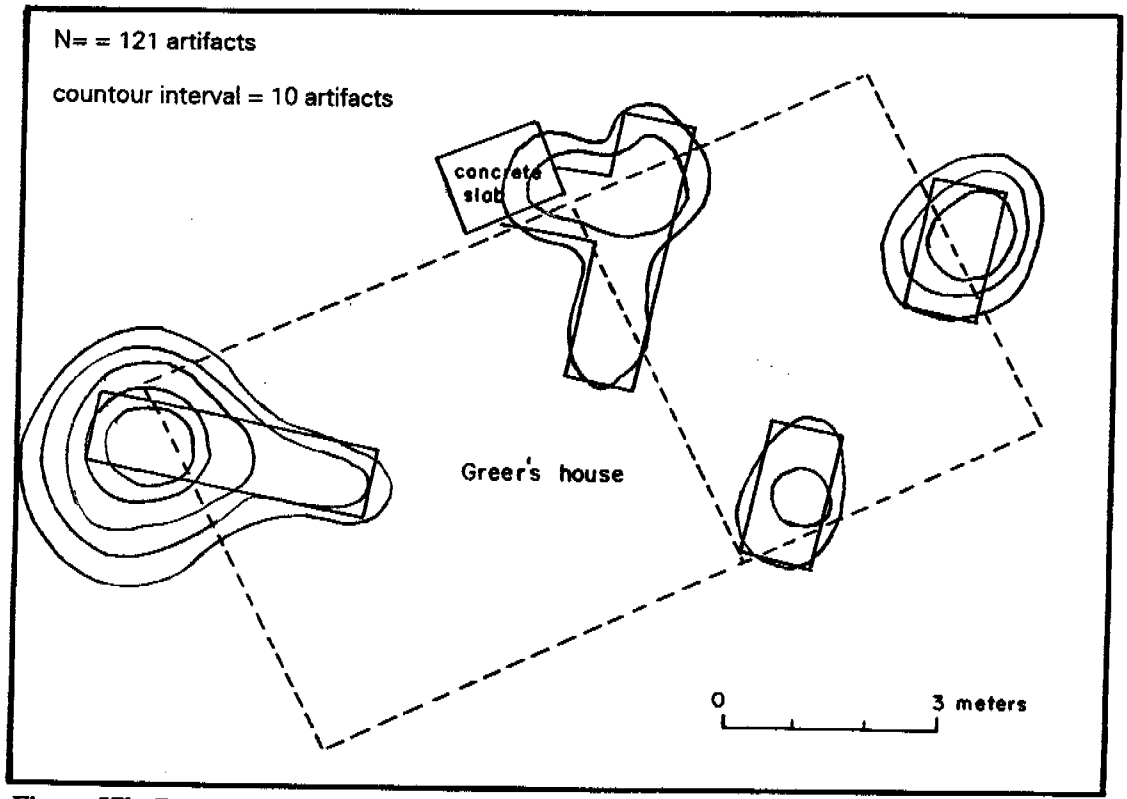

Figure 57b. Density plot of late beer bottles and glass containers near Greer's house, Pigeon's Ranch.

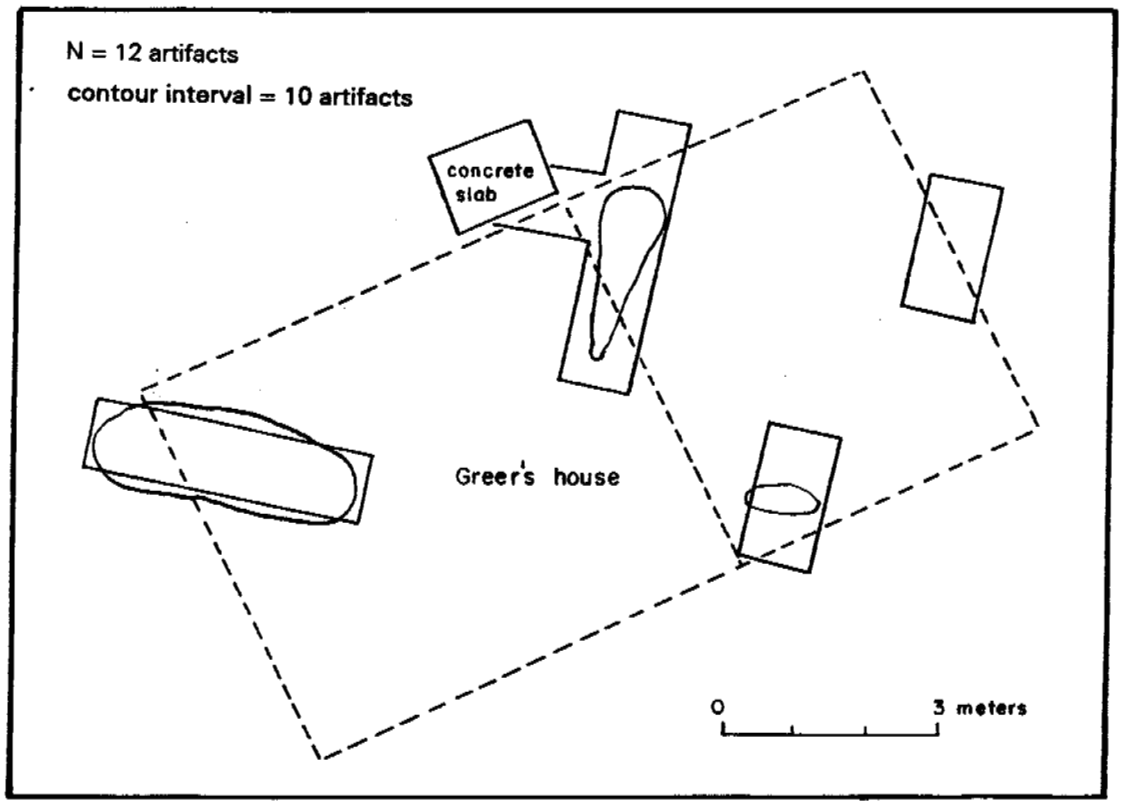

Figure 58a. Density plot of early window glass, Greer's house, Pigeon's Ranch.

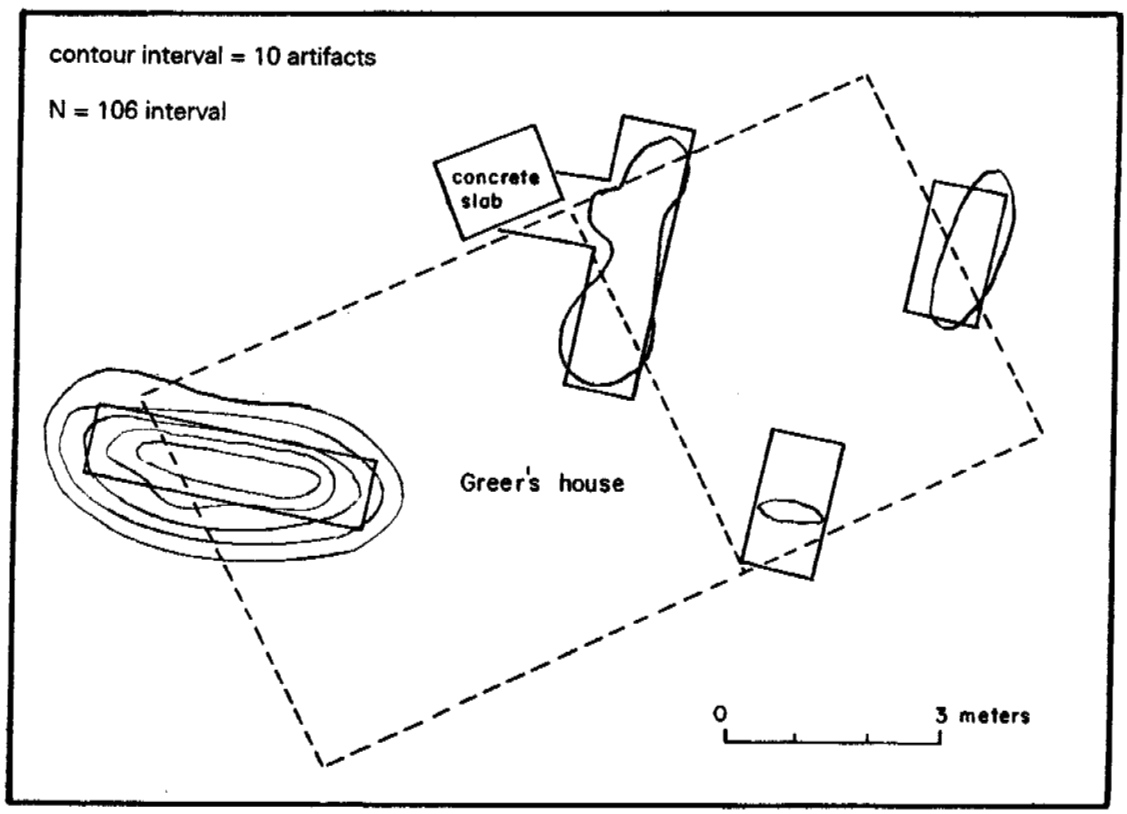

Figure 58b. Density plot of late window glass, Greer's house, Pigeon's Ranch.

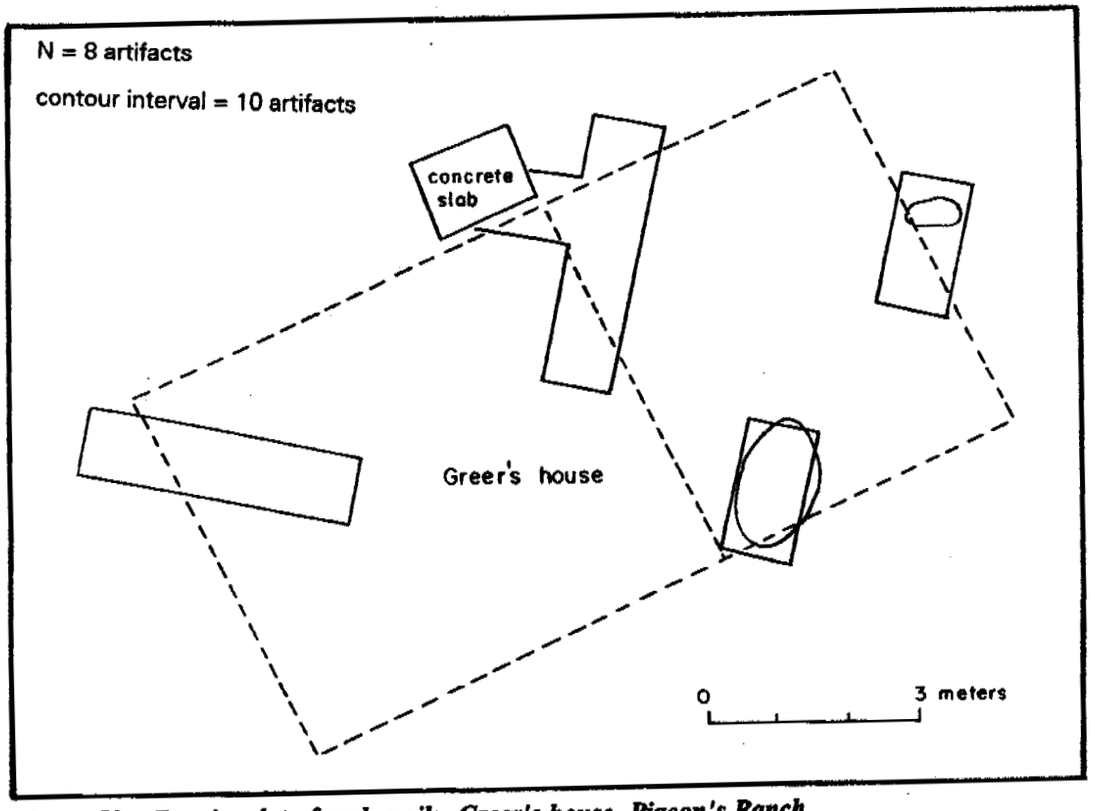

Figure 59a. Density plot of early nails, Greer's house, Pigeon's Ranch.

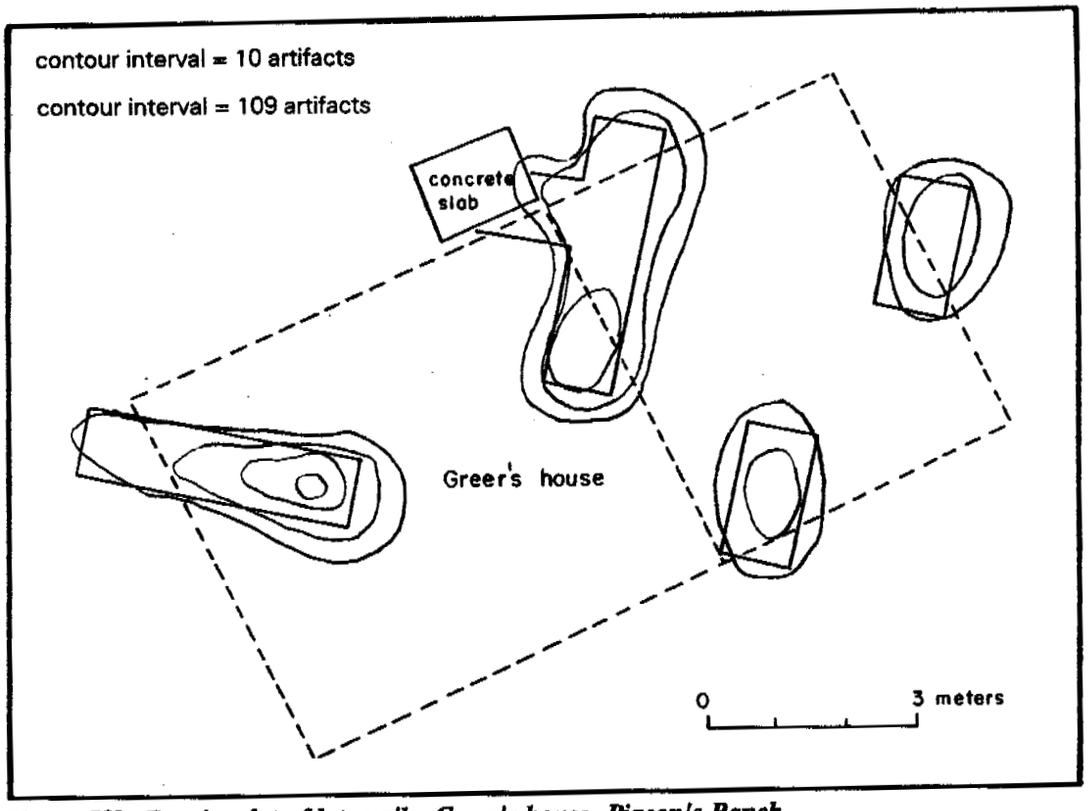

Figure 59b. Density plot of late nails, Greer's house, Pigeon's Ranch.

A total of 14 test units (13 of 1 by 1 m, and 1 of 3 by 1 m) were dug by hand in arbitrary 10 cm levels to an average depth of 30 cm before reaching undisturbed culturally sterile soil. Augers were used to confirm that soil was sterile. All test areas were backfilled upon completion of the project. Table 9 lists the 14 test units and their findings.

Table 9. Results of testing, Glorieta Battlefield

Test Pit	Size (m)	Artifacts	Date
20	3 by 1 by .30	1 wire frame nail	1890-present
21	1 by 1 by .35	1 cast iron fragment	
22	1 by 1 by .30		
55	1 by 1 by .30		
56	1 by 1 by .30		
57	1 by 1 by .30	1 glass fragment	1930-present
58	1 by 1 by .30		
59	1 by 1 by .30		
60	1 by 1 by .30		
61	1 by 1 by .20		
62	1 by 1 by .30		
63	1 by 1 by .30	2 insulator fragments	
64	1 by 1 by .30	1 copper wire	
65	1 by 1 by .30		

Archaeological Features

According to archival research, no architectural features were situated within this area of the battlefield at the time of the Civil War. As mentioned, the remains of the adobe wall near the creek were not found. However, immediately outside of the right-of-way to the south was a cemetery and the foundation of a stone building.

Cemetery. The cemetery was documented by OAS researchers and is believed to be the Thomas Greer family plot, dating from 1930 to 1979. For the names of those buried there and photographs of the plot, see the chapter on Thomas Greer.

Stone Building (1940s-1950s). The collapsed walls of a large stone-walled structure lie just outside of the southern limits of the proposed right-of-way in the open area of the battlefield west of Pigeon's Ranch (Fig. 60). It measures 29.8 by 9.1 m (98 by 30 ft) and contained at least eight rooms. Exposed plumbing pipes and wiring are evident throughout the area. Test Pits 62 and 63 were placed close to these walls within the right-of-way. No stone foundations or walls extended into the proposed project area. The only artifacts recovered were two insulator fragments and a piece of copper wire. A local resident believes the building was a motel in the 1940s or 1950s.

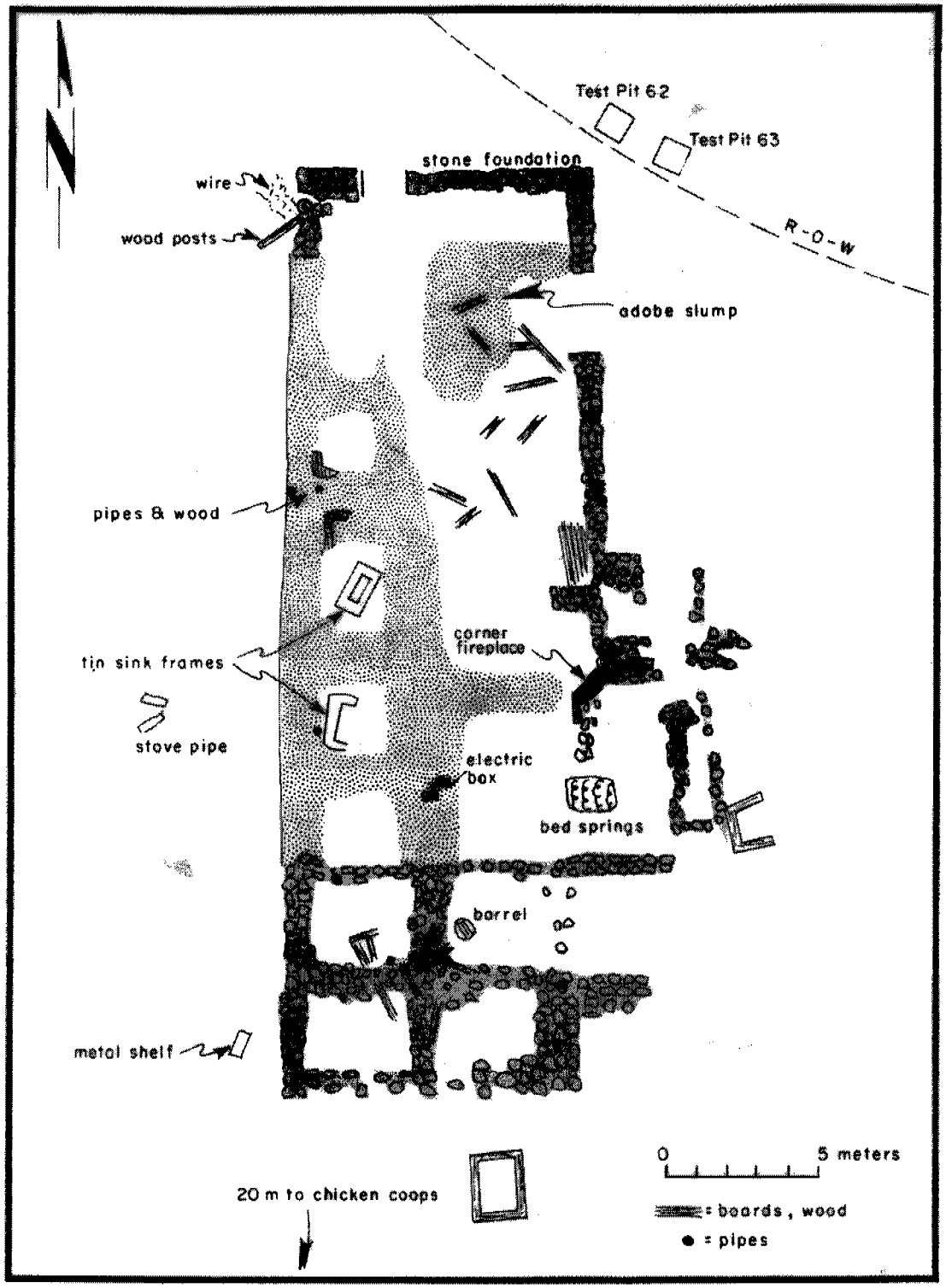

Figure 60. Stone building west of Pigeon's Ranch.

Artifact Assemblage

Only six artifacts were recovered from the 14 test pits spaced throughout the Glorieta Battlefield (Table 9). None are related to battlefield events of the 1860s. However, because of the high interest in Civil War ammunition from this site and its importance in understanding the military capabilities of the time, a separate chapter on Civil War armaments is provided earlier in this report.

The Williams Homesite (LA 49265)

The Williams homesite consists of the foundations of a home once owned by David L. Williams and subsequently by his son, Robert. It is partially within the proposed highway right-of-way, but most of the structural alignments lie outside of the right-of-way. The land, approximately 8,094 sq m (2 acres), was deeded to Mr. Williams by Martha B. Taber, widow of Walter Taber, for $500. It had been part of the original Pigeon's Ranch, a 160-acre property bought by the Tabers in 1887 from George Hebert. According to Remijio Valencia, long-time resident of the area, Williams had been on the property since the late 1880s. By 1923, he also owned the land immediately to the north of this homesite. David Williams, or more likely his son, moved to Texas in 1940, and the house was torn down. Valencia said the original structure was a log cabin. Today, the property belongs to the Glorieta Baptist Assembly.

Field Methods

The Williams homesite lies in an open grassy area on the north side of NM 50. Only a small portion of the structural foundations lie within the proposed right-of-way (Fig. 61). The testing program began with the establishment of a primary datum near the house foundation. Using a transit and stadia rod, a 1 by 1 m grid system was laid out over the cultural features within the proposed right-of-way. Surface artifacts were collected, and three test units placed within this grid system. A total of 6 sq m were excavated on the site. Depths of the test units ranged from 10 to 21 cm, with an average depth of 17 cm. Tests were dug in arbitrary 10 cm levels until a cultural surface or culturally sterile soil was encountered. Augers were used as a supplement to the test units to ensure that the soil was culturally sterile.

Hand tools were used in the excavation of all test units, and all soil was screened through 1/4 in mesh wire. Artifacts were collected by provenience level and sorted by functional type. Photographs were taken of all features, and plan drawings and profiles were made. A site map produced using a transit and stadia rod shows all cultural features and locations of test units (Fig. 61). All test units were backfilled upon completion of the project.

All artifactual material recovered from the testing program at the Williams homesite was cleaned and analyzed in the OAS laboratory. The artifact analysis focused on the function and temporal placement of the recovered items. All notes, photographs, maps, and archival data are stored at NMCRIS.

Figure 61. The Williams homesite, LA 49265.

Figure 62. Wall of Williams homesite after testing.

Archaeological Features

Test units uncovered wall foundations of the Williams house, first noted during the initial survey (Fig. 62). Remaining walls are standing to a height of 11 inches, and most are formed from granitic rocks laid in a very thin cement matrix. Coursing is not evident. There are also a few concrete foundation walls at the front of the structure. Wall remnants suggest the house had four to six rooms (Fig. 63). No floors were found, but the excavated surface was slightly compacted on the interior of walls at a depth of 20.3 cm (8 in).

The house foundation is roughly rectangular, measuring 11.9 by 10 m (39.3 by 32.8 ft), an area of 392.8 sq m (1,289 sq ft). Of this area, 3.9 sq m (13 sq ft) of this area may be part of a porch foundation on the front of the residence. An asphalt walkway leads south from the house a distance of 5 m (16.4 ft).

A circular depression measuring 4.8 by 4.5 by 1.5 m deep (16 by 15 ft by 5 ft), bounded by visible interior walls, occupied the northeast quadrant of the residence. This is probably the remains of a cellar. It lies outside of the proposed right-of-way and was not tested.

Other features on the site, outside of the right-of-way and east of the house, include a rock concentration with no alignment and a .9 by 2.5 m (3.2 by 8.2 ft) rectangular rock alignment. The latter feature may represent a gravesite. Northwest of the house foundations are two more rock alignments. One follows the existing fenceline for 5.1 m (17 ft). Its function is unknown. The other rock alignment partially encircles a depression measuring 8 by 6 by 1.2 m deep (26.2 by 19.6 ft by 4 ft). This depression could be the remains of a dugout.

Artifact Assemblage

A total of 633 artifacts were recovered from the three test units at the Williams homesite (Table 10). Of these, only 68, or approximately 11 percent, were datable. The mean date for these artifacts, consisting mostly of ironstone fragments, is 1875 $\pm$15.3 years. This corresponds to an occupation date of the site in the late 1880s, as noted by a local resident, Remijio Valencia. However, several bottle and porcelain pieces confirm a 1940s occupation. This is also borne out by the presence of concrete foundations and an asphalt walkway. Spatial analyses of the artifact assemblage was not attempted because of the limited nature of the testing program on the site.

Table 10. Number and percentage of artifacts by function, Williams homesite

Function	Number	Percent
1.000 Foodstuffs	1	0.1
2.000 Indulgences	1	0.1
3.000 Domestic Routine	65	10.3
4.000 Construction/Maintenance	454	71.7
5.000 Personal Effects	3	0.5
9.000 Indeterminate	109	17.2
Grand total	633	100

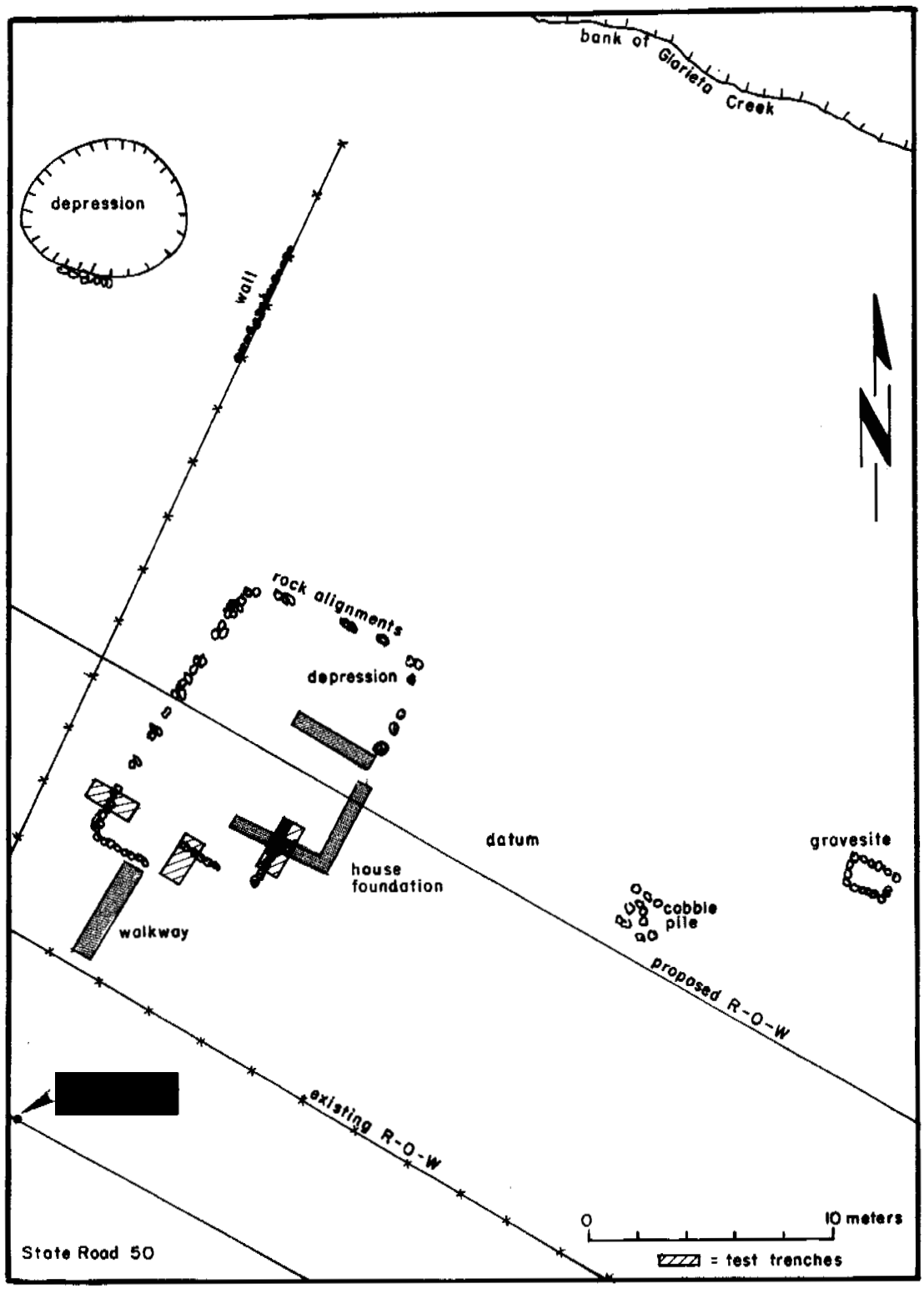

Figure 63. Map of Williams homesite after testing.

Because of the fairly large size of the structure, we suspect that the original log cabin, mentioned by local residents, was torn down or added to in the early to mid 1900s.

Within the testing zone in the highway right-of-way, only a portion of the 1940s foundation remained. This is bourne out through the artifact assemblage, which consists primarily of construction items, mostly 318 pieces of late (post-1910) window glass, 63 cut nails, (pre-1890), 18 wire nails, and 67 indeterminate nails. Smaller amounts of maintenance goods include several washers, bolts, roofing nails, wood screws, brads, and a door spring and hinge. Many domestic artifacts were also recovered, including 113 glass container fragments, 60 pieces of ironstone china (2 with Homer Laughlin maker's marks), 5 pieces of fine porcelain, and 1 piece of earthenware. Few personal items were found: 5 buttons (1 of shell), 2 pocketwatch parts, and 2 doll parts.

Most items probably date from the 1940s occupation of the house, such as the window glass, wire nails, and glass fragments. However, the cut nails, possibly the ironstone and earthenware, and two pieces of pre-1880 glass indicate an earlier structure was present on or near the present foundation site.

Discussion

Only a small portion of the Williams homesite lay within the proposed highway right-of-way. Test units revealed additional wall alignments and unprepared surfaces. The two types of wall construction material, rock and cement, suggest that the home was rebuilt or added to. The artifact assemblage is very general, and only a small percentage can be dated. A lengthy period of occupation is somewhat substantiated by the artifact data.

Because much of the site is outside of proposed construction activities, it is not possible to determine if a nearby large depression is the remains of a former dugout. This was not homesteaded land and, therefore, probably not recorded legally or actually owned by Williams when he was living on it in the late 1800s. The oldest courthouse records for the 2 acres extend back only to 1923.

CONCLUSIONS

Yvonne R. Oakes

Perhaps no site in New Mexico has had as varied a pattern of land use as Pigeon's Ranch and the Glorieta Battlefield. Their importance to the history of New Mexico is unquestionable. However, many factors contributed to the static remains of the sites as they exist today. Our historical overview of the national, regional, and local land-patterns from the mid-nineteenth through the mid-twentieth century indicates that political, economic, and social conditions had major influences on the development of these properties.

Through detailed examination of the lives of Alexander Valle and Thomas Greer, we have been able to glimpse the historical milieu in which these men found themselves. The two are representative of middle-class landowners of their time in rural New Mexico. Neither, however, seems to have been very typical, and because of their eccentricities, we have been able to observe their unique interactions with the world as they knew it. Thus, we have an excellent eyewitness account of events that occurred on the Glorieta Battlefield and a well-documented photographic record of the changing structural composition of Pigeon's Ranch.

To add to the historical record, we have the archaeological findings, which, as an independent measure of events documented in the written record, allow us to assess the veracity of those events. We now know that Alexander Valle built the old well standing along NM 50. We learned that Thomas Greer made preposterous claims for that well, probably in his quest to attract roadside business. We did not find an adobe wall supposedly present during the Battle of Glorieta. But our archaeological work did isolate the foundation of Greer's home, his trash pits, and the remains of his gas station. The excavations also revealed the location of the 1880s saloon, which stood across from the Pigeon's Ranch hostelry on the Santa Fe Trail. Events that took place on the ranch grounds are mirrored in the prehistoric lithic artifacts, Civil War armaments, 1880s saloon bottles, and 1920s Indian pottery and tourist goods.

When archival records, oral histories, and photographic documents are measured against the archaeological record, as at the two sites under study, we often arrive at a higher level of understanding than would be possible with just the historical data. The archaeological testing program at these sites has allowed the historical record to come alive. We have seen the Minié balls and pistol shot that killed young men at the Battle of Glorieta. We have found pieces of broken beverage bottles that were sold at the saloon in the 1880s.

While we have tried to present as comprehensive an account of the land-use patterns as possible in this area of Glorieta Valley, we leave nagging, unanswered questions. Where was Alexander Valle really from? Was Valle his real name, or was it Pigeon? How and when did he initially acquire the ranch? Was he self-serving, or was he taken advantage of by the U.S. government during the Battle of Glorieta? We do not have such questions to ask of Thomas Greer. His legacy of photographic documentation speaks for itself on the changes that took place on the ranch from the 1920s to the 1970s.

Pigeon's Ranch and the Glorieta Battlefield are important components of New Mexico's cultural history. We have attempted to make that history meaningful by examining the richness of the historical documentation and the archaeological record.

RECOMMENDATIONS

Yvonne R. Oakes

The field testing program for the Pigeon's Ranch project (NMSHTD Project RS-1416-[1]) uncovered all of the cultural features known to exist historically within the study corridor. The available archival data and oral interviews were abundant and extremely helpful, complementing the testing program. Using both procedures, we were able to present a complete documentation of the Pigeon's Ranch complex and the Glorieta Battlefield. No elements of the Glorieta Battlefield, which is a national historic landmark, were affected by the archaeological testing program or are within the study corridor.

Features associated with historical activities on the Pigeon's Ranch site that date prior to the 1930s are not within the project corridor except for the old well, constructed in the 1850s. However, since that time there have been at least four major reconstructions: one in 1904 to deepen the well, at least two by Thomas Greer to change the facade, and one by William Mahan in the 1970s to recurb it. Also, any structural remains of the 1880s saloon near the old well are no longer present, having been removed, probably by Greer, in the 1930s or 1940s. Artifacts from the extensive test units this area and historical photographs have been used to document the former presence of the saloon.

Therefore, we do not believe that cultural material within the study corridor has the potential to yield important additional information on local or regional history. The state historic preservation officer visited the site at the completion of the fieldwork and concurred.

This report complies with the secretary of the interior's *Standards and Guidelines for Archaeology and Historic Preservation*.

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APPENDIX 2: ARTIFACTS RECOVERED BY TRENCH, PIGEON'S RANCH

Trench 1

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
1	2.010 Beer bottle	1914-1930	3	3.4
1	2.192 Cigarette pack	1913-1986	1	1.1
1	3.026 Indeterminate ironstone vessel	1854-1920	3	3.4
1	4.010 Cut box nail	1830-1890	2	2.3
1	4.012 Cut frame nail	1830-1890	1	1.1
1	4.015 Indeterminate cut nail	1830-1890	3	3.4
1	4.020 Wire box nail	1890-1986	4	4.5
1	4.021 Wire frame nail	1890-1986	5	5.6
1	4.032 Fence Staple		1	1.1
1	4.080 Baling wire		5	5.6
1	4.082 Smooth wire		1	1.1
1	4.123 Round head screw	1865-1986	1	1.1
1	4.220 Window glass	1880-1910	20	22.5
1	4.410 Railroad spike	1897-1986	1	1.1
1	7.021 .38-.40 Peters case	1875-1986	1	1.1
1	7.061 .30-.30 case	1895-1986	1	1.1
1	7.074 .380 Revolver	1868-1986	1	1.1
1	9.030 Glass container	1914-1910	5	5.6
1	9.030 Glass container	1930-1986	9	10.1
1	9.030 Glass container	1880-1910	4	4.5
1	9.030 Glass container	1880-1917	2	2.3
1	9.032 Glass tube	1930-1986	10	11.2
1	9.070 Indeterminate metal		3	3.4
1	9.320 Plastic	1930-1986	2	2.3
	TOTAL		89	100.0

Trench 1A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
1A	3.026 Indeterminate ironstone vessel	1854-1920	16	17.8
1A	3.160 Icebox glass tray	1930-1986	11	12.2

1A	3.212 Clothes pin part		1	1.1
1A	4.010 Cut box nail	1830-1890	1	1.1
1A	4.020 Wire box nail	1890-1986	1	1.1
1A	4.021 Wire frame nail	1890-1986	10	11.1
1A	4.032 Fence staple		5	5.6
1A	4.123 Round head screw	1865-1986	1	1.1
1A	4.220 Window glass	1880-1910	15	16.7
1A	4.410 Railroad spike	1879-1986	1	1.1
1A	8.010 Horseshoe nail	1840-1986	1	1.1
1A	9.030 Glass container	1880-1930	4	4.4
1A	9.030 Glass container	1930-1986	7	7.8
1A	9.030 Glass container	1914-1930	4	4.4
1A	9.030 Glass container	1880-1910	3	3.3
1A	9.070 Indeterminate metal		10	11.1
	TOTAL		90	100.0

Trench 1B

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
1B	3.026 Indeterminate ironstone vessel	1854-1920	3	14.2
1B	4.010 Cut box nails	1930-1890	1	4.8
1B	4.020 Wire box nails	1890-1986	1	4.8
1B	4.021 Wire frame nails	1890-1986	1	4.8
1B	4.024 Indeterminate wire nail	1890-1986	1	4.8
1B	4.220 Window glass	1930-1986	2	9.5
1B	4.220 Window glass	1880-1910	3	14.2
1B	4.345 Ceramic pipe		2	9.5
1B	9.030 Glass container	1880-1910	2	9.5
1B	9.030 Glass container	1880-1930	1	4.8
1B	9.030 Glass container	1914-1930	2	9.5
1B	9.030 Glass container	1930-1986	1	4.8
1B	9.070 Indeterminate metal		1	4.8
	TOTAL		21	100.0

Trench 1C

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
1C	3.160 Icebox tray	1930-1986	1	14.3
1C	4.154 Gate hook	1865-1986	1	14.3
1C	4.200 Ceramic tile	1880-1986	1	14.3
1C	9.030 Glass container	1914-1930	3	42.8
1C	9.030 Glass container	1930-1986	1	14.3
	TOTAL		7	100.0

Trench 1D

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
1D	2.010 Beer bottle	1914-1930	17	10.6
1D	2.110 Beverage cap		1	.6
1D	3.026 Indeterminate ironstone vessel	1854-1920	20	12.4
1D	3.160 Icebox glass tray	1930-1986	1	.6
1D	4.015 Indeterminate cut nail	1830-1890	1	.6
1D	4.021 Wire frame nail	1890-1986	3	2.0
1D	4.024 Indeterminate wire nail	1890-1986	1	.6
1D	4.032 Fence staple	1890-1986	1	.6
1D	4.080 Baling wire		1	.6
1D	4.082 Smooth wire		2	1.2
1D	4.220 Window glass	1880-1930	16	9.9
1D	7.170 Indeterminate centerfire		1	.6
1D	9.030 Glass container	1880-1917	2	1.2
1D	9.030 Glass container	1880-1910	2	1.2
1D	9.030 Glass container	1880-1930	2	1.2
1D	9.030 Glass container	1914-1930	79	49.1
1D	9.030 Glass container	1930-1986	8	5.0
1D	9.070 Indeterminate metal		3	2.0
	TOTAL		**161**	100.0

Trench 1E

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
1E	1.270 Peach pit		1	.3
1E	2.010 Beer bottle	1880-1910	6	2.0
1E	2.010 Beer bottle	1880-1986	42	12.5
1E	2.010 Beer bottle	1914-1930	114	33.9
1E	2.050 Wine bottle	1930-1986	2	.6
1E	2.051 Brandy bottle	1914-1930	2	.6
1E	2.070 Ceramic ale bottle		1	.3
1E	2.090 Crown bottle cap	1898-1986	1	.3
1E	2.110 Beverage cap		1	.3
1E	3.013 Pressed glass cup	1830-1900	1	.3
1E	3.026 Indeterminate ironstone vessel	1854-1920	4	1.1
1E	3.160 Icebox glass tray	1930-1986	1	.3
1E	4.010 Cut box nail	1830-1890	2	.6
1E	4.012 Cut frame nail	1830-1890	1	.3
1E	4.015 Indeterminate cut nail	1830-1890	1	.3
1E	4.020 Wire box nail	1890-1986	5	1.4
1E	4.021 Wire frame nail	1890-1986	2	.6
1E	4.025 Indeterminate nail		1	.3
1E	4.080 Baling wire		2	.6
1E	4.100 Indeterminate bolt		1	.3
1E	4.121 Set screw	1920-1986	1	.3
1E	4.220 Window glass	1880-1930	4	1.1
1E	7.170 Indeterminate centerfire		1	.3
1E	9.030 Glass container	1880-1910	8	2.3
1E	9.030 Glass container	1880-1917	4	1.1
1E	9.030 Glass container	1914-1930	114	33.9
1E	9.030 Glass container	1930-1986	12	3.5
1E	9.070 Indeterminate metal		1	.3
	TOTAL		336	100.0

Trench 1F

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
1F	1.310 Egg shell		2	.3
1F	1.150 Key strip opener	1895-1986	1	.1
1F	2.010 Beer bottle	1880-1986	26	3.8
1F	2.010 Beer bottle	1914-1930	356	50.0
1F	2.051 Brandy bottle	1914-1930	4	.6
1F	2.090 Crown bottle cap	1893-1986	14	2.0
1F	2.110 Beverage cap		1	.1
1F	3.013 Indeterminate earthenware	1830-1900	1	.1
1F	3.026 Indeterminate ironstone vessel	1854-1920	12	1.7
1F	3.160 Icebox glass tray	1930-1986	3	.4
1F	3.323 Broom		1	.1
1F	3.340 Pencil and parts		1	.1
1F	4.010 Cut box nail	1830-1890	7	1.0
1F	4.012 Cut frame nail	1830-1890	4	.6
1F	4.015 Indeterminate cut nail	1830-1890	17	2.4
1F	4.020 Wire box nail	1890-1986	17	2.4
1F	4.021 Wire frame nail	1890-1986	5	.7
1F	4.024 Indeterminate wire nail	1890-1986	8	1.1
1F	4.030 Roofing nail	1890-1986	3	.4
1F	4.032 Fence staple		2	.3
1F	4.040 Roofing cap		1	.1
1F	4.060 Tack		1	.1
1F	4.080 Baling wire		6	.8
1F	4.082 Smooth wire		1	.1
1F	4.100 Indeterminate bolt		1	.1
1F	4.123 Round head screw		1	.1
1F	4.140 Winged thumb nut		1	.1
1F	4.192 Plaster		4	.6
1F	4.220 Window glass	1880-1910	17	2.4
1F	5.033 Penny	1943	1	.1
1F	5.050 Button		1	.1
1F	5.052 Overall button		1	.1

1F	5.191 Galoshes-type fastener		2	.3
1F	5.240 Hair curler		1	.1
1F	5.390 Bead		1	.1
1F	6.080 Record		2	.3
1F	7.010 .22 long case		1	.1
1F	7.011 .22 short case	1867-1986	3	.4
1F	8.040 Horseshoe nail	1840-1986	6	1.0
1F	9.030 Glass container	1880-1910	21	3.0
1F	9.030 Glass container	1880-1917	17	2.4
1F	9.030 Glass container	1880-1930	4	.6
1F	9.030 Glass container	1930-1986	48	7.0
1F	9.034 Milk glass		3	.4
1F	9.050 Metal containers		74	10.4
1F	9.070 Indeterminate metal		1	.1
1F	9.210 Metal band		1	.1
1F	9.590 Lead foil		3	.4
1F	9.880 Indeterminate object		3	.4
	TOTAL		712	100.0

Trench 1G

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
1G	1.270 Peach pit		3	.7
1G	2.010 Beer bottle	1880-1986	19	4.3
1G	2.010 Beer bottle	1914-1930	104	23.7
1G	2.090 Crown bottle cap	1893-1986	4	.9
1G	2.110 Beverage cap		3	.7
1G	2.230 Prescription bottle	1930-1986	1	.2
1G	3.026 Indeterminate ironstone vessel	1854-1920	18	4.1
1G	3.339 Ink bottle	1930-1986	1	.2
1G	3.360 Light bulb	1879-1986	1	.2
1G	3.412 Cast iron stove part		1	.2
1G	3.451 Ointment tube		2	.5
1G	3.460 Flower pot		1	.2
1G	4.010 Cut box nail	1830-1890	3	.7

1G	4.012 Cut frame nail	1830-1890	5	1.1
1G	4.015 Indeterminate cut nail	1830-1890	21	4.8
1G	4.020 Wire box nail	1890-1986	10	2.3
1G	4.021 Wire frame nail	1890-1986	9	2.1
1G	4.024 Indeterminate wire nail	1890-1986	4	.9
1G	4.030 Roofing nail	1890-1986	2	.5
1G	4.032 Fence staple		1	.2
1G	4.040 Roofing cap		1	.2
1G	4.070 Barb wire	1853-1986	2	.5
1G	4.080 Baling wire		6	1.4
1G	4.091 Cable		1	.2
1G	4.120 Wood screw		1	.2
1G	4.220 Window Glass	1880-1910	9	2.1
1G	4.346 Pipe cap	1908-1986	1	.2
1G	5.050 Button		1	.2
1G	5.471 Clock part		1	.2
1G	6.010 Marble		1	.2
1G	6.080 Record		2	.5
1G	7.010 .22 long case	1867-1902	1	.2
1G	8.040 Horseshoe nail	1840-1986	1	.2
1G	9.030 Glass container	1880-1910	22	5.0
1G	9.030 Glass container	1880-1917	6	1.4
1G	9.030 Glass container	1914-1930	46	10.5
1G	9.030 Glass container	1930-1986	72	16.4
1G	9.034 Milk glass		9	2.1
1G	9.053 Indeterminate can fragment		1	.2
1G	9.060 Twist-off-cap	1927-1986	1	.2
1G	9.070 Indeterminate metal		38	8.7
1G	9.230 Cast iron fragment		2	.5
1G	9.880 Indeterminate object		1	.2
	TOTAL		439	100.0

Trench 2

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
2	1.270 Peach pit		1	.3
2	2.010 Beer bottle	1914-1930	35	12.0
2	2.090 Crown bottle cap	1893-1986	4	1.4
2	2.091 Aluminum pull tab	1962	1	.3
2	2.140 Canned soda	1953-1986	1	.3
2	3.010 Earthenware plate	1830-1900	21	7.1
2	3.026 Indeterminate ironstone vessel	1854-1920	9	3.0
2	4.010 Cut box nail	1830-1890	11	4.0
2	4.012 Cut frame nail	1830-1890	7	2.4
2	4.015 Indeterminate cut nail	1830-1890	33	11.1
2	4.020 Wire box nail	1890-1986	4	1.4
2	4.021 Wire frame nail	1890-1986	3	1.0
2	4.024 Indeterminate wire nail	1890-1986	2	.7
2	4.025 Indeterminate nail		1	.3
2	4.030 Roofing nail	1890-1986	1	.3
2	4.080 Baling wire		6	2.0
2	4.141 Nut		1	.3
2	4.220 Window glass	1880-1910	46	15.5
2	4.290 Heavy metal grommet		1	.3
2	5.050 Button		2	.7
2	5.070 Buckle	1897	1	.3
2	5.090 Clothing snap		1	.3
2	5.450 Costume jewelry		1	.3
2	7.051 .32 centerfire	1868-1940	1	.3
2	9.030 Glass container	1880-1910	23	7.7
2	9.030 Glass container	1880-1930	3	1.0
2	9.030 Glass container	1914-1930	24	8.1
2	9.030 Glass container	1930-1986	43	14.5
2	9.070 Indeterminate metal		6	2.0
2	9.230 Cast iron fragments		3	1.0
	TOTAL		296	100.0

Trench 2A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
2A	2.010 Beer bottle	1914-1930	7	2.1
2A	2.051 Brandy bottle	1914-1930	1	.1
2A	2.070 Ceramic ale bottle		1	.3
2A	3.010 Earthenware plate	1830-1900	2	.6
2A	3.026 Indeterminate ironstone vessel	1854-1920	26	7.8
2A	3.037 Indeterminate porcelain	1660-1936	1	.3
2A	3.040 Stoneware saucer		4	1.2
2A	3.420 Kerosene lantern parts	1880-1986	1	.3
2A	3.620 Mirror	1930-1986	1	.3
2A	4.010 Cut box nail	1830-1890	6	1.8
2A	4.012 Cut frame nail	1830-1890	1	.3
2A	4.015 Indeterminate cut nail	1830-1890	27	8.2
2A	4.020 Wire box nail	1890-1986	5	1.5
2A	4.021 Wire frame nail	1890-1986	3	1.0
2A	4.032 Fence staple		1	.3
2A	4.070 Barbed wire	1853-1986	1	.3
2A	4.080 Baling wire		1	.3
2A	4.114 Window spring bolt		1	.3
2A	4.120 Wood screw		1	.3
2A	4.220 Window glass	1880-1910	102	31.0
2A	5.011 Shoe parts		1	.3
2A	5.050 Button		1	.3
2A	5.090 Clothing snap		1	.3
2A	8.040 Horseshoe nail	1840-1986	1	.3
2A	9.010 Ceramic container	1880-1986	1	.3
2A	9.030 Glass container	1880-1910	26	8.0
2A	9.030 Glass container	1880-1917	4	1.2
2A	9.030 Glass container	1880-1930	7	2.1
2A	9.030 Glass container	1880-1986	8	2.4
2A	9.030 Glass container	1914-1930	34	10.3
2A	9.030 Glass container	1930-1986	44	13.2
2A	9.063 Indeterminate can lid		1	.3

2A	9.065 Bottle stopper	1914-1930	1	.3
2A	9.230 Cast iron fragments		1	.3
2A	9.320 Plastic	1930-1986	1	.3
2A	9.350 Chain links		6	1.8
	TOTAL		331	100.0

Trench 2B

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
2B	2.010 Beer bottle	1914-1930	9	2.8
2B	2.070 Ceramic ale bottle		2	.6
2B	3.010 Earthenware plate	1854-1900	2	.6
2B	3.013 Indeterminate earthenware	1830-1900	1	.3
2B	3.026 Indeterminate ironstone vessel	1854-1920	57	17.8
2B	3.037 Indeterminate porcelain	1660-1986	1	.3
2B	3.041 Indeterminate saucer		1	.3
2B	3.510 Hot water bottle stopper	1880-1910	1	.3
2B	4.010 Cut box nail	1830-1890	11	3.4
2B	4.012 Cut frame nail	1830-1890	2	.6
2B	4.015 Indeterminate cut nail	1830-1890	15	4.7
2B	4.020 Wire box nail	1890-1986	2	.6
2B	4.021 Wire frame nail	1890-1986	5	1.6
2B	4.022 Wire finish nail	1890-1986	2	.6
2B	4.032 Fence staple		1	.3
2B	4.113 Stove bolt		1	.3
2B	4.114 Window spring bolt		1	.3
2B	4.115 Metal dowel		4	1.3
2B	4.220 Window glass	1880-1910	41	12.8
2B	4.221 Isinglass		2	.6
2B	4.342 Threaded pipe coupling		1	.3
2B	5.022 Pants rivet		1	.3
2B	5.210 Personal adornment		1	.3
2B	7.041 .44 case	1908-1986	1	.3
2B	8.040 Horseshoe nail	1840-1986	2	.6
2B	9.030 Glass container	1880-1910	18	5.6

2B	9.030 Glass container	1880-1930	5	1.6
2B	9.030 Glass container	1914-1930	54	17.0
2B	9.030 Glass container	1930-1986	76	23.8
	TOTAL		320	100.0

Trench 2C

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
2C	2.010 Beer bottle	1914-1930	37	16.7
2C	2.090 Crown bottle cap	1893-1986	2	.9
2C	2.110 Beverage cap		1	.5
2C	3.026 Indeterminate ironstone vessel	1854-1920	34	15.4
2C	4.010 Cut box nail	1830-1890	5	2.3
2C	4.012 Cut frame nail	1830-1890	2	.9
2C	4.015 Indeterminate cut nail	1830-1890	14	6.3
2C	4.020 Wire box nail	1890-1986	7	3.1
2C	4.021 Wire frame nail	1890-1986	2	.9
2C	4.024 Indeterminate wire nail	1890-1986	4	1.8
2C	4.032 Fence staple		1	.5
2C	4.033 Wall board nail		1	.5
2C	4.060 Tack		1	.5
2C	4.080 Baling wire		2	.9
2C	4.081 Bundle wire		1	.5
2C	4.220 Window glass	1880-1910	17	7.6
2C	4.400 Spike		1	.5
2C	7.040 .44-.40 cartridge	1873-1937	1	.5
2C	9.030 Glass container	1880-1910	31	14.0
2C	9.030 Glass container	1880-1917	14	6.3
2C	9.030 Glass container	1930-1986	43	19.4
	TOTAL		221	100.0

Trench 2D

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
2D	2.010 Beer bottle	-16	41	16.2

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
2D	3.013 Indeterminate earthenware	1830-1900	3	1.2
2D	3.026 Indeterminate ironstone vessel	1854-1920	31	12.3
2D	4.015 Indeterminate cut nail	1830-1890	6	2.3
2D	4.020 Wire box nail	1890-1986	2	.8
2D	4.021 Wire frame nail	1890-1986	1	.4
2D	4.081 Bundle wire		2	.8
2D	4.082 Smooth wire		1	.4
2D	4.111 Carriage Bolt	1865-1986	7	2.7
2D	4.130 Washer		1	.4
2D	4.141 Nut		4	1.6
2D	4.162 Butt hinge	1865-1986	1	.4
2D	4.220 Window glass	1880-1910	31	12.3
2D	4.330 Push pin		1	.4
2D	4.342 Threaded pipe coupling		2	.8
2D	4.345 Ceramic pipe		1	.4
2D	4.346 Pipe cap	1909-1986	1	.4
2D	4.411 Railroad spike	1865-1986	1	.4
2D	4.443 Monkey wrench	1906-1986	1	.4
2D	5.050 Button		2	.8
2D	6.070 Toy		1	.4
2D	7.040 .44-.40 cartridge	1873-1937	1	.4
2D	7.087 .29/99 rifle slugged load	1884-1986	1	.4
2D	8.040 Horseshoe nail	1840-1986	1	.4
2D	9.030 Glass container	1880-1910	28	11.1
2D	9.030 Glass container	1880-1917	14	5.5
2D	9.030 Glass container	1914-1930	10	3.9
2D	9.030 Glass container	1930-1986	41	16.2
2D	9.030 Glass container	1880-1930	6	2.3
2D	9.034 Milk glass		1	.4
2D	9.070 Indeterminate metal		7	2.8
2D	9.850 Spark plug	1915-1986	1	.4
2D	9.874 Car part spring		1	.4
	TOTAL		253	100.0

Trench 2E

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
2E	3.026 Indeterminate ironstone vessel	1854-1920	19	8.6
2E	4.010 Cut box nail	1830-1890	15	6.8
2E	4.012 Cut frame nail	1830-1890	7	3.2
2E	4.015 Indeterminate cut nail	1830-1890	10	4.5
2E	4.020 Wire box nail	1890-1986	2	1.0
2E	4.021 Wire frame nail	1890-1986	3	1.4
2E	4.022 Wire finish nail	1890-1986	1	.4
2E	4.080 Baling wire		1	.4
2E	4.113 Stove bolt		2	1.0
2E	4.121 Set screw		1	.4
2E	4.123 Round head screw		1	.4
2E	4.130 Washer		1	.4
2E	4.141 Nut	1865-1986	2	1.0
2E	4.220 Window glass	1880-1910	19	8.6
2E	4.261 Rivet		1	.4
2E	4.340 Single threaded pipe		1	.4
2E	4.350 Clamp	1876-1986	1	.4
2E	7.041 .44 case	1873-1986	1	.4
2E	7.055 .32 long	1875-1965	1	.4
2E	7.080 10 gauge shotgun shell	1836-1945	1	.4
2E	9.030 Glass container	1880-1910	28	12.6
2E	9.030 Glass container	1880-1917	39	17.6
2E	9.030 Glass container	1880-1930	5	2.3
2E	9.030 Glass container	1914-1930	38	17.1
2E	9.030 Glass container	1930-1986	15	6.8
2E	9.070 Indeterminate metal		5	2.3
2E	9.120 Harness buckle		1	.4
2E	9.872 Battery clamp	1942-1986	1	.4
	TOTAL		222	100.0

Trench 2F

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
2F	1.150 Key strip opener	1895-1986	1	1.3
2F	2.010 Beer bottle	1914-1930	3	4.0
2F	2.010 Beer bottle	1930-1986	2	3.0
2F	3.026 Indeterminate ironstone vessel	1854-1920	16	21.1
2F	3.037 Indeterminate porcelain	1660-1986	2	2.6
2F	4.010 Cut box nail	1830-1890	1	1.3
2F	4.012 Cut frame nail	1830-1890	1	1.3
2F	4.015 Indeterminate cut nail	1830-1890	2	2.6
2F	4.021 Wire frame nail	1890-1986	5	6.6
2F	4.080 Baling wire		1	1.3
2F	4.111 Carriage bolt	1865-1986	2	2.6
2F	4.113 Stove bolt		2	2.6
2F	4.114 Window spring bolt	1865-1986	1	1.3
2F	4.115 Metal dowel		1	1.3
2F	4.260 Iron rivet head		1	1.3
2F	4.341 Pipe		1	1.3
2F	4.346 Pipe cap		1	1.3
2F	4.391 Water hose nozzle		1	1.3
2F	4.410 Railroad spike	1879-1986	2	2.6
2F	5.030 Nickel	1883-1913	1	1.3
2F	8.040 Stirring rod	1840-1986	1	1.3
2F	9.020 Clay container		1	1.3
2F	9.030 Glass container	1880-1910	4	5.2
2F	9.030 Glass container	1880-1917	8	10.5
2F	9.030 Glass container	1913-1930	1	1.3
2F	9.030 Glass container	1930-1986	7	9.2
2F	9.070 Indeterminate metal		5	6.6
2F	9.311 Rubber hose		1	1.3
2F	9.875 Indeterminate car part		1	1.3
	TOTAL		76	100.0

Trench 3

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3	2.010 Beer bottle	1914-1930	9	6.0
3	2.090 Crown bottle cap	1893-1986	3	2.0
3	3.026 Indeterminate ironstone vessel	1854-1920	9	6.0
3	4.010 Cut box nail	1830-1890	7	4.7
3	4.014 Cut fence nail	1830-1890	1	.7
3	4.015 Indeterminate cut nail	1830-1890	4	2.7
3	4.020 Wire box nail	1890-1986	6	4.0
3	4.021 Wire frame nail	1890-1986	1	.7
3	4.024 Indeterminate wire nail	1890-1986	1	.7
3	4.080 Baling wire		4	2.7
3	4.081 Bundle wire		1	.7
3	4.120 Wood screw		1	.7
3	4.220 Window glass	1880-1910	10	6.7
3	4.400 Spike		1	.7
3	5.050 Button		1	.7
3	5.070 Buckle	1861-1986	1	.7
3	7.040 .44-.40 cartridge	1873-1937	1	.7
3	8.040 Horseshoe nail	1840-1986	2	1.3
3	9.020 Clay container		1	.7
3	9.030 Glass container	1880-1910	23	15.4
3	9.030 Glass container	1880-1917	19	12.7
3	9.030 Glass container	1880-1930	2	1.3
3	9.030 Glass container	1914-1930	13	8.7
3	9.030 Glass container	1930-1986	23	15.4
3	9.034 Milk glass		1	.7
3	9.070 Indeterminate metal		4	2.7
	TOTAL		149	100.0

Trench 3A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3A	2.010 Beer bottle	1914-1930	37	14.6

3A	2.070 Ceramic ale bottle		2	.8
3A	2.110 Beverage cap		1	.4
3A	3.013 Indeterminate earthenware	1830-1900	3	1.2
3A	3.014 Earthenware crock	1830-1900	1	.4
3A	3.026 Indeterminate ironstone vessel	1854-1920	29	11.5
3A	4.010 Cut box nail	1830-1890	2	.8
3A	4.012 Cut frame nail	1830-1890	2	.8
3A	4.013 Cut finish nail	1830-1890	2	.8
3A	4.015 Indeterminate cut nail	1830-1890	6	2.4
3A	4.020 Wire box nail	1890-1986	5	1.9
3A	4.032 Fence staple		1	.4
3A	4.081 Bundle wire		2	.8
3A	4.123 Round head screw		1	.4
3A	4.220 Window glass	1880-1910	24	9.5
3A	4.341 Pipe		1	.4
3A	4.350 Clamp		1	.4
3A	4.410 Railroad spike	1879-1986	1	.4
3A	7.121 Indeterminate cartridge		1	.4
3A	8.170 Bale tie	1892-1986	1	.4
3A	9.030 Glass container	1880-1910	29	11.5
3A	9.030 Glass container	1880-1917	22	8.7
3A	9.030 Glass container	1880-1930	8	3.2
3A	9.030 Glass container	1914-1930	11	4.3
3A	9.030 Glass container	1930-1986	54	21.3
3A	9.032 Glass tube	1930-1986	1	.4
3A	9.070 Indeterminate metal		5	1.9
	TOTAL		253	100.0

Trench 3B

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3B	2.010 Beer bottle	1914-1930	48	14.6
3B	2.010 Beer bottle	1880-1986	19	5.8
3B	2.130 Soda bottle	1930-1986	1	.3
3B	3.014 Earthenware crock	1830-1900	2	.6

3B	3.026 Indeterminate ironstone vessel	1854-1920	40	12.2
3B	4.010 Cut box nail	1830-1890	7	2.1
3B	4.012 Cut frame nail	1830-1890	2	.6
3B	4.015 Indeterminate cut nail	1830-1890	7	2.1
3B	4.020 Wire box nail	1890-1986	7	2.1
3B	4.021 Wire frame nail	1890-1986	6	2.0
3B	4.024 Indeterminate wire nail	1890-1986	8	2.4
3B	4.081 Bundle wire		5	1.5
3B	4.123 Round head screw		1	.3
3B	4.165 Door spring	1867-1986	1	.3
3B	4.220 Window glass	1880-1910	35	10.6
3B	4.330 Push pin		1	.3
3B	5.020 Clothing rivet	1912-1986	1	.3
3B	5.071 Suspender buckle	1897-1986	1	.3
3B	5.220 Comb part		1	.3
3B	6.030 Doll part		2	.6
3B	8.175 Wagon brake shoe holder	1865-1915	1	.3
3B	9.030 Glass container	1880-1910	43	13.1
3B	9.030 Glass container	1880-1917	35	10.6
3B	9.030 Glass container	1914-1930	2	.6
3B	9.030 Glass container	1930-1986	37	11.2
3B	9.034 Milk glass		1	.3
3B	9.070 Indeterminate metal		14	4.3
3B	9.880 Indeterminate object		1	.3
	TOTAL		329	100.0

Trench 3C

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3C	2.010 Beer bottle	1914-1930	64	28.2
3C	2.070 Ceramic ale bottle		2	.9
3C	2.110 Beverage cap		1	.4
3C	3.026 Indeterminate ironstone vessel	1854-1920	4	2.0
3C	3.037 Indeterminate porcelain	1660-1986	1	.4
3C	3.421 Kerosene lamp chimney	1880-1917	1	.4

3C	4.010 Cut box nail	1830-1890	8	3.6
3C	4.012 Cut frame nail	1830-1890	7	3.1
3C	4.015 Indeterminate cut nail	1830-1890	9	4.0
3C	4.020 Wire box nail	1890-1986	1	.4
3C	4.021 Wire frame nail	1890-1986	3	1.3
3C	4.022 Wire finish nail	1890-1986	3	1.3
3C	4.024 Indeterminate wire nail	1890-1986	1	.4
3C	4.030 Roofing nail	1890-1986	1	.4
3C	4.032 Fence staple		1	.4
3C	4.080 Baling wire		2	.9
3C	4.082 Smooth wire		1	.4
3C	4.220 Window glass	1880-1910	16	7.1
3C	4.410 Railroad spike	1879-1986	1	.4
3C	5.050 Button		1	.4
3C	7.040 .44-.40 cartridge	1873-1937	1	.4
3C	7.061 .30-.30 case	1895-1911	1	.4
3C	7.121 Indeterminate cartridge		1	.4
3C	8.120 Harness buckle	1865-1986	1	.4
3C	9.030 Glass container	1880-1910	51	22.5
3C	9.030 Glass container	1880-1917	16	7.1
3C	9.030 Glass container	1930-1986	24	10.6
3C	9.070 Indeterminate metal		2	.9
3C	9.880 Indeterminate object		2	.9
	TOTAL		227	100.0

Trench 3D

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3D	1.120 Slide off lid		1	.2
3D	1.270 Peach pit		1	.2
3D	2.010 Beer bottle	1880-1986	7	1.7
3D	2.010 Beer bottle	1914-1930	61	14.4
3D	2.070 Ceramic ale bottle		1	.2
3D	2.090 Crown bottle cap	1893-1986	4	1.0
3D	2.120 Beverage cap	1930-1986	2	.5

3D	3.026 Indeterminate ironstone vessel	1854-1920	28	6.6
3D	3.037 Indeterminate porcelain	1660-1986	1	.2
3D	4.010 Cut box nail	1830-1890	17	4.0
3D	4.012 Cut frame nail	1830-1890	6	1.4
3D	4.015 Indeterminate cut nail	1830-1890	45	10.6
3D	4.020 Wire box nail	1890-1986	21	5.0
3D	4.021 Wire frame nail	1890-1986	12	3.0
3D	4.024 Indeterminate wire nail	1890-1986	5	1.2
3D	4.030 Roofing nail	1890-1986	4	1.0
3D	4.032 Fence staple		2	.5
3D	4.060 Tack		1	.2
3D	4.080 Baling wire		7	1.7
3D	4.081 Bundle wire		1	.2
3D	4.100 Indeterminate bolt		2	.5
3D	4.220 Window glass	1880-1910	25	6.0
3D	4.345 Ceramic pipe		1	.2
3D	4.400 Spike	1830-1890	1	.2
3D	4.431 Earthenware door knob	1820-1900	1	.2
3D	5.090 Clothing snap		1	.2
3D	7.010 .22 long case	1887-1986	1	.2
3D	7.011 .22 short case	1867-1986	2	.5
3D	7.014 .22 long cartridge	1871-1986	4	1.0
3D	7.015 .22 short cartridge	1880-1935	1	.2
3D	7.020 .38-.40 Peters case	1867-1986	1	.2
3D	7.072 .25-.35 centerfire		1	.2
3D	8.010 Horseshoe nail	1840-1986	1	.2
3D	9.030 Glass container	1880-1910	35	8.3
3D	9.030 Glass container	1880-1917	16	4.0
3D	9.030 Glass container	1880-1930	3	.7
3D	9.030 Glass container	1914-1930	28	6.6
3D	9.030 Glass container	1930-1986	32	7.5
3D	9.034 Milk glass		2	.5
3D	9.050 Button		4	1.0
3D	9.059 Metal cap		1	.2

3D	9.070 Indeterminate metal		28	6.6
3D	9.230 Cast iron fragments		1	.2
3D	9.350 Chain links		1	.2
3D	9.580 Foil		1	.2
3D	9.875 Indeterminate car part		1	.2
3D	9.880 Indeterminate object		1	.2
	TOTAL		423	100.0

Trench 3E

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3E	1.040 Sanitary can	1920-1986	8	1.4
3E	2.010 Beer bottle	1880-1910	10	1.9
3E	2.010 Beer bottle	1914-1930	76	14.0
3E	2.010 Beer bottle	1920-1986	8	1.4
3E	2.070 Ceramic ale bottle		1	.2
3E	2.090 Crown bottle cap	1893-1986	12	2.2
3E	2.110 Beverage cap		8	1.4
3E	3.026 Indeterminate ironstone vessel	1854-1920	28	5.2
3E	3.070 Tumbler	1880-1917	1	.2
3E	3.450 Mentholatum jar	1930-1986	1	.2
3E	3.450 Mentholatum jar	1880-1910	1	.2
3E	3.451 Ointment tube		1	.2
3E	4.010 Cut box nail	1830-1890	30	5.5
3E	4.012 Cut frame nail	1830-1890	7	1.3
3E	4.015 Indeterminate cut nail	1830-1890	6	1.1
3E	4.020 Wire box nail	1890-1986	25	4.6
3E	4.021 Wire frame nail	1890-1986	29	5.4
3E	4.022 Wire finish nail	1890-1986	4	.7
3E	4.024 Indeterminate wire nail	1890-1986	16	3.0
3E	4.025 Indeterminate nail		5	.9
3E	4.030 Roofing nail	1890-1986	6	1.1
3E	4.032 Fence staple		11	2.0
3E	4.060 Tack		1	.2
3E	4.063 Double pointed tack		1	.2

3E	4.080 Baling wire		28	5.2
3E	4.082 Smooth wire		2	.4
3E	4.100 Indeterminate bolt		1	.2
3E	4.123 Round head screw		1	.2
3E	4.130 Washer		1	.2
3E	4.152 Metal hook		1	.2
3E	4.156 Iron 2 prong hook		1	.2
3E	4.220 Window glass	1880-1910	13	2.4
3E	4.220 Window glass	1930-1986	9	1.6
3E	4.261 Rivet	1865-1986	1	.2
3E	4.341 Pipe		1	.2
3E	4.453 Screening		1	.2
3E	5.011 Shoe parts		6	1.1
3E	5.020 Clothing rivet		1	.2
3E	5.021 Reinforcing rivet		1	.2
3E	5.050 Button		1	.2
3E	5.052 Overall button		1	.2
3E	5.071 Suspender buckle	1929-1954	2	.4
3E	5.230 Bobby pin		1	.2
3E	5.470 Pocket watch part		1	.2
3E	7.010 .22 long case	1871-1986	1	.2
3E	7.011 .22 short case	1867-1986	1	.2
3E	7.051 .32 centerfire	1878-1986	1	.2
3E	7.170 Indeterminate centerfire		1	.2
3E	8.310 Indeterminate wagon part		2	.4
3E	9.030 Glass container	1880-1910	27	5.0
3E	9.030 Glass container	1880-1917	16	3.0
3E	9.030 Glass container	1880-1930	10	1.9
3E	9.030 Glass container	1914-1930	14	2.6
3E	9.030 Glass container	1930-1986	30	5.5
3E	9.040 Stirring rod	1930-1986	1	.2
3E	9.050 Metal container		1	.2
3E	9.053 Indeterminate can fragment		1	.2
3E	9.063 Indeterminate can lid	1920-1986	24	4.4

3E	9.070 Indeterminate metal		20	3.7
3E	9.120 Metal band		1	.2
3E	9.130 Metal disc		1	.2
3E	9.152 Metal tube		1	.2
3E	9.230 Cast Iron fragments		1	.2
3E	9.580 Foil		6	1.1
3E	9.875 Indeterminate car part		1	.2
3E	9.880 Indeterminate object		9	1.6
	TOTAL		540	100.0

Trench 3F

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3F	2.010 Beer bottle	1914-1930	55	18.0
3F	2.010 Beer bottle	1880-1986	16	5.2
3F	2.010 Beer bottle	1929-1954	5	1.6
3F	2.030 Whiskey bottle	1924-1986	1	.3
3F	2.051 Brandy bottle	1930-1986	1	.3
3F	2.090 Crown bottle cap	1893-1986	10	3.3
3F	2.110 Beverage cap		1	.3
3F	2.130 Soda bottle	1930-1986	22	7.2
3F	3.013 Indeterminate earthenware	1830-1900	1	.3
3F	3.026 Indeterminate ironstone vessel	1854-1920	10	3.3
3F	3.070 Tumbler	1930-1986	1	.3
3F	3.090 Shaker top		1	.3
3F	3.114 Teaspoon		15	4.9
3F	3.451 Ointment tube		1	.3
3F	4.010 Cut box nail	1830-1890	8	2.6
3F	4.012 Cut frame nail	1830-1890	5	1.6
3F	4.015 Indeterminate cut nail	1830-1890	10	3.3
3F	4.020 Wire box nail	1890-1986	12	3.9
3F	4.021 Wire frame nail	1890-1986	6	2.0
3F	4.024 Indeterminate wire nail	1890-1986	1	.3
3F	4.030 Roofing nail	1890-1986	1	.3
3F	4.032 Fence staple		4	1.3

3F	4.070 Barb wire	1853-1986	1	.3
3F	4.080 Baling wire		2	.7
3F	4.082 Smooth wire		1	.3
3F	4.100 Indeterminate bolt		2	.7
3F	4.123 Round head screw		1	.3
3F	4.130 Washer		1	.3
3F	4.220 Window glass	1880-1910	2	.7
3F	4.220 Window glass	1930-1986	5	1.6
3F	4.350 Clamp		2	.7
3F	4.400 Spike	1830-1890	1	.3
3F	5.050 Button		2	.7
3F	5.570 Overall button brad		1	.3
3F	5.580 Sunglasses part	1930-1986	1	.3
3F	6.070 Toy	1930-1986	1	.3
3F	7.010 .22 long case		1	.3
3F	7.040 .44-.40 cartridge	1873-1937	2	.7
3F	8.010 Horseshoe		2	.7
3F	8.040 Horseshoe nail	1840-1986	2	.7
3F	9.030 Glass containers	1880-1910	12	4.0
3F	9.030 Glass containers	1880-1917	3	1.0
3F	9.030 Glass container	1880-1930	2	.7
3F	9.030 Glass container	1914-1930	12	4.0
3F	9.030 Glass container	1930-1986	24	7.8
3F	9.034 Milk glass		1	.3
3F	9.053 Indeterminate can fragment		4	1.3
3F	9.070 Indeterminate metal		29	9.5
3F	9.875 Indeterminate car part	1930-1986	1	.3
3F	9.880 Indeterminate object		1	.3
	TOTAL		306	100.0

Trench 3G

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3G	1.040 Sanitary can	1920-1986	1	.4
3G	1.150 Key strip opener	1895-1986	2	.8

3G	1.180 Mason jar	1930-1986	1	.4
3G	2.010 Beer bottle	1880-1930	10	4.1
3G	2.010 Beer bottle	1914-1930	18	7.3
3G	2.090 Crown bottle cap	1893-1986	3	1.2
3G	2.110 Beverage cap		5	2.0
3G	2.241 Insulin capsule		1	.4
3G	3.026 Indeterminate ironstone vessel	1854-1920	13	5.3
3G	3.113 Tablespoon		1	.4
3G	3.114 Teaspoon		1	.4
3G	4.010 Cut box nail	1830-1890	4	1.6
3G	4.012 Cut frame nail	1830-1890	6	2.4
3G	4.015 Indeterminate cut nail	1830-1890	17	6.9
3G	4.020 Wire box nail	1890-1986	10	4.1
3G	4.021 Wire frame nail	1890-1986	11	4.5
3G	4.021 Wire finish nail	1890-1986	1	.4
3G	4.024 Indeterminate wire nail	1890-1986	3	1.2
3G	4.025 Indeterminate nail		2	.8
3G	4.030 Roofing nail	1890-1986	1	.4
3G	4.032 Fence staple		6	2.4
3G	4.040 Roofing cap		1	.4
3G	4.080 Baling wire		13	5.3
3G	4.081 Smooth wire		1	.4
3G	4.123 Round head screw		1	.4
3G	4.130 Washer		1	.4
3G	4.141 Nut		2	.8
3G	4.211 Tar paper		1	.4
3G	4.220 Window glass	1880-1910	5	2.0
3G	4.350 Clamp		1	.4
3G	5.011 Shoe parts		1	.4
3G	5.021 Reinforcing rivet		1	.4
3G	5.031 Dime	1942	1	.4
3G	5.220 Comb part		1	.4
3G	9.030 Glass container	1880-1910	5	2.0
3G	9.030 Glass container	1880-1917	6	2.4

3G	9.030 Glass container	1914-1930	34	14.0
3G	9.030 Glass container	1930-1986	22	9.0
3G	9.034 Milk glass		1	.4
3G	9.053 Indeterminate can fragment		14	5.7
3G	9.059 Metal cap		1	.4
3G	9.070 Indeterminate metal		14	5.7
3G	9.360 Small chain		1	.4
3G	9.875 Indeterminate car part		1	.4
	TOTAL		246	100.0

Trench 3H

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
3H	1.040 Sanitary can	1920-1986	1	.5
3H	2.010 Beer bottle	1880-1986	31	16.9
3H	2.010 Beer bottle	1914-1930	1	.5
3H	2.090 Crown bottle cap	1893-1986	3	1.8
3H	2.110 Beverage cap		1	.5
3H	2.210 Cigar label		1	.5
3H	3.026 Indeterminate ironstone vessel	1854-1920	7	4.0
3H	3.131 Indeterminate pressed glass		1	.5
3H	4.010 Cut box nail	1830-1890	2	1.1
3H	4.012 Cut frame nail	1830-1890	4	2.2
3H	4.020 Wire box nail	1890-1986	5	3.0
3H	4.021 Wire frame nail	1890-1986	4	2.2
3H	4.024 Indeterminate wire nail	1890-1986	1	.5
3H	4.030 Roofing nail	1890-1986	1	.5
3H	4.032 Fence staple		2	1.1
3H	4.060 Tack		1	.5
3H	4.080 Baling wire		1	.5
3H	4.100 Indeterminate bolt		1	.5
3H	4.130 Washer		1	.5
3H	4.463 Tool part		1	.5
3H	5.050 Button		1	.5
3H	5.090 Clothing snap		1	.5

3H	6.080 Record		5	3.0
3H	8.120 Harness buckle	1867-1986	1	.5
3H	9.030 Glass container	1815-1855	1	.5
3H	9.030 Glass container	1880-1910	6	3.2
3H	9.030 Glass container	1880-1917	2	1.1
3H	9.030 Glass container	1880-1930	4	2.2
3H	9.030 Glass container	1914-1930	70	38.2
33H	9.030 Glass container	1930-1986	9	5.0
3H	9.034 Milk glass		1	.5
3H	9.050 Metal container		8	4.4
3H	9.063 Indeterminate can lid		1	.5
3H	9.070 Indeterminate metal		2	1.1
3H	9.880 Indeterminate object		1	.5
	TOTAL		183	100.0

Trench 8

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
8	2.010 Beer bottle	1914-1930	9	8.5
8	2.051 Brandy bottle	1914-1930	1	.9
8	3.026 Indeterminate ironstone vessel	1854-1920	3	2.8
8	4.010 Cut box nail	1830-1890	1	.9
8	4.013 Cut finish nail	1830-1890	3	2.8
8	4.015 Indeterminate cut nail	1830-1890	4	3.8
8	4.020 Wire box nail	1890-1986	2	2.0
8	4.021 Wire frame nail	1890-1986	4	3.8
8	4.022 Wire finish nail	1890-1986	4	3.8
8	4.032 Fence staple		1	.9
8	4.080 Baling wire		3	2.8
8	4.220 Window glass	1880-1910	6	5.7
8	7.040 .44-.40 cartridge	1873-1937	1	.9
8	9.030 Glass container	1880-1910	31	29.2
8	9.030 Glass container	1880-1917	2	2.0
8	9.030 Glass container	1914-1930	8	7.5
8	9.030 Glass container	1930-1986	12	11.3

8	9.034 Milk glass		1	.9
8	9.070 Indeterminate metal		8	7.5
8	9.230 Cast iron fragments		2	2.0
	TOTAL		106	100.0

Trench 9

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
9	1.460 Sanitary can	1920-1986	1	.6
9	2.010 Beer bottle	1914-1930	16	10.3
9	3.013 Indeterminate earthenware	1830-1900	8	5.2
9	3.026 Indeterminate ironstone vessel	1854-1920	7	4.6
9	3.037 Indeterminate porcelain	1660-1986	1	.6
9	3.041 Indeterminate saucer		3	2.0
9	3.420 Kerosene lantern part	1930-1986	1	.6
9	4.010 Cut box nail	1830-1890	1	.6
9	4.015 Indeterminate cut nail	1830-1890	7	4.6
9	4.020 Wire box nail	1890-1986	1	.6
9	4.021 Wire frame nail	1890-1986	2	1.3
9	4.024 Indeterminate wire nail	1890-1986	1	.6
9	4.030 Roofing nail	1890-1986	1	.6
9	4.220 Window glass	1889-1910	25	16.2
9	4.220 Window glass	1880-1930	14	9.1
9	4.331 Cotter pin		1	.6
9	5.050 Button		1	.6
9	5.180 Zipper		1	.6
9	7.022 .38 cartridge	1930-1986	1	.6
9	8.040 Horseshoe nail	1840-1986	1	.6
9	9.020 Clay container		1	.6
9	9.030 Glass container	1880-1910	9	6.0
9	9.030 Glass container	1880-1917	1	.6
9	9.030 Glass container	1880-1930	11	7.1
9	9.030 Glass container	1914-1930	12	8.0
9	9.030 Glass container	1930-1986	20	13.0
9	9.070 Indeterminate metal		1	.6

9	9.230 Cast iron fragments		4	3.0
9	9.880 Indeterminate object		1	.6
	TOTAL		154	100.0

Trench 9A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
9A	2.010 Beer bottle	1914-1930	5	9.1
9A	3.023 ironstone cup	1854-1920	1	1.6
9A	3.026 Indeterminate ironstone vessel	1854-1920	7	13.0
9A	4.010 Cut box nail	1830-1890	2	3.6
9A	4.021 Wire frame nail	1890-1986	4	7.4
9A	4.100 Indeterminate bolt		1	1.8
9A	4.123 Round head screw		1	1.8
9A	9.030 Glass container	1815-1855	2	3.6
9A	9.030 Glass container	1880-1910	16	29.1
9A	9.030 Glass container	1880-1917	1	1.8
9A	9.030 Glass container	1914-1930	2	3.6
9A	9.030 Glass container	1930-1986	11	20.0
9A	9.062 Resealable can lid		1	1.8
9A	9.070 Indeterminate metal		1	1.8
	TOTAL		55	100.0

Trench 9B

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
9B	1.270 Peach pit		1	1.0
9B	2.010 Beer bottle	1914-1930	11	10.8
9B	3.026 Indeterminate ironstone vessel	1854-1920	6	5.9
9B	4.010 Cut box nail	1830-1890	2	1.9
9B	4.012 Cut frame nail	1830-1890	1	1.0
9B	4.015 Indeterminate cut nail	1830-1890	2	1.9
9B	4.020 Wire box nail	1890-1986	1	1.0
9B	4.021 Wire frame nail	1890-1986	1	1.0
9B	4.022 Wire finish nail	1890-1986	2	1.9

9B	4.024 Indeterminate wire nail	1890-1986	2	1.9
9B	4.113 Stove bolt		1	1.0
9B	4.130 Washer		1	1.0
9B	4.220 Window glass	1880-1910	2	1.9
9B	4.220 Window glass	1917-1986	3	2.9
9B	5.050 Button		1	1.0
9B	5.070 Buckle	1897	1	1.0
9B	5.090 Clothing snap		1	1.0
9B	9.030 Glass container	1880-1910	14	13.7
9B	9.030 Glass container	1880-1917	2	1.9
9B	9.030 Glass container	1880-1930	10	10.0
9B	9.030 Glass container	1914-1930	19	18.6
9B	9.030 Glass container	1930-1986	17	16.7
9B	9.120 Metal band		1	1.0
	TOTAL		102	100.0

Trench 9C

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
9C	2.010 Beer bottle	1914-1930	17	28.0
9C	3.026 Indeterminate ironstone vessel	1854-1920	8	13.1
9C	4.010 Cut box nail	1830-1890	1	1.6
9C	4.012 Cut frame nail	1830-1890	1	1.6
9C	4.015 Indeterminate cut nail	1830-1890	1	1.6
9C	4.021 Wire frame nail	1890-1986	2	3.3
9C	4.022 Wire finish nail	1890-1986	3	5.0
9C	4.111 Carriage bolt	1865-1986	1	1.6
9C	4.410 Railroad spike	1875-1986	1	1.6
9C	8.040 Horseshoe nail	1840-1986	1	1.6
9C	9.030 Glass container	1880-1910	3	5.0
9C	9.030 Glass container	1880-1917	1	1.6
9C	9.030 Glass container	1890-1986	1	1.6
9C	9.030 Glass container	1930-1986	18	29.6
9C	9.070 Indeterminate metal		1	1.6
9C	9.350 Chain links		1	1.6

	TOTAL		61	100.0

Trench 9D

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
9D	2.010 Beer bottle	1914-1930	5	16.7
9D	3.026 Indeterminate ironstone vessel	1854-1920	1	3.3
9D	4.020 Wire box nail	1890-1986	1	3.3
9D	4.021 Wire frame nail	1890-1986	2	6.9
9D	4.022 Wire finish nail	1890-1986	1	3.3
9D	4.080 Baling wire		1	3.3
9D	4.115 Metal dowel		1	3.3
9D	4.130 Washer		1	3.3
9D	9.030 Glass container	1914-1930	6	20.0
9D	9.030 Glass container	1930-1986	4	13.3
9D	9.070 Indeterminate metal		3	10.0
9D	9.230 Cast iron fragments		3	10.0
9D	9.875 Indeterminate car part	1930-1986	1	3.3
	TOTAL		30	100.0

Trench 9E

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
9E	4.220 Window glass	1880-1910	1	7.1
9E	9.030 Glass container	1880-1910	6	42.9
9E	9.030 Glass container	1914-1930	5	35.7
9E	9.030 Glass container	1930-1986	2	14.3
	TOTAL		14	100.0

Trench 4

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
4	2.010 Beer bottle	1914-1930	15	29.4
4	3.041 Indeterminate saucer		1	2.0
4	4.020 Wire box nail	1890-1986	2	3.9
4	4.021 Wire frame nail	1890-1986	3	5.9

4	4.024 Indeterminate wire nail	1890-1986	1	2.0
4	4.032 Fence staple		1	2.0
4	4.220 Window glass	1917-1986	2	3.9
4	4.290 Heavy duty grommet		1	2.0
4	4.345 Ceramic pipe		1	2.0
4	5.050 Button		1	2.0
4	5.210 Personal adornment		1	2.0
4	6.020 Pull toy	1854-1986	2	3.9
4	9.030 Glass container	1880-1910	3	5.9
4	9.030 Glass container	1880-1930	2	3.9
4	9.030 Glass container	1914-1930	4	7.7
4	9.030 Glass container	1930-1986	8	15.6
4	9.070 Indeterminate metal		3	5.9
	TOTAL		51	100.0

Trench 4A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
4A	2.010 Beer bottle	1914-1930	16	17.4
4A	2.010 Beer bottle	1880-1986	1	1.1
4A	3.026 Indeterminate ironstone vessel	1854-1920	5	5.4
4A	4.010 Cut box nail	1830-1890	1	1.1
4A	4.015 Indeterminate cut nail	1830-1890	1	1.1
4A	4.020 Wire box nail	1890-1986	1	1.1
4A	4.025 Indeterminate nail		1	1.1
4A	4.032 Fence staple		5	5.4
4A	4.220 Window glass	1880-1910	3	3.3
4A	4.220 Window glass	1880-1930	2	2.2
4A	4.220 Window glass	1930-1986	3	3.3
4A	4.345 Ceramic pipe		3	3.3
4A	4.400 Spike	1890-1986	1	1.1
4A	5.030 Nickel	1947	1	1.1
4A	5.050 Button		1	1.1
4A	9.030 Glass container	1880-1910	5	5.4
4A	9.030 Glass container	1880-1930	5	5.4

4A	9.030 Glass container	1914-1930	9	9.7
4A	9.030 Glass container	1930-1986	15	16.3
4A	9.070 Indeterminate metal		1	1.1
4A	9.880 Indeterminate object		12	13.0
	TOTAL		92	100.0

Trench 4B

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
4B	2.010 Beer bottle	1914-1930	11	5.0
4B	2.090 Crown bottle cap	1893-1986	1	.5
4B	3.014 Earthenware crock	1830-1900	1	.5
4B	3.026 Indeterminate ironstone vessel	1854-1920	7	3.2
4B	3.400 Pail handle		1	.5
4B	3.436 Thimble		1	.5
4B	4.010 Cut box nail	1830-1890	1	.5
4B	4.020 Wire box nail	1890-1986	6	2.8
4B	4.021 Wire frame nail	1890-1986	9	4.1
4B	4.022 Wire finish nail	1890-1986	7	3.2
4B	4.024 Indeterminate wire nail	1890-1986	2	.9
4B	4.030 Roofing nail	1890-1986	2	.9
4B	4.032 Fence staple		26	11.9
4B	4.033 Wall board nail		2	.9
4B	4.080 Baling wire		1	.5
4B	4.091 Cable		1	.5
4B	4.100 Indeterminate bolt		1	.5
4B	4.110 Tire bolt		1	.5
4B	4.111 Carriage bolt		2	.9
4B	4.113 Stove bolt		2	.9

4B	4.114 Window spring bolt		2	.9
4B	4.120 Wood screw		2	.9
4B	4.130 Washer		4	1.8
4B	4.140 Winged thumb nut		1	.5
4B	4.152 Metal hook		1	.5
4B	4.163 Hinge		4	1.8
4B	4.210 Asphalt roofing paper		27	12.4
4B	4.220 Window glass	1930-1986	4	1.8
4B	4.261 Rivet		1	.5
4B	4.331 Cotter pin		2	.9
4B	4.350 Clamp		1	.5
4B	4.410 Railroad spike	1879-1986	1	.5
4B	5.052 Overall button	1946	1	.5
4B	5.080 Overall strap holder		1	.5
4B	5.220 Comb part		2	.9
4B	6.030 Doll part		16	7.4
4B	7.180 Minnie ball	1855	1	.5
4B	9.010 Ceramic container		4	1.8
4B	9.030 Glass container	1880-1910	15	6.9
4B	9.030 Glass container	1880-1917	4	1.8
4B	9.030 Glass container	1914-1930	4	1.8
4B	9.030 Glass container	1930-1986	27	12.4
4B	9.070 Indeterminate metal		1	.5
4B	9.120 Metal band		2	.9
4B	9.230 Cast iron fragments		2	.9
4B	9.450 Olivella shell		1	.5
4B	9.880 Indeterminate object		1	.5
	TOTAL		217	100.0

Trench 4C

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
4C	2.010 Beer bottle	1914-1930	6	3.0
4C	2.070 Ceramic ale bottle		1	.5
4C	2.120 Beverage bottle	1930-1986	3	1.5
4C	3.013 Indeterminate Earthenware	1830-1900	5	2.5
4C	3.026 Indeterminate ironstone vessel	1854-1920	7	3.5
4C	3.130 Pressed glass cup	1930-1986	1	.5
4C	3.160 Icebox glass tray	1930-1986	4	2.0
4C	4.010 Cut box nail	1830-1890	7	3.5
4C	4.013 Cut finish nail	1830-1890	1	.5
4C	4.015 Indeterminate cut nail	1830-1890	4	2.0
4C	4.020 Wire box nail	1890-1986	20	10.0
4C	4.021 Wire frame nail	1890-1986	11	5.5
4C	4.022 Wire finish nail	1890-1986	2	1.0
4C	4.024 Indeterminate wire nail	1890-1986	4	2.0
4C	4.025 Indeterminate nail		7	3.5
4C	4.030 Roofing nail	1890-1986	5	2.5
4C	4.031 Barbed roofing nail	1890-1986	1	.5
4C	4.032 Fence staple		14	7.0
4C	4.033 Wall board nail	1909-1986	1	.5
4C	4.063 Double pointed tack		2	1.0
4C	4.080 Baling wire		1	.5
4C	4.081 Bundle wire		2	1.0
4C	4.082 Smooth wire		1	.5

4C	4.113 Stove bolt		1	.5
4C	4.120 Wood screw		3	1.5
4C	4.122 Screw eye		1	.5
4C	4.123 Round head screw		2	1.0
4C	4.130 Washer		1	.5
4C	4.141 Nut		4	2.0
4C	4.156 Iron 2 prong hook		1	.5
4C	4.163 Hinge		3	1.5
4C	4.220 Window glass	1880-1910	5	2.5
4C	4.220 Window glass	1917-1986	2	1.0
4C	4.220 Window glass	1930-1986	8	4.0
4C	4.260 Iron rivet head		1	.5
4C	4.280 Brad		1	.5
4C	4.331 Cotter pin		1	.5
4C	4.345 Ceramic pipe		2	1.0
4C	4.400 Spike	1890-1986	1	.5
4C	4.410 Railroad spike	1879-1986	1	.5
4C	4.441 Triangle file	1929-1986	1	.5
4C	5.011 Shoe parts		1	.5
4C	5.036 Token		1	.5
4C	7.011 .22 short case	1867-1986	1	.5
4C	8.040 Horseshoe nail	1840-1986	5	2.5
4C	9.030 Glass container	1880-1910	1	.5
4C	9.030 Glass container	1880-1917	3	1.5
4C	9.030 Glass container	1880-1930	4	2.0
4C	9.030 Glass container	1914-1930	8	4.0
4C	9.030 Glass container	1930-1986	13	6.5

4C	9.070 Indeterminate metal		10	5.0
4C	9.150 Copper tubing		1	.5
4C	9.230 Cast iron fragments		1	.5
4C	9.871 Tire weight		1	.5
4C	9.880 Indeterminate object		1	.5
	TOTAL		200	100.0

Trench 4F

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
4F	2.010 Beer bottle	1914-1930	3	15.0
4F	3.131 Indeterminate pressed glass	1930-1986	1	5.0
4F	4.220 Window glass	1880-1910	5	25.0
4F	9.030 Glass container	1880-1910	1	5.0
4F	9.030 Glass container	1880-1917	7	35.0
4F	9.030 Glass container	1930-1986	3	15.0
	TOTAL		20	100.0

Trench 5

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
5	1.270 Peach pit		3	1.7
5	2.010 Beer bottle	1914-1930	6	3.4
5	2.090 Crown bottle cap	1893-1986	6	3.4
5	2.091 Aluminum pull tabs	1926-1986	1	.6
5	2.110 Beverage cap		16	9.1
5	3.026 Indeterminate ironstone vessel	1854-1920	1	.6
5	3.070 Tumbler	1930-1986	2	1.1

5	4.010 Cut box nail	1830-1890	1	.6
5	4.012 Cut frame nail	1830-1890	2	1.1
5	4.015 Indeterminate cut nail	1830-1890	5	2.8
5	4.020 Wire box nail	1890-1986	7	4.0
5	4.021 Wire frame nail	1890-1986	11	6.3
5	4.022 Wire finish nail	1890-1986	1	.6
5	4.024 Indeterminate wire nail	1890-1986	2	1.1
5	4.032 Fence staple		6	3.4
5	4.040 Roofing cap		1	.6
5	4.080 Baling wire		1	.6
5	4.081 Bundle wire		1	.6
5	4.220 Window glass	1880-1910	34	19.4
5	4.220 Window glass	1930-1986	17	9.8
5	4.341 Pipe		1	.6
5	4.452 Hacksaw blade		1	.6
5	5.020 Clothing rivet		1	.6
5	5.390 Bead		1	.6
5	7.070 .25-.20 centerfire	1902-1930	1	.6
5	8.010 Horseshoe		1	.6
5	8.040 Horseshoe nail	1840-1986	2	1.1
5	8.080 Harness hame		2	1.1
5	9.030 Glass container	1880-1910	2	1.1
5	9.030 Glass container	1880-1917	2	1.1
5	9.030 Glass container	1914-1930	5	2.8
5	9.030 Glass container	1930-1986	20	11.4
5	9.059 Metal cap		1	.6

5	9.070 Indeterminate metal		4	2.3
5	9.120 Metal band		1	.6
5	9.450 Olivella shell		1	.6
5	9.550 Wire handle		1	.6
5	9.876 Car engine freeze plug		1	.6
5	9.880 Indeterminate object		3	1.7
	TOTAL		175	100.0

Trench 6

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
6	1.270 Peach pit		1	.6
6	2.010 Beer bottle	1914-1930	3	2.0
6	2.090 Crown bottle cap	1893-1986	4	2.5
6	2.120 Beverage cap	1930-1986	1	.6
6	3.014 Earthenware crock	1830-1900	2	1.3
6	3.026 Indeterminate ironstone vessel	1854-1920	13	8.2
6	3.340 Pencil and parts		2	1.2
6	3.510 Hot water bottle stopper		1	.6
6	4.012 Cut frame nail	1830-1890	1	.6
6	4.020 Wire box nail	1890-1986	10	6.3
6	4.021 Wire frame nail	1890-1986	14	9.0
6	4.024 Indeterminate wire nail	1830-1986	1	.6
6	4.025 Indeterminate nail		2	1.3
6	4.030 Roofing nail	1890-1986	4	2.5
6	4.031 Barbed roofing nail	1890-1986	1	.6
6	4.032 Fence staple		7	5.0
6	4.141 Nut		1	.6

6	4.220 Window glass	1880-1910	22	14.0
6	4.220 Window glass	1880-1930	3	2.0
6	4.220 Window glass	1930-1986	21	13.4
6	4.440 Whetstone		1	.6
6	4.452 Hacksaw blade		1	.6
6	5.033 Penny	1935	1	.6
6	5.033 Penny	1920	1	.6
6	5.054 Military button	1857-1880	1	.6
6	8.010 Horseshoe		1	.6
6	8.040 Horseshoe nail	1840-1986	2	1.3
6	9.020 Clay container		6	4.0
6	9.030 Glass container	1880-1910	4	2.5
6	9.030 Glass container	1880-1930	1	.6
6	9.030 Glass container	1914-1930	1	.6
6	9.030 Glass container	1930-1986	8	5.1
6	9.032 Glass tube	1930-1986	12	7.6
6	9.070 Indeterminate metal		1	.6
6	9.875 Indeterminate car part		1	.6
6	9.880 Indeterminate object		1	.6
	TOTAL		157	100.0

Trench 6A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
6A	2.010 Beer bottle	1914-1930	2	1.5
6A	2.081 Cork		1	.8
6A	3.010 Earthenware plate	1830-1900	2	1.5

6A	3.026 Indeterminate ironstone vessel	1854-1920	1	.8
6A	3.340 Pencil and part		1	.8
6A	4.010 Cut box nail	1830-1890	4	3.0
6A	4.015 Indeterminate cut nail	1830-1890	1	.8
6A	4.020 Wire box nail	1890-1986	7	5.3
6A	4.021 Wire frame nail	1890-1986	5	3.7
6A	4.024 Indeterminate wire nail	1890-1986	1	.8
6A	4.025 Indeterminate nail		5	3.7
6A	4.030 Roofing nail	1890-1986	3	2.2
6A	4.032 Fence staple		3	2.2
6A	4.050 Corrugated joint fastener		1	.8
6A	4.082 Smooth wire		3	2.2
6A	4.220 Window glass	1880-1917	7	5.3
6A	4.220 Window glass	1880-1930	3	2.2
6A	4.220 Window glass	1930-1986	12	9.0
6A	5.036 Token		1	.8
6A	5.290 Tooth brush part		2	1.5
6A	7.055 .32 long	1895-1986	1	.8
6A	7.061 .30-.30 case	1895-1911	1	.8
6A	8.040 Horseshoe nail	1840-1986	1	.8
6A	9.030 Glass container	1880-1917	1	.8
6A	9.030 Glass container	1880-1930	1	.8
6A	9.030 Glass container	1914-1930	29	22.0
6A	9.030 Glass container	1930-1986	20	15.1

6A	9.032 Glass tube	1930-1986	1	.8
6A	9.070 Indeterminate metal		10	7.6
6A	9.661 Rope		1	.8
6A	9.880 Indeterminate object		1	.8
	TOTAL		132	100.0

Trench 7

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
7	1.040 Sanitary can	1920-1986	2	2.1
7	2.010 Beer bottle	1914-1930	13	13.9
7	3.026 Indeterminate ironstone vessel	1854-1920	4	4.3
7	4.010 Cut box nail	1830-1890	3	3.2
7	4.012 Cut frame nail	1830-1890	2	2.1
7	4.013 Cut finish nail	1830-1890	1	1.1
7	4.015 Indeterminate cut nail	1830-1890	4	4.3
7	4.020 Wire box nail	1890-1986	5	5.4
7	4.021 Wire frame nail	1890-1986	7	7.5
7	4.022 Wire finish nail	1890-1986	2	2.1
7	4.030 Roofing nail	1890-1986	3	3.2
7	4.032 Fence staple		4	4.3
7	4.070 Barb wire	1853-1986	1	1.1
7	4.080 Baling wire		10	10.8
7	4.121 Set screw		1	1.1
7	4.130 Washer		1	1.1
7	4.330 Push pin		1	1.1
7	4.400 Spike	1890-1986	1	1.1

7	4.410 Railroad spike	1879-1986	1	1.1
7	5.050 Button		1	1.1
7	8.130 Safety chain	1865-1986	1	1.1
7	9.030 Glass container	1880-1910	3	3.2
7	9.030 Glass container	1880-1917	4	4.3
7	9.030 Glass container	1930-1986	7	7.5
7	9.070 Indeterminate metal		10	10.8
7	9.350 Chain links		1	1.1
	TOTAL		93	100.0

Trench 18

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
18	2.101 Beer bottle	1914-1930	14	4.6
18	3.013 Indeterminate earthenware	1830-1900	5	1.7
18	3.026 Indeterminate ironstone vessel	1854-1920	56	19.0
18	3.131 Indeterminate pressed glass	1930-1986	1	.3
18	4.010 Cut box nail	1830-1890	6	2.0
18	4.012 Cut frame nail	1830-1890	3	1.0
18	4.015 Indeterminate cut nail	1830-1890	16	5.3
18	4.020 Wire box nail	1890-1986	6	2.0
18	4.021 Wire frame nail	1890-1986	8	2.6
18	4.022 Wire finish nail	1890-1986	1	.3
18	4.060 Tack		2	.7
18	4.080 Baling wire		4	1.3
18	4.100 Indeterminate bolt		3	1.0

18	4.115 Metal dowel		1	.3
18	4.120 Wood screw		1	.3
18	4.130 Washer		1	.3
18	4.141 Nut		1	.3
18	4.151 Snap hook		3	1.0
18	4.220 Window glass	1880-1910	6	2.0
18	4.220 Window glass	1930-1986	1	.3
18	4.260 Iron rivet head		1	.3
18	5.031 Dime	1917-1945	1	.3
18	7.010 .22 long case	1917-1986	1	.3
18	7.010 .22 long case	1887-1934	1	.3
18	7.011 .22 short case	1875-1986	1	.3
18	7.015 .22 short cartridge	1875-1986	1	.3
18	7.043 .32 (765) automatic	1899-1986	1	.3
18	7.055 .32 long	1860-1986	1	.3
18	7.086 16 gauge shotgun shell	1891-1934	1	.3
18	8.040 Horseshoe nail	1840-1986	2	.7
18	9.030 Glass container	1880-1910	29	9.6
18	9.030 Glass container	1880-1917	30	10.0
18	9.030 Glass container	1815-1855	2	.7
18	9.030 Glass container	1880-1930	3	1.0
18	9.030 Glass container	1914-1930	37	12.3
18	9.030 Glass container	1930-1986	40	13.2
18	9.070 Indeterminate metal		7	2.3
18	9.230 Cast iron fragments		1	.3

18	9.311 Rubber hose		1	.3
18	9.873 Tire air cup	1915-1986	1	.3
18	9.875 Indeterminate car part		1	.3
	TOTAL		302	100.0

Trench 18A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
18A	2.010 Beer bottle	1880-1986	8	4.8
18A	3.026 Indeterminate ironstone vessel	1854-1920	21	12.5
18A	3.420 Kerosene lantern parts	1860-1917	2	1.2
18A	4.010 Cut box nail	1830-1890	4	2.4
18A	4.012 Cut frame nail	1830-1890	1	.6
18A	4.015 Indeterminate cut nail	1830-1890	9	5.3
18A	4.020 Wire box nail	1890-1986	7	4.2
18A	4.022 Wire finish nail	1890-1986	1	.6
18A	4.024 Indeterminate wire nail	1890-1986	3	1.8
18A	4.060 Tack		1	.6
18A	4.081 Bundle wire		1	.6
18A	4.111 Carriage bolt	1865-1986	2	1.2
18A	4.115 Metal dowel	1865-1986	36	21.4
18A	4.130 Washer		2	1.2
18A	4.220 Window glass	1880-1910	7	4.2
18A	8.040 Horseshoe nail	1840-1986	1	.6
18A	8.120 Harness buckle	1865-1986	1	.6
18A	9.030 Glass container	1880-1910	9	5.3

18A	9.030 Glass container	1880-1917	16	9.5
18A	9.030 Glass container	1880-1930	2	1.2
18A	9.030 Glass container	1914-1930	8	4.8
18A	9.030 Glass container	1930-1986	10	5.9
18A	9.070 Indeterminate metal		12	7.1
18A	9.080 Metal rod		1	.6
18A	9.230 Cast iron fragments		3	1.8
	TOTAL		168	100.0

Trench 23

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
23	1.091 Spice can		1	.6
23	1.091 Spice can	1917-1986	1	.6
23	1.130 Zinc screw on lid		2	1.3
23	1.180 Mason jar		1	.6
23	1.200 Food jar		9	5.6
23	2.010 Beer bottle	1986	2	1.3
23	2.010 Beer bottle	1880-1986	2	1.3
23	2.090 Crown bottle cap	1893-1986	2	1.3
23	2.091 Aluminum pull tab	1962-1986	15	9.3
23	2.120 Beverage bottle	1930-1986	1	.6
23	2.130 Soda bottle	1930-1986	1	.6
23	3.020 ironstone plate	1854-1920	1	.6
23	3.037 Indeterminate porcelain	1660-1986	1	.6
23	3.350 Rubber band		1	.6
23	3.440 Fabric swatch		1	.6

23	4.021 Wire frame nail	1890-1986	6	3.7
23	4.024 Indeterminate wire nail	1890-1986	6	3.7
23	4.025 Indeterminate nail		1	.6
23	4.026 Nail with crown cap		3	1.9
23	4.030 Roofing nail	1890-1986	9	5.6
23	4.032 Fence staple		1	.6
23	4.070 Barb wire	1853-1986	1	.6
23	4.080 Baling wire		5	3.1
23	4.082 Smooth wire		1	.6
23	4.100 Indeterminate bolt		1	.6
23	4.160 Hinge		1	.6
23	4.210 Asphalt roofing paper		11	6.8
23	4.220 Window glass	1880-1910	9	5.6
23	4.453 Screening		3	1.9
23	5.220 Comb part		1	.6
23	9.030 Glass container	1930-1986	28	17.5
23	9.070 Indeterminate metal		16	10.0
23	9.080 Metal rod		1	.6
23	9.151 Rubber tube		1	.6
23	9.152 Metal tube		1	.6
23	9.220 Leather strap		1	.6
23	9.311 Rubber hose		3	1.9
23	9.320 Plastic		7	4.4
23	9.840 Motor oil can	1933-1986	1	.6
23	9.860 License plate	1958	1	.6
23	9.880 Indeterminate object		1	.6
	TOTAL		161	100.0

Trench 20A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
20A	4.021 Wire frame nail	1890-1986	1	100.0
	TOTAL		1	100.0

Trench 21

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
21	9.230 Cast iron fragment		1	100.0
	TOTAL		1	100.0

Trench 26

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
26	3.026 Indeterminate ironstone vessel	1854-1920	2	100.0
	TOTAL		2	100.0

Trench 10

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
10	2.010 Beer bottle	1880-1986	2	2.9
10	2.010 Beer bottle	1914-1930	2	2.9
10	3.026 Indeterminate ironstone vessel	1854-1920	4	5.7
10	3.131 Indeterminate pressed glass	1930	4	5.7
10	4.010 Cut box nail	1830-1890	1	1.4
10	4.020 Wire box nail	1890-1986	4	5.7
10	4.021 Wire frame nail	1890-1986	3	4.3
10	4.024 Indeterminate wire nail	1890-1986	2	2.9
10	4.030 Roofing nail	1890-1986	1	1.4
10	4.032 Fence staple		1	1.4
10	4.080 Baling wire		1	1.4
10	4.100 Indeterminate bolt		1	1.4
10	4.220 Window glass	1880-1910	3	4.3
10	4.220 Window glass	1930-1986	1	1.4
10	5.410 Brooch		1	1.4

10	9.030 Glass container	1880-1910	6	8.6
10	9.030 Glass container	1880-1930	4	5.7
10	9.030 Glass container	1914-1930	7	10.0
10	9.030 Glass container	1930-1986	9	13.0
10	9.053 Indeterminate can fragments		12	17.1
10	9.230 Cast iron fragments		1	1.4
	TOTAL		70	100.0

Trench 10A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
10A	3.026 Indeterminate ironstone vessel	1854-1920	1	8.3
10A	4.020 Wire box nail	1890-1986	1	8.3
10A	4.032 Fence staple		1	8.3
10A	4.220 Window glass	1880-1910	2	16.8
10A	9.030 Glass container	1914-1930	1	8.3
10A	9.030 Glass container	1930-1986	6	50.0
	TOTAL		12	100.0

Trench 11

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
11	2.010 Beer bottle	1880-1986	2	3.0
11	2.090 Crown bottle cap	1893-1986	1	1.5
11	3.360 Light bulb	1879-1986	2	3.0
11	4.020 Wire box nail	1890-1986	8	12.1
11	4.021 Wire frame nail	1890-1986	6	9.1
11	4.022 Wire finish nail	1890-1986	1	1.5
11	4.030 Roofing nail	1890-1986	2	3.0
11	4.080 Baling wire		1	1.5
11	4.210 Asphalt roofing paper		12	18.1
11	4.220 Window glass	1880-1910	2	3.0
11	4.220 Window glass	1930-1986	4	6.1
11	4.240 Wood fragments		1	1.5
11	4.350 Clamp		1	1.5

11	9.030 Glass container	1880-1910	1	1.5
11	9.030 Glass container	1880-1930	3	4.5
11	9.030 Glass container	1914-1930	7	11.0
11	9.030 Glass container	1930-1986	10	15.1
11	9.070 Indeterminate metal		1	1.5
11	9.880 Indeterminate object	1927-1986	1	1.5
	TOTAL		66	100.0

Trench 11A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
11A	2.010 Beer bottle	1880-1986	8	11.1
11A	2.090 Crown bottle cap	1893-1986	5	6.9
11A	2.091 Aluminum pull tabs	1962-1986	2	2.8
11A	3.013 Indeterminate earthenware	1830-1900	1	1.4
11A	3.345 Paper clip		1	1.4
11A	4.020 Wire box nail	1890-1986	7	9.7
11A	4.021 Wire frame nail	1890-1986	12	16.6
11A	4.025 Indeterminate nail		1	1.4
11A	4.030 Roofing nail	1890-1986	5	6.9
11A	4.210 Asphalt roofing paper		4	5.6
11A	4.220 Window glass	1880-1910	1	1.4
11A	4.220 Window glass	1930-1986	9	12.5
11A	4.240 Wood fragments		1	1.4
11A	8.040 Horseshoe nail	1840-1986	1	1.4
11A	9.030 Glass container	1880-1910	2	2.8
11A	9.030 Glass container	1880-1930	3	4.2
11A	9.030 Glass container	1914-1930	1	1.4
11A	9.030 Glass container	1930-1986	8	11.1
	TOTAL		72	100.0

Trench 11B

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
11B	3.026 Indeterminate ironstone vessel	1854-1920	1	1.3

11B	4.020 Wire box nail	1890-1986	4	5.3
11B	4.021 Wire frame nail	1890-1986	4	5.3
11B	4.032 Fence staple		1	1.3
11B	4.210 Asphalt roofing paper		4	5.3
11B	4.220 Window glass	1917-1986	41	53.9
11B	5.471 Clock part		1	1.3
11B	9.030 Glass container	1914-1930	9	11.8
11B	9.030 Glass container	1930-1986	11	14.5
	TOTAL		76	100.0

Trench 12

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
12	1.270 Peach pit		1	.6
12	3.330 Trunk part		1	.6
12	4.015 Indeterminate cut nail	1830-1890	1	.6
12	4.021 Wire frame nail	1890-1986	6	3.7
12	4.022 Wire finish nail	1890-1986	10	6.1
12	4.023 Wire galvanized nail	1890-1986	1	.6
12	4.026 Nail with crown cap		1	.6
12	4.061 Bill poster tack		2	1.2
12	4.063 Double point tack		2	1.2
12	4.082 Smooth wire		1	.6
12	4.163 Hinge		1	.6
12	4.210 Asphalt roofing paper		54	32.9
12	4.220 Window glass	1917-1986	5	3.0
12	4.220 Window glass	1930-1986	9	5.5
12	4.240 Wood fragment		2	1.2
12	4.310 Bolt strike plate		19	11.6
12	5.033 Penny	1950	1	.6
12	5.033 Penny	1947	1	.6

12	5.035 Quarter	1942	1	.6
12	6.010 Marble	1918-1986	1	.6
12	7.011 .22 short case	1867-1986	1	.6
12	9.030 Glass container	1914-1930	7	4.3
12	9.030 Glass container	1917-1986	8	5.0
12	9.030 Glass container	1930-1986	20	12.2
12	9.070 Indeterminate metal		1	.6
12	9.320 Plastic		6	3.7
12	9.880 Indeterminate object	1927-1986	1	.6
	TOTAL		164	100.0

Trench 13

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
13	1.270 Peach pit		1	1.3
13	2.010 Beer bottle	1914-1930	2	2.6
13	2.091 Aluminum pull tabs	1962-1986	1	1.3
13	2.110 Beverage cap		2	2.6
13	4.010 Cut box nail	1830-1890	7	9.2
13	4.020 Wire box nail	1890-1986	4	5.3
13	4.021 Wire frame nail	1890-1986	11	14.5
13	4.032 Fence staple		1	1.3
13	4.081 Bundle wire		1	1.3
13	4.120 Wood screw		1	1.3
13	4.210 Asphalt roofing paper		6	7.8
13	4.220 Window glass	1880-1910	1	1.3
13	4.220 Window glass	1917-1986	2	2.6

13	4.220 Window glass	1930-1986	1	1.3
13	5.011 Shoe parts		1	1.3
13	5.050 Button		1	1.3
13	5.470 Pocket watch parts	1930-1986	2	2.6
13	6.010 Marble	1930-1986	1	1.3
13	6.010 Marble	1880-1986	1	1.3
13	6.080 Record		2	2.6
13	9.030 Glass container	1880-1910	1	1.3
13	9.030 Glass container	1914-1930	12	16.0
13	9.030 Glass container	1930-1986	12	16.0
13	9.034 Milk glass		1	1.3
13	9.070 Indeterminate metal		1	1.3
	TOTAL		76	100.0

Trench 14

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
14	3.026 Indeterminate ironstone vessel	1854-1920	1	.9
14	4.020 Wire box nail	1890-1986	10	8.9
14	4.021 Wire frame nail	1890-1986	6	5.4
14	4.030 Roofing nail	1890-1986	3	2.7
14	4.032 Fence staple		1	.9
14	4.081 Baling wire		1	.9
14	4.082 Smooth wire		1	.9
14	4.210 Asphalt roofing paper		23	20.5
14	4.220 Window glass	1880-1910	4	3.6
14	4.220 Window glass	1930-1986	43	38.3
14	4.240 Wood fragment		1	.9

14	5.033 Penny	1956	1	.9
14	5.050 Button		1	.9
14	7.015 .22 short cartridge	1875-1986	1	.9
14	9.030 Glass container	1914-1930	1	.9
14	9.030 Glass container	1930-1986	10	8.9
14	9.059 Metal cap		2	1.8
14	9.070 Indeterminate metal		2	1.8
	TOTAL		112	100.0

Trench 14A

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
14A	1.120 Slide off lid		1	.9
14A	2.010 Beer bottle	1914-1930	4	3.5
14A	2.091 Aluminum pull tab	1962-1986	1	.9
14A	2.110 Beverage cap		1	.9
14A	2.130 Soda bottle	1940-1986	49	42.9
14A	4.020 Wire box nail	1890-1986	2	1.7
14A	4.021 Wire frame nail	1890-1986	6	5.3
14A	4.220 Window glass	1880-1910	4	3.5
14A	4.220 Window glass	1930-1986	40	35.0
14A	4.240 Wood fragment		1	.9
14A	5.070 Buckle		1	.9
14A	5.071 Suspender buckle	1840-1986	1	.9
14A	5.450 Costume jewelry		1	.9
14A	9.030 Glass container	1930-1986	1	.9
14A	9.880 Indeterminate object		1	.9
	TOTAL		114	100.0

Trench 15

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
15	4.020 Wire box nail	1890-1986	1	10.0
15	4.030 Roofing nail	1890-1986	2	20.0
15	4.346 Pipe cap		1	10.0
15	9.030 Glass container	1914-1930	2	20.0
15	9.030 Glass container	1930-1986	4	40.0
	TOTAL		10	100.0

Trench 16

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
16	2.010 Beer bottle	1914-1930	42	52.0
16	3.026 Indeterminate ironstone vessel	1854-1920	5	6.2
16	3.360 Light bulb	1887-1986	1	1.2
16	4.010 Cut box nail	1830-1890	1	1.2
16	4.021 Wire frame nail	1890-1986	3	3.7
16	4.210 Asphalt roofing paper		2	2.5
16	4.220 Window glass	1880-1910	3	3.7
16	5.011 Shoe parts		1	1.2
16	9.03 Glass container	1880-1910	7	8.6
16	9.030 Glass container	1930-1986	15	18.5
16	9.034 Milk glass		1	1.2
	TOTAL		81	100.0

Trench 17

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
17	3.026 Indeterminate ironstone vessel	1854-1920	1	5.6
17	4.013 Cut finish nail	1830-1890	1	5.6
17	4.015 Indeterminate cut nail	1830-1890	1	5.6
17	4.021 Wire frame nail	1890-1986	1	5.6
17	4.024 Indeterminate wire nail	1890-1986	1	5.6
17	9.030 Glass container	1880-1910	2	11.0
17	9.030 Glass container	1880-1930	2	11.0

17	9.030 Glass container	1914-1930	9	50.0
	TOTAL		18	100.0

Trench 24

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
24	2.010 Beer bottle	1880-1986	30	24.2
24	2.030 Whiskey bottle	1986	1	.8
24	3.343 Notebook clasp		1	.8
24	4.180 Sheet metal		25	20.2
24	4.461 Shovel		1	.8
24	5.310 Razor blade		1	.8
24	5.340 Cold cream jar		1	.8
24	9.030 Glass container	1930-1986	50	40.3
24	9.031 Glass bottle	1930-1986	10	8.1
24	9.063 Indeterminate can lid		1	.8
24	9.070 Indeterminate metal		2	1.6
24	9.840 Motor oil can		1	.8
	TOTAL		124	100.0

Trench 50

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
50	1.070 Sardine can	1866-1986	1	.4
50	1.105 Indeterminate food can		12	4.6
50	1.130 Zinc screw on lid		1	.4
50	1.260 Condiment bottle	1930-1986	6	2.3
50	2.010 Beer bottle	1880-1986	62	23.4
50	2.050 Wine bottle	1930-1986	1	.4
50	2.090 Crown bottle cap	1893-1986	1	.4
50	2.130 Soda bottle	1930-1986	1	.4
50	3.026 Indeterminate ironstone vessel	1854-1920	3	1.1
50	3.212 Clothes pin part		7	2.7
50	4.020 Wire box nail	1890-1986	1	.4
50	4.021 Wire frame nail	1890-1986	5	1.9

50	4.022 Wire frame nail	1890-1986	1	.4
50	4.030 Roofing nail	1890-1986	1	.4
50	4.032 Fence staple		1	.4
50	4.120 Wood screw		1	.4
50	4.210 Asphalt roofing paper		113	42.9
50	4.220 Window glass	1880-1910	14	5.3
50	4.220 Window glass	1930-1986	4	1.5
50	4.261 Rivet		2	.8
50	4.280 Brad		1	.4
50	9.030 Glass container	1930-1986	17	6.4
50	9.057 Pull strip opener		2	.8
50	9.070 Indeterminate metal		4	1.5
50	9.750 Battery core		1	.4
	TOTAL		263	100.0

Trench 51

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
51	3.290 Furniture caster		1	4.3
51	4.020 Wire box nail	1890-1986	3	13.0
51	4.021 Wire frame nail	1890-1986	3	13.0
51	4.026 Nail with crown cap		2	8.7
51	4.032 Fence staple		2	8.7
51	4.100 Indeterminate bolt		1	4.3
51	4.210 Asphalt roofing paper		2	8.7
51	4.220 Window glass	1930-1986	5	22.0
51	6.070 Toy		2	8.7
51	9.070 Indeterminate metal		1	4.3
51	9.230 Cast iron fragments		1	4.3
	TOTAL		23	100.0

Trench 52

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
52	2.010 Beer bottle	1880-1986	4	50.0
52	2.090 Crown bottle cap	1893-1986	1	12.5
52	4.024 Indeterminate wire nail	1890-1986	1	12.5
52	9.030 Glass container	1930-1986	1	12.5
52	9.880 Indeterminate object		1	12.5
	TOTAL		8	100.0

Trench 54

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
54	1.105 Indeterminate food can		1	14.3
54	4.220 Window glass	1880-1910	2	28.6
54	9.030 Glass container	1930-1986	4	57.1
	TOTAL		7	100.0

Trench 57

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
57	9.030 Glass container	1930-1986	1	100.0
	TOTAL		1	100.0

Trench 63

TRENCH	FUNCTION	DATE	TOTAL	PERCENT
63	4.083 Copper wire		1	33.3
63	4.092 Insulator		2	66.7
	TOTAL		3	100.0