NMCRIS Activity # 125998

# The Results of Archaeological Test Excavations on 1.6 Acres of Land within LA 144329 in the Griffin/Grant Triangle Historic Neighborhood, Santa Fe, New Mexico

Matthew J. Barbour and Karen Wening

Office of Archaeological Studies

Museum of New Mexico

Archaeology Notes 455
2014

NMCRIS Activity No.: 125998

MUSEUM OF NEW MEXICO

OFFICE OF ARCHAEOLOGICAL STUDIES

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Matthew J. Barbour and Karen Wening

with contributions by

Nancy J. Akins
James L. Moore
C. Dean Wilson

Robert Dello-Russo, Ph.D.
Principal Investigator

ARCHAEOLOGY NOTES 455

SANTA FE 2014 NEW MEXICO

# NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

| 1. NMCRIS Activity No.: | 2a. Lead (Sponsoring) Agency: Santa Fe County | 2b. Other Permitting Agency(ies): | 3. Lead Agency Report No.: NA |
|---|---|---|---|
| 125998 | | | |

**4. Title of Report: :**

The Results of Archaeological Test Excavations on 1.6 acres of Land within LA 144329 in the Griffin/Grant Triangle Historic Neighborhood, Santa Fe, New Mexico

**5. Type of Report**

☐ **Negative** ☒ **Positive**

AN 455

**Author(s)**

Matthew J. Barbour and Karen Wening

**6. Investigation Type**

☐ Research Design ☐ Survey/Inventory ☒ Test Excavation ☐ Excavation ☐ Collections/Non-Field Study

☐ Overview/Lit Review ☐ Monitoring ☐ Ethnographic study ☐ Site specific visit ☐ Other

**7. Description of Undertaking (what does the project entail?):**

At the request of Mr. Paul Olafson of the Santa Fe County Public Works Department, OAS conducted archaeological test excavations on 1.6 acres of Santa Fe County land located within the Griffin/Grant Triangle Historic Neighborhood of Santa Fe, New Mexico. Situated on this property is the former Judge Steve Herrera Judicial Complex, originally constructed in 1937 to serve as the Harvey Junior High School. The property is also located within the Santa Fe Historic District (LA 4450; State Register of Cultural Properties No. 260, September 29, 1972; National Register of Historic Properties, July 23, 1973) and the previously recorded archaeological site designated LA 144329.

**8. Dates of Investigation:**

December 10–14, 2012

**9. Report Date**:

April 15, 2014

**10. Performing Agency/Consultant:**

**Principal Investigator: Robert Dello-Russo**

**Field Supervisor**: Matthew Barbour

**Field Personnel Names**:

Isaiah Coan, Susan Moga, Donald Tatum, Mary Weahkee, Karen Wening, and Dean Wilson

**11. Performing Agency/Consultant Report No.:** Archaeology Notes 455

**12. Applicable Cultural Resource Permit No.:**

General Archaeological Permit: NM-12-027-T

| 13. Client/Customer (project proponent): | 14. Client/Customer Project No.: NA |
|---|---|
| **Contact:** Paul Olafson, Deputy Director<br>**Address:**, Public Works Department, Santa Fe County, PO Box 276, Santa Fe, NM 87504-0276<br>**Phone:** (505) 992-9866 | |

**15. Land Ownership Status *(Must be indicated on project map):***

| Land Owner | Acres Surveyed | Acres in APE |
|---|---|---|
| | | |
| Santa Fe County | | 1.6 |
| | | |
| | | |
| | | |
| **TOTALS** | | **1.6** |

**16 Records Search(es):** ARMS, New Mexico History Library

| | | |
|---|---|---|
| **Date(s) of ARMS File Review** 11/15/12 | **Name of Reviewer(s)** Matthew Barbour, Susan Moga, Mary Weahkee | |
| **Date(s) of NR/SR File Review** | **Name of Reviewer(s)** | |
| **Date(s) of Other Agency File Review** | **Name of Reviewer(s)** | **Agency** |

**17. Survey Data:**

**a. Source Graphics** ☐ **NAD 27** ☒ **NAD 83** **Note: NAD 83 is the NMCRIS standard**

☒ **USGS 7.5' (1:24,000) topo map** ☐ **Other topo map, Scale:**

☒ **GPS Unit Accuracy** ☒ **<1.0m** ☐ **1-10m** ☐ **10-100m** ☐ **>100m**

**b. USGS 7.5' Topographic Map Name** **USGS Quad Code**

| | |
|---|---|
| Santa Fe (2002) | 35105-F8 |
| | |
| | |
| | |
| | |
| | |
| | |

**c. County(ies):** Santa Fe

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

**d. Nearest City or Town:** Santa Fe

**e. Legal Description:**

| Township (N/S) | Range (E/W) | Section | ¼ ¼ ¼ |
|---|---|---|---|
| | | | , , . |
| | | | , , . |
| | | | , , . |
| | | | , , . |
| | | | , , . |
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| | | | , , . |
| | | | , , . |
| | | | , , . |

**Projected legal description?** ☐ **Yes** ☐ **No** ☒ **Unplatted**

**f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.):** Old Judge Steve Herrera Judicial Complex parking lot at the corner of Catron and Griffin Streets.

**18. Survey Field Methods:**

**Intensity:** ☐ 100% coverage ☐ <100% coverage

**Configuration:** ☐ block survey units ☐ linear survey units (l x w): ☐ other survey units (specify):

**Scope:** ☐ non-selective (all sites recorded) ☐ selective/thematic (selected sites recorded)

**Coverage Method:** ☐ systematic pedestrian coverage ☐ other method (describe)

**Survey Interval (m):** **Crew Size:** **Fieldwork Dates:**

**Survey Person Hours:** **Recording Person Hours:** **Total Hours:**

**Additional Narrative:**

Archaeological testing, no survey was undertaken. OAS archaeologically tested the project area through the mechanical-excavation of ten test trenches and the hand-excavation of two test pits. This equated to roughly a two percent excavation sample (1,400 sq. ft) of the current project area (69,651 sq. ft).

**19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.):**

Santa Fe is in a fault zone within a subdivision of the Southern Rocky Mountain physiographic zone known as the Espanola Basin, one in a chain of basins comprising the Rio Grande rift, which extends from southern Colorado to southern New Mexico. The project area is located on a nearly level northern terrace of the Santa Fe River at an elevation of 7,000 ft. Soils are formed in reworked, mixed alluvial material of the Tertiary/Quaternary-period Santa Fe formation. The major soil association is Bluewing gravelly sandy loam. This soil occurs on 0- to 5-percent slopes and may coexist with Pojoaque and Fivemile soils. Santa Fe has a semiarid climate in which precipitation can fluctuate widely. Historical local flora and fauna are typical of Upper Sonoran grasslands.

**20.**

**a. Percent Ground Visibility:** 0% **b. Condition of Survey Area (grazed, bladed, undisturbed, etc.):** Project is located in an asphalt-paved parking lot.

**21. CULTURAL RESOURCE FINDINGS** ☒ **Yes, see next report section**
☐ **No, Discuss Why:**

**22. Required Attachments (check all appropriate boxes): All of the information below is included in the attached report.**
☒ **USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn**
☒ **Copy of NMCRIS Mapserver Map Check**
☐ **LA Site Forms - new sites (*with sketch map & topographic map)***
☒ **LA Site Forms (update) - previously recorded & un-relocated sites (*first 2 pages minimum)***
☐ **Historic Cultural Property Inventory Forms**
☐ **List and Description of isolates, if applicable**
☐ **List and Description of Collections, if applicable**

**23. Other Attachments:**
☐ **Photographs and Log**
☐ **Other Attachments**
***(Describe)*:**

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

**Principal Investigator/Responsible Archaeologist:** Robert Dello-Russo, Ph.D.

**Signature** __ _____ **Date** _1/1/13__ **Title (if not PI):**

**25. Reviewing Agency:**

**Reviewer's Name/Date**

**Accepted ( ) Rejected ( )**

**Tribal Consultation (if applicable):** ☐ **Yes** ☐ **No**

**26. SHPO**
**Reviewer's Name/Date:**

**HPD Log #:**

**SHPO File Location:**

**Date sent to ARMS:**

**CULTURAL RESOURCE FINDINGS**
*[fill in appropriate section(s)]*

| **1. NMCRIS Activity No.:** 125998 | **2. Lead (Sponsoring) Agency:** Santa Fe County | **3. Lead Agency Report No.:** NA |
|---|---|---|

**SURVEY RESULTS:**
**Sites discovered and registered: 0**
**Sites discovered and NOT registered: 0**
**Previously recorded sites revisited** (*site update form required*): **1**
**Previously recorded sites not relocated *(site update form required):* 0**
**TOTAL SITES VISITED: 1**
**Total isolates recorded: 0 Non-selective isolate recording?** ☐
**HCPI properties discovered and registered: 0**
**HCPI properties discovered and NOT registered: 0**
**Previously recorded HCPI properties revisited: 0**
**Previously recorded HCPI properties not relocated: 0**
**TOTAL HCPI PROPERTIES (visited & recorded, including acequias): 0**

**MANAGEMENT SUMMARY:**

Based upon these findings, OAS recommends that LA 144329 is eligible for listing on the National Register of Historic Places under Criterion D for its ability to inform upon life in a Santa Fe household during the Spanish Colonial Period and on an institutional setting during the American Territorial Period. However, eighteenth and nineteenth century cultural deposits were not uniformly distributed across the project area. If future renovation or construction activities are planned for the project area, it is advisable that the northeast and central portions of the project area, where intact cultural deposits were recorded, be subjected to intensive archaeological data recovery. In those areas where only mixed cultural contexts were revealed, archaeological monitoring should suffice.

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

**SURVEY LA NUMBER LOG**

**Sites Discovered:**

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

**Previously recorded revisited sites:**

| LA No. | Field/Agency No. | Eligible? (Y/N, applicable criteria) |
|---|---|---|
| 144329 | | Y/D |
| | | |
| | | |

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

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

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

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

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

| Tested LA number(s) | Excavated LA number(s) |
|---|---|
| 144329 | |
| | |

## Administrative Summary

At the request of Mr. Paul Olafson of the Santa Fe County Public Works Department, the Office of Archaeological Studies (OAS) conducted archaeological test excavations over the course of five days, December 10–14, 2012, on 1.6 acres (69,651 sq ft) of Santa Fe County land located within the Griffin/Grant Triangle Historic Neighborhood of Santa Fe, New Mexico. Situated on this property, at 100 Catron Street, is the former Judge Steve Herrera Judicial Complex, which housed the Santa Fe County Courthouse, and was originally constructed in 1937 to serve as the Harvey Junior High School. The property is located within LA 144329, a previously recorded archaeological site that lies within the Santa Fe Historic District (LA 4450; *State Register of Cultural Properties* No. 260, September 29, 1972; *National Register of Historic Places,* July 23, 1973). However, no prior archaeological investigations had been performed within the current project area.

The purpose of this study was to determine if significant buried cultural deposits were present within the project area. OAS accomplished this task through the mechanical-excavation of 10 test trenches and the hand-excavation of two test pits. This equated to roughly a 2 percent excavation sample (1,400 sq ft) of the current project area (69,651 sq ft).

Test excavation units revealed a midden or field deposit associated with the eighteenth-century occupation of the project area by the Esquivel family and late nineteenth-century structural remnants that are linked to the Presbyterian Mission School, which was founded in 1867. No prehistoric cultural deposits or human remains were encountered within the project area.

Based upon these findings, OAS recommends that LA 144329 is eligible for listing on the *National Register of Historic Places* under Criterion D for its ability to inform 1) upon life in a Santa Fe household during the Spanish Colonial period, and 2) on an institutional setting during the American Territorial period. However, eighteenth- and nineteenth-century cultural deposits were not uniformly distributed across the project area. If future renovation or construction activities are planned for the project area, it is advisable that the northeast and central portions of the project area, where intact cultural deposits were recorded, be subjected to intensive archaeological data recovery. In those areas where only mixed cultural contexts were revealed, archaeological monitoring should suffice.

MNM Project No. 41.948 (Santa Fe District Court Parking)
NMCRIS Activity No. 125998
General Archaeological Permit: NM-12-027-T

# Contents



# Figures

## Tables

# 1 | Introduction

At the request of Mr. Paul Olafson of the Santa Fe County Public Works Department, the Office of Archaeological Studies (OAS) conducted archaeological test excavations over the course of five days, December 10–14, 2012, on 1.6 acres (69,651 sq ft) of Santa Fe County land located within the Griffin/Grant Triangle Historic Neighborhood of Santa Fe, New Mexico (Fig. 1.1a, 1.1b). Situated on this property, at 100 Catron Street, is the former Judge Steve Herrera Judicial Complex, which housed the Santa Fe County Courthouse, and was originally constructed in 1937 to serve as the Harvey Junior High School. (The Judge Steve Herrera Judicial Complex was relocated to a newly constructed facility, at 225 Montezuma Avenue, in early 2013.) The project property is located within LA 144329 (Fig. 1.2), a previously recorded archaeological site that lies within the Santa Fe Historic District (LA 4450; *State Register of Cultural Properties* No. 260, September 29, 1972; *National Register of Historic Places,* July 23, 1973). However, no prior archaeological investigations had been performed within the current project area.

The purpose of this study was to determine if significant buried cultural deposits were present within the project area. OAS accomplished this task through the mechanical excavation of 10 test trenches and the hand-excavation of two test pits (Fig. 1.3). This equated to roughly a 2 percent excavation sample (1,400 sq ft) of the current project area (69,651 sq ft). In the future, the findings presented in this report will be used to examine the impact that potential remodeling of the 1937 structure and its associated parking lot could have on cultural resources and help guide future construction/renovation activities.

Test excavation units revealed a midden or field deposit associated with eighteenth-century occupation of the project area by the Esquivel family and late nineteenth-century structural remnants linked to the Presbyterian Mission School founded in 1867. No prehistoric cultural deposits or human remains were encountered within the project area.

This report begins with a discussion of the environmental and cultural settings followed by a brief history of the Griffin/Grant Triangle Historic Neighborhood. Next, previous archaeological research conducted in the immediate vicinity of the project area is summarized. Field methods and the result of test excavations are then described, and these descriptions are followed by chapters detailing the results of artifact analyses. The report concludes with a determination of eligibility and general recommendations regarding archaeological work to mitigate future development.

Dr. Robert Dello-Russo was the Principal Investigator. Matthew Barbour served as the Field Supervisor and was assisted by Isaiah Coan, Vernon Foster, Susan Moga, Donald Tatum, Mary Weahkee, Karen Wening, and C. Dean Wilson. Backhoe operation was conducted by Elias Benzor and Nicholas Ruiz of Ruiz Construction Services. Laboratory analyses were directed by Nancy Akins (fauna), Matthew Barbour (Euroamerican artifacts), James Moore (flaked stone), Karen Wening (ground stone) and C. Dean Wilson (Native American ceramics). Lynne Arany edited the manuscript, Mimi Burling and Kathy McRee photographed the artifacts, and Isaiah Coan managed the GIS. The images and illustrations were produced by Scott Jaquith and Rob Turner.

This report and the investigations described herein comply with provisions set forth in Section 106 of the National Historic Preservation Act (36

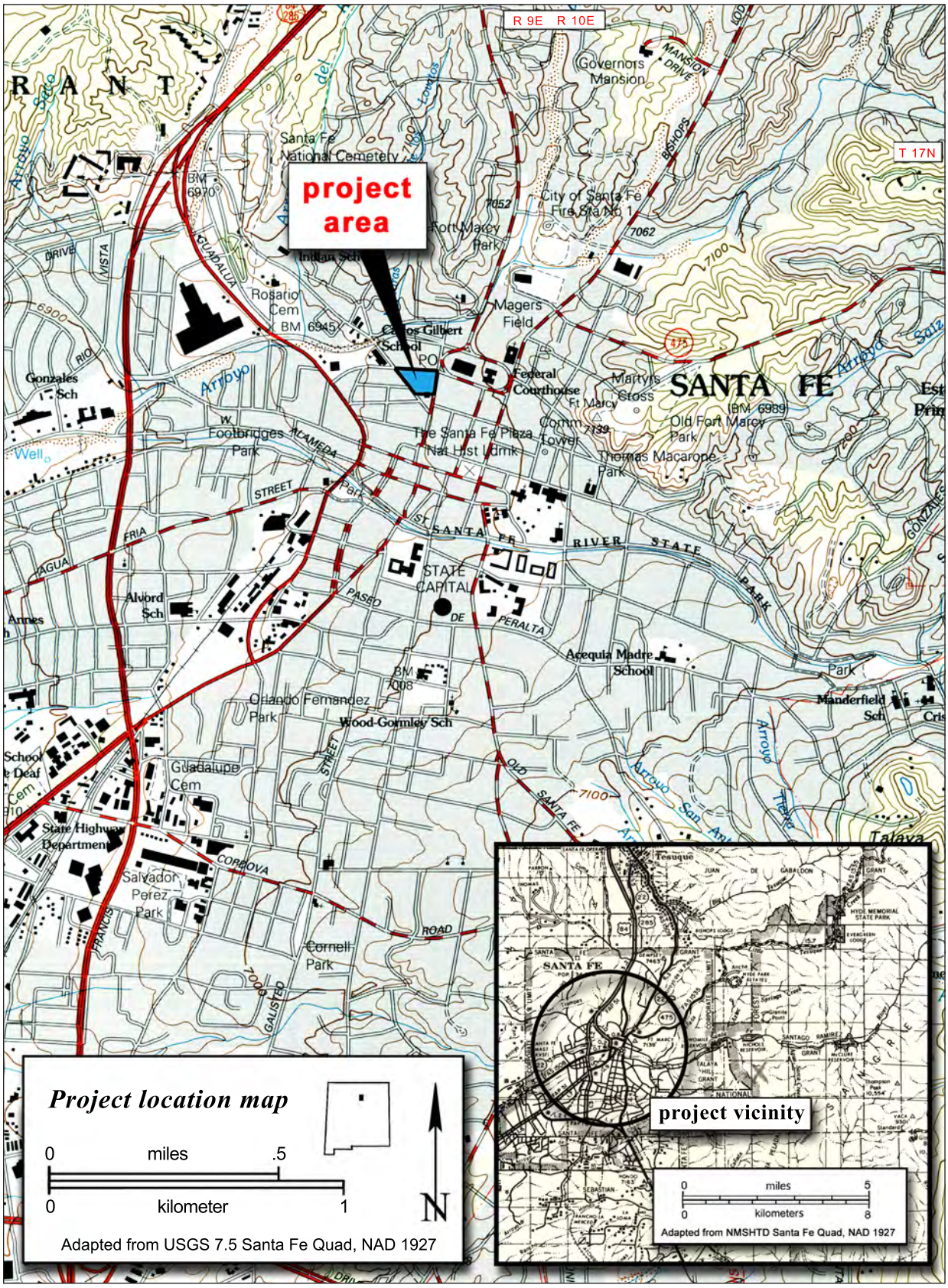


*Figure 1.1a. Project vicinity and location map.*

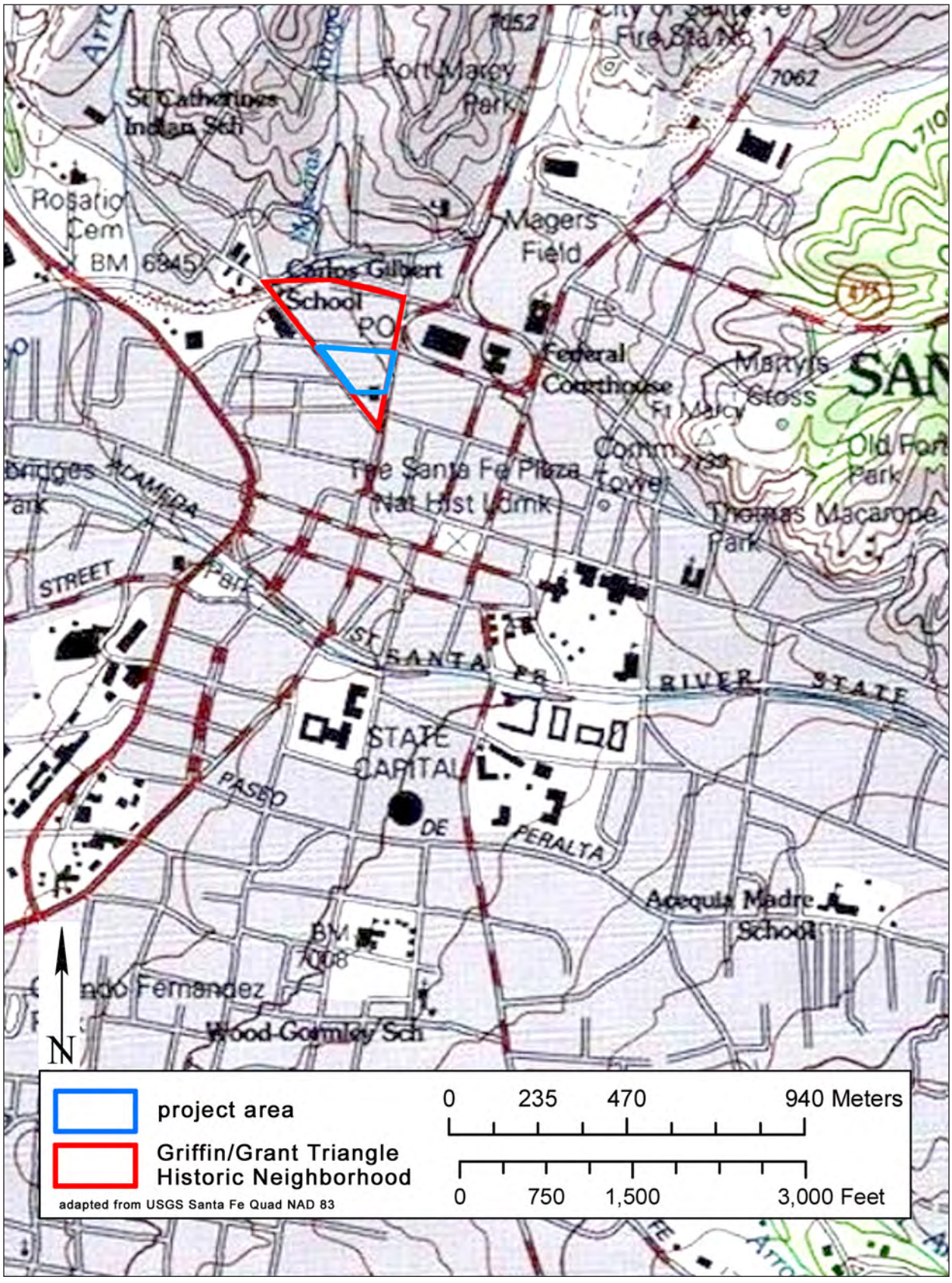


*Figure 1.1b. Project location map, detail.*

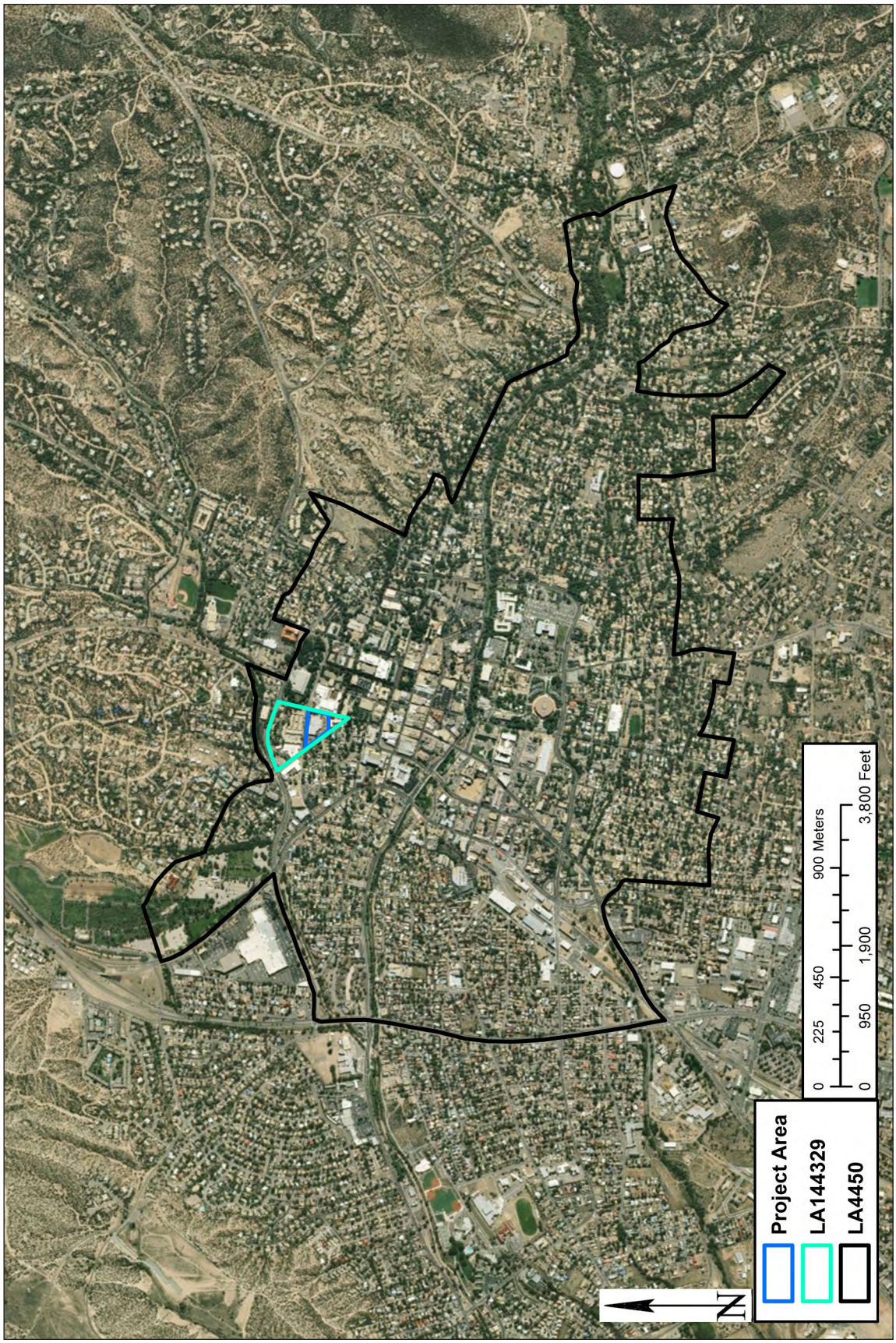


*Figure 1.2. Map showing location of LA 4450 and LA 144329.*

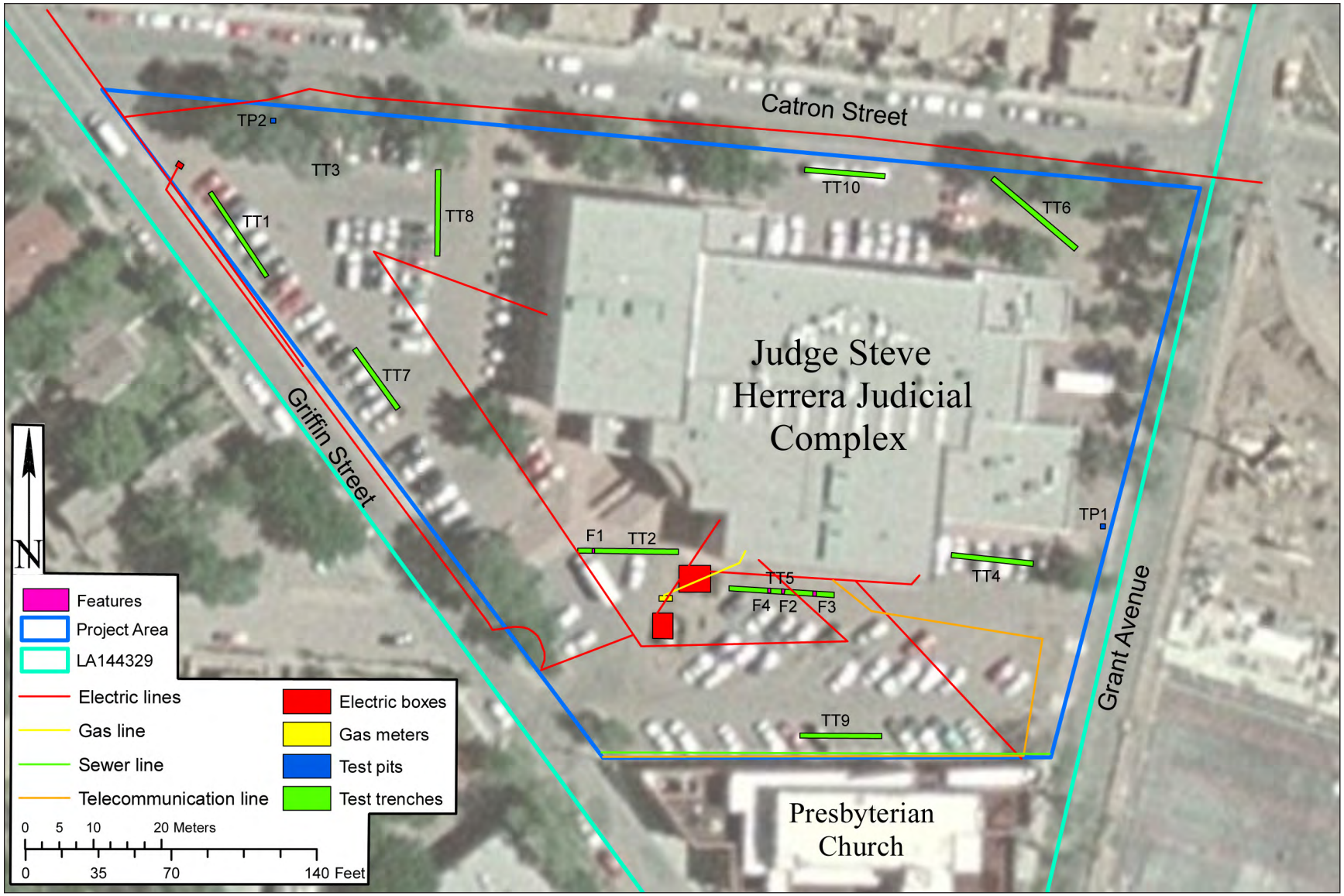


*Figure 1.3. Project area map, at the former Judge Steve Herrera Judicial Complex, showing location of utilities and Test Pits, Test Trenches, and Features.*

CFR 800), Executive Order 11593 (1972), and the National Environmental Policy Act of 1969 (91 Stat 852), and are in conformance with Section 18-6-5 (NMSA 1978) of the Cultural Properties Act (4.10.16 NMAC-N, January 1, 2006). As the project area is within the City of Santa Fe Historic Downtown Archaeological District, all proposed fieldwork would follow the guidelines included in the Archaeological Review District Ordinance (adopted October 12, 1987).

# 2 | Environmental Setting

**Adapted from Stephen C. Lentz (2004)**

## Physiography

Santa Fe is on a fault zone within a subdivision of the Southern Rocky Mountain physiographic region known as the Española Basin, one in a chain of extensional basins comprising the Rio Grande rift, which extends from southern Colorado to southern New Mexico (Kelly 1979:281). This basin, which is considered an extension of the Southern Rocky Mountain Province (Fenneman 1931), is enclosed by alternating uplands of mountain ranges and uplifted plateaus; the Rio Grande flows along the long axis of the feature (Kelly 1979:281). The northern boundary of the Española Basin is the eroded edge of the Taos Plateau. The Sangre de Cristo Mountains form the east boundary, and the southern boundary is marked by the Cerrillos Hills and the northern edge of the Galisteo Basin. The La Bajada fault escarpment and the Cerros del Rio volcanic hills denote the southwestern periphery. The basin is bounded to the west by the Jemez volcanic field, and the Brazos and Tusas Mountains form the northwestern boundary. Elevations along the Rio Grande through the basin vary from 1,845 m in the north to 1,616 m in the south, and altitudes in the surrounding mountains reach 4,013 m in the Sangre de Cristos, 3,522 m in the Jemez Mountains, and 2,623 m in the Brazos and Tusas (Kelly 1979:281).

The project area occupies a nearly level terrace on the north side of the Santa Fe River at an elevation of approximately 2,125 m. This area is part of an ancient alluvial fan upon which most of Santa Fe resides. The terrace soils developed in reworked, mixed alluvial deposits of the Tertiary/Quaternary period Santa Fe formation (Folks 1975).

## Geology

The Rio Grande rift was established during the late Oligocene epoch (ca 30 million years BP), when a cycle of crustal down-warping and extensional faulting succeeded a period of regional uplift (Kelly 1979:281). As the subsidence of the Española Basin continued through the Miocene and Pliocene epochs (ca. 3 to 25 million years ago), erosion from the Nacimiento, Jemez, and Brazos uplifts to the north and northwest and from the Sangre de Cristo uplift to the east provided most of the sediments for what is known as the Santa Fe group, the prominent geologic unit within the Española Basin. Other sources of sediment in this geologic unit included ash from volcanic fields in the Jemez, Brazos, and Sangre de Cristo Mountains. Sub-units of the Santa Fe group, such as the Tesuque Formation, consist of deep deposits (over 1 km thick) of poorly consolidated sand, gravel, and conglomerate, and mudstone, siltstone, and bedded volcanic ash (Lucas 1984).

Alluvial deposits of ancient and modern gravels are found in arroyos and on adjacent terraces. Tertiary volcanic deposits, Cenozoic sediments, and Precambrian rock are exposed in surrounding areas. These sediments and deposits provide most of the materials needed for lithic tool production. In particular, chert is available in the Ancha formation (Kelley 1980:11–12) and sandstone, siltstone, andesite, basalt, and silicified wood occur in other nearby formations. The most commonly used chert in the study area outcrops in the Madera limestone formation and occurs in local gravel deposits. Small amounts of obsidian are found scattered along the basalt-capped mesas west of Santa Fe (Kelley 1980:12).

The project area is within the inner valley of

the Santa Fe River, or Airport physiographic surface (Spiegel and Baldwin 1963:56). The major soil association is Bluewing gravelly sandy loam (Folks 1975:15–16). This soil occurs on 0 to 5 percent slopes and may coexist with Pojoaque and Fivemile soils. These well-drained soils developed in alluvium of mixed origin along terraces and floodplains. The gravelly sandy loam has rapid permeability with medium runoff; these factors present a severe erosion hazard.

## Climate

Santa Fe has a semiarid climate. Latitude and altitude are the two basic determinants of temperature; however, altitude is the more powerful variable in New Mexico. In general, mean temperatures decline faster with increased elevation than with increased latitude. Cold air drainage is a common and well-known feature of New Mexico valleys. Narrow valleys create their own temperature regimes by channeling air flow: the usual patterns are warm, up-valley winds during the day and cool, down-valley winds at night. In contrast, shifts in temperature over broad valley floors are influenced by local topographic relief (Tuan et al. 1973).

The Santa Fe weather station is at an elevation of 2,195 m. The mean annual temperature reported by the Santa Fe station is 10.5 degrees C (Gabin and Lespearance 1977). The climatological data further indicate that the study area conforms to the general temperature regime of New Mexico, that is, hot summers and relatively cool winters.

The average frost-free period (growing season) at Santa Fe is 164 days. The latest and earliest recorded frosts, respectively, occurred on May 31 (in 1877) and September 12 (in 1898) (Reynolds 1956:251). Although a frost-free season of 130 days is sufficiently long to grow most indigenous varieties of maize by means of dry farming (Schoenwetter and Dittert 1968; Hack 1942), the unpredictability of late spring and early fall frosts creates agricultural risk. The best agricultural strategy is to plant late enough that seedlings will not erupt above the ground until after the last frost, but early enough that they will be able to fully mature prior to the first killing fall frost.

Precipitation in Santa Fe can fluctuate widely. A maximum of 630 mm of precipitation was recorded in Santa Fe in 1855, compared to a minimum of 128 mm in 1917 (Reynolds 1956). The amount of precipitation is even more variable in any given month in successive years. Late summer is the wettest season in the annual cycle of the Santa Fe area, whereas June is one of the driest months. Precipitation records from Santa Fe indicate that more that 45 percent of the mean annual precipitation falls between July and September (Gabin and Lespearance 1977). Although October is drier than September, it is the fourth wettest month of the annual cycle. Significant precipitation (7.6 percent of the annual total) also falls in Santa Fe during this month. Late summer and fall moisture is derived from the Gulf of Mexico, when air masses from this region push inland to bring the economically important monsoons (Tuan et al. 1973:20). Summer rains tend to be violent and localized. They saturate the ground surface at the beginning of a storm, and much of the moisture is lost to runoff.

## Flora

The project area currently functions as a parking lot for the (former) Judge Steve Herrera Judicial Complex (Fig. 2.1). However, historical local flora and fauna are typical of Upper Sonoran grasslands. Piñon-juniper grassland, which supports a variety of plant and animal species, is the most common habitat. The characteristic vegetation includes piñon, juniper, prickly pear, cholla, yucca, and several species of muhly and grama grass (Pilz 1984). The piñon-juniper community thins as it descends from the Sangre de Cristo foothills and grades into short grass plains containing scattered juniper midway between the foothills and the Santa Fe River (Kelley 1980:12). The open, grass-covered valleys contain grama grass, muhly, Indian rice grass, galleta grass, soap weed yucca, one-seed juniper, Colorado piñon, occasional Gambel's oak, and small stands of mountain mahogany. Arroyo bottoms contain various shrubs such as four-wing saltbush, Apache plume, rabbit brush, big sagebrush, and wolfberry. The riparian/wetlands habitat is found only along perennial streams such as the Rio Pojoaque and Rio Tesuque. Modern vegetation includes willow, cottonwood, salt cedar, rushes, and sedges (Pilz 1984). In the wider valley bottoms, ditch irrigation is practiced.

*Figure 2.1. The former Judge Steve Herrera Judicial Complex.*

## Fauna

Fauna found historically within the project area include coyote, badger, porcupine, black-tailed jackrabbit, desert cottontail, spotted ground squirrel and many species of birds. Mule deer and black bear are known to occur, but in low numbers (Pilz 1984). Use of the area by these animals may have been more common before the twentieth century (Carroll 1984:2). Plains animals such as buffalo and pronghorn may also have been present or available within a few days' travel.

# 3 | Cultural Setting

**Adapted from Matthew J. Barbour (2012:20–29), Steven A. Lakatos (2011), and Timothy D. Maxwell and Stephen S. Post (1992:12–20)**

This cultural overview is adapted from several reports on several nearby archaeological projects conducted by the OAS in recent years. The prehistoric context is derived from the results of archaeological data recovery efforts at the Santa Fe Judicial Complex (Lakatos 2011). Much of the historic section incorporates data first synthesized by Maxwell and Post (1992:12–20) during a study of the Old Pecos Trail and is complemented with a more in-depth look at early twentieth-century Santa Fe by Barbour (2012).

## Prehistoric Period Overview (9500 BC–AD 1600)

Two general developmental/chronological frameworks are commonly used to order and classify archaeological sites and materials in the Northern Rio Grande region. One is the Pecos Classification (Kidder 1924; see Cordell 1984:55–59); the other is what Peckham (1984) referred to as the Rio Grande Classification, which was developed by Wendorf (1954) and Wendorf and Reed (1955). Although several other frameworks have been presented for specific sub-regions and to refine various temporal phases (e.g., Dickson 1979; McNutt 1969; Wetherington 1968), this study follows the Rio Grande Classification.

The Rio Grande chronological framework, as defined by Wendorf and Reed (1955), begins with a pre-ceramic period, which includes occupations dating from the Paleoindian period (ca. 11,200 BC) through the end of the Archaic period (ca. AD 400–600). The beginning of the Pueblo period is identified by the appearance of corn, pottery, and regularly patterned pit structures. The Pueblo sequence chronology spans the years from AD 600 to 1600 and is sub-divided into the Developmental (AD 600–1200), Coalition (AD 1200–1325), and Classic (AD 1325–1600) periods.

The Developmental period in the Northern Rio Grande spans between AD 600 and 1200. This period is further subdivided into the early Developmental (AD 600–900) and late Developmental (AD 900–1200) phases. The early Developmental corresponds temporally with the Basketmaker III and Pueblo I periods of the Pecos Classification, and the late Developmental with the Pueblo II and early Pueblo III periods of the Pecos Classification. The Coalition (AD 1200–1325) period follows the Developmental period and corresponds with the late Pueblo III period. The subsequent Classic period (AD 1325–1600) and historic (post-contact) period AD (1600–1912) are associated with the Pueblo IV and Pueblo V Pecos periods, respectively.

## Paleoindian Period (9500–6000 BC)

The earliest well-defined occupation of the American Southwest was by mobile big-game hunters referred to collectively as Paleoindians. Evidence of Paleoindian occupation in the Northern Rio Grande region is rare and typically consists of diagnostic projectile points and butchering tools found on the modern ground surface or in deflated settings (Acklen et al. 1990). More recently, two Clovis period components have been reported in the Jemez Mountains (Evaskovich et al. 1997; Turnbow 1997), and late Paleoindian material has been reported along the eastern flank of the Rio Grande west of Santa Fe (Dello-Russo 2010). Data recovery at one Clovis period

component identified two medial Clovis point fragments associated with a single thermal feature and tool manufacture debitage (Evaskovich et al. 1997). Identification of Paleoindian occupations within a montane setting may suggest a seasonal subsistence adaptation from a focus on lowland resources in the winter and to a highland adaptation in the summer or, perhaps, a response at the time to drier environmental conditions in lowland settings. An increased focus on hunting smaller game and gathering wild plants compared to previous periods may also reflect changes in climate toward the end of the Paleoindian period (Haynes 1980; Wilmsen 1974).

The paucity of reported Paleoindian remains around Santa Fe may be attributed to low visibility of these remains rather than a lack of occupation. Paleoindian remains may be masked by later Archaic and Puebloan occupations. Poor visibility of these remains may also be attributed to geomorphological factors. Surfaces or strata containing Paleoindian remains may be deeply buried and only visible in settings where these geological deposits are exposed (Cordell 1979), or those strata may have eroded away Finally, given the land-use patterns in the area over the last 400 years, it is no surprise that Paleoindian sites have not been reported in the Santa Fe area.

## Archaic Period (6000 BC–AD 600)

The term "Archaic" applies to the broad-spectrum hunting and foraging populations exploiting the local topography and wild food sources. Most Archaic sites in the region date from the Bajada phase (4800–3200 BC) to the En Medio phase (800 BC–AD 400), identified by distinctive projectile point types, scrapers, knives, and grinding stones. However, relatively few Early and Middle Archaic period sites have been identified. Most have been reported from along the Santa Fe River and its primary tributaries south of town (Post 2001, 2010) and from the piedmont northwest of town (Lakatos et al. 2001). These occupations were represented by a variety of thermal features, shallow house foundations, and scattered lithic, ground stone, and fire-cracked rock artifacts. The variety of feature types combined with evidence for dwellings and patterned artifact distributions indicates the annual reoccupation of favorable camp locations adjacent to a range of subsistence resources during this time (Post 2008).

Consistent with the broader regional data, evidence supports an increase in occupation of the Santa Fe area during the Late Archaic period (Acklen et al. 1990; Lang 1997a; Post 1996, 2001, 2010). This increase in occurrences may be attributed to changes in settlement and subsistence patterns identified during the Armijo phase (1800–800 BC; Irwin-Williams 1973). Settlement changes include evidence of seasonal aggregation, longer periods of occupation, and the exploitation of a broader range of environmental settings, while changes in subsistence practices include the adoption of horticulture, identified at a limited number of sites south of La Bajada Mesa around the Albuquerque area. In the Santa Fe area, Armijo-phase sites have been identified in the piedmont and along the Santa Fe River (Post 1996; Schmader 1994). These sites range from small foraging camps to larger base camps with shallow structures. Radiocarbon dates, obtained from thermal features, suggest these sites were occupied between 1750 and 900 cal BC (Post 1996; Lakatos et al. 2001; Schmader 1994).

En Medio phase (800 BC–AD 400) sites are the most numerous Archaic-period sites reported in the Santa Fe area. These sites are found in riverine, piedmont, foothill, and montane settings (Acklen et al. 1990; Kennedy 1998; Post 1996, 1999, 2010; Schmader 1994). En Medio phase sites range from isolated occurrences to limited-activity sites to base camps with well-defined structures, intramural and extramural features, and patterned artifact distributions. Increased diversity in settlement patterns and site types suggest population increase, longer or reduced time between occupations, and truncated foraging range.

Although many of these sites contained structures, formal features, and grinding implements, evidence of horticulture was absent. Excavation of En Medio sites from the Las Campanas Project (Post 1996) recovered diagnostic projectile point types with dates that range between AD 500 and 850 (Irwin-Williams 1973; Thoms 1977). This temporal observation and the paucity of sites with evidence of horticulture indicate that Archaic subsistence strategies (generalized foraging) may have extended into the early or middle AD 900s north of La Bajada (Dickson 1979; McNutt 1969; Post 1996).

No Archaic period sites are found in the immediate vicinity of the project area.

### Early Developmental Period (AD 600–900)

Most reported early Developmental sites are south of La Bajada Mesa, primarily in the Albuquerque area, with a few reported at higher elevations along the Tesuque, Nambe, and Santa Fe River drainages (Peckham 1984; Skinner et al. 1980; Wendorf and Reed 1955). Pueblo sites dating prior to AD 900 are relatively rare in the Santa Fe area; after that date, Pueblo occupations became increasingly more numerous. These occupations are typically represented by limited-activity areas and small residential settlements situated along low terraces overlooking primary and secondary tributaries of the Rio Grande. These locations may have been chosen for their access to water and arable farming land (Cordell 1979). Terrace locations may also have provided access to environmental zones with a wide range of foraging resources (Anschuetz et al. 1997).

Early Developmental residential sites typically consisted of one to three shallow, circular pit structures with little or no evidence of associated surface structures (Peckham 1954, 1957; Stuart and Gauthier 1981). Excavation data indicate a suite of construction characteristics for these early structures. Typically, structures were excavated up to 1 m below ground surface and were commonly 3 to 5 m in diameter. Walls were sometimes reinforced with vertical poles and adobe (Lakatos 2006). Walls, floors, and internal features commonly lacked plaster. Ventilators were commonly located along the east to southeast wall of the structures. Common floor features included central hearths, ash-filled pits, deflectors, ladder sockets, and four postholes. Less common floor features included sipapus, warming pits, and pot rests, as well as subfloor pits of various sizes and depths (Hammack et al. 1983; Peckham 1957).

Ceramics associated with early Developmental sites include plain gray and brown wares, red-slipped brown wares, and San Marcial Black-on-white. These types persist through the early Developmental phase, with the addition of neck-banded types similar to Alma Neckbanded, Kana'a Gray, Kiatuthlanna Black-on-white, La Plata Black-on-red, and Abajo Red-on-orange through time (Wendorf and Reed 1955). The accumulation of pottery types and surface textures over time, as opposed to sequential replacement of types and textures over time, appears to be characteristic in the Rio Grande region during the Developmental period (Wilson 2003). Decorated pottery at early Developmental-period sites may suggest cultural affiliation with people to the west and northwest. However, early Developmental assemblages also contain red and brown pottery, suggesting interaction with Mogollon populations to the south and southwest (Cordell 1979). Although cultural affiliations may seem more secure in assemblages clearly dominated by specific ware groups, cultural affiliations are difficult to determine at early Developmental sites that are only dominated by various frequencies of gray, brown, and white wares.

### Late Developmental Period (AD 900–1200)

Late Developmental sites have been identified from the Albuquerque area to the Taos Valley. This period is marked by an increase in the number and size of residential sites, habitation of a broader range of environmental settings, and the appearance of Kwahe'e Black-on-white ceramics (Cordell 1979; Mera 1935; Peckham 1984; Wendorf and Reed 1955; Wetherington 1968). Late Developmental populations expanded into higher elevations, settling along the northern Rio Grande, Tesuque, Nambe, and Santa Fe River drainages (Allen 2004; Ellis 1975; McNutt 1969; Peckham 1984; Skinner et al. 1980; Wendorf and Reed 1955). Commonly located along low terraces overlooking primary and secondary tributaries of these rivers, these locations provided access to water, arable farming land (Cordell 1979), and a variety of foraging resources (Anschuetz et al. 1997). Although late Developmental sites are more common at higher elevations than early Developmental sites, there is little evidence for late Developmental occupation of the Pajarito Plateau (Kohler 1990; Orcutt 1991).

Reported late Developmental-period sites typically consist of a residential unit comprising one to two pit structures, sometimes associated with a surface structure having 5 to 20 rooms, and a shallow midden (Ellis 1975; Peckham 1984; Stubbs 1954;

Stuart and Gauthier 1981; Wendorf and Reed 1955). These residential sites occur as single units or in clusters of units referred to as communities (Anschuetz et al. 1997; Wendorf and Reed 1955).

Surface structures were commonly constructed of adobe, with some rock incorporated into the adobe walls or upright slabs used as wall foundations or footers (McNutt 1969; Stubbs 1954). Walls were constructed with multiple courses of adobe, with or without rock, wattle and daub (jacal), or combinations of these techniques. Contiguous rectangular rooms often lacked floor or wall features, and floors were unplastered, with a few reported examples of adobe, cobble, or slab floors. Sub-rectangular and D-shaped rooms have also been reported but were apparently less common (Ahlstrom 1985; Boyer and Lakatos 1997; Ellis 1975; McNutt 1969; Stubbs 1954; Skinner et al. 1980).

Variety in size, shape, depth, and construction techniques is typical of late Developmental pit structure construction. Circular pit structures were the most common, followed by sub-rectangular structures. Pit structures ranged from 30 cm to 2 m below ground surface and between 3 and 5 m in diameter. Walls of subsurface structures varied from the unplastered surface of the original pit excavation to construction techniques using multiple courses of adobe, with or without rock, wattle and daub, upright slabs used as foundations, adobe reinforced with vertical poles, or combinations of these techniques (Ahlstrom 1985; Boyer and Lakatos 1997; Allen and McNutt 1955; Lange 1968; Stubbs 1954; Stubbs and Stallings 1953).

Floors ranged from compact use-surfaces to well-prepared adobe surfaces. Common floor features include central hearths, upright "deflector" stones, ash-filled pits, ventilator complexes, ladder sockets, and four postholes located toward the interior of the structure—perhaps functioning as supports for looms. Other, less common floor features include sipapus, subfloor channels, pot rests, and subfloor pits of various sizes and depths. Ventilators were constructed by connecting the exterior vent shaft to the interior of the structure with a tunnel or a narrow trench. This trench was subsequently roofed using latillas, effectively creating a tunnel. Exteriors of shallow structures were connected to the interior through an opening in the wall. Ventilators were commonly oriented to the east and southeast (Boyer and Lakatos 1997; Allen and McNutt 1955; Lange 1968; Stubbs 1954).

Utility-ware ceramics associated with late Developmental sites include types with corrugated and incised exteriors in addition to the plain gray, brown, neck-banded and polished/smudged types associated with the early Developmental period. Decorated white wares were both imported and manufactured locally. Common types included Red Mesa Black-on-white, Gallup Black-on-white, Escavada Black-on-white, and Kwahe'e Black-on-white. Less common types included Socorro Black-on-white, Chupadero Black-on-white, Chaco Black-on-white, and Chuska Black-on-white (Allen 1972). Although decorated red wares have been found at late Developmental sites, they are reported in very low frequencies, and appear to have originated from the Upper San Juan, Tusayan, and Cibola regions. Imported ceramic types suggest late Developmental inhabitants obtained limited amounts of pottery from the Mogollon, San Juan Basin, and Upper San Juan regions (Cordell 1979).

An example of a late Developmental site near downtown Santa Fe is the KP site (LA 46300). At this site, Wiseman (1989) identified a single trash-filled and burned structure with a variety of imported and locally produced decorated and utility ware pottery types. Obsidian predominated in the flaked stone assemblage, although local chert types, particularly red jasper, were also reported. The subsistence economy was reflected by a wide variety of plant and animal remains, including corn, squash, bee weed, deer, antelope, and cottontail (Wiseman 1989:139). Tree-ring and two radiocarbon dates indicate that the structure was occupied in the mid to late AD 1000s and that the fill had accumulated in the early AD 1100s.

## Coalition Period (AD 1200–1325)

Several researchers assert that the Coalition period was marked by three major changes reflected in the archaeological record: an increase in number and size of residential sites; contiguous surface rooms used more often as domiciles than during previous periods; and a shift from mineral paint to vegetal based paint for decorating pottery (Cordell 1979; Peckham 1984; Stuart and Gauthier 1981; Wendorf

and Reed 1955). An increase in the number and size of residential sites during this period suggests population increase and the extension of the village-level community organization typical of the late Developmental period. Although there was an apparent increase in the number of Coalition-period sites in upland areas that had limited occupation during the Developmental period, like the Pajarito Plateau, the southern Tewa Basin could have been the source of this population. Coalition-period sites, whether at higher elevations or in the Tewa Basin, were situated along terraces or mesas overlooking the Rio Grande, Tesuque, Nambe, Santa Fe, and Chama River drainages (Cordell 1979; Dickson 1979). These locations provided access to water, arable farming land, and a variety of foraging resources (Cordell 1979).

Coalition-period residential units typically consisted of one to two pit structures associated with 10 to 20 surface rooms, and a shallow midden (Peckham 1984; Stuart and Gauthier 1981; Wendorf and Reed 1955). Surface structures often consisted of small linear or L-shaped roomblocks oriented north–south. These roomblocks were one or two rooms deep, with a pit structure or kiva incorporated into or east of the roomblock (Kohler 1990; Steen 1977, 1982). Sites that exhibited this layout were generally considered to have dated to an earlier part of the Coalition period. Although most Coalition-period sites were relatively small, some are reported to have contained up to 200 ground-floor rooms (Stuart and Gauthier 1981). These larger sites were commonly U-shaped, enclosing a plaza(s) to the east. Generally, large Coalition-period sites with an enclosed plaza(s) are considered to have been a later development (Steen 1977; Stuart and Gauthier 1981).

Various construction techniques have been identified in excavated Coalition-period surface and subsurface structures. The walls of surface and subsurface structures were constructed with adobe, with or without rock, masonry, or combinations of these techniques. On the Pajarito Plateau, adobe construction incorporated unshaped tuff into the adobe walls. Masonry consisted of unshaped or cut tuff block fastened with adobe mortar and sometimes chinked with small tuff fragments (Kohler 1990). Contiguous, rectangular rooms were the most common, with a few reported examples of sub-rectangular and D-shaped rooms (Kohler 1990; Steen 1977, 1982; Steen and Worman 1978).

Variety in size, shape, and depth of pit structure construction was common during the Coalition period. Circular pit structures were most common, followed by sub-rectangular structures. Pit structure depths ranged from 30 cm to 2 m below ground surface and were commonly 3 to 5 m in diameter in size. Walls of pit structures were constructed using the techniques described for surface-room construction. Common floor features include central hearths, "deflector" stones, ash-filled pits, ventilator complexes, and four postholes located toward the interior of the structure. Other, less common floor features include sipapus, entryways, pot rests, and subfloor pits of various sizes and depths. Ventilators were constructed by connecting the exterior vent shaft to the interior of the structure with a tunnel. Exteriors of shallow structures were connected to the interior through an opening in the wall. Ventilators were commonly oriented to the east or southeast (Kohler 1990; Steen 1977, 1982; Steen and Worman 1978; Stuart and Gauthier 1981; Stubbs and Stallings 1953; Wendorf and Reed 1955).

Utility ware ceramics include types with corrugated, smeared corrugated, and plain exteriors. Less common utility ware types include striated, incised, or tooled exteriors. Decorated white wares include Santa Fe Black-on-white, Galisteo Black-on-white, and Wiyo Black-on-white, and very low percentages of Kwahe'e Black-on-white. Few trade wares have been reported from Coalition-period sites compared to sites of previous periods; one that has been found is White Mountain Redware (Kohler 1990; Steen 1977, 1982; Steen and Worman 1978).

The ability to inhabit higher elevations during the Coalition period may have been afforded by changes in precipitation patterns and access to unclaimed farming land. However, innovative methods were needed for producing sufficient crops in these cooler settings (Anschuetz et al. 1997). Intensification of water management and agricultural practices through the use of check dams, reservoirs, and grid gardens, especially during the latter part of this period and during the succeeding Classic period, are examples of this intensification (Anschuetz et al. 1997; Maxwell and Anschuetz 1992).

In the Santa Fe area, large villages, such as the Agua Fria School House ruin (LA 2), LA 109, LA 117, LA 118, and LA 119, were established during the early Coalition period. Other large Coalition sites, such as Pindi (LA 1), Tsogue (LA 742), and Tes-

uque Valley Ruin (LA 746), appear to have been established during the late Developmental period and to have grown rapidly during the Coalition period (Ahlstrom 1985; Stubbs and Stallings 1953). Near downtown Santa Fe, numerous Coalition-period sites have been recorded. Excavations at the old San Miguel Church site identified deposits dating to the fourteenth and seventeenth centuries (Stubbs and Ellis 1955). Excavations at LA 132712, near the intersection of Guadalupe Street and Johnson Street, had a Coalition component represented by a trash concentration, pits and burials (Scheick 2003). A Coalition-phase pit structure and associated artifacts were found in the west courtyard of the Federal Courthouse (Scheick 2005). Other sites with Coalition or Coalition-Classic period materials in the downtown area include LA 1051 (Lentz and Barbour 2008; Lentz 2011), LA 114261 (Hannaford 1997), LA 930 (Peckham 1977; Post and Snow 1982), LA 120430 (Post et al. 1998), LA 125720 (C. Snow 1999), LA 126709 (Viklund 2001), and LA 111 (C. Snow and Kammer 1995).

### Classic Period (AD 1325–1600)

Wendorf and Reed (1955:53) characterize the Classic period as "a time of general cultural fluorescence." Occupation shifted away from the uplands and began to concentrate along the Rio Grande, Chama, and Santa Cruz Rivers, as well as in Galisteo Basin. Large villages containing multiple plazas and roomblocks were built, and regional populations peaked. The construction of large, multi-plaza communities superseded the village level community organization typical of the late Developmental and early Coalition periods. In the Santa Fe area, large villages, such as the Agua Fria School House ruin (LA 2), Arroyo Hondo (LA 12), Cieneguilla (LA 16), LA 118, LA 119, and Building Period 3 at Pindi (LA 1), flourished during the early part of this period. Although these large villages grew rapidly during the early Classic, only Cieneguilla remained occupied after AD 1425.

Regional ceramic trends included the continued use of carbon-painted pottery, commonly referred to as biscuit wares, in the north, such as the Tewa Basin and Rio Chama Valley; the adoption of glaze wares in southern areas, including the Galisteo Basin; and the production of Jemez Black-on-white in the Jemez Mountains. Along with the development of large aggregated sites, Glaze A, a red-slipped, locally manufactured pottery type, was introduced. Although the reasons for the appearance and proliferation of glaze-painted pottery in the area from the Santa Fe River south are ambiguous, many researchers believe it developed from White Mountain Redware. Similarities between types in the two regions are viewed as evidence for large-scale immigration into the Northern Rio Grande from the Zuni region and the San Juan Basin (Mera 1935, 1940; Reed 1949; Stubbs and Stallings 1953; Wendorf and Reed 1955). Other researchers attribute the changes during this period to expanding indigenous populations (Steen 1977) or the arrival of populations from the Jornada branch of the Mogollon in the south (Schaafsma and Schaafsma 1974). For whatever reason, this was a time of village reorganization.

Sites, such as Pindi (LA 1) and Arroyo Hondo (LA 12), experienced reoccupation of older portions of the pueblo during this time (Creamer 1993; Stubbs and Stallings 1953). Intra-community changes are also suggested by decreasing kiva-to-room ratios (Lipe 1989; Stuart and Gauthier 1981) and the revival of circular subterranean pit structures with an assemblage of floor features reminiscent of the late Developmental period (Peckham 1984). More clearly delineated plaza space and "big kivas" (Peckham 1984:280) suggest social organization that required the emphasis of centrally located communal space.

Emphasizing communal space may have been a means to integrate aggregated populations through ceremonial functions. The need to enhance communal space using architectural units may also be related to the introduction of the Katsina Cult into the northern Rio Grande during this time (Schaafsma and Schaafsma 1974). A shift from geometric designs to masked figures and horned serpents in kiva murals (Hayes et al. 1981; Hibben 1975) and the occurrence of shield-bearing anthropomorphic rock art figures (Schaafsma 1992) suggest the acceptance of new ideological concepts. Changes in community structure and settlement patterns during the Classic period may reflect the adaptation to or the adoption of new populations, ideological elements, and organizational systems by indigenous inhabitants.

Few Classic-period sites have been excavated in the immediate vicinity of the project area. One such

site is LA 1051, the site of the Santa Fe Community Convention Center (Lentz and Barbour 2008, Lentz 2011). Although excavation data are few, Classic-period structural remains and abundant artifacts have consistently been encountered in the Santa Fe area, suggesting that this temporal component is masked by subsequent land use and development (Deyloff 1998; Drake 1992; Lakatos 2011; Mera 1934; Peckham 1977; Tigges 1990).

## Historic Period Overview (AD 1540–Present)

### *Spanish Contact, Pueblo Revolt, and Reconquest (AD 1540–1692)*

The first European contact with the northern Rio Grande Valley occurred in the late winter or early spring of 1541, when a foraging party of Coronado's men set up camp near San Juan Pueblo (Hammond and Rey 1953:244, 259). Having heard of Coronado's earlier plundering farther south, these pueblos were hastily abandoned by their occupants. The Spaniards looted the deserted villages (Ortiz 1979:280; Winship 1896:476).

After the Spanish entradas of the mid- and late-sixteenth century, Native American groups underwent numerous changes in lifestyle, social organization, and religion. The introduction of new crops and livestock contributed to major changes in subsistence, as did mission programs, which taught new industries such as metal smithing and animal husbandry. These were meant to wean the Pueblo people away from traditional ways (Simmons 1979b:181). Incursions by Plains groups also caused the abandonment of many pueblos and a contraction of the region occupied by the Pueblos (Chávez 1979; Schroeder 1979). A combination of new diseases to which the Pueblo people had no natural defenses, intermarriage, conflict attendant with the Pueblo Revolt of AD 1680–1692, and the abandonment of traditional lifestyles all contributed to a significant decrease in Pueblo populations over the next few centuries (Dozier 1970; Eggan 1979).

In 1591 San Juan Pueblo was visited by the Gaspar Castaño de Sosa expedition. Castaño de Sosa erected a cross, received obedience to the King of Spain, and appointed a governor, a mayor, and various other administrators (Schroeder and Matson 1965:121, 129; Lentz 1991:7).

With the goals of missionization, territorial expansion, and the acquisition of mineral wealth, the colonizing expedition of Don Juan de Oñate arrived at Ohkay Owingeh (San Juan Pueblo) on July 11, 1598, and proclaimed it the capital of the province. During the winter of 1600–1601 the Spaniards moved across the river to a partially abandoned 400-room pueblo village, which they renamed San Gabriel de los Caballeros. The first Catholic mission church, called San Miguel, was built at the southern end of the village. Soon, New Mexico was divided into seven missionary districts. A Spanish alcalde (magistrate) was appointed for each pueblo, and all were under Oñate's leadership (Spicer 1962:156). In January 1599, in retaliation for the death of Juan de Zaldivar (one of Onate's two nephews), 70 of Oñate's men attacked Acoma Pueblo. After a three-day battle, the Spanish troops prevailed. In retribution, 500 Acoma prisoners over the age of 25 had one foot severed and were sentenced to 20 years of hard labor in the mines of Zacatecas.

The Spanish colony at San Gabriel did not survive the first decade of the seventeenth century. Oñate returned to Mexico in disgrace, and in 1610 the capital was moved from San Gabriel to the current site of Santa Fe (Ortiz 1979:281; Pearce 1965:146; Spicer 1962:157). There is some scholarly debate regarding exactly when Santa Fe was initially founded (see Ivey 2010). Bandelier (1893) and Twitchell (1963) have argued that Santa Fe was founded by Oñate in 1605. However, the most recent interpretations of the archival documents suggest the settlement was initially established by Oñate's Captain Juan Martinez de Montoya sometime between 1605 and 1608. Early in 1610, under the orders of the Viceroy, Peralta organized the Villa de Santa Fe as a royally chartered town (Hammond 1927).

During the next 20 years, churches were built in all the pueblos. Native American secular and church officers were also established in each village. These included governors, alcaldes, and fiscales (tax collectors). During the 1620s, the villages were peaceful, population grew, and conversions to the Catholic Church increased. By 1630, 50 Franciscan missionaries were working in 25 missions, and a school was operating in each (Spicer 1962:158).

In 1676, a series of events led to the Pueblo Revolt of 1680. Forty-seven Pueblo religious leaders

were jailed and flogged in Santa Fe for their adherence to traditional Pueblo beliefs. Among them was the San Juan moiety chief, Popé, under whose leadership the Pueblo Revolt was subsequently planned and carried out (Spicer 1962:162–163). Twenty-one of the Franciscan friars in the territory were killed, along with 400 Spaniards. Santa Fe was besieged by an alliance of Pueblo forces, and on August 21, 1680, Governor Otermín was forced to surrender and evacuate the city (Hackett and Shelby 1942:11, 56–57; Lentz 2004). Coincidentally, a similar insurrection successfully ousted the Spanish from the Isthmus of Tehuantepec, Mexico, that year.

The Pueblos held firm to their independence for 12 years. During the winter of 1681–1682, an attempted reconquest by Governor Otermín was turned back. Otermín managed to sack and burn most of the pueblos south of Cochiti before returning to Mexico. Taking advantage of inter-Pueblo factionalism, the definitive reconquest was initiated in 1692 by Don Diego de Vargas (Dozier 1970:61; Simmons 1979b:186).

### *Later Spanish Colonial Period (AD 1692–1821)*

During this period, Spain, under Hapsburg (until 1700) and Bourbon (1700–1821) rulers, was changed from a world empire to a second-tier political and economic power as its European land holdings dissolved, its New World riches were spent, and the social hold of its missionization effort was diminished (Kamen 2003). At the height of its empire early in the eighteenth century, Spain had economic ties covering three-quarters of the known world. The empire was based on economic superiority gained through alliances with the rich bankers and royalty of the Italian city states, with the Flemish, and with its neighbor and sea power, Portugal. New Spain and New Mexico were affected by imperial trends as the structure of the government, the focus of the economy, and pressures on the imperial borderlands changed. New Mexico and Santa Fe were on the frontier of the Spanish Empire and at the end of the Camino Real, the main communication and transport route for public, governmental, and ecclesiastic institutions and individuals. Pressured until 1789 by the French and English advances into the North American interior, Santa Fe soon felt the social and economic pressures brought on by the growing pains of the United States and its rapid institution of Manifest Destiny. These pressures exerted tremendous influence on New Mexico as Mexico gained its independence from Spain in 1821.

**Government and Military.** During the eighteenth century and into the early nineteenth century, Santa Fe functioned as the provincial capital of Nuevo Mexico in New Spain. The greater territory and military were administered by the governor and his appointed officials (Jenkins and Schroeder 1974; Kessell 1989; Weber 1992). After 1735, the governor ruled under the *Audencia* of Mexico and the Viceroy of New Spain (Westphall 1983:16–17). Locally, Santa Fe was governed by an *alcalde mayor* and *cabildo* or town council (Hordes 1990; Snow 1990; Twitchell 1925). The alcalde and cabildo were responsible for carrying out the daily operation of the local government, fulfilling the legal requirements of land petitions as assigned by the governor, and collecting taxes and tithes for the church. These individuals, who were citizens and soldiers, controlled the social and economic well-being and development of the community and surrounding area (Bustamante 1989; Westphall 1983). After 1722, the alcalde mayor in Santa Fe appointed two *juezes repartidores*, one for each side of the river, to inspect farmlands and acequias and to allot water based on need (Baxter 1997:19). Beginning in 1776 and continuing into the 1800s, the *presidio* system was revamped along with the military importance of Santa Fe and New Mexico. Until the late 1780s, the Santa Fe presidio and the improved and expanded presidio system provided protection against continued Indian raiding of Spanish and Pueblo villages. With a major decrease in the raiding following Governor Juan Bautista de Anza's treaty with the Comanches, the military served as a buffer against French, English, and later American incursions from the north and east (Moorhead 1974; Simmons 1990; Weber 1992). During this time the Spanish governmental organization in Mexico changed three times, but New Mexico remained primarily under its governor who also remained the military commanding officer.

**Settlement and Economy.** Following Don Diego de Vargas's Reconquest (1692–1696), both pre-Pueblo Revolt and new settlers returned to Santa Fe and the Rio Grande Valley. They allegedly returned to a villa that had been partially destroyed after the escape of Governor Otermín and the surviving colonists, soldiers, and missionaries. The fact that settlers temporarily moved into the Tano pueblo that

occupied the former *casas reales* suggests that most of the residences had been destroyed or rendered uninhabitable. Early priorities for the returning colonists and administration were the rebuilding of the *casa reales* and the *acequia* system, the re-allotting of grants to former *encomenderos* and landholders or their surviving family members, and the expansion of the pre-Revolt settlement (Kessell 1989; Simmons 1979a). With the termination of *encomienda,* settlers were expected to be more independent and self-sufficient and to properly compensate the Indians for their labor and goods (Westphall 1983:7). For defensive purposes, settlers were encouraged to settle lands near Santa Fe. However, the quality and quantity of suitable farm land, combined with the practice of living close to their fields, resulted in an elongated and dispersed settlement pattern along the Santa Fe River and adjacent to acequia-irrigated fields as depicted in the 1766–1768 Urrutia map (Simmons 1979a:105–106; Moorhead 1975:148–149).

Presumably, all families were eligible for the typical town lot, which in the seventeenth century was defined as two lots for house and garden, two contiguous fields for vegetable gardens, two others for vineyards and olive groves; four *caballerias* of land; and the water necessary for irrigation, if available, thus obligating the settlers to establish residence for 10 consecutive years without absenting themselves (Hammond and Rey 1953:1088). Land documents from the eighteenth century clearly show that house and garden lots were common and that they were bought and sold regularly, once the 10-year residency requirement had been fulfilled (Tigges 1990). The extent to which vineyards and olive groves were actually introduced is unclear and has not been addressed archaeologically or well-documented historically.

Arable land within the *villa* was scarce by the middle 1700s. Individual or family grants within the city league that included the full four *caballerias* of land or explicit access to the *ejido* or common land parcels for livestock grazing were relatively few. Only 24 are shown on William White's undated *Sketch Map of Grants within the Santa Fe Grant* reflecting land ownership in the early 1890s and coinciding with land claims filed with the Court of Private Land Claims (Westphall 1983:237). Based on William White's 1895 map *Showing Owners of Land within the Santa Fe Grant Outside of City Limits*, the long-lot land subdivision pattern is clearly evident. These long lots were the basis of the small-scale agro-pastoral economic tradition that typified eighteenth- and early nineteenth-century land use within village or urban settings such as Santa Fe. The residences, which may be termed *ranchos* or *rancherias*, were much smaller in scale than *haciendas* (Simmons 1979a; Payne 1999:100–109). They were sufficient for subsistence but did not lead to economic advantage or prosperity. Long-lots allowed access into the *ejido* or common lands for other natural resources, such as wood, game, and stone for construction (Wozniak 1987:23–25). Acequia irrigation that supported intensive wheat and corn cultivation was the backbone of successful settlement in New Mexico (Ackerly 1996; Baxter 1997; Snow 1988; Wozniak 1987).

**Class and Community.** During the eighteenth century, Santa Fe and New Mexico were inhabited by a diverse population. It was a socially stratified society with the governor, high-ranking officials, and officers of the presidio in the upper echelon. The middle class contained the farmers and artisans, who were slightly more prosperous than the common people and the soldiers of the presidio (Bustamante 1989:70). Other divisions within *Hispano* society reflected a diverse, mixed, and perhaps somewhat discriminatory and arbitrarily defined caste system (Brooks 2002; Bustamante 1989; Frank 2000). Economically based social stratification was present, but the majority of the population consisted of small-landholders of Hispano, *mestizo*, *genizaro,* or *indio* castes. The Urrutia map shows the area south of the Santa Fe River and between San Miguel church and the Guadalupe Church area as the Barrio de Analco, in which the population was partly composed of Tlaxacalan Indians from Mexico. Men were soldiers, farmers, shepherds, and laborers with a few skilled blacksmiths, educators, and medical professionals. During this time, churches and secular *cofradias* remained the main avenues by which social and economically defined groups would cooperate and act as a community (Frank 2000). Until the building of the Sanctuario de Guadalupe in the early 1800s, worship and service would have been connected with the Parroquia or would have occurred at San Miguel chapel. With addition of the Sanctuario, the area assumed a more communal organization mediated through church membership and lay organizations (Sze and Spears 1988:37).

*Mexican Period (AD 1821–1846)*

By the beginning of the nineteenth century, Spain's hold on Mexico and the northern territories had diminished significantly. Recognizing that the citizens of New Mexico could not partake in the normal political, economic, and social activities of the declining empire, Spain allowed New Mexico to operate in virtual independence, except for the most important activities (LeCompte 1989; Westphall 1983). The positive effect was that New Mexico could determine much of its social and economic future. The negative effect was that the economic problems, compounded by limited sources of money, limited access to durable goods, and slow responses to military and administrative issues, created a stagnant economic environment. In addition, pressure from the United States to open economic ties, applied through small-scale economic reconnaissance, increased in frequency between 1803 and 1821.

With Mexico's independence from Spain in 1821, New Mexico became a frontier province and economic avenue to the commercial markets and production centers of the United States. Two major changes instituted by the new government had important consequences in northern New Mexico. These were the establishment of normal economic relations with the United States through overland trade on the Santa Fe Trail and the abolition of the caste system, which meant that everyone was a Mexican citizen.

**Government.** The political structure of Santa Fe experienced only minor change with the switch to a Mexican administration (LeCompte 1989; Pratt and Snow 1988). The abolition of the caste system meant that any citizen had an equal opportunity to hold a public office. Governors were still appointed by Mexico and the governor continued to be the military commander. He was also responsible for collecting tariffs and regulating the Santa Fe Trail commerce. The town council and alcalde still oversaw the town business. Santa Fe was divided into six parishes that formed the nucleus through which issues could be advanced to the council and discussed throughout the community.

**Economy.** In 1821, with Mexico's independence, the New Mexican frontier was opened to trade with the United States. The Santa Fe Trail, extending from Santa Fe, New Mexico, to Independence, Missouri, became a major trade route for European goods from the east (Jenkins and Schroeder 1974; Simmons 1989). England also opened formal trade relations with Mexico. Due to these improved trade relations, large volumes of Euroamerican manufactured goods were available and filtered north on the Camino Real. By the 1830s, the dominant source of manufactured goods was the Santa Fe Trail, eclipsing the Camino Real in importance. Trade between the U.S. traders and Mexico did continue with a special focus on the northern Mexican silver mining region (Scheick and Viklund 2003:14). Americans not only traded in New Mexico, but also became involved in the transfer and allotment of large illegal land grants from Mexican officials (Westphall 1983).

The opening of the Santa Fe Trail and the effect that it had on northern New Mexico's economy has been explored by many researchers (LeCompte 1989; Pratt and Snow 1988; Boyle 1997). With the opening of the Santa Fe Trail, New Mexico still remained predominantly an agro-pastoral economy. Most villages and towns barely felt the effects of the increase in commercial and consumer opportunity, except that basic household and work items were more readily available. While not widespread immediately, but with greater effect through time, the Santa Fe Trail trade provided access to durable and manufactured goods in quantities and at lower costs than had been available from Camino Real commerce. Seemingly basic household goods, such as window glass, dishware, and hand tools, were available to anyone that could afford to buy them or who could open a line of credit based on projected farm and ranch production. The beginnings of a more viable cash economy meant that wage labor added to the available options for supporting a family. It also meant that with cash available, land that could not sustain a family's needs could be sold.

**Society in Transition.** Mexican independence from Spain resulted in limited changes to the family- and church-based social structure of Santa Fe and New Mexico. The abolition of the caste system and the granting of equal citizenship to all Mexicans and New Mexicans potentially allowed for changes in the social status of local and provincial officeholders or officials, but there is not strong evidence for such changes in Santa Fe. General historical descriptions indicate that under Mexican rule, Santa Fe and New Mexico continued to have considerable autonomy resulting in strong organizations that governed religion and other aspects of Hispanic or-

ganization (LeCompte 1989:83; Abbink and Stein 1977:160; Frank 2000). Abolition of the caste system and full citizenship had little effect on Hispanic populations, but had serious consequences for the Pueblo Indians who had enjoyed special status relative to land holdings under Spanish rule. Their lands could now be sold and were subject to the vagaries of land transactions (Hall 1987).

Perhaps, the strongest force for social change in Santa Fe resulted from the opening of the Santa Fe Trail. This officially opened New Mexico to influences and settlement by populations from the United States and added a new layer of cultural diversity to the social setting that would eventually shift the balance of the social and economic relations in Santa Fe and along the Rio Grande.

### *American Territorial Period (AD 1846–1912)*

New Mexico's Territorial-period quest for statehood was one of the longest endured by any state of the Union. Following the U.S. acquisition of new southwestern and western territories, there was a disorderly and turbulent rush to own or control land, mineral and natural resources. The struggle for control created a political, economic, and social order that still affects how New Mexico functions as a state today. Two authoritative accounts of this period are Larson's *New Mexico's Quest for Statehood: 1846–1912* (1968) and Lamar's *The Far Southwest* (1966). Much of the following summary is derived from those sources.

**Santa Fe Trail and Pre-Railroad Times (AD 1846–1879).** On July 30, 1846, rumors that the United States would invade Mexican territory became a reality as Kearny proclaimed his intention to occupy New Mexico. After possible secret negotiations with General Manuel Armijo, the Army of the West arrived in Santa Fe on August 18, and New Mexico was surrendered to the United States (Jenkins and Schroeder 1974:44). Between 1846 and the ratification of the Treaty of Guadalupe Hidalgo on March 10, 1848, the U.S. Army continued to occupy New Mexico, and a civilian government was installed, including a governor (initially appointed by General Kearny) and a territorial assembly.

New Mexico changed politically when it was designated a territory of the United States under the Organic Act of 1851 (Lamar 1966:13). The act set up the territorial governorship, from which important appointments were made in the territorial administration. The territorial legislative assembly dealt with issues on a local level, while the territorial governor's job was to ensure that federal interests were served (Lamar 1966:14). The center of government remained in Santa Fe, as it had been during the Spanish and Mexican administrations.

Between 1848 and 1865, the economy continued to focus on Santa Fe Trail trade, with the inclusion of routes from Texas (Scurlock 1988:95–97). Santa Fe continued to be the economic and political center of the territory. In addition to the mercantile trade, the establishment of military forts such as Fort Union and Fort Stanton expanded the economic markets (Jenkins and Schroeder 1974:50; Scurlock 1988:76–88). Local economies continued to be agrarian and pastoral. The large ranches supplied cattle and wool to the eastern markets and, until the end of the Civil War, to Mexico. A full-scale cash and wage economy was not yet in place as New Mexico was still isolated from the rest of the United States by long distances and hostile Indian tribes (Abbink and Stein 1977:167; Fierman 1964:10).

Changes in the social structure were gradual before the Civil War. Early migration by Anglo-American and European entrepreneurs was slow because industries such as mining had only been established on a small scale. As the terminus of the Santa Fe Trail, Santa Fe attracted immigrant Jewish and German merchants, who brought eastern European business experience into the new territory. These merchants replaced the early traders and established formal businesses (Jenkins and Schroeder 1974:63). Early merchants were not satisfied with dealing only in goods and participated in growing land speculation in Spanish and Mexican land grants.

Between 1865 and 1880, the trends that began with establishment of the territory were amplified. Before 1860, U.S. attention was focused on the sectional conflict and the resulting Civil War. New Mexico was a Union territory, and for a brief period in 1862 the Confederates occupied Santa Fe without a shot being fired from the cannons of Fort Marcy, which overlooked Santa Fe. However, when the Confederate contingent attempted to move north to the Colorado gold mines they were engaged, defeated, and exiled from the territory (Jenkins and Schroeder 1974:50–51).

With the end of the Civil War, attention was

turned to the settlement of the new territories and their potential for economic opportunity. Military attention turned to pacification of the Native American tribes that roamed New Mexico outside the Rio Grande and its tributaries (Jenkins and Schroeder 1974:51–56). The new western territories were perceived as a place where lives ruined by the Civil War could be renewed. Eastern professionals with all kinds of expertise were encouraged by associates to come to New Mexico, where the political and economic fields were wide open (Lamar 1966). Much of this migration centered on Santa Fe, which continued to be the economic and political center of the territory.

The newcomers joined forces with and embraced the *patron* system, thereby gaining acceptance into the existing cultural setting. These alliances were referred to as "rings." The rings were informal organizations of lawyers, cattlemen, mining operators, land owners, merchants, and government officials (Larson 1968:137). Their common goal was to provide a favorable environment for achieving economic and political aims. The most well-known was the Santa Fe Ring, which included territorial governors, land registrars, newspaper owners, lawyers, and elected and appointed officials. Important persons in New Mexico history belonged to the Santa Fe Ring, including Stephen Elkins (Secretary of War and U.S. Senator), Thomas Catron (territorial delegate and U.S. Senator), L. Bradford Prince (U.S. Senator and territorial governor), Francisco Chavez (president of the Territorial Assembly), and M. W. Mills (territorial governor), to name a few (Larson 1968:142–144). The Santa Fe Ring crossed party lines and was extremely fluid in its membership; disloyalty resulted in ostracization and often in political or economic ruin. Opposition to the ring was suppressed by law and violence, as demonstrated by the Lincoln and Colfax County wars in the 1870s (Larson 1968:137–140).

The alliances between the new political and economic entrepreneurs and the old power structure came to dominate the territorial legislature, which through time passed an increasing number of laws benefiting the new structure to the detriment of the Spanish and Native American populations (TANM Roll 102, Frames 78–95). The new westerners often had contacts in Washington through which they influenced territorial political appointments and disbursement of economic aid (Lamar 1966:169–170).

Perhaps the greatest lure in the New Mexico territory was land. Ownership of large tracts of land was intensely sought by Santa Fe Ring members, a pattern typified by Thomas Catron, who was one of the largest landholders in the United States by 1883, only 16 years after arriving in the territory (Larson 1968:143). To land speculators, most of New Mexico was unsettled and unused. This was an illusion promoted by the frontier subsistence economy of low-density, land-extensive farming and ranching that had prevailed before the Territorial period. Lack of transportation to markets, conflicts with Indians, and a general lack of funds had retarded New Mexico's cattle, lumber, and mining industries. Under the Spanish land grants, non-arable land was a community resource and was therefore not over-exploited. It was the community land that land speculators obtained, to the detriment of New Mexico's rural economy and social structure (Van Ness 1987).

New Mexico's economy changed after the Civil War because of increases in the number of military forts and the growing Anglo-controlled mining and ranching industries. A mercantile system that had focused on Mexican and California trade now supplied the military and transported precious ores from the gold and silver mines of the Santa Rita and Ortiz mountains to national markets. A marginal cash economy grew as the federal government spent money on military forts and the Indian campaigns. The Santa Fe, California, and Texas trails were the main routes for goods. The Chihuahua trade died after the Civil War (Jenkins and Schroeder 1974:61–62).

**The Early Railroad Era (AD 1879–1912).** Between 1879 and 1912, political power was concentrated in the Santa Fe Ring, which consisted of several Santa Fe politicians (see Dean 2010). The group controlled territorial and local political appointments through a system of patronage and effectively blocked legislation proposed by its opponents. In 1885, Edmund G. Ross was appointed territorial governor and was asked to end the political and economic control of the Santa Fe Ring, a task he was unable to complete.

National attention on New Mexico focused on the continued abuses of the land grant situation. Between 1870 and 1892, the Santa Fe Ring was able to manipulate land grant speculation to their advantage. Surveyors general were usually appointed

with the blessing of the ring and were often involved in land deals with ring members (Westphall 1965). William Julian was appointed surveyor general and given the job of halting the land grant abuses, which he carried out in spectacular if not a little overzealous fashion. His inclination was to deny all claims as fraudulent and recommended very few to Congress for confirmation. The grants within and on the periphery of Santa Fe were at both ends of the spectrum. Julian recommended the Sebastián de Vargas Grant, located on the southeast boundary of Santa Fe, for confirmation, even though it lacked the proper documents (Court of Private Land Claims [CPLC]). On the other hand, the Salvador Gonzáles Grant, within the northeast corner of the Santa Fe Grant, became the focal point for a national lambasting by Julian (1887) of the abuses of the land grant situation. To the Santa Fe Ring, Julian was an obstructionist, who used his position to advance personal vendettas (Bowden 1969).

At stake in the land grab were millions of acres that would leave private control and enter the public domain if they could not be confirmed as part of a land grant. Julian and Ross believed the public domain should be available to small landholders (Lamar 1966). The Santa Fe Ring supported large-scale ranching and mining interests. Because Santa Fe was the political and economic center of the territory the land around it was valuable, and large tracts not legitimately included in the Spanish land grants were falsely claimed.

From 1880 to 1912, economic growth in the Santa Fe area began to lag as other areas of the state—Las Vegas, the Mesilla Valley, and Albuquerque—grew in importance. Much of the economic slowdown can be ascribed to the lack of a through railroad (Elliott 1988:40). Santa Fe was no longer an important economic center; it had become just a stop at the end of a spur on the Atchison, Topeka and Santa Fe Railway. Although it was also the terminus of the Denver and Rio Grande Railway, which had local and regional significance, that route had little national importance because it did not tie in directly to the east–west transportation corridor (Pratt and Snow 1988:419).

In a move to spur economic growth a concerted effort was made to advertise Santa Fe and New Mexico as a tourist and health destination (Spude 2010). Sanatoriums sprang up all across New Mexico, even in remote locations such as Folsom, in the northeast corner of the state. The trip on the Denver and Rio Grande Railway was described as an excellent remedy for lung problems (Nims 1881; Williams 1986:129–131). Two notable sanatoriums in Santa Fe were St. Vincent Sanatorium, established in 1883, and Sundermount Sanatorium, started in 1906 (Lewis 2010). John Gaw Meem was treated at Sundermount in 1920–1921 and was lead architect on remodeling and additional construction at St. Vincent's in 1954.

New Mexico's unique cultural heritage was recognized as an important tourist draw. Preservation and revival of traditional examples of architecture and native crafts and ceremony were encouraged. Large-scale tourist corporations such as the Harvey Corporation invested heavily in Native American crafts. Tourism and economic development became a dichotomy of economic goals. The tourist industry emphasized the old and romantic, while the economic development interests portrayed New Mexico as booming and vital, embodying the modern values embraced by the eastern establishment (Wilson 1981:105–159).

Spude (2010:339) notes that during this time Santa Fe went through a period of "Americanization," where progressive minded citizens strove to reform government, social and cultural values, and the very appearance of their city. These reforms included the incorporation of the city in 1891, the installation of a sewage system, the paving of roads, new laws governing trash disposal, closing saloons on Sundays, and prohibitions against many forms of gambling. While Santa Fe may not have exhibited the growth of many other large western cities, Santa Fe maintained economic stability. The city acquired many federal and territorial expenditures and jobs. Attempts to move the capital to Albuquerque in the early 1880s were defeated, which proved critical to the long-term economic stability of Santa Fe (Lamar 1966). Another choice made by legislators interested in Santa Fe's economic growth was to locate the penitentiary in Santa Fe. As a trade-off, Albuquerque, Las Cruces, Las Vegas, and Socorro received colleges. The penitentiary was viewed as economically more valuable than schools.

### *Statehood to Modern Times (AD 1912–present)*

New Mexico was delayed in its quest for statehood by eastern politicians who viewed the small pop-

ulation, the arid climate, and a Spanish-speaking majority as liabilities. Most New Mexicans favored statehood but had different conditions under which they would accept it. Some citizens feared statehood because of the potential for increased taxation, domination by one ethnic group over another and the loss of federal jobs under a state-run system. These factors, combined with political factionalism in New Mexico, resulted in the struggle (Larson 1968:302–304).

On January 6, 1912, New Mexico was admitted into the Union as a state. After statehood, the patterns that were established in the Territorial period continued. New Mexico experienced only slow population growth, with most settlement concentrated along the Rio Grande corridor and in the southeast around Roswell. More than half the state land had a population density of fewer than five people per square mile (Williams 1986:135), partly because of the large area that was part of the National Trust and could not be settled. The major industries continued to be mining, ranching, lumber, farming within the Pecos and Rio Grande irrigation districts, and tourism (Jenkins and Schroeder 1974:77).

**The Prohibition Era (1920–1933).** In the United States, the term Prohibition refers to the period 1920 to 1933, during which time the sale, manufacture and transportation of alcohol for drinking was banned nationally by the Eighteenth Amendment to the U.S. Constitution (Hakim 1995:16–20). After much pressure by the temperance movement, the U.S. Senate passed the Eighteenth Amendment on December 18, 1917. The "Volstead Act," the popular name for the National Prohibition Act, passed Congress over President Woodrow Wilson's veto on October 28, 1919. The Eighteenth Amendment was certified as ratified on January 16, 1919, having been approved by 36 states, including New Mexico, and went into effect on a federal level on January 16, 1920 (Skilnik 2006).

The Prohibition, or dry movement, began in the 1840s, primarily through various religious denominations, but didn't become a strong force in state and local politics until the 1880s, after the Civil War had ended, and after the Women's Christian Temperance Union (WCTU) was founded in 1873 and the Carrie Nation Prohibition Group around 1881 (Kyvig 2004:3–4). They identified saloons as politically corrupt and drinking as a personal sin and were opposed by other groups who denounced the idea that the government should define morality. The Progressives won, however, when the Eighteenth Amendment went into effect.

In New Mexico, heavy drinking was a staggeringly pervasive fact of life, with some men drinking throughout the day. New Mexico voters and legislators were therefore attempting to pass their own prohibition against alcohol during the time of the general movement nationwide. The WCTU and other Prohibition supporters quickly gained ground after the start of World War I. An editorial in the *Santa Fe New Mexican* argued, "If we are to win this war we cannot do it if we stay 'pickled.' We should vote 'dry' for our country's sake." (Silverman 2006: 34–38).

New Mexico voters passed Article XXIII on November 6, 1917, by a margin of three to one, with every county but Rio Arriba and Taos voting for Prohibition, and on October 1, 1918, New Mexico became the 26th dry state (Silverman 2006). This milestone was overshadowed by news of the war and the arrival of a flu pandemic that closed all public gathering places.

Although it was highly controversial, Prohibition was supported by diverse groups, including Progressives, the Ku Klux Klan, women, southerners, people in rural areas, and African Americans. The law, however, proved difficult to enforce because, while alcohol was illegal in the United States, it was not illegal in surrounding lands such as Canada, Mexico, and the Caribbean, where alcohol was either consumed by visiting Americans or illegally imported to the United States. Chicago became notorious as a haven for disobeying Prohibition during the time known as the Roaring Twenties, with Bugs Moran and Al Capone making millions of dollars from illegal alcohol sales through speakeasies and the bootlegging business from Canada to Florida (Kyvig 2004:163–186).

As with other areas of the nation, New Mexicans never really stopped drinking. Cheap booze, created in homemade and commercial stills and smuggled up from Mexico by rumrunners, remained readily available. New Mexico also had its illegal drinking establishments, although not on as large a scale as Chicago. Historian David J. McCullough described one Santa Fe speakeasy, circa 1927:

> One of the more notable establishments was housed in a three-story building.… The quality of the drinks and the décor of the rooms changed on each floor. The first floor was for "poorer people" who wished to quench their thirst with "white mule."… The second floor was for those slightly more affluent who wished to ascend to "Second Heaven."…Only those with a "fat wad" could make it to the third floor where good quality booze was sold.

To add to the problem of enforcing the state's Prohibition, New Mexico Legislators at the time were hard drinkers and refused to pass legislation that would give the anti-alcohol laws any teeth. When the Eighteenth Amendment went into effect, 1,520 Federal Prohibition agents (police) were given the task of enforcing the law. Some of those officers later rated New Mexico as worse than average in fighting illicit liquor sales (Silverman 2006).

As Prohibition became increasingly unpopular, especially in the big cities, repeal of Prohibition was eagerly anticipated. On March 23, 1933, President Franklin Roosevelt signed into law an amendment to the Volstead Act, known as the Cullen-Harrison Act, which allowed certain kinds of alcoholic beverages to be manufactured and sold (Skilnik 2006). The Eighteenth Amendment was then repealed with the ratification of the Twenty-first Amendment on December 5, 1933. This Amendment gives states the right to restrict or ban the purchase or sale of alcohol, which has led to the confusion of laws that allow some counties and towns within a state, but not others, being able to sell alcohol.

Overturning the New Mexico legislation was a challenge. Attempts at reform were made in 1927 and 1929 to no avail. The temperance movement remained strong, but the anti-temperance movement began to gain prominent citizens, in addition to saloon owners, as supporters. It took a few years, but they were finally able to bring a repeal measure to the State Legislature. New Mexico voters finally ratified the State repeal measure in September 1933, and Prohibition ended. New Mexico then ratified the Twenty-first Amendment on November 2, 1933 (Silverman 2006).

Many social problems have been attributed to the Prohibition era, in New Mexico as well as across the United States including a profitable, often violent, black market for alcohol and racketeering. Stronger liquor surged in popularity because it was more profitable to smuggle. The high cost of enforcing Prohibition and the lack of tax revenues on alcohol negatively affected the local, state, and federal treasuries of government. Additionally, only half the breweries that had existed before Prohibition were able to reopen, and several historians credit Prohibition with destroying the fledgling wine industry in the United States (MacNeil 2000:630–631).

**The Great Depression Era and the New Deal (1929–1941).** A great depression is defined as a period of diminished economic output with at least one year where output is 20 percent below the trend (Kehoe and Prescott (2007). The beginning of the Great Depression in the United States is associated with the stock market crash on October 29, 1929, known as Black Tuesday, and it lasted until the onset of the war economy of World War II, beginning around 1939. It caused a widespread economic downturn, affecting countries worldwide, some as early as 1928 (Engerman and Gallman 2000). Cities and countries around the world were hit hard, especially those that were dependent upon heavy industry. International trade sharply declined, construction virtually halted in many countries, and crop prices in farming and rural areas fell by 40 to 60 percent. Demand plummeted, and there were few alternate sources of jobs (Cochrane 1958).

In the U.S. however, optimism persisted even following the 1929 Wall Street Crash. John D. Rockefeller insisted that "depressions had come and gone" in his 93 years, and that "prosperity has always returned" (Schultz and Tishler 1999). In fact, the stock market turned upward in early 1930, and government and business actually spent more in the first half of 1930 than in early 1929 (Vronsky and Westerman 1998). Consumers who had lost heavily in the Crash, however, were wary and cut back their spending by 10 percent. Even though credit was ample and available at low rates, people were reluctant to add new debt by borrowing. By May 1930, prices in general began to decline. Wages, however, held steady in 1930, then began to drop in 1931. Furthermore, a severe drought hit the agricultural heartland beginning in the summer of 1930. Industries hardest hit by economic conditions were agriculture, due to low commodity prices, and mining

and logging where unemployment was high with few other jobs available. As the American economy declined, other countries were affected either positively or negatively, depending upon their internal strengths or weaknesses. By late 1930, a steady decline had set in; it reached bottom by March 1933 (Vronsky and Westerman 1998).

There are several theories as to what can catapult a usually mild and short recession into a depression, a full discussion of which is beyond the scope of this chapter. As for the Great Depression, however, debt is seen as one of the causes. People and businesses that were deeply in debt when price deflation occurred or when demand for their product decreased often defaulted. Massive layoffs occurred, leading to over 25 percent unemployment. As debtors defaulted on debt and worried depositors began massive withdrawals, banks began to fail. Capital investment and construction then slowed or completely ceased, resulting in banks becoming even more conservative in their lending. A vicious cycle developed and the downward spiral accelerated.

A sharp decline in international trade after 1930 is also thought to have helped worsen the depression, particularly for countries significantly dependent upon foreign trade (Kindleberger 1973:291–308). Others argued that the Great Depression was caused by monetary contraction, the consequence of poor policy making and inaction by the American Federal Reserve System and the continuous crisis in the banking system (Bernanke 2000; Krugman 2007; Griffin 2002). Some argue that part of the reason the Federal Reserve did not act to limit the decline of the money supply was due to the laws at the time regulating gold (Wueschner 1999). At the beginning of the Great Depression, Herbert Hoover was President. His Secretary of the Treasury, Andrew Mellon, advised Hoover that shock treatment would be the best response to deal with the economic problems:

> Liquidate labor, liquidate stocks, liquidate the farmers, and liquidate real estate… That will purge the rottenness out of the system. High costs of living and high living will come down. People will work harder, live a more moral life. Values will be adjusted, and enterprising people will pick up the wrecks from less competent people. [Hakim 1995]

Hoover rejected that advice because he believed that government should not directly aid the people. He insisted instead on "voluntary cooperation" between business and government (Hoover 1979:3–9) and stricter government regulation of existing laws.

Enter Franklin D. Roosevelt: Inaugurated in 1933, he primarily blamed the excesses of big business for causing an unstable bubble-like economy. He wanted to restructure the economy, and so the New Deal was designed as a remedy by empowering labor unions and farmers and by raising taxes on corporate profits, among other strategies (Vietor 1994). Part of the initial reforms of 1933 (called the "First New Deal" by historians), the National Recovery Administration (NRA) and the Agricultural Adjustment Act (AAA) were meant to highly regulate and to stimulate the economy (Kyvig 2004:236–238). The two concepts were apparently incompatible, however, as the economy continued to stagnate. By 1935, the "Second New Deal" added Social Security, a national relief agency (the Works Progress Administration [WPA]), and the National Labor Relations Board, which influenced the growth of labor unions (Kyvig 2004:269–270). Unemployment fell from 25 percent to 14.3 percent in the period from 1933 to 1937. But then a short-lived recession in 1937–1938 caused unemployment to jump to 19 percent. Roosevelt also responded to the 1937–38 deepening of the Great Depression by abandoning his efforts to balance the budget, and by launching a $5 billion government spending program (an effort to increase mass purchasing power) in the spring of 1938. It was not until the military draft of World War II, the decontrol of the wartime command economy and a sharp reduction of taxes and regulations in 1946, that consumer goods were finally allowed to be created and unemployment fell to levels under 10 percent.

A few of the New Deal regulations were declared unconstitutional by the U.S. Supreme Court early on, including the NRA in 1935 and AAA in 1936. In a bipartisan wave of deregulation, most New Deal regulations were later abolished or scaled back in the 1970s and 1980s (Vietor 1994).

The citizens of New Mexico benefited greatly from many of the New Deal programs. New Mexico was one of the most destitute states in the Union

even prior to the onset of the Depression (Arrington 1969:311–316). In the early 1930s, many New Mexicans were struggling financially, causing a shortfall in the state's tax base, which led to the inability to serve the state's most vulnerable citizens (Coan 1925; Forrest 1989). By the height of the Depression approximately 50 percent of New Mexicans were unemployed and only 1 percent of the state's irrigable land was actually under cultivation (Welsh 1985:20). The need for jobs was so great that the New Mexico Federation of Labor proposed limiting employment on government construction projects to one wage earner per family. Governor Arthur Seligman applied for a small amount of federal aid, initially from the Reconstruction Finance Corporation and later from other programs, seeing it not only as a way to employ out-of-work New Mexicans, but also as a way to improve New Mexico's infrastructure. He believed that plenty of men would be willing "to work for a dollar a day and their board and keep" to provide something beneficial to the state (Seligman 1933).

New Mexico's state government–sponsored capital improvements were insignificant compared to the projects completed through New Deal programs. New Mexico ranked fifth among all states in per capita expenditure of New Deal money from 1933–1939 (Kammer 1994:2). Conchas Dam (located 35 miles north of Tucumcari) is a consummate example of the New Deal in New Mexico and involved essentially every New Deal program created by the Roosevelt administration, from the 1935 Federal Emergency Relief Act (ERA) to the Civilian Conservation Corps (CCC), the WPA, and the Public Works Administration (PWA). The Conchas Dam construction project was specifically justified as a means to bring wage-paying jobs to an area of great unemployment. Labor-intensive methods, such as handmade adobes and hand-quarried local sandstone blocks, were employed during the construction of an entire town that had to be built prior to the start of construction on the dam itself (Schelberg and Everhart 2008:134). The town was created by constructing virtually every facility and amenity imagined as being associated with life in the 1930s (Kramer 1941).

The project, as first proposed in 1931 and at a cost over $11,600,000, was rejected by Congress and the U.S. Army Corps of Engineers as not economically justified. It was not considered economically viable until 1935 and only then with the possibility of using ERA relief workers. Ultimately 2,500 people worked on the Conchas Dam, many for as little as $0.25 per hour and within limits of 20 hours per week so that more people could be hired. Even with the low wage, there was a continuous waiting list of applicants. In accordance with ERA provisions, 90 percent of the employees were listed on relief rolls and 10 percent on the Civil Service Commission registry. Of the former, 80 percent were from New Mexico and 20 percent from the Texas panhandle. Most skilled workers were from California and the Midwest as there were no skilled workers in New Mexico (Welsh 1985:22–32; Kammer 1994:64).

In addition to Conchas Dam, one of the lasting New Deal legacies for New Mexico was the establishment of Spanish-Pueblo Revival and Territorial Revival as the appropriate regional architectural styles for state government buildings; they remain in use to this day (Kammer 1994:32). Clyde Tingley, as Albuquerque Mayor from 1932–1934, became familiar with the New Deal programs by bringing Civil Works Administration (CWA) projects into Albuquerque, including 17-acre Roosevelt Park, near UNM, and Tingley Beach, adjacent to a Rio Grande flood-control channel (Kammer 1994:27–28). After Tingley became governor, from 1934 to 1938, he maintained a special relationship with President Roosevelt and wholeheartedly embraced the New Deal with the goal of improving New Mexico by expanding governmental services—a fundamental tenet of the New Deal. Under Tingley's guidance, the WPA put thousands of New Mexicans back to work on projects, which resulted in unprecedented public capital improvements (Kammer 1994:26–41). During his years as governor, the projects included 2,916 miles of road improvements, 277 new schools, many highway district buildings, institutional buildings and hospitals, public parks, water and sewer systems, and several dams (Kammer 1994:76).

Conchas Dam remains today, but provisions of the lease required that the construction town was to be demolished once the dam was completed and any salvaged materials were to be sold to other U.S. Army Corps Districts or government agencies. Neither adobe nor sandstone could be profitably sold or transported great distances. Therefore, much of the demolition was done carefully by hand by the CCC, and the materials were then reused by the CCC to

construct the Army Corps's administration building and five houses for personnel operating the dam. As of 2007, the administration building and the houses are still in use, and the land that the town sat on has reverted to private ownership (Schelberg and Everhart 2008:144).

Other buildings and structures around New Mexico that were built by CCC crews and other New Deal programs include 30 structures at Bandelier National Monument, the National Park Service building on Old Santa Fe Trail, the 1934 Don Gaspar Bridge, the Supreme Court Building in Santa Fe, and six structures for the New Mexico School for the Deaf (Weideman 2008).

While the New Deal is well known for the construction projects undertaken throughout the country, it is less well known that there were also artist and writer projects established by the WPA (as re-named in 1939, Work Projects Administration) to provide support for the humanities. Many of New Mexico's best-known artists were involved in these endeavors, to their benefit and for the benefit of many locations throughout New Mexico. More than 65 murals with varied subject material were created in New Mexico during the Depression. In addition to these murals, more than 650 paintings, 10 sculptural pieces, and numerous indigenous Hispanic and Native American crafts were sponsored by the WPA (Collector's Guide 2008).

In terms of benefit from New Deal programs, New Mexico was one of the highest-ranked states, especially with regard to building and conservation funding. The programs of the New Deal essentially created the existing New Mexico state government structures, confirmed the architectural style of the government buildings, and did much to introduce New Mexico to the modern era (Schelberg and Everhart 2008:145).

**The Proud Decades (1941–1960).** President Roosevelt's New Deal Programs were credited with pushing New Mexico to modernize. State agencies had to be created for New Mexico to take advantage of the Federal Government's offers of financial aid. By 1939, New Mexico's economy was already deeply in trouble with farm, livestock, and taxable property values tumbling for almost a decade. As with much of the country, New Mexico's economic rebound was intimately associated with World War II and the militarization of the state. Agriculture also received a strongly needed boost as the demand for food surged.

During World War II, New Mexico was home to 8 major air bases, 13 bombing and gunnery ranges, 4 army hospitals, 3 prisoner of war camps, 11 National Guard armories, and 7 specialized military locations (Hoffman n.d.). Its citizens had compiled an impressive and unique record of military service, although contributions by Hispanic and Native Americans received little public recognition. A partial explanation in the case of the Navajo Code Talkers was the secrecy that cloaked this program until the 1980s. In 1942, 29 Navajo volunteers from boarding schools in Shiprock, Fort Defiance, and Fort Wingate were organized into the first unit of Code Talkers. Structuring the code was not a simple task. Military terms had to be translated into images and the images into Navajo spoken language, which allowed messages to be radioed among combat command posts. First employed in 1942 on Guadalcanal, the code was used throughout the war years and was never broken by the enemy (Paul 1998).

In 1940, the 111th Cavalry Unit of the New Mexico National Guard was redesignated the 200th Coast Artillery Regiment and the 158th was reorganized as the 104th Anti-tank Battalion (Reed 2010). These units, as well as the 21st Engineer Regiment, were called to active duty for one year of training. In August 1941, the 200th shipped out to Fort Stotsenberg in the Philippines and was responsible for downing seven aircraft during the Japanese attack of December 8th despite having to use outdated and faulty ammunition (Reed 2010:389–391). A segment of the 200th was subsequently assigned to the 515th Coast Artillery Regiment, which was charged with providing aircraft protection for Manila, the Philippine capital. These units all participated in the four-month Battle of Bataan and are credited with delaying the Japanese advance and thereby preventing the invasion of Australia (Reed 2010).

On April 9, 1942, 47,000 surviving American and Filipino soldiers surrendered to the Japanese. The American "Battling Bastards of Bataan" were to subsequently receive numerous medals and commendations from the United States and Philippine governments for their heroic performance under terribly adverse conditions. During the 65-mile "Bataan Death March," 16,950 American and Filipino service men died, with many more succumbing during their years of imprisonment at

Camp O'Donnell. Of the 1,800 New Mexicans who took part in the Bataan campaign, only one-half returned home at the end of the war (Reed 2010:383). Many of these were to die during the following year of war-related injury and illness.

On the European front, the New Mexico National Guard's 104th Anti-Tank Battalion, was sent to Oran in North Africa in February 1943 for advanced training. In January 1944, the battalion landed in Italy and participated in the fighting that led to breaking the Gustav Line and the Allied forces' entry to Rome in June of that year. One month later, the 104th assisted with clearing enemy forces from the Arno River, which allowed penetration into northern Italy. The spring of 1945 saw the 104th cross the Po River and enter Treviso in what was the final phase of the war in Italy. In total, the men of the battalion received eight Silver Stars, three Legions of Merit, and sixty Bronze Stars. One hundred thirty-five Purple Hearts were awarded, 30 posthumously.

The Albuquerque Army Base, subsequently designated as an Air Force Advanced Flying School, was the site for the training of bombardiers and the filming of the 1943 movie *Bombardier* starring several of Hollywood's biggest names. During 1942–43, the actor Jimmy Stewart was in Albuquerque instructing trainees to pilot AT-7, AT-9, and B-17 aircraft. He went on to command the 703rd Bomb Squadron and flew several combat missions in the war against Germany (http://en.wikipedia.org/wiki/James_Stewart).

The Twentieth Combat Engineering Battalion compiled for itself a commendable record, participating in the invasion of Sicily on July 10, 1943, and, later in the year, the invasion of Paestum, Italy. Journalist Ernie Pyle, who called New Mexico his adopted state, documented the Twentieth's activities throughout the Italian campaign, writing: "it was good to get back to those slow-talking, wide and easy people of the desert, and good to speak of places like Las Cruces, Socorro, and Santa Rosa." Pyle also praised the cartoonist Bill Mauldin, who hailed from Mountain Park, New Mexico, for his sensitive portrayal of the men fighting and dying on the battlefield. After the war, Mauldin went on to a distinguished career as a newspaper cartoonist. In 1962, he moved to Santa Fe and sculpted a bronze statue of his "Cavalry Sergeant" cartoon, which is still on display at the New Mexico Veterans Memorial Visitor Center and Museum. In 2010, he was honored with a commemorative stamp by the U.S. Postal Service. Ernie Pyle did not survive the war he covered so brilliantly.

New Mexico history is inseparably linked to the Manhattan Project, conducted, in part, between 1942–1946 at Los Alamos, which culminated in the development and assembly of the world's first atomic bomb (Diggins 1988:48–53). The project was named after the borough of New York City where the early operations were conducted and was a massive undertaking involving more than 30 sites in the United States and Canada and thousands of scientists and engineers from around the world. The project director, J. Robert Oppenheimer, summarized the motivation of the participants: "Almost everyone knew that this job, if it were achieved, would be a part of history. This sense of excitement, of devotion, and other patriotism in the end prevailed." Oppenheimer recalled the difficulty recruiting personnel who could not be told anything about the where, what, and why of the job (Sullivan 2004). "The notion of disappearing into the desert for an indefinite period and under quasi-military auspices disturbed a good many scientists and the families of many more." After the U.S. Army purchased the site at Los Alamos, there followed a rush to construct laboratories, barracks, apartments, and all the supporting structures required for the new town (Merlan 1997). The only mailing address for all residents was P.O. Box 1663 Santa Fe, and this same address appeared on the birth certificates of all children born at Los Alamos in that era. Soft coal fueled the town, soot and dust covered everything. When it rained, the streets and yards were mired in mud. Water control was strictly enforced, and new arrivals were advised to soap their bodies before entering the shower and hope that the water turned on. Some residents kept horses and rode the countryside; others took advantage of the outdoors by hiking.

The first and only nuclear test, code-named "Trinity," took place on July 16, 1945, near Alamogordo (Merlan 1997). The two other weapons, code-named "Little Boy" and "Fat Man" were released over Hiroshima and Nagasaki, respectively. Causing massive destruction and loss of life, the bombs forced the surrender of Japan and averted the need for an invasion of the Japanese mainland which, it is claimed, would have resulted in an even

greater number of Japanese casualties, as well as the deaths of many thousands of American servicemen.

Despite the tight security at Los Alamos, three spies were identified. Klaus Fuchs arrived with a delegation of British scientists and was subsequently convicted of spying for the Soviet Union. Theodore Hall was never tried for spying and subsequently emigrated to Great Britain. Also convicted was David Greenglass, the brother of Ethel Rosenberg. His testimony was instrumental in the conviction of Julius and Ethel Rosenberg, who were executed for spying for the Soviet Union. Finally, KGB files, opened many years after the war, raised the possibility of a fourth spy, code-named Perseus.

After the war ended, Los Alamos National Laboratory continued with the development of nuclear weapons. Operation Crossroads tested the effect of the atomic bomb on naval vessels, and Operation Sandstone in 1948 evaluated newly designed nuclear weapons. The laboratory continues to be actively engaged in weapons and other research projects (Eidenbach et al. 1996).

The White Sands Missile Range, located just west of Alamogordo and the site of the "Trinity" test, comprises 60 percent of the area covered by the White Sands dunes, the remaining 40 percent being the White Sands National Monument (Welsh 1995). Part of the land was designated the Alamogordo Bombing Range during World War II, and after the first atomic bomb test, a press release issued by the U.S. Army claimed that an ammunition magazine had exploded. Late July saw the arrival of 300 freight-car loads of V-2 rocket components taken from the German Pennemuende Rocket Center on the Baltic Sea. Toward the end of 1945, German scientists headed by Wernher Von Braun arrived to conduct the rocket research project at White Sands Proving Ground, code-named Paperclip. On April 16, 1946, the first missile was launched. In 1958, the White Sands Proving Ground was officially designated the White Sands Missile Range. Then in 1985, the original "Trinity" launch site and blockhouse were designated a National Historic Landmark by the National Park Service.

One regrettable consequence of the attack on Pearl Harbor was Executive Order 9066, signed on February 19, 1942, which authorized the round-up of 120,000 Americans of Japanese origin who lived along the West Coast of the United States and their internment in relocation centers (Reed 2010). Two-thirds were American citizens. Twenty-three thousand Canadians of Japanese origin were also relocated by the Canadian government. The justification offered for this disenfranchisement of American citizens was the threat to national security. General John Dewitt, in command of West Coast defenses, stated "The Japanese race is an enemy race and while many second and third generation Japanese born on U.S. soil, possessed of U.S. citizenship, have become "Americanized" the racial strains are undiluted" (Reed 2010). As it turned out, not only were there no instances of proven collusion between Japanese Americans and the government of Japan throughout the war, many Japanese Americans volunteered to fight. The 442nd Infantry Regiment of the 34th Army Division, which was composed entirely of Japanese men born in the United States, became the most highly decorated unit of the war.

Santa Fe and Fort Stanton were both sites for detention camps administered by the U.S. Department of Justice (Reed 2010). Other facilities were administered by the U.S. Army, the Wartime Civilian Central Agency, and the War Rehabilitation Authority. In March 1942, the first of the detainees arrived at the Santa Fe facility. During the war years, 4,555 detainees were housed in a 28-acre site located in the current Casa Solana neighborhood (Reed 2010:400). High-risk prisoners, mainly Issei, men born in Japan who immigrated to the United States, were often transferred to U.S. Army camps such as the facilities in Santa Fe and Lordsburg. Lower risk persons were permitted to join their families in relocation camps or to reside outside the West Coast Military Zone. In general, while the detainees in Santa Fe resented their internment, they were treated with respect and no serious problems emerged. Prisoners at Lordsburg complained of persecution and mistreatment by the Army. The Santa Fe internment camp closed in April of 1946 (Reed 2010:400–401).

During this time, Santa Fe was also home to the U.S. Army's Bruns Hospital (Reed 2010:397–398). In March 1943, a tract of land southeast of the city was set aside for the facility, which opened its doors April 19, 1943. Named after Colonel Earl Harvey Bruns, a leading authority on pulmonary disease and thoracic surgery, the hospital treated 1,352 patients in the first year of operation and employed 1,000 civilians and 600 military personnel. By 1934, the Bruns Hospital complex had grown to 196 buildings. Outdoor facilities included a handball court,

volley ball court, badminton court, shuffleboard, clock golf, tennis court, horse shoes, football field, and softball field.

Bruns was one of 51 general hospitals built during WWII for the Army, but it was never intended to be a permanent facility (Reed 2010:398). The buildings were constructed of either wood or plasterboard, like so many in Los Alamos during the Manhattan Project. However, the facility has continued to be used up until the present day. Today, the facility functions as the College of Santa Fe.

Well into the 1940s, New Mexico, Arizona, Maine, Mississippi, and Washington excluded Native Americans from voting. Article VII, Section 1, of the New Mexico Constitution (enacted in 1912) stated that "Indians not taxed may not vote." It was not until 1948 that this exclusion was challenged, in a lawsuit against the state that was brought by Isleta Pueblo member Miguel Trujillo, Sr. On August 3, 1948, a federal court in Santa Fe struck down this constitutional provision, ruling New Mexico had discriminated against Native Americans who did pay state and federal taxes except for private property on reservations (Bronitsky 2004).

The era from 1940 to 1960 saw a major shift in the basic economic sectors for Santa Fe County. Expressed as a percentage of the total work force, there was a decline in agricultural workers from 12 to 2 percent and mining/manufacturing workers from 12 to 5 percent; government employees increased from 14 to 21 percent while tourism/arts staff rose from 10 to 12 percent (Wilson 1997:331). Over the same period, the number of hotels and lodging rooms increased from 21 and 740 to 31 and 1,150, reflecting the growing importance of tourism to the city's economy. A principal attraction of Santa Fe was its distinctive architectural styles. In 1958, the city, determined to avoid the glass and steel high-rise structures springing up in cities around the country, passed an ordinance stating that all new and rebuilt buildings, especially those in designated historic districts, must demonstrate Spanish Territorial or Pueblo style architecture with flat roofs and other features indicative of the area's traditional adobe construction (Wilson 1997). It should not be assumed that this decision was made without prolonged and, at times, harsh disagreements among the residents of the city. Later houses built of lumber, concrete, and other common materials but with stucco exteriors have sometimes been referred to as faux-adobe. Rancorous debate over architectural style of planned state government structures continues today.

**Santa Fe Today.** In Santa Fe, the absence of a major spur into the national railroad lines proved to be a detriment to industrial growth. Instead, development in Santa Fe focused on its state and federal administrative centers and the tourism and art trade (Pratt and Snow 1988; Wilson 1981). Today, Santa Fe is the centerpiece of a tourism industry that brings more than $1 billion into the state every year. Municipal ordinances and efforts of the art and anthropological community to preserve Santa Fe's cultural heritage from the 1920s and 1930s have made it a desirable location for second residences and professional people who supply services to the national markets. The lack of industry that had retarded Santa Fe's growth was turned into a positive situation. Without heavy industry and the accompanying population density, a tranquil quality of life became a draw for people seeking to escape the increasingly crowded and polluted cities. As part of the quality of life and the uniqueness of Santa Fe, its multicultural heritage continues to be emphasized.

# 4 | History of the Griffin/Grant Triangle Historic Neighborhood

**Adapted from Sze and Spears (1988:94–97)**

The Griffin/Grant Historic Neighborhood is a triangular area bound by Paseo de Peralta on the north, Grant Avenue on the east, and Griffin Street on the west (Sze and Spears 1988:95). The 1766 Joseph Urrutia map of Santa Fe depicts one structure within the neighborhood (Fig. 4.1). David Snow posits that this structure was owned by the Esquivel family (Snow 2011:14). It was presumably constructed sometime between 1693 and 1716 by Buenaventura (Ventura) de Esquivel (Chavez 1992:173). Ventura was the son-in-law of Antonio Lucero de Godoy, who owned a large estate immediately to the east of the Griffin/Grant Historic Neighborhood (see Lentz and Barbour 2011). Unlike the Godoy family, the Esquivels did not lose their land to construction of the Spanish Presidio in 1789. Historic records indicate the Neuman family, connected to the Esquivel family through marriage, were living at the residence in 1844, just prior to the Mexican American War (Snow 2011:14).

Following the establishment of American hegemony, the Baptist Church saw fit to construct a mission within the neighborhood in 1854 (Fig. 4.2; Sze and Spears 1988:95). This mission was constructed of adobe bricks in a combination of Gothic and Grecian styles (Davis 1982:166). However, the Baptists abandoned the mission at the onset of the American Civil War and sold the property to the Presbyterian Church in 1867. The Presbyterians demolished the adobe structure in 1882, replacing it with a red brick building (Sze and Spears 1988:85). This later red-brick structure would be remodeled by John Gaw Meem in 1939 in his signature Pueblo Revival Style (Sherman 1983:112).

Following acquisition of the Baptist land by the Presbyterian Church 1867, the Reverend David F. McFarland and his wife began the Presbyterian Mission School. Classes were initially taught in their home, but were later moved to an old adobe structure just north of the Presbyterian Church along Grant Avenue. This old adobe building is believed to be the same structure that was built by the Esquivel family at the turn-of-the-eighteenth century (Fig. 4.3). Between 1886 and 1889, a three-story, red-brick dormitory for girls was built behind the school (Fig. 4.4) and a new classroom building was established in 1890 (Fig. 4.5; Sze and Spears 1988:95). Following the renovations, the school was renamed first the Santa Fe Industrial and Boarding School for Mexican Girls (1890), then the Allison School (ca. 1900), and then later still, the Allison-James School (1913). The last name change occurred when the school was combined with the Presbyterian James School for boys. The primary campus for this institution was located north of Paseo de Peralta, outside the Griffin/Grant Triangle, where the Plaza del Monte retirement community now stands (Sze and Spears 1988:103).

The classroom and dormitory along Grant Avenue (Fig. 4.6) were torn down in the 1930s and replaced with the secular Harvey Junior High School in 1937 (Sze and Spears 1988:95). This structure was built in the Territorial Revival Style and was later acquired by Santa Fe County in 1980. The building currently functions as the Judge Steve Herrera Judicial Complex.

Since 1886, much of the neighborhood north of the Presbyterian Mission Church was owned by Thomas B. Catron. Catron owned two houses in the neighborhood. These consisted of a single-story adobe constructed with an interior courtyard and a two-story American-style structure with a pitched roof (Fig. 4.7; Sze and Spears 1988:95). The 1910 New Year's edition of the *New Mexican* pro-

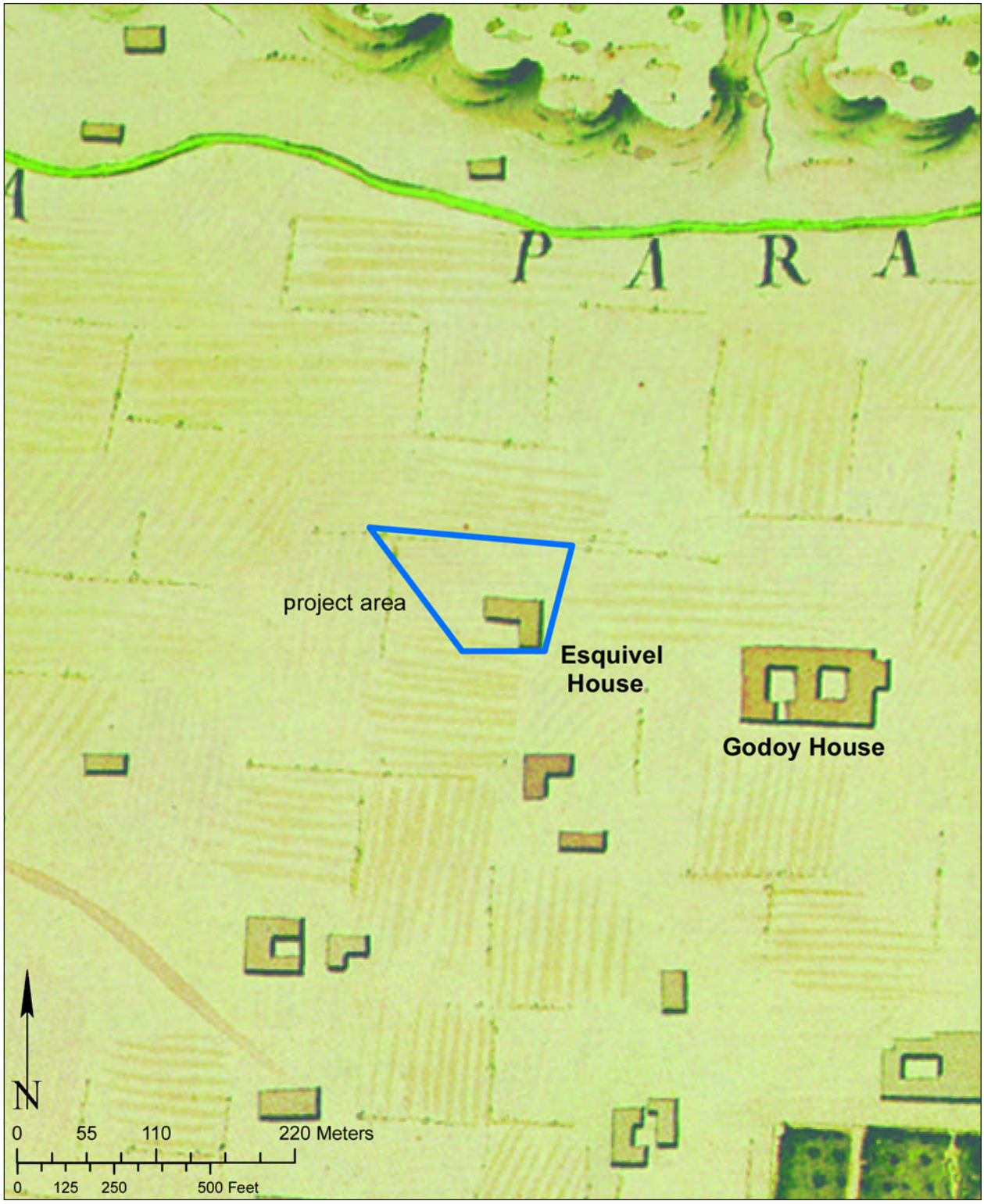


*Figure 4.1. Detail of the 1766 Joseph Urrutia map of Santa Fe.*

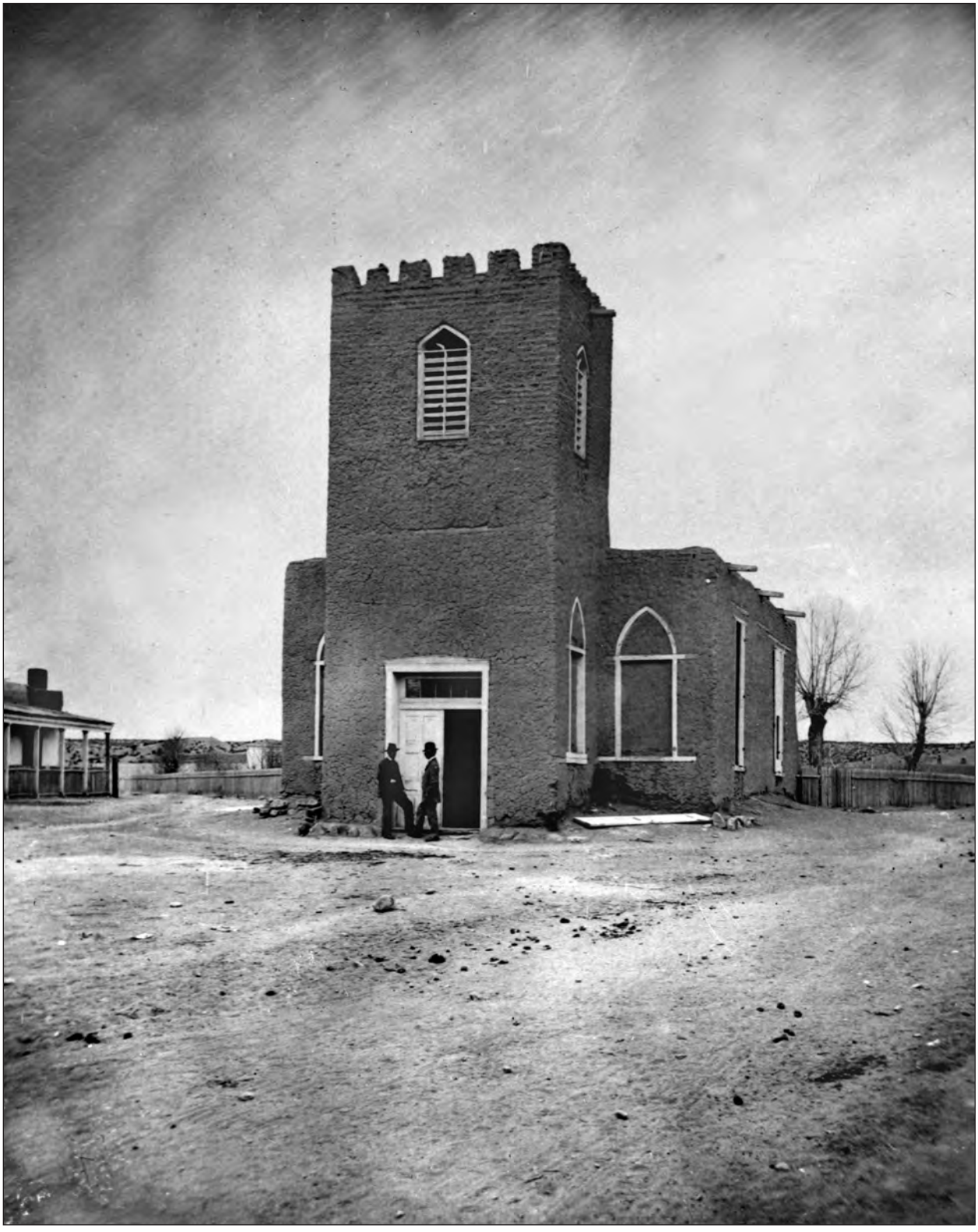

*Figure 4.2. First Protestant [Baptist] church in Santa Fe, ca. 1880–1890 (photo: Ben Wittick; courtesy Palace of the Governors Photo Archives, NMHM/DCA, neg. no. 015855).*

*Figure 4.3. Presbyterian Mission School, ca. 1870s-1880s, Santa Fe (courtesy Palace of the Governors Photo Archives, NMHM/DCA, neg. no. 120338).*

*Figure 4.4. Presbyterian Mission School dormitory, ca. 1884–1892, Santa Fe (photo: Dana B. Chase; courtesy Palace of the Governors Photo Archives, NMHM/DCA, neg. no. 110511).*

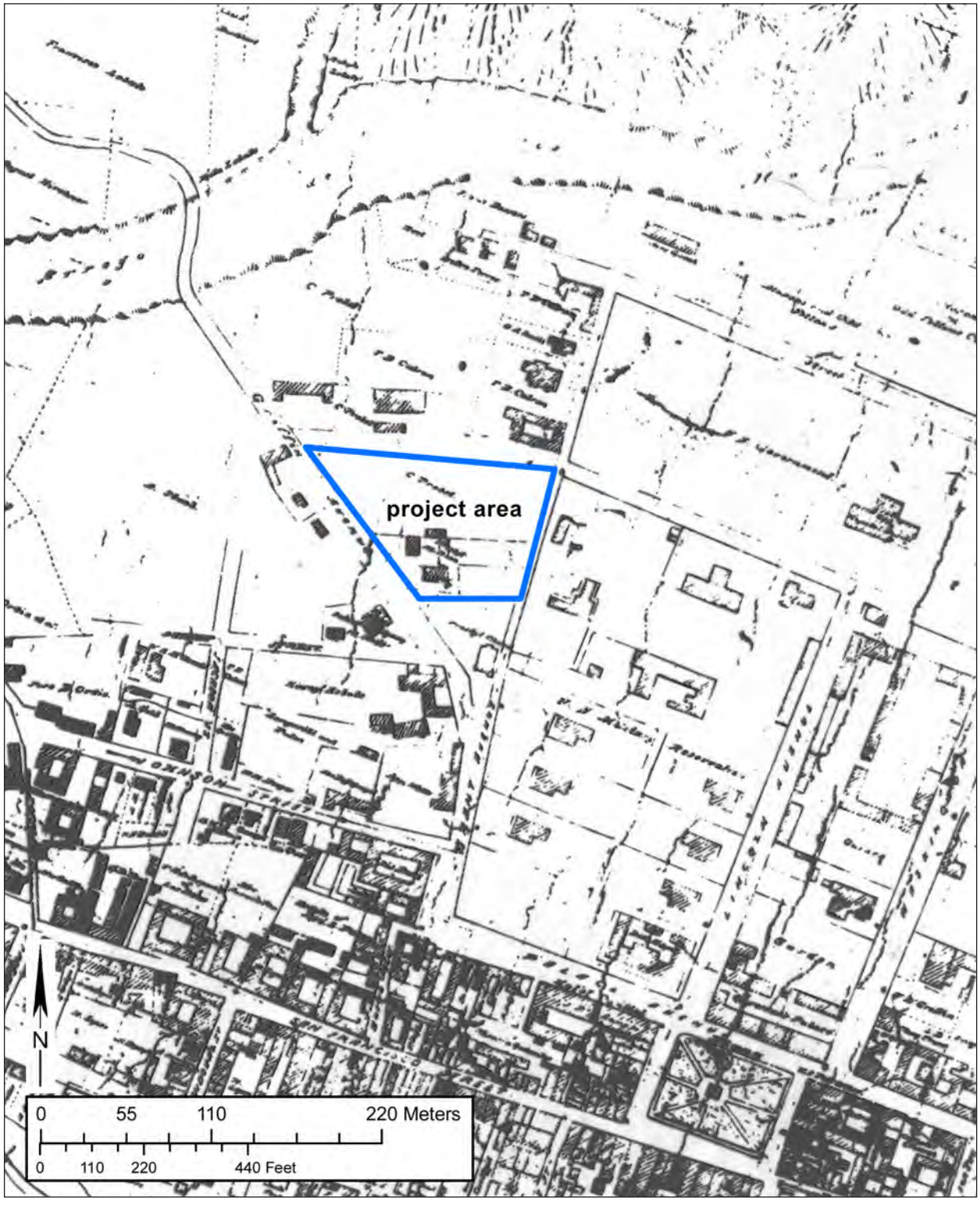


*Figure 4.5. 1884–1885 Hartmann Map of Santa Fe, detail.*

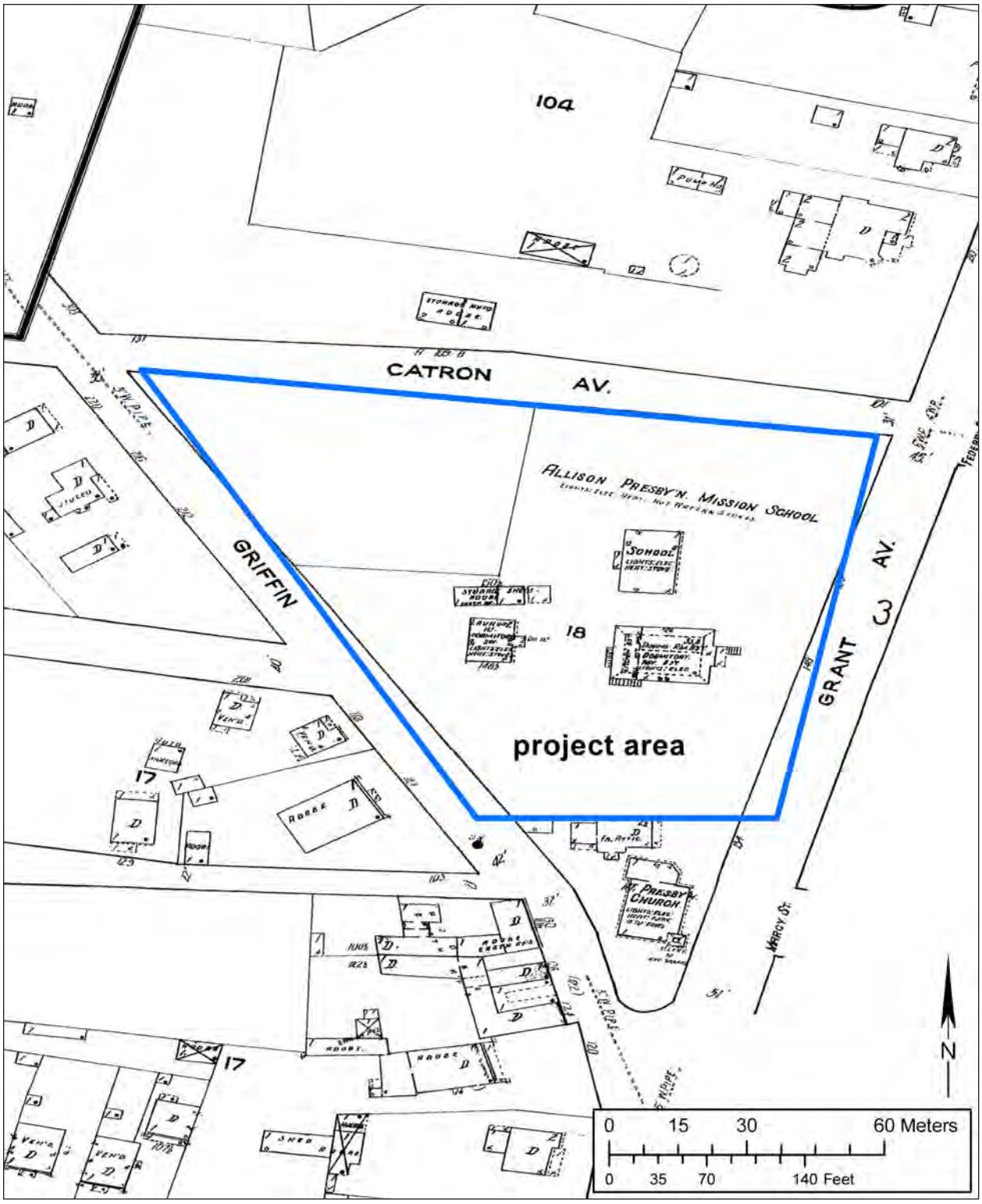


*Figure 4.6. June 1921 Sanborn Fire Insurance Map, detail.*

*Figure 4.7. Catron house on Grant Avenue, in the center background; photo taken during Dress Parade, Fort Marcy, February 22, 1897 (courtesy Palace of the Governors Photo Archives, NMHM/DCA, neg. no. 001727).*

claimed the two-story Catron home, at 210 Grant, to be one of the finest residences in the Territory. However, the building was torn down in 1964 (Fig. 4.8) and replaced with the El Seville Apartments. These apartments were subsequently replaced with the El Corazon de Santa Fe condominium community in 2005.

*Figure 4.8. Dismantling of the Catron house on Grant Avenue, 1964, Santa Fe (courtesy Palace of the Governors Photo Archives, NMHM/DCA, neg. no. 029077).*

# 5 | Previous Archaeological Investigations

**Matthew J. Barbour**

A check of the New Mexico Cultural Resources Inventory System (NMCRIS) database was performed by Matthew Barbour, Susan Moga, and Mary Weahkee, on November 15, 2012. NMCRIS lists 84 previously recorded archaeological resources within a 500 m buffer of the current project area (Fig. 5.1). These archaeological sites are presented in Table 5.1. The project area is wholly within LA 144329, but no previous archaeological investigations have been conducted within the area currently proposed for test excavation. LA 144329 and four other previously recorded archaeological sites located within a two-block radius are discussed below.

**LA 1051, Santa Fe Convention Center**

LA 1051 is located immediately east of the current project area. It represents a large multi-component site excavated in 2005–2006 (Lentz 2011; Lentz and Barbour 2008, 2011). Prehistoric features dated at the site, using C-14 and archaeomagnetic samples, suggest occupation during the Developmental, Coalition, and Classic periods. These features include pit structures, hearths, middens, and human burials. Collectively, the prehistoric archaeological manifestations point to a large-scale pueblo residing at the site, possibly the Ogapohoge of Tewa oral history.

Historic components included a Spanish Colonial hacienda owned by the Godoy family, midden deposits linked with the Spanish Presidio, and Fort Marcy's hospital, officer's quarters, and enlisted men's barracks. All the prehistoric and historic components, with the possible exception of the Developmental period, were robust and yielded thousands of artifacts. Much of the site, outside of the Convention Center foot print, remains buried and largely intact.

**LA 114208**

LA 114208 is located two blocks to the southeast of the current project area. The site was recorded during the monitoring of a pipeline trench at the southwest corner of Sheridan and Marcy Streets. "Several sherds" were discovered by Stuart Peckham in 1989. The ceramic types and counts of these sherds were not documented and no report was prepared.

**LA 144252, 217 Johnson Street**

According to the NMCRIS Map Server, LA 144252 is located within the current project area. However, an examination of the LA Site Record found that the site was recorded along Johnson Street, two blocks to the south. LA 144252 was recorded by Linda Tigges on October 24, 1990, after an anonymous caller reported that a human burial and complete pot had been found during hand-excavation along the footings of the residential structure located at 217 Johnson Street. The remains and pot had been stolen prior to Tigges' arrival. However, she noted the presence of a large midden containing Santa Fe Black-on-white sherds. Ostensibly, this site may date to the Coalition period. However, eighteenth- and nineteenth-century historic materials, such as Powhoge Polychrome, were also encountered. No report was produced on the findings.

**LA 144329, Santa Fe Presbyterian Church**

LA 144329 encompasses the southern half of the current project area and was designated an archaeological site in 2004 (Viklund 2004). It represents the historic extent of the property controlled by the Presbyterian Church. This includes both the current church and the former mission school. The Presbyterian Mission School is believed to have once been

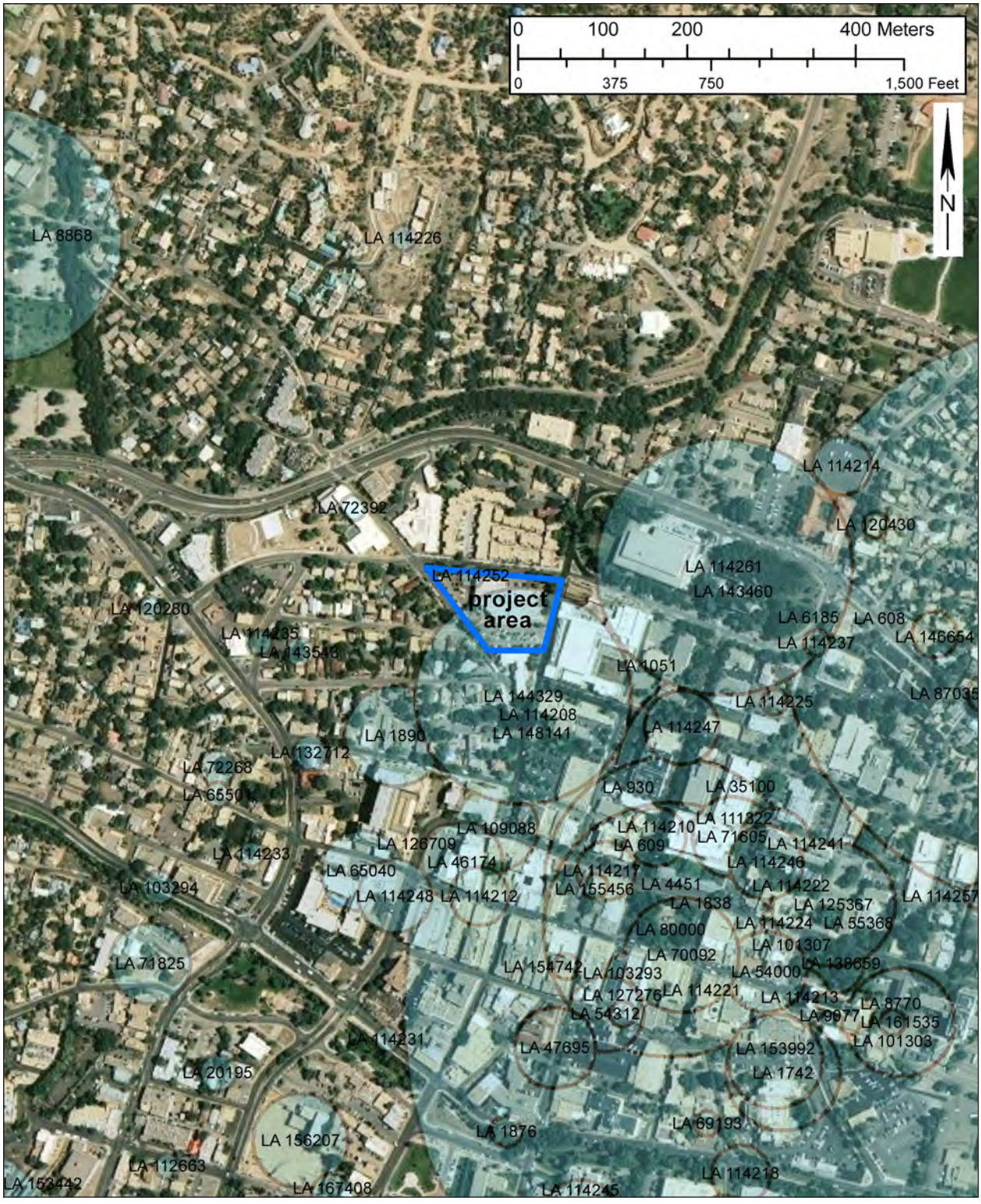


*Figure 5.1. NMCRIS search map.*

*Table 5.1. Archaeological resource inquiry results of NMCRIS search.*

| LA NO. | REGISTER LISTING | | TEMPORAL PERIOD | SITE TYPE | AREA (SQ M) | UTM (NAD 1983) | | | ELEVATION (FT) |
|---|---|---|---|---|---|---|---|---|---|
| | NATIONAL | STATE | | | | ZONE | NORTHING | EASTING | |
| 608 | Y | Y | both | structural | 0.0 | 13 | 3950042 | 415565 | 7080.0 |
| 609 | N | N | historic | nonstructural | 30000.0 | 13 | 3949773 | 415050 | 6980.0 |
| 930 | Y | Y | both | structural | 0.0 | 13 | 3949841 | 415037 | 7000.0 |
| 1051 | N | Y | both | structural | 0.0 | 13 | 3949986 | 415059 | 6990.0 |
| 1742 | – | – | historic | structural | 0.0 | 13 | 3949503 | 415220 | 6040.0 |
| 1838 | N | Y | historic | nonstructural | 0.0 | 13 | 3949575 | 415269 | 7000.0 |
| 1876 | N | Y | prehistoric | structural | 0.0 | 13 | 3949434 | 414892 | 6980.0 |
| 1890 | – | – | prehistoric | structural | 0.0 | 13 | 3949903 | 414760 | 6960.0 |
| 4451 | Y | Y | historic | structural | 30000.0 | 13 | 3949727 | 415088 | 7000.0 |
| 6185 | – | – | historic | structural | 8.0 | 13 | 3950043 | 415250 | 7000.0 |
| 8770 | – | – | historic | structural | 0.0 | 13 | 3949573 | 415310 | 6980.0 |
| 8868 | N | Y | historic | structural | 0.0 | 13 | 3950496 | 414286 | 6960.0 |
| 9077 | – | – | historic | structural | 0.0 | 13 | 3949573 | 415302 | 680.0 |
| 20195 | Y | Y | historic | structural | 750.0 | 13 | 3949503 | 414550 | 6070.0 |
| 35100 | N | Y | both | structural | 30000.0 | 13 | 3949843 | 415170 | 7000.0 |
| 46174 | – | – | historic | structural | 3000.0 | 13 | 3949753 | 414840 | 6990.0 |
| 47695 | – | – | prehistoric | structural | 3000.0 | 13 | 3949533 | 414950 | 7000.0 |
| 54000 | – | – | historic | structural | 0.0 | 13 | 3949623 | 415200 | 7000.0 |
| 54312 | – | – | historic | structural | 5040.0 | 13 | 3949573 | 415010 | 6989.0 |
| 55368 | – | – | historic | structural | 62.0 | 13 | 3949683 | 415310 | 7000.0 |
| 65040 | – | – | historic | nonstructural | 3000.0 | 13 | 3949743 | 414720 | 7000.0 |
| 65501 | – | – | prehistoric | structural | 0.0 | 13 | 3949833 | 414550 | 6900.0 |
| 69193 | – | – | historic | structural | 300.0 | 13 | 3949443 | 415130 | 7000.0 |
| 70092 | – | – | historic | structural | 7500.0 | 13 | 3949643 | 415100 | 7000.0 |
| 71605 | – | – | historic | structural | 0.0 | 13 | 3949783 | 415160 | 6900.0 |
| 71825 | Y | Y | historic | structural | 3000.0 | 13 | 3949633 | 414470 | 6955.0 |
| 72268 | – | – | both | structural | 0.0 | 13 | 3949865 | 414550 | 7000.0 |
| 72392 | – | – | historic | structural | 12.0 | 13 | 3950173 | 414710 | 7000.0 |
| 80000 | Y | Y | historic | structural | 30000.0 | 13 | 3949673 | 415087 | 6990.0 |
| 87035 | – | – | historic | nonstructural | 750.0 | 13 | 3949953 | 415460 | 7020.0 |
| 101300 | – | – | both | structural | 300.0 | 13 | 3949673 | 415210 | 6990.0 |
| 101303 | – | – | historic | structural | 0.0 | 13 | 3949563 | 415350 | 7000.0 |
| 101307 | – | – | both | nonstructural | 0.0 | 13 | 3949653 | 415230 | 6990.0 |
| 103293 | – | – | historic | structural | 0.0 | 13 | 3949623 | 415030 | 6980.0 |
| 103294 | – | – | historic | structural | 0.0 | 13 | 3949723 | 414480 | 6940.0 |
| 109088 | – | – | historic | structural | 0.0 | 13 | 3949793 | 414880 | 6800.0 |
| 111322 | – | – | both | structural | 0.0 | 13 | 3949783 | 415130 | 6990.0 |
| 112663 | – | – | historic | structural | 0.0 | 13 | 3949393 | 414490 | 6970.0 |
| 114208 | – | – | prehistoric | nonstructural | 0.0 | 13 | 3949943 | 414930 | 6980.0 |
| 114210 | – | – | historic | structural | 0.0 | 13 | 3949783 | 415070 | 6980.0 |
| 114212 | – | – | historic | nonstructural | 0.0 | 13 | 3949713 | 414860 | 6960.0 |
| 114213 | – | – | historic | nonstructural | 0.0 | 13 | 3949593 | 415240 | 6990.0 |
| 114214 | – | – | historic | nonstructural | 0.0 | 13 | 3950223 | 415290 | 7000.0 |

*Table 5.1. (continued)*

| LA NO. | REGISTER LISTING | | TEMPORAL PERIOD | SITE TYPE | AREA (SQ M) | UTM (NAD 1983) | | | ELEVATION (FT) |
|---|---|---|---|---|---|---|---|---|---|
| | NATIONAL | STATE | | | | ZONE | NORTHING | EASTING | |
| 114216 | – | – | unknown | nonstructural | 0.0 | 13 | 3949323 | 415150 | 7000.0 |
| 114217 | – | – | unknown | structural | 0.0 | 13 | 3949743 | 415010 | 6980.0 |
| 114218 | – | – | historic | nonstructural | 0.0 | 13 | 3949383 | 415170 | 7010.0 |
| 114221 | – | – | historic | structural | 570.0 | 13 | 3949623 | 415090 | 6980.0 |
| 114222 | – | – | | nonstructural | 0.0 | 13 | 3949723 | 415230 | 6990.0 |
| 114224 | – | – | historic | nonstructural | 0.0 | 13 | 3949683 | 415210 | 6990.0 |
| 114225 | – | – | both | structural | 27.0 | 13 | 3949943 | 415210 | 6990.0 |
| 114226 | – | – | historic | nonstructural | 0.0 | 13 | 3950493 | 414770 | 710.0 |
| 114231 | – | – | historic | structural | 0.0 | 13 | 3949543 | 414750 | 6970.0 |
| 114233 | – | – | historic | nonstructural | 0.0 | 13 | 3949763 | 414590 | 6960.0 |
| 114235 | – | – | historic | structural | 0.0 | 13 | 3950013 | 414600 | 6960.0 |
| 114237 | – | – | historic | structural | 4.0 | 13 | 3950013 | 415260 | 7010.0 |
| 114241 | – | – | historic | structural | 2376.0 | 13 | 3949773 | 415210 | 7000.0 |
| 114245 | – | – | historic | structural | 0.0 | 13 | 3949333 | 414980 | 6990.0 |
| 114246 | – | – | historic | structural | 0.0 | 13 | 3949753 | 415200 | 6990.0 |
| 114247 | – | – | prehistoric | nonstructural | 0.0 | 13 | 3949913 | 415100 | 6990.0 |
| 114248 | – | – | historic | nonstructural | 0.0 | 13 | 3949713 | 414760 | 6960.0 |
| 114252 | – | – | both | structural | 0.0 | 13 | 3950093 | 414850 | 6980.0 |
| 114255 | – | – | historic | structural | 0.0 | 13 | 3949713 | 415210 | 6990.0 |
| 114257 | – | – | | nonstructural | 0.0 | 13 | 3949713 | 415450 | 7010.0 |
| 114261 | – | – | both | structural | 37210.0 | 13 | 3950103 | 415150 | 6985.0 |
| 120280 | – | – | both | nonstructural | 0.0 | 13 | 3950053 | 414470 | 6950.0 |
| 120430 | – | – | both | structural | 1.0 | 13 | 3950153 | 415330 | 7040.0 |
| 125367 | – | – | historic | structural | 0.0 | 13 | 3949703 | 415280 | 7000.0 |
| 126709 | – | – | historic | structural | 3437.0 | 13 | 3949763 | 414820 | 6960.0 |
| 127276 | – | – | historic | structural | 368.0 | 13 | 3949573 | 415030 | 6980.0 |
| 132712 | – | – | both | structural | 0.0 | 13 | 3949883 | 414660 | 0.0 |
| 138659 | – | – | historic | structural | 0.0 | 13 | 3949633 | 415280 | 0.0 |
| 143460 | – | – | prehistoric | structural | 81.0 | 13 | 3950074 | 415161 | 7000.0 |
| 143543 | – | – | historic | nonstructural | 680.0 | 13 | 3950002 | 414647 | 6978.0 |
| 144329 | – | – | both | nonstructural | 0.0 | 13 | 3949950 | 414912 | 0.0 |
| 146403 | – | – | historic | structural | 693.0 | 13 | 3949369 | 414294 | 6959.0 |
| 146654 | – | – | both | structural | 0.0 | 13 | 3950023 | 415400 | 0.0 |
| 148141 | – | – | historic | nonstructural | 3.0 | 13 | 3949926 | 414923 | 7000.0 |
| 153442 | – | – | historic | structural | 0.0 | 13 | 3949129 | 414094 | 0.0 |
| 153992 | – | – | historic | structural | 0.0 | 13 | 3949517 | 415211 | 0.0 |
| 154742 | – | – | historic | structural | 283.0 | 13 | 3949629 | 414963 | 6984.0 |
| 155456 | – | – | historic | structural | 0.0 | 13 | 3949725 | 414997 | 0.0 |
| 156207 | – | – | both | structural | 10682.0 | 13 | 3949423 | 414648 | 6975.0 |
| 161535 | – | – | historic | structural | 4859.0 | 13 | 3949563 | 415359 | 6910.0 |
| 167408 | – | – | historic | structural | 0.0 | 13 | 3949359 | 414686 | 0.0 |

located within the project area impacted by this proposed testing plan.

Archaeological investigations into the land still held by the Presbyterian Church in 2004—directly south of the current project area—encountered intact cultural deposits dating to the Spanish Colonial and American Territorial periods. Colonial deposits are presumably associated with the Esquivel house located on the 1766 Joseph Urrutia map of Santa Fe. However, foundations to the house were not encountered and are presumably located further north within the current project area. American Territorial deposits were linked with the Presbyterian and Baptist churches that occupied the property.

In addition to historic materials, large numbers of flaked stone and Native American sherds were encountered approximately 1 m below the current ground surface suggesting a deeply buried prehistoric component. The specific ceramic types encountered are not specified in Viklund's report (2004). However, it is seems likely that most, if not all, of these materials date to the Coalition period given the findings at other archaeological sites in the surrounding area.

**LA 148141**

LA 148141 is located one block to the south of the current project area (Abbott et al. 2006). It represents a human burial found in a municipal utility easement, March 6, 2005. Sherds found with the burial included Santa Fe Black-on-white and Wiyo Black-on-white suggesting that it dated to the Coalition period. This interpretation was further supported by a C-14 sample collected just above the human remains. However, historic-period cultural materials dating to the American Territorial period were also collected from the trench.

# 6 | Field Methods

**Matthew J. Barbour**

To determine the nature and extent of buried cultural deposits within the former Judge Steve Herrera Judicial Complex section of LA 144329, 10 test trenches and two test pits were excavated. Field methods employed during test excavations followed standard OAS procedures utilized during the Capitol Parking Test Excavation project (Barbour 2008). These procedures are described briefly below.

### *Test Trenches*

Mechanical excavation of the 10 test trenches was conducted using a backhoe. The locations of these trenches are depicted in Fig. 1.3. The dimensions of each trench varied by their location and the presence or absence of subsurface utilities (Table 6.1). Excavation was monitored to insure no active utilities were destroyed and to identify potentially significant cultural deposits as they appeared.

Once monitoring was completed, both walls of each trench were faced with a shovel and the side most representative of the cultural deposits as a whole was profiled. The stratigraphic profile described strata according to Munsell color, texture, composition, origin, and cultural inclusions. When archaeological features were encountered, feature numbers were assigned and the artifact content, stratigraphy, morphology, construction methods, and age were recorded. A photograph was taken of each feature in addition to an overview photo of each test trench. Lastly, an auger test was placed at the base test trench to insure that deeply buried cultural deposits did not exist.

### *Test Pits*

Excavation first involved removing modern landscaping materials from the surface of both test pits

*Table 6.1. LA 144329, Test Trench summary table.*

| TEST TRENCH NO. | ORIENTATION | DIMENSIONS | | |
|---|---|---|---|---|
| | | LENGTH (MM) | WIDTH (MM) | DEPTH (MM) |
| 1 | northwest–southeast | 15.0 | 1.0 | 1.5 |
| 2 | east–west | 11.0 | 1.0 | 2.1 |
| 3 | east–west | 12.2 | 1.0 | 1.4 |
| 4 | east–west | 11.6 | 1.0 | 1.5 |
| 5 | east–west | 15.4 | 1.1 | 1.7 |
| 6 | northwest–southeast | 18.0 | 1.0 | 1.8 |
| 7 | northwest–southeast | 10.6 | 1.0 | 2.6 |
| 8 | north–south | 12.0 | 1.0 | 2.1 |
| 9 | east–west | 12.0 | 1.0 | 1.8 |
| 10 | east–west | 12.0 | 1.0 | 2.1 |

which consisted of gravel underlain by landscaping fabric. Hand-excavation of the two 1 by 1 m test pits was conducted in arbitrary 10 cm levels, which were measured from the exposed ground surface. Levels were recorded in centimeters below ground surface (bgs). Excavations continued to depths of at least 1.2 m (4 ft) below the current ground surface (bgs). Sediment removed from each pit was screened through 1/4-inch mesh to collect artifacts. An auger test was then placed at the base of each unit to insure that deeply buried cultural deposits did not exist. Then, a stratigraphic profile of each test pit was generated. Strata were described according to Munsell color, texture, composition, origin, and cultural inclusions, such as artifacts, charcoal, coal, or fragments of building materials. Lastly, a photograph was taken to document the excavations. The location of these units is illustrated in Fig. 1.3.

### *Excavation Forms*

All field recording was conducted on standard OAS excavation forms under the provisions of General Permit NM-12-027-T. Recovered artifacts and samples from each arbitrary level within an excavation unit were assigned a field specimen (FS) number, which was then recorded on related excavation forms and bags and listed in a catalogue.

### *Backfilling*

When excavations were completed, the location of each trench and pit was recorded using a GeoExplorer 3000 Series Geo-XH global positioning unit (GPS) recording in UTM NAD 1983 Zone 13. Each test unit was backfilled and compacted by mechanical means.

# 7 | Results of Test Excavations

**Karen Wening and Matthew J. Barbour**

Test excavation of the former Judge Steve Herrera Judicial Complex project area, which was contained within LA 144329, was conducted through the mechanical excavation of 10 test trenches and the hand excavation of two test pits (Fig. 1.3). This equated to roughly a 2 percent excavation sample (1,400 sq ft) of the current project area (69,651 sq ft). The results of these excavations are discussed below in numeric order.

## Test Trench 1

Test Trench 1 was located west of the old Judge Steve Herrera Judicial Complex building, near the corner of Catron and Griffin Streets. The trench was oriented northwest–southeast. It measured 15 m (49.2 ft) long and 1 m (3.3 ft) wide, and extended 1.45 m below the current ground surface (bgs). Five distinct strata were identified within the trench (Figs. 7.1, 7.2). The east face of the trench was profiled. This trench did not yield intact cultural deposits.

**Stratum 1.1** was a layer of asphalt (7.5 YR 2/0, Black) that serves as the current court parking lot surface. It extended approximately 0–10 cm (0–32.8 in) bgs and appears to have been deposited sometime during the mid- to late twentieth century when the project area was converted to a parking lot for the Judge Steve Herrera Judicial Complex.

Below the asphalt was a layer of base course (7.5YR 4/2, Brown) designated as **Stratum 1.2**. The base course consisted of coarse sand and gravel (30 percent) and extended from 10–75 cm (32.8–29.5 in) bgs. Mixed late nineteenth- to early twentieth-century deposits within this stratum contained brick fragments, coal clinkers, metal fragments and animal bone. As with the asphalt, this base course was probably deposited during the mid- to late twentieth century.

**Stratum 1.3** was a sterile layer of loamy sand beneath Stratum 1.2 (7.5YR 6/4, Light Brown). The soil was lightly compacted and was nearly devoid of gravel, containing 1 percent angular stones ranging from pea-sized to 2 cm in length (.78 in). At the deepest point, Stratum 1.3 extended from 75 cm bgs (32.5 in) to the bottom of the trench at 145 cm (57 in) bgs. It appeared to represent alluvial deposition.

**Stratum 1.4** was also sterile, and observed in the north end of the trench only from 110–140 cm (4.3.–55.1 in) bgs. This stratum dips in the south half of the trench, where only Stratum 1.3 was visible. Stratum 1.4 represents a second sterile layer within Test Trench 1, and also appeared to have been water deposited (7.5 YR 4/4, Brown). Fill consisted of coarse sand and much higher gravel content than overlying Stratum 1.3, with 50 percent angular and rounded pieces ranging from pea to 3 cm (1.1 in) in length.

**Stratum 1.5** was a sterile layer of silty clay (7.5YR 4/4, Brown) that was present only as lenses between Strata 1.2 and 1.3 in the north and south ends of the trench. Both lenses were 20 cm (7.8 in) thick, pinching out to the north and south. While thickness of the lenses was constant, the depth of each varied. The northern lens was 40–50 cm (15.7–19.6 in) bgs, and the southern lens was 80–100 cm (31.4–39.3 in) bgs. No gravels were observed within this stratum.

At the base of the trench, an auger test was performed into the underlying deposits at 6 m (19.6 ft). This test extended to 185 cm (72.8 in) bgs, and continued to encounter Stratum 1.5. No deeply buried cultural materials were identified and the auger test suggests that deeply buried deposits consist of allu-

*Figure 7.1. LA 144329, Test Trench 1, east wall.*

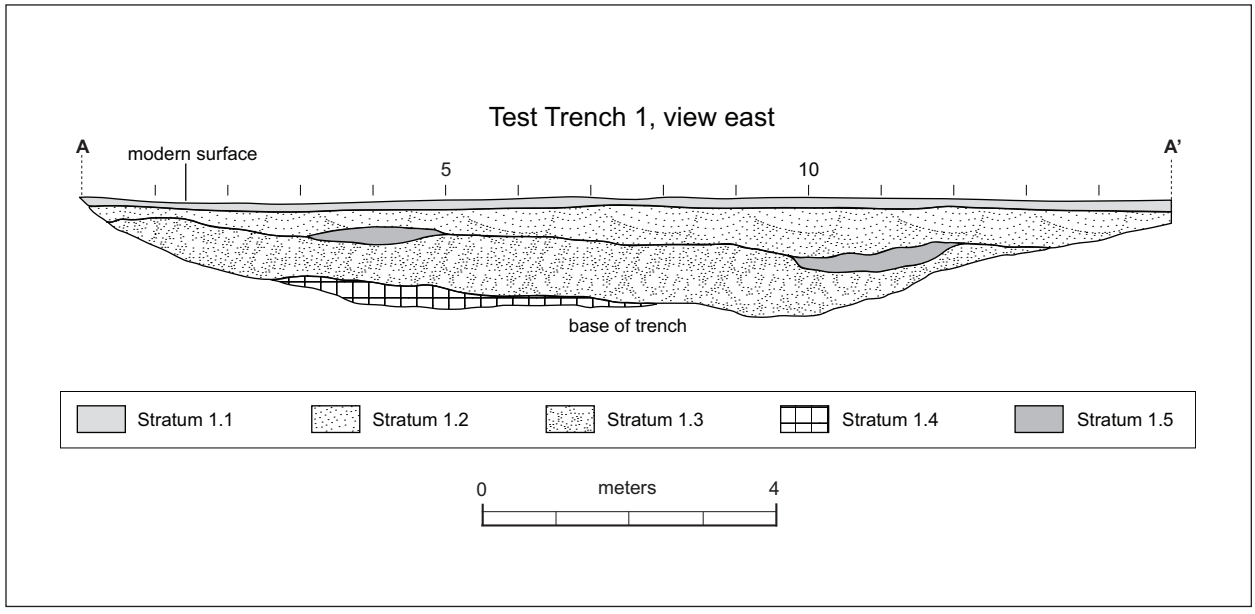


*Figure 7.2. LA 144329, Test Trench 1, profile.*

vial sand and gravel mixture, with less than 1 percent gravel content.

## Test Trench 2

Test Trench 2 is located on the south side of the Judge Steve Herrera Judicial Complex. The trench was oriented east–west and measured 11 m (36 ft) long, 1 m (3.3 ft) wide, and extended to 2.1 m (6.8 ft). Five distinct strata were identified within the trench (Figs. 7.3, 7.4). The south face of the trench was profiled. Intact cultural deposits and a feature were encountered in this trench.

**Stratum 2.1** was a layer of asphalt (7.5 YR 2/0, Black) that served as the current court parking lot surface. It extended approximately 0–10 cm (0–32.8 in) bgs and appeared to have been deposited sometime during the mid- to late twentieth century when the project area was converted to a parking lot for the Judge Steve Herrera Judicial Complex.

**Stratum 2.2** was a compact orange sand and gravel (5YR 4/3, Reddish Brown) that appeared to be a base course for the overlying asphalt and was probably deposited in the mid- to late twentieth century contemporaneous with the asphalt. Gravels comprised about 45 percent of the fill, and range from pea to 5 cm (2 in) in length. This stratum was thicker at the east end of the trench, measuring 40 cm (15.7 in), narrowing to 25 cm (9.8 in) at the west end. This layer sloped slightly east, extending from 10–50 cm (3.9–19.6 in) bgs.

**Stratum 2.3** was a very dark gray mixed and disturbed late nineteenth-century to early twentieth-century layer (10YR 3/2, Very Dark Grayish Brown). The fill was loamy sand with 10 percent rounded pea gravels and light calcium carbonate flecking throughout. Small charcoal bits comprised about 5 percent of the fill. Stratum 2.3 extended from 50–140 cm (19.6–55.1 in) bgs. This layer may have been leveled in the construction of the parking lot in Strata 2.1 and 2.2, as the overlying base course sloped to the east.

**Feature 1** was excavated into Stratum 2.3, and represents the west wall of the storage building at the Presbyterian Mission School, believed to have been added to the school sometime in the mid-nineteenth century. The wall was constructed of sandstone blocks laid with concrete mortar, and was two courses tall and two courses deep (Fig. 7.3). The wall was 50 cm (19.6 in) high and 52 cm (20.4 in) wide. It extended across the entire width of the 1 m (3.3 ft) trench. The base of the wall was 80 cm (31.4 in) bgs.

**Stratum 2.4** was a sterile coarse sand and gravel layer (5YR 4/4, Reddish Brown) that extends from 140–160 (55.1–62.9 in) bgs. This layer appeared to represent an alluvial deposit.

**Stratum 2.5** consisted of very fine-grained alluvial sand (7.5YR 4/4, Brown) that was devoid of gravel. The layer varied from 10 to 25 cm (3.9–9.8 in) in thickness, and extended from 1.8 m (5.9 ft) to the bottom of the trench at 2.1 m (6.8 ft) bgs.

**Stratum 2.6** was a thin, well-defined lens of construction debris consisting of adobe (7.5YR 6/4, Light Brown), crushed brick, brick fragments, and sand that occurs between Stratum 2.2 and 2.3 (Fig 7.3). This stratum did not extend the entire length of the trench, visible only from the east edge of Feature 1 to 2 m (6.5 ft). The lens varied in thickness from 2–10 cm (.8–3.9 in), and consisted of almost pure sand at the east end of the trench.

An auger test was performed at 6 m (19.6 ft), excavated from the trench bottom to 2.5 m (8.2 ft) bgs. Fine-grained alluvial sand identical to Stratum 2.5 continued to the bottom of the auger test. No cultural materials were encountered.

## Test Trench 3

Test Trench 3 was in the northwest corner of the project area parallel to Catron Street. The trench measured 12.2 m (40 ft) long, 1 m (3.3 ft) wide, and was excavated to a depth of 1.4 m (4.6 ft). Four strata were defined, all of which are nearly identical to those identified in Test Trench 1 (Figs. 7.5, 7.6). Slight differences existed for some of the strata in Test Trench 3, and are described below. The south face of the trench was profiled. No intact cultural deposits were observed.

**Stratum 3.1** consisted of late twentieth-century asphalt (7.5YR 2/0, Black) that serves as the current court parking lot surface for the Judge Steve Herrera Judicial Complex. It extended from 0–10 cm (0–32.8 in) bgs and was consistently thick across the length of the trench.

**Stratum 3.2** was a mixed, disturbed late nineteenth- and early twentieth-century deposit similar to Stratum 1.2 and 2.3. The loamy sand fill was very dark gray in color, and contained small charcoal

*Figure 7.3. LA 144329, Test Trench 2, south wall and Feature 1, foundation.*

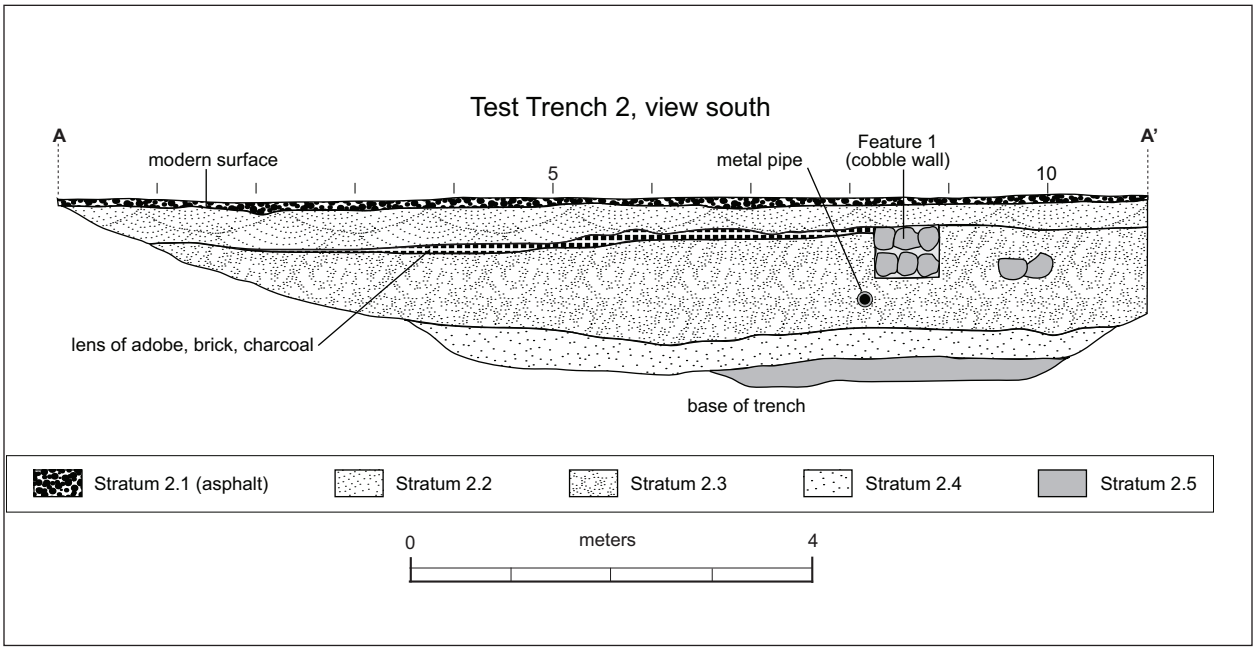


*Figure 7.4. LA 144329, Test Trench 2, profile.*

*Figure 7.5. LA 144329, Test Trench 3, south wall.*

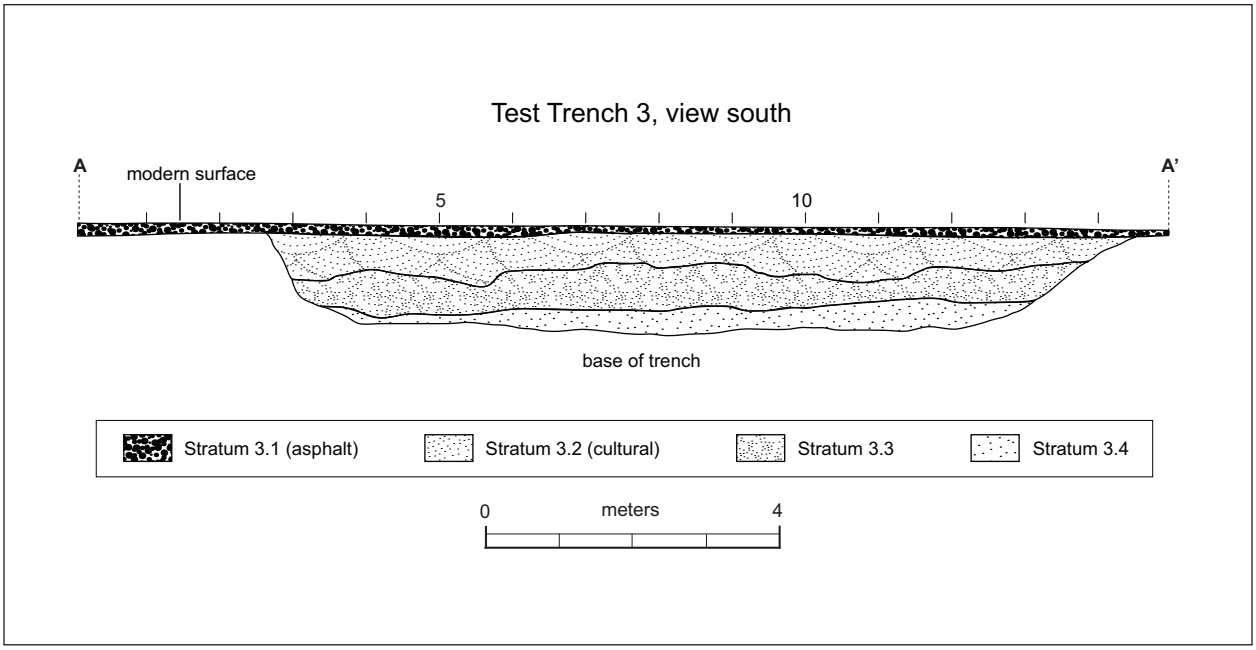


*Figure 7.6. LA 144329, Test Trench 3, profile.*

flecking throughout (7.5YR 4/2, Brown). Glass and Euroamerican ceramic fragments were observed in the fill, which extended from 45–82 cm (17.7–32.2 in) at the deepest point. This stratum was not well defined at the base, becoming somewhat mottled with underlying Stratum 3.3.

**Stratum 3.3** was sterile, composed of lightly compacted loamy sand (7.5YR 6/4, Light Brown). The soil was nearly devoid of gravel, containing 1 percent angular stones ranging from pea-sized to 2 cm in length (.78 in). The bottom of the stratum was well defined and fairly level, but the upper boundary undulated for the entire length of the trench, intermixing with overlying Stratum 3.2. This layer was thickest near the center of the trench, extending from 40–110 cm (15.7–43.3 in). Stratum 3.3 differed slightly from Stratum 1.4 in that it had a slightly higher clay content and graded to a darker color at the bottom boundary.

**Stratum 3.4** was also sterile, consisting of alluvial coarse sand and gravel (7.5YR 4/4, Brown). It extended from 110 cm (43.3 in) to the bottom of the trench at 141 cm (55.5 in).

At 5 m (16.4 ft) bgs, an auger test was excavated into the bottom of the trench to a depth of 1.91 m (6.2 ft). Alluvial sand and gravel was encountered throughout the entire auger test, which was also devoid of cultural materials.

## Test Trench 4

Test Trench 4 was located on the southeast side of the Judge Steve Herrera Judicial Complex and measured 11.6 m (38 ft) long, 1 m wide (3.3 ft) and was excavated to a depth of 1.5 m (4.9 ft). The trench was oriented east–west and contained four distinct strata (Figs. 7.7, 7.8). The south face of the trench was profiled. Intact cultural deposits were identified within this trench.

**Stratum 4.1** consisted of two late twentieth-century asphalt layers (7.5YR 2/0, Black), the uppermost serving as the parking lot for the Judge Steve Herrera Judicial Complex. Each asphalt layer was consistently 10 cm (32.8 in) thick across the entire length of the trench, with a total thickness of 20 cm (7.8 in).

**Stratum 4.2** was a mixed, disturbed late nineteenth- to early twentieth-century deposit containing brick construction debris and one plain buff ware sherd. The sandy loam soil (7.5YR 4/3, Reddish Brown) contained 10 percent unsorted gravels ranging from pea to 5 cm (1.9 in) in length, along with dispersed carbonate flecking. Rodent disturbance was evident in this stratum, particularly in the upper portions, which extended from 20–65 cm (7.8–2.5 in) bgs, with thickness remaining fairly constant throughout the trench with the exception of the west end, which dipped to 1 m (3.3 ft) bgs. Lenses of pure sand associated with construction activities occurred within this stratum.

**Stratum 4.3** was an intact Colonial-period midden deposit containing butchered bone, native ceramics and charcoal (5YR 3/2, Dark Reddish Brown). The sandy loam soil extended from 65–120 cm (25.5–47.2 in) bgs. Stratum 4.3 was thickest in the center of the trench (55 cm/21.6 in), narrowing to about 20 cm (7.8 in) in the east end, and about 30 cm (11.8 in) in the west end. A small lens of concentrated brick fragments occurred at 1.15 m (3.7 ft), centered at about 6 m (19.6 ft). Small roots were sporadically located throughout.

An auger test was excavated from the bottom

*Figure 7.7. LA 144329, Test Trench 4, south wall.*

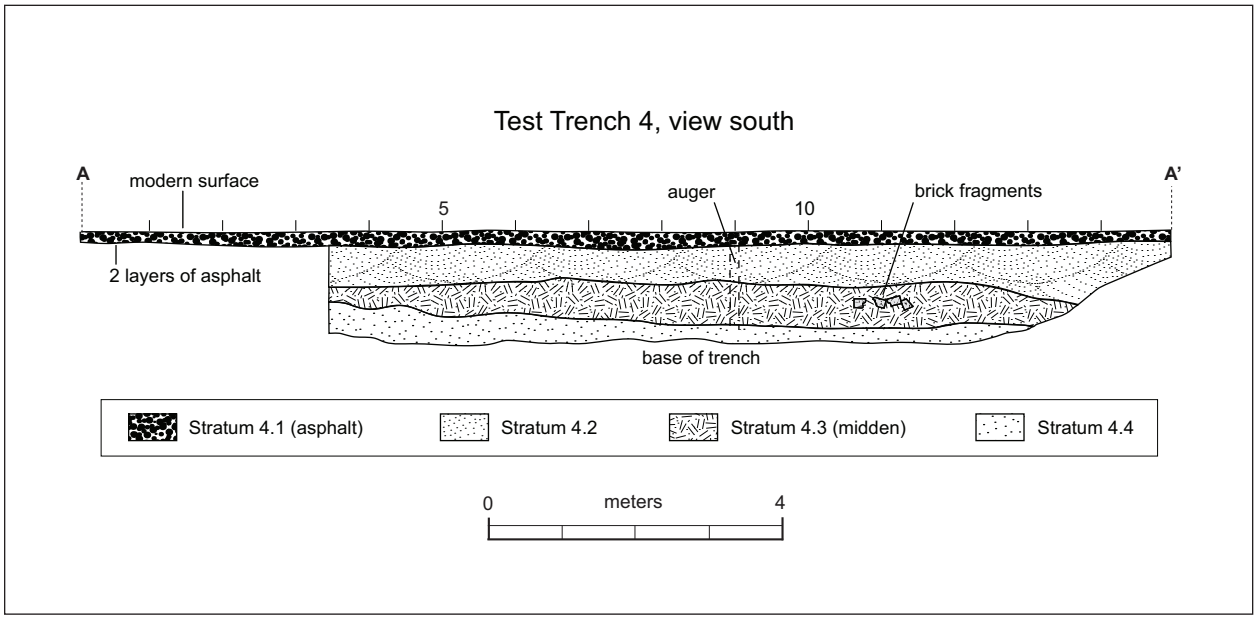


*Figure 7.8. LA 144329, Test Trench 4, profile.*

of the trench to a depth of 2 m (6.5 ft). Coarse-grained alluvial sand and gravel were encountered to a depth of 1.79 m (5.8 ft) bgs. Fill to this depth varied only in gravel size and percentage, the latter increasing to about 2 percent. Below this, from 1.79–2.0 m (5.8–6.5 ft), the soil shifted to dark brown, fine-grained sand that was devoid of gravels. All fill encountered in the auger test was culturally sterile.

## Test Trench 5

Test Trench 5 was located on the south side of the Judge Steve Herrera Judicial Complex east of a fenced electrical area. The 15.4 m (50.5 ft) long trench was oriented east–west and was 1.1 m (3.6 ft) wide and excavated to a depth of 1.73 m (5.6 ft) bgs (Figs. 7.9, 7.10, 7.11). Five strata were identified and three architectural features were documented (Features 2, 3, 4). A modern electric line was encountered at the bottom of Stratum 5.2, but it did not impact underlying Features 2 and 4. The north face of the trench was profiled. This trench contained intact cultural deposits.

**Stratum 5.1** consisted of a late twentieth-century asphalt layer that extended from the surface to 10 cm (3.9 in) bgs across the entire length of the trench (7.5YR 2/0, Black). The asphalt formed the parking lot surface for the county district court building.

**Stratum 5.2** was a late twentieth-century base course that was probably associated with the overlying asphalt. Fill consisted of coarse sand (5YR 5/4, Reddish Brown) and 50 percent rounded gravels, and also included concentrations of crushed brick and brick fragments. Stratum 5.2 was thinner in this trench than other project trenches, averaging only about 12–15 cm (4.7–5.9 in) in thickness, dipping to the greatest depth in the west half of the trench at 32 cm (12.5 in) bgs. It should be noted here that the base course did not impact underlying Features 2 and 4, as the lower boundary of Stratum 5.2 was well defined at 20 cm (7.8 in). The bottom of the PVC electric line in Stratum 5.2 was at 20 cm (7.8 in) bgs.

**Stratum 5.3** was a mixed, disturbed layer of late nineteenth- to early twentieth-century fill (5YR 3/2, Dark Reddish Brown). Cultural materials included brick fragments, glass, coal clinkers, and one piece of Euroamerican transfer ware. Abundant charcoal flecking was visible throughout, and thin lenses of ash and asphalt were found in the west half of the

*Figure 7.9. LA 144329, Test Trench 5, overview.*

trench. The fill consisted of sandy loam with 1 percent gravels ranging from pea to 3 cm (1.1 in) in length. Stratum 5.3 extended from 32–142 cm (12.5–55.9 in) bgs. The lower boundary was clear but irregular, cutting through underlying Stratum 5.4 in a portion of the west end of the trench. Features 2 and 4 were excavated through this stratum into the underlying Stratum 5.4. A plastic-insulated metal cable was visible in the center of the trench near the top of Stratum 5.3 at 25 cm. The cable bisected the Feature 4 foundation support, but only disturbed an 8 cm (3.1 in) wide area of the feature. A metal pipe possibly associated with Presbyterian Mission School dormitory was encountered at 1.10 m (3.6 ft) bgs.

**Stratum 5.4** was a discontinuous layer of sterile, silty clay (5YR 4/3, Reddish Brown) beneath Stratum 5.3 that varied in thickness across the length of the trench. At the west end, overlying Stratum 5.3 cuts down into Stratum 5.4. In the east end, Stratum 5.4 was quite thin in places, measuring about 12 cm (4.7 in) in thickness. Both the upper and lower boundaries were somewhat undulating. The base of Feature 2 was situated within this stratum, and Feature 4

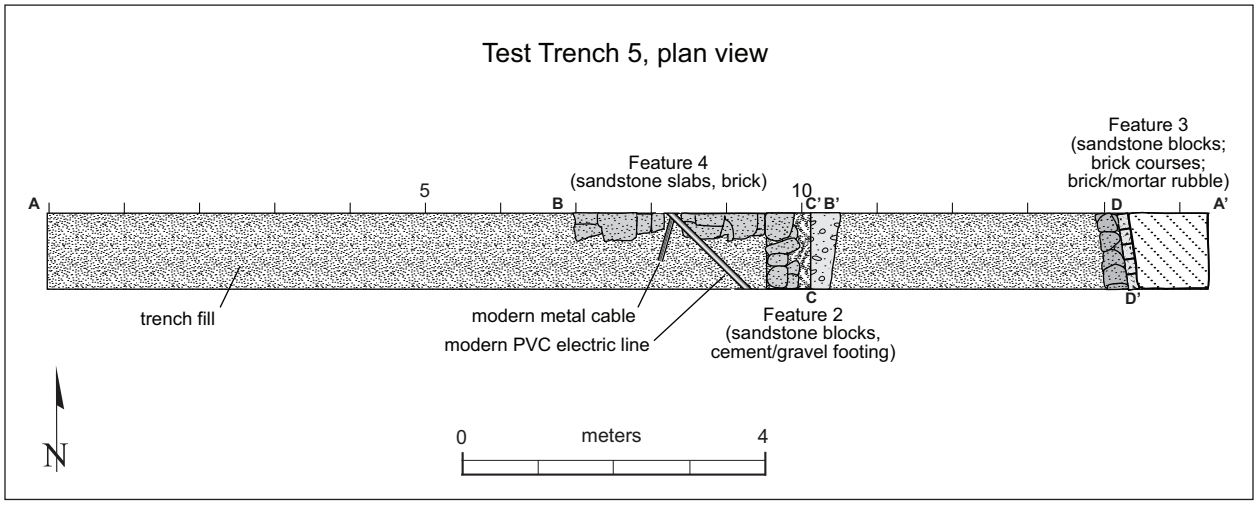


*Figure 7.10. LA 144329, Test Trench 5, Features 2, 3, and 4, plan*

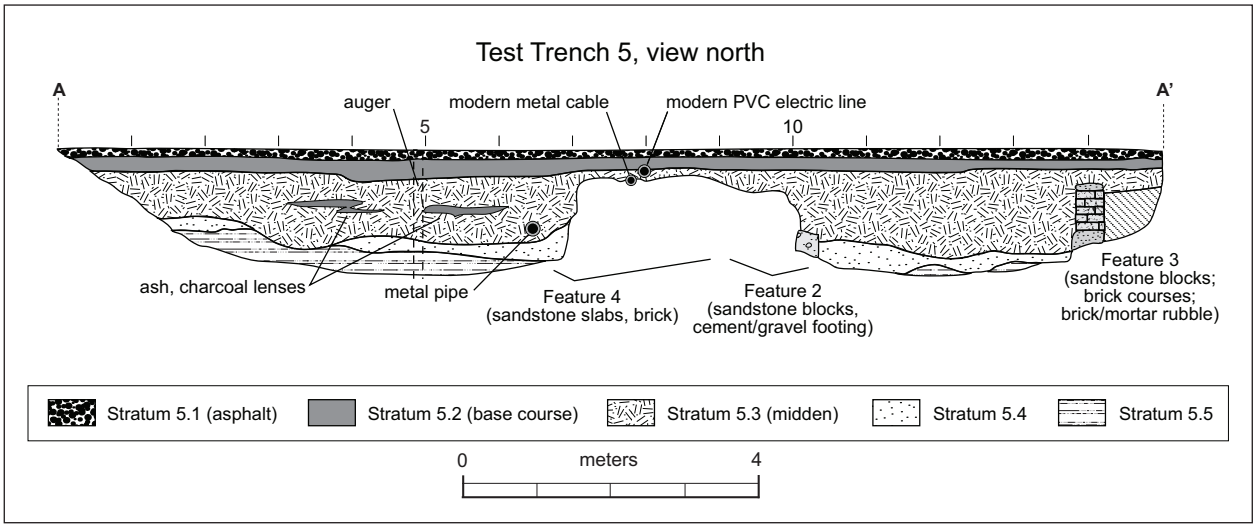


*Figure 7.11. LA 144329, Test Trench 5, profile.*

was resting at the bottom of this stratum. No gravels were present. At its shallowest point, Stratum 5.4 extended from 32–90 cm (12.5–35.4 in) bgs. At the deepest point in the east end of the trench, Stratum 5.4 extended from 142–154 cm (55.9–60.6 in) bgs. In the east end of the trench, Stratum 5.4 continued to the bottom of the trench.

**Feature 2** was believed to represent the west wall foundation of the red brick girls' dormitory constructed between 1886 and 1889 (Figs.7.12, 7.13, 7.14, 7.15). It is a massive foundation constructed of coursed sandstone block laid with concrete mortar. Three courses were present, the lowest of which employed 15 cm (5.9 in) thick slabs, the middle course using large blocks measuring 25 cm (9.8 in) thick, and the uppermost course, thin slabs measuring 10 cm (3.9 in) thick. All blocks used in construction were of the same dense, light gray sandstone material. The wall was two horizontal courses thick (64 cm/25.1 in) wide. The top one or two vertical courses may have been missing, as much of the top surface was covered with mortar. At the base of the sandstone foundation was a concrete and gravel footing that was wider than the foundation wall,

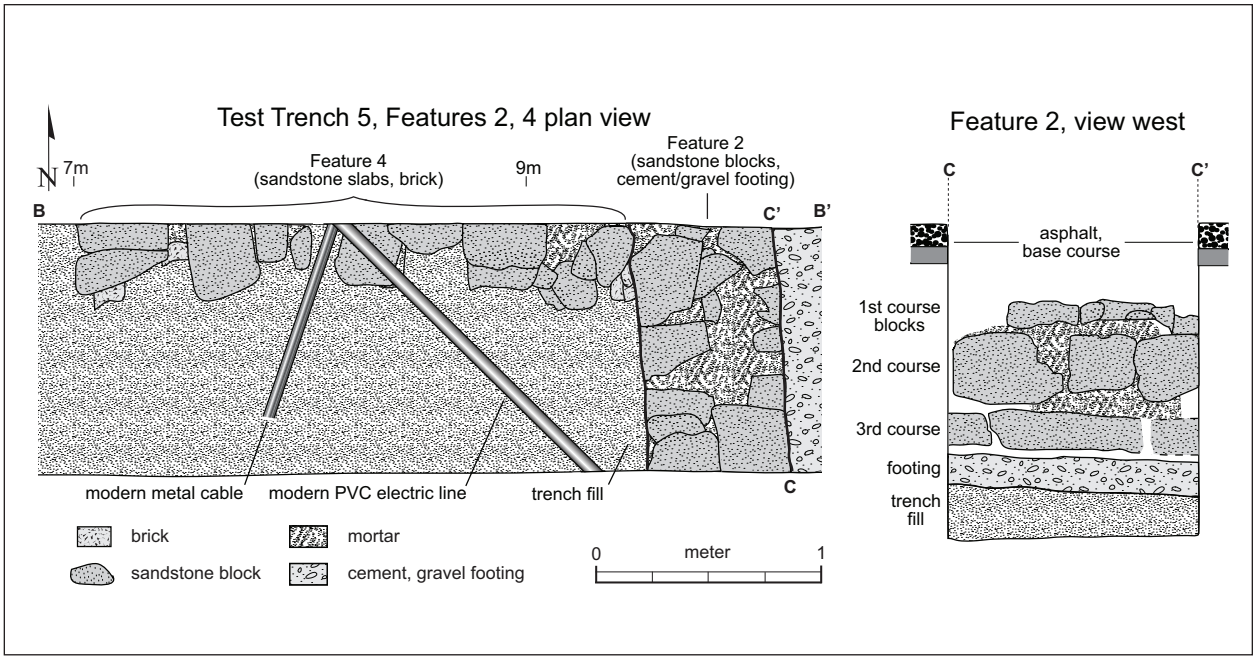


*Figure 7.12. LA 144329, Test Trench 5, Features 2 and 4, plan; Feature 2, foundation, profile.*

*Figure 7.13. LA 144329, Test Trench 5, Features 2 and 4, overview.*

*Figure 7.14. LA 144329, Test Trench 5, Feature 2, foundation, detail.*

*Figure 7.15. LA 144329, Test Trench 5, Feature 2, foundation, profile.*

extending east of the sandstone blocks. The concrete footing was very densely packed with angular gravel. It was 15 cm thick, and ranged in width from 32–42 cm (12.5–16.5 in), becoming wider on the north side of the trench. The footing and foundation were oriented slightly northwest–southeast. While the overlying sandstone block foundation was level, the footing was not, sloping slightly to the north. The top of the wall was 14 cm (5.5 in) bgs, and the base of the footing was at 120 cm (47.2 in).

**Feature 3** appeared to be the west basement wall of the red brick girls' dormitory (Figs. 7.16, 7.17, 7.18). This north–south-oriented wall was located at the extreme east end of Test Trench 5. It was constructed of coursed brick and concrete mortar over an underlying sandstone block foundation. It extended across the full width of the trench and beyond to the north and south. Nine courses of brick were laid on top of large sandstone blocks that were either one or two courses thick. Whole bricks were laid end-to-end atop these blocks, and brick fragments broken roughly in half were laid side-to-side perpendicular to the lengthwise bricks. Intact portions of the brick wall were flush with the north and south faces of the trench, which provided a cross-

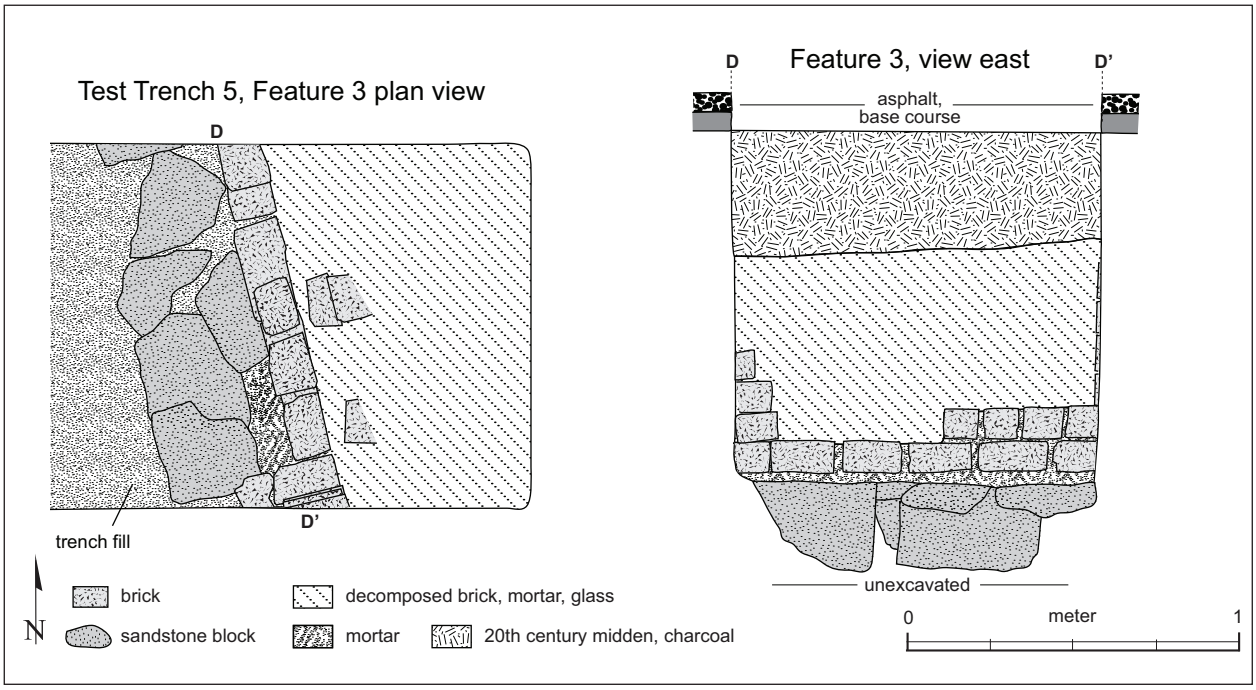


*Figure 7.16. LA 144329, Test Trench 5, Feature 3, wall and foundation stub, plan and profile.*

*Figure 7.17. LA 144329, Test Trench 5, Feature 3, wall and foundation stub, view east.*

*Figure 7.18. LA 144329, Test Trench 5, Feature 3, wall and foundation stub, view southeast.*

section view of the wall. The intact walls were about 40 cm (15.7 in) wide and two to three bricks thick. Brick fragments were also used in these sections, though mortar and displaced bricks obscured the exact dimensions in some sections.

East of the wall, the fill consisted entirely of decomposed concrete, brick fragments and mortar. Above this decomposed fill was Stratum 5.3. The entire wall, including bricks and the underlying sandstone block foundation extended from 41–140 cm (16.1–55.1 in) bgs. The two bottom courses of brick were not level, but sloped slightly north. As in Feature 2, this wall was oriented slightly northwest–southeast. Also similar to Feature 2, the sandstone block foundation was wider than the brick wall, extending about 22 cm (8.6 in) west of the wall.

**Feature 4** was believed to represent the foundation support to the west wall staircase of the red brick girls' dormitory. This east–west wall abutted the Feature 2 foundation near the center of Test Trench 5 (Figs. 7.12, 7.19, 7.20). The top of the Features 2 and 4 walls were level where they abut, at 38 cm (14.9 in) bgs. As with Feature 2, this foundation was also constructed of sandstone, but the size and shape of the stones was far less uniform than those used for Feature 2, and the material texture and color was more variable than the blocks used in Feature 2. Generally, the stone was of lower quality in Feature 4, and had not been shaped to the extent of those used in Feature 2. Brick fragments from the superstructure were wedged between the sandstone slabs, but did not appear to have been used as foundation construction materials. Wall width was variable along the 2.44 m (8 ft) length of the feature ranging from 17 cm (6.7 in) to 28 cm (11 in). The depth of the wall was poorly defined on the east profile, precluding an accurate measurement of the depth of the base. A modern, plastic-insulated metal cable and uninsulated cable bisected Feature 4 at 8.16 m (26.7 ft), but only disturbed an 8 cm (3.1 in) section of Feature 4. A PVC electric line at this same horizontal point did not bisect Feature 4. Generally, Feature 4 appeared to be of less stable construction than Feature 2. Glass fragments were encountered in the fill above this feature.

**Stratum 5.5** underlies Stratum 5.4, and consisted

*Figure 7.19. LA 144329, Test Trench 5, Feature 4, foundation, view east.*

of coarse-grained sand (5YR 4/4 Reddish Brown) with a high percentage of unsorted gravels (50 percent) ranging from pea to 5 cm (1.9 in) in length. This stratum was also sterile and appears to represent a rapid alluvial deposition episode based on the unsorted, variably sized gravel. The upper boundary was clear but wavy. This stratum continued to the bottom of the trench in the entire western half of the trench, but was visible only in short sections of the profile in the eastern half, where overlying Stratum 5.4 extended to the bottom. Generally, the stratum sloped east. The depth of the top boundary varied from 1 m (3.3 ft) to 1.65 m (5.4 ft).

An auger test was excavated from the bottom of the trench to a depth of 2.23 m (7.3 ft). Sterile, coarse-grained alluvial sand and gravel extended to 1.98 m (6.5 ft), with gravels ranging in size from pea to 3 cm (1.1 in) in length. Beneath this, the fill became finer grained, comprised of silty sand and gravel to the bottom of the auger test at 2.23 m (7.3 ft).

*Figure 7.20. LA 144329, Test Trench 5, Feature 4, foundation, detail with PVC electric line, view northeast.*

## Test Trench 6

Test Trench 6 was located northeast of the Judge Steve Herrera Judicial Complex in an area landscaped with gravel and brick border. It was the only project trench that was not surfaced with twentieth-century asphalt. Seven strata were defined within this trench, which was oriented northwest–southeast. It measured 16 m (52.5 ft) long, 1 m (3.3 ft) wide, and was excavated to a depth of 1.8 m (5.9 ft). A portion of the trench was left unexcavated to avoid brick and mortar landscape borders (Figs. 7.21, 7.22). West of this unexcavated interval, all seven strata were identified, but to the east, only three strata could be defined, Strata 6.1, 6.2, and 6.6. The boundary between the latter two was poorly defined. The south face of the trench was profiled. Intact cultural deposits were identified in this trench.

**Stratum 6.1** was a late nineteenth- to early twentieth-century layer that extended from the modern graveled surface to 30 cm (11.8 in) bgs. The soil was silty loam (7.5YR 3/2, Dark Brown) with numerous roots and root pores. The stratum was level across the length of the trench. Cultural material consisted of bone, nails, glass, and other historic debris.

**Stratum 6.2** was an intact late nineteenth-century layer consisting of loamy sand fill (7.5YR 3/2, Dark Brown). It underlaid Stratum 6.1 and extended to a depth of 90 cm (35.4 in) bgs. Cultural material included bone and native ceramics. Ash flecks were sparsely distributed throughout the fill. Abundant carbonate flecking occurred throughout.

**Stratum 6.3** was an intact lens of melted adobe within Stratum 6.2 that dated to the eighteenth century (7.5YR 6/4, Light Brown). The lens was thin and short in profile, and likely represents the disintegration of a single adobe brick or two. This layer also contained a high organic content. It occurred from 60–90 cm (23.6–35.4 in) bgs, and was thickest in the far west end of the trench, about 25 cm (9.8 in). The lens extended from 10 to 13.2 m (32.8 to 43.3 ft), pinching out at the ends. Sparse carbonate flecking was observed throughout the stratum.

**Stratum 6.4** was an intact eighteenth-century deposit comprised of sandy silt and loamy sand with carbonate grains and flecks (7.5YR 4/2, Light Brown). It extended from 90–105 cm (35.4–41.3 in) bgs. One Tewa black sherd was found in the fill. Organic content was diminished compared to above Stratum 6.3.

**Stratum 6.5** was a silty, noncultural sediment with sand content increasing with depth (7.5YR 4/2, Brown). Organic content and carbonate flecking was higher compared to overlying Stratum 6.4. This layer extended from 105–140 cm (41.3–55.1 in).

**Stratum 6.6** was a sterile layer of alluvial sand with poorly sorted gravels (7.5YR 5/4, Brown). It extended from 140–190 cm (55.1–74.8 in) bgs to the bottom of the trench.

**Stratum 6.7** was a sterile silt lens within Stratum 6.5, visible only in the west end of the trench. It was about 15 cm (5.9 in) thick, occurring at a depth of 120–135 cm (47.2–53.1 in) bgs. Small amounts of carbonate flecking were observed.

An auger test was performed to a depth of 2.3 m (7.5 ft) bgs. Sterile fill identical to Stratum 6.7 was encountered to the bottom of this test.

## Test Trench 7

Test Trench 7 was located southwest of the district court building and paralleled Griffin Street (Figs. 7.23, 7.24). It was oriented northwest–southeast. The trench was 10.6 m (34.7 ft) long, 1 m (3.3 ft) wide, and was excavated to a depth of 2.6 m (8.5 ft). Six strata were identified within this trench, all of which were observed for the entire length of the trench. The south face of the trench was profiled. Intact cultural deposits existed within this trench.

**Stratum 7.1** was a single layer of late twentieth-century asphalt (7.5YR 2/0, Black) that extended from the surface to a depth of 10 cm (3.9 in). This layer was consistently thick across the length of the trench.

**Stratum 7.2** may represent an intact Spanish Colonial deposit. It was composed of sandy loam (7.5YR 4/2, Brown), and yielded late nineteenth-century bone and coal clinkers. Angular gravel inclusions were also present within the fill. From beneath the asphalt at 10 cm (3.9 in), this stratum continued to a depth of 70 cm (27.5 in).

**Stratum 7.3** consisted of consolidated loamy sand with sparse charcoal flecking (7.5YR 6/4, Light Brown). Roots and root pores were dispersed throughout this layer, which began at 70 cm (27.5 in) and ended at a well-defined lower boundary at 90 cm (35.4 in).

**Stratum 7.4** was a fairly thin, sterile layer of sandy loam and small, rounded pebbles (7.5YR 5/4,


*Figure 7.21. LA 144329, Test Trench 6, south wall.*

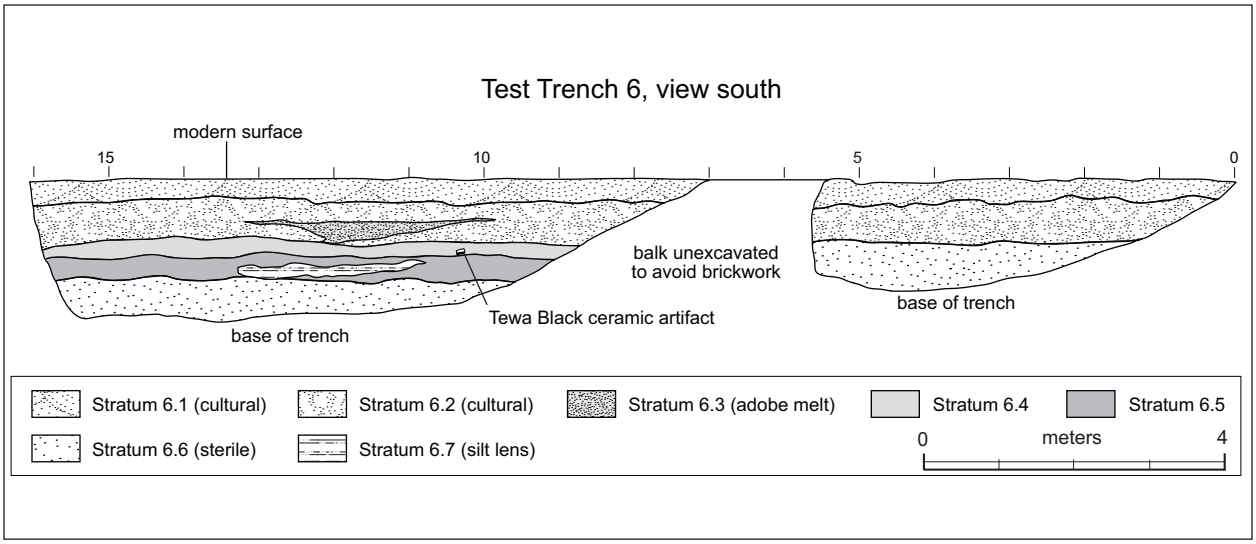


*Figure 7.22. LA 144329, Test Trench 6, profile.*


*Figure 7.23. LA 144329, Test Trench 7, south wall.*

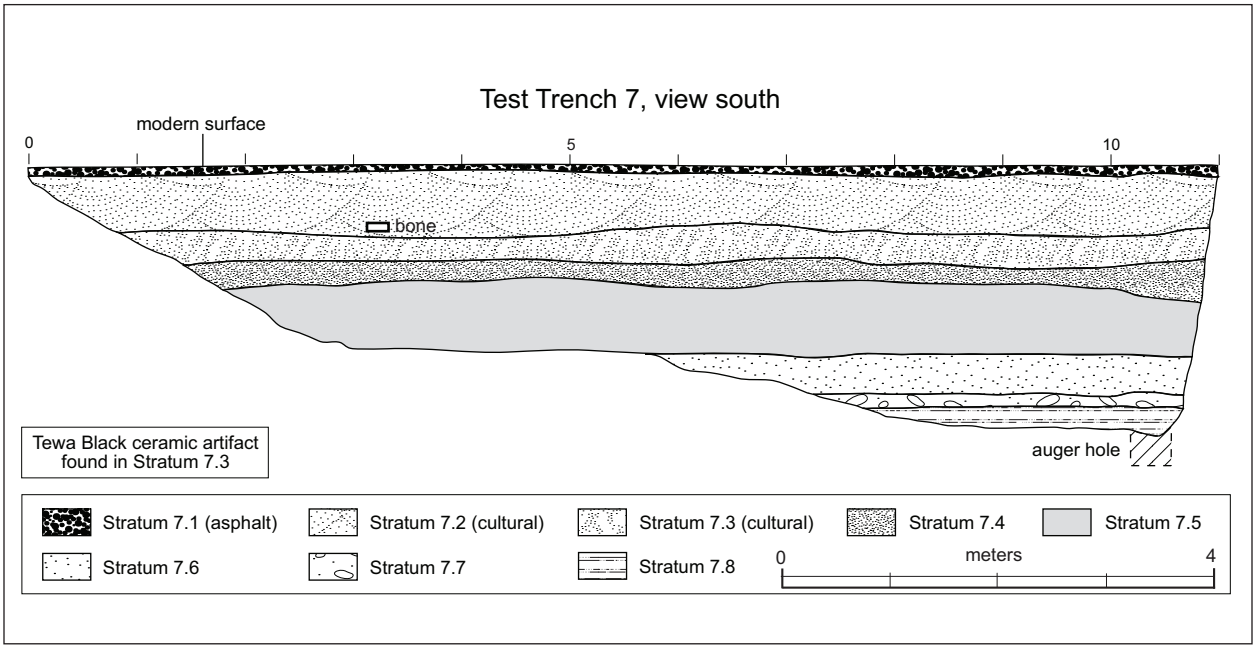


*Figure 7.24. LA 144329, Test Trench 7, profile.*

Light Brown) that extended from 90–110 cm (35.4–43.3 in).

**Stratum 7.5** was a much thicker, second sterile layer under Stratum 7.4. Sediment consisted of highly consolidated loam (7.5 YR 6/4, Light Brown). Calcium carbonate coatings occurred on ped faces and root pores. This layer began at 110 cm (35.4 in) and continued to 190 cm (74.8 in) bgs.

**Stratum 7.6** occupied the remainder of the test trench profile to a depth of 2.6 m (8.5 ft). Coarse sand and rounded gravels continued to the bottom of the excavation, with sand coarsening and cobbles increasing in size with depth.

Near the west end of the trench, an auger test was excavated to a depth of 2.9 m (9.5 ft) bgs, at which point the high gravel content prevented further digging.

## Test Trench 8

Test Trench 8 was a north–south-oriented trench that was dug on the west side of the county court building. Five strata were noted in this trench, four of which extended the entire length. This was a 12 m (39.3 ft) long trench that was excavated to a maximum depth of 2.1 m (6.9 ft). Width is 1 m (3.3 ft). The east face of the trench was profiled (Figs. 7.25, 7.26). No intact cultural deposits were observed in this trench.

**Stratum 8.1** was the asphalt parking lot layer that comprised the surface of most project test trenches. However, the asphalt (7.5YR 2/0, Black) was laid down in two 10 cm (3.9 in) courses here, with a total depth of 20 cm (7.8 in) across the entire surface of the trench.

**Stratum 8.2** was a thick, disturbed, mixed late nineteenth- to early twentieth-century layer that extended from 10–60 cm (3.9–23.6 in) and may have served as a base course for the overlying asphalt. The sediment was coarse sand and unsorted gravels of very mixed size, ranging from 2–30 cm (.7–11.8 in). Large cobbles were not common, but consistently occurred in the middle of this layer. At the base of Stratum 8.2 (60 cm/23.6 in bgs) was a thin lens of small gravels 2–3 cm (.7–1.2 in) in length. This lens began at 5.3 m (17.3 ft) and continued north end of the trench. At the same depth in the southern portion, sandstone slabs and a thin layer of asphalt occurred.

**Stratum 8.3** was a mixed, disturbed late nineteenth- to early twentieth-century layer of sandy loam that became considerably thicker in the south end of the trench (5YR 3/3, Dark Reddish Brown). In the north end, this layer extended from 60–140 cm (23.6–55.1 in), and in the south end, depth began at 40 cm (15.7 in) and ended at 165 cm (64.9 in). A Tewa plain-ware sherd was found in this layer, along with sparse charcoal flecking throughout the fill. A modern plastic drinking straw was found near the top of this stratum.

**Stratum 8.4** was a sterile layer of silty sand that was nearly devoid of gravel (7.5YR 5/4, Brown). The upper boundary of this stratum was deeper in the south end, and continued to the bottom of the trench (165–210 cm/64.9–82.8 in).

**Stratum 8.5** consisted of coarse sand and gravel that were visible in the north end of the trench only (7.5YR 4/4, Brown). No cultural material was observed. This layer began at 1.85 m (72.8 in) and continued to the trench bottom.

An auger test was dug at 7 m (22.9 ft) from the bottom of the trench to a depth of 2.6 m (8.5 ft) bgs.

*Figure 7.25. LA 144329, Test Trench 8, east wall.*

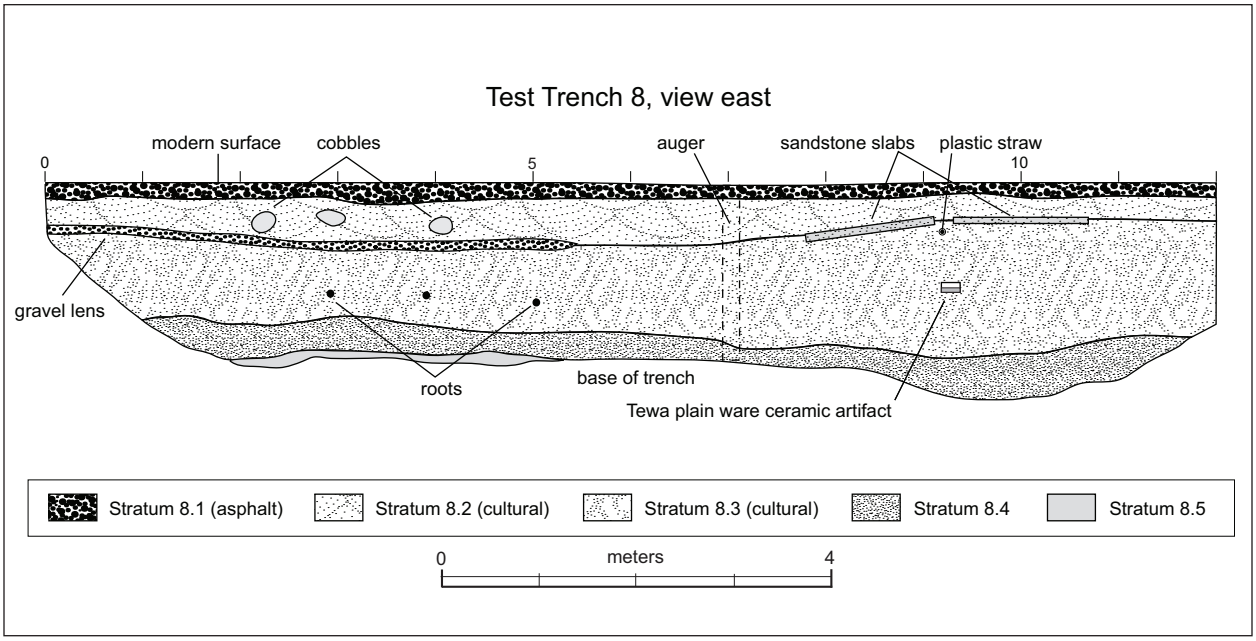


*Figure 7.26. LA 144329, Test Trench 8, profile.*

Stratum 8.5 was encountered throughout, with sand becoming coarser with depth, and gravels lessening to about 2 percent.

## Test Trench 9

This trench was located north of the Presbyterian Church, oriented east–west parallel to the north wall of the church. The trench was 12 m (39.7 ft) long, 1 m (3.3 ft) wide, and 1.8 m (5.9 ft) deep. Four strata were recognized in the south face profile (Figs. 7.27, 7.28). The mixed, disturbed late nineteenth- to early twentieth-century stratum observed in Test Trenches 1–6 and 8 occurred in this trench also, but extended to a much greater depth here than in other trenches, as the lower boundary was not observed at the bottom of the trench (1.8 m/5.9 ft). This stratum occupied the vast majority of the profile, with a lens of mixed strata in the east end. Modern debris was encountered at 1.18 m (3.9 ft), suggesting a high degree of disturbance. This trench did not yield intact cultural deposits.

**Stratum 9.1** consisted of a layer of asphalt from 0–10 cm (0–3.9 in) bgs (7.5YR 2/0, Black). This upper asphalt layer formed the current parking lot for the county district court building central to the project area.

**Stratum 9.2** was a second, thicker layer of asphalt beneath Stratum 9.1, encountered between 10–22 cm (3.9–8.6 in) bgs (7.5YR 5/4, Brown). While the upper boundary of this lower asphalt layer could be visibly distinguished, the lower boundary was obscured in some areas by the freezing of Stratum 9.2 and the upper 20 cm (.7 in) of underlying Stratum 9.3.

**Stratum 9.3** was a highly disturbed, mixed late nineteenth- to early twentieth-century sandy loam deposit (7.5YR 4/2, Dark Brown). The upper 20 cm (.7 in) were frozen to the overlying Stratum 9.2 asphalt. Cultural materials consisted of brick, charcoal, and green glass. A large fragmentary orange brick coated on one surface with black glaze or sooting occurred at 80 cm (2.62 ft) bgs. At 1.18 m (3.9 ft), a soda can pop top was found, evidence of the high degree of mixing within this stratum. Black root clasts (10YR 3/1, Very Dark Gray) were sporadically dispersed in the bottom 30 cm (11.8 in) of this stratum. Decomposed caliche flecking was observed throughout. A lens of mixed sediment was identified at the east end of the trench, comprised of Stratum 9.3, 1.3, and 1.5.


*Figure 7.27. LA 144329, Test Trench 9, south wall.*

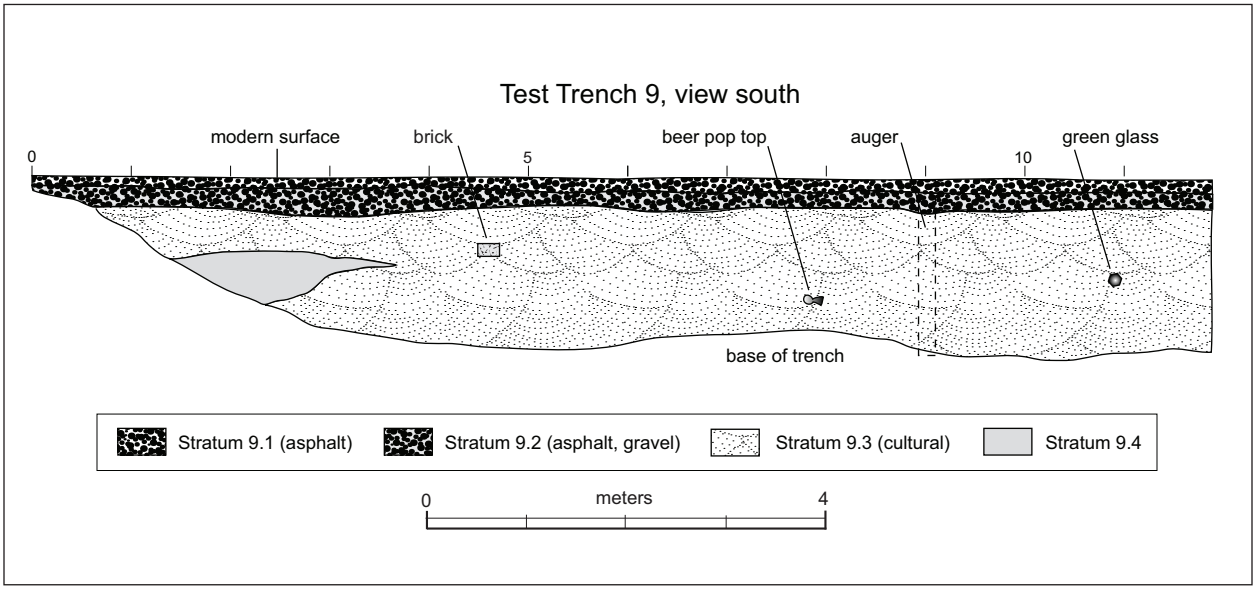


*Figure 7.28. LA 144329, Test Trench 9, profile.*

An auger test was excavated at 9 m (29.5 ft). Sterile soil was encountered in the last centimeter of this trench only, at a much greater depth than other project trenches. Stratum 9.3 continued to a depth of 1.19 m (3.9 ft). No cultural materials were observed.

## Test Trench 10

Test Trench 10 was located along the north side of the Judge Steve Herrera Judicial Complex, parallel to Catron Street and oriented east–west. This trench was 12 m (39.4 ft) long, 1 m (3.3 ft) wide, and was excavated to a depth of 1.6 m (5.2 ft). Seven strata were identified in this trench. The south face was profiled (Figs. 7.29, 7.30). This trench did not yield intact cultural deposits.

**Stratum 10.1** was a layer of asphalt that served as the parking lot for the Judge Steve Herrera Judicial Complex (7.5YR 2/0, Black). The layer extends from 0–10 cm (0–.32 ft) bgs, and was consistently thick across the trench surface.

**Stratum 10.2** was a mixed, disturbed, late nineteenth- to early twentieth-century layer containing metal, wood, brick, and glass. This sediment was sandy clay loam with 40 percent pea-sized gravels (7.5YR 3/2, Dark Brown), and may have been deposited as a base course for the overlying asphalt. It extended from 10–40 cm (.32–1.57 in) bgs.

**Stratum 10.3** consisted of sandy clay loam with fine carbonate inclusions and pebbles dispersed throughout the sediment (7.5YR 3/2, Dark Brown). It extended from 40–70 cm (15.7–27.5 in). No cultural materials were encountered.

**Stratum 10.4** was a sterile layer of silty clay loam (7.5YR 3/2, Dark Brown) that extended from 70–100 (27.5–39.3 in) bgs. Gravels define the lower boundary of this layer, which was irregular but clearly defined. Root clasts within this stratum extended upward into strata 10.4, 10.5, and 10.6. No cultural materials were found.

**Stratum 10.5** was a sterile layer of sandy clay loam (7.5YR 5/4, Brown) that extends from 100–130 cm (39.3–51.1 in) bgs. Root clasts found in Strata 10.4 and 10.6 also occurred in Stratum 10.5.

**Stratum 10.6** was also sterile, and consisted


*Figure 7.29. LA 144329, Test Trench 10, south wall.*

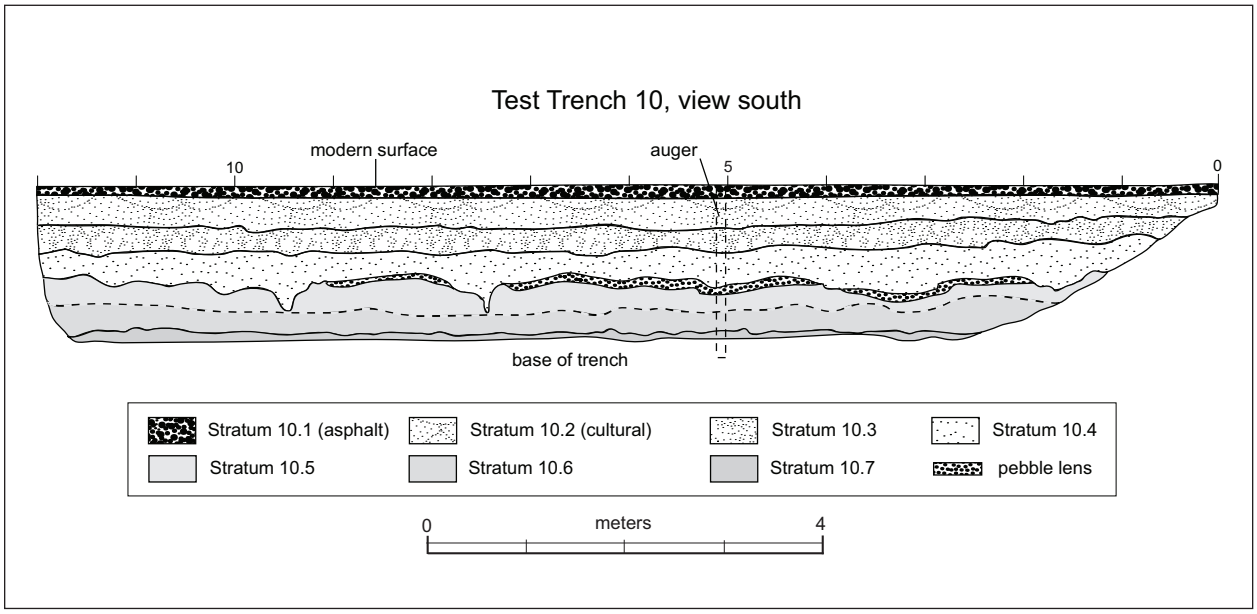


*Figure 7.30. LA 144329, Test Trench 10, profile.*

of silty clay loam (7.5YR 4/4, Brown) with many fine root pores dispersed throughout. This stratum began at 130 cm (51.1 in) bgs and continued to 150 cm (59 in) bgs.

**Stratum 10.7** was a sterile layer of sandy clay loam (7.5YR, 4/4, Brown) with a diffuse upper boundary. It extended from 150 cm (59 in) bgs to the bottom of the trench at 160 cm (63 in).

An auger test was performed at the base of the trench to a depth of 2.1 m (6.9 ft). Sterile deposits were found to the base of this test, comprised of Stratum 10.7 sandy clay loam sediment.

## Test Pit 1

Test Pit 1 was located at the southeast corner of the Judge Steve Herrera Judicial Complex. The south and east borders of the test pit were formed by the intersection of two modern concrete sidewalks. The test pit measured 1 by 1 m (3.3 by 3.3 ft) and was hand excavated in 10 cm (3.9 in) levels to a total depth of 1.20 m (3.9 ft). Seven strata were identified within the test pit (Figs. 7.31, 7.32). The east face was profiled. This test pit yielded intact cultural deposits. Of note in this test pit was the presence of ceramics from the Puname district in Stratum 100.5, which may be associated with the Esquivel residence.

**Stratum 100.1** extended from 0–10 cm (0–3.2 in) bgs. This level consisted entirely of modern landscaping gravel (5YR 6/4, Light Reddish Brown) underlain by geotextile cloth. Cultural materials consist entirely of glass fragments and modern refuse.

**Stratum 100.2** consisted of sandy loam sediment dating from the late nineteenth- to early twentieth-century (7.5YR 4/2, Dark Brown). Construction debris increased in this stratum, consisting of sparse fragments of coal, brick, burned shale, and mortar. Sparse charcoal flecking was also observed. An ash lens appeared in the northeast corner of the unit in Level 3 (20–30 cm/.78–11.8 in), which continued to expand with depth. Cultural materials included Euroamerican and Native American ceramics, bone, glass, metal, and lithics, along with modern trash. Two strike-a-light flints of Pedernal chert were recovered from this stratum. This layer extended from 10–36 cm (.78–14.1 in) bgs. A large root was encountered at the bottom of this stratum from 36–38 cm (14.1–14.9 in).

**Stratum 100.3** was associated with the mission school activities in the project area, and dates to the Territorial period. It was a thin stratum, which extended from 38–42 cm (14.1–16.5 in) bgs, beginning


*Figure 7.31. LA 144329, Test Pit 1, east wall.*

under the large root encountered at the bottom of Stratum 100.2. Coal, ash, burned shale fragments, and large charcoal pieces increased in Level 4 (30–40 cm/11.8–15.7 in) bgs, possible indication of a dumping episode. Sediments consisted of sandy loam (10YR 5/2, Gray). Level 4 (30–40 cm/11.8–15.7 in) yielded abundant bone fragments. Glass and metal fragments were also found within this stratum.

**Stratum 100.4** also dated to the Territorial period. An ashy coal and clinker-laden layer overlaid the sandy loam sediments of this stratum (5YR 4/3, Reddish Brown). Charcoal and ash flecking decreased with depth. Sediments in this stratum were more compact than overlying Stratum 100.3, but became less compact in Level 6 (50–60 cm/19.6–23.6 in) bgs. Native American and Euroamerican ceramics, bone, glass and metal artifacts were encountered. This stratum was more intact that above Stratum 100.3 It extended from 42–64 (16.5–25.1 in) bgs, and yielded bone, glass, metal, and Native American and Euroamerican ceramics.

**Stratum 100.5** dated to the Colonial and Mexican period, and may have been associated with the Esquivel residence. Native American ceramics originating from the Puname district were found in this stratum, possibly suggesting ties between the Esquivel household and pueblos of the Middle Rio Grande or Zia. This layer extended from 64–100 cm (25.1–39.3 in) bgs, and included Levels 7–10. Sediment consisted of sandy loam (7.5YR, 4/4 Dark Brown) flecked with charcoal throughout. Cultural material such as glass, metal, lithics, and Native American and Euroamerican ceramics, peaked in Level 6 and 7 (50–70 cm/19.6–27.5 in), and declined in Level 8 (70–80 cm/27.5–31.4 in) and Level 9 (80–90 cm/31.4–35.4 in) bgs. Level 7 was a transition level, displaying sediment with mixed characteristics of Stratum 100.4 and 100.5, shifting from soft, sandy loam to silty loam. Artifacts, particularly bone, increased again in Level 10 (90–100 cm/35.4–39.3 in).

**Stratum 100.6** consisted of clay loam with small, rounded pebbles (7.5YR 5/4, Brown). Arti-

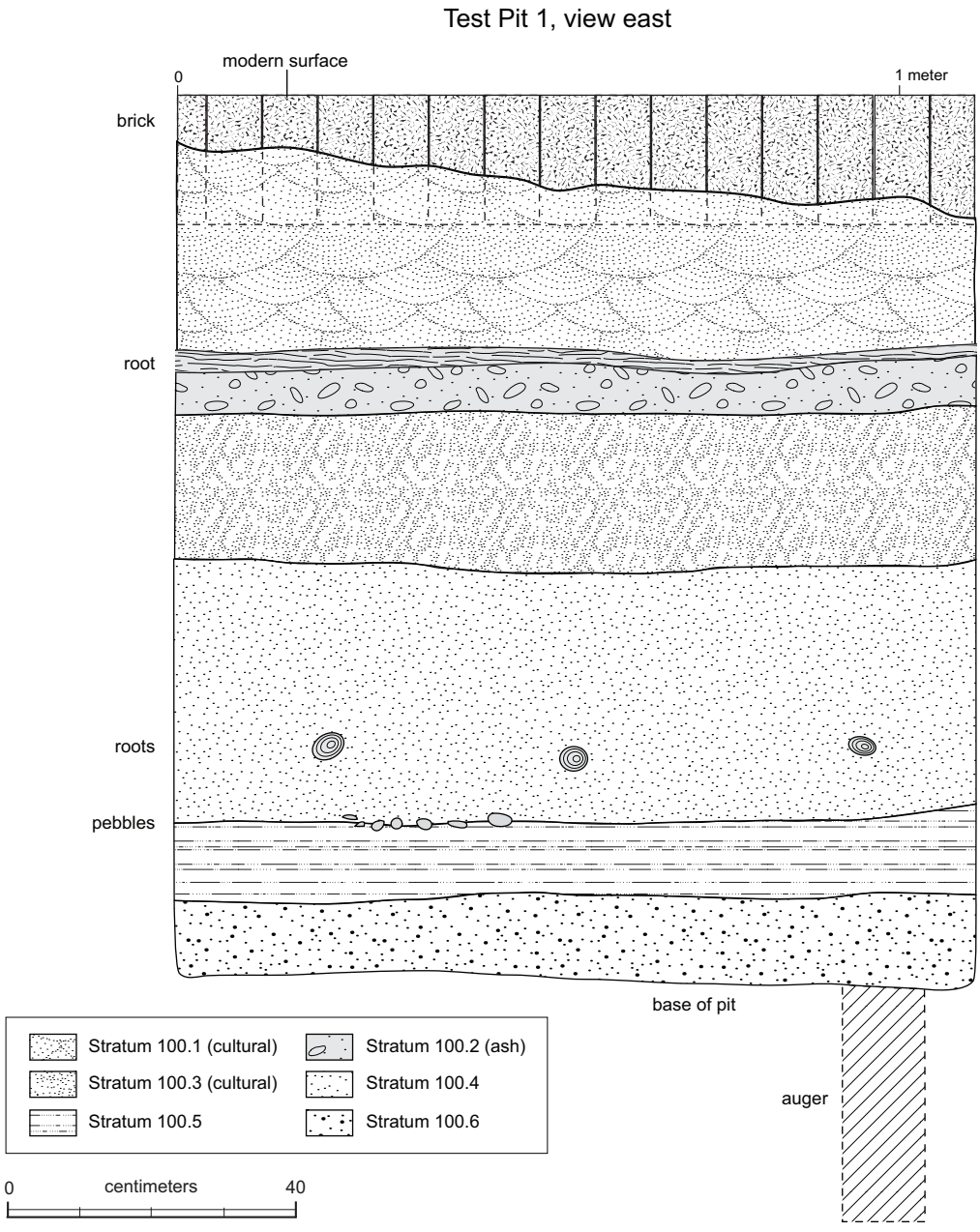


*Figure 7.32. LA 144329, Test Pit 1, profile.*

fact counts declined significantly in this stratum, consisting of Native American and Euroamerican ceramics and bone. This stratum extended from 100–110 cm (39.3–43.3in).

**Stratum 100.7** was a sterile layer of loose, coarse sand and gravel (5YR /4/3, Reddish Brown) that extended from 110–120 cm (43.3–47.2 in).

An auger test was excavated in the center of the test pit from 120–170 cm (47.2–66.9 in) bgs. Sterile sediments identical to Stratum 100.7 were encountered to the bottom of the test.

## Test Pit 2

Test Pit 2 was located at the northwest corner of the project area near the intersection of Catron and Griffin Streets. The pit measured 1 by 1 m (3.3 by 3.3 ft) and was hand excavated in 10 cm (3.9 in) levels to a depth of 1.23 m (48.4 in). The pit was bordered on the north and east sides by a modern concrete sidewalk and landscaping curb. Five strata were identified (Figs. 7.33, 7.34). The north face was profiled. Fill in this test pit displayed a high degree of disturbance from modern human activity and bioturbation. Twentieth-century construction debris was found in all five strata, possibly deriving from the 1937 construction of Harvey Junior High School.

**Stratum 200.1** was the modern concrete sidewalk, which extends from 0–10 cm (0–3.9 in) bgs. The concrete was consistently thick across the width of the test pit (5YR 7/1, Light Gray).

**Stratum 200.2** consisted of a modern, brown gravel base course underlaid by geotextile landscaping cloth. It extended from 10–43 cm (3.9–16.9 in) bgs. Beneath the gravel, dry, clayey sand and gravel sediments occurred (7.5YR 4/4, Brown), which yielded glass, metal, lithics, bone, and native ceramics. Concrete, slag, and charcoal fragments were dispersed throughout the fill, along with construction debris. Artifact frequencies were constant throughout the stratum. While fill was primarily silty sand, pockets and lenses of coarser-grained sediments occurred throughout, and gravel content varied. Numerous large roots disturbed sediments and hindered excavation within this stratum.

**Stratum 200.3** was also heavily bioturbated by large roots throughout the entire stratum. This layer extended from 43–78 cm (3.9–30.7 in) bgs. Sediments consisted of sandy clay and gravel containing construction debris and coal clinkers (7.5YR 5/2, Brown). Cultural material consisted of glass, bone, metal, lithics, and native ceramics, with highest frequencies in Level 7 (63–73 cm/24.8–28.7 in).

**Stratum 200.4** sediment shifted to finer-grained silty sand (7.5YR 5/4, Brown). The mixed construction debris found in the two overlying strata was also found in Stratum 200.4. Charcoal flecking occurred throughout, along with ash, coal clinkers, brick and tar. Large roots were encountered throughout this stratum, along with insect bioturbation. Gravel content decreased in this stratum compared to overlying Stratum 200.3. This layer extended from 78–105 cm (30.7–41.3 in) bgs.

**Stratum 200.5** contained mixed bioturbation caused by large tree roots, rodents, and insects. Mixed construction debris continued into this layer. Sediment shifted to coarse sand with a high percentage of large gravels (7.5YR 6/6, Reddish Yellow). Cultural material frequencies dropped significantly in this stratum, which extended from 105–123 cm (41.3–48.4 in) bgs.

An auger test was excavated into the center of


*Figure 7.33. LA 144329, Test Pit 2, north wall.*

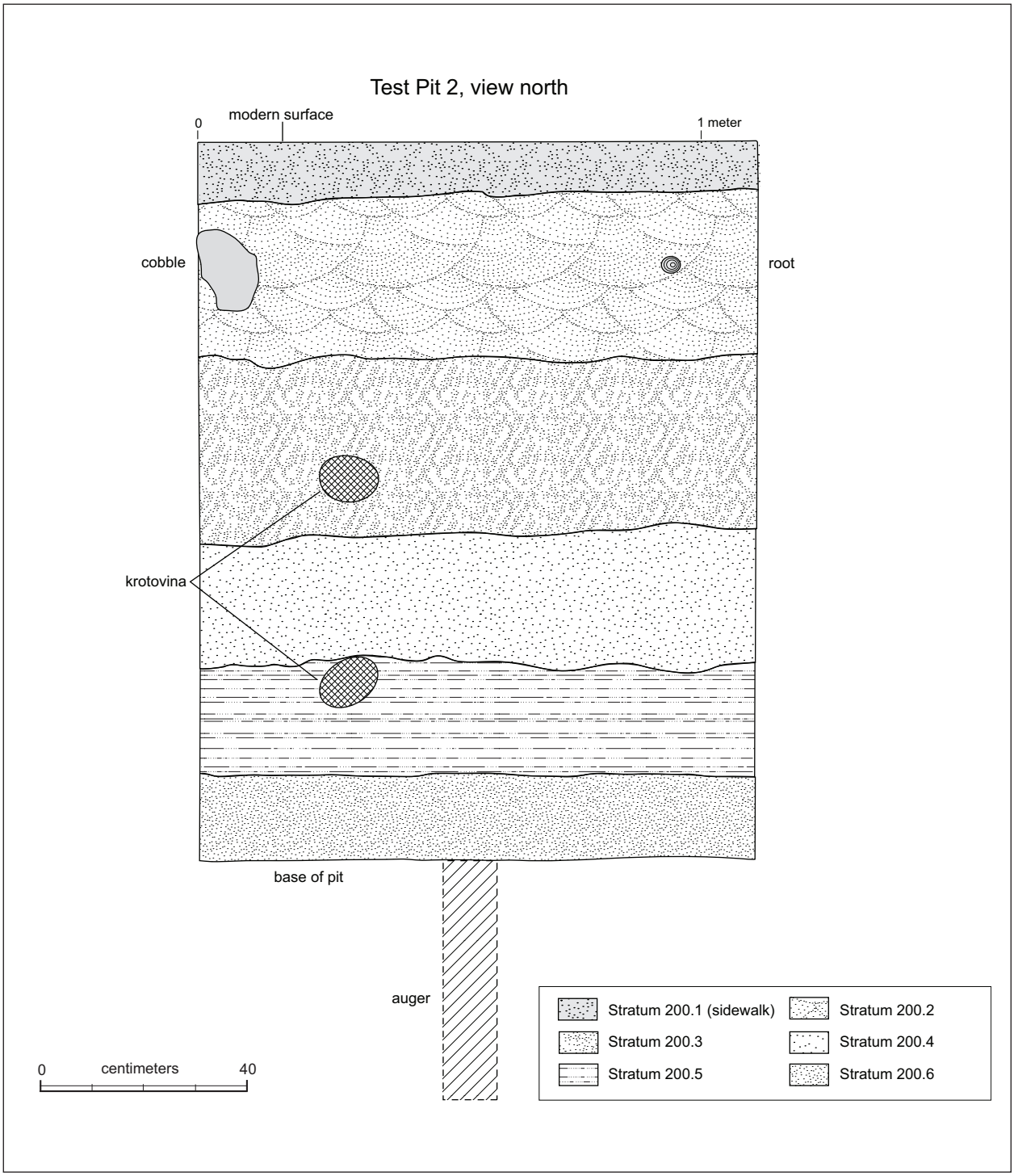


*Figure 7.34. LA 144329, Test Pit 2, profile.*

the pit from 123–173 cm (48.4–68.1 in) bgs. Alluvial sand and gravel sediments were encountered to the bottom of the auger test. No cultural materials were found.

## Summary and Interpretation

Test excavations indicated that areas to the south and east of the county court building have the highest potential to inform on historic activities in the area. Test Trenches 2 and 5 contained architectural features affiliated with the late nineteenth-century Presbyterian Mission School and associated structures, and Test Trenches 4, 6, and 7, in conjunction with Test Pit 1, yielded intact eighteenth-century Spanish Colonial deposits. Test Trenches 1, 3, 8, 9, and 10 and Test Pit 2 displayed significant evidence of disturbance and have little archaeological potential.

The architectural foundations and walls associated with the girls' dormitory of the Presbyterian Mission School and the storage building west of the dormitory were found in Test Trenches 2 and 5 (Features 1–4). All of these features were constructed below or in conjunction with mixed late nineteenth- to early twentieth-century deposits, though at variable depths. Also along the south and east side of court building, Test Trenches 4 and 7 and Test Pit 1 yielded intact Spanish Colonial midden deposits containing eighteenth- and nineteenth-century cultural debris. Butchered bone, Euroamerican and Native American ceramics were encountered in these areas.

Several strata occurred consistently across most of the project trenches. One or two overlying layers of asphalt occurred in all trenches with the exception of Test Trench 6, which was excavated into a gravel landscape. An underlying base course of coarse sand and gravel and mixed late nineteenth- to early twentieth-century debris occurred in Test Trenches 1, 2, 4, 5, 8, and 10. However, this layer was notably absent in Test Trenches 3, 6, 7, and 9, all of which were situated at the edges of the project area.

The thickest and deepest stratum was a dark brown layer of mixed late nineteenth- to early twentieth-century fill containing construction debris such as brick and mortar, and other debris such as bone, glass, metal, and Euroamerican and Native American ceramics. Though this stratum was found in all project test trenches, it appears to have been leveled prior to depositing a sand and gravel base course for the asphalt parking lot in some trenches, particularly those on the periphery of the project area. During the leveling and deposition of the base course, this darker stratum may have become intermixed in some trenches. Where the base course was absent, the dark stratum was directly under the asphalt. This was most evident in Test Trenches 7 and 9.

A sterile, alluvial sand and gravel layer ran underneath all cultural deposits. It occurred within or beneath all excavated trenches and test pits. This stratum represented a large alluvial deposit that lies under much of the Santa Fe area and predates human occupation in the region (Barbour et al. 2014). While several prehistoric ceramics were encountered within the test pits, no evidence of prehistoric habitation or use was documented within the project area.

# 8 | Euroamerican Artifact Analysis

**Matthew J. Barbour**

Euroamerican artifacts represent objects that were not available in the American Southwest prior to the establishment of European settlements in the sixteenth century. Assemblages typically include a variety of artifact types such as bottle glass, can or metal fragments, and wheel-thrown ceramics reflecting domestic, commercial, agrarian, and industrial activities and behaviors.

A total of 347 Euroamerican artifacts were collected from archaeological test pits excavated at the former Judge Steve Herrera Judicial Complex section of LA 144329. Euroamerican analysis was conducted by Matthew Barbour of the Office of Archaeological Studies (OAS) following methods outlined in Boyer et al. (1994), specifically created to quantify Euroamerican assemblages. General descriptive attributes such as material type, manufacturing technique, and color were recorded for each artifact. The focus of this analysis was to identify the materials recovered, date the contexts in which they were found, and discuss how these artifacts and the contexts in which they are found can inform upon the history of the area.

This chapter is divided into three sections. It begins with a brief discussion of analytic methods. This is followed by a discussion of the Euroamerican artifact assemblage relative to the context in which it was found. Lastly, the analysis results as a whole are summarized in relation to their ability to help inform upon the past history of the area.

## Analytic Methods

The OAS Euroamerican analysis format and procedures were developed over the last 10 years and incorporate the range of variability found in sites dating from the sixteenth to the twentieth century throughout New Mexico (Boyer et al. 1994). These methods are loosely based on South's (1977) Carolina and Frontier artifact patterns and the function-based analytical framework described by Hull-Walski and Ayres (1989) for dam construction camps in central Arizona. This detailed recording format allows for the examination of particular temporal and spatial contexts and for direct comparisons with contemporaneous assemblages from other parts of New Mexico and the greater Southwest. Recorded attributes were entered into an electronic database (Statistical Package for the Social Sciences, or SPSS) for analysis and comparison with similar databases on file at OAS.

Functional in nature, the Euroamerican artifact analysis focused on quantifying the utility of various objects. One benefit to this type of analysis is that "various functional categories reflect a wide range of human activities, allowing insight into the behavioral context in which the artifacts were used, maintained, and discarded" (Hannaford and Oakes 1983:70). It also avoids some of the analytic pitfalls associated with frameworks focused on categorizing artifacts strictly by material type (e.g., glass, metal, ceramic, mineral, etc.).

One weakness of material type–based analyses is that only a limited number of functional categories are represented in a single material class. For instance, metal, while beneficial for examining construction and maintenance materials such as nails and wire, does not incorporate patent medicines or other bottled goods into the same analysis. In addition, variables such as finish, often chosen to analyze glass artifacts, are appropriate for glass containers, but not for flat glass, decorative glass, or other glass items like light bulbs, which can serve

different roles within a single spatial and temporal context. The OAS analytic framework was designed to be flexible, documenting not only the qualities of each material type, but also the functional role of particular items.

In functional analyses, each artifact is assigned a hierarchical series of attributes that classify an object by assumed **functional category**, **artifact type**, and its specific role, or **function**, within that matrix. These attributes are closely related and provide the foundation for additional variables that, with increasingly more detail, specify an artifact's particular function. Each category encompasses a series of material types whose specific functions may be different but related. For example, a pickle jar and a meat tin are both assumed to have initially contained food. Both items would be included in the functional category for food, but each container is made from a different **material type**, and the contents had different functions.

In essence, function-based analysis is based on an inventory of different artifact attributes where variables are recorded hierarchically to amplify the functional categories and provide a detailed description of each artifact, when possible. Attributes that commonly provide detailed information about individual artifacts and, in turn, functional categories include material type, date and location of manufacture, and artifact form and portion.

Chronometric data are derived from a variety of descriptive and manufacturing attributes, especially the latter. If an artifact retains enough information to derive beginning or ending dates, those variables are recorded under the **date** attribute. **Manufacturer** records the name of the company that produced a particular object. Together these data can be used to assign specific date ranges to an artifact based on known manufacture periods or the dates of operation for manufacturing companies. A related attribute is **brand name**. Many brand names also have known production periods that can provide temporal information. The manufacturer or brand name is generally listed as **labeling/lettering**; it is used to advertise the product and describe its contents and suggested use.

When evident, manufacture **technique**, such as "wheel-thrown" or "forged," was also recorded. Since some manufacturing techniques have changed over time, this attribute can often provide a general period of manufacture. A related attribute is **seams**, which record how sections of an artifact, particularly cans and bottles, were joined together during manufacturing. Through time, these processes were altered and are reflected in the types of seams used to construct various containers. The type of **finish/seal** was recorded to describe the opening of a container prior to adding the contents and the means of sealing it closed. Like **seams**, many finish/seal types have known manufacturing periods offering general temporal information. In addition, **opening/closure** records the mechanism used for extracting the contents of a container.

For some artifacts, attributes such as **color**, **ware**, and **dimensions** can also provide information on the period of manufacture. The current color of an artifact was recorded if determined to have diagnostic value. A good example is glass, where the relative frequency of various colors in an assemblage can provide some temporal information, since the manufacture and preservative processes have changed over time. **Ware** refers to china artifacts and categorizes the specific type of ceramic represented, when known. Because temporal information exists for most major ware types, this attribute provides relatively more refined dating information compared to seams and color. Dimensions of complete artifacts can also provide chronometric data, especially artifacts like nails or window-pane glass, where thickness or length of the object can be temporally sensitive.

In addition to temporal information, the manufacturing process of particular objects can be used to support functional inferences. **Material** records the type material(s) from which an object was manufactured (e.g., glass, metal, paper, clay). **Paste** describes the texture of the clay used to manufacture ceramic objects and is further defined by porosity, hardness, vitrification, and opacity. **Decoration** and **design** describe the type of technique used to apply distinctive decorative motifs to an object, such as china or glassware.

Several others attributes were used to quantify an object's condition and use-life. For each item the **fragment/part** variable described what portion of a particular form was represented. Fragments of objects that refit to complete or partial objects recovered from a single excavation context were recorded together as a **minimum number of vessels** (mnv) of one, and the number of specimens present represented by **count**.

Cultural alteration of an item to extend its use-life was recorded as *reuse*. This variable describes any evidence of a secondary function, and the **condition/modification** variable monitors any physical modifications associated with that secondary use. If environmental conditions have altered the surface of an artifact through either glass patination or metal corrosion, it was recorded as **aging**.

The appearance of an artifact was monitored as **shape**. This variable was generally used to describe the physical contours of complete objects. Finally, quantitative data recorded for most Euroamerican artifacts included **length/ height**, **width/diameter**, and **thickness**. For this particular study, artifacts were not weighed.

## Analysis Results

The 347 Euroamerican artifacts recovered from the LA 144329 included a diverse array of products that encompassed eight of the twelve broad functional categories used in the OAS Euroamerican artifact analysis (Table 8.1). Economy & production, furnishings, communication, and military & arms items were not recovered from during the current

*Table 8.1. LA 144329, Test Pits 1 and 2, Euroamerican artifacts by function-based category and spatial context.*

| CONSTRUCTION/ MAINTENANCE | TYPE | FUNCTION | TEST PIT 1 | | | | TEST PIT 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| | | | S-100.1 | S-100.2 | S-100.4 | S-100.5 | | |
| Unassignable | Unidentifiable | unidentifiable | – | 3 | – | – | 1 | **4** |
| | | bottle, indet. | 3 | 14 | 7 | 1 | 26 | **51** |
| | | can, indet. | – | 4 | 6 | 4 | 17 | **31** |
| Food | Miscellaneous | aluminum foil | – | – | – | – | 1 | **1** |
| Indulgences | Miscellaneous | can tab | – | 1 | – | – | – | **1** |
| | Soda/ carbonated beverage | soda bottle | – | 4 | – | – | 2 | **6** |
| | Wine | wine bottle | – | – | – | – | 2 | **2** |
| | Beer | beer bottle | 1 | 6 | 7 | 3 | 26 | **43** |
| | | ale bottle | – | – | – | – | 2 | **2** |
| Domestic | Dishes | bowl | – | 1 | 6 | 1 | – | **8** |
| | | soup plate | – | 1 | 1 | 3 | – | **5** |
| | | vessel, indet. | – | 2 | 2 | 1 | 2 | **7** |
| Construction/ maintenance | Unidentifiable | plate | – | 1 | – | – | 3 | **4** |
| | | strap/band/strip | – | 1 | – | – | 2 | **3** |
| | Hardware | spite | – | 1 | – | – | – | **1** |
| | | nail, common | – | 37 | 1 | – | 7 | **45** |
| | Building materials | brick | – | 1 | – | – | 1 | **2** |
| | | window glass | 1 | 76 | 7 | – | 34 | **118** |
| | Fencing | smooth wire | – | 3 | – | – | – | **3** |
| | | fence staple | – | 1 | – | – | – | **1** |
| Personal effects | Clothing | button, four-hole | – | 1 | – | – | – | **1** |
| | Medicine health | patent medicine bottle | – | – | 1 | – | 4 | **5** |
| Entertainment/ leisure | Stationery equipment | pencil | – | 2 | – | – | – | **2** |
| Transportation | Animal power | horseshoe nail | – | – | – | – | 1 | **1** |
| **Total** | | | **5** | **160** | **38** | **13** | **131** | **347** |

project. Overall, the cultural materials typify Euroamerican artifact assemblages encountered in the Santa Fe area and include products manufactured during the eighteenth, nineteenth, and twentieth centuries. These materials are discussed below in relation to the test pit in which they were found.

### *Test Pit 1*

A total of 216 Euroamerican artifacts were recovered from Test Pit 1 (Table 8.1). While the test pit was excavated in arbitrary 10 cm levels, these levels could be linked to discrete strata documented within the test pit profile. The strata appear to represent distinct periods of deposition reflected in the Euroamerican materials recovered.

**Stratum 100.1** represents the modern landscaping gravel that surrounds the Judge Steve Herrera Judicial Complex. Artifacts (n = 5) recovered from this stratum consisted exclusively of small glass shards possibly related to broken windshields and soda and alcohol beverages consumed on the property. None of the artifacts are temporally diagnostic to a specific decade. However, all of the bottle glass appears to have been machine-manufactured suggesting the products were produced in the twentieth century.

**Stratum 100.2** was characterized a as a mixture of late nineteenth- and early twentieth-century cultural materials possibly deposited during construction of the Harvey Junior High School in 1937. Euroamerican artifacts (n = 160) support this assertion. The vast majority of artifacts from this stratum could be linked to construction and maintenance activities and the presence of both machine-cut (1830–1900; Nelson 1968:8) and wire-drawn (1900–present; Nelson 1968:10) common nails could be indicative of nineteenth- and twentieth-century mixing. Notable within the assemblage was a small four-hole button possibly from a child's clothing (Fig. 8.1) and the ferrule portions of two pencils. Collectively, these materials could indicate children in an academic context, either Presbyterian Mission School (1867+; Sze and Spears 1988:95) or Harvey Junior High (1937+; Sze and Spears 1988:9). However the Harvey Junior High School is probably most likely based upon the presence of a pull tab (1963+; U.S. Patent No. 3,349,949).

Euroamerican artifacts recovered from **Stratum 100.4** are few in number, but appear to reflect an institutional setting, such as the Presbyterian Mission School. The domestic items category (n = 9) contains a large number of bowl fragments (n = 6) all of which appear to be from undecorated ironstone vessels. Undecorated ironstone was commonly purchased by the military, inns, and hospitals for serving food as it was both inexpensive and readily available (Lentz and Barbour 2011). Likewise, much of the bottle glass (beer = 7 and patent medicine = 1) within the deposit was blown into two-piece hinge bottle molds indicating deposition sometime between 1840 and 1920 (Lorrain 1968:39–40). This time period would match with the historic use of the property for the Presbyterian Mission School.

The last cultural deposit in Test Pit 1 was **Stratum 100.5**. Thirteen Euroamerican artifacts were recovered from this stratum. These collectively suggested a mixture of materials dating from the late eighteenth through the nineteenth century and included a shard from an eighteenth-century hand-blown bottle, sherds from a San Elizario Polychrome soup plate (n = 3, Fig. 8.2), can fragments (n = 4), and beer bottle shards (n = 2). Manufacturing methods employed in the production of these materials do not overlap in time suggesting the stratum has undergone at least some cultural disturbance. The clearest evidence of this mixing is indicated by the distribution of the soup plate fragments. While the majority of the soup plate pieces (n = 3) were found within Stratum 100.5, isolated fragments of the same vessel were also encountered in Stratum 100.2 (n = 1) and Stratum 100.4 (n = 1). As these frag-

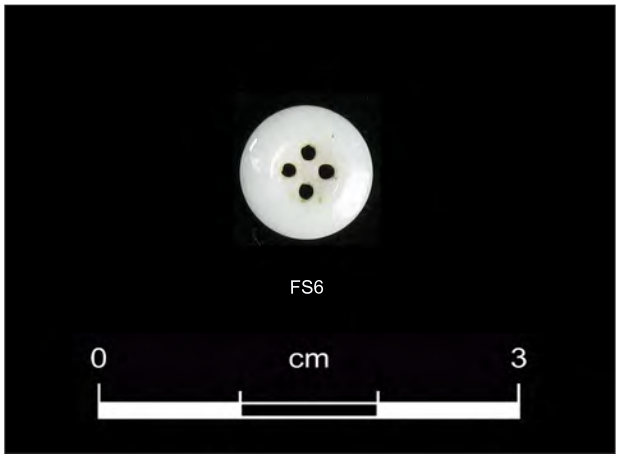


*Figure 8.1. LA 144329, Test Pit 1, Stratum 100.2, four-hole porcelain button.*

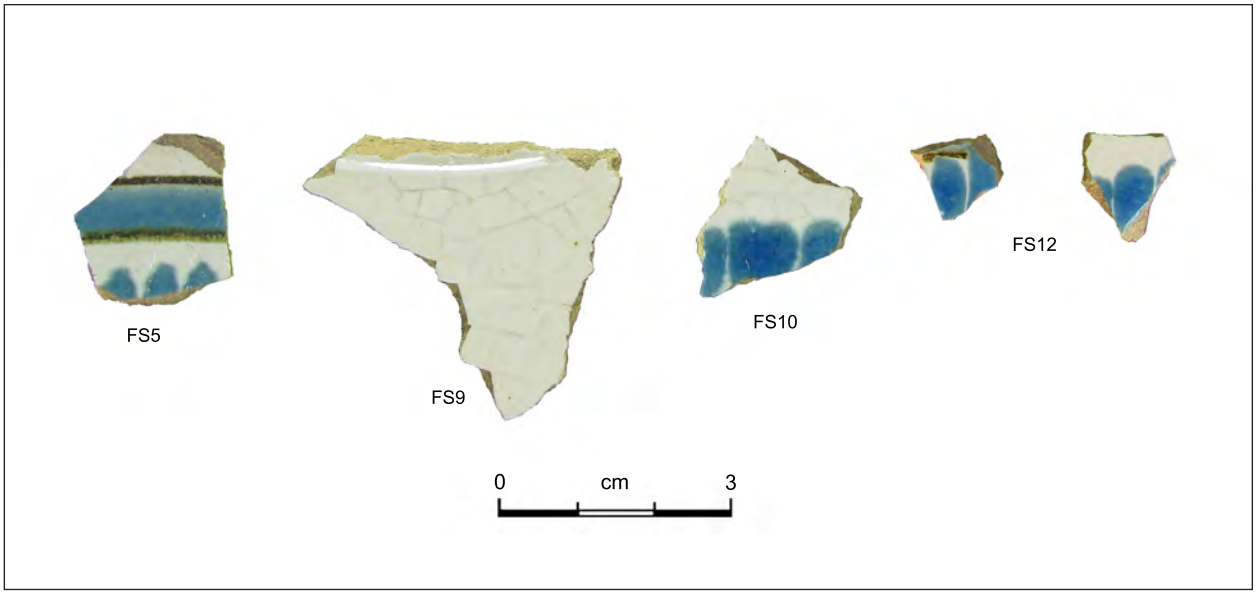


*Figure 8.2. LA 144329, Test Pit 1, Stratum 100.5, fragments of a San Elizario Polychrome soup plate.*

ments are small pieces, they have been moved by bioturbation. However, the presence of these materials in other strata provides clear evidence of at least some vertical disturbance within the test pit.

### *Test Pit 2*

Field observations regarding Test Pit 2 clearly indicated the presence of machine-manufactured glass (1904+; Lorrain 1968:43) at the lowest levels of the pit suggesting twentieth-century mixing through all cultural strata. Materials from the test pit (Table 8.1) consisted largely of construction and maintenance items (n = 42) possibly suggesting that much of the mixing may have occurred during construction of the Harvey Junior High School in 1937 (Sze and Spears 1988:9). Other artifacts found in substantial quantities included indulgences (n = 32) and unidentifiable glass (n = 26) and can (n = 17) container fragments. Some of the items could be definitively dated to the nineteenth century, including machine-cut square nails and a wine bottle shard displaying evidence of having been manufactured within a turn mold. However most are temporally ambiguous and cultural materials dating to the eighteenth century, such as the soup plate encountered in Test Pit 1, are notably absent.

## Summary and Interpretation

Analysis of the Euroamerican artifacts confirmed field observations regarding the dates of deposition for intact cultural deposits encountered in Test Pit 1 and demonstrated the mixing of materials from different time periods in Test Pit 2. Stratum 100.4 and 100.5, in Test Pit 1, offer the best prospects for further archaeological investigation. Stratum 100.4, with its institutional dinnerware and nineteenth-century bottles, appears to be linked with the Presbyterian Mission School, which occupied the site from the 1860s to the 1930s; Stratum 100.5, with its San Elizario soup plate and hand-blown bottle glass, is most likely associated with the Esquivel house, which stood from the early eighteenth to mid-nineteenth centuries.

Historic records offer a plethora of data regarding the mission school and those that studied there. However, Stratum 100.4 has the possibility to inform upon the day-to-day activities at the school. For example, medicine bottles can be examined to determine what ailments afflicting the staff and student body, while canned and bottled food products can help reconstruct their diet.

Archival information regarding the Esquivel family is much more limited. In this instance, Eu-

roamerican artifacts may be an aid in filling in many of the gaps left by the historic record. The relative frequencies of majolica when compared to indigenous wares could be used as a proxy to examine the socioeconomic status of the household, as could access to metal and other imported goods.

Artifacts from the remaining contexts examined through Euroamerican artifact analysis are of dubious quality. However, the examination of these contexts within an archaeological testing program is not without value as it will allow archaeologist to quickly assess and avoid working within these cultural contexts in the future.

# 9 | Fauna Analysis

**Nancy J. Akins**

OAS recovered a small sample (n = 103) of fauna from two test pits during recent test excavations at the former Judge Steve Herrera Judicial Complex, which is contained within LA 144329. Test Pit 1, with stratified deposits dating from the Territorial and Spanish Colonial-periods having the larger sample (n = 86). Test Pit 2 deposits are of mixed ages and held only 17 specimens, including two pieces of egg shell. Although the sample size is small, it is consistent with other Santa Fe deposits dating to the same time periods.

## Analysis Methods

All of the fauna recovered during this project was analyzed with the identifications made using the Office of Archaeological Studies comparative collection following the established OAS computer-coded format. This format identifies the animal and skeletal element, how and if the animal and part were processed for consumption, and how taphonomic and environmental conditions have affected the specimen. The following describes and defines the variables.

### Provenience Related Variables

The test pit number and excavation level were recorded during the analysis and the time period and stratum added to the SPSS file. A lot number identifying a specimen or group of specimens that fit the description recorded on each data line was assigned to track individual specimens.

### Specimen Counts

The count indicates how many specimens are described in a line of data. A bone broken into a number of pieces during excavation or cleaning is counted as a single specimen. Elements with fresh breaks were reassembled as much as possible to provide a greater level of identification and to keep from inflating the counts of unidentifiable specimens when pieces are part of a shattered element.

### Taxon

Taxonomic identifications are made to the most specific level possible. Identifications that are less than certain are flagged in the certainty variable. Specimens that cannot be identified to the species, family, or order are assigned to a range of indeterminate categories based on the size of the animal and whether it is a mammal, bird, other animal, or cannot be determined. Unidentifiable fragments often constitute the bulk of a faunal assemblage. Identifying these as precisely as possible, supplements the information gained from the identified taxa.

For this assemblage, most of the unidentifiable specimens are identified as ungulate. The size, morphology, and texture of most are consistent with domestic ungulates and given the dates for the assemblage, it is reasonable to assume that these are ungulate bones. The few exceptions that are called medium to large mammal are small, generally eroded pieces where even this could not be assumed.

### Element Characteristics

The skeletal element (e.g., cranium, mandible, humerus) is identified then described by side, age, and the portion recovered. Side is recorded for the element itself or for the portion recovered when it is axial, such as the left transverse process of a lumbar vertebra. Another variable identifies the commercial cut for that particular body part. Butchering cuts for

domestic ungulate (cattle and sheep or goat) specimens were assigned following a butchering chart found in Schulz and Gust (1983:48). The cuts used include the head, tongue, neck, chuck, rib, short loin, sirloin, rump, round, hind shank, tail, short rib, short plate, brisket, arm, fore shank, and feet. When an individual specimen could be assigned to more than one cut, the one that comprised the larger portion was used. While these units may not be that useful for examining Territorial and Spanish Colonial assemblages, they may have some value for looking at the parts selected for consumption.

Age is estimated at a general level as: fetal or neonate, immature (up to two-thirds mature size), young adult (near or full size with unfused epiphysis or young-textured bone), and apparently mature. The criteria used to assign the age is also recorded, generally, the size, dental development or wear, epiphysis closure, or whether the texture of the bone is compact as in mature animals or porous as in less than mature animals. Aging based on texture alone is not absolute since most growth in mammals takes place near the articular ends, diaphyseal bone can be compact and dense while the bone near an end retains a roughened or trabecular structure (Reitz and Wing 1999:73). As a result, fragments from the same bone can be coded as different ages and juvenile bone is probably under-numerated.

The portion of the skeletal element represented by a specimen is recorded in detail to aid in discerning patterns related to processing. Indeterminate fragments are generally recorded as either long bone shaft or end fragments, or as flat bones (small pieces that are probably cranial, vertebra, pelvis, carpals, or tarsals).

### Completeness

Completeness refers to how much of the skeletal element is represented by the specimen (analytically complete, more than 75 percent complete but not analytically complete, between 50 and 75 percent complete, between 10 and 50 percent, or less than 10 percent complete). Completeness provides information on whether a species was intrusive and on the degree of processing, environmental deterioration, animal activity, and thermal fragmentation.

### Taphonomic Variables

Taphonomy, or the study of preservation processes and how these effect the information obtained, has the goal of identifying and evaluating some of the non-human processes affecting the condition and frequencies found in a faunal assemblage (Lyman 1994:1). Taphonomic processes monitored are those caused by the environment and by animal activity. Environmental alteration includes pitting or corrosion from soil conditions, sun bleaching from extended exposure, checking or exfoliation from exposure or soil conditions, and root etching from the acids excreted by roots.

Animal alteration is recorded by source or probable source. Choices include carnivore (gnawing, punctures, and/or crushing), probable scat, rodent gnawing, and carnivore gnawing or punctures. Bones recorded as probable scat have rounding on edges.

### Burning

Burning can occur as part of the cooking process, part of the disposal process when bone is discarded into a fire, or after it is buried. Burn color is a gage of burn intensity. A light brown, reddish, or yellow color or scorch occurs when bones are lightly heated, while charred or blackened bone becomes black as the collagen is carbonized and, when the carbon is oxidized, it becomes white or calcined (Lyman 1994:384–388). Burns can be graded, reflecting the thickness of the flesh-protecting portions of the bone, or dry, light on the surface and black at the core or blackened on only the exterior or interior, indicating the burn occurred after disposal when the bone was dry. Graded or partial burns can indicate a particular cooking process, generally roasting, while complete charring or calcined bone does not. Uniform degrees of burning are possible only after the flesh has been removed (Lyman 1994:387) and generally indicates a disposal practice.

While a wide range of colors and intensities often occur, the burn type variable identifies the intent rather than a detailed visual description of the specimen. Complete and some graded burns represent discard processes and are recorded as discard. Patterns that suggest the part was roasted (e.g., graded burns that are scorched where the flesh is thick and burned black at the end where there is little or no flesh) are recorded as roasted. In other cases, the burn appears accidental or intentional (e.g., dry burns or a burned tip) and is recorded as such. Potential boiling is recorded as boiled (color

change, waxy, rounded edges) or boiled(?) when it is less clear.

**Butchering and Processing**

Evidence of butchering is recorded as a combination of morphology, tool type, and intent. Variables identify substantial cuts, chops, fine cuts (defleshing), impact breaks, spiral breaks, marrow breaks, snaps, saw cuts, and sawn commercial cuts (steak, chop, or roast). The location of these on the element is also recorded. A conservative approach is taken to the recording of marks and fractures that could be indicative of processing animals for food, tools, or hides since many natural processes result in similar marks and fractures. Impacts require some indication of an impact, generally flake scars or evidence of percussion. These were not recorded when they were ambiguous or accompanied by carnivore gnawing.

**Comments**

The comment section is used to flag specimens with verbal comments. For example, when a more specific age can be assigned it would be recorded as a comment.

## Data Analysis

Once the data have been entered and checked, data are tabulated and analyzed using SPSS (pc v. 11).

### *Test Pit 1*

Fauna was recovered from Levels 2–11 with sample sizes ranging from 1 to 21 specimens (Table 9.1). Most are from Spanish Colonial contexts (80.2 percent). Only two identified taxa were found, cattle and sheep or goat, but these comprise over half of the assemblage (58.1 percent). Sheep or goat specimens are the most common (45.3 percent) and the second-most common taxon consists of pieces that could be from either size of ungulate.

Most of the assemblage is small fragments representing less than 10 percent of an element (75.6 percent) and the vast majority (95.3 percent) comprises less than half of the element. The complete and near complete specimens are all from sheep or goat and are either ribs (n = 3) or a sternal element. Most appear to be from mature individuals, but the paucity of articular surfaces and the taphonomic alterations found on over half of the assemblage made it difficult to distinguish between bones from mature and juvenile individuals. Those from immature individuals are either scatological (Level 10 specimens) or a sacral vertebra body from a sheep or goat. The sample is too small to discern any patterns in the element distribution. All of the identifiable cranial parts are from cattle (two from horns and one mandibular molar) while most of the axial parts (vertebrae and sternum) are from sheep or goat. Foot parts are generally sparse (two for cattle and one for sheep or goat) but the presence of cattle and ungulate cranial parts and foot parts suggest that complete animals were present and these were more likely home butchered rather than purchased.

Over half of the specimens have some form of environmental alteration, usually root etching or weathering. Few show impacts from carnivores and both the carnivore gnawing and burned specimens are from the upper levels of fill. The only saw-cut bone is from the upper level of the Territorial-period deposits. While the precise element could not be determined due to its fragmentary nature, the size and market cut indicate it had to be a beef bone. More of the Territorial-period bone has processing (41.2 percent versus 24.6 percent), which is more often defleshing (n = 3) or substantial cuts (n = 2) than any other type (one each of chops and a sawn steak cut). The Spanish Colonial bone is more often cut through or impacted (n = 6 each), with fewer that are defleshed (n = 3) and chopped (n = 2). Only one specimen had more than one kind of process in evidence (Table 9.2). Processing patterns are consistent with those observed in other Spanish Colonial assemblages where animals were butchered using axes, knives, and cleavers. Ribs were cut or snapped off of the vertebral column, the lower front limb was severed at the distal humerus or proximal radius, the head was cut off at the cervical vertebrae, scapulae were cut through removing the shoulder, and many elements were defleshed.

The relative use of small and large ungulates is examined in Figures 9.1 and 9.2. Counts for sheep or goat are combined with those for small ungulates [mutton] as are those for cattle and large artiodactyl [beef]. Figure 9.1 gives the combined counts by level with the strata and time period indicated and depicts the relative counts for the two body sizes. It shows that the counts for Level 3–5 assemblages

*Table 9.1. LA 144329, Test Pit 1, fauna by level.*

| | TERRITORIAL | | | | | | SPANISH COLONIAL | | | | | | | | | | | | | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LEVEL 2 | | LEVEL 3 | | LEVEL 4 | | LEVEL 5 | | LEVEL 6 | | LEVEL 7 | | LEVEL 8 | | LEVEL 9 | | LEVEL 10 | | LEVEL 11 | | | |
| | N = | COL. % | N = | COL. % | N = | COL. % | N = | COL. % | N = | COL. % | N = | COL. % | N = | COL. % | N = | COL. % | N = | COL. % | N = | COL. % | **N =** | **COL. %** |
| **Taxon** | | | | | | | | | | | | | | | | | | | | | | |
| Medium-to-large mammal | – | – | – | – | – | – | 1 | 50.0% | – | – | – | – | – | – | – | – | – | – | – | – | **1** | **1.2%** |
| Small ungulate | 3 | 25.0% | – | – | – | – | – | – | – | – | – | – | 1 | 9.1% | 1 | 33.3% | 3 | 15.8% | – | – | **8** | **9.3%** |
| Large ungulate | – | – | – | – | – | – | – | – | 2 | 16.7% | 2 | 9.5% | 2 | 18.2% | – | – | – | – | – | – | **6** | **7.0%** |
| Ungulate | 6 | 50.0% | – | – | – | – | – | – | 8 | 66.7 | 1 | 4.8% | 1 | 9.1% | – | – | 5 | 26.3% | – | – | **21** | **24.4%** |
| Cattle | – | – | 1 | 50.0% | 1 | 33.3% | 1 | 50.0% | 2 | 16.7% | 6 | 28.6% | – | – | – | – | – | – | – | – | **11** | **12.8%** |
| Domestic sheep or goat | 3 | 25.0% | 1 | 50.0% | 2 | 66.7% | – | – | – | – | 12 | 57.1% | 7 | 63.6% | 2 | 66.7% | 11 | 57.9% | 1 | 100.0% | **39** | **45.3%** |
| **Total** | **12** | **100.0%** | **2** | **100.0%** | **3** | **100.0%** | **2** | **100.0%** | **12** | **100.0%** | **21** | **100.0%** | **11** | **100.0%** | **3** | **100.0%** | **19** | **100.0%** | **1** | **100.0%** | **86** | **100.0%** |
| **Age** | | | | | | | | | | | | | | | | | | | | | | |
| Immature | – | – | – | – | – | – | – | – | – | – | 1 | 4.8% | – | – | – | – | 2 | 10.5% | – | – | **3** | **3.5%** |
| Juvenile | – | – | – | – | – | – | – | – | 2 | 16.7% | 8 | 38.1% | – | – | – | – | 6 | 31.6% | – | – | **16** | **18.6%** |
| Mature | 12 | 100.0% | 2 | 100.0% | 3 | 100.0% | 2 | 100.0% | 10 | 83.3% | 12 | 57.1% | 11 | 100.0% | 3 | 100.0% | 11 | 57.9% | 1 | 100.0% | **67** | **77.0%** |
| **Completeness** | | | | | | | | | | | | | | | | | | | | | | |
| <10% | 11 | 91.7% | 1 | 50.0% | 3 | 100.0% | 2 | 100.0% | 12 | 100.0% | 11 | 52.4% | 7 | 63.6% | 3 | 100.0% | 14 | 73.7% | 1 | 100.0% | **65** | **75.6%** |
| 10–50% | 1 | 8.3% | 1 | 50.0% | – | – | – | – | – | – | 9 | 42.9% | 2 | 18.2% | – | – | 4 | 21.1% | – | – | **17** | **19.8%** |
| 50–75% | – | – | – | – | – | – | – | – | – | – | 1 | 4.8% | 1 | 9.1% | – | – | – | – | – | – | **2** | **2.3%** |
| Complete | – | – | – | – | – | – | – | – | – | – | – | – | 1 | 9.1% | – | – | 1 | 5.3% | – | – | **2** | **2.3%** |
| **Environmental Alteration** | | | | | | | | | | | | | | | | | | | | | | |
| None | 1 | 8.3% | – | – | 1 | 33.3% | 1 | 50.0% | 10 | 83.3% | 10 | 47.6% | 2 | 18.2% | – | – | 15 | 78.9% | – | – | **40** | **46.5%** |
| Pitting/corrosion | – | – | – | – | 1 | 33.3% | – | – | – | – | 1 | 4.8% | – | – | 1 | 33.3% | – | – | – | – | **3** | **3.5%** |
| Checked/ exfoliated | 6 | 50.0% | 1 | 50.0% | 1 | 33.3% | 1 | 50.0% | 2 | 16.7% | 3 | 14.3% | 3 | 27.3% | 1 | 33.3% | 2 | 10.5% | – | – | **20** | **23.3%** |
| Root etched | 5 | 41.7% | 1 | 50.0% | – | – | – | – | – | – | 7 | 33.3% | 6 | 54.5% | 1 | 33.3% | 2 | 10.5% | 1 | 100.0% | **23** | **26.7%** |
| **Animal Alteration** | | | | | | | | | | | | | | | | | | | | | | |
| Carnivore | 2 | 16.7% | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | **2** | **2.3%** |
| Scat | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 2 | 10.5% | – | – | **2** | **2.3%** |

*Table 9.2. LA 144329, Test Pit 1, processing observed for fauna.*

| TAXON | ELEMENT | PORTION | CUT | PROCESSING | LOCATION | PROCESSING | LOCATION |
|---|---|---|---|---|---|---|---|
| **Territorial Period** | | | | | | | |
| Small ungulate | long bone | shaft fragment | – | substantial cut | midshaft | none | – |
| Cattle | long bone | shaft fragment | – | steak or roast cut | midshaft | none | – |
| | radium | proximal shaft fragment | fore shank | defleshing | proximal shaft | none | – |
| Sheep or goat | rib | shaft fragment | short rib | defleshing | interior | none | – |
| | innominate | ilium fragment | sirloin | substantial cut | lateral | none | – |
| | tibia | proximal shaft fragment | hind shank | defleshing | proximal shaft | none | – |
| | | distal shaft fragment | hind shank | chops | distal shaft | none | – |
| **Spanish Colonial Period** | | | | | | | |
| Small ungulate | long bone | shaft fragment | – | impact | midshaft | none | – |
| Large ungulate | long bone | shaft fragment | – | impact | midshaft | none | – |
| | flat bone | fragment | – | defleshing | surface | none | – |
| Cattle | lumbar vertebra | vert spinous process | short loin | defleshing | process | none | – |
| | scapula | scap blade fragment | chuck | cut through | blade | none | – |
| | metacarpal | distal shaft fragment | feet | impact | distal shaft | none | – |
| | femur | shaft fragment | round | impact | midshaft | defleshing | midshaft |
| | | distal shaft fragment | round | cut through | distal/ caudal | none | – |
| Sheep or goat | cervical vertebra | articular facet | neck | cut through | split vertical | none | – |
| | lumbar vertebra | transverse process | short loin | cut through | process | none | – |
| | rib | shaft fragment | short rib | cut through | midshaft | none | – |
| | | analytically complete | cross rib | cut through | proximal | none | – |
| | | distal and 1/3 shaft | cross rib | chops | distal shaft | none | – |
| | humerus | distal and 1/3 shaft | fore shank | impact | distal shaft | none | – |
| | radius | proximal shaft fragment | fore shank | impact | proximal shaft | none | – |
| | metacarpal | distal shaft fragment | feet | chops | distal shaft | none | – |
| | tibia | distal shaft fragment | hind shank | defleshing | distal shaft | none | – |

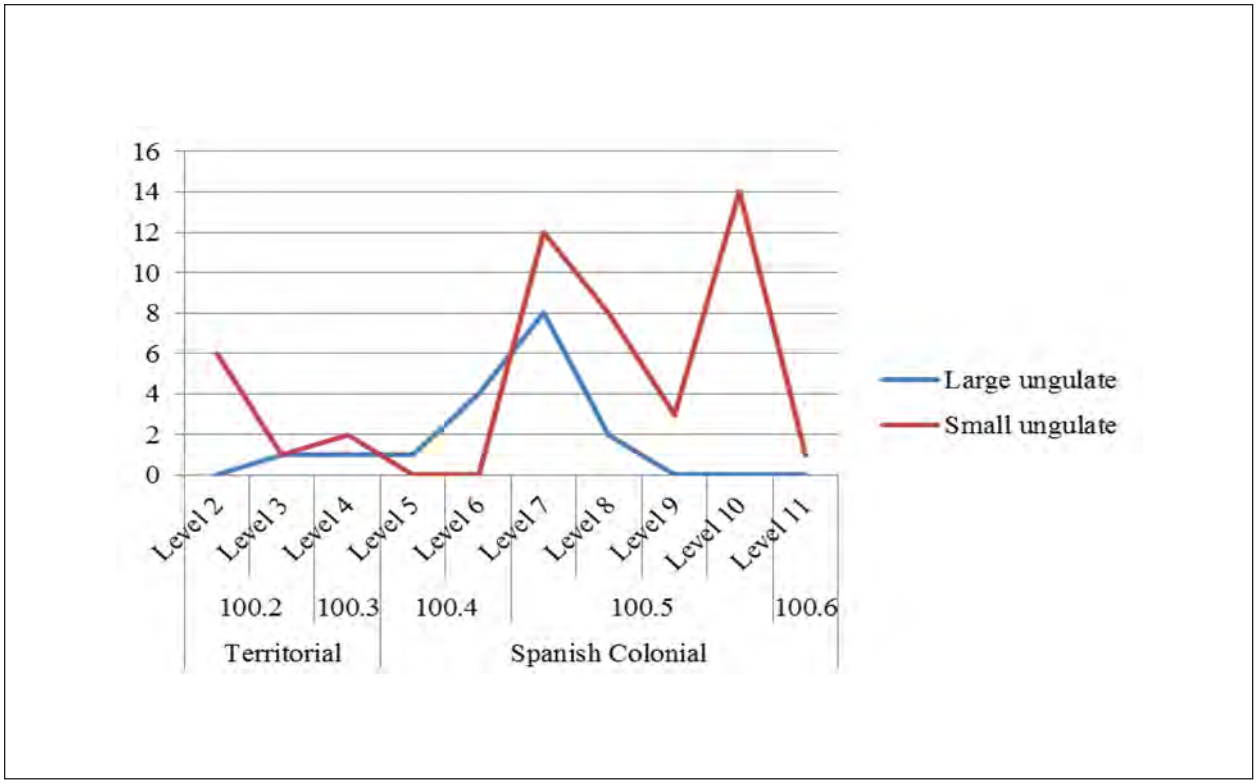


*Figure 9.1. LA 144329, Test Pit 1, large and small ungulates, counts by level, stratum, and time period.*

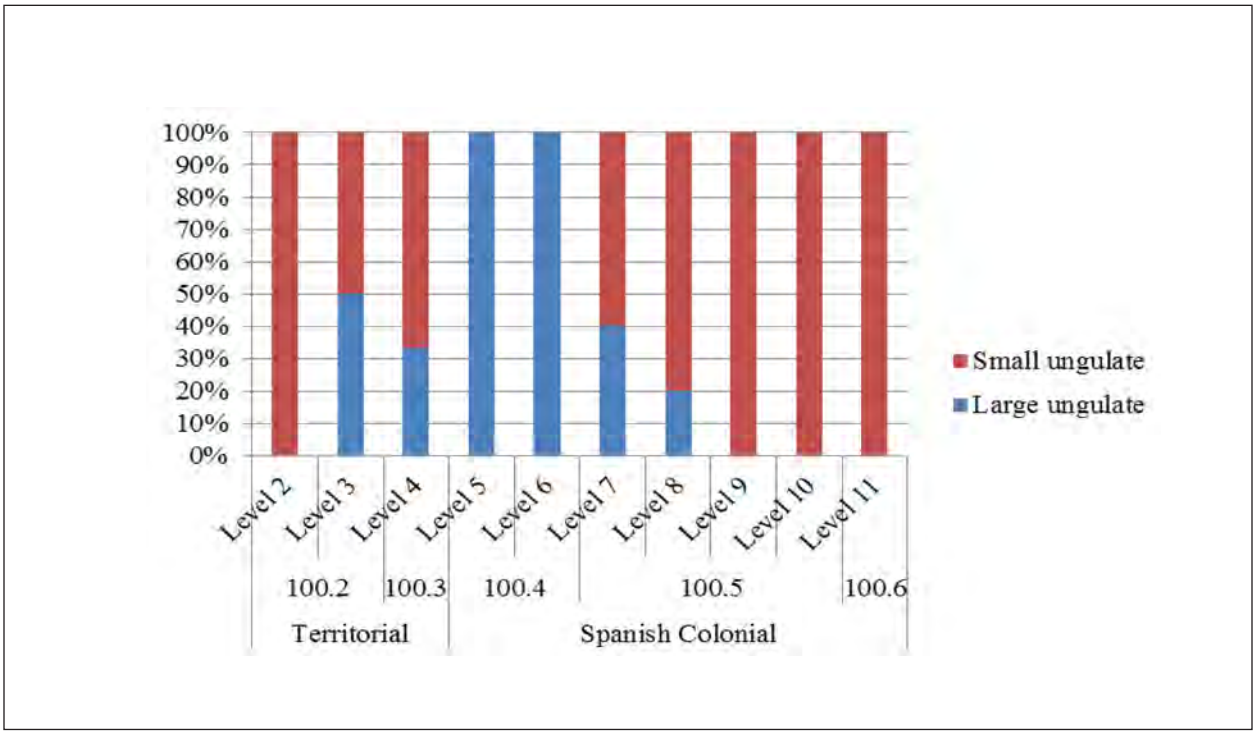


*Figure 9.2. LA 144329, Test Pit 1, large and small ungulates, relative proportions by level, stratum, and time period.*

are generally small, that counts for both sizes are high in Level 7, and that small ungulate counts are highest in Level 10. When the relative proportions are viewed in Figure 9.2, it would appear that beef use peaks in Levels 5 and 6, but as Figure 9.1 shows, this may be entirely a function of the small samples from these levels. Potential beef comprises more of the mutton-beef total in the Spanish Colonial assemblage (29.3 percent) than the Territorial assemblage (18.2 percent).

Comparing large and small ungulates by stratum, and considering that the excavation levels do not strictly conform to the strata identified from the profile, shows that only Stratum 100.5 has an appreciable sample size (Fig. 9.3). Again, while the proportion data (Fig. 9.4) suggests that beef refuse peaked in Stratum 100.4, this may be due to the small sample sizes in all but Stratum 100.5. As a result, all that can be safely concluded is that mutton was the primary animal food in the Spanish Colonial and probably the Territorial-period deposits. Beef was used but not to the same extent and, at least in this sample, it is arguable whether its use increased over time.

### *Test Pit 2*

Fauna was recovered from Levels 3, 4, 5, 7, and 8 (n = 17). Only Level 3 (n = 11) had more than one (Levels 5 and 7) or two (Levels 4 and 8) specimens, and Level 3 has almost all of the variability. The possible cattle specimen is from Level 3; the egg shell (0.04 g total) is from Levels 4 and 8.

These are treated as a single sample (Table 9.3) because the deposits were mixed and sample size is so small. All are very small fragments, comprising less than 10 percent of an element and most have some form of environmental alteration. Two are calcined and an ungulate flat bone fragments has a portion cut off. The only identifiable part is a small fragment of horn that is more consistent with cattle than goat and is tentatively identified as such.

## Conclusions

Since the site is located in the heart of Santa Fe, there is considerable comparative faunal information from nearby sites (Table 9.4). Most of the Santa Fe

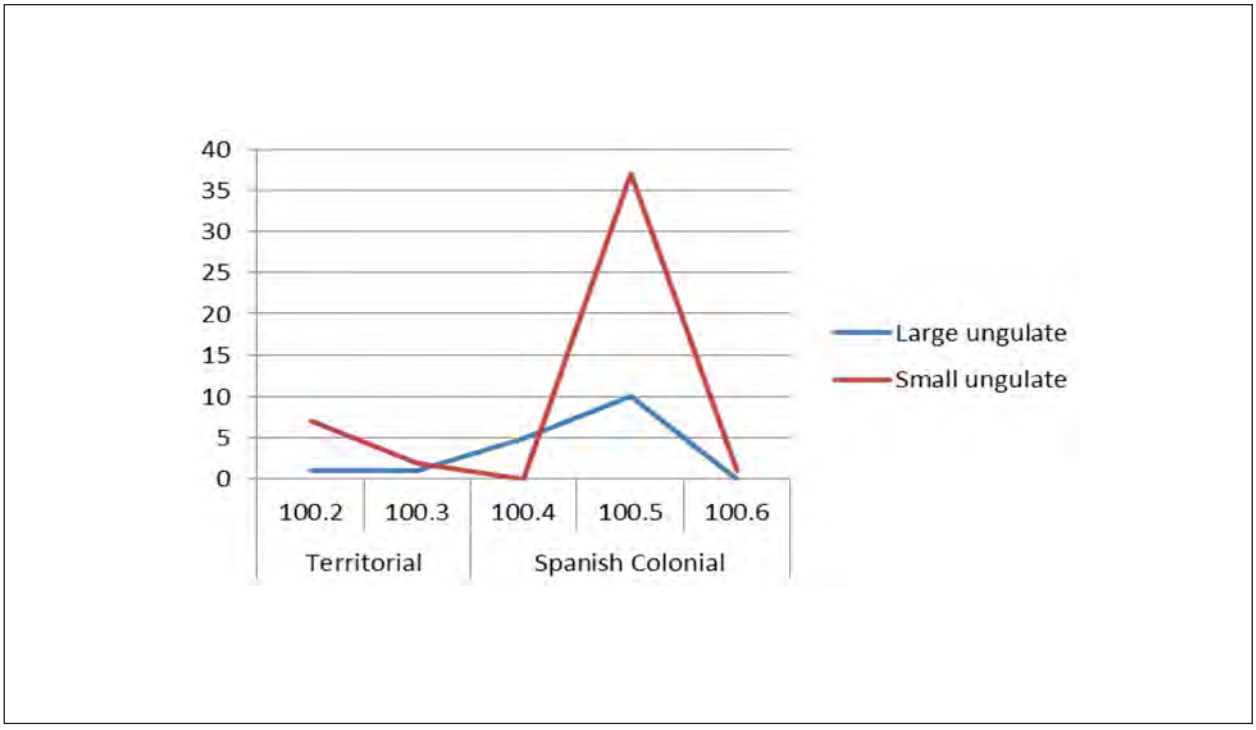


*Figure 9.3. LA 144329, Test Pit 1, large and small ungulates, counts by stratum.*

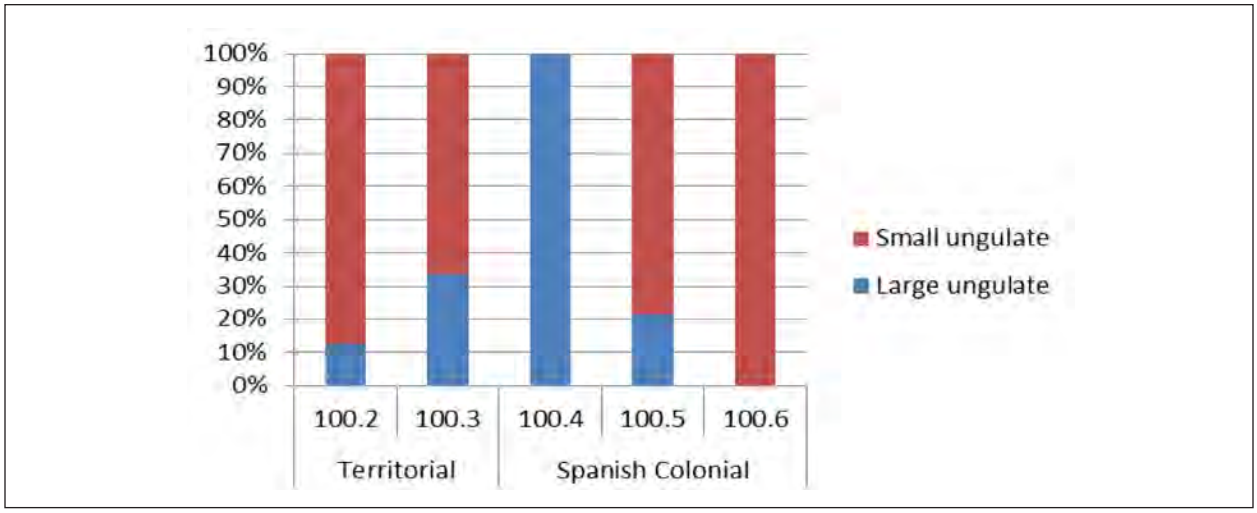


*Figure 9.4. LA 144329, Test Pit 1, large and small ungulates, relative proportions, by stratum.*

assemblages have considerably larger samples but establish, with only one exception, a definite preference for mutton. Sheep and goat counts are consistently more numerous than for cattle, regardless of time period. Nor is it surprising that the LA 144329 sample lacks pig, horse, and chicken, as these often occur in low frequencies in even the largest samples. Thus, the small sample here is consistent with a tradition of raising sheep and goats and home butchering by Hispanic families who made up much of the population during the Spanish Colonial and Territorial periods.

*Table 9.3. LA 144329, Test Pit 2, summary of recovered fauna.*

| Taxon | n = | Col. % |
|---|---|---|
| Medium-to-large mammal | 2 | 11.8% |
| Large ungulate | 1 | 5.9% |
| Ungulate | 11 | 64.7% |
| c.f. Cattle | 1 | 5.9% |
| Eggshell | 2 | 11.8% |
| **Total** | 17 | 100.0% |
| **Age** | | |
| Egg shell | 2 | 11.8% |
| Juvenile | 1 | 5.9% |
| Mature | 14 | 82.4% |
| **Total** | 17 | 100.0% |
| **Completeness** | | |
| <10% | 17 | 100.0% |
| **Total** | 17 | 100.0% |
| **Environmental alteration** | | |
| Egg shell | 2 | 11.8% |
| None | 4 | 23.5% |
| Pitting/corrosion | 2 | 11.8% |
| Checked/exfoliated | 7 | 41.2% |
| Root etched | 2 | 11.8% |
| **Total** | 17 | 100.0% |
| **Burning** | | |
| Unburned | 15 | 88.2% |
| Discard burn | 2 | 11.8% |
| **Total** | 17 | 100.0% |
| **Processing** | | |
| None | 16 | 94.1% |
| Cut through | 1 | 5.9% |
| **Total** | 17 | 100.0% |

*Table 9.4. LA 144329, comparison of Santa Fe fauna assemblages.*

| SITE NAME/ PERIOD | SITE | SAMPLE SIZE | SHEEP/GOAT: CATTLE | RATIO OF SHEEP/GOAT TO CATTLE | PIG | HORSE/ BURRO | CHICKEN |
|---|---|---|---|---|---|---|---|
| | | | N = | RATIOS | N = | N = | N = |
| **Early Spanish Colonial** | | | | | | | |
| La Fonda | – | 2397 | 160:119 | 1.3:1 | 14 | 0 | 11 |
| Palace of the Governors (POG) | LA 111332 | 1010 | 28:56 | .5:1 | 2 | 0 | 1 |
| POG 1610–1693 | | 2904 | 440:164 | 2.7:1 | 3 | 6 | 42 |
| POG 1650–1729 | | 5664 | 1181:783 | 1.5:1 | 22 | 18 | 30 |
| POG 1650–1772 | | 1609 | 224:80 | 2.8:1 | 1 | 6 | 16 |
| Nusbaum House | – | 1493 | 180:130 | 1.4:1 | 7 | 26 | 1 |
| **Late Spanish Colonial** | | | | | | | |
| Civic Center | LA 1051 | 5066 | 1898:633 | 3.0:1 | 48 | 0 | 90 |
| POG 1729–1772 | LA 111332 | 1324 | 302:99 | 3.0:1 | 2 | 3 | 38 |
| POG 1729–1821 | | 4199 | 1273:231 | 5.5:1 | 30 | 1 | 79 |
| POG 1772–1821 | | 73 | 8:4 | 2:1 | 2 | 0 | 0 |
| POG 1772–1866 | | 235 | 63:5 | 12.6:1 | 0 | 0 | 11 |
| POG 1772–1912 | | 524 | 80:46 | 1.7:1 | 1 | 0 | 3 |
| **Territorial** | | | | | | | |
| East San Francisco Street | LA 127276 | 2927 | 520:286 | 1.8:1 | 25 | 0 | 4 |
| POG 1846–1879 | LA 111332 | 1506 | 427:122 | 3.5:1 | 7 | 0 | 17 |
| Railyard | LA 120957 | 454 | 285:133 | 2.1:1 | 6 | 0 | 9 |

# 10 | Flaked Stone Analysis

**James L. Moore**

Fifteen flaked stone artifacts were recovered from excavations in a diffuse Late Spanish Colonial-period midden deposit in the former judge Steve Herrera Judicial Complex project area, which is contained within LA 144329. The midden component represents either primary trash deposits or redeposition of midden deposits on the surface of a field. Flaked stone artifacts are fairly common in Spanish sites, occurring as late as the Railroad period (Moore 2004). Rather than evidence for intrusive prehistoric materials, archaeological as well as documentary sources indicate the extensive use of flaked stone artifacts by Spanish settlers as a substitute for more expensive metal tools and as integral components in fire-making kits (Moore 1992, 2001, 2004; Rebolledo and Márquez 2000).

## Analytic Methods

Artifacts were examined under a binocular microscope at 10x–80x magnification, with higher magnification used to examine wear patterns and platform characteristics. Utilized and modified edge angles were measured with a digital protractor, artifacts were weighed on a digital scale, and a digital caliper was used to measure size.

Four general classes of flaked stone artifacts are recognized in this analysis—flakes, angular debris, cores, and tools. Flakes are debitage that exhibit one or more of the following characteristics: definable dorsal and ventral surfaces, bulb of percussion, and striking platform. Angular debris is debitage that lack these characteristics. Cores are nodules from which debitage were struck and on which negative flake scars originating from one or more platforms are visible. Tools are debitage or cores whose edges were damaged during use or modified to create specific shapes or edge angles for use in certain tasks.

## Analytic Attributes

Recorded attributes included material type and quality, artifact morphology and function, amount of surface covered by cortex, cortex type, portion, evidence of thermal alteration, dimensions (length, width, thickness, and weight), dorsal scar orientation, platform angle, bulb of percussion, curvature, waisting, and distal termination. Wear patterns and utilized/modified edge angles were examined on all tools.

**Material type**. Materials were coded by gross category unless specific sources or distinct varieties were recognized. Codes are arranged so that major material groups fall into specific sequences of numbers, progressing from general material groups to specific varieties that can be linked to specific sources by visual inspection.

**Material texture and quality**. This attribute provides information on the basic flaking quality of materials. Texture subjectively measures grain size *within* rather than *across* material types and is scaled from fine to coarse for most materials, with fine textures exhibiting the smallest grains and coarse the largest. Obsidian is classified as glassy by default, and this category is applied to no other material. Quality records the presence of flaws that could affect flaking and includes crystalline inclusions, fossils, visible cracks, and voids. Inclusions that will not affect flaking are not considered flaws. Material texture and quality were recorded together.

**Artifact morphology**. This is one of two attributes that provides information on artifact form and

use. Artifact morphology categorizes artifacts by their general form such as core flake or early stage biface.

**Artifact function**. This is the second attribute that provides information on artifact form and use, and categorizes specimens by inferred use (or lack of use) such as end scraper or non-utilized flake.

**Cortex**. The amount of cortical coverage was estimated and recorded in 10 percent increments for each artifact—for flakes the percentage of dorsal surface covered by cortex was estimated, while for all other artifact classes the percentage of the total surface area covered by cortex was estimated, since other artifact classes lack definable dorsal surfaces.

**Cortex type**. The type of cortex on an artifact can be a clue to its origin. Waterworn cortex indicates that a nodule was transported by water and that its source was probably a gravel deposit. Non-waterworn cortex suggests that a material was obtained where it outcrops naturally. Cortex type was identified for artifacts on which it occurred; when identification was not possible cortex type was coded as indeterminate.

**Portion**. For flakes and formal tools, the portion represented by each specimen was recorded. Angular debris and cores were considered whole by default, because it is usually impossible to determine whether these categories were broken during or after reduction.

**Platform type**. This recorded the shape of and any modifications to the striking platform on whole flakes and proximal flake fragments.

**Platform lipping**. This recorded the presence or absence of a lip at the ventral edge of a flake platform, and was coded as either present or absent.

**Platform angle**. The angle formed by the intersection of the dorsal surface of a flake and its striking platform was recorded as either greater than 45 degrees or less than 45 degrees.

**Bulb of percussion.** These only occur on flakes and were recorded as either pronounced or diffuse.

**Flake curvature**. Whether or not the ventral surface of flakes was distinctly curved was recorded using this attribute.

**Waisted**. Soft hammer percussion and pressure flaking can cause the formation of a waist between the platform and main body of a flake, and is often present on biface flakes. This attribute recorded the presence or absence of waisting on flakes.

**Thermal alteration**. When present, the type of evidence for thermal alteration were recorded to determine whether an artifact was purposely or incidentally heated.

**Wear pattern**. In cases where debitage or cores were used as informal tools, this attribute recorded the type of attrition pattern noted.

**Edge angle**. The angles of all utilized or intentionally modified edges on tools were recorded.

**Length, width, and thickness**. These attributes were measured in millimeters for all artifacts. On angular debris and cores, length was the largest measurement, width was the longest dimension perpendicular to the length, and thickness was perpendicular to the width and was the smallest measurement. On flakes and formal tools, length was the distance between proximal and distal ends, width was the distance between edges paralleling the length, and thickness was the distance between dorsal and ventral surfaces.

**Weight**. Weight was recorded to the nearest tenth of a gram.

## Discussion of the Assemblage

Because there are so few artifacts in this LA 144329 assemblage it is easier and more informative to describe the artifacts in a narrative fashion rather than performing a detailed analysis of patterning, which might or might not be productive considering the high probability of encountering error introduced by small sample size. Three general topics are discussed, including material type and source, reduction technology, and tool use. Table 10.1 presents basic artifact data for each field specimen number.

Eighty percent of this assemblage is composed of cherts, with varieties from unknown sources comprising 46.67 percent of the total assemblage (n = 7), and the remainder made up of Madera chert (n = 3, 20.00 percent) and Pedernal chert (n = 2, 13.33 percent). The remaining artifacts include single examples of obsidian, limestone, and quartz (6.67 percent apiece). With the exception of a piece of Madera chert and the quartz specimen, artifacts tend to be fine-grained, while the two exceptions are medium-grained. The only visible flaws are in a piece of generic chert; otherwise materials did not exhibit flaws that could have affected flaking.

The large number of cherts in Spanish flaked-stone assemblages is typical (Moore 2004, 2008).

*Table 10.1. LA 144329, flaked stone, by field number: material type, artifact morphology, and artifact function.*

| FS NO. | MATERIAL TYPE | ARTIFACT MORPHOLOGY | ARTIFACT FUNCTION |
|---|---|---|---|
| 3 | Chert | angular debris | unutilized angular debris |
| 4 | Pedernal chert | angular debris | strike-a-light flint |
| | Chert | core flake | unutilized flake |
| | Pedernal chert | unidirectional core | strike-a-light flint |
| 8 | Madera chert | multidirectional core | strike-a-light flint |
| | Chert | core flake | unutilized flake |
| 9 | Quartz | core flake | unutilized flake |
| | Chert | core flake | unutilized flake |
| | Limestone | multidirectional core | unutilized core |
| 10 | Madera chert | angular debris | unutilized angular debris |
| 11 | Madera chert | angular debris | unutilized angular debris |
| 13 | Obsidian | angular debris | unutilized angular debris |
| 15 | Chert | core flake | unutilized flake |
| 17 | Chert | core flake | unutilized flake |
| 22 | Chert | angular debris | strike-a-light flint |

Not only does chert debitage possess sharp edges that are useful in numerous tasks involving cutting, chert is also well-suited for use in fire-making kits because of its hardness and the same sharp edges that are useful in so many other tasks. Thus, chert tools were heavily used in conjunction with a steel (*chispa*) for producing sparks to light fires and as gunflints in firearms. However, flaked stone tools were also used in a variety of other tasks, as reflected by the presence of material types other than chert in most Spanish assemblages (Moore 2008). Some of these tasks are illustrated by Rebolledo and Márquez (2000: 268, 329, 353, 385, 434) in stories collected by the WPA in the Placitas area, and include tipping arrows for hunting, scraping hides, carpentry, and leather rope-making.

Cortex occurs on three of the generic chert artifacts, both Pedernal chert specimens and the single piece of obsidian. In all six cases the cortex is waterworn, indicating that the nodules from which these pieces of debitage were struck were obtained from gravel deposits located at a distance from where the materials outcrop. While the generic cherts were probably obtained from gravel beds along local streams, Pedernal chert and obsidian do not occur in gravels within the immediate Santa Fe area, but they can be found along the Rio Grande. While possible that the Spanish residents of LA 144329 obtained Pedernal chert and obsidian in the Rio Grande Valley for use at their residence in Santa Fe, the probability that these artifacts represent materials salvaged from nearby prehistoric sites is much higher and is assumed to have been the case. Madera chert is common in the Santa Fe area and in outcrops in several locations in the Sangre de Cristos. Though cortex was lacking on the specimens in this assemblage, Madera chert was probably obtained from local gravel beds, the most easily accessed type of source.

This assemblage is entirely composed of debris generated during core reduction and includes six core flakes (5 chert, 1 quartz), six pieces of angular debris (2 chert, 2 Madera chert, 1 Pedernal chert, 1 obsidian), and three cores (1 Pedernal chert, 1 Madera chert, 1 limestone). Platforms are present on five flakes—comprising three single-facet and two multi-facet flakes—none of which exhibit any signs of modification to facilitate removal. Only one artifact, a Madera chert multidirectional core, is thermally altered. This specimen exhibits luster variation, with the scars left by flaking after the thermal alteration occurred exhibiting greater luster than the original, unflaked surface. This suggests purposeful alteration, probably prehistoric, sug-

gesting that this artifact was also salvaged from an earlier site.

Four artifacts exhibit evidence of use as strike-a-light flints (Fig. 10.1), including a piece of Pedernal chert angular debris, a Pedernal chert core, a Madera chert core, and a piece of generic chert angular debris. Multiple edges were used on each tool, but the amount of use is fairly minimal; while there is some scarring, there is little evidence of the use-related edge reshaping that can be common in heavily used tools of this type. Three edges exhibit evidence of strike-a-light use on two of these specimens (Pedernal chert angular debris and Madera chert core), while two edges were used in the other cases (chert angular debris and Pedernal chert core). Metal adhesions are visible on three of these tools, the exception being the chert angular debris. Metal adhesions also occur on a chert core flake that exhibits no evidence of informal tool use.

Though small, this assemblage is fairly typical of the Late Spanish Colonial period in the dominance of cherts and evidence that most tool use focused on fire-making activities. Materials for flaked stone reduction and tool use appear to have been dominantly obtained from local gravel deposits and in the Rio Grande Valley, though the latter are probably evidence for salvaging from nearby prehistoric sites rather than Spanish material acquisition along the Rio Grande. Only the reduction of cores is reflected in this assemblage, with no evidence for either the manufacture or use of formal tools.

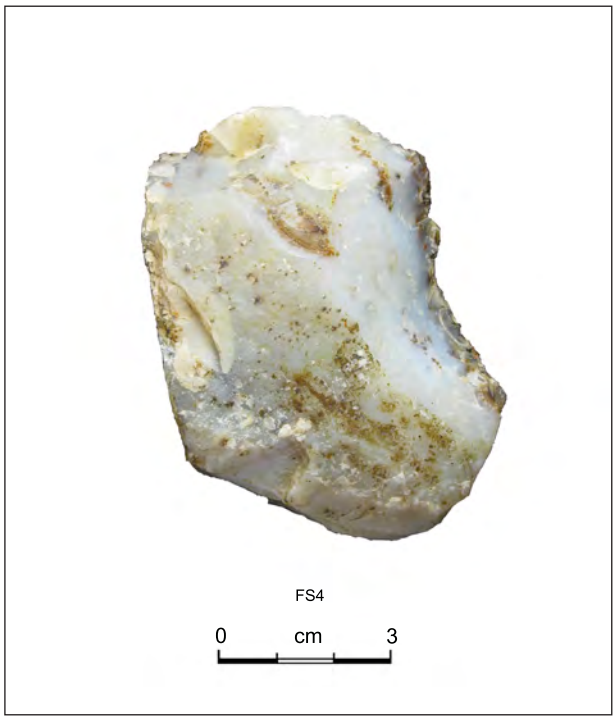


*Figure 10.1. LA 144329, Test Pit 1, Stratum 100.2, FS No. 4, Pedernal chert strike-a-light*

# 11 | Ground Stone Analysis

**Karen Wening**

A single ground stone artifact (FS 9) was recovered from the project area within LA 144329. It is a mano fragment manufactured from coarse-grained granite and measures 6.9 cm in length, 10.6 cm in width, and 4.0 cm thick (Fig. 11.1). Granite is abundant locally, originating from the Ancha Formation, which erodes from the western flank of the Sangre de Cristo Mountains east of the site (Koning, Pazzaglia, and McIntosh 2002:75). Waterworn cortex is present on the tool, suggesting the raw material was probably procured from secondary source of alluvial gravels. While the tool displays many morphological traits of a two-hand mano, such as rectangular shape and wedge cross-section, it is probably a one-hand mano based on use-surface characteristics. The wedge cross-section owes as much to natural form as use-wear. One surface of the mano is fairly heavily ground, while the reverse is lightly ground, probably to facilitate handling. Adams (2002:19) refers to such modifications as "comfort" features.

The direction of use can be determined by the linear striations, which, interestingly, are oriented parallel to the tool length. These lengthwise striations and the wedge cross-section suggest that the tool was manipulated both perpendicular and parallel to the length, with the latter being the most recent. The lengthwise manipulation would only be practical if the tool was of roughly equal length and width, suggesting the whole tool would measure about 10 or 11 cm square. Use of the tool ended with breakage, as wear does not extend over the broken edge. The mano is minimally shaped into a subrectangular form by flaking and small amounts of pecking, mostly along the edges. The use surface is not rejuvenated. The entire surface of the tool appears lightly sooted, with the exception of the broken edge, possibly indicating it is fire-cracked.


*Figure 11.1. LA 144329, Test Pit 1, Level 7, mano fragment.*

One corner of the tool is battered, suggesting use in percussion or pulverizing activity.

The mano was recovered from Level 7 of Test Pit 1, within an eighteenth-century stratum associated with the Esquivel House, constructed sometime between 1693 and 1716 (Chávez 1992:173). While the tool may be associated with domestic activities at the Esquivel home, it was probably manu-

factured and used by a Native American—possibly a household servant—to process a wide variety of foodstuffs. Trigg (2004:227) documents the fluid exchange of traditional foods between Spanish colonial and Native American groups. Cross-cultural food adoption was driven by "deliberate attempts to change Pueblo cultures, the labor provided by native peoples for crop and livestock production in the colonists' households, and the provisioning of colonists with Pueblo food stores." Increased colonial reliance on Pueblo foods also occurred in times of drought when traditional Spanish crops failed. As early as the seventeenth century, native foods may have been regularly consumed by colonialists, either through adoption, marriage, or the native preparation of colonial food (Trigg 2004:236). The traditional colonial tools used to prepare food were also modified. Colonists shifted from copper and iron comales to the traditional sandstone used by Pueblos, suggesting that colonists adopted Pueblo food preparation methods or that food was prepared by natives.

Manos and metates were traditionally used to grind corn and other native food items, but were also utilized to process wheat after its introduction by Oñate in the seventeenth century (Gritzner 1974:519). These were later replaced by water-powered grist mills, the earliest of which is documented in Santa Fe in 1756, with two more added by 1776 (Adams and Chávez 1956:40, cited by Gritzner 1974:519). The mills did not produce large quantities of flour, but they "at least lighten(ed) the labor of grinding by hand" (Adams and Chávez 1956:40, cited by Gritzner 1974:519). Some accounts state that 50 pounds of flour could be ground in an hour. However, milling was seasonal, dictated by water flow, and rendered impossible in subfreezing temperatures. During these times, hand grinding replaced milling, necessitating the use of manos and metates.

Both groups were consuming both native and Old World foods to varying degrees, with wheat and corn among the "standard goods used for exchange" (Trigg 2003:67, 70, 77). Colonial economy relied heavily on trade, maize-based agriculture, and the extraction of goods and services from the Pueblos (Kessell 1997:51). While tribute payment in the form of the *encomienda* system was abolished in 1693, colonists continued to demand labor and goods from Puebloans through *repartimiento*, a rotational labor draft (Gutierrez 1991:155). Fray Pedro Serrano, in his reports from New Mexico in 1761, links the abuse of Pueblo women by colonists during their trips to town to "mill wheat or spin wool" (Gutierrez 1991:155–156). While the explicit use of mills by Native Americans is not stated in his account, it appears likely that forced labor through the *repartimiento* system may have involved processing grains with Spanish mills.

Many southwestern Native American groups continued to use manos and metates to grind wild and domesticated foods into the twentieth century, as documented by numerous ethnographic studies (Bell and Castetter 1937; Castetter and Bell 1951; Castetter and Opler 1936; Euler and Dobyns 1983; Hrdlika 1908; Russell 1908; Schneider 1996 and references therein). The use of stone tools by many native groups continued long after metal tools were available (Bamforth 1993:50). The diverse nature of native stone tools illustrated through many ethnographic studies is likely to have prevailed in the colonial era, particularly considering the adoption of many Old World foods into Pueblo diets, some of which may have been processed with stone tools. While the use of stone tools likely superseded that of metal in early colonial years due to the scarcity of metal, the use of stone may have become increasingly restricted to native groups through time as gristmills became the dominant milling tool for grains. Gritzner (1974:521) views native and colonial milling equipment as food-specific, positing that manos and metates were used in areas where maize was the primary dietary staple, and grist mills in colonial towns where wheat flour was preferred. The prolonged use of manos and metates may have been necessitated by the continued use of wild foods by native groups, as these tools allow far more control in processing compared to large-volume grist mills. Also, the incorporation of wild foods into colonial diets may have influenced the longevity of hand-milling tools, with Pueblo women preparing the meals for both indigenous and Spanish tables.

# 12 | Native American Pottery Analysis

**C. Dean Wilson**

A total of 131 native ceramics (Table 12.1) were recovered from two test pits (Test Pits 1 and 2) during archaeological testing at the former Judge Steve Herrera Judicial Complex, within LA 144329. Thirteen sherds (or 10 percent of the total ceramics assemblage) represent types associated with prehistoric occupation of Santa Fe during the Coalition period (AD 1200 to 1350). These include three Plain Gray, four Smeared Indented Corrugated, one Unpainted Undifferentiated Whiteware, four Santa Fe Black-on-white, and one Pindi Black-on-white sherd. The presence of these sherds indicates at least some mixing of historic-period strata with earlier Coalition-period components (Table 12.2). The intrusive nature and small sample size of these materials limits their interpretation, but characteristics and distributions of these prehistoric pottery types are consistent with materials found elsewhere in the downtown Santa Fe area. No further discussion of these prehistoric sherds is presented. The remaining 118 historic-period sherds recovered from Test Pit 1 and Test Pit 2 are examined below and are believed to primarily date to the late eighteenth and nineteenth centuries.

## Analysis Goals and Methods

Ceramic data recorded during this analysis included pottery type, temper, and vessel form. All sherds were assigned to types defined for the Northern or Middle Rio Grande ceramic traditions (Adler and Dick 1999; Batkin 1987; Dick 1968; Frank and Harlow 1990; Harlow 1973; Lang 1997; McKenna and Miles 1990; Mera 1939; Snow 1982). In order to document the range of variability represented in these assemblages, all sherds were assigned to a combination of formal and descriptive type categories as defined during recent studies by the Office of Archaeological Studies (Wilson 2011a). Formal types were mainly assigned to decorated pottery exhibiting temporally distinct painted styles and other treatments. Informal types were given a descriptive name based on distinct combinations of characteristics.

## Identification and Characterization of Historic Ceramic Types

Collectively, native historic pottery types identified during the current analysis include a wide range of forms assigned to utility and decorated polychrome ware types (Table 12.1). The majority of sherds recovered were indicative of ceramic vessels produced by Northern Tewa potters and traded to groups in Hispanic villages and settlements during the eighteenth and nineteenth centuries. However, a smaller subset of the ceramics appear to have been produced by Keres Pueblo potters in the Middle Rio Grande (Batkin 1987; Frank and Harlow 1990; Harlow 1973; McKenna and Miles 1990; Mera 1939; Snow 1982).

A total of 25 sherds were assigned to five types defined for Historic micaceous utility ware. Micaceous utility ware is distinguished by the occurrence of mica over or embedded in an unpolished surface and typically consists of utilitarian jar forms. During the historic period, this effect was usually achieved through the application of ground mica powder on at least one surface (Wilson 2011a). However, one of the most distinct forms of micaceous pottery is represented by unpolished forms exhibiting self-tempered residual clays, classified here as *Highly*

*Table 12.1. LA 144329, distribution of prehistoric and historic ceramic types recovered during testing.*

| TYPE | COUNT | COL. % |
|---|---|---|
| **Prehistoric Rio Grande Gray Ware** | | |
| Plain gray body | 3 | 2.3% |
| Smeared, indented, corrugated | 4 | 3.1% |
| Unpainted, undifferentiated white | 1 | 0.8% |
| **Prehistoric Rio Grande Gray Ware** | | |
| Santa Fe Black-on-white | 4 | 3.1% |
| Pindi Black-on-white | 1 | 0.8% |
| **Historic Micaceous Utility Ware** | | |
| Highly micaceous paste | 3 | 2.3% |
| Plain tan mica | 1 | 0.8% |
| Smudged interior, mica-slipped exterior | 17 | 13.0% |
| Polished interior with mica slip | 3 | 2.3% |
| Polished with highly micaceous paste | 1 | 0.8% |
| **Historic Rio Grande Plain Ware** | | |
| Tewa Buff, undifferentiated | 20 | 15.3% |
| San Juan Red-on-tan | 1 | 0.8% |
| Tewa Polished Red | 16 | 12.2% |
| Tewa Polished Gray | 5 | 3.8% |
| Tewa Polished Black | 7 | 5.3% |
| **Historic Tewa Polychrome Ware** | | |
| Black-on-cream, undifferentiated | 16 | 12.2% |
| Powhoge Polychrome | 5 | 3.8% |
| Historic white cream, slipped, unpainted | 6 | 4.6% |
| Historic unpainted red and cream, slipped | 2 | 1.5% |
| **Historic Middle Rio Grande Polychrome Ware** | | |
| Puname Polychrome, indeterminate | 2 | 1.5% |
| Puname Unpainted White, slipped | 2 | 1.5% |
| Santa Anna Polychrome | 2 | 1.5% |
| Santa Ana Area Red, slipped, unpainted | 5 | 3.8% |
| Santa Ana White, slipped, unpainted | 2 | 1.5% |
| **Historic Middle Rio Grande Glaze Ware** | | |
| Glaze red, unpainted | 1 | 0.8% |
| Historic glaze, unslipped body | 1 | 0.8% |
| **Total** | **131** | **100.0%** |

*Table 12.2. LA 144329, Test Pits 1 and 2, distribution of prehistoric and historic ceramic types by unit and level.*

| | | PREHISTORIC | | HISTORIC | | **TOTAL** | |
|---|---|---|---|---|---|---|---|
| TEST PIT NO. | LEVEL | COUNT | ROW % | COUNT | ROW % | **COUNT** | **ROW %** |
| 1 | 1 | – | – | 1 | 100.0% | **1** | **100.0%** |
| 1 | 2 | – | – | 6 | 100.0% | **6** | **100.0%** |
| 1 | 3 | 1 | 14.3% | 6 | 85.7% | **7** | **100.0%** |
| 1 | 5 | 1 | 16.7% | 5 | 83.3% | **6** | **100.0%** |
| 1 | 6 | 4 | 10.8% | 33 | 89.2% | **37** | **100.0%** |
| 1 | 7 | 2 | 9.1% | 20 | 90.9% | **22** | **100.0%** |
| 1 | 8 | 2 | 13.3% | 13 | 86.7% | **15** | **100.0%** |
| 1 | 9 | 1 | 12.5% | 7 | 87.5% | **8** | **100.0%** |
| 1 | 10 | 1 | 14.3% | 6 | 85.7% | **7** | **100.0%** |
| 1 | 11 | – | – | 3 | 100.0% | **3** | **100.0%** |
| 2 | 2 | – | – | 1 | 100.0% | **1** | **100.0%** |
| 2 | 3 | – | – | 2 | 100.0% | **2** | **100.0%** |
| 2 | 4 | 1 | 12.5% | 7 | 87.5% | **8** | **100.0%** |
| 2 | 5 | – | – | 1 | 100.0% | **1** | **100.0%** |
| 2 | 6 | – | – | 2 | 100.0% | **2** | **100.0%** |
| 2 | 7 | – | – | 2 | 100.0% | **2** | **100.0%** |
| 2 | 9 | – | – | 1 | 100.0% | **1** | **100.0%** |
| 2 | 11 | – | – | 1 | 100.0% | **1** | **100.0%** |
| 2 | 12 | – | – | 1 | 100.0% | **1** | **100.0%** |
| **Total** | | **13** | **9.9%** | **118** | **90.1%** | **131** | **100.0%** |

*Micaceous Paste*. Pottery exhibiting plain unpolished surfaces was assigned to an *Unpolished Mica Slip* category. Utility ware sherds exhibiting evidence of slipped exterior or sooted or smudged interiors were classified as *Smudged Interior Mica Slip Exterior* or *Polished Interior Mica Slip Exterior*. Except for evidence of interior sooting, pottery assigned to these categories appears to exhibit similar characteristics. Two sherds exhibiting fairly distinct surface and paint combinations were assigned to other categories including *Plain Tan Mica* and *Polished with Highly Micaceous Paste*. The variability reflected by the number of types relative to the total sample of historic micaceous wares is also represented by the wide range of paste and temper types (Table 12.3). Temper in polished types is typically dominated by sand, though examples tempered with micaceous granite, highly micaceous residual paste, and fine tuff are also present (Table 12.3). The variability in form and paste may be indicative of micaceous vessels produced in various locales where different tempering sources and material were utilized and may include pottery that could have been produced by Northern Tewa, Northern Tiwa, Jicarilla Apache, and Hispanic potters (Adler and Dick 1999; Dick 1968; Eiselt and Ford 2008; Lang 1997; Woosley and Olinger 1990), although most of the micaceous pottery identified was probably produced by Tewa potters. Most of the micaceous sherds examined were classified as body fragments, although examples of both bowl and jar rim sherds were identified (Table 12.4).

The most commonly identified ware group was represented by pottery assigned to Tewa plain ware types, which included 49 sherds or 41.5 percent of the total historic ceramic assemblage. Tewa plain ware refers to the dominant historic native utility ware commonly occurring at historic-period sites

*Table 12.3. LA 144329, distribution of temper by ware group for historic sherds.*

| | MICACEOUS UTILITY | | PLAIN UTILITY | | TEWA POLYCHROME | | MIDDLE RIO GRANDE POLYCHROME | | GLAZE WARE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TEMPER | COUNT | COL. % | COUNT | COL. % | COUNT | COL. % | COUNT | COL. % | COUNT | COL. % | **TOTAL** |
| Sand | 13 | 52.0% | 1 | 2.0% | – | – | – | – | 1 | 50.0% | **15** |
| Granite with abundant mica | 2 | 8.0% | – | – | – | – | – | – | – | – | **2** |
| Highly micaceous residual paste | 4 | 16.0% | – | – | – | – | – | – | – | – | **4** |
| Fine tuff or ash | 5 | 20.0% | 40 | 81.6% | 22 | 75.9% | – | – | – | – | **67** |
| Large vitric tuff fragments | – | – | 3 | 6.1% | – | – | – | – | – | – | **3** |
| Fine tuff and sand | 1 | 4.0% | 5 | 10.2% | 7 | 24.1% | – | – | – | – | **13** |
| Gray crystalline basalt | – | – | – | – | – | – | 4 | 30.8% | 1 | 50.0% | **5** |
| Sand, large vitric tuff, and other volcanic material | – | – | – | – | – | – | 9 | 69.2% | – | – | **9** |
| **Total** | **25** | **100.0%** | **49** | **100.0%** | **29** | **100.0%** | **13** | **100.0%** | **2** | **100.0%** | **118** |

*Table 12.4. LA 144329, distribution of vessel form by ware group for historic sherds.*

| | MICACEOUS UTILITY | | PLAIN UTILITY | | TEWA POLYCHROME | | MIDDLE RIO GRANDE POLYCHROME | | GLAZE WARE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VESSEL FORM | Count | Col. % | Count | Col. % | Count | Col. % | Count | Col. % | Count | Col. % | **Total** |
| Bowl rim | 2 | 8.0% | 3 | 6.1% | 2 | 6.9% | 1 | 7.7% | – | – | **8** |
| Bowl body | – | – | 1 | 2.0% | 10 | 34.5% | – | – | – | – | **11** |
| Jar neck | 1 | 4.0% | 1 | 2.0% | 1 | 3.4% | 2 | 15.4% | – | – | **5** |
| Jar rim | 1 | 4.0% | 2 | 4.1% | – | – | – | – | – | – | **3** |
| Jar body | 3 | 12.0% | 7 | 14.3% | 16 | 55.2% | 9 | 69.2% | – | – | **35** |
| Body sherd, polished interior and exterior | 3 | 12.0% | 34 | 69.4% | – | – | 1 | 7.7% | 2 | 100.0% | **40** |
| Body sherd, polished interior, unpolished exterior | 15 | 60.0% | – | – | – | – | – | – | – | – | **15** |
| Soup plate | – | – | 1 | 2.0% | – | – | – | – | – | – | **1** |
| **Total** | **25** | **100.0%** | **49** | **100.0%** | **29** | **100.0%** | **13** | **100.0%** | **2** | **100.0%** | **118** |

in northern New Mexico and appears to largely reflect forms produced at Tewa Pueblo villages north of Santa Fe (Snow 1982). Plain ware types tend to exhibit polished surfaces and fine tuff temper. They may consist of a wide range of vessel forms similar to those encountered for Tewa Polychrome vessels. These Tewa plain ware sherds were assigned to different descriptive types based on the presence or type of slipped surface. Types assigned to plain ware forms not exhibiting a distinct slip were assigned to *Tewa Buff Undifferentiated*. Those assigned to forms slipped with red clay were assigned to *Tewa Polished Red* or *San Juan Red-on-tan* (Fig. 12.1). Those exhibiting evidence of gray or black smudged deposits over unslipped surfaces or black deposit over red slipped surfaces were assigned to Tewa *Polished Gray* or *Tewa Polished Black.* The dominance of similar paste and fine tuff temper in the great majority of the Tewa plain utility wares indicates that most of these sherds were derived from vessels produced at the northernmost Tewa Pueblo villages (Table 12. 4), although the presence of a single sherd tempered with sand and a few examples with large vitric temper may indicate some variation in area of origin. Most of the plain ware sherds identified during this study represent body sherds polished on both surfaces, for which the vessel form could not be determined (Table 12.4). Rim sherds include bowl and jar forms, and are typical of the variation noted for Tewa plain wares (Wilson 2011a).

Tewa Polychrome types were assigned to 29 sherds or 24.6 percent of the total historic ceramic assemblage. Tewa Polychrome types refer to pottery produced at Tewa villages during the Spanish Colonial, Mexican, and American Territorial periods. These polychrome forms developed directly out of earlier Tewa decorated forms such as biscuit wares in that they are tempered with fine crushed tuff and exhibit painted decorations utilizing organic paint. Later forms are usually easily distinguished from earlier types by the presence of brownish oxidized clay pastes, cream and red slips, and later decorative styles that reflect European and Mexican influences. The only formal Tewa polychrome type identified

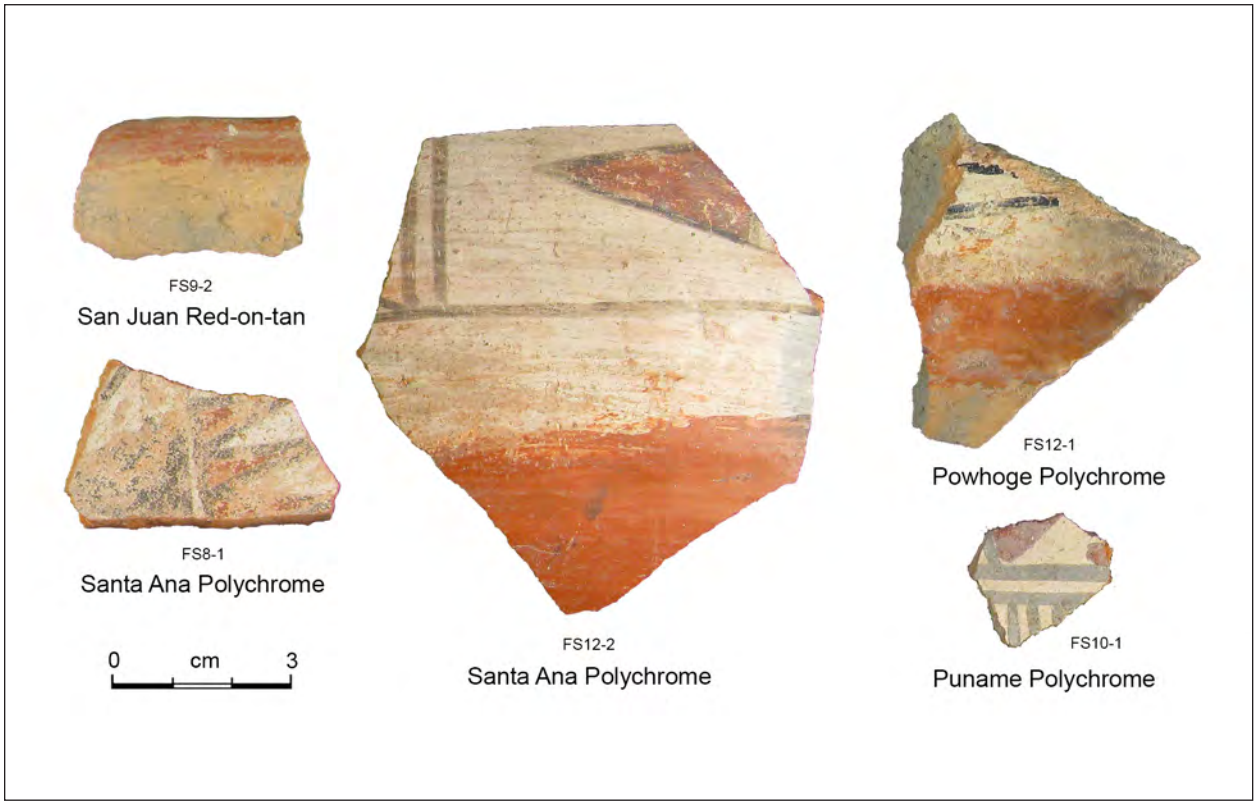


*Figure 12.1. LA 144329, Test Pit 1, sample of Native American sherds collected during test excavations.*

was *Powhoge Polychrome* (Fig. 12.1). Decorations on Powhoge Polychrome were executed with organic paint applied over broad areas slipped with cream-colored clay, which usually covered almost all of the interior surfaces of shallow bowls and the upper three-quarter of the exterior of jars and deep bowls. This slip is usually thick, well-polished, and may be crazed or crackled. Most of the exterior surfaces of shallow bowls and interior surfaces of jars and deep bowls are unslipped with tan to brown polished surfaces. Painted decorations are always applied over the cream slip.

Design motifs tend to be large and execution tends to be fairly crude in regard to evenness of shape and thickness of lines and motifs. The most common designs incorporated into these geometric fields are straight and curved triangles. Other motifs include short line segments, dots, solid circles and half circles, elliptical circles, open circles, solid squares, stylized clouds, leaf shaped elements, and stylized feathers. Collectively, these designs are combined into bold medallion, floral, or shield patterns. Most of the sherds that appeared to be derived from Tewa tradition polychrome vessels did not exhibit decorations clearly indicative of a distinct type, although given the overall combination of characteristics represented, it is likely most of these derived from Powhoge Polychrome vessels. Descriptive categories identified for non-discrete polychrome sherds include *Black-on-cream Undifferentiated*, *Historic White Cream Slipped Unpainted, and Historic Unpainted Red and Cream slipped.* All of the Tewa Polychrome sherds identified exhibited combinations of pastes and fine tuff temper, similar to those noted for Tewa plain ware types, and many appear to have been derived from jars. However, bowl and soup plate fragments were also present (Table 12.4).

A total of 13 sherds (or 11 percent of the assemblage) are derived from vessels known to have been produced in the Middle Rio Grande region known as the Puname district or province (Harlow 1973; Harlow and Lammon 2003). The Puname district refers to the general area of present-day Zia Pueblo and surrounding Keres-speaking villages where matte mineral-painted polychrome pottery replaced earlier glaze-painted pottery during the early eighteenth century (Harlow 1973; Mera 1939). Historic matte-painted polychromes produced in the Zia area are characterized by a deep-red or reddish-brown paste, basalt temper, and red and black mineral paint. The definition of a series of types has been based on gradual changes noted in the decoration of pottery over a three-hundred-year period (Harlow and Lammon 2003). Vessels are covered with a white to tan slip that is generally dull and lightly polished. Vessel forms are distinctive and have a low, wide underbody bulge and short neck. Designs occur in paneled bands or in all-over patterns on the upper parts of vessels, and are framed with parallel lines. Paneled designs on the upper body are separated by double vertical lines. Red matte-painted arcs on the mid-body bulge are common. Design elements include opposing geometric elements, arcs, feathers, and keys. Rim lips are painted red, and this paint often extends onto the interior vessel wall.

Bowls are rare and have a rounded underbody, with simple designs painted on the white-slipped vertical area below the rim. Vessels exhibiting temper, pastes, and painted decorations characteristic of pottery produced at Zia Pueblo were assigned to *Puname Polychrome* (Fig. 12.1). Unpainted examples were assigned to categories based on slip color and include the *Unpainted White Slipped* Puname category.

In the 1700s, the historic pueblo of Santa Ana moved from a location along the Jemez River near Zia to farming lands along the Rio Grande (Batkin 1987). At this time, Santa Ana potters switched from using crushed basalt to river sand from the Rio Grande alluvial plain to temper their pottery. Santa Ana Polychrome refers here to pottery containing sand temper, deep red pastes, and black and red painted decorations characteristic of vessels produced at Santa Ana Pueblo. This pottery typically contains abundant sand temper in pastes ranging in color from beige to orange or gray, although temper noted in examples assigned to this type during this study contained a mixture of large vitric tuff, sand, and sorted volcanic rock fragments. During the present study, sherds containing this temper were assigned to Santa Ana Polychrome, as it appears to represent combinations of material from an alluvial source rather than the crushed rock used in the Zia area. The specific source of temper for this pottery, however, still needs to be determined.

Vessels placed into this type tend to be decorated with black and red mineral-painted designs. In general, surfaces are not well-polished, and the

white slip is pinkish-white, white, or cream, and crackled or flaked off the surface. The red slip is thick and smooth. The mineral paint is black. The red mineral paint is reddish-brown and consistently flakes off the surface, obscuring the shapes of design elements. *Santa Ana Polychrome* (Fig. 12.1) was assigned to sherds containing temper with at least some sand and black- and red-painted decorations. Unpainted sherds exhibiting temper and paste colors characteristic of pottery thought to have been produced at Santa Ana Pueblo are identified as *Santa Ana White Sipped Unpainted* and *Santa Ana Red Slipped Unpainted*. Almost all the sherds assigned to Middle Rio Grande types during the present study appear to be derived from jars, although a single sherd may represent a bowl rim.

Two sherds were assigned to glaze-ware types. Glaze-ware types are generally characterized as having been produced in the Middle and Southern Rio Grande between AD 1325 and AD 1700 (Franklin 1997; Kidder and Shepard 1936; Mera 1933). One of these is an unpainted red-slipped body sherd that is polished and slipped on both sides and of indeterminate form, and the other is a polished glazeware body sherd that is tempered with sand and polished on both sides.

### *Native Ceramic Assemblage from Test Pit 1*

The 100 sherds assigned to historic-period types recovered from Test pit 1 are representative of assemblages found within and near Santa Fe dating from the Late Colonial to Early Territorial periods (Tables 12.5, 12.6). This is based on the similarities of historic ceramic types found in the test pit to those noted at assemblages from Spanish or Hispanic components assumed to date to this span and documented during recent OAS projects (Wilson 2007; 2011a 2011b, Wilson and Montoya 2011). The low frequency of earlier prehistoric gray and white ware types reflect a minimal amount of mixing from nearby prehistoric components during the span of time in which these strata were deposited.

Overall, the pottery from Test Pit 1 is typical of both Pueblo and Hispanic households prior to the shift to Tourist wares spurred by establishment of the railroads across New Mexico (Wilson 2007; Snow 1973). The great majority of the pottery produced during this period represents well-made but undecorated plain- and utility-ware types (Wilson 2011a). Utility wares represent 62 percent of the total historic period assemblage from Test Pit 1 and include both micaceous (19 percent) and plain ware (43 percent) types. While this is slightly lower than the expected frequency of utility wares dating to this period, it may be partly influenced by the small sample size.

Distributions of polychrome types from Test Pit 1 (Fig. 12.1) are also consistent with occupations dating to this time span. The majority of polychrome types are from the Northern Rio Grande or from Tewa traditions and represent 24 percent of the total ceramic assemblage. The only formal type identified was Powhoge Polychrome, a type known to have been produced from about AD 1750 to 1900 (Batkin 1987; Harlow 1973). All other Tewa Polychrome pottery was assigned to descriptive types and most of these exhibited characteristics consistent with pottery that could have derived from portions of a Powhoge Polychrome vessel. In addition, the absence of later styles or forms that are indicative of pottery produced for the tourist trade after the establishment of a railroad system across New Mexico (Toulouse 1977), indicates that the assemblages from all levels of Test Pit 1 date prior to 1880.

However, the most unique aspect of this assemblage is the presence of a fairly significant proportion of pottery assigned to Middle Rio Grande or Puname district types known to have been produced by Keres-speaking groups during the eighteenth and nineteenth century. Like the Powhoge Polychrome, this pottery exhibits styles consistent with manufacture during the late eighteenth or early nineteenth centuries.

### *Native Ceramic Assemblage from Test Pit 2*

A very small sample of 18 historic sherds was recovered from Test Pit 2. These artifacts are difficult to interpret. The overall distribution of ceramic types within the test pit suggests deposits dating to the late eighteenth and early nineteenth centuries (Table 12.7). However, the thickness of some plain utility ware sherds and the occurrence of one sherd assigned to the Plain Tan Utility type suggest substantial mixing during the very late nineteenth and early twentieth centuries.

*Table 12.5. LA 144329, Test Pit 1, distribution of historic ceramic types by level.*

| | LEVEL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CERAMIC TYPE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 11 | **TOTAL** |
| **Historic Micaceous Utility Ware** | | | | | | | | | | | |
| Highly micaceous paste | – | – | – | – | 1 | – | 1 | – | – | – | **2** |
| Smudged interior, mica-slipped exterior | – | – | – | – | 5 | 7 | – | – | – | 1 | **13** |
| Polished interior with mica slip | – | – | – | – | 2 | – | 1 | – | – | – | **3** |
| Polished with highly micaceous paste | – | – | – | – | – | – | – | – | 1 | – | **1** |
| **Historic Rio Grande Plain Ware** | | | | | | | | | | | |
| Tewa Buff, undifferentiated | – | – | 2 | – | 7 | 2 | 2 | 2 | – | – | **15** |
| San Juan Red-on-tan | – | – | – | – | – | 1 | – | – | – | – | **1** |
| Tewa Polished Red | – | 1 | 1 | 1 | 4 | – | 5 | 3 | – | – | **15** |
| Tewa Polished Gray | – | 2 | – | – | 1 | – | 1 | – | 1 | – | **5** |
| Tewa Polished Black | 1 | 1 | 1 | 2 | 1 | 1 | – | – | – | – | **7** |
| **Historic Tewa Polychrome Ware** | | | | | | | | | | | |
| Black-on-cream, undifferentiated | – | 1 | 1 | 2 | 2 | 4 | 2 | – | 1 | – | **13** |
| Powhoge Polychrome | – | – | – | – | – | 3 | – | – | 1 | 1 | **5** |
| Historic white cream, slipped, unpainted | – | 1 | – | – | 2 | – | – | 2 | – | 1 | **6** |
| **Historic Middle Rio Grande Polychrome Ware** | | | | | | | | | | | |
| Puname Polychrome, indeterminate | – | – | 1 | – | – | – | 1 | – | – | – | **2** |
| Unpainted white-slipped Puname | – | – | – | – | – | – | – | – | 1 | – | **1** |
| Santa Ana Polychrome | – | – | – | – | 1 | – | – | – | 1 | – | **2** |
| Santa Ana Area Red, slipped, unpainted | – | – | – | – | 4 | 1 | – | – | – | – | **5** |
| Santa Ana White, slipped, unpainted | – | – | – | – | 1 | 1 | – | – | – | – | **2** |
| **Historic Middle Rio Grande Glaze Ware** | | | | | | | | | | | |
| Glaze red, unpainted | – | – | – | – | 1 | – | – | – | – | – | **1** |
| Historic glaze, unslipped body | – | – | – | – | 1 | – | – | – | – | – | **1** |
| **Total** | **1** | **6** | **6** | **5** | **33** | **20** | **13** | **7** | **6** | **3** | **100** |

*Table 12.6. LA 144329, Test Pit 1, distribution of ceramic groups by level.*

| \ | LEVEL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CERAMIC GROUP | 1 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | **TOTAL** |
| Historic unpolished micaceous | – | – | – | – | 1 | – | 1 | – | – | – | **2** |
| Historic polished micaceous | – | – | – | – | 7 | 7 | 1 | – | 1 | 1 | **17** |
| Historic buff utility | – | – | 2 | – | 7 | 2 | 2 | 2 | – | – | **15** |
| Historic red utility | – | 1 | 1 | 1 | 4 | 1 | 5 | 3 | – | – | **16** |
| Historic polished gray/black utility | 1 | 3 | 1 | 2 | 2 | 1 | 1 | – | 1 | – | **12** |
| Historic Tewa Polychrome | – | 2 | 1 | 2 | 4 | 7 | 2 | 2 | 2 | 2 | **24** |
| Historic Middle Rio Grande Polychrome | – | – | 1 | – | 6 | 2 | 1 | – | 2 | – | **12** |
| Glaze ware | – | – | – | – | 2 | – | – | – | – | – | **2** |
| **Total** | **1** | **6** | **6** | **5** | **33** | **20** | **13** | **7** | **6** | **3** | **100** |

*Table 12.7. LA 144329, Test Pit 2, distribution of ceramic groups by level.*

| | LEVEL | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CERAMIC GROUP | 2 | 3 | 4 | 5 | 6 | 7 | 9 | 11 | 12 | **TOTAL** |
| Historic unpolished micaceous | – | – | – | – | 1 | 1 | – | – | – | **2** |
| Historic micaceous utility | – | – | 2 | – | – | – | 1 | 1 | – | **4** |
| Historic buff utility | – | – | 3 | – | 1 | 1 | – | – | – | **5** |
| Historic red utility | 1 | – | – | – | – | – | – | – | – | **1** |
| Historic Tewa Polychrome | – | 2 | 2 | 1 | – | – | – | – | – | **5** |
| Middle Rio Grande Polished Utility | – | – | – | – | – | – | – | – | 1 | **1** |
| **Total** | **1** | **2** | **7** | **1** | **2** | **2** | **1** | **1** | **1** | **18** |

## Discussion and Conclusions

Ceramic distributions documented for Test Pit 1 reflect combinations of pottery associated with the mass production of Tewa Pueblo pottery for Hispanic households in Santa Fe as well as surrounding villages and settlements during the Late Colonial and Early Territorial periods. Various patterns noted are the result of a major shift in pottery technology and decoration that reflects profound social and economic changes in northern New Mexico and that culminated between 1780 and 1820 (Frank 1991; 2000). This period is defined by shifts in the relationship between Hispanic consumers and Pueblo potters that appear to have influenced major alterations in the design, shape, and production techniques of pottery produced by several different Pueblo groups (Frank 1991). These changes were influenced by a combination of historic events that led to a distinct system ultimately created and oriented around culturally innovative and dominant Hispanic settlers or "Vecinos." Historic events that may have contributed to the creation of such a system included the ending of hostilities with surrounding nomadic Indian groups and a severe reduction of the population by a small pox epidemic that changed the balance between different populations, after which Hispanic populations permanently surpassed the Pueblo Indians as the largest group in northern New Mexico. These demographic changes served to concentrate ownership of land, livestock, and the materials of production, which, in turn, resulted in an economic boom between 1785 and 1810. By the late eighteenth century, goods produced in New Mexico, including wool, textiles, and pottery, became increasingly integrated into the larger economy of New Spain and included expanded trade and control of Pueblo pottery by the Vecinos and this had major influences in the total output, concentration, form, and quality of Pueblo pottery produced in different Pueblo villages (Frank 1991; 2000).

While observations relating to trends in the production and technology of Pueblo vessels during this time have been largely based on observations of decorated jars accumulated by collectors (Batkin 1987; Frank 1991; 2000; Frank and Harlow 1990; Toulouse 1977; Harlow 1973; Mera 1938), recent examinations of ceramics from archaeological sites dating to the Late Colonial and Early Territorial periods provide a more detailed glimpse of these trends (Wilson 2007). Examinations of pottery from Hispanic sites in the Santa Fe area occupied during this period have focused on the characterization of the Northern Tewa pottery types that overwhelmingly dominated these assemblages (Wilson 2007; Wilson 2011a; Wilson 2011). Archaeological material from sites occupied during this period continued to be dominated by native-produced Pueblo ceramics whose traits reflect both the continuation of earlier technologies and forms long associated with Pueblo groups in the Northern Rio Grande, as well as dramatic changes that seem have been the result of the previously discussed changes in the balance between Hispanic and Pueblo groups. One pattern that continued from earlier times was the dichotomy between utility and decorated wares allowing for the production of vessels useful in a wide range of domestic activities including cooking, serving, and storage.

An important source of change in Pueblo pottery produced during this time resulted from mass production for rapidly increasing populations of Hispanic settlers. Specialized pottery forms were long produced within specific Rio Grande Pueblo villages and localities and distributed through formalized networks prior to Spanish colonization of northern New Mexico. The gradual increase of Hispanic settlers and population decline in Pueblo-occupied areas placed higher demands on Pueblo potters. This was particularly true after the Pueblo Revolt and Spanish Reconquest. These increasing demands may have been most intensely felt by Northern Tewa potters who seem to have produced the great majority of pottery used in households associated with the rapidly growing population of settlers in the Santa Fe area. One suite of changes reflected in pottery produced by Northern Tewa potters during the Colonial period concerns both changes in surface treatments of utility ware jars as well as a decrease in their total frequency. Another important innovation that appeared early in the Spanish Colonial period is reflected by the production of plain polished plain ware forms, which are often the most common ware group in assemblages dating to most spans of the Spanish Colonial period. While these forms are commonly characterized as utility wares, characteristics noted for pastes, temper, and vessel forms are much more similar to those noted for Tewa polychrome forms than micaceous utility wares.

The most often cited Spanish influence on native pottery forms produced during the Colonial and Territorial period is the appearance of European pottery forms, styles, and surface effects. This seems to be commonly reflected in decorated bowls used in domestic activities that may have been the focus of activities by non-Indian households for which "Spanish" affiliation may have been emphasized. Many of the changes in decorated forms that took place during the late eighteenth and early nineteenth century reflect the shift to European-influenced decorated bowls and soup plates, which represent the majority of vessels utilized during that time. The combination of changes noted on plain ware and polychrome forms may ultimately reflect changes in techniques and conventions that allowed for the mass production of vessels for increasingly large populations of Hispanic settlers. Expanding demands for Pueblo-produced vessels by these rapidly growing populations may have also resulted in conventions to allow for the more expedient production of large numbers of vessels that would have been desirable to Hispanic consumers. Thus, the examination of changing characteristics for Tewa decorated forms, which dominate native assemblages dating to the late eighteenth and nineteenth century, may also provide clues about the nature of influences and pressures involved in the increased mass production of vessels by Tewa Pueblo potters for Hispanic settlers. The similarities between polished plain wares and polychrome pottery forms produced during the late Colonial period may indicate that many of the plain-ware vessels represent utilitarian forms—essentially expediently produced, unpainted versions of polychrome forms. Most of the slipped plain ware vessels may simply represent a more expedient variant of decorative conventions used in decorated serving forms. The bold and stylized decorations and red-slipped band near the rim used to embellish Powhoge bowls and other forms could have been applied fairly rapidly, while at the same time providing relatively attractive painted vessels. The application of a band of red slip just below the rim of these vessels would have also provided a very expedient way to decorate them, and at the same time connect them aesthetically with more expediently produced plain ware forms. The mass production of ceramic vessels by Northern Tewa potters was, therefore, an increasingly fluid technology resulting in the production of a wider range of ware groups and a decrease in the distinction between specific wares compared to earlier periods.

The most distinct characteristic of the current project assemblage as compared to contemporary Hispanic assemblages in the Santa Fe area is the much higher frequency of decorated wares assigned to Middle Rio Grande (Santa Ana and Zia) types. Pottery assigned to Middle Rio Grande types is still fairly low, consisting of 12 percent of the total native pottery sherds or 33 percent of the sherds assigned to polychrome type for the assemblage from Test Pit 1. Sherds assigned to Middle Rio Grande types seem to have derived from four or five vessels so that this frequency cannot be simply attributed to sampling error resulting from a single broken vessel. In contrast, while ceramic types associated with Middle Rio Grande or Puname series types as well as other Pueblo traditions occur in most assemblages dating to the late eighteenth and nineteenth century, they occur in extremely low or trace frequencies. The total frequency of such pottery is particularly low at sites to the north of Santa Fe. While there is some variability in the overall frequency of Middle Rio Grande pottery in sites within Santa Fe, they tend to be much lower than frequencies noted in this study. In contrast, pottery assigned to Middle Rio Grande types is fairly common at Hispanic sites to the south of Santa Fe, particularly in the Albuquerque area (Ferg 1984; Franklin 1997; 2007). Thus, in the Middle Rio Grande province, Puname-style polychrome and other associated types, along with some locally produced Hispanic utility wares (Carillo 1997; Dick 1968), may have been widely produced and distributed to local Hispanic groups in a manner similar to that noted for the Santa Fe area. The unusually high frequency of Middle Rio Grande polychrome types from Test Pit 1 may indicate that other factors contributed to a higher amount of exchange between households in Santa Fe and the Middle Rio Grande. Possibilities may include joint landholdings by individuals in Santa Fe that included areas of the Middle Rio Grande or household servants or spouses hailing from the Puname province. More historic data relating to groups residing at this household, as well as further analysis of pottery from this site, may provide additional insights regarding the causes of this pattern.

In conclusion, ceramic sherd distributions from Test Pit 1 seem to conform quite well to patterns noted in other archaeological components in the

Santa Fe area and are indicative of the mass production of domestic ceramic vessels by Tewa Pueblo for domestic use for Hispanic households. A possible exception to this pattern is reflected by the unusually high frequency of Middle Rio Grande or Puname-style vessels and could either suggest familial ties to that area or a native servant hailing from the Middle Rio Grande. The very small sample from Test Pit 2 is more difficult to interpret, and most likely represents mixed cultural deposits dating to the late nineteenth or early twentieth century.

# 13 | Summary and Recommendations

**Matthew J. Barbour**

Over the course of five days in December 2012, the OAS conducted archaeological test excavations in the parking lot of the former Judge Steve Herrera Judicial Complex (which was originally constructed in 1937 to serve as the Harvey Junior High School). This property is located within LA 144329, a previously recorded archaeological site that lies within the Santa Fe Historic District (LA 4450; *State Register of Cultural Properties* No. 260, September 29, 1972; *National Register of Historic Places,* July 23, 1973). However, no prior archaeological investigations had been performed within the current project area.

The purpose of this study was to determine if significant buried cultural deposits were present within the parking lot. If buried cultural deposits were encountered, these excavations would be used to gather information about their age, vertical and horizontal extent, condition, integrity, and potential to yield data on the prehistory and history of the region. Information garnered from the study could then be used to examine the impact, if any, that potential remodeling of the 1937 structure and its associated parking lot would have on cultural resources and help guide future construction/renovation activities.

To accomplish this task, OAS archaeologically tested the parking lot through the mechanical excavation of 10 test trenches and the hand-excavation of two test pits. This equated to roughly a 2 percent excavation sample (1,400 sq ft) of the current project area (69,651 sq ft). Test excavation units revealed a midden or field deposit associated with eighteenth-century occupation of the project area by the Esquivel family and late nineteenth-century structural remnants linked to the Presbyterian Mission School, which was founded in 1867. These intact cultural strata extended from roughly 0.6 to 1.2 m below the present-day ground surface. No prehistoric cultural deposits or human remains were encountered within the project area.

Analyses of the artifacts recovered during these excavations revealed that the eighteenth- and nineteenth-century deposits could provide adequate data concerning the day-to-day activities at the school and aid in filling in many of the gaps left by the historic record regarding life at the Esquivel House. Fauna and packaged food products, such as glass bottles and canned goods, can be used to reconstruct diet, while local and imported ceramics can inform upon socioeconomic status and ethnicity.

Perhaps one of the most peculiar finds associated with the Esquivel family was the presence of large quantities of Puname and Santa Ana Polychrome sherds. These sherds, produced in Puname province (present-day Zia and Santa Ana Pueblos), are typically not found in the Santa Fe area, which tended to rely on Tewa potters for their ceramic vessels. The presence of these vessels within the assemblage associated with the Esquivel household could suggest familial ties to that area or denote a native servant hailing from the Middle Rio Grande.

Based upon the field excavations and artifact analyses, OAS recommends that LA 144329 should continue to remain eligible for listing on the *National Register of Historic Places* under Criterion D for its ability to inform upon life in a Santa Fe household during the Spanish Colonial period and in an institutional setting during the American Territorial period. However, eighteenth- and nineteenth-century cultural deposits were not uniformly distributed across the project area. Only Test Trenches 2, 4, 5, 6, and 7 yielded intact archaeological deposits. If future renovation or construction activities are planned for the project area, it is advisable that the northeast and central portions of the project area, where these intact cultural deposits were found, be subjected to intensive archaeological data recovery (Fig. 13.1). In those areas where only mixed cultural contexts were revealed, archaeological monitoring should suffice.


*Figure 13.1. LA 144329, project area (the former Judge Steve Herrera Judicial Complex) depicting areas recommended for archaeological data recovery and monitoring.*

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Archaeology Notes 455
2014