

# EXCAVATIONS AT LA 80000, THE SANTA FE PLAZA COMMUNITY STAGE LOCATION, SANTA FE, NEW MEXICO

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MUSEUM OF NEW MEXICO  
OFFICE OF ARCHAEOLOGICAL STUDIES  
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OFFICE OF ARCHAEOLOGICAL STUDIES

**The Santa Fe Plaza Community Stage:  
Excavations at LA 80000, Santa Fe, New Mexico**

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## **ADMINISTRATIVE SUMMARY**

At the request of the City of Santa Fe, the Office of Archaeological Studies, Museum of New Mexico, undertook a testing and data recovery program prior to the construction of the Santa Fe Plaza Community Stage. Excavations were confined to the architectural footprint of the stage. During the three-stage field process, the OAS excavated 29 whole and partial 1 by 1 m excavation units at the proposed site (LA 80000).

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## INTRODUCTION

The Office of Archaeological Studies (OAS), Museum of New Mexico, conducted test excavations prior to the construction of the Santa Fe Plaza Community Stage (Figs. 1 and 2). During the three-stage field process, the OAS excavated 29 whole and partial 1 by 1 m excavation units at the proposed site (LA 80000). The project area lies on the north side of the Santa Fe plaza along Palace Avenue. The cultural resources of this area are protected by a City of Santa Fe ordinance and the New Mexico Cultural Properties Act. The Historic Downtown Archaeological District is defined by the Historic Design Review ordinance. The Santa Fe Plaza is a national historic landmark registered in *The National Register of Historic Places* (Oct. 15, 1966) and the *State Register of Cultural Properties* (No. 27).

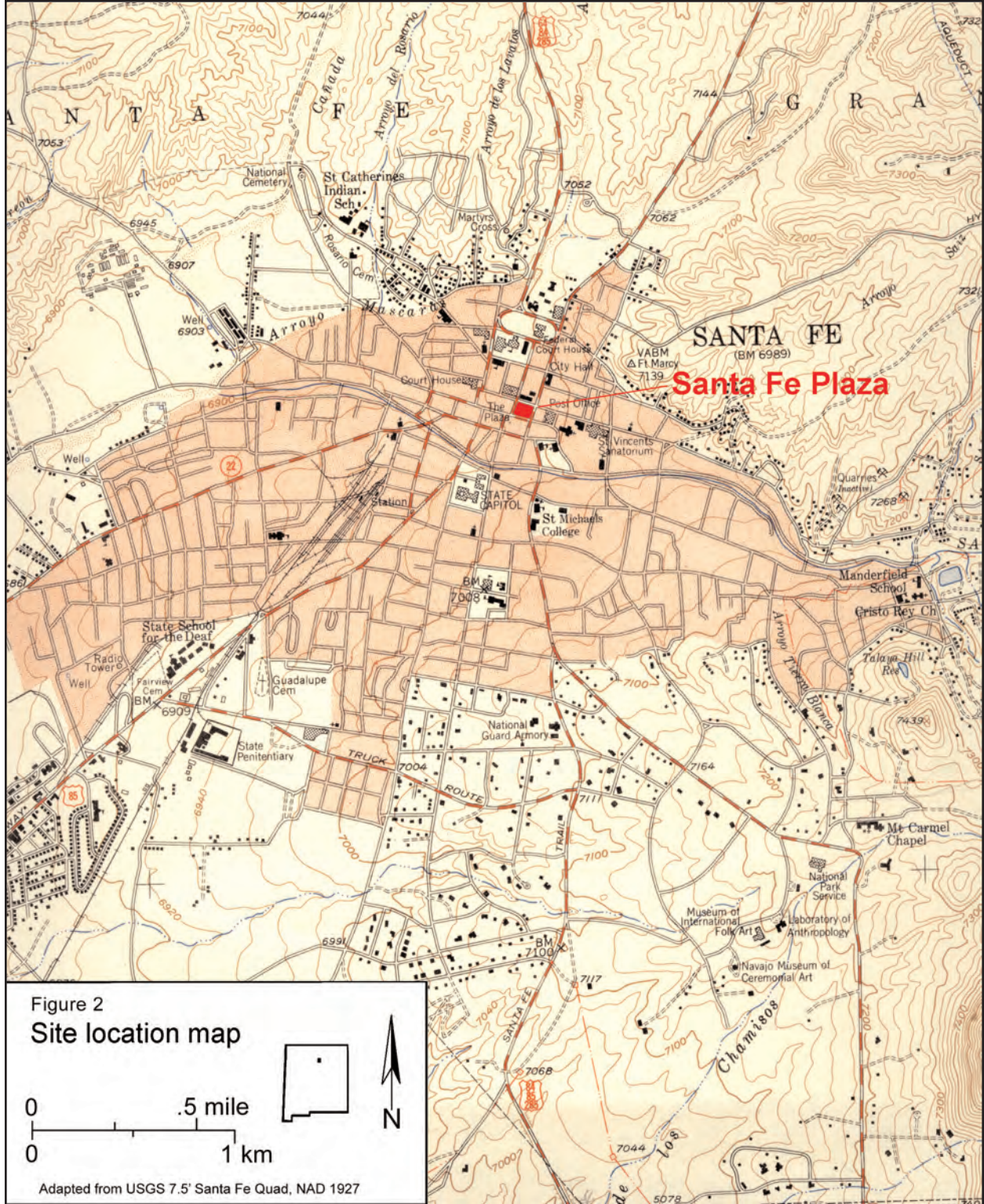
The original proposal required that the areas designated for the footings and foundation of the stage and handicapped access ramp be excavated to below cultural strata. These excavations were not to exceed the Occupational Safety and Health and Administration (OSHA) regulations limiting the depth of trenches and pits (letter to Mr. Chip Lilienthal, City of Santa Fe, January 16, 2004). After the first phase of excavations was completed between January 6 and 16, 2004, the

Historic Preservation Division (HPD) specified that several excavation units be excavated to below cultural strata (letter from Michelle Ensey to Chip Lilienthal, January 26, 2004). Specifically, it was recommended that Excavation Unit (EU) 2 be expanded to investigate cobble deposits encountered below the OSHA limits, and that excavations be expanded to define an undisturbed level (Stratum 5) and the area around EUs 4 and 5 to investigate cultural strata below the levels permitted by OSHA. Concrete pavement and noncultural backdirt were mechanically removed by the City of Santa Fe in the designated areas to allow the area to be “stepped back” in compliance with safety standards.

A second phase of archaeological investigation was conducted between January 6 and January 20, 2004. At the conclusion of the field phase, the OAS reported that (1) cultural deposition ceased in EU 4 at 1.8 m below datum; (2) cultural deposition ceased in EU 5 at 1.8 m below datum; (3) the cobble alignment in EU 2 was a natural alluvial channel; (4) the 1974 plaza surface was exposed at 55 cm below the modern surface; (5) the late eighteenth-century and early nineteenth-century plaza surface was encountered between 70 and 75 cm below datum; and (6) a cultural layer representing an undis-



*Figure 1. The plaza site (LA 80000) during excavation.*



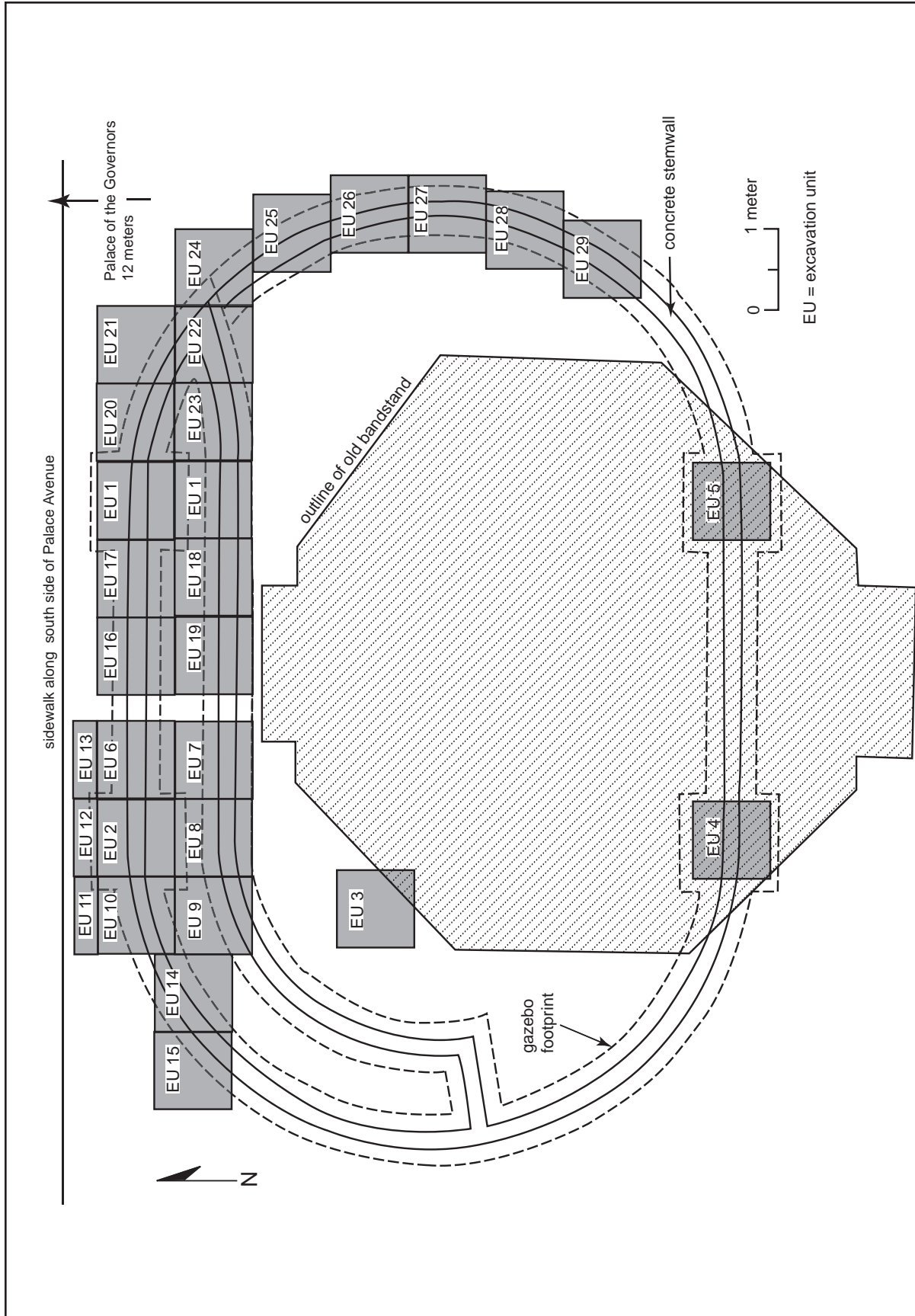


Figure 3. Site map and excavation units.

turbed deposit was found in EU 2 (letter to M. Ensey, HPD, February 23, 2004). Preliminary examination of the diagnostic artifacts (historic Pueblo and Hispanic ceramic, metal, and glass artifacts) suggested that this layer may date to the seventeenth century. While the depth of these deposits did not exceed 10 cm, the horizontal distribution was not determined. To the east, the layer was interrupted by a series of twentieth-century utility trenches. To the north, south, and west, the feature continued horizontally to an unknown distance beyond the expansion area.

The contractor, SARCON, then started construction of the gazebo. However, after having observed backhoe excavations for the foundation, the HPD recommended that a third stage of investigation be initiated (letter from M. Ensey, HPD, to M. Valdez, City of Santa Fe, March 3, 2004). During this phase, conducted between March 8 and 15, the OAS performed the following work:

1. The footprint of the existing backhoe trench was hand-excavated. No remains of the late nineteenth-century plaza surface were encountered. A discontinuous stratum (Stratum 5) associated with the seventeenth-century level occurred intermittently from west to east, specifically from EU 15 to EU 25 (Fig. 3). Since this stratum was poorly represented, questions of sample size were referred to the HPD (letter to M. Ensey, March 5, 2004), and the OAS recovered 100 percent of the materials associated with this stratum.

2. A pit (Feature 3) encountered at the level of Stratum 5 (Fig. 3) was hand-excavated. Part of the pit continued west an unknown distance under the balk, so this feature was only partly excavated. It had been mechanically disturbed along the south end, but the integrity of its contents had not been compromised. Feature 3 contained pockets of ash, large chunks of charcoal, a portion of a Glaze F bowl, large Pueblo sherds, large bones, and ground stone. No metal or glass were encountered. The age of Feature 3 was determined through ceramic analysis and the results of a radiocarbon sample. Preliminary results place this feature and the associated stratum at around the time of the Pueblo Revolt (A.D. 1680).

3. Subsurface stratigraphy documented during the excavation of undisturbed units showed no strata between the 1880s surface (probably Railroad period) and the seventeenth-century stratum, suggesting that deposits from between the early eighteenth century and the 1880s had

been removed. It has long been suspected that modifications have been made to the plaza in the past (Pratt 1990; Snow 1990). In the 1860s President Grant, noting the general dilapidated appearance of the town, ordered that it be remodeled to conform to standards expected of a territorial capital, and the plaza may have been altered at that time.

4. Excavations ceased at the base of the seventeenth-century level, since an adequate sample of the subsurface, including the culturally sterile substratum, had already been obtained. Mechanical excavation below the seventeenth-century level along the eastern edge of the foundation was conducted by the City of Santa Fe on March 15, 2004, and monitored by OAS archaeologist Rick Montoya. No intact deposits were observed. Several miscellaneous artifacts were recovered and added to the unprovenienced artifact collection.

Archaeological resources of importance to local history were revealed during the excavations. Cultural materials in the area of the proposed footing and foundation were excavated to culturally sterile strata in compliance with conditions outlined in the testing proposals (Lentz 2003, 2004). Based on the findings described above, no further archaeological excavations are considered necessary. The monitoring of the electrical trench providing electricity from the electrical box at the northeast corner of the plaza was specified in the original scope of work and was undertaken after archaeological excavations were completed and prior to construction of the gazebo.

At the completion of the excavation program, all of the recovered artifacts were cleaned and labeled. The collected samples were processed and submitted for analysis to various professional laboratories contracting with the OAS. Lithic, ceramic, and faunal artifacts were analyzed by qualified members of the research staff. All field notes, photographs, maps, and other documentation are on file or in storage at the Laboratory of Anthropology, Museum of New Mexico, Santa Fe.

The project director, Stephen C. Lentz, was assisted by Rick Montoya, Tom Schley, Isaac Herrera, Phylo Thompson, Luke Suchy, and Cameron Gokee. Many thanks to the volunteers—George Price, Tim Ade, and Paul McClendon—and “Tomaso.” Timothy D. Maxwell acted as principal investigator, the manuscript was edited by Tom Ireland, and Ann Noble produced the illustrations.

# ENVIRONMENT

## PHYSIOGRAPHY

Santa Fe is in a fault zone within a subdivision of the Southern Rocky Mountain physiographic zone known as the Española Basin, one in a chain of basins comprising the Rio Grande rift, which extends from southern Colorado to southern New Mexico (Kelley 1979:281). This basin, which is considered an extension of the Southern Rocky Mountain Province (Fenneman 1931), is enclosed by uplands of alternating mountain ranges and uplifted plateaus, and the Rio Grande flows along the long axis of the feature (Kelley 1979:281). The northern boundary of the Española Basin is composed of the eroded edge of the Taos Plateau. The Sangre de Cristo Mountains form the east edge, 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 3,994 m in the Sangre de Cristos, 3,522 m in the Jemez Mountains, and 2,623 m in the Brazos and Tusas (Kelley 1979:281).

Local topography alternates among nearly level plains, rolling terraces, and steep, rocky slopes. The main drainage is the Santa Fe River. Major tributary drainages include Arroyo de la Piedra, Arroyo Ranchito, and Arroyo Barranca. These tributaries have wide, level floodplains, while smaller tributary arroyos have cut deeply into the alluvial plain, forming steep-sided valleys.

## GEOLOGY

The Rio Grande rift was established during the late Oligocene epoch (ca. 30 million years B.P.), when a cycle of crystal downwarping and extensional faulting succeeded a period of regional uplift (Kelley 1979:281). As the subsidence of the Española Basin proceeded 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 the mature Laramide 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 sediments of this geologic unit include volcanic fields in the Jemez, Brazos

and Sangre de Cristos (in an area northeast of the Española Basin). Formations within the Santa Fe group, such as the Tesuque formation, consist of deep deposits (over 1 km thick) of poorly consolidated sands, gravels and conglomerates, mudstones, siltstones, and volcanic ash beds (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. When combined with these alluvial deposits, they provide most of the materials needed for lithic artifact production. In particular, chert is available in the Ancha formation (Kelley 1979:11-12), 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 1979:12).

## CLIMATE

The project area 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 the local 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 48.9 degrees C (Gabin and Lesperance 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 1956a: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 1956b). 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 than 45 percent of the mean annual precipitation falls between July and September (Gabin and Lesperance 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 in runoff.

#### FLORA

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 shortgrass plains containing scattered juniper midway between the foothills and the Santa Fe River (Kelley 1979:12). The open, grass-covered valleys contain grama grass, muhly, Indian ricegrass, galleta grass, soapweed 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, rabbitbrush, big sagebrush, and wolfberry. The riparian/wetlands habitat is found only along perennial streams such as 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, including the area north of the present study area.

#### FAUNA

Fauna found 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 elk, black bears, and grizzly bears may have been more common before the turn of the century (Carroll 1984:2). Plains animals such as buffalo and pronghorn may also have been present or available with a few days' travel.



## CULTURE HISTORY

The culture history of the northern Rio Grande area and the Santa Fe Basin departs from the traditional Pecos classification (Kidder 1927). Wendorf and Reed (1955) redefined the Pueblo I-V periods in the Rio Grande Valley according to the occurrence of ceramic types, changes in settlement patterns, and economy. They outlined three principal periods: Developmental, Coalition, and Classic.

### THE DEVELOPMENTAL PERIOD (A.D. 600-1200)

The Developmental period in the northern Rio Grande is comparable to the late Basketmaker III and Pueblo I periods of the Pecos Classification. Basketmaker sites are rare and tend to be small with a ceramic assemblage composed primarily of Lino Gray, San Marcial Black-on-white, and various plain brown and red-slipped wares. The majority of the documented Early Developmental sites are in the Albuquerque and Santa Fe districts (Frisbie 1967; Reinhart 1967; Peckham 1984). The settlement of the Rio Grande drainage has typically been attributed to immigration from the southern areas (Bullard 1962; Jenkins and Schroeder 1974) or from the Four Corners and San Juan areas (Judge 1991; Stuart and Gauthier 1981:49; Lekson and Cameron 1995:185).

Archaeological sites in the Santa Fe area with Developmental components include Pindi Pueblo (LA 1). In the Agua Fria area of south Santa Fe, Pindi Pueblo (though primarily a Coalition period site) has an ephemeral Developmental period component represented by a single jacal room and a pithouse. Kwahe'e Black-on-white ceramics were recovered, and a tree-ring date of 1218±vv was recovered below the jacal structure (Stubbs and Stallings 1953:24-25; Robinson et al. 1972:38). Also in that area is the Agua Fria Schoolhouse (LA 2), and LA 608-609 is a large pueblo under Fort Marcy.

LA 618, a pithouse site with other features, is on East Palace Avenue behind the old Fischer brewery. It dates to the Late Developmental period (Elliott 1988:17).

Other Developmental sites near downtown Santa Fe include the KP Site (LA 46300), on top of a ridge on the north side of the Santa Fe River valley near Fort Marcy, where a burned, trash-filled structure was tested (Wiseman 1989). The pottery types recovered during testing Red Mesa Black-on-white, Kwahe'e Black-on-white, "Chaco II" (Red Mesa, Rio Grande variety?) Black-on-white, Escavada Black-on-white, Gallup Black-on-white, Chaco Black-on-white, Puerco Black-

on-red, Cebolleta Black-on-white, Socorro Black-on-white, and Los Lunas Smudged. Obsidian chipped stone predominated, although local chert types, particularly red jasper, were also used. Eleven tree-ring and two radiocarbon dates indicate that the structure was occupied in the mid- to late 1000s, and the fill accumulated in the early 1100s. Dendrochronological cutting dates of A.D. 1116, 1117, and 1120 are associated with the Kwahe'e Black-on-white pottery. A wide variety of plant remains were recovered, including corn, squash, and beeweed. Bones of deer, antelope, and cottontail were found (Wiseman 1989:139). Not far from the KP Site, Mariah Associates recorded "abundant evidence of a large Pueblo II" (Rio Grande Developmental) Anasazi site (Acklen et al. 1994).

### THE COALITION PERIOD (A.D. 1200-1325)

The Coalition period in the northern Rio Grande is marked by a shift from mineral pigment to organic paint (primarily Santa Fe Black-on-white) in decorated pottery. There are substantial increases in the number and size of habitation sites with expansion into previously unoccupied areas. Although above-ground pueblos were built, pit structure architecture continued into the early phases of this period. Rectangular kivas, which are incorporated into roomblocks, coexisted with subterranean circular structures (Cordell 1979:44). Frisbie (1967) notes the shift away from less optimal upland settings and a return to the permanent water and arable land adjacent to the major drainages.

In the northern Rio Grande, the Coalition period is characterized by two interdependent trends in population and settlement reflected in population growth. Whether this growth was the result of immigration or indigenous population expansion is problematic (see discussion at the conclusion of this report). The Chama, Gallina, Pajarito Plateau, Taos, and Galisteo Basin districts, which had been the focus of little Anasazi use prior to A.D. 1100-1200, were settled (Cordell 1979). In excess of 500 Santa Fe Black-on-white sites are listed for the Pajarito Plateau, although many of these sites are poorly documented (New Mexico Cultural Resource Information System, or NMCRIS). Among the representative sites of the Coalition period are LA 4632, LA 12700, and Otowi, or Potsuwii (LA 169).

Numerous Coalition period sites have been recorded in and near downtown Santa Fe. In 1955 excavations were undertaken at the Old San Miguel Church by Stubbs and Ellis (1955). Deposits dating to the four-

teenth and seventeenth centuries were found. Excavations at LA 132712, at 125 Guadalupe Street (near Johnson Street), had a Coalition component. A trash concentration, pits, and burials were investigated (Scheick 2003). A Coalition phase structure and associated artifacts were found at the post office (Cherie Scheick to Stephen S. Post, pers. comm., Feb. 2004). Other sites with Coalition or Coalition/Classic period materials include LA 114261 (Hannaford 1997), LA 930 (Peckham 1977; Post and Snow 1982), LA 120430 (Post et al. 1998), LA 125720 (Snow 1999), LA 126709 (Viklund 2001), and LA 111 (Snow and Kammer 1995).

#### THE CLASSIC PERIOD (A.D. 1325-1600)

The Classic period postdates the abandonment of the San Juan Basin by sedentary agriculturalists. It is characterized as a time when regional populations may have reached their maximum size, and large communities with multiple plaza and roomblock complexes were established (Wendorf and Reed 1955:13). The beginning of the Classic period in the northern Rio Grande coincides with the appearance of locally manufactured red-slipped and glaze-decorated ceramics in the vicinity of Santa Fe, Albuquerque, Galisteo, and Salinas after ca. A.D. 1315, and Biscuit wares in the Pajarito Plateau, Santa Fe, and Chama areas (Mera 1935; Warren 1979). In the Santa Fe area, the Galisteo Basin saw the evolution of some of the Southwest's most spectacular ruins. Many of these large pueblos were tested or excavated by N. C. Nelson (1914, 1916) in the early part of the twentieth century. Some of the major pueblos in the Galisteo Basin include San Cristobal (LA 80) (Peckham 1969; Smiley et al. 1953), Arroyo Hondo (LA 12) (Lang 1977); San Lazaro (LA 91, LA 92) (Nelson 1916), Pueblo Blanco (Creamer 1992), Pueblo Galisteo (LA 26) (Dutton 1964), and San

Marcos (LA 98) (Thomas 1999), among others. The majority of these Classic period sites were established in the early 1300s. By the late 1400s, this area appears to have experienced a substantial decline in population.

Sites of the Classic period are characterized by a bimodal distribution: large communities associated with small structures, fieldhouses, or seasonally occupied farmsteads. This contrasts with the preceding Coalition period, when a greater range of site types characterized the settlement pattern. Investigations of the large Biscuit ware pueblo sites on the Pajarito Plateau include studies by Adolph Bandelier (1882), Hewett (1953), and Steen (1977).

Few sites of the Classic period have been found near the project area. The nearest one is LA 1051 (the Sweeney Center and City Hall area). Coalition and Classic period structural remains and abundant artifacts have consistently been encountered under the Sweeney Convention Center and City Hall (Mera 1934; Peckham 1977; Tigges 1990; Drake 1992; Deyloff 1998).

#### THE HISTORIC PERIOD

After the first Spanish entradas of the mid- and late-sixteenth century, Native American groups underwent numerous changes in lifestyle, social organization, and religion as a direct result of Spanish influence (Table 1). The introduction of new crops and livestock contributed to major changes in subsistence, as did mission programs, which taught new industries (Simmons 1979:181). Incursions by Plains groups caused the abandonment of many pueblos and a constriction of the region (Chavez 1979; Schroeder 1979). A combination of new diseases against which the Pueblos had no natural defenses, intermarriage, the Pueblo Revolt of A.D. 1680-92, and the abandonment of traditional lifestyles

**Table 1. Spanish colonization of the northern Rio Grande**

1535	Cabeza de Vaca learns of Rio Grande pueblos
1540-1542	Coronado expedition into New Mexico
1581	Chamuscado-Rodríguez expedition
1582	Espejo expedition
1598	Oñate's colony of San Gabriel founded at San Juan Pueblo
1600	Siege of Acoma
1610	Pedro de Peralta moves capital to Santa Fe
1630	Father Benavides reports on conditions among the Pueblos
1680	Pueblo Revolt
1681-1682	Otermín attempts reconquest, burns all pueblos south of Cochiti
1692	de Vargas's reconquest
1696	Second revolt of the Pueblos

Sources: Lentz (1991); Dozier (1970).

contributed to a significant decrease in Pueblo populations over the next few centuries (Dozier 1970; Eggan 1979).

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 1940 :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).

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 gold wealth, the colonizing expedition of Don Juan de Oñate arrived at Oke Ovinge (San Juan Pueblo) on July 11, 1598, and proclaimed it the capital of the province (Hammond and Rey 1953). 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 two of Oñate's 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 twenty years of hard labor in the mines of Zacatecas. The Acoma women were forced into prostitution, and the remaining population over 12 years of age was enslaved (Spicer 1962:157).

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 by Oñate's successor, Don Pedro de Peralta (Ortiz 1979 :281; Pearce 1965 :146; Spicer 1962:157).

During the next twenty years, churches were built in all the pueblos. Native American secular and church officers were also established in each of the villages, including governors, *alcaldes*, and *fiscales* (tax collectors). During the 1620s the villages were peaceful, and more people 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).

## THE PUEBLO REVOLT

Beginning in 1676, a series of events ultimately 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 1942:11, 56-57).

The Pueblos held firm to their independence for 12 years. During the winter of 1681-82, 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 intra-pueblo factionalism, the definitive Reconquest was initiated in 1692 by Don Diego de Vargas (Dozier 1970 :61; Simmons 1979 :186).

## RECONQUEST

After the Reconquest by Don Diego de Vargas in 1692, the Spanish government granted free title tracts of land to colonists to encourage resettlement of the New Mexico province. By 1696 northern New Mexico was reoccupied, and the Hispanic colonists lived on approximately 140 land grants. The pueblos were granted their own "Pueblo Leagues" but were frequently encroached upon by the Spanish colonists, and later, by Euroamerican settlers. The first of the many Spanish settlers to occupy the northern Rio Grande after the Reconquest was Don Ignacio Roybal, who, in 1793, settled within the Pojoaque Pueblo land grant at Jacona. He began building an irrigation ditch, the *Acequia Larga* de Jacona, on what is now primarily San Ildefonso lands. This particularly flagrant Spanish intrusion on Native American lands is still one of the longest standing water-rights cases in US history (Hall 1987).

In 1695, the second *villa* decreed in New Mexico by the Spanish government was established two miles east of present-day Española. Founded by Don Diego de Vargas, La Villa Nueva de Santa Cruz de los Españos Mejicanos del Rey Nuestro Señor Carlos Segundo is usually referred to in old Spanish records as La Villa Nueva de Santa Cruz de la Cañada. (Santa Fe was the first official villa in 1610, Santa Cruz the second in 1695, and Albuquerque the third in 1706) (Pearce 1965:148-149).

## THE MEXICAN PERIOD (1821-1846)

With the signing of the Treaty of Cordova on August 24, 1821, Mexico secured its independence from Spain, and New Mexico became part of the Mexican nation. Until January 31, 1824, New Mexico remained one of the “internal provinces” attached to the *comandancia* of Chihuahua, and actually joined with Chihuahua and Durango to form the Internal State of the North. New Mexico soon reverted to its status as a Mexican territory. The Treaty of Cordova decreed that all Indians residing in New Mexico be granted full Mexican citizenship, and the term *genízaro* (displaced Indians who had lost their tribal identity through capture) was suspended. The brief Mexican period saw the opening of the Santa Fe Trail, and expanded trade networks brought new settlers and goods for industrial manufacture. The Santa Fe Trail was the first American trans-Mississippi pathway to the West and the only route that entered into another country (Simmons 1988; National Park Service 1963). Early in the fall of 1821, William Becknell set out from Franklin, Missouri, taking a small load of goods to trade with the Indians of the Rocky Mountains and made his way across Raton Pass, where he was met by Mexican troops. Instead of being taken prisoner for entering the territory illegally, he was escorted to Santa Fe to dispose of his goods. The trade eventually became centered in Santa Fe and overflowed into the Mexican provinces, where merchants found lucrative markets for their wares. The Santa Fe trade drew Mexican silver coins, furs, wool, and raw material into the United States. Josiah Gregg brought the first printing press to New Mexico in 1834. Conflicts with Indians and lack of adequate finances continued to plague New Mexico. Poorly organized governments provided less to New Mexico than the Spanish governments that preceded them (Elliott 1988:34-35; Jenkins and Schroeder 1974:34-37).

## THE TERRITORIAL PERIOD (1846-1912)

Following the short-lived Mexican period, General Stephen Kearny marched to Santa Fe to accept the surrender of Acting Governor Juan Bautista Vigil y Alarid. The US flag was run up over the Palace of the Governors on August 18, 1846. By the Treaty of Guadalupe Hidalgo, which ended the Mexican War, United States dominion was established in New Mexico.

In 1850 New Mexico was officially made a territory of the United States. Under Territorial period laws, Pueblo Indians were tacitly afforded the same rights as all US citizens (Lentz 1991:10). In Santa Fe, General Kearny immediately set about planning Fort Marcy and erected some earthen embankments on top of what is

now known as Fort Marcy Hill. Constructed in case of resistance to the American presence, it was never occupied. Instead, a complex of barracks, buildings, and corals constructed just north of the plaza became known as Fort Marcy. It was eventually abandoned in 1890.

Perhaps one of the most far-reaching developments during Mexican sovereignty was the abandonment of the Spanish policy of excluding foreign traders. In the mid-to-late eighteenth century, numerous expeditions brought explorers and traders into New Mexico. Pueblo, Plains Indian groups, and Euroamerican traders were exchanging goods at annual trade fairs held at Taos Pueblo. At this time, New Mexico was still a territory of Spain, and the Spanish government maintained tight control over its frontier communities. Spain’s colonial borders were closed to any type of commerce with foreigners to the east. Spain’s new frontier settlements were supposed to have exclusive economic ties with Mexican communities to the south via the Camino Real from Chihuahua.

When Mexico gained independence from Spain in 1821, the borders of New Mexico were opened, and trading with the United States began by means of the Santa Fe Trail. Started in the Mexican period, the Santa Fe Trail brought a minor economic boom to Santa Fe, which had previously been a depressed frontier area, but the arrival of the railroads brought about its demise. The first train of the Atchison, Topeka & Santa Fe Railway arrived in Las Vegas, New Mexico, on April 4, 1879. Though Santa Fe citizens prepared themselves for an economic boom, the main line of the railroad bypassed the city to a depot at Lamy, over twenty miles away. This lack of accessibility gradually brought about a general business decline, and after 1880 Santa Fe gradually lost its prominence as a social and economic center.

During the American Civil War, the Army of the Confederacy was trying to gain control of the Santa Fe Trail in northern New Mexico. Their strategy was to control the proposed Southern Pacific Railroad route near the Mexican border. Uniting the Confederacy with transportation routes to the ports and gold fields of California would have bolstered the economy of the Southern states and given the Confederate Army military and political power over most of the United States. The Confederates also planned to annex a portion of Mexico. This vast territory would be acquired as a slave-based economy stretching from the Pacific to the Atlantic (Swanson 1988).

In February and early March of 1862, the Confederate Army, under the command of Brigadier General Sibley, successfully defeated the Union troops at Valverde in New Mexico. They occupied a portion of New Mexico along the Rio Grande from El Paso, Texas, north to Santa Fe. Sibley then made plans to capture Fort Union, east of Santa Fe. In its role as the protector of the

Santa Fe Trail, Fort Union was the headquarters and supply depot for the Department of New Mexico and the key to controlling the entire territory.

The Battle of Glorieta, which took place along the Santa Fe Trail in Glorieta Pass, was the victory by the Union Army that resulted in Union control over New Mexico (Swanson 1985, 1988). From opposite ends of Glorieta Pass, both armies advanced on the morning of March 28 and fought the battle at Pigeon's Ranch. Although the battle itself was a Confederate victory, Scurry conceded a defeat after he received word that a Union detachment had diverged over the top of Glorieta Mesa and destroyed the Confederate supply train at Johnson's Ranch. As a result, the Confederate forces retreated from New Mexico, returning to Texas with only one-third of Sibley's original army. The Battle of Glorieta, often called the Gettysburg of the West, forced the Confederacy to abandon their plans to conquer the West. As a result of these events, the Union Army retained control of one of their main military supply routes, the Santa Fe Trail (Swanson 1985; National Park Service 1990).

A dark cloud fell over New Mexico when the US government organized the Navajo Removal Act in 1863. For two years, Kit Carson and the US military waged a campaign against the Navajo people. Individual bands were rounded up, crops were systematically burned, livestock was confiscated, and men, women and children were forced to take the brutal Long Walk to Bosque Redondo.

Following the Civil War, livestock became the dominant industry in the western valleys and in the Llano Estacado east of the Pecos River. New Mexico cattle and sheep raising thrived as new markets were opened. The ensuing range wars, including the Lincoln County Wars in the 1870s, were only ended by federal troops during the administration of Governor Lew Wallace. Opportunities in land speculation led to the formation of the Santa Fe Ring, an group of attorneys, businessman, ranchers, and promoters who virtually controlled the economic and political life of the territory.

New Mexico has a long tricultural heritage in the arts. Navajos wove fine rugs, Pueblos and Navajos became adept at silver making, and Hispanic crafts were sought after items. Native American pottery production began in prehistoric times and underwent a revival from 1910 to 1920, continuing to this day. The varied New Mexico landscape, Native American cultures, and quaint villages attracted many artists, who formed art colonies in Taos and Santa Fe. This cultural diversity was also reflected in architecture. New Mexico vernacular adobe-style homes became popular, and the unique Territorial style architecture developed as the result of remodeling older structures with brick, pitched roofs, glass, and milled lumber.

New Mexico failed to obtain statehood in 1850, 1867, 1870, and 1889. President William Howard Taft signed the bill making New Mexico the 47th state of the Union on January 6, 1912.



# THE ARCHAEOLOGY OF THE SANTA FE PLAZA AND VICINITY

Archaeologists have long suspected that Santa Fe's main plaza held a great deal of information about New Mexico's past. As the town's social, cultural, and economic center, it was expected that the area should be left relatively undisturbed. (In 1886, a plan by County Commissioner Seligman to build the County Courthouse in the plaza in the style of an American courthouse square was greeted by vigorous local opposition.) During past excavations, there was little intact stratigraphy documented prior to the late nineteenth-century plaza surface, leading to some speculation that there may have been one or several large-scale cleanups during the course of the plaza's history. The absence of stratigraphy between the Pueblo Revolt layer and the 1880s surface, as well as little intervening stratigraphy between the late nineteenth and the 1974 surface, suggests that a cleanup might have occurred at any time during those intervals.

One possibility is that the plaza was renovated when Santa Fe became the Territorial capital, in 1846. The US military may have undertaken such a cleaning when President Grant visited the town after the Civil War and expressed dismay at its dilapidated condition. At that time, many houses, primarily in the eastern architectural style, were constructed. The plaza may have been graded, and the trees visible in photographs of that era may have been planted.

During the 1974 plaza renovation project, the plaza was raised to street level. Massive dirt piles were redistributed over the plaza surface (MNM Negs. 90307 and 90302). Therefore it has been well documented that the first, top layers of the plaza have been disturbed, that approximately 60 cm of postdepositional fill overlies subsurface deposits, and that even these are disturbed. This has been corroborated at least in the southern, eastern and western quadrants. However, the assertion that everything is disturbed (Snow 1992) below the late nineteenth-century plaza surface is unfounded, as the current project, which discovered intact seventeenth-century remains, has demonstrated.

## HISTORICAL BACKGROUND

A history of the Santa Fe Plaza from its inception in 1610 by Juan de Peralta is described by Snow (1992:14-52) and has also been covered by Hordes (1990) and Noble (1989). Researchers have also addressed the configuration and size of the original plaza (Pratt 1990; Snow 1990) and the early buildings surrounding the plaza (Ellis 1976). It is impossible to tell what the Santa Fe Plaza originally looked like from the founding of

Santa Fe in 1610 to the Pueblo Revolt in 1680, since all documents were destroyed during that event. To get an idea of what it might have looked like, researchers have gone back to the Ordenanzas de Descubrimiento, issued in 1573 by King Philip of Spain, which detailed the architectural format of a town in the Spanish New World. Twitchell (1925:51) has the plaza running all the way east to the cathedral, or what was then the *parroquia*. Ellis (1976:185) contends that the original plaza was four times its current size, extending in all directions. While it may never be possible to know the exact size and configuration of the plaza prior to 1680, it is certain that extensive remodeling took place after De Vargas's 1692 Reconquest, when the plaza took on its present dimensions.

My experience indicates that throughout Latin America and Spain, churches invariably fronted the plaza, which suggests that the original plaza as it was designed in 1610 extended much farther east than it does today. There is no consensus on the location of the major buildings before the Pueblo Revolt. Hordes (1990:3-36) believes in the continuity of present-day locations, whereas Snow (1988), Pratt and Snow (1988), Ellis (1976), and others believe that the buildings and plaza could have been in different locations and of different dimensions. Cordelia T. Snow (pers. comm., July 6, 2004) is certain that there was no Native American occupation in Santa Fe when the city was founded, as prescribed by the Ordenanzas. Stephen S. Post (pers. comm. July 6, 2004), however, believes that the area was exploited intermittently during this time by native groups, primarily for agricultural purposes, as indicated by late Classic period glaze wares found on the south side of the Santa Fe River.

## PREVIOUS EXCAVATIONS

One of the first excavations undertaken near the plaza was at the Palace of the Governors. Jesse Nusbaum, who excavated several rooms in 1909-10, recovered materials and six human burials of Native American affiliation (Peckham 1982). As part of the Palace renovation (1909-13), "twenty-six hundred wagon loads of debris were removed, which was filled up to the level of the windows" (Hewett 1912:5). Undoubtedly some of the debris referred to in Edgar Hewett's first annual report of the Museum of New Mexico was an accumulation of prehistoric (Coalition and Classic periods) and seventeenth- through nineteenth-century archaeological deposits. Subsequent

investigators (Snow 1993) attribute the absence of eighteenth-century materials in the Palace complex to this large-scale “debris” removal. One has to wonder where these voluminous materials were deposited.

In 1956 Marjorie Lambert excavated a well in the southwest corner of the existing Palace courtyard as part of a plan to rebuild the structure (Lambert 1985). Her excavation recovered nails, bottles, and horseshoes dating to approximately the 1860s, reflecting Territorial period military use. Lambert (1985:220) observed that Well 1 was not shown on the 1868 plan of the Palace of the Governors. This indicated to her that Well 1 was built after 1868, and the Territorial period artifacts indicated it was used for only 41 years. Tangentially, water was encountered at a depth of 5 m during the 1956 excavation. Another well at the eastern end of the courtyard may date to 1715 or earlier.

At least two trenches were excavated to 1.5 m below the parking lot and monitored by Ellis (1974). A sketch shows the configuration of three foundation remnants. All three segments were exposed between 82 and 86 cm below the pavement, suggesting that they are contemporaneous. They may date to the seventeenth or eighteenth centuries and are comparable to foundations exposed in the Palace of the Governors (Snow 1974).

Superimposed floors from the mid-seventeenth to the early eighteenth century were exposed, as well as large storage and processing features from the Pueblo Revolt period (A.D. 1680). These storage and architectural features were encountered 10 to 20 cm below the then current Palace floor. The near-surface context of these features is attributed to the removal of fill by Nusbaum in 1910 and 1911 (Snow 1974). Abundant cultural material from ancestral Puebloan, Spanish, Pueblo Indian, Mexican, and Territorial period occupations numbered in the tens of thousands. Rarely recovered vegetal and macrobotanical remains included corn, beans, squash, and chile, as well as pottery and flaked stone from Coalition and Classic periods of the Rio Grande sequence (Wendorf and Reed 1955). Over 27,000 prehistoric and historic pottery artifacts were recovered, and Indian occupation during the Pueblo Revolt was clearly evident in the subsurface remains.

Stratified cultural deposits were present to a depth of approximately 1.5 m. Numerous artifacts were recovered, dating from the fourteenth to the late nineteenth centuries. No structural remains were found, but because of the minimal testing, further excavations were recommended. In 1979, under the direction of Stewart Peckham and subsequently David Snow, excavations were conducted on the site (Post and Snow 1982). Uncovered were the probable foundations of the Fort Marcy quartermaster’s offices and an eighteenth-century occupation level. Of particular interest is the eighteenth-

century occupation level because it was encountered at 130-145 cm below the modern ground surface and below the Fort Marcy quartermaster’s offices. This indicated that intact seventeenth- and eighteenth-century deposits remained within the bounds of the military reservation despite multiple renovation, construction, and demolition episodes. Overall, within the Museum of Fine Arts addition project area, cultural materials from the thirteenth to twentieth centuries were recovered from depths ranging to 1.9 m below the ground surface.

In 1982 the area then occupied by the First Interstate Bank building was excavated by Curtis Schaafsma and Stewart Peckham (Schaafsma 1982). An adobe brick wall running east-west is believed to be the south garden wall from the late nineteenth and early twentieth centuries. The wall had been built on top of swamp clays. Excavators also found late Spanish presidio artifacts at 0.5-1.5 m below the present sidewalk.

The OAS excavated a 1 by 1 m pit in the courtyard of the Palace of the Governors in 1987 in advance of a tree-planting ceremony in honor of the visiting king of Spain, Juan Carlos de Borbon y Borbon (Levine 1990). This 1 m deep unit yielded 664 sherds of Pueblo-made pottery, 817 pieces of animal bone, 68 lithic artifacts, and smaller numbers of miscellaneous artifacts. The dense deposit at 80 to 100 cm below the surface contained abundant sherds, animal bone, and a gunflint. The majority of the pottery dated to the seventeenth or early eighteenth century.

In 1989 the OAS monitored the excavation of a 144 m long utility line trench along Washington Avenue on the east side of the Palace (Willmer 1990). The excavation revealed seven subsurface features older than 1900 and yielded a wide range of temporally and functionally variable artifacts. Two pit features contained eighteenth-century pottery but no metal or glass, suggesting that intact deposits were present. Also found was a rock-lined acequia or drain. Based on information from David Snow, the author reports that the rock-lined ditch was not encountered by Snow during excavations in the parking lot to the east. The ditch contained glass shards, indicating that it was open or in use at the end of the nineteenth or early in the twentieth century. Three other cobble features included a cobble pavement and two alignments. All three are immediately east of the First Interstate Bank Building, where Schaafsma encountered considerable evidence of seventeenth- or eighteenth-century gardening and outdoor activity. The top of the cobble pavement was exposed at 1.25 m below the street grade, further indicating it dated to the Spanish Colonial period.

In 1990 and 1991, Museum of New Mexico staff monitored storm drain and drainage ditch installations across Lincoln Avenue between the Palace of the Governors and the Museum of Fine Arts and around the



Hewett House (Martinez 1994). Trench profiles contained evidence of Territorial and Spanish Colonial architecture and artifacts from both periods. Nonsystematic artifact collection recovered 425 pieces of Pueblo and Euroamerican pottery, 518 animal bones (primarily cow and sheep or goat), and 64 miscellaneous artifacts including mica sheets, a strike-a-light flint, and a charred corn cob. According to the report, the trenches cut through a midden deposit that appeared homogeneous but contained considerable seventeenth-century refuse. Also exposed were the remains of a disarticulated foundation constructed of river cobbles at a depth of 85 to 100 cm below the street level of Lincoln Avenue.

In 1988 the OAS undertook archaeological investigations at the La Fonda Parking Lot (Wiseman 1988). Numerous pits were encountered, some with highly stratified deposits, and materials dating to the early to middle seventeenth century (pre-Pueblo Revolt). Although a variety of activities and buildings have occupied that space since the winter of 1609-10, that location would have been the southeast corner of the original plaza or a sort of generalized public space in front of the early colonial *parroquia*. The function of the pits was unknown—perhaps “borrow” pits, pits dug into the side of the Rio Chiquito (which early maps depict in that vicinity), or trash pits.

During the renovation of the Lensic Theater (LA 126709; Viklund 1999), testing revealed Native American ceramic artifacts and a posthole, perhaps suggesting prior indigenous occupation, and midden deposits from the earliest European occupations of Santa Fe to the present. It was speculated that the Lensic property was once adjacent to the seventeenth-century plaza.

In the fall of 1990, David Snow excavated 10 sq m on the Santa Fe Plaza (Cross Cultural Research Systems 1992). These test pits were placed on the extreme west side, in the southeast central quadrant, and on the extreme east side. Cultural materials were not recovered below 90 cm. The report concludes that the pre-1974 surface represents a highly disturbed, probably considerably modified plaza level which dates from the pre-Reconquest period of Santa Fe’s history.

Across the plaza, opposite the Palace of the Governors, the Military Chapel of La Castrense site was investigated by Stubbs and Ellis (1955). Built by Governor Marin del Valle about 1760, the excavations revealed the foundations of the old church. These findings were compared to Fray Francisco Domínguez’s descriptions of the chapel in 1776. Domínguez’s measurements were remarkably similar, even though they were estimated. Materials dating to the seventeenth and eighteenth centuries were also exposed. These “date from the Indian occupancy of the Santa Fe Plaza during the 1680-1693 Revolt” (Stubbs and Ellis 1955:16)

When the basement wall at the Museum of Fine Arts was excavated for repairs (Hannaford 1997), cultural deposits of temporally mixed artifacts were encountered to a depth of 1.15 m. No structural remains or features were observed. The excavation was immediately east of the Palace of the Governors History Museum. The work uncovered an acequia and a plank 4 m long at a depth of between 1.44 and 1.60 m below the modern grade. These features were associated with and covered by eighteenth- and nineteenth-century refuse, including Pueblo and Euroamerican pottery, metal artifacts, and animal bone.

In July and August 2000, David Snow, then a curator at the Palace of the Governors, directed the excavation of nine 1 by 1 m test units along the foundation of the Palace of the Governors in conjunction with an architectural condition assessment. Six units were placed in the patio, and three along the Palace north wall, which forms the south limit of the History Museum Annex project area. Even though this area was cut by water line and telephone cable trenches at two different elevations, there appeared to be integrity to the deposits. A mixed seventeenth- to twentieth-century layer was 40 to 50 cm thick, and a possible seventeenth-century layer was 35 to 60 cm thick and extended 1.8 m below the parking lot surface (based on auger tests in the bottom of the unit). A possible posthole associated with cobbles may be a horizon marker for the Spanish Colonial occupation level. The posthole and cobbles occur at 80 cm below the portion of the Spanish Colonial deposit and may be associated with the Presidio occupation. Below the foundation of the existing building, which is believed to have been built in the 1860s, a massive river cobble foundation may date to between 1700 and 1760. Numerous pit features were documented, among them, a probable metallurgy pit associated with slag, which may date to around 1609. In addition, almost 100,000 artifacts were collected.

#### THE GAZEBO

Photographs of the Santa Fe Plaza show that a gazebo once stood at the location of the Community Stage. A photograph of the Santa Fe Plaza in 1865 (Fig. 4; MNM Neg. No. 15285) shows nothing but vacant space (a handwritten note on the photo reads “center of Plaza”). A photograph dated 1866 (Fig. 5; MNM Neg. No. 11256) shows a gazebo being built in the center of the plaza. A photograph dated 1867 (Fig. 6; MNM Neg. No. 38025) shows a lacy white gazebo in the same location. This gazebo was moved to the north side of the plaza to make room for the obelisk-like monument that now stands at the center, which was evidently built in 1868 (the current inscription on the monument reads, “Erected by the



*Figure 4. The Santa Fe Plaza in ca. 1865. US Army Signal Corps photo. Courtesy Museum of New Mexico, Neg. No. 15285.*

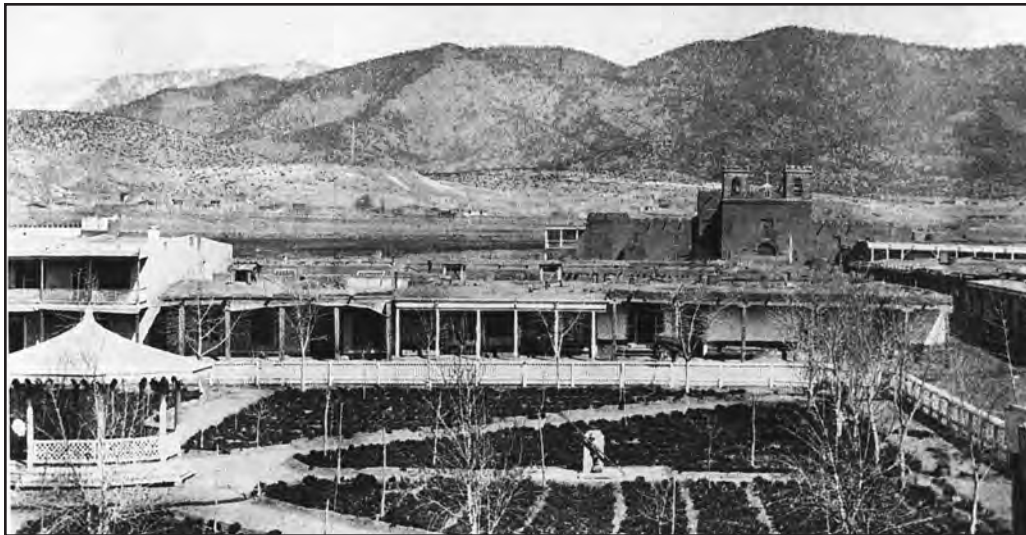


*Figure 5. The gazebo being built in ca. 1866. Courtesy Museum of New Mexico, Neg. No. 11256.*

People of New Mexico through the Legislature of 1866-7-8”). A photograph dated March 1881 (Fig. 7; MNM Neg. No. 15282) clearly shows that the gazebo (now called a bandstand) is north of the monument and in front of the portal of the Palace of the Governors, a location confirmed in MNM Neg. No. 11298 (Fig. 8).

A roofless concrete bandstand is shown in a 1965 photograph of the same location (Fig. 9; MNM Neg. No. 29026). The construction date of the concrete bandstand is unknown. Several elderly residents believe it dated to before World War II. One gentleman, who declined to

give his name (he appeared to be in his eighties), thought it may have been from the 1930s. It is unclear when the cement bandstand was torn down. I remember that it was still standing in 1971 or 1972. It may have been torn down in 1972, because on April 18, 1974, during the plaza renovation project, workmen found the foundations of a bandstand. Whether these were part of the twentieth-century bandstand or an earlier bandstand is not known. The backfilled remains of a basement were exposed during the Community Stage project in 2004.



*Figure 6. The gazebo in ca. 1866-1868. Photo by N. Brown. Courtesy Museum of New Mexico, Neg. No. 38025.*



*Figure 7. The Santa Fe Plaza in ca. 1881. Courtesy Museum of New Mexico, Neg. No. 15282.*



*Figure 8. The Santa Fe Plaza in March 1897. Courtesy Museum of New Mexico, Neg. No. 11298.*



*Figure 9. Santa Fe Plaza, looking south, in 1965. Note concrete bandstand. Photo by Kernberger. Courtesy Museum of New Mexico, Neg. No. 29026.*



## THE EXCAVATION

The surface of the project area was covered with a concrete slab used to support previous temporary stages. It was removed by crews from the City of Santa Fe before the OAS excavated the site. Beneath the concrete slab was the “surface,” actually, the top of disturbed backdirt brought in during the 1974 plaza renovation, when the level of the plaza was raised to match that of Palace Avenue and San Francisco Street. In the following discussion, *bgs* (below ground surface) refers to the surface of this backdirt. *Level* refers to arbitrary vertical units, and *stratum* refers to preexisting natural or cultural units that were defined during the excavation.

When the foundation of the Community Stage was expanded into the oval shape used to support the structure, excavation units were used to determine the presence or absence of cultural materials in the new area of disturbance. OAS excavation units were confined to the foundation footprint. Partial grids were excavated when only part of the 1 by 1 m unit projected into the gazebo trench. The portion of the grid which fell outside of the trench remained unexcavated.

### GENERAL STRATIGRAPHY

#### *Level 1 (0-50 cm bgs)*

Level 1 consisted of disturbed backdirt imported from an unknown source, a loosely consolidated, culturally sterile sand, 10 YR 6/4 light yellowish brown. In some areas—for example, above EUs 1 and 2—there was redeposited cultural backdirt, perhaps thrown on top of the 1974 fill during a sewer trench excavation along the south sidewalk of Palace Street. This irregular layer contained “typical” Santa Fe fill: ceramic and lithic artifacts (historic and prehistoric), glass, metal, Euroamerican ceramics (“Chinaware”), animal bone, and modern trash in a black charcoal-laced organic soil matrix containing large chunks of rock aggregate and tar. A highly corroded conduit pipe ran west to east along the length of the north side of the excavated area. The thickness of this layer varied from 10 to 28 cm. Its color was 10 YR 4/3 dark brown.

#### *1974 Plaza Surface (50 cm bgs)*

The 1974 plaza surface resembled a tarred road, except it had been broken up into a mix of tar, gravel, and asphalt that had probably been flattened with heavy equipment (Fig. 10). Refuse from the 1970s was found in association.

#### *Stratum 1 (50-75 cm bgs)*

Stratum 1 was an interoccupational deposit between the 1974 and late 1800s plaza surfaces. Its color was 10 YR 3/2 very dark grayish brown. Cinders, charcoal, and “clinkers” were present (Fig. 10). Stratum 1 contained mixed historic and prehistoric artifacts.

#### *Stratum 2 (75-85 cm bgs)*

A contact stratum at 75 cm bgs (Stratum 2.1) contained very sparse artifacts, some redeposited from earlier times (Fig. 10). Stratum 2, immediately below the contact stratum, consisted of the “Old Plaza surface.” It may date to the late 1800s, probably the late Santa Fe Trail to early Railroad period. The light gray soil was foot-compacted. Few artifacts were found directly in association, although several intrusive ceramic artifacts, glass, and bone were present on the surface. A layer of soil may have been laid down on top of base course (see below) and flattened by weighted objects. No artifacts diagnostic of the presumed time of occupation were noted in association. The color of Stratum 2 was 7.5YR 5/5 gray.

#### *Stratum 3 (85-90 cm bgs)*

Stratum 3 consisted of a base course of gravel, sand, charcoal, and baked clay (“clinkers”) (Fig. 10). It directly underlay and was effectively “welded” to the plaza surface. Its color was 10YR 4/2 dark greyish brown.

#### *Stratum 4*

Stratum 4 was an undisturbed interoccupational deposit between the Old Plaza surface and the seventeenth- and eighteenth-century stratum. It had been impacted by many utility trenches of twentieth-century origin. The soil was fairly homogeneous and undisturbed by either rodents or humans. Colonial-phase artifacts were concentrated near the base of the layer. The color of Stratum 4 was 10YR 4/3 brown.

#### *Stratum 5 (90-100 cm bgs)*

Stratum 5 was originally discovered in EU 2 and labeled Feature 2. Subsequent excavations revealed that it was only a concentration of archaeological materials associated with a large stratum. It consisted of a discontinuous lens of artifacts including prehistoric glaze wares and lithic artifacts, and historic glass and metal artifacts in a semiconsolidated brown, silty soil with less than 1

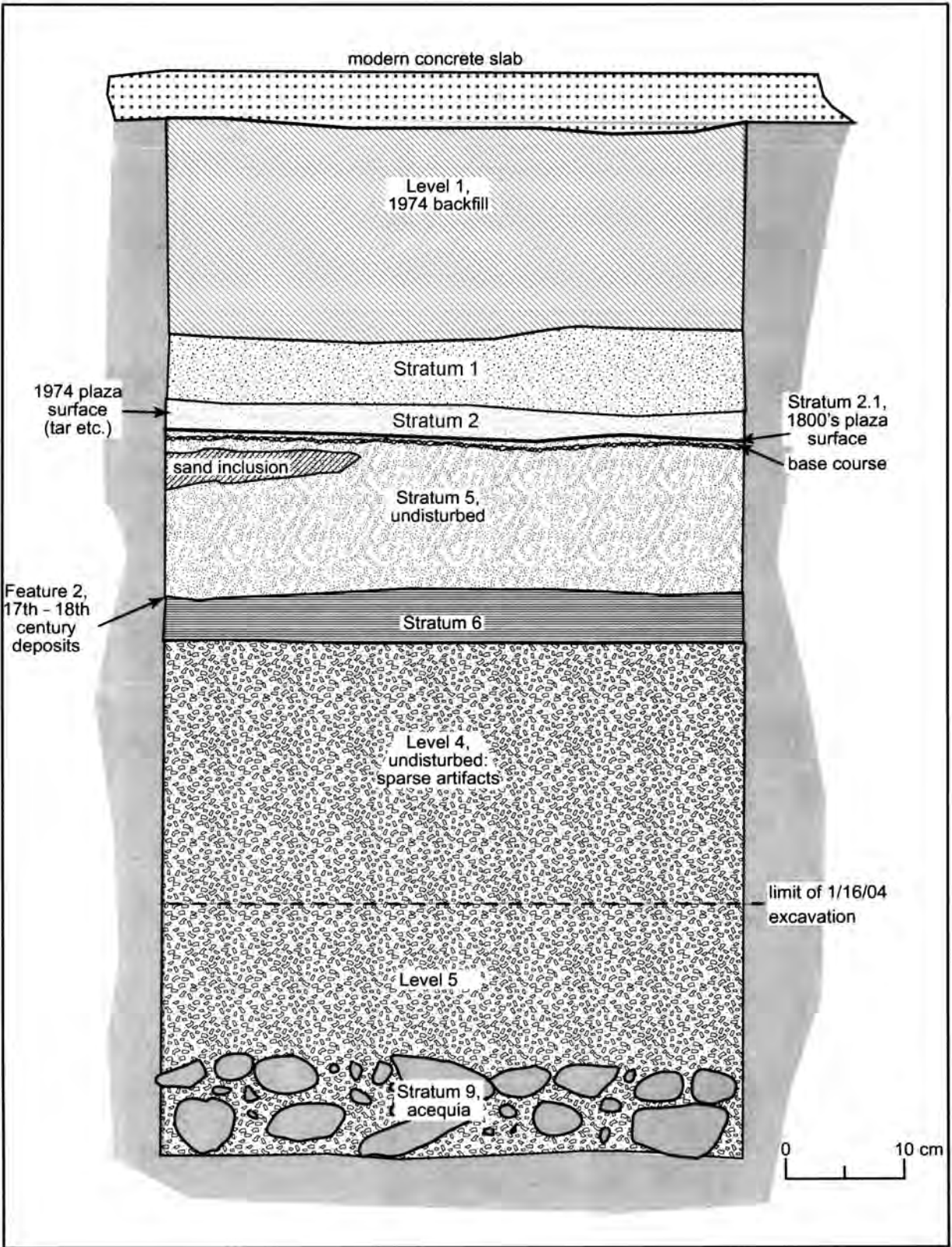


Figure 10. Profile of EU 2.



percent gravels. Diagnostic artifacts associated with Stratum 5 suggest that it was deposited during the late seventeenth or early eighteenth century. Feature 3 directly underlay this stratum. See the discussion of Stratum 5 following “Excavation Units,” below.

#### *Level 4*

Level 4 consists of a level of dark yellow brown silty sand. The color was 10YR 3/2 very dark grayish brown. The major contrast between this level and Stratum 5 is that the frequency of artifacts dropped off dramatically in Level 4. The few that were recovered were confined to the top 10 cm. An animal bone protruding from the profile at 5 cm below Stratum 5 may have been intrusive. Only a subtle textural soil change marks the change between this level and the sterile level beneath it.

#### *Cobble Stratum*

At 198 cm bgs, a cobble stratum was encountered, probably the remains of an acequia. Sand, gravel, and alluvial mud were encountered (see description below).

#### *Level 5*

Level 5 was sterile soil. The color of the sandy loam was 10YR 3/1/ very dark gray. It was relatively undisturbed and contained no cultural materials.

### FEATURE 3

Feature 3 was the only intact feature encountered during the excavation. (Features 1 and 2, when excavated, were found not to be features, and their designations were dropped.) Feature 3 was encountered while excavating EU 15. It was excavated as a “full cut.” The feature consisted of a (probable) unlined trash pit measuring 0.7 m north-south by 0.0 east-west and 0.4 m deep. An unknown amount of the south edge of the feature had been removed by a backhoe, and an unknown portion of the feature continued northwest under the balk and was not excavated (Fig. 11). The soil matrix was composed of (1) a square concentration of ash and charcoal, as if a historic beam or some other milled lumber had burned in place; (2) large charcoal inclusions (some only partly burned); (3) burned adobe; and (4) artifact inclusions in a semiconsolidated sandy loam. Although the color of the soil varied, it was mainly 10YR 4/3 dark yellowish brown (Fig. 12).

Feature 3 underlies Stratum 5 and predates the early eighteenth-century layer. Another distinguishing aspect

of this feature is that the artifacts appear to have more integrity than those from adjacent grids and levels, which are small and appear to have been subjected to foot traffic and subsequent reduction. Artifacts in Feature 3 are large, and some of them could be refitted. Numerous large faunal elements, the better part of a Glaze F bowl rim, and other artifacts date to the Pueblo Revolt period. Feature 3 is the only intact feature found so far in the plaza that is older than the “Old Plaza surface” encountered during previous excavations. A substantial radiocarbon sample (20 g) obtained from the historic wooden element dated to A.D. 1430-1660 ( $\pm 60$  years, 2-sigma calibration; BETA 191736). Depending on the cutting date of the sample, this places Feature 3 either immediately prior to or contemporaneous with the Pueblo Revolt of 1680. Diagnostic artifacts recovered from this feature also support this conclusion.

### EXCAVATION UNITS

A total of 29 excavation units were dug during the excavation. The stratigraphy in the majority of them was redundant. Units that contained information directly relevant to the research objectives of this project are discussed below. Unless otherwise specified, all units were dug in 1 by 1 m, magnetic-north-oriented configurations. The initial test excavations were placed purposively in the area designated for the stage footings, as outlined in the initial data recovery proposal (Lentz 2003). The initial proposal called for five pits (then called test pits rather than excavation units) at the location of the proposed footings. All units were augered at the conclusion of hand excavation to ensure no further cultural materials existed below the test pits. Vertical control was maintained through the use of a datum at the southwest corner of the grid measuring the depth of excavation.

#### *EU 1*

EU 1 was excavated in eight arbitrary levels to 1.63 m bgs. It was placed at the northeastern footing. Levels 1-3 consisted of a mix of “typical Santa Fe fill” (see above). The top 10 cm were frozen. In addition to an assortment of historic and prehistoric artifacts and modern trash, there were fragments of Orangeberg stoneware sewer pipe that may have originated in the nearby sewer-line trenching, chunks of asphalt and paving stone (which may have come from the torn-up plaza surface or the street), chunks of coal and scoria, and some rubberized fabric. In Level 4, there was some black enameled brick which was used in the past in local buildings, including the old hospital. Also at this level, the north-east-southwest running corroded conduit pipe referred to

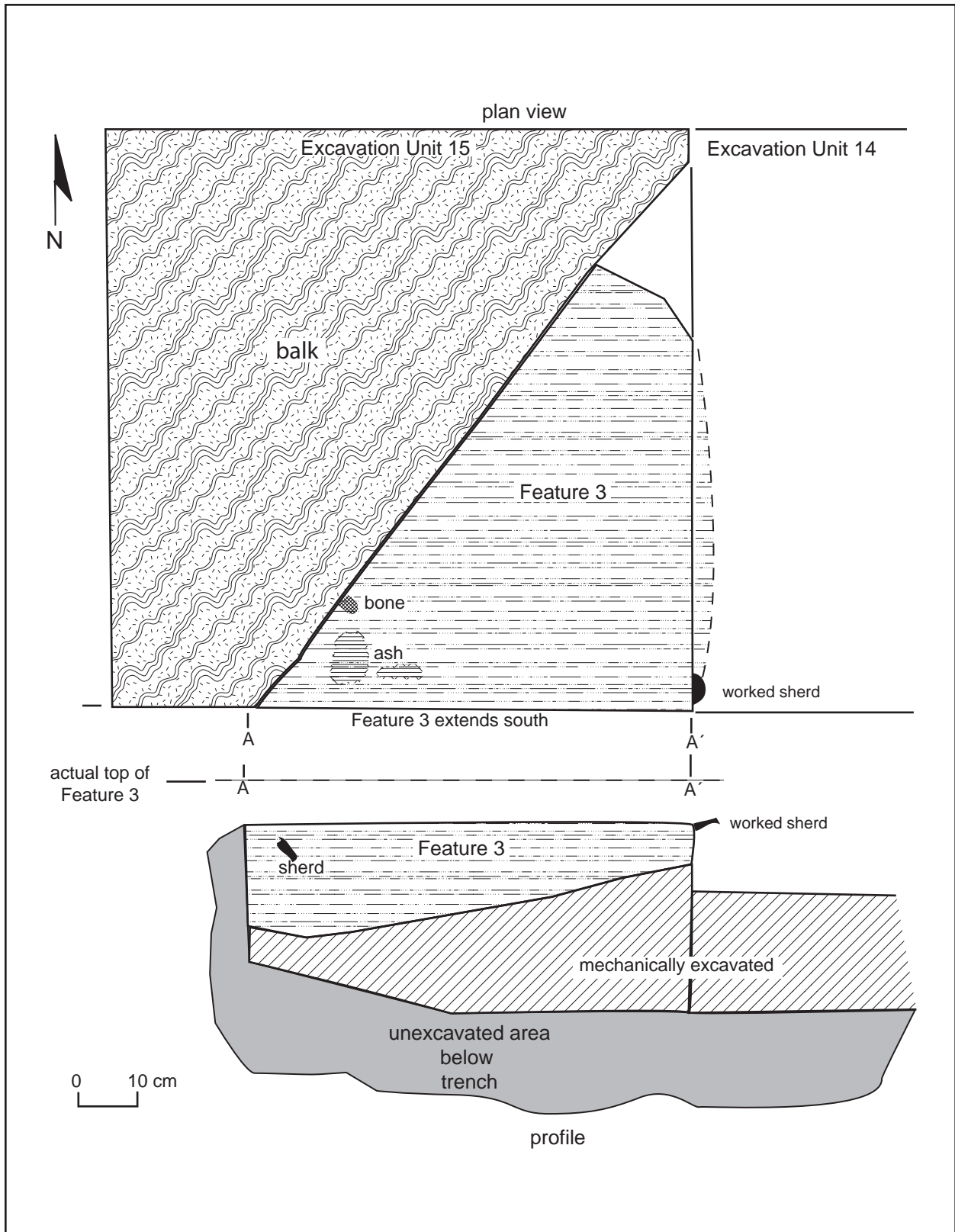


Figure 11. Plan and profile of Feature 3.



*Figure 12. Feature 3.*

above was exposed. At Level 6, there was a concentration of ceramic artifacts, suggesting that this level might correspond to the seventeenth-century plaza surface. Below this, the following next two levels showed decreasing numbers of artifacts, and eventually culturally sterile soil was encountered at 1.88 bgs. There are sparse artifacts in association. It was originally thought that this layer might have consisted of a cobblestone street or some other man-made feature, but further excavation revealed that it was a natural alluvial channel. There were only a few artifacts in association. Below the cobble layer was an alluvial deposit with sand, and cobbles in random association. The remainder of the pit was devoid of cultural materials.

#### *EU 3*

EU 3 was excavated in seven arbitrary 20 cm levels. It was placed at the proposed westernmost stage footing. Initial layers were unlike EUs 1 and 2, although it was characterized by disturbed fill that contained fewer mixed historic and prehistoric artifacts, and little charcoal and organic soil. This suggests that EU 3 may have been outside of the area where the backdirt from the Palace Avenue sewer excavations were performed and the backdirt was deposited. The upper layers were disturbed, and occasional modern artifacts (duct tape and flagging tape, probably of 1970s origin). In Level 3, the

backfilled hole excavated for the basement was exposed in the southeast corner of the unit. There was a sharp contrast between the artifacts recovered in the southeast and northwest portions of the grid. The northwest portion contained disturbed historic artifacts and some modern artifacts. Only two items of modern glass were present in the southeast corner. At 98 cm bgs, an electrical cable was encountered, which probably furnished power to the bandstand. The area surrounding the cable trench was disturbed. Subsequent levels were characterized by the sandy, primarily sterile “basement” fill. Artifacts were present, lacking in contextual integrity. The ensuing layers were increasingly sterile and characterized by pre-occupational soils under the basement cavity.

#### *EUs 4 and 5*

EUs 4 and 5 were excavated in six arbitrary 20 cm levels. They were placed at two proposed footings on the south side of the project. The fill from this unit was dominated by sterile backdirt from the bandstand basement and was devoid of cultural materials.

Based on these preliminary findings, it was recommended that EU 2 be expanded to investigate cobble deposits encountered below the OSHA limits and that excavations be expanded to define an undisturbed level (Stratum 5) and the area around EUs 4 and 5 to investigate cultural strata below the levels permitted by OSHA.

Concrete pavement and noncultural backdirt was mechanically removed by the City of Santa Fe in the designated areas to allow the area to be “stepped back” in compliance with safety standards.

At the conclusion of the field phase, the OAS reported that (1) cultural deposition ceased in EU 4 at 1.8 m below datum; (2) cultural deposition ceased in EU 5 at 1.8 m below datum; (3) the cobble alignment in EU 2 was the bottom of an acequia; (4) the 1974 plaza surface was exposed at 55 cm below the modern surface; (5) the late eighteenth-century and early nineteenth-century plaza surface was encountered between 70 and 75 cm below datum; and (6) an undisturbed cultural layer was revealed in EU 2, possibly dating to the Pueblo Revolt period (1680). Excavations were therefore expanded, concentrating in the vicinity of EU 2, and the additional units were designated EUs 6-13.

#### *EUs 6-13*

EUs 6-13 were excavated clockwise, starting with EU 6. These units exposed, in sequence, the 1974 plaza surface (Figs. 13 and 14); the late 1800s plaza surface (Figs. 15-16); the seventeenth-century level and Feature 3, possibly corresponding to the time of the Pueblo Revolt (Figs. 17-18); and the Acequia Madre or a major lateral of the acequia used to carry water to the Casas Reales.

In EUs 7-13, the 1974 surface was no longer present, having been removed to make room for earlier construction. A stratum of the 1974 plaza surface was visible in the west profile at approximately 50 cm below the slabs, and a fragment extended horizontally into the excavation. As described earlier, it was composed of a pavement-like asphalt surface which had probably been mechanically compacted.

At 80-85 cm bgs, the late 1880s plaza surface was encountered in EUs 7 and 8-12. There was some major disturbance from a southwest-northeast utility trench. This appears to have been installed for a telephone cable supplying the Palace (probably from the 1970s, since well-preserved electrical tape had been used to bind a splice). The excavation also revealed a wide north-south trench at approximately the same elevation (probably for a pipe). Thus, much of the surface was no longer present in the east half of the excavation area. However, it was well-preserved in EUs 9 and 10, and partly present in EUs 7, 8, 11, and 12. Directly below and “welded” to the upper stratum was a base course of gravel, sand, charcoal, and baked clay (“clinkers”). The excavation profile allowed us to infer the construction sequence leading to the creation of this surface.

#### STRATUM 5

At 25-30 cm below the 1880s surface, the late seventeenth-century layer, or Stratum 5, was discovered. It was exposed primarily in EUs 9 and 10 within the core excavation around EU-2. Stratum 5 was encountered in EUs 14, 15, 17, 19, 20, and 23 (see Fig. 2). What was originally documented as Feature 2, a concentration of artifacts in EU 2, was redefined as a layer with a fairly wide horizontal distribution. Stratum 5 contained many artifacts and was virtually uncontaminated by intrusive materials from other occupations. Disturbance from modern-era utilities were evident in most of the grids outside of the core excavation area. This disturbance was particularly evident in EU 16, which contained telephone cables, PVC pipe, and modern-era trash. Stratum 5 was encountered along the eastern edge of the EU 17 at 103-130 cm bgs. EU 17 was substantially disturbed by an unknown agent from 85 to 148 cm bgs, although Stratum 5 was recorded along the northern half at 85-105 cm bgs). There was also significant disturbance from utilities in EU-18. A fraction of Stratum 5 was visible in the southeast corner of EU 18 at 110-124 cm bgs. EU-19 was disturbed by a utility trench filled with Stratum 1 materials in the northwest corner of the grid. Stratum 5 occupied the remainder of the unit, from 126 to 135 cm bgs. The bulk of EU 20 had been mechanically removed. EU 21 was almost entirely disturbed, as was EU 22, which was filled with backdirt from a prior excavation. Stratum 5 was encountered in EU 23 between 90 and 110 cm bgs. The south half of the unit was not excavated because of disturbance from unknown activities. There was little undisturbed stratigraphy in EU 24, and it was therefore difficult to determine if any Stratum 5 was present. We dug this unit by combining arbitrary Levels 1, 2, and 5 from 33 to 134 cm bgs. EUs 25-29 contained few cultural deposits and no evidence of Stratum 5.

In general, Stratum 5 was most strongly represented in EU 2. This stratum was also quite pronounced in EU 14, and especially EU 15, where Feature 3, an undisturbed pit, occurred at 1.10 m bgs.

#### TRENCH MONITORING

Monitoring was performed between May 4 and May 6, 2004, by Rick Montoya, OAS archaeologist, for a utility line extending from the southeast corner of the gazebo to an electrical box near the northeast corner of the plaza. This trench measured 30 m (98.4 ft) long by 50 cm (1.6 ft) wide by 1 m (36 inches) deep (Fig. 19). The majority of the fill from this trench consisted of disturbed backfill resulting from the 1974 plaza renovation. Directly beneath the flagstones, a 10 cm layer of base

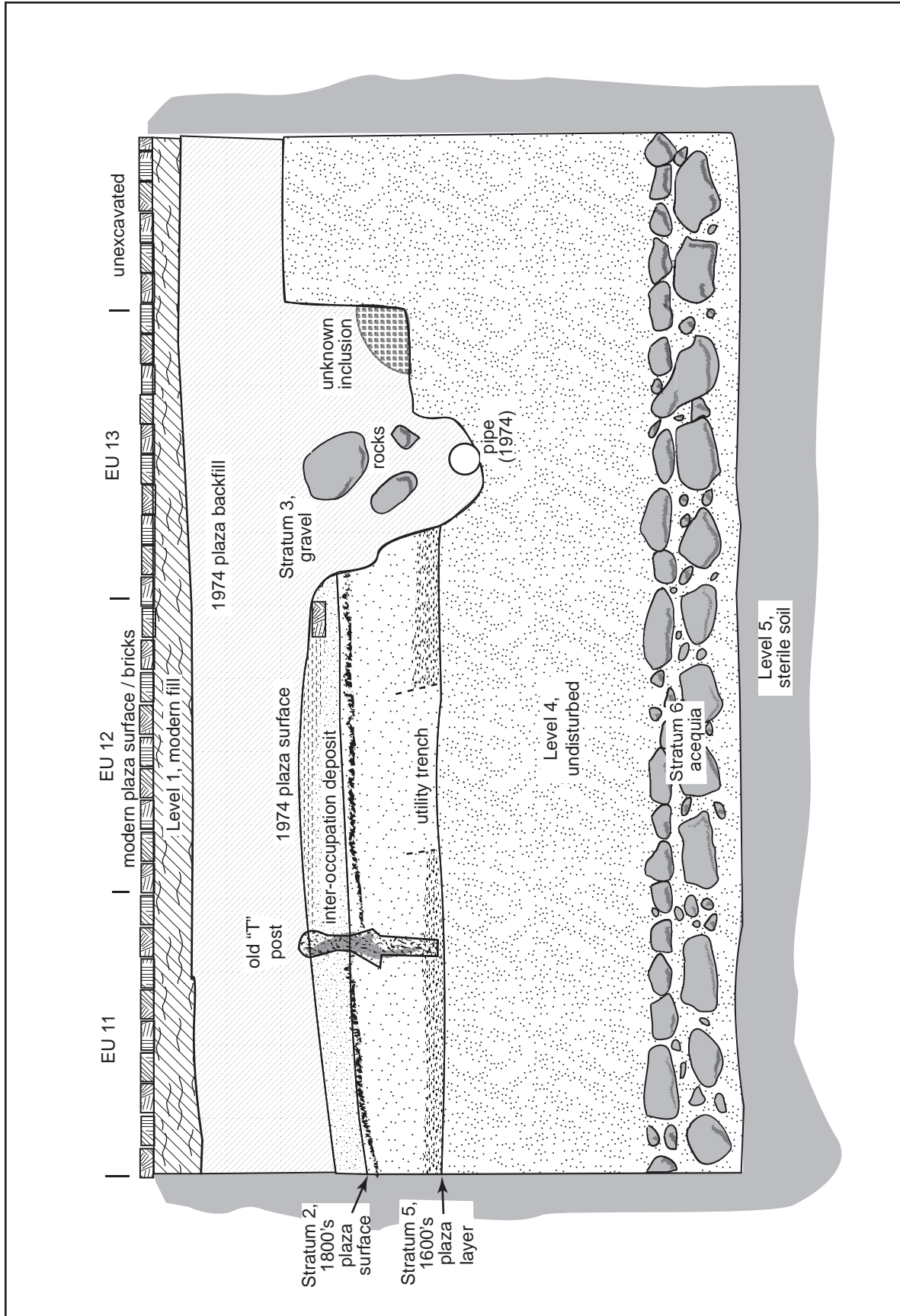


Figure 13. Profile of the north wall of the expanded excavation.



*Figure 14. The north wall of the expanded excavation.*

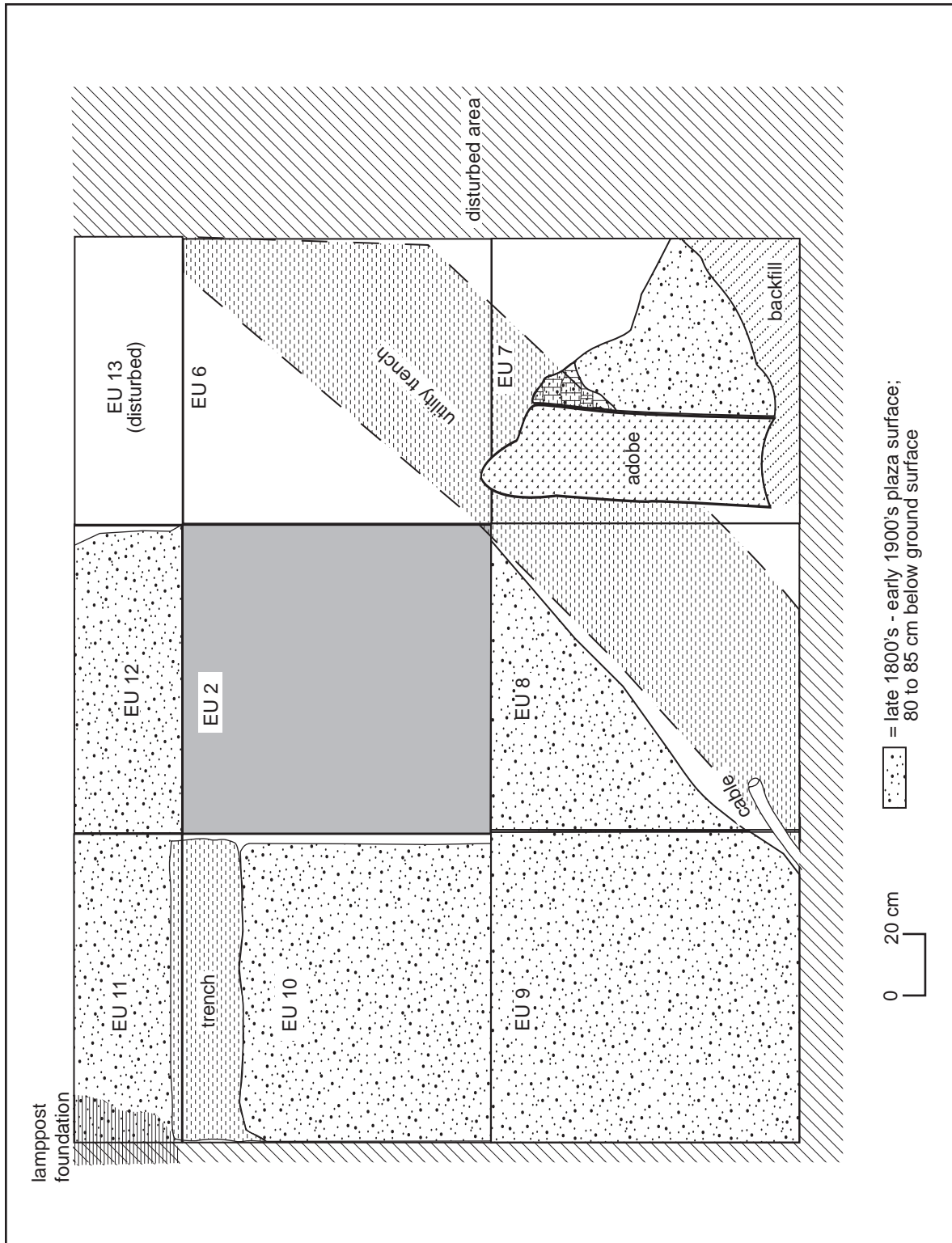


Figure 15. Plan view of 1880s to early 1900s plaza surface.



*Figure 16. Late 1800s plaza surface.*



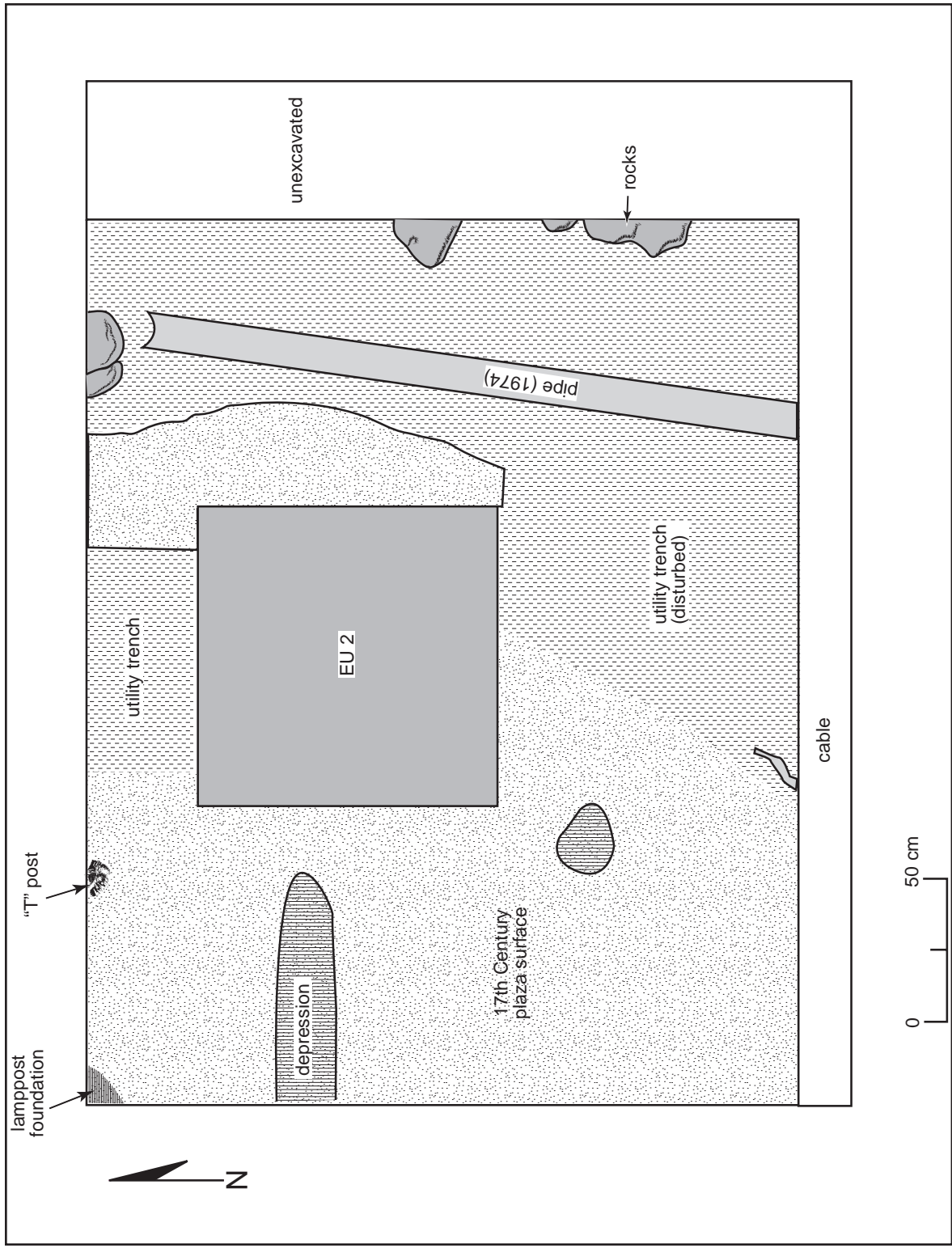


Figure 17. Plan of seventeenth-century plaza surface.



Figure 18. Seventeenth-century plaza surface.

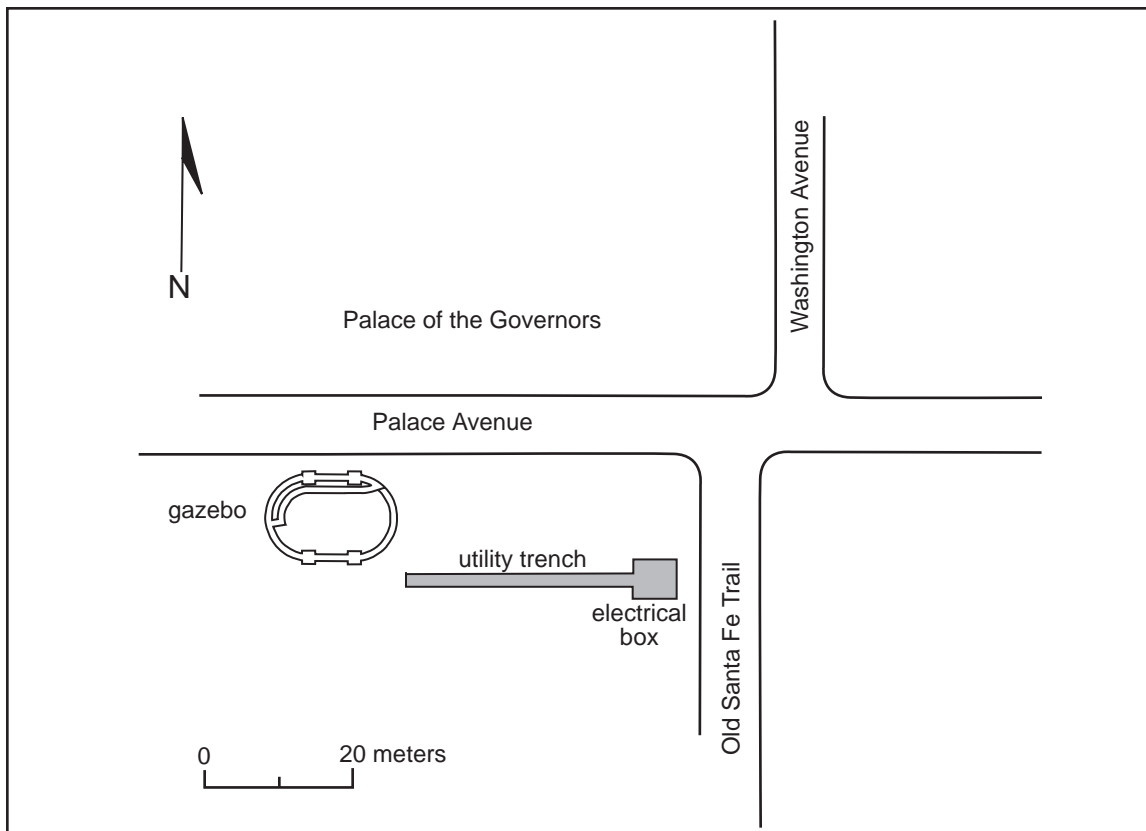


Figure 19. Plan of trench monitoring.

course was distributed, consisting of gravels, sand, and miscellaneous artifacts. Approximately 50 artifacts recovered from this disturbed context consisted of animal bone and European (china ware “porcelain”) dinnerware fragments. There were also several historic period Puebloan sherds, corroded metal, and glass fragments. The majority of these artifacts were found within the first 10-15 cm of the trench in secondary deposition. Since they were recovered from a highly disturbed context, no significant information could be gained from analyzing them. No evidence of the 1800s plaza surface was observed.

#### DISCUSSION

In Stratum 1 (the interoccupational layer between the 1974 and 1880s plaza surfaces) and Stratum 4, the configuration of many of the charcoal, coal, and ash stains fanned out, as if thrown from a receptacle. This distribution of spent charcoal, coal, ash, and clinkers suggests that fireplaces or stoves were cleaned out and the cinders tossed outdoors near the doorway of the Palace of the Governors. It is interesting to note that, as in many cultures, people were not too fastidious about where they dumped their waste. Pueblo oral history suggests that Europeans and Euroamericans were not considered overly fastidious about their personal hygiene or the immediate environment. Territorial era Santa Fe was no exception. For example, at about this time in New Mexico history, a whole dead horse was stuffed into a cistern behind the Palace (Matthew Barbour, pers. comm., June 1, 2004).

The 1880s surface was exposed in EUs 7-13 (2.65 sq m), more of the old plaza than has been seen since it was in use. For Old West buffs, this surface is a nostalgic reminder of a time when ordinary citizens of the era mingled with famous western personalities. From our excavations, it is possible to infer the construction sequence

that probably led to the creation of this surface. First, a base course (see description of Stratum 3, above) of gravel, sand, charcoal, and baked clay was laid down. Over that, a layer of soil was distributed and tamped down, and later foot-compacted. The matrix of this surface was light gray and appeared very ashy, containing high quantities of ash and some charcoal. Whether this was just characteristic of the area around the entrance to the Palace, where ash and charcoal from stoves and fireplaces were dumped, or whether the general appearance of the soil at this level is ashy gray throughout the plaza, is a matter of conjecture. Regrettably, few diagnostic artifacts were found in direct association. Thus far, a firm date for this surface has not been determined, although David Snow (1992) has suggested a speculative date.

Stratum 5, the layer ascribed to the Pueblo Revolt period, is strongly evident in EU 2 and well represented in grids to the west. It decreases in artifact count to the east along the trench. This was originally defined as first a feature, and then a surface. Later, because of its contextual integrity, it was designated a surface, more because it corresponds to a late seventeenth-century occupation of the Plaza than from its morphological characteristics (compact surface, embedded artifacts, etc.). Moreover, the homogeneity of the artifact types associated with this layer, their abundance, small size, and distribution suggest that this layer was in use during the seventeenth century. The plaza was probably muddy then, if not because of the high water table, then because of typically muddy winter and spring seasons in the Santa Fe Basin. Artifacts may have collected in the muck of the plaza and been trampled into the ground. Diagnostic artifacts suggest a late seventeenth-century occupation, and the associated radiocarbon date of  $1660 \pm 60$  from Feature 3 corroborates this interpretation. The function of Feature 3 is ambiguous, and it was not possible to determine if it was dug into or overlain by Stratum 3. In any event, the two occurrences are very close to each other chronologically.



# FAUNA

Nancy J. Akins

Over 5,000 pieces of animal bone were recovered during testing in the Santa Fe Plaza (Table 2). Almost all of the bones (95.7 percent) are small fragments comprising less than 10 percent of the element. This amount of fragmentation resulted from excavation of the compact, often frozen soil and foot traffic over the years. Because the number of bones was so large and the budget did not allow for the usual level of analysis, a more expedient rough-sort format was used to analyze the assemblage. Two bags of unprovenienced bone were not analyzed.

Variables recorded are a subset and somewhat modified version of the standard OAS format. These include field sample (FS) number, lot number, count, weight (in grams), certainty, taxon, element, element completeness, element portion, age, age criteria, animal alteration, burning type, processing, modification, and comments.

Weight was recorded for each taxon by FS, rather than by lot or line. The only exceptions were sheep/goat and cow teeth, which were weighed separately from the bone, since they sometimes comprised the bulk of the weight within a bag. Assignment to a particular taxon was informed by what has been found in the past and

what was expected to be found. Thus, the assumption was that most bones would be the common domestic ungulates, sheep/goat and cow, with occasional horse, pig, and chicken bones. Unless a small fragment was clearly inconsistent with the bones from these taxa, fragments were assigned on the basis of ungulate size. Small ungulates include sheep/goat and pig, while the small to medium ungulate taxon includes pieces that could be sheep/goat or pig but are large enough that they could also be from native species such as deer or pronghorn. Large ungulates are cow and horse and potentially bison and elk. The numerous fragments recorded as medium to large ungulate are small pieces that could be from any of the ungulates. Long-bone fragments that exfoliated so that one or both surfaces are missing and small pieces of cancellous tissue comprise much of this category.

Elements were identified when recognized, but less time was spent on potentially identifiable but difficult pieces than would be typical of a complete analysis. Nor was much time spent trying to reconstruct bones shattered during excavation, especially in the very large bags. Fresh breaks were fairly common and have inflated

**Table 2. Fauna**

Taxon	No.	Percent	Weight (g)
Small mammal/medium-large bird	2	0.0%	0
Small mammal	1	0.0%	0
Small-medium mammal	18	0.4%	3
Medium mammal	2	0.0%	1
Medium to large mammal	15	0.3%	9
Large mammal	11	0.2%	9
Black-tailed jackrabbit ( <i>Lepus californicus</i> )	1	0.0%	0
Dog or coyote ( <i>Canis</i> sp.)	1	0.0%	0
Small ungulate	81	1.6%	41
Small-medium ungulate	1550	31.3%	628
Large ungulate	288	5.8%	780
Medium to large ungulate	2372	47.9%	1337
Mule deer ( <i>Odocoileus hemionus</i> )	1	0.0%	2
Cow ( <i>Bos taurus</i> )	308	6.2%	1116
Domestic sheep or goat ( <i>Ovis, Capra</i> )	285	5.8%	556
Pig ( <i>Sus scrofa</i> )	2	0.0%	25
Medium-large bird	2	0.0%	1
Common raven ( <i>Corvus corax</i> )	2	0.0%	1
Domestic chicken ( <i>Gallus gallus</i> )	5	0.1%	4
Total	4947	100.0%	4513

ed the counts for the unidentified taxa, especially the medium to large ungulates. Pieces considered long bones are generally the shaft portions or small fragments that have the thick cortex and dense linear structure characteristic of long bones. Flat bones are everything else, including the cancellous ends of long bones, which resemble the structure of flat bones with thinner and less organized cortex.

Age assessment was fairly difficult with this assemblage. Surfaces of most bones are slightly eroded or pitted, often obscuring the subtle porosity indicative of full-sized but not yet mature animals. This and the small size of many fragments probably results in an underestimation of juveniles (14.1 percent compared to 85.8 percent mature, and only three pieces that were neonate or immature).

Few bones were impacted by carnivores. Chewing or punctures were observed on 12 pieces. Six were rounded and leached, suggesting they were scatological.

Burning was recorded as burns typical of discard (black or calcined) or those that could result from roasting. Only 39 pieces have discard burns, and 2 have burns that are more likely to result from roasting over an open fire. Also found were 19 pieces with rounded edges and 65 with waxy textures that could have resulted from boiling, or in the case of the waxy textures, from baking or roasting in an oven rather than over an open fire.

Processing was categorized by intention and implement or action. Consulting standard butchering diagrams, gross dismemberment was distinguished from dismantling into the packages indicated in the diagrams:

neck, chuck, rib, short rib, short loin, rump, etc., and from defleshing (scraping meat from the bone). Disarticulation was accomplished by cutting or chopping (n=6) or sawing (n=2). Much more common was dismantling, usually by cut or chop (n=134) or impacts (n=88), where the form of implement could not be determined, but also by snaps (n=3) and saws (n=5). Other pieces have many small scratchlike cuts, suggesting defleshing (n=50). A single bone was sawn into a steak or roast cut. Table 3 gives the distribution of bone by provenience, division, part, and taxon.

Three partial bone beads were found in Stratum 5 (EU 10; Fig. 20). Two of the pieces could be from the same bead, but the third appears to be from another bead. All retain only one worked end, so their lengths could not be determined, but they were at least 13.9 and 18.7 mm long with diameters over 8.3 and 8.5 mm. They were made from small to medium mammal long bones.

When viewed by major provenience division (Table 4), Stratum 5 has the majority of the bone. Cow and likely cow (large ungulate) ranges from none to half of the small Feature 3 assemblage and comprises considerably more of the Level 6 assemblage than the Stratum 5 assemblage. Identifiable pieces of sheep/goat vary less. Pig was found in only the Stratum 5 and disturbed context, while all of the chicken was from disturbed deposits. Native species are extremely rare. They include one jackrabbit and one deer bone from disturbed contexts and two raven bones from Feature 3. The dog or coyote part, a partial tooth, was found in Stratum 5.



*Figure 20. Tubular bone beads.*

**Table 3. Bone processing**

Provenience / Element	Type of Processing	Part	Small Ungulate	Small-Medium Ungulate	Large Ungulate	Medium-Large Ungulate	Cow	Sheep/Goat	Pig	Chicken
<b>Level 6</b>										
Long bone	Dismantling cut or chop	Midshaft	-	-	-	1	-	-	-	-
	Dismantling impact	Midshaft	-	-	2	-	-	-	-	-
Flat bone	Dismantling cut or chop	Proximal	-	-	1	-	-	-	-	-
Rib	Dismantling cut or chop	Lateral	-	1	-	-	-	-	-	-
	Defleshing	Interior	-	-	-	-	-	1	-	-
Ulna	Snapped	Midshaft	-	-	-	-	-	1	-	-
Metatarsal	Dismantling cut or chop	Anterior	-	-	-	-	-	1	-	-
	Defleshing	Anterior	-	-	-	-	1	-	-	-
Subtotal			0	1	3	1	1	3	0	0
<b>Stratum 5</b>										
Long bone	Disarticulating sawn	Sliced transverse	-	1	-	-	-	-	-	-
	Dismantling cut or chop	Midshaft	2	5	4	10	-	-	-	-
		Sliced longitudinal	-	-	1	-	-	-	-	-
		Midshaft	4	14	12	17	-	-	-	-
		Midshaft	-	4	1	5	-	-	-	-
Flat bone	Defleshing	Surface	-	2	1	19	-	-	-	-
	Dismantling cut or chop	Sliced longitudinal	-	2	1	2	-	-	-	-
		Sliced transverse	-	-	2	-	-	-	-	-
		Midshaft	-	-	-	1	-	-	-	-
	Dismantling impact	Surface	-	1	-	-	-	-	-	-
Thoracic vertebra	Dismantling cut or chop	Lateral	-	-	-	-	-	2	-	-
		Sliced longitudinal	-	-	-	-	-	2	-	-
Lumbar vertebra	Dismantling cut or chop	Process	-	-	-	-	-	1	-	-
		Sliced transverse	-	-	-	-	-	1	-	-
		Process	-	-	-	-	1	-	-	-
Sacrum	Defleshing	Interior	-	-	1	-	-	-	-	-
Rib	Dismantling cut or chop	Proximal	-	-	1	-	-	-	-	-
		Proximal	-	-	-	-	-	2	-	-
		Lateral	-	-	-	-	-	3	-	-
		Both ends or edges	-	-	-	-	1	-	-	-
		Midshaft	-	6	1	6	4	2	-	-
		Proximal shaft	-	-	-	-	-	1	-	-
		Interior	-	-	-	-	-	3	-	-
		Midshaft	-	-	-	-	2	-	-	-
Innominate	Disarticulating cut or chop	Interior	-	-	-	-	-	1	-	-
Humerus	Dismantling impact	Distal shaft	-	-	-	-	-	1	-	-
Radius	Dismantling impact	Proximal shaft	-	-	-	-	-	1	-	-
Metacarpal	Dismantling cut or chop	Anterior	-	-	-	-	1	-	-	-
Femur	Dismantling cut or chop	Lateral	-	-	-	-	-	1	-	-
		Lateral	-	-	-	-	-	1	-	-
		Anterior	-	-	-	-	-	1	-	-
Tibia	Defleshing	Posterior	-	-	-	-	-	1	-	-
Metatarsal	Disarticulating cut or chop	Posterior	-	-	-	-	-	1	-	-
		Proximal shaft	-	-	-	-	-	1	-	-
Subtotal			6	35	24	60	9	27	0	0
<b>Feature 3</b>										
Long bone	Dismantling impact	Midshaft	-	-	2	2	-	-	-	-
Lumbar vertebra	Dismantling cut or chop	Process	-	-	-	-	-	1	-	-
Rib	Defleshing	Midshaft	-	-	-	-	-	1	-	-
		Both ends or edges	-	-	-	-	-	1	-	-
		Proximal shaft	-	-	-	-	-	1	-	-
	Snapped	Proximal shaft	-	-	-	-	-	1	-	-

Provenience / Element	Type of Processing	Part	Small Ungulate	Small-Medium Ungulate	Large Ungulate	Medium-Large Ungulate	Cow	Sheep/Goat	Pig	Chicken
<b>Feature 3 (cont.)</b>										
Scapula	Disarticulating cut or chop	Proximal	-	-	-	-	-	1	-	-
Tibia	Dismantling cut or chop	Anterior	-	-	-	-	-	1	-	-
	Dismantling impact	Distal shaft	-	-	-	1	1	-	-	-
Subtotal			0	0	2	3	1	3	0	0
<b>Acequia</b>										
Long bone	Dismantling cut or chop	Midshaft	-	1	-	-	-	-	-	-
Flat bone	Dismantling cut or chop	Surface	-	1	-	-	-	-	-	-
Rib	Dismantling cut or chop	Midshaft	-	2	-	-	-	1	-	-
Subtotal			0	4	0	0	0	1	0	0
<b>Disturbed</b>										
Long bone	Dismantling cut or chop	Midshaft	-	3	1	1	-	-	-	-
	Dismantling impact	Midshaft	-	8	10	6	-	-	-	-
	Defleshing	Midshaft	-	2	2	2	-	-	-	-
		Surface	-	-	-	1	-	-	-	-
Flat bone	Steak or chop cuts	Midshaft	-	-	2	-	-	-	-	-
	Dismantling cut or chop	Surface	-	-	-	7	-	-	-	-
	Dismantling sawn	Sliced longitudinal	-	-	1	1	-	-	-	-
	Defleshing	Surface	-	-	-	4	-	-	-	-
	Dismantling cut or chop	Inferior	-	-	-	-	-	1	-	-
	Dismantling impact	Distal shaft	-	-	-	-	1	-	-	-
	Defleshing	Surface	-	1	-	-	-	-	-	-
Thoracic vertebra	Dismantling sawn	Process	-	-	-	-	-	1	-	-
Lumbar vertebra	Disarticulating cut or chop	Posterior	-	-	-	-	1	-	-	-
	Dismantling sawn	Sliced longitudinal	-	-	-	-	1	-	-	-
	Dismantling impact	Process	-	-	-	-	1	-	-	-
	Defleshing	Surface	-	-	-	-	-	-	-	1
	Dismantling cut or chop	Medial	-	1	-	-	-	-	-	-
		Lateral	-	-	-	-	-	1	-	-
		Both ends or edges	-	-	-	-	-	4	-	-
		Midshaft	-	3	-	1	1	-	-	-
		Interior	-	-	-	-	2	3	-	-
		Midshaft	-	-	-	1	-	1	-	-
		Surface	-	-	-	-	13	-	-	-
		Interior	-	-	1	-	-	-	-	-
Scapula	Dismantling cut or chop	Sliced longitudinal	-	-	-	-	-	1	-	-
Humerus	Dismantling impact	Distal shaft	-	-	-	-	-	1	-	-
	Defleshing	Midshaft	-	-	1	-	-	-	-	-
		Distal shaft	-	-	-	-	-	1	-	-
		Proximal shaft	-	-	-	-	-	1	-	-
Radius	Dismantling impact	Medial	-	-	-	-	1	-	-	-
Ulna	Dismantling cut or chop	Medial	-	-	-	-	-	1	-	-
Femur	Dismantling cut or chop	Midshaft	-	-	-	-	-	1	-	-
		Proximal shaft	-	-	-	-	-	-	1	-
		Proximal shaft	-	-	-	-	-	1	-	-
		Lateral	-	-	-	-	-	1	-	-
Tibia	Disarticulating sawn		-	-	-	-	-	-	1	-
	Dismantling impact		-	-	-	-	-	1	-	-
	Defleshing		-	-	-	-	-	1	-	-
Metatarsal	Disarticulating cut or chop		-	-	-	-	-	1	-	-
Subtotal			0	18	18	24	21	20	1	1



**Table 4. Distribution of fauna in major proveniences (count and column percentage)**

	Level 6	Stratum 5	Feature 3	Acequia	Disturbed	Total
Small mammal/medium-large bird	-	2	-	-	-	2
Small mammal	-	-	-	-	1	1
Small-medium mammal	2	12	-	-	4	18
Medium mammal	-	2	-	-	-	2
Medium to large mammal	-	8	-	-	7	15
Large mammal	-	2	-	-	9	11
Black-tailed jackrabbit	-	-	-	-	1	1
Dog or coyote	-	1	-	-	-	1
Small ungulate	-	81	-	-	-	81
Small-medium ungulate	22	1312	6	9	201	1550
Large ungulate	7	178	12	-	91	288
Medium to large ungulate	39	1981	9	1	342	2372
Mule deer	-	-	-	-	1	1
Cow	9	196	12	-	91	308
Domestic sheep or goat	6	195	8	2	74	285
Pig	-	1	-	-	1	2
Medium-large bird	-	-	-	-	2	2
Common raven	-	-	2	-	-	2
Domestic chicken	-	-	-	-	5	5
<b>Total</b>	<b>85</b>	<b>3971</b>	<b>49</b>	<b>12</b>	<b>830</b>	<b>4947</b>
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>



# LITHIC ARTIFACTS

## DEBITAGE

A total of 234 items of lithic debitage were recovered from excavations on the Santa Fe Plaza. Discriminate attribute analysis was performed on each artifact.

### *Material Type*

Debitage was analyzed on an assemblage basis. There was substantial temporal mixing within the artifacts, and it was not possible to distinguish lithic artifacts that originated from mixed proveniences, secondary deposition, or historic or prehistoric contexts.

The dominant material type was undifferentiated chert (69.2 percent, n=162), followed by undifferentiated quartzite (13.2 percent, n=31) and Madera chert (10.6 percent, n=25) (Table 5). Apparently, the raw material sources used in lithic artifact manufacture was primarily local. Madera chert originates in the nearby Sangre de Cristos, while the obsidian apparently came from volcanic sources in the Jemez Mountains.

### *Artifact Type*

Core flakes dominated the artifact category, accounting for over half (58.6 percent, n=95) of the assemblage, followed by angular debris (39.5 percent, n=64). Three biface flakes (1.8 percent) were also recovered (Table 5).

The presence of several biface flakes testifies to at least some degree of on-site core-reduction and tool manufacture.

## FORMAL AND INFORMAL TOOLS

Seventy-eight formal and informal tools (as defined in OAS 1994) were recovered during the project.

### *Material Type*

The material most frequently used for utilized flakes and formal tools was undifferentiated chert (n=49, 62

percent) followed by Madera chert (n= 11, 13.9 percent) and chalcedony (n=9, 11.3 percent ) (Table 6). Of interest is a green obsidian prismatic blade, which matches samples of Pachuca green from the Tula area north of Mexico City. Historic gunflints and strike-a-lite flints are also made from local materials, although they were also imported along the Camino Real.

### *Artifact Type*

Utilized debitage dominated the tool types (n=48, 60.7 percent) (Table 6). These were exclusively utilized flakes, for example, informal or expedient tools. In addition, one of the cores was utilized. A surprisingly high number of projectile points were recovered (n=17; Fig. 21). These were primarily of the small arrow point Pueblo side-notched variety, although an Archaic En Medio phase projectile point and an Apachean-style point were also present (Table 7).

Of the 17 points found, 10 (58.8 percent) came from the late seventeenth-century level, and 8 (80.0 percent) have possible impact fractures.

## DISCUSSION

Only limited inferences can be made from the lithic artifact assemblage from the Santa Fe Plaza. Conclusions are hampered, in part, by the mixed nature of the assemblage. How the Pachuca green obsidian blade wound up in these deposits is a matter for speculation. Mexican obsidian has found its way to several sites with Spanish Colonial components, probably introduced by Mexican Indians who accompanied the colonists on their trek from Chihuahua or even Mexico City. The high frequency of arrow points recovered from a relatively small area (compared to the extensive excavations behind the Palace of the Governors, for example) may be significant. In association with musket balls and other artifacts, these lithic artifacts may be related in some significant way to the Pueblo Revolt of 1680.

**Table 5. Debitage by material (count and column percentage)**

Artifact Type	Chert	Madera Chert	Chalcedony	Silicified Wood	Jemez Obsidian	Polvadera Obsidian	Quartzite	Quartz	Total
Angular debris	64	6	2	-	1	-	11	-	84
	39.5%	24.0%	22.2%	-	50.0%	-	35.5%	-	35.9%
Core flake	95	19	6	2	1	1	20	2	146
	58.6%	76.0%	66.7%	100.0%	50.0%	100.0%	64.5%	100.0%	62.4%
Biface flake	3	-	1	-	-	-	-	-	4
	1.9%	-	11.1%	-	-	-	-	-	1.7%
Total	162	25	9	2	2	1	31	2	234
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

**Table 6. Formal and informal tools by material (count and column percentage)**

Tool Type	Chert	Madera Chert	Chalcedony	Jemez Obsidian	Green Obsidian	Thermal Alteration (row %)	Total
Utilizeddebitage	29	7	7	4	1	5	48
	59.2%	63.6%	87.5%	44.4%	100.0%	10.4%	61.5%
Biface	3	1	1	-	-	-	5
	6.1%	9.1%	12.5%	-	-	-	6.4%
Gunflint	2	-	-	-	-	-	2
	4.1%	-	-	-	-	-	2.6%
Projectile point	10	2	-	5	-	1	17
	20.4%	18.2%	-	55.6%	-	5.9%	21.8%
Strike-a-light	1	-	-	-	-	-	1
	2.0%	-	-	-	-	-	1.3%
Drill	1	-	-	-	-	1	1
	2.0%	-	-	-	-	100.0%	1.3%
Scraper	1	-	-	-	-	-	1
	2.0%	-	-	-	-	-	1.3%
Core	2	1	-	-	-	-	3
	4.1%	9.1%	-	-	-	-	3.8%
Total	49	11	8	9	1	7	78
	100.0%	100.0%	100.0%	100.0%	100.0%	9.0%*	100.0%

\* Percentage of all tools heat treated

**Table 7. Projectile points**

FS No.	Artifact No.	Provenience	Material	Function (OAS 1994)	Portion	Edge Angle (degrees)	Dimensions (mm)	Notes
5	8	Level 3	chert	unidentified small triangular	whole	37	30 x 13 x 4	heat treated
11	7	Level 5	chert	unidentified small side-notched	broken	31	16 x 14 x 4	impact fracture
11	8	Level 5	Madera chert	unidentified	broken	31	15 x 12 x 2	impact fracture
11	8	Level 5	chert	unidentified	broken	35	12 x 16 x 3	impact fracture, heat treated
20	2	Level 6	Jemez obsidian (generic)	Pueblo side-notched	broken	52	37 x 37 x 3	impact fracture, Pueblo side-notched
21	2	Level 8	Jemez obsidian (generic)	unidentified small side-notched	whole	10	21 x 17 x 3	side-notched Pueblo
25	24	Level 4	1 chert	unidentified small side-notched	broken	50	18 x 17 x 2	impact fracture at point and base
29	3	Level 2	chert	unidentified small side-notched	broken	37	11 x 14 x 2	impact fracture on side-notched Pueblo point
53	40	Stratum 5	chert	unidentified small side-notched	whole	40	19 x 12 x 3	small side-notched Pueblo
56	31	Stratum 5	chert	unidentified	broken	47	16 x 16 x 5	possible impact fracture
56	32	Stratum 5	chert	unidentified	broken	51	15 x 13 x 4	impact fracture
60	1	Stratum 5	chert	unidentified small triangular	broken	33	17 x 15 x 2	Apache, impact fracture
69	9	Level 5	Jemez obsidian (generic)	unidentified	broken	34	13 x 20 x 24	obsidian point base, impact fracture
69	10	Level 5	Jemez obsidian (generic)	unidentified corner-notched	broken	45	31 x 16 x 6	resembles San Pedro, broken tip
71	2	Level 5	chert	unidentified small side-notched	broken	46	19 x 12 x 3	broken tang
74	1	Level 2	Madera chert	En Medio Basetmaker II	broken	30	25 x 26 x 5	Archaic dart point
76	none	none	Jemez obsidian (generic)	unidentified small	broken	52	18 x 12 x 2	impact fracture, broken tip



Figure 21. Projectile points and other lithic artifacts.

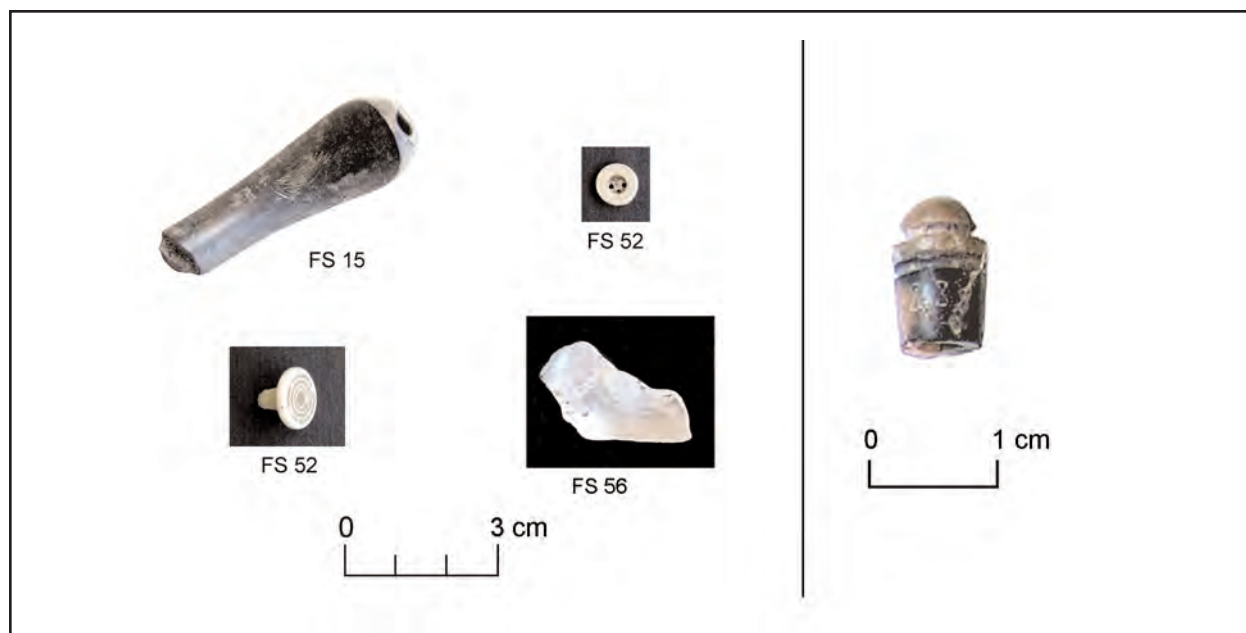
## MISCELLANEOUS ARTIFACTS

A total of 18 miscellaneous items were recovered during the excavations (Fig. 22). Except for two items of shell (FS 56) recovered from Stratum 5, EU 9, most of the miscellaneous items came from unsecured proveniences (Table 8).

One unusual artifact is a small unidentifiable item made of burned pipe clay (Fig. 22). It was embedded in the old 1880s plaza surface. This artifact has a small Star of David scratched into its side. The function of this artifact is unknown. Despite the Jewish symbol, it is probably not a religious item. It appears mass produced, as if in a mold, and the star was probably added post facto. Nevertheless, it serves as a reminder of the increasing population diversity accompanying the growth of the Territory of New Mexico during the late nineteenth cen-

ture. In 1883, during the last phases of the construction of Saint Francis Cathedral, Bishop Lamy received many donations from the Jewish merchants of Santa Fe, and the Hebrew name for God, Yahweh, is carved above the entrance of the cathedral.

The miscellaneous artifact assemblage does not contribute substantially to the initial information gained through the analysis of other artifact classes. Also, most of these items are poorly provenienced. Rubber has been in use since the Civil War and is not a good indicator of age. Plastic came into use around 1910, after the invention of Bakelite. In general, the miscellaneous artifacts appear to be from the Railroad period and the early twentieth century.



*Figure 22. Miscellaneous artifacts. Top row: Pipestem, shell button. Bottom row: plastic button, freshwater mussel shell. Right: pipe-clay item with incised Star of David.*

**Table 8. Miscellaneous artifacts**

EU No.	FS No.	Provenience	Artifact Type
9	56	Stratum 5	freshwater mussel shell (n=2)
unprovenienced	76	unknown	bronze key
9	55	Stratum 5	water (?) or sewage (?) ceramic pipe (n=3)
11	6	Level 4	enameled decorative brick
11	6	Level 6	green substance (corroded metal?)
1	5	Level 3	black fabric (n=2)
3	15	Level 3	curved pipestem, post 1900s
1	2	Level 2	rubberized fabric (n=2)
10	52	Stratum 4	plastic button, rivetlike
10	52	Stratum 4	mother-of-pearl four-hole button
unprovenienced	unprovenienced	unprovenienced	carbon battery core (reworked into a dull point)
1	5	Level 3	rubber fragments, may be cut from shoe heels (n=2)
7	28	Old Plaza surface	unidentified pipe-clay item with Star of David scratched on surface



# CERAMIC ARTIFACT ANALYSIS

Candace K. Lewis

A total of 7,260 ceramic sherds were recovered from LA 80000. The analyzed assemblage consists of a stratified sample of diagnostic sherds from undisturbed contexts. A total of 190 sherds were chosen for analysis. The majority of these sherds (n = 130) were recovered from Stratum 5. The only feature included in this analysis was Feature 3, which yielded 58 sherds. One analyzed sherd was recovered from the 1880s plaza surface, and one from Stratum 4. The analysis was streamlined to provide temporal information based upon types in the assemblage, as well as an assessment of vessel forms represented.

## METHOD OF ANALYSIS

Temper, type, and form were recorded for each sherd. Weights and postfiring modifications were not recorded as part of this limited analysis, although obvious secondary uses were noted.

## TEMPER

*Temper* refers to particles added to the clay body by the potter to reduce shrinkage and improve vessel stability during drying. Temper may be intentionally added to the clay body by the potter or occur naturally in the clay deposit. The choice of a particular temper is an indication of manufacturing region and/or cultural tradition and thus is important in assigning pottery types.

Temper inclusions were identified by examining sherd cross sections through a binocular microscope. Criteria included the size, shape, and color of particles. The temper categories discussed below are best viewed as distinctive groupings consistent with known mineral characteristics, rather than faultless mineralogical identifications.

Twelve temper categories were identified in the analyzed assemblage (Table 9). A majority of the sherds (50.5 percent) fall into the *fine tuff or ash* category, describing fine volcanic fragments assumed to originate from ash or tuff deposits. Tempers assigned to this category consist of small, clear, white or dark vitreous, angular or rod-shaped particles and light-colored pumice fragments. The co-occurrence of fine tuff or ash and sand was recorded as *fine tuff and sand* and accounts for an additional 8.4 percent of the assemblage. Both of the temper categories described above are indicative of

**Table 9. Temper frequencies**

Temper	No.	Percent
Indeterminate	2	1.1%
Sand	21	11.1%
Granitic schist, mica, quartz, feldspar	23	12.1%
Quartz and feldspar	4	2.1%
Sherd	1	0.5%
Fine tuff or ash	96	50.5%
Fine tuff and sand	16	8.4%
Gray crystalline basalt	2	1.1%
Latite	9	4.7%
Mica and tuff	2	1.1%
Mica, tuff, and sand	1	0.5%
Latite and sand	13	6.8%
Total	190	100.0%

Northern Rio Grande pottery traditions, and specifically historic period Tewa pottery manufacture. *Mica and tuff* and *Mica, tuff, and sand* represent variations on the *fine tuff or ash* category; they are likely to indicate Tewa pottery manufacture.

Various crushed igneous porphyries make up the temper categories commonly found in utility wares from the Rio Grande Valley. The most frequent of these temper categories from LA 80000 was *granitic schist, mica, quartz, and feldspar*, accounting for 12.1 percent of the total assemblage. A second category, representing a variation of the above without mica, accounts for an additional 2.1 percent of analyzed sherds.

Three of the temper categories identified during analysis represent the Middle Rio Grande glaze ware tradition. The first, *latite*, refers to light gray, purplish, or white tuff particles with shiny black igneous and white quartz inclusions. A second category, *latite and sand*, describes the above temper with significant additions of rounded sand particles. Latite was a commonly used tempering material for Galisteo Basin glaze wares. *Gray crystalline basalt* indicates greenish, gray, or black angular crushed basalt fragments. Crystalline basalt is often associated with glaze wares from the Zia and Albuquerque areas.

*Sand* temper of rounded or subrounded sand grains comprised 11.1 percent of the assemblage. Sand temper is not exclusively associated with either the Tewa or Keres pottery traditions. Rather, sherds with this temper must be assigned to a type category based on paste color, pigment, and surface finish characteristics. Crushed pot-

sherds were used as temper in only one sherd. Two additional sherds were classified as having unidentified temper. These two sherds, one worked into an effigy and the other a ceramic pipe fragment, were not clipped.

#### VESSEL FORM

Vessel form designations were assigned to all sherds based upon shape and, in the case of decorated sherds, surface treatment (Table 10). The sherds chosen for analysis were biased in favor of rim sherds because they tend to be far more diagnostic than body sherds. A total of 122 rim sherds (64.1 percent) were analyzed.

**Table 10. Vessel form frequencies**

Vessel Form	No.	Percent
Bowl rim	47	24.7%
Jar rim	36	18.9%
Bowl body	26	13.7%
Indeterminate rim	22	11.6%
Jar neck	13	6.8%
Soup plate	13	6.8%
Body sherd, polished interior-exterior	12	6.3%
Jar body	8	4.2%
Body sherd, polished interior, unpolished exterior	5	2.6%
Body sherd, unpolished	2	1.1%
Flared bowl rim	2	1.1%
Indeterminate	1	0.5%
Miniature pinch pot rim	1	0.5%
Curved pipe	1	0.5%
Candlestick or ring base	1	0.5%
Total	190	100.0%

*Bowl rim* forms were identified based on inward curvature below the rim and/or interior decoration and relatively wide rim diameters. Bowl rims comprised 24.7 percent of the assemblage. *Flared bowl rim* was assigned to bowl rims with everted or flaring rims; only two sherds were assigned to this category. *Jar rim* forms were identified based upon relatively narrow vessel openings, recurve of the vessel wall just below the rim, a lack of interior decoration, and often an unpolished interior. Jar rims account for 18.9 percent of the assemblage. *Soup plate* was used to describe a vessel form found in Colonial period contexts and derived from Spanish-introduced pottery forms. Soup plates are identified as shallow bowl forms with a highly everted, wide rim. Decoration on soup plate forms is often restricted to the everted rim. Soup plates comprise 6.8 percent of the analyzed assemblage. Many of the sherds (11.6 percent) were identified as rims but could not be assigned to a specific vessel form; sherds of this type were assigned to *indeterminate rim*.

During the Historic period it becomes more difficult to determine if body sherds are from bowls or jars. This difficulty arises as potters began to polish and slip all or significant portions of jar interiors. For this reason, our analysis utilizes generalized categories in addition to *bowl body* and *jar body*. *Bowl body* was used to describe sherds having interior decoration or with forms consistent with Tewa tradition bowls, as described below. *Jar neck* was used to identify sherds exhibiting curvature indicative of the upper portions of jars, while *jar body* was reserved for decorated sherds having an unpolished interior. Twelve sherds were assigned to the general category *body sherd, polished interior and exterior*. This category was used for any body sherd with both surfaces polished; one or both surfaces may also have slip, and in some cases the exterior surface may also have painted decoration. *Body sherd, unpolished* was assigned to two sherds, both having unpolished interiors and exteriors. While these sherds most likely originated from jars, they may have come from bowls or miscellaneous forms. *Body sherd, polished interior, unpolished exterior* describes those sherds with a polished and/or smudged interior and an unpolished exterior, most often a mica-slipped exterior.

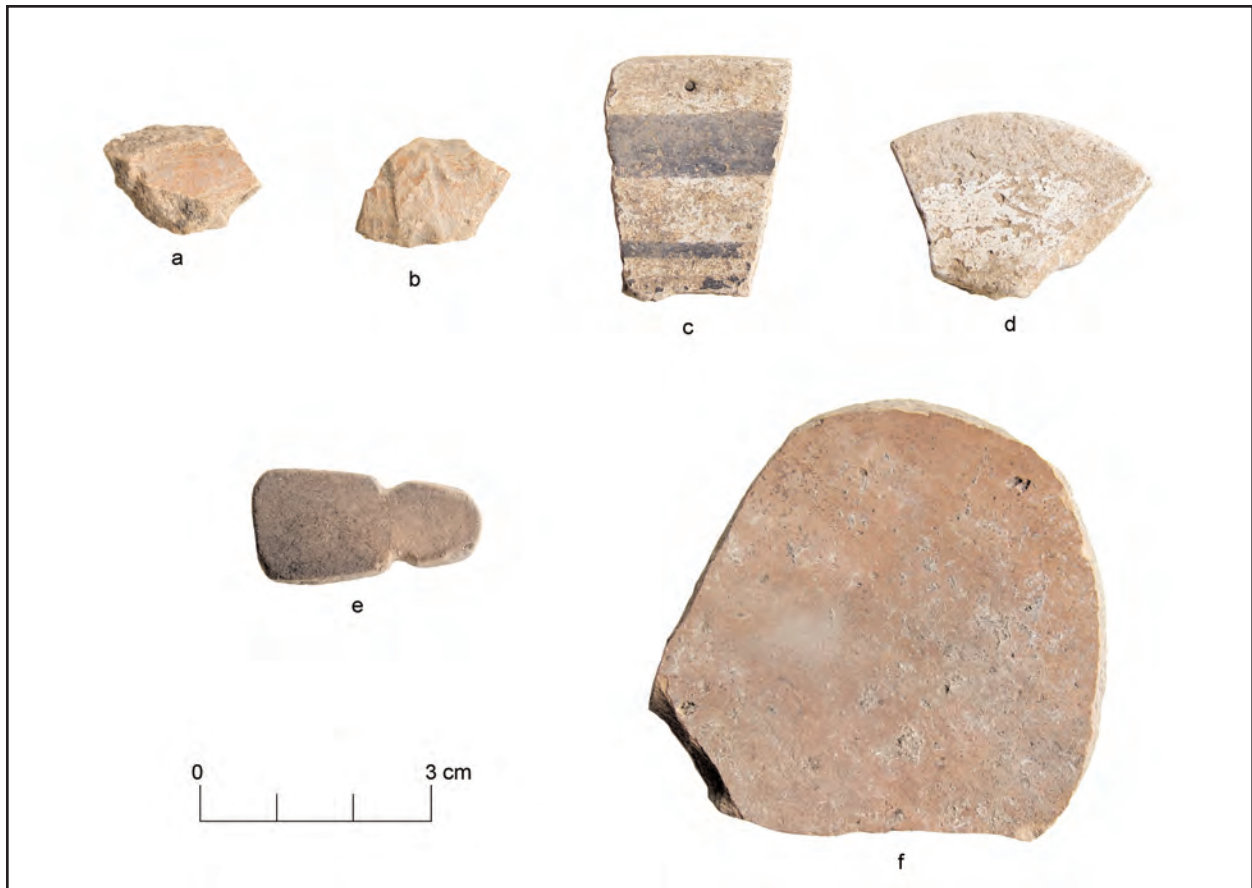
Unique forms among the analyzed assemblage include one pipe fragment (Figs. 23a and 23b) one possible candlestick or ring-base fragment, and one miniature pinch pot rim. One sherd was classified as having an unidentified form because it was missing one surface. Secondary uses were noted for four of the sherds analyzed. One Wiyo Black-on-white bowl sherd exhibited a very small drill hole just below the rim, indicating possible use as a pendant (Fig. 23c). A Santa Fe Black-on-white sherd was ground and drilled into a spindle whorl form (Fig. 23d). One Tewa red ware sherd was ground and worked into a possible effigy form (Fig. 23e), while a second Tewa red ware sherd was reused as a ceramic scraper (Fig. 23f).

#### POTTERY TYPES

Thirty-two pottery types were identified during analysis (Table 11). Many of them are descriptive categories rather than formal pottery types.

##### *Prehistoric Pottery Types*

Prehistoric pottery types identified during analysis are thought to represent intrusive sherds that may have been redeposited as fill on the site or, in the case of the two modified sherds mentioned above, curated objects obtained from nearby Coalition period pueblos. Three white ware and two gray ware sherds were identified, as well as one Glaze A rim sherd.



**Figure 23. Unique ceramic forms: (a and b) two views of a pipe fragment; (c) *Wiyo Black-on-white* with drilled hole; (d) *Santa Fe Black-on-white* spindle whorl form; (e) *Tewa red ware* worked into possible effigy; (f) *Tewa red ware* used as a scraper.**

The three white ware sherds were characterized by a gray paste tempered with fine tuff or ash. Two sherds exhibited a paste consistent with *Santa Fe Black-on-white* but without painted decoration. These sherds were assigned to *unpainted Santa Fe paste*. The third sherd was identified as *Wiyo Black-on-white* based upon an olive hue to the white slip and a slight brownish cast to the paste. The two gray ware sherds were identified based upon paste and surface treatment attributes. Both sherds consisted of gray paste with sand or granitic temper. One sherd exhibited partially obliterated coil treatment on the exterior surface and was assigned to *smearred indented corrugated*. Coils were completely obliterated on the second sherd, assigned to *plain body*.

#### HISTORIC TEWA DECORATED POTTERY

By far the majority of analyzed sherds belong to the Tewa pottery tradition. Early historic Tewa decorated pottery types represented in our sample include Sankawi Black-on-cream, Sakona Polychrome, and Tewa

Polychrome. The sherds assigned to these types are characterized by a buff colored paste tempered with fine ash and tuff or fine tuff and sand. Slip color tends towards cream rather than white, and decoration was executed in organic paint.

Sankawi Black-on-cream was assigned to only one sherd, a bowl rim that exhibits both interior and exterior cream slip but no painted decoration and no evidence of red slip. Bowl form was indicative of early historic Tewa traditions. Sankawi Black-on-cream dates from the mid-sixteenth through the early-seventeenth century (Mera 1932). The addition of red slip to otherwise Sankawi Black-on-white vessels marks the beginning of Sakona Polychrome (Harlow 1973).

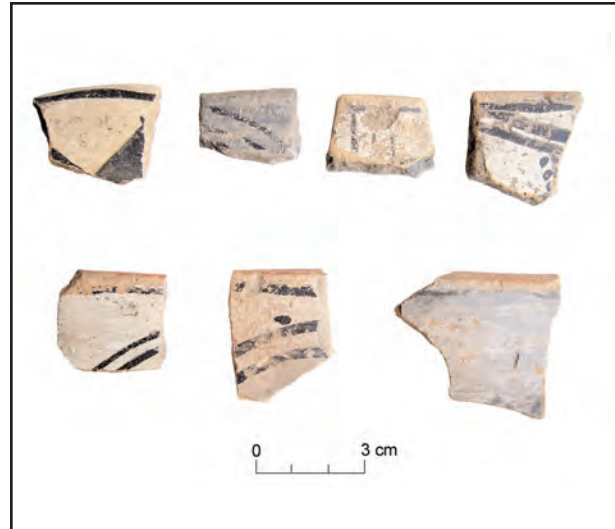
Sakona Polychrome was assigned to 12 sherds (6.3 percent) (Fig. 24). Sakona Polychrome bowls are characterized by the addition of red slip to the bowl rim and/or underbody. Interior portions of bowls continue to be decorated. Sakona Polychrome dates to the later half of the seventeenth century and is distinguished from Tewa Polychrome by interior decoration and the occurrence of red slip, sometimes on only the rim or underbody of

**Table 11. Pottery types**

Pottery Type	No.	Percent
Historic polished red ware	63	33.2%
Kotyiti G-yellow	21	11.1%
Tewa polychrome, undifferentiated	18	9.5%
Sakona Polychrome	12	6.3%
Tewa Polychrome	10	5.3%
Polished, smudged with mica slip	6	3.2%
Buff ware with mica slip	6	3.2%
Glaze-on-red body, undifferentiated	6	3.2%
Historic red and cream slipped, unpainted	5	2.6%
Sapawi Micaceous	5	2.6%
Glaze polychrome, unpainted	5	2.6%
Historic polished gray	4	2.1%
Glaze red body, unpainted	4	2.1%
Glaze-on-yellow body, undifferentiated	3	1.6%
Unpainted Santa Fe paste	2	1.1%
Black-on-cream, undifferentiated	2	1.1%
Unpolished mica slip	2	1.1%
Glaze yellow body, unpainted	2	1.1%
Wiyo Black-on-white	1	0.5%
Sankawi Black-on-cream	1	0.5%
Red-on-tan or buff, unpainted	1	0.5%
Casitas Red-on-brown	1	0.5%
Prehistoric gray ware plain body	1	0.5%
Smeared indented corrugated	1	0.5%
Tewa Buff, undifferentiated	1	0.5%
Buff utility, unpolished	1	0.5%
Micaceous utility, undifferentiated	1	0.5%
Smudged interior, unpolished exterior	1	0.5%
Glaze on unslipped body	1	0.5%
Glaze unslipped body, unpainted	1	0.5%
Glaze A Red, unpainted rim	1	0.5%
Puaray Glaze-on-yellow	1	0.5%
Total	190	100.0%



**Figure 24. Sakona Polychrome.**



**Figure 25. Tewa Polychrome.**

bowl exteriors. According to Harlow (1973), jars are rare, although one sherd from this analysis has been identified as a Sakona Polychrome jar. Sakona Polychrome jars exhibit a squared rim consistent with early historic Tewa tradition and the addition of red to the jar rim and/or underbody of the jar. Exterior decoration on Sakona Polychrome jars includes both the jar body and neck. This practice differs from that in Tewa Polychrome jars, where exterior decoration is limited to a decorative band at midbody.

Tewa Polychrome comprises 5.3 percent (10 sherds) of the analyzed assemblage (Fig. 25). Tewa Polychrome (Mera 1932) is characterized by the addition of red slip to bowl rims and bowl underbodies; exterior decoration is limited to a band just below bowl rims. Bowl interiors may be polished buff paste or polished red slip. According to Harlow (1973), Tewa Polychrome bowl interiors are not decorated. As stated above, jar decoration is limited to a design band around the midbody bulge; red slip covers the upper and lower portions of jar bodies.

Several sherds did not exhibit attributes that were distinct enough to assign them to specific type categories, including Tewa polychrome undifferentiated; black-on-cream undifferentiated; and historic red and cream slip, unpainted Tewa polychrome.

#### HISTORIC TEWA UTILITY POTTERY

The distinction between utility pottery and decorated pottery that holds so well for prehistoric white and gray wares begins to blur in the historic period assemblage. For the purposes of discussion, this section will deal with those sherds believed to reflect a historic Tewa

tradition, but not exhibiting any cream slip or painted decoration.

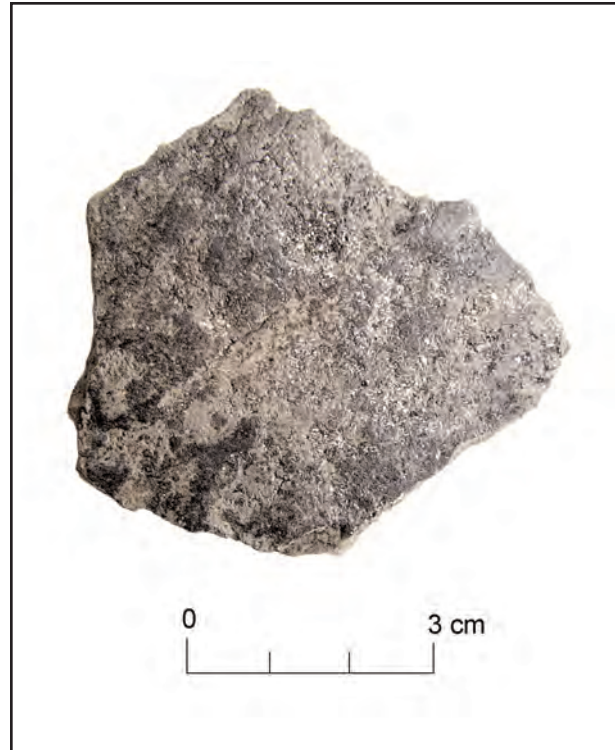
The largest percentage of sherds (33.2 percent) assigned to any one type category were assigned to *historic polished red ware*. This category contains sherds with red slip on at least one surface. Sherds included in this category may represent polished red utility vessels or the red-slipped portions of Tewa polychrome vessels. Temper categories associated with this type category are varied, possibly reflecting the differing types contributing to the assemblage. *Fine tuff* and *fine tuff and sand* make up 53 of the 63 sherds in this type; *granitic schist, mica, quartz, and feldspar*; *mica and tuff*; and *mica, tuff, and sand* are also represented. *Historic red-on-buff, undifferentiated* is a variation on *historic polished red ware*, in which one surface has a red-slipped band over a polished buff surface. Accurate dating of polished red sherds is not possible, but they generally postdate 1650.

*Historic polished gray* describes sherds having a gray paste and at least one polished surface. The only temper associated with this type was *fine tuff or ash*. Closely related type categories include *Tewa buff undifferentiated*, which refers to those sherds with a buff paste and at least one polished surface, and *buff utility, unpolished*.

Several variations on micaceous utility wares were noted during analysis. *Micaceous utility undifferentiated* was used to describe an unpolished gray utility ware with a micaceous paste, but not the highly micaceous wares made by the Northern Tiwa. Four types of sherds have micaceous slip. *Buff ware with mica slip* describes sherds with a mica slip on the exterior and a polished interior surface. *Polished and smudged with mica slip* was used to identify those sherds having a mica slip on the exterior and a polished smudged interior. *Unpolished mica slip* describes sherds with an unpolished interior and a mica slip on the exterior. *Sapawe-like micaceous* was used to describe sherds having a polished or smudged interior and a smeared corrugated exterior with a mica slip (Fig. 26). Sapawe Micaceous, a formal type, occurs at Classic period sites in the Northern Rio Grande. The sherds identified in this analysis are believed to represent a continuation of Sapawe Micaceous into the historic period. The micaceous utility wares are tempered with granitic schist, mica, quartz, and feldspar (75 percent); granitic schist, quartz, and feldspar (15 percent); fine tuff and ash (5 percent); and fine tuff and sand (5 percent).

#### GLAZE WARE

Several sherds exhibited glaze decoration, a vitreous paint produced by the addition of lead. Glaze paints appeared black, brown, or green and were usually thick



**Figure 26.** *Sapawe-like micaceous utility.*

with bubbles on the surface. Glaze wares were produced throughout the Middle Rio Grande region during both the Classic and early historic periods. In the absence of glaze paint, glaze wares were identified by the use of latite or gray crystalline basalt for tempering material. Assignment of glaze ware sherds to formal types relies on a bowl rim form (Kidder and Shepard 1936; Mera 1933). In the case of all other vessel forms, sherds were assigned to descriptive type categories.

Kotyiti Glaze-on-yellow was assigned to 21 sherds (11.1 percent of the assemblage). Kotyiti Glaze-on-yellow is a Glaze F type produced from A.D. 1650 to 1700 (Franklin 1997). Of the 21 sherds identified, 19 came from a single vessel in Feature 3. This bowl was tempered with sand and exhibited a very runny greenish glaze on the upper portions of the bowl and a dark brown glaze on the lower portions of the bowl (Fig. 27). Puaray Glaze-on-yellow was represented by a single sherd. Puaray Glaze-on-yellow is a Glaze E type produced from A.D. 1525 to 1650 (Franklin 1997). The single Glaze E sherd was also tempered with sand.

The remaining 22 glaze ware sherds were assigned to the following descriptive categories: glaze red body, unpainted; glaze polychrome, unpainted; glaze yellow body, unpainted; glaze unslipped body, unpainted; glaze-on-red, undifferentiated; glaze-on-yellow, undifferentiated; and glaze-on-unslipped body, undifferentiated.

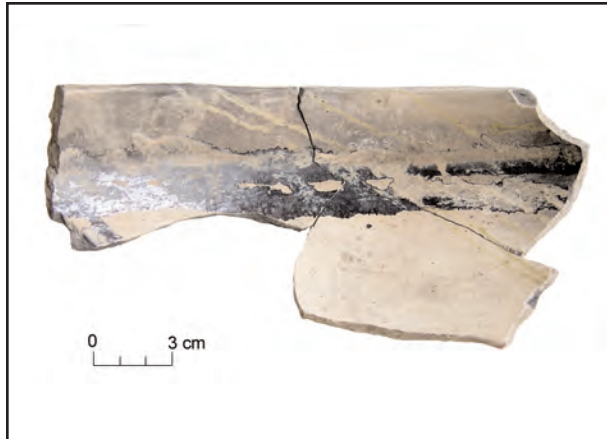


Figure 27. *Kotyiti Glaze-on-yellow bowl.*

#### ANALYSIS BY PROVENIENCE

##### *Stratum 5*

Sherds from Stratum 5 account for 68.4 percent (n=130) of the analyzed assemblage (Table 12). The historic period Tewa pottery tradition comprises 83.8 percent (n=109) of the sherds from Stratum 5. Three additional sherds (2.3 percent) are from the prehistoric Rio Grande tradition. The historic period Keres pottery tradition accounts for the remaining 13.8 percent (n=18).

**Table 12. Provenience of Stratum 5 pottery**

EU No.	FS No.	Count
2	25	59
5	37	3
10	53	19
9	55	18
9	56	13
14	62	2
20	64	2
23	66	1
17	69	2
17	70	5
15	72	3
22	78	3

Pottery types identified for Stratum 5 are listed in Table 13. All of the prehistoric white wares and the single Glaze A sherd in the assemblage came from Stratum 5. Temporally diagnostic types include Sakona Polychrome ( n=12, 9.2 percent), Tewa Polychrome

(n=9, 6.9 percent), the single Puaray Glaze-on-yellow (0.8 percent), and Kotyiti Glaze-on-yellow (n=2, 1.5 percent). The most prominent utility type category was historic polished red ware (n=49, 37.7 percent). Based upon this information, the assemblage from Stratum 5 appears to date to the late seventeenth century.

Table 14 summarizes the vessel forms recovered from Stratum 5. Bowl rims, including flared bowl rims (n=44, 33.8 percent), are slightly more numerous than jar rims (n=35, 26.9 percent). In addition, all of the soup plate forms from the assemblage (n=13, 10 percent of Stratum 5) were recovered from this stratum. Stratum 5 also yielded the possible candlestick fragment.

Utility wares, defined by combining red wares, micaceous wares, and historic period plain wares, account for 47.7 percent (n=62) of the Stratum 5 assemblage. Decorated sherds, defined by white wares, glaze wares, and historic period decorated types, are slightly more frequent (n=68, 52.3 percent). The higher frequency of decorated wares, which are associated with service and food consumption, may reflect the social function of the plaza as a place to gather and feast.

##### *Feature 3*

Feature3 yielded 30.5 percent (n=58) of the analyzed assemblage. The historic period Tewa pottery tradition comprises 50 percent (n=29) of the sherds, while two additional sherds (3.4 percent) are from the prehistoric Rio Grande tradition. The historic period Keres pottery tradition accounts for the remaining 46.6 percent (n=27), although 19 of these sherds are from a single vessel.

Pottery types from Feature 3 are listed in Table 15. Both prehistoric sherds are gray wares. Temporally diagnostic types include Sankawi Black-on-cream (n=1, 1.7 percent), Tewa Polychrome (n=1, 1.7 percent), and Kotyiti Glaze-on-yellow (n=19, 32.8 percent). The most prominent utility type category was *historic polished red ware* (n=13, 22.4 percent). The assemblage from Feature 3 appears to indicate a late seventeen-century or early eighteenth-century context, as indicated by the Glaze F bowl.

Table 16 summarizes the vessel forms recovered from Feature 3. The Glaze F bowl accounts for 19 of the 20 bowl sherds recovered. Jar sherds, including rim, neck, and body sherds, account for an additional 18 sherds (31 percent). A single miniature pinch pot rim was also recovered from Feature 3.

Utility wares, defined by combining gray wares, red wares, micaceous wares, and historic period plain wares, account for 48.2 percent (n=28) of the Feature 3 assemblage. Decorated sherds, defined by white wares, glaze wares, and historic period decorated types, are slightly

**Table 13. Stratum 5 pottery types**

Pottery Type	No.	Percent
Historic polished red ware	49	37.7%
Tewa polychrome, undifferentiated	18	13.8%
Sakona Polychrome	12	9.2%
Tewa Polychrome	9	6.9%
Historic red and cream slipped, unpainted	4	3.1%
Polished, smudged with mica slip	4	3.1%
Buff ware with mica slip	4	3.1%
Glaze-on-red body, undifferentiated	4	3.1%
Glaze red body, unpainted	3	2.3%
Glaze-on-yellow body, undifferentiated	3	2.3%
Unpainted Santa Fe paste	2	1.5%
Black-on-cream, undifferentiated	2	1.5%
Glaze yellow body, unpainted	2	1.5%
Kotyiti Glaze-on-yellow	2	1.5%
Wiyo Black-on-white	1	0.8%
Red-on-tan or buff, unpainted	1	0.8%
Casitas Red-on-brown	1	0.8%
Tewa Buff, undifferentiated	1	0.8%
Historic polished gray	1	0.8%
Buff utility unpolished	1	0.8%
Unpolished mica slip	1	0.8%
Smudged interior with unpolished exterior	1	0.8%
Glaze-on-unslipped body	1	0.8%
Glaze unslipped body, unpainted	1	0.8%
Glaze A Red, unpainted rim	1	0.8%
Puaray Glaze-on-yellow	1	0.8%
Total	130	100.0%

**Table 14. Stratum 5 vessel forms**

Vessel Form	No.	Percent
Bowl rim	42	32.3%
Jar rim	35	26.9%
Indeterminate rim	20	15.4%
Soup plate	13	10.0%
Bowl body	10	7.7%
Jar body	3	2.3%
Flared bowl rim	2	1.5%
Indeterminate	1	0.8%
Jar neck	1	0.8%
Body sherd polished, interior and exterior	1	0.8%
Body sherd polished interior, unpolished exterior	1	0.8%
Candlestick or ring base	1	0.8%
Total	130	100.0%

**Table 15. Feature 3 pottery types**

Pottery Type	No.	Percent
Kotyiti Glaze-on-yellow	19	32.8%
Historic polished red ware	13	22.4%
Sapawi-like micaceous	5	8.6%
Glaze polychrome, unpainted	5	8.6%
Historic polished gray	3	5.2%
Buff ware with mica slip	2	3.4%
Glaze-on-red body, undifferentiated	2	3.4%
Sankawi Black-on-cream	1	1.7%
Tewa Polychrome	1	1.7%
Historic red and cream slipped, unpainted	1	1.7%
Prehistoric gray ware plain body	1	1.7%
Smearred indented corrugated	1	1.7%
Polished, smudged with mica slip	1	1.7%
Unpolished mica slip	1	1.7%
Micaceous utility, undifferentiated	1	1.7%
Glaze red body, unpainted	1	1.7%
Total	58	100.0%

**Table 16. Feature 3 vessel forms**

Vessel Form	No.	Percent
Bowl body	15	25.9%
Jar neck	12	20.7%
Body sherd polished, interior and exterior	11	19.0%
Bowl rim	5	8.6%
Jar body	5	8.6%
Body sherd polished, interior, unpolished exterior	4	6.9%
Body sherd, unpolished	2	3.4%
Indeterminate rim	2	3.4%
Jar rim	1	1.7%
Miniature pinch pot rim	1	1.7%
Total	58	100.0%

more frequent (n=30, 51.7 percent). The higher frequency of decorated wares can be attributed to the Glaze F bowl.

#### Stratum 4

Stratum 4 has been characterized as a highly mixed deposit. The one sherd analyzed from this stratum was a curved pipe fragment carved with a relief design and traces of red slip. The pipe appears to conform to the Tewa pottery tradition, but no temporal assignment could be made.

#### Stratum 1

Stratum 1 is the fill just above and in contact with the nineteenth-century plaza surface. Only one sherd, a *polished and smudged with mica slip*, was included in the analysis from this provenience. Although this sherd is

presumably from the nineteenth century, its inclusion in this analysis did not affect the temporal assessment of the assemblage because this type was produced throughout the historic period.

## CONCLUSION

The historic Tewa pottery tradition accounts for just over 73 percent of the total analyzed assemblage. Intrusive prehistoric sherds, also indicative of a Rio Grande pottery tradition, make up an additional 3 percent of the assemblage (Table 17). The remaining 24 percent of the total analyzed assemblage is characterized by the historic Keres glaze ware pottery tradition; however, 19 of the 45 glaze ware sherds are from a single vessel. Thus, it appears that seventeenth-century Santa Feans obtained most of their pottery from Tewa communities. Presumably, they began exchange relationships with Tewas while living at San Gabriel.

**Table 17. Pottery traditions**

Tradition	No.	Percent
Rio Grande (historic Tewa)	139	73.2%
Rio Grande (glaze ware historic Keres)	45	23.7%
Rio Grande (prehistoric)	6	3.2%
Total	190	100.0%

Utility wares, defined by combining gray wares, red wares, micaceous wares, and historic period plain wares, account for 48 percent (n= 92) of the assemblage. Decorated sherds, defined by white wares, glaze wares, and historic period decorated types, are slightly more frequent (n=98, 52 percent). The higher frequency of decorated wares can be attributed to the Glaze F bowl from Feature 3. Yet, keeping this in mind, the frequency of decorated types is high, particularly considering that several of the sherds assigned to the historic red ware category may have come from decorated vessels. The high frequency of decorated wares, which are associated with food service, may reflect the social function of the plaza as a place to gather and feast, or to hold trade markets. Analysis of vessel forms, dominated by bowls and containing several soup plate rims, supports this hypothesis.

Sherd size was not quantified; however, except for the Kotyiti Glaze-on-yellow bowl, the observed sherd size was small (between 0.5 and 3 cm for the majority of the assemblage). The size of individual sherds prohibits any comprehensive discussion of design elements and layout. Two of the analyzed sherds and one unprovenienced sherd beautifully demonstrate the Pueblo practice of incorporating European design elements; all of



these belong to the Tewa pottery tradition. Two sherds incorporated European floral motifs strikingly similar to those seen in contemporaneous majolica. The third sherd exhibits concentric circles in black organic paint, which appear to replicate a design element commonly seen in Puebla Polychrome. Although European-derived design elements are found on historic period Pueblo pottery, it is noteworthy that we have three examples from such a small assemblage. These vessels were presumably made for the Spaniards and possibly used on the Santa Fe Plaza, arguably the most visible location in the province of New Mexico, and may represent the use of material

culture to reinforce Spanish identity and assert Spanish dominance in the province.

The analysis from a sample from the Santa Fe Plaza excavations reveals some general trends that may be tested by more extensive investigations in the downtown Santa Fe area. The Office of Archaeological Studies has conducted excavations at LA 111322, directly north of the Palace of the Governors and the plaza. The ceramic analysis for the Palace of the Governors project, coupled with the results of this analysis, will greatly expand our understanding of Colonial Santa Fe and its relations with nearby pueblos.



## GLASS

Natasha Williamson

A total of 78 glass fragments were recovered from the plaza excavations and rough-sorted into diagnostic and nondiagnostic categories. No “old” glass or “maker’s marks” were present, and no glass was recovered from the Pueblo Revolt stratum. Only a small fraction of the collection was temporally diagnostic (n=5, 6.4 percent). The earliest glass was from Test Pit 2, Level 4. This dated to 1860 (Roenke 1978:5-30). One diagnostic piece, from FS 3, Level 2, EU 2, was in use around 1914. A shard of “black glass” dates to before 1820. The remainder of the glass that could be identified (and was not modern) dates to the 1930s.



## MAJOLICA AND OTHER EUROPEAN CERAMIC TYPES

Matthew J. Barbour, Philip R. Alldritt, and Stephen C. Lentz

A total of 86 European ceramics were recovered during the Santa Fe Plaza excavations (Fig. 28; Table 18). Of the deposits encountered, the layer corresponding to the Pueblo Revolt period was relatively undisturbed. European artifacts in this layer (Levels 4-5, EU 2; Stratum 5; and Feature 3) included ceramic, lithic, historic, diagnostic, undifferentiated majolica, and other Euroamerican ceramic types.

Diagnostic majolica associated with this stratum include Puebla Polychrome, San Luis Polychrome, and Puebla Blue Polychrome. The remainder could not be identified to a specific type and were classified as undifferentiated. Typical dates for the diagnostic majolica are Puebla Polychrome, A.D. 1598-1725 (Snow 1965); San Luis Polychrome, A.D. 1660-1720 (Goggin 1964); Puebla Blue-on-white, A.D. 1700-1850 (Goggin 1968); and Mexico City Green-on-cream, A.D. 1600-1650 (Deagan 1987).

Puaray Blue-on-white majolica (FS 72, Fig. 28) dates to A.D. 1650-1700. (This type is often confused with a Southwestern glazeware, Puaray Glaze Polychrome, which dates to A.D. 1550-1650). In Puebla, a long series of blue-and-white pottery designs, comprising what some authors refer to as the "Puebla tradition," can be documented from the seventeenth to the eighteenth century. This series includes such types as Puebla Blue-on-white, Castillo Blue-on-white, Huejotzingo, and San Elizario Polychrome. Puaray Polychrome is a blue and black polychrome, with oriental-inspired floral motifs painted in two colors of cobalt blue and sometimes accentuated in black. Puaray Polychrome and Castillo Polychrome are found in small quantities in Florida and the Caribbean, and date in the Southwest to the final quarter of the seventeenth century. Some researchers believe that it should actually be included in the Castillo Polychrome type designation (Deagan 1987:79-82).

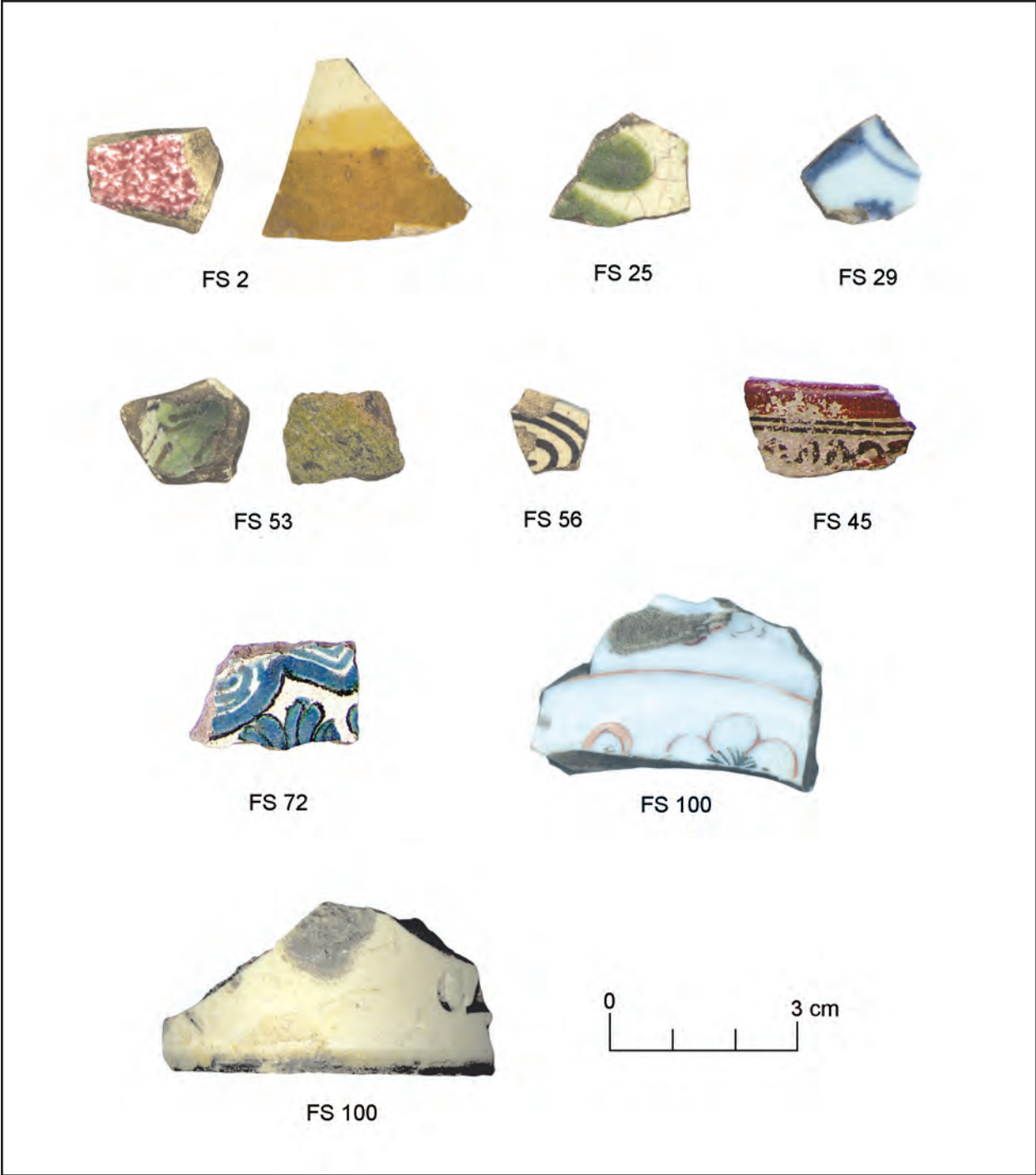
The Pueblo revolt occurred in August 1680 (see Culture History). Temporal intervals associated with the major diagnostic types for the seventeenth-century level are generally consistent with those given for the majolica. Specific types recovered from undisturbed contexts reflect the kind of associations expected from that period. No European ceramics were recovered from Feature 3, which was well dated at  $1660 \pm 60$  (BETA 191736). Olive jars, of which there are three, have a broad tempo-

ral range, A.D. 1598-1800. The same can be said of the two pieces of Guadalajara Polychrome (FS 45, Fig. 28), a Mexican vessel style manufactured in Tonalá, which dates to A.D. 1650-1800 (Deagan 1987).

The small size of the European ceramic assemblage precludes making any substantive conclusions concerning early Colonial lifestyles. However, for the period spanning the Pueblo Revolt, a convincing cross section of European ceramic types is represented, one that would certainly have existed at that time, and which is supported by a sound radiocarbon date. Asian porcelain, imported into the New World and shipped up the Camino Real to the remote outpost of Santa Fe, may have graced the table of the governor himself. Majolica, manufactured in the thriving ceramic workshops of Puebla and Mexico City, was expensive and probably used only by the wealthy inhabitants of the Palace. More prosaic items such as olive jar and the various Mexican lead glaze and carbon painted wares were undoubtedly used for day-to-day functions like storage. The relatively high proportion of majolica suggests use by high-status colonists such as those occupying the Palace.

The appearance of white and pearl wares (post-1779) in the Pueblo Revolt stratum (FS 25) is probably due to their origin in a mixed level (Level 4), which apparently contained late 1600s materials in the lower half and artifacts from a later time towards the top. This change occurred as a new wave of European immigrants began to descend into New Mexico and is represented by the wide array of ceramics from various cultures found on the 1880s plaza surface. Eastern United States and English wares, such as stonewares, white wares, and pearl wares, would later come to supplement the majolica from Mexico with the opening of the Santa Fe Trail in 1821, and even more abundantly with the coming of the railroad into New Mexico Territory.

In post-Colonial times, there seems to have been a breakdown of Spanish commercial hegemony, reflected in the influx of items from the growing American manufacturing industry. With the opening of the Santa Fe Trail in the early nineteenth century, Spanish vessels are replaced with Anglo-made white wares and stonewares. Territorial rule and the arrival of the railroads broke Mexico's monopoly on the New Mexican economy, giving way to a more flexible free market system.



*Figure 28. Majolica and other European ceramics. Top row: white ware, stoneware, Mexico City Green-on-cream, Asian porcelain. Second row: San Luis Polychrome, olive jar, Puebla Polychrome, Guadalajara Polychrome. Third row: Puaray Blue-on-white, stoneware. Bottom: stoneware jar.*

**Table 18. Majolica and other European ceramics**

FS No.	Unidentified	Porcelain (Asian)	Mexican Lead Glaze	Stoneware	Majolica	Olive Jar	Pearl Ware	Guadalajara Polychrome	White Ware	Total
2	-	-	-	1	-	-	1	-	-	2
5	-	-	-	-	-	-	1	-	-	1
7	1	-	-	-	-	-	-	-	4	5
10	-	-	-	-	-	-	-	-	2	2
16	-	-	-	-	1 Puebla Polychrome	-	-	-	1	2
17	-	-	-	1	-	-	-	-	-	1
18	-	-	-	-	2 undifferentiated	-	-	-	-	2
20	-	-	-	8	-	-	-	-	-	8
21	-	-	-	-	1 undifferentiated	-	-	-	-	1
25	8	-	-	-	1 Mexico City green-on-cream 6 Puebla Polychrome	-	6	1	1	23
27	-	-	-	-	-	-	-	-	1	1
29	-	2	-	-	-	-	-	-	-	2
32	-	-	-	1	-	-	-	-	-	1
38	-	-	-	-	1 undifferentiated	-	-	-	-	1
40	-	-	-	-	1 undifferentiated	-	-	-	-	1
41	-	-	-	-	1 undifferentiated	-	-	-	-	1
43	-	-	-	-	1 Puebla Polychrome	-	-	-	-	1
45	-	-	-	-	-	-	-	1	-	1
46	-	-	-	-	1 undifferentiated	-	-	-	-	1
48	-	-	-	1	-	-	-	-	-	1
51	-	-	-	-	1 undifferentiated	-	-	-	-	1
52	-	-	-	-	1 undifferentiated	-	-	-	-	1
53	-	1	-	-	1 San Luis Polychrome 2 Puebla Polychrome 3 undifferentiated	2	-	-	-	9
55	-	1	-	-	-	1	-	-	-	2
56	-	-	-	-	2 Puebla Blue-on-white 1 Puebla Polychrome 1 Puaray	-	-	-	-	3
72	-	-	1	-	-	-	-	-	1	3
80	-	-	-	-	-	-	-	-	1	1
83	-	-	1	-	-	-	-	-	-	1
84	-	-	-	-	-	-	1	-	1	2
100	-	1	-	3	-	-	-	-	1	5
Total	9	5	2	15	28	3	9	2	13	86

Note: Bold field specimen numbers indicate strata relating to the Pueblo Revolt period.





# METAL ARTIFACTS

Stephen C. Lentz and Natasha Williamson

A total of 247 individual metal artifacts were recovered from the Santa Fe Plaza excavations (Fig. 29; Table 19). Three cultural layers were selected for detailed study. These are primarily related to the Pueblo Revolt (A.D. 1680) level, a portion of which was discovered intact in Level 4, Stratum 5, and Feature 3 (FS Nos. 17, 25, 38, 40, 41, 43, 52, 53, 55, 56, and 72, shown in bold type in Table 19). No metal artifacts were recovered from Feature 3. Several of the more corroded but potentially diagnostic artifacts were soaked in a lightly acidic solution to remove the excess rust and permit more accurate identification.

## ARTIFACTS FROM THE PUEBLO REVOLT

A “medallion” was recovered from EU 3 in a level originally dated to the 1680 period. However, the medallion appears too recent to be from that period. It was manufactured by Royce, a British clothes maker still in existence today. Initially thought to be a Spanish medallion depicting a crest or a coat-of-arms, the item may be a zipper pull (Fig. 29g).

Two musket balls (FS Nos. 25 and 53) were recovered in good context from the 1680 level (EU 2 and Stratum 5). Both items had been fired and had impact damage. One, a .36 caliber ball, had probably been fired from a pistol.

In the functional category, seven hand-forged nails were recovered from various 1680-period levels on the site. These highly corroded items probably came from horseshoes or had been used in carpentry. Also recovered were a rivet, a washer, and the highly corroded snapped tip of a large knife or sword

Also included in these levels were 49 pieces of metal. These were placed in the miscellaneous category because they could not be positively identified.

## OTHER ARTIFACTS

From a later (possibly a Civil War or post-railroad era context; Stratum 2, EU 2) a cartridge containing gun-

powder was recovered. The “slug” was missing from the top. Although variability within the artifact class did not allow for exact identification, this was tentatively identified as a .50-.55 caliber Smith and Wesson rimfire shell dating to between 1862-65 and 1920. The powder associated with the artifact was very fine, probably of the “smokeless” variety, rather than black powder. These types of bullets were very high caliber and may have been used to hunt buffalo or other large game. Also recovered was an unfired .22 long bullet from EU 14, Level 4. This was a center-fire cartridge. The absence of rings at the top of the shell casing indicate that it was probably manufactured before 1904.

Many nails were found, and an ox shoe with the nail still attached. Ox shoes were made in two separate pieces rather than the traditional horseshoe shape. Oxen have almost no hoof to attach nails to. Horses, which are ungulates, also have a split hoof, but they are shod with a single shoe. Despite the difficulty of attaching the shoe, oxen were evidently shod. They would not have been able to make the long trek from Chihuahua pulling heavy carts without some protection for their hooves.

Other miscellaneous metal items that came from unsecured proveniences or upper levels of the excavation include riveted buttons, rivets, a hook from a “hook and eye” set, a key, and a brass ornament with a wavy design. This artifact, backed by a nail, was probably used to decorate wooden furniture. A sharpened battery core (this identification is tentative) was apparently ground into a point and may have served as a punch.

Of particular significance are the musket balls. As argued below, several skirmishes between Otermín’s troops and the insurgents occurred in the area in front of the entrance to the Casas Reales. According to historical documents (Theisen n.d.:39), such a battle was fought for possession of one of the important ditches providing water to the villa at or near the project area. Musket balls associated with arrow points, gun flints, and the snapped tip of a weapon suggest that some armed conflict occurred at that location.



*Figure 29. Metal artifacts: (a) riveted clasp; (b) button; (c-d) nails; (e) beveled blade; (f) blade; (g) zipper pull; (h-i) two views of brass ornament with nail; (j) rivet; (k) fastener; (l) musket ball; (m) cartridge and gunpowder; (n) pistol ball; (o) sharpened battery core (?); (p) unfired .22 long bullet; (q) brass key; (r) ox shoe.*

**Table 19. Metal artifacts**

FS No.	Blade	Key	Buckle	Button	Cartridge	Hooks and Pins	Brass Tack	Medallion	Musket Ball	Nail	Ox Shoe	Rivet	Washer	Miscellaneous	Total
2	-	-	-	-	-	-	-	-	-	7	-	-	-	11	18
5	-	-	-	-	-	-	-	-	-	2	-	1	-	17	20
6	-	-	-	-	-	-	-	-	-	1	-	-	-	2	3
7	-	-	-	-	-	-	-	-	-	2	-	-	-	1	3
11	-	-	-	-	-	-	-	-	-	2	-	-	-	3	5
15	1	-	-	-	-	-	-	-	-	-	1	-	-	-	2
16	-	-	-	-	-	-	-	-	-	2	-	-	-	1	3
17	-	-	-	-	-	-	-	1	-	2	-	1	-	-	4
18	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
20	-	-	-	-	-	-	-	-	-	4	-	-	-	6	10
23	-	-	-	-	-	-	-	-	-	1	-	-	-	2	3
25	-	-	-	1	1 (.55)	1 (hook)	1	-	1 (.36)	-	-	2	-	13	17
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
27	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2
28	-	-	-	-	-	-	-	-	-	1	-	-	1	-	2
30	1	-	-	-	-	-	-	-	-	2	-	-	-	1	4
31	-	-	-	-	-	-	-	-	-	2	-	-	-	1	3
33	-	-	-	-	-	-	-	-	-	3	-	-	-	-	3
37	-	-	-	-	-	-	-	-	-	2	-	-	-	7	9
38	-	-	-	-	-	-	-	-	-	2	-	-	-	1	3
40	-	-	-	-	-	-	-	-	-	2	-	-	-	1	3
41	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
42	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
43	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
44	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
45	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
46	-	-	-	-	-	-	-	-	-	2	-	-	-	7	9
48	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2
50	-	-	-	-	-	-	-	-	-	9	-	-	-	18	27
52	-	-	-	-	-	-	-	-	-	5	-	-	-	-	5
53	-	-	1	-	-	-	-	-	1 (.36)	13	-	2	-	7	23
55	-	-	-	-	-	1 (cotter)	-	-	-	4	-	-	1	17	22
56	-	-	-	-	-	-	-	-	-	3	-	-	-	6	9
62	-	-	-	-	1 (.22)	-	-	-	-	2	-	-	-	3	5
72	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
76	-	1	-	-	1 (.22)	-	-	-	-	10	-	-	-	11	23
78	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total	2	1	1	1	3	2	1	1	2	93	1	6	2	144	260



## INTERPRETATION AND CONCLUSIONS

Excavation of 29 individual excavation units on the north side of the Santa Fe Plaza revealed intact stratigraphy dating back to the late seventeenth century, the nineteenth century, and the modern era. Perhaps the most significant contribution to the history of Santa Fe was the discovery of intact deposits dating to the Pueblo Revolt period. Another important insight (provided by the artifact analysis) is the degree of cross-cultural influence between Pueblo and Colonial populations. For example, several native ceramic items incorporated European-style floral motifs, which appear to replicate those found on majolica. Another ceramic artifact design depicts concentric circles, which are characteristic of Puebla Polychrome. These Old World design elements on historic period Pueblo pottery strongly illustrate the influence of Spanish culture on the Pueblo ceramic industry. Although it is commonly thought that the Spaniards did not begin to commission European vessel forms from Pueblo potters until after the Reconquest (Harlow 1973; Snow 1965), these vessels were presumably made for and used by the colonists. The assemblage allowed us to document the early comingling of artifact types. As Lewis says, this tendency may represent the use of material culture to reinforce Spanish identity and assert Spanish dominance in the province.

The influence of culture on the early diet is evident in the material remains and their inferred use. The preponderance of olive jars, used to ship olive oil, suggests that corn oil, though available, was apparently not used to an appreciable extent. The corn plant and its by-products may have been looked upon as “too native.” In Europe, until modern times, corn was used principally for animal fodder. To satisfy the Spanish tastes, olive oil had to be imported from Spain. Oil was shipped across the Atlantic Ocean to Veracruz, then transported to Mexico City, from there to Chihuahua, and then up the Camino Real to Santa Fe. Asian China came first from the Pacific Rim to Spain, and then up to New Mexico; majolica from Mexico City and Puebla; and ceramic vessels from Guadalajara. This effort at importation of familiar goods was apparently very important for the early colonists and may have sustained group cohesion by maintaining social identity and material culture. Political and cultural affiliation with Spain, and the devaluation of all that was not related to the Old World, may have been important factors in the survival of the colony. However, using local resources, especially in time of shortages, may have also been crucial to survival. There was probably a sharp contrast between what the common soldier and his family was eating and the daily

fare of the higher ranks. Research during this project vividly depicts the difference between emic information (subjective testimony) and etic information (independently verified data), evident in the contrast between the documentary information and the archaeological data.

The cobble layer encountered in EUs 1 and 2 was originally too deep to interpret, partly because it was only tested with augers, and also because excavating down far enough to expose the layer would have violated OSHA regulations. Due to the uniformity of the elements, the levelness of the surface, and its location directly in front of the Palace entrance, functional possibilities included a wall, an irrigation ditch (acequia), a cobble foundation, or a cobble street. However, when permission for the expansion was granted by the HPD, enough of this stratum was exposed to determine whether it was an alluvial channel of unspecified function. It was originally reported as an alluvial channel to the HPD (letter to M. Ensey, February 23, 2004). This was a natural preliminary assumption, based on the proliferation of alluvial (both natural and man-made) features characterizing Santa Fe’s hydrologic profile. For example, La Cienega [sic] Street (*ciénaga* means swamp or marsh) is two blocks east of the plaza, and Water Street (formerly the location of Rio Chiquito) is to the south.

Suborned to General Kearny in 1846 were Captain Barnes and Lieutenant Gilmer. While Barnes began plans to construct Fort Marcy, Gilmer mapped Santa Fe (Fig. 30). When the city was first founded by the Spaniards, water was provided to the plaza and Casas Reales by diverting primary water sources through a system of irrigation ditches. Some of these may have been ditches from earlier Pueblo times. The 1846-47 Gilmer map shows a spring to the east that had been used in Colonial times to channel water to the center of town and irrigate other *terrenos*. The water flowed into the plaza in an unnamed ditch, sometimes called the Plaza Acequia, until at least until 1872, when it was pictured running in front of the James L. Johnson building on the northeast corner of the plaza (Fig. 31).

The account of Benjamin F. Taylor, freshly arrived from the Santa Fe Trail, includes this observation: “A small stream flowing in front of this array (the Public buildings, jail, barracks, Governors Palace and two brass cannons) at a distance of fifty feet, as a sort of Rubicon which a stranger cannot cross with impunity”(Taylor 1847:146). The stream is more properly identified in other accounts as an irrigation ditch or acequia. Supplied by a spring to the northeast, the acequia entered the plaza

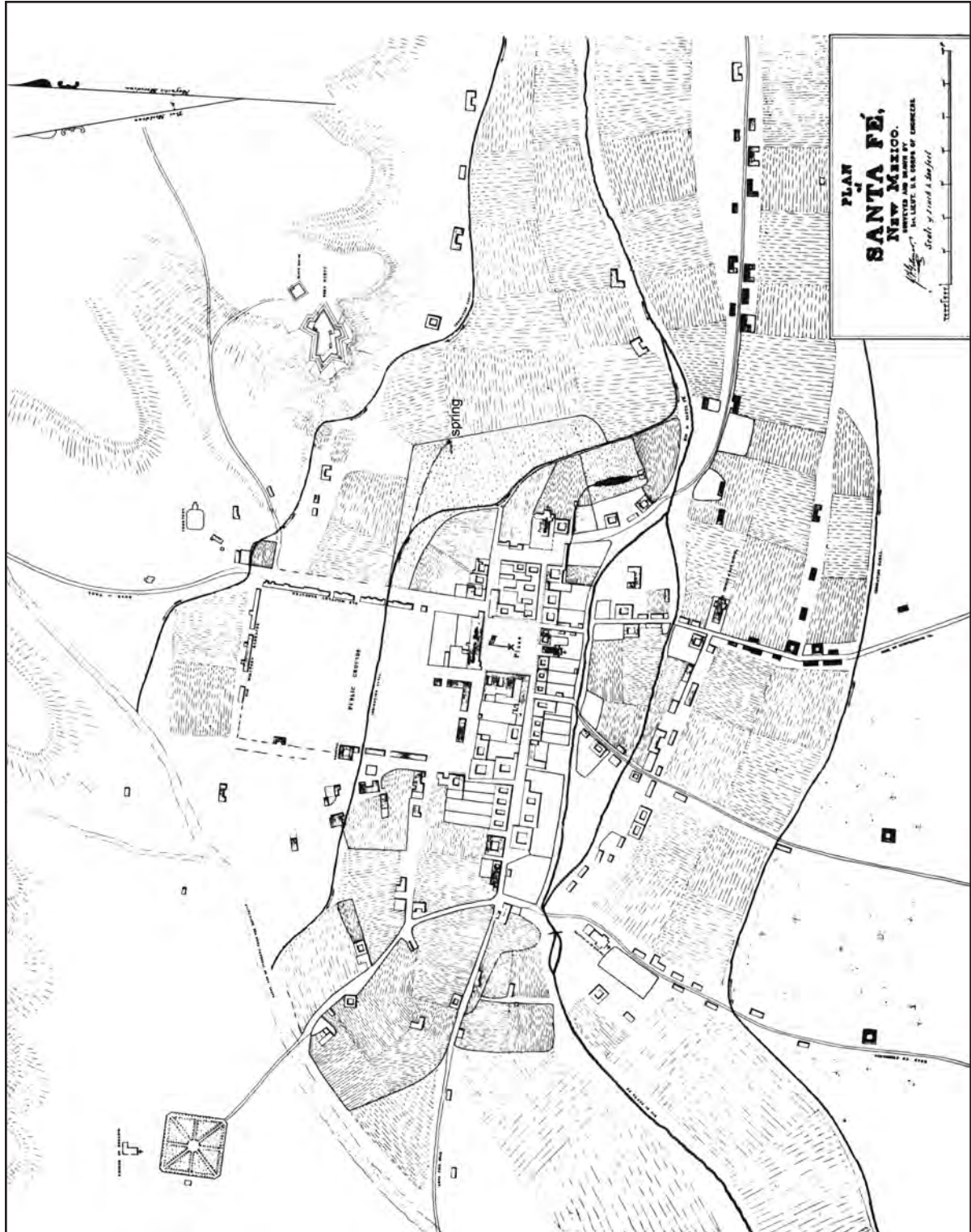


Figure 30. Section of Lt. J. F. Gilmer's map of Santa Fe (1846).



**Figure 31. James L. Johnson building, northeast corner of the plaza, 1872. The Plaza Acequia shows in the foreground. Photographer unknown. Courtesy Museum of New Mexico, Neg. No. 10713.**

at its northeast corner and exited on the northwest. It watered trees on the plaza and properties farther west. This irrigation ditch was improved by Governor Mariano Valdez in 1844.

Many ditches crisscrossed the plaza well into the late nineteenth century, at first to provide water to the Casas Reales, and later, to irrigate trees, flowers, and even corn patches. Apparently, water was provided from several sources. The Acequia Madre (mother ditch or main ditch) ran in the area of present-day Palace Avenue from the *ciénaga* located around the Coronado Building and La Villa Rivera (see the Gilmer map, Fig. 30), westward through the Casas Reales complex. This acequia apparently was the same that the Pueblos had cut off from the Spaniards ensconced in the Casas Reales in 1680, and that Vargas's troops cut off from the Pueblos in 1693 (Hordes 1990:14). It is very likely that the alluvial channel encountered during the plaza excavations was the Acequia Madre ditch or one of its major laterals, originating from the *ciénaga* to the east of the plaza. Other acequias may have run into the Palace's northern courtyard. No other linear concentration of cobbles was encountered in any other of the units, and its location and depth closely match not only Taylor's description, but also those of Wilson (1981:21-22) and Otermín himself (see below).

There is some confusion about the name Casas Reales. The most accepted interpretation is that it refers solely to the Palace of the Governors. However, Snow (in Hordes 1990: 9) contends that the term actually refers to the complex of buildings surrounding the plaza. In

Santa Fe, administrative buildings, stables, barracks, and small churches may have been incorporated into a rectangular set of buildings contiguous to the plaza. This complex provided a sort of defensive wall, similar to the later presidio and separating it from the surrounding residential district. However, Governor Don Antonio de Otermín referred to this complex as the *villa*, distinct from the Casas Reales, which, according to him, were the buildings on the north side of the plaza, of which the Palace of the Governors was the principal edifice:

On the next day, Friday [August 16, 1680], the nations of the Taos, Picuries, Jemez and Queres having assembled during the past night, when dawn came, more than 2,500 Indians [undoubtedly an exaggeration] fell upon us in the villa, fortifying and entrenching themselves in all its houses and at the entrances of all the streets and *cutting off our water, which comes through the arroyo and the irrigation canal in front of the casas reales*, they burned the holy temple and many houses in the villa. We had several skirmishes over possession of the water, but, seeing it was impossible to hold even this against them, and almost all the soldiers of the post being already wounded, I endeavored to fortify myself in the casas reales and to make a defense without leaving their walls. *I resolved to make a sally into the plaza of the said casas reales* with all my available force of soldiers, without any protection, to attempt to prevent the fire which the enemy was trying to set. (Letter describing the events of the Pueblo

Revolt of August 1680 to Fray Francisco de Ayeta, in September of 1680 [Theisen n.d. 35-41]; emphasis added)

Since Otermín was able to see the advancing Indians from the Palace as they approached from the Barrio de Analco, on the other side of the Santa Fe River, and the “hermitage of San Miguel,” it is likely that the buildings which now stand between Cathedral Street and Old Santa Fe Trail were probably not there (otherwise, Otermín would not have had such a clear view of the Indians). The 1768 Joseph d’Urrutia map (Fig. 32) shows the beginning of the development of this area. It is probable, as we have stated earlier, that the original plaza extended from the cathedral west to what is now Lincoln Avenue.

Several important conclusions can be drawn from the combined evidence of archaeological investigation, laboratory analysis, and historical research:

1. Intact deposits related to the period spanning the Pueblo Revolt existed at the gazebo location. This is corroborated, in part, by a radiocarbon date of A.D. 1660 (520 to 290 B.P.; BETA 191736).
2. The linear arrangement of cobbles was in all likelihood the Acequia Madre referred to in the documents. This feature supplied water to the Palace and the villa, and which was cut off, forcing Otermín to abandon Santa Fe. Diego de Vargas cut off the same water supply to the opposing Indians in 1693, forcing them to surrender.
3. Items such as broken arrowheads (both Pueblo and Apache types), impacted musket balls, gunflints, and a broken sword or knife tip suggest a conflict at that location. The Apachean projectile point suggests that (as the historical records indicate) the Pueblo coalition was eventually joined by Plains groups. As suggested above, several skirmishes occurred over possession of the water, and Otermín engaged the Indians by rushing outside of the Palace portal (originally located west of the current main entrance, directly north of the excavations) and fighting in the plaza. It is probable that these engagements occurred along the acequia, which may have marked a line of engagement between the opposing forces.

Otermín’s account draws into question Cordelia Snow’s (1990:9) contention that the conflict actually occurred south of the villa. Her hypothesis is largely based on her interpretation of the name Casas Reales, which she feels means all the buildings surrounding the plaza, and her very reasonable doubts that the north

buildings alone could not shelter “one thousand refugees and several thousand head of cattle”(Snow 1990:9). However, Otermín’s own account (“I resolved to make a sally into the plaza of the said casas reales”) strongly suggests that they were barricaded in the north buildings. It is doubtful that under such circumstances, Otermín would have much tolerance for several thousand head of cattle milling around, and would have concerned himself with the refugees, whose numbers (probably inflated) could have been contained within the confines of the north buildings. However, it would be presumptuous to expect that these questions (How big was the plaza? Is the Palace still in its original location? Where were the Indians, the refugees, and the Spaniards deployed?) can be answered by the limited information from the OAS plaza excavations. Clearly more research is needed.

Insights into the diet of the Spanish garrison were provided by almost all artifact categories. Because of its condition, few conclusions can be drawn from the faunal assemblage recovered from Plaza Revolt levels of the excavations. The distributions of bone and other artifacts (lithic, ceramic, and European) suggest that the deposits were the result of discard from the nearby Palace of the Governors. Inclusions in the stratigraphy indicate that the ash and cinders from stoves and fireplaces were also discarded in the same manner, i.e., thrown out the front door on the south side of the portal. These lenses are fanned out, as if tossed from a receptacle. It is not possible to determine the amount of dumping episodes represented, because some overlap, and others are disturbed.

All animal parts are present, including unusable remains. The bones are severely reduced, and many are unidentifiable. Of those that can be identified, butchering, rendering, cooking, and discard are represented. Thus, no pronounced pattern emerges from the processing, and no one activity characterizes the assemblage. The majority of the cut marks suggest hacking with long knives, hatchets, cleavers, or axes. Given the scarcity of metal, it is possible that even stone tools were put to use for this task, although this could not be determined during analysis. Saws were rare in Colonial times and not used to dismember the animals in this assemblage. A dramatic increase in the supply of metal tools took place with the opening of the Santa Fe Trail and the coming of the railroads. Because of its scarcity, most metal was carefully conserved during Spanish Colonial times. Saws were probably reserved for special tasks, such as building, and not squandered on butchering, particularly when other implements could be just as effective.

Overall, very little native fauna was observed, and none in the Pueblo Revolt stratum, so the diet of the residents may have been relatively monotonous. Post-Reconquest accounts indicate that vendors sold their wares on the west side of the portal, and that meat from





Figure 32. Detail of Joseph d'Urrutia's map of downtown Santa Fe, 1768.

both domestic and native species was sold from butchering stands in the area of the Palace. This market probably resembled the *mercados* of Mexico, where various rural vendors specializing in a one or more products sold their wares in town. It is probable that the deposits investigated during the plaza excavations probably represent a midden associated with the nearby Palace of the Governors. By a large margin, sheep appear to be the dominant component of the Spanish Colonial diet. Ceramic vessels indicate that *caldos* (soups or stews) were being consumed. The *churro*, a tastier version of mutton, and lamb were heavily favored for their meat. However, chickens, pigs, or eggs are not represented. Charred corn is present, but wheat is not. The Spaniards professed to eat only meat, bread, and wine (Hammond and Rey 1953), but bread ovens have rarely been documented, and the source of dietary carbohydrates during the colony's tenure in Santa Fe has not been documented. Toll's (Appendix 1) findings suggest that Feature 3 contains a very low density of materials representing household or kitchen debris. These data are consistent with previous studies from the downtown historic district. It appears that corn was being consumed by someone in the Palace, but whether they were Spanish or local is unknown.

Despite the limited data base, archaeological findings from the Santa Fe Plaza provide an interesting glimpse into the culture and lifestyle of the Spanish colonists in Santa Fe at the end of the seventeenth century. During the pre-Revolt and Revolt period levels of the excavation, there occurs an interesting convergence of items coming from far-flung areas of the Spanish

Empire. Even more intriguing is the attachment the colonists may have had to these identity markers. In the early days of Spanish rule, sharp lines were drawn between the conquerors and their subjects, and intermingling was not encouraged. Though tacitly forbidden, contact between the two cultures was inevitable. If discovered, it was usually emphatically denied. After Vargas's Reconquest, this hierarchical system seemed to break down, partially because the Spaniards abandoned their quest for gold and along with it their aristocratic pretensions, and set their sites on large land holdings. The transition from *hidalgos* to *hacenderos* naturally resulted in intermingling with the local population.

The relatively high proportion of majolica recovered from the area in front of the portal suggests that it was used by the occupants of the Palace, giving some indication of their economic status. The presence of expensive dinnerware also supports the argument that the deposits investigated by the OAS originated in the villa.

There is considerable evidence that the materials and features excavated by the OAS date to the Pueblo Revolt and may be associated with the activities related to the siege of the villa in August 1680. After that date, virtually no records exist of pre-Revolt times. As Elliott (1988: 27) laments, one of the greatest losses for historic research was the destruction of the Spanish documentary records in Santa Fe. Only a few scattered pre-Revolt documents are known from archives in Chihuahua, Mexico City, the Vatican, and Spain. Consequently, historical archaeology is one of the few remaining sources of information about early Colonial life in Santa Fe.

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# APPENDIX 1: PLANT MATERIALS FROM SEVENTEENTH-CENTURY DEPOSITS IN THE SANTA FE PLAZA

Mollie S. Toll

Archaeological testing and excavation of LA 80000 for a new performing arts gazebo on the north perimeter of the Santa Fe Plaza revealed deposits dating to the Pueblo Revolt period, ca. A.D. 1680. A trash pit (Feature 3 in EU 15) gained notice as the only intact feature pre-dating the early eighteenth-century Stratum 5, which had been previously encountered in archeological explorations of the plaza. Floral debris and charcoal from the Feature 3 flotation sample are reported here and compared briefly with other archaeobotanical studies from the historic era in downtown Santa Fe.

The soil sample was processed by Tess Fresquez and Pamela McBride (OAS Ethnobotany Lab) using the simplified “bucket” version of flotation (see Bohrer and Adams 1977). All collected soil (2,200 ml) was immersed in a bucket of water. After a 30-40 second interval for settling out of heavy particles, the solution was poured through a fine screen (about 0.35 mm mesh) lined with a square of “chiffon” fabric, catching organic materials floating or in suspension. The fabric was lifted out and laid flat on coarse mesh screen trays, until the recovered material had dried. The sample was sorted using a series of nested geological screens (4.0, 2.0, 1.0, 0.5 mm mesh) and reviewed under a binocular microscope at 7-45x. A sample of 20 pieces of charcoal was identified (10 from the 4 mm screen, and 10 from the 2 mm screen). Each piece was snapped to expose a fresh transverse section and identified at 45x. Low-power, incident-light identification of wood specimens does not often allow species- or even genus-level precision but can provide reliable information useful in distinguishing broad patterns of utilization of a major resource class.

Botanical materials found in the trash pit include a small amount of carbonized corn cob fragments, charcoal, and a single unburned juniper twig (Table A1): a picture of very low-density household or kitchen debris. These data complement previous studies in the Historic District. An earlier plaza study (Toll 1992) focused on charcoal and unburned wood from nineteenth-century contexts. Excavations at the La Fonda parking garage site turned up early Colonial period subsistence and fuel debris in an intact trash pit (Trigg in prep.). Samples from Elena Street, a few kilometers to the west, revealed details of Territorial period wood use and kitchen trash (Toll 1999).

The record of historic floral food items is dominated by cultivated crops (Table A2). Corn is ubiquitous, while the record of bean and squash use is far dimmer, as it is

**Table A1. Flotation results and charcoal identification (FS 67)**

Cultural Remains:	No. / (Weight (g))
corn cupules ( <i>Zea mays</i> )	3
juniper charcoal ( <i>Juniperus</i> sp.)	13 / 0.24 g
fir-type charcoal (cf. <i>Abies</i> )	3 / 0.14 g
piñon charcoal ( <i>Pinus edulis</i> )	4 / 0.27g
Probable Intrusive:	
juniper twig fragment ( <i>Juniperus</i> sp.)	1

in the prehistoric era. Chile and wheat are the most common indicators of Spanish crop introductions in Santa Fe and small towns in the northern Rio Grande Valley (Toll 1989a, 1989b, 1994). Other introduced cultivars previously seen in downtown Santa Fe include melons, legumes, and orchard fruits. Edible wild plants include several weedy annuals (pigweed, goosefoot, purslane, bugseed, groundcherry, wild sunflower), grass seeds, and small amounts of piñon nutshell. Sedge seeds found at La Fonda attest to the *ciénaga* on the immediate north and east of the plaza, noted in documents and archaeological excavations (Ellis 1976). This marshy area (present until the nineteenth century) and Rio Chiquito, which flowed south of the seventeenth-century plaza, would have supported wetland species such as willows, sedges, and grasses.

Though the sample is small, the repeated recurrence of charcoal assemblages, almost exclusively made up of conifer species, is remarkable (Table A3). The single exception, oak found at La Fonda, may be a remnant of the use of this strong wood for hoe and shovel handles and weaving tools, in the face of an early Colonial iron shortage (Trigg in prep.). The prevalence of conifer woods seen in downtown Santa Fe sites is repeated at other historic sites in northern New Mexico, regardless of proximity to other local wood types. Wagons, horses, and burros enabled Spanish and Anglo settlers to obtain coniferous wood, which seems to have been the fuel and construction material of choice. Despite their proximity to river valleys, Spaniards largely ignored riparian woods (cottonwood and willows, as well as hackberry, walnut, and other species) at a sixteenth-century Spanish campsite near Bernalillo, the Torres-Vigil house in Taos, and La Puente/Trujillo sites near Abiquiu (Toll 1989a, 1989b, 1994). The wide gamut of wood types seen

**Table A2. Cultivated food crops at Santa Fe Historic District sites**

Project	Santa Fe Plaza (LA 80000)	La Fonda (LA 54000)	Elena Street (LA 125720)
No. of Flotation Samples	1	8	7
Cultivars Present before Contact			
corn ( <i>Zea mays</i> )	present	present	present
bean ( <i>Phaseolus</i> )		present	present
squash ( <i>Cucurbita</i> )		present	
Cultivars Introduced by Spaniards			
chile ( <i>Capsicum</i> )		present	present
wheat ( <i>Triticum</i> )		present	present
watermelon ( <i>Citrullis</i> )		present	
cantaloupe ( <i>Cucumis</i> )		present	
pea ( <i>Pisum sativa</i> )		present	
lentil ( <i>Lens culinaris</i> )		present	
apricot ( <i>Prunus armenica</i> )		present	
peach ( <i>Prunus persica</i> )		present	

**Table A3. Comparative charcoal composition, Santa Fe Plaza sites and Elena Street (percent by weight)**

Project Site	Plaza Gazebo LA 80000	Plaza LA 80000	La Fonda LA 54000	Elena Street LA 125720
No. (weight in grams)	n=20 (0.65 g)	n=23 (51.0 g)	n=132 (23.31 g)	n=140 (3.41 g)
juniper ( <i>Juniperus</i> )	37%	30%	15%	51%
fir-type (cf. <i>Abies</i> )	22%	63%	-	1%
piñon ( <i>Pinus edulis</i> )	41%	-	72%	39%
ponderosa ( <i>Pinus ponderosa</i> )	-	7%	10% ( <i>Pinus</i> sp.)	4%
undetermined and other conifer	-	-	1%	5%
non-conifers	-	-	2% ( <i>Quercus</i> sp.)	-

repeatedly at Anasazi sites of the central Rio Grande Valley, including a variety of local shrubs, conifers, and riparian woods, is not characteristic of Colonial or Territorial wood-harvesting habits.

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