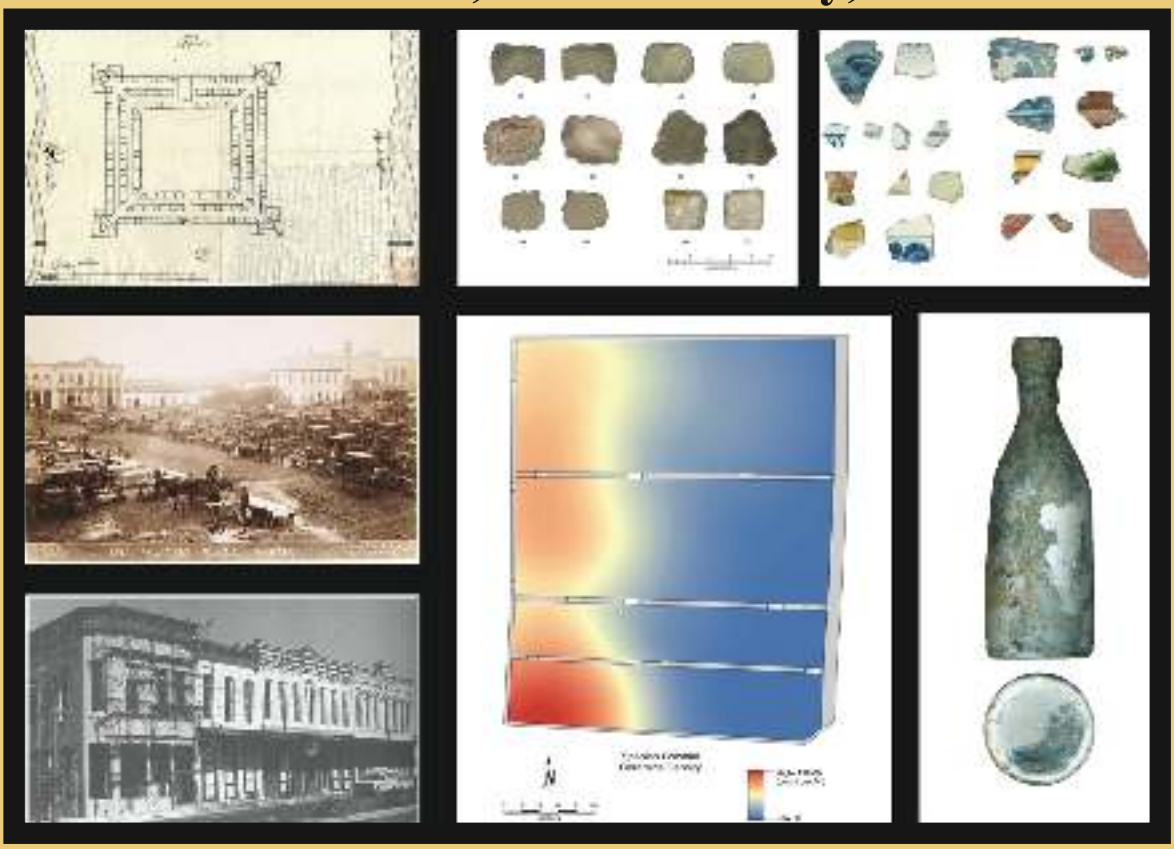
Archaeological Monitoring and Test Excavations at the 1722 Presidio San Antonio de Bexar (Plaza de Armas Buildings), San Antonio, Bexar County, Texas



by

Clinton McKenzie, Lindy Martinez, and Raymond Mauldin

with contributions by

Kristi Nichols, Melissa Eiring, Leonard Kemp
Tamra Walter, Adriana Ziga, and Kelly Harris

Principal Investigator
Raymond Mauldin

Original Principal Investigator
Steve Tomka

Texas Antiquities Permit No. 6526

Prepared for:
Ford, Powell & Carson
Architects and Planners
1138 East Commerce Street
San Antonio, Texas 78205

Prepared by:
Center for Archaeological Research
The University of Texas at San Antonio
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Archaeological Report, No. 445

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Abstract:

From April 2013 to November 2014, the Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA) conducted archaeological monitoring and test excavations at the site of the 1722 Presidio San Antonio de Bexar, also known in the nineteenth and twentieth centuries as the Plaza de Armas Buildings (Vogel Belt Complex) within Military Plaza in San Antonio, Bexar County, Texas. The project was performed for Ford, Powell and Carson, Architects and Planners, Inc. under contract with the City of San Antonio in anticipation of renovations and improvements to the Plaza de Armas Buildings (Vogel Belt Complex) to serve as offices and studios for the City of San Antonio. The complex is listed as contributing to the Main and Military Plaza National Register of Historic Places District, with the buildings listed individually on the National Register of Historic Places (NRHP). In addition to the above, the property is owned by the City of San Antonio. Compliance with the Antiquities Code of Texas was required. As such, the State Antiquities Code and Chapter 35 of the San Antonio Local Government Code that require coordination with the City Office of Historic Preservation and the Texas Historical Commission Divisions of Archaeology and Architecture govern the undertakings. CAR, therefore, conducted the work under Texas Antiquities Committee Permit No. 6526. Dr. Steve A. Tomka served as the Principal Investigator for the majority of the fieldwork, the initial analysis, and the description of materials collected. Kristi Nichols served as the Project Archaeologist during this initial monitoring and testing, assisted by Lindy Martinez. Both Dr. Tomka and Ms. Nichols left UTSA in 2014, and Dr. Raymond Mauldin assumed the Principal Investigator role for the project. Clinton McKenzie and Leonard Kemp were the Project Archaeologists for the final phases of monitoring, as well as for assembling the final report. Leonard Kemp oversaw additional test excavation. Trinomial 41BX2088 was assigned to the location.

Principal activities during the project included monitoring trenches on the complex's exterior, monitoring soil removal in sections of the interior, and hand excavations of a series of units in the basement. These basement excavations produced a variety of materials. CAR staff documented eight features, including several trash pits, recovered a variety of Spanish Colonial, Native American, and European/English ceramics, along with faunal material, chipped stone tools and debitage, and construction related items. It was concluded that much of this material was intact, and that additional features and midden deposits are present. The project provides direct evidence of materials associated with the Presidio de Bexar, built by the Spanish at this general location in 1722, as well as occupation in this area through the early twentieth century. CAR recommends that prior to any impacts in the basements, or any external impacts greater than 2.0 m in depth at the rear of the Plaza de Armas Buildings (Vogel Belt Complex), a comprehensive, systematic effort to recover significant data be initiated.

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Acknowledgements:

The authors appreciate the help of the many people involved in this project. Ford, Powell and Carson working on behalf of the City of San Antonio was the project sponsor. As always, they were extremely supportive of our efforts. Special thanks to Allison Chambers of Ford, Powell and Carson for all her assistance on the project. Byrne Construction Services performed construction management and coordinated on-site to allow CAR to perform its scope of services. Thanks to Larry Davenport and Devin Fitzpatrick for their assistance and direction on the project. Thanks also to City of San Antonio City Archaeologist Kay Hindes and to Mark Denton of the Archaeology Division of the Texas Historical Commission (THC) who oversaw compliance responsibilities throughout the course of the project. Kay Hindes also provided useful comments on the initial draft, as well as several critical photographs and documents that greatly improved the manuscript. CAR director Dr. Shawn Marceaux provided comments and editorial assistance on the report.

Thanks to Lynn Wack and Alexandria Wadley who performed monitoring duties early on in the project. Crew Chief Lindy Martinez, under the direction of Kristi Nichols, oversaw much of the fieldwork, as well as monitored day-to-day operations. Thanks to the crew, Preston Beecher, Justin Blomquist, Colt Dresser, Antonia Figueroa, Ashley Jones, Mark Luzmoor, Alex McBride, Tyrone Tatum, Alexandria Wadley, and Sarah Wigley for completing the primary field work. Thanks also to Leonard Kemp, Lindy Martinez, and Clinton McKenzie for the final phases of monitoring and excavation in the fall of 2014. Melissa Eiring, Lab Director at CAR, processed the artifacts and documentation generated during the course of the project, and she oversaw the curation preparation. Rick Young, Leonard Kemp, and Raymond Mauldin produced many of the figures for the report. Kelly Harris edited and produced the final report. Dr. Steve Tomka served as the initial Principal Investigator and offered guidance and support during the field project. Dr. Raymond Mauldin served as the final Principal Investigator on the project and oversaw the analysis, writing, and production of the final report.

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Chapter 1: Introduction and Project History

by Lindy Martinez, Clinton McKenzie, and Raymond Mauldin

The Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA) was contracted by Ford, Powell and Carson (FPC), acting under contract to the City of San Antonio, to provide archaeological services associated with the renovation of the historic Plaza de Armas Buildings, also known as the Vogel Belt Complex. For the remainder of the document, we will use the Plaza de Armas Building unless it is necessary to indicate the Vogel Belt Complex. The nineteenth-century buildings sit directly on top of the second site of the Presidio San Antonio de Bexar, built in 1722. The original permit for archaeological monitoring of construction activities conducted both outside and inside the Plaza de Armas Buildings were amended to include testing when monitoring of construction within the buildings' basements encountered a gray silty clay deposit in several areas that contained cultural material, including large amounts of animal bone and historic artifacts. Some of the historic artifacts dated to the eighteenth century. In light of these discoveries, the Texas Historical Commission (THC) and the City of San Antonio Office of Historic Preservation required that test excavations be conducted in addition to the monitoring. This report summarizes the results of the excavations and monitoring activities at the Plaza de Armas Buildings.

The Plaza de Armas Buildings are located at 115 Plaza de Armas in San Antonio, Bexar County, Texas (Figure 1-1). The complex is bounded by the Spanish Governor's Palace on the north, Dolorosa Street on the south, Calder Alley/San Pedro Creek on the west, and Military Plaza on the east. The Plaza de Armas Buildings comprise several historic structures within the Main and Military Plazas National Register District (NRD). Several of the structures were constructed in the 1870s, and they were erected on top of Spanish Colonial deposits. The complex is listed as contributing to the National

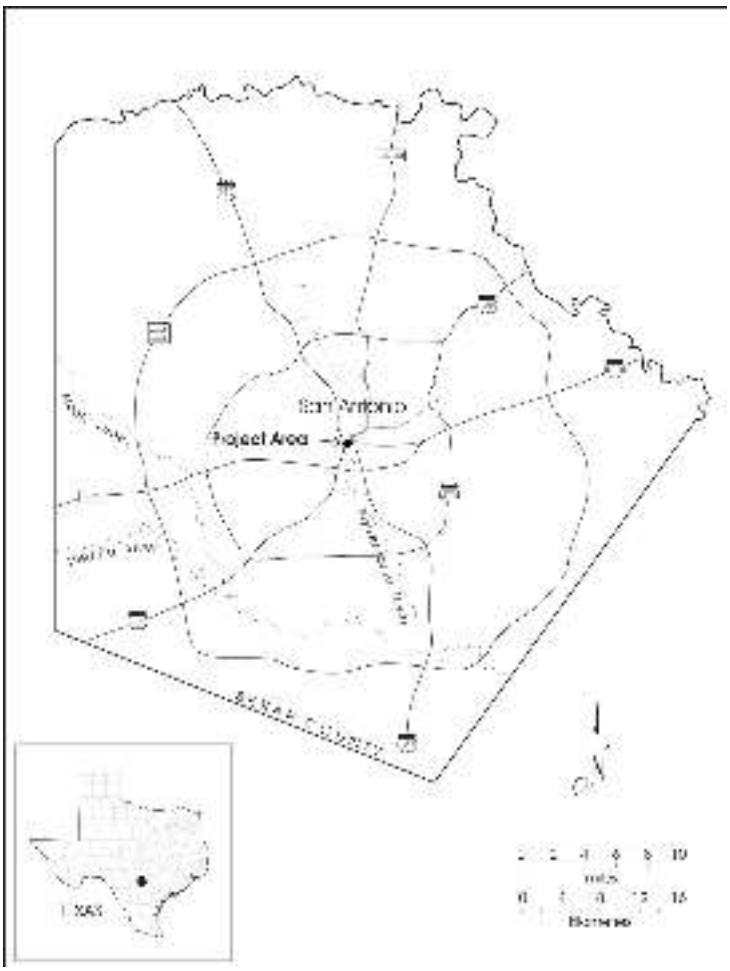

Figure 1-1. The project location within Bexar County.

Register of Historic Places District, with the buildings individually listed on the National Register of Historic Places (NRHP). In addition, the property is owned by the City of San Antonio. Compliance with the Antiquities Code of Texas was required. As such, the State Antiquities Code and Chapter 35 of the San Antonio Local Government Code govern these undertakings. These codes require coordination with the City Office of Historic Preservation and the Texas Historical Commission Divisions of both Archaeology and Architecture.

The work summarized in this report was conducted under Texas Antiquities Committee (TAC) Permit No. 6526. Dr. Steve Tomka served as the Principal Investigator for most of the fieldwork and the initial report preparation. Kristi Nichols oversaw much of the fieldwork, assisted by Lindy Martinez. Both Dr. Tomka and Ms. Nichols left CAR-UTSA in early 2014. At the time, limited monitoring and testing remained to be completed at the site. Following Dr. Tomka's departure, Dr. Raymond Mauldin took over the Principal Investigator role on TAC Permit No. 6526. Clinton McKenzie and Leonard Kemp acted as the Project Archaeologists for the remaining fieldwork, with McKenzie, Martinez, and Mauldin being the primary individuals who conducted the analysis, wrote, and compiled this report.

The area of potential affect (APE) for the current project includes the interior of all four of the inter-connected buildings within the Plaza de Armas Buildings (Figure 1-2). Building 5, shown in Figure 1-2, is a recent addition and not part of the original complex. In addition, the small tan building in the figure was a recent addition and functioned as a dry cleaner; however, this building was demolished in 2013. The APE also includes the area between San Pedro Creek and the west facade of the Plaza de Armas Buildings, including all of Calder Alley (Figure 1-3).

Project History

CAR's first visit to the site occurred in April of 2013 to monitor the drilling of two geotechnical boreholes by Terracon. These were done to assess the subsurface deposits both for structural integrity and for content, including the presence of cultural material. Monitoring of backhoe trenches and associated construction excavations within the basements began in August of 2013. As discussed in Chapter 7, these excavations were related to the installation of utilities, sump pumps, an elevator shaft, and other building improvements. Hand excavations by the construction crew were monitored by CAR. During monitoring of the hand excavations in

Figure 1-2. 3-D Model of the Plaza de Armas Buildings (Vogel Belt Complex), with interior buildings identified. View to the northeast. Image from Google Earth (2014).

Figure 1-3. Aerial photo of the Project Area, with the APE highlighted in yellow. Image from Google Earth (2014).

Building 2, CAR monitors observed Colonial artifacts in excavation back dirt. City Archaeologist Kay Hindes arrived on site and determined that further coordination would be needed with the THC due to the presence of potentially intact historic deposits, in particular, artifacts relating to the Spanish Colonial period. The THC, in consultation with the City of San Antonio's Office of Historic Preservation, then required CAR to amend their monitoring permit to conduct testing in addition to the monitoring activities. Some level of controlled testing, trenching, or augering was ultimately conducted in all four main buildings, as well as outside the building to the west in Calder's Alley (see Figure 1-3). Much of this work occurred during August, September, and October of 2013, with additional excavations associated with a City Public Service Energy electrical vault occurring in March of 2014, and additional monitoring and excavation work in September and October of 2014.

Laboratory processing was ongoing during the primary fieldwork months, and artifact analysis began in the late fall of 2013 and continued into early 2014. Following the completion of the fieldwork in late 2014, the analysis was completed, and the report production and curation were initiated in 2015. Trinomial 41BX2088 was assigned to the site.

Project Results

The project documented and sampled deposits containing Spanish Colonial material relating to the 1722 Presidio San Antonio de Bexar and later Colonial and post-Colonial occupations. A large colonial-age sheet midden deposit is present in the western third of the basements in all four of the Plaza de Armas Buildings, and the midden likely extends towards San Pedro Creek to the west. We suggest that this midden is likely to be at depths below 2 m. Large quantities of Colonial and post-Colonial age artifacts, including bone, pottery, chipped stone, other lithics, metal, and glass are present in this sheet midden, as well as in features intruded into that midden. Native American ceramics, as well as several Archaic point types, are also present. Statistical analysis of association demonstrates a strong, significant relationship between the densities of various classes of artifact types across excavation levels. Spanish Colonial ceramics, historic Native American ceramics, bone, and chipped stone are associated, while a second group is formed by European/English ceramics, metal, and glass. There is also strong vertical and horizontal patterning in these artifact groups. CAR documented eight features, including Colonial and post-Colonial age trash pits, and what is thought to be,

based on stratigraphic location and association of ceramics, is a Colonial age burned rock scatter, all of which were dug at various points into the sheet midden. Additional features are likely to be present as only a small fraction of the basements was sampled. We also demonstrate an association between the levels from which several features were excavated and artifact concentrations, and there is data to suggest that within the Spanish Colonial deposits additional fine grain distinctions can be made based on depth.

It is likely, given our results, that sections of these deposits have a high probability of being intact. Material remains recovered document a wide variety of Spanish Colonial ceramics, including several types that date prior to AD 1725. As such, they are likely to contain data significant to understanding the earliest history of San Antonio and of the State of Texas.

Report Overview

This report consists of fourteen chapters. The following chapter provides an introduction to the natural setting, while Chapter 3 presents an introduction to the history of the region. Chapter 4 provides a detailed historical account of San Antonio in general and the Project Area in particular. Chapter 5 reviews the previous archaeology conducted in the immediate area of the APE, while Chapter 6 presents the field and laboratory methods used on the project. Chapter 7 summarizes the results of the monitoring and test excavations, while Chapter 8 provides details of the ceramic assemblages. Chapter 9 discusses bricks, nails, other metal, and glass, and Chapter 10 provides a summary of the lithic materials, including chipped stone, ground stone, and burned rock. Chapter 11 summarizes the faunal material. Chapter 12 provides a discussion of the vertical and horizontal distribution of artifacts and explores associations between artifact types. Chapter 13 summarizes occupation patterns and presents a model of site formation. The final chapter provides a brief summary and presents recommendations.

Five appendices support the report. As noted above, the project was conducted over multiple months, with various combinations of Project Archaeologists, Principal Investigators, and field crew. As such, the alpha-numeric trench, shovel test, and auger/borehole numbering system, which was originally designed to record a small number of observations, became excessively cumbersome as excavation progressed. Following the completion of fieldwork, and primarily to facilitate presentation of the results, a decision was made to renumber units. New unit designations are used throughout this report. Appendix A presents reference tables listing new and old unit designations to facilitate researchers who may want to use the original data on file at CAR at some point in the future. Copies of this appendix is also curated with the collections, as well as stored electronically, in the project archives. Appendix B provides detailed descriptions of ceramic types discussed primarily in Chapter 8. Finally, Appendix C presents details on chipped stone discussed primarily in Chapter 10. Appendix D presents a newly translated inventory of goods that existed at Presidio San Antonio de Bexar in San Antonio in 1760. Appendix E, another recently translated document, presents a list of soldiers and their weapons before their departure from San Luis Potosi to Presidio San Antonio de Bexar in 1759. Both of these documents provide details regarding the amount and types of materials present at Presidio San Antonio de Bexar.

Chapter 2: Natural Setting

by Raymond Mauldin

This chapter provides a summary of the natural setting for the project. Included is a short discussion of climate, hydrology, and natural resources available within the region. As no significant quantities of prehistoric materials were recovered, the focus of the chapter is on modern and historic patterns.

Climate

San Antonio climate is characterized by hot, humid summers and cool, dry winters (Taylor et al. 1991). Average annual temperature from 1961 through 1990 was 79.5 ºF. July (95.0 ºF) and August (95.3 ºF) are the warmest months, with December (63.5 ºF) and January (60.8 ºF) having the coolest monthly temperatures (Bomar 1999:222). The growing season averages 275 days a year (Taylor et al. 1991:119).

Precipitation tends to be bimodal, with peaks in May (4.22 in.) and September (3.41 in.). December (1.51 in.) and January (1.71 in.) are, on average, the driest months. The average yearly rainfall from 1961 through 1990 was 30.98 in. (Bomar 1999:230). However, this average value obscures significant variability. This can be seen in Figure 2-1 that shows annual rainfall totals for 138 years from 1871 through 2012 (National Oceanic and Atmospheric Administration [NOAA] 2013). Three years (1876, 1883, and 1884) are missing and estimated on the graph. There is extreme year-to-year variability, with dry years or periods, such as 1917 with only 10.11 in. of rainfall or the multi-year drought in the 1950s, followed shortly by extreme wet years, such as 1919 and 1957 (Figure 2-1). The variability is related to the location of the city. San Antonio is 225 km from the Gulf of Mexico, and tropical storms and hurricane related rainfall events occasionally inundate the city. Flooding during these events is common (see Ellsworth 1923; Miller 2012). Conversely, the latitude of the city, at 29.5°, is commonly associated with deserts at a global scale. Global circulation patterns result in persistent high-pressure systems at this latitude that block or deflect storms, resulting in periods of low rainfall (Wallen 1966:31-33) and frequent regional droughts (see Bomar 1999:153-159).

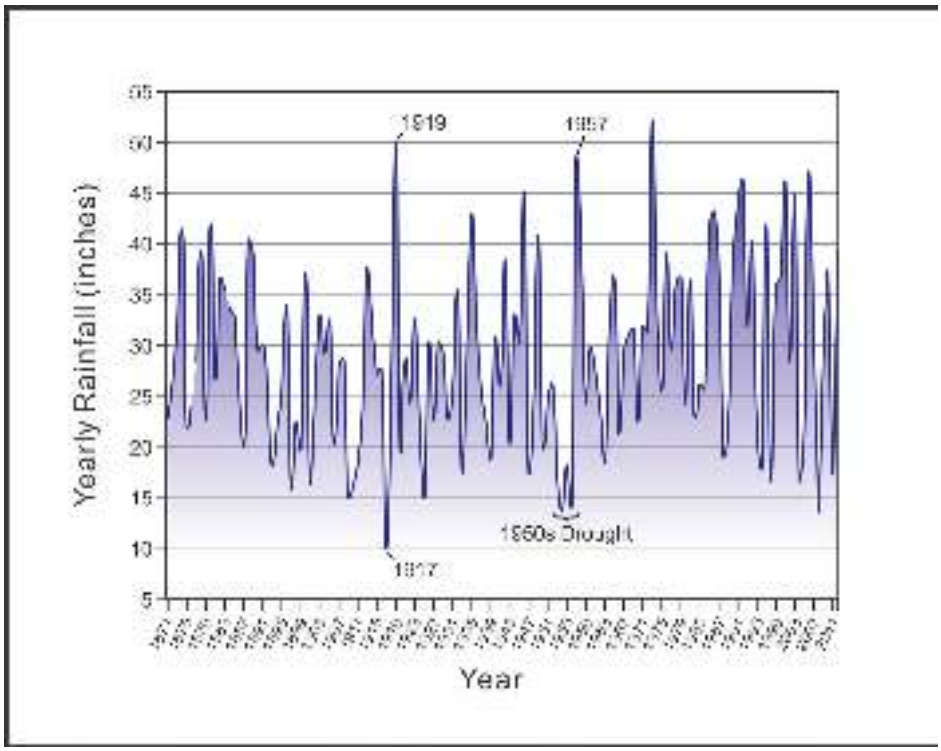

Figure 2-1. Annual precipitation in San Antonio, 1871-2011 (1876, 1883, and 1884 are estimated). After Mauldin et al. (2015).

No instrument data are available prior to 1871. However, the extreme variability seen in the modern record is shown in precipitation estimates derived from tree-ring data (see Cleaveland et al. 2011; Cook and Krusic 2004; Mauldin 2003). Figures 2-2 and 2-3 show tree-ring based values of the Palmer Drought Severity Index (PDSI). The index is a relative measure of soil moisture calculated from rainfall, temperature, transpiration, potential evaporation, soil type, and runoff values (Alley 1984; Karl 1986) for the San Antonio area from 1899 back to 1800 (Figure 2-2) and from 1799 back to 1700 (Figure 2-3). PDSI values greater than 1 are associated with higher soil moisture, values between 1 and -1 are considered normal years, and PDSI values less than -1 are associated with lower soil moisture (see Alley 1984; Cleaveland et al. 2011; Cook et al. 1999; Karl 1986). As with the modern instrument data, there is significant variability. High moisture dominates between 1865 and 1885 (Figure 2-2), as well as several early periods, including the period during which San Antonio de Bexar was founded (1718; Figure 2-3). Multi-year droughts are present

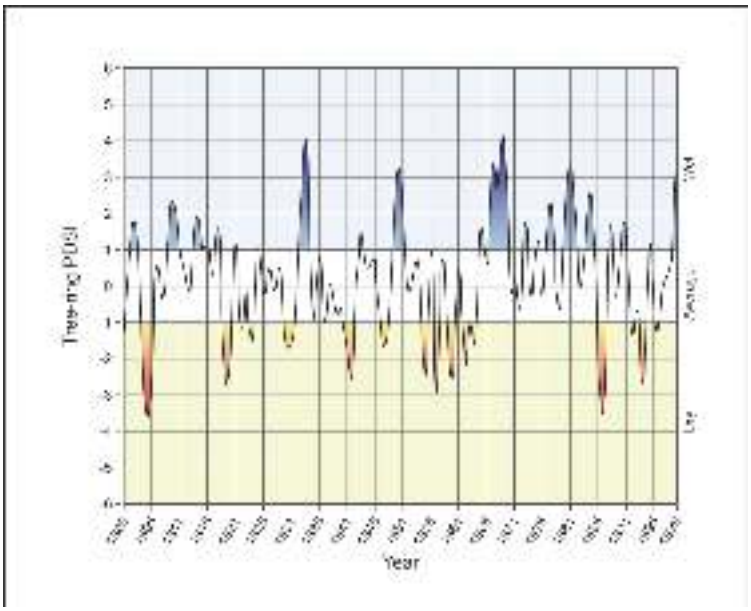

Figure 2-2. Tree-ring based PDSI values for San Antonio Region, 1800-1899. After Mauldin (2003).

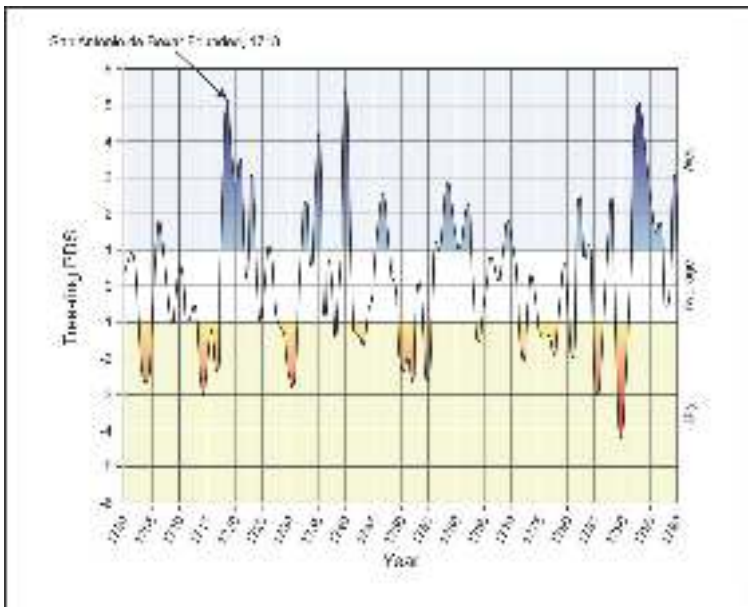

Figure 2-3. Tree-ring based PDSI values for San Antonio Region, 1700-1799. After Mauldin (2003).

at several points, with certain periods, such as 1772 through the early 1790s (Figure 2-3) and 1819 through 1864 (Figure 2-2), that are characterized by periods of low moisture.

Periods of prolonged wet or dry years, as well as year-to-year variability, affected historic populations in the region in multiple ways. The immediate impact, especially in drought conditions, was on water availability in springs and rivers, with indirect impacts on plant and animal production. As discussed in the following section, the impacts of drought conditions on the San Antonio area were buffered, to some degree, because of the local geology and hydrology. Spring-fed rivers, such as San Pedro Creek and the San Antonio River, are outlets for rainfall that percolates through the limestone-dominated uplands that form the Edwards Plateau to the north. As such, the flow rates at these springs are controlled by regional rainfall patterns, rather than more variable local events. The springs, in effect, buffer localized precipitation differences. Prolonged regional droughts, such as that of the early 1950s (see Figure 2-1), one of the well-

documented and more severe dry periods in Central Texas (Bomar 1999; Cleaveland et al. 2011; Porter 2011), clearly affected spring flow rates throughout the region (see Mauldin 2003). However, this impact was after historic and modern land use practices, including widespread pumping of water from the aquifer, had been in effect for decades (see Porter 2011). These practices likely reduced water storage and made the aquifer system increasingly vulnerable to extreme droughts.

Geology, Hydrology, and Soils

The project is in downtown San Antonio in central Bexar County. Figure 2-4 shows a simplified map of the geology of Bexar County, with the Project Area identified. The project location is within Quaternary period fluvial deposits characterized by limestone and dolomite gravel. To the east are Tertiary period Uvalde Gravel (Qtu), while Upper Cretaceous age chalks and marls, including Austin Chalk (Kau) and Pecan Gap Chalk (Kpg), are to the north (Barnes 1983).

Sellards (1919) provides an early description of the geology for Bexar County. He includes a discussion of the impacts of geological exposures on a number of local endeavors at the beginning of the twentieth century, including cement production, building brick production, lime production, and limestone and sediment quarrying activities (Sellards 1919:108-121). The principal geologically related resource, however, was water (Sellards 1919:97-105) associated with the Edwards Plateau, a limestone-dominated deposit produced by tectonic uplift that is to the north of the Project Area (see Figure 2-4; U.S. Geological Survey 2014a, b). This karst upland landform is the basis of the Edwards Aquifer (Otero 2007; Woodruff and Abbott 1986). Rainfall on the plateau flows into the aquifer, with outflows eventually occurring at several springs. As shown in Figure 2-5, the principal springs associated with the Edwards Aquifer are San Marcos Springs, along the San Marcos River, Comal Springs along the Guadalupe River, and San Pedro Springs that forms the headwaters of San Pedro Creek (Otero 2007), which is located on the western edge of the current Project Area. These springs are located along the eastern edge of the artesian zone, as the Edwards Aquifer slopes in that direction (Figure 2-5). The springs have provided a consistent source of high quality water for the region (see Woodruff and Abbott 1986).

Figure 2-6 shows the distribution of soils in the Project Area. These are clay-dominated soils associated with stream terraces and flood plains. All are described as very deep,

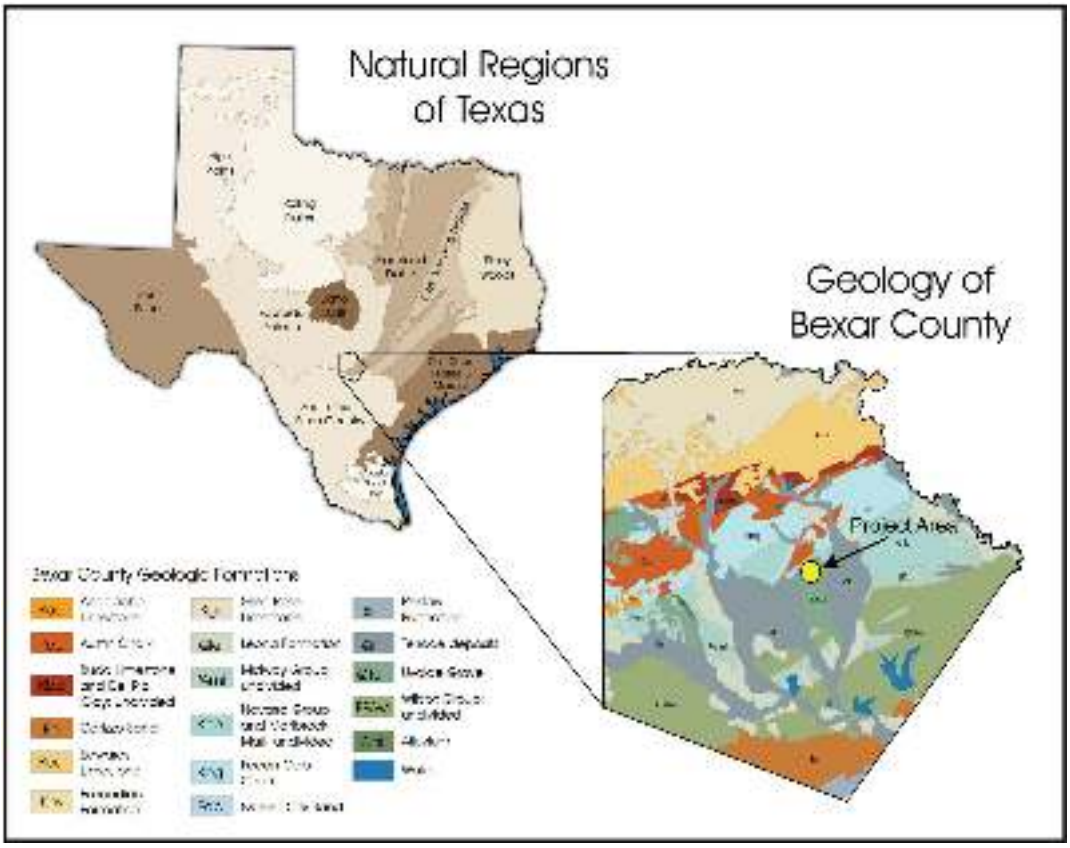

Figure 2-4. Natural Regions of Texas and Geology of Bexar County. After Mauldin et al. (2015; see also Sellards 1919).

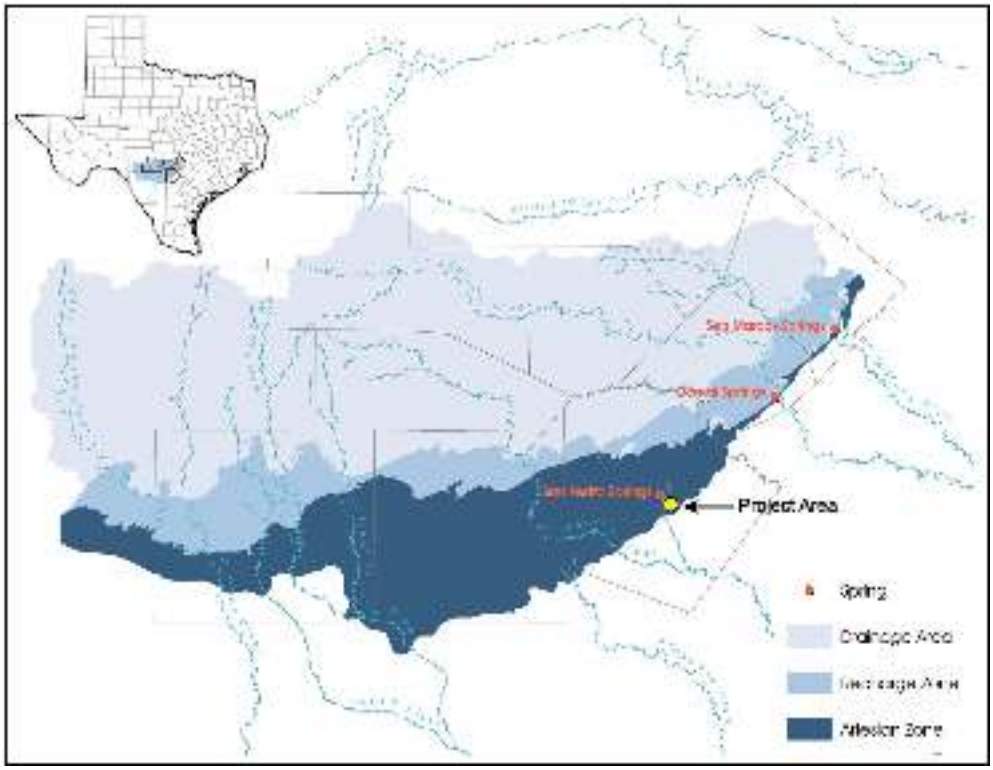

Figure 2-5. Edwards Aquifer with major divisions, springs, and associated rivers. After Eckhardt (2014) and Mauldin et al. (2015).

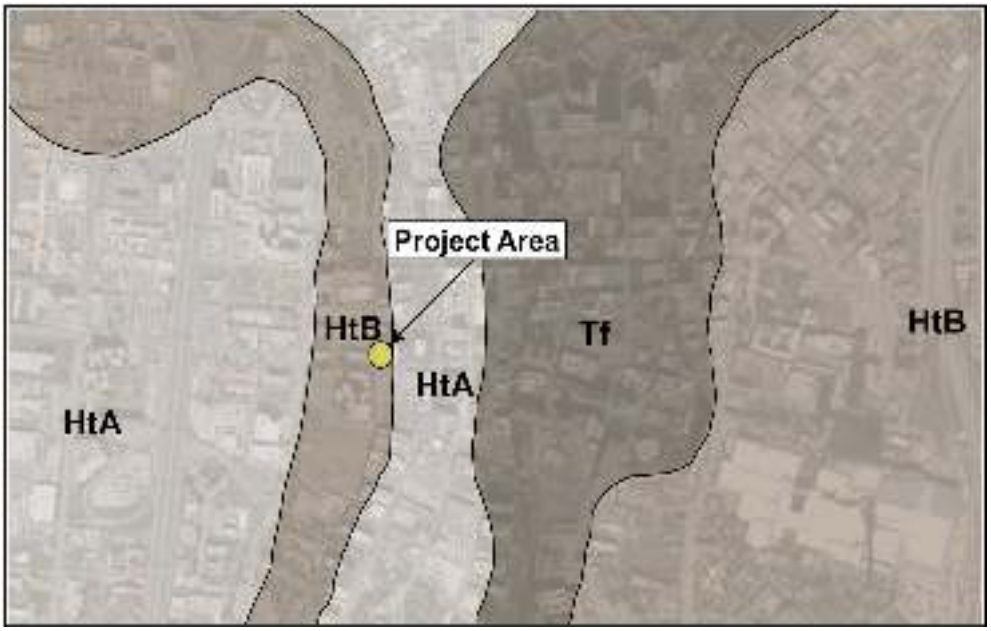

Figure 2-6. Soils in the Project Area. Soils from UC Davis Soil Lab (2015).

moderately well drained, and having very slow permeability (Natural Resources Conservation Service [NRCS] 2014). The Project Area itself is within Branyon Clay (Ht) with HtB having slightly greater slope (1-3%) relative to HtA (0-1%).

Ecological Zones and Floral and Faunal Resources

Figure 2-7 shows the ecological regions of Texas, with a focus on Bexar County (Texas Parks and Wildlife Department [TPWD] 1984). Information presented at the county level is from Gould et al. (1960), Griffith et al. (2004), Metz (1931), and Turner et al. (2003). The Blackland Prairie ecological zone dominates Bexar County. The zone cuts across the center of the county and encompasses the current Project Area. This ecological zone contains a variety of grass species, including little bluestem, big bluestem, dropseed, gamagrass, and switchgrass. Tree species in this zone include ash, cottonwood, elm, hackberry, juniper, pecan, and a variety of oaks. To the north of this zone is the Edwards Plateau (Figure 2-7). Vegetation is dominated by a variety of oaks, as well as maple, Texas mountain laurel, and willow. Shrub vegetation includes acacia, juniper, mesquite, and a variety of succulents, such as prickly pear, with a variety of grasses present. To the south of Project Area, the South Texas Plains ecological zone is dominated by brush and shrub vegetation, including juniper and mesquite (Figure 2-7). Oak is present, though tree species are not common outside of riparian settings. Succulents are common, with little bluestem and sideoats grama grass present in some settings. At the extreme southern end of the county, a small section of Post Oak Savanna is mapped (Figure 2-7).

Prior to regional population growth and associated land use changes in the late 1800s and throughout the 1900s, a variety of non-domesticated fauna was available in this region. Weniger (1997), among others (e.g., Wade 2003), presents historic data based on the documentation of early explorers who reference an impressive quantity of animals to complement that variety. The lists described in various accounts include large mammals, such as bison and black bear, as well as cottontail rabbit, coyote, fox, jackrabbit, pronghorn antelope, raccoon, skunk, squirrel, white-tailed

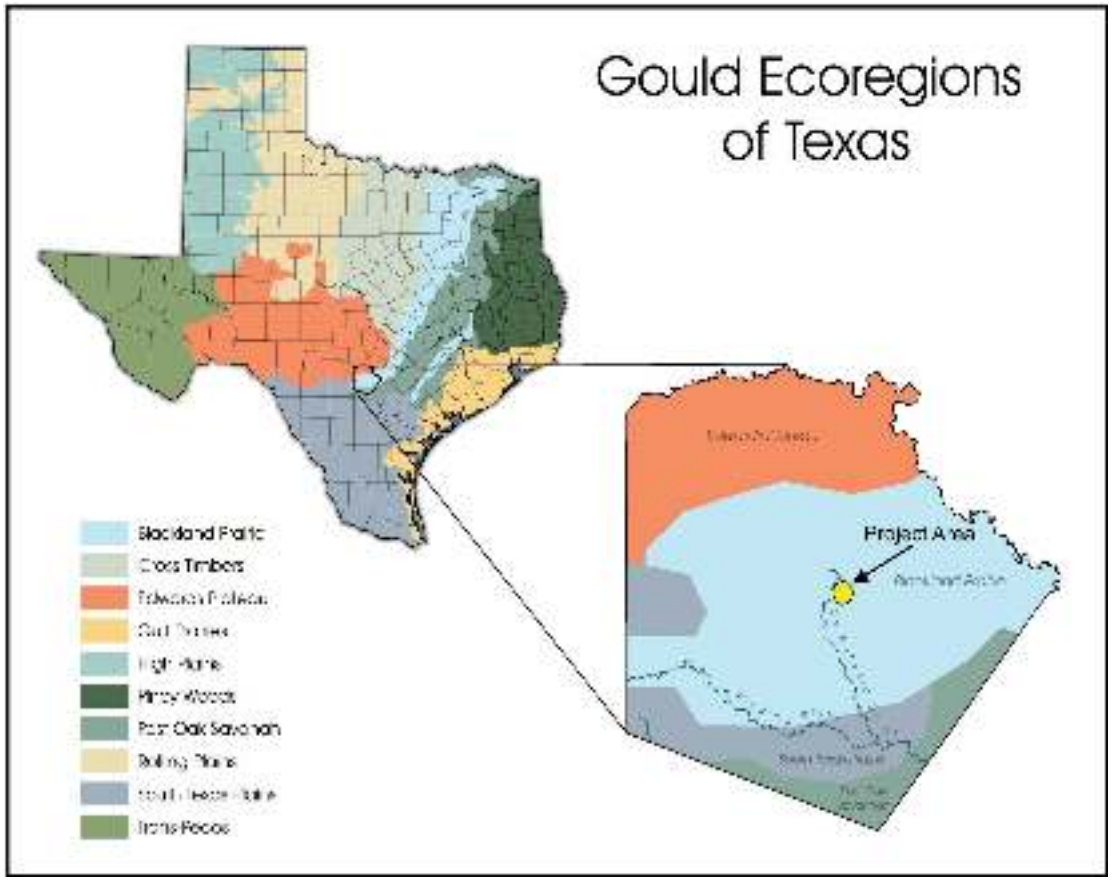

Figure 2-7. Ecoregions of Texas with a focus on Bexar Count (Mauldin et al. 2015; TPWD 2014).

deer, and a variety of rodents. Fish, reptiles, and multiple species of birds were also available to early explorers in the region (Blair 1950; Davis and Schmidly 1997).

Summary

The natural setting of San Antonio, its climate, geology, hydrology, and plant and animal resources played, and continue to play, critical roles in the history and development of the region. The distribution, availability, and control of water, perhaps more than any other resource type, were, and continue to be, of critical importance. The Native American and Spanish encampments that grew to become the modern city were at the head of springs and spring-fed rivers that flowed out from unique geological formations. Too much rain and too little rain both continue to plague the area. It is not surprising that, as detailed in the subsequent chapter, some of the earliest Spanish construction focused on water control facilities, such as the building of *acequias* and dams.

Chapter 3: The Historic Period in Texas

by Raymond Mauldin and Clinton McKenzie

This chapter provides historical context for a detailed discussion of the history of the San Antonio region, the founding of the Spanish settlement that was to become the modern city, and project specific concerns that are outlined in Chapter 4. The Historic period in Texas begins in AD 1528 when Cabeza de Vaca and the survivors of the shipwrecked Narvaez expedition washed up on the Texas Coast (Favata and Fernandez 1993). For this discussion, the Historic period is divided into four sections. These are the Proto-historic (AD 1528-1700), the Colonial/Mission period (AD 1700-1821), the Mexican period (AD 1821-1836), and the Republic of Texas/Early State period (AD 1836-1900). Fehrenbach (2010), Ramsdell (1959), and Campbell (2003) provide data on the post AD 1900 period for Central and South Texas.

Proto-historic (ca. 1528-1700)

The Proto-historic begins with direct Spanish contact in AD 1528 (Favata and Fernandez 1993; Krieger 2002) and ends with the establishment of a permanent, sustained European settlement in the broader region around AD 1700 (see Chipman and Joseph 2010; Weddle 1968). Much of what is known about the Proto-historic comes from accounts of French and Spanish soldiers, Spanish missionaries, and early settlers. Archaeological evidence for this period in Central and South Texas is minimal.

Cabeza de Vaca and the other survivors of the ill-fated Narvaez expedition initiated face-to-face contact between the Spanish and the Native American populations of Texas in 1528. Cabeza de Vaca and his companions spent six years in the region, primarily living with coastal and near-coastal groups of Native Americans (Favata and Fernandez 1993). Assuming that his account is accurate, the existence he describes is one of frequent sickness and hunger before he eventually made his way south into what is now Mexico (Krieger 2002).

Following the Narvaez expedition, surprisingly little direct contact is documented between the Spanish and Native Americans, at least in the Central Texas region, over the next 150 years (Foster 2008; Wade 2003). Expeditions by Spanish explorers Coronado (1540), Hernan de Soto (1541), and Antonio de Espejo (1582-1583) encountered Native populations in what was to become New Mexico, West Texas, and portions of Northeast Texas (Galloway 1997; Wade 2003), but no direct contact with Central Texas populations is documented. These early explorations likely did have a significant impact in the region through the introduction of various diseases that dramatically reduced Native American populations (Ramenofsky 1987; Ramenofsky and Galloway 1997). Perttula (1993), for example, outlines the dramatic reduction in Caddo populations during this period. Similar, though less severe, impacts were likely occurring in many Native American populations in Central and South Texas.

Spanish expansion into the New Mexico area and west Texas occurred throughout the latter half of the seventeenth century, as did advances into the Coahuila and Nuevo Leon regions, located south of the Rio Grande (see Chipman 1992; Chipman and Joseph 2010; Foster 2008; Wade 2003). One of the earliest Spanish excursions north of the Rio Grande occurred in 1675 when the Bosque-Larios expedition, launched from Monclova in Coahuila, appears to have ventured onto the Edwards Plateau (Wade 2003:24-54). The Mendoza-Lopez expedition, moving south and west from the El Paso area, encountered the Concho River and the San Saba River in 1684 (Wade 2003:82). The following year, the French, under René Robert Cavelier, Sieur de La Salle, attempted to establish a permanent settlement, Fort St. Louis, along Matagorda Bay on the Texas Gulf Coast. The attempt, however, was unsuccessful. Disease and conflicts with Native American groups resulted in the destruction of the colony in 1689 (Foster 1998).

The failure of the French endeavor at Fort St. Louis was not known to the Spanish when, in 1689, Spain sent General Alonzo de Leon to secure the region. During the following year, the Teran de los Rios *entrada* (expedition) was dispatched to secure East Texas (Hatcher 1932; see also Cox 2005a; de la Teja 1995; McGraw and Hindes 1987). The first Spanish descriptions of the San Antonio River area were recorded in early June 1691 in the diary of Teran de los Rios, as well as Father Massanet, who was a member of the expedition. Teran de los Rios noted that the country was "the most beautiful in New Spain…" (Chabot 1937:10), while Massanet wrote, "the country is very beautiful…. The river is bordered with many trees, cottonwoods, oaks, cedars, mulberries and many vines" (Hatcher 1932:54-55). However, the failure of the French settlement to the south coupled with the Spanish failure to establish and maintain East Texas missions, such as San Francisco de los Tejas and Santismo Nombre de Maria (Fox and Cox 2000), drew Spain's attention away from Central Texas.

The Colonial/Mission Period (1700-1821)

The founding of Mission San Juan Bautista, near present day Eagle Pass/Piedras Negras, represented one of the first permanent Spanish settlements in the South Texas region (Weddle 1968). Spanish expansion into Central Texas following settlement on the Rio Grande, however, was initially slow. When it did occur, it was in response to real and imagined threats of the French in Texas. In spite of the set back at Fort St. Louis, France had maintained a presence in the region with a series of settlements in what is now Louisiana. To expand its influence and counter the French, Spain launched a series of expeditions in the early eighteenth century. As discussed in the next chapter, one of these was the Espinosa-Olivares-Aguirre expedition in 1709. Father Isidro Felix de Espinosa of that expedition provided the first known description of the San Pedro Springs in April of 1709 (Tous 1930a:5). In East Texas, Spain established several missions and a presidio between 1716 and 1717 (see Chipman 1992). Additionally, the Alarcon Expedition of 1718-1719 (Hoffman 1938), which resulted in the founding of the Presidio San Antonio de Bexar, the Villa de Bexar, and Mission San Antonio de Valero (the Alamo) in 1718 (Hoffman 1938; Cox 1997, 2005a, 2005b; de la Teja 1995; Habig 1968), helped solidify Spanish presence in the region.

With the founding of what was to become San Antonio in 1718, the Spanish were now entrenched in Central Texas and had a strong presence in East Texas. However, in January of 1719 the French declared war with Spain (Simner 2013). French forces seized Spanish Pensacola in May, and in June of 1719, French forces crossed the Sabine River from Louisiana into East Texas and marched on Mission San Miguel de los Adaes (Forrestal 1935:3-4). Spain quickly abandoned their East Texas Missions, retreating to the Presidio San Antonio de Bexar to regroup. An *entrada*, under the command of Governor José de Azlor y Virto de Vera, Marques de San Miguel de Aguayo, would eventually respond, though not until 1721. In the interim, Spain and France reached an agreement that resulted in the abandonment of East Texas by the French. The Aguayo *entrada*, then, met with little resistance. By the end of 1721, Spanish presence in East Texas was reestablished, and Aguayo returned to Coahuila in 1722 (Forrestal 1935:3-5; Hackett 2010).

With the waning of the French threat, Spain's presence grew only slightly over the next decade. Spanish officials became increasingly disenchanted with the East Texas Missions throughout the 1720s. Being isolated, the missions proved costly to maintain and resupply, and they had limited success in attracting Native American converts. Several of these were subsequently closed, and in 1731, three were reestablished in the San Antonio area (Habig 1968). In the same year, an influx of fifty-five settlers from the Canary Islands arrived at the new settlement. These Canary Islanders claimed rights to farmlands and irrigation water, and they dominated many aspects of cultural, economic, and political life in the Villa throughout the 1700s (Poyo 1991; see also de la Teja 1995:18-21).

The next major series of events that influenced the Colonial/Mission period in the Central Texas was associated with the Seven Years War (1754-1763) between Great Britain and an alliance between France and Spain (Baugh 2011). Eventually, Britain was victorious, and the Treaty of Paris in 1763 ended the conflict. The treaty also, in effect, ended French involvement in Texas (Calloway 2006). By the end of the eighteenth century, the missions in San Antonio were also on the decline (Habig 1985). In 1794, a decree was issued that called for the secularization of the San Antonio missions, several of which were already abandoned. All missions in the area were secularized by 1824 (Carlson 1994; Cox 1997).

The close of the eighteenth century saw increasing tension between Spain and Colonial Mexico, including what is now modern day Texas. The Mexican War of Independence (1810-1821) was, in part, a reaction to events in Europe that impacted economic relationships between Spain and Colonial Mexico. As a result of increasing debts associated with the Napoleonic Wars, Spain increased its demands upon the colonies (Marley 2014:179-181). A series of decrees issued in the early 1800s led to the confiscation of a variety of church assets (de la Teja 2010). A number of small insurrections occurred throughout Mexico, with a formal declaration of rebellion being issued by Father Hidalgo on September 16, 1810 (Henderson 2009; Marley 2014:180). One such uprising occurred in Texas early in 1811. A former military officer, Juan Bautista de las Casas with support from troops stationed at San Antonio de Bexar arrested Governor Salcedo and declared their support for the revolt. Several other regional skirmishes that consisted primarily of volunteers followed, including the Battle of Rosillo (1813), the Battle of the Alazan and the Battle of Medina, encounters between rebels and loyalists associated with the Gutierrez-Magee expedition (1812-1813; Marley 2014). While all of these insurrections in Texas were short lived, the revolution was eventually successful. In 1821, Mexico became independent, ending Spanish rule (Henderson 2009).

The Mexican Period (1821-1835)

In 1821, after years of rebellion, neglect, and frequent Apache raids, Texas was underpopulated and in economic chaos. Estimates were that roughly 2,000 residents were present in the province (de la Teja 1997). Unsurprisingly, the Mexican

Constitution, adopted in 1824, enacted a series of land reforms that resulted in a substantial increase in emigration into Texas. In short, the laws enabled heads of households to claim land in Mexico. These provisions resulted in a significant number of settlers from the United States moving into Texas (Cox 1997). The allure of free land appears to have been too successful, for by 1830, these laws were changed. The "Law of April 6, 1830" prohibited slavery, established tariffs, and outlawed immigration from the United States (Henson 1982:47-49). To enforce these regulations, several new presidios were established. The law and enforcement procedures were one of several ways that Mexico City began to assert increasing control of Texas (Campbell 2003; Cox 1997; Fehrenbach 2000; Weber 1982).

In response, Texas increased its demands for greater autonomy. These included demands for a return to the provisions of the 1824 Constitution, which had gradually been altered, however, this simply resulted in tighter controls from Mexico City (Cox 1997). Tensions increased, both between the newly established Texans and the original Tejanos (de la Teja 1997), as well as between these two groups and the centralized government in Mexico City (Benson 1987; Cox 1997). Eventually, fighting erupted, with one of the earliest skirmish occurring along the Brazos River in 1832 at Fort Velasco. Rebel forces attacked and captured the fort, and there were multiple casualties on both sides. While a peaceful solution was reached, tensions remained high (see Cox 1997).

Santa Anna took control of the Mexican government in 1834. He dissolved the legislature and began systematically rescinding those remaining liberal elements of the Constitution of 1824. In early 1835, his newly established conservative congress reduced state militias, increasing the centralized control in Mexico City. States on the northern frontier, including Zacatecas and Coahuila, resisted (Binkley 1979). Initially, Santa Anna's central army moved on the state militia in Zacatecas, defeating them in early May of 1835. Upon hearing the news, government officials in Coahuila, which included Texas, abandoned the state capital (Monclova) and fled north into Texas (Benson 1987; Marley 2014).

The central government in Mexico dispatched forces under the command of Martin Perfecto de Cos to deal with unrest in Coahuila and Texas. General Cos arrived in San Antonio in October of 1835 and occupied the town. A rebel army under the command of Stephen F. Austin arrived and imposed a siege on the government forces. Under forces commanded by Ben Milam, Cos was pushed back into Mission Valero in early December, and by December 9, Cos surrendered and withdrew his forces south (Cox 1997; Marley 2014).

In the winter of 1836, Santa Anna and a large Mexican army moved into Texas to reassert governmental control. Portions of the army began arriving on the outskirts of San Antonio in late February, and rebel forces retreated to Mission Valero. After a short siege, the Alamo fell on March 6, 1836. Following the victory, Santa Anna remained in San Antonio, dispatching forces to locate and crush any additional resistance. These efforts resulted in the defeat and eventual execution of 342 rebels at Goliad in March (Davenport and Roell 2010). Santa Anna, with an elite force of 900 men, pursued the Texas forces, then under the direction of Sam Houston (Marley 2014). After multiple retreats, the Texan forces engaged and defeated the Mexican troops in late April at the battle of San Jacinto. Santa Anna was captured, and Mexican forces withdrew (Cox 1997; Davis 2004).

The Republic of Texas and Early Texas State (1836-1900)

The new Republic of Texas, established in March of 1836, was not recognized by Mexico, and disputes, continued throughout the 1830s and into the 1840s. As summarized by Fehrenbach (1983), many of these involved the location of the southern boundary with Mexico. Texas had initially claimed the entire length of the Rio Grande as its southern border, asserting that most of New Mexico and some of what was to become the states of Colorado, Oklahoma, and Kansas were all within the new republic. In reality, Texas and Texans were not prepared for independence, and their territorial control was both limited and inconsistent (Meinig 1969). A state of war continued between Mexico and the Texas Republic. In March of 1842, 700 Mexican soldiers briefly occupied San Antonio. Texas forces offered no resistance, and the Mexicans eventually withdrew. In September of the same year, forces loyal to Mexico captured the city and, once again, withdrew (Cox 1997). The area to the south and west of San Antonio was, in effect, a no-man's land (Meinig 1969). While an armistice reached in June of 1843 reduced tensions (Cox 1997), Mexico still considered Texas to be a part of Mexico rather than a separate republic.

Texas soon reversed several of the dictates that had been issued from Mexico City in the late 1820s and early 1830s. The Republic once again encouraged immigration through the allocation of land at little monetary cost. Immigrants came from both the United States and European countries, including a large influx of Germans (Meinig 1969).

While the United States recognized Texas as a Republic shortly after it was established, the annexation of Texas to the United States was much slower. Texas had amassed significant foreign debt, and due to increasing acrimony over

slavery within the United States government, Texas's support for slavery was problematic. Nevertheless, late in 1845, the United States Congress and the Texas Republic agreed to annexation terms, and Texas was admitted as the twenty-eighth state on December 29, 1845 (Neu 2013; Texas State Library and Archivist Commission [TSLAC] 2014).

On learning that the United States had invited the Republic to become a state, Mexico severed diplomatic relations with Texas. By early 1846, disputes that had initially been between Texas and Mexico on the location of the southern border were now between Mexico and the United States. Various skirmishes occurred between Mexican and United States troops. In March of 1836, General Zachary Taylor moved roughly 3,500 troops into disputed territories along the Rio Grande (Marley 2014). Negotiations with the Mexican Government broke down, and during April, both sides prepared for conflict. On May 13, 1846, the United States issued a declaration of war. A variety of military engagements occurred throughout the remaining months of 1846 and most of 1847 (Marley 2014). The Treaty of Guadalupe-Hidalgo, signed in February of 1848, ended the dispute and established the Rio Grande as the southern boundary between the United States and Mexico. In exchange for 15 million dollars, Mexico ceded territorial claims to what would become most of the western United States, including Arizona, California, New Mexico, Nevada, Colorado, and Utah (Bauer 1992; Campbell 2003; Wallace 1965).

Following the war with Mexico, Texas again experienced rapid population growth. People came from the southern states and from Europe with German, Czech, and Polish immigrants arriving in large numbers. By 1860, population totals exceeded 600,000, which was a significant increase from 1847 when the population had been recorded as 142,000 (Campbell 2003). Much of this growth was tied to the availability of farmland and the state's stance on slavery. Cotton, often supported by slave labor, was the dominant crop in East Texas. Roughly 30,000 black slaves were present in the state in 1847 (Campbell 1989; Cox 1997), and this number increased to over 180,000 by 1860 (Campbell 1989, 2003; Meinig 1969).

Texas sided with the Confederacy at the outbreak of the Civil War and seceded from the United States in February of 1861. The following month, Texas joined the Confederate States of America. While there were few major battles within the state, Texans fought on both sides of the conflict (Campbell 2003). Following the defeat of the Confederacy, Texas was readmitted to the United States in 1870.

Throughout the late 1800s, the state's population continued to increase. In the early 1870s, the population surpassed one million, and by the turn of the century, the number had grown to over three million (Meinig 1969). Relative to the southern states, Texas had suffered little damage during the Civil War, and it still possessed cheap land. Farming in eastern Texas, and cattle ranching in the south, west, and the plains/panhandle areas were the major economic activities during this period (Campbell 2003; Meinig 1969; Sonnichsen 1950). Railroads expanded into the state, and by 1900, an extensive network of rail lines crisscrossed the state and connected it to the east, north, and west (Meinig 1969; Reed 1941). This set the stage for increasing commercial developments throughout the twentieth century.

Chapter 4: Historical Background for the Project Area

by Clinton McKenzie

The previous chapter presented a general discussion of historical events that occurred between the initial, direct Spanish contact with Native American groups in this portion of Texas (1528) and the establishment and initial growth of Texas as a State. This chapter focuses on San Antonio during roughly that same period and documents aspects of the history of the Presidio San Antonio de Bexar, the Villa de Bexar, and the Mission San Antonio de Valero, the founding triad of the modern day City of San Antonio established in 1718. Throughout, the focus is on the Presidio San Antonio de Bexar (Plaza de Armas) and the Project Area. In addition, the Plaza de Armas Buildings on the southwest corner of the Plaza, a location that has a long and varied history, are also discussed.

Initial Observations, Settlement, and Occupation, 1691-1724

While the Spanish first observed the San Antonio River and valley in 1691, San Pedro Springs and Creek were not officially described until the 1709 Espinosa-Olivares-Aguirre *entrada* (Tous 1930a). Father Isidro Espinosa, acting as chronicler of the *entrada*, describes the naming of headsprings of both San Pedro and San Antonio Springs, as well as San Pedro Creek and the San Antonio River in 1709:

> April 13 – We crossed a large plain ... and after going through a mesquite flat and some holm-oak groves we came to an irrigation ditch, bordered by many trees and with water enough to supply a small town. It was full of taps or sluices of water, the earth being terraced. We named it San Pedro Spring [...] and at a short distance we came to a luxuriant growth of trees, high walnuts, poplars, elms and mulberries watered by a copious spring which rises near a populous rancheria of Indians … The river, which is formed by this spring, could supply not only a village but a city … This river not having been named by the Spaniards, we called the river of San Antonio de Padua [Tous 1930a:5].

In 1718, Martin de Alarcon, Governor of Coahuila and Texas, was tasked with establishing a way station between the Rio Grande and the East Texas missions and presidios (Chipman 1992:116-117). Alarcon chose to locate the new settlement along the San Pedro Creek and San Antonio River to take advantage of the resources described by Espinosa. The way station would include a presidio for defense, a mission for the conversion of Indians, and a villa for civil settlement. Alarcon arrived in the Valley of San Antonio on April 25, 1718, and founded the Mission San Antonio de Valero on May 1, 1718, and the Villa and the Presidio de Bexar four days later, on May 5, 1718. Franciscan Fathers Francisco Celiz and Pedro Perez de Mezquia, both diarists of the Alarcon expedition, recorded the events:

Celiz:

> On the 5th of May, the governor, in the name of his Majesty, took possession of the place called San Antonio, establishing in it, and fixing the royal standard with the requisite solemnity, the father chaplain having previously celebrated mass, and it was given the name of villa de Bexar. This site is henceforth destined for civil settlement and the soldiers who are to guard it, as well as for the mission of San Antonio de Valero, established by said governor about three-fourths of a league down the creek [Hoffmann 1935:49].

Mezquia:

> The governor took possession of all this land on the 5th of May, fixing the royal standard on it as a symbol of possession, after the holy sacrifice of the mass had first been celebrated. The mission of the reverend father, Fray Antonio de San Buenaventura y Olivares, is near the first spring, half a league from a high ground and adjoining a small thicket of live oaks, where at present he is building a hut [Hoffmann 1938:318].

The original site of the Villa de Bexar, Mission San Antonio de Valero, and the Presidio San Antonio de Bexar were on located near San Pedro Springs and Creek. The presidio and villa were subsequently relocated by Aguayo further south to the location on the east bank of the San Pedro Creek between the creek and the San Antonio River where the current excavations occurred. The Mission San Antonio de Valero was relocated in 1719 to the east bank of the San Antonio River most likely in the area of modern day La Villita or that

general vicinity. The *Acequia de San Pedro* (or Principal) that served the original locations was begun by at least January of 1719. Celiz also observed that on his return from East Texas on January 12, 1719, Alarcon:

> [...] gave orders to begin with all assiduity the construction of the canals for both the villa and the said mission of San Antonio de Valero. This work was continued the remainder of said month, in which time they were built in good state and shape, so that this year a fine crop of corns, beans, and other grains which the governor ordered brought in from the outside is expected [Hoffman 1935:86].

The permanent Spanish presence, established in Central Texas at San Antonio de Bexar in 1718, solidified over the next few years as the Spanish responded to France's desire to expand its presence in East Texas. The immediate result was the precipitous abandonment of all Spanish missions in East Texas and a retreat to the nascent villa, presidio, and Mission of San Antonio de Valero. However, an *entrada* under the command of Governor Jose de Azlor y Virto de Vera, Marques de San Miguel de Aguayo, entered Texas in force in April 1721 to reclaim, reoccupy, and expand the previously token Spanish presence.

Aguayo's *entrada* required over 500 men, nearly 5,000 horses, 1,100 mules, and a year's worth of supplies. Amassing the provisions, as well as difficult weather in 1720-1721, delayed the start of the expedition. According to Father Juan Antonio de la Pena, who chronicled the *entrada*, Aguayo crossed the Rio Grande on March 23, 1721, and reached San Antonio on May 4, 1721 (Forrestall 1935:10, 14). After a short rest, Aguayo left for East Texas and spent the remainder of the year reestablishing the East Texas missions and presidios.

Aguayo's *entrada* returned to San Antonio January 23, 1722, where it remained awaiting the provisioning of new horses and mules for "of almost 5,000 horses that had entered the expedition less than fifty returned, and about 100 of the 800 mules" (Forrestall 1935:60). Aguayo found that during his absence a raging fire had swept through many of the structures of the Presidio de Bexar. Sixteen of the soldiers' huts had been destroyed, other huts damaged, and the granary, with 700 bushels of corn and all the flour, had been lost (Forrestall 1935:59-60; Fox 1997:2; Weddle 1968:163).

The Marques de Aguayo occupied his time while waiting for the needed supplies by determining a new location for the Presidio as "the (current) Presidio was no more than an insult to the Indians, because it is completely indefensible" (Aguayo 1722:6). De la Pena wrote the following:

> Informed though several letters that the horses he had requested would not arrive for more than a month and a half, and that the presidio of San Antonio was defenseless, and, as had been observed but a short time previously, exposed to fire because of the fact that the soldiers were living in thatched huts, his Lordship planned to build of adobe brick a fortress which would not be in danger of burning. After ordering the cutting of the necessary lumber for the church, stores and quarters, His Lordship selected a better site than that on which the presidio used to be located. [This new site] was between the San Pedro and San Antonio rivers. It was first necessary to clear the land by cutting down many trees. A great number of people were then put to work making adobe [bricks]. His Lordship then outlined the fortress as a square with four bulwarks so that if ever the soldiers chanced to be absent and an invasion took place a few men, stationed on opposite corners, could hold the fort, defending from each bastion two curtains, each of which, from bastion to bastion was to be 75 varas long [Forrestal 1935:60-61].

A recent translation of de la Pena during the period from January 24 to March 7, 1722, by David McDonald for the Plaza de Armas project states:

> Recognizing that this presidio was indefensible, in addition to being exposed to fire (as happened recently where the soldiers live in jacales roofed with grass or straw), His Lordship decided to build a fortification that would be secure from such accidents by constructing it with adobe. And having cut the wood necessary for the church, stores, and soldier's quarters, His Lordship selected a better site from where the presidio was, between the two rivers of San Pedro and San Antonio—even though it was necessary to clear the level area, by cutting many trees. His Lordship put people to work making adobes, and began to lay out the dimension of the fort in the form of a square with four bastions, with seventy-five varas [208'] from one bastion to the other. In case of an attack, a few soldiers from just two of the bastions could defend the garrison. At the same time, His Lordship at his own cost had a water outlet made from the San Pedro River, making possible a large sowing of corn to provision the presidio and for the Indian friends (who

> come each day to see the Spaniards). This could irrigate two leagues of the most fertile land in the cove the San Pedro River forms as it joins, below the presidio, with the San Antonio River where it widens making a small island in what is enclosed from where the presidio is to be constructed—which is thirty varas [83'] from the San Pedro River and two hundred [555'] from the San Antonio River [McDonald 2013].

McDonald's translation is more specific than Forrestal's as to the types of buildings constructed at the first site of the presidio in 1718. Forrestal simply states that "thatched huts" were built. McDonald's translation reveals that the buildings were jacals (wattle and daub). This clearly has implications for the archaeological record, particularly since the jacals burned and would leave archaeological evidence. Further, the distance between the San Pedro Creek and the San Antonio River clarifies without doubt the location of the 1722 presidio. Importantly, the translation also states that Aguayo allowed for the construction of a "water outlet" to grow and irrigate crops, and it provides archival evidence that the local Native American population came each day to visit the Spaniards and the presidio. This archival evidence correlates with the material culture whereby the largest percentages of ceramics at the site are Native American wares.

Aguayo surveyed the area and ordered the construction of a fortified presidio. Aguayo's plan called for four *baluartes* (bastions) to be constructed and that the presidio be staffed by 54 soldiers (Aguayo 1722:7). The legend accompanying the Aguayo map (see Figure 4-1) states the following:

> Plan of the Presidio of San Antonio de Bexar of the New Tejas Province, Kingdom of Philippines at six leagues from the one of Coahuila, that the Marquis of San Miguel de Aguayo demarcated a fortification, and left done all foundations, and a great part of the building with disposition to be concluded in a short time, leaving the wood and all materials at the

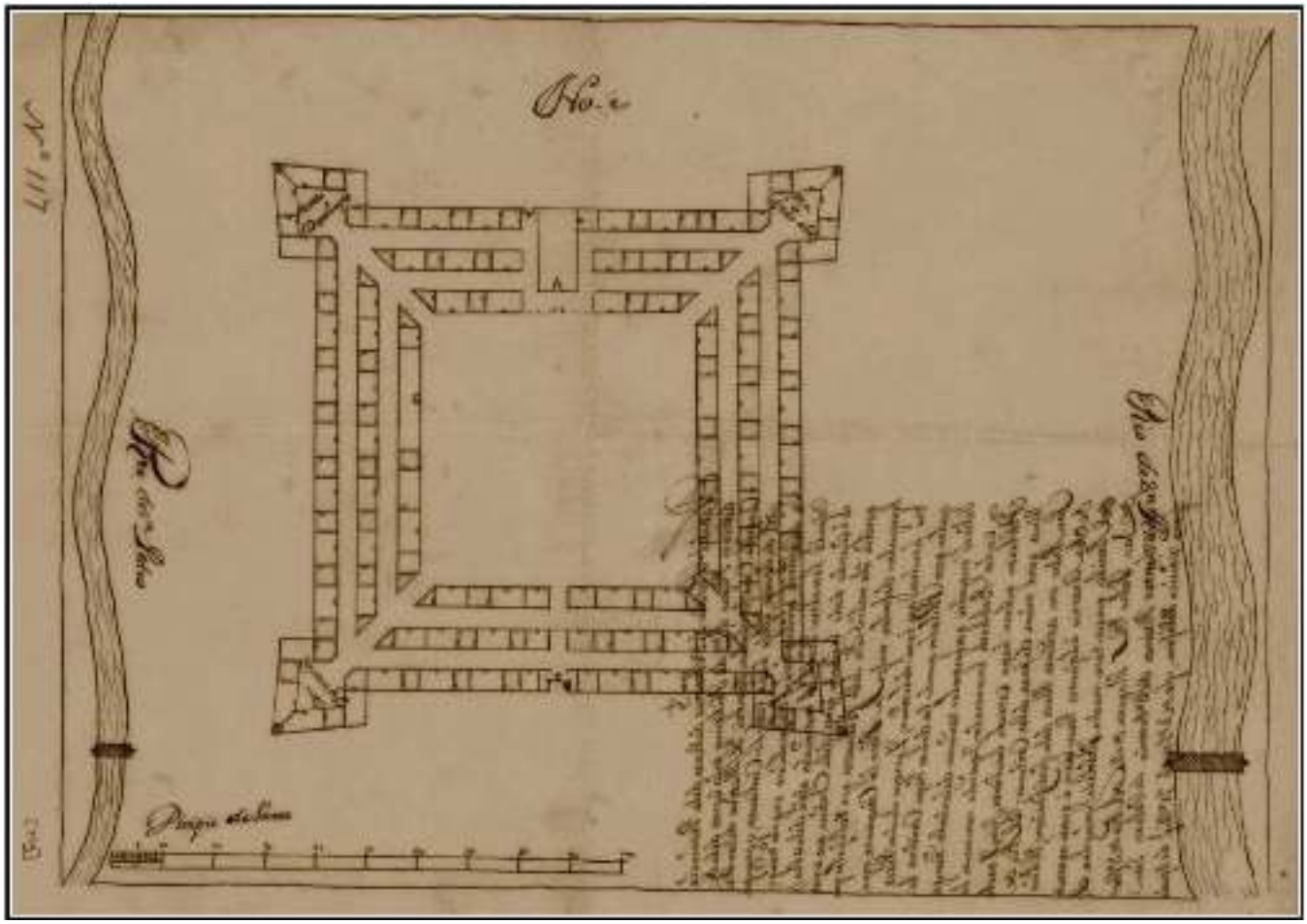

Figure 4-1. Aguayo's 1722 Plan for the Presidio (by courtesy of the Archive General de Indias, Spanish Archives, Spain).

> foot of the construction; not giving it the fifth part of the curtain, that corresponded to the half gorge of the bastions in order to reduce them so the 54 men that it has could defend the post better; and because many time a few soldiers are left when the rest go on foray, he delineated it in a square so they can also defend it if they are few from two opposite bastions; and when the population increases they can do a covert way, ditch and ravelins for better defense of the curtains; the church is the one that is marked, the door to the south, the warehouses next to the main door; the Captain and officer barracks in the bastions; all others are soldier barracks, with their corrals marked with the…the San Pedro River is at 30 varas from the fortification; The San Antonio River at 200 varas; the presidio has been set apart because it has [the San Antonio River[too many trees and none the San Pedro. On that part of the San Antonio River are the three missions San Antonio de Valero; San Francisco Najara and San Jose y San Miguel de Aguayo [Ziga 2015].

From the de la Pena document, then we know that the 1722 presidio consisted of a church with a door to the south, warehouses, Captain and officer's barracks in the bastions, soldier's barracks, a corral, and bastions. This translation clearly suggests a walled compound with adobe structures.

Prior to Aguayo leaving for La Bahia in April of 1722, he tasked the soldiers and some Native Americans to begin making adobe bricks. He laid out the dimensions of the presidio as depicted on the map (see Figure 4-1). The finished product was to be square with a bastion at each corner that could be easily defended. The distance between each bastion was seventy-five varas (Ziga 2015). De la Pena wrote that, "in case the soldiers found themselves in a foray while there was an invasion a few could defend the post using just two bastions" (Ziga 2015:1). The location of the presidio, according to de la Pena, was "located at 30 varas from the San Pedro river and 200 [varas] from the San Antonio river" (Ziga 2015:1). The intention was to have the presidio completed by the time Aguayo returned from La Bahia, but excessive rain delayed work for at least three weeks. De la Pena wrote:

> During this time while his lordship was at la Bahia, in the interim the new presidio would have almost been finished if it had not been for rains that not only did not allow work for more than 3 weeks, but also 30,000 adobe bricks were lost that his lordship had left fabricated before departing for la Bahia, but 25,000 remained done with the major part of the construction and the rest of the materials at the foot of the building where his lordship counted 40 Indians during this time who remained continuing his work [Ziga 2015].

Ziga's translation is important because it confirm that the presidio made of adobe was in the process of being constructed. Further, from her translation, it is known that many of the adobe bricks were being manufactured by Native Americans.

Presidio San Antonio de Bexar and The Plaza de Armas from 1724-1803

Several early descriptions of the Presidio San Antonio de Bexar are available. One of the first was that of Francois Derbanne, a Frenchman who accompanied St. Denis on two trading expeditions into Texas from French Louisiana. The first was in 1717, and the second was in 1724. In a letter dated June 12, 1724, Derbanne made the following reference:

> Sixty leagues from St. Bernard Bay they have a post named San Antonio which is a very beautiful country where they make much corn. They have fifty men in the garrison, several women, and two Recollect fathers. I passed by the site of this post when I went to the Rio Grande. It is one of the most beautiful countries which can be seen [Derbanne 1724].

In 1724-1729, Pedro de Rivera made an inspection of the presidios in Northern New Spain (Naylor and Polzer 1988; Jackson 1995). Rivera traveled to the presidio of San Antonio de Bexar where he spent nine days in December 1727. He wrote:

> There was a company of fifty-four soldiers, including the captain and lieutenants. Each one had a salary of 400 pesos per year, amounting to 21, 600 pesos annually. The area is which the presidio was located served an added advantage in containing the Apaches de la Lomeria. The soldiers are occupied in patrols and convoys; they are all of high caliber, including the captain who commands them. The presidio

> has two missions nearby which have some converted Indians. The missions are close to the presidio, and soldiers assist in guarding them. The necessary supplies are issued to the soldiers at slightly inflated prices. The captain was not responsible for the increase in prices, since it was not part of his job to issue provisions; instead, it was the duty of the governor of the province. This is the reason they lacked nothing they needed. This is the way I found the presidio at the time of my inspection. There were fifty-four positions, including those of the officers. Each position was allocated 400 pesos [Naylor and Polzer 1988:86].

Rivera reduced the pay to each of the soldiers to 380 pesos but also reduced the cost of supplies to the soldiers. Further, in his March report back to his Excellency, he recommended eliminating ten positions from the presidio. In his report, he stated:

> The presidio of San Antonio de Bexar enjoys the best location of any that I have seen. A little more than half a league to the north there is a small hill from whose flanks flow two very abundant springs. The one flowing to the east of the presidio is especially abundant, but both could adequately supply a system of irrigation canals watering the surrounding fields. The little land that is used produces wheat, maize, and cotton, the yields would be more plentiful if there were people to work the land. There is also great potential for stock raising. There are cattle being pastured in an area where those streams and the Medina River come together seven leagues from the presidio. If the herds were increased, given the abundant pastures and water from the springs, they could supply quite a sizable settlement. This presidio is garrisoned by a captain and fifty-three soldiers, but a smaller number would easily suffice. The only enemies in the area are a few Apaches living in the Lomeria Grande, who know from experience how efficiently the soldiers perform their duty. The Indians are thus fairly contained, though nonetheless they occasionally raid the presidial herds. They are however, punished for their boldness [Naylor and Polzer 1988: 160-161].

Rivera recommends that the area around the presidio be colonized with 25 families who would protect the land and encourage others to do so. As stated above, he recommended reducing the number of soldiers to 40 with a pay of 380 pesos, a lieutenant at 410 pesos, an alferez at 400 pesos, a sergeant at 395 pesos, and a captain at 600 pesos (Naylor and Polzer 1988:161).

Interestingly, Rivera's account offers one of the first references to the Presidio ranch. Rivera places the presidial herds at the junction of the Medina and San Antonio Rivers. This would be in the modern day area just west of where Interstate 37 crosses the San Antonio River. Modern day roads would possibly be Wright Williams Road and Rabel Road in south Bexar County near the SAWS water treatment plant. Further, Rivera states that there are two pueblos of Indians near the presidio of San Antonio, which were inhabited by the Payaya, Mezquite, and Aguestaya nations. He records their numbers as being not over 243 persons (Naylor and Polzer 1988:223-224).

Nearly twenty years later, in 1744, the former Interim Governor (1741-1743) Phelipe Thomas de Winthuysen described the Presidio de Bexar in a report filed on August 19, 1744. On the progress of missions and settlements in the province of Texas and the New Philippines, he states:

> The construction of the presidio amounts to nothing, since only the crudely shaped houses form a square plaza without any additional rampart. Consequently there have been, and still are, incidents of the Apache entering at night and stealing horses, which were tied in the plaza. This is not due to a scarcity of quality stone because nearby there are excellent quarries. However, timber is scarce, because it is too far away, and the felling of trees and their transport would require a guard for protection because the enemies are raiding this country and the settlements [Magnaghi 1984:173].

It is believed that the presidio envisioned by Aguayo was never completely built. Winthuysen does confirm that the complex formed a square plaza as conceived by Aguayo. It is possible that the original adobe presidio had not survived with intact walls, but rather that individual buildings were still present. Alternatively, it is possible that Aguayo's plan was never fully implemented. Prior to the excavations at the Presidio del Loreto by the THC in the late 1990s, historians and archaeologists had postulated that the presidio designed by Aguayo had never been built. Archaeological excavations, however, support that indeed the plan designed by Aguayo had been mostly implemented with a stockade

wall and interior buildings. Rather, based on Winthuysen's description of 20 years later, a somewhat ad hoc affair was actually implemented. Later maps show the presidio as U-shaped group of buildings, opening up onto the Plaza de Armas (de la Teja 1995:61). The Menchaca Map (Figure 4-2), drawn by Luis Antonio Menchaca, shows that by 1764 what were to remain the principal structures and plan of the plaza were established.

In 1765, the Marques de Rubí was made Visitor General and sent on an inspection tour of Spain's frontier provinces (Chipman 1992:173). Rubí entered Texas in July of 1767, visited Mission San Saba and El Canon, San Antonio de Bexar, the Mission Espiritu Santo de Zuniga, and Presidio del Loreto at La Bahia, and proceeded to East Texas. Rubí was accompanied on his tour by the engineer/cartographer Jose Ramon Urrutia who drew a map of San Antonio de Bexar depicting the settlement in 1767 (Figure 4-3) that clearly shows the compound was not fortified as Aguayo had envisioned or had deteriorated in the past and been replaced by a different configuration (see Figure 4-1). In addition, Rubí's report to the Spanish Crown was not favorable as he reported that the majority of the presidios were poorly administered, lacked supplies, and were crumbling. Rubí accused the missions of not producing any more converts (Chipman 1992:181). He recommended that the presidios at San Antonio and La Bahia be maintained, though he felt that East Texas should be abandoned with the inhabitants retreating to San Antonio (Chipman 1992:181). Rubí noted:

> Let the presidio and town of San Antonio de Béxar remain, then, in their first and present location, because they have been so much expense to the royal treasury, in the conveying of families from the Canary Islands; in the building of the church, which could be sumptuous; in the inducements distributed to the settlers for the provision of tools for their tilled fields, which they neglect, and arms for the service, which they do not perform except at the cost of new inducements from the accounts of the King. Also let the five missions—not composed of Indians native to that spot, but of those brought or extracted from the coast of the Colony of Nuevo Santander and from other, more interior locations to which the missionaries go to do their spiritual recruiting—remain in their pleasant valleys [Jackson 1995:183].

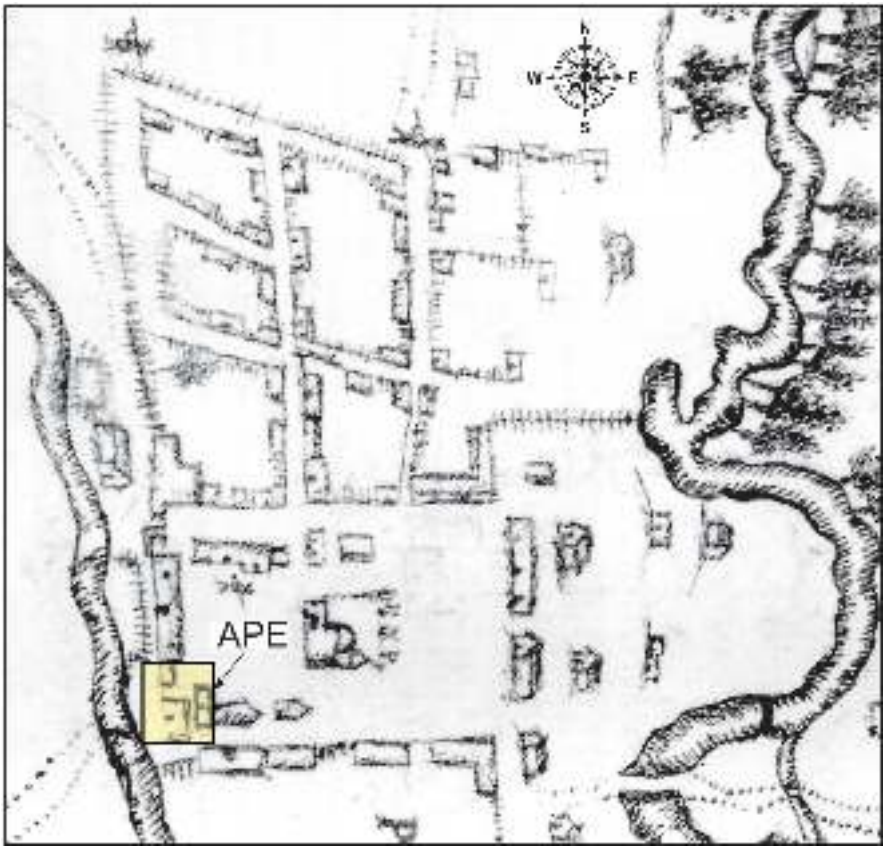

Figure 4-2. Menchaca's 1764 Map of the Presidio, exploded view (Original in Provincias Internas, Vol. 239, Archive General y Publico de Mexico. Copy from the UTSA Institute of Texan Cultures [ITC]). Project Area (APE) highlighted in yellow.

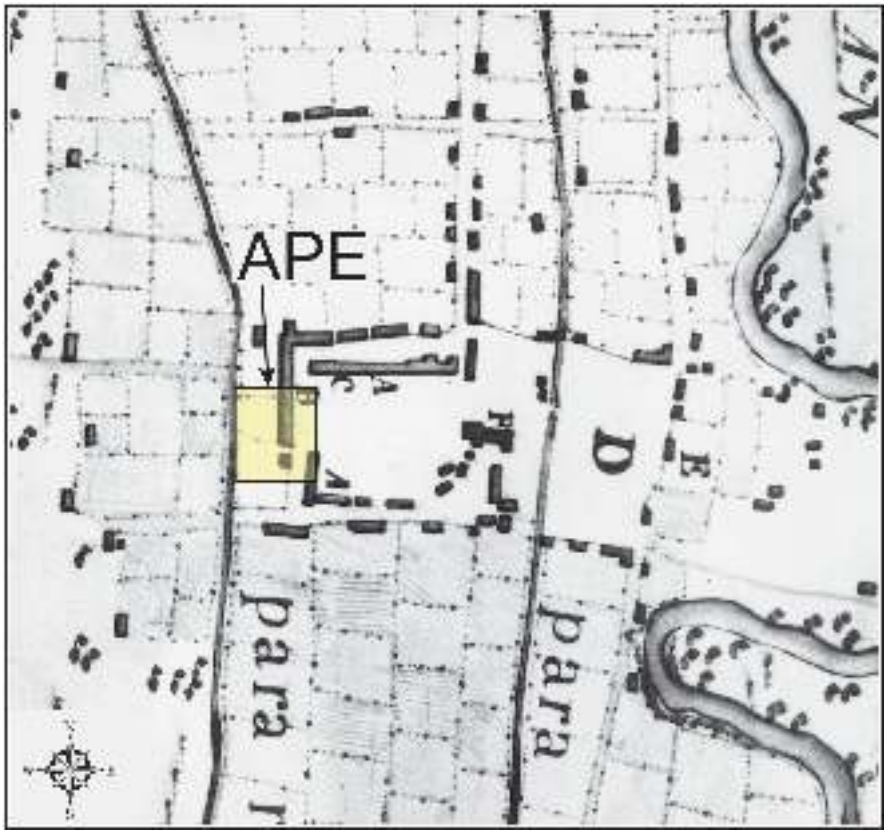

Figure 4-3. 1767 Urrutia Map (close-up view) showing: A) Casa del Presidio; B) Casa del Capitan; C) Cuerpo de Guardia; D) Plaza de la Villa; E) Casas Reales; F) Iglesia; and environs. Project Area highlighted in yellow.

Rubí suggested increasing the number of soldiers at Presidio San Antonio de Bexar, perhaps by transferring solider from other presidios in south and east Texas (e.g., Appendix E).

In 1772, the Spanish Crown released a royal order titled "New Regulations for Presidios" that ordered the abandonment of the Texas missions and presidios with two exceptions, the presidios at La Bahia and San Antonio. The order designated San Antonio as the capital of the province (Chipman 1992:184).

In 1778, Father Juan Agustín Morfí (Morfí 1781, 1935) recorded that the structures of the Villa de Bexar and the Presidio were in poor condition. He noted:

> The soldier's quarters, originally built of stone and adobe, are almost in ruins. The establishment of this villa, independently of the presidio, has cost the king more than eighty thousand pesos. The streets are tortuous and are filled with mud the minute it rains. The presidio is surrounded by a poor stockade on which are mounted a few swivel guns, without shelter or defense, that can be used only for firing a salve. There is no other trade than that required to supply the needs of the commissary for the garrison and the meager wants of the wretched settlers. The parish priest looks after the [garrison of the presidio], there being no chaplain, and receives a small pension for his services. The governor used to live in what was the jail or guard house, which afforded a poor residence at best [Morfí 1935:92-93].

Essentially, Morfí suggested that Bexar resembled a community of poor peasants rather than a villa. He noted the lack of armaments and the poor construction of the stockade (implying that by 1778 a defensive stockade had been built or was present all along) and blamed the conditions on lack of industry on the part of the soldiers and Canary Islanders (Morfí 1781, 1935). The Canary Islanders had arrived in 1731 drawn to Texas by the Spanish offer of "royal passage to the frontier, free land, and maintenance for one year" and "the rank of hidalgo" (Cox 1997:10).

In 1790, Pedro Huizar was asked to prepare plans to reconstruct and increase the fortifications of the presidio compound. Although Huizar produced the plans, the work was never commenced (Murr 2010). The Spanish decision not to refortify the Presidio San Antonio de Bexar at Plaza de Armas at the close of the eighteenth century resulted in changes to how and where the villa was defended. In 1803, the Second Flying Company of Alamo de Parras was stationed in San Antonio de Bexar. However, by 1806, lacking a fortified and defensible presidio, they relocated their position to the grounds of secularized Mission San Antonio de Valero. From this point forward, the former mission compound of San Antonio de Valero became the principal military defensive position for the Villa, while Plaza de Armas became a residential, commercial, and municipal compound (Murr 2010).

The Plaza de Armas in the Nineteenth Century

The official military functions of the Presidio San Antonio de Bexar and the plaza itself terminated soon after the beginning of the nineteenth century. The first municipal government structure on the Plaza was the Georgian-style City Hall. Erected in 1850-1851 on the northwest interior angle of the plaza, on the east of and parallel to the Spanish Governor's Palace and the current Project Area, the building served variously as the City Hall, City Jail, and courthouse until 1890. Figure 4-4 is a copy of the 1877 Sanborn Fire Insurance Map showing the plan of that City Hall with the 1850-1851 City Offices noted on the two-story building, oriented north-to-south. There is also a two-story jail and yard

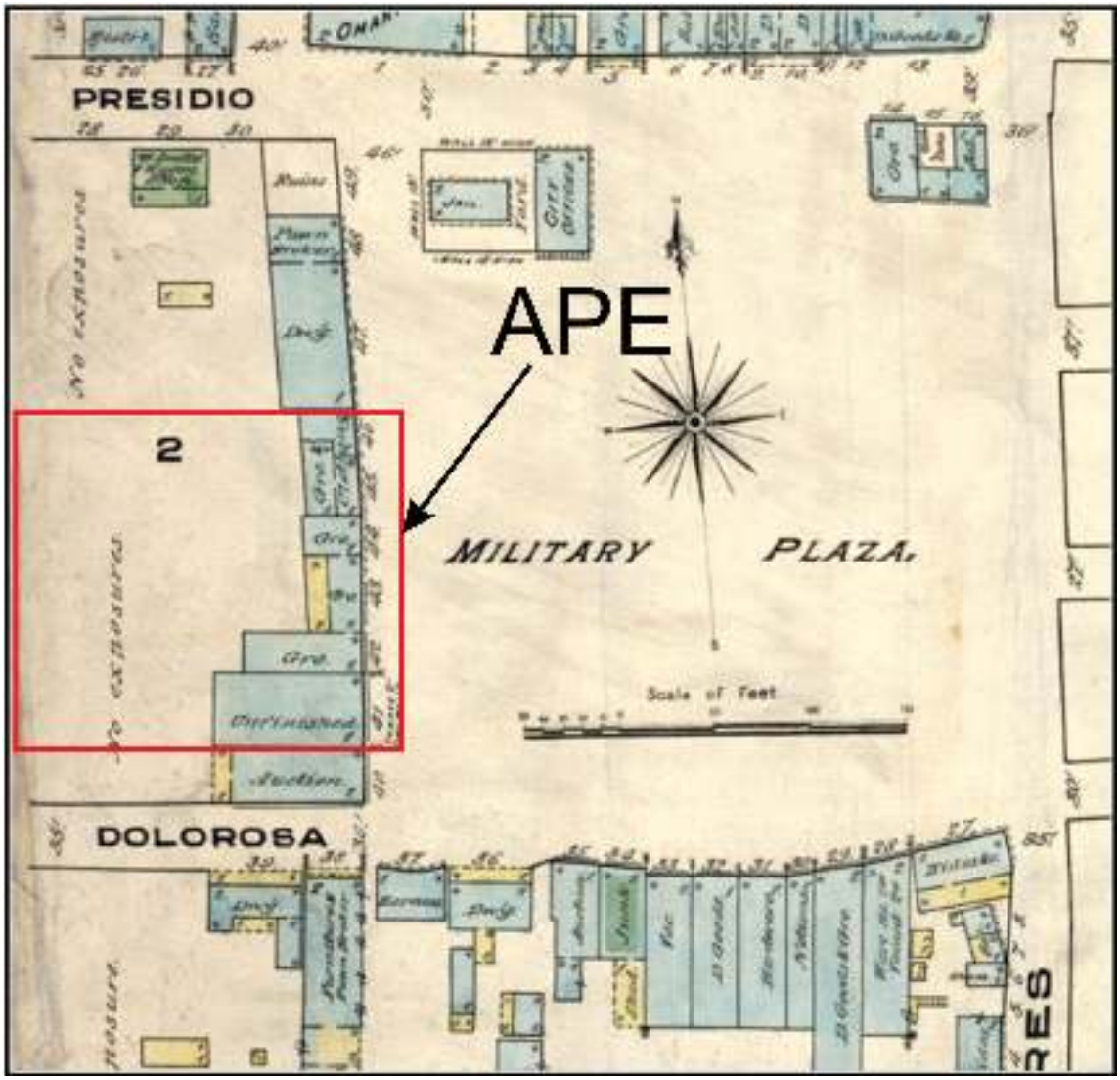

Figure 4-4. Portion of 1877 Sanborn Fire Insurance Map. Project Area outlined in red (1877 Sanborn Fire Insurance Map, Sheet 1, Perry-Castaneda Library Map Collection, Sanborn Fire Insurance Maps - Texas [1877-1922], original located at Dolph Briscoe Center for American History, University of Texas at Austin).

surrounded by a 15-foot wall. Considering the orientation of the structure, it is likely that some of this edifice was part of the Spanish Colonial Cuerpo de Guardia (Cuartel) that formed a portion of the northern side of the Presidio de Bexar as it aligns with structures on the Urrutia map (see Structure C, Figure 4-3; Ramsdell 1959: 117-124). This is the structure labeled "Jail" in Fig. 4-4 and was known in the nineteenth century as the Bat Cave. The Spanish Governor's Palace is above the project APE (outlined in red) and to the left of the City Hall (Figure 4-4).

The City Hall building is also visible in Figure 4-5 as the large two-story stone structure in the upper left of the photo. It was demolished in 1889-1890 to make way for a new City Hall. It is probable that significant subsurface remains of the original Colonial Cuerpo de Guardia (Cuartel or jail), City Hall, City Jail, and associated features are still present as following the demolition no other structures have been erected on the site. In addition to the governmental functions, Figure 4-5 clearly shows that the plaza acted as a depot for cattle and other livestock, a trading post where a variety of mercantile activities took place. These included sales of hay, wood, and vegetables. The plaza was well known for its "Chili Queens" who set up tables and sold their comestibles in the evening. The scale and variety of activities on the Plaza is shown in Figure 4-6.

With the completion of the construction of the new Second Empire style City Hall opened in 1891 (Figure 4-7), nearly 170 years of public markets and uses of the plaza ceased. Although the former mercantile activities moved off the Plaza, the changing nature of both society and commerce ultimately resulted in the near complete absence of those activities from the area by 1925. The modern scene on Plaza de Armas is rather staid in comparison to the bustling markets, saloons, and dance halls of the nineteenth century.

Immediately to the north of the current APE is the Spanish Governor's Palace (Figure 4-8). Possibly dating to as early as 1749, the Spanish Governor's Palace was part of the

Figure 4-5. Plaza de Armas with vendors, ca. 1875-1885, view from Plaza's southeast corner (Frank Hardesty, photographer).

Figure 4-6. Plaza de Armas filled with vendors, ca. 1875-1885, view facing north (image from Steinfeldt's San Antonio Was *[1978:44]).*

Figure 4-7. San Antonio's Second Empire style City Hall, completed in 1891, ca. 1927 (image from Steinfeldt's San Antonio Was *[1978:51]).*

Figure 4-8. The Spanish Governor's Palace prior to reconstruction. North wall of the Plaza de Armas Buildings is visible in the background. Photo ca. 1929 (Hafertepe 2003).

presidio (Figure 4-3, structure B) and used as the Casa de Capitan or Commandancia by Toribio de Urrutia (Hafertepe 2003:242). In 1763, it became the private residence of Luis Antonio Menchaca, who at that time was also serving as Presidio Captain. The Menchaca family used the property as a residence until conveying it to Ignacio Perez in 1804. The Perez family and heirs retained ownership of the property until 1928 (Hafertepe 2003:256). During the nearly 125 years of ownership by Perez family heirs, the building was used variously as a grocery, pawn shop, residence, saloon, school, and used clothing store (Texas Historical Commission Sites Atlas, accessed February, 2015). The Spanish Governor's Palace was not originally built to be used by a Spanish Governor, but Lt. Col Ygnacio Perez, the last ad-interim Spanish Governor of Texas lived in the building. Thus, Adina DeZavala first appropriately used the name in 1915 as part of a historic preservation campaign to have the City purchase and restore the structure. After a nearly fifteen year campaign led by DeZavala, the City purchased the property for $55,000 in 1928 (Hafertepe 2003:256).

The Plaza de Armas Buildings

The series of five buildings that adjoin the Spanish Governor's Palace are collectively referred to as the Plaza de Armas Buildings or the Vogel Belt Complex. These buildings are so named as a result of their previous use as a collective group by the Vogel Belt Company. The five extant structures, all separately constructed with different owners and businesses, had other uses when originally constructed. However, at the time of their nomination to the National Register of Historic Places in the late 1970s, they were collectively referred to by this name. However, as noted in the first chapter, we will refer to these as the Plaza de Armas Buildings.

Figure 4-9 is an early 1870s photograph of the west side of the Plaza de Armas Buildings that clearly shows the two-story City Hall building, the Spanish Governor's Palace in the middle, and a series of attached structures continuing along the same alignment south of the Palace in the Project Area. These former structures have a similar Spanish Colonial style of constructions. The buildings that form the core of the current Plaza de Armas Buildings were independently begun in the 1870s and, with the exception of a single building (Building 5, see below) that appears to date to the early twentieth century, completed by 1885.

A comparison of the Sanborn Map of 1877 (Figure 4-4) with the Map of 1885 (Figure 4-10) shows that the original Colonial and post-Colonial structures extant in 1877 are gone by 1885. Note that in 1885 there were five buildings in the complex. The fifth building, furthest south, was subsequently demolished during the widening of Dolorosa Street in 1928.

Figure 4-9. View of Plaza de Armas, ca. 1872, facing west, from the roof of San Fernando (image from Steinfeldt's San Antonio Was *[1978:44]).*

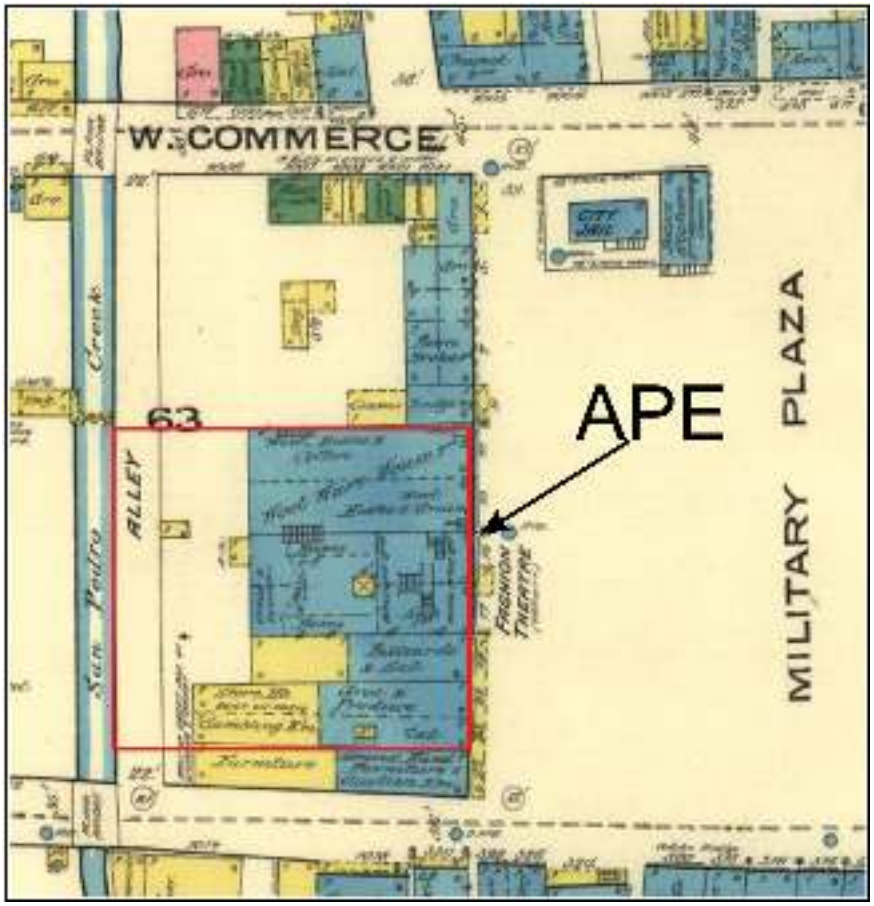

Figure 4-10. Sanborn Fire Insurance Base Map of 1885. Project Area is outlined in red (1885 Sanborn Fire Insurance Map, Sheet 8, Perry-Castaneda Library Map Collection, Sanborn Fire Insurance Maps - Texas [1877-1922], Dolph Briscoe Center for American History, University of Texas at Austin, original from the collections of the Geography and Map Division, Library of Congress).

The extant buildings of the Plaza de Armas Buildings were numbered by CAR sequentially from north (1) to south (5). Building 5 is included with the lot history of Building 4, which it abuts on the west. These building numbers correspond with the National Register nomination designations of parcels a, b, c, and d respectively (where a = 1, b = 2, etc.). The lot histories of the four extant buildings are presented in numeric order.

The extant structure referred to as Building 1 (parcel a) was purchased by the City of San Antonio in 1979 from the Urban Renewal Agency that had acquired the property the Vogel Belt Company in 1968 (Fisher 1996:380). Vogel had purchased the building in 1926 as part of his acquisition of all the units that now comprise the Plaza de Armas Buildings. The structure was built by Edward Steves owner of the Steves Lumber Company. Steves served as an Alderman of the City in 1870 and as assistant fire chief in 1877 (THC 2015). The first Steves Building on Plaza de Armas was completed in 1880. The erection of the Steves Building necessitated the demolition of the Spanish Colonial construction that preceded it. The original Steves Building and the Fashion Theatre (Building 2, parcel b) were destroyed by fire on December 10, 1891. However, both structures were immediately rebuilt.

Steves had acquired the property from Frank Rose in October of 1875 (BCDR Vol. 2:478). Rose, in turn, had acquired the property from A. B. Frank in May of 1866 (BCDR Vol. T2:763-764). Frank obtained the property earlier that same month from Maria Gertrudis Flores de Seguin, the wife of famed Tejano Juan Nepomuncio Seguin (BCDR Vol. T2:736-738). She had been given the property in 1860 by her brother Carlos Flores de Abrego. Carlos Flores de Abrego had inherited the property from their father Jose Antonio Flores de Abrego after his death in 1852. Carlos Flores de Abrego served under his brother-in-law Juan N. Seguin and participated in the Storming of Bexar in December of 1835 as well as at the Battle of San Jacinto in 1836 (Inclan 2009).

It is uncertain when the property along the west side of Plaza de Armas, south of the Casa de Capitan, came into the control of the Flores de Abrego family. Their founder Francisco Flores de Abrego was born sometime in the late 1600s and hailed from Saltillo. His wife was Maria Saucedo and their only known son, Francisco Antonio Flores de Abrego (born ca. 1728), were also from Saltillo. The family relocated to San Fernando de Bexar by 1743 where their son married Rosa Hermenegilda Hernandez, and in the same year, the couple had a son, Jose Joaquin Flores de Abrego (Gibson 2010:1). Jose Joaquin married Ana Teodora Teresa Montes de Oca in 1770, and they had six children, one of whom was Jose Antonio Teodoro Justo Guadalupe Flores de Abrego, born on April 11, 1777. He married Maria Antonia Rodriguez (descended from the Canary Islander Salvador Rodriguez) on August 22, 1798, and together they had ten children. While the exact date of acquisition is uncertain, there is no doubt that the property was in the family's control by the time of Jose Antonio's death for he willed, through division, the property to two of his sons, the aforementioned Carlos Nepomuceno Flores de Abrego and Jose Maria de Jesus Dionicio Flores de Abrego, in 1852. This is the first subdivision of the property to multiple ownership. There is no extant archival record of a transfer of title between 1836 and Jose Antonio's death in 1852, and it is reasonable to assume that he, or his father Jose Joaquin, acquired the property sometime prior to the Texas Revolution.

Buildings 2, 3, 4 and 5 (parcels b, c, and d) share a similar ownership history traceable to Jose Antonio Flores de Abrego through his son Jose Maria de Jesus Dionicio Flores de Abrego. Following Jose Maria's death in the mid-1850s, the property was left to his eldest daughter Josefa Augustina Flores de Abrego de Barker. She conveyed the property back to her mother, Maria Leonides Seguin Flores de Abrego in 1858 (BCDR Vol. R2:256-257). Upon her passing in 1870, her considerable estate was divided among her three daughters: Josefa Augustina Flores de Barker (husband, Samuel William Barker), Concepcion Flores de Zaragoza, and Leonides Flores de Martinez (husband, Jose de Jesus Martinez) (BCDR Vol.2:397-398). Josefa received the entirety of the Seguin family's interest in Rancho San Jose and the Plaza de Armas residence was divided into two sections and left to Concepcion and Leonides (the southern and northern halves, respectively). Both sisters sold their portions to Simon Fest in 1871 (BCDR Vol.W1:403, W1:413).

Fest developed the properties, and three of the four buildings still standing were built by him. The three southern buildings (between Dolorosa Street and the Fashion Theatre) were originally single-story stone constructions with wooden structures to the rear (see Figure 4-10). The buildings were expanded and became the Fest Block with unified facades, and they were converted to two stories circa 1885-1895.

Figure 4-11 are photographs of the west side of Plaza de Armas in 1887 and ca. 1892. The top view shows the Steves Building to the immediate right of the Fashion Theatre. The Fest Building is to the left of the Fashion Theatre, and the southern buildings are under construction. These three properties remained in the Fest family's control until his wife Mary Fest sold them in the early twentieth century. The bottom view in Figure 4-11 shows the relationship of the buildings to the Spanish Governor's Palace to the north.

The properties passed through several short-term owners until they were acquired by Adolf Vogel in the mid-to late 1920s and were repurposed into the Vogel Belt Company. Vogel retained ownership until 1968, when the Urban Renewal

Figure 4-11. West side of Plaza de Armas, showing the Fest and Steves Buildings in the background (top: Sturdevant, E. K. photographer. "[Market on Military Plaza, San Antonio, Texas]" Photograph. 1887. From Library of Congress: Misc. Items in High Demand. http://www.loc.gov/pictures/item/2006682447/, accessed May 12, 2015; bottom: Mary E. Jacobson, photographer, ca. 1892, Southern Methodist University, Central University Libraries, DeGolyer Library).

Agency acquired the properties. The Urban Renewal Agency conveyed the properties to the City of San Antonio in 1979, and they were restored for use as City offices (Figure 4-12).

Summary

The Plaza de Armas Buildings currently consist of five buildings, four of which were built in the late nineteenth century. The buildings that comprise the Plaza de Armas sit on land that has a varied and significant history both for the development of San Antonio as well as Texas. The complex abuts the Spanish Governor's Palace, which may have been constructed as early as 1749, and is located along Plaza de Armas. The Plaza itself is the second location of the Presidio San Antonio de Bexar built here in 1722 and established to defend the Villa de Bexar and the Mission San Antonio de Valero. The Plaza served as the primary center for military, commercial, and civic activities during the Spanish Colonial period, as well as through the nineteenth century.

Figure 4-12. The Plaza de Armas Buildings under rehabilitation, ca. 1979-1980 (image from Fisher's Saving San Antonio *[1996:380]).*

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Chapter 5: Previous Archaeological Investigations

by Lindy Martinez and Raymond Mauldin

As noted in the previous chapter, the land on which the Plaza de Armas Buildings sit, as well as the surrounding area, was the focal point for early Spanish Colonial occupation. Not surprisingly given that history, there is a variety of archaeological sites and multiple archaeological projects associated with the area. This chapter provides a brief summary of previous archaeological investigations within the current APE and within a roughly 300-m radius of the Plaza de Armas Buildings. These include work/projects conducted at the San Fernando Cathedral (41BX7), the Ruiz property (41BX795), the Bexar County Justice Center (41BX1775, 41BX334, 41BX335, and 41BX336), the Vollrath Blacksmith Shop (41BX786), Casa Navarro (41BX302), Milam Square (41BX992), the Main Plaza (41BX1752 and 41BX1753), the San Fernando Community Center/Presidio area (41BX1598), and the Spanish Governor's Palace (41BX179). In addition, one project has been previously conducted within the Plaza de Armas Buildings. While there have been additional projects in the area (e.g., McKenzie 1995), this chapter focuses on work that resulted in site identifications or updates.

San Fernando Cathedral (41BX7)

Some of the earliest professional work undertaken in the immediate Project Area seems to have been conducted at San Fernando Cathedral (41BX7), located to the east of the current project (Figure 5-1, A). While CAR staff could not locate any original reporting, Fox (1977:1) and Figueroa (2011:5-6) both report that archaeologists associated with the Office of the State Archaeologist conducted excavations at the site in 1975. That work likely involved testing, including work in the floor of the cathedral. It appears that a variety of material was recovered, some of which dated to the Spanish Colonial period. In 1987, Cox (1987) monitored activities required for the construction of an addition to the rectory. CAR staff also monitored the "sub-grade work" that occurred prior to the renovations to the cathedral and the construction of the Cathedral Center in 2001 (Meissner 2002).

Ruiz Property (41BX795)

Site 41BX795, known as the Ruiz Property, was recorded by Fox (THC 2015), with additional details of the property taken from a report by Uecker et al. (1991). The site, located to the south of Plaza de Armas (see Figure 5-1, B), was the primary residence of the Ruiz family. The family played a significant role in San Antonio during the late eighteenth though the mid-nineteenth century. Monitoring and several test units were excavated at the site under Uecker's direction in 1989. That work recovered a variety of ceramics and other artifacts, along with the remains of a brick-lined privy and building footings. The material is consistent with use of the property as early as the 1730s. This early use may have been associated with a school, and its later use was commercial and residential activities (THC 2015; Uecker et al. 1991).

Bexar County Justice Center/New City Block 100

Several archaeological investigations have been conducted in conjunction with the development of the Bexar County Justice Center and associated facilities within New City Block 100 (NCB 100). Located to the southeast of the current project (Figure 5-1, C), these past efforts have defined or described sites 41BX334, 41BX335, 41BX336, 41BX337, and 41BX1775 (THC 2015). In addition, site 41BX667, associated with NCB 100, is located to the east of the current project (Figure 5-1, D). Early investigations, conducted primarily between 1978 and 1989 under the general direction of Anne Fox, are summarized in Fox et al. 1989. Figueroa (2011) reports a more recent archaeological investigation in this same area associated with the expansion of the Bexar County Justice Center.

Sites 41BX334, 41BX335, and 41BX336 represent the remains of three residences (Fox et al. 1989). Limestone foundations were uncovered at the location of 41BX334, also known as the Campbell House. The residence, which dated to the late 1800s, was that of author Dr. Charles Campbell, and a cache of metal plates used in printing was recovered on the property (Fox et al. 1989:16-21; THC 2015). Site 41BX335 is described as limestone rubble from foundations with large quantities of charcoal likely associated with a catastrophic fire. In addition, the remains of a kitchen, along with a variety of artifacts, were uncovered (Fox et al 1989:21-24). The location likely dates to the mid-nineteenth century (THC 2015). Finally, site 41BX336, the Dullnig House, contains the remains of two structures that may have been constructed and used from the mid-nineteenth century into the early twentieth century (Fox et al. 1989:24-25; THC 2015).

Information on a fourth site, 41BX647, in NCB 100 is also provided by Fox et al. (1989:8-13, 43-51). Located east of the current project (Figure 5-1, D), this residence, referred to as the Ybarbo/Barrera House (THC 2015) and also as the Salinas-Barrera House (Fox et al. 1989:8-13), was

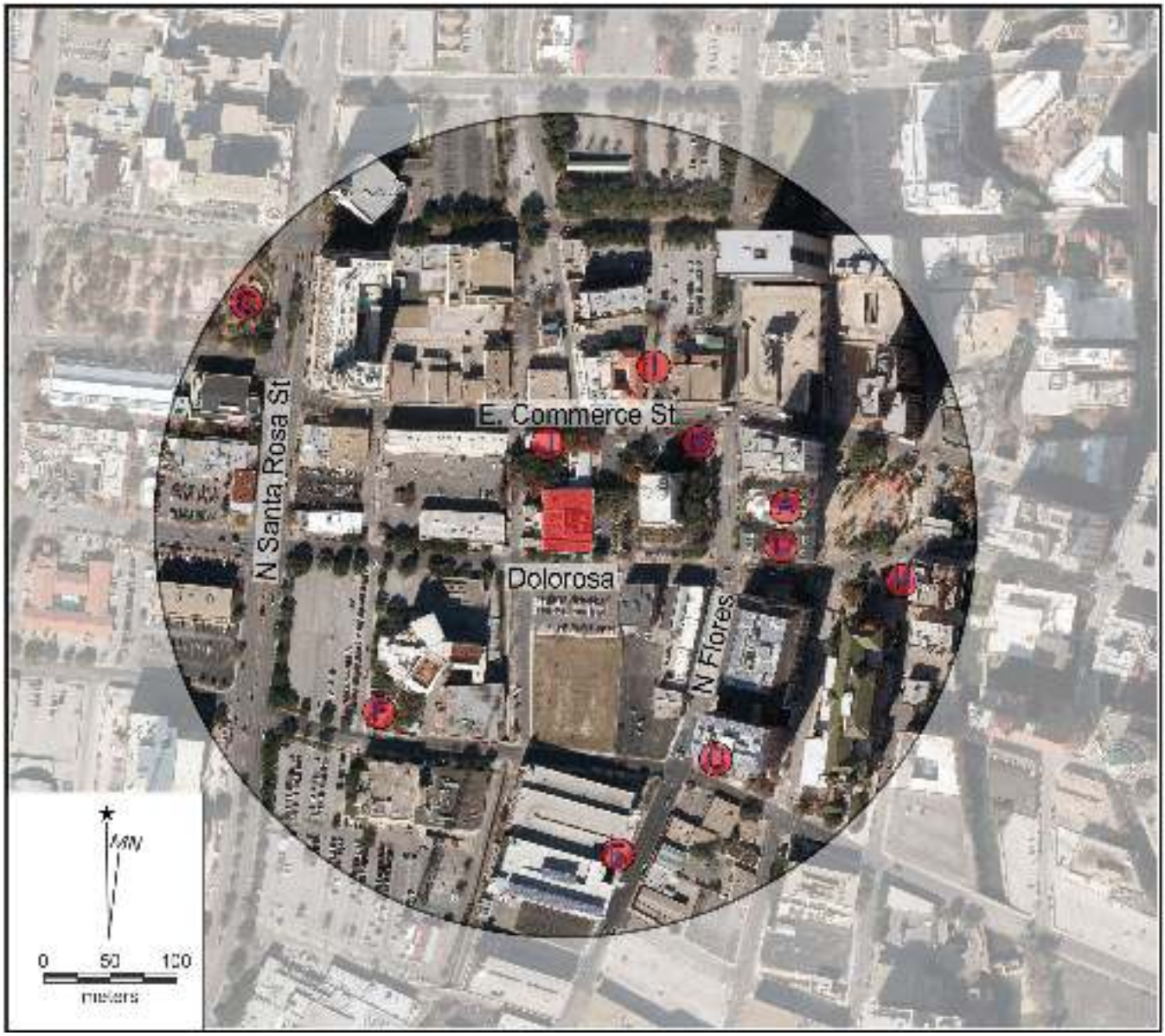

Figure 5-1. Previous archaeological projects and sites associated with the current Project Area: A) San Fernando Cathedral; B) Ruiz Property; C) Bexar Co. Justice Center; D) 41BX647; E) Vollrath Blacksmith Shop; F) Casa Navarro; G) Milam Park/ Square; H) Main Plaza; I) 41BX1598; and J) Spanish Governor's Palace (41BX179).

encountered in a backhoe trench. Data was gathered through hand excavations, and a variety of ceramics, glass, and metal, along with a large quantity of animal bone, were collected (see Fox et al. 1989:49-51).

Finally, one additional site, the San Pedro *Acequia* (41BX337), is also associated with the early NCB 100 work. The *acequia* runs from north-to-south, along the western portion of the Figure 5-1 circle. The Spanish originally constructed this *acequia* in the 1700s to divert San Pedro Springs water to agricultural fields, and portions of the *acequia* were lined with cut limestone blocks (see Cox 2005a; Fox et al. 1989; Frkuska 1981). Trenching within NCB 100 encountered a portion of this irrigation feature, with hand excavation identifying the top of the *acequia* at 86 cm and the bottom at 1.54 m below the surface. The feature was trash filled, and a portion of the *acequia* in this area was stone lined (Fox et al. 1989:25-28; THC 2015).

In 2008, CAR conducted additional work in conjunction with an expansion to the Bexar County Justice Center. That work, summarized by Figueroa (2011), involved shovel testing, monitoring, backhoe trenching, and limited controlled excavation. Figueroa collected additional information on

both the San Pedro *Acequia* (41BX337) and the Campbell House (41BX334). This work also recorded site 41BX1775, which consisted of nine features, including brick and limestone walls and foundations, and a plastered floor. Based on recovered artifacts, these features seem to date to the late nineteenth century as well as the early twentieth century (Figueroa 2011; THC 2015).

Vollrath Blacksmith Shop (41BX786)

Site 41BX786, the Vollrath Blacksmith Shop, is located to the south of the current project (Figure 5-1, E). Cox (Cox et al. 1990) oversaw archaeological investigations of this property. The project used both detailed archival research and limited excavation. Along with the expected metal items, such as nails and horseshoes, an unexpectedly wide variety of ceramics and glass was recovered. The investigation concluded that the blacksmith shop was established in 1874, and it continued in operation until the early part of the twentieth century (Cox et al. 1990; THC 2015). Site 41BX786 provides an example of one of the many businesses that were in this area of San Antonio at the close of the nineteenth century.

Casa Navarro (41BX302)

Site 41BX302, Casa Navarro, is located to the southwest of the current Project Area (Figure 5-1, F). The location is a state historic site, is listed on the National Register of Historic Places, and is a Texas Historic Landmark (THC 2015). The property consists of a residence, including an office and a kitchen, associated with Jose Antonio Navarro who occupied the structures in the 1840s and 1850s. Navarro was a rancher and merchant, and one of the signers of the Texas Declaration of Independence (Figueroa 2011:6).

Milam Park/Square (41BX992)

In 1992 and 1993, CAR archaeologists conducted monitoring, backhoe work, and test excavations at Milam Square, which was recorded as site 41BX992 (Tennis 1995a, 1995b; THC 2015). The location is northwest of the current project (Figure 5-1, G), and it had been used in the 1840s and 1850s as a city cemetery. The park is named for Col. Benjamin Milam, who was instrumental in rallying troops to expel Mexican forces who occupied San Antonio in 1835 (Nevin 1975). Milam, who was killed during that battle, was buried in the square. Renovations to the park required the temporary removal of his remains. Following the renovations, his body was reinterred in the square (Tennis 1995a, b). In 2013, archaeologists with Atkins conducted monitoring and limited test excavations (50-x-50 cm units) associated with renovations to playground equipment within the park (THC 2015).

Main Plaza (41BX1752, 41BX1753)

THC records (THC 2015) document these two sites. Discovered during the Main Plaza Redevelopment project, archaeologists with PBS&J tested the sites in 2007 (Hansen 2009). Site 41BX1752, also known as the Old Dolorosa Earthworks, represents a late Spanish Colonial midden deposit and the possible remains of earthenware fortifications associated with the Texas Revolutionary period and the Siege of Bexar in 1835. Artifacts recovered included ceramics, glass, bone, gunflints, and personal items that date to as late as 1840. Site 41BX1753 encompasses a series of features, including several privies and midden deposits, reflecting Late Spanish Colonial through early twentieth-century use of the Main Plaza area (Figure 5-1, H).

Site 41BX1598

Site 41BX1598, located just to the north of the current project (Figure 5-1, I), was recorded by CAR during testing and monitoring in advance of the construction of the San Fernando Community Center (Figueroa and Mauldin 2005; THC 2015). The site was identified as a late Spanish Colonial and post-Colonial midden deposit. Archaeological activities at the community center included mechanical stripping, nine shovel tests, six backhoe trenches, and seven test units (Figueroa and Mauldin 2005:39-40, 51). Several subsurface walls were documented, including a possible Colonial wall segment, the Santa Rosa Charity Hospital/ St. Joseph's Orphanage, and two later building additions (see Figueroa and Mauldin 2005:Figures 8-1 and 8-2). Two Colonial middens and six post-Colonial pit features were recorded in the Project Area and over 1,500 artifacts, 13,000 pieces of animal bone, and numerous burned rock were collected throughout the project. Cultural material from the Colonial middens revealed subsistence changes over time, as evident from the faunal remains. Ceramics recovered from the stratified middens also posed questions about ceramic chronology in San Antonio (Figueroa and Mauldin 2005). Note that some of the Colonial age deposits at this site are likely to be associated with the second row of presidio buildings on the 1767 Urrutia map (see Figure 4-3).

Spanish Governor's Palace (41BX179)

As noted in the previous chapter, the Spanish Governor's Palace is immediately adjacent to the current Project Area (Figure 5-1, J). Multiple excavations have taken place here. The first investigation was the reconstruction undertaken by architect Harvey P. Smith following the purchase of the property by the City in 1928 (see Fox 1977:1). Fox conducted work in 1976 (Fox 1977) and 1996 (Fox 1997), and Ulrich

(2010) conducted monitoring and limited excavation at the site in 2009. Figure 5-2 shows the excavation areas for these projects, along with the limited work done previously at the Plaza de Armas Buildings by Abasolo Archaeological Consultants (Shafer and Hester 2011).

The initial work by Fox (1977) used a combination of shovel tests and test units, and the primary focus was the northeast corner of the property (see Figure 5-2). The work recovered an assortment of material and features, including two caliche floors, a variety of nineteenth- and early eighteenth-century artifacts and bone, and an infant burial (Fox 1977:4-10).

In 1996, CAR (Fox 1997) excavated three units (Figure 5-2) to recover information on the depth and condition of the foundations located on eastern façade of the Spanish Governor's Palace (Fox 1997:i). The foundation was determined to extend 40-43 cm below the top of the sidewalk

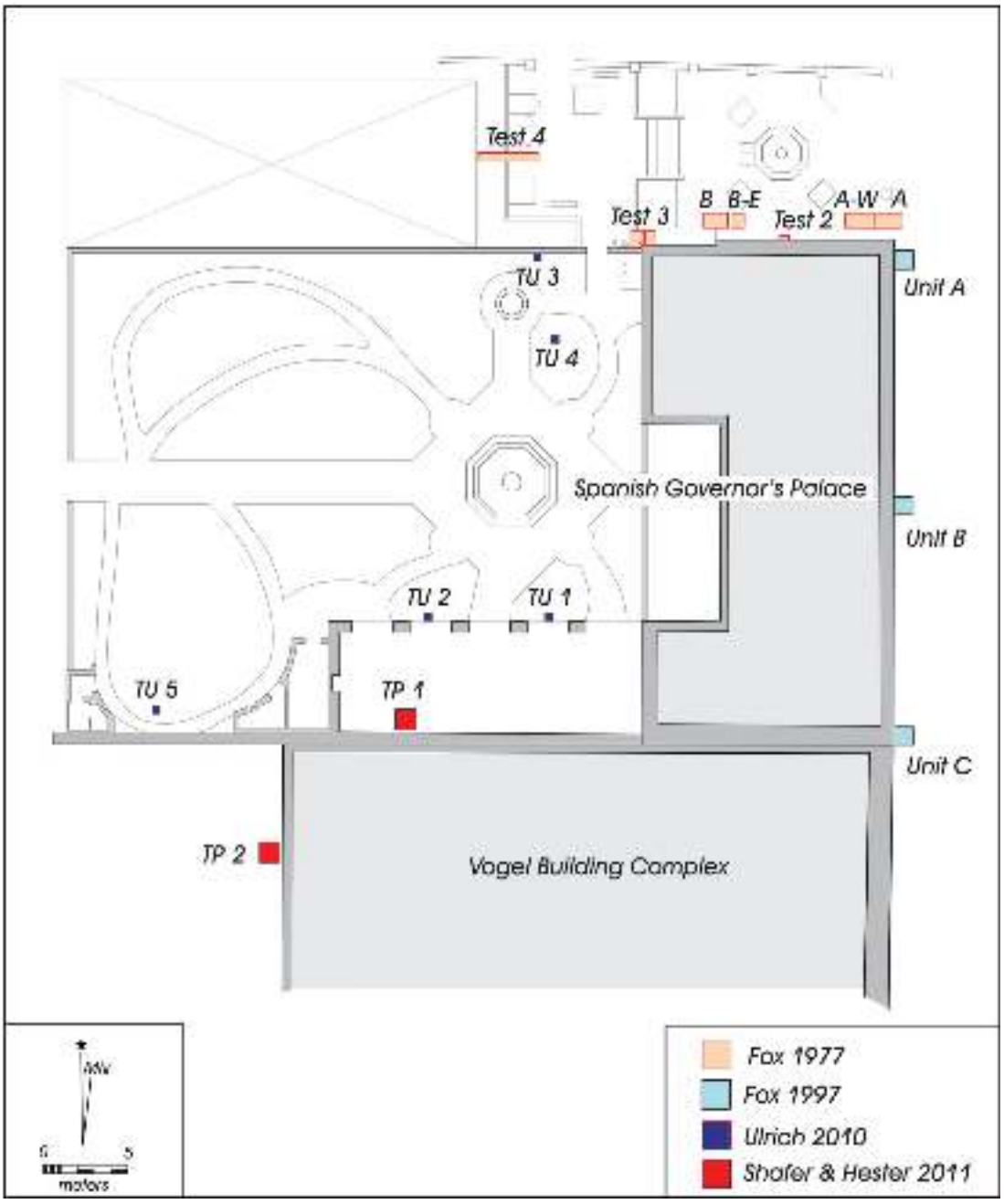

Figure 5-2. Locations of investigations conducted at the Spanish Governor's Palace and Plaza de Armas Buildings.

(Fox 1997:16). Artifacts recovered included Spanish Colonial pottery, earthenware, porcelain, personal items, metal, construction materials, shell, animal bone, and chert flakes/tools (see Fox 1997:Table 1).

In December 2009 and January 2010, CAR conducted archaeological investigations in the courtyard of 41BX179 in advance of the installation of electrical conduits and fixtures. Five 50-x-50 cm test units (Figure 5-2) were hand-excavated to 45 cm below the surface (cmbs), and utility insulation work was monitored. Large quantities of artifacts were recovered from the test units. They ranged from the Colonial period through the twentieth century; however, the deposits were heavily mixed (Ulrich 2010).

Plaza de Armas Buildings (41BX2088)

Prior to the excavations described in this report, Abasolo Archaeological Consultants monitored the excavation of two 1.2-x-1.2 m test pits in order to expose the foundation of the Plaza de Armas Buildings (see Figure 5-2; Shafer and Hester 2011). The initial unit (Test Pit 1) was located in the Spanish Governor's Palace patio area against the north wall of Building 1 of the Plaza de Armas Buildings. The pit was excavated in "several vertical increments" and the fill was "sight screened" (Shafer and Hester 2011:135). Bone, glass, metal, and ceramics were recovered. The deposits appeared to be mixed with the majority of the recovered artifacts dating to the nineteenth and early twentieth centuries (Shafer and Hester 2011:140-142).

Test Pit 2 was located on the west side of the Plaza de Armas Buildings, along the wall of Building 1. This pit was excavated with a small backhoe, and each bucket of fill was visually inspected (Shafer and Hester 2011:143). Evidence of a window well was documented as Feature 1. Few artifacts were recovered. However, near the bottom of Test Pit 2, a dark brown sediment with charcoal and bone was encountered in a portion of the unit. This deposit, located roughly five feet below the surface, appeared to be undisturbed. Shafer and Hester suggest that this area potentially could contain intact, Spanish Colonial deposits (Shafer and Hester 2011:143-145). As described in subsequent chapters, this deposit might have been encountered during excavation conducted for the current project in the basement of this and adjoining buildings.

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Chapter 6: Field and Laboratory Methods

by Lindy Martinez and Clinton McKenzie

The field methods used by the CAR at the Plaza de Armas Buildings were significantly influenced by the locations of the excavations, which were conducted primarily in the buildings' basements under low light conditions, and by safety concerns related to the condition of the buildings themselves. This chapter summarizes these field methods, as well as the laboratory and curation procedures.

Field Methods

Fieldwork consisted of monitoring exterior trenching and a combination of monitoring and various excavation methods within the interior of the buildings. As discussed in more detail in the following chapter, the work was undertaken prior to a variety of construction activities at the location. These included trenching for utility lines, the installation of sump pumps and associated drains, and the excavation of an elevator shaft. The interior of the complex includes sub-basements of four formerly separate buildings that now are interconnected by adjoining doorways and passages. These buildings are designated 1 through 4 moving from north-to-south (Figure 6-1). Building 5 is a recent addition to Building 4.

Prior to the commencement of the project, it was determined that if archaeological deposits were encountered, the excavations were to be halted to evaluate the nature of

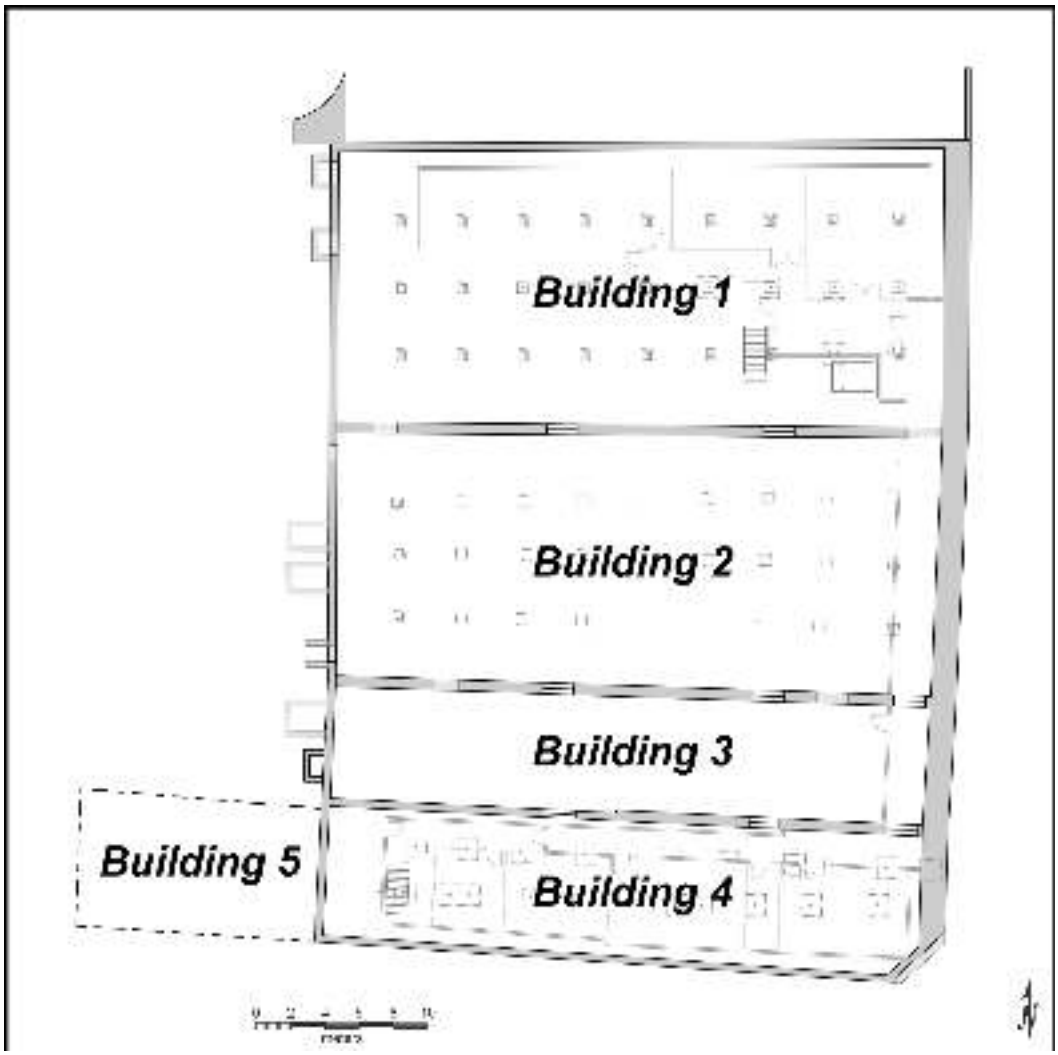

Figure 6-1. Building designations for the Plaza de Armas Buildings.

the finds and ascertain whether they were in context. Consequently, a CAR staff archaeologist was present during all initial subsurface excavations, as well as staff members conducting testing operations once it was determined early in the project that possible intact deposits were present. A variety of excavation methods were used in the work at the Plaza de Armas Buildings, including borehole, auger, and shovel tests as well as trenching, unit, and feature excavations.

In the earliest stages of the project, five boreholes (BH) and nine shovel tests (ST) were excavated by contractors and monitored by CAR staff. Thirty-four auger tests (AU) were excavated by CAR staff. Augers were used under a variety of circumstances and are so noted within the excavation discussions in Chapter 7. In some cases, augers were excavated in lieu of hand-excavation units or in advance of such excavation to determine the presence or absence of cultural materials. In other cases, they were used to assess the depth and nature of deposits below the floor of an excavation unit. Auger summary forms were completed for each auger.

Five backhoe trenches were excavated by a contractor and monitored by CAR staff. Four of these (Trenches 1-4) were on the exterior of the Plaza de Armas Buildings. Trench 5 was on the interior of Building 5.

Fifty-one units were excavated on the project. As discussed in the following chapter, 10 of these were dug by a contractor and monitored by CAR staff. These 10 were not screened. They included all eight units (41-48) excavated in Building 3 and two units (3 and 4) in Building 1. Summary forms were filled out for each of these units. In addition, the upper portions of two units (33 and 36) were initially removed without screening, while the lower levels were systematically removed and screened in nominal 10-cm levels. The remaining 39 units were excavated by CAR staff in levels that were generally 10-cm thick. Excavation forms were completed for each level of each unit. Matrix was screened using ¼-inch mesh. CAR staff collected all artifacts, which were brought back to the CAR laboratory for processing and analysis. Note that most unit dimensions were non-standard. This is a direct result of adapting unit dimensions to those of the concrete cuts predicated by construction plans. The actual dimensions of each unit are provided within the appropriate section of Chapter 7. In addition, vertical depth was recorded relative to the concrete slabs in each building. Finally, CAR staff recorded six features exposed during the excavations. These were hand excavated, and matrix was removed and screened. A separate feature form was completed for each feature, and documentation included photography, drawings, and measurements.

Laboratory Procedures and Curation Methods

All recovered artifacts, organic samples, and bone from augering, hand-excavated units, and trenching were transported to the CAR laboratory where they were checked-in for processing. Soil, charcoal, and bone were removed from plastic field bags. These organic samples were set out to dry if they had high moisture content. After several days of accumulation, lab personnel would wash all artifacts collected and then set them out to air-dry. Depending on their condition, bone samples were placed into new bags or, if covered with dirt, rinsed and air-dried. Material was then sorted by general class (e.g., bone, glass, and ceramics) for analysis.

Following analysis, materials and records obtained and generated during the project were prepared for curation in accordance with current guidelines of the CAR. Materials collected and processed in the CAR laboratory were stored in 4-mil zip-locking archival-quality bags. Information concerning the artifacts were entered into a cataloguing system. Acid-free labels were placed in all artifact bags. Each laser printer generated label contains provenience information and a corresponding lot number. Artifacts were separated by class and stored in acid-free boxes identified with standard tags. Field notes, forms, photographs, and drawings were placed in labeled archival folders. Digital photographs were printed on acid-free paper, labeled with archive-appropriate materials, and placed in archival-quality sleeves. All field forms were completed with pencil. Soiled forms were placed in archival-quality page protectors.

In conformance with the THC Permit specifications and Scope of Work for this project, all field notes, analytical notes, photographs, and other project related documents, along with a copy of the final report, will be curated at CAR. After quantification and completion of analysis, and in consultation with THC and the City of San Antonio Office of Historic Preservation, artifacts possessing little scientific value will be discarded pursuant to Chapter 26.27(g)(2) of the Antiquities Code of Texas. Artifact classes to be discarded specific to this project may include, but are not limited to, samples of burned rock and snail shell, all unidentifiable metal, selected soil samples, and recent (post-1950) material.

Chapter 7: A Summary of Monitoring and Excavation Results at the Plaza de Armas Buildings

by Clinton McKenzie, Raymond Mauldin, Lindy Martinez, and Leonard Kemp

As noted in the previous chapter, a variety of monitoring and excavation methods were used at the Plaza de Armas Buildings over the course of the project. CAR's first visit to the site occurred in April of 2013 to monitor boreholes and shovel tests. In early August 2013, CAR staff monitored two backhoe trenches along the exterior west wall of the Plaza de Armas Buildings. Later that month, the scope of work on the project shifted when, during discussions between City Archaeologist Kay Hindes and the contractors, it became know that interior work, consisting of the excavation of footings for pillars, an elevator shaft, footings for stairs, two sump pumps, and other interior work, was planned. The excavations in the basement to the interior of the buildings were not in the original scope of work, which focused solely on monitoring of exterior trenches. The interior work initially was concerned with footings for support pillars. These were to be excavated to 18 inches (46 cm), dug by the contractors, monitored by CAR staff, and not screened. The initial units were excavated in Building 2 (Units 33 and 36), and 3 (Units 41-48). Most were terminated at 46 cm, though Unit 36 was terminated at 30 cm. These 10 units were excavated on August 15, 2013. During those excavations, it became clear that bone and Spanish Colonial ceramics were present in the back dirt of those excavations located to the west in the basement. Work was then halted and, after discussions between the contractors, THC, and OHP, CAR's scope of work was shifted to include controlled, screened test excavations in the interior of the basements.

Various tasks, including augering, unit excavation, and sporadic monitoring, occurred through October of 2014. Ultimately, CAR staff monitored 5 trenches, 9 shovel tests, 5 boreholes, and 10 unit excavations. CAR staff dug 34 auger holes and excavated and screened all or portions of 41 units. The majority of the excavation work occurred in Buildings 1 and 2. Buildings 3 and 4 had fewer construction tasks requiring archaeological work. A single trench (Trench 5) was monitored in Building 5. This chapter provides a summary of these field activities, which stretched over 18 months. The first section discusses monitoring activities conducted to the west of the Plaza de Armas Buildings, between the buildings and San Pedro Creek, and following this is a discussion of activities that were conducted inside, with a building-by-building summary.

Exterior Excavations

All archaeological work conducted on the exterior of the APE occurred in Calder Alley, immediately west of the Plaza de Armas Buildings and east of San Pedro Creek (Figure 7-1). As noted previously, the Spanish Governor's Palace (41BX179) abuts the Plaza de Armas Buildings on the north. Prior to CAR's work, the Admiral Chem-Dry structure a two-story addition to the west of Building 2 had been demolished.

Four backhoe trenches were excavated on the exterior of the Plaza de Armas Buildings (Figure 7-1). Trench 1 and Trench 2 were excavated parallel to the western wall of the complex. Trench 3 was excavated perpendicular to the west wall of the Plaza de Armas Buildings and parallel to the south wall of the Spanish Governor's Palace courtyard. Trench 4 was an L-shaped trench that ran perpendicular to the west wall before turning south to connect with the sanitary sewer. Note that, as shown in Figure 7-1, portions of Trench 4 were under the previously demolished Chem-Dry building. As noted in Chapter 5, trenches were excavated by the contractor and monitored by CAR staff. Deposits were not screened, though trench walls were examined. Table 7-1 lists trench sizes along with the presence/absence of cultural materials.

Trench 1

Trench 1 was placed parallel to the western wall of the Plaza de Armas Buildings so that the subsurface section could be assessed for water damage and cleaned prior to the application of a water-proof coating (Figure 7-1, Table 7-1). Inspection of the trench profile and contents confirmed that the area along the wall had been disturbed multiple times and contained churned deposits. Disturbances within Trench 1 included construction associated with the former Admiral Chem-Dry building, an older builder's trench filled with uncut limestone, various smaller utility trenches, and modern trash. Figure 7-2 provides views of the Trench 1 excavation. The exterior wall had extensive modifications. Several stones on the lower portion of the wall were out of place, and some were made of modern materials. Sections of the wall, including filled-in windows, had evidence of water-proofing.

Observations within the trench suggest that a layer of fill starts beneath the asphalt near the Admiral Chem-Dry building footprint and thins out dramatically as the trench extends north. The construction of what became the Admiral Chem-Dry building left no intact soils on the southern end of Trench 1. Intact soils were found midway through the trench at about 2 m below the surface (mbs) and again at a meter below the asphalt surface along the north end of Trench 1. No diagnostic artifacts were observed in the trench, but glass and

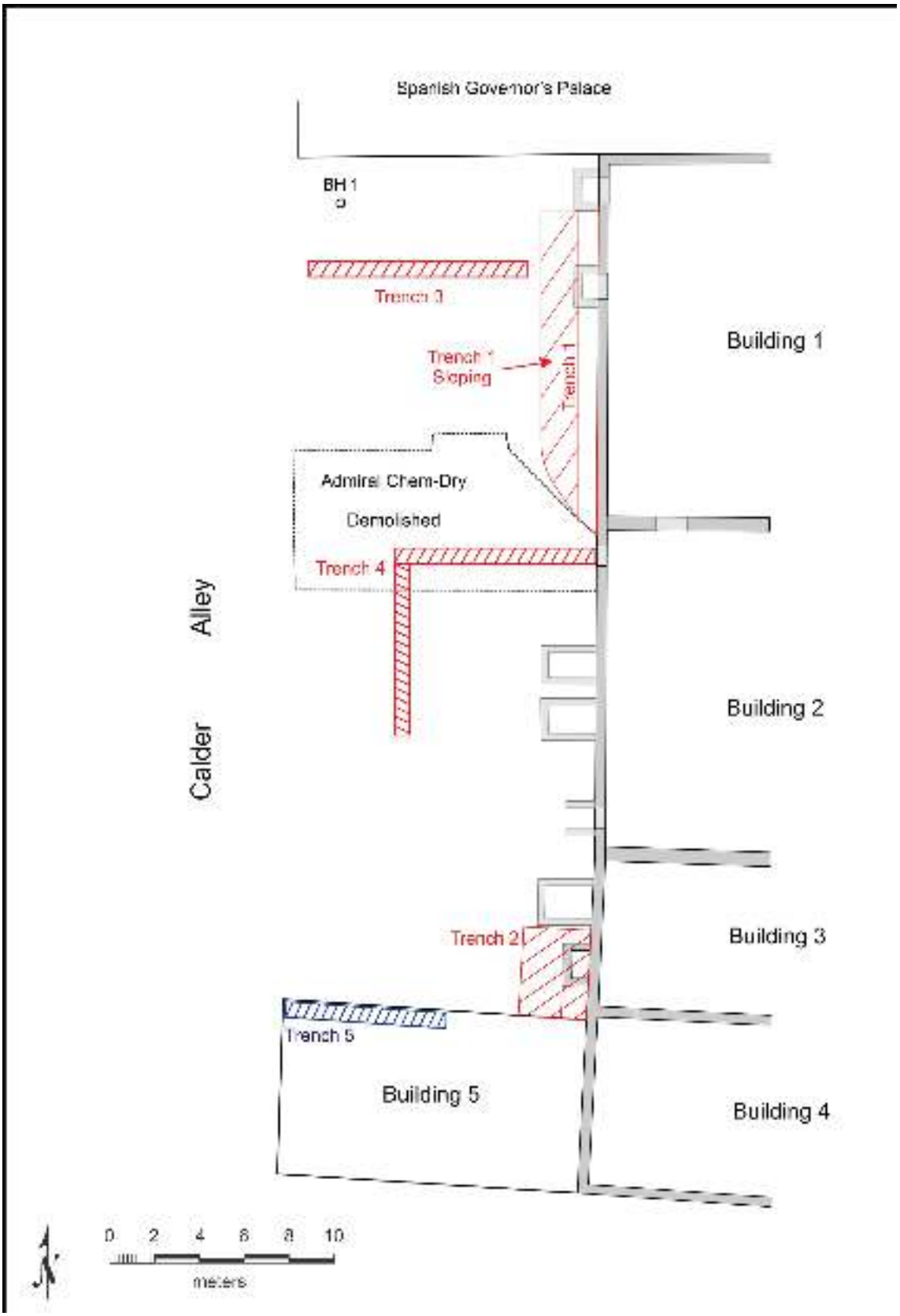

Figure 7-1. Exterior of the Plaza de Armas Buildings, with Trenches 1, 2, 3, and 4. Trench 5, inside Building 5, is also shown, along with the location of BH 1.

Table 7-1. Trenches on the Exterior of Plaza de Armas Buildings

Trench	Approx. Depth (mbs)	Approx. Dimensions (m)	Artifacts Present
1	2	13.1-x-3.5	Yes
2	2.4	4.2-x-4	Yes, not collected
3	1	9.8-x-0.7	Yes, not collected
4	1.85	17-x-0.7	Yes, not collected

Figure 7-2. Photos of Trench 1, looking north (left) and south (right). Note dark soil at trench base and wall repairs.

animal bone were present. Due to instability of the southern wall enclosing the Spanish Governor's Palace, Trench 1 did not continue past the location shown in Figure 7-1. Below the asphalt, large quantities of uncut limestone rock were scattered throughout the top meter of soil within Trench 1. Large concentrations of limestone with plastic lining the bottom were located directly beneath the downspouts installed along the side of the building. As Trench 1 progressed northward, the stratigraphy became more defined, revealing an older trench along the wall. This older trench was determined to be associated with the excavation monitored by Shafer and Hester (2011) noted in Chapter 5.

Trench 2

Located south of Trench 1, Trench 2 was excavated to remove a limestone window well directly underneath an entrance into the Plaza de Armas Buildings (Figure 7-1, Table 7-1). One small section was excavated to 240 cm below the surface (cmbs) at which point an unknown utility pipe was discovered, indicating that the deposits were mixed. None of the soil within Trench 2 contained Spanish Colonial material. However, construction materials, including remnants of four wooden posts, a broken sewer pipe, glass, and several large, cut stone blocks, were noted. Several cut stone blocks from the area had faint red, yellow, and white paint present. No artifacts were collected from this trench. The window well underneath the doorway was composed of heavily degraded limestone. The degraded limestone was removed, and the opening was filled with modern materials.

Trench 3

Trench 3 was excavated perpendicular to the west wall of the Plaza de Armas Buildings in advance of the installation of a City Public Service Energy electrical vault (Figure 7-1, Table 7-1). The entire length of Trench 3 proved to have disturbed soils in the upper meter. A 2-m profile of the southern wall near the east end of the Trench 3 was drawn (Figure 7-3). Below the surficial layer of asphalt and sand (Strata 1 and

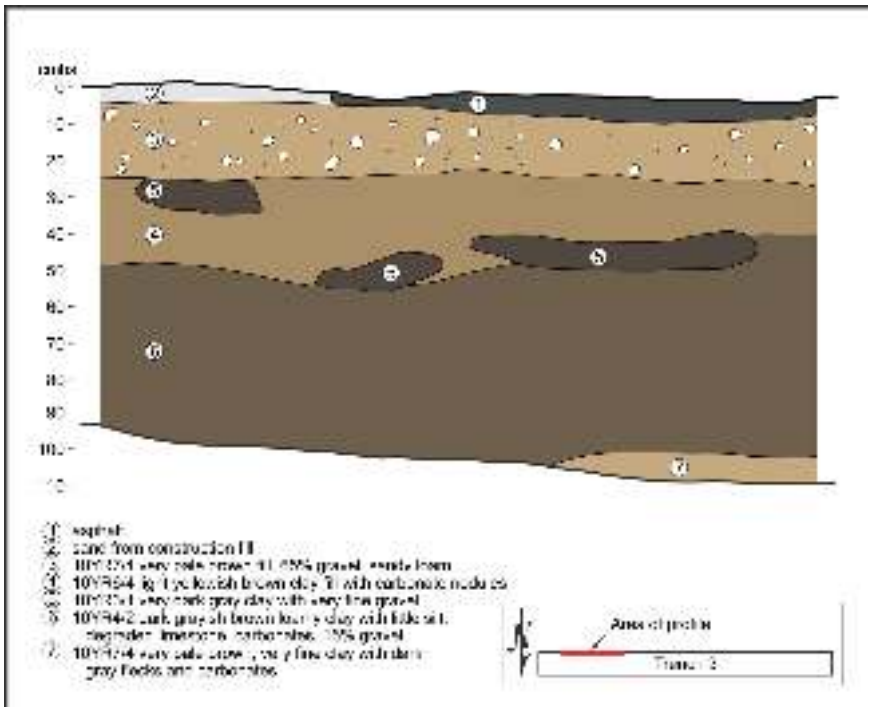

Figure 7-3. Profile of a section of the southern wall of Trench 3 (see Figure 7-1).

2) were two additional layers of fill. The first, Stratum 3, is very pale brown sandy loam mixed with gravel. This layer is consistent throughout the trench and ranged about 15-20 cm in thickness. Stratum 4, the second layer of fill, was light yellowish brown clay and ranged from about 25-30 cm in thickness. In this second layer of fill, several slender patches of very dark gray clay with pieces of fine gravel (Stratum 5) were observed. Just below the second layer of fill was Stratum 6, a dark grayish brown loamy clay with a small amount of silt. This stratum contained degraded limestone, carbonates, and gravel. In the western portion of the profile and just below the brown loamy clay was very pale brown, very fine clay with dark gray flecks and carbonates (Stratum 7).

As the trench continued to the west, the asphalt became thicker, and the mottling of soils increased. There was a slight increase in the amount of construction debris and artifacts as the trench was excavated to the west, though no cultural material relating to the Spanish Colonial period was encountered. Trench 3 contained a few fragments of red, yellow, and orange bricks with no identifying marks. Two pieces of large bone were found in the mottled soils. Several battery cores, a piece of rubber or caulking from a window seal, an olive green wine bottle base, and an unknown piece of electrical or construction-related ceramic were observed. Considering their ambiguous context, no artifacts were collected from Trench 3. After the completion of Trench 3 and following consultation with the THC, the electrical vault was installed.

Trench 4

Trench 4 was required to connect sewerage lines and install an exterior sump. Trench 4 was L-shaped and ran roughly 9 m perpendicular to the west wall of the Plaza de Armas Buildings before turning south for another 8 m (Figure 7-1, Table 7-1). Both segments of Trench 4 contained mixed deposits with the majority of debris observed in the segment perpendicular to the Plaza de Armas Buildings, as the area had formerly been a sub-basement. Rain delayed the completion of the final 4 m of the parallel portion of Trench 4, and the construction crew completed the trenching without notifying CAR. It is assumed that the remaining portion of Trench 4 also contained heavily mixed deposits.

Other Work

CAR monitored a single borehole (BH 1) that was placed to test the location for the electrical vault associated with Trench 3 (see Figure 7-1, Table 7-1). Soil samples were taken in ca. 1.5-m increments using a truck-mounted, rotary drill rig and large sampling tubes. Fill material, such as red brick and charred wood, were observed just below the asphalt to an approximate depth of 2 mbs. Between 2-3 mbs, the soil became mottled with dark grayish brown sandy clay. By 4 mbs, the mottling ceased. BH 1 hit the water table at 4.6 mbs. The soil remained consistent to a final depth of 9.1 mbs. No further artifacts were observed in BH 1 below 2 mbs (Terracon 2013b).

Building 1

CAR excavated 15 auger hole tests (AUs 8, 9, and 12 through 24) and 26 units (Units 1, 2, and 5 through 28) in Building 1. Two additional units (3 and 4) were dug by construction crews and monitored by CAR staff. Trenching associated with the placement of drainage pipes was also monitored. There were no shovel tests or boreholes in Building 1. In addition, no discrete features were identified. The excavation work occurred in order to clear an area for the installation of a series of drainage pipes and an associated sump. Figure 7-4 provides a plan view map of this work. The slab-on-grade foundation made the soil deposits beneath the floor accessible once the concrete slabs were cut (Figure 7-5). The Building 1 slab is identical to the slabs in Buildings 2 and 3. All are poured-in-placed concrete floors without rebar support. Portions of Building 4 has concrete reinforced with rebar and may have been poured later. The uniform nature of the floors in Buildings 1, 2, and 3 suggests their simultaneous installation. As discussed subsequently, this may have happened sometime in the late 1920s or early 1930s under the ownership of Adolf Vogel. This installation sealed the deposits below the floor at that date (see Figure 7-5).

Auger Hole Tests

Fifteen hand-cored auger (AU) holes were dug in the basement of Building 1 using a 10-cm diameter bucket auger (Figure 7-4). The goal was to determine boundaries of the soil strata that contained Spanish Colonial deposits. Two distinct soil types, a dark silty clay and a light colored caliche soil with variably sized gravel were identified. While only two of the 15 auger holes excavated in Building 1 recovered cultural material, other excavation data show that the dark soils contained, at times, both Spanish Colonial and nineteenth-century artifacts. The caliche deposit occasionally contained cultural material, but this was always within a few centimeters of the surface of the stratum and was likely out of context.

Auger locations are shown in Figure 7-4. AU 8, excavated near the center of the building, identified dark clay immediately under the concrete slab, with caliche gravel encountered at 24 cm below the 9-cm thick concrete slab. AU 9 was excavated near the west wall. The dark clay soil immediately beneath the concrete slab continued down to the maximum depth tested by the auger (110 cm below the top of the 8-cm thick slab). The caliche gravel substrate was not encountered. AUs 12, 13, and 14 were placed in the west central area of the floor (Figure 7-4). AU 12 hit the dark silty clay soils immediately beneath the 8-cm thick slab, and this deposit continued to a depth of 100 cmbs where caliche gravel was encountered. AU 13 was approximately 2 m to the east of AU 12. The dark clay soil was also directly beneath the slab in AU 13, though the caliche in this area was higher (ca. 37 cm below the floor). AU 14, located farther east than AU 13 (see Figure 7-4), also had dark clay soil immediately under the slab, though the deposit was only 5-cm thick. Caliche was present at a depth of 13 cm. AU 15 was in the central floor area, to the north and slightly east of AU 8 (see Figure 7-4). No dark clay soil was present in this auger, though a 2-cm lens of what was noted as lime on the auger form was recorded. This may reflect the remains of a preexisting plaster floor or base material for the slab. As the caliche gravel matrix was immediately beneath the lime deposit, the deposit may simply reflect degraded caliche. Finally, AUs 16 through 24 were excavated in the southeast of the building where an elevator shaft was to be dug. Under the 7- to 10-cm thick slab, only caliche was present, and no cultural material was recovered.

Table 7-2 provides a summary of data on the auger holes within Building 1. The table shows the auger number, the depth attained by the auger below the bottom of the slab, the depth at which caliche was encountered, the presence of the dark clay soil, and the presence or absence of artifacts in the matrix. Augers are not sorted by auger number; they are sorted by the approximate distance that the auger is located from the west wall of the building (see final column of table). This sorting highlights the observation that the darker soils tend to be deeper on the west side of the building, towards San Pedro Creek. AUs 9 and 12, both closest to the west wall of the building and, therefore, closest to the creek have significant dark clay deposits. AU 9 has over a meter of clay deposit, and AU 12 has close to a meter of deposit over the caliche base. AUs 13, 14, 8, and 15 all have dark clay deposits present, but these tend to be shallower, with the caliche always encountered within 30 cm of augering. Auger holes on the east side of Building 1 lack the dark clay soils with the caliche matrix present immediately under the slab.

Excavation Units

The locations, sizes, and termination depths of CAR's excavation units within the Plaza de Armas Buildings were determined by construction needs rather than archaeological considerations. In Building 1, excavations were required to both assess and mitigate impacts associated with a series of support beams, placement of a sump pump and small trenches for drainage pipes, and impacts associated with the excavation of an elevator shaft (see Figures 7-4 and 7-5). In all, 28 units were excavated in Building 1. CAR staff excavated 26 of these, with an estimated screened volume of 6.97 m^3. Two units (3 and 4) were dug by contractors and monitored by CAR staff. These were on the east side of the building, and were excavated into caliche. Figure 7-6 provides a simplified map of the Building 1 excavations with units identified. As noted earlier, it is likely that the concrete

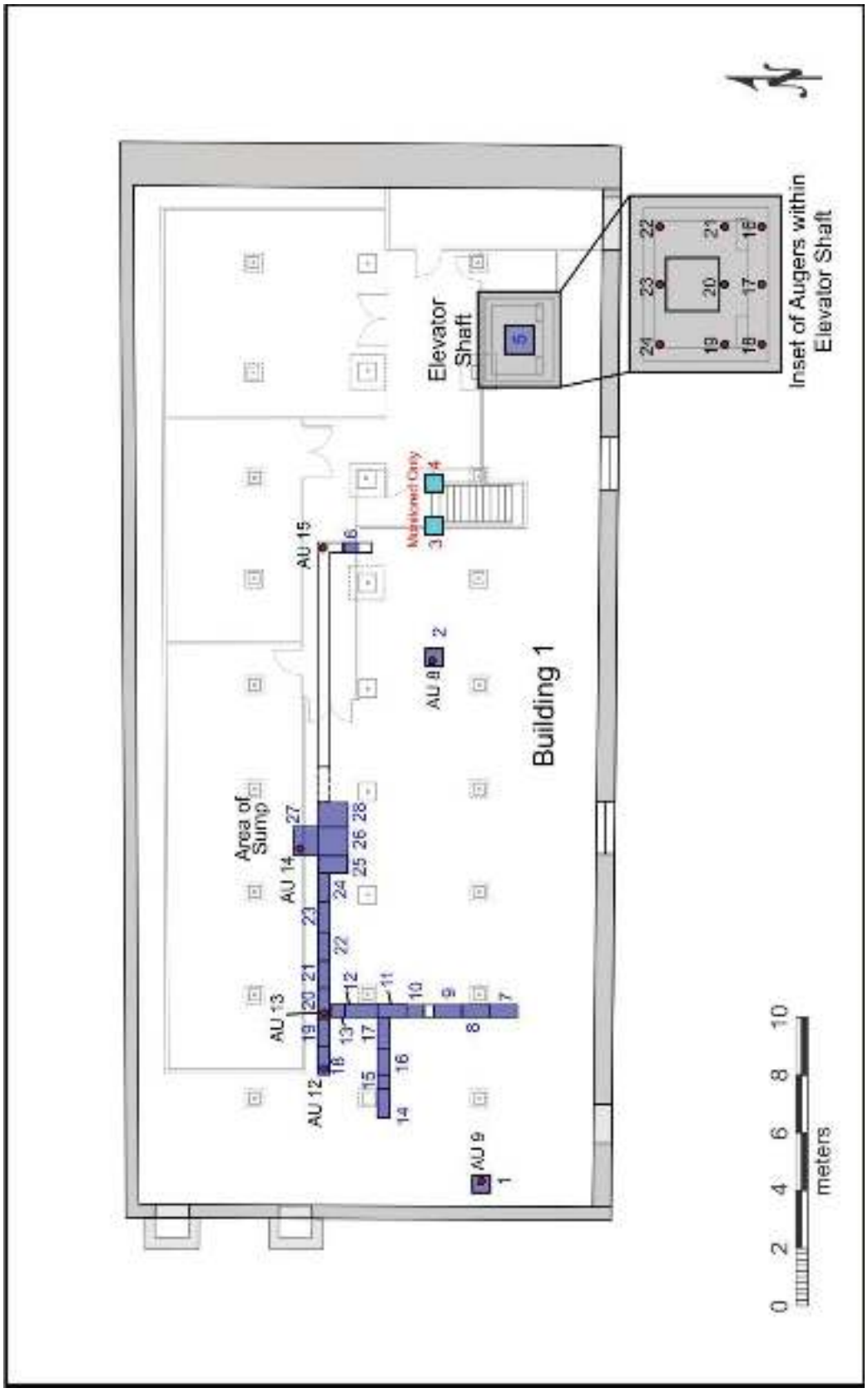

Figure 7-4. Augers, excavation units, and monitored excavations within Building 1 of the Plaza de Armas Buildings.

Figure 7-5. Photo of cut in basement floor of Building 1. View is to the east, toward the area of sump (see Figure 7-4). Photo courtesy of Kay Hindes, Office of Historic Preservation, City of San Antonio.

Table 7-2. Auger Hole Depths, Soils, and Artifacts in Building 1

AU	Maximum Depth (cm) below slab base*	Depth to Caliche (cm) below slab base	Presence of dark, clay soil	Artifacts Present	Approx. Distance from west wall (m)
9	102	>102	Yes	No	1
12	98	98	Yes	Yes	4
13	29	29	Yes	No	6
14	5	5	Yes	No	12
8	17	15	Yes	No	18
15	40	2	No	Yes	22
18	35	0	No	No	29
19	33	0	No	No	29
24	40	0	No	No	29
17	25	0	No	No	30
20	33	0	No	No	30
23	38	0	No	No	30
16	45	0	No	No	31
21	38	0	No	No	31
22	14	0	No	No	31

*The thickness of the cement slab varied slightly (7-10 cm) across the basement, with an average of about 9 cm.

Figure 7-6. Units excavated or monitored (Units 3 and 4) in Building 1.

slab sealed deposits in all of the four main buildings in the 1930s. In addition, a charcoal layer that is just under the slab in several places likely reflects the 1891 fire that consumed the Steves Building and Fashion Theatre.

Table 7-3 provides information on the six isolated units shown in Figure 7-6. Units 1 through 4 were excavated for support beams, while Unit 6 was placed along one of the drainage trenches associated with the sump (see Figure 7-6). These were excavated to a depth of 46 cm, the depth of construction impact.

Unit 5 was excavated in conjunction with the elevator shaft (see Figures 7-4 and 7-6). The target depth for this unit was 150 cm below the top of the slab, but it was terminated at 80 cm after no artifacts were recovered from the caliche-dominated fill. Unit 6 lacked artifacts and consisted entirely of caliche. Given the Unit 6 results, the remaining portion of the drainage trench was monitored, and no artifacts were observed. Monitored Units 3 and 4 also were dominated by caliche and lacked artifacts.

Both Units 1 and 2 had recovery. The upper levels (Levels 1 and 2) of each unit had a mix of construction debris. Spanish Colonial and Native American ceramics, chipped stone, and bone dominated the lower levels (Levels 3 and 4) of each unit. Unit 1, located near the western wall (Figure 7-6), contained artifacts through the terminal depth (46 cm), while Unit 2, located more in the center of the building (Figure 7-6), had material down to 27 cm. Excavators encountered caliche gravel at that depth. No artifacts were recorded in the final 19 cm of excavation in this unit.

Units 7 through 13 run south-to-north in the western section of the building (Figure 7-6). They were excavated for the placement of a drainage pipe to the sump pump. CAR staff excavated and screened all units; however, the construction crew inadvertently removed a small section between Units 9 and 10. Table 7-4 provides dimensional details. The non-standard dimensions are a direct result of both the limitation to the width and depth of anticipated impact by the drainage pipe trench as well as variation in saw cuts performed by the different operators provided by

Table 7-3. Isolated Units in Building 1

Unit	Depth (cm) below top of slab	Dimensions (cm)	Slab Thickness (cm)	Sediment Screened (m^3)	Artifacts Recovered
1	46	61-x-61	7	0.145	Yes
2	46	61-x-61	9	0.138	Yes
3	46	61-x-61	10	0	No
4	46	61-x-61	10	0	No
5	80	100-x-100	9	0.71	No
6	46	50-x-40	9	0.074	No

Table 7-4. Units 7 through 13, South (7) to North (13) Excavations

Unit	Depth (cm) below top of slab	Dimensions (cm)	Slab Thickness (cm)	Sediment Screened (m^3)	Artifacts Recovered
7	65	100-x-42	9	0.235	Yes
8	65	100-x-42	10	0.23	Yes
9	65	93-x-42	10	0.215	Yes
10	65	62-x-49	10	0.17	Yes
11	65	100-x-39	8	0.22	Yes
12	65	100-x-42	8	0.24	Yes
13	70	50-x-42	9	0.13	Yes

the contractor. In addition, two of the units (8 and 12) were near brick pillars (Figure 7-6). Footings for these pillars extended significantly below the concrete slab and widened with depth impacting the two excavations. Overall, roughly 1.44 m^3 of sediment was screened from the seven units excavated for this pipe trench (Table 7-4).

Following the completion of all seven units in this sequence, a profile of the eastern wall was constructed that identified six strata (Figure 7-7). The concrete slab, Stratum 1, varied in thickness from 8-10 cm. Stratum 2 was a loose light brownish-gray sandy deposit with construction material interspersed with voids. This stratum persists throughout the entire length of the profile and dips with the brick pillar footings. Stratum 2 is likely to be contemporaneous with the construction of the brick piers. Just below Stratum 2 in Unit 13 is a thin layer of very dark brown silty clay, labeled Stratum 3, which is only present in this unit. Stratum 4 is a dark brown silty clay. Spanish Colonial artifacts dominate this stratum, which is identified in all units of the profile. A thin Stratum 5 appears in Units 10 and 11. This is likely a dark gray silty sand base layer associated with the concrete slab. Stratum 6 is a 90-cm long charcoal layer located in Unit 7. It is only a few centimeters thick, and it is located within Stratum 2. This may represent the 1891 fire. No underlying caliche and gravel deposits were revealed in these units, which terminated at 65-70 cm below the concrete slab. Caliche is undoubtedly present at depth, however, as shown in the results from auger holes discussed above. Finally, note that all units in this set produced artifacts.

As shown in Figure 7-6, Units 14, 15, 16, and 17 run from west-to-east and intersect with the previously described trench at Unit 11. Like that set of units, these four units were excavated for a drainage pipe, and CAR staff excavated and screened all four units. Table 7-5 provides dimensional data. Figure 7-6 shows that a brick pillar was just to the north of Unit 14, though disturbance within the unit was limited. Approximately 0.88 m^3 of sediment was screened from the four units. All four units produced artifacts (Table 7-5).

Figure 7-8 is a 3.5-m profile of the north wall of Units 14 through 17. Five strata are present. The concrete slab, designated Stratum 1, was roughly 8- to 9-cm thick. Stratum

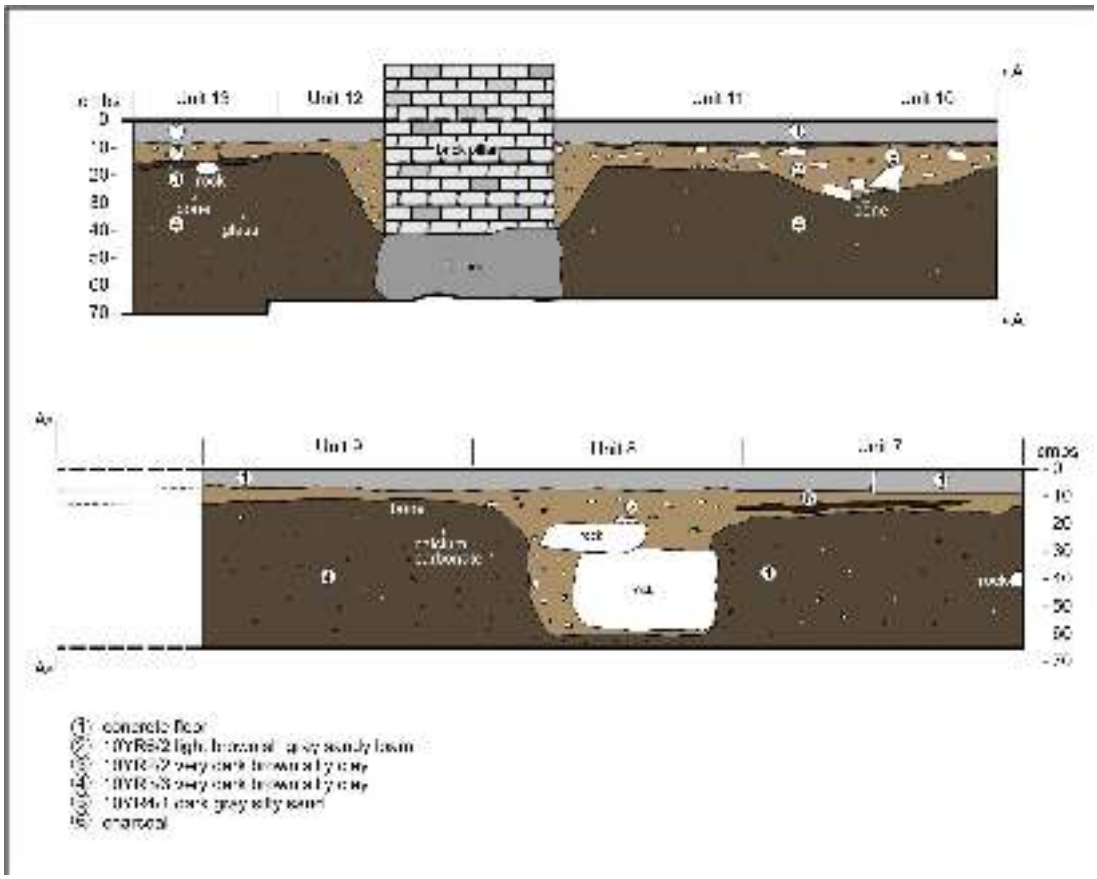

Figure 7-7. Eastern profile of Units 7 (south) through 13 (north).

Table 7-5. Units 14 through 17, West (14) to East (17) Excavations

Unit	Depth (cm) below top of slab	Dimensions (cm)	Slab Thickness (cm)	Sediment Screened (m^3)	Artifacts Recovered
14	70	100-x-42	9	0.26	Yes
15	70	50-x-42	9	0.13	Yes
16	70	100-x-42	8	0.26	Yes
17	65	100-x-42	9	0.235	Yes

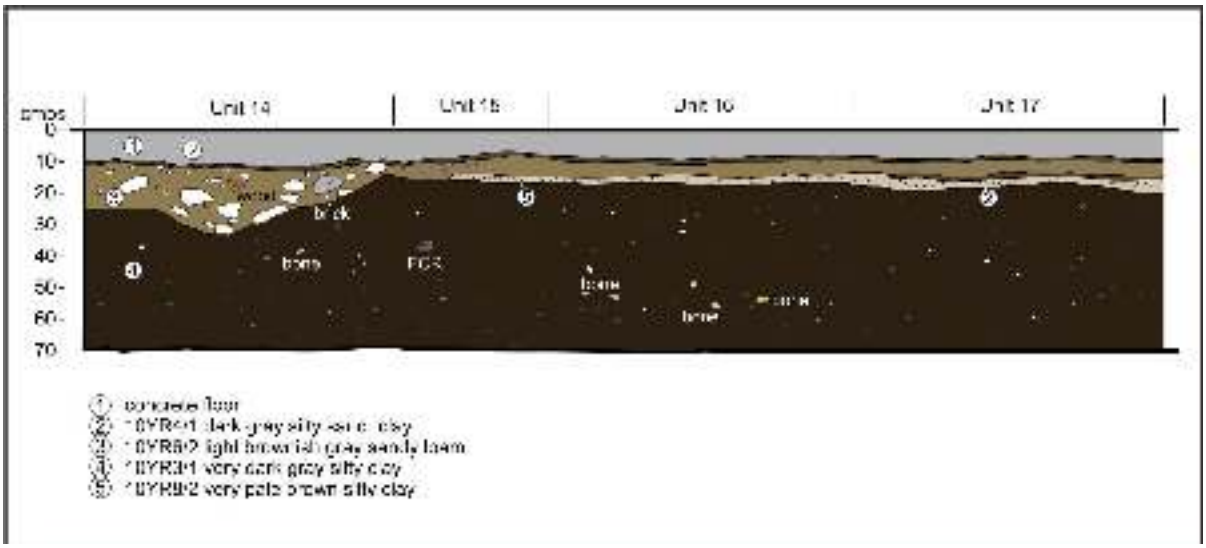

Figure 7-8. North wall profile of Units 14 (west) through 17 (east). Note that FCR indicates fire-cracked rock.

2, a thin layer of dark gray silty sand just below the concrete, might be associated with the preparation of the concrete floor. It occurred at two different elevations in Unit 17, and the two were separated by Stratum 3. Stratum 3 was a light brownish gray sandy loam averaging about 5-cm thick for a 2.5-m section in Units 15, 16, and 17. The soil dipped in Unit 15 and was mixed with construction debris. This stratum persisted to a depth of approximately 35 cm below the top of the slab. The dip and associated debris is likely related to the brick pillar located just to the north. This same stratum was described as Stratum 2 in Figure 7-7. These upper strata throughout this area are likely to be roughly contemporary and related to the installation/construction of the brick pillar and/or concrete floor. Stratum 4, a very dark gray silty clay, extended to the maximum depth of the trench (70 cmbs). Spanish Colonial artifacts were consistently present in this deposit. Stratum 5 is a very pale brown silty clay that formed a thin lens between Strata 3 and 4. It may be that this lens was either a preexisting dirt floor or part of the soils/sand brought in prior to the pouring of the slab.

Eight units (18 through 25) were excavated by CAR as part of a third drainage pipe trench connecting to the sump. These run west-to-east and intersect the initial trench (Units 7 to 13) at Unit 20 (Figure 7-6; see also Figure 7-5). Units 18 through 24 were uniform in size (Table 7-6). All had terminal depths from 70 to 75 cm below the top of the slab. Unit 25 was slightly larger with a different orientation (60-x-105 cm) to accommodate the excavation of Sump 1. Roughly, 2.28 m^3 of sediment was removed and screened from these units. With the exception of Unit 25, all units produced artifacts (Table 7-6).

Figure 7-9 shows the northern profile of the eight units from west (Unit 18) to east (Unit 25). The figure shows seven stratigraphic layers, with Stratum 1 again representing the concrete slab and Stratum 2 and 3 being thin sandy deposits just below the slab. Both of these strata (2 and 3) appear to be sandy base laid down prior to the pouring of the slab. Stratum 3 varies in thickness along the profile and appears to be thicker in Units 19 and 20 where a charcoal layer, Stratum 4, disappears and reappears. As noted elsewhere, this thin layer of charcoal is likely representative of the 1891 fire. Stratum 5 in Figure 7-9 is the very dark silty clay deposit that is dominated by Spanish Colonial material. Stratum 6 was described based on color variation and appeared as a discrete lens and a small packet of soil in Units 21 and 22. Stratum 7 is the caliche gravel matrix that lacks artifacts.

Table 7-6. Units 18 through 25, West (18) to East (25) Excavations

Unit	Depth (cm) below top of slab	Dimensions (cm)	Slab Thickness (cm)	Sediment Screened (m^3)	Artifacts Recovered
18	70	100-x-41	8	0.25	Yes
19	70	100-x-41	8	0.25	Yes
20	70	100-x-41	8	0.25	Yes
21	75	100-x-41	9	0.27	Yes
22	75	100-x-41	8	0.27	Yes
23	75	100-x-41	7	0.28	Yes
24	75	100-x-41	8	0.27	Yes
25	75	60-x-105	8	0.42	No

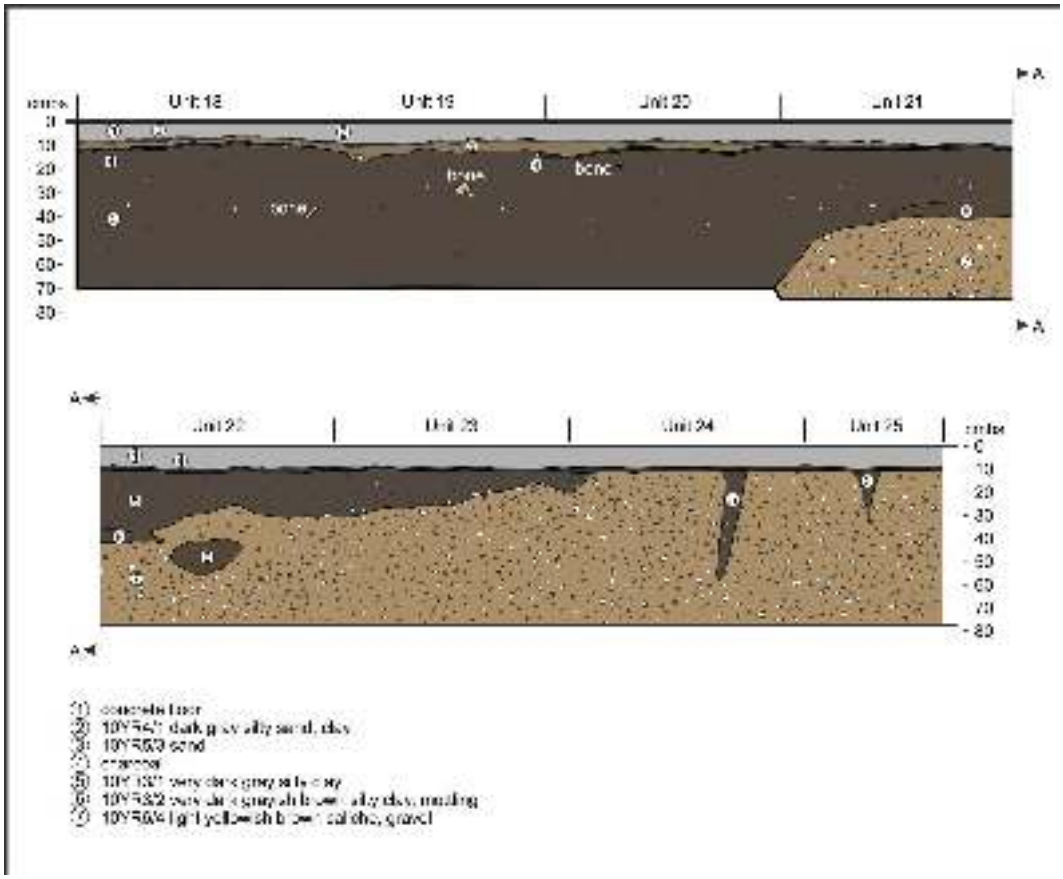

Figure 7-9. North profile of Units 18 (west) through 25 (east). Note abrupt change at Units 21 and 22.

The Figure 7-9 profile clearly documented the soil transition between the dark silty clay deposit that contains Spanish Colonial material (Stratum 5) and the underlying caliche and gravel matrix (Stratum 7). While Stratum 7 was not encountered in Units 18 and 19, auger holes suggest that the deposit is present at greater depth. The figure clearly shows that the dark clay (Stratum 5) narrows in depth, and Stratum 7 becomes shallower, as the units moved eastward. Units 23, 24, and 25 were comprised almost entirely of the caliche matrix with the exception of a few vertically intrusive deposits of dark clay. There were no artifacts recovered from Unit 25. Units 23 and 24 only had recovery from Level 1, with a single piece of chipped stone, three pieces of glass, and a nail from Unit 23, and a single Spanish Colonial ceramic and a nail from Unit 24.

Finally, three units (26, 27, and 28) were excavated in the sump area of Building 1 (Figure 7-6). In Unit 26, only a single level consisting of 2 cm below the base of the concrete slab was removed in this 1-x-1 m unit. Nails, other metal, and wood fragments were recovered. In Unit 28, a 1-x-0.85 m excavation area was taken down 13 cm below the base of the concrete where the underlying caliche level was encountered at 20 cm. Nails, a small amount of bone, and a single piece of European stoneware was recovered from the first level. Unit 27, a 1-x-0.83 m unit, was excavated to 150 cm below the top of the concrete slab. The initial levels down to 40 cm had metal (nails, unidentified) and a small amount of bone. Gravel and sand, with caliche, were observed below the 40-cm level. The excavation notes describe some of the nodules as being "softball" size, with the suggestion that there are "river gravels" present down to 80 cm. No artifacts were recovered from 40-80 cm. At 80-90 cm, a soil change was observed. There was an increase in sand and silt and a decrease in gravel and carbonate. This continued down to 100 cm. Two pieces of Spanish Colonial ceramic were found in the 90- to 100-cm level. Bone was also recovered from the 110- to 120-cm level. Gravel and caliche are again dominant from 110 cm down to 150 cm, the end of the excavation. Documentation recorded on the excavation notes suggests that the two pieces ceramics may simply represent wall fall. While the associated shift in soil and the lack of any ceramics above this level is problematic for that explanation, there is no viable alternative other than to suggest that this may reflect shifts in drainage, possibly either a buried channel formerly leading into San Pedro Creek, or a shift in the creek itself.

Building 2

CAR excavated and screened all the deposits from 10 auger hole tests (AUs 1 to AU 7, AU 10, AU 11, and AU 34) and all or part of 12 excavation units (Units 29 to 40) in the basement of Building 2. CAR staff also monitored the excavation by construction crews of four shovel tests (STs 1 through 4). Terracon (2013a; 2013c) excavated three boreholes (BHs 2, 3, 4) in the floor of Building 2, and CAR staff assessed those corings. Six features (1 through 6) were defined in the field, and two additional features (7 and 8) were identified following field work while reviewing excavation notes. Figure 7-10 provides a plan view map of this work, along with the general feature locations.

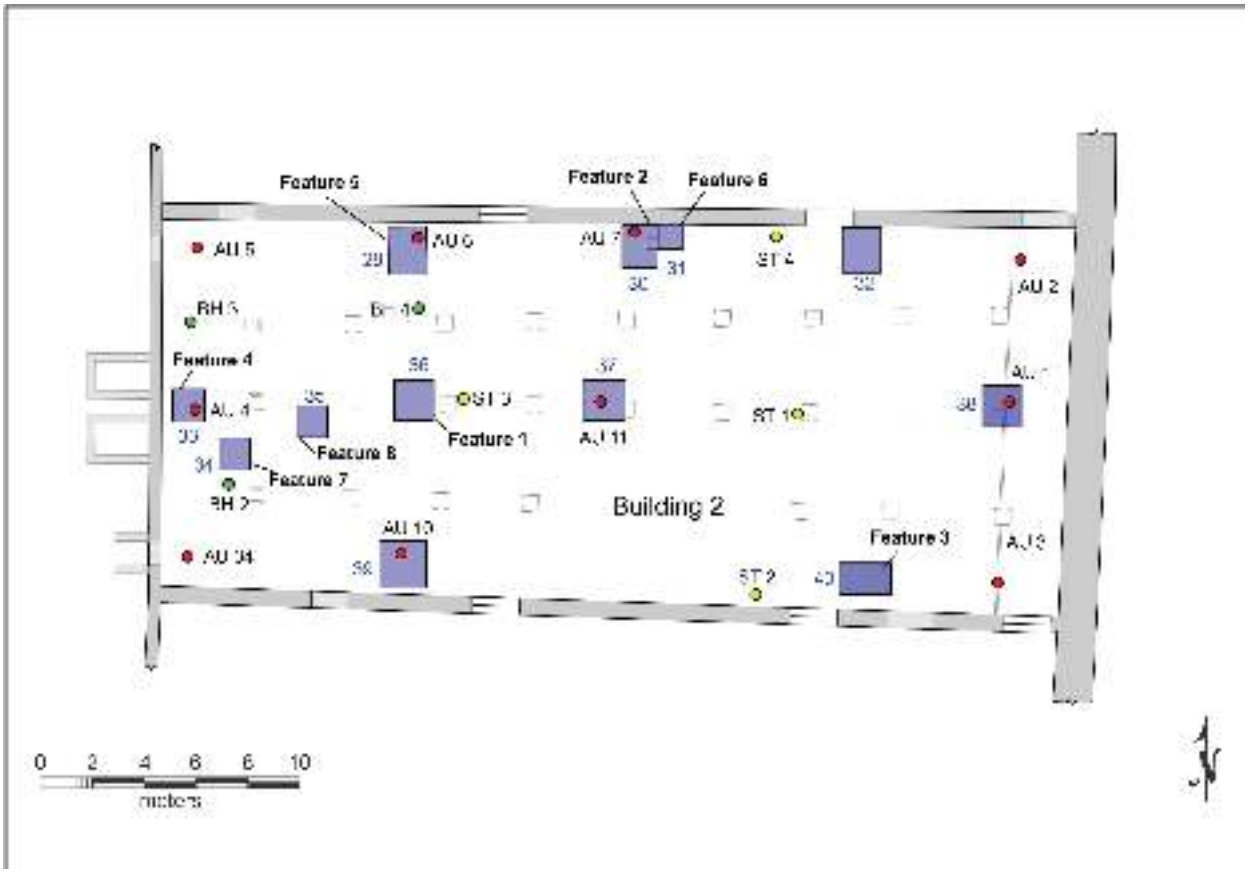

Figure 7-10. Augers, boreholes, shovel tests, and excavations units within Building 2 of the Plaza de Armas Buildings.

Boreholes and Monitored Shovel Tests

All three of the Terracon boreholes were drilled on the west side of the building (Figure 7-10), and each exhibited dark soil in the upper portions of the soil column. Four shovel tests (STs 1 through 4) were also excavated and monitored. Three of these were placed on the eastern half of the room, with a fourth test (ST 3) located to the west (Figure 7-10). All shovel tests were roughly 40 cm in diameter. Deposits from the shovel tests were not screened, but CAR staff observed the sediment.

ST 1 was excavated to 33 cm below the top of the 10-cm thick concrete slab. Artifacts were present, including animal bone and charcoal in a tan caliche matrix. ST 2 was located along the south wall (Figure 7-10). At 40 cm below the top of the 10-cm thick slab, CAR staff observed a dark brown organic soil. This matrix included Spanish Colonial ceramics, Native American ceramics, and animal bone. A light caliche fill that did not contain cultural material was at a depth of 41 cm, and the test was terminated at 79 cm. ST 3 was placed alongside a pillar in the western portion of the room (Figure 7-10). ST 3 contained a light tan and white caliche gravel matrix with no cultural material. Terminal depth of this shovel test was 33 cm. ST 4 was located along the north wall (Figure 7-10). This test exposed the footing of the limestone wall at the terminal depth of 50 cm below the slab. No cultural material was encountered.

Auger Hole Tests

Ten auger hole tests (AUs 1 to AU 7, AU 10, AU 11, and AU 34) were placed in Building 2. Nine of these were excavated in advance of planned unit excavations. Table 7-7 provides data on these nine tests. As with Table 7-2 for Building 1, the auger holes are not sorted by number but by their distance from the west wall. The auger tests were used to determine the depths of the dark silty clay that often contained Spanish Colonial period artifacts. Note that only AU 34 had any artifacts recovered (Table 7-7).

AUs 1, 2, and 7 encountered the caliche gravel substrate immediately below the concrete slab (Table 7-7). AU 3 identified a thin layer of dark soil that is most likely a preparation surface for the slab, with the caliche gravel substrate immediately below this 1-cm thick lens of dark soil. The notes on AU 10 are ambiguous with regard to the underlying substrate. There is no mention of soil characteristics or color, but the auger hole was terminated at 17 cm below the bottom of the slab. That termination may correspond to the caliche. Note that subsequent excavations in this area (Unit 39, Figure 7-11) suggest that the material was mixed, with the actual depth to caliche being roughly 30 cm below the slab. AUs 5, 6, 11, and 34 encountered the dark silty clay soil at varying depths overlying the caliche gravel substrate. AU 34 consisted of mixed silty clay soils that contained Spanish Colonial materials and faunal remains. It may be that the apparently mixed deposits are the result of stream mixing from San Pedro Creek or possibly represent a trash pit feature whose boundaries were not definable within the excavation. The tenth auger, AU 4, was placed in the bottom of excavated Unit 33 (see Figure 7-10) to determine the depth of the Spanish Colonial deposits. The test identified that the deposit persisted to a depth of 117 cm below the slab, where the caliche gravel substrate was encountered.

The results of the auger hole tests, then, are broadly similar to those in Building 1. The dark silty soil that contains the bulk of the Spanish Colonial deposits is not common in the

Table 7-7. Auger Hole Depths, Soils, and Artifacts in Building 2. AU 4 Not Shown

AU	Maximum Depth (cm) below slab base*	Depth to Caliche (cm) below slab base	Presence of dark, clay soil	Artifacts Present	Approx. Distance from west wall (m)
34	92	92	Yes, mixed	Yes	1
5	72	72	Yes	No	1
10	17	Unknown	Yes	No	9
6	33	46	Yes	No	10
11	19	34	Yes	No	17
7	15	0	No	No	18
3	30	1	Yes	No	32
1	21	0	No	No	32
2	22	0	No	No	33

*The thickness of the cement slab varied slightly (7-15 cm thick) across the basement with an average of about 12 cm. The slab was exceptionally thick (30 cm) in AU 5.

Figure 7-11. Unit 30 at 30 cm. Feature 2 is clearly visible in northeast corner.

eastern half of the building. There appears to be a general relationship between the depth of that deposit and the distance from the west wall.

Excavation Units

In Building 2, the original intent was to sample all areas that were to serve as pier locations. The original configuration consisted of 15 units, placed in five rows of three. However, several planned units were abandoned because of previous disturbances revealed by the augering and the realization that deposits of interest were concentrated on the western side of the building. For example, units were originally planned in the areas of AUs 5 and 34, but the existing slab and associated disturbances around AU 5 and the need to access a ramp near AU 34 caused these units (34 and 35) to be moved to new locations (see Figure 7-10). Four planned units on the east side of the building were abandoned and not replaced as previous work showed this area to have minimal deposits. Excavation was initially limited to the proposed depth of impact in this building (ca. 46 cm below top of slab). However, finding intact cultural deposits persisting to that depth in several units in Building 2 led to the decision to excavate to the extent of the deposit, where possible. Ultimately, 12 units of varying size, representing roughly 9.9 m^3 of screened deposits, were placed in Building 2. Two of the 12 units (33 and 36, Figure 7-10) were partially excavated by construction crews as discussed previously, with a lower levels excavated by CAR staff. In addition, the Unit 31 excavation notes could not be located. As discussed in the following section, six features were identified in the field, and two additional features were defined while reviewing note for this chapter. The 9.9 m^3 removed includes rough estimates of volume from these features. Table 7-8 provides details on aspects of these excavation units. A brief summary of the excavated units is provided below.

Unit 29 was initially a 186-x-150 cm excavation near the northern wall of Building 2 (Figure 7-10, Table 7-8). The entire unit was excavated down to a depth of 56 cm below the slab. Construction material and a mix of metal, glass, chipped stone, bone, and various ceramics were recorded in the silty clay matrix. From 56-66 cm, excavation was limited to the western 75 cm of the unit (75-x-186 cm). The focus shifted to a dark, circular stain, originally defined in the excavation at 56 cm. This was designated Feature 5, and it is discussed in the following section.

The excavation of Unit 30 started out as a 183-x-152 cm area (Figure 7-10, Table 7-8). This was excavated to a depth of 30-33 cm below the top of the slab. At that depth, a dark stain, clearly visible in the northeast corner of Unit 30, was identified and was designated as Feature 2. The remaining portion of the surface of Unit 30 at that level was dominated by a sand and gravel matrix (Figure 7-11). Subsequent excavation in this unit focused on two areas. The first was the Feature 2 area, a roughly 50-x-50 cm excavation. These data are discussed in the feature section. The second area was a roughly 50-x-50 cm excavation just to the south of the feature. That area was excavated down to 100 cm below the surface of the slab (see Figure 7-10). High frequencies of carbonate covered gravel and caliche were present, and no artifacts were recovered in this lower excavation.

Table 7-8. Excavation Units in Building 2

Unit	Depth (cm) below top of slab	Approx. Dimensions (cm)	Approx. Slab Thickness (cm)	Approx. Sediment Screened (m^3)	Artifacts Recovered
29	116	186-x-150*	12	1.85	Yes
30	120	183-x-152*	13	1.376	Yes
31	120	100-x-100*	12	0.387	Yes
32	40	170-x-150	12	0.714	Yes
33	130	125-x-125	10	1.313**	Yes
34	130	120-x-120	10	1.73	Yes
35	105	125-x-120	11	1.41	Yes
36	46	165-x-152.5	12	.252**	Yes
37	40	152.5-x-152.5	11	0.256	Yes
38	19	152.5-x-152.5	12	0.163	Yes
39	46	180-x-180	12	0.259	Yes
40	20	200-x-120	12	0.192	Yes

*Starting unit size. Size was changed with depth.
**Screened volume only.

As is clear from Figure 7-11, Feature 2 continued to the north, under the wall separating Buildings 1 and 2, and to the east. Unit 31, initially a 100-x-100 cm unit, was opened to the east to capture additional data on Feature 2. Unfortunately, no notes could be located for this unit excavation. Using photographs and some plan and profile data, we suggest that the 100-x-100 cm portion of Unit 31 was removed to a depth of 19 cm below the top of the slab, which was 12-cm thick (Figure 7-12). At that point, it appears that the remnants of a plaster floor, or possibly lime associated with melted adobe brick, was designated Feature 6. Subsequent excavations within Unit 31 were confined to the removal of the rest of Feature 2 and the removal of a section of Feature 6. It appears, then, that a single level, probably ranging from 12-20 cm below the slab, was excavated for the non-feature component of Unit 31. Small amounts of plaster, bone, metal, and chipped stone were present.

Unit 32, located in the northeast section of Building 2, as well as Unit 37, in the center, and Unit 38 near the eastern wall (see Figure 7-10) were all terminated above the initial target depth of 46 cm (Table 7-8). All three units were dominated by caliche soils, and none of these units had any features present. Unit 32 had a high density of glass in the upper two levels, along with scattered construction debris, European whiteware ceramics, bone, and several personal items. It was terminated at 40 cm, and no artifacts were recovered from the 30- to 40-cm level. Unit 37 had five pieces of glass and a nail, from the initial level, and no recovery from the 20- to 30-cm level. Unit 38 had small amounts of construction material, metal, and glass, along with a single Spanish Colonial sherd in the upper 4 cm of deposits. This gave way to carbonate-covered gravel, and the unit was terminated.

Unit 33 was located in the western portion of the building (see Figure 7-10) where deeper deposits were present. As discussed previously, the upper 46 cm of Unit 33 was excavated by the construction crew and monitored by CAR staff. CAR excavations began at 46 cm and continued down to roughly 130 cm below the concrete slab (Table 7-8). Unit 33 contained a variety of artifactual material, including just over 90 pieces of Spanish Colonial ceramics, 50 pieces of chipped stone, and 44 sherds identified as Native American. A small, burned rock feature, designated Feature 4, was recorded at 55 cm below the slab. Interestingly, this feature level (50-60 cm) also contained roughly 40% of all Spanish Colonial ceramics and 34% of all Native American wares recovered. Figure 7-13 provides a profile of the south wall of the unit that shows the 50- to 60-cm level is encompassed by a silty clay loam deposit (Strata 3). Note also the gradual drop in Strata 5 towards the west.

Unit 34 (Figure 7-10) was excavated to a depth of 130 cm below the slab (Table 7-8) where the caliche layer was encountered. The unit, located near Unit 33, also had a high density of recovery, especially down to 110 cm. Over 150 Spanish Colonial ceramics and 60 Native American ceramics were recovered, along with over 4 kg of bone. Feature 7, a

Figure 7-12. Unit 31. Feature 2 in lower left. Feature 6 (possibly plaster or lime from melted adobe) in the remainder of the unit.

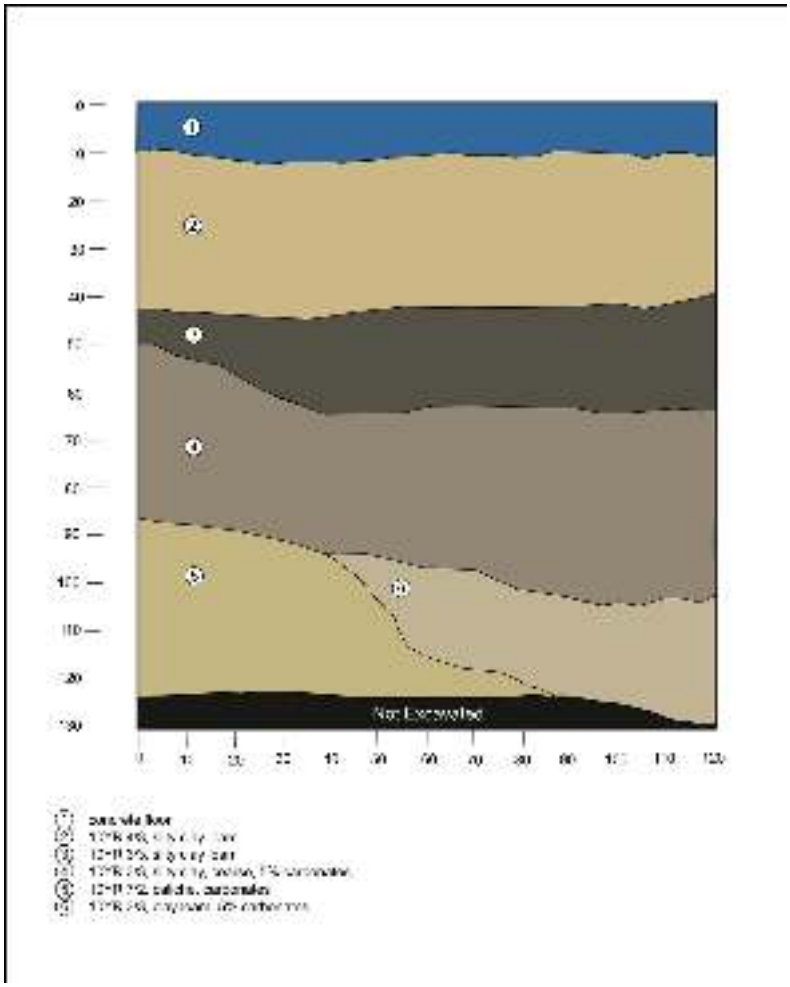

Figure 7-13. South profile of Unit 33.

designation assigned in the lab, was present in this unit. The feature showed up in the floor at 50-60 cm and was clearly visible in the eastern portion and a portion of the southern profile following excavation. Feature 7 is discussed in more detail in the following section.

Unit 35, located a few meters to the east of Unit 34, was excavated to a terminal depth of 105 cm below the slab (Table 7-8). Materials were recovered down to 75 cm. The bottom three levels lacked artifacts. Over 100 Spanish Colonial and Native American ceramics were recovered from 15-55 cm. Below 55 cm, only a small amount of bone and chipped stone was recovered. It appears that this decline in artifacts and the lack of material below 75 cm is associated with an increase in gravel and carbonates. The unit also had a recent disturbance, consisting of a PVC pipe that extended vertically down to below 105 cm. Disturbance associated with the pipe, which appeared to have been pounded from the surface, was minimal. In addition, CAR defined Feature 8, a significant dip in the darker, silty clay deposit, in the laboratory. This feature, which was visible in the western side of the south profile, is discussed in the following section.

Excavation of Unit 36 (Figure 7-10, Table 7-8) was initially done by the construction crew and monitored by CAR staff. At roughly 30 cm below the top of the slab, CAR staff excavated a single level down to 46 cm and into the caliche gravel. Artifact recovery was minimal and consisted of metal, construction material, and bone. No Spanish Colonial material was encountered.

Unit 39 was excavated to the initial target depth of 46 cm below the top of the slab (see Figure 7-10, Table 7-8). Several classes of artifacts were present, including a moderate density of Spanish Colonial and Native American ceramics in upper 30 cm. Below 30 cm, a small amount of material was recovered, and the underlying caliche dominated the lowest level (40-46 cm).

Unit 40 was located to the south and east within Building 2 (Figure 7-10). The unit was terminated after 30 cm (Table 7-8), at which point the unit was dominated by caliche soil with the exception of an 80-x-80 cm area, designated Feature 3, in the northwest corner. Glass, construction material, chipped stone, burned rock, a single Spanish Colonial sherd, and two whiteware sherds were present in the initial level (10-20 cm). It is unclear if the subsequent 20- to 30-cm excavation in the unit notes is focused on the feature, but all recovered material for this level is listed as Feature 3. As outlined in the following section, a profile shows excavation to 38 cm below the slab, with excavation below the feature. However, no notes focused on the feature excavation or the continuation of Unit 40 below 30 cm could be located.

Features

There were six features recorded in the field, all within Building 2. Additionally, in reviewing the notes, two new features were identified, with both of these also being in Building 2. Table 7-9 list basic descriptive data on all eight features. Feature 1 actually contains two components. The first component is a pit suggested to be a posthole, while the second is a deposit of light colored material that could be plaster, lime, or a mixture of materials that resulted from melted adobe. Features 2, 3, 5, 7, and 8 are all pits or trenches of various sizes. Feature 4 is two concentrations of burned rock, and Feature 6 appears to be a surface defined by another

Table 7-9. Features in Building 2

Feature	Unit(s)	Top-Bottom below slab surface (cm)	Observed Size (cm)	Temporal Affiliation	Artifacts Recovered
1	36	12-38	18-x-18; Unknown	Mid to Late 19th Century; Possibly Earlier Component	Yes
2	30 and 31	30-120+	104-x-80	Likely Spanish Colonial	Yes
3	40	21-37	102-x-90	Mixed/Unknown	Yes
4	33	53-60	110-x-40	Likely Spanish Colonial	Yes
5	29	15-116	100-x-100	Mixed/Mid to Late 19th Century	Yes
6	31	11-30	100-x-100	Unknown; Possibly Spanish Colonial	Yes
7	34	45-130+	50-x-20	Unknown	Yes
8	35	68-97	65-x-??	Unknown	No

deposit of plaster or lime, similar to the Feature 1 deposit. Figure 7-10 shows the general locations of these features. Each feature is discussed below.

The first component of Feature 1 was a small pit-like disturbance visible in the east profile of Unit 36 (Table 7-9, see Figure 7-10). Figure 7-14 (top) shows the profile, with this component clearly visible in the profile as a dark, 18-cm wide band of material protruding in to a lighter matrix. It is probably a posthole, but no set-stone was present. The upper range of the probable posthole is not clearly defined, though a dark line extending to the bottom of the slab is visible on the right. The bottom image in Figure 7-14 uses a D-Stretch application (Harmon 2005) to highlight differences between the internal and external portions of the probable posthole. The base and line on the right are clearly visible, along with a faint line on the left. These may extend to near the base of the slab. It is likely, then, that this component of the feature was excavated from a few centimeters below the slab and, therefore, dates to the mid- to late nineteenth century.

The second component of Feature 1 consists of the light-colored material appearing in the floor and wall of the upper photo in Figure 7-14, and as the mottled light green deposit in the bottom D-Stretch image. The original excavators noted this sediment difference, and they described it as flecks of "white plaster," present in several of the walls and the floor of the unit. City archaeologist Kay Hindes and French architect Elsa Ricard visited this excavation in August of 2013. They suggest that this deposit may be melted adobe rather than plaster, with the white color reflecting lime often incorporated into adobe blocks. Hindes further suggests that

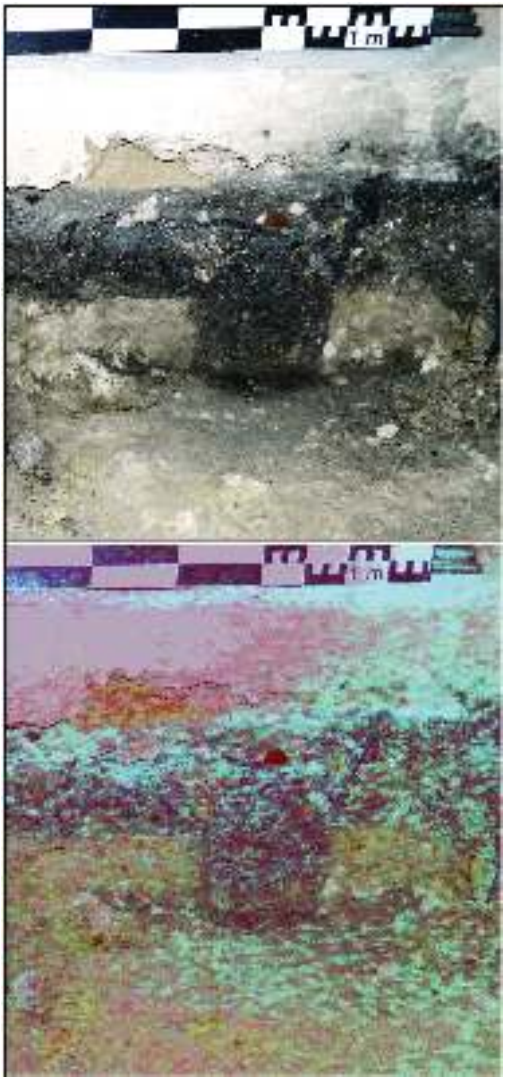

Figure 7-14. Feature 1 area, Unit 36. Top view is profile along east wall. Bottom view is D-Stretch application to top image. Note the light green deposit in the bottom of the image.

this deposit may reflect a portion of the original presidio wall. The D-Strech image in Figure 7-14 does have several shapes that are rectangular in section, supporting the adobe brick suggestion. Projecting the wall of the Spanish Governor's Palace (41BX179), which we presume to be consistent with the location of the original adobe structure, south across the Plaza de Armas excavations, suggests that the location for the presidio wall is roughly 10 to 11 meters to the east of Feature 1. The location, then, seems not to be consistent with where we expect the presdio wall to have been. Dating of this deposit is also problematic. The artifacts from the surrounding Unit 36 produced no temporally diagnostic items, though the sediment color was consistent with strata in other units that produced both Spanish Colonial and post-Colonial deposits. In addition, construction workers excavated the initial 30 cm of this excavation, and while CAR staff monitored the work, the deposits were not screened. Subsequent excavations down to 46 cm appear to have been conducted to expose the Feature 1 area, though no notes regarding that work could be located. We conclude that this deposit may reflect melted adobe, and that it is possible that this was associated with the construction of the presidio. However, it is unlikely to be the remains of the presidio wall.

Feature 2 (Table 7-9) was located in the floor of Units 30 and 31 (see Figure 7-10). Figures 7-11 and 7-12 both have clear views of the feature. The feature was designated at 30 cm below surface in Unit 30, though notes suggest that the feature may have started as high as 20 cm. The soil within the feature was a dark gray silty clay with artifacts, including Spanish Colonial pottery, chipped stone, and other material culture, as well as large animal bone. While there are several mid- to late nineteenth-century artifacts present, these are found in the upper two levels of Units 30 and 31. The clearly defined edges of Feature 2 were discerned at 30 cm. For this reason, it appears that the late nineteenth-century materials were superimposed on Feature 2. The feature had a high density of Spanish Colonial artifacts. The edges of the trash pit were squared, and the northern boundary extended into the north wall. Due to safety concerns, Feature 2 was terminated at 120 cm below the top of the concrete slab in both units. Probing the soils indicated that the feature continued at least another meter suggesting that this was most likely a large trash pit excavated into the slope of the terrace during the Spanish Colonial period.

Feature 3 was defined in Unit 40 (see Figure 7-10). There is no mention of the feature in the notes for that unit, though the feature is drawn in plan as a 90-x-90 cm area of mottled dark silty clay soil containing artifacts at 30 cm (Table 7-9). The feature continues into the northern and eastern wall. The Unit 40 notes end at 30 cm, but subsequent excavation apparently exposed the base of the feature at 37 cm. This is clear in Figure 7-15, which provides a profile of the western wall of unit. The feature persisted for less than 20 cm. Artifactual material from the 20- to 30-cm level in this unit, which was probably associated with the feature, included bone, Native American ceramics, two pieces of debitage, building material such as mortar and nails, wood, a single European whiteware sherd, and two pieces of Spanish Colonial ceramics. However, neither of the Spanish Colonial sherds could be located during a review of the ceramic material. The feature may represent the truncated remains of another trash pit, though the temporal association is mixed.

Feature 4 was located in Unit 33 (Figure 7-10) in Strata 3 between 53-60 cm (Figure 7-13). As shown in Figure 7-16, the feature consisted of two small clusters of burned rock. In all, 17 pieces of burned rock were associated with the feature, along with one animal bone and a single Spanish Colonial sherd within an area roughly 40-x-110 cm (Table 7-9). However, as discussed previously, this unit in general, and this level in particular, had a high density of Spanish Colonial and Native American ceramics, as well as chipped stone and bone recovered. Of the 143 ceramics collected from the unit, 139 (97.2%) were Spanish Colonial and Native America in origin. It is likely, then, that this feature is associated with the Spanish Colonial period.

Feature 5 (Figure 7-17) was an artifact-rich late nineteenth- and early twentieth-century trash pit with mixed Spanish Colonial materials. It was found along the north wall of Building 2 in Unit 29 (Figure 7-10). Because of the poor lighting within the building, the feature was not evident until after excavating to 66 cm below the top of the concrete slab. Once identified, it was determined by examining the wall profile that the feature began just beneath the concrete slab at 15 cm (Figure 7-16). The feature was round in plan and basin shaped at the base, which was 116 cm (see Table 7-9). Because Feature 5 was a pit intruded into the caliche and artifacts were not encountered in the caliche zones, it is assumed that most, if not all, artifacts in the first levels are associated with the feature. The substantial artifact assemblage was dominated by mid- to late nineteenth-century material. Ceramics were not common, with only 59 European earthenware and stoneware pieces, 29 Spanish Colonial sherds, and 15 Native American sherds. The Spanish Colonial and Native American sherds were concentrated in the upper 40 cm. In contrast, there were over 1,000 pieces of metal, including nails, wire, fasteners, and unidentified items, and over 1,500 pieces of glass. Also present were about 1.25 kg of bone, 10 pieces of debitage, and a small amount of brick and mortar. The feature likely represents a trash pit associated with the mid- to late nineteenth century.

Feature 6 was identified in Unit 31 (see Figure 7-10) as a concentration of what appeared to be degraded adobe or a plastered surface. This surface and associated material was

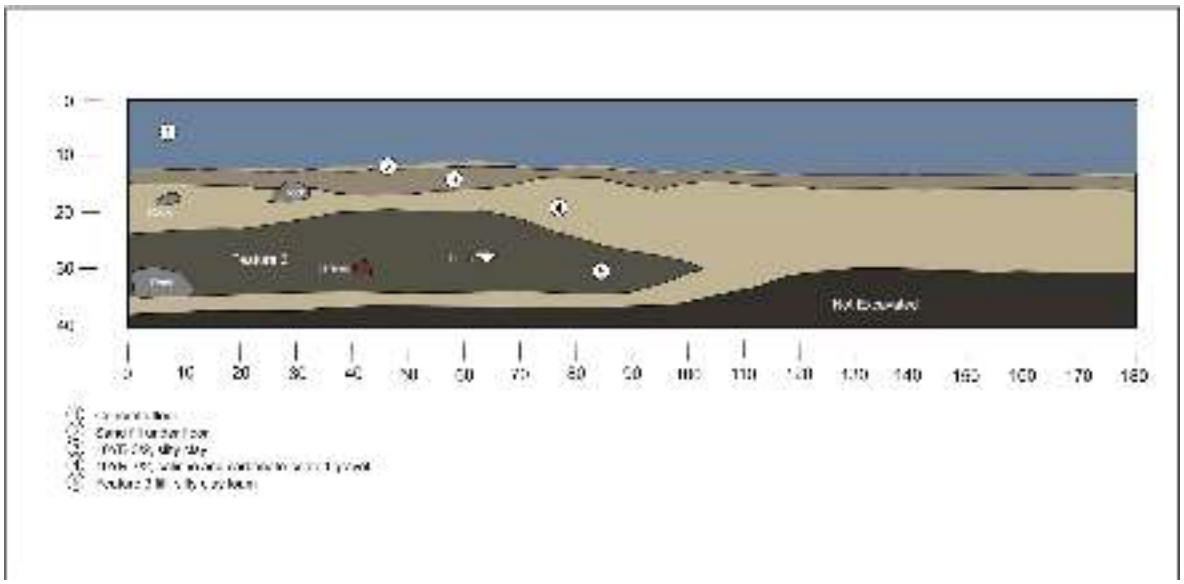

Figure 7-15. Profile of Feature 3, Unit 40.

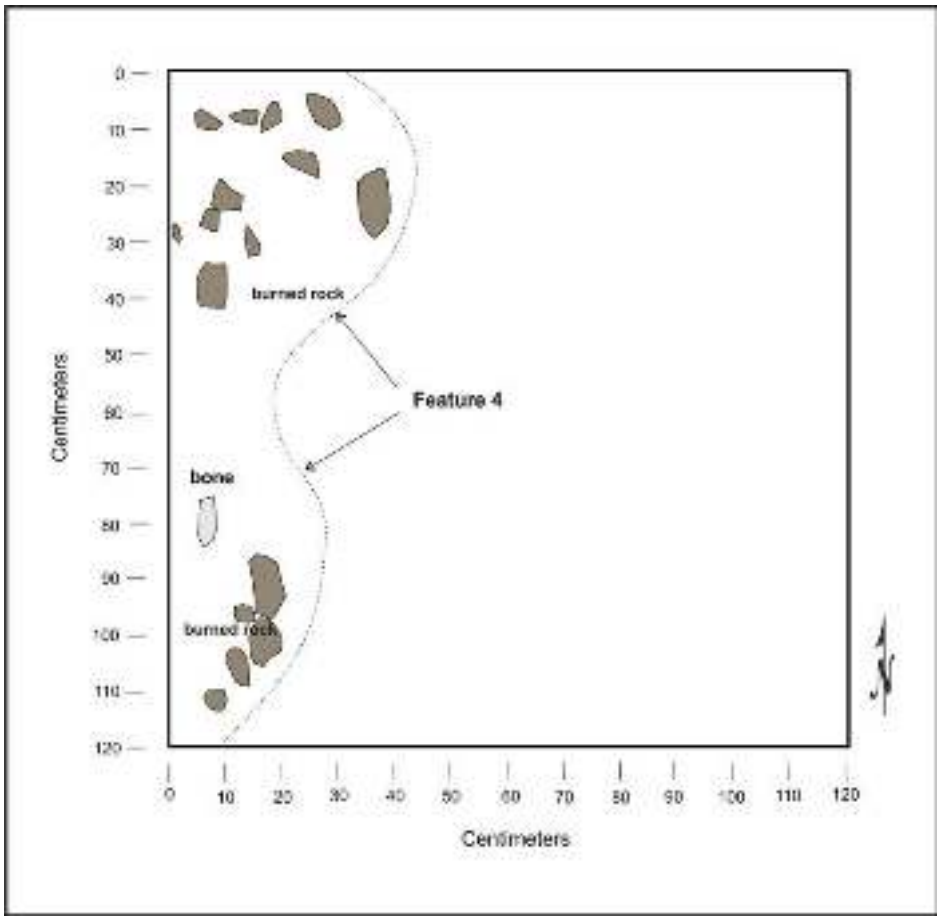

Figure 7-16. Plan view showing two burned rock clusters identified as Feature 4, Unit 33.

Figure 7-17. Feature 5, Unit 29. Note that feature appears to start directly under the slab.

designated Feature 6. It is most clearly visible in Figure 7-12. This feature was encountered just beneath the concrete slab. The exact horizontal distribution of Feature 6 is unknown. However, the material was not observed in Unit 30 or 32 (see Figure 7-10), the adjacent unit and the next unit further to the east. The deposit is similar to that encountered previously and recorded as the lower component of Feature 1. Other than the deposit itself, no artifacts were recovered from Feature 6. No temporal affiliation is associated with the feature, and it is unclear, at present, what the deposit may reflect. However, this location is in line with the projected presidio wall using the orientation of the Spanish Governor's Palace. This deposit, then, may reflect the melted abode associated with the 1722 structure, though we can not confirm that association. A sample of the material was removed following sectioning of the feature (see Figure 7-18). That sample is curated with the project materials at the Center for Archaeological Research.

Finally, Features 7 and 8 were identified during a review of the field notes. Feature 7 is a trench of unknown origin visible in the east and south wall of Unit 34 (Figures 7-10 and 7-19), while Feature 8 is in the south wall profile of Unit 35 (Figures 7-10 and 7-20). Both are pits of unknown function, and they each appear to be excavated from surfaces well below the base of the slab (Table 7-9). Both could be Spanish Colonial in origin. As the features were designated in the lab, it is difficult to assign any specific artifacts to them. Feature 7 had material present, including Spanish Colonial ceramics, and given its depth, Feature 8 lacked any artifacts.

Building 3

With the exception of two auger hole tests, the work within the basement of Building 3 was conducted by the construction crew with CAR staff serving as monitors. Deposits were not screened. This monitoring and the lack of screening reflected the initial strategy and assumed that areas within the basements did not contain intact cultural deposits. This assumption was likely wrong, especially on the western side of the building. There were eight units excavated by the construction crew down to 46 cm below the concrete slab, with CAR staff visually scanning the back dirt. In addition, BH 5 and STs 5 and 6 were placed in the basement, with the shovel tests monitored. AUs 32 and 33 were excavated by CAR staff. No features were identified, and little cultural material was recovered. Figure 7-21 shows the excavations conducted in Building 3.

Borehole, Shovel, and Auger Hole Tests

BH 5 was drilled by Terracon Engineering in April 2013 (Terracon 2013c). The borehole was placed on the east side of the basement (Figure 7-21) and exhibited caliche and no dark soils. STs 5 and 6, placed inside the preexisting hallway (Figure 7-21), were excavated to a depth of 61 cm below the top of the concrete slab. Only caliche gravel was encountered, and no artifacts were observed in either shovel test. AUs 32 and 33 were excavated along the southern wall about 8 m from the eastern wall (see Figure 7-21). Both demonstrated

Figure 7-18. Unit 31, Feature 6. Profile showing what may be melted adobe associated with the 1722 Presidio wall.

Figure 7-19. Unit 34, Feature 7, east wall. Photo courtesy of Kay Hindes, Office of Historic Preservation, City of San Antonio.

Figure 7-20. Unit 35, Feature 8, south wall profile.

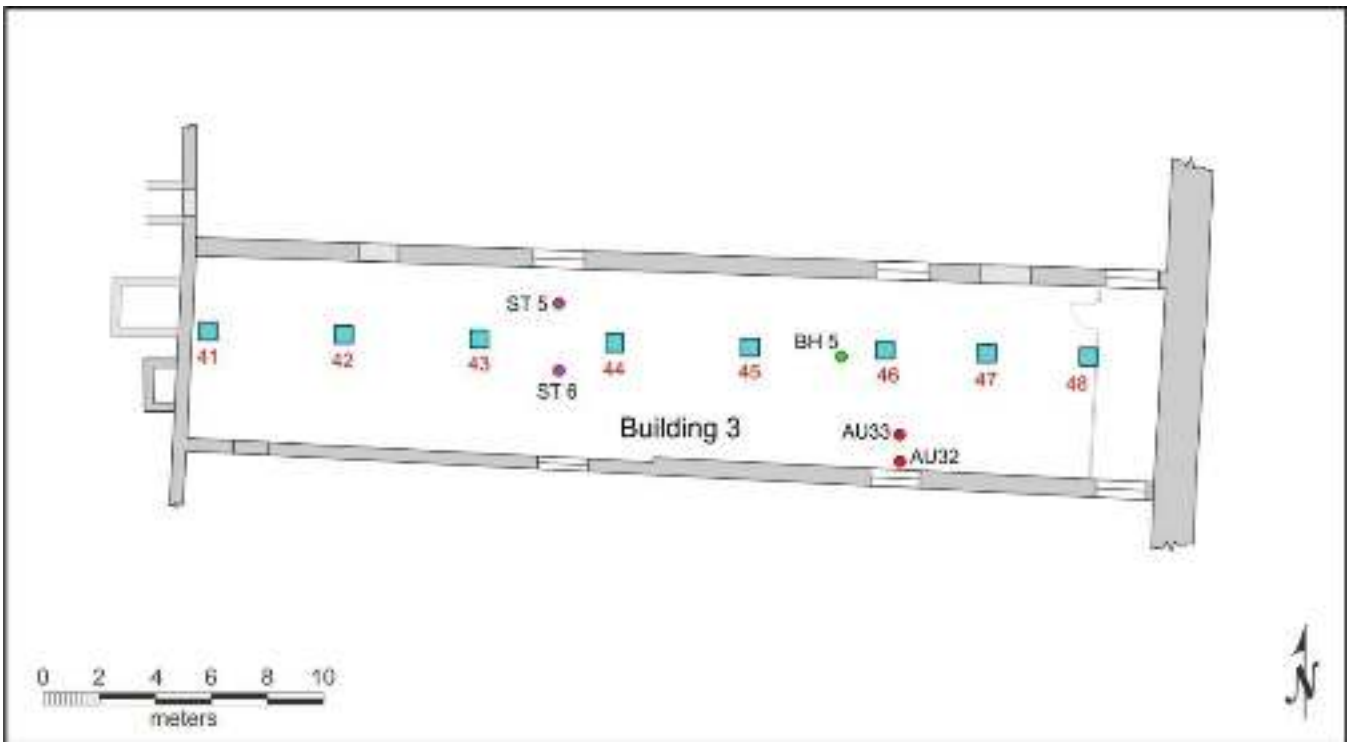

Figure 7-21. Excavations within Building 3. All work was monitored with the exception of AUs 32 and 33, which were excavated by CAR staff.

this portion of Building 3 lay directly on top of the caliche/marl deposit that had little or no cultural material. Additional boreholes within the buildings prior to construction would have helped to identify that substantial cultural deposits likely underlay the western portions of all the buildings.

Monitored Units

Eight 63-x-63 cm units, numbered 41 to 48, were monitored in Building 3. These units were excavated to a finished depth of 46 cm below the top of the uniformly thick 10-cm slab. The excavation location and termination depth were in preparation for pillar construction. The units run in a consistent east-to-west alignment just off the centerline of the building footprint (Figures 7-21 and 7-22). Little cultural material was present. Unit 41, located on the west side of the building, contained one piece of cut bone, while Unit 42 contained one bovid tooth. Unit 46 contained one piece of lead-glazed pottery found at the interface with the concrete slab. No other units had cultural material present; however as the units moved east, the soil transition from dark silty clay to a light caliche/gravel seen in the other buildings was observed. Only Units 41 and 42 had any dark soil component, and this was limited to the upper 10 cm below the slab.

Building 4

CAR excavated Units 49, 50, and 51 along with AUs 26 through 31 in Building 4 (Figure 7-23). Like the excavations within Building 3, the work undertaken in Building 4 identified no features and, at least in the case of Unit 49 and all augers, no cultural material. Unit 50 and 51, located to the west, did recover cultural material, a pattern consistent with earlier excavations.

Auger Hole Tests

AUs 26 through 31 were placed along the alignment of a proposed trench running north from Sump 2 in Building 4 (Figure 7-23). These six auger tests confirmed the presence of the caliche gravel substrate throughout the trench area. Augers

Figure 7-22. Units in Building 3. Looking west, from Unit 42. Photograph courtesy of Kay Hindes, Office of Historic Preservation, City of San Antonio.

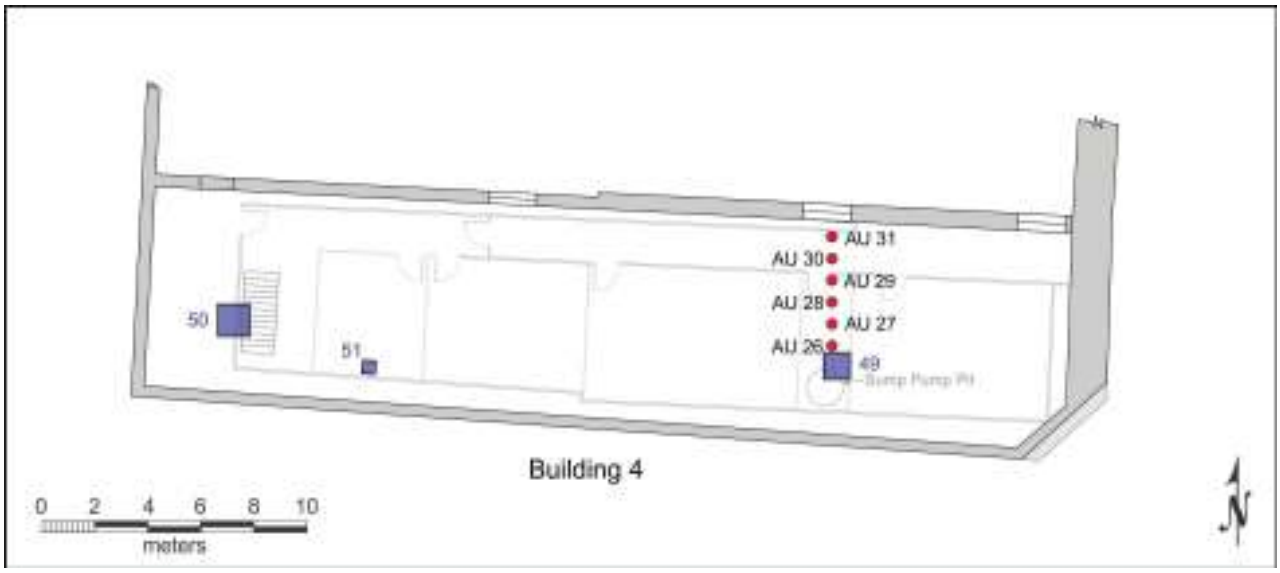

Figure 7-23. Auger and excavation units within Building 4 of the Plaza de Armas Buildings.

were excavated to a depth of 50-60 cm below the top of the 10-cm thick slab, and no artifacts were recovered. The trench was then excavated by the construction crew. No cultural material was identified during that subsequent trench excavation.

Excavated Units

CAR staff excavated three units, designated 49, 50, and 51. Unit 49 was located where Sump 2 was planned on the eastern side of the building (see Figure 7-23). The unit started out as a 2.5-x-2.1 m unit, and the initial level was from 30-40 cm below the top of the concrete slab. Slab thickness was 10 cm. It is unclear, then, what happened between 10-30 cm, but while the sediments were removed, no record of that removal could be found. Levels 2 through 7 (40-100 cm) were excavated as a 1-x-1 m unit. The excavation was terminated at 100 cm below the top of the slab, and it contained only layers of caliche and gravel. No artifacts were recovered.

Unit 50 was placed on the far western side of the building. The unit was excavated to the proposed depth of impact (46 cm) and exhibited midden soils with cultural material in abundance, with close to 300 artifacts recovered. The majority of these (ca. 200) are Spanish Colonial and Native American ceramics, and chipped stone. There is a small amount of mid- to late nineteenth-century artifacts spread throughout the four excavation levels.

Unit 51 was a 50 x 50 cm unit excavated near the end of the project. The work was undertaken in October of 2014, and was done to facilitate the installation of a sump pump basin in this area. At this point, the new concrete floor was in place. It had been laid on top of a yellow plastic membrane, clearly visible in Figure 7-24. Below the yellow plastic was an earlier concrete slab, without rebar reinforcement. However, this slab had a clear plastic lining, again visible in Figure 7-24. Below that lining was 30 cm of a silty clay matrix with a variety of artifacts. The unit was excavated in five levels, with the upper level (15-20 cm) containing European/English ceramics, construction material, and glass. The lower levels had Spanish Colonial ceramics, faunal material, and a small amount of chipped stone debitage, nails, and glass. The unit was terminated at 55 cm below the surface, or 35 cm below the bottom of the lowest slab.

Building 5

The only work performed in Building 5 was the monitoring of the excavation of a utility trench along the north wall of the building (see Figure 7-1). Trench 5 was not part of the original project scope as Building 5 was of early twentieth-century construction and had no basement. In addition, the upper soil column of the ground over which the building was erected consisted entirely of fill dumped to level the surface between the retaining wall on San Pedro Creek and the back of the Plaza de Armas Buildings, most likely during in the late nineteenth century.

The trench was approximately 7-x-1-x-0.75 m and was excavated to install new plumbing. CAR staff was on-site, monitored the excavation, and collected 21 artifacts. The artifact assemblage is predominantly post-1875. However, there is a single piece of debitage of possible prehistoric association and a single sherd of Spanish Colonial majolica. No profile was recorded for Trench 5. However, field notes and photographs clearly indicate that the soils were mixed.

Figure 7-24. Unit 51, Building 4. North wall at close of excavation. Note distinct yellow and clear plastic sheeting in top of profile.

Summary

Excavation and monitoring activities demonstrated that Spanish Colonial and Native American deposits are clearly present under the basement floors of the Plaza de Armas Buildings. Artifacts likely associated with the 1722 Presidio San Antonio de Bexar were identified. In some cases, these deposits are mixed with mid- to late nineteenth-century materials, but in others, the earlier materials are in good context. The slab-on-grade foundations found in the basements of Buildings 1 through 4 sealed the material. They are poured-in-placed concrete floors that, in the case of Buildings 1 through 3, lack rebar reinforcement. In Building 4, at least in the case of Unit 49, rebar is indicated in a profile, suggesting a later flooring event. The uniform nature of the floors in the first three buildings suggests their simultaneous installation under a single owner, most likely Adolf Vogel sometime in the late 1920s or early 1930s. This installation essentially sealed the archaeological deposits at that date.

CAR excavations and monitoring demonstrates that the eastern portions of the basements rested on a caliche and gravel substrate that contains little cultural material. Conversely, the deposits on the western portion of the basements, headed towards San Pedro Creek, contain what appears to be a sheet midden with extensive Spanish Colonial and Native American ceramics, chipped stone, and faunal material present. This most likely represents the deposition downslope of refuse, some of which is associated with the presidio structures occupied initially in 1722. The lower portion of Feature 1, as well as Feature 6, may reflect melted adobe. In the case of Feature 6, the location is consistent with the anticipated location of the 1722 Presidio wall. These suggestions are explored in detail in Chapters 12 and 13 of this report.

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Chapter 8: Ceramics

by Kristi Nichols, Clinton McKenzie, Kelly Harris, and Raymond Mauldin

This chapter provides a general description of the ceramic sherds recovered in the excavations at the Plaza de Armas Buildings. The ceramic assemblage is broadly classified and discussed as Native American wares, Spanish Colonial wares, and Other European/English wares. Native American ceramics in this context consist of low-fired brownware with bone or shell temper, generally known as Goliad ware during the Historic period. They are probably made of local clays and represent a tradition stretching back into Late Prehistoric in Central Texas (Mounger 1959; Tomka et al. 2013). The Spanish Colonial category is further refined according to surface treatment sub-categories and includes unglazed, lead-glazed, and tin-glazed wares. The Spanish Colonial material found in Texas sites were primarily produced in Mexico starting in the latter part of the seventeenth century and continuing into the early portion of the nineteenth century (Fox and Ulrich 2008). In this discussion, several other tin glazes from Europe (e.g., Faience) and Chinese Porcelain are included in the Spanish Colonial group. The Other European/English ware group includes high-fired white earthenware, other porcelain and semi-porcelain, and stoneware. While several of these wares can occur in Spanish Colonial contexts, most date to the late nineteenth century and into the twentieth century (Fox et al. 1997). Note also that included in the recovered ceramics were pieces of porcelain insulators (n=3), sewer pipe (n=4), and several sherds that could not be typed. These are not the focus of this chapter. Additional information and background on the ceramic assemblage recovered can be found in Appendix B, and information on the Spanish Colonial types in Texas sites can be found in Fox and Ulrich (2008).

The goal of this chapter is to present specific ceramic types and provide information on their distribution for each of these three broad groups. This is done through short discussions supported by tables providing overall distribution by unit and level, distribution by types and unit, and figures illustrating specific types. The tables detailing unit and level distributions are presented to allow for comparisons within a unit as, in most cases, unit size is consistent from top to bottom for that unit. However, as noted in Chapter 7, unit size was not consistent from one unit to the next. In addition, level thickness is generally no more than 10 cm; however, the depth (cm) at which a level starts and/or stops is not consistent between units. This is especially the case in the upper levels. Level 1, for example, starts as high as 8 cm, and terminates as low as 25 cm, while Level 2 starts as high as 13 cm, and terminates as low as 35 cm.

The focus in this chapter is on screened deposits. However, as noted in the previous chapter, not all deposits were screened. Excavations within Units 3 and 4 in Building 1, Units 41 through 48 in Building 3, and the upper levels of Units 33 and 36 in Building 2 were not screened. The only recovered ceramic from this work consisted of a single sherd from Unit 45. Several sherds were also collected from the back dirt from trenches and other contexts. Finally, in several cases, sherds were associated with a unit but not with a level. These are noted in the text. Tables presented here do not include materials that lack specific unit/level proveniences.

Of the 1,567 sherds recovered from screened deposits, 29.2% are classified as Native American wares, Spanish Colonial wares comprise 58.7%, and Other European/English wares make up the remaining 12.1%. Of special note is the recovery of multiple sherds of Puebla Polychrome and San Luis Polychrome from several contexts. These two Spanish Colonial tin-glazed types are generally not found in Texas sites after AD 1725 (Fox and Ulrich 2008), supporting that some of these deposits are, in fact, generated in the early eighteenth century. This is consistent with the historical summaries for this site presented in Chapter 4.

Native American Wares (n=458)

As noted previously, Native American wares are a low-fired brownware likely fabricated from local clays and tempered using bone or shell. When recovered in prehistoric contexts, sherds of this variety are referred to as Leon Plain, and in historic contexts, they are referred to as Goliad ware (Mounger 1959). The wares recovered from the excavations at the Plaza de Armas Buildings are primarily associated with the Spanish Colonial or the immediate post-Colonial period in the region (ca. AD 1720-1820). In all, 458 sherds from screened contexts were assigned to the Native American wares category, and all exhibited attributes that placed them within the Goliad ware category (Figure 8-1). Table 8-1 lists the Goliad sherds by unit and level.

Examination of Table 8-1 suggests that at a general level, the Goliad wares follow the overall artifact distribution, with the western units in each building having higher densities. Outside of trash pits designated as Features 2 and 5 in Units 29, 30, and 31, the highest number of sherds recovered were from Unit 34 (n=59) near the western wall of Building 2,

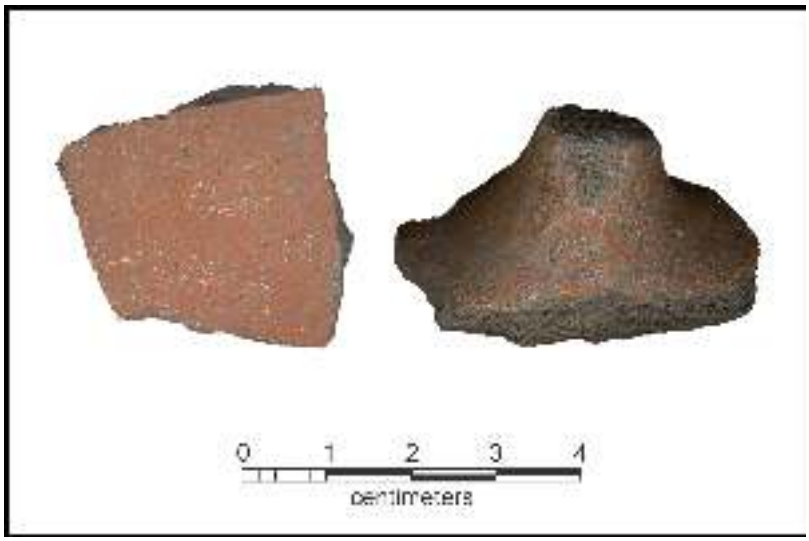

Figure 8-1. Examples of Native American (Goliad) wares from the excavations at the Plaza de Armas Buildings (sherd on right is a lug).

Table 8-1. Native American Ware Recovery by Unit and Level from Screened Deposits

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
1	0	0	6	2	4											12
2	0	3	2	0												5
5	0	0	0	0	0	0	0									0
6	0	0	0	0	0	0	0									0
7	0	3	1	1	1	0										6
8	2	1	1	0	0	0										4
9	2	4	0	0	0											6
10	0	0	0	0	0	0										0
11	0	0	0	1	0	0										1
12	0	1	0	0	0	0										1
13	0	0	0	0	0	0	0									0
14	0	1	0	4	2	0										7
15	0	1	3	3	4	0										11
16	0	6	7	3	3	0										19
17	1	0	2	2	1	1										7
18	0	5	4	6	0	0										15
19	1	7	5	2	0	0										15
20	0	4	1	0	0	0										5
21	3	1	0	0	0	0										4
22	2	0	0	0	0	0	0									2
23	0	0	0	0	0	0	0									0
24	0	0	0	0	0	0										0
25	0	0	0	0	0	0										0
26	0															0

Table 8-1. Native American Ware Recovery by Unit and Level from Screened Deposits, continued....

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
28	0	0														**0**
UNIT	Building 2															
29*	7	5	0	0	2	1	0	0	0	0	0					**15**
30*	6	5	0	13	4	1	6	8	9	2	4	2				**60**
31*	3	6	10	5	8	7	3	13	0	0	3	0	3			**61**
32	0	0	0													**0**
33	Not Screened				3	16	10	3	4	7	0	5	0			**48**
34	0	0	3	14	6	22	4	0	1	9	0	0				**59**
35	7	9	9	6	0	0	0	0	0							**31**
36	Not Screened			0												**0**
37	0	0														**0**
38	0															**0**
39	0	10	6	0	0											**16**
40	0	5														**5**
UNIT	Building 4															
49	0	0	0	0	0	0	0									**0**
50	1	9	20	14												**44**
51	0	0	0	0	0											**0**
Total																**458**

* Features 2 and 5 present in these units.

with Level 6 of Unit 34 producing 22 Goliad sherds. Of the 253 levels screened in the excavations, Goliad wares were present in just over 27% of the levels. Finally, note that a single Goliad sherd, not counted in Table 8-1, was collected as wall fall from Unit 34.

Body sherds comprise 95.4% of the assemblage. Rims (n=13) and lugs (n=7), such as the one shown in Figure 8-1, were also present.

Spanish Colonial Wares (n=920)

Spanish Colonial wares are a combination of European and specific indigenous ceramic traditions that persisted into the period of Spanish Colonial domination. Both European tradition and Mexican indigenous ceramics were manufactured in the Spanish occupied areas of Mexico during that period, and these wares are common at Spanish Colonial sites in the region. The category is used here to designate ceramics, other than Goliad wares, produced during the Spanish Colonial period. There were roughly 920 pieces of ceramic classified as Spanish Colonial. That total included six sherds of French Faience, six sherds of Chinese Porcelain, and a Delftware sherd originating from the Netherlands, which also date to the Spanish Colonial period (Fox and Ulrich 2008). In the discussion below, Spanish Colonial wares are categorized as unglazed, lead-glazed, tin-glazed (including Faience and Delftware), and Chinese Porcelain (see Appendix B).

Unglazed Wares (n=336)

The 336 Spanish Colonial unglazed sherds collected in the excavations at the Plaza de Armas Buildings from screened contexts accounted for 36.5% of the Spanish Colonial ceramics. As with the Native American ceramics group, the Spanish Colonial unglazed wares were concentrated in the western part of the buildings, and discounting feature associated units (29, 30, and 31), Unit 34 had the highest count per level with 15 sherds present (Table 8-2). In addition, a single sherd, not counted in Table 8-2 or Table 8-3, was collected as wall fall. Focusing on material from screened

Table 8-2. Unglazed Wares by Unit Level from Screened Deposits

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
1	0	0	1	0	0											**1**
2	0	1	0	0												**1**
5	0	0	0	0	0	0	0									**0**
6	0	0	0	0	0	0	0									**0**
7	1	1	2	1	0	0										**5**
8	0	2	0	1	0	0										**3**
9	0	0	0	0	0											**0**
10	0	0	0	0	0	1										**1**
11	0	0	0	1	0	0										**1**
12	0	0	0	0	0	0										**0**
13	0	0	0	0	1	0	0									**1**
14	0	0	5	0	2	0										**7**
15	0	0	2	1	3	0										**6**
16	0	3	4	6	2	0										**15**
17	0	0	1	0	0	0										**1**
18	0	2	8	9	0	0										**19**
19	0	8	10	4	0	0										**22**
20	2	3	1	0	0	0										**6**
21	0	1	1	0	4	0										**6**
22	1	0	0	0	0	0	0									**1**
23	0	0	0	0	0	0	0									**0**
24	0	0	0	0	0	0										**0**
25	0	0	0	0	0	0										**0**
26	0															**0**
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
28	0	0														**0**
UNIT	Building 2															
29*	5	5	2	0	0	0	0	0	0	0	0					**12**
30*	2	10	0	27	0	3	0	2	2	0	0	0				**46**
31*	3	13	11	13	3	0	6	2	0	0	0	1	0			**52**
32	0	0	0													**0**
33	Not Screened				3	13	10	5	4	4	0	2	0			**41**
34	0	1	1	12	1	15	2	2	0	1	0	0				**35**
35	4	5	10	4	0	0	0	0	0							**23**
36	Not Screened			0												**0**
37	0	0														**0**
38	0															**0**
39	0	5	3	1	0											**9**
40	0	0														**0**

Table 8-2. Unglazed Wares by Unit Level from Screened Deposits, continued....

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 4															
49	0	0	0	0	0	0	0									**0**
50	1	9	6	2												**18**
51	0	1	3	0	0											**4**
Total																**336**

***** Features 2 and 5 present in these units.

Table 8-3. Unglazed Wares by Type from Screened Deposits

Unit	Red Burnished	Tonalá Burnished	Valero Red	Spanish Colonial Unglazed	Unknown/ Other	Total Count
Building 1						
1	1	0	0	0	0	**1**
2	0	1	0	0	0	**1**
7	0	1	0	4	0	**5**
8	0	0	0	42	1	**3**
10	1	0	0	0	0	**1**
11	1	0	0	0	0	**1**
13	0	0	0	1	0	**1**
14	4	1	0	2	0	**7**
15	0	0	0	6	0	**6**
16	0	1	0	14	0	**15**
17	0	0	0	1	0	**1**
18	1	1	0	17	0	**19**
19	0	0	7	15	0	**22**
20	0	0	1	5	0	**6**
21	1	0	0	5	0	**6**
22	0	0	1	0	0	**1**
Building 2						
29*	4	0	0	8	0	**12**
30*	3	0	5	38	0	**46**
31*	4	0	33	15	0	**52**
33	9	0	2	28	2	**41**
34	5	0	0	30	0	**35**
35	2	2	5	14	0	**23**
39	1	1	0	7	0	**9**
Building 4						
50	3	2	0	13	0	**18**
51	1	1	0	2	0	**4**
Total	**41**	**11**	**54**	**227**	**3**	**336**

***** Features 2 and 5 are present in these units.

contexts, Spanish Colonial unglazed sherds were present in about 30% of all levels. This is a wider distribution than Native American ceramic material, even though significantly more Goliad ceramics were recovered.

Several different types of unglazed ceramics were present in the assemblage. These were categorized as Red Burnished, Spanish Colonial Unglazed, Tonalá Burnished, Valero Red, and Unknown/Other (Figure 8-2.).

The Spanish Colonial unglazed wares account for 68% of the unglazed types in Table 8-3. While Valero Red probably dominates this group, the sherds do not exhibit the red-brown paint decoration on the exterior that is one of the defining traits of that type. The sherds do exhibit the same orange paste as Valero Red, and they are uniform in color, consistent with a controlled firing atmosphere characteristic of that type.

None of the unglazed types recovered are particularly useful for chronological concerns. Tonalá Burnished dates throughout the Spanish Colonial period, and Valero dates after AD 1700 in this region of Texas. Of the Spanish Colonial unglazed wares in the region, Red Burnished has the most limited temporal range, a 75-year period dating from roughly AD 1725 through 1800 (Fox and Ulrich 2008:39).

Rims make up 7.4% of the Spanish Colonial unglazed sherds, a higher percentage than the 3% present in the Native American wares. This likely reflects differences in vessel sizes and/or different frequencies of vessels forms in these assemblages. Finally, note that additional information on the unglazed material is presented in Appendix B.

Lead-Glazed Wares (n=289)

Lead-glazed sherds are typically associated with the Spanish Colonial occupation in the region, although the dates of manufacture extend into the mid- to late nineteenth century for certain types (Appendix B; Fox and Ulrich 2008). These wares are generally manufactured in Mexico.

During the excavations at the Plaza de Armas Buildings, 289 lead-glazed ceramics were recovered from screened contexts (Table 8-4). In addition, two sherds were collected from Unit 34 as wall fall, and a sherd was collected from unscreened context. These are not included in any tables. Unit 50 had the highest count per level, with 23 lead-glazed sherds recovered from both Level 2 and Level 3. Unit 34 had the highest overall total of this group, with 60 lead-glazed sherds recovered. Spanish Colonial lead-glazed sherds were present in 33.2% of all levels excavated. This is a wider distribution than either Native American wares or unglazed wares, though there are fewer lead-glazed ceramics collected.

The lead-glazed wares were categorized as Black Lusterware, Brown on Yellow, Dark Brown, Galera, Olive Jar, Red Brown, Smooth Brown, Tonalá Glazed, Yellow and Green Glaze, and Unknown/Other (Table 8-5). Note that the Other/Unknown category in the table includes untyped ceramics classified as either sandy or fine paste. Figure 8-3 presents examples of selected types.

With the exception of Olive Jars, which have a temporal range of over 200 years starting around AD 1580, the Spanish Colonial lead-glazed wares tend to date after AD 1700 and

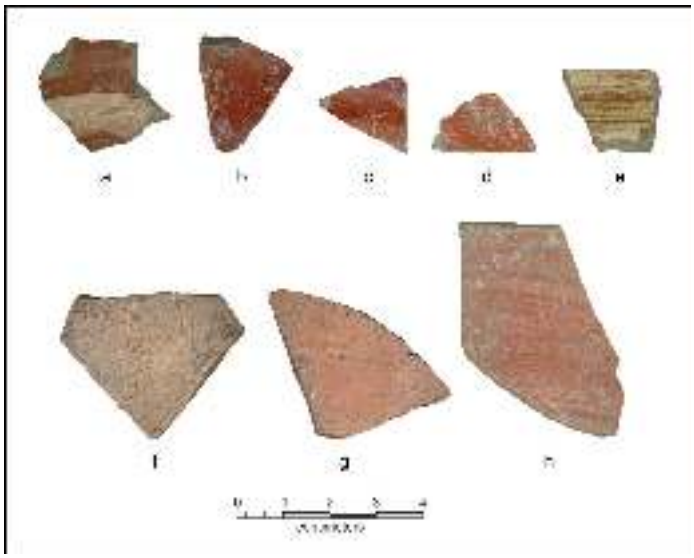

Figure 8-2. Examples of unglazed wares: a, b) Red Burnished; c, d) Tonalá Burnished; e) Spanish Colonial unglazed; and f, g) Valero Red.

Table 8-4. Lead-Glazed Wares by Unit Level from Screened Deposits

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
1	0	0	2	2	2											**6**
2	0	2	0	0												**2**
5	0	0	0	0	0	0	0									**0**
6	0	0	0	0	0	0	0									**0**
7	1	0	2	0	0	0										**3**
8	0	0	0	0	0	0										**0**
9	1	0	0	0	0											**1**
10	0	0	0	0	0	0										**0**
11	0	0	0	0	0	0										**0**
12	0	1	0	0	0	0										**1**
13	0	0	0	0	0	0	1									**1**
14	0	0	2	3	0	0										**5**
15	0	0	1	1	2	0										**4**
16	1	1	2	2	0	0										**6**
17	0	0	0	0	0	0										**0**
18	0	2	1	3	0	0										**6**
19	1	1	1	0	0	0										**3**
20	0	0	1	0	0	0										**1**
21	0	0	0	0	0	0										**0**
22	0	0	0	0	0	0	0									**0**
23	0	0	0	0	0	0	0									**0**
24	1	0	0	0	0	0										**1**
25	0	0	0	0	0	0										**0**
26	0															**0**
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
28	0	0														**0**
UNIT	Building 2															
29*	3	2	0	0	0	1	0	1	1	2	0					**10**
30*	0	1	0	4	1	1	0	3	0	1	0	2				**13**
31*	1	1	0	4	4	4	0	0	0	0	0	0	0			**14**
32	0	0	0													**0**
33	Not Screened				1	13	6	1	2	4	1	0	0			**28**
34	1	11	9	14	6	12	4	0	0	0	1	2				**60**
35	4	8	14	3	0	0	0	0	0							**29**
36	Not Screened			0												**0**
37	0	0														**0**
38	0															**0**
39	0	24	6	0	0											**30**
40	1	0														**1**

Table 8-4. Lead-Glazed Wares by Unit Level from Screened Deposits, continued....

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 4															
49	0	0	0	0	0	0	0									0
50	2	23	23	11												59
51	0	1	1	1	2											5
Total																289

*Features 2 and 5 are present in these units.

Table 8-5. Lead-Glazed Wares by Type from Screened Deposits

Unit	Black Lusterware	Brown on Yellow	Dark Brown	Galera	Olive Jar	Red Brown	Smooth Brown	Tonala Glazed	Yellow and Green	Unknown/ Other	Total Count
Building 1											
1	0	0	0	3	0	0	2	0	0	1	6
2	0	0	0	1	0	1	0	0	0	0	2
7	0	0	0	0	0	2	0	0	1	0	3
9	0	0	0	0	0	0	1	0	0	0	1
12	0	0	0	0	0	0	0	0	1	0	1
13	0	0	1	0	0	0	0	0	0	0	1
14	0	0	0	1	0	1	1	0	2	0	5
15	0	0	0	0	0	1	0	0	2	1	4
16	0	0	0	1	0	2	0	0	1	2	6
18	1	0	1	0	0	0	0	2	1	1	6
19	0	0	0	0	0	1	0	0	0	2	3
20	0	0	0	1	0	0	0	0	0	0	1
24	0	0	0	0	0	1	0	0	0	0	1
Building 2											
29*	0	1	0	1	0	5	0	0	3	0	10
30*	0	0	0	0	0	0	3	2	6	2	13
31*	0	0	0	4	0	4	1	0	4	1	14
33	0	0	0	4	0	3	2	2	9	8	28
34	0	2	0	11	0	13	4	1	28	1	60
35	0	0	1	5	0	12	0	0	4	7	29
39	0	0	0	2	2	3	1	1	21	0	30
40	0	0	0	0	0	0	0	0	1	0	1
Building 4											
50	0	3	0	19	0	7	2	0	28	0	59
51	0	0	0	1	0	0	0	0	4	0	5
Total	1	6	3	54	2	56	17	8	116	26	289

*Features 2 and 5 are present in these units.

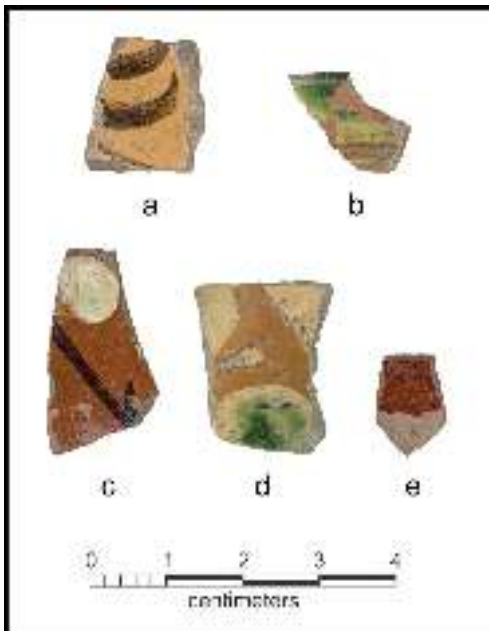

Figure 8-3. Examples of Spanish Colonial lead-glazed wares: a) Brown on Yellow; b) Tonalá Glazed; c, d) Galera; and e) Red Brown.

have moderate temporal ranges. Fox and Ulrich (2008:39) suggest that both Smooth Brown and Tonalá Glazed have short (ca. 50 year) temporal ranges, though both are late in the sequence (ca. 1775-1825).

Rims make up 9.3% of the Spanish Colonial lead-glazed sherds. This is a higher percentage than those of either of the previously considered groups. Additional information on the lead-glazed material recovered from the excavations at the Plaza de Armas Buildings is presented in Appendix B.

Tin-Glazed Wares (n=292)

Tin-glazed ceramics manufactured in Mexico (majolicas) reflect a tradition seen in France, Italy, Spain, and Moorish influenced regions. These are wheel thrown, kiln fired ceramics with a lead-based glaze that has a tin additive. This creates an enamel-like surface that often has painted decoration. Ceramic items are then exposed to a second firing. This produces a ceramic with a vibrant, glossy design.

The majority of the sherds recovered from the current excavation were small, sometimes making identification difficult. Overall, CAR recovered 292 sherds that can be classified as tin-glazed. Two-hundred-and-eighty-seven of these were from screened contexts and are listed in Table 8-6. In addition, two sherds were collected from Unit 34 as wall fall, two sherds were from unscreened contexts in Unit 33, and a single tin-glazed sherd was collected from an auger. These five sherds are not included in any tables. Table 8-6 does include six sherds of French Faience. Unit 50 had the highest overall counts in this group (n=61), as well as the highest total per level with 26 tin-glazed sherds recovered from Level 3. Tin-glazed wares were present in 28.4% of all levels excavated. This is a distribution comparable to Native American wares and Spanish Colonial unglazed wares, and it is less than the Spanish Colonial lead-glazed ceramics. Once again, most of these wares are concentrated in units located on the western side of the complex.

Using paste color, decoration color, and other identifying characteristics, Table 8-7 lists the primary types of Spanish Colonial tin-glazed wares recovered from the site. Included in the table are six French Faience sherds. Also recovered from site 41BX2088, though not listed in the table, was a sherd of Delftware (Unit 18), a sherd of La Bahía Polychrome (Unit 15), a sherd of San Diego Polychrome (Unit 34), a sherd of Thin Blue and Brown on White (Unit 50), and one sherd of Esquitlan Polychrome (Unit 30). This appears to be the first documented Esquitlan Polychrome at a Texas Spanish Colonial site.

CAR recovered a wide variety of Spanish Colonial tin-glazed types from the excavations at the Plaza de Armas Buildings (Table 8-7). While additional information on these wares is available in Appendix B, note that several of these types have limited temporal ranges and, thus, are well suited for addressing chronological concerns. Of specific interest is the presence of several sherds of San Luis Polychrome (Figure

Table 8-6. Spanish Colonial Tin-Glazed Wares by Unit Level from Screened Deposits

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
1	0	0	3	2	1											**6**
2	0	3	1	0												**4**
5	0	0	0	0	0	0	0									**0**
6	0	0	0	0	0	0	0									**0**
7	0	0	0	0	0	0										**0**
8	0	0	0	0	0	0										**0**
9	0	1	0	0	0											**1**
10	0	0	0	0	0	0	0									**0**
11	0	0	1	0	0	0										**1**
12	0	0	1	2	0	0										**3**
13	0	0	0	0	0	0	0									**0**
14	0	0	0	4	0	0										**4**
15	0	2	1	0	1	0										**4**
16	0	2	0	0	0	0										**2**
17	1	0	0	0	0	0										**1**
18	0	2	2	1	0	0										**5**
19	2	1	0	2	0	0										**5**
20	0	0	0	0	0	0										**0**
21	0	0	0	0	0	0										**0**
22	0	0	0	0	0	0	0									**0**
23	0	0	0	0	0	0	0									**0**
24	0	0	0	0	0	0										**0**
25	0	0	0	0	0	0										**0**
26	0															**0**
27	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**1**
28	0	0														**0**
UNIT	Building 2															
29*	2	3	1	1	0	0	0	0	0	0	0					**7**
30*	1	3	0	4	0	1	1	4	2	1	0	1				**18**
31*	2	4	2	5	5	2	0	1	0	0	0	0	2			**23**
32	0	0	0													**0**
33	Not Screened				5	12	7	2	0	3	0	0	0			**29**
34	3	5	5	22	8	7	4	2	0	1	0	0				**57**
35	5	12	8	1	0	0	0	0	0							**26**
36	Not Screened			0												**0**
37	0	0														**0**
38	1															**1**
39	7	11	7	1	1											**27**
40	0	0														**0**

Table 8-6. Spanish Colonial Tin-Glazed Wares by Unit Level from Screened Deposits, continued....

UNIT	Building 4															
49	0	0	0	0	0	0	0									**0**
50	1	19	26	15												**61**
51	0	0	1	0	0											**1**
Total																**287**

* Features 2 and 5 present in these units.

Table 8-7. Tin-Glazed Wares by Type

Unit	Aranama Polychrome	Faience	Guanajuato Polychrome	Huejotzingo Blue on White	Monterey Polychrome	Orange Band Polychrome	Puebla Blue on White	Puebla Blue on White II	Undecorated Majolica	Puebla Polychrome	San Augustin Blue on White	San Elizario Polychrome	San Luis Polychrome	Tumacacori	Untypable Blue on White	Total Count
Building 1																
1	2	0	0	0	0	0	0	1	1	0	0	0	0	0	2	**6**
2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	**4**
9	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
11	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**1**
12	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	**3**
14	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	**4**
15	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	**3**
16	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	**2**
17	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**
18	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	**4**
19	1	0	0	0	0	0	0	0	1	0	0	0	0	0	3	**5**
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**
Building 2																
29*	1	0	0	0	0	0	2	0	2	0	0	0	0	0	2	**7**
30*	0	0	0	0	0	0	1	0	5	0	1	1	0	0	9	**17**
31*	0	0	0	2	0	0	3	0	2	1	1	0	0	0	14	**23**
33	1	0	0	1	1	1	3	1	8	2	0	2	0	0	9	**29**
34	2	2	3	1	1	1	1	4	19	0	0	3	1	1	17	**56**
35	0	1	0	0	0	0	0	1	9	0	1	1	0	0	13	**26**
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**
39	0	1	0	3	1	0	0	0	8	0	0	0	1	0	13	**27**
Building 4																
50	5	2	1	0	0	0	0	4	19	0	0	2	0	2	25	**60**
51	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
Total	**12**	**6**	**4**	**8**	**3**	**3**	**10**	**15**	**84**	**4**	**3**	**11**	**3**	**3**	**113**	**282**

* Features 2 and 5 present in these units.

8-4) and Puebla Polychrome (Figure 8-5). Both types are generally not present on Texas sites after AD 1725. A variety of other slightly later types are also present, including Faience (Figure 8-6), which dates from AD 1700 to 1750 (Fox and Ulrich 2008:39). The presence of multiple sherds of these early types supports the historical descriptions, summarized in Chapter 4, suggesting that the location was in use by the Spanish around AD 1720.

Figure 8-7 presents examples of several later Spanish Colonial varieties recovered from the excavation. These include examples of the Puebla Blue on White tradition. Several of the types shown in the figure, including San Diego Polychrome, Molded Blue on White, and Puebla Blue on Blue, all date after AD 1775, with Tumacacori Polychrome likely not being in the area prior to AD 1820.

Within the tin-glazed assemblage, rims make up 18.5% of the screen-recovered ceramics at the site. This is a significantly higher percentage than the previously discussed wares that were recovered. It is likely that specific forms, or smaller vessels, are characteristic of the tin-glazed assemblage when compared to these other traditions.

Figure 8-4. Examples of San Luis Polychrome from the Plaza de Armas Buildings.

Figure 8-5. Examples of Puebla Polychrome from the Plaza de Armas Buildings.

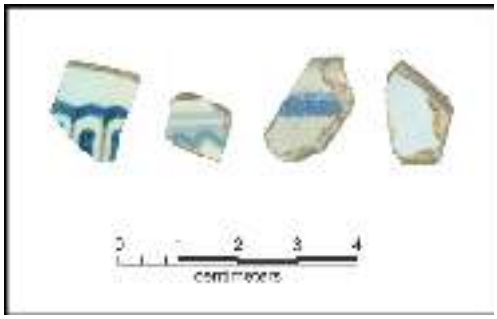

Figure 8-6. Examples of French Faience from the Plaza de Armas Buildings.

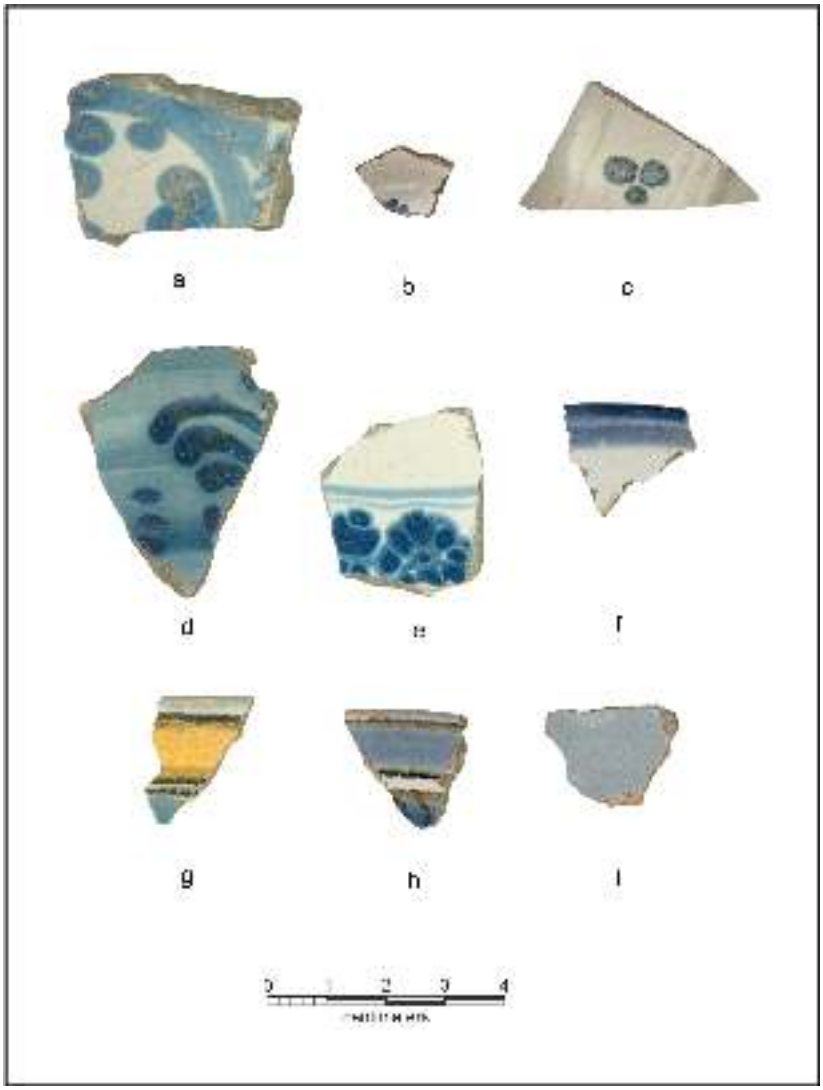

Figure 8-7. Examples of Later Spanish Colonial varieties: a, b) Puebla Blue on White; c) Puebla Blue on White 2; d) Puebla Blue on Blue; e) Molded Blue on White; f) Huejotzingo; g) San Diego Polychrome; h) San Elizario; and i) Tumacacori Polychrome.

Chinese Porcelain (n=6)

Finally, note that six pieces of Chinese Porcelain were recovered from the site. Porcelain is the result of firing a fine-grained clay mixed with Kaolin at very high temperatures. The high temperatures cause the clay to become highly vitrified producing a nearly translucent ceramic, with extremely low porosity in the paste. Firing temperatures range from 1280 to 1400 ºC (Rice 1987). The technology of producing porcelain was first seen in China during the ninth and tenth centuries. By the seventeenth century, Japan began producing their versions of porcelain. Europe did not enter the market until the early eighteenth century with Germany producing the first varieties followed by France and England (Rice 1987). Both Chinese and European porcelains were represented in the assemblage recovered. Note the presence of Chinese Porcelain here has the temporal range that is likely to be before AD 1820, and therefore, it falls within the Spanish Colonial temporal range. Europeans Porcelains are noted subsequently.

Two types of Chinese Porcelain, Ch'ing Blue on White and Ch'ing Polychrome, were recovered from the site (Figure 8-8). The sherds were recovered from Unit 12 in Level 1, Unit 15 in Level 5, Unit 31 in Level 5, and in Unit 34 from Levels 2 (n=2) and 4.

Other European/English Ceramics (n=167)

For purposes of this discussion, these are ceramics that were manufactured during the nineteenth and twentieth centuries but that are not considered part of the Spanish Colonial and Native American assemblages. These ceramics appeared in low densities throughout the excavations at the Plaza de Armas Buildings, with concentrations in areas, such as Feature 5, that reflect a post-Colonial age. These ceramics are high-fired earthenwares manufactured in Europe and the United States. They are categorized into three major groups designated European earthenwares, European stonewares, and European porcelain/semi-porcelain wares.

European Earthenware (n=167)

The largest category of non-Spanish Colonial ceramics represented at the site is within this group. Types represented include: annular ware, creamware, edgeware, flowblue, handpainted, sponge and spatter ware, transferware, and the undecorated sherds. These are the result of high-firing refined clays and the use of vitreous glazes. Decoration types vary between potter and location. Historic sites in San Antonio have yielded European earthenwares from deposits dating to the early to mid-nineteenth century, but the arrival of the railroad in 1877 dramatically increased the availability of these forms (Fox et al. 1997). Table 8-8 lists the 167 European earthenware sherds recovered from screened context by unit and level. Note that the table includes 33 European earthenware sherds recovered from just below the concrete slab in Unit 2 and listed as "surface." These are placed in Level 1 of Unit 2 (Table 8-8). A single sherd recovered as wall fall in Unit 34 is not included in the table.

Most of the European earthenware is concentrated in Unit 2 (n=36), Unit 32 (n=37), and Unit 29 (n=46). The Unit 29 deposit is essentially Feature 5, and the presence of these 46 sherds, the stratigraphic evidence discussed in Chapter 7, and other artifacts noted in Chapters 9 and 11, clearly suggest

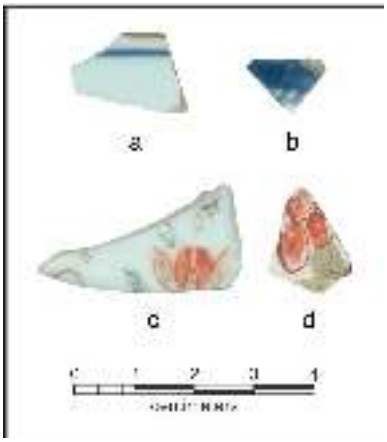

Figure 8-8. Porcelain sherds recovered from the Plaza de Armas Buildings: a) Ch'ing Blue on White; b) porcelain; and c, d) Ch'ing Polychrome.

Table 8-8. European Earthenware by Unit Level from Screened Deposits

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
2*	33	3	0	0												**36**
7	0	0	1	0	0	0										**1**
11	0	0	0	0	1	0										**1**
12	0	1	0	0	0	0										**1**
18	0	0	1	0	0	0										**1**
19	0	0	0	1	0	2										**3**
20	1	0	0	0	0	0										**1**
21	1	0	0	0	0	0										**1**
UNIT	Building 2															
29**	8	2	1	1	1	1	1	1	6	11	13					**46**
30**	1	0	0	0	0	0	0	0	0	0	0	0				**1**
32	21	16	0													**37**
34	2	3	0	0	0	0	1	0	0	0	0	1				**7**
35	16	0	0	0	0	0	0	0	0							**16**
39	1	1	0	1	0											**3**
40	2	1														**3**
UNIT	Building 4															
50	2	1	0	1												**4**
51	3	1	1	0	0											**5**
Total																**167**

*Unit 2 Level 0 (surface - 10 cm) has 33 items - counted as Level 1 in this table.
**Features 2 and 5 are present in these units.

that this feature is among the latest at the site. European earthenwares are present in only 15% of the 253 levels, significantly lower than the Spanish Colonial and Native American wares. In addition, the Table 8-8 data shows that with the exception of Feature 5 that was excavated in levels but which originated from just under the concrete slab (see Chapter 7), most European earthenware sherds are concentrated in the upper levels, consistent with a more recent temporal placement of this group.

Table 8-9 shows the distribution of European earthenware in from screened excavations at the Plaza de Armas Buildings. Figure 8-9 presents examples of several of the types recovered. The most common types recovered are classified as Ironstone (15%), Creamware (4.8%), Handpainted (3.6%), and Undecorated Whiteware (70%) that most likely represents undercorated portions of the previous types listed. No other type accounts for more than 2.5% of the assemblage, with several represented by a single sherd.

Ironstone is fired at higher temperatures creating a more vitreous paste. Ironstone was created in response to a need for durable wares. The first versions of Ironstone were produced in England and France ca. 1805. By the 1850s, Ironstone was in production in the United States. A heavy-duty ceramic type, Ironstone became a common addition to homes and businesses by the mid- to late nineteenth century.

Creamware is high-fired refined earthenware. Developed in the late eighteenth century in England, Creamware became popular near the turn of the century, with its popularity persisting into the mid-nineteenth century (Miller and Hunter 2001).

Handpainted earthenwares exhibit a distinctive floral decoration on the vessel surface. The decoration is identified by the visible brush strokes and the use of vibrant colors in green, blue, fuchsia, red, and yellow. Black accents are present, depicting stems and outlines. These wares are found in sites in San Antonio dating at least as early as the 1830s, if not earlier, and last into the 1870s.

Table 8-9. European Earthenware by Types from Screened Deposits

Unit	Annular Ware	Creamware	Edgeware	Flow Blue	Handpainted White	Ironstone	Spongeware/ Spatterware	Transferware	Undecorated Whiteware	Total Count
Building 1										
2	0	0	0	0	0	0	0	0	36	**36**
7	0	0	0	0	0	0	0	0	1	**1**
11	0	0	0	0	0	0	0	0	1	**1**
12	0	0	0	0	1	0	0	0	0	**1**
18	0	0	0	0	1	0	0	0	0	**1**
19	0	1	0	0	0	0	0	0	2	**3**
20	0	0	0	0	0	0	0	0	1	**1**
21	0	0	0	0	0	0	0	0	1	**1**
Building 2										
29*	2	0	0	0	2	4	1	2	35	**46**
30*	0	0	0	0	1	0	0	0	0	**1**
32	0	0	0	0	0	21	0	0	16	**37**
34	0	3	0	0	0	0	0	1	3	**7**
35	0	1	0	0	0	0	0	0	15	**16**
39	1	0	0	0	1	0	0	0	1	**3**
40	0	0	0	0	0	0	0	0	3	**3**
Building 4										
50	0	0	1	0	0	0	0	1	2	**4**
51	1	3	0	1	0	0	0	0	0	**5**
Total	**4**	**8**	**1**	**1**	**6**	**25**	**1**	**4**	**117**	**167**

*Features 2 and 5 are present in these units.

European Stoneware (n=11)

Stonewares are high-fired, non-permeable ceramics that are constructed of local clays. The vessels are fired at temperatures ranging from 1200 to 1400 ºC, a temperature range similar to that used for porcelain. Due to the lack of Kaolin in the clay of stonewares, the vessels exhibit different characteristics after firing. Typically, the walls of stoneware vessels are thick. The vessel colors range from near white to grays and browns. The vessels are non-permeable without glazing, though glaze is often applied to the exterior of the vessels. By the mid-nineteenth century, it was common to glaze both the interior and exterior. Stoneware vessels soon replaced the use of lead-glazed ceramics as utilitarian wares (Fox et al. 1997). Most stoneware ceramics encountered in the region came from local potteries that were in operation from the mid-nineteenth century to the mid-twentieth century (Fox et al. 1997).

Only 11 sherds of stoneware were recovered on the current project. These came from Unit 10 (Levels 1, 2, and 3), Unit 28 (Level 1), Feature 5 (Unit 29, Levels 1, 5, 6, and 10), Unit 35 (Level 1), and a single sherd from the unscreened portion of Unit 33. Types identified were Albany Slip (n=5), Alkaline Glaze (n=1), Bristol Glaze (n=1), Salt Glaze (n=1), Ginger beer (n=1), and two unknown sherds. The most common type, Albany Slip, involved the use of a dark brown clay to produce a slip color that was popular in the 1870s. Albany

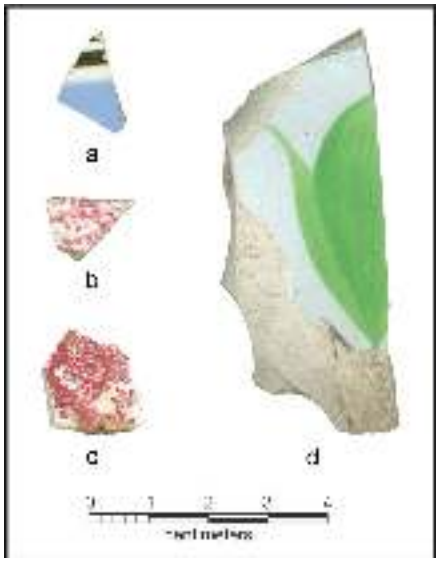

Figure 8-9. Examples of European earthenware: a) Annular; b) Sponge-Splatter; c) Transferware; and d) Handpainted.

Slip, made originally from clay in Albany, New York, was a reliable coating that adhered to the vessel at various firing temperatures (Fox et al. 1997).

European Porcelain and Semi-Porcelain (n=11)

As discussed previously, porcelain is the result of the high temperature (ca. 1280 to 1400 ºC) firing of fine-grained Kaolin clay (Rice 1987). Originally produced in China, European porcelain did not enter the market until the early eighteenth century with Germany producing some of the first varieties (Rice 1987). Semi-porcelain is another variety of vitreous ceramic. This variety contains impurities and often lacks Kaolin as a hardening agent. Semi-porcelains are often bulkier and exhibit a more porous paste than porcelain.

Only 11 sherds of European porcelain (n=8) and semi-porcelain (n=3) were recovered from the Plaza de Armas Buildings project. All are undecorated. These are from Unit 30, Level 1 (n=2), Unit 33, Level 1, Unit 35, Level 1 (n=4), and Feature 5 in Unit 29. Within Feature 5, single sherds of European porcelain were recovered in Levels 1, 2, 3, and 5.

Summary

The ceramic assemblage recovered from excavations at the Plaza de Armas Buildings include Native American, Spanish Colonial, and Other European/English traditions. Ceramics identified in order of frequency included: Native American wares (n=458); Unglazed wares (n=336); Tin-glazed wares (n=292); Lead-glazed wares (n=289); European Earthenware (n=167); European Stoneware (n=11); European Porcelain and Semi-Porcelain (n=11). Spatially, the Native American and Spanish Colonial wares appear to be concentrated to the west of the excavations, following the general pattern briefly discussed in Chapter 7. Sherds in the European tradition appear to be concentrated more in Feature 5.

Temporally, the recovery of sherds of Puebla Polychrome and San Luis Polychrome, both of which are early in the Spanish Colonial tin-glazed tradition, is consistent with the historic descriptions presented for this location in Chapter 4, in particular as the site of the 1722 Presidio San Antonio de Bexar. Both of these types do not seem to occur in the region after AD 1725.

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Chapter 9: Bricks, Nails and Other Metals, Glass, and Personal Items

by Lindy Martinez, Kristi Nichols, Kelly Harris, and Raymond Mauldin

This chapter provides a description of a variety of artifact types collected from the Plaza de Armas Buildings. These include bricks, other construction materials, nails and other metal, glass, and personal items. As with the discussion of ceramics in the previous chapter, the primary focus is on material collected from screened deposits excavated below the basement floors of the Plaza de Armas Buildings. In addition, the caveats regarding comparisons among units because of different unit sizes, level designations, and depth of excavations, made in Chapter 8 apply here as well.

Bricks (fragments=106)

Just over 100 brick fragments were recovered from subsurface contexts within the interior of the Plaza de Armas Buildings. None of the brick fragments found in the Project Area retained maker's marks, and the majority were fragmentary and small, with an average weight of less than 10 g. To facilitate description and analysis, the bricks were divided into three predominate colors (red, orange, and yellow). Following discrimination by color, the fragments were examined to determine whether they were fired at a high or low temperature. High-fired bricks are more durable and are used in situations such as street paving, industrial applications, and as facings on chimneys and smokestacks. These are usually more recent. Low-fired bricks represent the more typical uses for brick, such as residential and commercial construction. These tend to be earlier in time. With the exception a single piece of high-fired brick, the bricks recovered were low-fired.

Table 9-1 shows the number, weight, and color of the recovered brick fragments from screened deposits within the excavations at the Plaza de Armas Buildings. All of the Table 9-1 bricks (n=105) are low-fired. Bricks occur in 31 out of 253 levels excavated (12.3%). While the overall sample size is lower, the 12% distribution is significantly more restricted than the 27-33% range for Native American and Spanish Colonial ceramics discussed in Chapter 8, making the brick distribution more reminiscent of the 15% range for European/ English earthenware.

Examination of Table 9-1 also shows that a little less than half (47%) of the 918.8 g of low-fired bricks recovered from the site were concentrated in three locations. These are Unit 10 (30-40 cm) with 107.8 g, Unit 29 (46-56 cm) with 191.3 g, and Unit 33 (110-120 cm) with 114.1 g. The Unit 29 material is within the late nineteenth-century trash pit that was designated Feature 5. The Unit 10 deposit also has 20.3 g of brick recovered from the level just above the 30-40 cm level, so roughly 14% of all brick at the site was from these two levels of Unit 10.

The bricks recovered from Unit 10 were orange and yellow in color rather than red, even though red bricks make up 73% of all bricks by count and 58% of all bricks by weight. The Unit 33 deposit, at 110-120 cm, also lacked red bricks. Discounting the Feature 2 and 5 contents and focusing on depth, roughly 50% of the red brick weight occurs within the 10-30 cm depth, 28% occurs between 30-50 cm, and 22% was recovered below 50 cm. The yellow and orange bricks have a different distribution, suggesting that they may be earlier in time than the red brick fragments. Only 21.5% of yellow and orange brick weight occurred within the upper 10-30 cm levels, the 30-50 cm level had 33.3% of the weight, and over 45% of the weight was recovered below 50 cm. Four pieces of soft, orange brick were found between 120-130 cm in Unit 34 (Figure 9-1). While orange brick was not common, this single deposit makes up 87% of the weight of orange brick recovered from the excavations. Given the depths, limited distribution, and the color and soft paste, these bricks could certainly represent a Spanish Colonial age deposit. As shown in Tables 8-4, 8-8, and 8-9 in the previous chapter, this level in Unit 34 had two pieces of Spanish Colonial ceramics and a single piece of European creamware. As discussed in the following chapter, a gunflint was also recovered from this context.

Other Construction Materials (n=60)

In addition to brick, several other materials used in construction were found during excavations. Table 9-2 shows these other construction materials and their associated units. Artifacts included: carbon rod; concrete; chalk; mortar; painted plaster; and plaster. Nails and other metal are discussed subsequently.

Not surprisingly, the vast majority of this material (82%) was recovered within the first three levels of excavation. Focusing on non-feature contexts, there were only two items, a carbon rod and a piece of mortar, recovered below a meter in depth. Both of these were in Unit 33. Three pieces of red brick tile were collected that were not previously discussed. One of these tiles had a slight curve, suggesting that it may have been used as a conduit, roofing, or decorative tile. Materials typically used in masonry, such as mortar, plaster,

Table 9-1. Brick Collected from Screened Contexts

Unit	Depth below slab	Red		Orange		Yellow		Level Total		Unit Total	
		Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)
1	10-20	5	25			2	9.7	7	34.7	**7**	**34.7**
7	10-20	2	7.7					2	7.7	**13**	**63.5**
	20-30	6	47.9					6	47.9		
	30-40	2	1.9					2	1.9		
	40-50	3	6					3	6		
10	20-30			2	2.5	1	17.8	3	20.3	**5**	**128.1**
	30-40					2	107.8	2	107.8		
14	30-40	4	6.9					4	6.9	**8**	**53.1**
	40-50	1	43.7					1	43.7		
	60-70	3	2.5					3	2.5		
15	60-70	1	1.6					1	1.6	**1**	**1.6**
17	40-50	3	4.3					3	4.3	**3**	**4.3**
18	20-30	1	0.7					1	0.7	**1**	**0.7**
21	50-60	4	1.9					4	1.9	**4**	**1.9**
29**	46-56	3	191.3					3	191.3	**4**	**238**
	86-96					1	46.7	1	46.7		
30**	60-70			1	2.5			1	2.5	**1***	**2.5**
31**	13-20	2	3.2					2	3.2	**2**	**3.2**
33	50-60	2	61.9					2	61.9	**7**	**176**
	110-120					5	114.1	5	114.1		
34	20-30	5	20.8					5	20.8	**13**	**69.3**
	30-40	1	2.2			1	3.2	2	5.4		
	80-90	2	6.4					2	6.4		
	120-130			4	36.7			4	36.7		
35	15-25	11	16.3			1	10	12	26.3	**12**	**26.3**
39	13-20					7	29.6	7	29.6	**8**	**32.2**
	30-40	1	2.6					1	2.6		
50	14-20	1	8.6					1	8.6	**16**	**83.4**
	20-30	4	45.4			1	2	5	47.4		
	30-40	6	22.1					6	22.1		
	40-46	4	5.3					4	5.3		
Total		**77**	**536.2**	**7**	**41.7**	**21**	**340.9**	**105**	**918.8**	**105**	**918.8**

*Missing.
**Features 2 and 5 dominate these units.

Figure 9-1. Two pieces of orange brick, possibly Spanish Colonial in age, recovered from Unit 10.

Table 9-2. Other Construction Material

Material	Unit	Count	Weight (g)
Brick Tile	16	1	9.8
	30	2	36.3
Carbon Rod	32	4	28.1
	33	1	4.2
	38	1	3
Chalk	40	1	0.3
Concrete	39	10	104.5
Mortar	14	2	3.5
	29	11	78.6
	30	1	22.6
	33	2	63.3
	39	3	17.3
	40	3	28.6
	50	1	1.8
Painted Plaster	16	1	0.1
	38	1	12
Plaster	1	9	13.4
	10	1	12
	36	2	11.3
	50	3	3
Total		**60**	**453.7**

and concrete, were also included in Table 9-2. Though the plaster pieces were white on the interior and clearly visible as such in cross section, exposed surfaces were stained on the exterior surface as if they were exposed to the dirt and smoke. All ten pieces of concrete recovered from Unit 39 appeared to have a high sand content. Eight of the pieces were 1-cm thick and had a gray coating with ridges on one side, appearing to have been used to bind the walls or as flooring.

Pieces of "other rock" are not shown in Table 9-2. These consist of a mix of irregularly shaped and tabular pieces of sandstone and limestone that may be associated with construction. Most are likely associated with the construction of the Steves Buildings and the Fashion Theatre, though some may represent fragments of flagging stones.

Nails and Other Metals (weight=2362.9 g)

A variety of metal objects (tack and farm/ranch related, shell casings, bolts, screws, rebar, and unidentifiable metal) were recovered from the excavations at the Plaza de Armas Buildings. Nails were the most common object, and they accounted for 24% of all metal by weight. Nails can be sorted into three distinct manufacturing categories: hand-wrought/forged, cut, and wire (Nelson 1968). Until about 1800, all metal nails were made by hand. Forged nail heads can be flat, T-headed, or "rose headed" due to their distinct shape after being placed in a heading tool and formed by a hammer (see Nelson 1968:Figure 1). If a nail is cut by machine, the edges of the nail shaft are raised when the blade cuts through the metal. These raised edges are called burrs and can be used to identify the nail type and its manufacturing technique. The cross section of forged or hand-wrought nails, unlike machine-cut nails, reveals no burrs on the nail shaft (Nelson 1968).

On the current project, the majority of nails were simply too eroded to determine manufacturing type, and no hand-forged nails were identified. Consequently, nails are classified as cut, wire, and unidentified, with the latter accounting for just over 76% of the total nail weight from the project. Cut nails likely date prior to AD 1900, with wire nails increasingly common after the 1890s (Nelson 1968). Table 9-3 presents data on the weights of nails recovered relative to their unit and depth. Many of the nails are broken and rusted, making counts difficult to interpret; therefore, the focus is on weight rather than number.

Examination of Table 9-3 shows that nails were recovered from 60 different contexts, roughly 24% of the levels excavated. While this figure is comparable to some of the classes of items considered previously, nails have a different distribution, being recovered from several excavation units (e.g., 5, 26, 27, 28, 37) that have not previously yielded significant recovery as they were away from the creek side of the complex or in areas were little excavation occurred. Not surprisingly, most nails were recovered from Feature 5 in Unit 29, a nineteenth-century trash pit that produced 49% of all nails. Outside of that feature, most nails came from Unit 35 (227.5 g), all of which were recovered from a single level.

Table 9-3 shows that, discounting the unidentified group, cut nails are the dominant type of nail recovered, supporting a mid-to late nineteenth-century association, possibly with the construction of the buildings in the 1880s. Using the midpoint of the depth range presented in Table 9-3 and discounting the Feature 5 data, cut nails are present at an average depth of 21.6 cm, with the maximum depth of occurrence at 46-55 cm. In contrast, while few wire nails were recovered, these have an average depth of 13 cm, with none recovered below the 15-25 cm level. These depths are consistent with their relative ages.

As noted above, a variety of other metal was recovered. Of the 7429.5 g of metal that were not nails, 67% (4984.6 g) were classified as unidentified metal, with the vast majority coming from Feature 5, a mid-nineteenth-century deposit. Fasteners made up 12.7 % (945.9 g), with farm, ranch, and tack making up an additional 17.5%. Shell casings, a metal handle, a metal nob, wire, straps, and household items made up the remaining 2.7% of other metal. Much of this metal may have been associated with late nineteenth- and early twentieth-century businesses.

As with the nails, most of the other metal was in Feature 5. This trash pit contained 65% of the 7429.5 g. of other metal. Feature 2, which was dominated by Spanish Colonial ceramics, also contained a small amount of metal, including two keys recovered from 90-100 and 100-110 cm depths. One, at 100-110 cm, is highly deteriorated. Figure 9-2 presents the other key, which was recovered from 90-100 cm. Given the context, it is possible that these are Spanish Colonial in age.

Glass (n=2,068)

Glass fragments offer insight into the dates of occupation and activity that occurred at the Plaza de Armas Buildings. Characteristics, such as color, marking, and function, help to establish a chronology and consumerism patterns of the inhabitants. Prior the 1800s, the process of creating glass vessels had been relatively unchanged, and glass vessels were produced by means of free-blowing (Lindsey 2014; McKearin and McKearin 1941). The 1800s saw the advent of the use of new tools and molds, and by the 1900s, the invention of automated machine manufacturing revolutionized bottle production (Lindsey 2014).

Table 9-3. Nails Recovered from Excavation

		Cut Nail	Unidentified Nail	Wire Nail	Level Total	Unit Total
Unit	**Depth (cmbs)**	**Weight (g)**	**Weight (g)**	**Weight (g)**	**Weight (g)**	**Weight (g)**
1	5-10			2.5	2.5	**2.5**
2	9-13		16.1		16.1	**45.7**
	13-23		29.6		29.6	
5	30-40		1.7		1.7	**1.7**
7	9-20	3.9		1.1	5	**5**
8	10-20		12.8	3.7	16.5	**16.5**
9	10-20		19.1		19.1	**19.1**
10	10-20	25.4	4.5	3.5	33.4	**149.4**
	20-30	37.1			37.1	
	30-40	44.5			44.5	
	40-46	21.3			21.3	
	46-55	6.8	6.3		13.1	
11	8-20	13.8			13.8	**39.7**
	20-30	6.5			6.5	
	30-40	9.2			9.2	
	50-60		10.2		10.2	
12	20-30	9.6			9.6	**29**
	30-40	19.4			19.4	
13	15-24		34.5		34.5	**34.5**
14	8-20	18.5	25.5		44	**46.2**
	20-30		2.2		2.2	
16	8-20	3.4			3.4	**3.4**
17	8-20	7.9			7.9	**31**
	20-30	23.1			23.1	
18	8-20		6.3		6.3	**8.6**
	20-30	2.3			2.3	
19	8-20	16.9	48.9		65.8	**65.8**
20	8-20	24	10.8		34.8	**34.8**
22	8-20	14.8			14.8	**14.8**
23	7-20		5.2		5.2	**5.2**
24	8-20		3.5		3.5	**3.5**
26	7-9		13.1	2.5	31.4	**31.4**
27	30-40		3.6		3.6	**3.6**
28	7-10		24.8		24.8	**24.8**

Table 9-3. Nails Recovered from Excavation, continued....

		Cut Nail	Unidentified Nail	Wire Nail	Level Total	Unit Total
Unit	**Depth (cmbs)**	**Weight (g)**	**Weight (g)**	**Weight (g)**	**Weight (g)**	**Weight (g)**
29*	10-20		240.6	0.6	241.2	**1159.6**
	20-30		212.9		212.9	
	30-40		80.7		80.7	
	40-46		24.5	1.3	25.8	
	46-56		22.7		22.7	
	76-86		482.6		482.6	
	106-116		93.7		93.7	
30	12-20		21.9		21.9	**29**
	20-30		7.1		7.1	
31	13-20		83.7		83.7	**85.3**
	20-30		1.6		1.6	
32	12-20	42.9	43.2		86.1	**86.1**
33	90-100		15.8		15.8	**15.8**
34	15-20	17			17	**17**
35	15-25	22.8	197.7	7	227.5	**227.5**
37	10-20			4	4	**4**
39	12-13	4.1			4.1	**10.6**
	13-20	6.5			6.5	
40		13.8	53		66.8	**69.6**
	20-30		2.8		2.8	
50	14-20		37.9		37.9	**47.8**
	20-30		7.4		7.4	
	40-46		2.5		2.5	
51	20-30		2.5		2.5	**10.2**
	30-40		7.7		7.7	
Total		**415.5**	**1921.2**	**26.2**	**2362.9**	**2362.9**

*Feature 5.

Glass recovered from the excavations conducted at the Plaza de Armas Buildings were first subdivided into function categories and then by glass color. The main functional categories were window (flat), container, and chimney. Flat glass is commonly associated with windows and is typically clear to light aqua in color. Chimney glass is identified in the collection as thin, curved fragments. Chimney glass is typically clear but tends to exhibit patination. Chimney lamp glass is from the glass covers of kerosene lamps and candle lamps. Container glass is associated with various bottles. Container glass provides the most amount of useful information when examining the glass assemblage from the project location. Attributes examined on container glass that offer insight on dates of manufacture include color, seam marks, pontil marks, embossing, and finish types. The first sort of the glass fragments separated them by color. Once color categorizations were complete, the fragments were examined for the secondary attributes. The majority of the collection was only able to be classified by color. A smaller portion had additional attributes that aided in dating.

Excavations yielded 2,068 glass specimens. Included in this number are flat glass fragments (n=438), chimney glass (n=632), and container glass (n=996). A single glass bead and a portion of a glass insulator were also found during

Figure 9-2. Key recovered from lower levels of Feature 2.

excavations. Table 9-4 shows the recovery of glass fragments by unit and level from excavated contexts. Glass was recovered from 83 of the 256 excavated levels (32.4%), with most (ca. 68%) recovered from Feature 5, a nineteenth-century trash pit. Roughly, 48% of the glass came from Levels 8 and 9 within this feature. These same levels produced several complete bottles and three complete or nearly complete chimney lamps. Feature 5 contained 81.5% of all flat glass, 42.7% of all container glass, and 98.9% (n=625) of the 632 pieces of chimney glass recovered from the excavation. Oil lamps with glass chimneys were common in households in the 1800s, with the clear glass chimney protecting the flame and wick. The most prominent chimney shape was that seen on hurricane lamps, and the whole examples that were recovered from the site exhibited the hurricane lamp shade characteristics. These had a bulbous mid-section with a straight base and top.

Outside of Feature 5, the highest recovery was from Unit 32, with the upper two levels recovering 379 pieces of glass (Table 9-4). All but three of the glass fragments recovered from these two levels consisted of container glass. In addition, there are ten different glass colors represented in this deposit. Several different mineral bottles, bitters, and drinking glasses, as well as champagne, brandy, and assorted liquor bottles are represented. While not designated a feature in the field, the dominance of container glass and the variety of colors suggests that the two upper levels in Unit 32 likely sampled some type of shallow trash dump in this area.

Glass recovered from the excavation was primarily associated with Feature 5 and Unit 32, or it was recovered in the initial few levels of the excavation. Below Level 5, only eight glass fragments were recovered from non-feature contexts. In contrast, the upper two levels from non-feature contexts produced 228 fragments of glass, not counting the substantial quantities present in Unit 32 (Table 9-4).

Not surprisingly, 1,068 of the 1,070 pieces of flat (window) glass and chimney glass were clear. Glass color variation, then, can be used to track differences in container glass. Table 9-5 lists the color variation by unit for the primary color types for container glass. Amber-olive and olive green, dark olive, aqua, clear, and brown colored glass dominate the excavated assemblage.

The color variation shown in Table 9-5 is primarily a result of impurities in the sand used in the glass production (see McKearin and McKearin 1941:7-9). For example, aqua colored glass is a "natural" color that results from impurities (Kendrick 1966). Aqua was a common color up until the 1920s when it was replaced by colorless glass (Lindsey 2014). Amber and olive green glass is another "natural" color. The hue that each batch takes results from the level of iron oxide in the sand that was used to make the glass. Olive glass is often associated with the Spanish Colonial period at sites that were mainly occupied between the 1700s to the 1830s in San Antonio, but the production of olive green vessels was common until 1900. Olive-amber was not commonly produced after 1890, with the exception of wine and champagne bottles (Lindsey 2014). A third color variant, dark olive, which was made in the United States, seems to have declined during the late nineteenth century (Lindsey 2014).

Amber glass fragments exhibited a honey color as the result of deterioration. Initially, selenium was used as a decolorizer to produce crystal-clear glass; however, selenium treated glass changes color after exposure to sunlight (Kendrick 1966),

Table 9-4. Glass Recovered by Unit and Level from Excavated Contexts

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
1	1	0	0	1	1											**3**
2	11	4	0	0												**15**
5	1	1	0	0	0	0	0									**2**
7	2	3	3	0	0	0										**8**
9	0	1	0	0	0											**1**
10	1	3	1	1	1	2										**9**
11	9	1	0	0	0	0										**10**
12	0	0	1	1	0	0										**2**
13	0	0	0	3	0	0	0									**3**
14	3	0	1	0	3	0										**7**
15	0	2	0	0	3	1										**6**
16	1	0	0	0	0	0										**1**
17	0	0	1	0	0	0										**1**
18	1	1	2	1	1	1										**7**
19	1	0	1	0	0	1										**3**
20	6	0	0	1	0	0										**7**
21	1	0	0	0	0	0										**1**
22	1	0	0	0	0	0	0									**1**
23	3	0	0	0	0	0	0									**3**
UNIT	Building 2															
29*	66	18	7	4	21	59	67	233	766	97	70					**1,408**
30	11	3	0	1	0	0	0	0	0	0	0	0				**15**
31	7	0	0	1	1	0	0	0	0	0	0	0	0			**9**
32	276	103	0													**379**
33	Not Screened				1	0	0	0	0	1	0	0	0			**2**
34	23	12	1	7	0	0	2	0	0	0	0	0				**45**
35	18	1	1	0	0	0	0	0	0							**20**
37	3	0														**3**
38	25															**25**
39	5	14	0	0	0											**19**
40	33	0														**33**
UNIT	Building 4															
50	11	0	3	2												**16**
51	2	2	0	0	0											**4**
Total																**2,068**

*Feature 5.

Table 9-5. Glass Color by Excavated Unit for Container Glass

Unit	7UP® Green	Amber	Amber-Olive, Olive Green	Dark Olive	Aqua	Blue	Brown	Clear	Cobalt Blue	Green	White (Milk)	Unit Total
1					1			1				**2**
2			2		2		1	10				**15**
5								1				**1**
7			2		3			2				**7**
9					1							**1**
10			5				3	1				**9**
11			2				2	2				**6**
12							1					**1**
13							3					**3**
14			3				2					**5**
15			1		1			3				**5**
17							1					**1**
18			1		1		1	3				**6**
19				1			1	1				**3**
20			2									**2**
21								1				**1**
22		1										**1**
29*		1	74	34	93		34	152			37	**425**
30			7		2		1	1			1	**12**
31			2		1		1	4				**8**
32	5	2	69	45	107	1	122	16	6	2		**376**
33								2				**2**
34		1	3	1	6		6	2	1		1	**21**
35	2		8		2			1			1	**14**
37					2							**2**
38					2							**2**
39			1		1			7				**9**
40			11					20				**31**
50			5	1	2			3			1	**12**
51					2							**2**
Total	**7**	**5**	**198**	**82**	**229**	**1**	**190**	**234**	**7**	**2**	**41**	**996**

taking on an amber hue. The bottle industry in the United States turned to heavy use of selenium after the start of World War I when access to manganese, another bleaching agent, was cut off (Kendrick 1966). Amber glass was most likely manufactured between the early 1900s and 1930. By 1930, identifying sand deposits that lacked high quantities of iron oxide and transporting the sand to the manufacturer became easier, so the use of bleaching agents was not a necessity (Kendrick 1966).

Brown container glass is commonly associated with beer and liquor bottles. Machine made brown vessels became common at the beginning of the twentieth century (Lindsey 2014), and the brown coloring became uniform. Prior to this date, non-machine made brown containers varied in brown hues depending on the inclusions in the sand. In addition, a variation in the shade could be exhibited on a single bottle due to uneven thickness in the glass, which can result from the mouth-blown or blown-mold manufacturing process.

Cobalt blue glass is produced by adding cobalt oxide to the sand mixture (Lindsey 2014). The production of blue glass was relatively expensive, and therefore, it is a rare type (Kendrick 1966). Cobalt blue has little temporal utility.

Clear glass, also referred to as colorless, was expensive to produce, as it required the removal of impurities or the addition of a bleaching agent. The added expense resulted in limited production of clear glass in bottling (Kendrick 1966; Lindsey 2014). A gradual shift was initiated in the 1870s, as the food-preservation industry began to use clear vessels as they were thought to be more sanitary and they allowed for the display of the contents. At this time, bleaching agents were more readily used, reducing the cost. By the 1910, the production of clear containers took off with the introduction of automated bottle making machines (Kendrick 1966; Lindsey 2014). The best date range for clear glass, then, would be ca. 1870 to the present.

Milk, or white glass, is opaque and created when tin or zinc oxide is introduced (Kendrick 1966). Other additives that create milk glass include fluorides, phosphates, animal bones that contain large amounts of calcium and phosphate, and bat guano (Lindsey 2014). Milk glass production in the United States became popular during the mid-nineteenth century through the twentieth century (Lindsey 2014). Typically, milk glass containers were used for toiletries and cosmetics, as well as for fruit jars, medicines, bitters, and liquor (Lindsey 2014).

Finally, two versions of green glass were identified. A light green most likely associated with the twentieth century and soda bottles, particularly Coca-Cola varieties, and a vibrant green that is referred to as 7UP® green. The 7UP® green color is also associated with the twentieth century, although in rare instances specimens have been recovered from other sites that could date to the late nineteenth century (Lindsey 2014).

Overall, the color variation seen in the container glass (Table 9-5) is consistent with a late nineteenth-century assemblage. The widespread presence of clear and brown container glass in both Unit 29 and Unit 32, as well as the recovery of milk glass (Unit 29) and 7UP® green glass (Unit 32), suggests that these both are late nineteenth-century or early twentieth-century deposits. Note, however, two pieces of hand blown, dark olive glass were recovered from Level 2 of Unit 32, which suggest an earlier date, at least for some of this deposit.

As noted previously, a wide variety of glass items, including several complete or nearly complete bottles and other glassware, were recovered (see Figure 9-3). Most of these complete items were from the lower levels of Feature 5, with small amounts recovered from Unit 32. The recovered items included three complete aqua bottles, with the marking "G.P." on the body and "W.McC. & Co." on the body near the base, were recovered from Feature 5 between 96-106 cmbs. The William McCully and Company located in Pittsburg, Pennsylvania, manufactured these bottles. This manufacturer was in business from approximately 1840 to 1909 (Whitten 2014). The three glass bottles were classified as pony bottles and bore the initials for Gustave Pomy. The bottles likely held soda water or beer. In the assemblage, there was a base fragment that exhibited the William McCully and Company mark. This marking differed from the pony bottles due to the location of the mark. A complete aqua colored prescription bottle was recovered from Feature 5 in Unit 29 at 66-76 cmbs. This bottle exhibited the markings "F Kalteyer's liniment pat" on the side. Kalteyer's was a well-known pharmacy in San Antonio during the latter portion of the nineteenth century. A large portion of an aqua coffin flask was also recovered from this feature at 66-76 cmbs. This style of bottle was popular from the 1880s to the 1910s. Three additional bottles from Feature 5, at 96-106 cmbs, appear to have been used for soda water, and all likely had lightning closures, common between the 1880s and the 1920s (Lindsey 2014). There were also 13 specimens of clear glass that were whole or mostly whole rock glasses and tumblers. These vessel types are consistent with beverage consumption and are common at locations such as saloons or restaurants.

Several of the fragments of milk glass were determined to have been a portion of a Sazerac Bitters bottle. Sazerac Aromatic Bitters in the milk glass "Lady's Leg" bottle was produced ca. 1865 to 1875 (Prices4Antiques 2014). Fragments of the base were embossed with "Sazerac Aromatic Bitters," and the portion of the shoulder had embossing that was part of the "PHD

Figure 9-3. Examples of bottles recovered from Feature 5.

& Co." seal. The seal likely refers to the Patrick Henry Drake & Co. that had once been part of a partnership with Demas Barnes in 1862 (Meyer 2012). In addition, a base fragment of brown glass from Unit 32 was embossed with "WIS G Co. MILW" that was from the Wisconsin Glass Company based out of Milwaukee. The company manufactured glass bottles between 1881 and 1886 (Maas 2006).

Feature 5 also produced two interesting collections of fragments from brown glass bottles between 76-96 cmbs. One collection when reassembled was a Lange and Bernecker whiskey or bourbon bottle. Lange and Bernecker was based out of St. Louis, Missouri, and was likely in business between 1864 to 1875 (Meyer 2013). The second collection of fragments represented a Dr. J. Hostetter's Stomach Bitters

bottle. Hostetter's Stomach Bitters was introduced to the public ca. 1853 and became very popular during the Civil War (Switzer 1974:76-77).

Personal Items (n=13)

Artifacts that can either be found on a person or intimately used by a person are considered Personal items. These artifacts include classes such as coins, buttons, jewelry, beads, and eating utensils. Thirteen items classified as Personal were recovered during the excavations at the Plaza de Armas Buildings (Table 9-6).

Six buttons were collected during the excavations. Two of the buttons were recovered in Unit 31. Both were identified as two-hole shell buttons (Figure 9-4; d, e). One was located at 13-20 cmbs, and the other was at 20-30 cmbs. These appear to be machine-cut shell buttons rather than handmade. Manufacture of the machine-cut shell buttons began ca. 1850 (Fox et al. 1997). A metal, loop-shank button was recovered in Unit 30 at 20-30 cmbs. There were no identifying marks on the loop-shank that would offer temporal affiliation. The fourth button, a two-hole mussel shell button, was recovered from Unit 32 at 12-20 cmbs, and a single copper button/clasp/stud was located in Unit 50 at 30-40 cmbs. The final button was a molded 2-hole plastic button recovered from Unit 35.

Table 9-6. Personal Objects
Recovered at the Plaza de Armas Buildings

Building	Unit	Depth (cmbs)	Personal Object	Count
2	29	40-46	Wooden Finial	1
	30	20-30	Metal Button	1
	31	13-20	Two-hole Shell Button	1
		20-30	Two-hole Shell Button	1
	32	12-20	Two-hole Mussel Shell Button	1
			Copper Spoon	1
	35	15-25	Blue Glass Jewelry/ Decoration	1
			Copper Plaque/Setting	1
			Molded 2-hole Plastic Button	1
	36	0-30	Paper	1
	40	20-30	Toy Gaming Disk	1
	NA	0-10	Indian Head Coin, 1893	1
4	50	30-40	Copper Button/ Clasp/Stud	1
Total				13

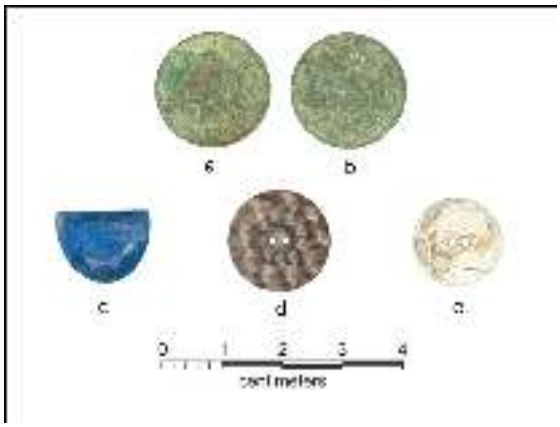

Figure 9-4. Selection of personal items recovered from the Plaza de Armas Buildings: a) Indian Head Cent, front; b) Indian Head Cent, back; c) blue glass inset; and d, e) two-hole shell buttons.

One blue glass inset was collected from Unit 35 at 15-25 cmbs (Figure 9-4). This was likely an inset from a piece of jewelry. Jewelry with glass insets often were referred to as "paste" jewelry. Pieces that contained glass gems rather than precious stones were less expensive to obtain (Collector's Weekly 2015). Paste jewelry became very popular during the Victorian Era, especially for ladies who could not afford to purchase precious stones, and the use of glass stones continued into the twentieth century as way to create less expensive jewelry pieces that were still beautiful (Collector's Weekly 2015). This one blue glass stone was not associated with a metal setting, so the temporal affiliation was not determined.

One Indian Head Cent was collected from within Building 2 in an area where the concrete was removed. The bronze coin was minted in 1893. Indian Head Cents were minted between 1859 and 1909, although those produced during 1859-1864 consisted of copper and nickel, whereas the ones minted after 1864 were bronze (Yeoman 1967:84). The coin exhibits corrosion that made details difficult to decipher. However, one could see that the Indian woman wearing a headdress was on one side with the words "UNITED STATES OF AMERICA," and the reverse exhibited a laurel wreath and shield (Figure 9-4).

One glass syringe plunger was recovered in Unit 35 at 15-25 cmbs. Syringes with glass plungers appear during the mid- to late nineteenth century (Lawrence 2002:1074). The glass syringes were used for medicines, although very few injectable medicines were on the market in the late 1800s (Lawrence 2002:1074). In addition, one metal spoon was recovered from Unit 32 at 12-20 cm below the concrete slab. The spoon's surface is oxidized to a green color, suggesting some copper component.

Summary

While there are several items, such as the fragments of brick shown in Figure 9-1, possibly reflecting earlier use, the various classes of material discussed in this chapter primarily reflect activities conducted in the latter half of the nineteenth or early in the twentieth century. Feature 5, a nineteenth-century trash pit excavated from the surface just under the concrete slab in the building basements, produced the vast majority of material. The feature contains an assortment of artifacts, including high densities of metal and glass that suggest a late nineteenth-century date. The upper two levels of Unit 32 also contain a variety of material and dates to a similar time.

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Chapter 10: Chipped Stone, Ground Stone, and Burned Rock

by Raymond Mauldin

This chapter provides a description of the lithic assemblage recovered from the excavations at Plaza de Armas Buildings. The assemblage is divided into chipped stone debitage and tools, ground stone, and burned rock. This discussion follows a presentation format similar to that used in the previous two chapters. The goal is to provide information on the distribution for each of these three broad groups of artifacts, and as in the previous chapters, the focus is on artifacts recovered from screened deposits. Chapter 12 presents additional information on the distribution of chipped stone material.

Included in the chipped stone tool assemblage are two prehistoric projectile points and a tool consistent with a Clear Fork biface, all likely produced in the Archaic period, and several hundred pieces of debitage. Given this recovery and the presence of Native American ceramics, some of which could date to the prehistoric period, it is probable that some of the lithic material recovered from the site reflects a prehistoric use of the area. This is expected because the site is located adjacent to San Pedro Creek, a focal point of prehistoric occupation in the region (see Mauldin et al. 2015). However, the lithic material recovered from the Plaza de Armas Buildings also has a significant component that dates to the Spanish Colonial period, which is reflected in the recovery of a variety of gunflints from multiple contexts. Again, this is expected given the historic review presented in Chapter 4. Unfortunately, separating these various components is problematic.

Chipped Stone Debitage, Cores, and Tools (n=301)

The excavations recovered 277 pieces of debitage, 2 cores, and 22 chipped stone tools from screened deposits. The initial focus of this chapter is on the debitage and cores. Table 10-1 presents the distribution of the 279 pieces of debitage and cores. Chipped stone is widely distributed, being recovered from 91 different levels (Table 10-1), or approximately 36% of all excavated levels. The data in Table 10-1 shows that Units 33 and 34, both located in the western section of the basement in Building 2 of the complex, contain the highest overall recovery, with 41 and 36 items recovered, respectively. Feature 2, which possibly dates to the Spanish Colonial period, also produced relatively high recovery of chipped stone. In contrast, Unit 29, which contained the late nineteenth-century trash pit designated Feature 5, had only eight chipped stone items present, and most of these were in the initial excavation level rather than associated directly with the feature deposit.

Figure 10-1 shows the distribution of debitage for Units 33 (top) and 34 (bottom) by midpoint depth. Both units are located in the western section of Building 2, and they are roughly 1.5 m apart. While the upper four levels of Unit 33 were not screened, both units show an increase in debitage at 60-70 cm in depth (plotted as 65 cm), with Unit 33 showing a second peak at 90-100 cm below the base of the concrete slab. While in all cases the sample sizes are small, these peaks could indicate different occupational events, shifts in the frequencies of disposal, or changes in the patterns of disposal at the site. A review of the ceramics recovered from these two peaks suggests that both deposits are likely to be Spanish Colonial in age, though the lower peak appears to have a temporally mixed ceramic assemblage. Native American Goliad ware, Red Brown ware, Smooth Brown ware, and Yellow and Green Glaze dominate the 60-70 cm peak. Monterey Polychrome, dating to after AD 1775, is also present. This peak could represent deposits that date sometime between AD 1775 and 1800 (Fox and Ulrich 2008:39). The lower peak, present primarily in Unit 33 (see Figure 10-1), does have two pieces of Puebla Polychrome, which has an end date of AD 1725, but it also has later ceramics, including Aranama Polychrome and Tonalá Glazed, which date to after AD 1750 and 1780, respectively (Fox and Ulrich 2008:39). While the mixed nature of the lower deposit, the small sample sizes, and the lack of deep excavation in most other units limits the utility of this comparison, the patterns suggest that multiple temporal lenses may be present in this area of the site, some of which may date to the earliest Spanish presence in San Antonio.

Cortical Coverage, Size, and Material Type in Chipped Stone Debitage

Most studies of debitage, both in general and in the region, record various attributes at an individual piece or assemblage level to develop descriptions of past behaviors. Some researchers rely on the identification of flake types, such as biface platform preparation or uniface manufacturing flakes (e.g., Fox and Tomka 1998), while others rely of combinations of attributes recorded on specific flakes to identify technological patterns or other characteristics at an assemblage level (e.g., Johnson 1994; Sullivan and Rozen 1985). Various forms of mass analysis (see Ahler 1989) have also been attempted (e.g., Figueroa et al. 2015). While the goals of these approaches certainly can vary, relationships between the attributes selected and statements about past behavior are complicated in all cases by interactions with raw material attributes, tool requirements, reoccupation and mobility, and a host of other variables that are difficult or impossible to accurately measure at present.

Table 10-1. Chipped Stone Debitage and Cores Recovered by Unit and Level from Screened Deposits

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
1	0	0	0	1	0											**1**
2	0	0	1	0												**1**
5	0	0	0	0	0	0	0									**0**
6	0	0	0	0	0	0	0									**0**
7	0	1	1	4	0	0										**6**
8	1	2	0	0	0	0										**3**
9	0	3	4	2	0											**9**
10	0	0	0	0	0	0										**0**
11	0	1	0	0	0	0										**1**
12	0	0	0	1	0	0										**1**
13	0	0	0	0	0	0	0									**0**
14	0	0	2	1	1	0										**4**
15	0	0	0	0	3	0										**3**
16	0	0	1	3	2	1										**7**
17	0	0	1	0	0	0										**1**
18	2	0	3	8	0	0										**13**
19	0	1	2	2	0	1										**6**
20	3	0	0	0	0	0										**3**
21	1	0	1	0	0	0										**2**
22	4	0	0	0	0	0	0									**4**
23	1	0	2	0	0	1	1									**5**
24	0	0	0	0	0	0										**0**
25	0	0	0	0	0	0										**0**
26	0															**0**
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
28	0	0														**0**
UNIT	Building 2															
29*	5	1	1	0	1	0	0	0	0	0	0					**8**
30*	2	3	0	4	1	1	3	4	3**	1	0	7				**29**
31*	4	4	1	1	7	2	1	2	0	0	0	0	4			**26**
32	0	0	0													**0**
33	Not Screened				4	5**	10	2	5	8	3	4	0			**41**
34	0	0	1	6	5	9	4	3	3	4	1	0				**36**
35	6	5	8	7	2	0	0	0	0							**28**
36	Not Screened			0												**0**
37	0	0														**0**
38	0															**0**
39	5	0	0	1	0											**6**
40	18	2														**20**

Table 10-1. Chipped Stone Debitage and Cores Recovered by Unit and Level from Screened Deposits, continued....

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 4															
49	0	0	0	0	0	0	0									**0**
50	1	4	4	4												**13**
51	0	0	1	0	1											**2**
Total																**279**

*Features 2 and 5 present in these units.
**Chipped stone core.

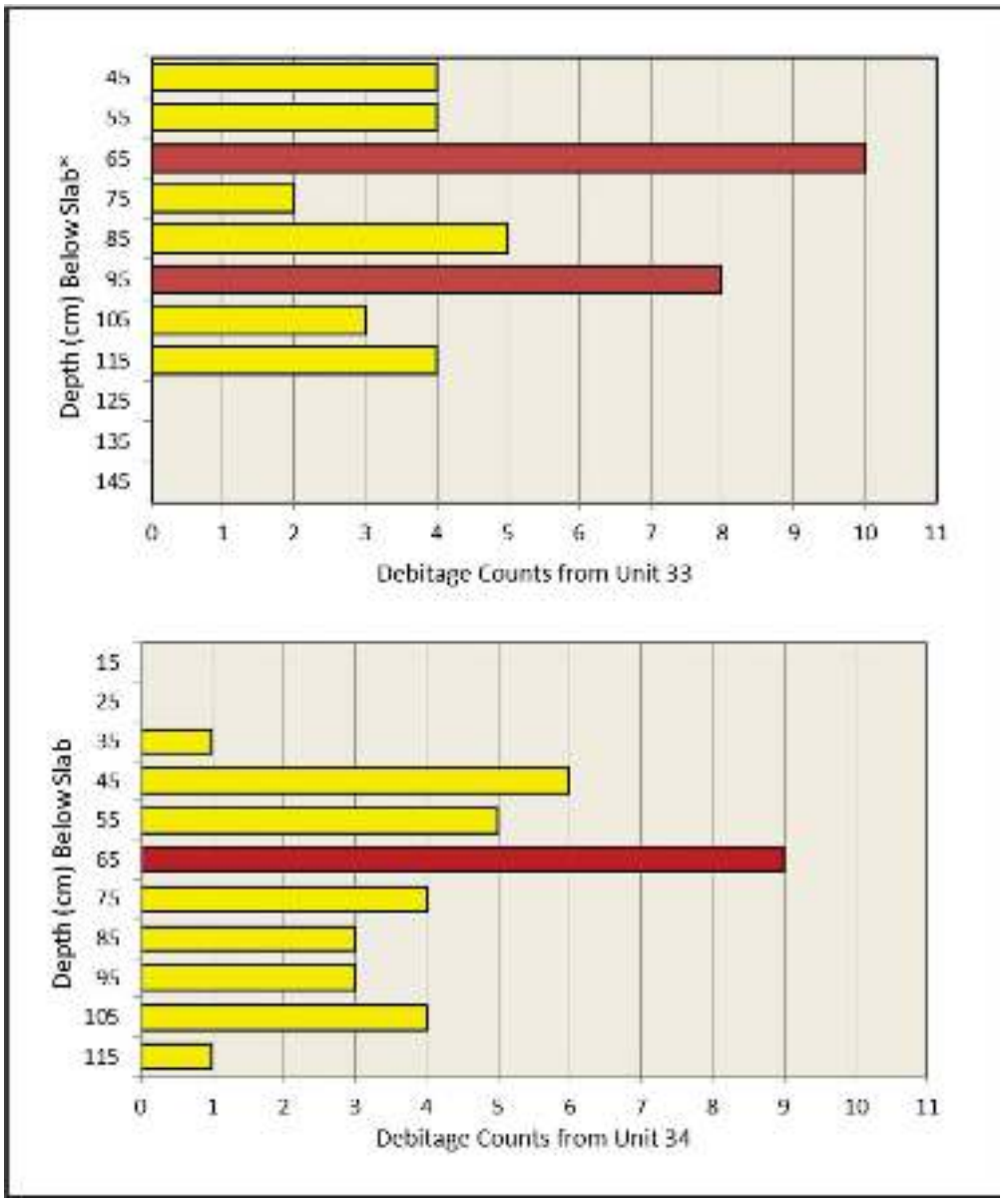

Figure 10-1. Vertical distribution of debitage in Units 33 (top) and 34.

Like most efforts that attempt to reconstruct behavior processes from debitage, one of the principal limitations of the current investigation is the lack of known associations between items. Deciding if a series of flakes recovered from the same level, adjacent levels, or adjacent units (e.g., Figure 10-1) form an analytical unit, is problematic. This is especially the case for sites like Plaza de Armas Buildings where multiple temporal periods are represented and little is known about the patterns of deposition. In addition to these complications, different excavation strategies and different analytical decisions often complicate or limit comparisons between debitage studies even when the same overall approach is used. In spite of the interpretive complications, however, the cortical cover, chipped stone size, and raw material type were recorded on all 277 pieces of debitage shown in Table 10-1. These recording procedures are discussed below with the raw data presented in Appendix C.

Each piece of debitage was placed into one of four cortical groups based on a visual estimate of cortex covering the dorsal surface and platform area of the item (Appendix C, Table C-1). These four groups were cases with no cortex, often referred to as tertiary flakes, those with 1 to 50% (late secondary flakes), cases with 51 to 99% (early secondary flakes), and those with 100% cortical cover (primary flakes). The four groups reflect, at a general scale, the reduction trajectory. Initial reduction of a natural cobble will produce a high frequency of flakes classified as primary and secondary and a low frequency of tertiary flakes. Conversely, tertiary flakes will dominate assemblages generated late in the reduction sequence because the cortical cover of a given nodule would have been removed, or greatly reduced, during initial reduction (see Andrefsky 1998:101-107; Magne 1985; Mauldin and Amick 1989).

A second set of variables monitored debitage size. The Maximum length of an item (Max Length) and the Midpoint thickness (Mid Thick) were recorded for each piece to monitor reduction (see Amick et al. 1988; Andrefsky 1998: 96-100). The maximum length provides a measure that, when used in combination with other attributes such as cortical cover and material, can identify different patterns of reduction. As reduction progresses, the maximum length of flakes generated should decrease. Midpoint thickness was recorded in an effort to look more closely at reduction technology based on the thought that flakes resulting from bifacial reduction should be thinner than reduction focused on flake tool production. Digital calipers were used to record these attributes, and both were recorded to a hundredth of a millimeter (see Appendix C, Table C-1).

Finally, material types were recorded. At a general level, like most assemblages in the Central Texas region, chert was the primary stone as it accounted for all but a few pieces. Beyond the generic type, however, the principal color of the individual item was also recorded. Chert colors vary widely. Color, which result of the presence of secondary materials such as iron oxides in the silica dominated matrix, is used here as a proxy for material source. While a variety of different colors can certainly come from the same general tool stone source, color is one of the defining characteristics used to identify cherts from a given source (see Banks 1990; Frederick and Ringstaff 1994; Rose 1968). First, color was initially categorized by comparing an item to a standardized color chart on file at the CAR. The chart consists of 175 separate blocks with specific RGB values for each block. The specific RGB value for the block that is closest to the debitage color was recorded. After this, RGB values for all items were plotted using bivariate and 3-dimensional plots, and final groupings were created by combined those initial groups that have similar RGB values. This was done to create final groups that have larger samples sizes. The individual RGB values and the final RGB groups are provided in Appendix C, Table C-1.

Results

Focusing on cortical patterns, the determinants of cortical percentages for a given assemblage should be the degree of reduction and the size of the original raw material. For a given assemblage, recovery procedures, such as screen size, will also influence the patterns. Mauldin and Figueroa (2006) reviewed cortical patterns on assemblages from 41 projects recording cortex on nearly 200 sites from 34 counties, primarily located in Central and South Texas. Focusing on the percentage of non-cortical flakes, percentage at a project level ranged from a low of 52% to a high of 91%, with most cases falling between 75 and 85%. They suggest that raw material availability and associated nodule size are the primary determinant of this pattern. Using generalized chert distribution data from Frederick and Ringstaff (1994), Mauldin and Figueroa (2006:85-88) partitioned the 41 projects into low, moderate, and high availability, and they found a significant relationship between the occurrence of tertiary flakes and material availability. Areas with high availability had high tertiary flake percentages, with a median percentage of roughly 83%. Sites with moderate chert availability had a median value of 72%, while those with low availability had median tertiary flake values of 61% (Mauldin and Figueroa 2006:86-87). In part, this pattern is due to larger nodules, which will be more common in areas with high availability, having lower amounts of cortical cover relative to interior volume. Small nodules will have higher cortex regardless of reduction strategies as it is difficult to remove flakes without some cortex present.

As noted in Chapter 2, the Project Area is located just below the Edwards Plateau, a source of high quality chert, and this location falls within the high raw material availability zone

(see Mauldin and Figueroa 2006). It would be expected, then, that the chipped stone assemblage from the Plaza de Armas Buildings would be dominated by tertiary flakes; however, that was not the case. There were 172 (62%) items that lacked cortex in the assemblage, with 69 (25%) having from 1 to 50% cortex cover. Early secondary flakes, those with 51 to 99% cortex, made up 12.6% with only a single item having 100% cortex. The 62% tertiary percentage at the Plaza de Armas Buildings is low, especially given the location of the site. Recent work at the nearby site of San Pedro Park (Figueroa et al. 2015:103) found that almost 79% of the recovered material lacked cortex. The 79% figure is consistent with the regional patterns outlined in Mauldin and Figueroa (2006).

One issue possibly related to the low frequency of debitage without cortex in the Plaza assemblage may be the temporal components represented at the site. The regional review in Mauldin and Figueroa (2006) focused on prehistoric material, and the major contributor to the patterns at San Pedro Park noted above was a high density of prehistoric debitage. Unfortunately, comparable data on Spanish Colonial debitage is limited. A review by Fox (1979) of over 2,100 pieces of chipped stone recovered from Mission Sites in the San Antonio Area shows extremely low tertiary flake percentages (41.6%). This low percentage is related, in part, to the samples used, as the assemblages analyzed represent a mix of ¼-inch and ½-inch screening procedures (Fox 1979:8-16). As shown subsequently, tertiary flakes are often smaller, and assemblages produced by ½-inch screen mesh should have smaller percentages of tertiary flakes. It is difficult, then, to use this earlier work for comparison. Recent work reported by Luzmoor et al. (2014:73-75), using ¼-inch mesh and sampling of deposits dating to the 1800s at Mission San Juan, showed a tertiary recovery percentage of 66%, though the samples size was limited (n=70). Tomka (1999; Fox and Tomka 1998:30-33; Fox and Tomka 1999:34-38) provides data on chipped stone debitage recovered from work at Mission San Jose. Of 601 pieces of unmodified debitage, Tomka notes that tertiary flakes make up about 53%. While details on screen size are not provided, data from Loshe (1999:266-268) suggests that roughly 51% of 1,287 pieces of debitage for excavations at San Antonio de Valero lack cortex. The cortical patterns from Plaza de Armas Buildings, then, are consistent with those identified by Tomka and others from historic period sites. This suggests that the reduction strategy used during the Spanish Colonial and early Mission periods have a different focus than that of the prehistoric material. In that regard, Tomka (1999; Fox and Tomka 1999) has suggested that the changes seen may reflect an overall shift away from bifacial technology and towards core reduction. This shift may be related to decreased mobility, a trend noted by Perry and Kelly (1987), as well as increasing use of metal knives replacing hafted, formal lithic implements for repetitive cutting tasks (Tomka 1999).

Table 10-2 presents summary size data (mm) on the Maximum length (Max Length) and Midpoint thickness (Mid Thick) of the 277 items. Appendix C, Table C-1, provides additional details. Generally, decreasing length and thickness should be associated with greater reduction. For example, Figure 10-2 shows the decrease in length and 10-3 shows decreasing thickness relative to cortical groups. Tertiary flakes are, overall, thinner and shorter than those with cortex.

These patterns shown in Figures 10-2 and 10-3 are consistent with both size and cortical cover providing a measure of reduction. Unfortunately, comparable size data for Spanish Colonial sites in the region collected with ¼-inch screen are limited or, in the case of thickness, could not be located. Maximum length data on debitage is provided by Tomka (1999) for Mission San Jose, though the data is grouped in 10 mm size classes. For comparative purposes, the individual length measurements were collapsed into size classes to generate Figure 10-4. Given that the material from the Plaza de Armas Buildings has a lower frequency of items with cortex, the average size of the assemblage should be smaller than that for Mission San Jose if length is exclusively responding to reduction. While the overall shape of the curves in Figure 10-4 is similar for the two assemblages, this suggested size difference is not the case. The material recovered from the excavations at the Plaza de Armas Buildings is significantly larger than the Mission San Jose material (Figure 10-4). Clearly, maximum length is not simply a function of reduction intensity. Breakage patterns, related both to post-depositional process and differences in tool stone quality, are factors that can complicate any comparison.

The final debitage attribute considered here is raw material. As noted above, individual flakes were compared to a standardized color chart of 175 separate color blocks with specific RGB values for each block. Following an initial classification, materials were reclassified into larger groups for analysis. These data are presented in Appendix C, Table C-1. Initially, 50 color groups were created. These were then

Table 10-2. Summary Data on Debitage Size (mm)

Variable	N	Mean	Std. Dev.	Min	Max	Median
Max Length	277	29.44	13.47	6.88	85.03	26.24
Mid Thick	277	6.11	4.65	0.79	31.94	4.57

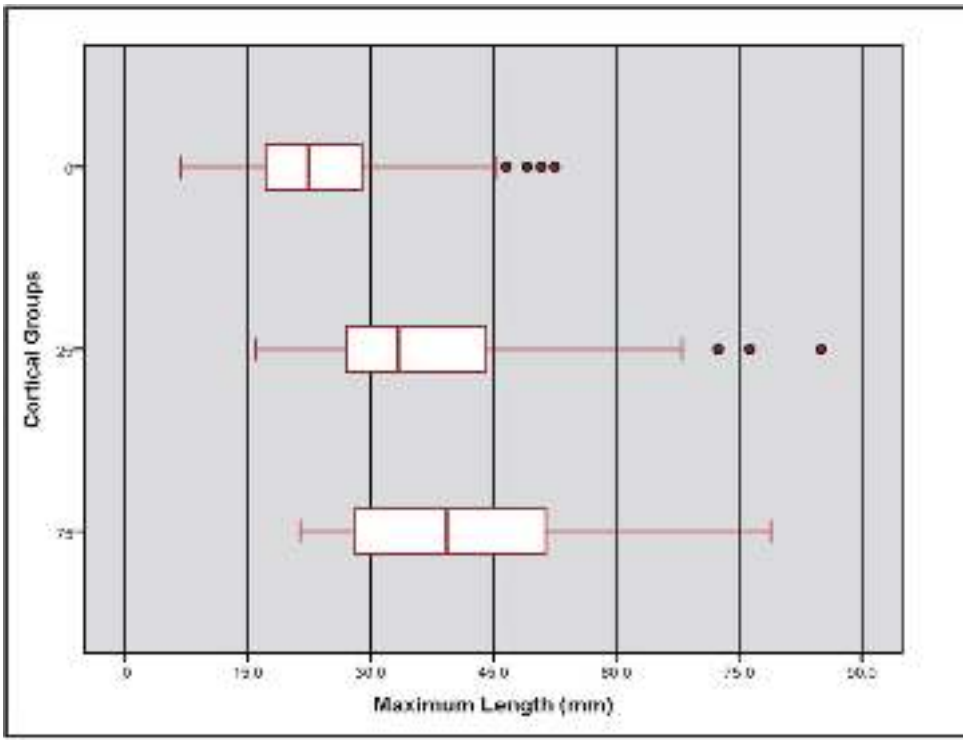

Figure 10-2. Maximum debitage length by cortical group.

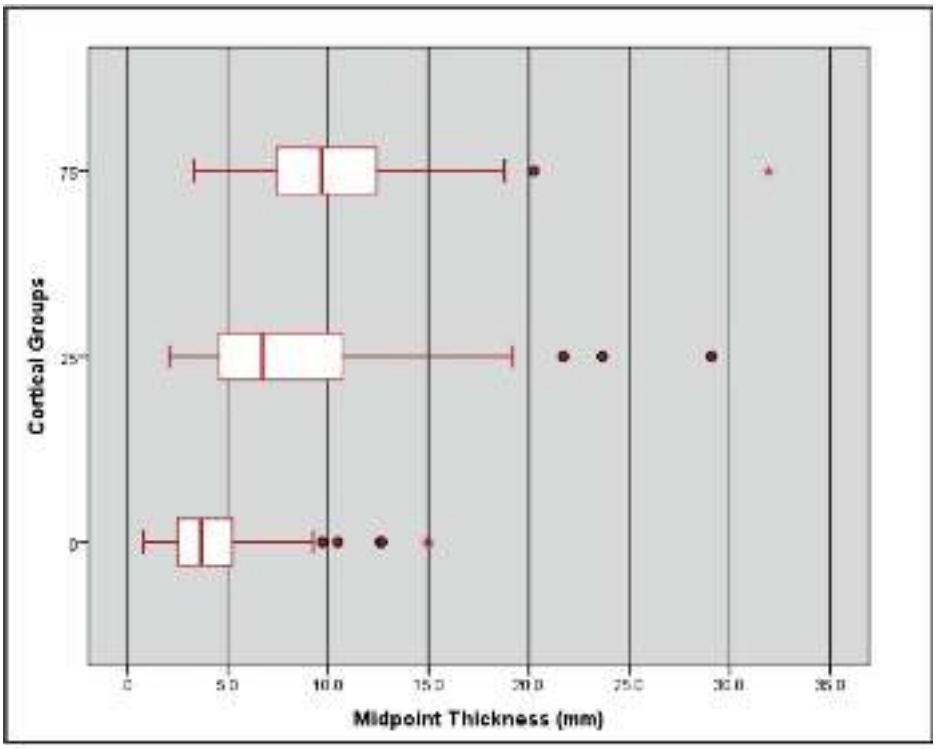

Figure 10-3. Midpoint Thickness by cortical group.

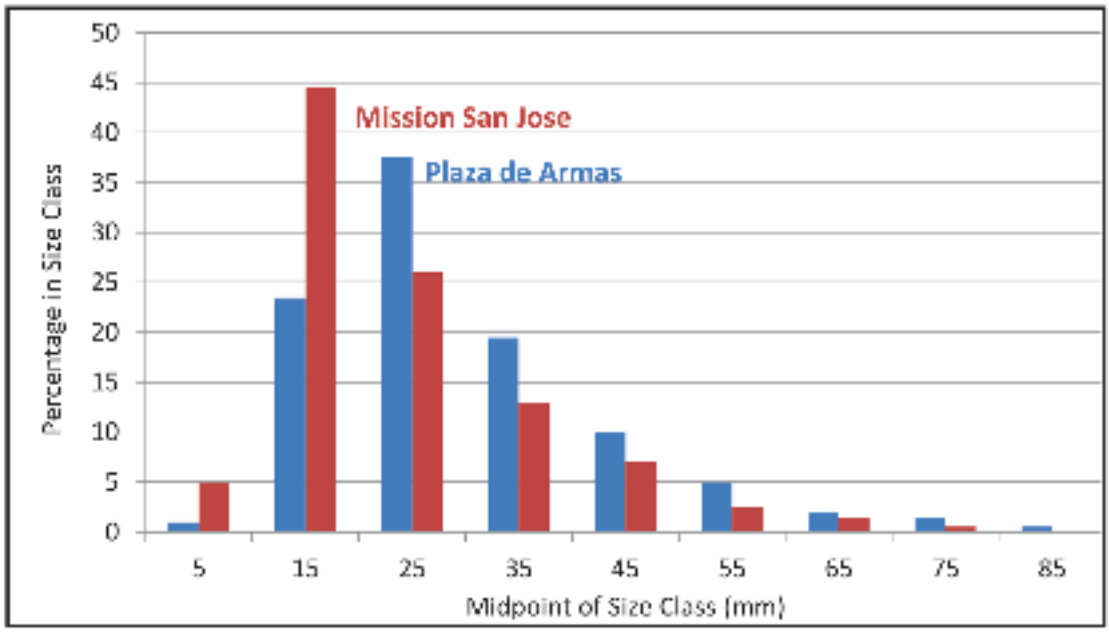

Figure 10-4. Size distribution of debitage from Mission San Jose and the Plaza de Armas Buildings.

reclassified into 16 groups that had broadly similar colors and another group that included disparate samples, as well as the six non-chert items. Table 10-3 provides summary data on the red, green, and blue (RGB) values. The central tendency statistics and variability (Standard deviation, Inter Quartile Range – IQR) provide data to both assess the validity of the samples and, potentially, to reconstruct the colors in other analysis. Those samples with no variability (e.g., Type 3, Type 6, Type 9) reflect the scores on the initial classification. That is, they were not combined during the reclassification. Variability around the mean or median values in the other types is limited. The Table 10-3 data cover 255 of the 277 pieces of debitage. The remaining 22 items could not be recombined and are not discussed further. Four types (8, 14, 15, and 16) account for over half of the material, with two types (1, 3) having only five items each.

Table 10-4 presents a cross tabulation of these 16 raw material types relative to cortical groups. Adjusted residual values that provide a measure of the significance of the association (see Haberman 1973) are given below the counts. Adjusted residuals are analogous to Z scores in a normal distribution such that absolute values of 1.95 are significant at the 0.05 level of probability, and absolute values of 1.65 are significant at the 0.1 level. These cells are shown in red (0.05) and yellow (0.1). There are seven cells with significantly higher or lower frequency of occurrence in five different material types. This analysis focuses on two material types, Type 4 and Type 14, which have four of these seven significant cells. Type 4, which contains nine items, has less than expected frequencies with no cortex (adjusted residual = -1.83) and significantly more than expected items (adjusted residual = 2.87) with between 51 and 100% cortex (Table 10-4). While not as strong, the patterns in Type 14 (n=23) are the reverse, with more than expected items lacking cortex, and fewer than expected items with 51 to 100% cortical cover (Table 10-4). In fact, Type 14 lacked any items with 51 to 100% cortical cover. Differential treatment of these two materials can also be seen in the size of the two material types. Figure 10-5 presents a box plot of the midpoint thickness of the two types, showing that Type 4 debitage is, overall, thicker and has significant variability in thickness when compared to Type 14 material. This variability is present even though Type 4 debitage has a smaller sample size. Relative to Type 14, Type 4 material reflects earlier reduction, a different reduction trajectory, or arrival at the site in different form.

Interestingly, the chipped stone debitage categorized as material Type 4 is significantly higher in the excavations at the Plaza de Armas Buildings relative to Type 14. The nine items were recovered at an average depth of 30.5 cm, with a median depth of 20 cm below the bottom of the concrete slab. Overall, Type 14 material is about 30 cm deeper, with a mean recovery depth of 57.9 cm and a median depth of 50 cm. The differences observed in the use of these raw materials, then, may also reflect temporal differences.

In addition to the chipped stone debitage, two cores were recovered from the excavations at Plaza de Armas Buildings. Both cores are small, having a maximum size of 4.15 and 5.43 cm, and both have cortex present. They represent material

Table 10-3. RGB Statistics for Debitage Color Groups Following Reclassification

		Red				Green				Blue			
Type	n	Mean	Std. Dev.	Median	IQR	Mean	Std. Dev.	Median	IQR	Mean	Std. Dev.	Median	IQR
1	5	46.20	5.22	48	6.5	8.60	12.91	0	22.0	2.20	3.49	0	5.5
2	15	69.67	9.76	62	17.0	42.67	4.88	42	2.0	5.33	3.92	8	8.0
3	5	112.00	0.00	112	0.0	82.00	0.00	82	0.0	0.00	0.00	0	0.0
4	9	219.44	4.86	217	5.5	194.89	6.17	198	7.0	182.11	9.70	187	11.0
5	9	113.78	6.42	110	8.5	82.78	6.04	81	8.0	24.89	4.68	22	6.5
6	16	125.00	0.00	125	0.0	102.00	0.00	102	0.0	24.00	0.00	24	0.0
7	8	66.75	5.12	64	7.5	67.37	3.02	69	4.5	24.00	1.86	25	3.0
8	37	91.84	2.51	94	5.0	85.68	3.99	89	7.5	25.43	5.32	25	3.0
9	11	120.00	0.00	120	0.0	102.00	0.00	102	0.0	47.00	0.00	47	0.0
10	11	141.64	5.43	140	0.0	120.00	6.63	122	0.0	50.19	0.60	50	0.0
11	7	142.00	0.00	142	0.0	111.00	0.00	111	0.0	58.00	0.00	58	0.0
12	12	102.00	0.00	102	0.0	102.00	0.00	102	0.0	87.00	0.00	87	0.0
13	9	182.00	0.00	182	0.0	128.00	0.00	128	0.0	109.00	0.00	109	0.0
14	23	182.00	0.00	182	0.0	147.00	0.00	147	0.0	132.00	0.00	132	0.0
15	58	197.47	3.71	195	8.0	178.78	5.06	178	0.0	165.33	6.75	168	1.0
16	20	203.45	2.46	204	0.0	195.20	2.29	194	4.0	193.70	2.20	193	1.0

Type 11 and Type 16. The recovery of two cores relative to the 277 pieces of debitage, or 118.5 flakes per core, is within the range of several other Spanish Colonial/Mission period assemblages. For example, Lohse (1999) reported a much higher range for chipped stone from excavations at Mission San Antonio de Valero. He noted 2,009 pieces of debitage but listed only three items as cores. Fox and Tomka (1999) provide a slightly lower ratio, with 3 cores and 194 pieces of debitage (64.7 flakes per core) from an excavation at Mission San Jose. In an earlier excavation at Mission San Jose, Fox and Tomka (1998) record 117 pieces of debitage but do not identify any cores. Chipped stone reported by Luzmoor et al. (2014) at Mission San Juan had 70 pieces of debitage, but no cores. Fox (1979), working with collections from San Antonio Missions, noted at least 2,100 pieces of chipped stone debitage and 41 cores (51.2 flakes per core), though the debitage numbers are likely reduced by the use of a mix of ¼-inch and ½-screens in these excavations. Prehistoric sites, presumably with access to the same range of materials, tend to have much higher ratios that can exceed 1,000 flakes per core in the San Antonio area (e.g., Munoz 2014; McKinney et al. 1998).

These different ratios of flake to core are probably a function of dependence on bifacial reduction during prehistoric periods, and a shift to increasing core reduction during the Spanish Colonial period. As Tomka (1999) suggests, the changes may be related to the increasing use of metal knives, as well as a reduction in overall tool size and technological shifts late in time. For example, the production of a dart point from a cobble will produce considerably more debitage than the production of an arrow point on a flake removed from that cobble. Low flake to core ratios, like high cortical percentages at an assemblage level, may be characteristic of Spanish Colonial age collections in the San Antonio area. Both of these are certainly characteristics of the assemblage from Plaza de Armas Buildings.

Chipped Stone Tools

Twenty-three chipped stone tools were identified in the material from the Plaza de Armas Buildings. These included 13 bifaces, five unifaces, and five retouched items. In terms of functional classifications, two of these 23 pieces are classified as projectile points, one is an adze, seven are gunflints, one appears to have a graver spur, and several others have retouched edges that could have functioned in scraping or cutting activities. There are also a number of broken or unfinished items. On each item, maximum size, cortex presence, completeness, and raw material type were recorded (see Appendix C, Table C-2).

Table 10-4. Cross Tabulations of Color Groups by
Cortical Groups. Significant Adjusted Residuals Are Highlighted

Material Type		Cortical Groups			Total
		0	25	75	
1	Count	2.00	2.00	1.00	5
	Adjusted Residual	-1.04	0.80	0.47	
2	Count	7.00	5.00	3.00	15
	Adjusted Residual	-1.29	0.80	0.84	
3	Count	3.00	1.00	1.00	5
	Adjusted Residual	-0.11	-0.25	0.47	
4	Count	3.00	2.00	4.00	9
	Adjusted Residual	-1.83	-0.18	2.87	
5	Count	8.00	1.00	0.00	9
	Adjusted Residual	1.67	-0.96	-1.18	
6	Count	11.00	3.00	2.00	16
	Adjusted Residual	0.55	-0.57	-0.05	
7	Count	6.00	2.00	0.00	8
	Adjusted Residual	0.75	0.02	-1.11	
8	Count	20.00	14.00	3.00	37
	Adjusted Residual	-1.13	2.00	-0.95	
9	Count	8.00	2.00	1.00	11
	Adjusted Residual	0.73	-0.51	-0.39	
10	Count	8.00	3.00	0.00	11
	Adjusted Residual	0.73	0.20	-1.31	
11	Count	6.00	1.00	0.00	7
	Adjusted Residual	1.29	-0.65	-1.03	
12	Count	8.00	1.00	3.00	12
	Adjusted Residual	0.32	-1.35	1.27	
13	Count	5.00	1.00	3.00	9
	Adjusted Residual	-0.43	-0.96	1.86	
14	Count	18.00	5.00	0.00	23
	Adjusted Residual	1.65	-0.35	-1.94	
15	Count	33.00	14.00	11.00	58
	Adjusted Residual	-0.98	-0.11	1.56	
16	Count	13.00	6.00	1.00	20
	Adjusted Residual	0.25	0.57	-1.10	
	Count	159	63	33	255

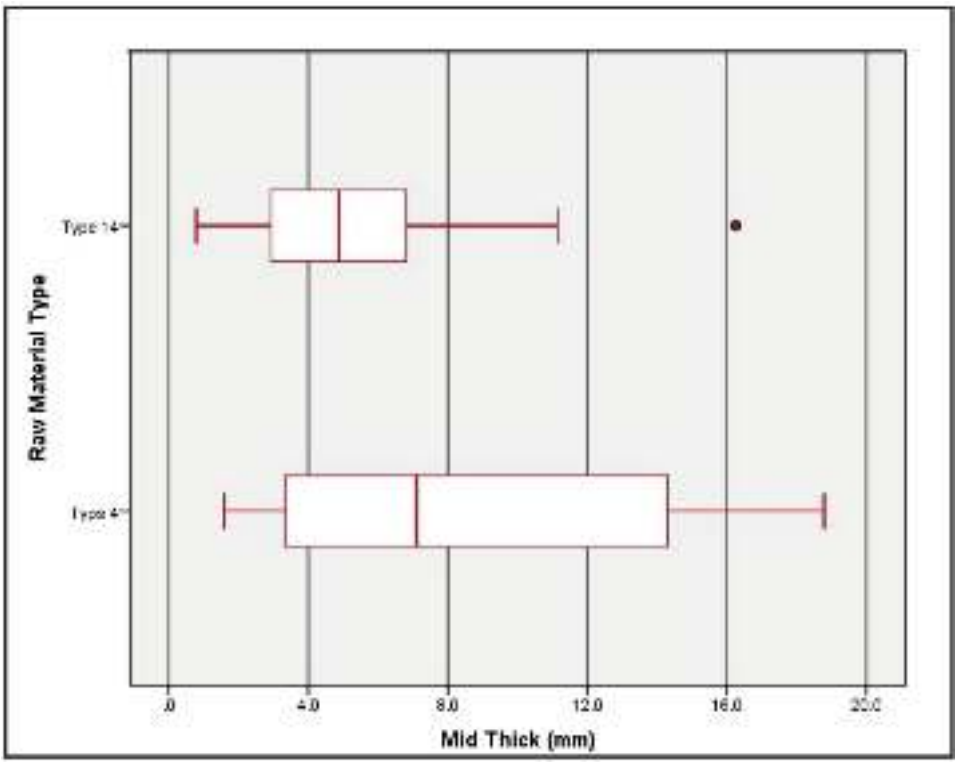

Figure 10-5. Midpoint Thickness summaries for raw material color groups 4 and 14.

Table 10-5 presents the recovery location for the 23 items discussed in this section. Most levels in which tools were recovered contained only a single tool. At the unit level, Test Unit 33 contained five tools that were concentrated in the lower excavation levels. While difficult to evaluate given the low number of tools recovered, variable unit size, and differential sampling of deeper materials, the tool distribution shown in Table 10-5 hints at a bimodal pattern. Sixteen tools are present in the upper five levels, no tools are present in Levels 6 and 7, and tools are again present in the lower levels. Highlighted in red in Table 10-5 are the recovery locations for the seven Spanish Colonial gunflints. The distribution of gunflints also suggests a bimodal pattern, with five gunflints recovered from the upper three levels, and the remaining two items recovered from Levels 10 and 12. While this is likely to be a result of the small sample size, it could also be indicative of temporal shifts in the nature of the deposition. However, there is considerable evidence for at least some mixing of deposits, as discussed above in association with Figure 10-1, as well as the distribution of other tool forms discussed subsequently.

Figure 10-6 shows the temporally diagnostic prehistoric tools recovered from the screened deposits. These include two projectile points and an adze. The point on the far left is typed as a Pedernales (Turner and Hester 1999:171-173), a form that dates to the early portion of the Late Archaic (ca. 4000-2800 BP). The point in the middle of the figure is a triangular, unstemmed point with a concave base. It is consistent with Early Triangular (ca. 5700 BP) or Tortugas (ca. 2750 BP) forms (Turner and Hester 1999:108-110, 188; Mahoney et al. 2002:98-110). The adze on the far right is consistent with formal adzes, such as Clear Fork (see Turner and Hester 1999:246-249; 267-269), that are common in the Archaic period.

Interestingly, there are no arrow points recovered from the work at Plaza de Armas Buildings. Guerrero points are present at most other Spanish Colonial occupations (e.g., Fox and Tomka 1998, 1999; Luzmoor et al. 2014), and counts for these points often exceed those of gunflints (e.g. Lohse 1999, Tomka 1999).

Finally, note that these three prehistoric tools are clearly out of context relative to ceramics and other indicators of Spanish Colonial and later material. The Pedernales point is from Level 3 in Unit 9, the possible Early Triangular or Tortugas point is from Level 4 in Unit 17, and the adze is from Level 1 in Unit 29, above Feature 5. The distribution, then, is consistent with either extensively mixed deposits or the collection of these prehistoric tools by Spanish Colonial and later site occupants.

Some support for the later suggestion comes from the characteristics of several of the gunflints recovered. Figure 10-7 shows six of the seven gunflints identified in the collections. Four of the six, represented by samples 2, 3, 4, and

Table 10-5. Chipped Stone Tool Distribution

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
8	1	0	0	0	0	0										**1**
9	0	0	1	0	0											**1**
15	0	0	0	0	1	0										**1**
16	0	0	0	1	0	0										**1**
17	0	0	0	1	0	0										**1**
18	1	1	0	0	0	0										**2**
UNIT	Building 2															
29*	1	1	0	0	0	0	0	0	0	0	0					**2**
30*	0	1	0	0	0	0	0	0	0	0	0	0				**1**
31*	0	0	0	1	0	0	0	1	0	0	0	0	0			**2**
33	Not Screened				0	0	0	1	1	2	0	1	0			**5**
34	0	0	0	0	0	0	0	1	0	0	0	1				**2**
35	1	0	0	0	0	0	0	0	0							**1**
39	0	0	1	0	0											**1**
40	0	1														**1**
UNIT	Building 4															
50	0	0	1	0												**1**
Total																**23**

* Features 2 and 5 present in these units. Note that red highlights have a single gunflint present.

Figure 10-6. Temporally diagnostic prehistoric tools from screened contexts. These are classified as a Pedernales point, a possible Early Triangular/Tortugas point, and a possible Clear Fork Adze.

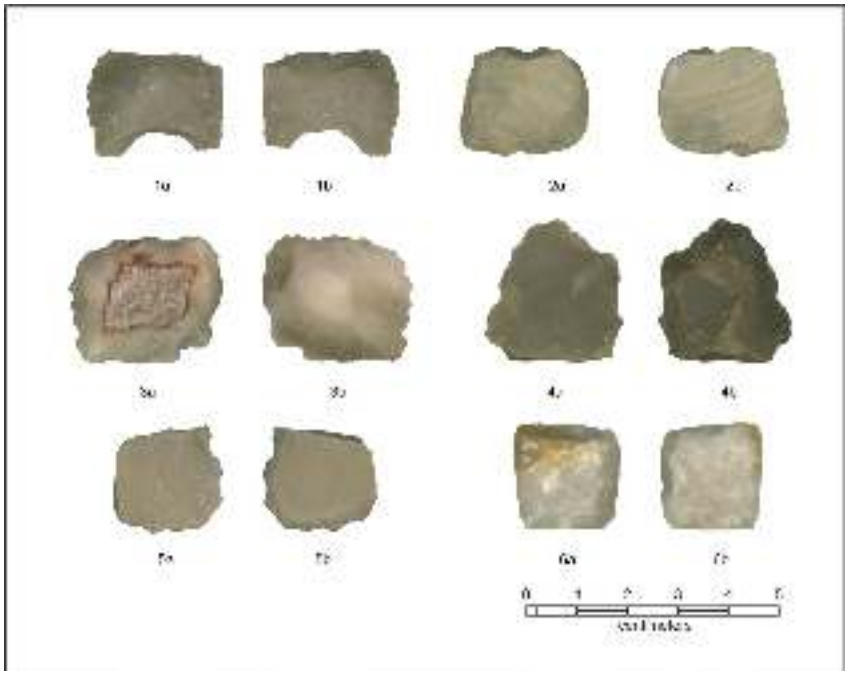

Figure 10-7. Gunflints identified from the Plaza de Armas Buildings collections. Numbers 2, 3, 4, and 5 are unifacially or marginally retouched. Numbers 1 and 6 are bifacially retouched.

5, are unifacially or marginally retouched items. However, samples 1 and 6 in Figure 10-7 are bifacially worked items, as is the single gunflint not shown. While the recovery of bifacial gunflints is common in Spanish Colonial sites (see Villalobos 2003), both of the examples in Figure 10-7 likely represent reworked projectile points. Examination of the items under ultraviolet light show that in both cases the flaking patterns reflect two different times, with the internal flaking having a different glow pattern than the pattern present on several of the edges. These bifacial gunflints likely represent prehistoric items that later inhabitants collected and reworked. It may well be the case that the prehistoric tools shown in Figure 10-6 were collected in anticipation of their eventual retooling into gunflints.

As highlighted previously in Table 10-5, gunflints were recovered both from the upper few levels and from the lower levels of the excavation. On average, these tools are 2.8-x-2.3 cm in size, and only a single item (Figure 10-7, 3) had cortex present. The figure also shows that a variety of chert colors is present (see Appendix C, Table C-2).

Several other chipped stone tools were identified in the collections. These included seven bifacially worked items, many of which were broken, two unifaces, and four retouched items. Additional details can be found in Appendix C. Examples of many of these other tools are shown in Figure 10-8. Items A through D in Figure 10-8 are examples of bifaces. Items E and F are examples of retouched items, while specimens G and H represent unifacially retouched item. Bifacial items are likely abandoned prior to the completion of a finished tool, with only item D representing a broken finished tool, in this case possibly a projectile point fragment. Unifaces and retouched items probably reflect scrapers (e.g., G, H), gravers (E), and items designed for cutting (e.g., F).

Ground Stone

In addition to the chipped stone items, we identified three ground stone tools were identified in the collections from the excavations at the Plaza de Armas Buildings. One item was from Unit 34, Level 7, and consisted of an unbroken river pebble with pecking and light grinding. A second item was a limestone fragment, also used as burned rock. It likely represents a metate fragment and was recovered from Level 6 in Unit 33. The final item is shown in Figure 10-9. It is a fragment of a vesicular basalt mano recovered from Unit 33 in Level 12. A portion of one of the faces, highlighted in Figure 10-9, shows signs of secondary pounding that suggest the use of the item as an anvil. The unusual material, as well as the form of the mano, is suggestive of Spanish Colonial or later manufacture. This is especially interesting given that the item was recovered from Level 12 of the excavation.

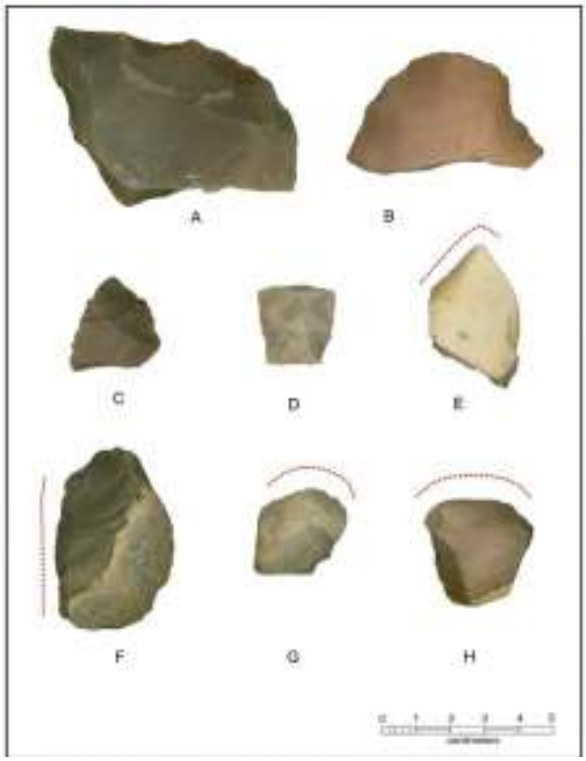

Figure 10-8. Other chipped stone tools recovered at the excavations at the Plaza de Armas Buildings: A-D) bifaces; E, F) retouched; and G, H) unifacially retouched. Worked/retouched edges are highlighted (red dotted line) for E, F, G, and H.

Figure 10-9. Mano recovered from the excavations at the Plaza de Armas Buildings. Circle highlights pounded/indented area.

Burned Rock

Burned limestone rock and chert heat spalls are the final lithic items recovered from the excavations at the Plaza de Armas Buildings. All burned rock and spalls were initially sorted by size, and items less than 3.0 cm in maximum dimension were weighed but not counted. This effectively eliminated most heat spalls. Those rocks above 3.0 cm were measured in 1-cm increments and weighed. There were 40 different proveniences with burned rock in the less than 3.0 cm group, with a combined weight of 0.45 kg. There were 105 individual burned rocks from screened provenances larger than 3.0 cm. These had a combined weight of 10.51 kg (see Appendix C, Table C-3). Table 10-6 presents the distribution of the 105 larger burned rock. Most of these were scattered throughout the units and levels at low density (see Table 10-6) and probably reflect refuse rather than a thermal feature. The single exception to this is in Unit 33, Level 6, where two small concentrations, totaling 17 burned rocks, were identified as Feature 4 (see Figure 7-16).

Figure 10-10 plots the size distributions of the 17 pieces of burned rock from Feature 4 and the 92 burned rock items not associated with that feature. Both distributions have been converted to percentages for ease of comparison. While the sample size is small, Feature 4 has relatively more rock in the larger size categories when compared to the material not associated with the feature. Just over 76% of the Feature 4 rock is above 5 cm, compared to roughly 48% in the other

Table 10-6. Distribution of Burned Rock from Excavated Units

Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Count
UNIT	Building 1															
2	0	0	1	0												**1**
14	0	0	0	1	3	1										**5**
16	0	0	2	0	0	0										**2**
18	0	1	0	1	1	0										**3**
19	0	0	0	0	1	1										**2**
20	0	4	0	0	0	0										**4**
22	0	1	0	0	0	0	0									**1**
UNIT	Building 2															
29*	2	6	0	0	0	0	0	0	0	0	0					**8**
30*	0	0	0	0	0	5	1	1	1	0	2	2				**12**
31*	1	4	0	0	8	1	1	2	0	0	0	0	3			**20**
33	Not Screened				0	20**	5	5	2	3	0	1	0			**36**
34	0	0	0	4	0	0	3	0	0	0	0	0				**7**
35	0	0	1	0	0	0	0	0	0							**1**
39	0	0	1	0	0											**1**
40	1	0														**1**
UNIT	Building 4															
50	0	1	0	0												**1**
Total																**105**

*Features 2 and 5 present in these units.
**Feature 4 present in this level.

burned rock group (Figure 10-10). As rock is reused, thermal fracturing increases, reducing rock size (see Black 2003; Mauldin and Tomka 2011:317-336). Consequently, the size comparisons suggest that Feature 4 rock reflects moderate levels of reuse. The dominance of rock in the smaller size ranges for the remainder of the site suggests that the other rock likely reflects secondary refuse.

Summary

This chapter described the lithic assemblage recovered from CAR's excavations at the Plaza de Armas Buildings. The debitage characteristics, especially the high frequency of cortical material and low frequencies of flakes to cores, appear to be consistent with patterns observed by others investigating Spanish Colonial deposits (e.g., Tomka 1999). While prehistoric material was present in the tools, later occupants may have collected these prehistoric items for reuse. Support for this suggestion comes from several gunflints that appear to be made on bifacial tools with evidence of earlier flaking episodes. The chipped stone data provide some evidence for differential use of raw material as defined by chert colors, as well as evidence for vertical differences in debitage numbers within the deeper excavation units. These differences, coupled with differences in tool distribution patterns, hint at shifts in the rate, and perhaps the nature, of the deposition of artifacts. Overall, however, the chipped stone, ground stone, and burned rock data discussed here seem to reflect secondary refuse deposits rather than any discrete occupations.

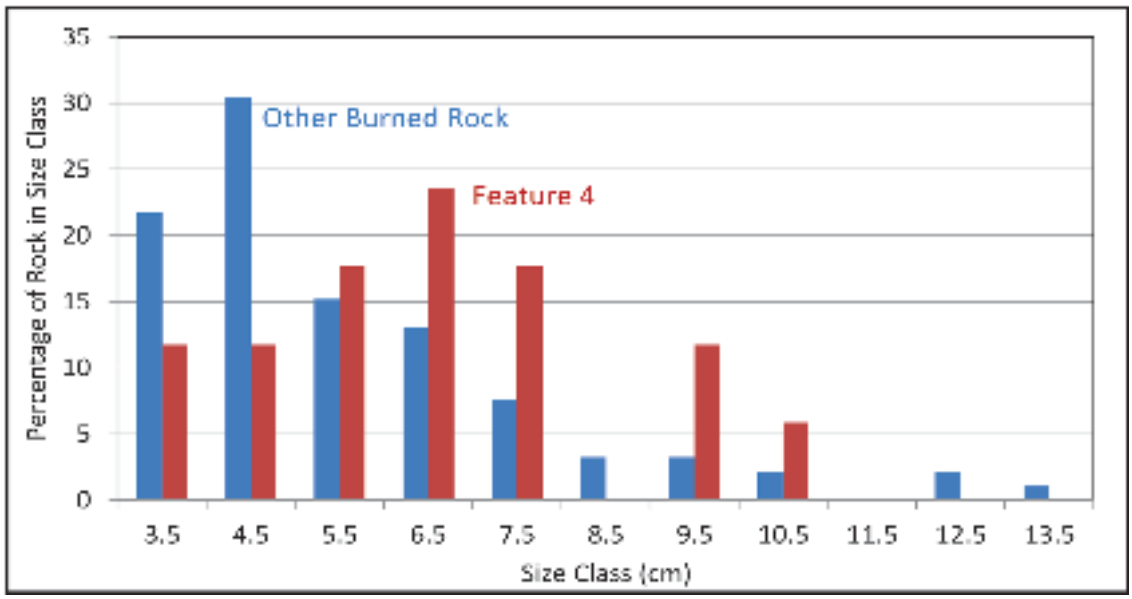

Figure 10-10. Burned rock size contrasting Feature 4 with the remaining burned rock.

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Chapter 11: Faunal Remains for the Plaza de Armas Buildings

by Melissa Eiring

This chapter summarizes the faunal remains from the Plaza de Armas Buildings. CAR's monitoring and excavation work at the complex recovered roughly 3,763 faunal remains weighing over 20 kg. The faunal assemblage was analyzed by class and then by provenience. The focus was a generalized analysis allowing for future development of broad research questions.

Table 11-1 shows the distribution of all the faunal remains collected by taxon and weight. This summary reports on all classes found but concentrates on the mammal remains, which consist primarily of artiodactyls (e.g., cattle, deer), but also includes rodents and carnivores. Approximately 97% of the vertebrate remains were identified as mammalian, with more than 58% (n=2,193) identified as *Bison bison* or *Bos taurus*.

Methods

Faunal remains processed in the CAR Laboratory were washed, air-dried, and stored in clear, plastic bags. Initially, the assemblage was separated by provenience. Each bag was further sorted into identifiable and unidentifiable specimens. The entire faunal assemblage collected was analyzed and identified to the most specific taxon possible. As with most archaeological faunal samples, the bones from the Plaza de Armas Buildings were highly fragmented. Fragments that were too small to be identified by species were grouped into general class type. When bone could only be identified by class (i.e., mammal, aves, etc.), the size of the animal was estimated. The identification of the bone specimens was conservative. All bone was weighed. Specific characteristics, such as elements, portions of elements, and sides (left or right), as well as evidence of butchery practices and heat treatment were recorded whenever possible. For example, very large mammal bone was not classified further into *Bison bison* or *Bos taurus* species. At a minimum, for a bone to be considered diagnostic, it should be identifiable to taxon and skeletal element (see Driver 1991). Therefore, identifications and suggestions for species or family designations were only made on typeable elements.

Identification of the faunal remains was aided by the comparative collection housed at the CAR. Publications describing relevant osteological characteristics, such as Brown and Gustafson (1979), Vaughan (1986), Romer (1958), and Gilbert (1990), were used along with cultural and biogeographic information from previous CAR reports. The depositional time frame was estimated only if the faunal remains were found alongside chronologically diagnostic artifacts.

Analysis

Two common methods to measure the relative abundance of various taxa within a faunal assemblage are the Number of Identified Specimens (NISP) and the Minimum Number of Individuals (MNI). NISP is calculated by counting the number of bones attributed to a particular taxon from a

Table 11-1. Identification of Assemblage by Class and Weight

Class	Common Name	Count	%Count	Weight (g)	%Weight
Actinopterygii	boney fish	40	1.06	23.3	0.12
Aves	size indeterminate	7	0.19	5.2	0.03
Aves–sm.	mockingbird-sized	5	0.13	2.4	0.01
Aves–med.	pigeon-sized	17	0.45	12.65	0.06
Aves–lg.	chicken-sized	21	0.56	26.8	0.13
Aves–v. lg.	turkey-sized	4	0.11	27.3	0.14
Mammal	size indeterminate	149	3.96	75.3	0.37
Mammal--med.	dog-sized	36	0.96	37.3	0.19
Mammal--lg.	deer- or sheep-sized	1,127	29.95	938	4.66
Mammal–v. lg.	bison or cattle	2,193	58.28	18,955.10	94.05
Rodentia	rodent	160	4.25	47.9	0.24
Testudines	turtle	4	0.11	2.9	0.01
Total		**3,763**	**99.99**	**20,154.40**	**99.99**

particular provenience unit. The size of the provenience unit can vary from a particular feature or project unit or the entire site. MNI measures the minimum number of a specific species at a site. MNI is more complicated to calculate, and different analysts use different methods, which are often not specified. A commonly used algorithm is discussed by Klein and Cruz-Uribe (1984) where MNI is calculated based upon the most abundant faunal remain found. For example, two left mandibles indicate, at minimum, two individuals.

According to Marshall and Pilgram (1993), MNI and NISP estimates of taxonomic abundance follow one another closely except at high levels of fragmentation (see Grayson 1984; Klein and Cruz-Uribe 1984). NISP, despite the limitations of not taking into account degree of fragmentation or number of individuals, may be a better indicator of relative abundance. However, it is best to compare MNIs rather than NISPs when making comparisons among samples. This is because MNIs are less affected by differential fragmentation, differential disposal techniques, and other possibly confusing factors (Klein and Cruz-Uribe 1984). In this analysis, MNI was calculated, and Table 11-2 shows MNI numbers of 1 or greater. Of those identified to the genus level, *Gallus gallus* (domestic or wild chicken) and the *Rattus rattus* (black rat) each had an MNI count of 3 or 14.28% of the total MNI. These are misleading numbers due to the highly fragmented assemblage. This bias is compounded by butchering techniques, differing bone densities, and preservation (Marshall and Pilgrim 1993). Because of this, MNI was not a quantification method relied upon for the majority of the faunal analysis. The significantly lower number of taxa identifiable to the genus or species level may still indicate the importance of those taxa when taking into consideration other factors such as disposal methods, dietary stress, etc.

Table 11-3 shows NISP and %NISP of the entire assemblage. Table 11-4 shows NISP and %NISP of those identified to the genus level. *Neotoma* sp. (woodrat) dominates the typed assemblage constituting 43.47% of the NISP identified to the genus level. Other common animals were the *Capra hircus* (domestic goat) and *Gallus gallus* (domestic or wild chicken) with 18.26% and 14.78%, respectively. *Odocoileus virginianus* (white-tailed deer), *Scirus* sp. (squirrel), *Rattus rattus* (black rat), *Anas* sp. (duck), and *Meleagris gallopavo* (domestic or wild turkey) had the same representation of 3.47% each of the assemblage identified to the genus level.

Table 11-2. Minimum Number of Individuals Identified at 41BX2088

Taxa	Common Name	MNI	%MNI
Anas sp.	duck	1	2.38
Galliformes	chicken, pheasant, or turkey	1	2.38
Gallus gallus	domestic or wild chicken	3	7.14
Meleagris gallopavo	domestic or wild turkey	1	2.38
Total Bird		**6**	**14.28**
Artiodactyla	deer, goat, sheep, etc.	2	4.76
Bison bison or *Bos taurus*	bison or cattle	2	4.76
Canis lupis familiaris	domestic dog	1	2.38
Canis sp.	coyote, dog, or wolf	2	4.76
Capra hircus	domestic goat	1	2.38
Neotoma sp.	woodrat	10	23.8
Odocoileus virginianus	white-tailed deer	1	2.38
Rattus rattus	black rat	3	7.14
Rodentia	rodent	9	21.42
Sciurus niger	Eastern fox squirrel	1	2.38
Sciurus sp.	squirrel	2	4.76
Sigmodon hispidus	hispid cotton rat	1	2.38
Total Mammal		**35**	**83.3**
Testudines	turtle	1	2.38
Total Reptile		**1**	**2.38**
Total		**42**	**99.96**

Table 11-3. Total Number of Identified Specimens (NISP) by Weight and Percentage

Taxa	Common Name	NISP	%NISP	Weight (g)	%Weight
Actinoptergygii	unidentified boney fish	39	1.03	22.8	0.11
Lepisosteidae	gar fish	1	0.02	0.5	0
Total Fish		**40**	**1.05**	**23.38**	**0.11**
Anas sp.	duck	4	0.1	2.8	0.01
Aves	size indeterminate	7	0.18	5.2	0.02
Aves–sm.	mockingbird-sized	5	0.13	2.4	0.01
Aves–med.	pigeon-sized	13	0.34	9.8	0.04
Aves–lg.	chicken-sized	3	0.07	4.5	0.02
Galliformes	chicken, pheasant, or turkey	1	0.02	1	0
Gallus gallus	domestic or wild chicken	17	0.45	21.3	0.1
Meleagris gallopavo	domestic or wild turkey	4	0.1	27.3	0.13
Total Bird		**54**	**1.39**	**74.4**	**0.33**
Artiodactyla	deer, goat, sheep, etc.	1,100	29.23	822	4.07
Capra hircus	domestic goat	21	0.55	89.4	0.44
Carnivora	dog-sized	33	0.87	36.5	0.18
Mammal	size indeterminate	149	3.95	75.3	0.37
Mammal–lg.	deer- or sheep-sized	2	0.05	8.5	0.04
Mammal–v. lg	bison or cattle	2,193	58.27	18,955.10	94.04
Neotoma sp.	woodrat	50	1.32	18.4	0.09
Odocoileus viginianus	white-tailed deer	4	0.1	18.4	0.09
Rodentia	rodent	99	2.63	26.8	0.132
Rattus rattus	black rat	4	0.1	0.8	0
Sciurus niger	Eastern fox squirrel	4	0.1	1.6	0
Sciurus sp.	squirrel	2	0.05	0.3	0
Sigmodon hispidus	hispid cotton rat	1	0.02	0.1	0
Sylvilagus sp.	cotton-tail rabbit	3	0.079	0.8	0
Total Mammal		**3,665**	**97.38**	**20,053.80**	**99.45**
Testudines	turtle	4	0.1	2.9	0.01
Total Reptile		**4**	**0.1**	**2.9**	**0.01**
Assemblage Total		3,763	99.92	20,154.40	99.9

This assemblage had a high percentage of Rodentia. The Rodentia faunal remains can likely be attributed to *Neotoma* sp. (woodrat), *Sigmodon* sp. (cotton rat), and Sciuridae family (squirrel). Many of the Rodentia assemblage (94%) were complete with typeable elements, as compared to the Artiodactyls (16%). The high frequency of typeable elements is consistent with at least some of the Rodentia being intrusive. When comparing %NISP of Rodentia to the assemblage as a whole, the percentage of Artiodactyls is significantly higher. Artiodactyls make up more than 95% of the entire assemblage. Rodentia only make up 4.5% of the assemblage (see Table 11-5).

The assemblage was highly fragmented, but some evidence of butchery could be identified. Only cut marks (Figure 11-1) and machine-sawed fragments were noted. Depth and width of cuts were not recorded. Table 11-6 shows the number of cut or machine-sawed specimens for large mammals (deer, goat, or sheep) and very large mammals (bison or cattle). Table 11-7 shows the most common element identified with cut or machine-sawed marks. More than 96% of the large mammal elements were vertebrae. Only 32% of the identified bison or cattle were vertebrae. Vertebrae dominated the total butchered bone with 41%. Lower body elements (phalanges, pelvises, metatarsals, etc.) and unidentified elements

Table 11-4. Identification of Assemblage to Genus Level

Taxa	Common Name	NISP	%NISP	Weight (g)	%Weight
Lepisosteidae	gar fish	1	0.86	0.5	0.25
Total Fish		**1**	**0.86**	**0.5**	**0.25**
Anas sp.	duck	4	3.47	2.8	1.54
Gallus gallus	domestic or wild chicken	17	14.78	21.3	11.71
Meleagris gallopavo	domestic or wild turkey	4	3.47	27.3	15.03
Total Bird		**25**	**21.72**	**51.4**	**28.28**
Capra hircus	domestic goat	21	18.26	89.4	49.23
Neotoma sp.	woodrat	50	43.47	18.4	10.15
Odocoileus viginianus	white-tailed deer	4	3.47	18.4	10.15
Rattus rattus	black rat	4	3.47	0.8	0.44
Sciurus niger	Eastern fox squirrel	4	3.47	1.6	0.87
Sciurus sp.	squirrel	2	1.73	0.3	0.16
Sigmodon hispidus	hispid cotton rat	1	0.86	0.1	0
Sylvilagus sp.	cotton-tail rabbit	3	2.6	0.8	0.43
Total Mammal		**89**	**77.33**	**129.7**	**71.43**
Assemblage Total		115	99.91	181.5	99.96

Table 11-5. Comparison of Artiodactyl and Rodentia by NISP, Weight, and Percentage

Taxa	Common Name	NISP	%NISP	Weight (g)	%Weight
Artiodactyla	deer, goat, sheep, etc.	1,100	31.6	822	4.12
Capra hircus	domestic goat	21	0.6	89.4	0.44
Mammal–lg.	deer- or sheep-sized	2	0.05	8.5	0.04
Mammal–v. lg.	bison or cattle	2,193	63.01	18,955.10	95.05
Odocoileus viginianus	white-tailed deer	4	0.11	18.4	0.09
Total Mammal		**3,320**	**95.37**	**19,893.30**	**99.74**
Neotoma sp.	woodrat	50	1.43	18.4	0.09
Rodentia	rodent	99	2.84	26.8	0.13
Rattus rattus	black rat	4	0.11	0.8	0
Sciurus niger	Eastern fox squirrel	4	0.11	1.6	0
Sciurus sp.	squirrel	2	0.05	0.3	0
Sigmodon hispidus	hispid cotton rat	1	0.02	0.1	0
Total Rodent		**160**	**4.56**	**47.9**	**0.22**
Assemblage Total		**3,480**	**99.93**	**19,941.30**	**99.96**

comprise 44% (n=113) of the total butchered assemblage. Due to the extreme fragmentation of large mammals (deer, goat, or sheep), this may not be an indicator of dietary stress or meat preferences.

A comparison of Spanish Colonial and post-Spanish Colonial deposits was analyzed. Table 11-8 shows relative abundance measured by NISP and %NISP for skeletal distributions between Feature 2 (Spanish Colonial), the sheet midden (Spanish Colonial), and Feature 5 (post-Spanish Colonial). Spanish Colonial deposits were dominated by very large mammals representing nearly 80%, and large mammals represented the second highest (18%). Post-Spanish Colonial deposits were also dominated by very large mammals but only

Figure 11-1. Cut marks visible on very large mammal bone.

Table 11-6. Identification of Cut or Machine-sawed Marks on Large and Very Large Mammals

Taxa	Common Name	Cut	%Butchered	Machine-sawed	%Butchered
Mammal–lg.	deer, goat, sheep, etc.	26	10.35	6	2.39
Mammal–v. lg.	bison or cattle	133	52.98	86	34.26
Total		**159**	**63.33**	**92**	**36.65**

Table 11-7. Identification of Most Common Element Cut or Machine-sawed on Large and Very Large Mammals

Taxa	Common Name	Vertebrae	Ribs	%Elements
Mammal–lg.	deer, goat, sheep, etc.	31	1	20.38
Mammal–v. lg.	bison or cattle	73	52	79.61
Total		**104**	**53**	**99.99**

by 43%. Rodentia had a significantly higher representation (19.9%) in the post-Spanish Colonial deposits than the Spanish Colonial Deposits (4.9%).

Less than 1% of specimens showed signs of heat treatment. All the specimens with signs of heat treatment were very large mammals, with the exception of one fragment of Testudines. All were unidentified elements except for two teeth fragments. The degree of heat treatment was not recorded, but the extremely low number of heated bones suggests that this was not a preferred method of bone disposal and that the discarded bone was not exposed for a long period of time. Future analysis of weathering, animal gnawing, and root-etching evidence can confirm whether the remains were deposited in a pit feature or open midden.

Discussion

As discussed in Chapter 4, the location has a long history of use. While it is likely that the faunal assemblage is primarily reflecting Spanish Colonial use, the recovery of small amounts of prehistoric material suggests that the collection possibly was deposited over a wide time range.

Table 11-8. Comparison of NISP and Percentages by Spanish Colonial, Post-Spanish Colonial Deposits

		Feature 2		Sheet Midden		Feature 5	
Taxa	**Common Name**	**NISP**	**%NISP**	**NISP**	**%NISP**	**NISP**	**%NISP**
Artiodactyla	deer, goat, sheep, etc.	70	20.23	154	17.11	52	23.52
Canis lupis familiaris	domestic dog	0	0	0	0	0	0
Capra hircus	domestic goat	1	0.28	3	0.33	0	0
Carnivora	carnivores	0	0	0	0	0	0
Mammal--med.	dog-sized	1	0.28	1	0.11	24	10.85
Mammal--v. lg	bison or cattle	255	73.69	736	81.77	94	42.53
Odocoileus viginianus	white-tailed deer	1	0.28	3	0.33	0	0
Neotoma sp.	woodrat	5	1.44	0	0	18	8.14
Rodentia	rodent	11	3.17	1	0.11	22	9.95
Rattus rattus	black rat	0	0	0	0	0	0
Sciurus niger	Eastern fox squirrel	0	0	0	0	4	1.8
Sciurus sp.	squirrel	1	0.28	0	0	0	0
Sigmodon hispidus	hispid cotton rat	0	0	0	0	0	0
Total Mammal		**345**	**99.65**	**898**	**99.76**	**214**	**96.79**
Anas sp.	duck	0	0	0	0	3	1.35
Aves--unid., sm., med.	mockingbird-sized, pigeon-sized	0	0	1	0.11	2	0.9
Galliformes	chicken, pheasant, or turkey	0	0	0	0	0	0
Gallus gallus	domestic and wild chicken	0	0	1	0.11	1	0.45
Meleagris gallopavo	domestic and wild turkey	1	0.28	0	0	1	0.45
Total Bird		**1**	**0.28**	**2**	**0.22**	**7**	**3.15**
Assemblage Total		**346**	**99.93**	**900**	**99.98**	**221**	**99.94**

It is not uncommon for both wild taxa (bird, deer, fish, or turtle) and domestic taxa (cattle, chicken, goat, pig, or sheep) species to be found at Historic or Spanish Colonial period sites, and their presence can indicate which species were preferred for consumption. The amount of lower limbs and feet elements of animals, such as *Odocoileus virginianus*, *Bison bison*, and *Bos taurus*, and the modifications to extract the marrow or meat can indicate how butchering practices change over time. For example, as the number of very large mammals increased by strata, it can be suggested that the reliance on cattle and not on wild resources, such as deer, also increased. Because the large mammal assemblage was so highly fragmented, a true comparison of wild versus domestic taxa could not be completed.

The absence of the *Rattus rattus* (black rat) from Spanish Colonial-age deposits has been noted from other sites in the San Antonio region (Davidson and Clark 1978:136; Figueroa and Mauldin 2005:66; Hard et al. 1995:83, Meissner 1997:25). This suggests that the rodent was not common during this time period, and the presence of *Rattus rattus* in the uppermost strata supports this theory. The high percentage of Rodentia in the entire assemblage is not surprising since the majority of the faunal remains were recovered from trash pits or the sheet midden.

Like many archaeological faunal assemblages, the sampling at the Plaza de Armas Buildings was highly fragmented. This location has been in continuous use since the early 1700s, and foot and numerous types of construction traffic, as well as trampling, may also have contributed to the fragmentation. Bone breakage from normal excavation could not be directly determined, and fresh breaks were not noted. Thus, the low sample numbers mask the relative importance of the animals represented.

The bone samples were not large enough to draw definitive conclusions about the butchering practices of nineteenth-century San Antonio. The numbers of large and very large mammal bone fragments suggest that bone marrow extraction

may have been practiced. Analyzing the numbers of feet, leg, rib bones, and vertebrae elements can suggest if extracting marrow was a common practice. Nearly 94% of the large mammal cut specimens and almost 60% of the very large mammal cut specimens were vertebrae fragments. Measuring the thickness of sawed bone and comparing a change in the range of thickness could suggest how different of cuts of meat consumed were preferred over time.

Absence of machine-sawed marks on bones may indicate that butchering occurred before the use of power saws by commercial butchers became common. *Bison bison* (bison) are known to have been absent from the area after 1830 (Weniger 1997:23), and butchering practices shifted to sawing of bone after that time period. Sawed bone or machine-cut bone can be assumed to be *Bos taurus* (cattle).

Based on the ceramic assemblage, the artifacts from Feature 2 date to the late eighteenth century. The majority of the bone shows cut marks adding to the suggestion that the majority of the bone was butchered before the mid-nineteenth century. In Feature 2, the absence of sawed bone alongside the typed ceramic assemblage suggests that this bone assemblage also dates to the Spanish Colonial period and can be considered *Bison bison*. Conversely, Feature 5 was a trash pit that most likely dates to sometime in the early twentieth century. The bone specimens from this feature support the suggestion that it is a more recent trash pit. This feature had considerably less faunal remains than Feature 2, but this feature was likely not opened for an extended period of time. The presence of machine-sawed specimens supports that this feature is post-1850s. However, the highly fragmented condition of the assemblage and the small number of bone that showed butchering marks hinders any further observation.

In many ways, this assemblage is similar to other historic sites in San Antonio. Like the Spanish Governor's Palace and site 41BX1598, very large mammals have the highest relative importance when measured by NISP. Table 11-9 compares these assemblages. The number of rodent remains from site 41BX2088 (n=160) compared to site 41BX1598 (n=1) is surprising considering the majority of the faunal material from both sites were recovered from midden or trash contexts.

Conclusion

A total of 3,763 vertebrate fragments comprise the faunal assemblage excavated at the Plaza de Armas Buildings. As with most archaeological assemblages, the specimens from the Plaza de Armas Buildings were highly fragmented. The fauna is dominated by very large mammals (bison or cattle), large mammals (deer, sheep, or pig), and a few smaller wild mammals and birds presenting as the next most abundant. Only a few fish and turtle specimens were identified.

Skeletal frequencies at the Plaza de Armas Buildings site were dominated by vertebrae, rib bone fragments, and teeth fragments. The presence of cut bone alongside typed Spanish Colonial artifacts suggests that much of this assemblage is temporally related to the Spanish Colonial period. Additionally, the presence of machine-sawed bone also suggests that some of the assemblage post-dates the mid-nineteenth century, though as shown in Chapter 12, there is a strong correlation between the density of faunal material and the densities of Spanish Colonial and Native American ceramics.

Table 11-9 Comparison of NISP and Percentages among Plaza de Armas Buildings (41BX2088), the Spanish Governor's Palace (41BX179), and 41BX1598

		41BX2088		**41BX179***		**41BX1598****	
Taxa	**Common Name**	**NISP**	**%NISP**	**NISP**	**%NISP**	**NISP**	**%NISP**
Lepisosteidae	gar fish	1	0.02	0	0	0	0
Ictalurus sp.	catfish	0	0	2	3.33	4	0
Lepisosteus sp.	gar	0	0	2	3.33	0	0.02
Perciformes	perch-like fish	0	0	0	0	3	0.02
Pylodictus olivaris	flathead catfish	0	0	1	1.66	1	0
Unidentified fish		39	1.03	0	0	24	0.17
Total Fish		**40**	**1.05**	**5**	**8.32**	**32**	**0.21**
Anas sp.	duck	4	0.1	0	0	0	0
Aves–sm., med.	mockingbird-sized, pigeon-sized	21	0.55	0	0	0	0
Branta sp.	goose	0	0	0	0	1	0
Buteo sp.	hawk	0	0	0	0	1	0

Table 11-9 Comparison of NISP and Percentages among Plaza de Armas Buildings (41BX2088), the Spanish Governor's Palace (41BX179), and 41BX1598, continued....

Cathartes aura	turkey vulture	0	0	0	0	1	0
Galliformes	chicken, pheasant, turkey, etc.	1	0.02	0	0	0	0
Gallus gallus	domestic and wild chicken	17	0.45	3	5	21	0.15
Meleagris gallopavo	domestic and wild turkey	4	0.1	0	0	8	0.05
Unidentified bird		7	0.18	0	0	162	1.21
Total Bird		**54**	**1.4**	**3**	**5**	**194**	**1.41**
Antilocapra americana	pronghorn antelope	0	0	0	0	3	0.02
Artiodactyla	deer, goat, sheep, etc.	1,100	29.23	3	5	289	2.16
Canis lupus familiaris	domestic dog	0	0	2	3.33	0	0
Capra hircus	domestic goat	21	0.55	2	3.33	2	0.01
Caprinae	goat, sheep	0	0	0	0	38	0.28
Canis sp.	coyote, dog	0	0	0	0	8	0.05
Carnivora	carnivore	33	0.87	0	0	0	0
Equus caballas, *Equus* sp.	horse	0	0	0	0	4	0.02
Felis domesticus	domestic cat	0	0	0	0	1	0
Lepus californicus	jackrabbit	0	0	0	0	2	0.01
Lynx rufus	bobcat	0	0	0	0	1	0
Mammal–med.	dog-sized	2	0.05	0	0	0	0
Mammal–v. lg***	bison or cattle	2,193	58.27	36	60	669	5
Odocoileus viginianus	white-tailed deer	4	0.1	2	3.33	44	0.32
Neotoma sp.	woodrat	50	1.32	3	5	0	0
Ovis aries	sheep	0	0	0	0	29	0.21
Peccari tajacu	javelina	0	0	1	1.66	10	0.07
Rodentia	rodent	99	2.63	0	0	1	0
Rattus rattus	black rat	4	0.1	0	0	0	0
Sciurus niger	Eastern fox squirrel	4	0.1	0	0	0	0
Sciurus sp.	squirrel	2	0.05	0	0	0	0
Sigmodon hispidus	hispid cotton rat	1	0.02	0	0	0	0
Sus scrofa	pig	0	0	0	0	13	0.09
Sylvilagus sp.	cotton-tail rabbit	3	0.07	0	0	0	0
Unidentified mammal		149	3.95	0	0	12,023	89.93
Total Mammal		**3,665**	**97.31**	**49**	**81.65**	**13,137**	**98.17**
Emydidae	turtle	0	0	0	0	1	0
Pseudemys scripta	slider turtle	0	0	1	1.66	0	0
Trionix sp.	soft-shelled freshwater turtle	0	0	2	3.33	0	0
Testudines	tortoise, turtle	4	0.1	0	0	4	0.02
Total Reptile		**4**	**0.1**	**3**	**4.99**	**5**	**0.02**
Assemblage Total		3,763	99.86	60	99.96	13,368	99.81

*Totals from Meissner 1997.
**Totals from Figueroa and Mauldin 2005.
***_Bison bison_, _Bos taurus_, Bovinae combined.

Chapter 12: Spatial Patterns at the Plaza de Armas Buildings

by Raymond Mauldin and Leonard Kemp

The previous four chapters have focused on the number, location, and general characteristics of the artifact types represented in CAR's excavations at the Plaza de Armas Buildings. This chapter is concerned with exploring the vertical and horizontal distribution of seven of these artifact types in more detail. As outlined in earlier chapters, the variable excavation strategy, with shifts in unit size, level size, and changes in screening strategies within a unit, rendered the results of comparisons relying on artifact numbers or weights by level questionable, at best. Therefore, the initial focus in this chapter relies on artifact density. First, the volume of screened sediment within a given level was calculated. Then, using either the number or weight, the density for a given artifact type for each level screened and each unit excavated was calculated. The use of density figures significantly reduces, though does not eliminate, the impacts of variable excavation strategies on level comparisons. In addition, a 1-m grid system was superimposed over the excavations at the Plaza de Armas Buildings rather than referencing specific buildings. This grid system allowed for spatial comparisons across the entire excavation area and the generation of density plots for various artifact types that highlight horizontal patterns.

For density measures, all excavation notes were reviewed to calculate the volume of each level screened. Levels that lacked notes (e.g., Unit 31) were eliminated. Since the primary concern in this chapter is to assess the vertical and horizontal patterning in artifacts and, by extension, the integrity of deposits at the site level, those levels in units directly associated with Features 2 and 5, which by their very nature as trash pits contained high densities of mixed deposits at depth, were eliminated. The remaining screened levels had both volume and counts or weights for seven major artifact types (European/English ceramics, Spanish Colonial ceramics, Native American ceramics, chipped stone, glass, faunal, and metal).

The vertical distribution of artifacts suggests that European/English ceramics, glass, and metal form a set of associated materials. These distributions, collectively referred to as the European/English data sets, all demonstrate a single peak in the initial level, with rapid fall off below Level 1. Spanish Colonial ceramics, Native American ceramics, and to a lesser extent bone form a second set of associated materials that are referred to as the Spanish Colonial data sets. Looking at levels below the surface across the site, there are at least two peaks in the density of all three of these artifact types, with high densities in Levels 3 or 4, and a second peak in Levels 6 or 7. The final artifact group, chipped stone density, is more complicated. It seems to have elements of both the initial European/English data sets and the Spanish Colonial data sets, at least when we focus on vertical differences. Horizontal patterns show variability across space for the initial association, with peaks in glass and European/English ceramics occurring to the northeast section of the excavation and peaks in metal occurring in the northwest section. In contrast, Spanish Colonial ceramics, Native American ceramics, bone, and chipped stone material are associated across the site, with horizontal patterns showing a clear concentration of these materials along the western edge of the excavation, the area that parallels San Pedro Creek. These patterns are consistent with several of the observations made in previous chapters. Finally, two nonparametric correlation measures (Spearman's Rho and Kendall's Tau) were used to assess the strength of the relationships between these various artifact types. Both of these rank order statistics demonstrate that the associations suggested by the vertical and horizontal patterns are often statistically significant. The rank order of European/English ceramic density has a positive statistically significant association with both glass and metal, but no association with any other artifact type. Spanish Colonial ceramics, Native American ceramics, chipped stone, and bone all have statistically significant correlations with each other. None of these four artifact types has association with European/English ceramics or glass, and three of the four have a significant negative correlation with the density of metal across the site. Such relationships are likely only if a high degree of overall integrity is present in these assemblages.

Vertical Patterning

The initial concern was exploring potential patterning in the vertical distribution of artifact types. Density data from 215 individual levels was used to generate individual bar graphs for each of the seven artifact types. Levels below the bottom of the contract slab were used as a measure of depth. As noted in Chapter 7, level thickness varied, especially in the upper levels. Level 1, for example, is not consistent across all units, varying from 1 cm to 13 cm in thickness. Consequently, in some cases, Level 1 in one unit could reflect the same depth as Levels 1 and 2 in another unit. While this is not common, some of the upper distributions shown in the bar graphs may not be as clear as would be expected if depth was consistently reflected in the levels. In addition, most units were terminated at Levels 5 or 6, likely reflecting the anticipated depth of impact across much of the complex. However, this was not always the case. For example, Unit 27 was excavated to Level 15 without significant recovery, and Units 33 and 34 were

excavated to Levels 13 and 12, respectively, with material present in both of the terminal levels. For comparison at these lower depths, all levels below Level 7 have been grouped into a single bar and designated Level 8 for all bar graphs in this chapter. Finally, note that a comparison of levels within a given chart could be impacted by these issues with consistency in depths; however, differences in depths of levels should not impact comparisons between artifact types.

Figure 12-1 presents the density of European/English ceramics by level for the site. Clearly, most of the material is in the initial level, with roughly 2.22 m^3 of excavated soil recovering 82 ceramics assigned to this artifact type. The Level 1 density (ca. 37 sherds per m^3) drops significantly by Level 2, with roughly 10.6 sherds per m^3 of sediment. While European/English ceramics continue to be present at depths below Level 3, density is below 2 sherds per m^3 in all cases.

Figure 12-2 presents a bar graph for the number of glass fragments per m^3, while Figure 12-3 shows the weight (grams) of metal per m^3. These distributions are quite similar to that shown for European/English ceramics. For both glass and metal, the initial two levels contain high densities and the vast majority of the material. Both show an abrupt decline in densities below Level 2. The similarity in overall form and the relatively shallow occurrence of the majority of these three artifact types is consistent with their general temporal placement and suggests that these materials may have some integrity.

Note that the slight increase of metal in Level 6 as shown in Figure 12-3 is from four units (10, 13, 15, and 19) with excavations to that depth. A review of the field notes suggests that a support column disturbed Unit 10 material (see Chapter 7). Notes from Unit 15 record only mussel shell present in Level 6, but laboratory summaries show metal along with a small amount of construction material and faunal. It is likely that the assignment of metal is in error. Finally, Units 13 and 19, located roughly 1 m apart from each other in Building 1 (see Figure 7-6), do seem to have metal, as well as glass and small amounts European/English ceramics present in Level 6. The peak in Level 6 is present, but it is not as dramatic as that shown in Figure 12-3.

Figures 12-4 and 12-5 present bar graphs showing densities for Spanish Colonial and Native American ceramics. Both reflect strong bimodal patterns. In each case, there is a clear upper peak in Level 3, a drop in Level 5, and a second lower peak centered on Level 6. Neither of these patterns resembles the distributions in Figures 12-1 through 12-3, nor does a single level significantly influence the peaks for the Spanish Colonial or Native American ceramic distributions.

Figure 12-6 is a bar graph showing the distribution of bone. The pattern is similar to that shown in Figures 12-4 and 12-5. There is a strong upper peak in Level 3 and a bimodal distribution, though the lower peak appears to be more diffuse. Nevertheless, there is a high degree of similarity with the patterns for Spanish Colonial and Native American ceramics, especially when contrasted with the European/English data patterns shown in Figures 12-1 through 12-3.

Finally, Figure 12-7 shows the density of chipped stone by level for the site with peaks at Levels 1, 4, and 7. In addition, note that the highest overall density is associated with Level 7, a peak not present in any of the previous graphs. A review of the excavation notes and distributional data on chipped stone (see Appendix C) suggests that the Figure 12-7 distribution is not a function of any single level. For example, 45 items were recovered from roughly 2.22 m^3 of sediment within Level 1, a density of just over 20 items per m^3. While the initial level in Unit 40 accounted for 18 of these 45, chipped stone was present in nine other units for Level 1. Removing the 18 items contributed by Unit 40 would still produce a density of just under 14 items per m^3. Chipped stone does not, then, fit nicely into either the European/English or the Spanish patterns, at least in terms of the vertical distribution.

Vertical density data from seven different artifact types has identified two major patterns present in the excavations at the Plaza de Armas Buildings. The initial pattern consists of European/English ceramics, glass, and metal, while the second includes Spanish Colonial ceramics, Native American ceramics, and bone. Chipped stone seems to be more complex, perhaps reflecting a combination of the two previous distributions. The European/English pattern has extremely high artifact densities in the upper level that declines in Level 2. There is then a rapid decline in these artifact types in lower levels. The Spanish pattern is bimodal, with an upper peak at Level 3 and a lower peak centered on Level 6.

The European/English pattern is certainly associated with the most recent surface, directly under the extant concrete floor. Note that this is also the level from which Feature 5, one of the two trash pits, was excavated. This feature, which was not used in the analysis in this chapter, was dominated by European/English ceramics, glass, and metal. It is likely, then, that the feature and the identified European/English pattern of high artifact densities from outside of the feature were both associated with the same stable surface. The upper Spanish pattern may also reflect some surface stability, as the other trash pit, Feature 2, appears to be identified at 30 cm below the base of the concrete floor. This feature was dominated by Spanish Colonial material. Finally, the lower Spanish Colonial

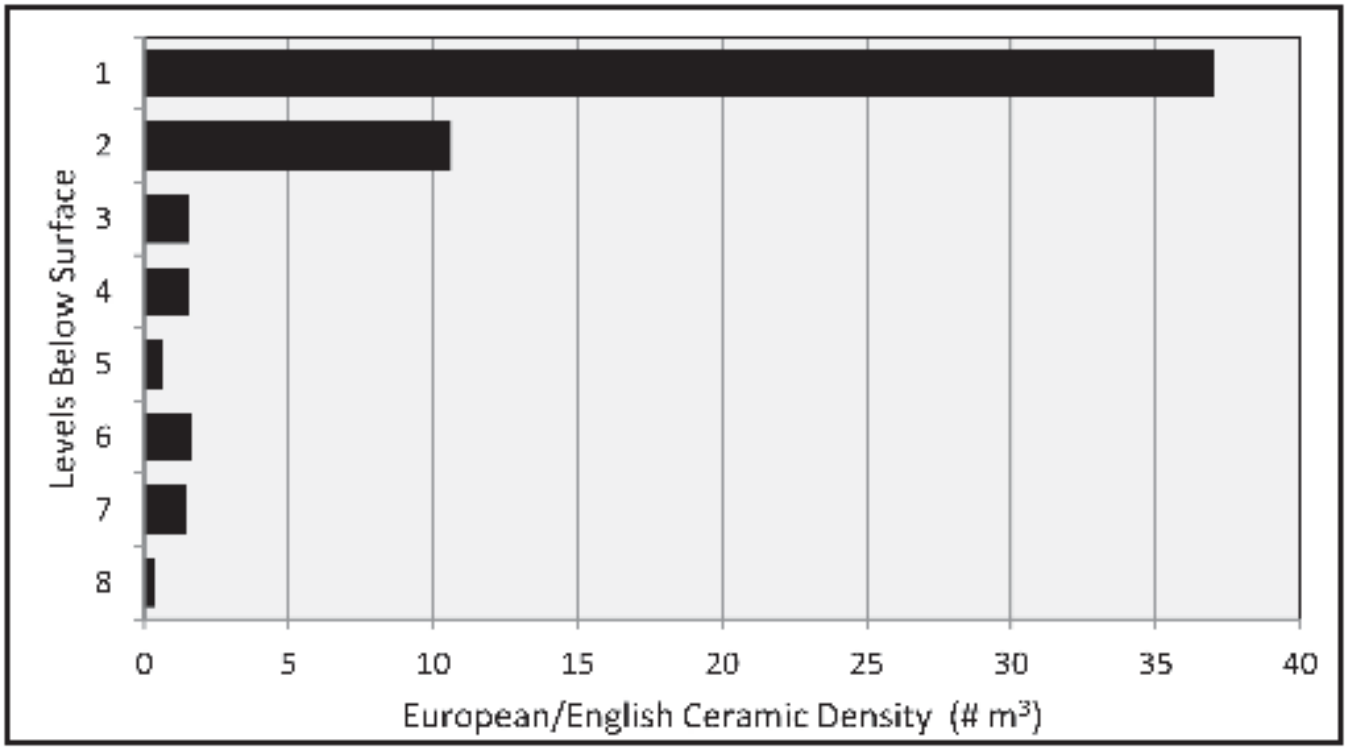

Figure 12-1. European/English ceramic density by level, Plaza de Armas Buildings.

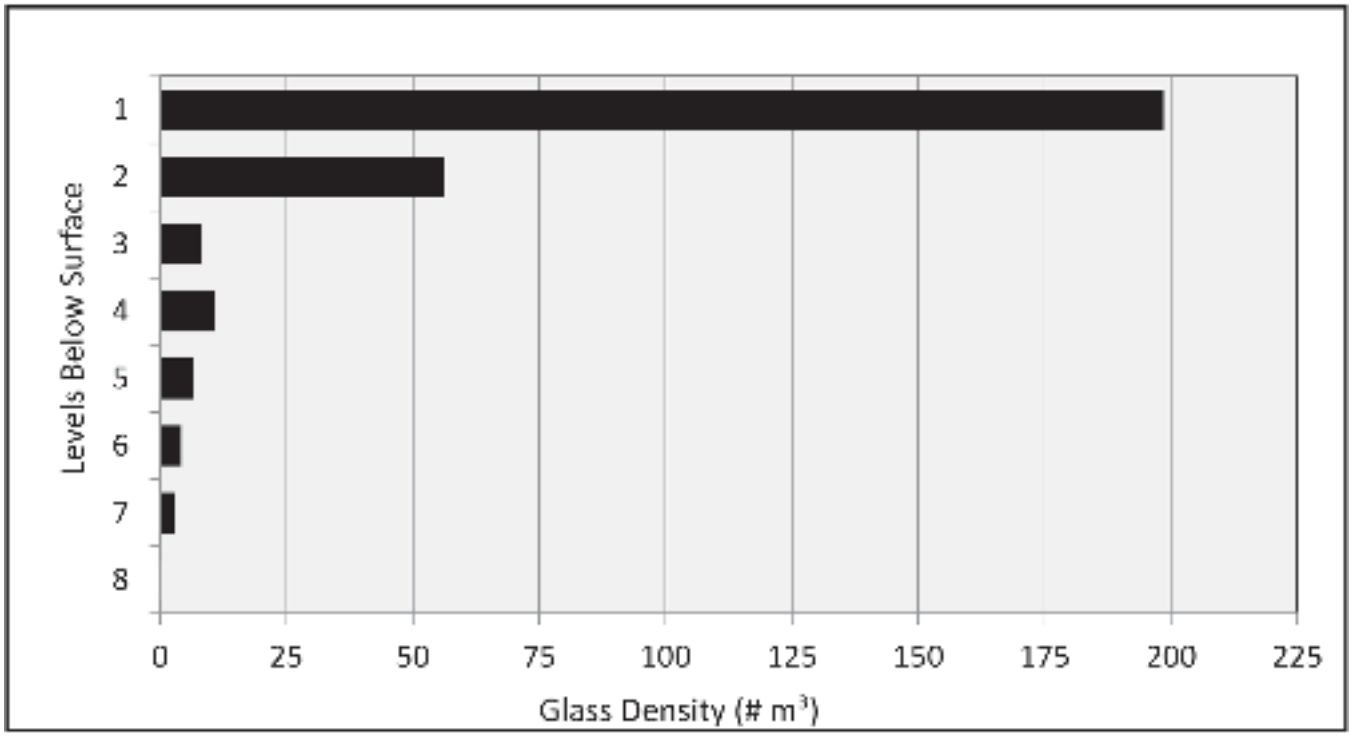

Figure 12-2. Glass density by level, Plaza de Armas Buildings.

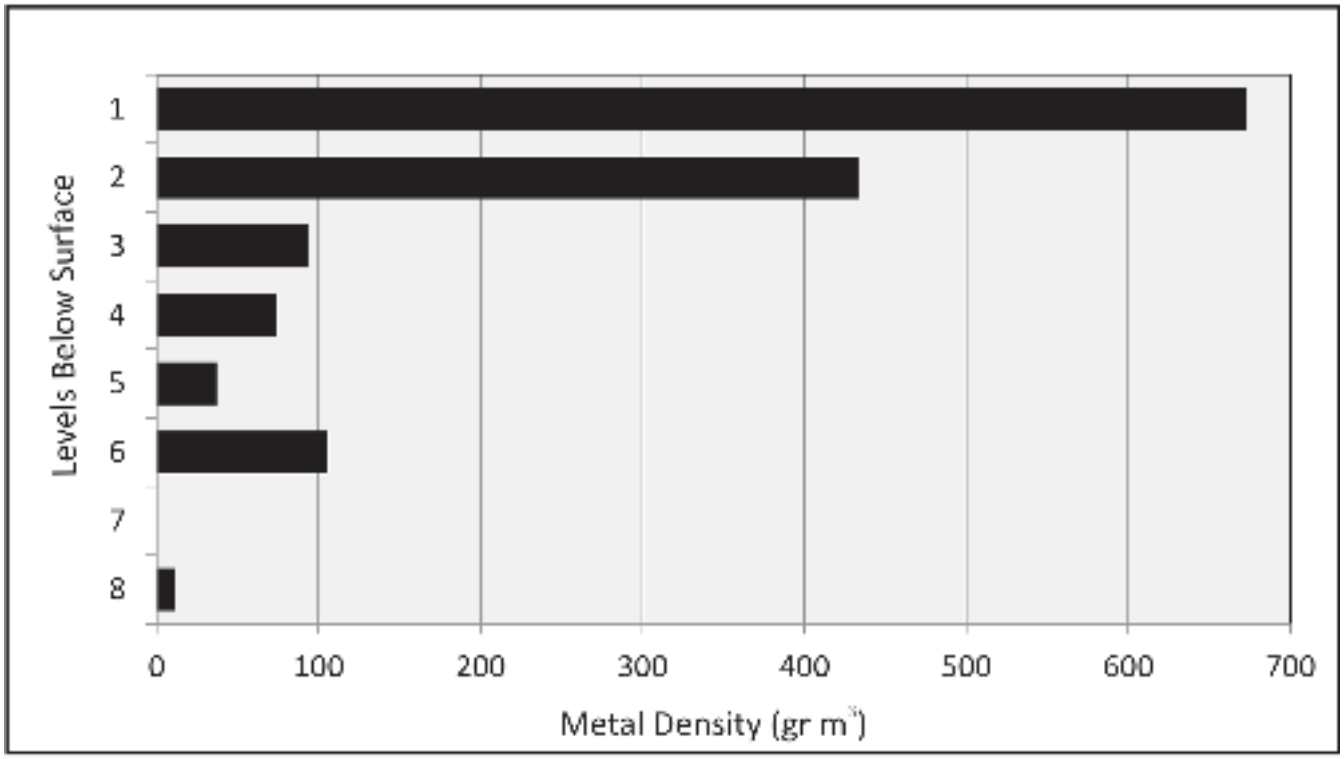

Figure 12-3. Metal density by level, Plaza de Armas Buildings.

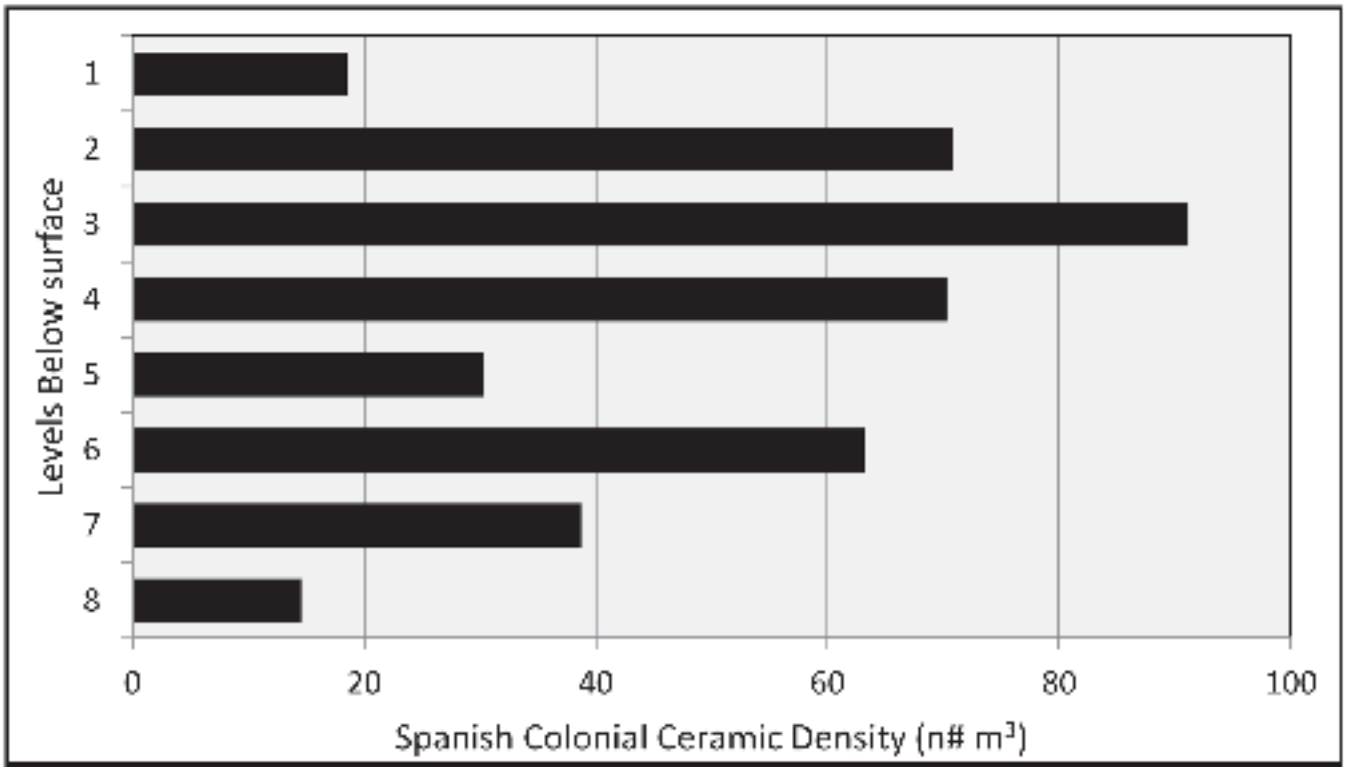

Figure 12-4. Spanish Colonial ceramic density by level, Plaza de Armas Buildings.

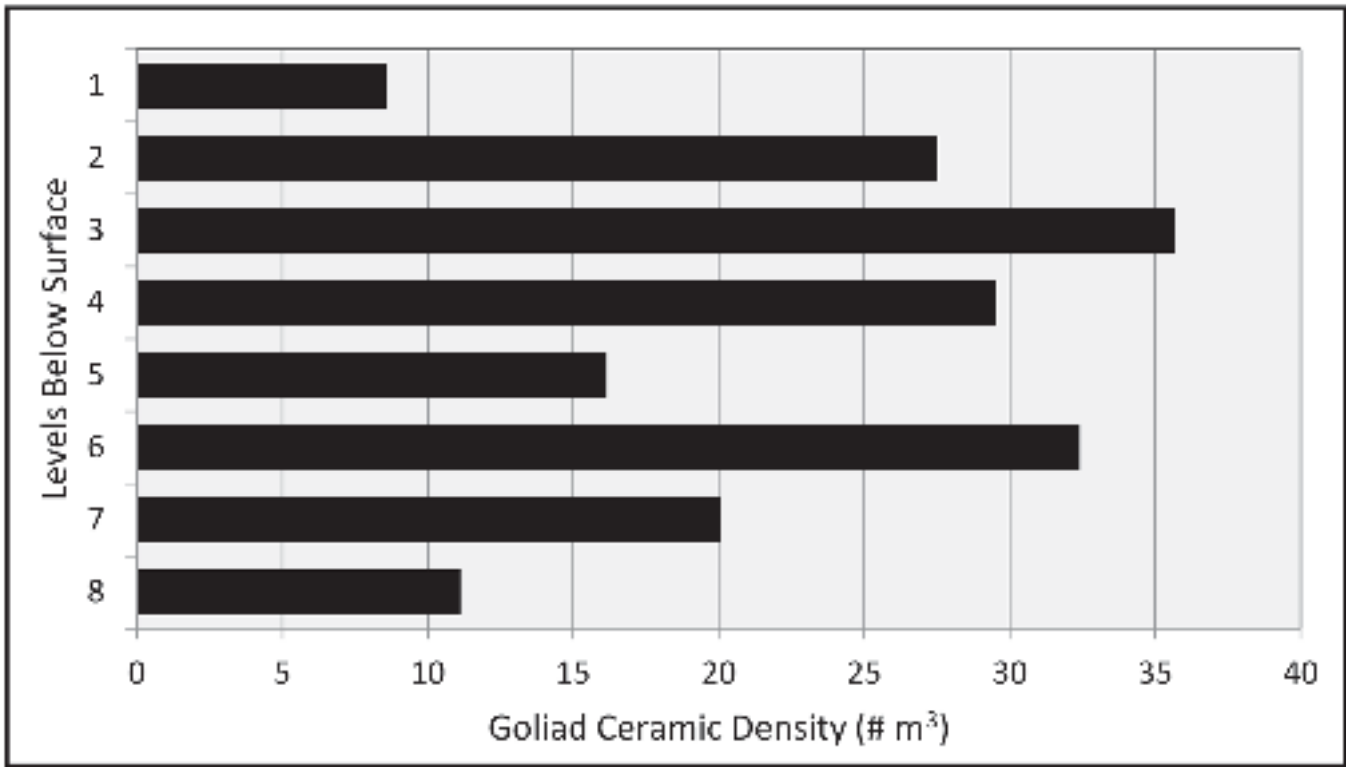

Figure 12-5. Native American (Goliad) ceramic density by level, Plaza de Armas Buildings.

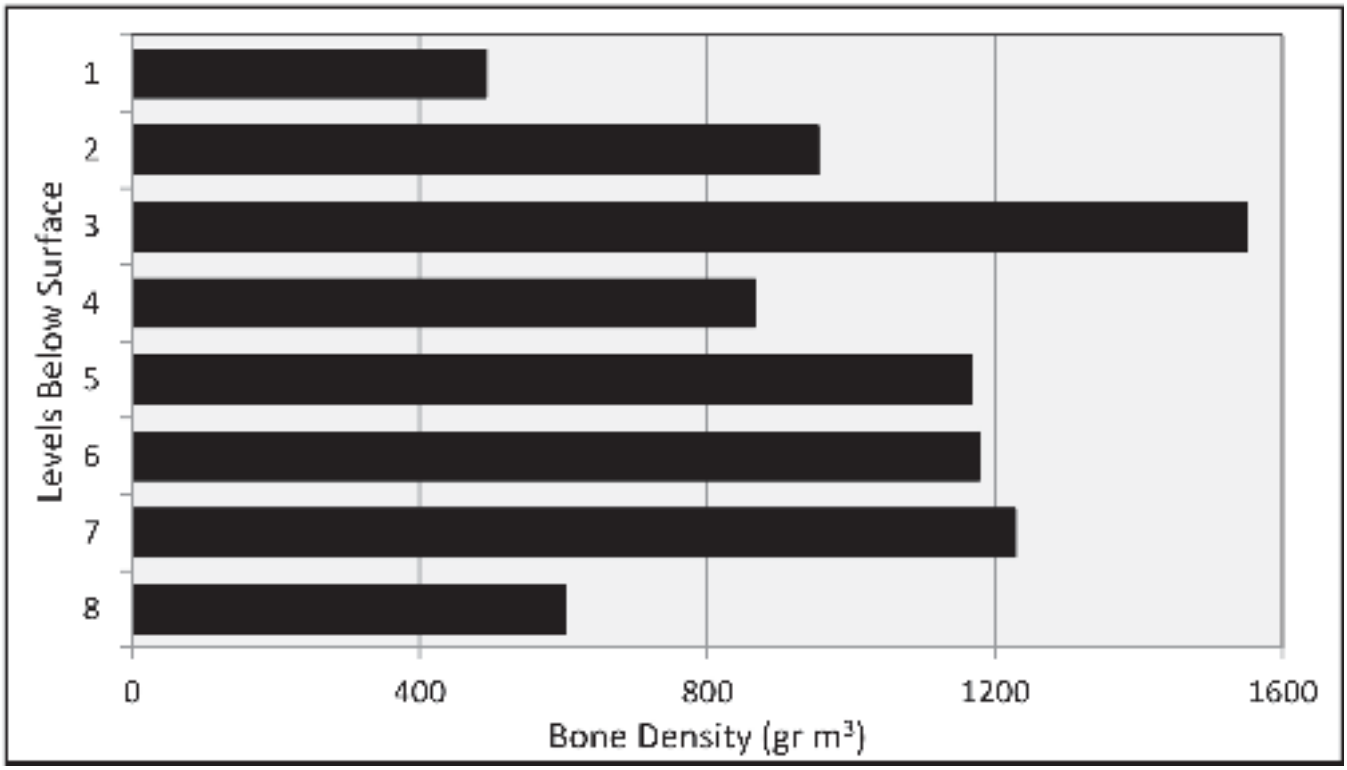

Figure 12-6. Bone density by level, Plaza de Armas Buildings.

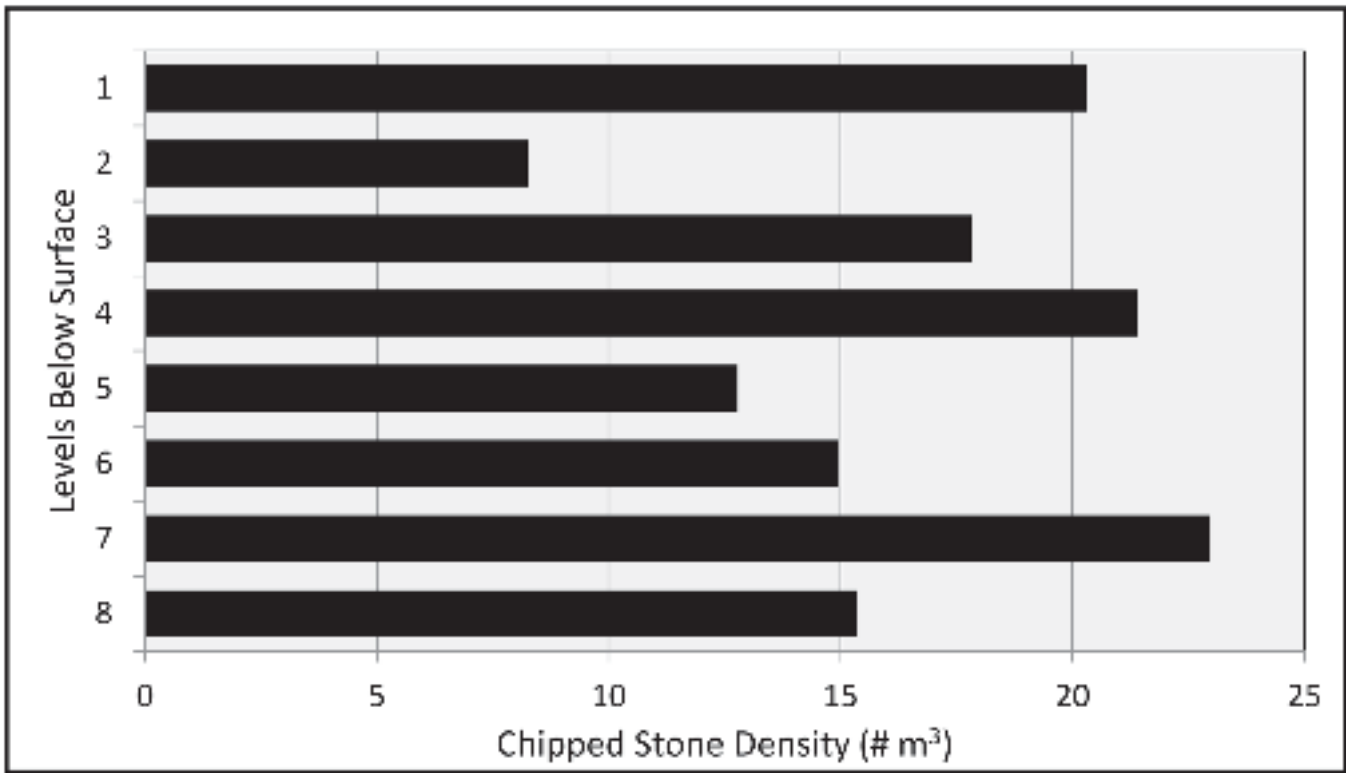

Figure 12-7. Chipped stone density by level, Plaza de Armas Buildings.

peak from Level 6 is at roughly the same level as the other intact feature identified in the excavation. Feature 4, which may reflect two burned rock hearths, was defined in Unit 33 at Level 6. There is, then, a relationship between the vertical distribution of artifacts shown in Figures 12-1 through 12-7 and where features were initiated. It appears that at various points, there were stable surfaces from which features were dug and on which specific artifact types accumulated.

Horizontal Patterning

The consistency of the patterns, as well as the association between the temporal peaks with appropriately aged features, suggests that the site likely contains vertical integrity. This section considers horizontal patterning in these same seven artifact types focusing on density and using ArcGIS to generate spatial patterns. Distribution maps suggest consistent horizontal patterning between densities of Spanish Colonial ceramics, bone, chipped stone, and Native American ceramics. There is, however, only general overlap between European/English ceramics, glass, and metal. These types are dominated by several cases of high artifact density in a selected number of units. However, before presenting the results, a review of several methodological decisions made during this portion of the analysis is provided.

In order to generate spatial pattering, a 1-m grid was superimposed over the plan view of the Plaza de Armas Buildings, providing X and Y coordinates for the surface. Using the center coordinate for a unit, a series of distribution maps were generated with the Kernel Density tool in Spatial Analyst in version 10.2.2 of ArcGIS. This tool uses point data to interpolate density contours that can then be used to effectively view distributions. As with all distributional data, the more evenly spaced the input points, the greater the information content of the output. The four buildings are roughly 40-x-48 m, an area of about 1920 m^2, and there are 40 units with appropriate volumetric data. As shown in the plan view on the left in Figure 12-8 (12-8a), these units are not evenly spaced. There are no data points for Building 3 and only three data points for Building 4. Twenty-six data points are in Building 1, with 22 of these occurring in an 8-x-12 m section. This area covers roughly 5% of the surface but contains over 50% of the available data points. This area, then, is dramatically overrepresented. The Kernel Density program and shifts in the search radius around a point (here standardized to 15 m) can lessen the impacts of overrepresentation, but they do not eliminate them. In addition, note that other areas have no data points. This is especially problematic for the edges of the building because the program will not generate data outside of the grid points. The net effect of these spacing issues significantly distorts the overall patterns.

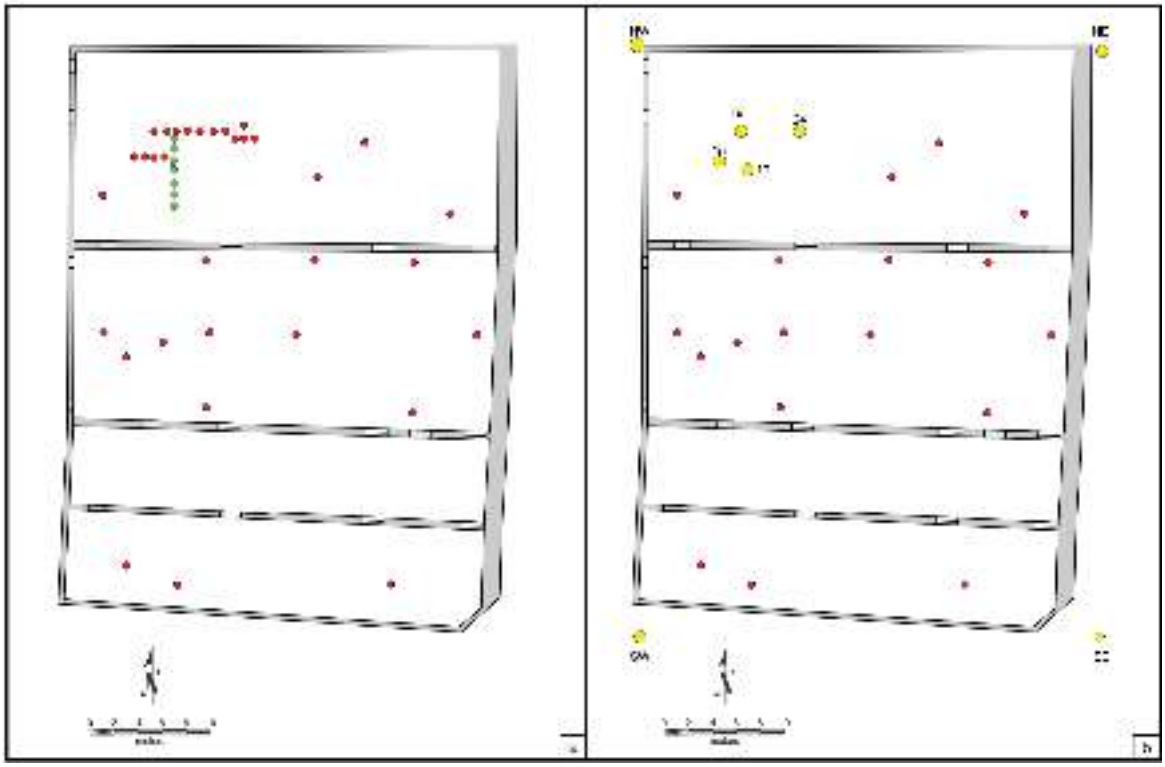

Figure 12-8. Plan view of the Plaza de Armas Buildings showing a) individual data points and b) data points that were combined to compensate for overrepresentation and stretch the surface.

These impacts can be lessened to a substantial degree by first calculating new artifact density estimates for adjacent excavation units in the cluster and by adding artificial points outside of the building plan (Figure 12-8b, panel on right). For example, the south to north line of seven points in Building 1 on Figure 12-8a (highlighted in green) is composed of excavation Units 7 through 13. They all have similar termination depths, all were excavated to Level 6, with one terminating at Level 7, and all sediments from all levels were screened. The artifact types and volumetric data for these units were combined to create a single unit, Unit 10, shown as a single point in Figure 12-8b. A similar procedure was done for Units 14 to 17 (plotted as Unit 15), 18 through 21 (plotted as Unit 19), and for 22 through 28 (plotted as Unit 24). In addition, four points were added outside the building plan, and these were given values of 0. In some instances, this will cause distortion, but it does present a uniform picture across the building floor plan. The distortion only occurs at the edges of the distribution and is minimal.

Figure 12-9 presents two different distributions of European/English ceramic density that highlight an additional issue. Both use the same search radius of 15 m; however, in this case, a few points with extremely large values can create a hot-spot effect. The Figure 12-9a distribution is dominated by a single point significantly influenced by the recovery in Unit 2 of 36 pieces of European/English ceramic from a volume of 0.13767 m^3 of sediment. The resulting density of 261.5 items per m^3 is almost five times greater than the next highest value and significantly higher than the average recovery (ca. 22.85 items per m^3) across all excavations. Figure 12-9b removes that single point, and three other points emerge. While it would be interesting to identify other unsuspected areas of concentration, the primary use for these figures is to compare distributions among the different artifact types. This hot-spot effect is a minor hindrance to these types of comparisons, but the impacts of the effect can be evaluated by removing the extreme values and regenerating the plots as shown here. Focusing on both images in Figure 12-9, at least four different areas of concentration can be suggested. All appear isolated.

Figure 12-10a presents all glass densities. Like the initial European/English ceramic distribution (12-9a), there is a single hot spot that was influenced by Unit 32, which had 379 pieces of glass from 0.6885 m^3 of screened deposits. Removing this creates a second hot spot. Figure 12-11a and b show a similar pattern for metal densities. European/English

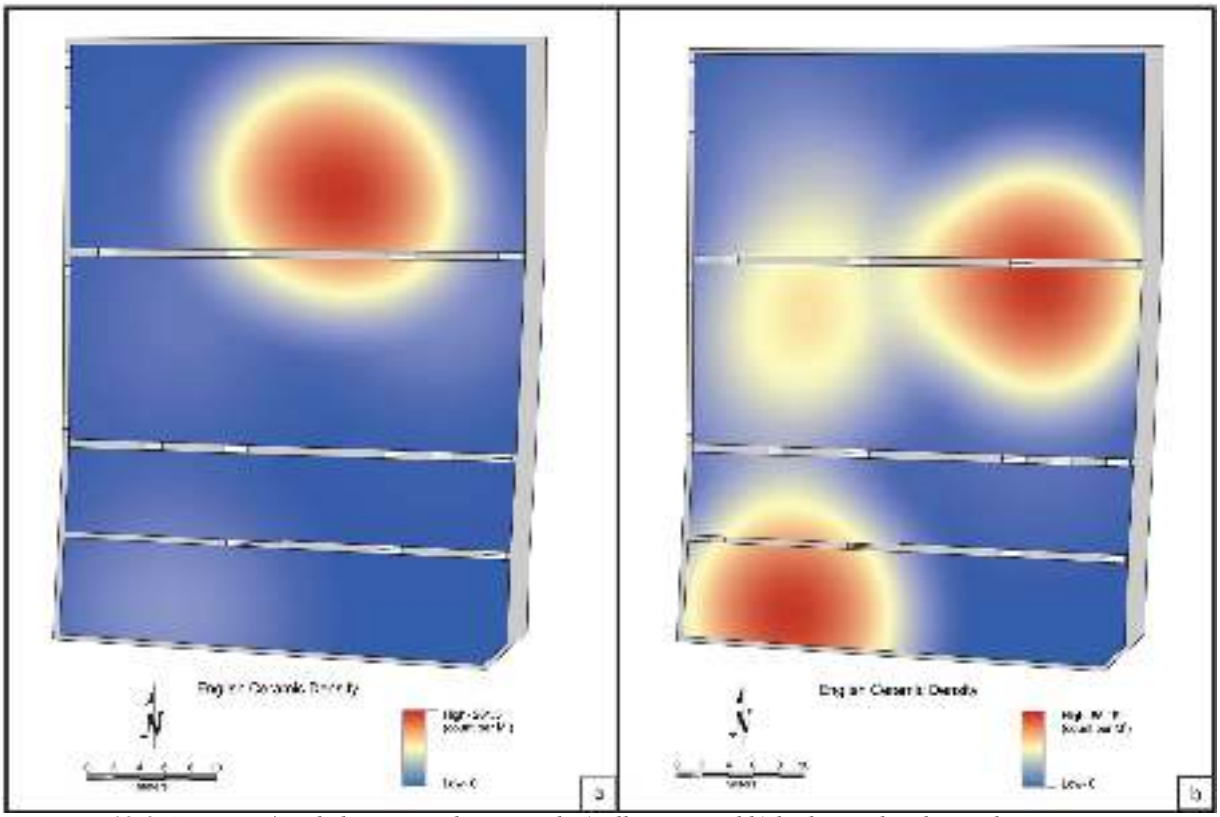

Figure 12-9. European/English ceramic density with a) all points and b) highest value dropped.

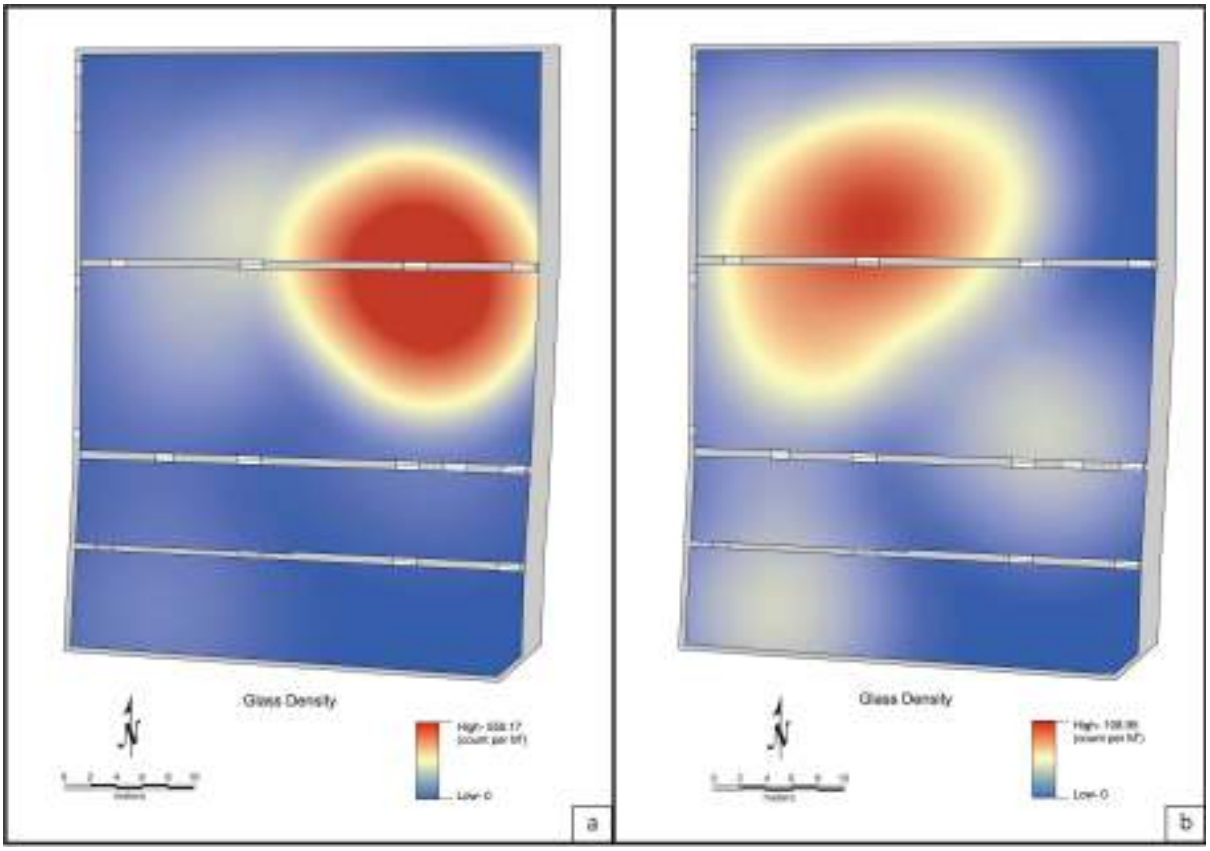

Figure 12-10. Glass densities with a) all points and b) highest value dropped.

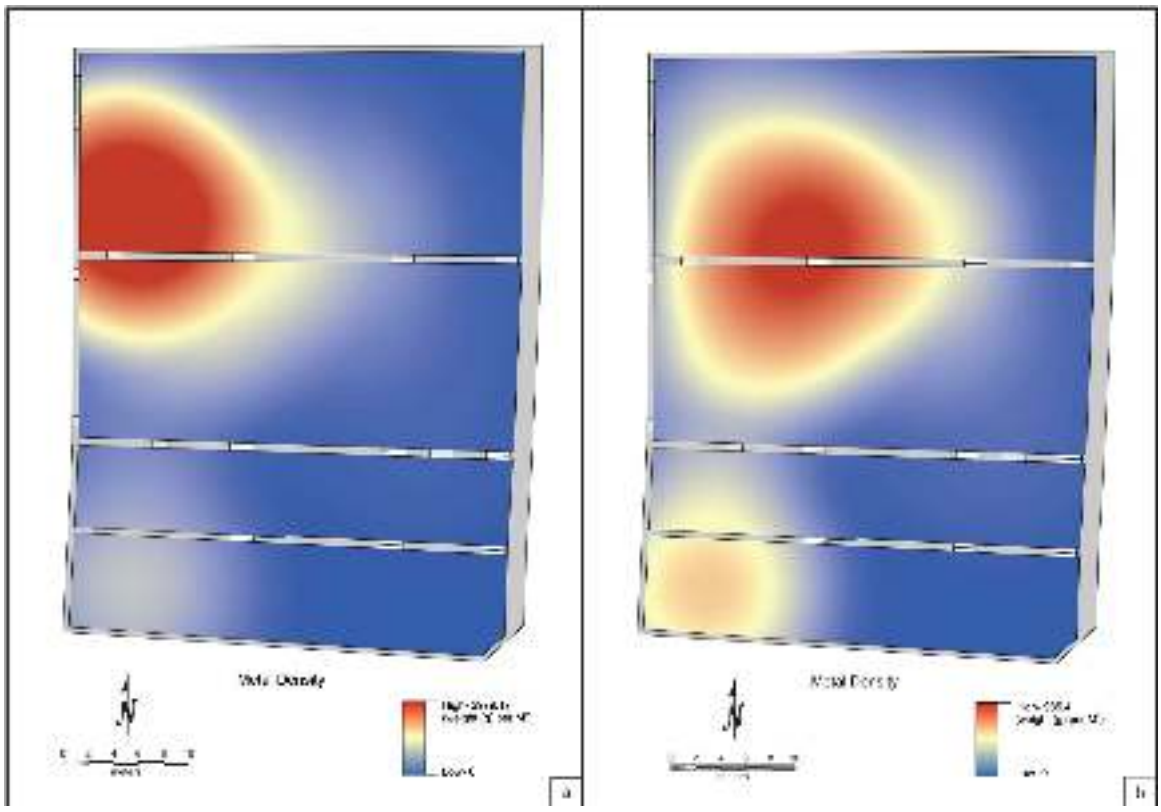

Figure 12-11. Metal densities with a) all points and b) highest value dropped.

ceramics, glass, and metal all have a small number of points with extreme densities that dominate the distributions. There is some overlap in locations, with Units 2, 32, 29, 50, and 51 exerting significant influence on these distributions.

The patterns shown by Spanish Colonial ceramics, Native American ceramics, bone, and chipped stone are different in consistency and in location. Figure 12-12 presents the distribution of these four artifact types. As with the early distribution charts, there are hot spots. However, in these cases, distributions are linked, and there is considerable overlap between the two distributions. All four patterns align along the west wall and show a high degree of concordance.

The patterns in horizontal distribution for Spanish Colonial ceramics, Native American ceramics, bone, and chipped stone are consistent with high densities running along the west wall of the Plaza de Armas Buildings and with low densities outside of that area. This concentration is, of course, consistent with observations on distributions outlined in previous chapters. The fact that these four artifact types pattern together and have a dramatically different distributional pattern than European/English ceramics, glass, and metal is consistent with the vertical data presented earlier. Minimally, it can be concluded that Spanish Colonial ceramics, Native American ceramics, bone, and chipped stone have a similar depositional history and that it is dramatically different from that of later materials.

Artifact Patterning and Site Integrity

The previous two sections have explored vertical and horizontal distributions in the density of various artifact types. Qualitative comparisons of the distributions suggest that there are two principal associations among the artifact types at the site with good vertical integrity: the European/English data set (European/English ceramics, glass, and metal) and the Spanish Colonial data set (Spanish Colonial ceramics, Native American ceramics, and bone). The comparisons also suggest there is a consistent horizontal patterning for the Spanish Colonial data set. This section considers two nonparametric quantitative measures of association that clarify the strengths of these artifact associations. Focusing on the same seven artifact types used previously, Spearman's rank order correlation coefficients and Kendall's Tau-b correlation coefficient (see Blalock 1979: 433-443; Conover 1980: 250-260; Thomas 1986: 395-418) in SPSS version 21 are used to provide a measure of the strength of the relationship between two variables that

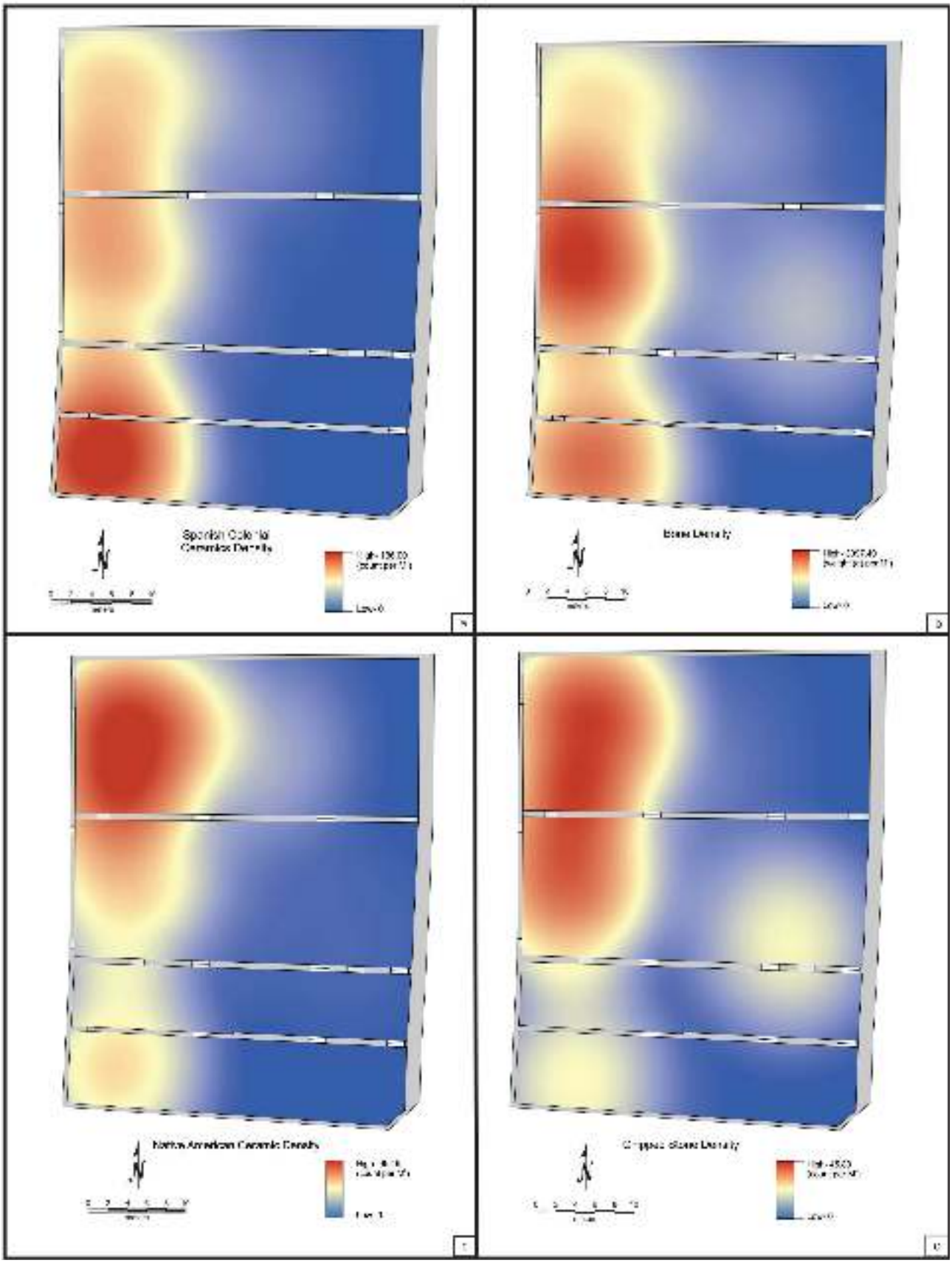

Figure 12-12. Distribution densities of Spanish Colonial ceramics, bone, Native American ceramics, and chipped stone.

are arranged in rank-order. Both Spearman's and Kendall's Tau-b have fewer assumptions than the more commonly used Pearson's Product-Moment Coefficient (r). Spearman's correlation coefficient (rs) compares the overall similarity in ranks, while Kendall's Tau-b (T) measures the number and position of ranked pairs of variables (see Thomas 1986:406-412). Both of the coefficients have a similar range, from -1 to 1, with positive coefficients meaning positive associations, negative coefficients measuring negative associations, and values of zero meaning that there is no relationship. While both coefficients are based on rank order, each makes slightly different assumptions and produces a different coefficient (see Thomas 1986:413-414).

Critically for this analysis, the rank-order underlying each method removes the influenced of extreme cases, several of which are present in the density measures from the Plaza de Armas Buildings. Both Kendall's Tau-b and Spearmon's rs are influenced be the number of tied ranks, though Tau-b seems to be less influenced by tied ranks (Shennan 1990:132-133). The original data set had multiple cases of ties, primarily a result of no recovery from a given level or unit. To reduce the influence of ties, which will increase the magnitude of the association and resulting coefficients, we eliminated all levels in which there was no artifacts recovered from a given level for one of the seven artifact types. This reduced the overall sample size of 215 levels down to 150 levels.

Table 12-1 presents the results for the Spearman's correlation analysis, while Table 12-2 shows the results from Kendall's Tau-b. In both tables, sample sizes are 150. All statistically significant correlations are highlighted in yellow in both tables. In Table 12-1, 11 of the 21 cells are significant at the .01 level, with one cell significant at the .05 level. Nine of these 12 significant cells are positive correlations. The numeric values of the three significant negative relationships are shown in red. Table 12-2 has the same results, with the same cells and relationships, though the strength of the correlations is less in the Kendall's Tau-b analysis.

The tables show that in both rankings European/English ceramics, glass, and metal have a statistically significant positive association with each other, and lack any other positive correlations. Conversely, Spanish Colonial ceramics,

Table 12-1. Spearman's Rank Order Correlations on Artifact Types, Ranked by Density

		European/ English Ceramics	Spanish Colonial Ceramics	Native American Ceramics	Chipped Stone	Bone	Glass
Spanish Colonial Ceramics	Correlation Coefficient	0.117					
	Sig. (2-tailed)	0.153					
Native American Ceramics	Correlation Coefficient	-0.038	**0.661**				
	Sig. (2-tailed)	0.641	0				
Chipped Stone	Correlation Coefficient	0.057	**0.431**	**0.392**			
	Sig. (2-tailed)	0.487	0	0			
Bone	Correlation Coefficient	0.12	**0.587**	**0.453**	**0.356**		
	Sig. (2-tailed)	0.142	0	0	0		
Glass	Correlation Coefficient	**0.346**	0.049	-0.103	-0.04	0.122	
	Sig. (2-tailed)	0	0.552	0.208	0.628	0.138	
Metal	Correlation Coefficient	**0.246**	**-0.204**	**-0.265**	**-0.24**	-0.111	**0.417**
	Sig. (2-tailed)	0.002	0.012	0.001	0.003	0.178	0

Table 12-2. Kendall's Tau-b Rank Order Correlations on Artifact Types, Ranked by Density

		European/ English Ceramics	Spanish Colonial Ceramics	Native American Ceramics	Chipped Stone	Bone	Glass
Spanish Colonial Ceramics	Correlation Coefficient	.098					
	Sig. (2-tailed)	.148					
	N	150					
Native American Ceramics	Correlation Coefficient	-.033	**.543**				
	Sig. (2-tailed)	.642	0.000				
	N	150	150				
Chipped Stone	Correlation Coefficient	.050	**.337**	**.323**			
	Sig. (2-tailed)	.474	0.000	0.000			
	N	150	150	150			
Bone	Correlation Coefficient	.096	**.440**	**.342**	**.268**		
	Sig. (2-tailed)	.142	0.000	0.000	0.000		
	N	150	150	150	150		
Glass	Correlation Coefficient	**.303**	.037	-.081	-.032	.087	
	Sig. (2-tailed)	0.000	.564	.220	.626	.157	
	N	150	150	150	150	150	
Metal	Correlation Coefficient	**.212**	**-.154**	**-.210**	**-.188**	-.076	**.340**
	Sig. (2-tailed)	.002	.014	.001	.003	.206	0.000
	N	150	150	150	150	150	150

Native American ceramics, chipped stone, and bone all share a statistically significant, positive correlation. Like the first group, they lack any other positive correlations. The density of metal has a statistically significant negative association with Spanish Colonial ceramics, Native American ceramics, and chipped stone density.

These two groups are, of course, the European/English and Spanish patterns suggested given the vertical and horizontal relationships presented in the initial two sections of this chapter. The associations make sense temporally. The strong correlation of Spanish Colonial and Native American ceramics, bone, and chipped stone suggests that prehistoric materials may have only a minimal signature in these deposits. More importantly, the results provide further support for the suggestions that the deposits have integrity. It is unlikely that these relationships would be maintained if there were significant mixing or post-depositional disturbance of the deposits.

Summary

The vertical and horizontal patterning, as well as the statistical correlations presented in this chapter, consistently identified a relationship between Spanish Colonial ceramics, Native American ceramics, bone, and chipped stone material. A second, though more variable pattern is formed by European/ English ceramics, metal, and glass. The vertical patterns in artifacts correlate with the small number of features identified at the excavations from the Plaza de Armas Buildings. The horizontal patterns and the strong, consistent relationship between artifact types identified through the correlation analysis are consistent with the vertical data. Spatial associations like those shown here would not be expected if these deposits were extensively mixed. As least for the Spanish Colonial material, the patterns of distribution suggest that multiple temporal lenses may be present in various sections of the site. Some of these temporal lenses likely date to the earliest Spanish presence in San Antonio.

Chapter 13: Occupation Summary and Site Formation Patterns at the Plaza de Armas Buildings

by Raymond Mauldin, Clinton McKenzie, and Leonard Kemp

The previous chapter identified strong spatial patterning in the excavation data generated by the archaeological monitoring and test excavations associated with modifications at the Plaza de Armas Buildings. We demonstrated strong spatial patterning and associations with sets of artifact types that are consistent with broad temporal distinctions. This chapter provides a summary of the overall occupation patterns based, in part, on these temporal associations, artifact patterns in previous chapters, as well as our earlier reviews of historic material in Chapter 4. We use this discussion to present speculation regarding the formation processes at the site.

Occupation History

It is evident from the discussions of artifact types and associated patterning that there are likely to be intact deposits relating to the Spanish Colonial, as well as later occupations, at the Plaza de Armas Buildings. As shown in the earlier chapters, a large Spanish Colonial age deposit blankets the western half of the basements. This deposit includes bone, pottery, chipped stone, and ceramics. Metal, glass, later ceramics, bricks, and other construction materials are also present across the area. Features, several of which seem to be associated with what may be stable surfaces at various points in time, are also present below the basement floors. Based on historic summaries (e.g., Alamo Architects 2012; Ivey 2004; see also Chapter 4), as well as artifacts and features recovered from the site, an occupation history consisting of a Spanish Colonial/Mexican period (AD 1722 – ca. 1870), an Anglo-English/Early San Antonio period (ca. 1871-1930), and a Recent period (post-1930) occupation history is summarized below. These temporal divisions are primarily for discussion purposes, and are related to the site use itself, rather than strictly adhering to the established temporal divisions presented in previous chapters. We use these primarily as a heuristic device to discuss the site and the formation processes.

Spanish Colonial/Mexican Period Occupations at the Plaza de Armas Buildings

While there is evidence for earlier uses of the location, such as the recovery of Archaic age tools (Chapter 10) and potentially Late Prehistoric age Native American ceramics (Chapter 8), Spanish Colonial use represents the earliest, well-documented occupation at the site. The Spanish Colonial use of the site likely begins with the construction of the Presidio San Antonio de Bexar and associated buildings along the east bank of San Pedro Creek. Unlike the concrete-lined drainage channel that exists today, early Spanish explorers describe San Pedro Creek as a perennial stream fed by multiple springs at the headwaters (see Foik 1933:12; Hoffman 1935:48-49; Tous 1930a:5) located roughly two kilometers to the north of the Plaza. The Spanish initiated construction on the Presidio at this location in 1722, with the west wall located at the top of the slope of the east bank of San Pedro Creek.

Unfortunately, little information is available regarding the use of the location over the decades immediately following the construction of the Presidio. Ivey (2004:110) notes, "by 1743 civilian settlement had incorporated the land north and south of the presidio." The production of the 1767 Urruita map (see Figure 4-3) suggests that lands to the west were also privately owned at this time (see also de la Teja 1995:36-40). As for the Presidio, the 1744 description of Winthuysen presented in Chapter 4 of the fort as consisting of "crudely shaped houses" and lacking a stockade wall is consistent with the Urruita (Figure 4-3) and Menchaca (Figure 4-2) maps produced in the 1760s. As detailed in Chapter 4, the use of the Plaza de Armas increasingly shifted from military to municipal functions through the end of the eighteenth century. It is likely that the Abrego family, probably sometime in the early nineteenth century, acquired the Spanish Colonial-age structure that sat on the eastern section of the property. The structure was used principally as a residence, though the Mexican, Early Republic of Texas, and into early Statehood, through the 1850s after which commercial interests were increasingly represented.

It is clear from the archaeological investigation detailed in the previous chapters that following the initial establishment of the Presidio in 1722, both civilian and military personnel used the space between the Presidio buildings and San Pedro Creek as a disposal area throughout this period. Figueroa and Mauldin (2003) describe a similar disposal pattern of sheet middens and trash pits associated with the Plaza de Armas at site 41BX1598, located roughly 60 m to the north of the current Project Area. This trash disposal method essentially created a sheet midden of substantial depth exhibiting high artifact variety. At 41BX1598, there were indications of distinctions within the broad Spanish Colonial period (see Figueroa and Mauldin 2005:72-93). Given the strong patterning observed in the previous chapter, it may be the case that finer temporal distinctions can be developed within the Spanish Colonial sheet midden at 41BX2088.

As shown in Chapter 8 and in Appendix B, most of the majolica types found in Texas are present in the site collections, and the ceramic types present span the Spanish Colonial period. To explore the possibility of finer distinctions within this period, the Spanish Colonial ceramics were divided into four groups based on production and termination dates listed in Fox and Ulrich (2008:39). The earliest group consists of five types that have production dates prior to 1675. These include Olive Jar, Puebla Blue on White, Puebla Polychrome, Tonalá Burnished, and San Luis Polychrome. While several of these types have production dates that run into the 1800s, San Luis and Puebla Polychrome are not common after 1725. The next group consists of types that have production dates after 1700 and tend to have termination dates prior to 1800. These include Faience, San Agustín Blue on White, Red Brownware, Yellow and Green Glaze, Valero Red, and Huejotzingo Blue on White. The next youngest group of ceramics dates after 1725 and terminates around 1825. These include Red Burnished, Galera, La Bahia Polychrome, Brown on Yellow, Dark Brown, Aranama Polychrome, Black Lusterware, San Elizario Polychrome, and San Diego Polychrome. Finally, the most recent group consists of Puebla Blue on White II, Thin Blue and Brown on White, Monterey Polychrome, Smooth Brown, Orange Band Polychrome, Tonalá Glazed, Guanajuanto, and Tumacacori Polychrome. These are all produced after 1775, with several having termination dates after 1825.

Table 13-1 summarizes the data for these four groups. For this exploration, ceramic counts at a site level and depth below surface were used. Depth measurements reflect the midpoint of a given level. For example, a designation of 12-20 cm below the slab was assigned a depth of 16 cm, and one that was 46 to 56 was assigned a depth of 52 cm. These midpoint depths were then used to calculate average depth for sherds of that group. Ceramics associated with Features 2 and 5 were eliminated from these calculations, as artifact depths in these features do not necessarily reflect temporal shifts. Examination of Table 13-1 shows that, with one exception, these groups pattern as expected given the temporal distinctions. Later Spanish Colonial ceramics tend to be higher in the deposits than earlier Spanish Colonial ceramics, with the exception of the earliest group. It is unclear why this early material has such a high average depth. However, the small sample size, variable termination dates, and site formation complications that are discussed later in this chapter, might be relevant considerations. Nevertheless, the three more recent periods seem to suggest that finer temporal distinctions are present in the data.

From 1722 through roughly 1870, then, the use of the location gradually shifted. Initially the eastern side of the site consisted of a structure associated with the Presidio. This structure subsequently served as a residence. The central and western sections, behind the Spanish Colonial-age structure and along San Pedro Creek, were used primarily for refuse disposal. Refuse was deposited in pits and spread on the surface to form a large sheet midden over much of the property. While the earliest Spanish Colonial material seems to be out of context, counts, date ranges of ceramic groups, and depth estimates indicate a finer-level patterning in the distribution of Spanish Colonial ceramics may be present for more recent periods. This scenario fits well with the projected location for the Presdio wall based on extending the wall alignment on the Spanish Governor's Palace as well as the location of Feature 6, one of two possible melted adobe deposits.

Anglo-English/Early San Antonio Occupations at the Plaza de Armas Buildings (ca. 1871-1930)

In 1871 ownership and use of the property changed. As detailed in Chapter 4, Simon Fest acquired several of the parcels in that year, and shortly thereafter, Edward Steves acquired the remaining land. Fest and Steves transformed the use of the location from a residential area to one with a commercial focus. A comparison of the 1877 and 1885 Sanborn maps demonstrates the magnitude of the transformation (Figure 13-1).

By 1885, the Spanish Colonial construction south of the Spanish Governor's House, clearly present on the 1877 map, had been demolished and replaced with the Steves building

Table 13-1. Average Sherd Depth by Ceramic Group (Youngest to Oldest)

Number of Sherds	Initial Date	Terminal Date	Average Depth
45	Post-AD 1775	Post-AD 1825	48.1 cm
112	Post-AD 1725	Pre- AD 1825	58.1 cm
180	Post-AD 1700	Pre-AD 1800	79.7 cm
23	Pre-AD 1675	Pre-AD 1825	48.4 cm

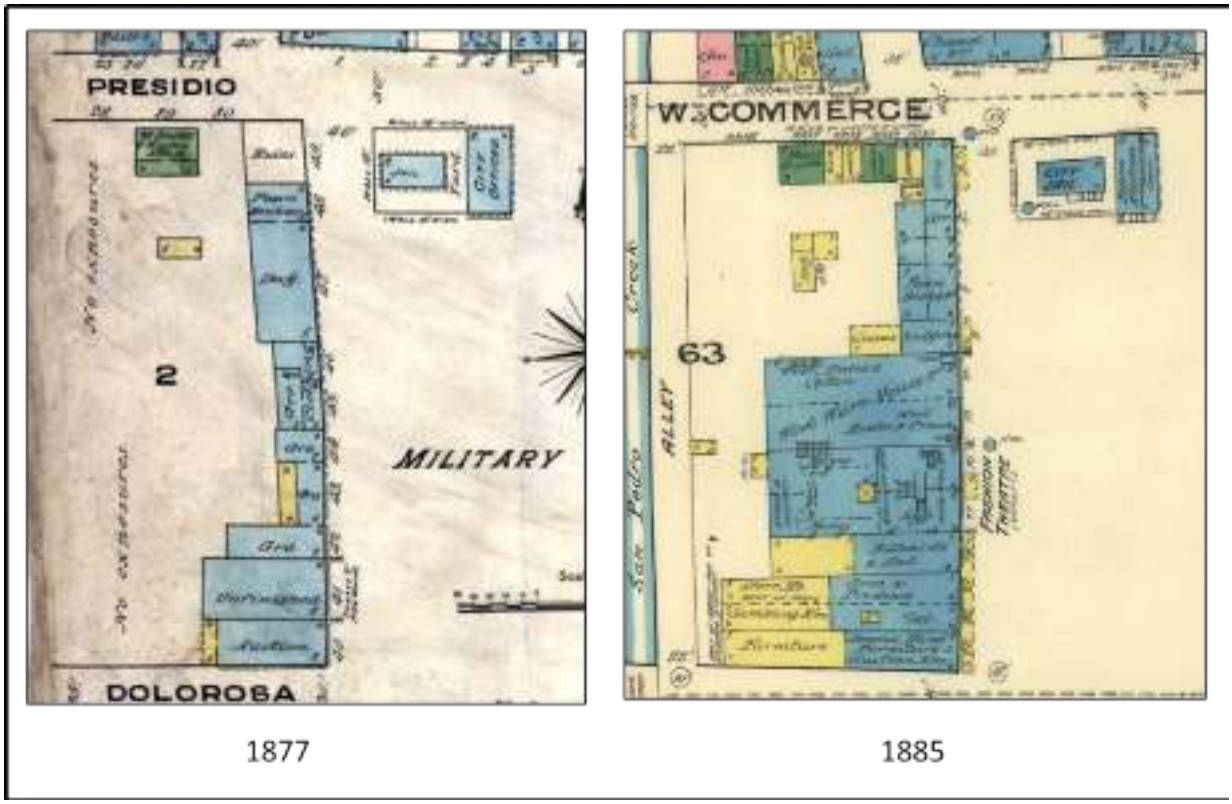

Figure 13-1. Sanborn Maps of the Project Area from 1877 and 1885 (1877 Sanborn Fire Insurance Map Sheet 1, Perry-Castaneda Library Map Collection, Sanborn Fire Insurance Maps – Texas [1877-1922], original located at Dolph Briscoe Center for American History, University of Texas at Austin; 1885 Sanborn Fire Insurance Map Sheet 8, Perry-Castaneda Library Map Collection, Sanborn Fire Insurance Maps – Texas [1877-1922], Dolph Briscoe Center for American History, University of Texas at Austin, original from the collections of the Geography and Map Division, Library of Congress).

and the Fashion Theatre. Basements were constructed during this period, which likely resulted in the removal of any Spanish Colonial foundations and some of the artifactual evidence. There are also significant changes to the central and western portion of the property. New structures were built to the west. An alley behind these buildings, connecting Dolorosa Street and Commerce Street, was added and San Pedro Creek was channelized. As outlined subsequently, the creation of the alley and the channelization also would have significantly impacted the deposits. In late 1891, the site landscape was further altered when a fire destroyed the Fashion Theatre and the original Steves building. Both were rebuilt. With the exception of the widening of Dolorosa Street in the late 1920s, which removed the building at the south, the plan view of the property shown on the 1896 Sanborn map (Figure 13-2) closely matched the area encountered at the start of this project. By 1896, all four buildings with basements are present, the creek has been channelized, and the alley created.

Recent (1930-Present)

As detailed in Chapter 4, Vogel purchased the property in the late 1920s. He retained ownership until the Urban Renewal Agency acquired the property in 1968. The City of San Antonio acquired the property in the late 1979 and conducted some renovations at that time.

During this period, it appears that the principal modification to the location involved the placement of the concrete basement floors. Buildings 1, 2, and 3 all have similar floors, consisting of a roughly 10-cm thick concrete slab mixed with gravel but without rebar reinforcement. Their uniformity of construction method argues for simultaneous installation and likely reflects a single owner. However, this description does not hold for all of Building 4. A profile for Unit 49 on the eastern side of that building clearly shows both rebar reinforcements and a well-packed, 10-cm thick gravel base

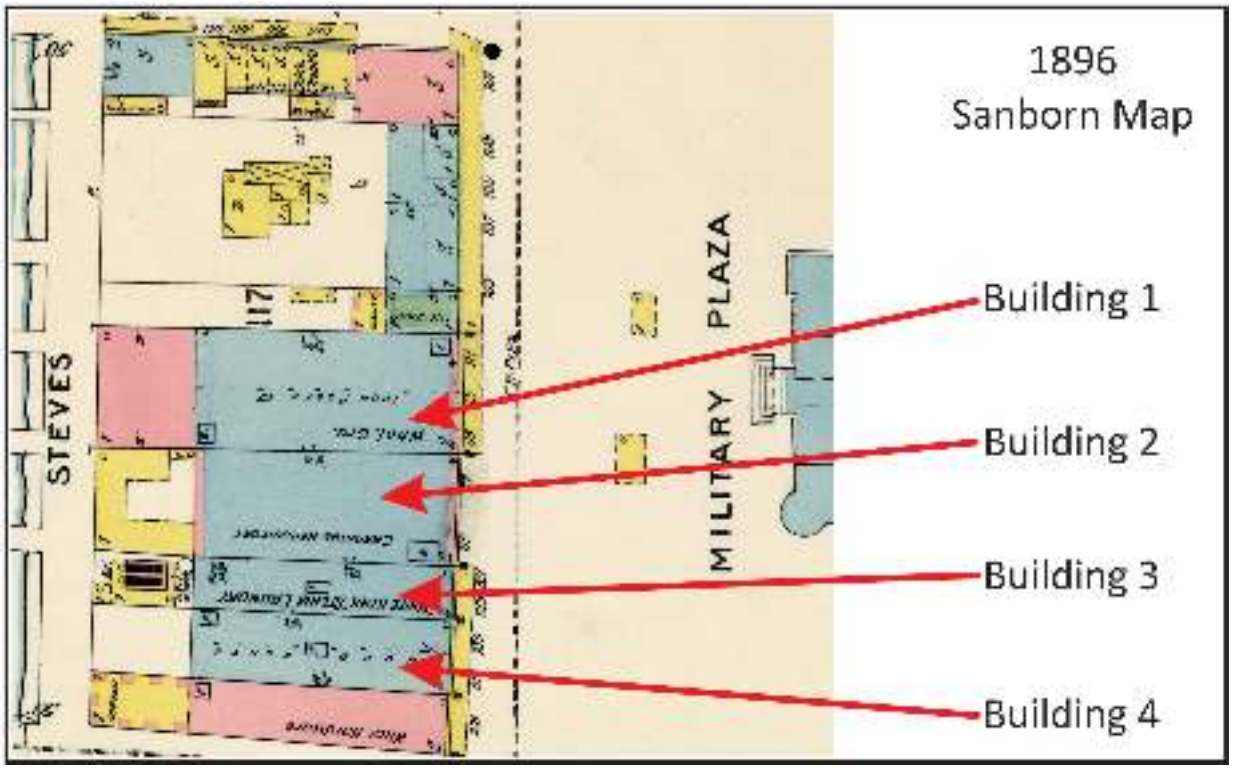

Figure 13-2. 1896 Sanborn Map of the Project Area, with buildings identified. (1896 Sanborn Fire Insurance Map, Sheet 9, Perry-Castaneda Library Map Collection, Sanborn Fire Insurance Maps – Texas [1877-1922], original located at Dolph Briscoe Center for American History, University of Texas at Austin).

laid down to support that slab. This sequence is not noted in Unit 50, though no profile for this unit could be located. Unit 51 lacked any rebar or well-prepared gravel base. This suggests that at least some portion of the floor in Building 4 had a different history, with a more recent addition or repair occurring in a portion of Building 4. There is also a charcoal lens present in Building 1 and 2 in many of the excavation units below the concrete. This may be associated with the 1891 fire that destroyed the Fashion Theatre and the original Steves building in this area. If that is the case, then the concrete floor probably postdates 1891. The installation of the concrete floors in the basements of the Plaza de Armas Buildings effectively ceased archaeological deposition and capped pre-existing deposits. Given that Vogel was the first owner of all four buildings, it is likely that this took place under his direction, probably in the 1930s. It is doubtful that the Urban Renewal Agency would have undertaken any improvements to the basements of the Plaza de Armas Buildings, but this is not known as this time. In addition, if the City poured the floors as part of their renovations in 1979-1980, they would most likely have used rebar reinforcement. In fact, the Unit 49 rebar may reflect these renovations. Finally, note that there is no subfloor information that contradicts the 1930s data for the basement slab.

Site Formation

Given the above history of various occupation patterns at the site, a scenario can be suggested for the formation of the deposits encountered at the Plaza de Armas Buildings. The scenario is consistent with the excavations results, which documented that at least some deposits remain intact beneath the basement floors of the Plaza de Armas Buildings, and deposits in the buildings increase in depth heading west. It is also consistent with external trenching, augering, and borehole excavations presented in Chapter 7, as well as previous work conducted by Shafer and Hester (2011). Figure 13- 3 presents a summary of the suggested formation scenario.

It is assumed that the Presidio buildings that previously occupied the site had the same north-south alignment and, most likely, the same or similar width as the extant Spanish Governor's Palace located to the north. As outlined above, occupations associated with these structures likely produced trash pits, such as Feature 2, as well as a large sheet midden. The midden covered the area behind the Spanish Colonial structures and spilled into San Pedro Creek. This situation, illustrated in the top panel in Figure 13-3, continued until the 1870s.

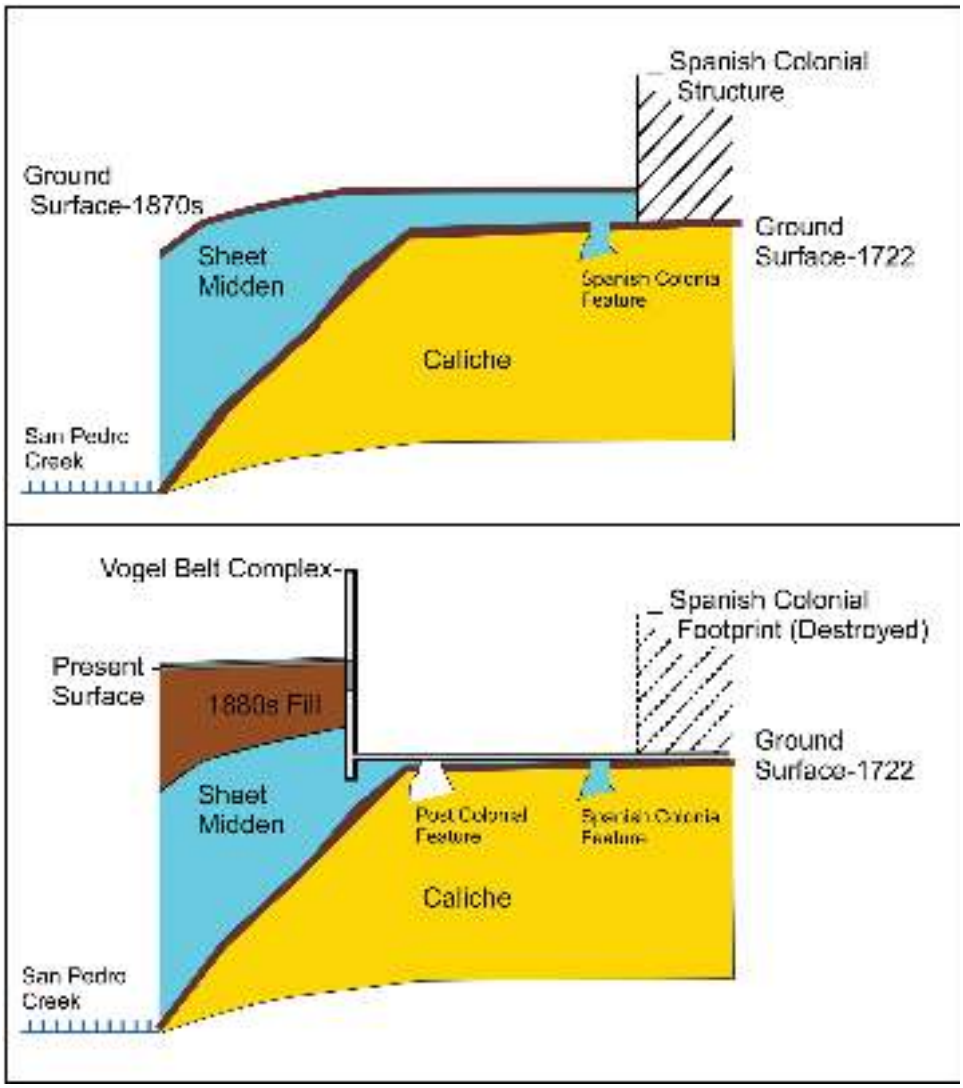

Figure 13-3. Site formation scenarios for the Project Area. Top panel reflects the initial occupation through the purchase of the property by Steves and Fest. Bottom panel reflects post 1880s.

Shortly after the acquisition by Fest and Steves in the 1870s, significant changes were made to the property that, for the most part, created the situation encountered in 2013. These included the destruction of the Spanish Colonial buildings, their replacement with what would become the Plaza de Armas Buildings and associated basements, and the erection of a wall embankment along the creek and the subsequent infilling of the space between the creek and the Plaza de Armas Buildings to create what is known as Calder Alley. These changes are summarized in Figure 13-3 in the bottom panel.

It is likely that sheet midden deposits that had accumulated between 1722 and the 1870s were severely impacted and truncated by the construction of the buildings that comprise the Plaza de Armas Buildings. Their basements removed significant quantities of deposits, some of which may have been used, in combination with other fill material, to raise the ground level at the rear to create what is now Calder Alley. The alley is at grade with Dolorosa Street and Commerce Street. The leveling and filling buried the original lower bank of San Pedro Creek and capped the remaining 1722 and 1870s ground surface beneath a significant quantity of fill between the creek wall and back wall of the Plaza de Armas Buildings (Figure 13-3, bottom panel). Trenching and other excavation outside the Plaza de Armas Buildings structures in this area consistently encountered this fill. We suggest that intact Spanish Colonial material is likely to be present at a greater depth than was encountered by the trenching. Finally, the subsequent excavation of trash disposal features, such as Feature 5, into the floor of the basement ceased when the deposits were sealed when concrete was poured to cover the basement floors, which likely took place in the late 1920s.

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Chapter 14: Summary and Recommendations

by Clinton McKenzie and Raymond Mauldin

The Center for Archaeological Research (CAR) at The University of Texas at San Antonio, under contract with Ford, Powell and Carson, Architects and Planners, Inc. (FPC), working for the City of San Antonio's Plaza de Armas rehabilitations conducted archaeological monitoring and test excavations at the historic 1722 Presidio San Antonio de Bexar Plaza de Armas Buildings in San Antonio, Bexar County, Texas. The complex is bounded by the Spanish Governor's Palace, the original Casa de Capitan of the Presidio (41BX179) on the north, Dolorosa Street on the south, Calder Alley/San Pedro Creek on the west, and Military Plaza on the east. The Plaza de Armas Buildings are composed of four historic structures and are within the Main and Military Plazas National Register of Historic Places District (NRHPD). Several of the Plaza de Armas Buildings were constructed in the late 1800s, and the buildings are listed as contributing to the Main and Military Plazas NRHPD, with each building individually listed on the National Register of Historic Places (NRHP). Because the buildings and land on which the Plaza de Armas Buildings sit are owned by the City of San Antonio, a political subdivision of the State of Texas professional archeological investigations under the Antiquities Code of Texas were required prior to ground disturbing activities. As such, CAR and FPC coordinated closely with the Texas Historical Commission (THC) and the City's Office of Historic Preservation. The work was initiated in April of 2013 and was conducted under Texas Antiquities Permit No. 6526 issued originally to Dr. Steve Tomka. Kristi Nichols served as Project Archaeologist on much of the work, assisted in the field by Lindy Martinez, who acted as crew chief.

The project was originally designed to monitor backhoe trenches and associated construction excavations within the basements of the Plaza de Armas Buildings. However, the methodology shifted when the City Archaeologist observed Spanish Colonial artifacts in excavation back dirt and stopped excavations until further coordination with the Texas Historical Commission could take place. Subsequent meetings with the THC and the City of San Antonio's Office of Historic Preservation resulted in an expansion of the project to include some level of controlled testing in order to properly investigate and document the site. This occurred primarily over the months of August, September, and October of 2013, though additional monitoring and excavations were also conducted in March of 2014 and in September and October in 2014. Laboratory processing was ongoing during the fieldwork, and artifact analysis began in the late fall of 2013 and continued into early 2014. Early in 2014, both the Principal Investigator and the Project Archaeologist left CAR. At that time, Dr. Raymond Mauldin assumed the THC permit, and Clinton McKenzie and Leonard Kemp took over various Project Archaeologist roles on the project. A small amount of fieldwork remained, and there existed a framework for the report. Following the completion of the fieldwork and analysis in late 2014, the report production was intensified and curation was initiated. The final report and curation activities were completed in 2016, with the CAR serving as the curatorial repository for all project related materials.

The project documented and sampled deposits containing Spanish Colonial material, some of which related to the 1722 establishment of the Presidio San Antonio de Bexar, as well as later Colonial and post-Colonial materials. It was demonstrated that a large sheet midden, dating primarily to the Spanish Colonial period, is present in the western third of the four basements of the Plaza de Armas buildings. It is likely that this midden extends towards San Pedro Creek to the west. Large quantities of Colonial and post-Colonial period artifacts, including pottery, chipped stone, ground stone, burned rock, bone, metal, and glass are present in this sheet midden. Native American ceramics, as well as earlier point types, are also present, but our analysis suggests that, at least in the case of the Native American (Goliad ware) ceramics, they likely date to the Spanish Colonial period. This suggestion is based on statistical analysis of association that demonstrates a strong, significant relationship between the densities of various classes of artifact types across excavation levels. Spanish Colonial ceramics, Native American ceramics, bone, and chipped stone are associated while a second group is formed by European/English ceramics, metal, and glass. There is also strong vertical and horizontal patterning in these artifact groups showing that the Spanish Colonial material is lower in the deposits than the European/English material. These vertical distribution data shows a bimodal pattern in the Spanish Colonial material, suggesting at least two periods, perhaps defined by varying use intensities, may be present. A more detailed review of the Spanish Colonial material suggests patterning in the more recent types, but does show that the earliest material may be out of context. While sample size is a concern, this may be related to the displacement of portions of the midden when the basements were excavated. Below the basement floors, 8 features, including Colonial, post-Colonial age trash pits, and a Colonial age burned rock scatters, where identified. Additional features are certainly present, both under the basement floors and, in all probability, at depths below 2.0 m outside of the existing Plaza de Armas Buildings.

Recommendations

The recovery of Spanish Colonial artifacts under the basements of the Plaza de Armas Buildings clearly was an unexpected occurrence based on the fact that the buildings were known to have deep basements that in most cases would have destroyed archaeological deposits, causing significant shifts from a monitoring strategy to a testing strategy. In retrospect, once CAR realized that significant deposits were present, we should have developed a systematic testing strategy designed to assess those resources rather than attempting to mitigate impacts associated directly with construction. It may have been both more useful, and more cost effective, to have screen deposits from a smaller number of standard sized, larger units strategically placed across the various basements. Nevertheless, it is evident from the monitoring and excavation results reported here that the project sampled deposits containing buried Spanish Colonial material relating to the 1722 Presidio San Antonio de Bexar, possibly including a portion of the Presido wall itself, as well as later Spanish Colonial and post-Spanish Colonial occupations. In particular, the work demonstrates that there is a large Spanish Colonial-age sheet midden present in the western third of the basements in all four of the Plaza de Armas Buildings. It is likely that this midden also extends, at depth, towards Calder Alley and San Pedro Creek. Given the results of this project, large sections of these deposits have a high probability of being intact, especially along the western third of the basement and at depth between the Plaza de Armas Buildings and San Pedro Creek. As such, these areas are likely to contain data significant to understanding the history of San Antonio and of the State of Texas. CAR therefore recommends that prior to any subsurface impacts in the basements, or any external impacts greater than 2.0 m at the rear of the Plaza de Armas Buildings that a comprehensive, systematic effort to recover significant data be initiated.

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Appendix A:
Unit Renumbering and Congruence Tables

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Appendix A
Unit Renumbering and Congruence Tables

In an effort to standardize unit designations and provide additional clarity, the original unit numbers assigned in the field were renumbered for purposes of reporting. This appendix provides obverse and reverse reference tables to facilitate identification of old-to-new and from new-to-old for any possible future research purposes. All artifacts processed used the original designations for curation purposes and a copy of this appendix is housed with the curation materials and permanent accession file.

NEW UNIT DESIGNATION INDEXED TO OLD UNIT DESIGNATION

Building 1		Building 2		Building 3		Building 4		Trenches	
New	Old	New	Old	New	Old	New	Old	New	Old
1	1d	29	2L	41	3a	49	4a	TR1	TR1
2	1c	30	2m	42	3b	50	4b	TR2	TR2
3	1a	31	19	43	3c	51	22	TR3	TR7
4	1b	32	2n	44	3d			TR4	TR8
5	1m	33	2a	45	3e			TR5	TR6
6	1k	34	21	46	3f			CANCELLED	TR3
7	18	35	20	47	3g			CANCELLED	TR4
8	17	36	2b	48	3h			CANCELLED	TR5
9	16	37	2c						
10	1e	38	2e						
11	4	39	2g						
12	5	40	2i						
13	1L	CANCELLED	2d						
14	1	CANCELLED	2f						
15	1f	CANCELLED	2h						
16	2	CANCELLED	2j						
17	3	CANCELLED	2k						
18	6	CANCELLED	2p						
19	7								
20	8								
21	9								
22	10								
23	11								
24	12								
25	13								
26	1h								
27	1g								
28	1i								
CANCELLED	14								
CANCELLED	15								
CANCELLED	1j								

OLD UNIT DESIGNATION INDEXED TO NEW UNIT DESIGNATION

Building 1		Building 2		Building 3		Building 4		Building 5	
Old	**New**	**Old**	**New**	**Old**	**New**	**Old**	**New**	**Old**	**New**
1	14	19	31	3a	41	4a	49	TR1	TR1
2	16	20	35	3b	42	4b	50	TR2	TR2
3	17	21	34	3c	43	22	51	TR3	CANCELLED
4	11	2a	33	3d	44			TR4	CANCELLED
5	12	2b	36	3e	45			TR5	CANCELLED
6	18	2c	37	3f	46			TR6	TR5
7	19	2d	CANCELLED	3g	47			TR7	TR3
8	20	2e	38	3h	48			TR8	TR4
9	21	2f	CANCELLED						
10	22	2g	39						
11	23	2h	CANCELLED						
12	24	2i	40						
13	25	2j	CANCELLED						
14	CANCELLED	2k	CANCELLED						
15	CANCELLED	2L	29						
16	9	2m	30						
17	8	2n	32						
18	7	2p	CANCELLED						
1a	3								
1b	4								
1c	2								
1d	1								
1e	10								
1f	15								
1g	27								
1h	26								
1i	28								
1j	CANCELLED								
1k	6								
1L	13								
1m	5								

Appendix B:
Ceramic Typologies from the 1722 Presidio San Antonio de Bexar Plaza de Armas Project

by Kristi Nichols

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Appendix B
Ceramic Typologies from the 1722 Presidio San Antonio de Bexar Plaza de Armas Project

by Kristi Nichols

Spanish Colonial Ceramics

Unglazed Wares

Valero Red

Valero Red is a wheel thrown earthenware that was first identified at Mission Valero in the late 1960s (Greer 1967:19). The orange-pasted body exhibits the striation lines characteristic of manufacture on a pottery wheel. The manufacture of these vessels is believed to have occurred in Mexico throughout the eighteenth century and into the nineteenth century (Fox and Ulrich 2008:40). The vessels are typically large and might have been used for water storage.

Tonalá Burnished

Tonalá Burnished is a type of unglazed earthenware that can be found throughout the Spanish Colonial sites in Texas, Florida, New Mexico, Arizona, certain areas in Mexico, and parts of the Caribbean (Charlton and Katz 1979:45; Fox and Ulrich 2008:42; Rishel and Stratton 2006). Although the ceramic type was manufactured in Mexico, it was highly valued by the Spaniards and shipped back to Spain (Charlton and Katz 1979:52). Tonalá Burnished is very distinctive in its paste and decoration style. The vessels are constructed of a clay, which is termed búcaro, with a fine, gray to tan paste (Fairbanks 1973:170; Fox and Ulrich 2008:42). After firing, and when wet, the paste has a very earthy and sweet smell. It is unique in comparison to other ceramic types. The vessels exhibit thin walls and are painted on the exterior in red, black, and, on a few occasions, yellow over an off-white slip (Fox and Ulrich 2008:42). The surface was then highly burnished. Tonalá Burnished was likely produced using a convex mold as there are no signs of wheel throwing or coils (Charlton and Katz 1979:47). The vessels were likely being made in Tonalá, Mexico, between 1650 and 1810 (Charlton and Katz 1979:46; Fox and Ulrich 2008:42).

Red Burnished

Although never officially designated as a type, this ware is characterized by the color of the paste and the surface treatment. It was first recognized by Curtis Tunnell at Mission San Lorenzo (Tunnell and Newcomb 1969:77-78) and at Mission Valero (Greer 1967:17-18; Fox and Ulrich 2008:44). It has been encountered at many other Spanish Colonial sites in Texas (see Fox 2002:204; Gerald 1968; Gregory 1980:49). Red Burnished ware is characterized by a dark red to black paste with a highly polished surface. The paste is fine-grained and uniform throughout the sherds. The vessels were coated with a thin red slip that was burnished to a high gloss in most areas. Matte areas were present but contained glossy swirls and loops as decoration (see also Fox and Ulrich 2008:44; Gilmore 1974:63). Often firing created spalls that leave the sherd surface specked by white or black (Fox and Ulrich 2008:44). The Red Burnished vessels were handmade, possibly in Central Mexico, throughout the eighteenth century (Tunnell and Ambler 1967:24; Fox and Ulrich 2008:44).

Lead-Glazed Wares

Sandy Paste Lead Glaze

These sherds exhibit a sandy paste, hence the name, due to the addition of sand to the clay matrix at the time of manufacture. Sandy paste vessels are wheel thrown and fired within a controlled atmosphere. Typically, the glaze is clear, revealing the yellow-orange to red-orange paste. The vessels were likely manufactured in Mexico throughout the eighteenth and into the twentieth centuries (Fox and Ulrich 2008:46).

Yellow and Green Lead Glaze

Yellow and Green Glaze is another variety of the Sandy Paste Lead-Glazed wares. The clay matrix contains a high density of sand, creating a gritty feel to the paste. These vessels are wheel thrown and kiln fired. The type exhibits the same characteristics with wheel-thrown manufacturing but has a difference in the glaze color. The vessel walls are often thicker than the tin-glazed

ceramics. The glaze used on these vessels appears to have a yellow or green tint (Fox and Ulrich 2008:46; Schuetz 1968:53). Green decorations on the rim are often seen (although it can be broken down into the Yellow and Green Glaze II variety). Vessel forms were often utilitarian and held up well during the transit from Mexico to San Antonio (Fox and Ulrich 2008:46). Yellow and Green Glaze appears in Texas throughout the eighteenth century (Fox and Ulrich 2008:46).

Green Lead Glaze

Green Glaze is another variety of Sandy Paste Lead-Glazed wares noted at Texas Spanish Colonial sites. Similar to the previously mentioned Yellow and Green Lead Glaze, the paste of Green Glaze has a high sand content. The vessels were manufactured using a wheel and were fired at controlled temperatures. The paste is typically yellow to orange. Characteristic of the name, the vessel exhibits a green lead glaze. These were produced in Mexico possibly throughout the eighteenth century

Galera

Galera is a fine-pasted eathernware, meaning that it lacks high sand content to the clay. Galera vessels are made using the mold technique rather than the wheel, and they are often thin-walled (Fox and Ulrich 2008:50). The vessel paste is orange, and it is visible through the thin, clear lead glaze. Decorations in cream, green, and brown are noted on the exterior. Common motifs include dots, feathers, and flowers (Fox and Ulrich 2008:50). Galera wares were manufactured in Mexico, most likely from the state of Jalisco (Gerald 1968:54). Dates of manufacture are believed to be between 1725 and 1850, although similar wares are made to this day in Mexico (Fox and Ulrich 2008:50).

Red Brown

Red Brown ware has been referred to as Guadalajara Ware in other regions, but local researchers have found that term confusing as it has been used to describe another type of ceramic, Tonalá Burnished, as well (Fox and Ulrich 2008:52; Schuetz 1969:51). The term Red Brown was chosen to make the distinction between these types. Red Brown wares are wheel-thrown vessels that exhibit a fine, red-brown tinted glaze. The red-brown paste is considered fine, and the vessels walls are considered average thickness in comparison to the other lead-glazed varieties. This type was manufactured in Mexico and appears in Texas throughout the eighteenth century (Fox and Ulrich 2008:52).

Dark Brown

Dark Brown wares are similar to Galera due to the fine paste and thin walls (Fox 2002:207; Fox and Ulrich 2008:54). Dark Brown wares are made using the mold technique. The vessels exhibit a dark brown glaze or slip under a clear glaze, although the glaze is typically not uniform in thickness. The wares were manufactured in Mexico and appear in Texas circa. 1750 to 1830 (Fox and Ulrich 2008:54).

Smooth Brown

Smooth Brown ware is a later made lead-glazed ceramic that made its way into San Antonio. It has been recovered at the mission sites, during the later occupation period, and at Spanish Colonial sites that were established just before secularization in the 1790s. The vessels are characterized by a smooth, transparent, brown glaze over a fine, red-pasted body. It is likely that Smooth Brown ware was manufactured in Mexico between 1775 and 1830 (Fox and Ulrich 2008:56).

Tonalá Glazed

This type gets its name from its place of manufacture: Tonalá, Jalisco. It exhibits a unique paste that is just a little darker than Tonalá Burnished. A white to cream-colored slip can cover a portion or the entire vessel. Decorations were applied in green, black, and red-brown. A clear lead glaze seals the decorations and slip. The glaze and slip often flakes due to exposure and the poor bond that it had with the vessel body. A later addition to the ceramic assemblage in Texas, Tonalá Glazed appears in the record circa 1780 to 1830 (Fox and Ulrich 2008:60).

Black Lusterware

Two varieties of Black Lusterware, both originating from Mexico, have been noted at sites in Texas (Schuetz 1969:52). One variety exhibits a buff colored paste, while the other exhibits a terra cotta paste. The terra cotta pasted versions were recorded as being produced in Michoacan, Mexico, between 1750 and 1850 (Barnes 1980:100; Fox and Ulrich 2008:62). It is thought that the buff-pasted versions area contemporaneous.

Brown on Yellow

This type is characterized by a yellow to orange body that appears to have a clear lead glaze, which only enhances the color of the paste. The glaze does not always adhere to the body properly and exposure to the elements results in pocking of the glaze. Prior to glazing, decoration in brown are added in swirls and dots. Brown on Yellow is believed to have been made between 1750 and 1825 in Mexico and imported into San Antonio (Fox and Ulrich 2008:58). Brown on Yellow is one of types that are not seen often at Texas Spanish Colonial sites.

Olive Jar

Olive jar fragments are lead glazed and fall into the Spanish Colonial ceramic types in Texas. Olive jars were vessels used to ship wine and olive oil to the New World (Avery 1997:221; Goggin 1964:256). The lead glaze would create an impermeable barrier that would keep the liquid from seeping out. The glaze, often in shades of green, was applied to the inside of the vessels, leaving the exterior unglazed. The pastes of the olive jars encountered in Texas are light tan to cream in color. In Texas, the olive jars were introduced to the record circa 1720s to 1800s (Fox and Ulrich 2008:64).

Tin-Glazed Wares

San Luís Polychrome

San Luís Polychrome is one earliest types of majolica found in the Spanish Colonial Texas. The type is characterized by a creamy white background, with green and brown decoration (Fox and Ulrich 2008:68; see also Goggin 1968:166-169). Designs are typically floral motifs that are geometrically arranged using the brown as dividing lines. The paste is tan with a pink hue, but it can also be cream. The type has been recovered at early-occupied sites in Texas, including Mission Concepción (41BX12) which was believed to be the original location of Mission San José (41BX3). Dates of manufacture seem contained to the second half of the seventeenth century to the very early eighteenth century (Fox and Ulrich 2008:68; Goggin 1968:169). San Luís Polychrome was manufactured in Mexico City (Fox and Ulrich 2008:68; see also Deagan 1987:76; Lister and Lister 1976:126). The use of the green decoration may indicate that it was considered a low-class ware, as the most prized majolicas mimicked Chinese porcelain (Fox and Ulrich 2008:68; Lister and Lister 1974:33; Seifert 1977:13).

Puebla Polychrome

Puebla Polychrome is characterized by a white enamel with blue and black painted decorations (Fox and Ulrich 2008:72; Goggin 1968:173-182). The black line and dot decorations are often described as having a “spiderweb” or “cobweb” effect (Fox and Ulrich 2008:72; see also Lister and Lister 1987:238-239). The decorations are located on the exterior of cups and bowls and the interior of plates.

Puebla Polychrome is believed to have been manufactured in Puebla, Mexico, likely between 1650 and 1725 (Deagan 1987:82; Fox and Ulrich 2008:72). This would indicate that the presence of Puebla Polychrome would be related to the earliest settlements in the San Antonio area. This variety has been recovered from Mission Valero (41BX6), San Fernando, Villa de Béxar, Mission San José (41BX3), and during other excavations conducted at Presidio de Béxar (41BX179). This type has also been recovered at the Spanish Colonial sites in Florida, dating to the late seventeenth to early eighteenth centuries (Cohen-Williams and Williams 2004:27-28; Deagan 1987:82; Fox and Ulrich 2008:72).

Puebla Blue on White

The second most common type of Spanish Colonial majolica in Texas is Puebla Blue on White. It is the most widespread of the majolicas and appears to have the longest manufacturing span, 1650-1830 (Deagan 1987:83; Fox and Ulrich 2008:80; see also Gerald 1968:43; Lister and Lister 1987:346). Therefore, it is difficult to use the ware to define a tight date range of occupation because the manufacturing spans a large portion of the period. It is also the most widespread variety throughout the Spanish Colonial Americas (Deagan 1987:83). Originally, the type consisted of every blue and white decorated majolica, with no distinction between designs or motifs (Fox and Ulrich 2008:80; Goggin 1968:190-195). As research progressed on Spanish Colonial ceramics, specific variations were assigned to new types. Puebla Blue on White is often referred to as a ceramic Tradition, due to the many variants of the color use.

Puebla Blue on White is characterized by blue decorations over a white enamel glaze. The paste is typically cream colored. The designs on the vessels consist of a band or bands at the rim, with petal-like brush strokes just beneath. Floral figures are sometimes placed at intervals below the bands. The central design is usually in the shape of a crane or a floral motif. Other elements found on Puebla Blue on White include dots, lines, and lobes (Deagan 1987:84; Fox and Ulrich 2008:80).

Puebla Blue on White II

Puebla Blue on White II is a variation of Puebla Blue on White. The type is restricted to cups and small bowls. Puebla Blue on White II is common at Texas Spanish Colonial sites, but it has also been recovered in Florida and California as well, although lumped into the Puebla Blue on White (Cohen-Williams and Williams 2004:8, 12-18; Deagan 1987:84-85). This type has the same creamy white background glaze but exhibits two to three pale blue bands just under the rim. Under the bands are petals or floral designs in a darker blue with additional thin pale blue bands underneath. A trio of dark blue dots is another design noted on Puebla Blue on White II. The paste of the sherds is typically tan (Fox and Ulrich 2008:98). It is believed that the ware made its way to Texas between 1775 and 1800 (Fox and Ulrich 2008:98; Ricklis et al. 2000:110).

Puebla Molded Blue on White

Molded Blue on White is another variation within the Puebla Blue on White Tradition. Often mistaken as San Agustín at first glance, Molded Blue on White had a few characteristics that separate it from the rest. The main separating characteristic is that the rims of the type exhibit scalloped shaped molding. In addition, Molded Blue on White does not exhibit black accents and tends to have more of the white enamel glaze exposed rather than covered in blue decorations (Fox and Ulrich 2008:84; see also Gilmore 1974:51). Molded Blue on White majolicas were most likely produced in Mexico between 1775 and 1800 (Fox and Ulrich 2008:84).

Puebla Plain (Undecorated)

Typically, one of the largest portions of ceramic assemblages at Spanish Colonial sites, Puebla Plain represents the undecorated tin-glazed sherds. The classification of "Undecorated" and "Puebla Plain" in the tin-glazed category is interchangeable. These sherds exhibit the creamy white enamel with no other distinguishing marks. It is possible that some sherds deemed as "Puebla Plain" or "Undecorated" are just small fragments from a decorated vessel. The Puebla Plain variety exhibits a paste color that ranges from cream to a pale orange. Due to lack of characteristics that can give a firm manufacturing date, it is believed that Puebla Plain was a common type from 1700 to 1850 (Fox and Ulrich 2008:74; see also Lister and Lister 1974:30).

Puebla Blue on Blue

This type has been called Puebla Blue on Blue in Texas, although it has been referred to as Blue Wash Variant of Puebla Blue on White (Florida Museum of Natural History [FMNH] 2007; Fox and Ulrich 2008:102; Schuetz 1969:56). Puebla Blue on Blue is distinctive due to the blue wash that was added over the blue decorations on the interior of the vessel. Decoration motifs noted have consisted of geometric and floral patterns. A dark blue rim band is typical. The exterior of the vessel exhibits pale blue interconnecting loops similar to San Agustin (Fox and Ulrich 2008:102). The type is thought to be manufactured in Puebla, Mexico, and appears in Texas between 1775 and 1830 (Fox and Ulrich 2008:102; Lister and Lister 1974:34).

San Agustín Blue on White

There are several Blue on White varieties of Spanish Colonial majolicas that are typically encountered in Texas. San Agustín Blue on White is one type that is part of the Puebla Blue on White Tradition. San Agustín is characterized by the use of light and dark blue designs on the vessels (Fox and Ulrich 2008:78; see also Goggin 1968:187-189). The glaze is a bright white over a paste of cream to light buff.

Early designs noted on San Agustín wares consist of floral designs on the rims surrounding a central motif that can be a human figure (Deagan 1987:82; see also Fox and Ulrich 2008:78). At times, space is filled with light blue and dark blue dots, light blue hatching, and light blue outlines. The majority of the interior of the vessel is covered in design. On the exterior, light blue loops are noted (Fox and Ulrich 2008:78).

This type has been found at Texas, Florida, and California Spanish Colonial sites (Barnes and May 1972:31; Cohen-Williams and Williams 2004:8, 23-25; Deagan 1987:82-83; Fox and Ulrich 2008:78). The earliest date of manufacture is suggested to be 1700, as it is located in Florida at sites that predate the Texas sites (Deagan 1987:82; Goggin 1968:27, 189; Smith 1965:84). Due to presence at Californian sites, it is believed that the wares were manufactured to approximately 1780 (Barnes and May 1972:31).

Huejotzingo Blue on White

Another variant of Puebla Blue on White is Huejotzingo Blue on White (Fox and Ulrich 2008:82; Goggin 1968:196). This ware is named after the town of Huejotzingo in Puebla, Mexico. The paste and glaze of the Huejotzingo is very similar to the Puebla Blue on White. A creamy white glaze covers a cream to buff paste. Decoration consists of a single blue band at the rim. Some variations within the type include green or yellow bands (Cohen-Williams and Williams 2004:8, 18-20, 58-59; Fox and Ulrich 2008:82). It is believed that the blue variety is the earliest, with green and yellow entering the type later and not as common (Barnes and May 1972:33-34; Fox and Ulrich 2008:82).

Aranama Polychrome

The Aranama Polychrome Tradition encompasses a group of decoration styles that utilizes the color scheme of orange, yellow, green, and brown/black. The types within this tradition exhibit the characteristic outlined orange rim band. The sherds that cannot be attributed to the distinctive decoration design types are referred to as Aranama Polychrome. The Tradition appears to have entered the record after the Puebla Blue on White Tradition. The Aranama types were manufactured during the second half of the eighteenth century. There are several types of majolicas within the Aranama Polychrome Tradition (Barnes and May 1972:30; Fox 2002; Nickels 2000).

The Aranama Polychrome is the catch-all type for the majolicas exhibiting orange and green decoration but that do not exhibit characteristics that allow them to be separated into a specific type (Fox and Ulrich 2008:86; Goggin 1968:196-198). The type is characterized by a creamy glaze with an orange or yellow band bordered by brown/black lines. The central designs noted have been floral, geometric, and human figures (Deagan 1987:87; Goggin 1968:Plate 2, 2l; Smith 1965:91). The paste is typically a pinkish tan to tan in color. The Aranama majolica sherds encountered in Texas are likely manufactured between 1750 and 1850. It is believed that this ware was manufactured between 1750 and 1850 (Barnes and May 1972:12, 34; Deagan 1987:87; Fox and Ulrich 2008:87; Goggin 1968:198).

La Bahía Polychrome

This type was identified by Fox at Presidio La Bahía in Goliad and does not appear to be found outside of Texas (Fox and Tomka 2006; Fox and Ulrich 2008:92). The decoration on the La Bahía wares consists of a yellow-orange band that is bordered by brown around the rim and the cavetto. Blobs of yellow, orange, and green are painted on the body, with dots and brush strokes of blue. Thin brown/black lines connect the bands at the rim and cavetto. The colors exhibited on this type of Aranama Tradition ware are not as vibrant as other types. The paste is often pink (Fox and Ulrich 2008:92). Due to the dates of occupation at Presidio La Bahía, it was inferred that the dates of manufacture are between 1750 and 1820 (Fox and Tomka 2006; Fox and Ulrich 2008:92). Similar to the other Aranama Tradition varieties, it is believed that La Bahía Polychrome originates out of Puebla, Mexico.

San Elizario Polychrome

As part of the Puebla Blue on White Tradition, San Elizario Polychrome exhibits a vibrant blue and white coloring. The ware was first separated as its own type in 1968 after previously being called Puebla Polychrome II (Fox and Ulrich 2008:96; Gerald 1968:45; Snow 1965:28-29). San Elizario Polychrome is common at most Spanish Colonial sites in Texas (Fox and Ulrich 2008:96).

San Elizario is very similar to Puebla Blue on White in design. They both exhibit petals and floral designs under a blue rim band. The central image is typically a crane-like figure. What separates San Elizario is the use of brown/black lines bordering the rim band and also used as accents on the floral images and the crane (Fox and Ulrich 2008:96; Gerald 1968:45). The paste is usually pink, but cream-colored sherds have been encountered. San Elizario appears to be common in Texas between 1755 and 1780 (Ivey and Fox 1999:37), although dates of manufacture are likely 1750 to 1850 (Fox and Ulrich 2008:96; Gerald 1968; Goggin 1968).

San Diego Polychrome

San Diego Polychrome is one of the varieties within the Aranama Tradition (Barnes and May 1972:36). The floral motif of San Diego Polychrome sets it apart from the rest. The ware has been found at many Spanish Colonial sites in Texas that were occupied during the latter part of the mission period. The dates of manufacture are thought to be 1770 to 1800 (Barnes and May 1972:35; see also Fox and Ulrich 2008:88).

San Diego Polychrome exhibits a creamy enamel glaze with the characteristic Aranama orange band. Beneath the band, colorful balls in yellow, green, and brown are outlined with black. In addition to the balls, there are triangles of yellow and green, and there are blue dots that are not outlined. The paste of the vessels is typically cream to red.

Monterey Polychrome

Another variety of the Aranama Tradition is Monterey Polychrome (Barnes and May 1972). The ware exhibits a creamy enamel glaze with decorations in green, yellow, and orange with black accents. Similar to the other Aranama varieties, Monterey exhibits the orange band along the rim of the vessel. The central design piece is typically a stylized cornstalk (Cohen-Williams and Williams 2004:41; Fox and Ulrich 2008:90).

Monterey Polychrome is found at sites that exhibit the latter portion of Spanish Colonial occupation. In Florida, Monterey Polychrome can be found at sites occupied after 1784 (Deagan 1987:88). In California, the ware appears at sites occupied between 1800 and 1830 (Barnes and May 1972:36; Fox and Ulrich 2008:90). In Texas, Monterey Polychrome is found at sites occupied after 1750 (Ivey and Fox 1981:35). It is believed that the dates of manufacture were between 1775 and 1830 (Fox and Ulrich 2008:90).

Orange Band Polychrome

Although it exhibits a similar color scheme, the Orange Band Polychrome majolica is not part of the Aranama Tradition (Fox and Ulrich 2008:94). In Texas, the ware is essentially a multi-colored version of Puebla Blue on White. Exhibiting a similar pattern as Puebla Blue on White, Orange Band Polychrome has an orange band outlined in black/brown with green "petals" hanging from the band. It is likely that the type was manufactured in Mexico between 1775 and 1800 (Fox and Ulrich 2008:94; May 1975:123).

Thin Blue and Brown on White

A unique type to Texas is the Thin Blue and Brown on White. Schuetz (1969:57) first encountered the type during excavations conducted at the San Antonio Missions in the late 1960s. Examples of Thin Blue and Brown on White have not been found at Spanish Colonial sites in California or Florida (Cohen-Williams and Williams 2004; Deagan 1987; Fox and Ulrich 2008:104).

Similar to other majolicas, the ware exhibits a creamy white enamel glaze. The decoration on the vessels consists of delicate brown and blue floral designs and occasional black accents. The sherds encountered are often thin. The thinness mixed with the delicate designs indicates that Thin Blue and Brown on White was a finer ware (Fox and Ulrich 2008:104). The manufacturing location of Thin Blue and Brown on White is unknown, but it is believed that the ware dates from 1775 to 1800 (Fox and Ulrich 2008:104).

Tumacacori

Tumacacori is a majolica type that was manufactured at the end of the Mission period, with the first variety made during the secularization of the Texas missions (Fox and Ulrich 2008:106). One of the easiest majolicas to identify due to its Robin's egg blue, Tumacacori has been encountered at Texas Spanish Colonial sites that had late occupations. The date of manufacture, according to the types that are typically encountered at Texas sites, is between 1820 and 1860 (Fox and Ulrich 2008:105).

Guanajuato Polychrome

Another type of majolica manufactured in Mexico during the nineteenth century is Guanajuato Polychrome. This type is distinctive from all the rest due to its unique color scheme and terra cotta colored paste. In addition, the enamel glaze has a green hue. Designs on Guanajuato include geometric patterns, dots, wavy lines, and floral motifs (Fox and Ulrich 2008:108;

McKenzie 1989:1). Although there appear to be distinctive decoration motifs, Guanajuato Polychrome has not been subdivided into additional types. Dates of manufacture are estimated to be between 1800 and 1850, and this type appeared in Texas during the early nineteenth century (Fox and Ulrich 2008:108).

Esquitlan Polychrome

Esquitlan Polychrome is a late majolica that possibly originates out of Guanajuato, Mexico. The ware exhibits a white to creamy white enamel that has decorations in blue, light blue, brown, black, rust, orange and yellow. The paste is typically buff. Decoration motifs include bands and lines, especially at the rim and the edge of the well, crude floral designs, and black accents. Esquitlan Polychrome was manufactured from 1800 to 1900 (FMNH 2007). The type is found in Florida, the Yucatan Peninsula (Rogers 2010), Puebla, Mexico (Newman 2013), and possibly in New Mexico (Atherton 2013). The recovery of a single sherd at the excavations at the Plaza de Armas Buildings appears to be the first occasion that Esquitlan Polychrome has been encountered at a Texas Spanish Colonial site.

Delftware

Delftware is a type of tin-glazed ceramic that is manufactured in England and Holland. This type of tin-glaze has some very distinctive differences when compared to majolicas. The paste of the sherd was cream in color and was softer than that of majolica sherds. The white enamel tends to have a bluish tint, and it is typically not as glossy as a Spanish or Mexican made majolica. The tin glaze on Delftware does not bond to the paste as well as on majolicas, resulting in flaking. Cobalt blue designs are found in a variety of styles.

Faience

Another variety of tin-glazed ceramics recovered at Spanish Colonial Texas sites is faience. Faience is manufactured in France and resembles the Mexican made majolicas (see Avery 2008; Lane 1970; Waselkov and Walthall 2002). Similarities can be seen in the paste texture and color, but it is the enamel that indicates the difference. Faience exhibits a tendency for the enamel glaze to flake off the sherds, exposing the paste. This is a characteristic that is hardly ever seen on majolicas. Faience was produced in Normandy during the early and mid-eighteenth century (Blanchette 1981:33; see also Waselkov and Walthall 2002:63). Faience brune and Faience blanche are the two types found in Texas (Fox and Ulrich 2008:110). Faience brune uses a dark brown lead glaze on the outer part of the vessel and a white or very pale blue on the inner (Fox and Ulrich 2008:110; see also Waselkov and Walthall 2002:63). Faience blanche has the white enamel glazing on both the exterior and interior surfaces of the vessel and often exhibits a blue tinge similar to Chinese porcelain (Calhoun 1999:349-350; Fox and Ulrich 2008:110). Evidence of faience at Spanish Colonial sites in Texas is greater at locations that are closer to French occupation areas (Calhoun 1999:350; Fox and Ulrich 2008:110).

Nineteenth to Twentieth Century

Earthenware

Annular Ware

Annular ware is a variety of earthenware sometimes referred to as banded slipware. Very early versions were characterized by a white slip over a red earthenware that was decorated with a checkerboard pattern. It appears that the earliest manufacture of Annular ware began in the 1760s (Carpentier and Rickard 2001:115-134). The process of producing Annular ware became more streamlined with the introduction of the engine-turning lathe (Carpentier and Rickard 2001). The engine-turning lathe allowed for a more precise application of the slip bands as well as cutting geometric patterns into the leather-hard vessel. By the 1780s, the technique had taken off, and many potters were producing Annular wares (Carpentier and Rickard 2001). There are several different decoration styles within the Annular ware type, and these would have been common throughout the nineteenth century. Many of the potters were based in England, but by the latter half of the 1800s, the Unites States had entered the market.

Creamware

Creamware is a variation of a high-fired, refined earthenware that exhibits a cream color throughout the paste. Production of this earthenware began around 1750 in England. The Florida Museum of Natural History places a date range of 1762 to 1820 on the ware in Florida (FMNH 2007). Creamware was a precursor to white earthenware. Initially thought to have originated due to a

fault in the manufacturing process, the Staffordshire potteries marketed the ware to the public. Under the marketing schemes of Wedgewood and Bentley (two of the most popular of the Staffordshire potteries), Creamware rivaled porcelain in sales. For over two decades, Creamware affected the development of the English porcelain manufacturing and cut into the sales of porcelain factories (Miller and Hunter 2001). Undecorated creamware was affordable, and common households were quick to acquire it. Much of this desire was fueled by Wedgewood's sales of creamware to Catherine the Great and Queen Charlotte (Miller and Hunter 2001). Creamware's popularity waned with Wedgewood's introduction of China Glaze, which tried to mimic the style of Chinese and British porcelain more closely. Production of the ware was high until the mid-nineteenth century.

Edgeware

Edgeware are ceramics that exhibit a decorated edge that is incised, molded, or painted to look like a shell or feather design. The common color and design was a blue feather edge, which would have been common around the 1860s. Other colors that have been noted at other historic sites include green and red. Aside from the edge, there typically are no other decorations on Edgeware vessels, although on rare occasions there is a central motif. Edgeware was imported from England as early as 1750 and was popular until the second half of the nineteenth century (Miller 1991:6; Tennis 1997:4). Although considered an economical ceramic variety, Edgeware was found in many households regardless of socioeconomic status (McAllister 2001). This was partly due to the amount of Edgeware that was imported. At one time, Enoch Wood, a producer of Edgeware, shipped a consignment of Edgeware to America that consisted of 262,000 pieces (McAllister 2001:5). By 1818, the cost of purchasing a piece of Edgeware was less than purchasing Creamware due to the supply of the former (McAllister 2001).

Handpainted White Earthenware

Handpainted white earthenwares exhibit a very distinctive floral decoration. As the name suggests, the decorations are handpainted onto the vessel surface. Handpainted decorations are applied under the glaze. The decoration is identified by the visible brush strokes and the use of vibrant colors in green, blue, red, fuchsia, and yellow. Black accents are present, depicting stems and outlines.

Handpainted wares are found on sites in San Antonio dating from as early as the 1830s through the 1870s. The transport by train of many goods from Mexico or the Gulf Coast became easier and more cost effective.

Ironstone

Ironstone is a form of white earthenware that has been fired at higher temperatures creating a more vitreous paste. Ironstone was created in response for a need to create durable wares similar to porcelain. The first versions of Ironstone were produced in England and France circa 1805. By the 1850s, Ironstone was in production in American potteries. Seen as a heavy-duty ceramic type, Ironstone became a common addition to homes and businesses by the mid- to late nineteenth century. Ironstone became the prominent type utilized in hotels.

Ironstone differs from white earthenware because it is has a less porous paste, but it is more porous than porcelain. Ironstone vessels are typically heavier due to the denser paste and thicker walls in comparison to White Earthenware. It must be noted, though, that makers' marks may indicate that the vessel is Ironstone, but it does not meet the criteria (i.e. the paste is porous).

Spongeware and Spatterware

Spongeware and Spatterware are terms often used interchangeably although their process of manufacture and characteristics differ. On small sherds, though, it may be a more difficult to determine between the two wares. Traditional Spongeware decoration is applied by daubing paint onto the vessel using a sponge or cloth (Tennis 1997:4; see also Ulrich et al. 2010:69). Some experts have referred to vessels exhibiting this technique as "dabbed ware" (Kelly et al. 2001:7). Spatterware, on the other hand, is created by applying a powder or a powder mixed with oil to the biscuit-hard vessel body by means of blowing it through a tube. Spatterware was considered an expensive ceramic (Kelly et al. 2001:6) and appears to predate Spongeware. Spongeware appears in the record around the time that Spatterware was going out of production, possibly because Spongeware was a less expensive version of a colorful ware (Kelly et al. 2001).

Transferware

Production of transferware was first seen in England during the mid-eighteenth century, and Transferware vessels became a popular commodity during the remainder of the eighteenth century and throughout the nineteenth (Tennis 1997:6). English potteries were the prime supplier of Transferwares to America until the 1890s (Ulrich et al. 2010:69). The process of creating a Transferware vessel consists of several steps. Vessel forms are created and fired to the biscuit state. The desired design plate is inked and transferred (printed) onto a tissue. The inked tissue is then placed on the biscuit vessel to allow the print to transfer. Once the design is on the vessel, it is fired with a glaze. Transfer prints are typically under the glaze and are monochrome. A variety of Transferwares that would be considered polychrome due to the addition of handpainted details are referred to as Transferware with clobbering.

The early versions of Transferware that made their way into San Antonio were manufactured in England. It was not until the 1850s that American manufacturers started producing the ware. It took several decades before the American factories were able to pose as viable competition to the British manufacturers. With the arrival of the railroad in San Antonio in the 1870s, the quantity of Transferware likely increased in the area.

Porcelain and Semi-Porcelain

Ch'ing Blue on White

Similar to Ch'ing Polychrome, Ch'ing Blue on White exhibits a blue-tinged paste and glaze. Decoration on Ch'ing Blue on White is applied under the glaze. Decoration motifs include geometric patterns along the rim while the body exhibits fish, flowers, landscapes, human figures, animals, and architecture (Deagan 1987:99). Dates of manufacture range from the mid-seventeenth century to the early twentieth century (FMNH 2007).

Ch'ing Polychrome

Ch'ing Polychrome is characterized by the bluish-white color of the vessel body for which Chinese porcelains are known. An overglaze decoration of red and gold enamel in floral designs is characteristic. Often, the decoration has become faded due to exposure to the elements, and just a trace of the design and color are visible. It is possible that some may confuse this type with the Chinese Imari variation that has a longer manufacture date range (1700-1780), but Chinese Imari exhibit a blue underglaze decoration.

Two date ranges of manufacture for Ch'ing Polychrome have been noted. The early range (1700-1750) is noted for this variety at the Florida Spanish Colonial sites (FMNH 2007). The later range (1750-1800) is noted by Fox (Fox and Ulrich 2008:112). Fox indicates that the overglaze decoration dates later than the underglaze version.

Stoneware

Albany Slip

Slipping was a common technique potters used to coat the interior and exterior of vessels. Local potters would use a slip made from local clay. During the 1870s, a dark brown slip made of clay that originated from Albany, New York, became a popular variety because it was a reliable coating (Tennis 1997:20). It adhered to the vessel at various firing temperatures, which appealed to potters who dealt with uneven heating (Tennis 1997:20).

Alkaline Glaze

The Alkaline glaze was an inexpensive glaze used throughout Texas during the mid- to late nineteenth century (Tennis 1997:19). The color of the glaze varied depending on the combination of wood ash, sand, and clay within the glaze matrix and the firing atmosphere. The resulting glaze exhibits streaking.

Bristol Glaze

Bristol glaze is a later surface treatment seen on stoneware vessels. The British had perfected this white glaze that created a smooth finish. By 1884, American potters were able replicate the technology (Tennis 1997:20). The Bristol glaze created a vessel that appealed to the public because it appeared clean and sanitary. Bristol glaze is commonly used in conjunction with

the Albany slip. The slip would be applied to the interior of the vessel, while the glaze would be on the exterior. Other examples would exhibit the upper portion of the exterior of the vessel to have Albany slip while the lower portion had Bristol glazing (Tennis 1997:20-21).

Salt Glaze

Salt glaze became the most popular glaze used in America during the nineteenth century, although its use declined during the early twentieth century (Greer 1981; Tennis 1997:20). Salt glazing is unique in that it uses salt to create a reaction with the silica present in the vessel body to create a glaze. Salt is introduced to the kiln as the vessels near vitrification. When the salt hits the heat from the kiln, it transforms into a vapor. The vapor reacts with the silica that has come to the vessel surface during the firing process. The reaction between the melted silica and the salt vapor produces a near colorless glaze that has the texture of an orange peel, while the color of the vessel is dependent upon the iron content of the clay matrix used to construct the body (Tennis 1997:20).

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Appendix C:
Lithic Data Tables Associated with Chapter 10

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Appendix C
Lithic Data Tables Associated with Chapter 10

Table C-1. Chipped Stone Debitage Analysis

Field Specimen Number	Test Unit	Level	Primary Material	Cortical Group	Maximum Length (mm)	Midpoint Thickness (mm)	RGB Values Red - Green - Blue			Initial Group	Final Group	Comments
14	1	4	chert	0	6.88	0.79	182	147	132	19	14	
21	2	3	chert	0	11.43	1.66	170	101	81	22	0	heated
100	7	4	chert	25	52.34	14.31	217	198	187	4	4	
100	7	4	chert	0	35.03	4.95	229	209	197	2	0	
100	7	4	chert	75	32.15	9.69	229	209	197	2	0	
94	7	3	chert	25	48.95	10.2	89	83	35	39	8	heated
89	7	2	chert	0	26.05	7.84	158	100	52	24	10	heated
100	7	4	chert	75	73.33	15.46	203	188	167	13	15	
117	8	2	chert	25	21.24	3.32	48	0	0	49	1	
113	8	1	chert	0	27.5	3.7	125	102	24	28	6	
117	8	2	chert	0	32.74	7.51	195	178	168	15	15	
133	9	2	chert	0	27.46	3.5	69	44	0	45	2	
135	9	3	chert	75	78.86	31.94	79	39	0	42	2	
136	9	4	chert	0	36.12	4.54	140	122	50	26	10	
135	9	3	chert	25	41.6	8.06	142	111	58	25	11	
133	9	2	chert	0	13.48	1.68	182	147	132	19	14	
135	9	3	chert	25	39.01	5.69	182	147	132	19	14	
135	9	3	chert	0	41.91	15.04	195	178	168	15	15	
133	9	2	chert	0	9.63	1.21	204	194	193	7	16	heated
136	9	4	chert	25	50.9	13.31	204	194	189	6	16	
118	11	2	chert	0	35.37	7.14	182	147	132	19	14	heated
110	12	4	chert	0	32.7	4.21	203	176	153	10	15	heated
54	14	3	chert	25	32.48	5.53	62	42	8	47	2	
88	14	5	chert	25	29.72	4.72	94	89	25	37	8	
54	14	3	chert	25	53.93	9.33	195	178	168	15	15	
87	14	4	chert	0	14	1.13	202	153	134	14	15	
91	15	5	chert	75	24.14	6.02	79	58	0	42	2	heated
91	15	5	chert	0	43.07	9.25	94	89	25	37	8	heated
91	15	5	chert	25	31.8	6	195	178	168	15	15	
92	16	5	chert	25	20.61	5.12	50	29	8	48	1	heated
68	16	4	chert	0	38.18	2.62	89	80	19	38	8	
68	16	4	chert	25	43.61	4.57	94	89	25	37	8	
92	16	5	chert	25	33.33	3.3	182	147	132	19	14	heated
64	16	3	chert	25	76.32	21.71	195	178	168	15	15	

Table C-1. Chipped Stone Debitage Analysis, continued...

Field Specimen Number	Test Unit	Level	Primary Material	Cortical Group	Maximum Length (mm)	Midpoint Thickness (mm)	RGB Values Red - Green - Blue			Initial Group	Final Group	Comments
68	16	4	chert	0	28.64	4.46	195	178	168	15	15	
108	16	6	chert	75	62.5	12.29	204	198	194	9	16	
122	17	3	quartzite	0	16.74	2.03	182	147	132	19	0	
56	18	1	chert	0	11.78	1.59	170	101	81	22	0	
65	18	3	chert	0	21.8	3.18	110	81	22	33	5	heated
71	18	4	chert	0	13.56	2.37	125	102	24	28	6	
71	18	4	chert	0	35.47	3.69	125	102	24	28	6	refit
71	18	4	chert	0	38.28	4.01	125	102	24	28	6	refit
56	18	1	chert	0	28.58	7.01	142	111	58	25	11	
71	18	4	chert	0	21.2	1.58	142	111	58	25	11	
65	18	3	chert	75	38.57	8.05	102	102	87	36	12	
71	18	4	chert	0	31.6	6.91	102	102	87	36	12	
65	18	3	chert	25	20.31	4.24	195	178	168	15	15	
71	18	4	chert	0	46.57	7.67	195	178	168	15	15	
71	18	4	chert	0	15.2	1.28	204	194	193	7	16	heated
71	18	4	quartizite	25	30.81	10.34	204	198	201	8	0	
70	19	4	chert	25	20.71	2.09	217	198	187	4	4	
62	19	2	chert	25	56.24	15.26	125	102	24	28	6	
66	19	3	chert	75	34.59	4.74	89	83	35	39	8	
70	19	4	chert	0	25.77	3.41	94	89	25	37	8	
66	19	3	chert	0	27.48	5.83	182	147	132	19	14	
78	19	6	chert	25	33.65	6.71	195	178	168	15	15	
80	20	1	chert	0	20.01	2.32	110	81	22	33	5	heated
80	20	1	chert	0	17.27	4.68	94	89	25	37	8	
80	20	1	chert	75	44.72	14.77	195	178	168	15	15	
98	21	3	chert	75	45.12	12.33	62	42	8	47	2	
90	21	1	chert	0	21.79	3.59	195	178	168	15	15	
75	22	1	chert	0	16.95	2.03	102	45	0	35	0	heated
75	22	1	chert	0	17.69	2.96	120	102	47	29	9	
75	22	1	chert	25	23.15	4.21	203	188	167	13	15	
75	22	1	chert	75	41.92	12.13	203	176	153	10	15	
48	23	3	chert	25	23.31	4.78	87	35	7	40	2	
48	23	3	chert	0	17.43	3.78	64	69	25	46	7	
95	23	7	chert	25	34.09	7.2	89	80	19	38	8	
51	23	1	chert	0	22.56	6.66	142	111	58	25	11	
93	23	6	chert	0	31.98	5.23	182	147	132	19	14	
145	29	1	chert	0	14.48	1.59	217	198	187	4	4	

Table C-1. Chipped Stone Debitage Analysis, continued...

Field Specimen Number	Test Unit	Level	Primary Material	Cortical Group	Maximum Length (mm)	Midpoint Thickness (mm)	RGB Values Red - Green - Blue			Initial Group	Final Group	Comments
145	29	1	chert	75	23.78	3.34	217	198	187	4	4	
145	29	1	chert	0	19.06	3.06	110	81	22	33	5	
147	29	2	chert	0	13.63	3.11	125	102	24	28	6	
145	29	1	chert	0	22.43	3.61	94	89	25	37	8	
145	29	1	chert	25	26.59	5.35	94	89	25	37	8	
151	29	3	chert	75	28.12	7.73	182	128	109	18	13	heated
162	29	5	chert	0	23.57	5.6	204	198	194	9	16	
193	30	8	chert	0	37.04	4.61	37	14	3	50	1	heated
157	30	4	chert	0	17.59	2.83	112	82	0	32	3	
187	30	5	chert	75	21.8	7.14	228	184	165	3	4	heated
146	30	2	chert	0	21.93	6.16	179	179	173	20	0	
195	30	9	chert	0	28.42	4.77	229	209	197	2	0	
197	30	10	chert	75	23.18	5.6	115	46	7	30	0	heated
146	30	2	chert	0	28.79	3.66	125	102	24	28	6	
157	30	4	chert	0	37.02	8.64	125	102	24	28	6	
201	30	12	chert	25	22.88	4.66	125	102	24	28	6	
195	30	9	chert	0	13.38	3.46	64	69	25	46	7	
201	30	12	chert	25	36.19	19.2	64	69	25	46	7	
201	30	12	chert	25	34.63	3.32	94	89	25	37	8	
201	30	12	chert	25	24.47	11.83	89	80	19	38	8	
193	30	8	chert	25	33.22	8.08	120	102	47	29	9	
189	30	6	chert	25	33.36	7.66	140	122	50	26	10	
190	30	7	chert	0	16.11	1.86	142	111	58	25	11	
191	30	7	chert	25	35.28	7.65	102	102	87	36	12	
201	30	12	chert	100	45.58	8.25	182	128	109	18	13	
157	30	4	chert	25	35.96	11.15	182	147	132	19	14	
191	30	7	chert	0	49.11	6.23	182	147	132	19	14	
201	30	12	chert	0	32.37	7.6	182	147	132	19	14	
144	30	1	chert	0	11.75	1.35	195	178	168	15	15	
144	30	1	chert	0	31.25	4.22	195	178	168	15	15	
146	30	2	chert	0	14.24	1.85	195	178	168	15	15	
157	30	4	chert	0	17.15	4.57	195	178	168	15	15	
193	30	8	chert	0	28.41	3.67	203	176	153	10	15	
193	30	8	chert	25	35.35	10.05	195	178	168	15	15	
201	30	12	chert	0	14.6	1.08	193	190	197	17	16	
184	31	1	chert	0	14.34	2.35	79	39	0	42	2	
190	31	5	chert	25	28.26	4.43	62	42	8	47	2	

Table C-1. Chipped Stone Debitage Analysis, continued...

Field Specimen Number	Test Unit	Level	Primary Material	Cortical Group	Maximum Length (mm)	Midpoint Thickness (mm)	RGB Values Red - Green - Blue			Initial Group	Final Group	Comments
190	31	5	chert	0	25.68	4.25	217	198	187	4	4	
183	31	1	chert	0	20.22	8.13	245	245	245	1	0	
185	31	2	chert	0	20.08	2.24	125	93	33	27	5	
188	31	4	chert	25	55.92	18.34	112	77	24	31	5	
190	31	5	chert	0	14.51	1.83	64	69	25	46	7	
185	31	2	chert	0	30.73	4.03	94	89	25	37	8	
185	31	2	chert	75	56.41	10.22	94	89	25	37	8	
190	31	5	chert	0	19.44	3.31	89	80	19	38	8	
194	31	7	chert	25	29.52	4.66	94	89	25	37	8	
184	31	1	chert	0	14.36	2.47	120	102	47	29	9	
190	31	5	chert	0	45.19	12.59	120	102	47	29	9	
192	31	6	chert	25	60.09	29.09	140	122	50	26	10	
196	31	8	chert	0	31.94	2.57	140	122	50	26	10	heated
185	31	2	chert	25	20.81	2.42	182	128	109	18	13	
186	31	3	chert	75	21.73	9.65	182	128	109	18	13	heated
184	31	1	chert	0	18.02	2.62	195	178	168	15	15	
190	31	5	quartzite	0	21.3	8.01	195	178	168	15	0	
190	31	5	chert	75	32.73	10.93	203	188	167	13	15	
196	31	8	chert	25	32.28	7.26	203	176	153	10	15	
192	31	6	chert	75	28.67	8.42	195	178	168	15	15	
202	31	13	chert	0	23.64	8	195	178	168	15	15	
202	31	13	chert	0	41.17	9.71	195	178	168	15	15	
202	31	13	chert	25	27.35	7.31	195	178	168	15	15	
202	31	13	quartzite	75	28.65	8.83	203	184	184	12	0	
176	33	12	quartzite	75	46.02	8.43	48	0	0	49	1	
165	33	6	quartzite	0	35.15	4.39	62	42	8	47	2	heated
167	33	7	quartzite	0	26.61	4.54	69	44	0	45	2	heated
171	33	9	quartzite	0	23.25	6.78	87	45	9	41	2	
176	33	12	quartzite	0	28.65	2.64	62	42	8	47	2	
165	33	6	quartzite	0	40.42	9.19	112	82	0	32	3	
167	33	7	quartzite	0	22.31	5.58	168	153	89	23	0	
171	33	9	quartzite	0	30.35	3.96	170	83	62	21	0	heated
167	33	7	quartzite	0	16.67	2.48	110	81	22	33	5	
167	33	7	quartzite	0	21.06	2.98	110	81	22	33	5	heated
171	33	9	quartzite	0	26.13	4.66	125	102	24	28	6	
171	33	9	quartzite	75	60.1	16.05	125	102	24	28	6	
175	33	11	quartzite	75	57.45	20.24	125	102	24	28	6	

Table C-1. Chipped Stone Debitage Analysis, continued...

Field Specimen Number	Test Unit	Level	Primary Material	Cortical Group	Maximum Length (mm)	Midpoint Thickness (mm)	RGB Values Red - Green - Blue			Initial Group	Final Group	Comments
161	33	5	quartzite	0	31.84	7.57	76	62	21	43	7	
167	33	7	quartzite	0	24.69	5.97	64	69	25	46	7	
161	33	5	quartzite	0	19.24	3.37	94	89	25	37	8	
165	33	6	quartzite	25	43.52	12.21	89	83	35	39	8	
167	33	7	quartzite	0	19.71	3.81	89	80	19	38	8	
172	33	10	quartzite	0	20.24	1.76	89	83	35	39	8	
172	33	10	quartzite	0	44.48	7.98	89	83	35	39	8	
176	33	12	quartzite	0	25.77	3.34	94	89	25	37	8	
176	33	12	unknown	25	27.36	6.19	89	80	19	38	0	
172	33	10	chert	0	12.8	2.42	182	128	109	18	13	heated
170	33	8	chert	0	22.12	4.42	182	147	132	19	14	
171	33	9	chert	0	25.35	8.1	182	147	132	19	14	heated
172	33	10	chert	0	16.07	1.66	182	147	132	19	14	
172	33	10	chert	25	68.08	16.26	182	147	132	19	14	
161	33	5	chert	0	23.82	5.45	203	184	175	11	15	heated
161	33	5	chert	25	38.07	3.92	203	176	153	10	15	
165	33	6	chert	0	22.07	3.96	195	178	168	15	15	
167	33	7	chert	0	26.12	5.04	195	178	168	15	15	
167	33	7	unknown	25	29.47	9.4	203	184	175	11	0	
170	33	8	chert	25	52.94	3.49	195	178	168	15	15	
172	33	10	chert	0	17.12	2.97	195	178	168	15	15	
172	33	10	chert	75	43.7	7.84	195	178	168	15	15	
172	33	10	chert	75	27.8	11.4	195	178	168	15	15	
175	33	11	chert	0	43.81	14.91	195	178	168	15	15	
175	33	11	chert	25	56.69	17.63	203	176	153	10	15	
167	33	7	chert	25	28.02	2.23	204	198	194	9	16	
167	33	7	chert	25	37.78	10.77	204	198	194	9	16	
287	34	9	chert	0	24.96	8.73	48	0	0	49	1	heated
281	34	6	chert	25	28.85	5.5	112	82	0	32	3	refit
281	34	6	chert	75	25.06	3.97	112	82	0	32	3	refit
283	34	7	chert	0	17.19	2.33	193	161	91	16	0	
286	34	8	chert	0	14.51	2.58	216	175	156	5	0	heated
279	34	5	chert	25	18.73	2.65	125	102	24	28	6	heated
281	34	6	chert	0	24.47	3.91	125	102	24	28	6	
283	34	7	chert	0	23.87	4.12	125	102	24	28	6	
279	34	5	chert	0	28.89	3.8	94	89	25	37	8	
288	34	10	chert	25	85.03	23.66	94	89	25	37	8	

Table C-1. Chipped Stone Debitage Analysis, continued...

Field Specimen Number	Test Unit	Level	Primary Material	Cortical Group	Maximum Length (mm)	Midpoint Thickness (mm)	RGB Values Red - Green - Blue			Initial Group	Final Group	Comments
277	34	4	chert	0	11.76	1.15	120	102	47	29	9	
281	34	6	chert	75	24.31	4.72	120	102	47	29	9	
287	34	9	chert	0	35.08	10.48	120	102	47	29	9	
288	34	10	chert	25	37.49	6.53	120	102	47	29	9	
283	34	7	chert	0	25.99	3.21	140	122	50	26	10	
279	34	5	chert	0	17.54	3.92	142	111	58	25	11	heated
281	34	6	chert	0	14.87	1.22	142	111	58	25	11	
277	34	4	chert	0	16.9	1.72	102	102	87	36	12	heated
277	34	4	chert	0	22.99	3.44	102	102	87	36	12	
288	34	10	chert	75	40.44	11.75	102	102	87	36	12	
286	34	8	chert	0	26.38	6.88	182	128	109	18	13	
289	34	11	chert	0	16.77	1.64	182	128	109	18	13	
276	34	3	chert	0	29.33	6.49	182	147	132	19	14	
281	34	6	chert	0	24.14	2.55	182	147	132	19	14	
283	34	7	chert	0	32.34	4.87	182	147	132	19	14	
286	34	8	chert	0	20.66	3.68	182	147	132	19	14	heated
288	34	10	chert	0	30.98	4.75	182	147	132	19	14	
277	34	4	chert	0	15.35	1.9	195	178	168	15	15	
277	34	4	chert	0	32.03	3.05	195	178	168	15	15	
279	34	5	chert	0	29.42	4.31	203	188	167	13	15	
279	34	5	chert	0	36.4	7.2	195	178	168	15	15	
281	34	6	chert	0	39.45	7.03	203	188	167	13	15	
281	34	6	chert	75	21.35	5.25	203	176	153	10	15	
287	34	9	chert	0	22.25	4.04	195	178	168	15	15	
277	34	4	chert	0	19.25	5.24	204	194	193	7	16	
281	34	6	chert	0	22.25	3.79	204	194	193	7	16	
273	35	2	chert	0	13.51	1.5	62	42	8	47	2	
271	35	1	chert	0	15.43	2.8	112	82	0	32	3	
271	35	1	chert	75	69.37	18.79	217	198	187	4	4	
274	35	3	chert	0	15.12	3.53	125	93	33	27	5	
278	35	4	chert	0	24.48	2.44	112	77	24	31	5	heated
274	35	3	chert	0	17.37	1.35	125	102	24	28	6	
278	35	4	chert	0	23.24	2.01	64	69	25	46	7	
271	35	1	chert	25	44.99	6.98	94	89	25	37	8	
273	35	2	chert	0	38.58	12.67	89	80	19	38	8	
278	35	4	chert	0	19.81	3.46	94	89	25	37	8	
280	35	5	chert	25	46.02	10.71	89	83	35	39	8	

Table C-1. Chipped Stone Debitage Analysis, continued...

Field Specimen Number	Test Unit	Level	Primary Material	Cortical Group	Maximum Length (mm)	Midpoint Thickness (mm)	RGB Values Red - Green - Blue			Initial Group	Final Group	Comments
273	35	2	chert	0	14.55	1.91	120	102	47	29	9	
274	35	3	chert	0	25.63	2.49	120	102	47	29	9	
274	35	3	chert	0	21.54	2.85	120	102	47	29	9	
274	35	3	chert	0	19.84	2.51	140	122	50	26	10	
274	35	3	chert	0	14.89	3.21	140	122	50	26	10	
274	35	3	chert	25	16	4.29	140	122	50	26	10	
278	35	4	chert	0	18.06	2.17	102	102	87	36	12	
271	35	1	chert	0	15.45	2.65	182	128	109	18	13	
278	35	4	chert	25	44.14	7.89	182	147	132	19	14	
271	35	1	chert	0	24.27	3.61	195	178	168	15	15	
273	35	2	chert	0	17.56	4.99	195	178	168	15	15	
273	35	2	chert	25	44.28	15.98	195	178	168	15	15	
274	35	3	chert	75	49.71	13.2	203	188	167	13	15	
278	35	4	chert	0	22.71	3.75	195	178	168	15	15	
278	35	4	chert	25	26.89	4.55	203	176	153	10	15	
280	35	5	chert	75	40.07	12.53	203	188	167	13	15	
271	35	1	chert	0	43.22	9.09	204	194	193	7	16	
106	39	1	chert	0	27.03	7.11	217	198	187	4	4	
106	39	1	chert	0	22.37	6.43	89	80	19	38	8	
106	39	1	chert	0	20.2	2.64	140	122	50	26	10	
134	39	4	chert	0	50.85	6.72	102	102	87	36	12	
106	39	1	chert	0	15.44	2.42	195	178	168	15	15	
106	39	1	chert	25	26.81	5.04	204	194	193	7	16	
158	40	1	chert	75	55.31	18.37	228	184	165	3	4	
158	40	1	chert	25	32.22	4.23	193	161	91	16	0	
158	40	1	chert	25	42.22	6.4	193	161	91	16	0	
158	40	1	chert	25	20.39	2.92	74	63	21	44	7	
158	40	1	chert	0	25.02	2.29	94	89	25	37	8	
158	40	1	chert	0	26.24	5.23	94	89	25	37	8	
158	40	1	chert	25	31.57	6.49	89	83	35	39	8	
158	40	1	chert	0	16.1	2.75	140	122	50	26	10	
158	40	1	chert	0	23.1	2.47	102	102	87	36	12	
158	40	1	chert	0	22.23	2.93	102	102	87	36	12	
158	40	1	chert	0	19.85	3.24	102	102	87	36	12	
159	40	2	chert	75	53.07	8.03	102	102	87	36	12	
158	40	1	chert	0	14.78	4.25	195	178	168	15	15	

Table C-1. Chipped Stone Debitage Analysis, continued....

Field Specimen Number	Test Unit	Level	Primary Material	Cortical Group	Maximum Length (mm)	Midpoint Thickness (mm)	RGB Values Red - Green - Blue			Initial Group	Final Group	Comments
159	40	2	chert	75	30.33	4.69	203	188	167	13	15	
158	40	1	chert	0	16.67	2.85	204	194	193	7	16	
158	40	1	chert	0	20.49	3.09	204	198	194	9	16	
158	40	1	chert	0	22.83	3.4	204	194	193	7	16	
158	40	1	chert	0	21.92	3.81	204	198	194	9	16	
158	40	1	chert	25	32.42	7.07	204	198	201	8	16	
158	40	1	chert	25	51.61	11.49	204	194	193	7	16	mechanical
38	50	1	chert	25	17.94	3.51	62	42	8	47	2	
43	50	3	chert	25	27.05	7	62	42	8	47	2	
43	50	3	chert	25	24.42	5.72	103	0	0	34	0	gun flint?
39	50	2	chert	25	72.48	14.29	89	80	19	38	8	
39	50	2	chert	75	34.68	10.14	94	89	25	37	8	
44	50	4	chert	0	15.83	2.76	94	89	25	37	8	
39	50	2	chert	0	30.04	3.88	182	147	132	19	14	
44	50	4	chert	0	14.03	1.71	182	147	132	19	14	heated
44	50	4	chert	0	13.97	2.26	182	147	132	19	14	
43	50	3	chert	0	29.22	2.63	195	178	168	15	15	
43	50	3	chert	0	17.34	3.67	195	178	168	15	15	
39	50	2	chert	0	19.62	4.25	204	194	193	7	16	
44	50	4	chert	0	22.5	3.46	204	194	193	7	16	heated
309	51	5	chert	0	52.49	7.09	89	80	19	38	8	
307	51	3	chert	0	24.9	4.42	182	128	109	18	13	heated

Table C-2. Tools and Cores Data Table

Field Specimen Number	Test Unit	Level	Primary Material	Cortex	Maximum Length (mm)	Secondary Length (mm)	RGB Values Red -	Green -	Blue	Initial Group	Final Group	Type	Comments
135	9	3	chert	0	83.74	32.82	125	93	33	27	5	biface	projectile point
145	29	1	chert	0	55.36	42.64	94	89	25	37	8	biface	adze
123	17	4	chert	0	49.92	26.89	195	178	168	15	15	biface	projectile point
172	33	10	chert	0	37.77	24.76	110	81	22	33	5	biface	gun flint (?)
56	18	1	chert	0	27.29	21.06	102	102	87	36	12	biface	gun flint
292	34	12	chert	0	21.33	21.12	204	198	201	8	16	biface	gun flint
271	35	1	chert	0	24.42	20.53	120	102	47	29	9	retouched	gun flint
142	30	2	chert	0	28.26	26.67	89	80	19	38	8	uniface	gun flint
43	50	3	chert	yes	31.19	25.11	203	184	175	11	15	uniface	gun flint
147	29	2	chert	0	25.49	21.86	195	178	168	15	15	uniface	gun flint
196	31	8	chert	0	40.04	25.77	46	16	3	52	1	biface	broken
172	33	10	chert	0	28.79	23.58	69	44	0	45	2	biface	broken
113	8	1	chert	0	80.66	50.86	94	89	25	37	8	biface	broken
57	18	2	chert	yes	153.68	80.96	89	80	19	38	8	biface	edge
158	40	2	chert	0	55.02	32.28	182	128	109	18	13	biface	broken
68	16	4	chert	yes	74.06	68.82	203	184	175	11	15	biface	edge
91	15	5	chert	0	22.8	22.2	204	194	193	7	16	biface	broken
283	34	7	chert	yes	54.24	33.12	94	89	25	37	8	retouched	scraper
124	39	3	chert	yes	60.73	33.72	94	89	25	37	8	retouched	scraper
170	33	8	chert	yes	41.01	25.97	229	209	197	51	0	retouched	graver
171	33	9	chert	yes	32.97	30.69	125	102	24	28	6	uniface	scraper
176	33	12	chert	yes	32.01	24.77	195	178	168	15	15	uniface	scraper
188	31	4	chert	yes	35.3	25.11	125	93	33	27	5	retouched	
165	33	5	chert	yes	41.48	25.07	142	111	58	25	11	core	heated
195	30	9	chert	yes	54.26	45.53	204	194	189	6	16	core	minimal flakes

Table C-3. Burned Rock Size and Weight

Field Specimen Number	Unit	Level	Maximum Length (cm)	Weight (kg)	Features	Comments
13	1	3	1	0.002	0	heat spall
21	2	3	7	0.055	0	
117	8	2	1	0.002	0	heat spall
136	9	4	1	0.002	0	
87	14	4	1	0.002	0	
87	14	4	5.5	0.055	0	
88	14	5	1	0.01	0	
88	14	5	4.5	0.025	0	
88	14	5	4.5	0.04	0	
88	14	5	3.5	0.02	0	
109	14	6	7.5	0.055	0	
91	15	5	1	0.002	0	heat spall
68	16	2	1	0.002	0	
68	16	2	6.5	0.075	0	
68	16	2	4.5	0.02	0	
64	16	3	1	0.01	0	heat spall
92	16	4	1	0.005	0	
57	18	2	5	0.025	0	
71	18	4	1	0.015	0	
71	18	4	3.5	0.015	0	
72	18	5	1	0.035	0	
72	18	5	3.5	0.005	0	
74	19	5	4.5	0.03	0	
74	19	5	1	0.002	0	
78	19	6	7.5	0.27	0	
81	20	2	1	0.002	0	
81	20	2	3.5	0.02	0	
81	20	2	4.5	0.02	0	
81	20	2	4.5	0.055	0	
81	20	2	5.5	0.06	0	
76	22	2	8.5	0.175	0	
145	29	1	6.5	0.045	0	saw cut
145	29	1	4.5	0.005	0	
147	29	2	1	0.02	0	
147	29	2	4.5	0.01	0	
147	29	2	4.5	0.015	0	
147	29	2	4.5	0.01	0	
147	29	2	4.5	0.01	0	
147	29	2	4.5	0.015	0	
147	29	2	5.5	0.03	0	

Table C-3. Burned Rock Size and Weight, continued...

Field Specimen Number	Unit	Level	Maximum Length (cm)	Weight (kg)	Features	Comments
146	30	2	1	0.015	0	
189	30	6	6.5	0.07	0	
189	30	6	6.5	0.065	0	
189	30	6	7.5	0.13	0	
189	30	6	12.5	0.575	0	
189	30	6	9.5	0.325	0	
191	30	7	13.5	0.565	2	
193	30	8	3.5	0.01	2	
195	30	9	1	0.01	2	
195	30	9	3.5	0.015	2	
199	30	11	4.5	0.04	2	
199	30	11	8.5	0.2	2	
201	30	12	3.5	0.03	2	
201	30	12	3.5	0.015	2	
184	31	1	1	0.002	2	
184	31	1	4.5	0.03	2	
185	31	2	5.5	0.045	2	
185	31	2	6.5	0.055	2	
185	31	2	7.5	0.06	2	
185	31	2	7.5	0.265	2	
188	31	4	1	0.01	0	heat spall
190	31	5	1	0.01	2	
190	31	5	3.5	0.025	2	
190	31	5	10.5	0.435	2	
190	31	5	4.5	0.035	2	
190	31	5	10.5	0.625	2	
190	31	5	5.5	0.045	2	
190	31	5	5.5	0.035	2	
190	31	5	5.5	0.095	2	
190	31	5	9.5	0.47	2	
192	31	6	12.5	1.21	2	
194	31	7	1	0.02	2	heat spall
194	31	7	9.5	0.27	2	
196	31	8	1	0.01	2	
196	31	8	4.5	0.05	2	
196	31	8	5.5	0.075	2	
198	31	11	1	0.01	2	
202	31	13	4.5	0.015	2	
202	31	13	4.5	0.045	2	
202	31	13	4.5	0.025	2	

Table C-3. Burned Rock Size and Weight, continued...

Field Specimen Number	Unit	Level	Maximum Length (cm)	Weight (kg)	Features	Comments
2	33	0	5.5	0.035	0	0-46 cm
2	33	0	5.5	0.04	0	0-46 cm
2	33	0	6.5	0.08	0	0-46 cm
2	33	0	7.5	0.295	0	0-46 cm
165	33	6	1	0.015	0	
165	33	6	4.5	0.025	0	
165	33	6	5.5	0.03	0	
165	33	6	6.5	0.05	0	
166	33	6	3.5	0.015	4	
166	33	6	3.5	0.035	4	
166	33	6	4.5	0.065	4	
166	33	6	5.5	0.05	4	
166	33	6	4.5	0.03	4	
166	33	6	5.5	0.05	4	
166	33	6	5.5	0.065	4	
166	33	6	6.5	0.085	4	
166	33	6	6.5	0.11	4	
166	33	6	6.5	0.095	4	
166	33	6	6.5	0.085	4	
166	33	6	7.5	0.105	4	
166	33	6	7.5	0.115	4	
166	33	6	7.5	0.12	4	
166	33	6	9.5	0.17	4	
166	33	6	9.5	0.35	4	
166	33	6	10.5	0.45	4	
167	33	7	1	0.015	0	
167	33	7	3.5	0.015	0	
167	33	7	4.5	0.045	0	chert
167	33	7	5.5	0.07	0	
167	33	7	6.5	0.05	0	
167	33	7	6.5	0.14	0	
170	33	8	1	0.01	0	
170	33	8	4.5	0.025	0	
170	33	8	6.5	0.09	0	
170	33	8	5.5	0.05	0	
170	33	8	3.5	0.01	0	
170	33	8	4.5	0.03	0	
171	33	9	1	0.02	0	
171	33	9	3.5	0.015	0	
171	33	9	6.5	0.1	0	

Table C-3. Burned Rock Size and Weight, continued....

Field Specimen Number	Unit	Level	Maximum Length (cm)	Weight (kg)	Features	Comments
172	33	10	1	0.04	0	
172	33	10	3.5	0.01	0	
172	33	10	3.5	0.025	0	
172	33	10	7.5	0.15	0	
175	33	11	1	0.01	0	
176	33	12	1	0.025	0	
176	33	12	4.5	0.02	0	
277	34	4	1	0.01	0	
277	34	4	3.5	0.025	0	
277	34	4	8.5	0.24	0	
277	34	4	3.5	0.02	0	
277	34	4	4.5	0.03	0	
283	34	7	1	0.025	0	
283	34	7	3.5	0.02	0	
283	34	7	3.5	0.03	0	
283	34	7	4.5	0.025	0	
271	35	1	1	0.015	0	
273	35	2	1	0.002	0	
274	35	3	5.5	0.025	0	
274	35	4	1	0.025	0	
278	35	4	1	0.015	0	
106	39	1	1	0.002	0	heat spall
124	39	3	3.5	0.005	0	chert
134	39	5	1	0.002	0	
158	40	1	3.5	0.01	0	
44	50	1	1	0.002	0	heat spall
39	50	2	1	0.01	0	
39	50	2	4.5	0.03	0	
43	50	3	1	0.005	0	heat spall

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Appendix D:
Catalog of the Effects of Col. Don Diego Ortiz Parilla at San Antonio in 1760

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Appendix D
Catalog of the Effects of Col. Don Diego Ortiz Parilla at San Antonio in 1760

October 16, 1760 – Archivo General de Indias, Seville (AGI) 1690

Translation by: Dr. Tamra Walter, Texas Tech University

Made possible by: The Texas Presidios Project, funded by the Bob and Kathleen Gilmore Endowment in Spanish and French Colonial Archeology, Texas Historical Commission
Document provided by: The Office of Historic Preservation, City of San Antonio

Memoirs of the effects that exist at San Antonio

Catalog of the effects of Col. Don Diego Ortiz Parilla which exist under the control of his clerk are the following:

Number 1: tied with a knot, one painted black box with 40 pieces of broad, fine Brettanas (type of cloth?)
26 of said narrow sheets
12 Petaquilas of pounce bag thread
11 bundles of up to 40 broad Geneva ribbons
13 pounds, 40 and a half ounces of twisted silk
a bundle of fine beaten Liston Linen, numbers 15
Number 2 with two knots.
A box with 13 fine, broad Brettanas
13 lbs 2 ounces of assorted silk floss
a piece of fine tassel
a piece of woven cloth
10 ½ varas of linen "morles"
37 varas of linen "crea"
70 2/3 varas of landa stockings
(10 or 6?) pairs of women's stockings bordered with gold and silver
a box with 2 patios (storage unit or an item?)
4 fine of Battista Cambray (fine woven white linen)
One said with less than one vara
One fine red cape
10 of said ordinary
A semi-fine Quimon (Guimon?)
A piece of Indianilla china
10 pairs of men's black and white silk stockings/socks
17 cloth shawls of black silk, and red
one said of cotton, one red silk
one said with flakes or specks
Two pieces of Mexican finger eyelet ribbons, blue, and edged- two said red finger eyelets, and crimson
13 pairs of young men's Toledo silk socks
2 pounds and ten drams of gold thread (sheen or shiny, "bizo"), and twine
8 ¾ ounces of silver thread (sheen or shiny, "bizo"), and twine
One pound 6 ounces and 40 drams of gold border lace
One pound, 5 and a half ounces of silver shrimp
Rough, Unpolished, small angel
Two pounds, 4 and a half ounces silver shrimp net broad
One pound, 5 ounces of a gallon of silver, crude, broad
One pound 5 and three quarter ounces crude gallon of gold semi broad
A yard of veil or mantle quartered tips/points

A combined/mixed Madrilena scarf
20 Barcelona scarves
A piece of Captain's lace in two pieces
Three and 3 quarter varas of red ribbon
Three varas of white wraparound skirt/petticoat pieces
Three and two-thirds varas of wide, stained Brettanas
Five and ¼ varas of open, ruan (mixed linen and cotton fabric) packets
Two bulks of hemp cloth semi-fine-
Sixteen varas dark black with silver flowers in three pieces
26 of said in a cinnamon color with silver flowers in two pieces
Five varas of said in green with silver flowers
48 varas and 1/2 of a very smooth cinnamon color
Two small red cloths of Chirlita
39 ½ varas of Sangalete in four pieces
19 pieces of beaten yellow linen, and red
A piece of crimson ribbon from three started eyelets
One of three said started eyelets.
Number 4 with 4 knots-
A box with four knots
Two pieces of linen "morles"
Two patios
26 ¾ varas of Bram.tes (abbreviated place name?)
23 of those the same
2 varas of smooth crimson woolen material
4 ¼ varas of wrought crimson wool material
12 7/8th varas of blue woolen material, smooth
3 varas of smooth, black woolen material
4 ¼ varas of wrought black woolen material
37 varas of blue wool woven with fine flowers "filipichin"
7 varas of scarlet
2/3 of scarlet (cochineal) cloth
24 varas of list woolen stuff
12 varas of cart gold
Number 5, with 5 knots
A box with 5 knots
84 ¾ varas of Roan Florete (a linen or cotton fabric from Rouen with wool brocaded fabrics)
a piece of Bram.te trunk
30 and a quarter varas of semi-fine Bram.te
A quilt of Cuernavaca
4 mantas of Villa Lita
Number 6
A box with 6 knots and it has 2 patios
38 ½ varas of Holland/Dutch socks
51 varas of fine Holland/Dutch socks
17 ¾ varas of black velvet
8 of said are of black velvet

26 ¾ varas of blue bombazine silk and wool cloth
26 varas of mother-of-pearl bombazine
4 3/4 varas of blue bombazine
7 2/3 varas of black bombazine
5 7/8 varas of crimson bombazine
5 1/3 varas of green bombazine
17 ½ varas of wide, shiny manta
3 ½ varas of black satin
4 varas of say blue Taffeta
¾ of black luster
6 ½ varas of blue Pusol (place name in Spain)
3 varas of black taffeta
4 varas of blue taffeta
4 wool cloths with gold and silver ribbons
A box of water ribbons with 6 pieces
Five ¼ varas of Sterling
4 ½ varas of tassel
9 varas of crimson Damask silk
5 varas of blue twilled or worsted wool
Eleven caps of flesh-colored yarn
A fourth of blue cloth from Castile
Less than 5 varas of scarlet
Number 7
A box with seven knots
21 and ½ varas of blue lila (woolen material)
4 wide “languines” mantas
six of said narrow
22 pairs of clean silk stockings
4 papers of gold pack thread
2 masses of silk Revesillo
of said 4 of thread, and silk
said four papers of gold pack thread
5 fourths of Cambray stocking thread
of said four trimmed
7 pounds and 5 ounces of twisted silk
10 pounds 7 ounces of loose silk
Number 8
A crate without a top
3 pieces of scarlet
a piece of sheep skin “Chalona encarnada”
8 pieces of fine “lanquines”
2 pieces of lanquines wide
23 varas of Castile cloth seconds “segunda”
22 varas of small black cloth
21 Mantle Shirts
4 thirds of chocolate

A third of tobacco
Two thirds of children's (Loquetta, Quetta, or Guetta?) shoes
A barrel of whisky/brandy
A piece of blue serge (durable wool)
8 1/3 varas of Florette hemp
On the 15th of October, the below items were referred/remitted to Adn. (abbreviation) Miguel at San Saba:
218 wax candles
866 pieces of pure paper
barley water
13 pairs of spurs
7 horse bridles
7 new (upper) coats
two of same, used
one old
one piece of narrow Poblana mantle
19 2/3 varas of cheap ends "culo baratto"
2 leather jerkins, some used and the other old
40 pieces of iron-one of 25 pounds, and one of 25 ¼ lbs
One dozen (crossed, highway, or walking?) men's Cordoba shoes
Two said of women
Three pairs of saddle pads
A large pair of stirrups
4 bars (wrought iron?)
a load of tobacco
two loads of wheat
two papers of trimming needles
two barrels of whiskey/brandy
9 escopetas
5 new swords with shield, handle, and silver scabbard end
of said one used
18 Pattio mantas
12 pairs of cotton socks. Churches
Account of the effects that exist at the Presidio San Luis de las Amarillas
Today 13th of October, 1760
25 varas of gathered, straight woolen floss
8 ½ varas of black Queretaro cloth
4 varas of Castile cloth mixed
39 varas of coarse sackcloth "sayal"
15 tablecloths "panos de rebozo de tablero"
7 short cloth shawls
12 ½ varas of blue serge
3 ¾ varas of serge, in 4 odds and ends
12 varas of reddish Chalona cloth
13 varas of black breechcloth
11 varas of brown breechcloth
a whole piece of scarlet

9 varas of scarlet m.s
a piece of coarse cotton and wool cloth “bombasi”
21 fine snuff cloths/ handkerchiefs from Puebla
3 ¼ varas of blue handkerchiefs/small cloths
2 ½ varas of table cloth “Demeselilla”
7 pieces of mn.
6 ¼ varas of mn.
all Chinese combs
11 varas of Ruan Florette
3 varas of Ruan of Silessas
11 bags “Guipiles” of saltpeter
a portion of a (tail or possible glue, “cola”)
12 chair draperies/hangings
2 pieces of (legitimate or inherited?) narrow brettana
8 pairs of clean silk socks
6 pairs of young boys socks
6 and ½ thirds of caked panocha (brown sugar)
3 ½ of sugar
8 new Catalan escopetas
2 new cases
1 whole box of chocolate
a tro of whole chocolate
half of a third of chocolate
a tro of whole/complete Bag.to shoes
4 old escopetas
2 new flintlock muskets
7 old cases
4 old swords
an ordinary sword (sounds old?) new
a pair of new saddle pads
three old painted leather (shields or bucklers)
10 (army or camp?) knives
a bridle
a pair of magallanas spurs
7 pairs of saddle back stirrups
12 dozen molinillos (chocolate mill or grinder?)
15 entirely lined hats
17 spades
2 pikes
17 guitars open and broken
5 bars
5 fine cotton (coats or fabrics)
4 of egg yolk color
8 small baskets of pounce bag thread
3 fine ends (capes?) “cabos”
said three ordinary

2 ordinary cotton fabrics
medio cavo (half cape or end half?)
end half of cotton fabric
44 varas of sterling "esterlinga"
24 varas of bombasi (coarse cotton or wool)
9 varas of Penasco silk
7 varas of (refers to a type of silk, "tericianela") silk
a pair of black stockings
6 ½ varas of (wild water plant, "floritu de aguas")
3 ¼ varas of black woolen stuff
6 ¼ of brown colored silk cloth
9 pairs of blue, silk stockings for women
one of mother of pearl color
two pairs of stockings bordered with real gold
three pairs of blue (Turkish, "turquesca") stockings
4 pairs of men's silk stockings, Toledo
2 pairs of Toledo stockings bordered in silk
2 bandillas (strips?)
40 scarves of/from Barz.a (Barcelona?)
6 pairs of black silk veils
8 pairs of threaden understockings
15 sets of gold buttons from jackets and waistcoats
12 sets of silver buttons
40 lbs of twisted silk, loose and in different colors
½ lb of (salon?) "Zalon" thread
4lbs of chambray thread and half (a pound?) chambray
a large paper of abriscasdo lace border
a gross of (trumpets), "trompas"
1lb of silk revesillo
22 pieces of fine twisted silk
5 pieces of wide twisted "battido" ribbon
one of said medium wide
7 pieces of rainbow trimming ribbon
a velvet ribbon in two sections
a piece of water ribbon, mother of pearl trim
6 pairs of metal buckles
2 papers of bells
26 pairs of fine seam scissors
16 big (hit or fighting knives, "golpe grandes")
a paper of gold and silver
Canutillo thread
4 sets of gold and silver button thread
11 pairs of silk epaulets
40 shoelaces
a paper of necklace threads
26 pearl threads

26 little papers of pearl thread
a paper with (tie pins?) “fistoles”
half a piece of ordinary hempen cloth
13.5 ounces of gold braid
2.5 varas of silver braid wide with 2.5 ounces
10 pieces of very ordinary trimming lace
a box with silk buttons
8 button sets of good silk
8 shirts made narrow
5 bundles of white and blue pita (herb used to make thread like flax, “pita”)
5 bundles of Cartagena pita
29 dozen similar waistcoat and upper coat buttons
4 and half of said ordinary
3 ½ dozen strike-a-lights
7 pieces of (lasso tape, “Sintta de Reatta”)
a paper of tinsel
5 bundles of children’s (primer books, “carttillas”)
2 catechism books
12 (stamps or prints, “esttampas”)
a small package with (woven or linen sieves, “telas”)
whole mantle, shiny q.l bino in the mem.a
6 mortar and pestles
9 iron comales
A basket of lavender
One said with rosemary
One said with anise
4 ½ dozen shoes from calf’s leather
7 dozen men’s shoes “sajaos” and closed
2 dozen of women’s shoes
2 large weights
2 small weights
a frame that is not wide
a small, whole frame
one said that is not wide
a steelyard (apparatus for weighing that has a short arm for weighing and a graduated arm which a weight is moved on)
25 lbs of indigo
Gorttani (name?)

San Antonio de Bexar and March 17, 1760

General memory of the effects that were given to Col. Don Diego Ortiz Parilla, from his clerk Don Andres de Iglesias for the supplying of the soldiers in the charge of said Colonel.

Firstly 46 blanket shirts at 6 pesos=276 pesos
41 cloth shawls of Sierra cotton at 16 pesos=656 pesos
20 pieces of (Holland? “mitan”) at 10 reales per vara
21 long cloths of ordinary “poblanos” at 18 reales (rr.s?)
6 cotton tablecloths
5 pieces of poblanas mantles from two thirds of a yard

4 pieces of scarlet cloth
64 coutyard (mantles or blankets)
6 pieces of narrow, medium fine Brittany cloth
four of said wide and of the same quality
32 varas of black English breechcloth
32 varas of black woolen stuff "lila"
6 ½ varas of grain cloth
28.5 varas of Chalona cloth- various odds and ends
two village "poblanas" quilts flesh colored
5 2/3 varas of finished black (shag or woolen) stuff
4 ½ varas of flesh colored (shag heddle thread or maybe satin, "lizo" or "liso"?)
6 ½ varas of blue heddle thread "lizo"
2 ½ varas of grain cloth
Three pieces of whole Morles linen
A piece of Holland stocking with 69 2/3 varas
One said of Holland stocking with 72 ½ varas
A piece with 40 (arrobas?) (@) (25 lbs of weight) and varas 32 and 1/3 of fine line cloth
A piece of Crea linen with 37 varas
One said with 28 varas
One said with 28 varas
All fine from Leon
One piece of linen medium fine with 27 ¾ varas
One of said linen with 40 ¼ arrobas (@) an varas 35 2/3 medium fine
A piece of Roan Florete with 61 arrobas (@) and 95 ¾ varas
A piece of Roan "blancarte" with 41 and 1 third varas
One of said trimmed, with 77 varas of Roan floret
One said of Roan floret with 54 varas
13 1/3 varas of (woolen stuff, "bayette") of Black Castile
1 ¼ more of said black
one bundle with 11 dozen and 10 fine sieve fabrics
13 ½ varas of serge trim
2 2/3 of said in 3 pieces
17 ½ varas of Queretaro cloth in two pieces
5 ¾ said (in three pieces say) of Queretaro cloth
2/3 more of Queretaro cloth
3 ½ varas of (blush colored, "encarnada") Castile bayette in two pieces.5
4 dozen fine Poblano small hanker chiefs (snuff cloths)
18 narrow Chinese (durable cotton cloth, "lanquines")
4 (Arge or Ange?) mantas from China
44 varas of (woolen material), "Calamaco" strip
9 1/3 varas of (linen cloth), "Crea" strip
3 fine (reddish or blush, "encarnados") (ends or trimming, "cabos"?)
one said medium fine
one said fine blue
4 fine reddish (fine cotton fabrics, "guimones")
a piece of fine (a sort of stuff, "Borlon")

6 varas said of the same quality
11 ¼ varas of fine sterling from Bilbao
4 bundles of Geneva ribbon numbering 60, reddish, blue, and green
A bundle of said numbering 80 reddish
One said numbering 80 green
One said numbering 40 blue with 5 pieces
A piece of wide eyelet ribbon, green of 158 varas
One said blue of three eyelets with 157 varas
One said of 2 mother of pearl eyelets with 202 varas
One said crimson from two eyelets with 228 varas
22 ½ pounds of silk floss/thread inn all colors
13 ounces more of silk thread
one cate more of silk, thread with 15 ounces
26 pounds of twisted silk
a bundle of ribbon numbering 40 green 5 pieces and one reddish
20 pieces of small amounts of (beaten or twisted) ribbon from Jaen
2 pieces of crimson piqui from China numbering 80, from white selvage (border or hem, "selvage")
one said reddish of Geneva numbering 80
15 cloth shawls, of black silk
three said reddish silk
one said blue of the same quality
2 said mother of pearl with silver ribbons
one said black of silver
one said of gold and silver silk cloth
one said of colors with ribbons of gold, and gold tips from five fingers
one said of the same quality with gold tips, unattached fingers
one said black of silk with eyelet
one said mother of pearl with eyelet
one said of cotton and reddish silk
5 bulks of super fine Chambray and (lightweight, opaque fabric, "batiste")
2 bulks of medium fine hempen cloth
7 varas of medium fine hempen cloth
4 said of super fine
7 1/3 varas of coarse hemp floret
19 ¾ varas of blue land Cambaya
15 pairs of men's white silk stockings
10 pairs of said the same but black
six said blue, and 4 pairs for women
11 pairs said cochineal crimson
a pair of Italian bordered blue stockings
one said crimson satin
one said blue bordered silk
39 ¼ varas of blue (thin woolen stuff, "lila")
19 ¾ varas of wide (shiny, "lustre") mantle
9 1/8 varas of blue serge
1 ¼ varas of blue cloth from Castile

9 ½ varas of black silk cloth in two pieces
3 ½ varas of black satin
16 1/3 varas of very black with silver flowers in pieces
27 varas said of cinnamon color in two pieces
6 ½ varas of bodkin Piquin from China
37 ¾ varas of blue stamped Phelipechin
12 varas of "carro de oro embinado" of 7/8
a piece of yellow "sangalette" with 14 2/3 varas
8 2/3 varas of said yellow
a piece of whole mother-of-pearl
12 ½ varas of the same, black in two pieces
two pairs of young men's yarn stockings
two button sets from silver head caps
12 said from gold head caps
three sets of button from gold (matting or mat, "pettatilo"?)
54 buttons from silver head caps loose
6 dozen said of note reddish, loose
16 dozen of gold from (matting, "pettatilo") and head caps
six pieces of narrow fine brettanas, (broken or uneven, "de quebrada")
4 said of thin width of 5 arrobas
4 lbs 11 oz. of all-silk cloth in four bundles
10 ½ lbs of half-pound yarn
20 ½ lbs of Salon thread
3 lbs 4 oz of half Cambray thread
16 baskets of muñequilla thread with 22 lbs and 15 oz, gross
18 lbs 4 oz of blue pita (like flax, "pita")
8 oz. of white pita
12 lbs of colored (cart mule rope, "cinta de Reatta"?)
9 lbs 2 oz of white (rope or tape)
22 different Barcelona scarves
8 large scarves of the (mark of the sun, "de la marca del Sol")
5 said Madrid large

Appendix E:
List of Soldiers and Their Weapons before Their Departure from San Luis Potosi to the Presidio de Bexar in 1759

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Appendix E
List of Soldiers and Their Weapons Before Their Departure from San Luis Potosi to the Presidio de Bexar in 1759
October 16, 1760 – Archivo General de Indias, Seville (AGI) 1690

Transcription and Translation by: Adriana Ziga, Office of Historic Preservation

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Listing of soldiers and their weapons before their departure from San Luis Potosí to the Presidio San Antonio de Bexar in 1759

The pay of one daily peso to the Second Lieutenant because before since he was within the number of the 32 soldiers, he had been assigned 4 reales. And now that he rises as chief the 4 additional reales are accredited to him that comprises the 17 pesos with which the referred amount of 629 pesos is completed. The same that Don Domingo de Ypiña, inhabitant and from the commerce of this real as Deputy Administrator of the Real Ramo de Alcars exhibited and handed for the beginning of this mentioned real in which they are finalized, and the same amount of 629 pesos, that said Deputy Administrator handed and exhibited I, Justice Mn Testify in all form of right, it was counted and all was minted with the Mexican seal, and of my lord, and express mandate they received it counted to their satisfaction the said Sub- Lieutenant Don Francisco Espinosa de los Monteros, Sergeant Don Joseph Aldaba and Second Lieutenant Don Juan Joseph Gallardo, and the same expressed amount of 620 pesos was handed whole and complete at their satisfaction to which they renounce to the laws of "no entrego", proof and payment of receipt, as in they it is contained, and so it is certain said tender, and supplement that this commerce made of said amount belonging to the expressed Real Ramo, in virtue of the supreme mandate of the V.C. and auto provided by me on the 11th day of this month of May this receipt was handed in form, and was signed with me said Justicia Mn. The expressed Sub-Lieutenant and Sergeant; and the Second Lieutenant did not for not knowing, being witnesses present, Don Joseph Ensevio de Flores Valdez y Robles, Don Domingo Lopez and Don Juan Bautista de Sotomayor, inhabitants of this real and I authorized and signed=Joseph Frexomill y Figueroa=Francisco Espinosa de los (Monteros)=Joseph de Aldava= de asristta Joaquin de la Zerna Palacios= de assa Joseph Martin (Jioreida) – I said Mayor handed said chiefs the soldiers with the expressed names, weapons, with which each one is equipped in this manner:

- Corporal, Antonio de Chavez, with shotgun, blunderbuss, sword, knife, gun powder container, bullets and three horses.
- Corporal, Joseph Antonio Cortez, with shotgun, blunderbuss, sword, knife, gun powder container, bullets and three horses.
- Simon Antonio de Orozco, shotgun, sword, gun powder container, bullets and three horses.
- Carlos Aleman, shotgun, blunderbuss, cutlass, gun powder container, bullets and three horses.
- Gregorio Hernandez, shotgun, blunderbuss, sword, knife, gun powder container, bullets and three horses.
- Joseph Lorenzo de Soto, shotgun, sword, gun powder container, bullets and three horses.
- Eufracio Antonio de la Cruz, shotgun, sword, gun powder container, bullets and three horses.
- Joseph Saucedo, shotgun, blunderbuss, sword, dagger, gun powder container, bullets and three horses.
- Diego Francisco de Mendoza, shotgun, blunderbuss, sword, knife, gun powder container, bullets and three horses.
- Juan Gregorio Lopez, shotgun, blunderbuss, sword, knife, gun powder container, bullets and three horses.
- Juan Matias Ordaz, shotgun, blunderbuss, sword, gun powder container, bullets and three horses.
- Felipe Hernandez, shotgun, blunderbuss, sword, gun powder container, bullets and three horses.

- Juan Leonardo Lern, shotgun, gun powder container, bullets and three horses.
- Antonio Flores, shotgun, blunderbuss, sword, gun powder container, bullets and three horses.
- Pedro Joseph Maldonado, shotgun, sword, gun powder container, bullets and three horses.
- Patricio de la Cruz, shotgun, sword, gun powder container, bullets and three horses.
- Pedro Joseph de Olbera, shotgun, blunderbuss, sword, cutlass, gun powder container, bullets and three horses.
- Fernando de Rocha, shotgun, sword, knife, gun powder container, bullets and three horses.
- Asencio Cruz, shotgun, sword, knife, gun powder container, bullets and three horses.
- Francisco Cabrera, shotgun, smallsword, knife, gun powder container, bullets and three horses.
- Estevan de la Cruz, shotgun, sword, gun powder container, bullets and three horses.
- Juan Nicario, shotgun, sword, gun powder container, bullets and three horses.
- Juan Antonio Tuan, shotgun, smallsword, gun powder container, bullets and three horses.
- Joseph Severiano, shotgun, sword, gun powder container, bullets and three horses.
- Felipe Sepeda, shotgun, sword, blunderbuss, knife, gun powder container, bullets and three horses.
- Andres Coronado, shotgun, sword, blunderbuss, gun powder container, bullets and three horses.
- Joseph Manuel Palacio, shotgun, sword, blunderbuss, gun powder container, bullets and three horses.
- Antonio Cuello, shotgun, smallsword, knife, gun powder container, bullets and three horses.
- Joseph Salvador Maldonado, shotgun, sword, knife, gun powder container, bullets and three horses.
- Antonio Ylario, shotgun, sword, gun powder container, bullets and three horses.
- Agustin Morado, shotgun, two blunderbusses, sword, knife, gun powder container, bullets and three horses.

All such people contained in this list, with the weapons and horses expressed in it, chairs and all horse riding harnesses, called roll in the regular form and were handed to said Sub-Lieutenant Don Francisco Espinosa, Sergeant Don Joseph Aldaba and Second Lieutenant Juan Joseph Gallardo, whom all three are equipped with corresponding weapons and horses to their rank and with the said three chiefs this company of 34 people is comprised, all men strong, dexter and expedite, and in addition to the three horses, that each soldier brings, bring the said three chiefs four each one, that with eight that also go to carry bread and meat for their supply that they get complete from this real composing all horse beasts they bring, 113 heads, with which weapons and supplies have been charged to this community without any cost to his majesty and so it is certain that all expressed in this list was received, the said chiefs have signed with me and the other (asistta?), I testify = Joseph Frexomil y Figueroa=De assa Joaquin de la Zerna Palacios=Francisco Espinosa de los (Monteros)=Joseph de Aldaba=de assa Joseph (Mnor Troneyda)– with this said real with 17 of the expressed month and year: I the expressed Justice say that the 32 man with a Second Lieutenant and a Sergeant that by supreme order of his excellency must leave from this real to the presidio in San Antonio de Bexar, are provided with all necessary for their march and with all supplies, weapons and munitions, as noted on the previous list and that I have exhorted them the loyal accomplishment of his majesty's service as I shall order, and so I order that tomorrow 18 of this month they depart from this real, straight to the mentioned presidio and that the expressed squad of 32 men in charge of the Sub-Lieutenant Don Francisco de Espinosa aside from the 50 men that conduct them from the city of San Luis Potosi for the motives I have expressed during my auto of the 16th of this month: and for this auto I order and sign with those of my asistta y testify= Joseph Frexomil y Figueroa= de assa Joaquin de la Zerna y Palacios = de assa Joseph Jean (Morsida) I Don Joseph

de Frexomil, provincial mayor of the saint brotherhood and Justice of this real and mines, de una Sua de las charcas, acting as receptor judge with the witnesses of the assa for not having esna public or real in the way of law: I certify in all form that today 18 of the month of May around 8 in the morning after calling roll all 32 soldiers, listed on this diligence and provided with munitions left this real to the presidio de San Antonio de Bexar sent to speed their way, without wasting time to get to the place of assembly with the Mn they sped up, and with the Sub-Lieutenant Don Francisco de Espinoza at which charge goes the referred people, I wrote a letter to the Captain Commandant of the expressed presidio de Bexar, giving him with all expression reason of the expressed number of 32 men that go to the expedition ordered by his excellency and that these bring 629 pesos determined necessary for 34 jornadas, from here to said presidio at 4 reales a day each soldier, and one peso for each of the three corporals, that lead, expressing in addition that from today 18 the said 34 jornadas begin in case they arrive early to said presidio, he charges and receives from the referred Sub-Lieutenant the remainder of the said money and credit it to his majesty for the subsequent pay that must be done to the said soldiers of said presidio from now on; and so it is certain this certification that I sign with those of my asistta Today May 18 1759, I testity= Joseph Frexomill y Figueroa = de assa Joaquin de la Zerna Palacios = de assa Joseph (Man Moreyda) – at the named Laguna Seca of this my jurisdiction to where I came directing the expressed company of 32 men; today May 19 of the expressed year I said Justice Mn say: that since I just received letter from Don Joseph Joaquin Solis owner of the named San Antonio de la Sierpe of this my jurisdiction where he notifies me that Captain Don Juan Angel de Oyansion under whose command the 50 men from the city of San Luis Potosi go meeting with his company by the said hayda (end of page)

El sueldo de un peso diario a el Teniente de Alférez porque (antes) como que estaba en el numero de los treinta y dos soldados, se le habían regulado cuatro reales. Y ahora que sube de jefe se le acreditan los cuatro reales más que importan los diez y siete pesos con que se completa la referida cantidad de seiscientos veintinueve pesos. Los mismos que exhibió y entrego Don Domingo de Ypiña, vecino y del comercio de este real como Diputado Administrador del Real Ramo de Alcars por

- Cabo de escuadra, Antonio de Chavez, con escopeta, trabuco, espada, cuchillo, frasco con polvora, balas y tres caballos.
- Cabo de escuadra, Joseph Antonio Cortez, con escopeta, trabuco, espada, cuchillo, frasco con polvora, balas y tres caballos.
- Simon Antonio de Orozco, escopeta, espada, frasco con polvora, balas y tres caballos.
- Carlos Aleman, escopeta trabuco, espada, terciado, frasco con polvora, balas y tres caballos.
- Gregorio Hernandez, escopeta, trabuco, espada, cuchillo, frasco con polvora, balas y tres caballos.
- Joseph Lorenzo de Soto, escopeta, espada, frasco con polvora, balas y tres caballos.
- Eufracio Antonio de la Cruz, escopeta, espada, frasco con polvora, balas y tres caballos.
- Joseph Saucedo, escopeta, trabuco, espada, daga, frasco con polvora, balas y tres caballos.
- Diego Francisco de Mendoza, escopeta, trabuco, espada, cuchillo, un frasco con polvora, balas y tres caballos.
- Juan Gregorio Lopez, escopeta, trabuco, espada, cuchillo, un frasco con polvora, balas, y tres caballos.
- Juan Matias Ordaz, escopeta, trabuco, espada, un frasco con polvora, balas y tres caballos.
- Felipe Hernandez, escopeta, trabuco, espada, un frasco con polvora, balas y tres caballos.
- Juan Leonardo Lern?, escopeta, espada, un frasco con polvora, balas y tres caballos.
- Antonio Flores, escopeta, trabuco, espada, un frasco con polvora, balas y tres caballos.
- Pedro Joseph Maldonado, escopeta, espada, frasco con polvora, balas y tres caballos.

- Patricio de la Cruz, escopeta, espada, un frasco con polvora, balas y tres caballos.
- Pedro Joseph de Olbera, escopeta, trabuco, espada, terciado, un frasco con polvora, balas y tres caballos.
- Fernando de Rocha, escopeta, espada, cuchillo, un frasco con polvora, balas y tres caballos.
- Asencio Cruz, escopeta, espada, cuchillo, un frasco con polvora, balas y tres caballos.
- Francisco Cabrera, escopeta, espadín, cuchillo, frasco con polvora, balas y tres caballos.
- Estevan de la Cruz, escopeta, espada, frasco con polvora, balas y tres caballos.
- Juan Nicario, escopeta, espada, frasco con polvora, balas y tres caballos.
- Juan Antonio Tuan?, escopeta, espadín, un frasco con polvora, balas y tres caballos.
- Joseph Severiano, escopeta, espada, frasco con polvora, balas y tres caballos.
- Felipe Sepeda, escopeta, espada, trabuco, cuchillos, un frasco con polvora, balas y tres caballos.
- Andres Coronado, escopeta, espada, trabuco, un frasco con polvora, balas y tres caballos.
- Joseph Manuel Palacio, escopeta, trabuco, espada, un frasco con polvora, balas y tres caballos.
- Antonio Cuello, escopeta, espadín, cuchillo, un frasco con polvora, balas y tres caballos.
- Joseph Salvador Maldonado, escopeta, espada, cuchillo, un frasco con polvora, balas y tres caballos.
- Antonio Ylario, escopeta, y espada, un frasco con polvora, balas y tres caballos.
- Agustin Morado, escopeta, dos trabucos, espada, cuchillo, frasco con polvora, balas y tres caballos.

el comienzo de este dicho Real en quien están rematados, y la misma cantidad de seiscientos veintinueve pesos, que dicho Diputado Administrador entrego y exhibió de luego a luego preste yo dicho justicia Mn de que doy fe en toda forma de derecho, se conto y toda era en moneda acuñada con el sello mexicano, y de mi señor, y expreso mandato la recibieron contada a su satisfacción los dichos Alférez Don Francisco Espinosa de los (Monteros), el Sargento Don Joseph Aldaba, y el Teniente de Alférez Don Juan Joseph Gallardo, y de la misma expresada cantidad de seiscientos veinte pesos se dieron por entregados entera y cumplidamente a toda su satisfacción sobre que renunciaron las leyes del no entrego, prueba y paga del recibo, como en ellas se contiene y se obligaron a la distribución de ella, en la paga diaria de sueldo en la forma que va referida, y para que conste de dicha entrega, y suplemento que hizo este comercio de dicha cantidad perteneciente al expresado Real Ramo, en virtud del supremo mandato de V. C. y Auto por mi proveído a los once días de este corriente mes de Mayo se otorgo este recibo en forma, y lo firmaron conmigo dicho Justicia Mn el expresado Alférez y sargento; y no lo hizo el teniente por no saber, siendo testigos presentes, Don Joseph Ensevio de Flores Valdez y Robles, Don Domingo Lopez y Don Juan Bautista de Sotomayor, vecinos de este Real y lo autorice y firme con los de mi armstta de que doy fe =Joseph Frexomill y Figueroa=Francisco Espinosa de los (Monteros)=Joseph de Aldava= de asristta Joaquin de la Zerna Palacios= de assa Joseph Martin (Jioreida) – Yncontinenti yo dicho alcalde mayor pase a hacerles a dichos jefes la entrega de los soldados con la expresión de sus propios nombres, armas, con que cada uno va pertrechado en la forma siguiente:

Todas las cuales personas contenidas con este listar, con las armas y caballos expresados en ella, sillas, y todos los demás arneses de andar a caballo, pasaron lista en la forma regular y se les entregaron a los dichos Alférez Don Francisco Espinosa, Don Joseph Aldaba Sargento y Jn Juan Joseph Gallardo Teniente de Alférez, cuyas todas tres personas van así mismo equipados con armas y caballos correspondientes a la descendencia de sus personas y con los dichos tres Jefes se compone esta compañía

de treinta y cuatro personas, todos hombres fuertes hábiles y expeditos, y a mas de los tres caballos, que lleva cada soldado, llevan los dichos tres Jefes cuatro cada uno, que con ocho que van demás para cargar el biscocho, y carne para su Bastimento que sacan completo de este Real componen todas las bestias caballares que llevan, ciento y trece cabezas, todo lo cual con las armas, y demás víveres ha costeado este vecindario sin causar costo a su majestad de cosa alguna y para que conste haber recibido todo lo en esta lista expresado, los dichos Jefes lo firmaron conmigo y los demás asistta, doy fe=Joseph Frexomil y Figueroa=De assa Joaquin de la Zerna Palacios=Francisco Espinosa de los (Monteros)=Joseph de Aldaba=de assa Joseph (Mnor Troneyda)– con este dicho Real con diez y siete del expresado mes y año: Yo el expresado Justicia Mn digo que por cuanto los treinta y dos hombres con un Alférez y sargento que por suprema orden de su excelencia han de salir de este Real para el presidio de San Antonio de Vejar, están ya prevenidos de todo lo necesario para su marcha y con todos los víveres, armas y municiones, como consta de la lista que antecede y que les tengo ya exhortado el fiel cumplimiento del servicio de su majestad debo de mandar , y mando que el día de mañana diez y ocho del corriente salgan de este Real, vía Recita para el mencionado presidio y que vaya el expresado piquete de treinta y dos hombres a cargo del Alférez Don Francisco de Espinosa separado de los cincuenta hombres que se le conducen de la ciudad de San Luis Potosí para los motivos que tengo expuestos con mi auto de diez y seis del corriente: Y por este auto así lo proveí mande y firme con los de mi asistta doy fe= Joseph Frexomil y Figueroa= de assa Joaquin de la Zerna y Palacios = de assa Joseph Jean (Morsida) Yo Don Joseph de Frexomil, alcalde provincial de la santa hermandad y Justicia Mn de este Real y minas, de una Sua de las charcas, actuando como Juez receptor con testigos del assa por no haber persona Publico o Real en el Camino del derecho: certifico en toda forma que el día de hoy diez y ocho del corriente mes de mayo como a las ocho de la mañana, andando pasado muestra los treinta y dos soldados, listados en estas diligencias y proveídos con municiones salieron de este Real para el Presidio de San Antonio de Vejar encargados y mandados que aceleren el camino, sin perder instante de tiempo para llegar a el lugar de la asamblea con la Mn aceleraron y con el Alférez Don Francisco de Espinoza a cuyo cargo va la referida gente, escribí carta al capitán comandante del expresado Presidio de Vejar, dándole con toda expresión razón del expresado numero de treinta y dos hombres que van a la expedición que ordena su exa y que estos llevan seis cientos veintinueve pesos que se regularon necesidad para treinta y cuatro jornadas, de aquí a dicho presidio a razón de cuatro reales por día cada soldado, y a peso a cada uno de los tres cabos, a cuyo cargo van, expresándose a si mismo que desde hoy diez y ocho principian a contarse dichas treinta y cuatro jornadas para que si hace llegada a dicho presidio fueren menos, cobre y perciba del referido Alférez la sobra del dicho dinero y la bonifique a favor de su majestad para la subsecuente paga que ha de hacer a los referidos soldados de dicho presidio en adelante; y para que conste asiento esta certificación la que firmo con los de mi asistta hoy diez y ocho de mayo de mil setecientos cincuenta y nueve, doy fe= Joseph Frexomill y Figueroa = de assa Joaquin de la Zerna Palacios = de assa Joseph (Man Moreyda) – en la estada nombrada la Laguna Seca de esta mi jurisdicción hasta donde vine conduciendo la expresada compañía de treinta y dos hombres; hoy diecinueve de mayo del expresado año yo dicho Justicia Mn digo: que por qto acabo de recibir carta de Don Joseph Joaquin Solis dueño de la estada nombrada San Antonio de la Sierpe de esta mi jurisdicción en la que me noticia que el capitán Don Juan Angel de Oyansion a cuyo cargo van los cincuenta hombres de la ciudad de San Luis Potosí a el cruzar con su compañía por la dicha hayda le puso.

Reference Cited:

(AGI) Mexico 1933ª (1759), Archivo General de Indias, Sevilla.