

National Park Service
United States Department of the Interior

San Antonio Missions National Historical Park
Texas

Mission Espada North Gate

Documentation, Condition Assessment, and Treatment Plan

Prepared by:

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Center for Archaeological Research | Center for Cultural Sustainability
November 2019



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Documentation, Condition Assessment, and Treatment Plan

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Abstract

The objectives of this project were documentation and condition assessment of the Mission Espada north gate, including treatment and work recommendations. The total above ground area of the north gate feature is two sections of walls, approximately 4 m by 1.5 m by 0.6 m per section.

Project work included selective archaeological excavations around the two walls, going down to the base of the foundations. All materials collected in the field were cataloged and brought back to CAR for analysis. Materials curated at CAR were put in the U.S. Department of the Interior's Collections Management System (ICMS).

This report includes the condition assessment and drawings/photographs showing the findings of the architectural assessment along with a recommended treatment plan.

The archaeological and architectural reports are herein combined as one document. The final report follows the Council on Texas Archeologists Cultural Management Report guidelines and includes treatment and work recommendations that are compatible with the Secretary of Interior Standards and Guidelines for Preservation. All field notes and photographs are archived with the artifacts at the Center for Archaeological Research, UTSA.

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Acknowledgements

The Center for Cultural Sustainability at the University of Texas at San Antonio would like to thank the National Park Service (NPS), whose funding made this report possible. This project was a joint effort by the Center for Cultural Sustainability and the Center for Archaeological Research at The University of Texas at San Antonio.

The following UTSA faculty, staff, and students contributed to this report:

CCS: William Dupont (Principal Investigator), Dr. Angela Lombardi, Tracie Quinn, Alesia Hoyle, Porter Hehr, Sara Rodríguez Jimeno, Jose Antonio Herrera.

CAR: Dr. Shawn Marceaux, Jose Zapata, Toni Figueroa, Sara Wigley, Megan Brown, Peggy Wall, Aaron Acosta, and Cindy Munoz.

A special thank you goes out to Susan Snow for her leadership and project management on behalf of NPS San Antonio Missions National Historical Park (SAAN).

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Chapter 1

Introduction

Within the northern compound walls of Mission Espada is a historic feature named the north gate. This section of historic fabric is a 1950s stone wall on top of Spanish Colonial foundations. Thought to be built during a phase of reconstruction led by Harvey P. Smith, Jr., a gate has existed at this location since the missionary time period¹, and thus supports the period of interpretation.

This report was triggered by concerns for the structural integrity of the north gate at Mission Espada due to the severity of its lean angle, a dramatically visible rotation of the wall in the southerly direction.

The sense of a mission compound with gates is a character-defining feature of Mission Espada, one of four missions that comprise the San Antonio Missions National Historical Park. The north gate has been researched and undergone archaeological and architectural investigations for this report. The goals of these investigations were first, to understand the methods and materials of construction, second, to assess current conditions, and third, to develop appropriate treatment recommendations in compliance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties*.

To fulfill these goals, standard archaeological methods for excavation and documentation were pursued. Next, a description of the materials and condition assessment of the north gate was completed, along with heritage documentation using drawings and photographs. Finally, a treatment plan was developed to provide recommendations regarding preservation of the north gate's walls.

¹ The north gate has *apparent* Spanish Colonial origins, but for the remainder of this report it will be referred to as of Spanish Colonial origins. See the detailed explanation in chapter two.

Chapter 2

Historical Background

Mission Espada is located on the west bank of the San Antonio River approximately nine miles south of the heart of San Antonio. The site is on a terrace alongside the river. Originally established in 1690 for the Tejas Indians in East Texas west of the Neches River on San Pedro Creek, the mission effort was abandoned in the fall of 1693. It was reestablished 23 years later in 1716, then located on Bowles Creek and renamed Nuestro Padre San Francisco de los Tejas. This second effort failed in 1719 because of competing political aspirations of France, but then reestablished in the summer of 1721 on the same Bowles Creek site and renamed San Francisco de los Neches. In 1729, all three East Texas missions were relocated to San Antonio, where on March 5, 1731, on the west side of the San Antonio River, Mission San Francisco de los Neches became Mission San Francisco de la Espada at its current site (Cargill et al., 2004).

Like all the missions, endeavors were in service to the crown and the primary purpose concerned indoctrination of the multiple indigenous peoples in the region. Being the southernmost of the five missions, farthest from the presidio's soldiers and other Spanish citizens, meant Mission Espada evolved as a frontier settlement. The principal products of the Native Americans living at Espada were related to farming and ranching. For this purpose, they established an extensive irrigation system, and constructed many buildings. Early construction was wood, *jacal* housing. Masonry building projects began in the mid-1740s. In 1756, Fr. Ortiz documented the configuration of Mission Espada including mention of a stone wall enclosing a compound. The church at Mission Espada was planned but never fully completed. A stone building, perhaps planned to become the sacristy of a future church, became the functioning chapel at Espada and is in use today for this purpose (Cargill et al., 2004; Ivey, 2018).

Secularization of the missions, the process of transitioning from leadership by regular missionaries to private land ownership and secular clergy, began in 1794, and full secularization was completed in 1824. Per the Spanish *encomienda* system and politics of that time, most of the Mission Espada land and structures fell into private ownership. Deferred maintenance, due to the declining operation of the mission after 1794, apparently led to further degradation in private ownership. Thus, by 1824 the local city council viewed the missions as sources of reusable construction material (Cargill et al., 2004). Mission Espada witnessed a rebirth in 1858 with the arrival of Fr. Francis Bouchu. He was responsible for the restoration and adaptive reuse of Espada's Spanish Colonial historic fabric (Ivey, 2018). After Fr. Bouchu's death in 1907, the chapel fell out of use until 1916 when Fr. William Hume assumed responsibility (Cargill et al., 2004).

In the 1930s the Works Progress Administration (WPA) and the Historic American Buildings Survey (HABS) documented Mission Espada plus all the San Antonio Missions. During this time, architect Harvey P. Smith conducted an extensive above and below-ground survey of the features at Mission Espada and worked to stabilize and reconstruct several ruins at the mission. Two decades later, in the 1950s and into the early 1960s, architect Harvey P. Smith, Jr., worked with

Archbishop Robert E. Lucey to reconstruct and restore Mission Espada. These efforts included the walls of the Native American quarters on the northwest corner of the mission complex including a gate fortification, the convento, a friary, the ruins of the first granary, the southeast workshop ruins, the walls of the east wall Native American quarters, the northeast wall, the cemetery wall, the delineation of wall lines for most of the historic compound and stabilization of the perimeter wall with a definition of all the historic entrances (AmaTerra, 2017).

Mission Espada, in 1972, was listed on the National Register of Historic Places, and in 1983, the San Antonio Missions National Historical Park was established. A UNESCO World Heritage site nomination for the San Antonio Missions commenced in 2004, was submitted January 2014, and approved July 2015 when the World Heritage Committee voted to inscribe the San Antonio Missions as a cultural site.

Historical Significance

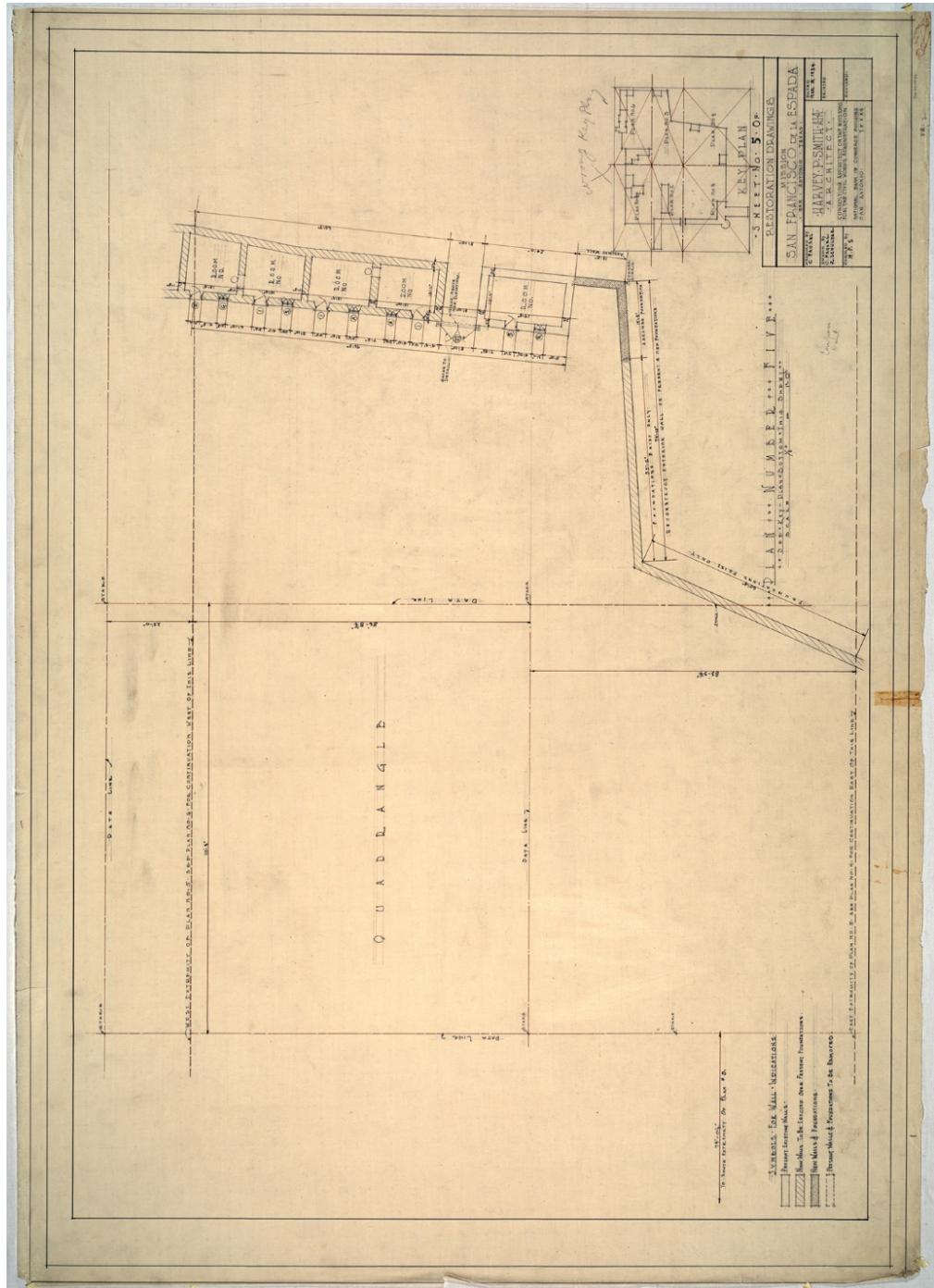
Mission San Francisco de la Espada is the southernmost mission in a chain of five missions established along the San Antonio River as part of the Spanish conquest initiatives in the 1730s. For protection purposes, the compound at Mission Espada was enclosed (Gilbert et al., 1989, p. 6) as a defensive sanctuary. The compound played and continues to play other roles, as well, including vital political, cultural, and economic functions. Mission Espada, in concordance with the other missions of the time period, was directly involved in the military, religious, and cultural development of the Texas frontier and exemplifies a unique record of Spanish Colonial architecture and community planning (Ivey & Thurber, 1983).

Furthermore, Mission Espada epitomizes the historical narrative of the San Antonio Missions—its open landscape to the south exhibits little alteration since the 18th century, most of its farmland is still utilized today, and the irrigation system continues to supply water (Thurber et al., 1993). Associated with the compound is the Espada aqueduct, completed about 1745. It has been continuously maintained and in use to the present day (NPS, 2014).

Mission Espada continues as a living heritage site serving the community in much the same way since its inception, having functional farmlands and church services for a congregation that includes surviving descendants who live in the surrounding area.

The north gate is a spatially defining historic feature at Mission Espada, illustrating an entrance into or exit out of the mission compound. The gate is located along the north wall of the compound, penetrating a section of the now roofless rooms that comprise the north wall. The current configuration of the gate is the result of a mid-20th century construction project, part of north wall reconstruction initiatives completed in the mid-1950s. Archival evidence suggests some type of gate or entrance has been present in the north wall since Spanish Colonial times. However, the current form of the north gate was an added architectural concept envisioned in 1934 by Harvey P. Smith, Sr., as seen on his restoration drawing for the north wall (Figure 2.1).

Figure 2.1: Plans
 drawn in the 1930s by
 architect Harvey P.
 Smith, Sr.—noted for
 WPA-funded
 restoration of Mission
 San José—indicate his
 vision to rebuild the
 collapsed rooms along
 the north wall of the
 Mission Espada
 compound. Notice the
 plans indicate the
 addition of a gate.
 Image courtesy of
 The Alexander
 Architectural
 Archives, The
 University of Texas
 Libraries, The
 University of Texas at
 Austin.



Ultimately completed in the 1950s, the walls at the north gate and others in this area were built atop Spanish Colonial foundations dating from 1756–1762 (see Chapter 4, Ivey & Thurber, 1983). The 20th century construction is a rectilinear feature in two parts, each approximately 4 m by 1.5 m by 0.6 m, and is composed of roughly-coursed sandstone masonry set in portland cement.

Even though the north wall is a somewhat speculative 1950s reconstruction effort, it is built atop colonial foundations and thus provides an aesthetic continuity to the north wall and serves

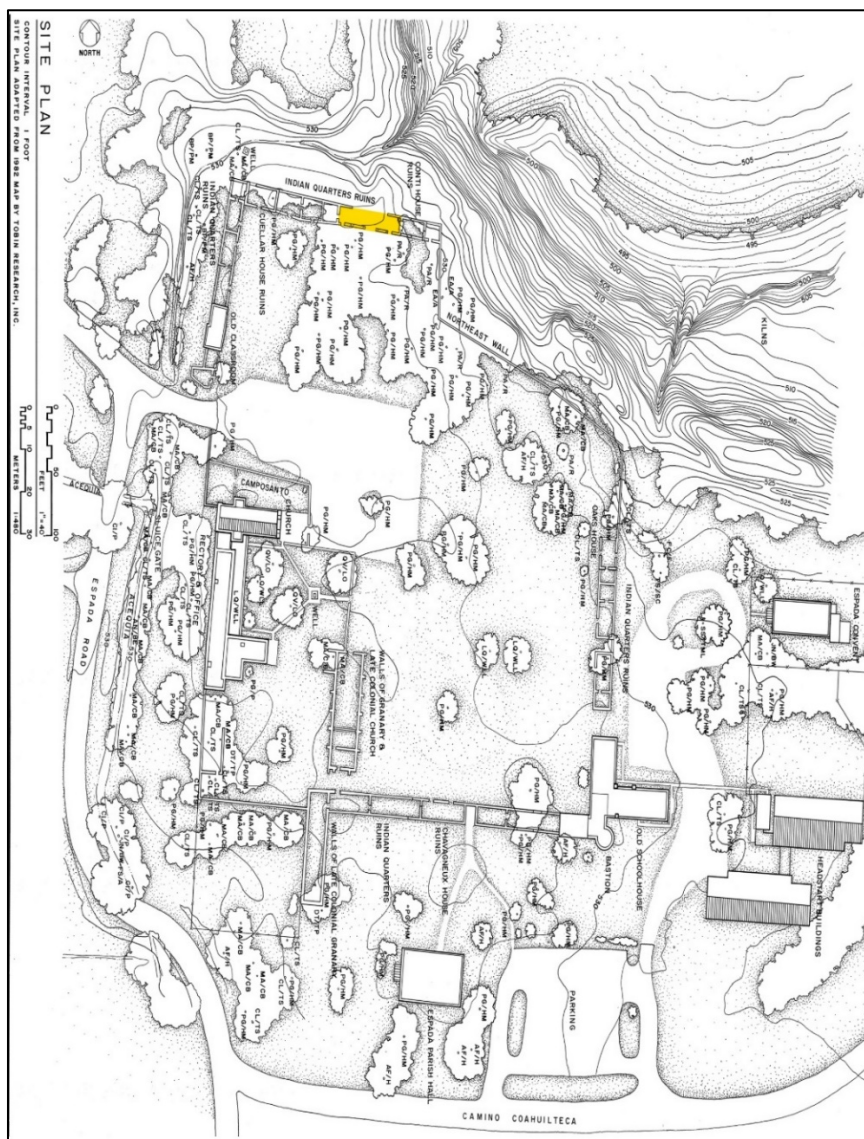
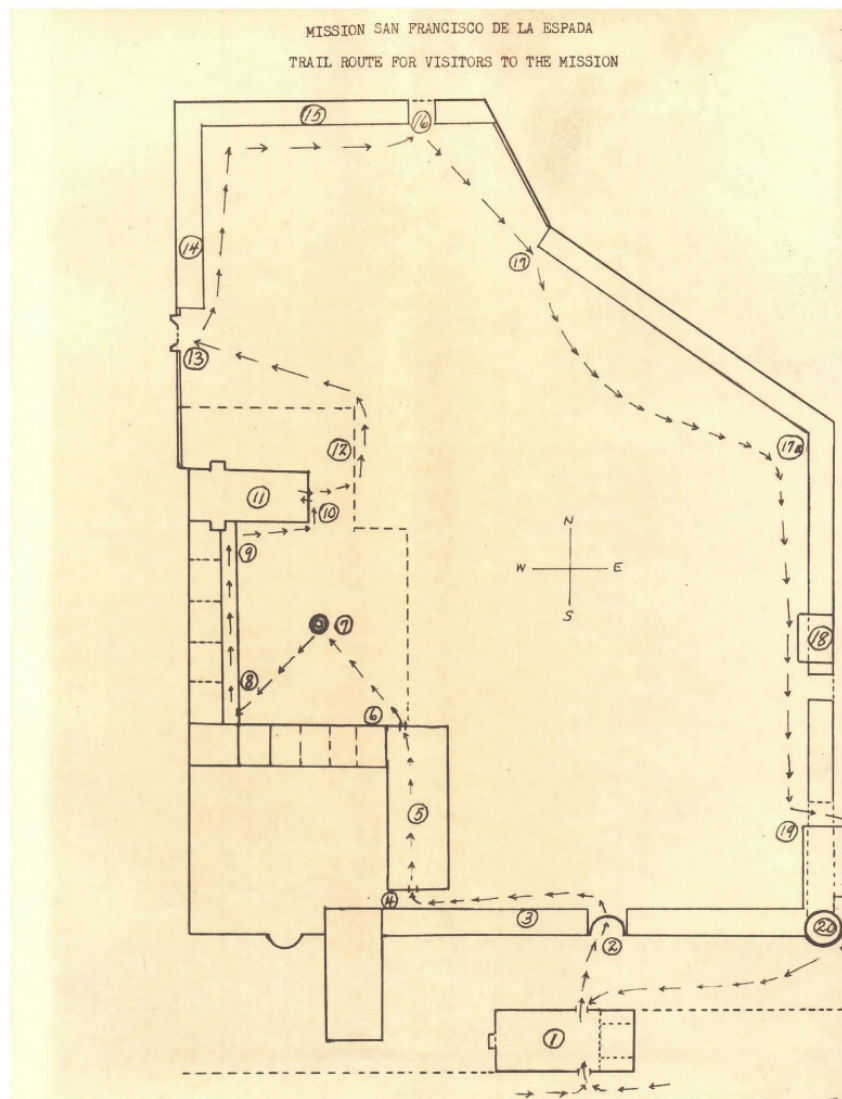


Figure 2.2: HABS drawing from the 1980s shows how the Espada north gate (highlighted in yellow) opening aids rainwater evacuation from the mission compound. Library of Congress, Prints & Photographs Division, HABS TEX,15 SANT.V,2- (sheet 3 of 13).

the overall mission compound narrative. Fr. Marion Habig (1969, p. 11) reported there was once a branch of a smaller acequia north of the wall and south of the San Antonio River farther to the north. Topographic contours on the 1980s HABS site plan (Schlinke, 1982; Figure 2.2 in this report) show the north gate is a natural exit path for surface water runoff (rain) draining out of the north portion of the mission compound, with a steep slope toward the river only 10 meters farther north. Habig's book indicated it was an access point for users of the acequia and San Antonio River just north of Mission Espada (Habig, 1969, p. 11). Connection to water is one of the defining features at all the missions, and the north gate would thus demonstrate this hydrological linkage physically. However, the precise purpose and location of the gate in the colonial time period remains unknown.

Burn pits for production of lime mortar at Mission Espada are located northeast of the mission compound on the slopes of the old riverbank, and likely date from the earliest masonry

Figure 2.3: Fr. Marion Habig in 1969 highlighted the north gate's potential for enhancing the visitor experience at Mission Espada. Image reprinted from Habig's *Mission Espada Interpretive Program*.



construction at the mission—1731 to 1750. The location of the burn pits, acequia water, and a gate all in proximity is logical. Access to water from the compound is useful for many purposes, so a gate near the acequia makes sense. Plus, water is necessary for the lime production process.

Kiln sites would have been selected based on their proximity to the river or acequia (Ivey, 2018, p. 372). The resulting lime putty is heavy, so a short carry distance to storage rooms (for curing) near the construction sites would be convenient (Ivey, 2018, p. 372). Therefore, an access route or gateway from the compound to both a water source and the lime production area was needed, establishing a basis for the location of the north gate. Gilbert et al. (1989, p. 6) also described the compound having three entrances—to the south, west, and north—and north gate entrance being in proximity to the associated lime kilns to the north.

The UTSA research team has encountered a handful of direct references to the term “north gate” in historical documents. Fr. Marion Habig’s *Mission Espada Interpretive Program*, written in

1969, proposed a self-guided walking tour of the mission, which would begin at the compound's southern entrance and include approximately 20 stops. Within this document, Habig dated the nearby "Indian Houses," items 15 and 17 on his map (see Figure 2.3) to 1762 and wrote of the north gate, item 16 on his map:

Beyond this gate there was a branch of the smaller acequia, and a little farther north is the winding San Antonio River...From the north wall of the Espada mission square, I have been told, one can have a view of the San Antonio River if the jungle growth in the woods on the neighboring property is removed. Even if this is done in only one place as far as the river, it would be worthwhile, and visitors would enjoy the view (p. 11).

Gilbert et al. (1989) wrote of the northern entrance having its inception during the transitional period, 1780–1794, at Mission Espada regarding changes made to the compound. They noted:

A small gateway had been opened through the north wall after removing the walls of one house. This opening was called the 'gateway to the river' (p. 14).

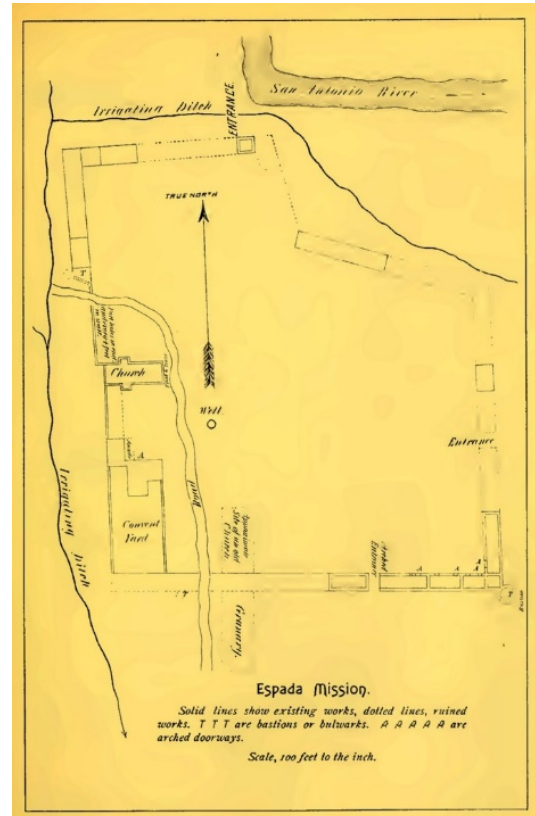


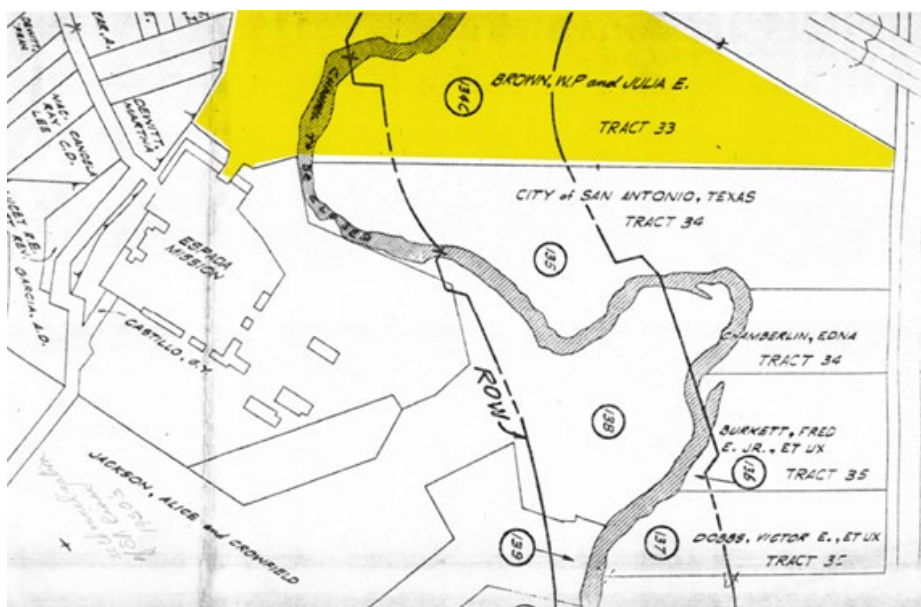
Figure 2.4: William Corner's 1890 drawing of Mission Espada notes an "Entrance" along the north wall of the mission compound. Image reprinted from *San Antonio de Bexar: A Guide and History*.

Thurber et al. (1993) referred to "Indian Quarters" at the north wall of the compound:

This roofless structure is built of random pattern and roughly coursed rubble masonry laid up in lime and portland cement mortars. The plan is rectangular, measuring 16 feet deep by 122 feet long, with walls varying in height from 18 inches to 8 feet. The structure is penetrated by an opening, traditionally been identified as the 'north gate.' Portions of the walls were reconstructed in the 1950s on foundations dating from 1756–62 (p. 393).

Thurber et al. offered no specific evidence supporting their assertion about Espada's north wall. However, examination of correspondence from the National Park Service archives plus newspaper articles from the 1950s and archaeological investigations indicate the north wall of

Figure 2.5:
A drawing found amid 1950s NPS correspondence, original source unidentified, indicates a private property line cutting through Espada's northern exterior wall at the location of the north gate. Image courtesy of the NPS Western Archeological and Conservation Center.



Espada's compound is indeed mid-20th-century construction atop colonial-era foundations.

Assessments of the gate feature by Habig and later by Gilbert and Thurber do align with February 2019 investigations by the CAR team. Ground probes in the area of the gate, between the wall sections, did not reveal any Spanish Colonial foundational stones (see findings of the 2019 archaeological investigation in Chapter 4 of this report), even though they appear clearly in 1930s drawings by Harvey P. Smith. What is known from the CAR archaeological investigations is that beneath the north gate walls, colonial foundations were found. The lack of foundational stones in between the north gate wall sections may indicate this area has always been a gate. The earliest illustrated drawing of an entrance into the mission compound from the north is indicated on a site plan drawing made by William Corner in 1890 (Figure 2.4). However, the lack of stones may indicate they were dug out of the earth for use elsewhere, as re-appropriation of quarried stones was a well-documented practice. A 1955 letter written by Archbishop Lucey (see below) suggests the same.

Improvements to Espada during the mid-1950s were fairly extensive and also included stabilization of southern walls (Thurber et al., 1993), acquisition by the Church of adjacent properties (Ayala to Lucey, 1956; Diaz to Lucey, 1956), construction of new facilities, and restoration of the chapel (Thurber et al., 1993). The lion's share of archival documentation and primary source material consulted for this report focused on these other elements of the Espada renovations, with only a few references to the restructuring of the compound walls.

It's interesting to note architect Harvey P. Smith Sr.—known for WPA-funded restoration of Mission San José—had also drawn up plans in the 1930s for Missions San Juan and Espada. Elements of his vision for Espada later came to fruition under the direction of Archbishop Lucey. In a 1955 letter to National Park Service Archeologist Dr. Erik K. Reed, Lucey outlined his

intentions for Espada's perimeter walls:

I have in mind to hire a good stone mason who will dig down into the ground far enough to expose the foundation of the wall that formerly ran around the plaza and then carefully reconstruct the wall with original stone to a height of perhaps three or four feet so that visitors will know the exact boundaries of the original plaza.

In a separate letter that same year to the Rev. Henry Schultz, C.S.S.R, Lucey noted, "We plan to use for this purpose the original stones which are lying around in various parts of the plaza." Accounts in the *San Antonio Light* described the project as the first major work conducted at Espada since the 18th century ("Restoration Project Begun." *San Antonio Light*. Monday, May 9, 1955, p. 21).

However, there are several archival inconsistencies that need to be noted with regard to the north wall and gate, as illustrated by the 1930s HABS and Harvey P. Smith measured drawings

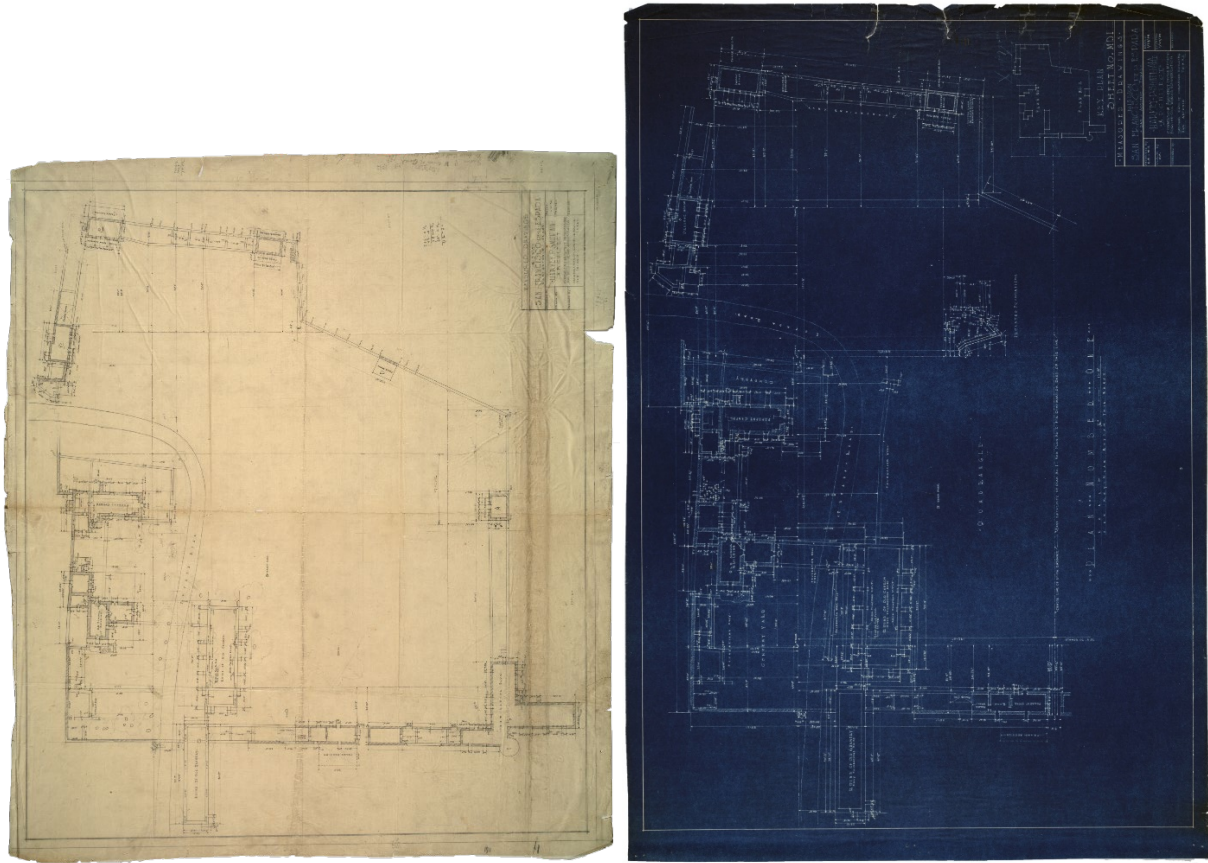
(Figures 2.7–2.9). Two drawings made by Smith are within 23 days of each other, yet they show errors and omissions when compared. The measured drawing from January 6, 1934, does not illustrate any north gate or road, while a second measured drawing from January 29, 1934, illustrates the presence of a road at this location, yet without a north gate depiction. Another measured drawing dated January 29, 1934, an elevation of Mission Espada (Figure 2.9) provides information on the north wall without any indication of the north gate. The northern road segment leading across the river to



Figure 2.6: Aerial image of Mission Espada taken in 1978 illustrating a road accessing the northern compound wall at the north gate. Image courtesy of SAAN.

the north can be seen in an aerial image from 1978 taken over Mission Espada (Figure 2.6).

Further chronological discrepancies have been highlighted within several of the research documents used to establish an origin date of construction for the north gate. Gilbert et al. made a direct reference to the north gate being a "gateway to the river" (1989, p. 14), which the cultural landscape report of 2017 by AmaTerra cited. However, Gilbert et al. did not provide any mid-18th century references. In Ivey's OVM (2018), he utilized 18th century inventories to describe the chronological development of Mission Espada, with particular reference to the 1786 report by Fr. José Francisco López, but there was no mention of a north gate in the Lopez report. In a



Figures 2.7 and 2.8: The site plan pictured above, left—produced by the office of architect Harvey P. Smith and dated January 6, 1934—is drawn without a north gate opening or any indication of a road north of the mission.

However, the site plan above, right—also produced by the office of Harvey P. Smith but dated January 29, 1934, a little more than three weeks after the first drawing—indicates the presence of a road leading from Mission Espada’s north wall, delineated over the top of Spanish Colonial foundations.

Images courtesy of The Alexander Architectural Archives, The University of Texas Libraries, The University of Texas at Austin.

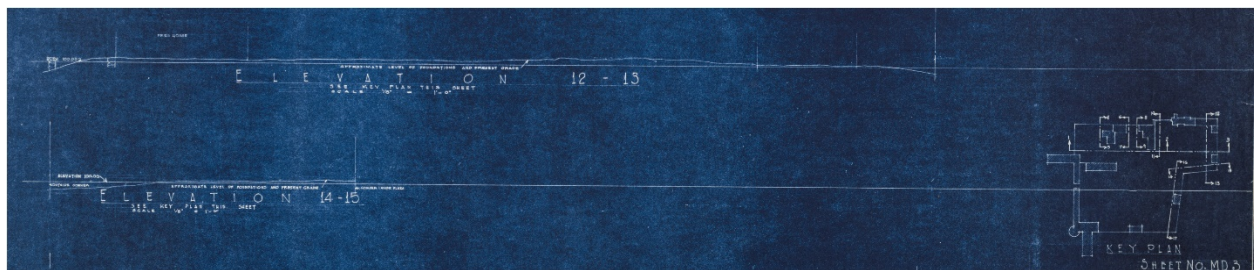


Figure 2.9: Portion of Harvey P. Smith drawing from January 29, 1934, does not indicate the presence of a north gate. Image courtesy of The Alexander Architectural Archives, The University of Texas Libraries, The University of Texas at Austin.

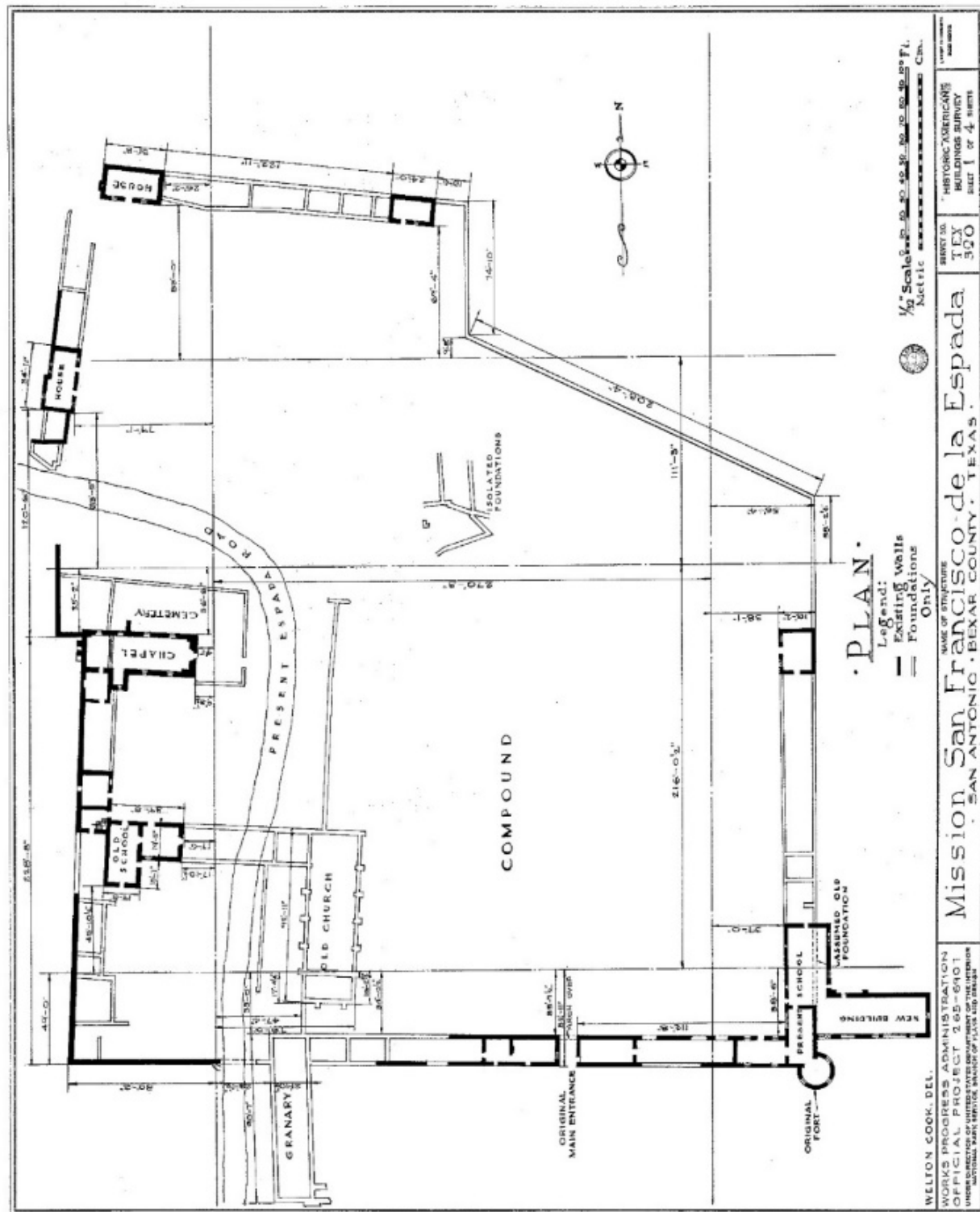


Figure 2.10: A 1930s Historic American Buildings Survey drawing of the Mission Espada compound does not indicate presence of a north gate. Library of Congress, Prints & Photographs Division, HABS TEX, 15-SANT.V,2- (sheet 1 of 4).

conjectural drawing made by Ivey (2018, p. 384) in 1983 of Espada circa 1780, no north gate exists, yet Gilbert et al. (1989), whose authors include Ivey, concluded such a gate did exist. Thus, the earliest known reference to a north gate was made by William Corner in his 1890 illustration.

Therefore, there is no strongly conclusive line of archival evidence stating the north gate feature at Mission Espada is a Spanish Colonial feature. The 2019 archaeological investigation concludes there were no Spanish Colonial foundations beneath the location of the current north gate opening. However, it is certainly possible these stones could have been unearthed and reused elsewhere at an earlier point in time, as was a general practice during reconstruction initiatives.

Cargill et al. in 2004 listed Refugia de la Garza among Espada's post-secularization owners, noting de la Garza acquired property along the mission's north wall sometime between 1824 and 1827 (p. 10). Because the de la Garza family was "a prominent figure in that late colonial-post colonial world" (S. Snow, personal communication, November 12, 2019), further research into the full chain of ownership could help educational programming and interpretation regarding Espada's north wall.

Despite inconsistencies in the archival record, the north gate still remains a highly plausible Spanish Colonial feature based on presence of an early lime production kiln north of the mission compound. The kiln is in close proximity to the northern acequia and San Antonio River, and a gate on the northern perimeter of the mission compound would have facilitated lime production.

Historical Integrity, the capacity of the north gate to convey significance of Mission Espada

The north gate has integrity as a Spanish Colonial feature even though the tangible materials above grade are 1950s construction. All the San Antonio missions have 20th century construction which has acquired significance over time, and in this regard the Espada gate demonstrates a high level of integrity as an example of 20th-century reconstruction completed to reinforce the narrative interpretation of Spanish Colonial history. Since its construction in the mid-1950s, the north wall and its gate have conveyed to visitors a sense of enclosure common to all mission compounds.

Regarding the ability of the gate to convey significance from the Spanish Colonial time period, the mid-1950s reconstruction of the north wall gate is built upon colonial foundations at the location (maybe not exact location) of a Spanish Colonial gate, thus leading to historical continuity of a perimeter wall in the location where a wall and gate would have once stood.

As an extant element of Spanish Colonial construction, however, the historical integrity is obviously low. The reconstructed wall sections at the north gate contribute to an understanding of the former compound, yes, but their actual construction is inauthentic and speculative. No one knows how the stone walls would have looked, their height, nor the configuration or precise location of a gate.

Chronology

Table 2.1: North wall gate chronology

Date	Event
1690	A mission was established for the Tejas Indians on San Pedro Creek in present-day Houston County, TX, 200+ miles northeast of San Antonio (Cargill et al., 2004).
1716	Reestablished farther east in present-day Cherokee County, TX, as Nuestro Padre San Francisco de los Tejas (Cargill et al., 2004).
1721	Reestablished in East Texas as San Francisco de los Neches (Cargill et al., 2004).
1731	Relocated to the west side of the San Antonio River in present-day Bexar County and renamed San Francisco de la Espada on the 5 th of March (Cargill et al., 2004).
1756	Espada is enclosed by a stone wall and stone houses are built against the wall (Cargill et al., 2004).
1780	Two new gateways created in the mission complex walls. One was a small gate in the northern wall called ‘gateway to the river.’ The second was built into the south wall leading to the farmlands (AmaTerra, 2017).
1824	Full secularization with few buildings intact; mission became a source for reusable construction material (Cargill et al., 2004).
1890	William Corner draws a map of Mission Espada illustrating an entrance along the north wall of the mission compound (Corner, 1890).
1934	Harvey P. Smith’s measured drawing from January 6, 1934, depicts no presence of a road or gate along the north wall of Mission Espada’s compound (Smith, 1934).
1934	Harvey P. Smith’s January 29, 1934, measured plan drawing depicts a road leading from Mission Espada’s north wall going over Spanish Colonial foundations, but no gate. The measured elevation drawings of the same day do not indicate a gate (Smith, 1934).
1930–1936	WPA performed excavations and Harvey P. Smith surveyed above and below ground features, HABS drawings were created, and reconstruction and stabilization initiatives were undertaken.
1950–1957	Harvey Smith, Jr. reconstructs many walls and buildings including a gate fortification (AmaTerra, 2017).
1969	Fr. Marion Habig mentions a north gate located along the north compound wall (Habig, 1969).
1972	Mission Espada listed on the National Register of Historic Places.
1983	San Antonio Missions National Historical Park is established (NPS, 1983).
2015	UNESCO World Heritage site designation for the San Antonio Missions.
2019	CAR excavations reveal colonial foundations beneath the north gate walls but not continuing across the gate’s opening.

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Chapter 3

Documentation and Assessment

Physical Description

The north gate is composed of two rectangular sections constructed from sandstone rubble masonry in random pattern and roughly coursed. Portland cement was the mortar used in the gate's construction. The feature has an east-west orientation with each section measuring approximately 4 m by 1.5 m by 0.6 m. Each section of the north gate illustrates a severe southerly lean. The east section demonstrates a lean of 11.23°, while the west section is less. Both the east and west sections of the gate were built in the 1950s with upward-pointing sandstones to give a jagged appearance akin to a military fortification. Most of these stones remain in position atop the west section. Evidence of past stone placement, now removed, is visible on top of the east section. Looking north, the left interior section of the north gate illustrates ferrous metal fastenings for a gate-like apparatus. The gap between the gate measures approximately 3 m.

Archival Research and Heritage Documentation Methods

To learn more about the north gate at Mission Espada, several methods have been used. They are described below in three categories: literature review/archival research, field survey, and heritage documentation.

1. **Literature review/archival research:** Being a World Heritage site, the missions of San Antonio have been previously studied and documented. For an initial understanding of the subject structure and its site, analysis of the literature written about the missions was performed. Previous research, newspaper articles, National Park Service documentation and correspondence, reports from the UTSA Center for Archaeological Research, and the UTSA Special Collections photographic archive at the Institute of Texan Cultures were reviewed to understand the evolution and significance of the building. Moreover, Historic American Buildings Survey (HABS) drawings and photographs were reviewed and analyzed, as were drawings made in the 1930s by architect Harvey P. Smith. The UTSA Special Collections at The Institute of Texan Cultures was consulted. The APA citation format is used throughout, and all sources are in the list of references of this report.
2. **Field survey:** Multiple visits were made to the site in 2019 to assess the structure's current condition. Heritage documentation, described below, was accomplished during the visits. Since it is more advisable to have homogeneous lighting for high-quality photogrammetry results, most visits were scheduled early in the morning or on cloudy days. Moreover, while the data needed for photogrammetry was being collected, a detailed visual survey was performed.
3. **Heritage documentation:** The UTSA CCS has combined traditional and innovative techniques to create architectural plans with high-quality photo elevations. Measurements were obtained with a traditional method using tape measures, clipboards, paper, and pencils. The photo elevations were created using photogrammetry, a computerized process that

produces spatially accurate and measurable images. In photogrammetry, the input is photographs and the output is a map, drawing, or 3-D model. The process is divided into two main steps: capturing the photos and processing the photos. In order to capture the photos, the equipment needed is a digital camera, a tripod, and scale bars. However, depending on the lighting conditions it might be possible to obtain good results without the tripod, and scales can be added to the model in the software using known measures. To obtain high-quality results for the condition assessment of the walls, photos are overlapping to acquire a reliable, measurable model. Digital photographs were processed with a photogrammetry software; in this case, Agisoft PhotoScan (professional edition) was used. The program aligns the pictures by determining the camera position and the camera calibration, creating a sparse point cloud that is refined in subsequent steps creating a scaled 3-D model that can be exported to Revit, Rhinoceros, or AutoCAD softwares. Photography equipment used for this report included a DSLR camera, model Nikon D300, and two different lenses, a Nikon DX AF-S Nikkor 1835 mm 1:3.55.6G ED and a Nikon AF Nikkor 35 mm 1:2 D.

Condition Assessment

The north gate wall is structurally deficient, exhibiting a rotational movement along its length, easily visible as a severe lean to the south. The lean of the east section is worse than the west. The deficiency is most likely due to a combination of construction and environmental issues. Regarding quality of construction, the 1950s wall sections do not appear to be structurally connected to the Spanish Colonial foundation stones upon which they sit. Exacerbating the problem is the portland cement mortar utilized in the 1950s, which causes each large section of wall to behave monolithically as a free body unit of masonry, very heavy and not connected to the ground. Since the north gate wall sections bear upon colonial foundations without proper anchorage, any movement in bearing condition of the foundation stones translates to shifting of position for wall sections relative to the foundation stones below. Clay in soils, compressed by the weight of the stones when dry and expanded when wet, is a source of movement in bearing conditions. Another source is the vegetative growth (tree root, see Figure 3.3) found underneath the east section of wall when exposed by the archaeological excavation. Furthermore, the north gate feature is located at a drainage exit point for the compound (see Figure 2.2), resulting in water from rain dwelling in the soils as well as possibly causing some soil erosion over the years. The poor construction and unfavorable environmental issues in combination are the cause of the obvious deformation of the wall.

In an attempt to understand the development and severity of the lean exhibited by the north gate over time, Susan Snow and James Oliver of NPS SAAN were consulted. Field observations made in 2016 by AmaTerra in their *Cultural Landscapes Report* of 2017 described the condition of the perimeter walls as good (AmaTerra, p. 3–12). However, James Oliver stated the severity of the

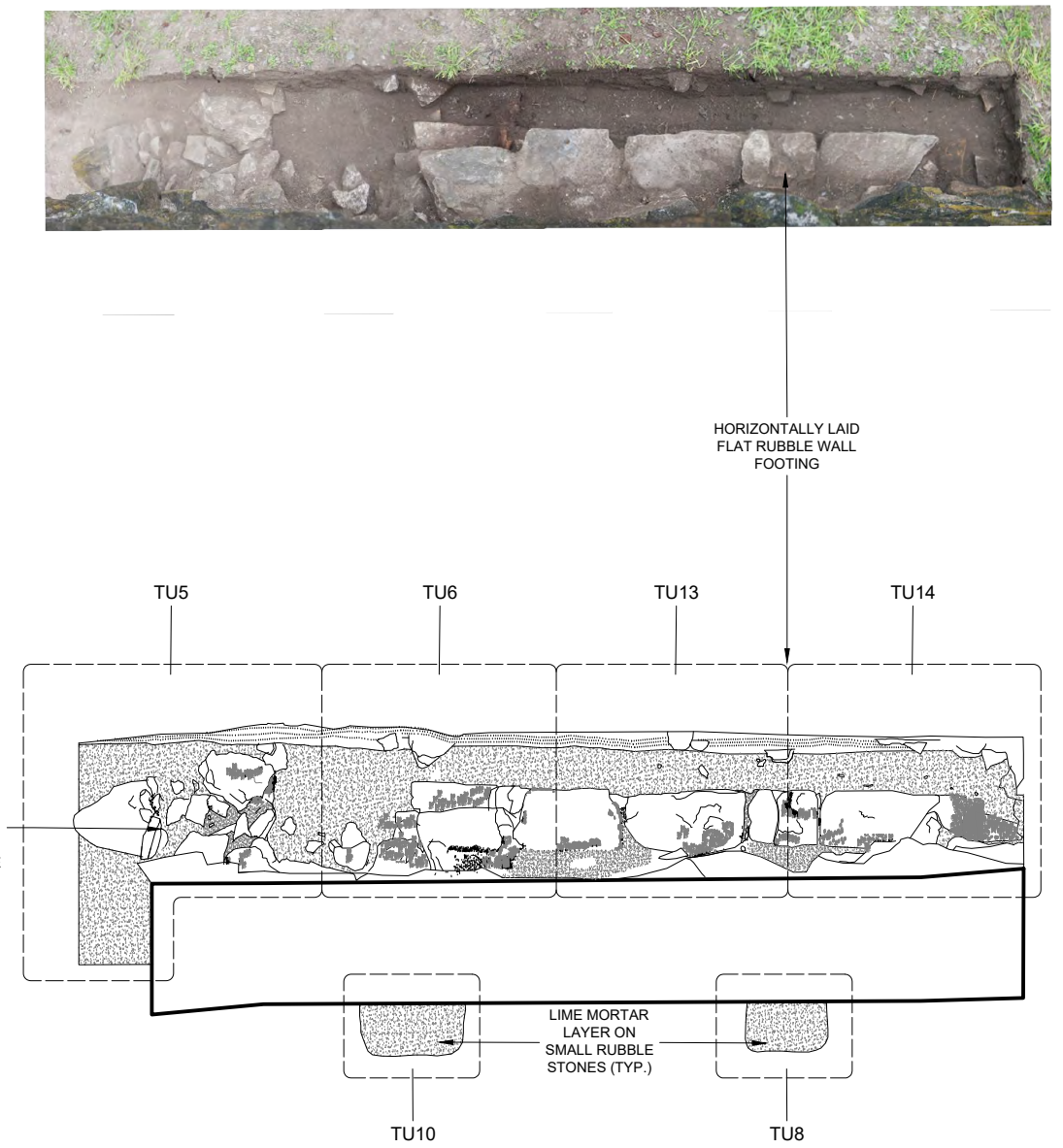
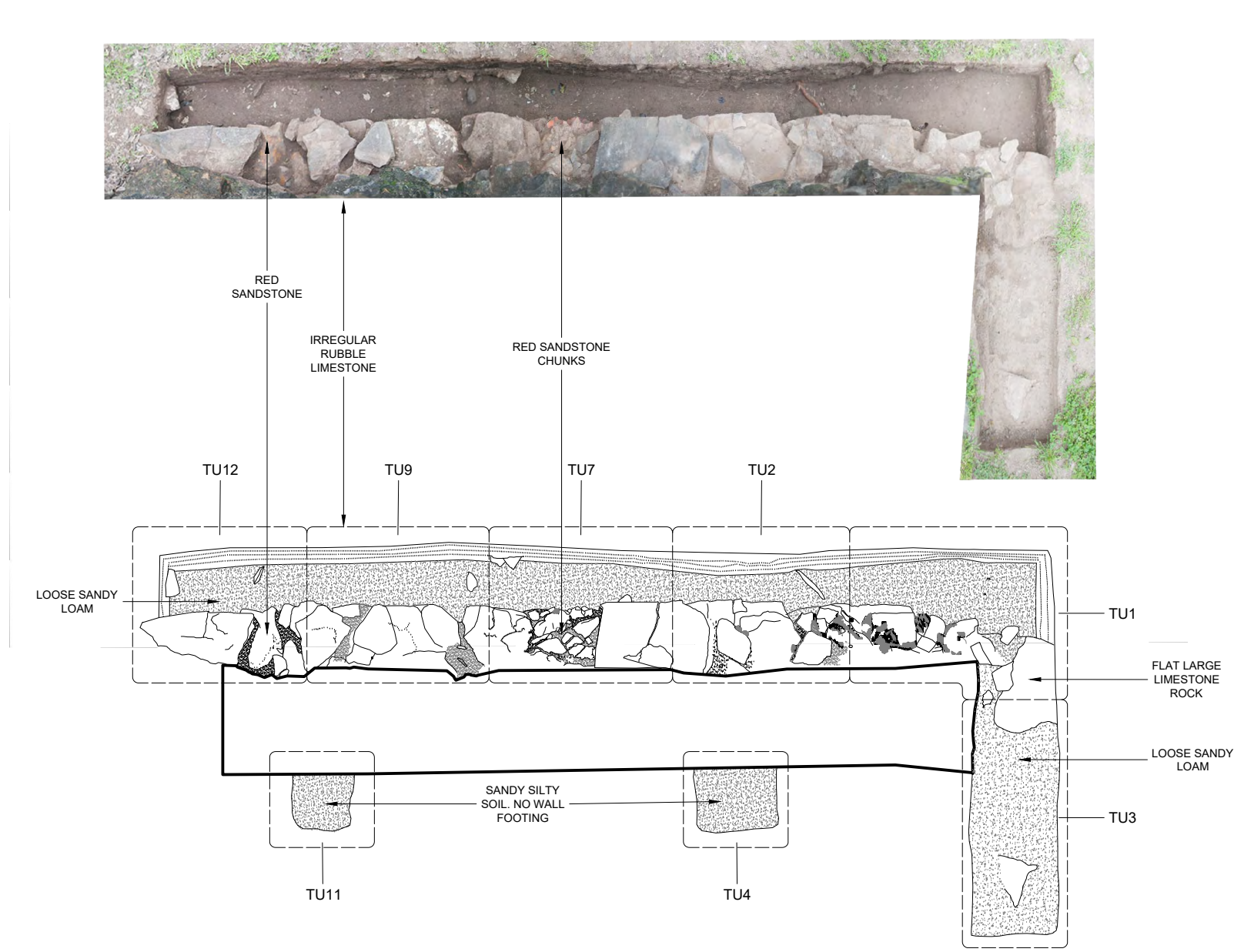
lean has been unchanged since he started working at this branch office in 1991 (personal communications, June 24, 2019). Again, illuminating a longer history of the lean exhibited by the north gate, Susan Snow described that she first wrote a request for money to fix the lean in the early 2000s (personal communications, June 24, 2019). This means that the north gate has illustrated a severe lean for about 28 years and is not a new development.



Figures 3.1 (left) and 3.2: Side views looking east of the north gate illustrating the severity of its lean. The west section of the wall does not lean as dramatically as the east section.

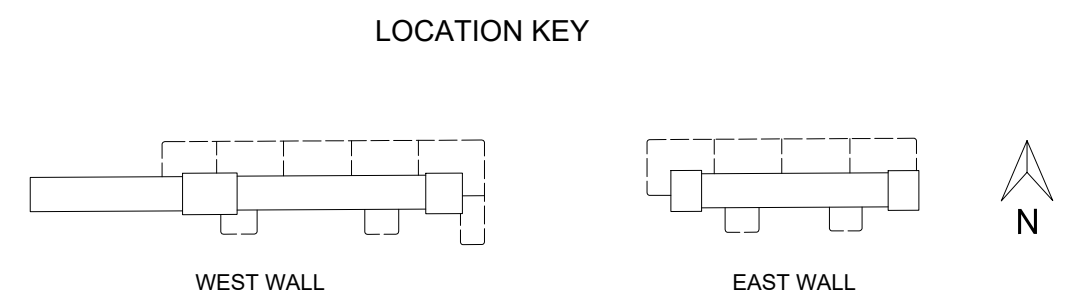
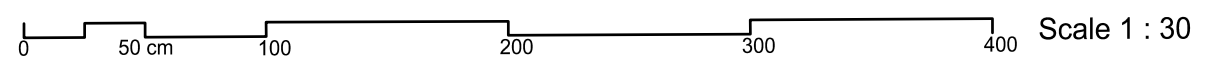
Figure 3.3: (bottom photo): Tree roots may be among the factors causing the east section of the structure to lean.



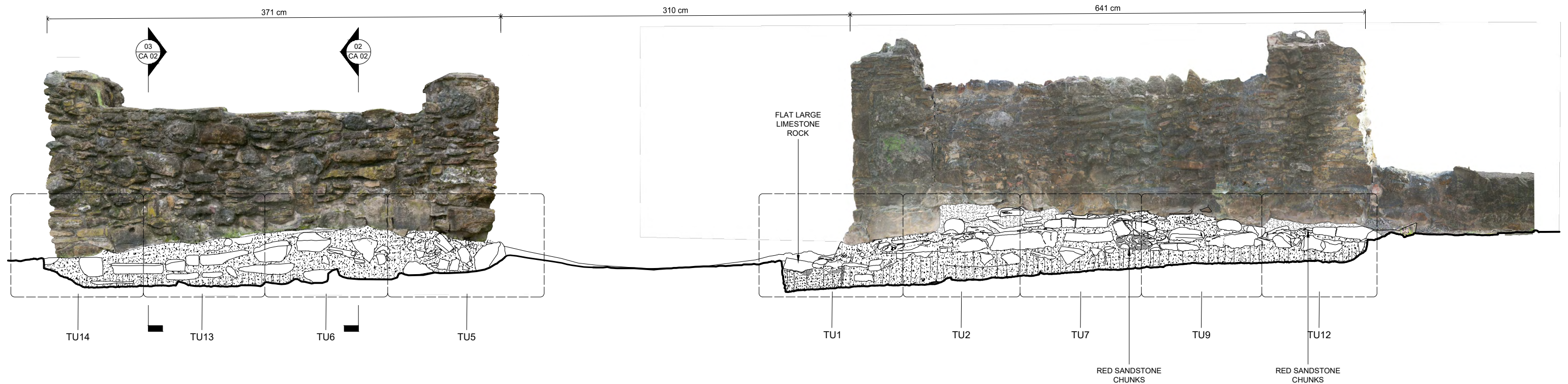


01
CA 01

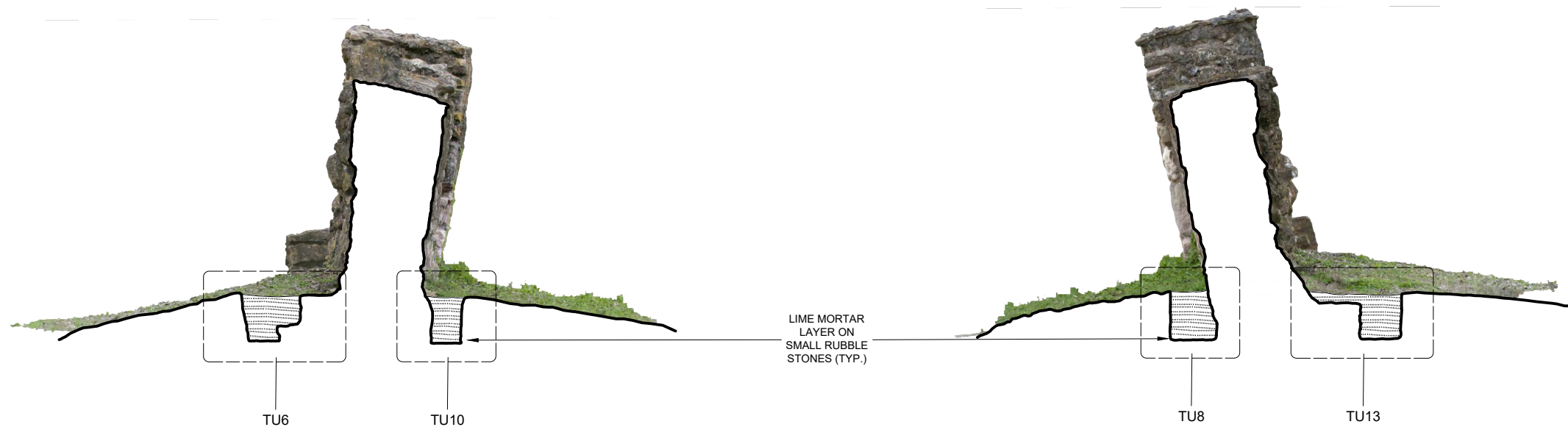
PLAN OF NORTH GATE SHOWING MEASURED DRAWING & PHOTOGRAMMETRY OF EXPOSED FOUNDATION STONES



DRAWN BY: Angela Lombardi and Porter Hehr



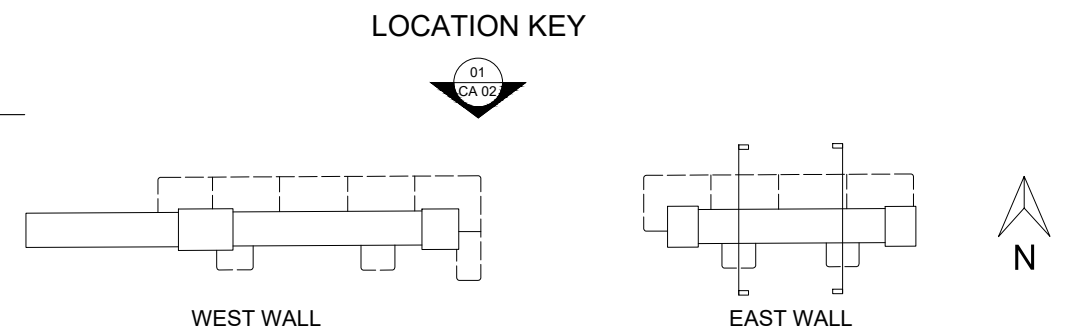
01
CA 02 SOUTH ELEVATION OF NORTH GATE SHOWING MEASURED DRAWING & PHOTOGRAMMETRY OF EXPOSED FOUNDATION STONES



02
CA 02 EAST WALL SECTION A

03
CA 02 EAST WALL SECTION B

0 50 cm 100 200 300 400 Scale 1 : 30



DRAWN BY: Angela Lombardi and Porter Hehr

CLIENT:
NATIONAL PARK SERVICE
U.S. DEPARTMENT OF THE INTERIOR

MISSION ESPADA NORTH GATE
ESPADA ROAD SAN ANTONIO BEXAR COUNTY TEXAS

DATE:
10/18/2019

SHEET:
CA 02

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Chapter 4

Archaeology Report

Archaeological Investigation

In early-2019, the Center for Archaeological Research (CAR) at the University of Texas at San Antonio (UTSA) completed archaeological testing at Mission San Francisco de la Espada (41BX4). This project did not require a Texas Historical Commission (THC) Antiquities Permit because the project falls under an agreement between the THC and the NPS.

A Scope of Work (SOW) prepared for the project established the focus and extent of the archaeological testing. The SOW stated that CAR archaeologists would excavate test units on the north and south sides of the north gate walls, remove the overburden, and expose the wall foundations. Most of the units were excavated in 20-cm (7.9 in.) levels because of known earth moving events resulting in an overburden of spoils. The area of investigation involved two wall segments that are noticeably leaning, on either side of the gate opening, an area 2 m (6.5 ft.) wide by 12 m (39.4 ft.) long, or 24 m² (258.3 sq. ft.).

Testing of this area determined that the reconstructed walls were not aligned on the original wall footings. CAR also found that even though the collection of artifacts included Spanish Colonial material, the majority of the artifacts were of post-1930 origin and artifacts from both periods were in mixed deposits. This chapter presents an overview of the archaeological methods utilized, the results of the excavations, and a discussion of the recovered cultural material.

Field and Laboratory Methods

Planning for this project began with an on-site meeting attended by CAR, CCS, and NPS staff. Parameters for the testing were agreed upon, as was the placement of probes and test units. Given the unstable condition of the wall segments, these probes and test units were meant to minimally expose and, thereby, not undermine the structural integrity of the wall footings (Figures 4.1 and 4.2). Once completed and documented by CAR and CCS staff, the probes and test units were covered with geotextile fabric, a layer of sand, and then refilled with the screened soils and compacted.

Half-Meter Test Unit Probes

The four probes were intentionally small test units, 30 cm by 50 cm (11.8 by 19.7 in.), because these were placed along the tilting side of the wall segments (Figure 4.3). These test unit probes (TU4, TU8, TU10, and TU11) were excavated in one continuous level and to a depth of between 25 and 30 cm (9.8 and 11.8 in.). Excavated soils were screened through ¼-inch hardware cloth and the recovered artifacts transported to the CAR lab for processing.



Figures 4.1 and 4.2: North gate showing the approximate location of probes and test units.

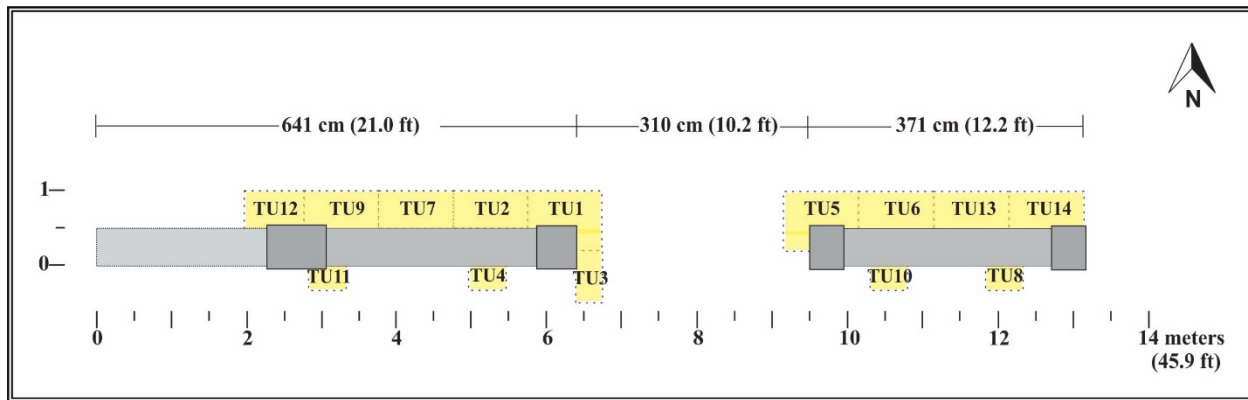


Figure 4.3: Plan view of probes and test units; wall segments to scale.

Test Units

The 10 larger units were 50 cm by 100 cm (19.7 by 39.4 in.), with the reduced side extending away from the north-facing wall segments, so as not to further destabilize the walls. These 10 units (TUs 1–3, TUs 5–7, TU9, TUs 12–14) were primarily excavated in 20-cm (7.9 in.) levels, though some were excavated in smaller 10-cm (3.9 in.) levels. Four units were excavated to depths of less than 30 cm (11.8 in.) below surface. The remaining six units were excavated to between 30 and 40 cm (11.8 and 15.7 in.) below surface. Excavated soils were screened through ¼-inch hardware cloth and the recovered artifacts transported to the CAR lab for processing.

Although not part of the formal testing, the area between the gate opening shown in Figure 4.3 was probed with a quarter-inch diameter rod to determine if the wall footing extended into this area. Five probes were arbitrarily made between the gate columns to depths of about 15 to 20 cm (5.9 to 7.9 in.). None of these probes hit any obstructions.

Lab Analysis, Curation Preparation, and Final Curation

The analysis and organization of records, artifacts, and daily logs was ongoing throughout the project. All records generated during the project were prepared in accordance with THC requirements for State Held-in-Trust collections and Federal Regulations 36 CFR Part 79. Field forms were printed on acid-free paper and completed with pencil.

Given the sensitive nature of the site, all cultural material was collected and returned to the CAR lab for processing. All artifacts are listed in the final catalog (Appendix A). Artifacts to be discarded were quantified, and the catalog includes a column noting if an item was discarded. Artifacts not discarded were then washed, air-dried, and stored in archival-quality bags. Any materials needing extra support were double-bagged, and acid-free labels were placed in the artifact bags. Each laser printer generated label contains provenience information and a corresponding lot number.

All field notes, forms, photographs, and drawings were placed in labeled archival folders. Digital photographs were printed on acid-free paper and placed in archival-quality page

protectors. Following completion of the project, all recovered artifacts and project-related materials, including the final report, will be permanently stored at CAR's curation facility.

Results of the Testing

This section is presented in two parts, separately discussing each tested wall segment on either side of the gate opening. The west end segment of wall is discussed first, then the east end segment, concluding with a consideration of both wall segments and reconstructed gate opening.

EXCAVATION OF THE WEST WALL SEGMENT

Five test units were excavated along the north-facing wall along with two half-meter probes at the south-facing wall (Figure 4.4). This discussion begins with Test Unit 1 (TU1), followed by TU2 and TU3. Test Unit 3 (TU3) was an extension of TU1 and was meant to explore the extent of the wall footings at that location. The discussion then shifts to TU7, TU9, and TU12. These test units were excavated in 10-cm (3.9 in.) levels to a depth of between 20 and 30 cm (7.9 and 11.8 in.) below surface; depths varied due to overburden and below grade wall footings. The two probes, TU4 and TU11, are considered last and these were excavated to about 20 cm (7.9 in.) below surface. Recovered artifacts will be noted in the following discussion, but the substance of these finds will be reserved for the conclusion of this section. Note that the Figure 4.4 plan view includes a section of low wall that abuts the west end column.

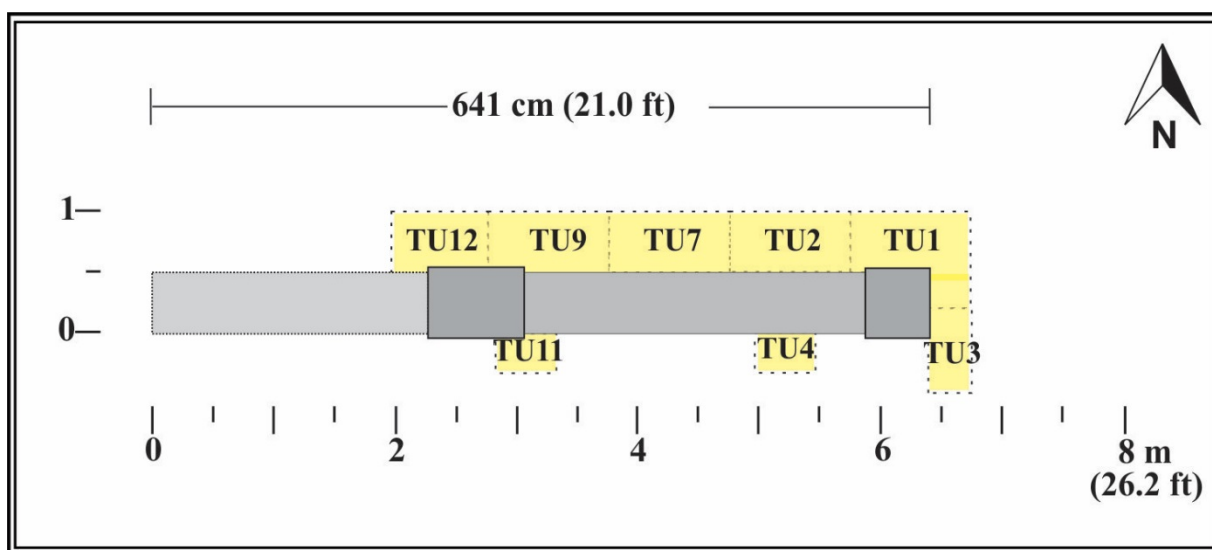


Figure 4.4: Plan view of west end wall segment.

Test Unit 1 (TU1)

Test Unit 1 was 50 cm by 100 cm (19.7 by 39.4 in.) and was located at the east end of the wall segment. The limestone rubble wall footing was encountered at 10–16 cm (3.9–6.3 in.) below surface. The wall footing extended away from the above grade wall by 20–25 cm (7.9–9.8 in.). The

area away from the wall footing was excavated to 30 cm (11.8 in.) below surface. The soils were a loose sandy loam and included small to fist-size limestone cobbles, comprising between 10 and 15 percent of the fill.

Fifty-two artifacts, a quarter of the total artifacts (n=208) recovered from the west wall segment, were from TU1. Artifacts included a mix of Native American-made, Spanish Colonial, and European ceramics.

Test Unit 2 (TU2)

Test Unit 2 was 50 by 100 cm (19.7 by 39.4 in.) in size. The irregular rubble limestone wall footing was encountered at 20 cm (7.9 in.) below surface. The wall footing extended away from the above grade wall by 20–25 cm (7.9–9.8 in.). The area away from the wall footing was excavated to 30 cm (11.8 in.) below surface. Excavated soils were comprised of a loose sandy loam with small to fist-size limestone cobbles, comprising between 10 and 15 percent of the fill.

Twenty-six artifacts were recovered from TU2 with most being glass shards (n=17). A few pieces of Spanish Colonial and European ceramics (n=7) were also recovered.

Test Unit 3 (TU3)

Test Unit 3 was an extension of TU1 and excavated in an effort to determine the extent of the wall footing at the base of the column. The wall footing at this end was located between 7 and 10 cm (2.7–3.9 in.) below surface. A large limestone rock was exposed, but it did not extend very far beneath the column. The wall footing extended away from the above grade wall at 50–60 cm (19.7–23.6 in.). Having exposed the wall footing at the column, the area surrounding the limestone rock was not excavated. Excavated soils were comprised of a very loose sandy loam with few gravels.

Although shallow, TU3 produced a total of 42 artifacts with most being glass shards (n=24). A total of 15 ceramic fragments were also recovered and included one Native American-made sherd, two Spanish Colonial sherds, and 13 assorted European ware sherds.

Test Unit 7 (TU7)

Test Unit 7 was 50 cm by 100 cm (19.7 by 39.4 in.) and was located west of TU2. The limestone rubble wall footing was encountered at about 10 cm (3.9 in.) below surface. The wall footing in this area was comprised of stone rubble and sandstone fragments; this unusual material may constitute fill used to plug a gap in the original wall footing. The area away from the wall footing was excavated to 30 cm (11.8 in.) below surface. The excavated soils were a loose sandy loam and included small to fist-size limestone cobbles comprising between 15 and 20 percent of the fill.

Thirty artifacts were collected from TU7, primarily European ware ceramics (n=21). Three non-diagnostic lithic fragments were also recovered.

Test Unit 9 (TU9)

Test Unit 9 was 50 by 100 cm (19.7 by 39.4 in.) in size. The irregular rubble limestone wall footing was encountered between 16 and 20 cm (6.3–7.9 in.) below surface. The wall footing extended away from the above grade wall between 20 and 25 cm (7.9–9.8 in.). The area away from the wall footing was excavated to 30 cm (11.8 in.) below surface. The excavated soils were comprised of a loose sandy loam, with small to fist-size limestone cobbles, comprising about 15 percent of the fill.

The artifact count for TU9 was relatively low (n=9). A Spanish Colonial ceramic fragment was recovered, along with a mix of container glass shards (n=6).

Test Unit 12 (TU12)

Test Unit 12 was 50 cm by 100 cm (19.7 by 39.4 in.) and was located at the far end of the west wall segment. The limestone rubble wall footing was encountered at between 18 and 20 cm (7–7.9 in.) below surface and comprised of large limestone rocks. The area away from the wall footing was excavated to 30 cm (11.8 in.) below surface. The excavated soils were a loose sandy loam and included small to fist-size limestone cobbles, comprising 10 percent of the fill.

The artifact count for TU12 was relatively low (n=19), and most of these were ceramics (n=15). Four were Native American-made ware, three Spanish Colonial, and eight European wares.

Test Unit/Probe 11 (TU11)

This probe was 30 by 50 cm (11.8 by 19.7 in.) in size and excavated to 25 cm (9.8 in.) below surface. This probe was excavated to explore the south-facing wall. The wall footing uncovered along the north-facing side did not extend to this side of the wall. A quarter-inch diameter rod was used to probe and determine if the wall footing was at a greater depth, but this was not the case. The excavated deposits were a sandy silty soil and included 12 artifacts; a mix of modern and historic period material.

Test Unit/Probe 4 (TU4)

This probe was also 30 by 50 cm (11.8 by 19.7 in.) in size and excavated to 20 cm (7.9 in.) below surface. This probe was to further explore the south-facing wall and the extent of the wall footing along this wall segment. It was determined that the wall footing does not extend to this side of the wall. A quarter-inch diameter rod was used and additional construction was found to extend away from the wall. The excavated deposits were a sandy silty soil. The 18 recovered artifacts included 8 sherds of European ware and 9 container glass shards.

Artifacts Recovered from the West Wall Segment

Two-hundred and eight artifacts were recovered from of the west wall segment of the north gate.

As suggested in Chapter 2, the area along either side of the wall segment has been disturbed at various times, dating back to the 1930s. The artifact assemblage dates from the prehistoric up to the 1950s.

Of the 208 artifacts, 46.2 percent (n=96) were ceramic, mostly diagnostic, and 41.3 percent (n=86) were glass shards. Close to one pound of faunal bone was recovered, 415.2 gm (14.7 oz). The amount of faunal bone recovered is presented in weight, rather than as a count of individual fragments. Only 1.9 percent of the total recovered from the west wall segment was temporally undiagnostic lithics (n=4). An insignificant number of artifacts classified as construction, metal, and personal was also collected.

Table 4.1: Artifacts recovered from West Wall Segment; *note faunal bone is presented as weight.

	TU1	TU2	TU3	TU7	TU9	TU12	TU11	TU4	Totals
* Faunal Bone									
Level 1	125.1	121.5	59.7	35.0	22.9	-	34.4	6.5	405.1 gm (14.3 oz)
Level 2	6.4	1.9	-	-	0.3	1.5	-	-	10.1 gm (0.4 oz)
Lithics									
Level 1	-	-	-	3	-	-	1	-	4
Level 2	-	-	-	-	-	-	-	-	0
Ceramics									
Level 1	22	7	15	21	1	-	4	8	78
Level 2	3	-	-	-	-	15	-	-	18
Glass									
Level 1	17	17	24	4	4	-	3	9	78
Level 2	4	-	-	-	2	2	-	-	8
Construction									
Level 1	-	-	1	1	-	-	3	0	5
Level 2	-	1	-	-	2	1	-	-	4
Metal									
Level 1	5	1	2	1	-	-	-	-	9
Level 2	-	-	-	-	-	1	1	1	3
Personal									
Level 1	1	-	-	-	-	-	-	-	1
Level 2	-	-	-	-	-	-	-	-	0
Totals	52	26	42	30	9	19	12	18	208

As noted above, the highest percentage of artifact classes recovered were ceramic and glass. Most of the glass is undiagnostic, container glass. A few shards are recognizable fragments of some of the more popular soft drink bottles and a few shards exhibit patina, indicating older,

weathered shards. Attention then is on the ceramic sherds which are, for the most part, diagnostic. Several examples of 18th and 19th century ceramics were recovered, but the ceramic assemblage was temporally mixed. Eighty-one percent of the total ceramics recovered from along the west wall segment were from the first level, and included a mix of Native American, Spanish Colonial, and European wares.

Table 4.2: Ceramics recovered from the West Wall Segment

	TU1	TU2	TU3	TU11	TU12	TU4	TU7	TU9	Totals
Native American									
Level 1	4	-	1	-	-	-	-	-	5
Level 2	1	-	-	-	4	-	-	-	5
Spanish Colonial Lead Glazed									
Level 1	1	2	1	-	-	-	-	-	4
Level 2	-	-	-	-	1	-	-	-	1
Spanish Colonial Tin Glazed									
Level 1	1	-	1	-	-	-	-	1	3
Level 2	-	-	-	-	2	-	-	-	2
European Earthenware									
Level 1	14	4	11	4	-	8	21	-	62
Level 2	2	-	-	-	8	-	-	-	10
European Porcelain									
Level 1	1	-	-	-	-	-	-	-	1
Level 2	-	-	-	-	-	-	-	-	0
European Stoneware									
Level 1	1	1	1	-	-	-	-	-	3
Level 2	-	-	-	-	-	-	-	-	0
Totals	25	7	15	4	15	8	21	1	96

EXCAVATION OF THE EAST WALL SEGMENT

Four test units were excavated along the north-facing wall of the east wall segment (Figure 4.5). Two half-meter test unit probes were also excavated at the south-facing wall. Discussion begins with Test Unit 5 (TU5), followed by TU6, TU13, and TU14. The two test unit probes, TU10 and TU8, are considered last.

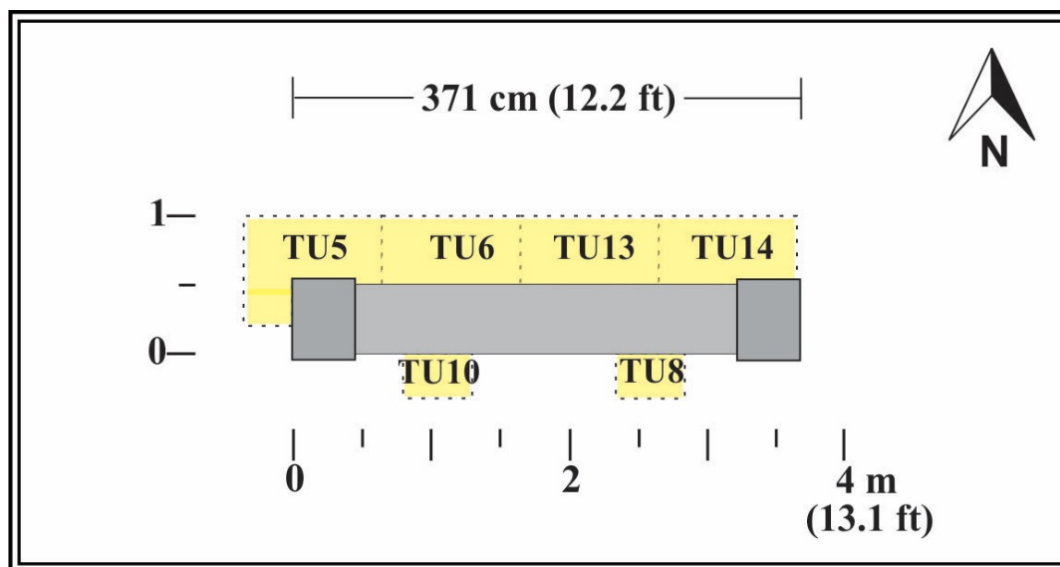


Figure 4.5: Plan view of east end wall segment.

Test Unit 5 (TU5)

Test Unit 5 was 50 cm by 100 cm (19.7 by 39.4 in.); note that part of the excavation wrapped around the column (see Figure 4.5). The limestone rubble wall footing was partially visible prior to excavation. These excavations removed 9 cm (3.5 in.) of fill. The footing extended about 20–25 cm (7.9–9.8 in.) away from the wall. The exposed wall footing seemed to have been inaptly formed, as the stones appear to have been haphazardly thrown into the wall trench, rather than stacked. The excavated soils were a loose sandy clay loam and included small to fist-size limestone cobbles, comprising 15 percent of the fill.

Very few artifacts were recovered from TU5 (n=19). Ceramics (n=7) and glass (n=8) made up most of the recovered artifacts. The ceramic sherds were Spanish Colonial and European wares.

Test Unit 6 (TU6)

Test Unit 6 was 50 cm by 100 cm (19.7 by 39.4 in.) and located east of TU5. The limestone rubble wall footing was exposed at a shallow depth, and the construction was as irregular as the section exposed in TU5. Where intact, the footing extended about 20–25 cm (7.9–9.8 in.) away from the wall. The excavated soils were a loose sandy clay loam and included small to fist-size limestone cobbles, comprising between 10 and 15 percent of the fill.

The number of artifacts recovered from TU6 was low (n=24), and most of these were glass

shards (n=17). The shards were clear and aqua colored container glass, with two shards having embossed lettering and numbering, though not enough to identify.

Test Unit 13 (TU13)

Test Unit 13 was 50 cm by 100 cm (19.7 by 39.4 in.) and excavated to the east in order to continue exposing the partially buried wall footing. The limestone rubble wall footing extended about 20–25 cm (7.9–9.8 in.) away from the wall and was in much better condition in this area. For example, the rocks were properly stacked. A three-inch diameter tree root was imbedded in this part of the wall footing, and may have contributed to the wall being pushed out of plumb. The excavated soils were a loose sandy clay loam and included small to fist-size limestone cobbles, comprising 10 percent of the fill.

The second highest number of artifacts were recovered from TU13 (n=64), but most of these were shards of container glass (n=48). Only six ceramic sherds were recovered; two Spanish Colonial and four European wares.

Test Unit 14 (TU14)

Test Unit 14 was the last excavated along the north-facing wall and east of the gate opening. This test unit was 50 cm by 100 cm (19.7 by 39.4 in.) and located east of TU5. The construction of the limestone rubble wall footing was in very good condition in this area, and also extended about 20–25 cm (7.9–9.8 in.) away from the wall. The excavated soils were a loose sandy clay loam and included small to fist-size limestone cobbles, comprising between 10 and 15 percent of the fill.

The artifact count for TU14 was the highest for this wall segment and amounted to 46.0 percent of the total (n=120 of 261). Of these 120 artifacts, 62.5 percent were glass shards (n=75), the highest percentage for TU14. With the exception of three shards of window glass, the remainder were various colored container glass: clear, milk, aqua, olive, and amber. Of the 17 ceramic sherds that were recovered from TU14, two were Native American-made ware and all the rest were European ware.

Test Unit/Probe 10 (TU10)

This probe was 30 by 50 cm (11.8 by 19.7 in.) in size and excavated to 17 cm (6.7 in.) below surface. This probe was meant to explore the south-facing wall. Although not substantial, a wall footing was uncovered along the north-facing side. The footing extends about 10–15 cm (3.9–5.9 in.) away from the wall. The excavated deposits were a loose sandy silty soil and 24 artifacts were recovered, mostly glass shards (n=15).

Test Unit/Probe 8 (TU8)

This probe was 30 by 50 cm (11.8 by 19.7 in.) in size and excavated to 14 cm (5.5 in.) below surface. This probe was meant to explore the south-facing wall. The wall footing observed in

probe TU8 was similar to the one exposed TU10. This wall footing also extends about 10–15 cm (3.9–5.9 in.) away from the wall. Excavated deposits were a loose sandy silty soil and 10 artifacts were recovered, mostly glass shards (n=7).

Artifacts Recovered from the East Wall Segment

Glass was the most abundant artifact class recovered from the east wall segment. A total of 170 glass shards were recovered, 65.1 percent of the total (n=261). The majority of glass shards are undiagnostic container glass. The next highest class of artifacts recovered were ceramics (n=40), representing 15.3 percent of the total, and metal fragments (n=30), representing 11.5 percent of the total. The amount of temporally undiagnostic lithic material was negligible (n=5), as was the amount of faunal material (n=4). Although the number of personal items recovered was low (n=7), among these was a Cowrie shell pendant from TU13 and a 1930s penny from TU14. The Measled Cowrie shell (*Cypraeidae*) pendant may predate the Spanish Colonial period.

Table 4.3: Artifacts recovered from East Wall Segment; note faunal bone is present as weight.

	TU5	TU6	TU13	TU14	TU10	TU8	Totals
* Faunal Bone							
Level 1	51.4	98.9	-	7.7	3.9	1.6	163.5 gm (5.8 oz)
Level 2	-	-	19.6	25.9	-	-	45.5 gm (1.6 oz)
Lithics							
Level 1	1	1	-	1	2	-	5
Level 2	-	-	-	-	-	-	0
Ceramics							
Level 1	7	5	2	3	2	3	22
Level 2	-	-	4	14	-	-	18
Glass							
Level 1	8	17	42	39	15	7	128
Level 2	-	-	6	36	-	-	42
Construction							
Level 1	3	-	-	4	0	-	7
Level 2	-	-	1	1	-	-	2
Metal							
Level 1	-	1	4	15	4	-	24
Level 2	-	-	1	5	-	-	6
Personal							
Level 1	-	-	3	-	1	-	4
Level 2	-	-	1	2	-	-	3
Totals	19	24	64	120	24	10	261

Almost twice as many glass shards were recovered from the east wall segment as compared to the west wall segment; 170 and 86, respectively. As in the case of the west wall segment, most of the glass shards comprised an assortment of container glass. Fewer ceramic sherds were recovered from the east wall segment, and all were recovered from disturbed contexts. Ten of the 40 ceramic sherds were of early origin (Native American and Spanish Colonial wares), but six of the 10 were recovered from the first level. The number of later examples of European wares were evenly distributed between Level 1 (n=16) and Level 2 (n=14), which indicates mixed deposits.

Table 4.4: Ceramics recovered from East Wall Segment

	TU5	TU6	TU13	TU14	TU10	TU8	Totals
Native American							
Level 1	-	1	-	-	-	1	2
Level 2	-	-	-	2	-	-	2
Spanish Colonial Lead Glazed							
Level 1	1	1	-	-	-	1	3
Level 2	-	-	-	-	-	-	0
Spanish Colonial Tin Glazed							
Level 1	-	-	-	-	-	1	1
Level 2	-	-	2	-	-	-	2
European Earthenware							
Level 1	5	3	1	3	-	-	12
Level 2	-	-	2	6	-	-	8
European Porcelain							
Level 1	-	-	-	-	1	-	1
Level 2	-	-	-	1	-	-	1
European Semi-Porcelain							
Level 1	-	-	1	-	1	-	2
Level 2	-	-	-	-	-	-	0
European Stoneware							
Level 1	1	-	-	-	-	-	1
Level 2	-	-	-	5	-	-	5
Totals	7	5	6	17	2	3	40

Summary

In terms of artifacts, all were recovered from disturbed contexts and generally they represent both the prehistoric to historic periods. This mixing would indicate a considerable amount of disturbance, likely related to the restoration and reconstruction efforts of the 1930 and 1950s. The most interesting and unique artifact was the Cowrie shell pendant with two thread-holes (Figure 4.6). The collection of ceramic sherds date to between the 1700s and 1800s (Figures 4.6 and 4.7).

The ceramic sherds recovered from both wall segments comprised Native American, Spanish

Colonial, and European wares. The Native American wares date to the 1700s and are commonly found in Spanish Colonial sites (Fox and Ulrich, 2008, p. 27). The Spanish Colonial ceramics recovered from this site were either lead glazed or tin glazed. The lead-glazed ceramics date from ca. 1725 to 1850 and the tin-glazed ceramics date from ca. late-1700 to early 1800 (Fox and Ulrich, 2008, p. 38–39). The recovered European wares comprised Edged Ware ca. 1780–1850, Transferware dating to ca. 1800–1850, Sponge Ware dating to ca. 1800–1860, and hand-painted

Whiteware dating after 1830, as well as Porcelain dating after 1830, Semi-Porcelain dating after 1850, and Stoneware dating after 1850 (THC, 2006, p. 2–7).



Figure 4.6: Cowrie shell pendant recovered from TU13.



Figure 4.7: Sample of ceramic sherds recovered from TU12: a – Native American ware; b – Spanish Colonial, tin glazed; and c – European ware, hand-painted.



Figure 4.8: Sample of European ware recovered from TU14; a – Transferware; b – Sponge Ware (top) & Transferware (bottom); and c – Stoneware.

Testing of the north gate determined the reconstructed walls were not aligned on the original wall footings, and that the sections of reconstructed wall footings are atypical of Spanish Colonial-period wall footings (Figures 4.9 and 4.10). Exposure of the wall footings revealed that the reconstructed walls were not centered on the wall footings and that sections of these wall footings at both segments had been poorly reconstructed.

In addition to these missteps, CAR staff noted the present-day gate opening does not align with the opening shown on the 1934 measured drawing (Figure 4.13). The inset shown in Figure 4.13 is taken from the plan of the area produced by CAR staff. The plan view includes the existing stone walls to the west and east (shown in orange) of the north gate (shown in green), which was then overlain on the 1934 drawing. CAR staff aligned the present-day house ruins approximately over the area on the 1934 plan labeled “present house.” CAR staff also enhanced the trajectory of the road on the 1934 plan in order to emphasize its misalignment. However, we note the informal probes with the quarter-inch diameter rod failed to locate evidence of a wall footing between the reconstructed gate opening. This would suggest the opening was correctly aligned, or that the stones were removed for reuse elsewhere.

The project area was secured soon after the completion of the archaeological testing and architectural documentation. The excavations were overlain with geotextile fabric and sand, then backfilled and compacted. NPS staff fenced off the area after backfilling.



Figures 4.9 and 4.10: West wall segment—view west (left) and view east (right); note poorly reconstructed section (outlined).



Figures 4.11 and 4.12: East wall segment—view west (left) and view east (right); note poorly reconstructed section (outlined).

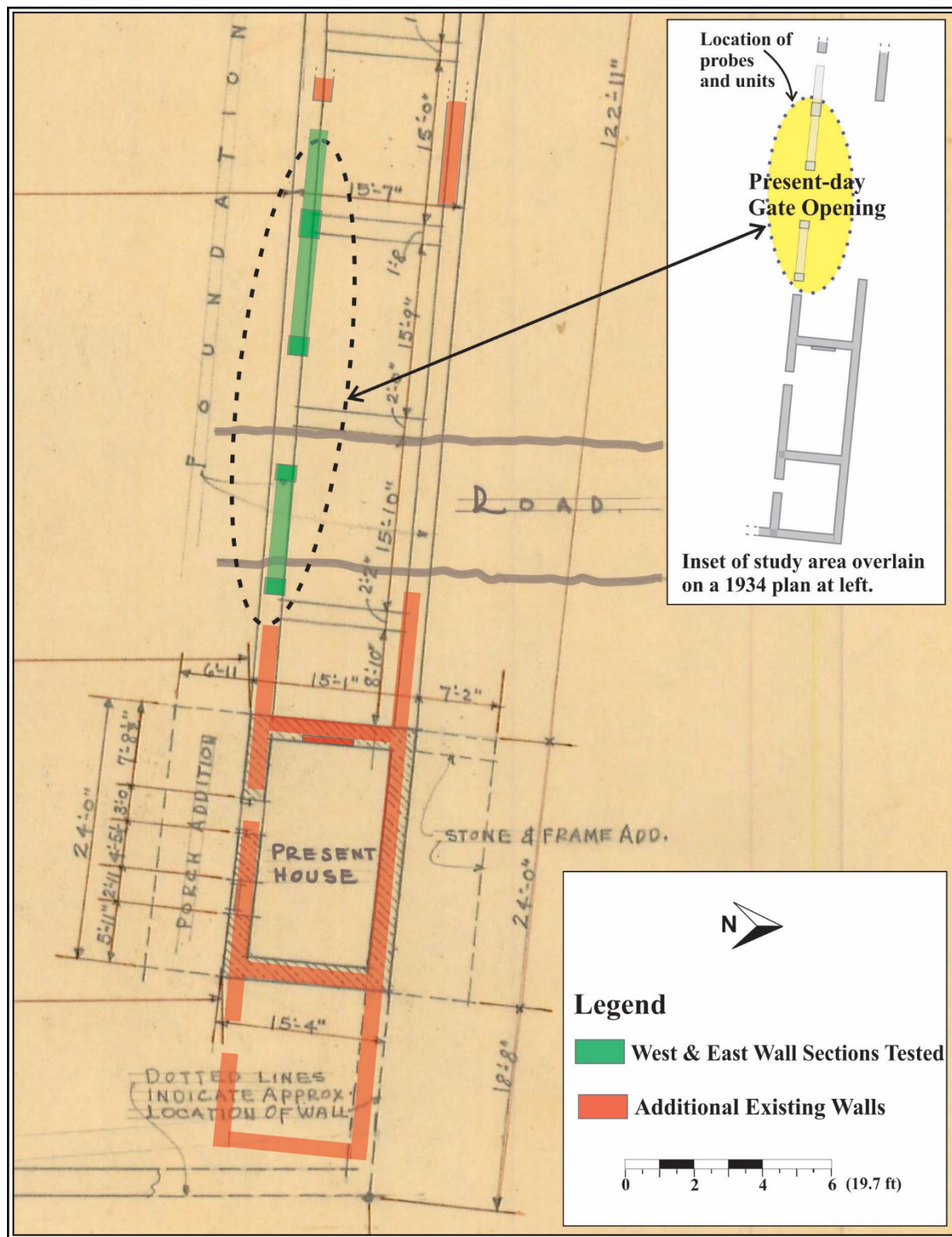


Figure 4.13: Cropped image of 1934 measured drawing by Harvey Smith, overlain by recent field drawing of study area; road indication on 1934 plan was enhanced for effect by CAR staff. Image courtesy of The Alexander Architectural Archives, The University of Texas Libraries, The University of Texas at Austin.

Chapter 5

Treatment and Work Recommendations

The north gate is worthy of attention because it conveys information related to the overall historic significance of Mission Espada by its presence as a historical entrance/exit. The gate illustrates a pattern of use with connection to the river and nearby burn pits for lime production. The gate and related sections of wall provide visual and aesthetic consistency to the overall Mission Espada narrative.

Recommendations for treatment described below are based on the Secretary of the Interior's *Standards for the Treatment of Historic Properties*. The work recommendations also consider life-safety, building codes, sustainability, resilience and other best practices for long-term care of the cultural resource.

Options for treatment are presented herein for consideration by SAAN.

Recommended Option: Rehabilitation of 1950s feature

The recommended treatment is to move the wall features into a true upright, vertical position, making them appear generally as they were when constructed in the 1950s. This recommendation is not for full restoration to the 1950s appearance, so the jagged stones that were set atop the wall do not need to be reconstructed. The addition of hidden structural improvements will be necessary. The structural improvement further distinguishes this treatment as rehabilitation rather than restoration of the 1950s appearance. A professional engineer will be needed to design the appropriate structural intervention necessary to hold the walls in their former upright position. The designed solution will need to mitigate damage to the underlying colonial features, though a certain amount of damage will be unavoidable.

Alternative Option: Preservation—Stabilize (only as a short-term, lower-budget treatment)

To protect the historic resource temporarily, a structural stabilization can be installed by addition of shoring material, with appropriate footings, to prevent the wall from falling. Precedent exists for this type of treatment at Mission Espada—the tension rods at the back of the church façade. Nonetheless, shoring at the wall will create a visual disparity and inconsistency with regard to the rest of the site, and so it should only be considered as a temporary treatment. SAAN staff will be aware that archaeological consultation will be needed where footings are placed for the shoring.

Restoration to 1950s appearance (not recommended)

Restoration of the 1950s appearance would require reconstruction of missing stones that were set atop the wall, perhaps as a vague reference to military embattlements? This option is essentially identical to the rehabilitation (best) option described above, yet without the hidden, structural improvements. Therefore, it is not recommended because of low durability for the financial investment.

No action (not recommended)

This option is not recommended. Though the wall may have been leaning for many years without incident, its position is precarious and vulnerable. The wall presents an eventual life-safety hazard. Further, the wall's appearance indicates to visitors an unwarranted lack of maintenance and overall lack of concern for both the resource and safety of visitors. At the very least, permanent protections and re-routing of visitor foot traffic appear to be necessary, as described in another option alternative.

Option: Active preservation of existing condition (not recommended)

Under this scenario, one would endeavor to preserve the wall as it appears today, in its precarious, leaning position. The effort and expense required to achieve such a result is not worth the trouble. The finished result would suffer from similar concerns expressed for the “no action” option—poorly maintained and apparently discourteous to visitors as well as the cultural resource.

Passive, *laissez-faire* preservation (not recommended)

This option, not recommended, would allow the wall to deteriorate from an apparently unstable ruin to a collapsed feature. Under this preservation option, SAAN would allow the north gate to follow its natural process of decay by not preventing it from toppling over to a more stable, horizontal position. For visitor safety, a well-designed barrier would have to be installed around the projected area of collapse, and the sidewalk would need to be relocated to circumvent the zone of anticipated collapse. Long-term, the felled historic fabric could remain in place, intact, but on its side. The spatial relationship of the gate to the rest of Mission Espada would remain discernable. However, this treatment option would beg consideration of the same approach to the other features along the north wall (which are outside the scope of this report), also in poor structural condition. Will the ruined remains of the residences also be allowed to slowly collapse in a controlled and planned manner? If not, then the gate would be the only felled historic feature at Mission Espada and thus create a visual inconsistency. An interpretive panel at the collapsed resource might help to explain, but would also place undue attention on a relatively minor element of the whole visitor experience at Mission Espada.

Option: Demolition of 1950s wall construction (not recommended)

We do not recommend any removal of the north gate wall or stones. Although the present-day north gate feature is not of colonial construction, it has gained historical significance over the past six decades for association with 20th-century reconstructions. Further, there is high likelihood that a road/gate opening has always been present somewhere in the north perimeter wall. One could argue in favor of partial demolition to mitigate full collapse, whereby the two stone pillars demarcating the gate could remain, while the rest of the stone be removed. The historical space would thus remain defined and would persist as a visual aid for the interpretation of movement

from the interior to the exterior mission boundaries. Still, this would not be an appropriate treatment due to the destruction of historic fabric.

Table 5.1: Treatment options for the North Gate

Treatment	Description	Financial Cost	Pros	Cons
Rehabilitation	Design an appropriate structural improvement and reset the wall upright and true.	High	Reestablishes visual consistency of north wall and the overall 1950s appearance. Retains historic fabric. Safe. Durable.	Anchors/footings may destroy or disrupt Spanish Colonial materials.
Preservation—Stabilize	Design temporary shoring to prevent collapse.	Low	Good for life-safety concerns. Historic fabric protected.	Visual intrusion into visitor experience. Archaeology at areas of disturbance.
Restoration	Restore the wall to its 1950s construction and configuration.	Mid	Reestablishes visual consistency of north gate as it appeared in the 1950s.	Not durable without structural improvement. Requires speculative reconstruction of jagged stones and an actual gate.
No Action	Do nothing.	None	No cost.	Life-safety threat. Appearance of apathy.
Active Preservation	Preserve the wall as it exists, without visual change. Hidden, structural intervention would be necessary to hold the leaning wall in place permanently.	High	Similar pros as with other options retaining historic fabric.	Appearance of apathy. Anchors/footings may destroy or disrupt some Spanish Colonial materials.
Passive Preservation	Allow natural process of decay and eventual collapse.	Mid	Stones continue to define the space; historic evidence remains in situ.	Only feature not upright at Mission Espada. Inconsistent treatment with residences of north wall? Necessary to add barriers and to reroute sidewalk.
Demolition	Partial removal of walls, perhaps leaving the ‘tower’ elements to define a gateway.	Low	Safe	Loss of 1950s historic fabric. Visual continuity of north perimeter disrupted.

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References

References

- AmaTerra Environmental, Inc. (2017). *Mission San Francisco de la Espada Cultural Landscape Report* (AmaTerra Project No. 064-007). Austin, TX: AmaTerra Environmental, Inc.
- Ayala, Aurelio C., to Robert E. Lucey [Property sales contract]. (1956). San Antonio. San Antonio Missions National Historical Park Resource Management Records (ACC SAAN-00448 CAT SAAN 87581, Box 3 of 40, File 109). NPS Western Archeological and Conservation Center, Tucson, AZ.
- Bell, Wayne, and Marsha Jackson (1972). *Mission San Francisco de la Espada National Register of Historic Places Nomination Form*. Austin, TX: Texas State Historical Survey Committee.
- Cargill, Diane A., Barbara A. Meissner, Anne A. Fox, and I. Wayne Cox. (2004). *San Antonio Mission Trails—Statewide Transportation Enhancement Project. Vol. I. Construction Package 1: Archeological Investigations at Mission San Francisco de la Espada (41BX4), City of San Antonio, Bexar County, Texas* (Report No. 308). San Antonio: The University of Texas at San Antonio Center for Archaeological Research.
- Corner, William (1890). *San Antonio de Bexar: A Guide and History*. San Antonio: Bainbridge & Corner.
- Diaz, Emigdio, to Robert E. Lucey [Property sales contract]. (1956). San Antonio. San Antonio Missions National Historical Park Resource Management Records (ACC SAAN-00448 CAT SAAN 87581, Box 3 of 40, File 109). NPS Western Archeological and Conservation Center, Tucson, AZ.
- Fox, Anne A., and Kristi M. Ulrich (2008). *A Guide to Ceramics from Spanish Colonial Sites in Texas* (Special Report No. 33). San Antonio: The University of Texas at San Antonio, Center for Archaeological Research.
- Gilbert, Cathy, Hank Florence, Art Gomez, James Ivey, and Gretchen Luxenberg (1989). *Cultural Landscape Recommendations: Mission Espada, San Antonio Missions National Historical Park* (draft). San Antonio: NPS
- Habig, Marion A. (1969). *Mission Espada Interpretive Program: Book One*. San Antonio Missions National Historical Park Resource Management Records (ACC SAAN-00544 CAT SAAN 119125, Interpretation Records). NPS Western Archeological and Conservation Center, Tucson, AZ.

- Ivey, James (2018). *Of Various Magnificence*. Vol. 1. San Antonio: The University of Texas at San Antonio.
- Ivey, James, & Marlys Bush Thurber. (1983). *San Antonio Missions National Historical Park National Register of Historic Places Nomination Form*. San Antonio: NPS.
- Lucey, Robert E., to Erik K. Reed [Correspondence]. (1955). San Antonio. San Antonio Missions National Historical Park Resource Management Records (ACC SAAN-00448 CAT SAAN 87581, Box 3 of 40, File 107). NPS Western Archeological and Conservation Center, Tucson, AZ.
- Lucey, Robert E., to Henry Schultz [Correspondence]. (1955). San Antonio. San Antonio Missions National Historical Park Resource Management Records (ACC SAAN-00448 CAT SAAN 87581, Box 3 of 40, File 107). NPS Western Archeological and Conservation Center, Tucson, AZ.
- National Park Service [NPS]. (2014) *San Antonio Missions Nomination to the World Heritage List by the United States of America*. San Antonio: NPS.
- “Restoration Project Begun.” *San Antonio Light*. Monday, May 9, 1955, p. 21.
- Schlinke, John T. Adapted from Tobin Research Inc. (1982). “Mission San Francisco de la Espada, Berg’s Mill Community, San Antonio, Bexar County, TX.” Measured drawing, Historic American Buildings Survey, National Park Service, U.S. Department of the Interior. From Prints and Photographs Division, Library of Congress HABS TEX,15-SANT.V,2- (sheet 3 of 13); <https://www.loc.gov/pictures/item/tx0015.sheet.00007a/> accessed June 13, 2019.
- Texas Historical Commission (THC), Archeology Division (2006). *A Steward’s Illustrated Key to Historic Ceramics*. Austin, Texas.
- Thurber, Marlys Bush, Santiago Escobedo, and Tom Ireland, and James Ivey. (1993). *Of Various Magnificence*. Vol. 2. Unpublished manuscript. San Antonio Missions National Historical Park.

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Appendix

FS #	CAR Lot	CAR Cat	Provenience	Level	Depth (cmbd)	CAR Superclass	CAR Class	Description	Count (Item)	Count (bag)	Weight (gm)	Discarded
1	1	1	Test Unit 1	1	0-20	Ceramics	European Earthenware	undecorated	7			no
1	1	2	Test Unit 1	1	0-20	Ceramics	European Earthenware	(5) handpainted blue, (1) green transferware, (1) brown/white, (2) rims	7			no
2	2	1	Test Unit 1	2	20-40	Ceramics	European Earthenware	undecorated	1			no
2	2	2	Test Unit 1	2	20-40	Ceramics	European Earthenware	pink/green band, rim	1			no
3	3	1	Test Unit 2	1	0-20	Ceramics	European Earthenware	undecorated	3			no
3	3	2	Test Unit 2	1	0-20	Ceramics	European Earthenware	pink transferware	1			no
5	5	1	Test Unit 3	1	0-30	Ceramics	European Earthenware	undecorated, (2) rims, (1) footring	8			no
5	5	2	Test Unit 3	1	0-30	Ceramics	European Earthenware	pink transferware	1			no
5	5	3	Test Unit 3	1	0-30	Ceramics	European Earthenware	yellow w/ white band, rim	1			no
5	5	4	Test Unit 3	1	0-30	Ceramics	European Earthenware	red glaze	1			no
6	6	1	Test Unit 4 Probe	1	0-30	Ceramics	European Earthenware	undecorated, (2) footings	5			no
6	6	2	Test Unit 4 Probe	1	0-30	Ceramics	European Earthenware	handpainted blue, (1) rim	2			no
6	6	3	Test Unit 4 Probe	1	0-30	Ceramics	European Earthenware	red & green bands, rim	1			no
7	7	1	Test Unit 5	1	0-20	Ceramics	European Earthenware	undecorated	3			no
7	7	2	Test Unit 5	1	0-20	Ceramics	European Earthenware	(1) handpainted blue, (1) green band, (1) rim	2			no
8	8	1	Test Unit 6	1	0-20	Ceramics	European Earthenware	undecorated, rim	1			no
8	8	2	Test Unit 6	1	0-20	Ceramics	European Earthenware	(1) handle frag w/ red band, (1) blue	2			no
9	9	1	Test Unit 7	1	0-30	Ceramics	European Earthenware	undecorated, (4) rims, (1) footring	15			no
9	9	2	Test Unit 7	1	0-30	Ceramics	European Earthenware	handpainted floral pattern, (2) rims, (2) refit	4			no
9	9	3	Test Unit 7	1	0-30	Ceramics	European Earthenware	green spongeware	1			no
9	9	4	Test Unit 7	1	0-30	Ceramics	European Earthenware	pink spongeware	1			no
10	10	1	Test Unit 8 Probe	1	0-25	Ceramics	European Earthenware	undecorated, rim	1			no
14	14	1	Test Unit 11 Probe West	1	0-25	Ceramics	European Earthenware	undecorated, (1) rim	2			no
14	14	2	Test Unit 11 Probe West	1	0-25	Ceramics	European Earthenware	handpainted blue	1			no
14	14	3	Test Unit 11 Probe West	1	0-25	Ceramics	European Earthenware	molded, rim	1			no
16	16	1	Test Unit 12	2	20-34	Ceramics	European Earthenware	handpainted floral pattern, Possible refits	8			no
17	17	1	Test Unit 13	1	0-13	Ceramics	European Earthenware	undecorated	1			no
18	18	1	Test Unit 13	2	13-23	Ceramics	European Earthenware	spongeware	1			no
18	18	2	Test Unit 13	2	13-23	Ceramics	European Earthenware	blue band, rim	1			no
19	19	1	Test Unit 14	1	0-14	Ceramics	European Earthenware	black transferware, (1) rim	2			no
19	19	2	Test Unit 14	1	0-14	Ceramics	European Earthenware	black band & green, rim	1			no
20	20	1	Test Unit 14	2	14-27	Ceramics	European Earthenware	undecorated	3			no
20	20	2	Test Unit 14	2	14-27	Ceramics	European Earthenware	handpainted blue, (1) rim	2			no
20	20	3	Test Unit 14	2	14-27	Ceramics	European Earthenware	handpainted	1			no
1	1	3	Test Unit 1	1	0-20	Ceramics	European Porcelain	undecorated	1			no
10	10	2	Test Unit 8 Probe	1	0-25	Ceramics	European Porcelain	molded	1			no
13	13	1	Test Unit 10 Probe East	1	0-25	Ceramics	European Porcelain	undecorated	1			no

FS #	CAR Lot	CAR Cat	Provenience	Level	Depth (cmbd)	CAR Superclass	CAR Class	Description	Count (Item)	Count (bag)	Weight (gm)	Discarded
20	20	4	Test Unit 14	2	14-27	Ceramics	European Porcelain	black band, handle	1			no
10	10	3	Test Unit 8 Probe	1	0-25	Ceramics	European Semi-Porcelain	undecorated, rim	1			no
13	13	2	Test Unit 10 Probe East	1	0-25	Ceramics	European Semi-Porcelain	undecorated, rim	1			no
17	17	2	Test Unit 13	1	0-13	Ceramics	European Semi-Porcelain	undecorated, footring	1			no
1	1	4	Test Unit 1	1	0-20	Ceramics	European Stoneware	undecorated	1			no
3	3	3	Test Unit 2	1	0-20	Ceramics	European Stoneware	handle and lip	1			no
5	5	5	Test Unit 3	1	0-30	Ceramics	European Stoneware	brown interior glaze	1			no
7	7	3	Test Unit 5	1	0-20	Ceramics	European Stoneware	Base	1			no
20	20	5	Test Unit 14	2	14-27	Ceramics	European Stoneware	brown interior, refit all 5, 16-18 cm diam.	5			no
1	1	5	Test Unit 1	1	0-20	Ceramics	Native American		4			no
2	2	3	Test Unit 1	2	20-40	Ceramics	Native American		1			no
5	5	6	Test Unit 3	1	0-30	Ceramics	Native American		1			no
8	8	3	Test Unit 6	1	0-20	Ceramics	Native American		1			no
16	16	2	Test Unit 12	2	20-34	Ceramics	Native American		4			no
20	20	6	Test Unit 14	2	14-27	Ceramics	Native American		2			no
1	1	6	Test Unit 1	1	0-20	Ceramics	Spanish Colonial Lead Glazed	rim	1			no
3	3	4	Test Unit 2	1	0-20	Ceramics	Spanish Colonial Lead Glazed	Galera	2			no
5	5	7	Test Unit 3	1	0-30	Ceramics	Spanish Colonial Lead Glazed		1			no
7	7	4	Test Unit 5	1	0-20	Ceramics	Spanish Colonial Lead Glazed	rim	1			no
8	8	4	Test Unit 6	1	0-20	Ceramics	Spanish Colonial Lead Glazed		1			no
16	16	3	Test Unit 12	2	20-34	Ceramics	Spanish Colonial Lead Glazed		1			no
1	1	7	Test Unit 1	1	0-20	Ceramics	Spanish Colonial Tin Glazed		1			no
5	5	8	Test Unit 3	1	0-30	Ceramics	Spanish Colonial Tin Glazed		1			no
11	11	1	Test Unit 9	1	0-20	Ceramics	Spanish Colonial Tin Glazed		1			no
16	16	4	Test Unit 12	2	20-34	Ceramics	Spanish Colonial Tin Glazed		2			no
18	18	3	Test Unit 13	2	13-23	Ceramics	Spanish Colonial Tin Glazed		2			no
4	4	1	Test Unit 2	2	20-40	Construction	Brick	red	1	1	12.7	no
7	7	5	Test Unit 5	1	0-20	Construction	Brick	red	2	1	0.4	no
12	12	1	Test Unit 9	2	20-34	Construction	Brick	red	2	1	3.1	no
14	14	4	Test Unit 11 Probe West	1	0-25	Construction	Brick	red	3	1	2.8	no
18	18	4	Test Unit 13	2	13-23	Construction	Brick	red	1	1	76.7	no
19	19	3	Test Unit 14	1	0-14	Construction	Brick	red	3	1	4.2	no
20	20	7	Test Unit 14	2	14-27	Construction	Brick	red	1	1	14.4	no
9	9	5	Test Unit 7	1	0-30	Construction	Other	Brick tile	1	1	5.3	no
19	19		Test Unit 14	1	0-14	Construction	Other Synthetics	vinyl	1	1	0.5	yes
20	20		Test Unit 14	2	14-27	Construction	Other Synthetics	rubber, floor mat?	1	1	37.7	yes
5	5		Test Unit 3	1	0-30	Construction	Plastic		1	1	0.7	yes
16	16		Test Unit 12	2	20-34	Construction	Plastic		1	1	0.01	yes
11	11	2	Test Unit 9	1	0-20	Glass	Chimney		1		0.7	no
17	17	3	Test Unit 13	1	0-13	Glass	Chimney		3		1.2	no

FS #	CAR Lot	CAR Cat	Provenience	Level	Depth (cmbd)	CAR Superclass	CAR Class	Description	Count (Item)	Count (bag)	Weight (gm)	Discarded
19	19	4	Test Unit 14	1	0-14	Glass	Chimney		2		1	no
20	20	8	Test Unit 14	2	14-27	Glass	Chimney		8		3.2	no
1	1	8	Test Unit 1	1	0-20	Glass	Container/Vessel	Light Olive, base	1		20	no
1	1		Test Unit 1	1	0-20	Glass	Container/Vessel	Light Olive	6		34.2	yes
1	1		Test Unit 1	1	0-20	Glass	Container/Vessel	Clear	5		15.1	yes
1	1		Test Unit 1	1	0-20	Glass	Container/Vessel	Brown	3		3.1	yes
2	2		Test Unit 1	2	20-40	Glass	Container/Vessel	Light olive	2		8.8	yes
2	2		Test Unit 1	2	20-40	Glass	Container/Vessel	Clear	1		0.3	yes
3	3	5	Test Unit 2	1	0-20	Glass	Container/Vessel	Aqua, applied label	2		6.7	no
3	3	6	Test Unit 2	1	0-20	Glass	Container/Vessel	Aqua, rim	1		10.2	no
3	3	7	Test Unit 2	1	0-20	Glass	Container/Vessel	7-up green, molded	2		6.8	no
3	3	8	Test Unit 2	1	0-20	Glass	Container/Vessel	Brown, base	2		22.1	no
3	3		Test Unit 2	1	0-20	Glass	Container/Vessel	Aqua	2		3	yes
3	3		Test Unit 2	1	0-20	Glass	Container/Vessel	7-up green	1		0.7	yes
3	3		Test Unit 2	1	0-20	Glass	Container/Vessel	Clear	5		4.5	yes
3	3		Test Unit 2	1	0-20	Glass	Container/Vessel	Brown	1		2	yes
3	3		Test Unit 2	1	0-20	Glass	Container/Vessel	Olive	1		0.6	yes
5	5		Test Unit 3	1	0-30	Glass	Container/Vessel	Clear	17		10.4	yes
5	5		Test Unit 3	1	0-30	Glass	Container/Vessel	Aqua	3		11.7	yes
5	5		Test Unit 3	1	0-30	Glass	Container/Vessel	Amber	1		0.4	yes
5	5		Test Unit 3	1	0-30	Glass	Container/Vessel	light olive	1		6	yes
5	5		Test Unit 3	1	0-30	Glass	Container/Vessel	Dark olive	1		2	yes
6	6		Test Unit 4 Probe	1	0-30	Glass	Container/Vessel	Clear	7		4.9	yes
6	6		Test Unit 4 Probe	1	0-30	Glass	Container/Vessel	Light Olive	1		0.4	yes
6	6		Test Unit 4 Probe	1	0-30	Glass	Container/Vessel	Aqua	1		0.5	yes
7	7	6	Test Unit 5	1	0-20	Glass	Container/Vessel	Clear, rim	1		2.9	no
7	7	7	Test Unit 5	1	0-20	Glass	Container/Vessel	Clear, molded	1		5.2	no
7	7	8	Test Unit 5	1	0-20	Glass	Container/Vessel	Milk, molded	1		1	no
7	7	9	Test Unit 5	1	0-20	Glass	Container/Vessel	Aqua, embossed "S"	1		1.2	no
7	7		Test Unit 5	1	0-20	Glass	Container/Vessel	Clear	2		3.1	yes
7	7		Test Unit 5	1	0-20	Glass	Container/Vessel	Aqua	1		1.8	yes
7	7		Test Unit 5	1	0-20	Glass	Container/Vessel	Cobalt blue	1		0.8	yes
8	8	5	Test Unit 6	1	0-20	Glass	Container/Vessel	Clear, base embossed "20QB 600 2143-EP"	1		32.3	no
8	8	6	Test Unit 6	1	0-20	Glass	Container/Vessel	Clear, embossed "Fl. O ...", "7 N..."	2		19.8	no
8	8	7	Test Unit 6	1	0-20	Glass	Container/Vessel	Light Olive, neck	1		11.1	no
8	8	8	Test Unit 6	1	0-20	Glass	Container/Vessel	Dark olive, rim	1		7.1	no
8	8		Test Unit 6	1	0-20	Glass	Container/Vessel	Clear	10		24.3	yes
8	8		Test Unit 6	1	0-20	Glass	Container/Vessel	Dark olive	2		28	yes
9	9		Test Unit 7	1	0-30	Glass	Container/Vessel	Clear	3		5.9	yes
9	9		Test Unit 7	1	0-30	Glass	Container/Vessel	Olive	1		2.4	yes

FS #	CAR Lot	CAR Cat	Provenience	Level	Depth (cmbd)	CAR Superclass	CAR Class	Description	Count (Item)	Count (bag)	Weight (gm)	Discarded
10	10		Test Unit 8 Probe	1	0-25	Glass	Container/Vessel	Clear	5		10.7	yes
10	10		Test Unit 8 Probe	1	0-25	Glass	Container/Vessel	Amber	2		4.6	yes
11	11	3	Test Unit 9	1	0-20	Glass	Container/Vessel	Clear, embossed "... NCH ..."	1		4.1	no
11	11		Test Unit 9	1	0-20	Glass	Container/Vessel	Clear	2		0.4	yes
12	12	2	Test Unit 9	2	20-34	Glass	Container/Vessel	Clear, molded	1		4.1	no
12	12		Test Unit 9	2	20-34	Glass	Container/Vessel	Aqua	1		3.7	yes
13	13	3	Test Unit 10 Probe East	1	0-25	Glass	Container/Vessel	Milk, rim	1		9.1	no
13	13		Test Unit 10 Probe East	1	0-25	Glass	Container/Vessel	Aqua	7		16.2	yes
13	13		Test Unit 10 Probe East	1	0-25	Glass	Container/Vessel	Dark olive	1		4.4	yes
13	13		Test Unit 10 Probe East	1	0-25	Glass	Container/Vessel	Clear	5		5.1	yes
13	13		Test Unit 10 Probe East	1	0-25	Glass	Container/Vessel	Amber	1		1.1	yes
14	14	5	Test Unit 11 Probe West	1	0-25	Glass	Container/Vessel	Brown, rim/neck	1		67.4	no
14	14		Test Unit 11 Probe West	1	0-25	Glass	Container/Vessel	Aqua	1		1.9	yes
14	14		Test Unit 11 Probe West	1	0-25	Glass	Container/Vessel	Brown	1		0.7	yes
16	16	5	Test Unit 12	2	20-34	Glass	Container/Vessel	Amber, molded	1		0.9	no
16	16		Test Unit 12	2	20-34	Glass	Container/Vessel	Olive	1		3.5	yes
17	17	4	Test Unit 13	1	0-13	Glass	Container/Vessel	Clear, molded	3		16.5	no
17	17	5	Test Unit 13	1	0-13	Glass	Container/Vessel	Aqua, embossed Coca Cola bottle fragment	1		7.7	no
17	17	6	Test Unit 13	1	0-13	Glass	Container/Vessel	Aqua, Coca Cola bottle fragment	2		2.6	no
17	17	7	Test Unit 13	1	0-13	Glass	Container/Vessel	Milk, jar, with metal lid	8		97.6	no
17	17		Test Unit 13	1	0-13	Glass	Container/Vessel	Clear	22		104	yes
17	17		Test Unit 13	1	0-13	Glass	Container/Vessel	Dark olive	2		6.2	yes
17	17		Test Unit 13	1	0-13	Glass	Container/Vessel	Olive	1		10.3	yes
18	18	5	Test Unit 13	2	13-23	Glass	Container/Vessel	Yellow, molded, base	1		3.7	no
18	18		Test Unit 13	2	13-23	Glass	Container/Vessel	Dark olive	2		15.8	yes
18	18		Test Unit 13	2	13-23	Glass	Container/Vessel	Clear	2		10.2	yes
18	18		Test Unit 13	2	13-23	Glass	Container/Vessel	Light Olive	1		4.9	yes
19	19	5	Test Unit 14	1	0-14	Glass	Container/Vessel	Clear, molded	1		6.5	no
19	19	6	Test Unit 14	1	0-14	Glass	Container/Vessel	Milk, rim	1		8.3	no
19	19	7	Test Unit 14	1	0-14	Glass	Container/Vessel	Milk, embossed floral pattern, base	2		8.6	no
19	19		Test Unit 14	1	0-14	Glass	Container/Vessel	Clear	21		33.5	yes
19	19		Test Unit 14	1	0-14	Glass	Container/Vessel	Aqua	2		3.8	yes
19	19		Test Unit 14	1	0-14	Glass	Container/Vessel	Dark olive	7		36.5	yes
19	19		Test Unit 14	1	0-14	Glass	Container/Vessel	Light Olive	2		4.2	yes
19	19		Test Unit 14	1	0-14	Glass	Container/Vessel	Amber	1		0.6	yes
20	20	9	Test Unit 14	2	14-27	Glass	Container/Vessel	Yellow, molded	3		24.4	no
20	20	10	Test Unit 14	2	14-27	Glass	Container/Vessel	Aqua, Coca-Cola bottle fragments	2		4.3	no
20	20		Test Unit 14	2	14-27	Glass	Container/Vessel	Clear	15		41.8	yes
20	20		Test Unit 14	2	14-27	Glass	Container/Vessel	Dark olive	4		27.8	yes
20	20		Test Unit 14	2	14-27	Glass	Container/Vessel	Amber	1		3.1	yes

FS #		CAR		Provenience		Level	Depth (cmbd)	CAR Superclass	CAR Class	Description	Count (Item)	Count (bag)	Weight (gm)	Discarded
1	1			Test Unit 1	1	0-20	Glass	Flat/Window			2		6	yes
5	5			Test Unit 3	1	0-30	Glass	Flat/Window			1		6	yes
20	20			Test Unit 14	2	14-27	Glass	Flat/Window			3		6.8	yes
8	8	9		Test Unit 6	1	0-20	Lithics	Bifaces/Unifaces		Uniface	1			no
9	9			Test Unit 7	1	0-30	Lithics	Burned Rock			1		8.4	yes
13	13			Test Unit 10 Probe East	1	0-25	Lithics	Burned Rock			2		5.7	yes
19	19			Test Unit 14	1	0-14	Lithics	Burned Rock			1		23.8	yes
7	7	10		Test Unit 5	1	0-20	Lithics	Debitage			1			no
9	9	6		Test Unit 7	1	0-30	Lithics	Debitage			2			no
14	14	6		Test Unit 11 Probe West	1	0-25	Lithics	Debitage			1			no
3	3	9		Test Unit 2	1	0-20	Metal	Containers/Caps		Can key	1		5.3	no
13	13			Test Unit 10 Probe East	1	0-25	Metal	Containers/Caps		Can pull tab, stay-on-tab, mid- 1980s>	1		0.4	yes
1	1			Test Unit 1	1	0-20	Metal	Fasteners		Fence staple	1		5.4	yes
13	13	4		Test Unit 10 Probe East	1	0-25	Metal	Fasteners		Carriage bolt, 1/4"	1		14.9	no
19	19	8		Test Unit 14	1	0-14	Metal	Fasteners		Carriage bolt w/ nut, 5/8"	1		58	no
19	19			Test Unit 14	1	0-14	Metal	Fasteners		Fence staple	1		6	yes
20	20	11		Test Unit 14	2	14-27	Metal	Fasteners		Snap?	1		1.2	no
1	1	9		Test Unit 1	1	0-20	Metal	Nails		cut fragment	1		2.1	no
8	8	10		Test Unit 6	1	0-20	Metal	Nails		hand-forged	1		12.9	no
13	13	5		Test Unit 10 Probe East	1	0-25	Metal	Nails		cut	1		8.2	no
14	14	7		Test Unit 11 Probe West	1	0-25	Metal	Nails		cut, fragment	1		4.6	no
17	17	8		Test Unit 13	1	0-13	Metal	Nails		cut	1		15.6	no
17	17			Test Unit 13	1	0-13	Metal	Nails		wire	1		15.6	yes
18	18			Test Unit 13	2	13-23	Metal	Nails		round	1		4.6	yes
19	19	9		Test Unit 14	1	0-14	Metal	Nails		cut	1		3.6	no
19	19			Test Unit 14	1	0-14	Metal	Nails		wire	3		6.3	yes
20	20			Test Unit 14	2	14-27	Metal	Nails		round	4		7	yes
1	1	1		Test Unit 1	1	0-20	Metal	Other Metal Objects/Unknown		unidentifiable	2		60.9	yes
2	2			Test Unit 1	2	20-40	Metal	Other Metal Objects/Unknown		scrap		1	10.7	yes
2	2			Test Unit 1	2	20-40	Metal	Other Metal Objects/Unknown		flat & circular, unidentifiable	1		2.2	yes
5	5			Test Unit 3	1	0-30	Metal	Other Metal Objects/Unknown		scrap	1		0.4	yes
6	6			Test Unit 4 Probe	1	0-30	Metal	Other Metal Objects/Unknown		unidentifiable	1		26	yes
13	13			Test Unit 10 Probe East	1	0-25	Metal	Other Metal Objects/Unknown		unidentifiable	1		11.7	yes
16	16			Test Unit 12	2	20-34	Metal	Other Metal Objects/Unknown		unidentifiable		1	21.5	yes
17	17			Test Unit 13	1	0-13	Metal	Other Metal Objects/Unknown		unidentifiable	1		2.3	yes
19	19			Test Unit 14	1	0-14	Metal	Other Metal Objects/Unknown		scrap, cuprous, thin/flat	1		2.2	yes
19	19			Test Unit 14	1	0-14	Metal	Other Metal Objects/Unknown		foil	1		0.2	yes
20	20			Test Unit 14	2	14-27	Metal	Other Metal Objects/Unknown		scrap		1	59.7	yes
1	1	10		Test Unit 1	1	0-20	Metal	Wire		Barbed Wire	1		4.8	no
5	5	9		Test Unit 3	1	0-30	Metal	Wire			1		5.6	no

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9	9	7	Test Unit 7	1	0-30	Metal	Wire		1		14.1	no
16	16	6	Test Unit 12	2	20-34	Metal	Wire		1		2.2	no
17	17	9	Test Unit 13	1	0-13	Metal	Wire	Barbed Wire	1		3.4	no
19	19	10	Test Unit 14	1	0-14	Metal	Wire		7		30.7	no
20	20	12	Test Unit 14	2	14-27	Metal	Wire		1		11.9	no
1	1	11	Test Unit 1	1	0-20	Organic	Faunal Bone			1	125.1	no
2	2	4	Test Unit 1	2	20-40	Organic	Faunal Bone	(1) burned		1	6.4	no
3	3	10	Test Unit 2	1	0-20	Organic	Faunal Bone	(1) tooth		1	121.5	no
4	4	2	Test Unit 2	2	20-40	Organic	Faunal Bone		1		1.9	no
5	5	10	Test Unit 3	1	0-30	Organic	Faunal Bone	(3) teeth	1		59.7	no
6	6	4	Test Unit 4 Probe	1	0-30	Organic	Faunal Bone		1		6.5	no
7	7	11	Test Unit 5	1	0-20	Organic	Faunal Bone		1		51.4	no
8	8	11	Test Unit 6	1	0-20	Organic	Faunal Bone		1		98.9	no
9	9	8	Test Unit 7	1	0-30	Organic	Faunal Bone		1		35	no
10	10	4	Test Unit 8 Probe	1	0-25	Organic	Faunal Bone		1		1.6	no
11	11	4	Test Unit 9	1	0-20	Organic	Faunal Bone		1		22.9	no
12	12	3	Test Unit 9	2	20-34	Organic	Faunal Bone		1		0.3	no
13	13	6	Test Unit 10 Probe East	1	0-25	Organic	Faunal Bone		1		3.9	no
14	14	8	Test Unit 11 Probe West	1	0-25	Organic	Faunal Bone		1		34.4	no
16	16	7	Test Unit 12	2	20-34	Organic	Faunal Bone		1		1.5	no
18	18	6	Test Unit 13	2	13-23	Organic	Faunal Bone	(1) burned		1	19.6	no
19	19	11	Test Unit 14	1	0-14	Organic	Faunal Bone		1		7.7	no
20	20	13	Test Unit 14	2	14-27	Organic	Faunal Bone	(1) burned	1		25.9	no
17	17	10	Test Unit 13	1	0-13	Organic	Modified Shell	Cowry shell pendant	1			no
3	3	11	Test Unit 2	1	0-20	Organic	Shell	mussel	2	1	2.7	no
4	4	3	Test Unit 2	2	20-40	Organic	Shell	mussel	2	1	2.6	no
5	5	11	Test Unit 3	1	0-30	Organic	Shell	mussel	2	1	2.9	no
6	6	5	Test Unit 4 Probe	1	0-30	Organic	Shell	mussel	1	1	0.2	no
9	9	9	Test Unit 7	1	0-30	Organic	Shell	mussel	1	1	0.1	no
16	16	8	Test Unit 12	2	20-34	Organic	Shell	mussel	1	1	0.1	no
17	17	11	Test Unit 13	1	0-13	Organic	Shell	mussel	2	1	0.9	no
20	20	14	Test Unit 14	2	14-27	Organic	Shell	mussel	1	1	<0.1	no
7	7	12	Test Unit 5	1	0-20	Organic	Wooden Objects		1	1	0.1	no
1	1	12	Test Unit 1	1	0-20	Personal	Buttons/Fasteners	Metal button, shank, 2 cm diam.	1			no
17	17	12	Test Unit 13	1	0-13	Personal	Buttons/Fasteners	4 hole glass button, 9mm, child's/doll	1			no
18	18	7	Test Unit 13	2	13-23	Personal	Buttons/Fasteners	Metal button, shank	1			no
20	20	15	Test Unit 14	2	14-27	Personal	Buttons/Fasteners	4 hole shell button, rim (missing 1/4)	1			no
13	13	7	Test Unit 10 Probe East	1	0-25	Personal	Coins	1977 nickel	1			no
20	20	16	Test Unit 14	2	14-27	Personal	Coins	wheat penny (1909-1956), 193? (last digit??)	1			no

FS #	CAR Lot	CAR Cat	Provenience	Level	Depth (cmbd)	CAR Superclass	CAR Class	Description	Count (Item)	Count (bag)	Weight (gm)	Discarded
17	17	13	Test Unit 13	1	0-13	Personal	Other Personal Items	shoe heel, rubber, some nails/tack	1			no
17	17	14	Test Unit 13	1	0-13	Personal	Toys	Baby doll leg, bisque	1			no
5	5	12	Test Unit 3	1	0-30	Samples	14C Sample			1	0.1	no
6	6	6	Test Unit 4 Probe	1	0-30	Samples	14C Sample			1	0.1	no
11	11	5	Test Unit 9	1	0-20	Samples	14C Sample			1	0.1	no
12	12	4	Test Unit 9	2	20-34	Samples	14C Sample			1	0.9	no
16	16	9	Test Unit 12	2	20-34	Samples	14C Sample			1	1.7	no
17	17	15	Test Unit 13	1	0-13	Samples	14C Sample			1	0.1	no
20	20	17	Test Unit 14	2	14-27	Samples	14C Sample			1	1.9	no