

**ARCHAEOLOGICAL TESTING FOR THE
MISSION ROAD REALIGNMENT PROJECT, PHASE II,
AT MISSION CONCEPCIÓN, SAN ANTONIO, TEXAS**

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ABSTRACT

In July 1988, the Center for Archaeological Research (CAR) contracted with the city of San Antonio to perform archaeological testing for the Mission Road Realignment Project. This project was designated as Phase II since CAR performed previous archaeological testing during February 1987 (Labadie 1989). The Mission Road Realignment Project, Phase II proposed to relocate the position of Mission Road outside the line of the original west wall of Mission Concepción. The testing sought to determine whether any structural remains or cultural deposits that may have been located outside the mission wall would be impacted by the proposed roadway.

Archaeological testing with hand-excavated units and backhoe trenches established the location of the west wall of the mission quadrangle and a portion of an interior structure wall foundation with an associated hearth and cultural midden. The northwest corner of the mission is believed to be located under the current Mission Road. Mission-period pottery, metals tools, projectile points, and animal bone were recovered from the excavations.

TABLE OF CONTENTS

ABSTRACT	i
LIST OF FIGURES	iii
LIST OF TABLES	iii
ACKNOWLEDGMENTS	iv
INTRODUCTION	1
GEOLOGY AND SOILS	1
HISTORICAL BACKGROUND	4
PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS	6
RESEARCH DESIGN	7
FIELD INVESTIGATIONS	7
ARTIFACT DESCRIPTIONS	15
ARTIFACT DISCUSSION	24
CONCLUSIONS AND RECOMMENDATIONS	24
EPILOGUE	25
REFERENCES CITED	26
APPENDIX A: ARTIFACT COUNTS AND PROVENIENCES	29
APPENDIX B: FAUNAL REMAINS DATA	30

LIST OF FIGURES

1. Location map of Mission Concepción	2
2. Mission Road Realignment Project site map	3
3. Trench A, profile and plan, western half	9
4. Trench C, Trench C-extension, and Trench F, plans	10
5. Trench C-extension, south wall profile	12
6. Artifacts recovered	14

LIST OF TABLES

1. Historical Background on Mission Concepción	5
2. Faunal Species Identified	17
3. NISP and MNI of Identified Bones	19
4. Rank Order of Identified Species by NISP and MNI	20
5. Comparison of Colonial- Versus Mixed-period NISP	21
6. NISP Comparison of Mission San José and Mission Concepción Faunal Remains	23

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Robert J. Hard served as principal investigator during the final report preparation and publication stages. Marcie Renner, as technical editor, did an excellent job preparing the manuscript for publication.

INTRODUCTION

In October 1988 an archaeological crew from the Center for Archaeological Research (CAR) of The University of Texas at San Antonio (UTSA) conducted test excavations in the southeast area of New City Block 6918. This block is located to the northwest of Mission Nuestra Señora de la Purísima Concepción de Acuña (site number 41BX12), approximately three kilometers (four miles) south of downtown San Antonio (Figure 1). Mission Concepción is part of the San Antonio Missions National Historical Park [SAMNHP]. It is also a State Archeological Landmark, is listed on the National Register of Historic Places, and has been recorded by the Historic American Buildings Survey (Fox 1988).

SAMNHP, established in 1978, is administered by the National Park Service. Mission Concepción, along with three other San Antonio missions, attracts visitors to the city. The church at Mission Concepción is the oldest of the San Antonio mission churches still standing, and continues to function as a parish church. Long-range plans for Mission Concepción are to reestablish as much as possible of the original compound wall and to reorient Mission Road to its approximate original location (Cisneros 1980).

Archaeological work was conducted under contract with the city of San Antonio. The investigation was conducted according to Section 106 of the National Historic Preservation Act of 1966 (as amended). Texas Antiquities Committee Permit No. 730 was issued for the project. Fieldwork was accomplished in 10 working days by CAR crew members, with the aid of fourteen volunteers.

The Mission Road Realignment Project, Phase II, as proposed by the city of San Antonio, was designed to follow the plan proposed by Mission Road Realignment Project, Phase I (Labadie 1989). Phases I and II were designed to relocate Mission Road and all underground utilities to the west of the alignment of the original mission west wall (Figure 2).

The original eighteenth century route of Mission Road ran outside the west wall of the mission (Ivey and Fox 1982:Figure 2). By 1890 the west wall had completely disappeared (Corner 1890) and the road was rerouted through what had been the mission compound (Bexar County Deed Records [BCDR] 54:85). In order to reconstruct the west wall, it would be necessary to move the road back to its original conformation outside the wall.

The purpose of the test excavations of Mission Road Realignment, Phase II, was first to determine if the northwest corner of the mission quadrangle lies within this area, and if so, to decide whether it would be possible to reconstruct the original mission quadrangle. Secondly, it was necessary to determine whether any other Spanish colonial structural elements or cultural deposits remain just outside or inside the west wall of the old quadrangle, and whether the new route of the road would impact any cultural remains.

GEOLOGY AND SOILS

The present site of Mission Concepción is approximately three kilometers (four miles) south of downtown San Antonio (Figure 1). During the eighteenth century, this site offered several advantages to the occupants of the mission. The San Antonio River drainage, at its closest point to the mission, was approximately one-half mile due west. Mission Concepción sits on a slightly raised knoll where at one time it would have been possible to see the entire San Antonio River valley for some distance to the north and south (Fox 1989:3).

The Soil Conservation Service has classified the immediate area of the mission as Hilly Gravelly Land (HgD), located in Venus-Frio-Trinity Association soils (Taylor et al. 1966). The soil is composed of cemented calcium carbonate sediments ("caliche") some 3–6 m thick (Taylor et al. 1966:17). Extensive travertine deposits, quarried for mission construction, are located just outside the west wall on the southwest corner of the compound (Scurlock and Fox 1977).

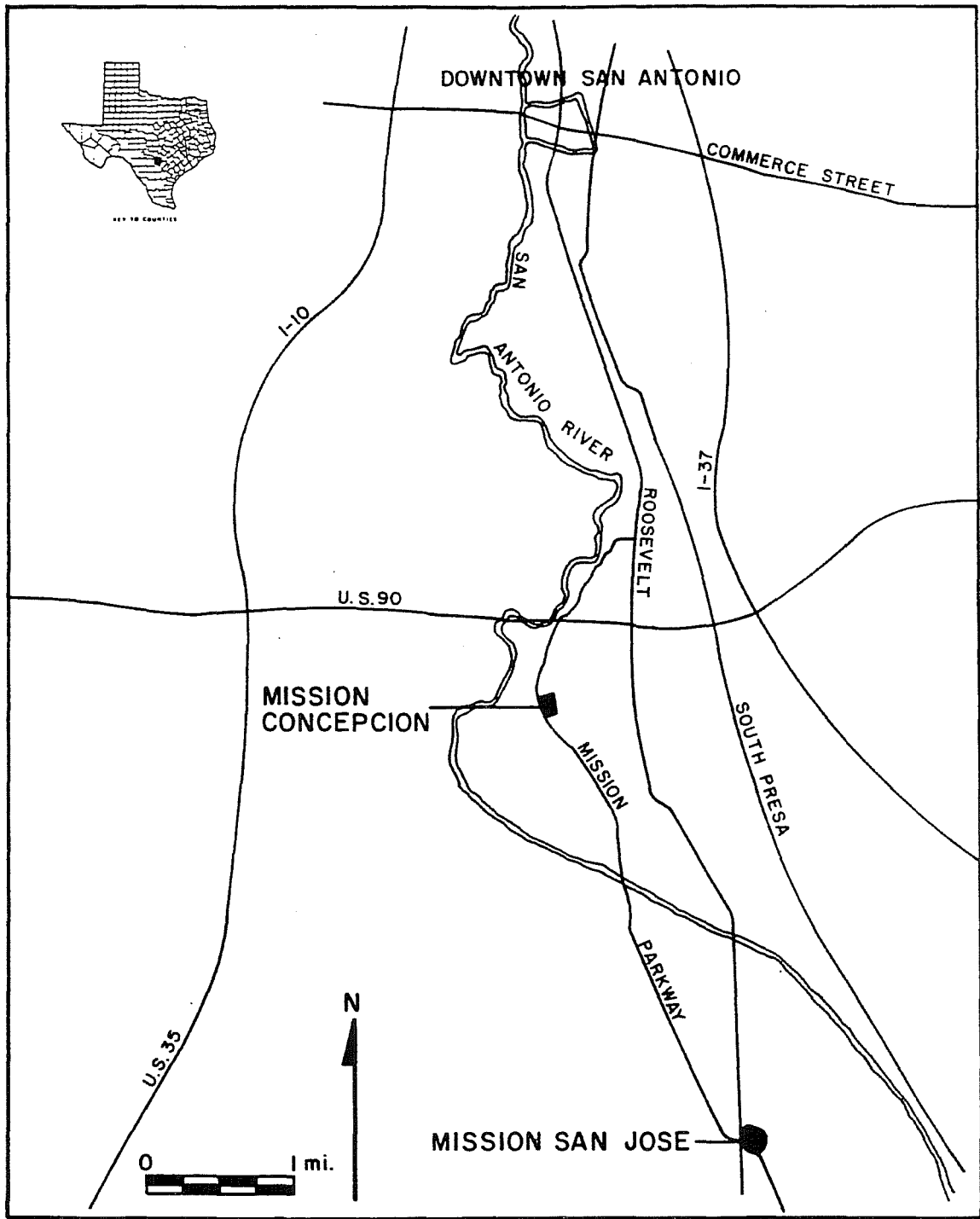


Figure 1. Location map of Mission Concepción.

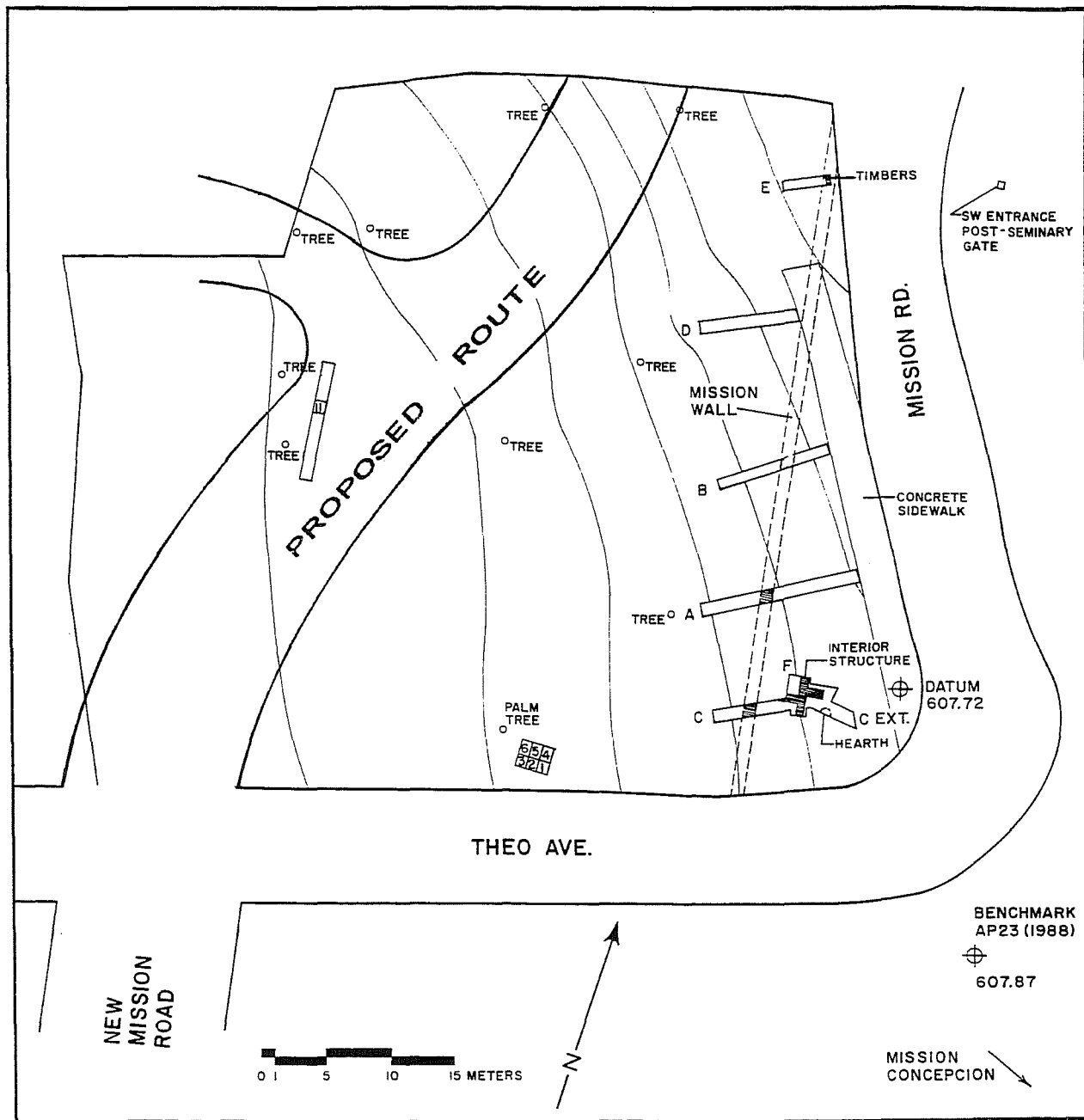


Figure 2. Mission Road Realignment Project site map.

HISTORICAL BACKGROUND

On July 7, 1716, Franciscan missionaries founded the mission Nuestra Señora de la Purísima Concepción de los Ainais near present day Linwood Crossing in Nacogdoches County, Texas. Mission Concepción and two other missions were moved to their present locations near the San Antonio River in 1731. Approximately 300 Native Americans were brought into the new mission, including various Coahuiltecan peoples. "Coahuiltecan" is a general term given to the many different native American groups who lived in southern Texas and northern Mexico (see Campbell and Campbell 1979).

When the mission was moved to its present San Antonio location, the name became Nuestra Señora de la Purísima Concepción de Acuña (Habig 1968:125). Temporary shelters with thatched roofs, a chapel, quarters for the padres, storehouses, and huts or "jacales" for the Native Americans were constructed. In 1745 Father Ortiz reported the mission compounds were built as stone-walled fortresses, used as protection against Apache Indian raids (Habig 1968: 126-129). An uncompleted church, residences, a granary, a blacksmith shop, and a carpenter and masonry shop (Habig 1968:129) were located inside. The building material for the church and walls was limestone, quarried outside the southwest corner of the mission compound (Ivey and Thurber 1984:356-357; Labadie 1989:2).

In his 1745 inventory, Ortiz included Indian jacales of wooden poles, brush, and mud with thatched roofs (Habig 1968:128). Additional architectural details and population estimates, as reported throughout the seventeenth and eighteenth centuries, are summarized in Table 1.

Partial secularization of the mission began in 1794. At that time the lands and possessions (excepting the church) were divided among the 38 remaining Indian residents (Habig 1968: 141-142). Official final secularization of the mission occurred in 1824; before this time, the government of Mexico was already selling the surrounding lands to the local citizens (Fox 1988:5).

The property where the Phase II investigations occurred was granted to Ygnacio Chávez in 1823 (BCDR C1:218). In 1860 the land passed to Ygnacio Chávez's heirs, Juan and Antonio (BCDR S1Z:478). In 1870 Juan and Antonio Chávez sold the property to Charles and Catherine Schiebel (BCDR W2:130). Schiebel sold the property to E. L. Wickes in 1885 (BCDR 44:195), who sold it to the city of San Antonio in May 1886 (BCDR 48:583). Planning and construction for the rerouting of the original Mission Road through the center of what had once been the mission compound began ca. 1890 (Ivey and Fox 1982:53).

During the twentieth century, the property (New City Block 6918) was divided into several lots which passed through many owners. The lots located in the immediate right-of-way were lots 22, 23, 31A, 31B, 38, 39, 40, and 41. Before the area was cleared for the construction of the relocation of the road, the lots contained both residential and commercial structures. The city of San Antonio purchased the lots during the summer of 1988. Portions of lots 22 and 23 contained a frame house and garage facing east onto the current Mission Road. A portion of lot 31 also contained a frame house and garage and faced south onto Theo Avenue. By the onset of the current phase, all that remained was a concrete sidewalk next to Mission Road, oriented north-south (Figure 2).

Table 1. Historical Background on Mission Concepción (from Habig 1968:128–150)

Year Reported	Reporter	Population: Indian/ Spanish	Mission Walls and/or Indian House Characteristics
1745	Friar Ortiz	207/ ?	Surrounding Mission wall constructed of stone and mortar.
1756	Friar Ortiz	247/ ?	Walls made of stones and adobe; walls are 45 inches thick.
1762	Friars Parras and Ramirez de Prado	207/ ?	Walls formed rectangle for protection against hostile Indians; two rows of dwellings on two sides of church and friary. Houses furnished with ordinary household utensils.
1777	Friar Morfi	170/ ?	Indian quarters consist of two parallel rows on two sides (north and south walls) of the compound.
1789	Friar Lopez	71/ ?	Mission enclosed by a stone and mud wall, with 23 rooms with flat roofs. Mission wall serves as a wall for houses of the same material.
1794	Not given	38/ ?	Mentions north and south walls.
1809	Governor Salcedo	21/32	Occupants living within compound walls.
1816	Not given	16/20	Same as above.
1826	Not given	? /50	Not given.
1841	George Kendall	Not given	Walls of great thickness at all the missions.
1890	William Corner	Not given	Indian houses and walls long since disappeared.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

The first archaeological investigations at Mission Concepción were done in the 1930s by Harvey P. Smith, a local architect, working with the Works Progress Administration (WPA). Smith's maps and drawings of the standing structures and many of the buried foundations, especially south of the convento, are still useful to archaeologists and others (Schuetz 1968).

In the past 20 years, several archaeological investigations have taken place on and around the grounds of the mission. Among these excavations are several which directly relate to the location of the walls surrounding the mission compound and the placement of the mission Indian quarters along the walls (Fox 1992; Ivey and Fox 1982; Labadie 1989; Scurlock and Fox 1977). Because background information on previous excavations on the church, granary, and other areas are fully described in previous CAR reports (Fox 1988, 1989; Ivey and Fox 1982; Krueger and Meskill 1992), the following is a brief summary of only those works pertinent to this investigation.

During 1971 and 1972, Dan Scurlock of the Texas Historical Commission directed investigations designed to test the moisture and structural condition of the foundations of the mission church, to test an area south of the convento, and to locate traces of the west wall of the mission (Scurlock and Fox 1977). Remains of the west wall alignment were found within two test pits, approximately 85.3 m (280 ft) west of the front of the church (Scurlock and Fox 1977:47). The sections measured 0.5 x 2 m and 0.7 x 2 m, and were composed of large flat, irregularly shaped limestone rocks intermixed with a few colonial-period artifacts.

SAMNHP contracted with CAR to perform a series of investigations at Mission Concepción. The first, in 1980, included archaeological studies designed to relocate the original outline of the mission, to find the location of the granary, and to make an assessment of the state

of preservation of the Indian quarters along the walls of the quadrangle (Ivey and Fox 1982).

Excavations revealed that the foundations of the east wall and portions of the north wall of the mission were well preserved. Living surfaces of the Indian quarters were still relatively undisturbed for much of their length. The west and south walls were present only as occasional traces in a field scraped by a bulldozer years before. By sighting along the wall alignments found by Scurlock in 1971–1972 and CAR in 1980, it was possible to determine that the new road alignment would be well outside the line of the west compound wall.

Archival research by Ivey further delineated the original line of Mission Road. The Ivey and Fox investigations included a survey of the area of the current project. The authors called the area "C-2" or "the area north of Theo Avenue," and described it as

completely built over with twentieth-century homes, commercial establishments, driveways and cultivated yards. Ninety-nine percent of this area lies outside the west wall of the mission, and the Mission Road ran through one corner of it. With the possible exception of the alignment of the commercial building on the corner of Mission Road and Theo Avenue, no suggestion of the original mission outline remains in this area, and no mission-related artifacts are visible on the surface (Ivey and Fox 1982:129).

CAR began work on the first phase of the Mission Road Realignment Project, under the direction of Joe Labadie, in February 1987. This phase concentrated on the area of initial impact within the proposed right-of-way to the south of Theo Avenue in the western portion of the old quadrangle of Mission Concepción (Labadie

1989:1). Previous research by Scurlock and Fox (1977) had shown that the original rock quarry and at least one acequia and portions of the western wall in the immediate area had been disturbed. The disturbance resulted from multiple bulldozer scrapings during the 1950s and 1960s when a priest from St. Joseph's Orphanage constructed and maintained a children's playground (Labadie 1989:1-2).

Labadie concentrated on locating up to three possible acequias and testing the right-of-way area for any undisturbed mission remains. Four backhoe trenches and 11 hand-excavated test units confirmed that the immediate area was indeed disturbed and filled in by the bulldozer. No evidence for the presence of in situ prehistoric or early historic occupation debris or structural remnants was found during the first phase of the Mission Road Realignment Project (Labadie 1989:13). The primary concern of Phase II is to ensure the west wall and associated material will not be impacted by construction.

RESEARCH DESIGN

Previous investigations conducted by CAR under Ivey and Fox during 1981 and 1982 (Ivey and Fox 1982) involved excavating portions of the west wall just south of Theo Avenue. Based on their data, the following four specific research questions for this phase were raised:

- 1) Do the remains of the west wall of the mission quadrangle extend north of the Theo-Mission Road intersection?
- 2) If they do, how much of the wall is intact, and what is its condition?
- 3) Where is the northwest corner of the mission compound wall, and are its remains located in the proposed area of excavation, or is it buried under

the current Mission Road as proposed by Ivey and Fox?

- 4) What other structural and/or cultural remains exist just inside or outside the wall, and will any of these be impacted by the relocation of Mission Road?

FIELD INVESTIGATIONS

The CAR field investigations concentrated on the northwest corner area of the mission quadrangle. At the time, this area was located just north and west of the intersection of Theo Avenue and Mission Road within New City Block 6918.

All field methods employed during this project conform to the Council of Texas Archeologists standards for field investigations (CTA 1981) and to standard archaeological methods. Measurements were made in the metric system. Eleven test units were excavated, consisting of four hand-excavated, 1-x-1-m units and seven backhoe trenches. A site plan map was prepared for the entire excavation area (Figure 2) using a plane table, alidade, and stadia rod. The National Park Service benchmark AP23 (1988), elevation 607.87 ft, was utilized for the primary site datum. A closer secondary datum was placed at the corner of the sidewalk for easier mapping purposes. Floor plan maps and trench wall profiles were drawn. Black-and-white prints and color slides were taken throughout the project to document the progress and extent of the testing. All collections were processed, catalogued, and curated at the CAR laboratory. CAR is the repository for all of the collections, original field notes, maps, and photographs for this project.

BACKHOE TRENCHES

Backhoe trenches were excavated to locate and trace the buried west wall, associated structures, and cultural remains. Once located, such remains were carefully excavated by hand. The trenches were arbitrarily labeled in the order in which they were excavated. Soil was screened through a ¼-inch wire mesh screen, recovered artifacts were bagged and brought to the laboratory for cleaning and analysis. Profile drawings and plan maps were drawn for each trench. Soil samples were collected for analysis. All excavations were then backfilled by machine.

Trench A

Trench A sought to determine if the westernmost wall of the mission compound extended to or transected the proposed right-of-way for the new road. Starting from the concrete sidewalk and moving westward, Trench A (Figure 3) was excavated to a maximum depth of 1 m and measured approximately 12 m long by 1 m wide. The top part of the west mission wall foundation was uncovered at a maximum depth of 0.6 m and was found to be oriented in a north-south direction. This section of the west wall foundation was composed of travertine rock mixed with soil. It measured approximately 1.3 m (1.5 *varas*) wide. The wall was discovered approximately 6 m from the west edge of the sidewalk at about 0.5 m below the surface. No other cultural features were found in Trench A. Three stratigraphically discrete zones were identified in this trench: a zone of grayish brown clay (10 YR 5/2), one of white caliche (10 YR 8/1), and a zone of dark gray brown clay (10 YR 4/1) (Figure 3a).

Trench B

Trench B dimensions were approximately 8 m long by 1 m wide by 0.9 m deep. This trench was designed to pick up a portion of the mission wall. Instead, a twentieth-century yellow brick wall faced with stucco was uncovered in the

location where the mission wall should have been. No artifacts were recovered. The construction of this modern foundation may have displaced the original wall foundation.

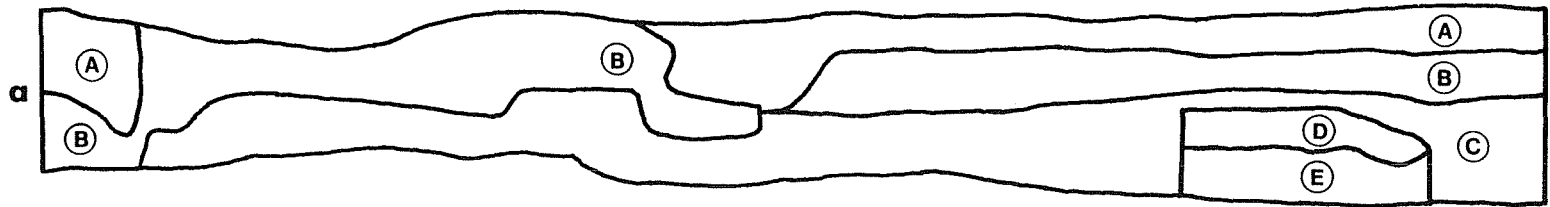
Trench C

The placement of Trench C was also designed to cross the buried mission wall foundation. The trench ran approximately 6.2 m long by 1 m wide by 1 m deep. Two mission-period walls were uncovered approximately 3 m apart (Figure 4). The loose dark soil between the walls was screened for artifacts, which included a Spanish colonial knife blade, mission-period Indian pottery sherds, animal bone fragments, and a decorated porcelain sherd (see Artifact Description section).

Trench F

Trench F was placed in the north wall of Trench C at its northeast end to follow out the easternmost north-south wall found in Trench C (Figure 4). A wall corner was found immediately and careful cleaning of the north wall of Trench C disclosed the southern edge of an east-west wall connecting the two walls in this trench. The backhoe uncovered, and subsequent careful hand excavation confirmed, a posthole just north of the wall. The bottom of the posthole was 0.7 m below the modern ground surface.

The area directly north and east of the wall corner was taken down to a level below the wall foundation. Small amounts of bone fragments and Indian pottery were recovered. An extension off the wall corner toward the north appeared to terminate within a short distance of the corner, and could be a buttress or wall fall. Further backhoe excavation toward the south in this trench showed that the eastern or inner wall of the structure continued toward the south, parallel to the mission west wall remnants already discovered in the test trenches.



- (A) GRAYISH BROWN CLAY LOAM 10 YR 5/2
- (B) WHITE CALICHE WITH GRAVELS 10 YR 8/1
- (C) DARK GRAY BROWN CLAY 10 YR 4/1
- (D) STONES
- (E) FOOTING RUBBLE

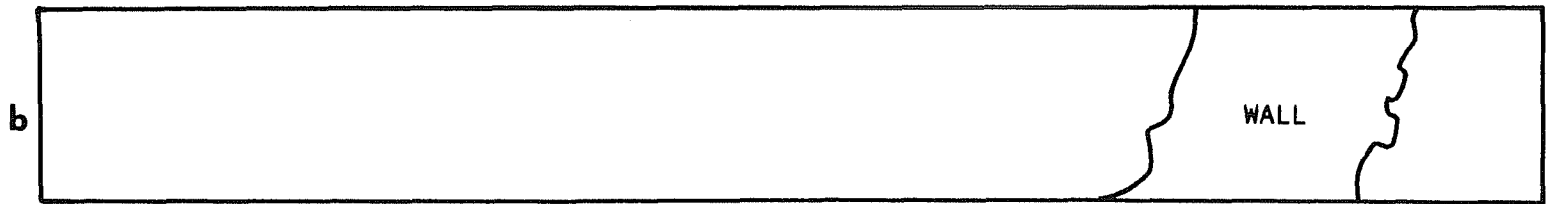
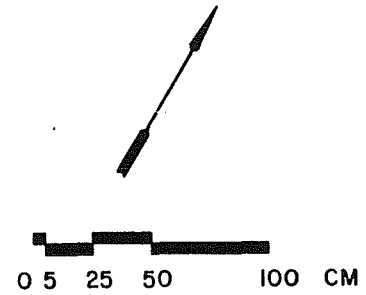


Figure 3. Trench A, profile and plan, western half. a, north wall profile; b, plan view.

Trench C-Extension

The discovery of the northeast corner of a room built against the west wall instigated an expansion of Trench C to the east to test the area immediately outside or to the east of this structure (Figure 4). If this building followed the customary plan, which was observed at this mission in 1982 (Ivey and Fox 1982), at Mission San José, and at Mission San Antonio de Valero (the Alamo), the Indian house would have been one room deep. The area immediately outside the door of the Indian dwelling would have been used for many housekeeping activities which should leave hearths, trash pits, and other archaeological evidence.

The excavations of Trenches C and F revealed cultural remains dating to the eighteenth century between the east and west walls of what appeared to be a structure similar to an Indian dwelling. The Trench C extension was then excavated by hand, leaving the artifacts in situ wherever possible in order to recognize and map distinct features expected to lie in this area. The final dimensions of this trench were 1.38 m north-south by 4.87 m east-west. The trench was excavated to culturally sterile soil at a maximum depth below ground surface of 0.75 m at the western end and 1.52 m at the eastern end (Figure 5). Several features were found, including a hearth and a trash accumulation.

The hearth feature was first discovered at a depth of 0.6 m along the south wall in Trench C-extension (Figure 4). A semicircular pattern of large and small stones was encountered against the south wall of the excavation approximately 0.7 m from the east wall of the structure. Beneath a shallow dark brown matrix (7.5 YR 5/6) was a reddish-brown soil (7.5 YR 4/2). Two large stones and some smaller ones were exposed at the northern perimeter of the hearth. Ashy gray soil was found on the exterior of the reddish-brown soil. Ash and a fragment of charred wood were uncovered at the northern edge of the feature. The feature was photographed, then cross-sectioned. Soil from the northern half of the hearth was screened for

cultural material. Artifacts from within the hearth included burned Indian pottery, burned bone, charcoal, small fragments of metal, and a few brick/tile fragments. A profile of the hearth was drawn and soil samples were collected.

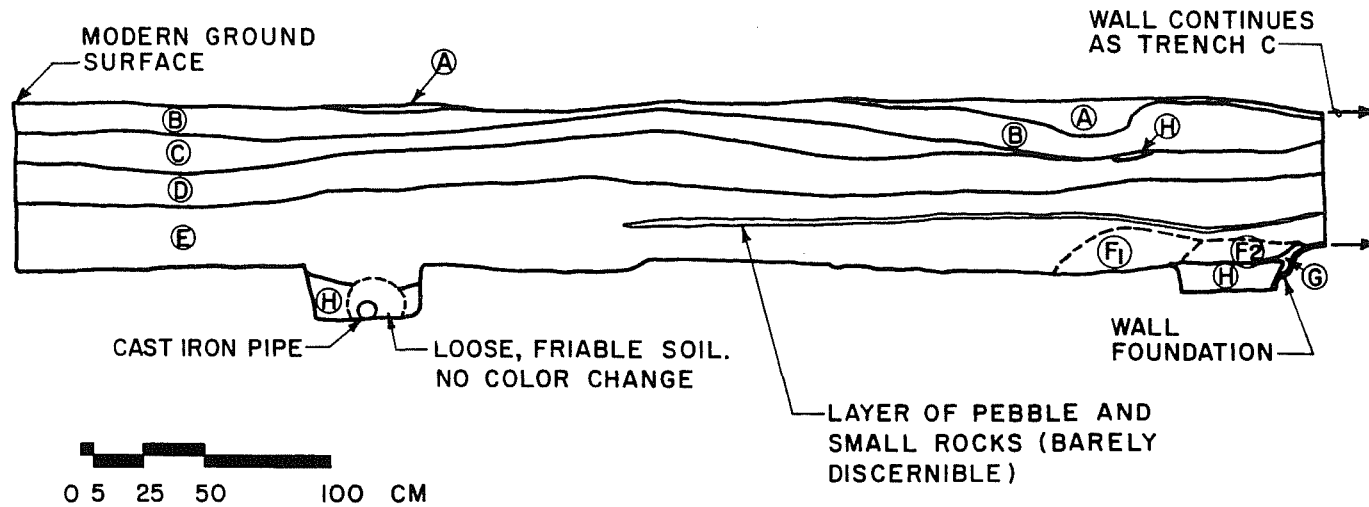
Surrounding the hearth was an area strewn with mission-period trash. Animal bone, charcoal, a metal button with drilled shank typical of the colonial period, fragments of silver braid, and sherds of various types of Spanish and Indian ceramics were first discovered at a depth of 0.36 m below the surface. The area was carefully excavated, with the artifacts left in situ, then plotted on a sketch map.

Directly east of this recorded feature, a 1-x-0.5-m unit was excavated deeper to determine the depth of the midden material. However, it was found to have been disturbed by an iron pipe the trench for which may have been dug by hand, since no trench was visible in the walls of our excavation. Mission-period artifacts continued down to the top of the pipe at 0.8 m. Another location farther east in Trench C-extension was then excavated, resulting in the recovery of numerous artifacts. The pottery included Indian ware, lead-glazed wares, majolica, and Chinese porcelain. The soil became sterile at about 1 m.

Apparently this trash disposal feature, including the area to the east, was the remains of a cultural midden where food processing, cooking, and discard activities took place. The location would have been inside the mission compound and just outside the door of the dwelling built against the west wall.

Trench D

Trench D was placed to test the area to the north for further evidence of the west wall of the mission compound (Figure 2). The trench dimensions were 6 m long by 1 m wide by 1 m deep. No evidence of wall foundations or cultural materials was found. Projecting the line of the west wall through this area suggested that



- | | | |
|-------------------|------------|---|
| (A) | 10 YR 4/2 | DARK GRAYISH BROWN CLAY LOAM |
| (B) | 10 YR 8/2 | WHITE CALICHE WITH GRAVELS |
| (C) | 10 YR 5/2 | GRAYISH BROWN CLAY LOAM |
| (D) | 10 YR 8/1 | WHITE CALICHE WITH CHARCOAL |
| (E) | 10 YR 4/1 | DARK GRAY BROWN CLAY |
| (F ₁) | 10 YR 6/2 | ASHY LIGHT BROWNISH GRAY CLAY LOAM |
| (F ₂) | 10 YR 6/2 | LIGHT BROWNISH GRAY CLAY LOAM, MORE ASH |
| (G) | 7.5 YR 6/2 | PINKISH GRAY CLAY |
| (H) | 7.5 YR 5/2 | BROWN CLAY |

Figure 5. Trench C-extension, south wall profile.

the foundation for the west wall probably lay just under the west edge of the sidewalk here.

Trench E

Trench E was excavated to the north, still following the line of the west wall (Figure 2). It measured 7.5 m long and 1 m wide. Adjacent to the eastern end of the trench, two squared timbers were discovered at the bottom of the trench, oriented north northwest-south southeast. The timbers were apparently treated with a preservative. The soil around the timbers was a loosely packed light brown, while the soil directly beneath the timbers was a dark brown, compact clay (10 YR 4/1). Here, again, the area where the west wall foundation should have been was disturbed by later construction.

HAND-EXCAVATED UNITS

Four 1-m² units were hand-excavated in two different areas (Figure 2). These were designed to test for cultural materials outside the west wall. The area where the first group was to be located was scraped by the backhoe to remove approximately 6 cm of disturbed soil. The surface at that point appeared to be an old road bed, probably the route of the original Mission Road in the eighteenth and nineteenth centuries. A grid of six units was laid out in this area and units 1, 3, and 5 were excavated. A second set of units was laid out to the northwest in the route of the new Mission Road; one of these units was chosen for excavation. Vertical control was maintained using 10 cm levels unless a distinct change in matrix was noted. All units were excavated to sterile soil.

Unit 1

Unit 1 was excavated in two levels. Level 1 (0–10 cm) contained little in the way of cultural material. Some amber beer bottle glass, animal bone, and a brick fragment were recovered. Level 2 (10–26 cm) contained a mixture of modern debris and eighteenth century remains such as Indian pottery, majolica, burned animal bone, and chert fragments. The soil was a gray clay material mixed with small fragments of limestone.

Unit 3

Unit 3 was excavated in two levels. Within Level 1 (0–10 cm) a small concentration of reddish-brown soil was found. The rest of the soil was very hard, compact gray clay. Level 2 (10–39 cm) contained Indian-made sherds, chert fragments, undecorated whiteware, glass, tin-can scraps, a 1981 penny, and wire nails. These materials were mixed together with no clear stratification.

Unit 5

A fragment of Huejotzingo eighteenth-century majolica (Figure 6g) was found on the surface adjacent to this unit. This unit was excavated in three distinct levels. Level 1 (0–10 cm) contained limestone and rubble concentration in the south wall of the unit. Artifacts from Level 1 included a porcelain fragment and two animal bone fragments. A Mission or Guerrero projectile point (Figure 6c) was found in Level 2 (10–15 cm). A concentration of limestone rock in the southeastern corner of the unit was associated with the point. The soil in the vicinity of the limestone was a compact reddish-brown clay. Other artifacts from Level 2 included several large animal bones and numerous bone fragments, 24 chert fragments, glass, metal and tin can scraps, several sherds of mission-period pottery, and two sherds of twentieth-century earthenware. Pieces of modern concrete pipe were also present. Although this area appears to

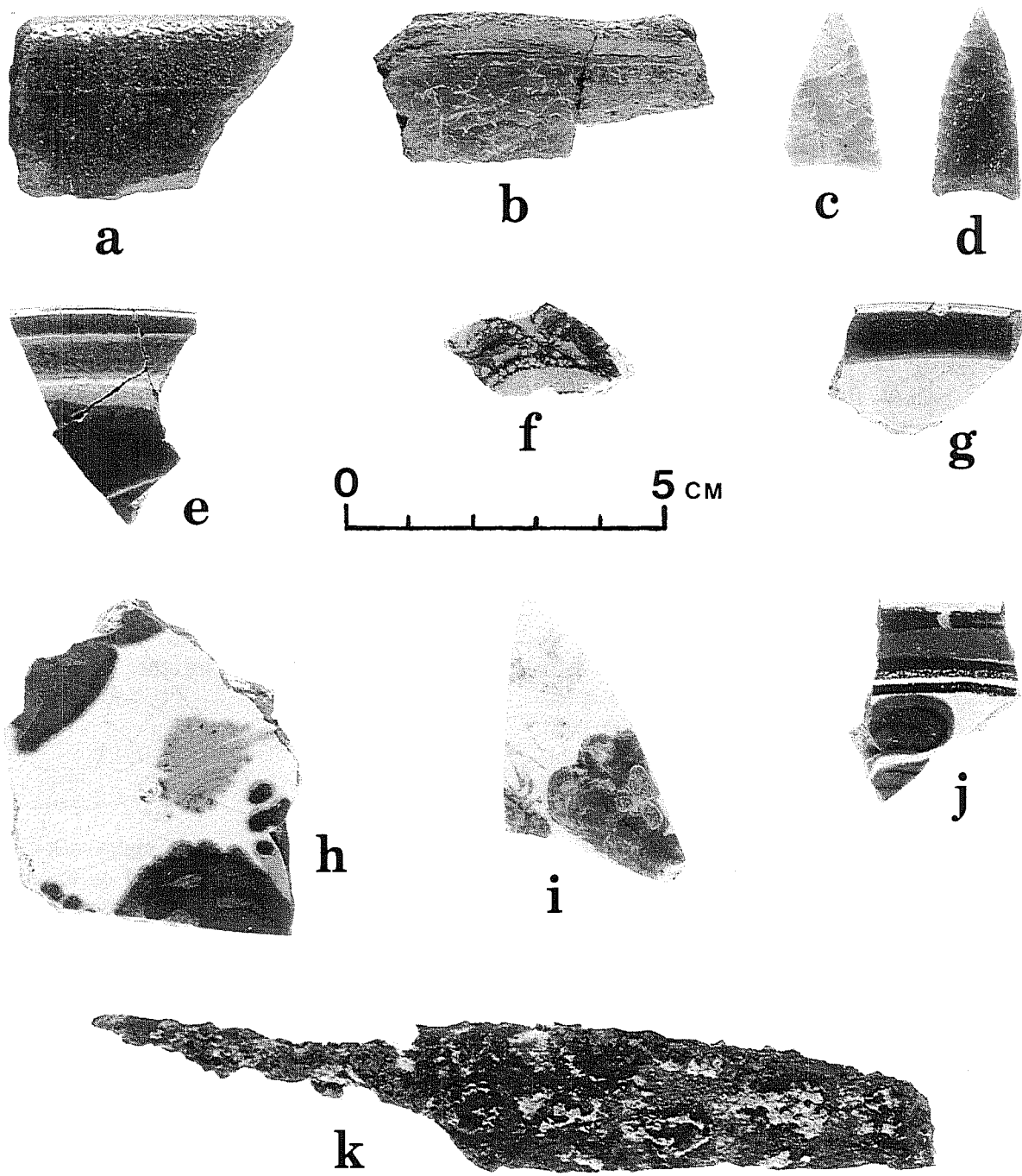


Figure 6. *Recovered artifacts*. a, lead-glazed Mexican ware (Trench C-extension); b, Goliad ware (Trench C-extension); c, d, Mission or Guerro points (Unit 5, Level 2, and Trench C-extension); e, San Augustine Blue-on-white majolica (Unit 5, Level 2); f, Tumacacori majolica (Trench C-extension); g, Huejotzingo majolica (Unit 5, surface); h, San Antonio Blue-on-white (Trench C-extension); i, Chinese porcelain; j, San Elizario majolica (Trench F); k, Spanish knife (Trench C).

have been disturbed by later occupants, it may have been a trash dumping area in mission times.

Unit 11

Unit 11, located within the proposed road relocation (Figure 2), was excavated in two levels. Level 1 (0–4 cm) was a yellow gravel fill layer with fragments of animal bone and no other artifacts. Level 2 (4–25 cm) had a matrix of dark brown soil in which were found a green glass marble made between 1910 and 1935 (José Zapata, personal communication 1993), animal bone, glass fragments, wire nails and staples, one heavy whiteware sherd, and one hand-painted, over-glaze sherd. All the artifacts appear to be associated with houses found in the area from the 1920s until recent times.

Results of the Hand-excavated Units

Hand-excavated units 1, 3, and 5 were in an area utilized as a dumping area from the mission period to recent times. Unit 11 contained early twentieth century to modern debris from the local residences in the immediate area.

ARTIFACT DESCRIPTIONS

Descriptions of the various types of artifacts recovered during this project have been described in great detail in previously published excavation reports (see Ivey and Fox 1982; Krueger and Meskill 1992; Scurlock and Fox 1977). Therefore, brief descriptions are provided here and counts and proveniences are given in Appendix A.

CERAMICS

Goliad (Figure 6b) and other unglazed wares, made at the missions, make up the largest percentage of ceramics in all San Antonio

mission sites. Burnished and lead-glazed earthenwares (Figure 6a) were made in Mexico and imported for mission use. A few sherds of Chinese-made porcelain (Figure 6i) are recovered in most mission excavations. Mexican made tin-glazed earthenwares, also called majolicas, comprise a relatively small portion of mission ceramic collections, but are important for dating purposes. Of the majolicas found during these excavations, three types are helpful in determining the date of occupation of the structure on the west wall.

A variety of Puebla Blue-on-white (Figure 6h) proposed by Ivey as San Antonio Blue-on-white (Ivey and Fox 1982:42), has a double blue rim band from which are suspended blue petals and flowers. The central design is generally a long-legged bird. The date range in San Antonio is ca. 1730 to 1750.

San Elizario majolica (Figure 6j) is similar to San Antonio Blue-on-white, with the addition of a brown/black outline to a single blue rim band and with accents of the same color on the petals and bird. This type is found in San Antonio sites dating between 1755 and 1780 (Ivey and Fox 1982:43).

Tumacacori majolica (Figure 6f) has a pale blue background on which floral elements are painted in black, yellow, orange, green, and dark blue. Various dates have been suggested for this majolica type, from 1780 to 1860 (Barnes and May 1972), but it is clearly a turn-of-the-century or early nineteenth-century type in Texas.

Since all these types were found during the excavation of the structure and its immediate surroundings, this particular area was probably occupied throughout the Mission Concepción occupation of the site. The preponderance of unglazed Indian-made Goliad ware suggests this was an Indian residence.

San Augustine Blue-on-white majolica (Figure 6e) was found only in Unit 5, outside the mission wall. Decorated with blue patterns on a

white background, this type dates to the mid-eighteenth century.

Whitewares, yellowwares, and stonewares were made first in England and Europe, then after the middle of the nineteenth century in the United States. Sites in San Antonio containing these sherds can be dated to the nineteenth and early twentieth centuries. Sherds of these types in these excavations are probably representative of the later occupations on this corner after evidence of the mission wall had totally disappeared.

HOUSEHOLD ITEMS

Glass container fragments from the site date from the eighteenth through the late twentieth century. Types ranging from Spanish wine bottles to recent beer and soft drink bottles are represented. Metal scrap recovered consists mainly of fragments of tin containers dating from the late nineteenth to the twentieth century.

A knife (Figure 6k) recovered from Trench C, within the structure built against the wall, is identical to others found in similar circumstances at Spanish colonial sites throughout the southwest (see Woodward 1953:187).

PERSONAL ITEMS AND ACTIVITIES

Two buttons were recovered from the general surface trash deposit east of the colonial structure. One was a cast metal button with a drilled shank, similar to many found at the other missions and San Antonio sites dating to the late eighteenth and early nineteenth century. The other button, represented by a small fragment, was made of bone. Such buttons are also found on sites of similar time periods.

Three marbles are present in this collection. Two glass marbles dating to the first half of the twentieth century (Jose Zapata, personal communication 1993) came from the test units outside the mission wall. The third, which was

found outside the east wall of the colonial structure, was a clay marble of the type called a "commie," possibly homemade since it is out-of-round and appears to have fingernail prints in the surface. These marbles are common in late nineteenth century sites and have been found to date as early as 1820 (Jose Zapata, personal communication 1993).

Two fragments of horse riding equipment were found outside the east wall of the colonial structure. One is an iron jingle or *coscojo* from a Spanish bridle bit (Simmons and Turley 1980:101). The other is a portion of a spur, the plate or *barrilero* from the end of the body of the spur (Simmons and Turley 1980:110).

CONSTRUCTION

As might be expected, since the area investigated had been occupied over such a long time, construction materials from various periods were present. Fragments of window and plate glass, wire nails, and a few cut nails were found in various locations. Fragments of typical colonial mortar were found in the vicinity of the structure. Several types of brick and tile were represented: twentieth century red/orange high-fired tile, a few fragments of yellow brick, and two large fragments identifiable as mission-period brick by their hand-made form and thickness (3–3.5 cm).

CHERT

Flakes and fragments of chert were found throughout the excavations, suggesting local manufacture of tools and projectile points during mission times. Two Mission or Guerrero projectile points (Figure 6c and 6d), one found around the colonial structure and one in Unit 5, are similar in size and craftsmanship to numerous others found at Mission Concepción and at other Spanish sites in Texas, as well as at Indian occupation sites of the same time period in Coahuila and South Texas (Ivey and Fox 1982:Figure 20; Turner and Hester 1993:216).

FAUNAL REMAINS

A total of 2,736 bones and bone fragments was recovered during this project. Each specimen was identified to the species or genus level whenever possible, using CAR's comparative collection and standard texts on the identification of faunal remains from archaeological sites (Gilbert 1990; Hillson 1986; Olsen 1964, 1968).

General Observations

The vast majority of the bone was highly fragmented. In fact, 82.40 percent (N=2,247) of the collection is unidentified vertebrate remains,

i.e. it cannot be assigned with certainty even to the mammalian class (although virtually all is probably mammalian). Another 11.92 percent (N=325) could be identified only as fish, reptile (snake), bird, or mammal.

The highly fragmented condition of the bone resulted in a Number of Identified Specimens (NISP) of only 155, or 5.67 percent of the collection. Fifteen species were identified (Table 2). A table with detailed proveniences of both identified and unidentified specimens is located in Appendix B.

Table 2. Faunal Species Identified

Scientific Name	Common Name
<i>Bos taurus</i>	Cow
Caprid/Ovid ¹	Goat/Sheep
<i>Sus scrofa</i>	Domestic pig
<i>Gallus gallus</i>	Chicken
<i>Equus caballus</i>	Horse
<i>Canis</i> sp.	Dog (coyote, wolf)
<i>Sylvilagus</i> sp.	Cottontail rabbit
<i>Procyon lotor</i>	Raccoon
<i>Lepus californicus</i>	Jackrabbit
<i>Didelphis marsupialis</i>	Opossum
<i>Sciurus niger</i>	Fox squirrel
<i>Odocoileus</i> sp.	Deer
<i>Neotoma albigula</i>	White-throated wood rat
<i>Oryzomys palustris</i>	Rice rat
<i>Lampropeltis getulus</i>	King snake

¹The difficulty of telling goat (*Capra* sp.) bone from sheep (*Ovis* sp.) bone is notorious and was not attempted for this highly fragmented collection.

Very few butchering marks are found on this collection, probably because of the extent of fragmentation. Most of the identifiable bone from domestic food animals do, however, show signs of butchering. Butchering marks include chop marks (from hatchet- to cleaver-size tools), cut marks (from butcher knives and smaller), saw cuts (from both hand and machine saws), and impact fractures. Only nine saw-cut specimens are present, of which only two appear to be from a machine-powered saw. Both of these were found outside the midden area. The long bones and ribs of cattle, when in relatively large pieces, were particularly likely to show chopping marks. Some specimens of *Bos taurus* long bones had been hacked repeatedly by a large cleaver or hatchet.

Estimating Relative Abundance

In faunal studies, numerous ways to quantify the abundance of the represented species have been developed. The most commonly used are a count of the Number of Identified Specimens (NISP) and the derived-unit Minimum Number of Individuals (MNI). Serious problems are associated with using NISP to quantify the abundance of species. A large NISP of a given species could reflect a large number of animals of that species; however, it could also reflect that most or all of the skeleton of a single or a few individuals of that species are represented. Furthermore, a large NISP could mean that several identifiable fragments of a single bone have been counted (Grayson 1984:20–21). In addition to this, NISP has the potential to be heavily biased by differences between species in the effects of taphonomic processes, i.e., elements of some species may be more likely to be rendered unidentifiable by taphonomic processes, thus excluding them from consideration in the NISP (Lyman 1994:47).

Minimum Number of Individuals (MNI) is commonly used to avoid these problems. This unit is derived by dividing the identified specimens of a given species into left and right elements and using a count of the most abundant

of these elements as the minimum number of animals of that species represented by the identified bone. Size and age of the animals are sometimes also taken into consideration (for instance, the presence of a left proximal tibia which has an unsealed epiphysis and a right proximal tibia with a sealed epiphysis would indicate an MNI of two, one adult and one juvenile). Care must be taken to prevent counting, say, a single left tibia twice by counting both distal and proximal ends.

Grayson (1984:29–49) points out that MNI also has grave problems, showing that the MNI of a species in a faunal collection can be greatly altered *depending on how the faunal collection is aggregated by the analyst*. That is, a large difference in MNI numbers can be produced depending on how the specimens from a site are grouped: the entire site taken as a unit, or divided by excavation unit, arbitrary level, natural level, or any other division (Grayson 1984:37). The only way to avoid this problem is to insure that the degree to which a faunal collection is divided reflects the actual way in which faunal material was deposited in the site. This clearly cannot be done with any certainty in many, if not most, sites. It remains a fundamental problem for the use of MNI in measuring abundance. In addition to this problem, MNI tends to over-emphasize the value of small animals (Reitz and Scarry 1985:17) and the importance of rare species (P. Ducos, cited by Grayson 1984:50).

After studying the relationship between NISP and MNI in numerous faunal collections, Grayson concludes that NISP and MNI are related to each other in a linear fashion. Given this, NISP is the preferred method for determining relative abundance, since NISP is not plagued by the problems associated with differential aggregation (Grayson 1984:68). However, this still does not solve the problems that NISP does have. Grayson suggests that these problems cannot be solved in a single site, but that comparison of several sites in a region is possible using NISP and/or MNI as ordinal measures of the abundance of species. Both

NISP and MNI have been calculated for this collection, and are listed in Table 3. MNI was calculated using all of Trench C and its extension as a group, Trenches E and F as separate groups, Units 1-5 as a single group, and Unit 11 as a single group.

Both NISP and MNI indicate the importance of cattle among species represented in this collection (Table 3), though NISP stresses this importance much more than MNI does. Taken together, domestic food animals (cattle, goat/sheep, pig, and chicken) constitute 80.00 percent of the NISP but only 40.73 percent of the MNI.

Table 3. NISP and MNI of Identified Bones

	NISP	% of Total NISP	MNI	% of Total MNI
<i>Bos taurus</i>	86	55.48	4	14.81
Caprid/Ovid	20	12.90	3	11.11
<i>Sus scrofa</i>	17	10.97	3	11.11
<i>Gallus gallus</i>	1	0.65	1	3.70
<i>Equus caballus</i>	1	0.65	1	3.70
<i>Canis</i> sp.	3	1.94	2	7.41
<i>Sylvilagus</i> sp.	7	4.52	2	7.41
<i>Procyon lotor</i>	3	1.94	2	7.41
<i>Lepus californicus</i>	1	0.65	1	3.70
<i>Didelphis marsupialis</i>	2	1.29	1	3.70
<i>Sciurus niger</i>	6	3.87	2	7.41
<i>Odocoileus</i> sp.	3	1.94	1	3.70
<i>Neotoma albigula</i>	2	1.29	1	3.70
<i>Oryzomys palustris</i>	2	1.29	2	7.41
<i>Lampropeltis getulus</i>	1	0.65	1	3.70
Totals	155		27	

The rank order of the identified species in this collection is given in Table 4. Comparison of the relative abundance of the less common species reveals that in a small collection such as this, use of MNI is of questionable merit as an indicator of relative abundance, except, perhaps, as a very general indicator. Based on MNI, dogs, rabbits, squirrels, and rice rats are of approximately equal abundance, while chickens, horses, deer, opossum, jackrabbits, and wood rats seem less common (Table 4). In fact, this grouping is almost useless, considering the small range of MNI across species. It seems clear that the combination of a comparatively small sample and a very low percentage of identifiable bone makes the usefulness of MNI questionable at best. NISP, though still suffering from the problems discussed above, seems to be a more useful measure of relative abundance in small collections.

Colonial Versus Mixed Levels

The dateable artifacts recovered during this project suggest that the trash midden encountered in Trench C, the Trench C extension, and Trench F is a Colonial-period feature, with no sign of mixture with later periods. Altogether 2,345 (85.71 percent) bones and bone fragments were from these two trenches. Only 391 specimens were recovered in the other units, which contained both colonial artifacts and artifacts dated to later periods.

Table 4. Rank Order of Identified Species by NISP and MNI

Species Identified	Rank Order by NISP	Rank Order by MNI
<i>Bos taurus</i>	1	1
Caprid/Ovid	2	2
<i>Sus scrofa</i>	3	2
<i>Gallus domesticus</i>	8	4
<i>Equus caballus</i>	8	4
<i>Canis</i> sp.	6	3
<i>Sylvilagus</i> sp.	4	3
<i>Procyon lotor</i>	6	3
<i>Lepus californicus</i>	8	4
<i>Didelphis marsupialis</i>	7	4
<i>Sciurus niger</i>	5	3
<i>Odocoileus</i> sp.	6	4
<i>Neotoma albigula</i>	7	4
<i>Oryzomys palustris</i>	7	3
<i>Lampropeltis getulus</i>	8	4

Table 5 presents a comparison of Colonial-versus mixed-period NISP for this collection; however, it should be noted that this comparison is of questionable value, due to the small sample size of the bone from the mixed-period units. Reitz and Scarry (1985:21) note that a small sample size (i.e. less than 1,400 bone fragments) has been shown to poorly represent both number of species and relative abundance of species. Table 5 should be viewed with this in mind.

The identified bone from the mixed-period units contains elements from eight different species, while the identified bone from the Colonial-period units contain elements from 11 species. While 85.93 percent of the NISP from the colonial units is from domestic food animals, only 52.84 percent of the bone from the mixed-period units is from domestic food animals. Thus the Colonial-period bone shows more diversity in number of species, as well as a heavy concentration of bone from domestic food animals.

Table 5. Comparison of Colonial- Versus Mixed-period NISP

	Trenches C and F	% of Total	Other Units	% of Total
<i>Bos taurus</i>	74	57.81	12	44.44
Caprid/Ovid	19	14.84	1	3.70
<i>Sus scrofa</i>	16	12.50	1	3.70
<i>Gallus gallus</i>	1	0.78	0	0.00
<i>Equus caballus</i>	0	0.00	1	3.70
<i>Canis sp.</i>	0	0.00	3	11.11
<i>Sylvilagus sp.</i>	3	2.34	4	14.81
<i>Procyon lotor</i>	0	0.00	3	11.11
<i>Lepus californicus</i>	1	0.78	0	0.00
<i>Didelphis marsupialis</i>	2	1.56	0	0.00
<i>Sciuris niger</i>	6	4.69	0	0.00
<i>Odocoileus virginianus</i>	3	2.34	0	0.00
<i>Neotoma albigula</i>	0	0.00	2	7.41
<i>Oryzomys palustris</i>	2	1.56	0	0.00
<i>Lampropeltis getulus</i>	1	0.78	0	0.00
Totals	128		27	

Comparison With Mission San José Bone Collections

Recent excavations (Hard et al. 1994) at Mission San José y San Miguel de Aguayo (41BX3) offer a possibility of comparison of bone from this collection with bone from colonial levels of another Spanish-mission site. In spring 1993, CAR excavated a series of test units outside the south wall and inside the compound of Mission San José, which lies approximately three miles down the San Antonio River from Mission Concepción. The purpose of these tests was to determine if proposed construction of a visitors' center and redrainage of the compound would impact valuable cultural deposits (Hard et al., 1994:vi).

Six hand-dug excavation units and 83 shovel tests were dug. The latter were spaced at 50-m intervals in a grid across the entire compound (Hard et al., 1994:36-38). A total of 7,066 bones was recovered during these excavations. Of these 1,736 were from unit/levels containing artifacts dated exclusively to the Colonial period. Table 6 is a comparison of the NISP of the San José bone with that from colonial units (Trench C, its extension, and Trench F) recovered during this project. Table 6 reveals a distinct difference in relative abundance of species in these two collections. Only 39.00 percent of the identifiable Colonial-period Mission San José bone is from domestic food animals. Even if the 15 *Crotalus atrox* bone are removed from this collection (a procedure justified by the fact that 14 of these are from a single, articulated individual, which constitutes a perfect example of some of the problems with using NISP to define relative abundance), the total percentage of identified bone which is from domestic food animals is only 45.88 percent. This difference can be largely explained by the presence of so much deer and rabbit, which together constitute 29.00 percent of the San José NISP (34.12 percent if *C. atrox* is not included), but only 5.46 percent of the Mission Concepción NISP.

Discussion

The highly fragmented nature of the bone recovered during this project is not unusual in mission-period sites (Hard et al. 1994:68; Meissner 1993). The reasons for this are not entirely understood. Activities which could lead to this kind of fragmentation include the smashing of long bones to extract marrow, the boiling of bones to extract tallow, the burning of bones (as trash or for fuel), and trampling. Of these, little evidence for the extensive burning of bone is found, only 118 (4.33 percent) of the bone showed evidence of burning. This indicates that the little burning of bone which occurred was incidental. Any or all of the other activities which might cause bone fragmentation could have been responsible for the condition of this collection.

The species identified in this collection are typical for historic sites in San Antonio. Only the low numbers of snakes and rats are unusual. This is especially true of *Sigmodon hispidus*, the hispid cotton rat, one of the most common species identified in faunal remains from Bexar County. This species constituted 28.12 percent of the identified specimens recovered during the archaeological excavations at Mission Concepción in 1971-72 (Scurlock and Fox 1977:150). None was identified in this collection and only four specimens from other rat species (*N. albigula* and *O. palustris*) were identified.

The virtual absence of chicken (*Gallus gallus*) in this collection is consistent with a pattern seen in colonial sites in Bexar County. In three previous faunal analyses, no chicken was recovered from unmixed colonial levels (Davidson and Clark 1977:135; Hard et al. 1994:72; Scurlock and Fox 1977:Table I-2). Chicken was apparently not a significant part of the diet in the Colonial period.

Table 6. NISP Comparison of Mission San José and Mission Concepción Faunal Remains

Species Identified	Mission Concepción	% of Total	Mission San José	% of Total
<i>Bos taurus</i>	74	57.81	27	7.00
Caprid/Ovid	19	14.84	8	8.00
<i>Sus scrofa</i>	16	12.50	4	4.00
<i>Gallus gallus</i>	1	0.78	0	0.00
<i>Equus caballus</i>	0	0.00	2	2.00
<i>Canis</i> sp.	0	0.00	6	6.00
<i>Sylvilagus</i> sp.	3	2.34	9	9.00
<i>Procyon lotor</i>	0	0.00	0	0.00
<i>Lepus californicus</i>	1	0.78	5	5.00
<i>Didelphis marsupialis</i>	2	1.56	0	0.00
<i>Sciuris niger</i>	6	4.69	1	1.00
<i>Odocoileus virginianus</i>	3	2.34	15	15.00
<i>Neotoma albigula</i>	0	0.00	0	0.00
<i>Oryzomys palustris</i>	2	1.56	2	2.00
<i>Lampropeltis getulus</i>	1	0.78	4	4.00
<i>Crotalus atrox</i>	0	0.00	15	15.00
<i>Sigmodon hispidus</i>	0	0.00	1	1.00
<i>Nerodia</i> sp.	0	0.00	1	1.00
Totals	128		100	

Wild species commonly used for food, such as raccoon (*P. lotor*), opossum (*D. marsupialis*), rabbits (*Sylvilagus* sp. and *L. californicus*), and deer (*Odocoileus* sp.), are present in this collection, but are unusually sparse in number of elements identified, as shown in Table 3 (see also Davidson and Clark 1978:136; Hard et al. 1994:71,73-74; Meissner 1993). The emphasis on domestic meat animals in this collection is made even stronger when the number of bones which have been identified as being "cow-sized" is considered (see Appendix B). A total of 210 bone fragments was identified as "cow-sized,"

and the vast majority, if not all, of these were probably *Bos taurus*. Clearly the people depositing the faunal materials of this collection were eating a great deal of beef.

Conclusions

Recovered artifacts indicate the midden areas excavated in Trenches C and F date to the Colonial period. The faunal remains from these middens show a heavy emphasis on domesticated food animals, especially cattle. Unlike other

species inventories from previous excavations of Colonial-period deposits in the Spanish missions of San Antonio, including Mission Concepción, wild animals are a minor constituent of this collection.

The glaring absence of *S. hispidus* and the sparse remains of other rats, especially in the Colonial-period trenches, rate some consideration. The smaller rats, including *S. hispidus* and *O. palustris*, may have been part of the diet of the Indians who entered the mission, but would have been starvation food for those heavily influenced by European culture. The ubiquitous representation of these species in Colonial-period faunal remains is, therefore, probably the result of scavenging of food in human occupation sites by the rats themselves. Their failure to appear in significant numbers in the collection under study here suggests three possibilities:

- 1) the colonial midden was strictly kitchen refuse, i.e. not a general trash midden where any stray dead animals might be thrown (the fact that only three specimens of species which were probably not used as food were identified is evidence in support of this);
- 2) the trash in this midden was immediately buried, thus discouraging scavenging by rodents;
- 3) bone boiled to extract tallow had so little food value left that it did not attract scavengers.

Any or all these possibilities may have been factors in the absence of rats in the collection.

In conclusion, the relative proportions of the faunal material from this project, especially from the Colonial period, is unusual for the period. There is less use of wild food animals and fewer rodents than is usually seen in Colonial-period faunal collections. However, the small sample

size and highly fragmented condition of the vertebrate remains from this project make it necessary to consider these conclusions with some caution.

ARTIFACT DISCUSSION

The artifacts recovered from Trench C, Trench F, and the Trench C-extension (Appendix A) are much the same as those found in other Spanish colonial area excavations at Mission Concepción and at the other San Antonio missions, including Mission San Antonio de Valero (now called the Alamo). In other words, they are typical of the time period beginning in 1731 and ending in 1793 to 1820, when the missions essentially ceased to exist as missions and therefore no longer received supplies from Mexico through the established supply system.

The range of majolica dates suggests that the structure built against the wall probably existed through most of the mission period and may have been occupied during much of that time. It may even have continued in existence in some form into the early nineteenth century after the property was acquired by Ygnacio Chávez.

CONCLUSIONS AND RECOMMENDATIONS

The results of these investigations allow the following answers to the questions posed in the research design.

- 1) The remains of the west wall of the mission quadrangle do indeed extend beyond the Theo-Mission Road intersection.
- 2) The wall foundation appears to be in good condition except in a few places where conflicting later house foundations have disturbed it, and near the

northwest corner where it is disturbed by a buried utility line.

3) The northwest corner of the mission wall is buried under the present route of Mission Road.

4) What appears to be a mission-period Indian house is built against the west wall in the area of the investigations. This indicates that others are present along the wall toward the south. These remains will not be in any way impacted by the relocation of the road.

We recommend that any further disturbance of the mission compound at any point inside the west wall be preceded by archaeological investigations planned in such a way as to thoroughly uncover and examine an area at least 10 m wide along the inside of the wall. We also recommend that a brief project be undertaken to locate the line of the north mission wall so the location of the northwest corner of the compound may be projected. This should be done after the new road alignment has been constructed and the old road surface removed.

EPILOGUE

By spring 1990 construction on the new route of Mission Road had essentially been completed, the previous road had been totally removed and the area resurfaced with grass. Few people driving past Mission Concepción today would suspect that Mission Road once ran through the quadrangle.

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APPENDIX A: ARTIFACT COUNTS AND PROVENIENCES

	TU 1		TU 3	TU 5		TU 11		Tr C	Tr C Extension			Tr F
	L 1 (0-10 cm)	L 2 (10-26 cm)	L 2 (10-39 cm)	L 1 (0-10 cm)	L 2 (10-56 cm)	L 1 (0-4 cm)	L 2 (4-25 cm)	all	hearth	tr. pit	rest	all
CERAMICS												
Goliad ware		4	1		15			20	3	10	299	3
Other unglazed								3		3	3	
Burnished									1		2	
Lead-glazed								6		7	44	
Tin-glazed		1		1	7			5		5	51	1
Oriental porcelain											2	
Whiteware			1		3		3				2	
Yellowware					1							
Stoneware											1	
HOUSEHOLD												
Glass fragments	5	20	22		23		8	27		1	55	
Caps/tops/seals		2			1		1					
Tin can scraps		2	4		85			3	1			1
Iron scraps								1				
Tableware								1				
Bone (in grams)	32.1	71.1	4.8	7.8	607.7	52.7	1.5	302.4	17.6	666.6	2010.4	22.8
Marine shell					3		1			11	20	
PERSONAL												
Buttons											2	
Buckles											1	
Coins			1				1				1	
ACTIVITES												
Marbles					1		1				1	
Fishing weights											1	
BARN/SHOP												
Hardware							5				1	
Wire							1				4	
CONSTRUCTION												
Window glass					4		8				1	
Cut nails		1			3							
Wire nails		3	3		4		36	1			9	
Hardware					1						1	
Insulators					2							
Brick/tile	1	6			2		2	3	3		13	3
Mortar							2					
Plaster			1								4	1
Composition material	1											
CHERT												
Fragments		3	3		28		10		3		52	3
Mission/Guerrero points					1						2	

APPENDIX B: FAUNAL REMAINS DATA

Unit-level	Count	Weight grams	Taxon	Element	Side	Portion	Burned?	Breaks	Notes
Trench CX-01	1	14.84	<i>Bos taurus</i>	Carpal		Complete	No		
Trench CX-01	1	0.09	<i>Sylvilagus sp.</i>	Radius	L	Distal end	No		
Trench CX-01	16	40.60	UID large mammal				No	8	
Trench CX-01	5	4.51	UID medium mammal				No		
Trench CX-01	6	0.74	UID very small mammal				No		
Trench CX-01	181	46.60	UID vertebrate				No	15	
Totals	210	107.38					23		
Trench CX-02	1	7.09	<i>Bos taurus</i>	Rib		Medial frag	No	Chop and break	
Trench CX-02	7	6.08	<i>Bos taurus</i>	Tooth		Frag	No		
Trench CX-02	1	0.25	<i>Canis sp.</i>	Tooth		Incisor frag	No		Could be big dog (or wolf/coyote)
Trench CX-02	1	0.13	<i>Lampropeltis getulus</i>	Vert			No		
Trench CX-02	1	0.31	<i>Procyon lotor</i>	Rib	L	Prox. end	No		
Trench CX-02	1	0.88	<i>Procyon lotor</i>	Scapula	R	Prox. end	No		
Trench CX-02	2	0.27	<i>Sciurus niger</i>	Innominate	L	Frag of ishium and acetabulu	No		
Trench CX-02	1	0.20	<i>Sciurus niger</i>	T. vertebra		Almost Completelete	No		
Trench CX-02	2	0.57	<i>Sus scrofa</i>	Tooth		Deciduous incisor	No		
Trench CX-02	1	0.05	<i>Sylvilagus sp.</i>	Tooth		Molar	No		
Trench CX-02	14	63.16	UID large mammal				No	3 have chops	
Trench CX-02	3	3.62	UID medium mammal				No		
Trench CX-02	5	0.52	UID very small mammal				No		
Trench CX-02	6	0.94	UID bird				No		
Trench CX-02	4	0.69	UID fish				No		
Trench CX-02	377	124.06	UID vertebrate				No	1	
Totals	427	208.82					1		
Trench CX-03	1	31.16	<i>Bos taurus</i>	1st phalange		Complete	No		Root etching
Trench CX-03	1	14.71	<i>Bos taurus</i>	1st phalange		Distal 2/3	No	Some gnaw marks, canid	
Trench CX-03	1	10.39	<i>Bos taurus</i>	1st phalange		Half of dist. 2/3	No	Some gnaw marks, canid	Split lengthwise
Trench CX-03	1	4.50	<i>Bos taurus</i>	1st phalange		Prox. end	No		Mends to other in bag
Trench CX-03	1	3.39	<i>Bos taurus</i>	1st phalange		Frag of prox. end	No		
Trench CX-03	1	32.74	<i>Bos taurus</i>	C. vertebra		Both ant. articular processes	No		
Trench CX-03	1	114.73	<i>Bos taurus</i>	C.vertebra		Most of it (processes gone)	No		
Trench CX-03	1	37.23	<i>Bos taurus</i>	Humerus		Frag near prox. end	No	Spiral, Chop	
Trench CX-03	1	25.78	<i>Bos taurus</i>	Metapodial		Frag of prox. end	No	Gnawing (canid)	
Trench CX-03	1	6.27	<i>Bos taurus</i>	Metapodial		Frag of prox. end	No		
Trench CX-03	1	67.45	<i>Bos taurus</i>	Radius	R	Mid-shaft	No	Spiral, 1 chop mark	
Trench CX-03	1	5.35	<i>Bos taurus</i>	Radius	R	Frag near distal end	No	Unsealed epiphysis	
Trench CX-03	1	29.97	<i>Bos taurus</i>	Rib		Mid 1/3	No	Chop marks	
Trench CX-03	1	1.11	<i>Bos taurus</i>	Rib		Frag	No	Chop marks	
Trench CX-03	1	8.41	<i>Bos taurus</i>	Sternum		Frag	No	Dry break	
Trench CX-03	1	11.48	<i>Bos taurus</i>	T. vertebra		Base of dorsal spine	No		
Trench CX-03	1	3.12	<i>Bos taurus</i>	Tooth		Incisor	No		
Trench CX-03	1	3.41	<i>Bos taurus</i>	Vertebra		Central face frag, unsealed	No		Unsealed epiphysis
Trench CX-03	1	0.43	<i>Canis sp. (prob. dog)</i>	Tooth		Molar frag	No		
Trench CX-03	1	0.54	<i>Capra sp.</i>	Tooth		Fragment of molar	No		
Trench CX-03	2	4.99	Caprid/Ovid	Carpals		Completelete	No		
Trench CX-03	1	1.57	<i>Odocoileus virginianu</i>	Metapodial		Frag of shaft	No		
Trench CX-03	1	14.36	<i>Sus scrofa</i>	Astralagus		Most of it	No		
Trench CX-03	1	11.66	<i>Sus scrofa</i>	Rib		Medial frag	No		
Trench CX-03	4	3.26	<i>Sus scrofa</i>	Teeth		Molar and incisor	No		
Trench CX-03	1	7.36	<i>Sus scrofa</i>	Ulna		Frag at prox. articulation	No	Chopped	
Trench CX-03	1	1.39	<i>Sylvilagus sp.</i>	Mandible	R	All but ramus	No		3 cheek teeth present

Unit-level	Count	Weight grams	Taxon	Element	Side	Portion	Burned?	Breaks	Notes
Trench CX-03	14	23.54	UID medium mammal				No		
Trench CX-03	2	0.50	UID bird	Long bone		Frag	No	Spiral	
Trench CX-03	2	0.31	UID fish				No		
Trench CX-03	376	161.81	UID vertebrate					17	
Totals	425	642.92						17	
Trench CX-04	2	4.47	UID large mammal				No		
Totals	2	4.47						0	
Trench CX-05	1	25.58	<i>Bos taurus</i>	1st phalange		Complete	No		Root etch
Trench CX-05	1	18.49	<i>Bos taurus</i>	2nd phalange		Complete	No		Root etch
Trench CX-05	1	13.46	<i>Bos taurus</i>	Carpal		Complete	No		
Trench CX-05	1	40.84	<i>Bos taurus</i>	Femur	L	Head (unsealed)	No		Unsealed epiphysis
Trench CX-05	1	3.23	<i>Bos taurus</i>	Femur		Frag of unsealed head	No		Unsealed epiphysis
Trench CX-05	1	19.82	<i>Bos taurus</i>	Humerus	R	Frag of distal end	No		Unsealed epiphysis
Trench CX-05	1	20.80	<i>Bos taurus</i>	Metapodial		1 condyle	No		
Trench CX-05	1	53.48	<i>Bos taurus</i>	Patella		Complete	No		
Trench CX-05	1	120.30	<i>Bos taurus</i>	Radius		Prox. 1/4	No	Numerous chops and 1 impact	Root etch
Trench CX-05	1	11.05	<i>Bos taurus</i>	radius	R	frag of distal end	No		
Trench CX-05	1	2.28	<i>Bos taurus</i>	Rib		Prox. end minus epiphysis	No		Unsealed epiphysis
Trench CX-05	1	2.09	<i>Bos taurus</i>	Rib		Prox. end minus epiphysis	No		Unsealed epiphysis
Trench CX-05	1	59.38	<i>Bos taurus</i>	Scapula		Medial frag	No	Numerous chops	Only the central portion is left.
Trench CX-05	1	15.54	<i>Bos taurus</i>	T. vertebra		Frag	No		
Trench CX-05	1	39.34	<i>Bos taurus</i>	T. vertebra		Frag	No		
Trench CX-05	1	32.51	<i>Bos taurus</i>	Tibia	L	Frag of shaft	No	Chopped, spiral	
Trench CX-05	1	1.63	<i>Bos taurus</i>	Vertebra		Articular surface	No		
Trench CX-05	3	2.03	Caprid/Ovid	Vertebra		Centrum face frags, unsealed	No		Unsealed epiphysis
Trench CX-05	1	14.87	<i>Odocoileus virginianu</i>	Innominate	R	Tuber ishil	No		
Trench CX-05	1	13.09	<i>Odocoileus virginianu</i>	Innominate	R	Acetabulum	No		
Trench CX-05	20	73.00	UID large mammal				No		
Trench CX-05	2	5.05	UID medium mammal				No		
Trench CX-05	10	1.16	UID very small mammal				No		
Trench CX-05	4	5.21	UID fish				No		
Trench CX-05	284	131.84	UID vertebrate					22	
Totals	342	725.07						22	
Trench CX-06	1	35.51	<i>Bos taurus</i>	1st Phalange		Complete	No		
Trench CX-06	1	81.48	<i>Bos taurus</i>	Tibia	L	Frag prox. end w/o epiphysis	No	Spiral	Unsealed epiphysis
Trench CX-06	8	9.66	UID large mammal				No		
Trench CX-06	2	1.42	UID medium mammal				No		
Trench CX-06	2	0.11	UID very small mammal				No		
Trench CX-06	17	3.59	UID vertebrate				No	1 saw cut	Too worn to tell if machine cut
Totals	31	131.77						0	
Trench CX-07	1	26.12	<i>Bos taurus</i>	1st Phalange		Almost Complete	No		
Trench CX-07	1	20.99	<i>Bos taurus</i>	2nd Phalange		Complete	No		
Trench CX-07	1	56.25	<i>Bos taurus</i>	Metapodial		Dist. end, w/o epiphysis	No		Unseal epi, v. lg. animal (castrated m
Trench CX-07	1	1.52	<i>Sus scrofa</i>	Tooth		Fragment	No		
Trench CX-07	1	14.99	<i>Sus scrofa (Probably)</i>	Humerus		Shaft	No		
Totals	5	119.87						0	

Unit-level	Count	Weight grams	Taxon	Element	Side	Portion	Burned?	Breaks	Notes
Trench CX-08	3	12.66	UID large mammal				No		
Trench CX-08	7	2.20	UID vertebrate				2		
Totals	10	14.86					2		
Trench CX-09	1	23.76	<i>Bos taurus</i>	2nd phalange		Complete	No		
Trench CX-09	1	7.04	<i>Bos taurus</i>	Rib		Frag	No	1 chop mark	
Trench CX-09	1	6.12	<i>Bos taurus</i>	Rib		Frag	No	1 cut, 1 chop, some canid chew	
Trench CX-09	1	15.42	<i>Bos taurus</i>	Rib		Frag	No	2 chop, 1 heavy cut	Root etch
Trench CX-09	1	10.19	<i>Bos taurus</i>	Rib		Prox tip	No	Chop and break, 1 cut	Root etch
Trench CX-09	1	13.03	<i>Bos taurus</i>	Vertebra		Frag of centrum	No	Tooth punctures	Unsealed epiphysis
Trench CX-09	1	4.58	Caprid/Ovid	Tarsal		Almost Complete.	No		
Trench CX-09	1	4.38	Caprid/Ovid	Tooth		Frag of molar	No		
Trench CX-09	1	0.14	<i>Sciurus niger</i>	Scapula		dorsal 1/2	No		
Trench CX-09	1	1.44	<i>Sus scrofa</i>	Femur		Greater trochanter	No		Unsealed epiphysis
Trench CX-09	1	1.75	<i>Sus scrofa</i>	Rib		Prox. tip	No		
Trench CX-09	4	22.14	UID large mammal				No		
Trench CX-09	3	1.07	UID bird	Long bone		Frag	2	Spiral	
Trench CX-09	50	17.82	UID vertebrate				4		
Totals	68	128.88					6		
Trench CX-10	1	29.00	<i>Bos taurus</i>	Innominate		Frag, near acetabulum	No	Chopped	
Trench CX-10	1	220.06	<i>Bos taurus</i>	Metapodial		All but dist. epiphysis	No	Cracks, probably weathering	Root etched, unsealed d. epiphysis
Trench CX-10	3	4.76	<i>Bos taurus</i>	Vertebra		Frag	No		
Trench CX-10	1	4.27	<i>Bos taurus</i>	Vertebra		Unsealed centrum	No		Unsealed epiphyseal joint
Trench CX-10	2	5.00	Caprid/Ovid	Carpals		Complete	No		
Trench CX-10	1	0.68	<i>Didelphis marsupialis</i>	Axis		Complete.	No		
Trench CX-10	1	0.16	<i>Oryzomys palustris</i>	Tibia	L	Prox. 1/2	No		
Trench CX-10	1	0.31	<i>Sciurus niger</i>	Tibia	R	Prox. 1/2	No		Unsealed epiphysis
Trench CX-10	1	1.11	<i>Sus scrofa</i>	Rib		Prox. tip	No		
Trench CX-10	1	14.99	<i>Sus scrofa (probably)</i>	Femur		Shaft	No	Spiral	
Trench CX-10	10	34.59	UID large mammal				2		
Trench CX-10	8	17.67	UID medium mammal				No		
Trench CX-10	1	0.27	UID bird	Long bone		Frag	1	Spiral	
Trench CX-10	1	0.14	UID snake	Vertebra		Complete.	No		Non-poisonous
Trench CX-10	137	46.59	UID vertebrate				6		
Totals	170	379.60					9		
Trench CX-11	1	1.95	<i>Bos taurus</i>	Vertebra		Frag of centrum	No		Unsealed epiphysis
Trench CX-11	1	2.04	<i>Bos taurus</i>	Rib		Prox. end	No		
Trench CX-11	1	44.00	<i>Bos taurus</i>	T. vertebra		Base of dorsal spine	No		
Trench CX-11	1	6.76	<i>Bos taurus</i>	T. vertebra		frag	No		
Trench CX-11	8	94.54	<i>Bos taurus</i>	T. vertebra		frags	No		All have unsealed epiphyses
Trench CX-11	1	0.74	<i>Canis Familiaris</i>	Tooth		Premolar frag	No		
Trench CX-11	2	6.69	Caprid/Ovid	Carpals		Complete	No		
Trench CX-11	1	1.70	<i>Didelphis marsupialis</i>	T. vertebra		Complete/ete	No		
Trench CX-11	1	0.17	<i>Sylvilagus sp.</i>	Metapodial		All but prox. epiphysis	No		
Trench CX-11	3	0.24	UID bird				No		
Trench CX-11	4	7.31	UID large mammal				No		
Trench CX-11	7	6.75	UID medium mammal				No		
Trench CX-11	4	0.67	UID small mammal				No		
Trench CX-11	179	69.91	UID vertebrate				No		
Totals	214	243.47					0		

Unit-level	Count	Weight grams	Taxon	Element	Side	Portion	Burned?	Breaks	Notes
Trench CX-12	3	1.66	UID small mammal				No		
Trench CX-12	32	14.62	UID vertebrate				16		
Totals	35	16.28					16		
Trench CX-13	1	3.42	<i>Gallus domesticus</i>	Femur	R	Prox. 3/4	No		
Trench CX-13	2	0.22	UID bird				No		
Trench CX-13	5	29.92	UID large mammal				No		
Trench CX-13	76	33.45	UID vertebrate				3		
Totals	84	67.01					5		
Trench CX-14	1	0.58	<i>Canis familiaris</i>	Tooth	L	2nd molar	No		Very worn-probably from old dog
Trench CX-14	2	4.26	UID large mammal				No		
Trench CX-14	18	4.48	UID vertebrate				No		
Totals	21	9.32					0		
Trench CX-15	1	3.38	<i>Bos taurus</i>	L. vertebra		Articular surface	No		
Trench CX-15	1	1.48	Caprid/Ovid	2nd phalange		Complete	No		
Trench CX-15	1	0.47	Caprid/Ovid	Vertebra		Unsealed centrum face	No		Unsealed epiphysis
Trench CX-15	1	0.41	<i>Lepus californicus</i>	Vertebra		Complete	No		
Trench CX-15	1	6.41	<i>Sus scrofa</i>	Rib		Medial frag	No	1 chop	
Trench CX-15	1	0.06	<i>Sylvilagus sp.</i>	1st phalange		Complete	No		
Trench CX-15	1	0.48	<i>Sylvilagus sp.</i>	Mandible	R	Medial 1/3	No		
Trench CX-15	1	0.14	<i>Sylvilagus sp.</i>	Scapula	L	Prox. 1/3	No		
Trench CX-15	16	82.52	UID large mammal				No	1 is saw cut (hand)	
Trench CX-15	4	6.01	UID medium mammal				No		
Trench CX-15	197	58.71	UID vertebrate				19		
Totals	225	160.07					19		
Trench E	12	2.88	UID vertebrate				No		
Totals	12	2.88					0		
Trench F	1	0.15	<i>Oryzomys palustris</i>	Mandible	R	All but top of ramus	No		
Trench F	1	0.26	<i>Sciurus niger</i>	Humerus	L	All but prox. epiphysis	No		Unsealed epiphysis
Trench F	3	8.99	UID large mammal				No		
Trench F	28	13.09	UID vertebrate				1		
Totals	35	22.49					1		
Unit 1 1	1	77.68	<i>Bos taurus</i>	Tibia	L	Frag near prox. end	No	1 Spiral	Unsealed epiphysis
Unit 1 1	7	21.79	UID large mammal				No		
Unit 1 1	1	1.38	UID medium mammal				No		
Unit 1 1	8	5.11	UID vertebrate				No		
Unit 1 2	1	1.76	<i>Bos taurus</i>	Rib		Distal end	No		
Unit 1 2	2	9.76	<i>Bos taurus</i>	Vertebra		Frag	No		
Unit 1 2	15	34.38	UID large mammal				No		
Unit 1 2	45	24.60	UID vertebrate				5		
Totals	80	176.46					6		

Unit-level	Count	Weight grams	Taxon	Element	Side	Portion	Burned?	Breaks	Notes
Unit 2 1	1	11.10	Caprid/Ovid	Humerus	L	Prox. end	No	Saw cut	Too weathered to tell if by machine
Unit 2 1	1	12.90	<i>Sus scrofa</i>	Ulna	R	Prox. end	No	Saw cut	Too weathered to tell if by machine
Unit 2 1	2	0.32	UID bird				No		
Unit 2 1	2	5.01	UID large mammal				No		
Unit 2 1	5	10.84	UID medium mammal				No	1 saw cut	
Unit 2 1	37	11.41	UID vertebrate				No	1 saw cut (mach)	
Unit 2 2	2	1.50	UID vertebrate				No	1 saw, mach	
Totals	50	55.08					0		
Unit 3 2	1	3.32	UID large mammal				No	Saw (hand?)	
Unit 3 2	4	1.25	UID vertebrate				No		
Totals	5	4.57					0		
Unit 5 1	2	7.65	<i>Bos taurus</i>	Rib		Medial frags	No		
Unit 5 2	1	145.24	<i>Bos taurus</i>	Metapodial		Most of prox. 1/2	No		
Unit 5 2	1	3.30	<i>Bos taurus</i>	Sternum		Medial frag	No		
Unit 5 2	4	0.41	<i>Bos taurus</i>	Vertebra		Frag of centrum face, unseal	No		Unsealed epiphysis
Unit 5 2	1	4.20	<i>Equus caballus</i>	Rib		Medial frag	No	Badly weather, but may be chopped	
Unit 5 2	1	0.41	<i>Neotoma albigula</i>	Femur	L	Prox. 2/3	No		
Unit 5 2	1	0.33	<i>Neotoma albigula</i>	Mandible	R	All but ramus	No		
Unit 5 2	1	1.33	<i>Procyon lotor</i>	Mandible	R	Medial 1/3	No		
Unit 5 2	40	163.64	UID large mammal				No	2	
Unit 5 2	1	0.35	UID very small mammal				No		
Unit 5 2	191	79.94	UID vertebrate				No	11 1 saw cut	
Totals	244	406.80						2	
Total Trench C&F	2302	2982.28					Total burned bone	127	
Total Other	391	643.79							
Overall total	2693	3626.07							