

ARCHAEOLOGICAL TEST EXCAVATIONS AT MISSION
SAN FRANCISCO DE LA ESPADA

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INTRODUCTION

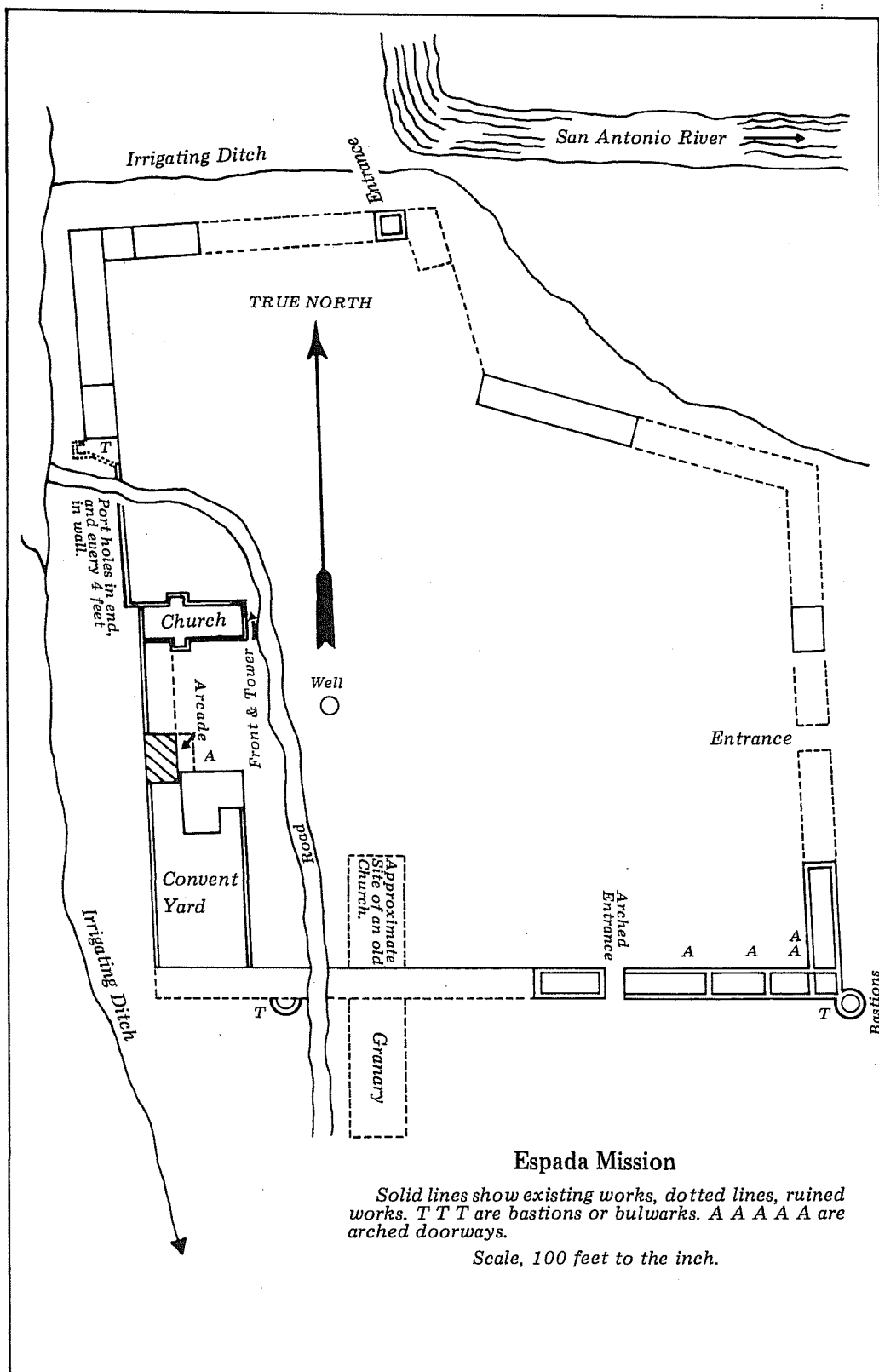
In May, 1976, archaeological testing was carried out adjacent to the tower on the southeast corner of Mission San Francisco de la Espada (Fig. 1). The field work was conducted by an archaeological team from the Center for Archaeological Research, The University of Texas at San Antonio. Principal investigator for the project was Dr. Thomas R. Hester, Director of the Center; Research Associate Anne A. Fox was in charge of the field investigations. This research was done under the terms of State Antiquities Permit No. 112, issued to the Old Spanish Missions Association, represented by Mr. Bernardo Fresquez, Superintendent.

In recent times a large crack has formed in the east side of the tower and the surrounding wall bulges noticeably outward. The purpose of our brief investigation was to determine, if possible, the method of construction of the wall footings in order to aid in planning by architect Caroline Peterson (of Ford, Powell & Carson, Architects and Planners) for the stabilization and repair of the tower.

HISTORY

It is not within the scope of this report to relate the history of Mission San Francisco de la Espada, as it has already been covered in some detail by others (see Habig 1968:192-233; Winfrey 1965:103-124). The mission was first founded in East Texas in 1690 and moved to San Antonio in 1731. The date of construction of the tower has not as yet been determined. It was not until 1756 that stone houses for the Indians began to be constructed and the mission began to assume its present shape (Habig 1968:211). A 1762 report included a description of three

Figure 1. . *Copy of a map by William Corner, done in 1890.*
(Corner 1890: n.p.). The "arched entrance" on the south wall may possibly be the one mentioned in the mission inventory of 1722 (p. 4). Note defensive towers on south and west walls.



rows of Indian houses of stone and mortar (Porrua 1961:259), and Father Morfi observed in 1778 that these formed a plaza with the convento on the third side (Chabot 1932:66). An inventory of the mission in 1772 describes a "castillo" near the main gate, six varas high, with a pointed roof (*punta de diamante*), loopholes (*troneras*) and two cannons inside (Zacatecas 1772). This may refer to the tower in question, which is not too far from the major entrance on the south wall (Fig. 1). Later reports contain little about the defensive structures, despite the fact that there were remains of several types of fortified towers on the walls in 1890 (Fig. 1).

There are no known 18th century accounts of the tower's use as a defensive bastion, although the Apaches and later the Comanches posed a constant threat to the lives and property of the mission inhabitants (Dunn 1911:242-243). Round towers or *torrêons* were characteristic features of Spanish frontier presidios in the first half of the 18th century, giving way to angular or diamond-shaped bastions after 1772 (Moorhead 1975:166). Lafora's remarks about the practicality of a *torrêon* at Presidio San Sabá, similar to the one at Espada, gives an idea of the problems involved:

"On the lower floor of the southeast tower, at ground level, there were two cannons, but the embrasures were too narrow and badly placed to give them command of the entire length of the adjacent walls, and they were so deeply cut that they exposed artillery men to enemy fire. Worse, the space of this chamber was so small that all within it were in danger of suffocation from smoke whenever the cannons were fired." (Moorhead 1975:170)

Apparently such towers were occasionally built for defensive purposes by individual Spanish families on the early frontier (George 1975:32).

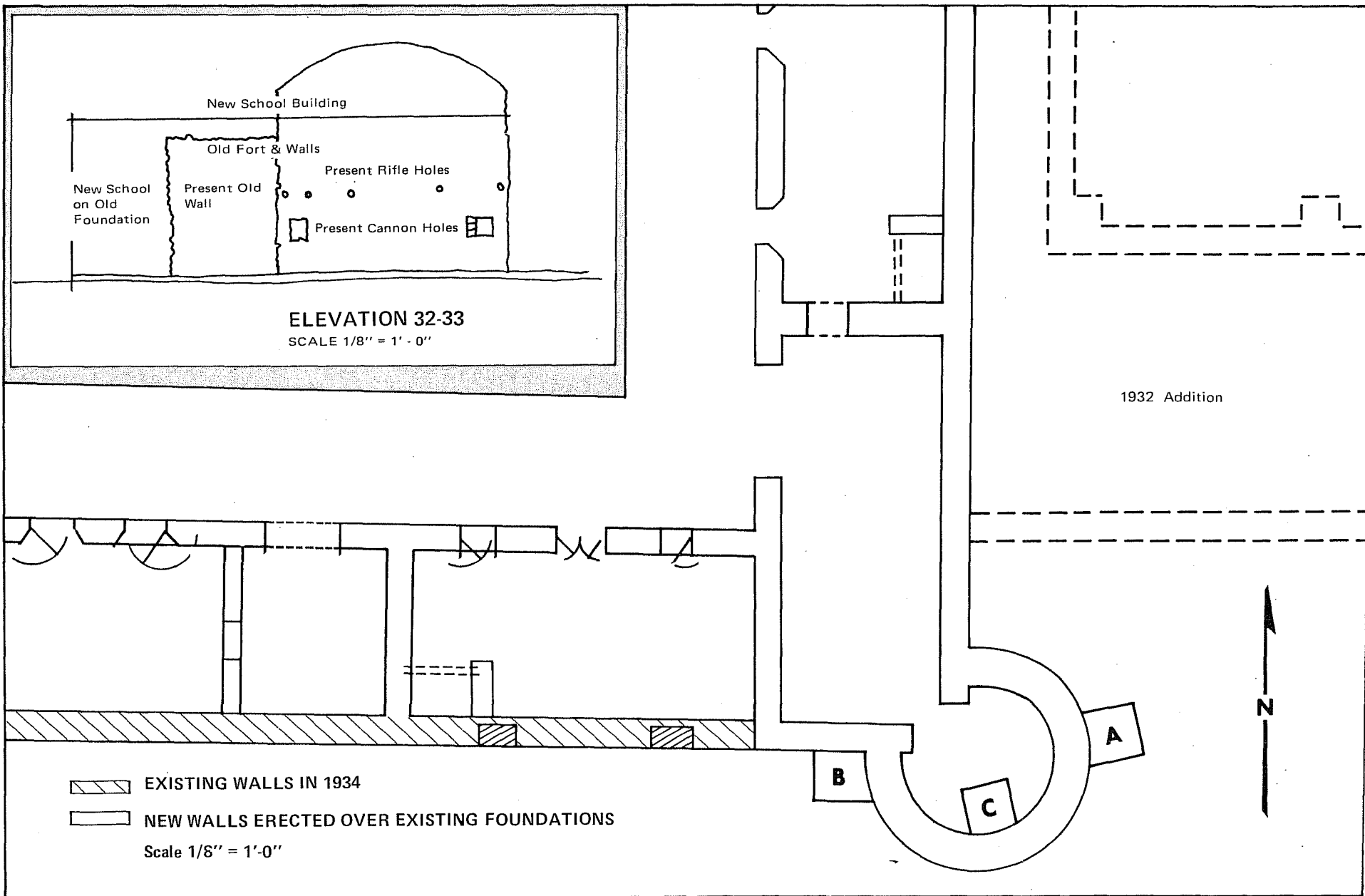
Here again, they seem to have been less practical than they might at first appear, as whole families are known to have perished inside them (Boyd 1974). A similar round tower was built during the 18th century at Mission San Juan Bautista in Guerrero, Mexico (Eaton 1976:8). Architect Harvey P. Smith, Sr., constructed one identical to the Espada tower as part of the Mission San José restoration. Results of recent archaeological investigations tend to suggest that this reconstruction may not be upon the actual foundations of the original tower (cf. Clark n.d.:107).

After secularization at the end of the 18th century, Mission Espada continued to be home to a number of Spanish and Indian families who were constantly exposed to Indian raids. In 1826 a band of Comanches attacked the settlement, stealing corn, killing livestock, and wounding several inhabitants (Winfrey 1965:122). An eyewitness who was born and grew up at Espada in the early 19th century described battles with Indians within the mission walls, but could not remember the tower ever being used for defense, although he had heard tales of its use (Corner 1890:23). In October of 1835, 100 troops of the Texas Army under Bowie and Fannin took possession of the old mission and fought off 200 Mexican soldiers (Greer 1928:140), but no detailed description has been found indicating use of the tower in this battle.

RESTORATION WORK AT ESPADA

After secularization, the first person to take an active interest in restoration at Mission Espada was Fr. Francis Bouchou, who reconstructed the chapel and a portion of the convento during the time he was stationed there in the late 19th century (Habig 1968:225-226). No indication has

Figure 2. *Location of Test Pits.* Taken from restoration drawings of Harvey P. Smith, 1934.



been found that he did any reconstruction on the tower.

In 1932 a group of rooms on the southeast corner was repaired, some of the rooms enlarged, and a wing added to the east to make room for a school conducted by the Sisters of the Incarnate Word (Habig 1968:232). Although the tower was a part of the school complex, it does not appear to have been altered during the remodelling process (*San Antonio Light* 1941). Apparently it was used primarily as a storage room (Scheibl 1956).

In the early 1930's, WPA funds were made available for extensive repairs at all the San Antonio missions. Architect Harvey P. Smith, Sr., conducted investigations to determine the wall lines and to draw up plans for stabilization and restoration of many of the mission structures. Funds ran out before anything more than a basic plan could be accomplished at Mission Espada. In 1955 Archbishop Robert E. Lucey requested a renewed attempt at the restoration, and the perimeter walls of the compound and of many of the interior buildings were reconstructed to waist height, leaving the mission looking much the way it looks today (Scheibl 1956). At that time the tower was standing at its present height. Although restoration plans called for construction of a domed top on the tower (Fig. 2), this was not accomplished. The *tronera* on the east side of the tower was picked up from where it had fallen on the ground near the wall and reset on a level with the others (Harvey P. Smith, Jr., personal communication).

A plan of the mission drawn by William Corner in 1890 shows the walls still standing at that time, including the round "bastion" on the southeast corner. His description indicates that the tower was still in good condition:

"In the southeast corner is an object of much interest. Projecting from the angle of the walls outwardly, is a small round tower of quite a feudal character. It is in a state of fine preservation and its three dressed stone round cannon holes near the base, and its seven musket holes about eight feet from the ground, lend it quite a menacing presence. The interior of it is in equally good repair...." (Corner 1890).

THE EXCAVATIONS

Three one-meter square test pits were laid out adjacent to the walls of the tower (Fig. 2). Test pit A was located directly under the crack in the tower wall, in order to determine how far the weakness extended and whether there could be any subsurface factors involved in the deterioration. Test pit B was located on the west side of the tower at the intersection of the tower wall with that of the mission in order to examine the building sequence, since Smith indicated that this portion of the original wall was still standing in 1934 (Smith 1934: Sheet 8). Test pit C was located opposite the doorway on the inside of the tower, approximately half way between the other two test pits. A permanent datum from which all depth measurements could be compared was established on the bottom of the southernmost gun port in the tower wall. A temporary datum for each pit was set at its highest corner. All comparative elevations were then determined by alidade.

Test pit A (Figs. 2,3,5) was excavated with trowel and shovel in 10 cm levels. The first 25 cm consisted of light brown soil which contained late 19th and 20th century artifacts. From 25 to 45 cm, earlier 19th century artifacts and small fragments of wall stone were recovered. At 35 cm, an iron pipe (three inches in diameter) was discovered, oriented north and south approximately 50 cm from the

Figure 3. *Espada Tower*

(upper) View of tower from east, showing crack in wall and location of Test Pit A.

(lower) Test Pit B excavated to 40 cm, showing the junction of the tower wall with the mission building and the top of the wall footing.



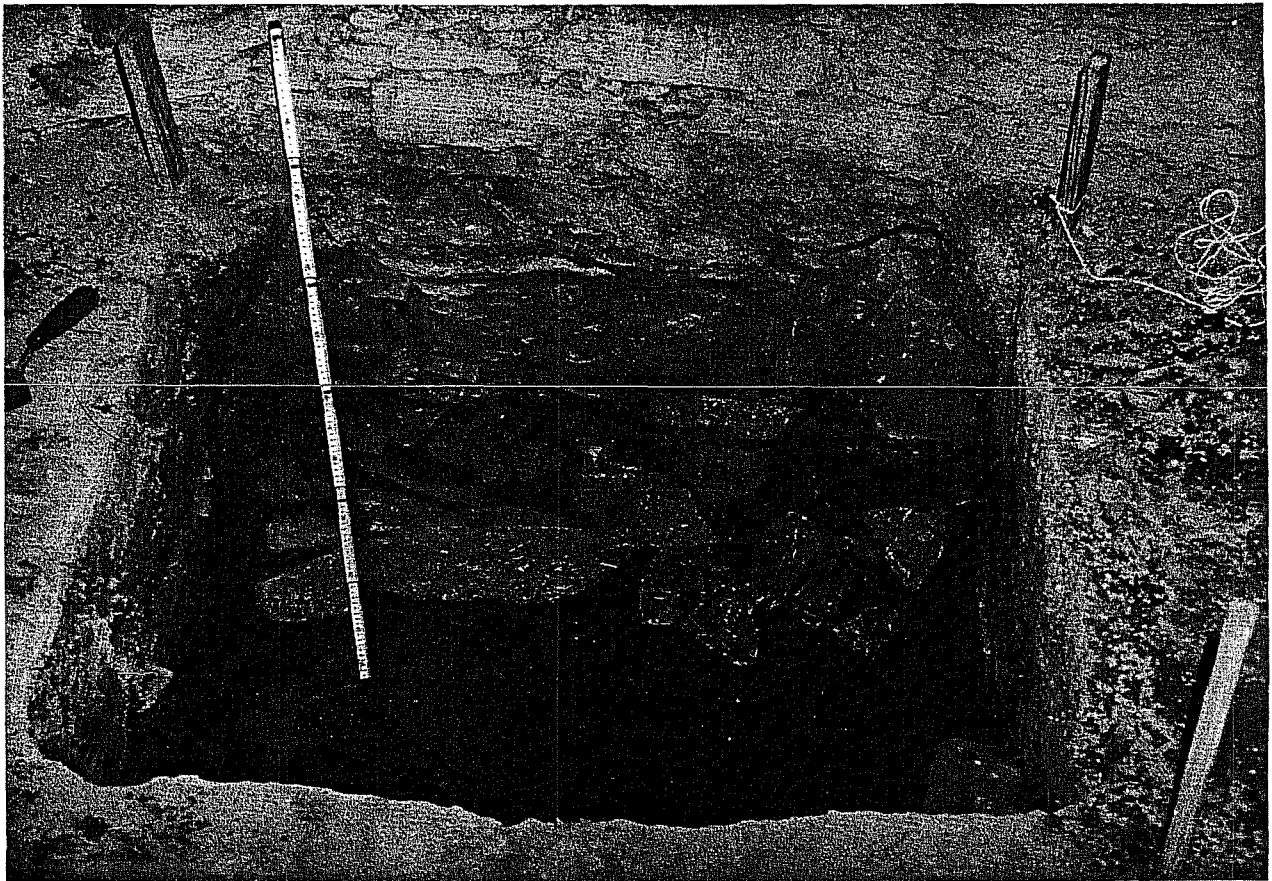
tower wall. No sign of a pipe trench was visible in the walls or floor of the excavation. At 45 cm, beneath a level of slightly more concentrated chips of stone, the soil changed gradually to a dark brown sterile clay. Also at this point, the cut stone and mortar wall of the tower changed to rubble laid in a more casual manner, with occasional flat stones laid vertically against the face of the footing. No wall trench was present, the dark brown clay intruding into all cracks and crevices of the footing with no mortar discernible. The footing continued to a depth of 95 cm.

Test pit B (Figs. 2,3,4,6) was excavated in the same manner as A. The sequence of soil and artifacts was also similar, though the soil change was difficult to observe due to the moisture in this area caused by a nearby roof drain. It was observed that the top of the footing for the mission wall began 10 cm deeper than that of the tower, and that it extended to the same depth. A close examination of the point where the tower wall joins that of the mission reveals that they were not tied together and may have been built independently of each other. The entrance into the interior of the tower is through an opening which appears to have been formed by removing the corner of the original building (see Fig. 2). However, the workmanship of the two are quite similar and the footings are similar, though not identical. It is interesting to speculate that the difference in level of the top of the tower wall footing might indicate raising of the surrounding ground level due to accretion through time, and that the tower might have been built considerably later than the wall. Archaeology has revealed a surprising consistency in the depth of overburden which has accumulated through time upon the 18th century living surfaces at all the San Antonio missions (see Greer 1967: Figs. 3 and 4; Schuetz 1968:238; Fox 1970:

Figure 4. *Espada Tower*

(upper) West profile of Test Pit A, showing wall and footing construction.

(lower) South profile of Test Pit C excavated to 48 cm, showing contrast between wall and footing construction.



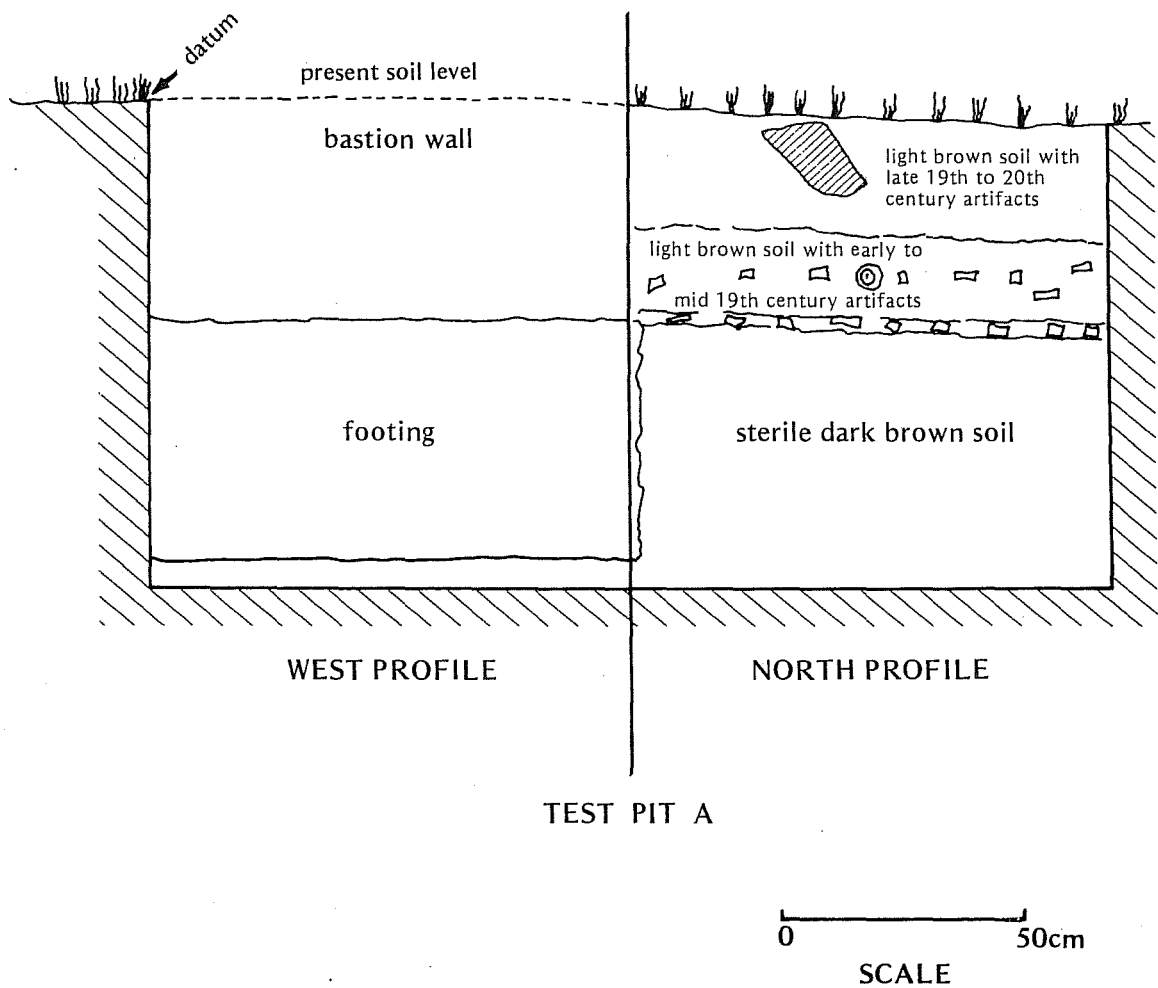


Figure 5. *San Francisco de la Espada*. Profile of Test Pit A.

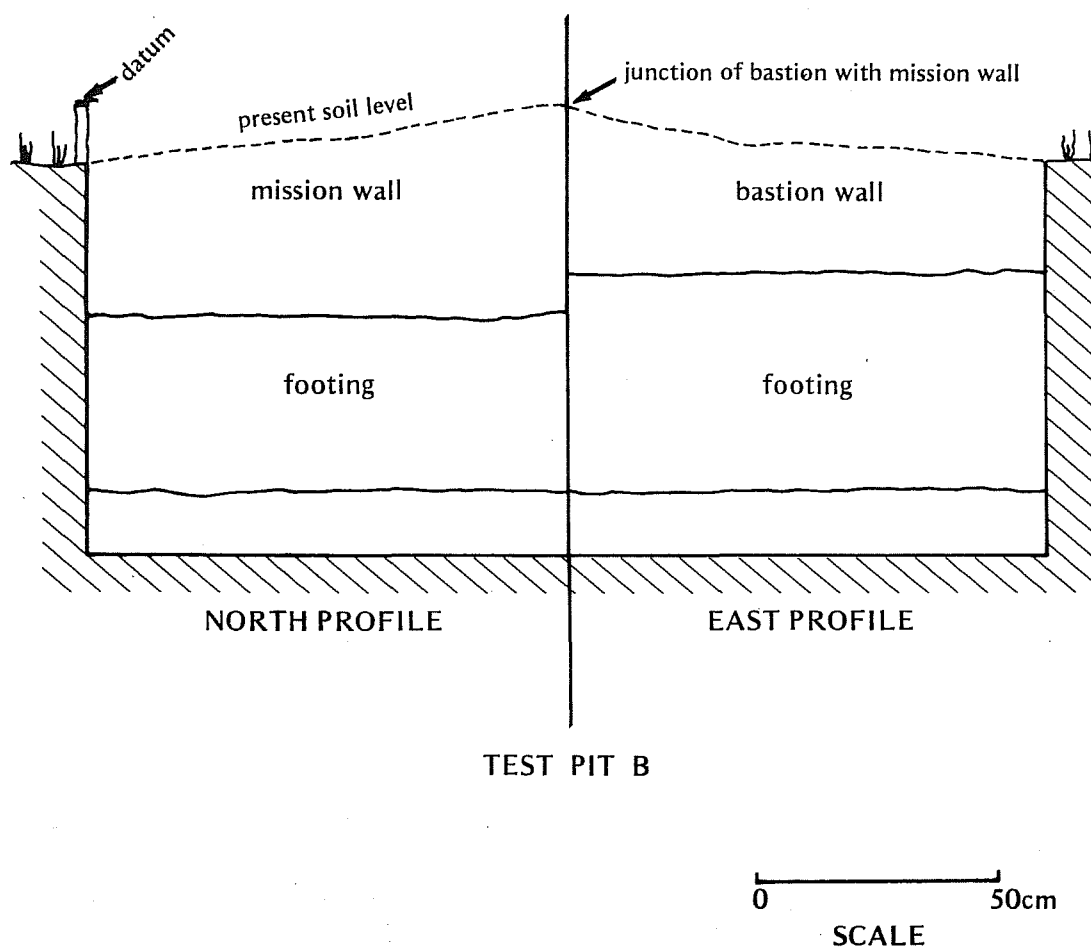


Figure 6. *San Francisco de la Espada*. Profile of Test Pit B.

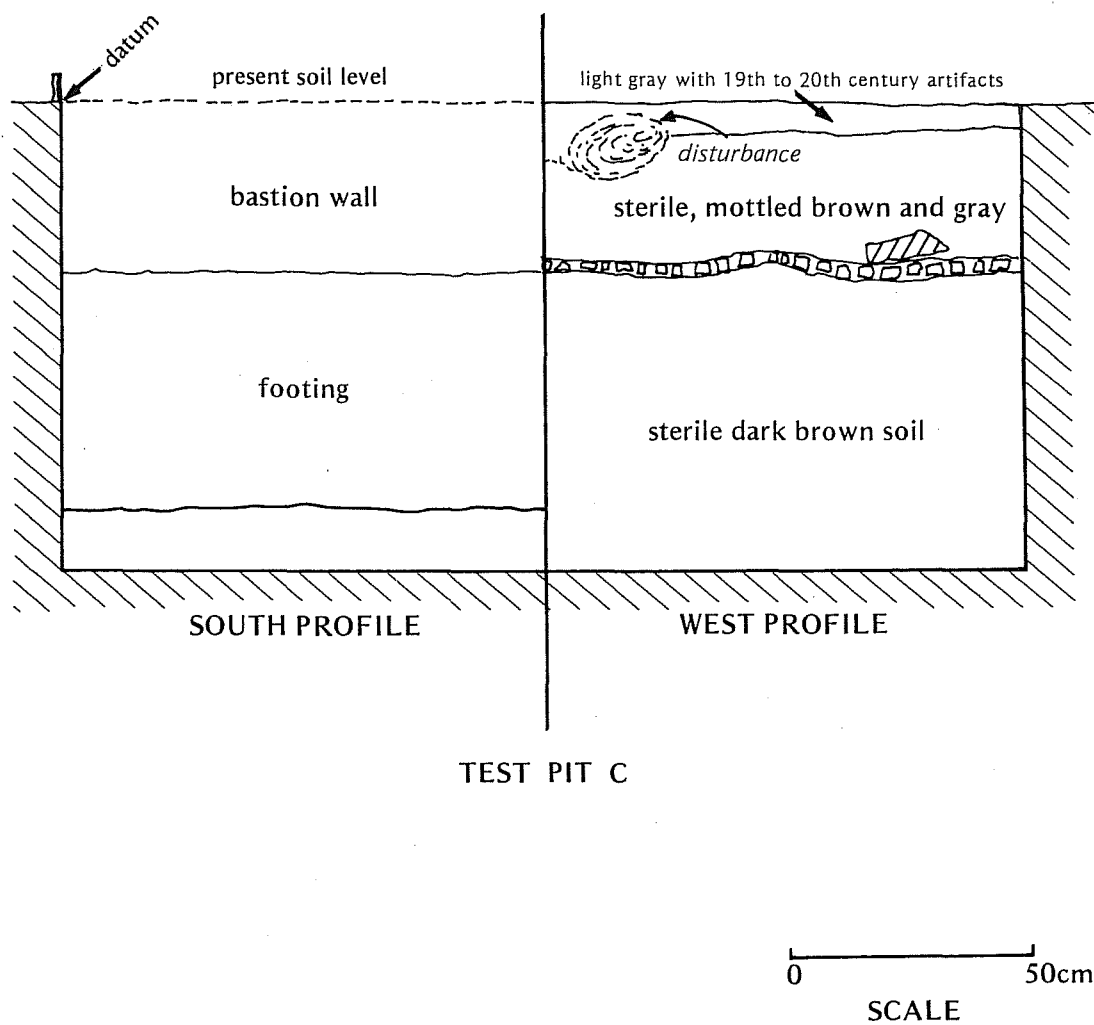
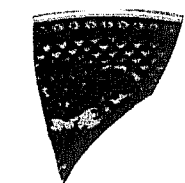


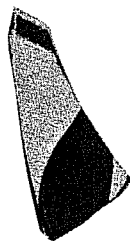
Figure 7. *San Francisco de la Espada*. Profile of Test Pit C.

Figure 8. *Artifacts from Espada Investigations*. Provenience of specimens by unit and level is indicated in parentheses.

- a. Blue willow pattern on porcelain (B-1, B-2)
- b. Handpainted design in blue-green and rose on white earthenware (C-1)
- c. Painted bands of black and rose, with blue cut-sponge design on white earthenware (A-3)
- d. Light green and yellow handpainted design on white earthenware (A-3)
- e. Blue handpainted design on white earthenware (B-2)
- f. Blue sponged design on white earthenware (A-4)
- g. Mottled brown and tan on red earthenware (C-1)
- h. Lead glaze on orange, sandy paste earthenware (A-3)
- i. White bone-temper in brown paste, unglazed (A-3)
- j. Tin enameled design in orange, brown and green on green-tinged cream background; Aranama Polychrome Majolica (A-3)



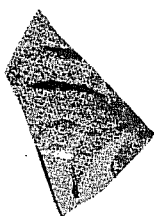
a



b



c



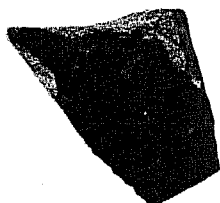
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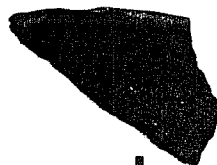
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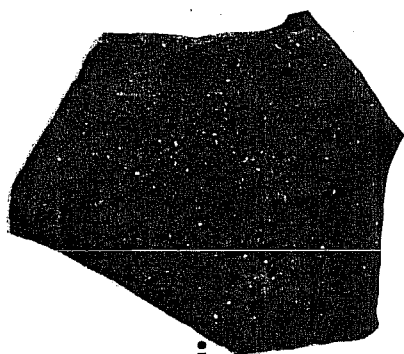
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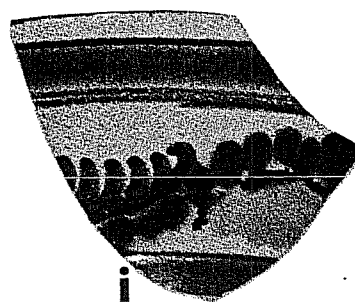
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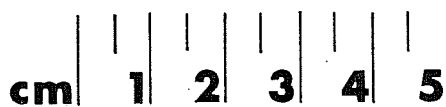
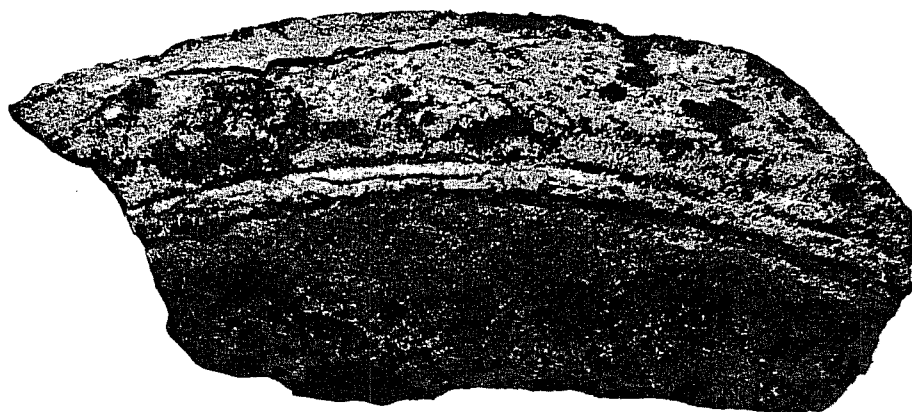
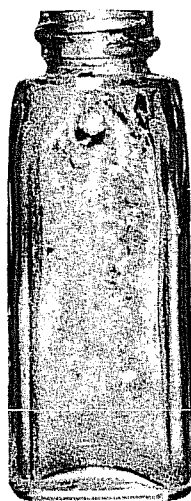
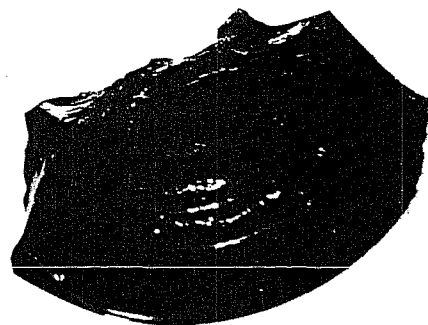
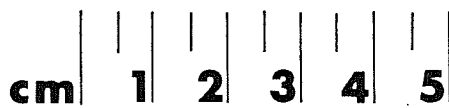


Figure 9. *Artifacts from Espada Investigations.*

- a. Pointed metal object (needle?; C-1)
- b. Cast iron pan (A-1)
- c. Green glass bottle base (A-3)
- d. Clear glass bottle (A-1)
- e. "Black" glass bottle base (B-4)

**a****b****c****d****e**

Figs. 3 and 5).

Test pit C (Figs. 3,7), inside the tower, was excavated to 5 cm with trowels and the fine, dry soil screened for maximum artifact recovery. The artifacts in this level represented predominantly late 19th to early 20th century articles, with some more recent bottle fragments and plastic objects. From the 5 cm level to a depth of 45 cm the mottled brown and grey soil was sterile, except for fragments of wall stone. At 45 cm what appeared to be a solid layer of stone fragments was encountered. This was found to be only a few cm thick and directly beneath this began the same dark brown, sterile clay which had been encountered on the outside of the wall. At this same point began the wall footing, continuing to a depth of 85 cm.

When drawings had been completed and photographs taken of the excavations, all pits were backfilled and the area returned as nearly as possible to its original condition.

An analysis of the artifacts was carried out by Fox. These materials are listed in Tables 1 and 2.

SUMMARY AND CONCLUSIONS

As a result of the archaeological testing done in the vicinity of the tower at Mission San Francisco de la Espada, it is possible to make the following statements regarding construction of the tower.

1. The tower walls were constructed of roughly shaped local stone, set in a sand and lime mortar.
2. The wall footing consists of approximately 50 cm of rubble set in soil, packed into a trench the same thickness as the wall (66 cm).

3. The tower stands today as it was originally constructed except for a few attempts at replacing loosened stones and patching holes which developed due to the weakness of the original mortar.
4. No verifiable information has been found on the original height or construction of the roof of the tower. Therefore, it is the opinion of the authors that the restoration emphasis should be upon preservation of the existing structure, utilizing whatever type of roof is unobtrusive and watertight.

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TABLE 1

Artifacts from Test Pits A and B, Mission San Francisco de la Espada

	A-1 0-15 cm	A-2 15-25 cm	A-3 25-35 cm	A-4 35-45 cm	A-5 45-55 cm	B-1 0-20 cm	B-2 20-30 cm	B-3 30-40 cm	B-4 40-45 cm	B-5 45-60cm
white porcelain - undecorated	1									
decorated						2	1			
white "ironstone"	1	4					2			
white earthenware - undecorated		2	3				1			
handpainted			5	2			2			
blue edged			1							
sponged				1						
mocha							1			
majolica - polychrome			1							
lead glazed earthenware			1					1		
oliad ware			1							
glass containers - clear	23	9	2			44	42			
brown	2	4	4							
green	1	3	2				3			
blue						3	2			
lavender							2			
"black"								1	1	1
aqua					1					
turquoise		1						2		
glass marble						1				
window glass	7	7	1			5	1			
brick or tile	2	1		1		7	13		3	
roofing materials	3	1	2			2	13			
plastic						1	11			
square nails		4	2	1			2			
fire nails	2	2		2				2		
brown bottle caps	1	1	1	1		1	1			
crew bottle caps	1									
astiron	1									
trapping		1								

TABLE 1 - continued

	A-1 0-15 cm	A-2 15-25 cm	A-3 25-35 cm	A-4 35-45 cm	A-5 45-55 cm	B-1 0-20 cm	B-2 20-30 cm	B-3 30-40 cm	B-4 40-45 cm	B-5 45-60cm
tin cans		4	4				3			
metallic foil		2								
waterpipe	1									
screws						1				
wire		3	1				1			
hardware, miscellaneous	1	1				3	4			
animal bone	3	6	11	12			7		1	
mussel shell			1	1						
flint flakes			1							