ARCHAEOLOGY IN TUCSON

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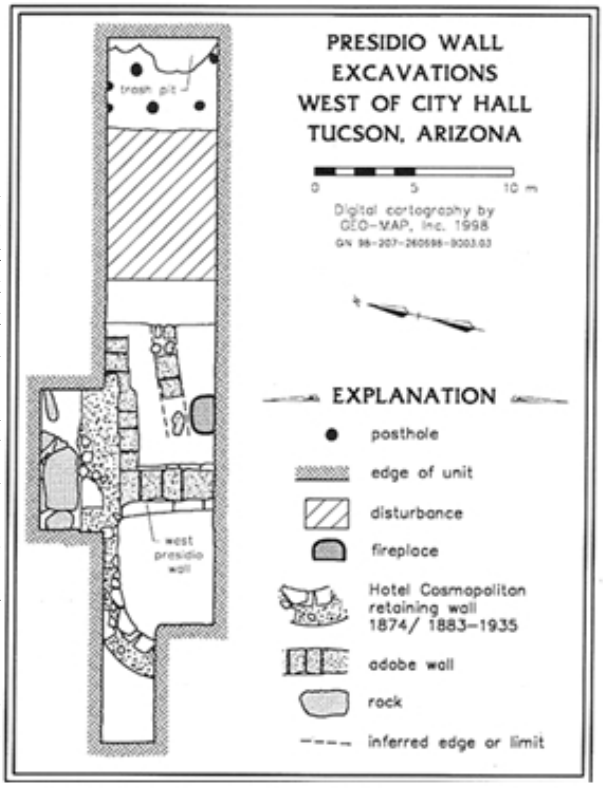
In Search of *El Presidio de Tucson*

J. Homer Thiel, Desert Archaeology, Inc.

It is easy to forget, as one views the skyline of modern Tucson, that our community has its origins in a small Spanish fortress. In 1775, Captain Hugo O'Conor selected a piece of land on the east side of the Santa Cruz River for a presidio. Over the next eight years adobe walls were built to enclose the area to protect people inside the fort from Apache attacks.

Today the walls are lost, buried ,in the heart of Tucson below streets, lawns, sidewalks, and buildings. In order to find them, we must examine historic documents and old photographs, excavate trenches, and study artifacts.

Over the last 10 years, the Center for Desert Archaeology has initiated several research projects to look for remains of Tucson's Presidio. In 1991 we worked with Karl Glass of the University of Arizona on a ground-penetrating radar study that suggested that portions of the Presidio wall were intact beneath the ground surface in several areas. The following year, Center volunteers helped excavate trenches in the Pima County Courthouse courtyard, ultimately exposing a north-south adobe wall which rests on a stone foundation (see *AIT*, July 1993). This is thought to be the east Presidio wall, perhaps a portion dating to the remodeling of the wall in the 1820s.



Map of the trench excavated in the west lawn of the Tucson City Hall (prepared by Geo-Map, Inc.).

The City of Tucson recently acquired the northeast corner area of the Presidio, which lies beneath a parking lot. The City and Pima County have ordinances protecting cultural resources; however, development activities, such as utility installation, can still impact Presidio period archaeological remains *(AIT*, April 1992). A better understanding of what lies buried beneath the ground will aid in the development of a master plan for the Presidio area, helping guide future activities.

In March and April 1998, the Center returned to search for portions of the south, west, and north walls of the Presidio. Trenches were excavated in five areas by volunteers who carefully screened dirt and bagged artifacts. Undisturbed archaeological deposits were found in most areas. Especially exciting was the discovery of a complex of features in the lawn area on the west side of the City Hall.

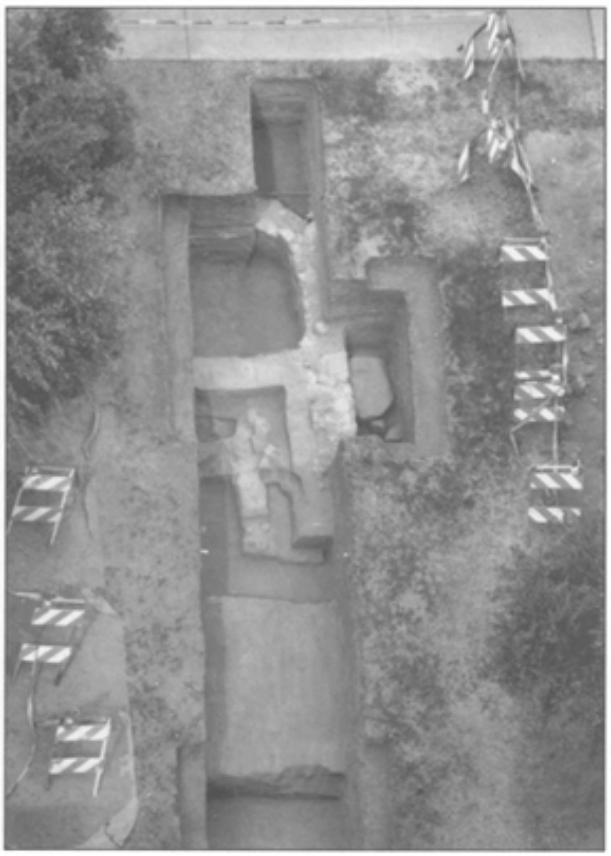
The Presidio of Tucson

The walls of the Presidio were reported to have run along Washington Street on the north, Church Street on the east, Pennington Street on the south, and Main Avenue on the west. Each side of the Presidio was about 750 feet long. The wall was reported to have been between 18 inches and 4 feet thick and between 6 and 16 feet tall. We have no contemporary descriptions of the wall; instead, we rely on accounts preserved by people in the 1920s and 1930s and, as a result, we have many conflicting details.

Inside the fortress were homes, barracks, and stables built against the interior walls, a cemetery and church on the east side, a commander's house in the center, and several plazas. A pair of gates pierced the west and east walls, roughly where Alameda Street meets Main Avenue and one on Church Street at Alameda. The wall helped protect the community against attacks by Apaches, but by the 1850s this threat had subsided and the wall was demolished, with many of the bricks serving as building materials for Territorial period homes. The first map of Tucson, drawn in 1862, appears to show the general outline of the wall, especially the north and east sides. The last known standing portion of the wall was torn down in 1918.

A North-South Wall

The earliest historic feature found was a segment of a north-to-south adobe brick wall. The surviving portion of this wall was built from pinkish-brown adobe bricks, each measuring 19 inches long, 11 inches wide, and 4 inches thick. The bricks were plastered together with a gray-brown mortar. Two courses rest on a wider foundation that is about 32 inches wide and consists of three adobe bricks resting side-by-side, held together by a lighter-colored mortar. The basal course of bricks was



placed on the existing historic ground surface. Excavations beneath this surface recovered only prehistoric artifacts. On the west side this surface dips down dramatically, whereas on the east side it is relatively flat.

What does this wall represent? Examination of the soil profiles by geomorphologists indicates that it is the earliest historic feature in the trench. There were no interior abutting walls in the trench area when it was first built; thus, it may be a freestanding wall. The drop on the exterior suggests that it was being built next to a sloping area or that the dirt on the exterior had been removed, perhaps to make adobe bricks. By building next to a slope or by removing sediments, the wall would be higher to people standing outside. The flat interior surface allowed structures to be built against the wall.

One possibility is that this is the west Presidio wall. It is in the correct location, according to historical sources, and is the earliest historic feature in the area. The bricks are also the correct size for the Spanish and Mexican period. Lastly, artifacts in close association with the wall date to the Presidio period (1775-1856) rather than the later American Territorial period (1856-1912). On the other hand, some archaeologists have suggested that the wall may not be wide enough to be the Presidio wall. The northeast comer area found by Emil Haury and Ned Danson in 1954 was 3 feet wide (although this may represent the corner tower) and the walls for the Presidio at Terrenate are also wider. One way to resolve this problem is to return to the lawn and excavate to the north and south. If the wall is continuous, it is likely that it is the Presidio wall.

An Interior Room

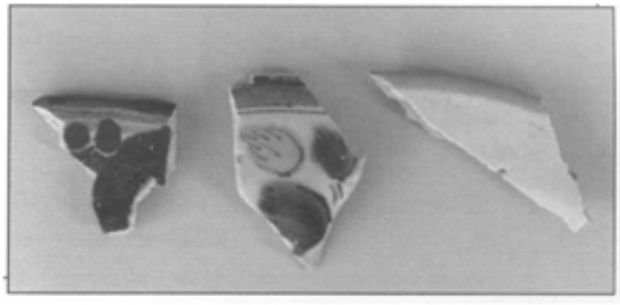
One clue to the antiquity of the wall is the fact that some time had elapsed between the construction of the north-south wall and the construction of the first structure built against the wall in the trench area. Fragments of adobe brick, perhaps broken off from the top of the wall or discarded as the wall was built, lay on the original ground surface inside the wall. Several inches of dirt had built up against the wall before a single layer of rocks was used as a foundation for an east-west wall. On top of this a single course of 11-inch-wide pinkish-red adobe bricks survived, although only portions of a few bricks were present.

Inside the structure was an area of prepared adobe that had been used as a hearth. The adobe was fired a bright red color and a lens of ash lay on top. Artifacts found in this structure

Top: An overhead photograph of the trench. The curving rock wall dates from 1874 to 1883 and was the garden wall for the Hotel Cosmopolitan/ Orndorff Hotel.

Left: A north-to-south adobe wall is abutted by two rooms on its interior (photographs by Dominic Oldershaw).

Below: Majolica serving vessels were brought from Mexico to grace Tucson tables (photograph by J. Homer Thiel).



were mostly historic Native American ceramics, although one musket ball was recovered. No Territorial period artifacts were found, suggesting an early date for its construction.

Toward the back of the trench, past an area disturbed in the 1960s, we found a Presidio period trash-filled pit. The pit contained many layers of white ash interspersed with layers of brown sand and bits of charcoal. The base of the pit was irregular, suggesting it may represent a borrow pit, where dirt was dug out to make adobe bricks or plaster. We only excavated a small portion of this pit; however, the recovered artifacts indicate that it was created during the Presidio period, from the 1770s to perhaps as late as the 1850s. Preliminary analysis of the animal bone recovered reveals that cattle, sheep or goat, and chicken bones are present. All of the butchered bones had been chopped apart by axes or cleavers. We found a large quantity of historic Native American ceramics, many from plain ware bowls. About a dozen Mexican majolica sherds were also present. Flotation samples will be examined for charred plant remains that will allow us to better reconstruct the diet of Presidio residents. The discovery of the pit was exciting because only a few Presidio era features with large artifact samples have been excavated.

The Presidio Blacksmith Shop?

The red adobe brick wall was eventually demolished, knocked down with many of the broken adobe bricks lying in place. Over the top of the wall fall, another east-west wall, this time made from brown adobe bricks, was built against the north-south wall. The brown bricks were probably 19 inches long and 11 inches wide, but later disturbance has made it impossible to determine their actual size. The brown wall and the north-south wall formed the northwest corner of a structure. It is probable that this structure is depicted on the 1862 Fergusson map.

What was the structure used for? Artifacts found inside the structure include a pair of manos, one used for food processing and the other reused as a hammerstone; a lap-sized netherstone or anvil used as a working surface for pounding something hard and small; and a three-quarter grooved axe modified for use as a mallet. The netherstone or anvil is especially interesting because there is some evidence that metal items were pounded on it, including a small smudge of copper. We also found some brass scrap metal and pieces of slag. These items are of interest because author Richard Willey, former director of the Flandrau Planetarium, has suggested that the blacksmith shop for the Presidio was located close to where we excavated. This shop was well known for its use of a large meteorite as an anvil (see story on page 5). The items we found may indicate that the brown adobe brick structure was part of or close to the blacksmith complex.

Associated with this structure is a set of postholes in the sediments that overlay the Presidio-period trash-filled pit. These postholes were all about 6 to 7 inches in diameter and may represent a porch area or a ramada built up outside the east side of the structure.

Lastly, a pile of large rocks was found along the north side of the brown adobe brick wall. The 1862 map indicates that a small gateway was present at this point for the Calle de la Plaza, which later became known as Ott Street. Why would a large pile of rocks be here? Historian Tom Peterson, of the Arizona Historical Society, has indicated that rocks were often present in street areas, sometimes used to protect the sides of adobe structures from traffic. This seems likely, as several of the rocks were set in slots so that they were upright.

The curved rock wall of the Orndorff Hotel is visible in this pre-1935 photograph (courtesy of Arizona Historical Society. Tucson. photo 841.360).

A structure depicted on a portion of the 1 862 Fergusson map was located during the project. Richard Willey 's research indicates that this may be the Presidio blacksmith shop. North is to the left on this map.

Tucson's Earliest Hotel

The adobe structure was torn down sometime in the 1860s, probably as the area was redeveloped as Tucson's first hotel expanded. In the late 1850s, Robert Phillips began renting rooms out to people. Eventually the Phillips House was sold to Hiram Stevens, a prominent Tucsonan, who remodeled the structure in 1874 and opened it as the Hotel Cosmopolitan. Between 1874 and 1883 he added a curved rock wall to the west side of the structure, probably to help keep traffic away from trees and a garden area. We uncovered a portion of the rock and mortar wall, which was demolished in 1935 when the Orndorff Hotel, as it was known by then, was torn down to put up a parking lot. Traces of the parking lot also were discovered, lying beneath 3 feet of recent fill that helped protect the site.

Uncovering a Buried Past

The Center's excavations have illustrated that much more of Tucson's Presidio past survives than had been previously thought. Although basements and underground parking lots have destroyed some areas, many other areas have intact cultural deposits.

The discovery of architectural features in the City Hall lawn was particularly exciting, prompting us to wonder if this might be a portion of the west wall of the Presidio. In late April 1998, a panel discussion brought together experts from various fields to examine this topic. After the Center's findings were presented, Tom Peterson of the Arizona Historical Society illustrated how historic photographs provide clues about the past. James Ayres summarized historical archaeology work undertaken in the City of Tucson, beginning with the Tucson Urban Renewal Project in the late 1960s. Thomas Sheridan discussed the role the Tucson Presidio played for people in the area. Lastly, Armando Elias described the importance of the Presidio for local residents. Opinions differed as to whether the wall uncovered represents the west wall of the Tucson Presidio. To confirm or negate this possibility, we will need to conduct further excavations in the area, to the north and south, to verify whether the wall is continuous and to examine how it was built and how it relates to other structures.

One thing is clear: thousands of visitors viewed the excavations. Many were on their way to collect tax forms from the nearby IRS office and happened upon the dig. Classes of school children visited the site. Others came after seeing or reading news stories. Archaeologists provided updates on what was being uncovered, volunteers identified artifacts that were displayed, and literature about Tucson's Presidio was distributed. The community was excited by the opportunity to explore Tucson's long-buried history.

Acknowledgments

Rediscovering *el Presidio de Tucson* was funded by the City of Tucson, the Arizona Humanities Council, the Tucson-Pima County Historical Commission, the Tucson Presidio Trust for Historic Preservation, and the Center for Desert Archaeology. Volunteers performed much of the work. Thanks to Aron Adams, Connie Allen-Bacon, Ruth Amirault, Carter Beach, Jeanette Berry, Georgiana Boyer, Mark Brodbeck, Jason Brownlee. Mike Cook, Ray Coville, Ginny Dean, Don Duey, Steve Farley, Kevin Feig, Ken Fite, Jack Flanders, Bob Flaugher, Elaine Flaugher. Cheri Freeman, Jan Gingold, Howard Greenseth, Toni GriegoJones, Jennifer Harshmann, Alycia Hayes, Donn Ivey, Foster Knutson, Soni Marvin, Betsey Marshall, Ann McClelland, Laura McFall, Janice McMillen, Mary Lu Moore, Jerryll Moreno, Joe Orabone, Ken Orabone, Robin Owen, Joan Petit-Clair, Dwight Riggs, Lynda Rigoletti, Lauren Sanders, Sally Sanders, Angela Shelley, Itorye Silver, David Smith, Jared Smith, Hector Soza, Mickie Soza, Jean Stern, Margi Sternberg, Donna Tang, Sheri Thompson, Tinake VanZandt, Suzanne Vieta, Jim Vint, Mary Wagner, Lou Washaeur, Mason Washaeur, Mike Washaeur, Josh Watts, Josh Weber, Jennifer Wiedhopf, Pat Wiedhopf. Patty Whitley, Mike Woods, and Pat Young.

Fallen Anvils: The Tucson Meteorite

Richard R. Willey, former director of the Flandrau Planetarium, University of Arizona

The Tucson Meteorite is unique among all the meteorites found on Earth, and especially remarkable for the role it played in the social, political, and military history of Tucson in the mid-nineteenth century. Sometime in the early 1800s, residents of Tucson traveled to the Santa Rita Mountains and brought back two fragments of a meteorite which they used as anvils in a pair of blacksmith shops.

A blacksmith and his tools were extremely important in any remote frontier outpost. The military blacksmith, or armorer, fabricated or repaired wagon parts, saddle trappings, spurs, horseshoes, lance points, axes, gun parts, hinges, and a variety of other items. The last Mexican military armorer in Tucson was Antonio Comadurán, son of a commander of the Tucson Presidio. Comadurán used the larger, ring-shaped meteorite, which is 4 feet in diameter, and weighs 1,4000 pounds. The smaller meteorite weights 620 pounds and was the property of civilian blacksmith Ramón Pacheco.

The Ring Anvil is a fragment of the Tucson Meteorite (photograph courtesy of Richard R. Willey).

The recorded history of the Tucson Meteorite begins with a brief passage in J. F. Velasco's *Noticias Estadísticas del Estado de Sonora*, written about 1845:

> Between the presidio of Tucson and Tubac, there is a sierra [mountain range] called de la Madera [Timber] and Puerto de los Muchachos [Mountain Pass of the Children]. In it are seen enormous masses of virgin iron, many of which have rolled to the foot of said range. From the masses, a middlesized one was taken to Tucson, where for many years it has remained in the plaza of said presidio.

By 1851, accounts of people traveling through Tucson allude to two blacksmith shops and identify their anvils as being of meteoritic origin. The Mexican troops withdrew from the Presidio in 1856. Comadurán's meteorite anvil, dubbed the Ring, was spotted a few years later by Lt. B. J. D. Irwin, a U.S. Army medical officer:

> I found the large meteorite lying in one of the by-streets, half buried in the earth, having evidently been there a considerable time. No person claimed it, so I publicly announced that I would take possession of it in behalf of the Smithsonian, and forward it whenever the opportunity afforded. Mr. Palatine Robinson, near whose house the iron was, assisted me in getting it sent to Humosilla [Hermosillo].

The anvil was identified by another visitor as standing in the court of the church of Our Lady of Guadalupe, which was located on the west side of the Presidio in the Plaza de las Armas. Palatine Robinson owned a lot on the south side of the Calle de la Plaza, which later became Ott Street. This was just inside the west wall of the Presidio, in the vicinity of what is today the City Hall lawn.

The smaller meteorite fragment was used by Ramón Pacheco at his shop just south of the Buckley House on the Calle de Correo, today the location of the Federal Building parking lot. Pacheco's anvil was seized by Gen. James Carleton in 1862 and sent to San Francisco as a tribute to the California soldiers who recaptured Tucson during the Civil War.

Both meteorites ended up in the Smithsonian Institution, where they sparked years of debate about their origin and who deserved credit for collecting them. A replica of the Ring Anvil is on display at the Flandrau Planetarium at the University of Arizona. Today the Pacheco blacksmith shop is likely destroyed by construction activities. However, the Presidio blacksmith shop may lie undisturbed in the lawn area of City Hall and archaeological work may yet uncover tools, horseshoes, and other products, as well as brass and iron scrap from the forge. Further archival and ground research may yield more clues about the meteorites. Velasco's account of "enormous masses" may indicate that more fragments of the meteorite await modem prospectors.

Further Reading:

Richard R. Willey
1997 The Tucson Meteorites: Their History from Frontier Arizona to the Smithsonian. University of Arizona Press, Tucson.

Lost Spanish-Colonial Artifacts: Clues to Ancient Trails

John H. Madsen, Arizona State Museum, University of Arizona

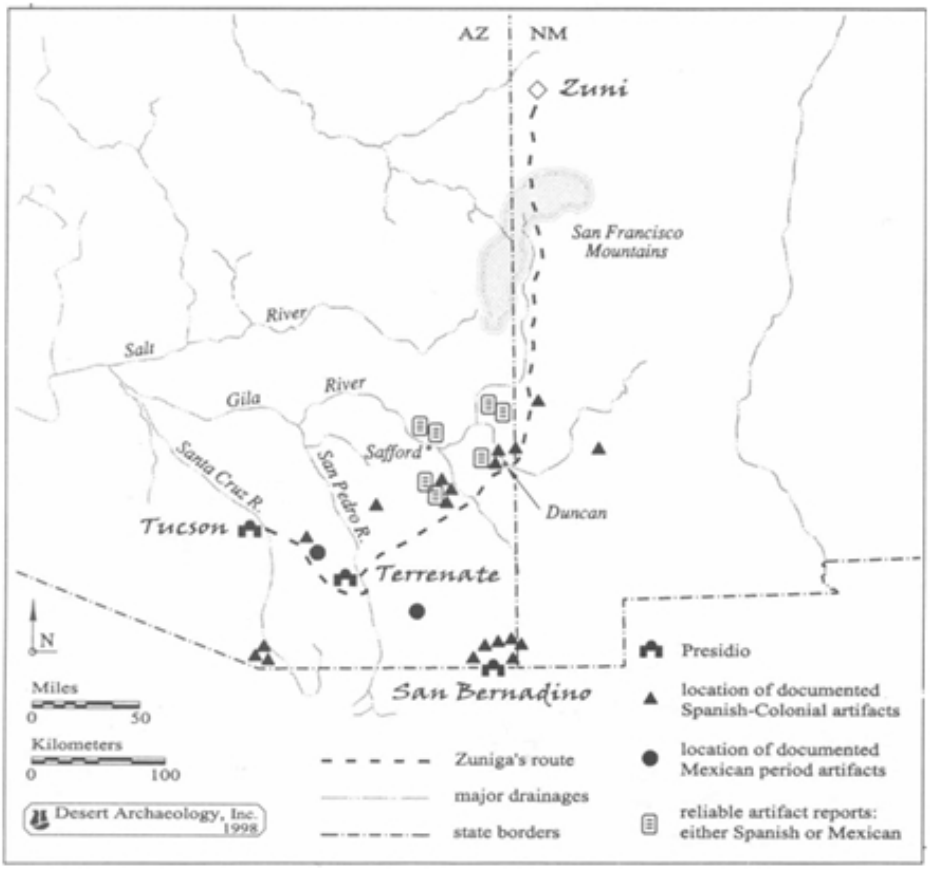
Lost or discarded on overland journeys, sometimes cached in hilly nooks and crannies, late-seventeenth, eighteenth, and early-nineteenth century Spanish-Colonial artifacts turn up today throughout southeastern Arizona and southwestern New Mexico. They are plucked from the landscape by individuals who recognize them as curiosities. I have seen them mounted on stable walls, displayed in fanciful glass boxes on dining room tables, or packed away in cardboard boxes. Very few of these artifacts make their way to museum collections.

It was my interest in the Coronado expedition (A.D. 1540-1542) that got me started on my search for isolated Spanish-Colonial artifacts. I theorized that if sixteenth century artifacts were lying around in small private collections, they could be traced back to where they had been found, which might help me locate the American Indian trail(s) followed by Coronado from the Sonora River Valley to Cibola (Zuni). Despite the fact that there are multiple first-person accounts of an expedition that involved hundreds of persons and thousands of cattle, horses, and sheep, the exact route taken by Coronado remains a topic of ongoing debate.

Lacking the time to bang on every ranch house door in southeastern Arizona and southwestern New Mexico, I decided advertising was the easiest way to acquire information about Spanish artifacts from the region. In 1992, I prepared a simple flyer which friends helped distribute far and wide.

Almost immediately I was invited by a ranching family to see their collection of Spanish horseshoes. The flyer also sparked an interest in citizens who wanted to share their discoveries of odd metal objects. Since then, reports of Spanish artifacts have trickled in on a regular basis.

I have examined 53 historic artifacts thus far and 24 have been verified as authentic Spanish-Colonial objects. These artifacts can be assigned to one of three categories: 1) Horsemen's Hardware (spurs, stirrups, bits, and horse and mule shoes); 2) Armament (spontoons, swords, and knives); and 3) Miscellaneous Objects (coins dating prior to 1821, a medallion, a copper bowl, a copper spoon, lead ingots, glass and copper beads). So far, none of these artifacts appear to be from the Coronado expedition.



If Not Coronado, Then Who?

Clearly, some party or parties from Spanish-Colonial times must have had a role in dispersing these items across the landscape.

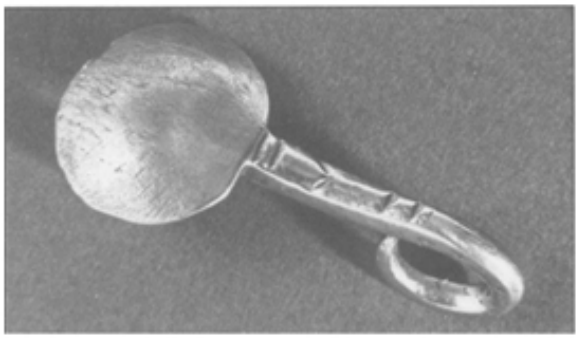
When plotted on maps, some of the artifacts cluster in close proximity to eighteenth century Spanish presidios like Terrenate and San Bernardino. A few intriguing artifacts suggest a possible tie to a 1795 journey that had its start at the Tucson Presidio.

The Expedition of Captain Jose de Zuniga of the Tucson Presidio

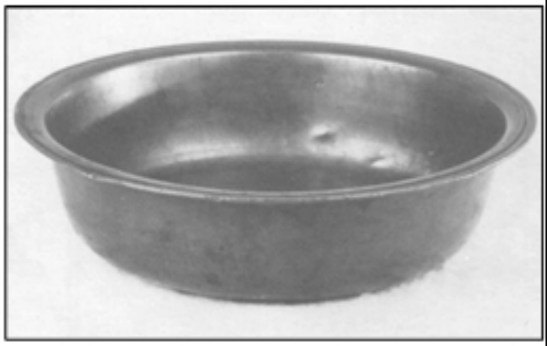
The Zuniga Expedition is an obscure event in Arizona history, but the expedition was of

Top: Re-creation of a portion of the original flyer distributed by the author.

Left: Distribution of Spanish and Mexican artifacts in southeastern Arizona and southwestern New Mexico.



Top: Objects like the "Joe Place Sword" (49 *cm long) provide valuable clues to Spanish-Colonial trail studies (photo courtesy of John Madsen). Center: One of 24 iron tinklers* (4.5 *cm long) found near the mouth of Carlisle Canyon (photo by Ken Matesich, courtesy of Arizona State Museum, No.* 99787). *Bottom: Christened "Coronado's Cereal Bowl" by the Clifton Chamber of Commerce, this copper bowl* (18.7 *cm wide) was found near Duncan, Arizona in 1928. Donated to the Arizona State Museum by the Thomas Dees family (photo by Ken Matesich, courtesy of Arizona State Museum, No. 99788).*



major importance to merchants in Sonora and to religious leaders who were eager to have a shorter route to the pueblo region and to Santa Fe. As early as 1744, there were reports of a pass through the San Francisco Mountains linking the Gila River region to the eastern margins of the Colorado Plateau. Because it was perceived as the most likely road between Sonora and the province of Nuevo Mexico, an expedition was mounted under the command of Captain Jose de Zuniga of the Tucson Presidio. Zuniga left Tucson on April 9, 1795, reached Zuni May 1, and was back in Tucson May 29 (see map).

Zuñiga's journal provides explicit descriptions of the "beaten paths" and landmarks observed on his way to Zuni, many of which are still visible on the landscape today. Yet portions of the 1795 trail still need to be identified and research is now focused on looking for these potential trail segments in the vicinity of reported artifacts. Both remote sensing technology and archaeological survey will be employed.

The map shows my overall artifact inventory. A few of the more spectacular items are described in more detail. A spontoon blade (a short pike or spear) found in Carlisle Canyon, Grant County, New Mexico has been dated to the last quarter of the eighteenth century by Brinckerhoff and Chamberlain. Carlisle Canyon is in close proximity to, if not directly on, the route followed by Zuñiga. The "Joe Place Sword" was found on the Gila River near the mouth of Carlisle Canyon. In addition, a copper bowl was found in a rock crevice with 24 iron tinklers (or buttons) from a horse bit, and a rotting velvet bolero with silver braid. In an adjacent rock shelter is a charcoal drawing of a person sitting atop a horse on what appears to be a high-back saddle. These finds overlook a pass that links San Simon Creek to the Gila River at Duncan, along the route most likely taken by Zuñiga in the year 1795.

These artifacts cannot be linked directly to the Zuñiga expedition. There are a number of other documented military expeditions that reached the Duncan area both before and after Zuniga's journey. In addition to Zuñiga and Coronado, at least two other parties traveled between the Gila River and Zuni during Spanish times. These multiple journeys make definitive linking of individual artifacts to specific past sources almost impossible. However, continued information gathering about individual artifacts that date to Spanish Colonial times at least has the potential to yield enough clues to allow the patterns on maps to be interpreted with greater clarity. And even more optimistically, they may ultimately lead to the kinds of definitive archaeological evidence that might occur at campsites made by large parties such as the Coronado or Zuñiga expeditions.

To achieve these goals, I need help. If you have Spanish-Colonial artifacts from southeastern Arizona or southwestern New Mexico, or know someone who might, I would enjoy talking with you. Interviews can be confidential, but I would appreciate the opportunity to photograph and document objects that might be important to this trail study. You can contact me at the Arizona State Museum, University of Arizona, 520/621-2096.

Further Reading:

Brinckerhoff, Sidney B., and Pierce A. Chamberlain
1972 Spanish Military Weapons in Colonial America, 1700-
1821. Stackpole Books, Harrisburg, Pennsylvania.

Hammond, George P.
1931 The Zuñiga Journal, Tucson to Santa Fe. The Opening of a Spanish Trade Route, 1788- 1795. *New Mexico Historical Review 6:40-65.*

Thomas, Alfred B.
1932 *Forgotten Frontiers, A Study of the Spanish Indian Policy of Don Juan Bautista de Anza Governor of New Mexico 1777-1787*. University of Oklahoma Press, Norman.

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Time to Renew?

If your address label indicates that your *Archaeology in Tucson* membership has expired, please renew promptly to remain eligible for all activities, newsletters, and discounts on T-shirts and Center for Desert Archaeology publications.

Charcoal drawing of pictograph found near Carlisle Canyon (see story on page 6).

The Center for Desert Archaeology is searching for a new name for the *Archaeology in Tucson* newsletter. The new-and improved newsletter will expand its area of interest to the Greater Southwest, providing a wider regional coverage. Expect this change next January. In the meantime, we encourage you to submit suggestions for a new name to our newsletter editor Homer Thiel. If your suggestion is selected, you will receive a 2-year subscription to the newsletter.

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For further information about the Center for Desert Archaeology or the Archaeology in Tucson program, call Lisa Armstrong at 520-881-2244. For information about the *Archaeology in Tucson* newsletter specifically, please contact the editor, Homer Thiel.

7/97

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