

TUMACACORI PLAZA EXCAVATION
1979

Historical Archeology at Tumacacori
National Monument, Arizona

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ABSTRACT

Excavations conducted at Tumacacori National Monument, Arizona, in 1979 recovered data that would have been destroyed by the installation of an underground drainage system in the Franciscan mission plaza and adjacent to the west wall of the mission church. This system was designed to aid in the stabilization of the historic structures.

This report describes the surprisingly intact stratigraphy of the excavated area. Features and deposits were grouped into four areas of associated deposits and into four time periods ranging from ca 1750 to the present. Indigenous and nonindigenous artifacts are described and related to studies of the development of transportation and communication and of Hispanicization conducted at nearby Tubac Presidio. The floral and faunal remains recovered are described and discussed. Information on site function and building sequence was also obtained.

The project demonstrates the potential for additional archeological research at Tumacacori.

Table 17

DISTRIBUTION OF GLASS THROUGH TIME

Number Recovered from Dated Provenience
(Percentage of Total Number Recovered
from Dated Proveniences)

TIME PERIOD	BOTTLE GLASS	FLAT GLASS	HOUSEHOLD/ DOMESTIC GLASS	GLASS BEADS	UNIDENTIFIED	TOTAL
Early Mission Horizon (ca 1750- ca 1800)	21 (7%)	--	--	--	--	21 (7%)
Late Mission Horizon (ca 1800- ca 1850 and later to ca 1900)	43 (14%)	1 (25%)	1 (100%)	4 (57%)	--	49 (16%)
Late 19th-Early 20th Centuries	79 (27%)	1 (25%)	--	2 (29%)	1 (100%)	83 (27%)
20th Century	152 (52%)	2 (50%)	--	1 (14%)	--	155 (50%)
Total Recovered from Dated Deposits	295	4	1	7	1	308

Flat Glass. Fifteen flat glass sherds were found. Thickness varied from 1/32 to 3/32 in. Seven sherds with thicknesses varying from 1/32 to 3/64 in. came from deposits dating from the late nineteenth and twentieth centuries. Apparently, the flat glass sherds recovered post-date the mission's occupation. With the exception of one dark green sherd, the sherds are green and almost certainly window glass.

Tableware and Housewares. One fluted fragment of "sun-turned amethyst" glass from the top of a decorative lamp chimney was recovered. The object was probably manufactured no later than the 1920's. A fragment of gray pressed glass from a tableware object or household item was found. A machine for pressing glass was patented in 1827. The grainy appearance and stippled background of this fragment indicates it may be an example of early, pre-1850 pressed glass (Lorrain 1968:38). Lorrain (1968:38) states that by 1845 "pressed glass was common in American households." Two glass mirror sherds (1/8 in. thick) were recovered from the surface around the picnic ramada near the Visitor Center. They are considered to be modern and are probably fragments from a pocket mirror.

Glass Trade Beads. Nine glass trade beads were found at Tumacacori. Glass beads were one of the first items of Spanish culture to reach the Native Americans of Pimeria Alta. Spaniards traded glass beads in the Southwest as early as the 1540's, and Father Kino distributed beads and other items during his 1701 journey from Mexico to the Colorado River (Sorenson and LeRoy 1968:36). These ornaments were used to obtain Indian good will, as payment for services, and to purchase things considered by white men to be valuable (Quimby 1966:81; Sorenson and LeRoy 1968:35-36). Many trade beads were used by white women to decorate various objects (Woodward 1965:10).

From the sixteenth century until around the first half of the nineteenth century, most glass beads traded in North America came from the glass factories of Murano, Venice, although beads made in Amsterdam, France, and Czechoslovakia have also been found (Woodward 1965:4). Present data indicate all beads recovered from American sites (1850 and earlier) were probably imported (Noel Hume 1970:53).

Most glass trade beads were manufactured by two methods. Drawn, bugle, or cane beads are produced by the hollowcane method in which a bubble was introduced into the gathered glass which was then pulled into a long, thin hollow tube. After cooling completely, the tube was broken and chopped into various lengths. The beads were left as they were or underwent various processes, such as faceting and tumbling, to shape or decorate them. Drawn beads may show a slight taper in diameter from the middle to the ends (Spector 1976:20-21; Kidd and Kidd 1970:49; Sorenson and Leroy 1968: 39).

To make wire or mandrel-wound beads, the glass was drawn into a long, solid rod and then broken into small segments (Spector 1976:21; Sorenson and Leroy 1968:39). Each segment was reheated with a glass blowing lamp, and threads drawn out from the segments were then wound around a prepared iron or copper mandrel (wire) until a bead of the desired shape and size was formed (Spector 1976:21; Sorenson and Leroy 1968:39). Beads made by this method often have circular striations where the threads were wound around the wire (Spector 1976:21; Sorenson and LeRoy 1968:39).

Beads were also made by pressing glass into a mold or shaping it with a tool (Sorenson and LeRoy 1968:39). Beads manufactured in a mold may have a mold mark. See Spector (1976), Sleen (1967), Kidd and Kidd (1970), Woodward (1965), and Sorenson and LeRoy (1968) for more detailed information on glass bead manufacture.

The following description of glass beads recovered at Tumacacori is based on the outline in Spector (1976). Each specimen's dimensions are given in order of length (maximum distance between the ends), width (maximum distance across the center of the bead, perpendicular to the length), and bore (perforation diameter).

(1) Green faceted bead

Dimensions: 8 mm, 9 mm, 2.5 mm

Color: translucent green

Shape: barrel (Sleen 1967:34)

Surface characteristics: badly worn and scratched, but no patination

Decoration: faceted (Total number of facets is 28.)

Manufacturing Technique: hollowcane, faceted, tumbled

This is a short bead (Sleen 1967:33). Apparently the entire bead is faceted, not just the ends. It could, therefore, be a "multifaceted" bead (Sleen 1967:38) or a "cut" bead (Woodward 1965:10). This bead is similar to one recovered at San Buenaventura Mission from deposits thought to date 1816-1850 (Greenwood 1975:68).

(2) Red faceted bead

Dimensions: 5.5 mm, 7 mm, 0.5 mm and 2 mm

(The bore on each end of the bead is a different size.)

Color: translucent ruby red

Shape: truncated bicone (Sleen 1967:34)

Surface Characteristics: badly worn and scratched, with some patination

Decoration: faceted (Total number of facets is 28.)

Manufacturing Technique: Presumably hollowcane, faceted, tumbled

This is a short bead (Sleen 1967:33). Apparently the entire bead is faceted, not just the ends. It could, therefore, be a "multifaceted" or a "cut" bead. This bead is similar to one recovered at San Buenaventura Mission from upper levels of fill dating post-1870 (Greenwood 1975:74).

(3) Greenish-blue faceted bead

Dimensions: 5 mm, 6 mm, 2.5 mm

Color: translucent greenish-blue

Shape: cylindrical (Sleen 1967:34)

Surface Characteristics: Glass is rough and heavily patinated.

Decoration: faceted (Total number of facets is six.)

Manufacturing Technique: hollowcane and faceted. This bead has not been tumbled.

This is a short bead (Sleen 1967:33). Just the ends have been faceted. The surface between the facets on the ends is uncut, although it appears to be faceted. Apparently Woodward

(1965:10) calls this type "O.P." beads or short "bugles." Although these beads are known as "Russian" beads or "Russian-type" beads, particularly in the Northwest (Noel Hume 1970:54; Sorenson and LeRoy 1968:45-46), Woodward (1965:12) seems to indicate that only the "dark, rich ultra-marine" blue beads should be called "Russian" beads. These types of faceted beads date to around the first half of the nineteenth century, around the mid-1800's, or as late as into the 1870's (Noel Hume 1970:55; Sorenson and LeRoy 1968:45-46; Woodward 1965:10).

(4) Smokey amber faceted bead

Dimensions: 5 mm, 6 mm, 3 mm

Color: translucent smokey amber (grayish brown)

Shape: cylindrical (Sleen 1967:34)

Surface Characteristics: There are nicks in the surface of both ends. One end appears to have been melted, presumably during tumbling. Bead is lightly patinated and scratched.

Decoration: faceted (Total number of facets is six.)

Manufacturing Technique: hollowcane, faceted, and tumbled

This is a short bead (Sleen 1967:33). Only the ends have been faceted. The surface between the facets on the ends is uncut, although it appears to be faceted. For discussion of this type of faceted bead, date, and recovery from other sites, see above.

There is some controversy concerning the method(s) used to produce faceted beads (Steen 1967; Woodward 1967). I could not determine which, if any, of these methods was used to produce the faceted glass beads recovered. Noel Hume (1970:54) states that the most common beads of the first half of the nineteenth century are multifaceted beads that are generally shorter than their diameter.

(5) Dark blue "pony" bead

Dimensions: 3 mm, 3 mm, 0.5 mm

Color: opaque dark blue

Shape: barrel-shaped, with both ends rounded and slightly concave (Sleen 1967:34)

Surface Characteristics: scratched and lightly patinated

Decoration: none

Manufacturing technique: hollowcane and tumbled

This is a standard size bead (Sleen 1967:33). It is referred to as a "pony" or "pony trader" bead and appears on the western plains of the United States in the very early 1800's (Sorenson and LeRoy 1968:40, 44; Woodward 1965:12).

(6) "Fancy" bead

Dimensions: 3 mm, 4.5 mm, 1.5 mm

Color: opaque dark blue exterior and opaque light blue interior (core)

Shape: globular oblate (Sleen 1967:34, 38)

Surface Characteristics: heavily patinated

Decoration: Two bronze- or gold-colored glass threads forming two raised spiral decorations appear on the exterior surface. The threads have not been marvered into the dark blue glass, but only adhere to the surface.

Manufacturing Technique: mandrel-wound

This is a short bead (Sleen 1967:33). It falls into a category of various-sized beads called "fancy" beads for which dates range from the early nineteenth century and earlier into the second half of the eighteenth century. According to Woodward (1965:13), many varieties of "inlaid fancy" beads were traded from the Great Plains, north and west to the Pacific coast during 1800-1830 and on into the 1860's.

(7) Molded, dark blue bead

Dimensions: 23 mm, 5 mm, 2 mm

Color: opaque dark blue

Shape: cylindrical, with two convex ends (Sleen 1967:36)

Surface Characteristics: Patinated. What may be a mold mark appears on the exterior surface slightly off-center.

Decoration: Entire surface is covered with ridges or grooves that run parallel to the length of the bead.

Manufacturing Technique: hollowcane and pressed into a mold. The ends are broken and jagged. Alternatively, it could have been blown into a mold.

This is a long bead (Sleen 1967:33).

- (8) "Cornaline d'Aleppo" or "white heart": two recovered, (one whole, one half)

Dimensions: 6 mm, 8 mm, 2 mm and 7.1 mm, 8 mm, 1.2 mm

Color: translucent brick red exterior and opaque white interior (core)

Shape: globular oblate (Sleen 1967:34, 38)

Surface Characteristics: One bead has a small, deep nick in the surface, and the exterior glass has marks apparently from stretching the glass threads. The surface of one bead is heavily patinated. The surface of the other bead is nicked and scratched.

Decoration: none

Manufacturing Technique: mandrel-wound

These are short beads (Sleen 1967:33). These beads are also called "under-whites," "late Hudson's Bay," and "California trade beads" (Woodward 1965:19; Sleen 1967:85; Sorenson and LeRoy 1968:44).

According to one source, such beads appeared no earlier than the 1840's and later in the western United States (Sorenson and LeRoy 1968:44). However, during excavations at San Buenaventura Mission, similar beads were recovered from deposits thought to date 1816-1850 (Greenwood 1975:62). Woodward (1965:19) states that these beads were "widespread in the latter part of the first half of the 19th century."

Glass trade beads form only 2 percent of Tumacacori's glass assemblage (Table 16). One bead was recovered from a late mission horizon deposit, and another came from a twentieth century deposit. Six were scattered in nineteenth century deposits. No beads were recovered from early mission horizon deposits. Trade beads may have been a late introduction at Tumacacori. The small number and scattered distribution of the beads recovered suggests that they were lost rather than discarded, although the Cornaline d'Aleppo from Feature 7, broken beyond use, was probably discarded. Alternatively, the small sample size may be the result of the relatively small area excavated or the loss of beads through screens during excavation.