Remnants of Adobe and Stone
The Surface Archeology of the Guevavi and Calabazas Units, Tumacacori National Historical Park, Arizona

by
Jeffery F. Burton

Western Archeological and Conservation Center
National Park Service
U.S. Department of the Interior

Publications in Anthropology 59
1992
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"I have rarely travelled through a country more richly favored, yet more depressing in its associations with the past."

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PROJECT SUMMARY

Project Name: Guevavi and Calabazas Survey.
WACC Project Number: TUMA 1992 A.
Type of Project: Archaeological survey.
Field Director: Jeff Burton.
Project Archeologists: Geri Antone, Alex Benitez, and Lynne D’Ascenzo.
Person Days in Field: 30.
Project Location: Tumacacori National Historical Park, Santa Cruz County, Arizona.
Guevavi Unit (AZ EE:9:1 [ASM]): T23S, R14E, SE 1/4 of the NE 1/4, of the SW 1/4 of section 22, Gila and Salt River baseline and median; Calabazas Unit (AZ EE:9:87 [ASM]): unsurveyed section within Luis Maria Baca Float No. 3.
USGS Quad: Río Rico, Arizona 1981.
Project Scope: Archaeological survey of 42 acres, detailed site mapping and photography.
National Register Status: Guevavi listed 11/5/71 as nationally significant. Calabazas listed 6/3/71 as nationally significant.
Collections Accession Information: No artifacts collected; WACC Photograph Accession Number 92:2.

Reprinted with minor revisions September 1993


This report is Number 59 in a continuing series, Publications in Anthropology, published by the Western Archeological and Conservation Center, Post Office Box 41058, Tucson, Arizona 85717.
Abstract

During March 1992, archeologists from the Western Archeological and Conservation Center conducted survey, detailed mapping, and feature recording at the missions of Guevavi and Calabazas in the Santa Cruz River Valley of southern Arizona. The most prominent features at the sites today are standing walls of Spanish-period churches. However, both sites also contain prehistoric and later historic components as well.

The National Park Service is in the process of acquiring 8 acres at Guevavi from the Archaeological Conservancy and 22 acres at Calabazas from the Arizona Historical Society. These parcels will be managed as detached units of Tumacacori National Historical Park. The purpose of the archeological work was to provide information useful for the park’s general management plan, which is being updated with the acquisition of these areas.

Survey covered approximately 20 acres at Guevavi and 22 acres at Calabazas. Thirty-six features at Guevavi and 26 features at Calabazas were identified and recorded. The Guevavi features include remains of the church, convento, plaza, several compounds and other structures, adobe borrow pits, bedrock mortars, and canals. In addition, significant features associated with Guevavi, including a possible earlier church, were identified outside the future National Park Service parcel. The recorded features at Calabazas include remains of the church and compound, a rowhouse, other possible structural remains, a large depression, a ditch, and two bedrock mortar outcrops.

Recommendations detailed in the report include: (1) acquisition of additional acreage at Guevavi to include all significant features related to the mission period; (2) backfilling of potholes and closure of roads to deter vandalism; and (3) archeological testing and surface collection to help mitigate the effects of increased site visitation.
Acknowledgments

The field crew consisted of WACC archaeologists Geri Antone and Lynne D'Ascenzo. Their excellent work provides the basis for this report. This work would not have been possible without the support of the Archaeological Conservancy and Arizona Historical Society, who permitted the survey to proceed prior to the land being transferred to the National Park Service. Once again Superintendent Jim Troutwine and Dave Yubeta of Tumacacori National Historical Park provided invaluable support. The HABS plans in Appendix A and B were provided by the Arizona State Capitol Library Archives. The Western Archeological and Conservation Center staff provided administrative support. Alex Benitez catalogued the photographs. The report was edited by Mary M. Farrell. George Teague provided comments on the draft final report.

To these and others, and especially to my wife Mary and son Daniel, many thanks.

Jeff Burton
Tucson, Arizona
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Introduction

Archeological survey and detailed site mapping were conducted at Guevavi and Calabazas Missions by archeologists from the Western Archeological and Conservation Center (National Park Service). Both sites, 22 acres at Calabazas and 8 acres at Guevavi, are to be acquired by the National Park Service as detached units of Tumacacori National Historical Park. At the time of the fieldwork the Calabazas parcel was owned by the Arizona Historical Society and the Guevavi parcel was owned by the Archaeological Conservancy. The main purpose of the archeological work was to provide park management with data useful for their general management plan.

Background

Guevavi and Calabazas are located in the Santa Cruz River Valley of southern Arizona (Figure 1). Guevavi is five miles northeast of Nogales on the east bank of the Santa Cruz River. Calabazas, also on the east side of the river, is eight miles north of Nogales just south of the Santa Cruz's confluence with Sonoita Creek. Both areas fall within the semidesert grassland biotic community, with a thin band of riparian vegetation along the river. The Santa Cruz River normally flows year-round at Guevavi and nearly year-round in the vicinity of Calabazas (Figure 2).

To provide a contextual framework for this project the history of Guevavi and Calabazas is briefly sketched below. Comprehensive histories of the region can be found in Bannon (1970), Bolton (1984), Bleser (n.d.), Gerhard (1982), and Officer (1987). For more detailed information on the history of the Santa Cruz Valley, Guevavi, and Calabazas, the reader is referred to Burton (1992), Fontana (1971), Kessell (1970, 1976), and Stoner (1937a,b).

The first European to explore the Santa Cruz Valley was Padre Kino in 1691. In 1701, Guevavi was designated a cabecera (head mission). A small house and church were built and foundations for a larger church were laid. This initial European occupation did not last long, however, and Guevavi reverted to a seldom-visited village until 1732, when the mission was restaffed and a house and ramada church were built. Jesuit priests repeatedly attempted to establish permanent residence, but were not successful until 1745. From then until 1771 Guevavi had a resident priest, except during the Pima Revolt (1751-1753). A new church was under construction in 1751 and by 1768, when the Franciscans arrived to replace the Jesuits expelled a year earlier, a church, convento, and plaza were noted at Guevavi. But by 1771 due to Apache raiding, the cabecera was moved from Guevavi to Tumacacori to be closer to the protection of the royal presidio at Tubac. In the face of continued Apache raids Guevavi was
completely abandoned in 1775. Historic records tell of no subsequent use of the mission, but archeological evidence (Robinson 1976) suggests miners noted in the area in 1814, 1848, and 1864 may have occupied some of the mission buildings. The mission area also served as a cemetery for local ranchers into the 1930s.

Calabazas was founded as a visita (routinely visited place) of Guevavi in the 1750s. However, not until 1760 was a house built and a church started and in 1768 the church was noted as still roofless. The Franciscans completed the church and established a cemetery by 1773. Four years later the church and other houses at Calabazas were burned by Apaches, and the village completely abandoned by the Pimas in 1786. The church was repaired in 1807 and served as a cattle rancho for Tumacacori Mission until 1830, when once more it was sacked and burned by Apaches.
Figure 2. Santa Cruz River at Guevavi.

In 1833 the missions in Mexico were secularized and abandoned mission lands sold. In 1844 title to Calabazas was acquired by Governor Gandara of Sonora. In 1853 Gandara signed an agreement with four Germans, who were to rebuild Calabazas and operate a sheep ranch there. After six years the Germans would own one-half interest in the land and buildings. The Germans reportedly converted the church into a ranch house and built a barracks-like building (rowhouse) to the north of the church.
But the land deal between Gandara and the German operators was never consummated: Gandara's title was questioned after the area became part of the United States in 1853 with the Gadsden purchase, and the sheep ranch operation at Calabazas was driven out by Apache attacks in June 1856. Responding to the Apache threat in the Santa Cruz Valley, the U.S. military occupied Calabazas a few months later, in November. The former mission and ranch buildings served as the headquarters for Camp Moore, most of which was located just across the Santa Cruz River. The troops moved to the Sonoita area (Fort Buchanan) in June 1857, after which the Calabazas buildings served as a U.S. Customs house until the site was temporarily abandoned at the start of the Civil War.

In 1864, Fort Mason was established on the site of Camp Moore and again the buildings at Calabazas served as the headquarters. During the 1865 French invasion of Sonora, exiled Sonoran Governor Pesquiera and his army encamped at Fort Mason. Armed by the United States, Pesquiera led raids into Sonora from Calabazas until March 1866. After Fort Mason was abandoned in October 1866, the Calabazas area was occupied by American squatters until 1917 when they were evicted as part of the Baca Float land grant settlement.

A railroad line just west of Calabazas was completed to Mexico in 1882. Perhaps because it had hosted the customs house, land speculators believed that Calabazas would become the port of entry for the railroad. North of the mission site a town ("Calabasas") was laid out, which soon boasted a hotel and a tent city. This boom was short-lived, however, since Nogales was chosen as the port of entry instead (Barnes 1960).

Previous Research

As part of his pioneering study of mission architecture, Prentice Duell visited Guevavi in May of 1917 and prepared a measured drawing of the church (Duell 1919, 1921). The church at Calabazas was mapped by Frank Pinkley of the National Park Service in 1920. Guevavi was formally recorded in 1935, when a team of National Park Service architects and historians made a plan map of the ruins (DeLong and Miller 1936). The Historic American Buildings Survey mapped both sites in 1937 (Appendix A and B).

Guevavi was recorded as archaeological site AZ EE:9:1 (ASM) by Emil Haury in 1937. The site record was updated (as AZ EE:9:35) by Danson (1946), who enlarged the recorded site boundary to include a much larger area of prehistoric remains. In 1976, Calabazas was assigned ASM site number AZ EE:9:87 by John Melot of the Arizona State Museum, based on National Register documentation.

Between 1964 and 1966, William Robinson (1976) led excavation of portions of the convento and plaza at Guevavi. The work, sponsored by the Arizona Archaeological and
Historical Society, included excavation of several trenches and portions of nine rooms in the *convento* and two outlying rooms. The excavations revealed sparse but intact eighteenth century remains near the floor level in one room, but most of the mission was apparently stripped of its contents at the time of abandonment. Typical room fill was characterized by post-mission remains from a mid-nineteenth century reoccupation by miners.

In 1975 Lyle Stone of Archaeological Research Services conducted a cartographic survey of the Calabazas parcel for the Arizona Historical Society. He mapped the compound and rowhouse and identified ten additional features (Stone and Opfenring 1976). In 1978, Stone completed small excavation units in advance of stabilization efforts. The excavations recovered numerous fragments of historic Piman ceramics, stone tools and flakes, nails, cans, window and bottle glass, historic American and European ceramics, and bones of cattle, sheep, and goats. Subsurface remains were found to be in relatively good condition (Stone 1979:59).

A recent survey of 280 acres in the immediate vicinity of Guevavi recorded 22 sites, most consisting of artifact scatters (SWCA 1991). Remains date from the Archaic through the historic period, and intensive use of the area was noted for the late prehistoric ceramic period, as well as the Spanish, Mexican, and American periods.

Excavation by the National Park Service within and adjacent to the 1751 church at Guevavi identified multiple building episodes and evidence for a pre-mission Native American occupation (Burton 1992).

**Methods**

Fieldwork, consisting of survey, instrument mapping, feature recording, and photography, was conducted March 9-20, 1992, by the author and two other archeologists. Since each survey area is virtually covered by a single site, the survey was designed to focus on the identification of features and artifact concentrations within each parcel. Survey coverage was intensive with no more than 10 meters between parallel traverses. The early spring fieldwork allowed some features to be discerned by vegetation patterns. Features, artifacts, and modern intrusions were flagged and mapped (plotted) by transit. Existing permanent datum points, described below, were used for the mapping. Detailed feature sketch maps and descriptions were also completed. At each site modern cultural and natural features that could help relocate historic features were mapped. Due to the low relief of each survey area, elevation contours were not plotted. However the terrace edge at each site was mapped by transit to illustrate the topographic setting and aid in the relocation of features.

Detailed photographs were taken of standing walls and other features to help monitor site condition and establish baseline data for management purposes. Elevation
drawings of standing architecture at both sites (Appendix D and C) were prepared from these photographs. Beyond standard site and feature recording, eight 1 m by 1 m count units were completed at each site to provide preliminarily data on surface artifact densities (see Tables 1 and 2). No surface collection or subsurface testing was conducted for this project.

To tie together past and current work, and provide a comprehensive summary of the sites, the map and feature descriptions encompass all previously-described features and datum points as well as features discovered during the present survey.

All locational information was plotted on an aerial photograph overlay at a scale of 1 inch equals 100 ft (see Figures 5 and 13). A few features at Calabazas and data for areas outside the surveyed areas were plotted from the aerial photographs. Maps of the convento at Guevavi (Figure 6) and the compound at Calabazas (Figure 16) were prepared from previous maps (Burton 1992; Pinkley 1920; Robinson 1976; Stone 1979), supplemented by additional field measurements. The following feature descriptions are also supplemented by information from previous excavations and surveys.

Results

Approximately 22 acres at Calabazas and 20 at Guevavi were surveyed and mapped in detail (Figures 2 and 3). The Guevavi survey area included both the future National Park Service parcel (8 acres) and adjacent City of Nogales land. As requested by the park, survey coverage was expanded at Guevavi to include the access road, associated features, and artifact concentrations on adjacent land. Scattered cultural remains were found throughout the terrace tops at both sites, with 36 features at Guevavi and 26 features at Calabazas identified and recorded. The sites and features are described below.

Guevavi

At an elevation of 3580 ft above sea level, the Guevavi survey area is located on a level terrace on the east side of the Santa Cruz River. Bedrock outcrops along the river on the east side of the terrace, forcing water to the surface year-round. Overstory vegetation consists predominately of mesquite and acacia, with cottonwood, elderberry, and willow along the river.

Apparent at Guevavi are the remains of the church, convento, plaza, several compounds, two large depressions, canals, and numerous other features (Figure 5). Most of the features appear related to the Spanish mission occupation of the site, but several of the recorded features are relatively recent (concrete canal, capped wells, trash dump) and others may be prehistoric in age (roasting pits, bedrock mortars). Twenty-
Access to this site is restricted to ranger-guided tours only. This map has been removed to help in resource protection.

Figure 3. Guevavi survey area (adapted from USGS 7.5' Rio Rico, Ariz. 1981).
Access to this site is restricted to ranger-guided tours only. This map has been removed to help in resource protection.

Figure 4. Calabazas survey area (adapted from USGS 7.5' Rio Rico, Ariz. 1981).
two of the recorded features are located within the future National Park Service parcel, 11 are on City of Nogales land, and three straddle the boundary between the two.

Surface artifacts appear to be concentrated on the western edge of the terrace and in an area just east of the future National Park Service parcel (between Features 7 and 20). Pothunting is most apparent in these areas and within the convento. Abundant bone fragments, which also may reflect pothunting and burial disturbance, were noted in the area north of the convento. Other impacts to the site are comparatively minor and include fences, roads, and erosion of head cuts.

In addition to fence corners, six points other points that can serve as datums were mapped (see Figure 5). Point A and mapping datums 1 and 4 are cemented rebar (Robinson's datums; Robinson's datum within the convento could not be relocated). Point B is a plaque placed by the Archaeological Conservancy (see Burton 1992:figure 14.3). Point C is a cemented bar and Point D is an International Boundary and Water Commission benchmark (brass cap).

**Feature 1a** (Figure 6, Appendix C)
The most prominent feature at the site today is the ruin of the church. The over 3 ft thick unfired adobe brick walls still stand over 6.5 ft high. The standing portion of the west wall is about 50 ft long and the east wall is 25 ft long. A small segment of the north end wall is less than 5 ft long. Remnants of a window and door are discernable in the west wall.

Excavations conducted prior to stabilization work (Burton 1992) revealed more characteristics of the church. The building is rectangular with its short, front end facing southeast. A circular tower is attached to the southeast corner. The overall outside dimensions of the church excluding the tower are 80 ft north-south by 20 feet east-west. The church is slightly wider at the rear, due to the extra mass of the rear walls. The circular tower at the southeast corner is 20 ft in diameter. The church is divided into three sections (sanctuary, nave, narthex) from north to south by pilasters. Prepared flooring was restricted to the sanctuary and immediately in front of the sanctuary steps. This floor consisted of puddled adobe approximately 2 inches thick over a thin layer of small cobbles. Excavation exposed 13 ft of the church foundation along the east interior wall and 6.5 ft along the east exterior wall. The foundation in these areas consists of cobbles and packed adobe roughly 10 inches wider than the adobe wall.

The standing walls of the church consist of unfired adobe brick and adobe mortar. Visible in the adobe are abundant rocks, sherds, flakes, and bone fragments. Excavation revealed traces of lime mortar, plaster, whitewash, and red paint visible on interior surfaces. Differences in brick size, color, and pattern suggest separate building episodes The pattern of wall abutments revealed in the excavation also suggested that the
Access to this site is restricted to ranger-guided tours only. This map has been altered to help in resource protection.
church was not constructed all at the same time: the front portion of the church (narthex, baptistery, and tower) was apparently added later. The narthex wall is abutted to the nave; a thick layer of lime mortar at the abutment may indicate that the end of the nave wall used to be the front of the church. The church without this addition (i.e., the nave and sanctuary) would have measured 19.5 ft by 49.2 ft in size. The tower and Room 4 of the convento are abutted to the narthex.
Feature 1b (Figure 6)
The remains of the priest's working and living quarters or convento lie to the west of the church. Visible on the surface is a low mound forming a hollow square 130 ft by 130 ft in maximum size. The mound encloses an interior open space (courtyard) 80 ft square. Traces of walls can be seen in vegetation patterns most clearly in the west and south exterior walls.

Adjacent to the southwest corner of the mound is an area of dense trash (see Count Unit 4, below) which has been extensively pothunted. Substantial trash is also present adjacent to the northwest corner. There are several large holes, apparently from treasure seekers, in the mound and courtyard.

During Robinson's (1976) excavation it was determined that single rows of rooms faced onto an interior courtyard. Estimating that unexcavated areas may represent five more rooms, Robinson identified nine rooms during his excavations within the convento. The rooms are summarized below using Robinson's numbering system (dimensions can be estimated from Figure 6).

Construction of the convento rooms was uniform, with a tabular conglomerate foundation, packed earth floors, and walls of two parallel rows of adobe bricks. There is a bench along a portion of the west courtyard wall. A four-meter-wide, partially paved gateway in the south wall connects the inner courtyard and village plaza. Originally open, the gateway was walled in at some later date (Robinson 1976:152). Most of the excavated rooms contained nineteenth century artifacts and mining debris suggestive of post-mission use.

Room 3 (completely excavated by Robinson) retained patches of white plaster on its interior walls. A beehive fireplace was found in the southwest corner. Connected by doors to Rooms 5 and 6, Room 3 itself had no doorway to the exterior. Four child burials were found intruded through the floor.

Room 4 (central balk left unexcavated) was characterized by coats of brown and white plaster. Two doorways were found in the north wall, one later filled in. A bench was noted along the east wall during the 1991 testing (Burton 1992).

Room 5 (completely excavated) contained an adobe partition wall only a few bricks high. Doorways connected to the courtyard, in the north wall, and to Room 3, through the east wall.

Room 6 (only the northwest interior corner was excavated) contained a doorway to Room 3, as well as an undefined opening to Room 7. A brass bell crown was found in the fill of this room. Ash and slag in the room fill suggest it was used as a dump for milling operations.

Room 7 (central balk left) was plastered, with red paint fragments suggesting a red coat. The large size and rectangular shape of this room, together with the evidence for more elaborate wall decoration, suggests use as the priest's chapel. Room 7 also was apparently used as dump during the post-mission occupation. A doorway through the east wall opens to the courtyard, and a doorway in north wall opens to Room 9.
Figure 7. Feature 1c (possible arrastra) at Guevavi, view towards south.

Figure 8. Feature 4a at Guevavi, view towards north (church walls in background).
Room 8, adjacent to the north end of the church, may have had an adobe tile floor (Fontana, Personal communication, in Burton 1992), indicating the room may have been the sacristy. The east wall was heavily buttressed. A doorway through the west wall to the courtyard and another in the north wall to Room 11. Both doorways had been filled in with adobe brick.

Room 9 (interior walls trenched), a window was discerned in the east wall 2 ft above the floor.

Room 10, trenching of a portion of the interior wall identified a bench along the north wall.

Room 11, a single test unit was excavated in the center of the room.

**Feature 1c** (Figure 7)
This feature is a circular depression in the courtyard, roughly 10 ft in diameter. Within the depression is silty soil and distinct vegetation (Sacaton grass). The feature may be the remains of an arrastra; in 1913, Robert H. Forbes noted fragments of arrastras and red tailings several inches deep in the courtyard (Burton 1992:30).

**Feature 1d**
South of the convento, foundations were noted by the Historic American Buildings Survey (HABS) team in 1937. Robinson (1976) encountered one of these in his test trenches, and portions of these foundations can still be seen as partially buried cobbles and lime mortar. Twenty inches wide, the foundations may have formed part of walls that separated a cemetery or other use areas from the main plaza, as at other Spanish-period missions (see Burton 1992:figure 14.4).

**Feature 2**
Feature 2 is a large L-shaped mound approximately 2 ft higher than the surrounding terrain. Together with feature 3, it encloses a plaza area 200 ft east-west by 175 ft north-south southeast of the Church and convento. Discontinuous alignments of adobe walls could be seen in vegetation patterns and numerous large boulders along the south edge of the feature may be wall remnants. Cultural material noted in the area included retouched and unmodified flakes, plain and red ware sherds, a mano, a metate fragment, abundant bone and cow tooth fragments, and a worked shell fragment (see count unit 8). A vehicle track crosses the eastern portion of the mound. Rodent and vandal disturbance was also noted.

Excavation in a portion of the mound by Robinson (1976) revealed an 11.5 ft by 27.5 ft room. This room differed in construction from convento rooms; foundations were river cobbles, the walls were made of smaller brown bricks with a cream-colored mortar, and the floor was plastered with lime. Sometime after original construction the room was divided by a soft pinkish adobe wall (Robinson designated these as Rooms 1 and 2).
**Feature 3**
A 3 ft high L-shaped mound, Feature 3 is separated from Feature 2 by a low area that may indicate the main plaza entryway. Artifacts noted here include plain and red ware sherds, bone fragments, cow tooth fragments, a few flakes, and a shell fragment. A few large boulders are present as well. The mound is relatively undisturbed compared to the segment designated Feature 2.

**Feature 4a (Figure 8)**
Within the plaza area defined by Features 2 and 3 and the foundations south of the convento (Feature 1d), this feature consists of a cobble concentration measuring 43 ft north-south by 35 ft east-west. While there are several groupings of cobbles within the feature, no mound, walls, or alignments could be discerned. This feature could represent structures, a disturbed area of burials, or some other feature. The only artifacts noted at the feature were a few chert, chalcedony, and siltstone flakes, a cobble hammerstone, a sanitary seal can, several small bone fragments, and some possible fire-cracked rock. Several small depressions within the feature may be from past pothunting. A road track crosses the western edge of the feature.

**Feature 4b**
Located just south of Feature 4a is a concentration of cobbles approximately 2 ft east-west by 5 ft north-south in size. The size and shape of this feature suggests it may represent a grave. A few small unidentified bone fragments were noted just west of the feature.

**Feature 5**
Feature 5 is a depression 65 ft east-west by 110 ft north-south in plan, and about 2.5 ft below the surround terrain at its center. Dark soil is present throughout the area, and rodent disturbance has uncovered numerous artifacts. A dense scatter of artifacts was noted at the north end of the depression (see Count Unit 3). The dark soil and abundant artifacts suggest this may have been the borrow source for the adobe bricks used in construction of the church nave.

**Feature 6**
This feature is a cobble alignment, two rocks wide (6 inches). It is apparent for 30 ft, then continues indistinctly for possibly another 10 ft. It may represent a foundation, however no cross walls were observed. It location at the edge of the bluff indicates it may have been a retaining wall. The only artifacts noted in the general area were a few scattered flakes.
**Feature 7**
This feature consists of a low mound with wall alignments visible in vegetation growth patterns. The alignments indicate a rectangular structure roughly 16 ft east-west by 13 ft north-south. Flakes and plain ware sherds occur in the vicinity of the feature and a mano is located 10 ft east of the feature.

**Feature 8**
This feature, located west of Feature 7, consists of a low L-shaped mound, overgrown by mesquite and other vegetation. The east-west leg is 15 ft long and the north-south leg is 20 ft long. It may represent the remains of a structure, perhaps a two-sided ramada. A few flakes and sherds, a unifacial core, and a can fragment were noted in the area of the feature.

**Feature 9**
Feature 9 is a sub-rectangular depression, 40 ft north-south by 80 ft east-west, and about 2 ft deep in the center. On the edge of the terrace southeast of Feature 7 and 8, most of the depression is within an access easement, but part is within the future National Park Service parcel. A few large rocks are scattered to the north of the depression. Numerous broken cobbles, a few flakes, and a tin can fragment were noted in the area. A hammerstone lies 50 ft north. This feature may have been used as an adobe borrow source.

**Feature 10**
This feature, outside the future National Park Service boundary, is a low 30-ft-diameter mound with a few large rocks and cobbles. Among the artifacts noted in the area were 10 plain ware sherds, 25 siltstone, chert and other flakes, a shaped ground stone artifact, and possible fire-cracked rock. Artifact density is greatest to the east and north of the mound (see Count Unit 7).

**Feature 11**
Feature 11 consists of two bedrock mortars located 30 ft apart on large conglomerate outcrops overlooking the Santa Cruz River. One mortar is 12 cm in diameter by 8 cm deep and the other is 15 cm in diameter by 5 cm deep.

**Features 12a through 12g**
These consist of several water control features. Most, if not all, are relatively recent.

**Features 12a and 12b**
Feature 12a is a concrete-lined irrigation ditch. Feature 12b is an earthen ditch,
which predates the concrete ditch, paralleling and running under it (SWCA 1991). Both are in disuse. The concrete ditch has a date of 1943 scratched into it. The irrigation canals parallel the Santa Cruz River below the site.

**Feature 12c** (Figure 9)
This feature is the headgate for the concrete irrigation ditch. The ditch is cut into bedrock at this point.

**Feature 12d**
This feature is a concrete gate along the earthen ditch.

**Feature 12e**
Low swales just outside the northwest portion of the future National Park Service parcel may indicate other earlier earthen ditches.

**Features 12f and 12g**
These features are abandoned wells, indicated by imbedded capped iron pipes.
Numerous historic artifacts were noted associated with these features including a sanitary seal can, a can lid (embossed with PUNCTURE AND PRY OUT), other can fragments, white earthenware fragments, rubber bits, wire, a large rubber hose piece, clear glass fragments, a tin strap and fragments, cast iron pipe fragments, a red ware sherd, and a few flakes.

**Features 13a, 13b, 14a, and 14b**

These features, 40 ft north of the convento and consisting of earthen mounds and depressions, are possible structural remains. Associated artifacts include numerous bone and cow tooth fragments, a few flakes and plain ware sherds, and a crown cap for a soda bottle (also see Count Unit 5). The soil throughout the area is dark grayish brown. Corrals or pens may have been located in this area: north of and along the north facing convento wall organic material was tentatively identified as animal manure (Robinson 1976:152).

**Feature 13a**

This feature is a low mound 30 ft north-south by 20 ft east-west in size covered with scattered cobbles. An L-shaped alignment of cobbles 12 ft east-west by 20 ft north-south may indicate a wall.

**Feature 13b**

This feature is a low mound 15 ft by 15 ft in size with scattered cobbles. Feature 13a is 15 ft to the west and scattered cobbles and bone fragments were noted to the northeast.

**Feature 14a**

This feature is a slight depression, rectangular in shape, 20 ft north-south by 25 ft east-west. The edges of the depression are overgrown with vegetation. To the west are several cobble alignments and a 3-ft-diameter modern fire ring. Scattered cobbles occur to northwest.

**Feature 14b**

This feature is a low mound 10 ft by 10 ft in size with cobbles scattered on top. It is located between Feature 14a and the convento.

**Feature 15**

This is a low square mound, 20 ft by 20 ft, located southwest of Feature 14a. Cow tooth and bone fragments, plain ware sherds, and a core fragment were noted associated with the feature.
Figure 10. Feature 17 at Guevavi, view towards west (church walls in background).

Figure 11. Feature 20 at Guevavi, view towards east showing access road.
Feature 16
This feature is a 20 ft north-south by 15 ft east-west rectangular mound of dark gray soil located at the edge of the terrace. Wall alignments could be discerned in vegetation growth patterns. A few quartz, chert, chalcedony, and siltstone flakes were noted in the area. More artifacts are present along the terrace edge to the southeast (see Count Unit 6), where there is also a small depression that may be from pothunting. The mound and adjacent area may be all that remains of a structure noted in the 1960s by Robinson (1976:154) as a 14 ft by 35 ft room with five courses of adobe brick remaining. Robinson also noted a basin metate within the structure, which was not relocated.

Feature 17 (Figure 10)
This feature is located northeast of and across a drainage from the church and convento. It is outside the future National Park Service Property. It consists of a 50 ft east-west by 65 ft north-south mound with a depressed center and concentrations of cobbles and slabs. An alignment of cobbles 18 inches wide on the west edge of the mound measures 40 ft long between apparent corners. This is most likely the feature noted by Robinson (1976:154) as a low rectangular cobble and adobe wall enclosing an area 50 ft by 30 ft, oriented east-west, whose visible walls were roughly 16 inches wide and 18 inches high. Robinson described the fill within the walled area as consisting of dark soil and domestic (cow and sheep) bone. Today only a few flakes and two plain ware sherds could be located in the feature vicinity. Feature 17 may also be the feature noted by Stoner (1937:54) as "a ruin across the arroyo to the east . . . not now evident whether of Indian or Spanish origin."

Feature 18
This feature, also outside the future National Park Service boundary, east of Feature 17, consists of a heavily disturbed area with little ground cover, dark grayish soil, and scattered cobbles. It is 180 ft east-west by 65 ft north-south in size. Vegetation along low mounds may indicate wall alignments. The only artifacts noted in this area were a quartz flake, a retouched chert flake, and an unidentified fine-grained flake.

Feature 19
This feature, outside the future National Park Service boundary, is similar to Feature 18, 80 ft west, except it has fewer cobbles and no apparent vegetation patterns. The two features are separated by an area of denser vegetation and lighter soil. Feature 19 is 90 ft north-south by 130 ft east-west. A mano and a few flakes were noted in the area. The nature of these features is not clear; they may represent areas where cattle or other animals were concentrated, either historically or in the recent past. Although
no evidence of the remains of corrals (wood, wire, or nails) was noted. Corrals may have had adobe walls.

**Feature 20** (Figures 11 and 12)
Outside the future National Park Service boundary, Feature 20 is a rectangular mound 55 ft north-south by 16 ft east-west by 3 ft high. Wall alignments, evident in vegetation patterns, indicate four adjacent rooms. Walls are approximately 10 inches thick, with a double wall on the west side. Room measurements (from north to south) are 14 ft by 16 ft, 14 ft by 12.5 ft, 14 ft by 11 ft, and 14 ft by 16 ft. Although no additional walls are visible, the continuation of the mound to the west suggests more rooms or an attached ramada may have been present on that side. A dense scatter of artifacts extends to the south and west of the feature (see Count Units 1 and 2). Artifacts noted in the vicinity of Feature 20 include plain ware sherds, flakes, cores and core fragments, an obsidian flake, and a retouched flake. A faint east-west road trace is 6 ft south of the mound and the access road to Guevavi crosses the north end of mound.

**Feature 21**
This feature consists of a small pile of recent trash and debris along the south side of the access road to Guevavi.

**Features 22 through 24**
These are apparently cobbled filled pits that have been exposed by road grading. They were noted during previous investigations at the site (Burton 1991:31; J. Rancier, personal communication, 1992). Due to the muddy condition of road during the spring fieldwork, they could not be relocated. Each consists of a small (less than 2 m in diameter) circular concentration of tightly packed fire-cracked and altered cobbles. They could be the remains of either roasting pits or hearths. Flakes and plain ware sherds are present in the vicinity of these features.
Table 1. Distribution of material in 1 m by 1 m count units at Guevavi.

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<td>2</td>
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</tbody>
</table>

Calabazas

Calabazas is located on the edge of an eroded alluvial terrace at an elevation of 3480 ft above sea level. Conglomerate bedrock outcrops in the eastern portion of parcel. Overstory vegetation consists of mesquite, acacia, cottonwood (along the river) and a few scattered juniper.

A tall chain link fence constructed by the Arizona Historical Society (AHS) in 1974 encloses the site’s most salient components, the church and compound. Other features include the rowhouse, other possible structural remains, a large depression, a ditch, and two bedrock mortar outcrops (Figure 13). Recent modifications include a billboard, a vandalized cairn, and a tent clearing. In all, 26 features were identified at the site including 12 previously recorded by Stone and Opfenring (1976).

Artifacts at the property are concentrated in several areas, but are most abundant west of the compound within the fenced area (Figure 14). Also notable is a small area of cores, core fragments, and debitage north of Feature 12. Flakes and plain ware sherds are scattered throughout the terrace.

Pothunting appears to be limited to areas within the fence and vandalism to the standing walls at the site was noted just prior to fieldwork (Rancier 1992). Other impacts include a dirt access road and other vehicle tracks. The main access to the site appears to postdate 1976. Stone (1976) indicates that the access road to the east was blocked off. Erosion in the form of headcutting is advancing on several features.
Access to this site is restricted to ranger-guided tours only. This map has been altered to help in resource protection.
Figure 14. Artifact concentration west of compound at Calabazas, views towards south.

Figure 15. East wall of church at Calabazas.
Figure 16. Church and compound at Calabazas.

For the major portion of the site the corners of the AHS fence were used as datums. Stone's datum within the compound could not be relocated. Three other permanent datum points in the eastern portion of the survey parcel were plotted (see Figure 13). Point A is an orange painted rebar, a 2 inch high wooden stake, and three white painted cobbles. It appears to mark a mapped turning point along the property/road right-of-way boundary. Point B is a imbedded rebar along the Pendleton Road cut. Point C, outside the survey parcel, is a brass cap in the center of Villa Caliente Road, identified by the stamp E670.
Figure 17. Rock and adobe wall in compound at Calabazas, view towards east.

Figure 18. Northwest corner of rowhouse (Feature 2) at Calabazas.
Feature 1a (Figures 15 and 16, Appendix D)
Most walls of the unroofed church (Gandara's Hacienda) still stand 7 to 10 ft high. Architectural wood appears to postdate original construction, including door and window thresholds and a roof support beam. Most erosion has occurred to the northern rooms, where several walls have eroded to ground level.

The structure is divided into five rooms with the following interior dimensions:

- Room A: 16.0 ft east-west by 13.5 ft north-south.
- Room B: 16.0 ft east-west by 11.5 ft north-south.
- Room C: 16.5 ft east-west by 13.5 ft north-south.
- Room D: 16.5 ft east-west by 15.0 ft north-south.
- Room E: 10.0 ft east-west by 14.5 ft north-south.

The church was subdivided for use as a ranch house in the 1850s with new windows and doors added. Currently there are two doorways and a window in the east wall, a plugged doorway in the south wall, and a doorway and window in the west wall. Originally rooms A, B, and C would have been the nave, Room D the sanctuary, and Room E the sacristy (cf. Fontana 1971:map 3).

In the 1980s a free-standing metal roof was constructed over most of the church. Concrete footings for a roof planned (but not completed) in the 1960s are present as well.

Feature 1b (Figures 16 and 17, Appendix D)
To the west and south of the church are the remains of a walled compound 115 ft square with stone foundations and walls up to 5 ft high. An L-shaped rock and adobe wall in the southern portion of the compound measures 13 ft east-west and 19 ft north-south. A low 6-ft-long adobe brick wall abuts the stone wall. Another remnant of the rock wall, approximately 7 ft long, is present in the southeast corner of the compound. Other wall alignments are visible in soil and vegetation patterns. A low area in the central portion of the west wall was apparently an entryway. Abundant artifacts outside the west wall included glass, ceramics, metal, bone fragments, and slag (see Count Unit 1). Numerous looter’s holes, none apparently recent, are present within the compound rooms.

Feature 2 (Figures 18 and 19)
Located to the north of the compound and outside the AHS fence are the remains of what may be the 1853 barracks (rowhouse) built by the German managers of the Gandara Hacienda. Overgrown by vegetation, the feature consists of a low (less than 1.5 ft high) mound, measuring 215 ft north-south by 30 ft east-west. A stone and mud mortar foundation is exposed at the northern end of the structure. Other wall alignments are visible in soil and vegetation patterns. Artifacts were noted throughout the
area, but were concentrated in the area immediately to the northwest (see Count Unit 2). A headcut is advancing towards the northern portion of the feature (see Feature 13, below).

**Feature 3**
This feature consists of an isolated concentration of cobbles and boulders 25 ft north-south by 20 ft east-west. The area of the cobbles is slightly mounded with some possible wall alignments visible in soil and vegetation patterns. Artifacts within the area of the feature include tin can fragments, a plain ware sherd, and a green glass fragment. Some of the cobbles have been used recently for a fire-ring and there is abundant charcoal in the area.

**Feature 4**
This feature is a rock concentration 23 ft north-south by 20 ft east-west. Cobble alignments within the concentration suggest the remains of a 16 ft square structure. Artifacts in the vicinity include fragments of white and clear glass and a large siltstone flake. Small bone fragments, some burned, are present as well.

**Feature 5** (Figure 20)
This is a low mound of earth 65 ft north-south by 50 ft east-west with scattered cobbles and conglomerate slabs. Artifacts in the area of the feature include tin can fragments, clear and olive glass fragments, a single-seam tin can, an aluminum top beer can, plain ware sherds, and a utilized siltstone flake (see Count Unit 3).

**Feature 6**
Feature 6 is an isolated concentration of cobbles 50 ft east-west by 32 ft north-south, located southwest of a small drainage. A possible wall corner can be discerned. Artifacts in the area include a core, a
protohistoric style projectile point, plain ware sherds, tin fragments, white porcelain fragments, brown and blue glass fragments, and a cow tooth fragment (see Count Unit 7).

Feature 7
This feature is a low mound of earth with slabs and cobbles. Measuring 16 ft north-south by 23 ft east-west, the feature is crossed by a road track. Drainages to west are actively eroding the feature. Artifacts noted included a chert flake, dark green and amber glass fragments, ten plain ware sherds, bone fragments, and a small smooth limestone cobble.

Feature 8
This feature is a cobble alignment exposed in a small drainage. It was originally though to be a check dam, but later examination of aerial photographs suggests it is a portion of a much longer wall, possibly part of a large compound. Composed of cobbles and slabs stacked four rocks wide, the portion exposed in the drainage is 2.5 ft wide by 1.5 ft high by 6 ft long.
Feature 9
This rectangular rock concentration, overgrown with vegetation, is slightly mounded, 13 ft by 13 ft in size. Possible wall alignments are visible in soil and vegetation patterns. There is a trash concentration to the southwest which includes abundant can fragments and dark green glass, three siltstone flakes, plain ware sherds, amber glass fragments, a chert flake, and two cut nails (see Count Unit 5). A large area to the east is covered with small fragments of bone (see Count Unit 6).

Feature 10
This concentration of small to medium cobbles and a few slabs is badly disturbed; overgrown by vegetation and with active erosion (drainages) on all but the north side of the feature. It is about 18 ft east-west by 10 ft north-south. Feature 10 may represent a structure or retaining walls. There is a road trace to the east, which may have something to do with the feature.

Feature 11
This is a large oval depression 100 ft north-south by 70 ft east-west approximately 2.5 ft deep at the center. The feature may have served as an adobe borrow source.

Feature 12
This feature is a small concentration of conglomerate and quartz rocks, 3 ft in diameter and slightly mounded. None of the rocks appear to be fire-affected. To the northeast of this feature is an area of cores, core fragments, and flakes (see Count Unit 8).

Feature 13
At the northwest corner of the rowhouse (Feature 2, described above) are three cobble alignments along the terrace edge. Possibly retaining walls, it is not apparent if the alignments form one continuous wall or not. They are made of small size cobbles, which have silted in on the upslope side. One, within a small drainage cut, may be a check dam. Two cut nails were noted in the general area of these alignments.

Feature 14
This feature is a cluster of slightly mounded cobbles 5 ft in diameter. Scattered cobbles of the same type occur in the area. Nearby artifacts include dark green and purple glass fragments and a Mexican glaze ware fragment.

Feature 15
This feature, located south of Feature 14, consists of several cobble alignments. A trash concentration is located adjacent to the east. The cobble alignments may represent
rooms, but no definite structures could be discerned. Artifacts noted included Mexican
glaze ware fragments, abundant red and plain ware sherds, and fragments of shell and
bone (see Count Unit 4).

Feature 16
This feature is a scatter of cobbles 25 ft north-south by 22 ft east-west in size, possibly
a badly-eroded structure of some sort. Some of the cobbles have been used for a fire
ring about 4 ft in diameter. A stone ware fragment was the only artifact noted at this
feature.

Feature 17
This feature appears to be relatively recent and consists of a cobble-outlined tent pad
(6 ft north-south by 5 ft east-west) and fire ring (3 ft diameter). Artifacts noted in the
area included an iron part, charcoal bits, ten plain ware sherds, and three siltstone
flakes.

Feature 18
This is a possible L-shaped wall. The 20-ft-long north-south leg is visible as a
vegetation pattern most noticeable at its northern end. The east-west leg is a 23-ft-long
alignment of cobbles. A few green glass fragments were the only artifacts noted in the
area, even though this portion of the site is relatively barren of vegetation.

Feature 19
This feature although located outside of the project area is included since it was
previously reported as within the property boundary (Stone 1976). It appears to be the
remains of a stone monument (cairn). It consists of a 16 ft diameter rock concentra-
tion, with the center apparently recently dug out. A small fragment of dark olive
glass was noted 20 ft southeast of the feature and scattered flakes and sherds were
noted on terrace to the east.

Feature 20
This feature is a cluster of small subangular rocks and cobbles 3 ft in diameter. None
of the rocks appear fire-affected.

Feature 21
Located on the eastern edge of the property, this feature is a single bedrock mortar on
a low conglomerate outcrop that measures 4 ft (1.2 m) east-west by 8 ft (2.4 m) north-
south. The mortar is 27 cm in diameter and 13 cm deep. Rhyolite, chert, and quartz
flakes, and a can fragment are present in the immediate area.
Table 1. Distribution of material in 1 m by 1 m count units at Calabazas.

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**Feature 22**
This feature consists of two bedrock mortars 5 ft (1.5 m) apart on a large conglomerate outcrop. They are located off the terrace edge on a northeast facing slope. No artifacts were noted in the area. One mortar is 15 cm in diameter by 7 cm deep and the other is 15 cm in diameter by 8 cm deep.

**Feature 23**
This feature, defined from the aerial photograph, is a circular vegetation pattern approximately 10 ft in diameter, located just west of Feature 11 (a depression).

**Feature 24**
This feature is an earthen irrigation ditch on the western boundary of the survey parcel. Now in disuse, it is most easily defined by alignments of trees and brush.

**Feature 25**
This old wooden billboard, now faded and decrepit, commemorated Fort Mason, according to Frank Estrada, a site visitor who recalled seeing the sign as a child in the late 1930s.
Summary and Management Recommendations

The 1992 survey at Guevavi and Calabazas identified a total of 62 features, 36 at Guevavi and 26 at Calabazas. At both sites cultural remains were confined to the terrace tops and edges. Features identified at Guevavi include the remains of a church, convento, plaza, several compounds, two large depressions, canals, bedrock mortars, rock alignments, and possible corrals. Features identified at Calabazas include a church, compound, rowhouse, other possible structural remains, rock alignments, a large depression, a ditch, and bedrock mortars.

Very few definite historic-era artifacts were noted in any portion of the Guevavi site. However, this could be the result of selective surface collecting over the years. In contrast to Guevavi, abundant historic artifacts were noted at Calabazas. However, most of the artifacts there apparently postdate the Spanish occupation of the site. Interestingly, the compound at Calabazas is nearly the same size and orientation as the convento at Guevavi, and other features at Calabazas are suggestive of similar structures at Guevavi. The similarities in layout and design discovered during the survey suggest the entire Calabazas compound was built during the Spanish mission period.

The survey indicates that significant features are located outside the future National Park Service parcel at Guevavi, while all features relating to Calabazas were found to be contained within its designated parcel. For example, at Guevavi a substantial Native American component, which was identified east of the Archaeological Conservancy boundary, may represent part of the protohistoric village that drew the missionaries. In fact, the orientation and size of one feature near the Native American component (Feature 20, also outside the future National Park Service parcel) suggest it could be the remains of an older church that was later remodeled. Acquisition of additional acreage could help insure protection and preservation of this and other features related to the mission period.

The possibility for additional subsurface features on the terrace tops at both sites is high. For example, in 1889 a 4-acre corral made of 4-ft-high adobe walls was noted at Calabazas (also see Fontana 1971:68). Yet no remains of this large structure are apparent today. At the very least, it is recommended that any ground disturbance on the terraces be monitored, even in areas with no apparent surface remains.

Vandalism at both sites is generally confined to areas near standing architecture. Potholes at both sites should be backfilled and the sites frequently patrolled to deter further digging. Erosion along the terrace edges appears to be one of the main threats to the sites today, with features at both sites currently being approached by headcuts. Some efforts should be made to arrest this erosion.

To discourage off-road driving that could further damage the sites, roads should be closed some distance from the sites, with general access pedestrian. Proposed fencing
along the Calabazas property boundary will not impact that site and may provide additional protection as well. There should be no improvements made to roads within either parcel without archeological testing and monitoring.

Finally, a program of small-scale testing and surface collection should be begun at each of the sites to provide additional information useful for site interpretation, as well as to help mitigate the effects of increased visitation. Some specific questions that testing could address are:

1. Is Feature 20 at Guevavi the remains of an earlier (pre-1751) church?
2. Do the features south of the standing compound at Calabazas represent another compound?
3. What is the subsurface nature and extent of the Native American component at Guevavi? Is there a substantial pre-mission Native American component at Calabazas, as hinted by scattered aboriginal artifacts?
4. Can functions be determined for the outlying structures/features at Guevavi and Calabazas? Can the remains of corrals at Calabazas be identified?
5. Can intact Spanish-period deposits be identified at either site?
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Appendix A
Historic American Buildings Survey Plans of Guevavi
Note: Dimensions checked by F. Nichols and L. Ceywood in September 1932.

Note: Dimensions taken from a drawing made by Prentiss Dwell in May 1917.
Appendix B
Historic American Buildings Survey Plans of Calabazas
THE PLOT PLAN OF EXISTING WALLS AND FOUNDATIONS

SCALE: 1/6"=1'-0"

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U.S. DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS, BUILDINGS AND RESERVATIONS

SAN CAYETANO DE CALABASAS

SURVEY NO. ARIZ-2

HISTORIC AMERICAN BUILDING SURVEY

INDEX NO.

G. D. HERCULONI, MUSEUM DRY.
THE RESTORED PLAN
OF MISSION CHURCH
Scale: 10'-0"

Note: This church was never a
true mission but was really
a visita. Where the priests
made regular visits.

EXISTING SOUTH ELEVATION
Scale: 10'-0"

SANCTUARY

NAVE

CHORE-OVER

SACRISTY

Traces of light red

Full size section of canal

Detail Holy Water Font

Scale: 3'-0"

S.D. Nichols, H.L. Folsom

NAME OF STRUCTURE
SAN - CAYETANO - DE - CALABASAS
ON SANTA CRUZ RIVER
ARIZONA

SURVEY NO.
ARIZ-2

HISTORIC AMERICAN BUILDING SURVEY
SHET 2 OF 3 SHEETS

SCALE IN FEET (NOTES) SCALE IN FEET (NOTES)
Appendix C
Elevation Drawings of Guevavi Architecture
Church

West Wall Exterior

West Wall Interior
Church

East Wall Exterior

North Wall Exterior

East Wall Interior

North Wall Interior
Appendix D
Elevation Drawings of Calabazas Architecture
Church

West Wall Exterior

West Wall Interior
Room E northwest corner

West Wall Exterior  South Wall Exterior

South Wall Interior  West Wall Interior

Isolated Wall Remanent in Compound

South Side

North Side
Western Archeological and Conservation Center • Publications in Anthropology
National Park Service • 1415 North Sixth Ave. • P.O. Box 41058 • Tucson, Arizona • 85717

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10. An Archeological Overview of Petrified Forest National Park, by Yvonne G. Steward.
15. The Canyon del Muerto Survey Project: Anasazi and Navajo Archeology in Northeastern Arizona, by Patricia L. Fall, James A. McDonald, and Pamela C. Magers.
25. Patterns of Lithic Use at AZ Q:1:42, Petrified Forest National Park, Arizona: Data Recovery Along the Mainline Road, by A. Trinkle Jones.
29. None.
34. Test Excavations at Sites B-105, B-107, and B-108: Archeology at Pu'uhonu o Honaunau National Historical Park, by Edmund J. Ladd.
37. Miscellaneous Historic Period Archeological Projects in the Western Region, by Martyn D. Tagg.
38. Pueblo Period Archeology at Four Sites, Petrified Forest National Park, by A. Trinkle Jones.
41. Lake Mead: Developed Area Surveys, by Richard G. Ervin.
42. The Camp at Bonita Cañon, by Martyn D. Tagg.
43. Excavations at Site A-27, Archeology at Pu'uhonu o Honaunau National Historical Park, by Edmund J. Ladd.
52. None.
60. Tuzigoot Burials, by Keith M. Anderson.
63. When is a Great Kiva? Excavations at McCreery Pueblo, Petrified Forest National Park, Arizona, by Jeffery F. Burton.