

# Excavation of an Oval Hilltop Enclosure near Miami, Arizona

*John M. D. Hooper*

**N.B.** This paper was originally published in *Collected Papers from the 18<sup>th</sup> Biennial Mogollon Archaeology Conference*, edited by Lonnie C. Ludeman, pp.75-83. New Mexico State University, Las Cruces.

**Abstract-** *From December, 2011 through February, 2012, WestLand Resources undertook excavations at AZ V:9:616(ASM) near Globe, Arizona. This nonresidential site consists of a single, large feature which is clearly not associated with ordinary domestic functions. Following the excavations, we concluded that this feature is best classified as an oval hilltop enclosure, a poorly understood category of features that are found occasionally throughout central Arizona. The feature was probably used either as an observation post and signaling location or for ritual or ceremonial purposes, or for some combination of these functions. This project marks, so far as we can determine, the first complete excavation of this type of feature. The results of the excavations and our preliminary conclusions are presented here.*

## INTRODUCTION

From December, 2011 through February, 2012, WestLand Resources (WestLand) undertook excavations at seven sites near Miami, Arizona, at the behest of a mining corporation. The sites were located on privately-owned land that was scheduled for use a fill source in a mine reclamation project. The sites investigated included four small residential sites—three farmsteads and one field house—and two limited-activity sites (see Gregory 1991 for a description of this classification system). The seventh site investigated, AZ V:9:616(ASM) was a very different site consisting of a single, large feature.

The specialized architectural feature at AZ V:9:616(ASM) is clearly not associated with ordinary domestic functions. It consists of a large rubble-walled oval enclosure (*Photo 1*). During the survey project in which the site was discovered, it was identified as a watchtower, a fortress or observation point associated with defense and signaling, with a possible ritual use also suggested (Hooper 2011:94-97). Following the excavations, WestLand concluded (Hooper 2012:145-146) that this feature is best

classified as an oval hilltop enclosure, a poorly understood class of features that are found occasionally throughout central Arizona. The feature was probably used either as an observation post and signaling location or for ritual or ceremonial purposes, or for some combination of these functions.

## HILLTOP AND RIDGETOP ARCHITECTURE

Four classes of specialized hilltop and ridgetop architectural complexes are commonly recognized in the Southwest U.S./Northwest Mexico culture area: defensive sites, trincheras sites, corrals, and oval hilltop enclosures. Defensive sites include forts, retreats, and defensive hilltop habitation sites, and hilltop/ridgetop centers. Trincheras sites are usually residential, consisting of houses and houselots arranged on terraces on the slopes or summits of hills and ridges. Corrals occur in tandem with some trincheras sites and are thought to have had ritual functions. Oval hilltop enclosures are a special, rare class of features whose possible functions are poorly understood.



**Photo 1. View to west of Feature 1 at AZ V:9:616(ASM), before excavation.**

### *Defensive Sites*

There are many site types in eastern and central Arizona that are interpreted as defensive. Following a typology of these site types developed by Spoerl and Gummerman (1984), these sites may be classified into categories such as forts, retreats, habitations, and centers.

Forts are sites with only a walled enclosure on a hilltop or perhaps one or a few walls at access points. This kind of site has also been called a “lookout” (Austin 2000). Retreats are hilltops sites with one or two rooms or structures within walled enclosures. Hilltop habitation sites are similar enclosures but with more than two rooms and normally larger artifact assemblages. Centers are larger hilltops sites consisting of multiple rooms and large assemblages, suggesting permanent villages.

Although no express attempts have been made to codify defensive sites in the Globe-Miami area, it is clear that some of the known sites in the region might fall into the categories discussed above. For example, sites AZ V:9:257(ASM) and AZ V:9:262(ASM) in the Carlota Copper Mine project area are groups of structures perched on top of a steep-sided hill, and surrounded by

masonry walls (Desruisseaux 2002; Fox 2002). Both of these sites fit the definition of hilltop habitation sites.

### *Trincheras Sites*

Trincheras sites consist of dry-laid masonry features constructed on the slopes and summits of hills (Fish et al. 2007). They are common throughout the Southwest/Northwest culture area, with sites occurring in the Hohokam, Mogollon, Casas Grandes (Paquimé), Trincheras, and Central Sonora areas. Proposed functions of these sites include agriculture (e.g., Katzer 1987), defense (e.g., Wallace and Doelle 2001, Wilcox 1979), and habitation (e.g., Downum 1986; Downum et al. 1994). The emerging consensus regarding these sites is that they appear to have fulfilled multiple functions, sometimes simultaneously and sometimes varying across time and over space. In at least some times and areas, such as in the Magdalena River Valley of Sonora around A.D. 1300-1400, some trincheras sites (including the very large Cerro de Trincheras) appear to have been the locations of complex villages (Fish and Fish 2007; McGuire and Villalpando 2007).

### ***Corrals***

Corrals are features known from the area of the Trincheras culture in the Magdalena River valley of Sonora. These features cap steep hills within or adjacent to some *cerros de trincheras* settlements. Fish and Fish (2007) note that corrals may have had ceremonial uses. Sonoran corrals feature coursed-masonry walls up to 1.5 meters tall. They tend to be ovate and to have diameters in the range of 13 to 24 meters.

### ***Oval Hilltop Enclosures***

There is a poorly understood class of features that might provisionally be termed oval hilltop enclosures. What little is known about these features comes primarily from the Cave Creek, Bradshaw Mountains, and Lower Verde River areas north of the Phoenix Basin. A series of surveys directed by Wilcox in this area has recorded three such sites, but they are not well described and they are only mentioned as possible ceremonial sites that require additional study (Wilcox et al. 2007:215–216). One of the sites, Tangle Top, appears to be the same as Tangle Fort (AZ O:14:152[ASU]), which was first described in an apparently unpublished Arizona State University survey and was briefly revisited during the Lower Verde Archaeological Project (Whittlesey 1997:104–105). This site consists of a hilltop oval enclosure measuring 30 m by 20 m with walls 1 to 2 m high. The masonry wall was apparently originally 8 to 15 courses high. There is a doorway or entryway with prepared walls or jambs at the northwestern end of the enclosure.

These oval enclosures are poorly documented in the archaeological literature. As far as can be determined, none have been subjected to intensive archaeological investigation. Although their function and chronology is unknown, they have been tentatively classified as ceremonial (Wilcox et al. 2007) or defensive (Whittlesey 1997).

## **THE OVAL ENCLOSURE AT AZ V:9:616(ASM)**

### ***Excavation***

AZ V:9:616(ASM) consists of a single large prehistoric architectural feature (Feature 1), a level oval space surrounded by an earth and rock rubble wall or berm. There are also two Historic-period cairns (Features 8 and 9) in the western part of the site. During the survey, this site was classified as a special-purpose site with a defensive or ritual

function. The oval enclosure is situated on the highest point in the project area, on the crest of a west-east trending ridge. We speculated that the large structure was a fortress or watchtower that could have served as a lookout.

During excavation, 100 percent of the interior of the enclosure was stripped with hand tools, and approximately three-quarters of the excavated fill was screened (*Figure 1* and *Photo 2*). After the interior excavations were complete, a backhoe trench was excavated through the rubble berm on the western side of the structure to provide a cross-section of the berm and to examine how it was constructed.

### ***Architecture***

Analysis of the architecture exposed by the interior excavations and the backhoe trench reveals the methods used in the construction of the enclosure. The interior of the enclosure was cleared and leveled, probably as the initial stage of construction. The leveling process included some filling in the eastern part of the enclosure, where slightly deeper silt loam indicates the slope was built up during the leveling process. While substantial efforts were clearly made to level the interior, several large boulders were left *in situ* within the enclosure.

The berm was built in two stages. First, spoil dirt cleared from the interior was piled around the exterior of the oval area to form the base of the berm. The dirt was then capped with rocks—possibly also collected from the interior—to create the berm. In the profile of the backhoe trench the dark yellowish brown silt loam of Stratum I can be seen where it was piled onto the sterile substrate (Stratum II) and capped with rocks (see *Figure 2*). The interior level area within Feature 1 measures about 11.8 m northwest-southeast and about 7.25 m northeast-southwest. The berm surrounding the feature measures between about 3 m and 4 m wide and is over 1 m high in places. The entirety of the feature, including the berm, covers an area of 233.82 m<sup>2</sup>. The interior measures 56.04 m<sup>2</sup> in area. This indicates that the vast majority of the feature consists of the mounded berm, reflecting the fact that it was built by piling up earth, rocks, and gravels and not made with coursed masonry or some other, more space-efficient, construction method.

Six subfeatures were found within the enclosure. Four of these are prehistoric, and consist of three shallow, basin-shaped pits (Features 3, 4, and 5) and a possible enclosure (Feature 6). The functions of the pits are unknown, but there did not appear to be any evidence of burning, such as ash or charcoal in the

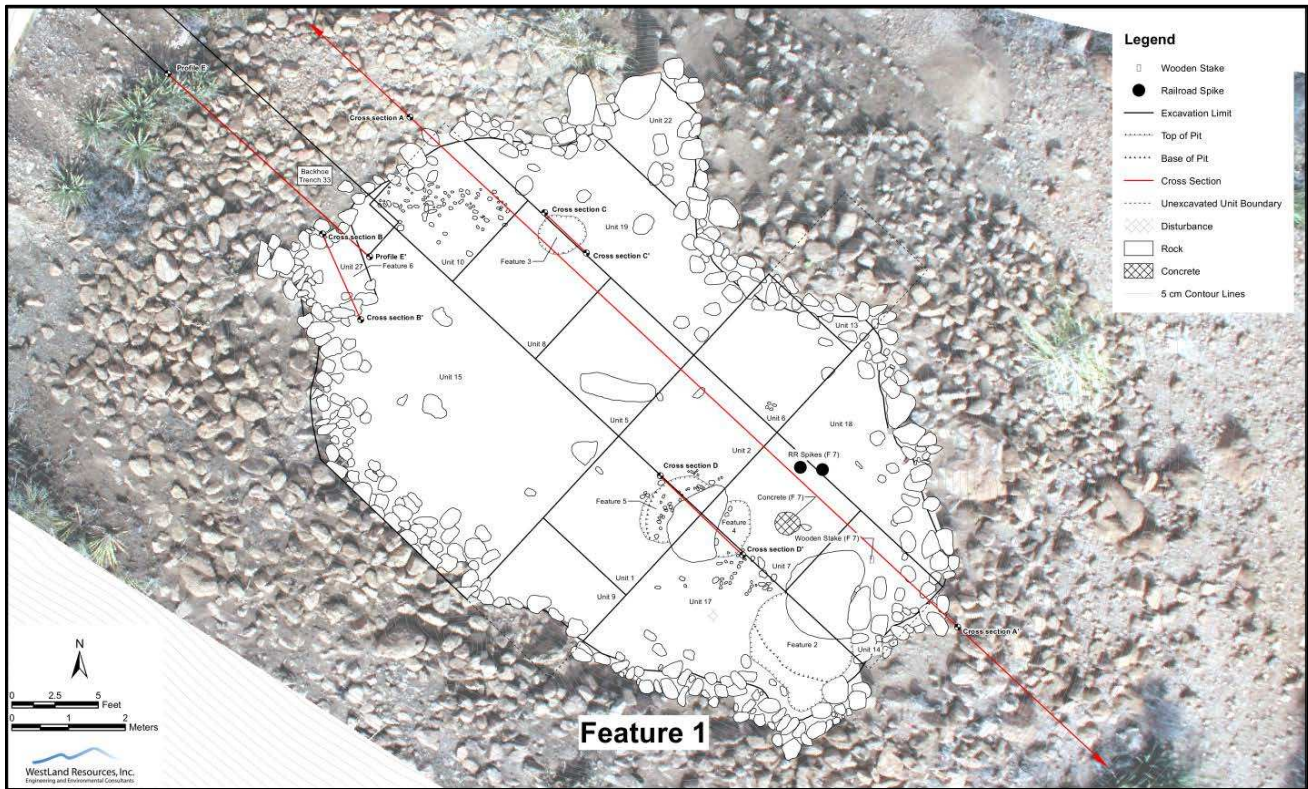


Figure 1. Excavation plan for Feature 1 at AZ V:9:616(ASM).

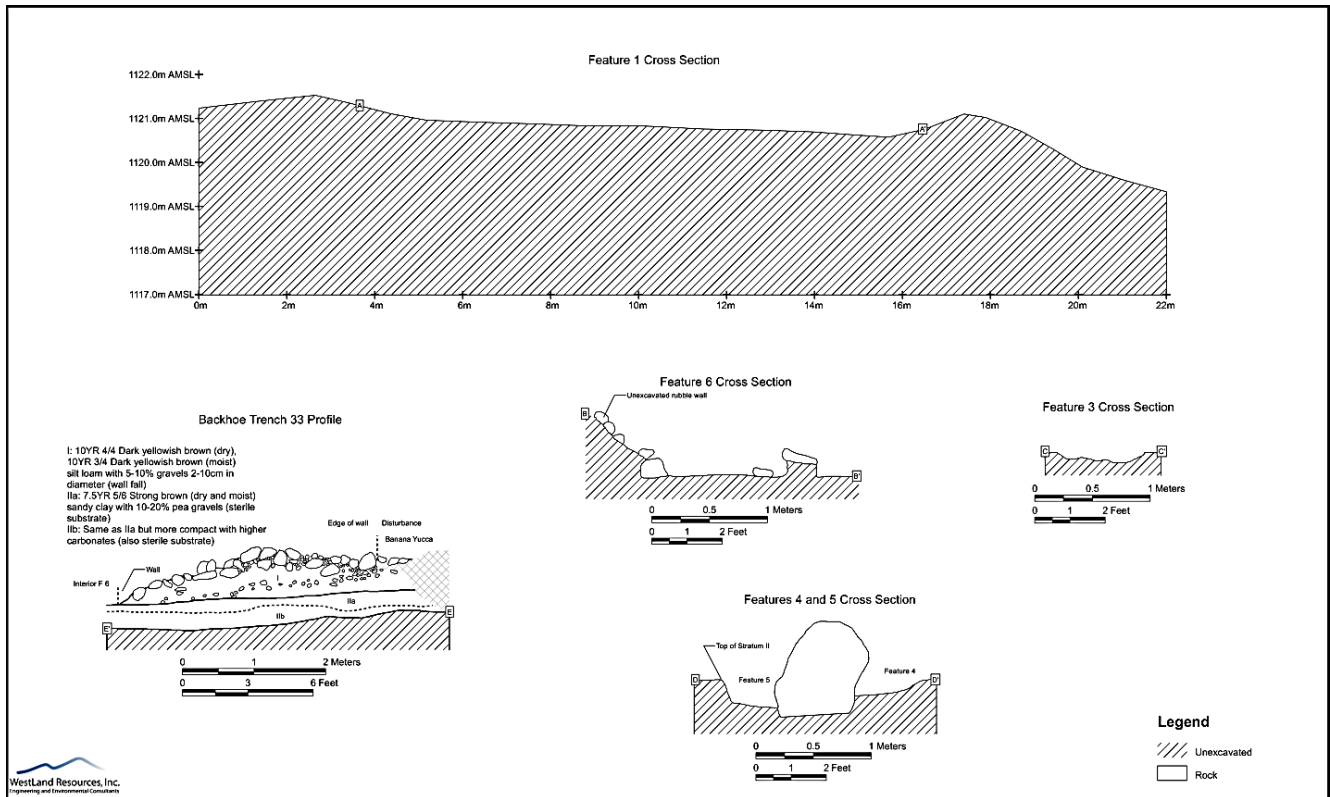


Figure 2. Post-excavation cross-sections and profiles of construction elements of Feature 1 at AZ V:9:616(ASM).



**Photo 2. Aerial view (east to top) of Feature 1 at AZ V:9:616(ASM), after excavation.**

fill or oxidation of the pit walls. Feature 6 appears to be a small enclosed space adjacent to the berm in the northwestern part of Feature 1. A line of cobbles about 1.75 m long appears to form an informal wing wall separating this space from the rest of the feature. The identification of this space as a feature is tentative, as it is unclear whether the wing wall was formally constructed or is a coincidental alignment of

rocks tumbled from the berm. The other two subfeatures within the enclosure constitute modern impacts. Feature 2 is a large looter's pit in the southeastern part of the enclosure and Feature 7 is the remains of a survey monument. A possible entryway was identified in the northern part of the feature where there are two large upright boulders and a section of berm that is less built up than elsewhere.

The long axis of the enclosure is oriented to 55° 19' 10" west of north. This alignment falls within the range of orientations exhibited by Formative period Hohokam ballcourts, which are thought to have had ceremonial meaning (Wilcox and Sternberg 1983). In this case, though, the long axis of the feature conforms fairly closely to the trend of the ridge, so the orientation may simply be a matter of topography and expedience. The possible entryway in the northwestern part of the structure is oriented to 39° 9' 33" west of north.

#### Artifacts and Samples

The artifacts recovered during the excavation of AZ V:9:616(ASM) are summarized in *Table 1*. The assemblage is quite small, and consists mainly of plainware potsherds and non-diagnostic flaked stone debitage. The flaked stone assemblage includes eight tools, all scrapers (unifacial) or knives (bifacial). No projectile points were recovered. Raw material types

include chert (58 % of the assemblage) quartzite (12 % of the assemblage), rhyolite, basalt, and diorite (collectively 27 % of the assemblage), obsidian (one flake), and quartz (one flake). The ground stone assemblage consists of a single, small rhyolite metate fragment recovered from the fill.

#### Chronology

The only available evidence to inform on the age of this unusual structure is the few ceramics recovered. The association of the ceramics to the use of the feature, however, is equivocal because all we can say is that they were deposited there sometime after the feature was constructed. The 85 potsherds collected were analyzed at WestLand by Garret Trask and William L. Deaver. Most sherds represented non-diagnostic plain wares. The few Roosevelt Red wares ( $n=2$ ), Brown obliterated corrugated ( $n=10$ ), and Salado Red Plain ( $n=2$ ) ceramics recovered suggest a Classic period age (A.D. 1150 to 1450).

**Table 1. Artifacts Recovered from Site AZ V:9:616(ASM)**

<b>Artifact Type</b>	<b>Count</b>
<b>Flaked Stone</b>	
Flakes and Debitage	59
Expedient Tools (e.g., utilized flakes)	5
Formal Tools	8
Cores	5
<b>Subtotal Flaked Stone</b>	<b>77</b>
<b>Ground Stone</b>	
Metate Fragment	1
<b>Subtotal Ground Stone</b>	<b>1</b>
<b>Pottery</b>	
<b>Decorated Wares</b>	
Roosevelt Red Ware	2
Salado Red Plain	2
<b>Subtotal Decorated</b>	<b>4</b>
<b>Plain Wares</b>	
Brown Obliterated Corrugated	10
Brown Plain, even	17
Brown Plain, uneven	53
Plain Type III	1
<b>Subtotal Plain</b>	<b>81</b>
<b>Subtotal Pottery</b>	<b>85</b>
<b>Total Artifacts</b>	<b>163</b>

Roosevelt Red wares more specifically indicate a Roosevelt or Gila phase age (A.D. 1250 to 1450). One piece of Gila Plain, Gila Variety, typically associated with the Late Formative occupation (A.D. 750 to 1150) in the Globe Highlands, suggests an earlier period of use.

## DISCUSSION

The function of site V:9:616 is difficult to determine from the excavation data alone. It is apparent from the lack of internal divisions or rooms that the site does not fit into some of the defensive site categories described above. Specifically, it is not a retreat, hilltop habitation site, or defensive center. The wall cross-section revealed by the backhoe trench indicates an earthen berm covered with rocks, rather than a stacked- or coursed-masonry wall. Although this does not preclude a defensive function, a taller, coursed-masonry wall would have been a more effective defensive system.

The possibility of the site functioning as a fort—especially if it would have had primarily a signaling function, as has been suggested for many of the hilltop sites studied by Wilcox and his colleagues (Wilcox et al. 2007)—seems more reasonable given its prominent location and large effective viewshed. The site is on the highest point in the survey area and has excellent viewsheds to the south, east, and northeast. To the west and northwest, the view is blocked by peaks on and around Sleeping Beauty Mountain. Considering that the majority of settlement at the time the site was occupied would have been in the valleys of Pinal Creek and Miami Wash to the northeast, east, southeast, and south, this site could have been seen from many other settlements in the area. Therefore, it could well have served as an observation point and signaling location.

Unfortunately, none of the deposits or artifacts at the site provides much information about its intended use. There were few potsherds and flaked stone artifacts at the site, and no special classes of artifacts—such as shells, turquoise, or other high-value items—were found. The artifact assemblage includes pottery, flaked stone, and a metate fragment, suggesting that various activities were undertaken here. At nearby residential sites, broadly similar assemblages were taken as evidence that a wide range of domestic activities were carried out. It appears that a similar set of activities, such as food preparation and consumption, possibly storage, and possibly craft production, occurred at AZ V:9:616(ASM). The artifacts found do not provide any indication as to any

defensive, ceremonial, or otherwise distinctive use of the feature. The site appears to have a slightly larger proportion of flaked stone tools than the residential sites, but these tools are generally of types that would be used in processing vegetal and possibly animal resources, and are not necessarily indicative of defensive or ritual activities.

Pollen analyst Bruce Phillips unexpectedly discovered a small amount of cotton pollen from within the enclosure. The site setting is not conducive to growing cotton, suggesting that material was brought here from elsewhere. Flowers and cotton bolls are the more likely sources of this pollen, rather than textiles. This suggests that plant material from other areas, possibly the Miami Wash or Pinal Creek floodplain, was brought to the site. It is possible that this cotton was brought as part of a ceremony or dance, as the use of cotton is known from ethnographically recorded events. For instance, Hayden noted the use of raw cotton in paraphernalia at a 1936 Tohono O'odham Vikita (Wi:Gita) ceremony (Hayden 1987:281). Cotton bolls were also used in ceremonial costumes among the Western Pueblos, as in the "New Fire Ceremony" (part of the *Wuwutsim* or *Wowochim* set of rituals) observed at the Hopi village of Walpi by Fewkes in 1898 (Fewkes 1900).

## CONCLUSION

Feature 1 at AZ V:9:616(ASM) is probably best thought of as an oval hilltop enclosure, similar to others mentioned above. These sites are only briefly mentioned and described in the available literature. It does appear, however, that at least one known example (Tangle Fort/Top) has coursed-masonry walls, which differ from the piled-up rubble berm of Feature 1. Even so, the term oval hilltop enclosure is probably best applied to the site, in part because it is descriptive without any particular functional implications.

For the time being, the best that can be suggested is that this hilltop site is similar to other, unexplored sites in central Arizona that are sometimes referred to as oval hilltop enclosures. The possible uses of these kinds of sites are unknown, but probably involved either defense—particularly signaling—or ritual uses. These activities are not by any means mutually exclusive, and the feature may have been multi-functional. The unique non-residential architecture of the site and its prominent location strongly suggest that it served a community- or regional-level function, and was associated with a supra-household social group.

Although discussions of the defensive nature of

sites are common throughout the Southwest, they are predicated on the assumption that warfare and raiding played prominent roles in prehistoric society. The nature and extent of warfare in the Southwest is currently a matter of debate (e.g., Fish and Fish 1989; Wilcox and Haas 1991). Other purposes have been suggested for hilltop sites, including residential and agricultural uses (Downum 1986; Katzer 1987) and ritual uses, such as celestial observatories (Bostwick 2001). Others, applying comparisons to hilltop sites in Mesoamerica, see hilltop centers as part of a widespread system of cultural use of prominent topographic features for both religious veneration and residence (Kowalewski 2007; Nelson 2007).

If the oval enclosure at AZ V:9:616(ASM) was indeed a special ceremonial or ritual space, there would have been regular movements of people into and out of the area in association with whatever events or ceremonies were conducted there. In fact, this site may have been an important gathering place for people from throughout the region.

### References Cited

- Austin, Ken  
2000 The Mountain Patayan People of West-Central Arizona. In *Archaeology of West Central Arizona: Proceedings of the 1996 Arizona Archaeological Council Prescott Conference*, edited by Thomas N. Motsinger, Douglas R. Mitchell, and James M. McKie, pp. 63-74. Sharlot Hall Museum Press, Prescott.
- Bostwick, Todd W.  
2001 Look to the Sky: Another View of Hilltop Sites in Central Arizona. In *The Archaeology of Ancient Tactical Sites*, edited by John R. Welch and Todd W. Bostwick, pp.37–53. The Arizona Archaeologist No. 32. Arizona Archaeological Council, Phoenix.
- Desruisseaux, Danielle  
2002 AZV:9:257(ASM)/AR-03-12-02-1136. In *Carlota Copper Mine Archaeological Project, Volume 2: Prehistoric Sites Investigated During Data Recovery*, edited by Douglas R. Mitchell, Jean H. Ballagh, Thomas D. Yoder, and M. Zyniecki, pp. 389-403, Cultural Resource Report No. 97-191. SWCA Environmental Consultants, Phoenix.
- Downum, Christian E.  
1986 The Occupational Use of Hill Space in the Tucson Basin: Evidence from Linda Vista Hill. *Kiva* 51:219–232.
- Downum, Christian E., Paul R. Fish, and Suzanne K. Fish  
1994 Refining the Role of Cerros de Trincheras in Southern Arizona Settlement. *Kiva* 59:271–296.
- Fewkes, J. Walter  
1900 The New-Fire Ceremony at Walpi. *American Anthropologist* 2(1):80–138.
- Fish, Paul R., and Suzanne K. Fish  
1989 Hohokam Warfare from a Regional Perspective. In *Cultures in Conflict: Current Archaeological Perspectives*, edited by Diane C. Tkaczuk and Brian C. Vivian, pp. 112-119. Proceedings of the 20<sup>th</sup> Annual Conference of the Archaeological Association of the University of Calgary. University of Calgary Archaeological Association, Calgary, Alberta.
- Fish, Suzanne K., and Paul R. Fish  
2007 Regional Heartlands and Transregional Trends. In *Trincheras Sites in Time, Space, and Society*, edited by Suzanne K. Fish, Paul R. Fish, and M. Elisa Villalpando, pp. 165–194. University of Arizona Press, Tucson.
- Fox, Randal R.  
2002 AZ V:9:262(ASM)/AR-03-12-02-1145. In *Carlota Copper Mine Archaeological Project, Volume 2: Prehistoric Sites Investigated During Data Recovery*, edited by Douglas R. Mitchell, Jean H. Ballagh, Thomas D. Yoder, and M. Zyniecki, pp. 422-465, Cultural Resource Report No. 97-191. SWCA Environmental Consultants, Phoenix.
- Gregory, David A.  
1991 Form and Variation in Hohokam Settlement Patterns. In *Chaco and Hohokam: Prehistoric Regional Systems in the American Southwest*, edited by Patricia L. Crown and W. James Judge, pp. 159–194. School of American Research Press, Santa Fe.
- Hayden, Julian D.  
1987 The Vikita Ceremony of the Papago. *Journal of the Southwest* 29(3):273–324.
- Hooper, John M. D.  
2011 A Cultural Resources Inventory of 523.60 Acres at the Freeport-McMoRan Miami Facility near Miami, Gila County, Arizona. Cultural Resources Report No. 2011-34. WestLand Resources, Tucson.  
2012 Archaeological Data Recovery at Seven Prehistoric Sites at the Freeport-McMoRan Miami Facility near Miami, Gila County, Arizona. Cultural Resources Report 2012-32. WestLand Resources, Tucson.
- Katzer, Keith  
1987 A Geomorphic Evaluation of the Agricultural Potential of Cerros de Trincheras. *Journal of the Arizona-Nevada Academy of Sciences* 21:5.
- Kowalewski, Stephen A.  
2007 Concluding Observations: Perspective from Hilltop Towns in Oaxaca. In *Trincheras Sites in Time, Space, and Society*, edited by Suzanne K. Fish, Paul R. Fish, and M. Elisa Villalpando, pp. 247–267. University of Arizona Press, Tucson.
- McGuire, Randall H., and Elisa Villalpando  
2007 *Sites in Time, Space, and Society*, edited by



- Suzanne K. Fish, Paul R. Fish, and M. Elisa Villalpando, pp. 137–164. University of Arizona Press, Tucson.
- Nelson, Ben A.  
2007 *Crafting Places: Mesoamerican Monumentality in Cerros de Trincheras and Other Hilltop Sites*. In *Trincheras Sites in Time, Space, and Society*, edited by Suzanne K. Fish, Paul R. Fish, and M. Elisa Villalpando, pp. 229–246. University of Arizona Press, Tucson.
- Spoerl, Patricia M., and George Gumerman  
1984 *Prehistoric Cultural Development in Central Arizona: Archaeology of the Upper New River Region*. Occasional Paper No.5. Center for Archaeological Investigations, Southern Illinois University, Carbondale.
- Wallace, Henry D., and William H. Doelle  
2001 *Classic Period Warfare in Southern Arizona*. In *Deadly Landscapes: Case Studies in Prehistoric Southwestern Warfare*, edited by Glen E. Rice and Steven A. LeBlanc, pp. 239-287. University of Utah press, Salt Lake City.
- Whittlesey, Stephanie M.  
1997 *An Overview of Research History and Archaeology of Central Arizona*. In *Vanishing River: Landscapes and Lives of the Lower Verde Valley*, edited by Stephanie M. Whittlesey, Richard Ciolek-Torrello, and Jeffrey H. Altschul, pp. 59–141. The Lower Verde Archaeological Project, Overview, Synthesis, and Conclusions. SRI Press, Tucson.
- Wilcox, David R.  
1979 *Warfare Implications of Dry Laid Masonry Walls on Tumamoc Hill*. *Kiva* 45:15-38.
- Wilcox, David R., and Charles Sternberg  
1983 *Hohokam Ballcourts and their Interpretation*. Archaeological Series No. 160. Arizona State Museum, Tucson.
- Wilcox, David R., and Jonathan Haas  
1991 *The Scream of the Butterfly: Competition and Conflict in the Prehistoric Southwest*. In *Themes in Southwest Prehistory*, edited by George J. Gumerman, pp. 211-238. School of American Research Press, Santa Fe, New Mexico.
- Wilcox, David R., Judith Rowe Taylor, Joseph Vogel, and J. Scott Wood  
2007 *Delineating Hilltop Settlement Systems in West-Central Arizona, A.D. 1100–1400*. . In *Trincheras Sites in Time, Space, and Society*, edited by Suzanne K. Fish, Paul R. Fish, and M. Elisa Villalpando, pp. 195–228. University of Arizona Press, Tucson.

