

# ARCHAEOLOGY IN TUCSON

Vol. 3, No. 3

Newsletter of the Institute for American Research

Summer 1989

## GUNSIGHT MOUNTAIN, FUTURE PRESERVE

Long hours given generously by volunteers and a variety of grants and contributions will soon pay off when the Gunsight Mountain Archaeological District is nominated to the National Register of Historic Places. The field survey, which began in May 1987 and came to a close in April 1989, was conducted southwest of Tucson around Gunsight Mountain, the northwestern peak of the Sierrita Mountains. This is where the Altar Valley opens northward into the larger Avra Valley (the valley immediately west of the Tucson Mountains).

*Archaeology in Tucson* volunteers were the keystone that held this project together, spending 2,575 hours in the field helping us identify and record archaeological sites. Several members also volunteered their time to prepare the artifacts for curation at the Arizona State Museum, and others filled out computer coding forms on all the archaeological sites. Project leader Allen Dart is now wrapping up a final report and the National Register nomination.

The survey was supported by grants from the Arizona State Historic Preservation Office, the Tucson Community Foundation, Citibank, the Holmes Tuttle auto dealerships, Pima Savings, Van's Exxon Service, and the Arizona Archaeological and Historical Society. The Arizona State Museum issued permits to survey on state trust land and agreed to curate the archaeological collections at no cost.

The survey covered nearly 4,000 acres (6.2 square miles) and resulted in the identification and documentation of 130 archaeological sites. Twelve of these sites were occupied during the Archaic period. The earliest artifacts found in the survey area are two projectile points. One of them is of the Ventana-Amargosa type found by Haury in the depths of Ventana Cave, the other is similar to the Great Basin stemmed points. Both of these types were in use between 7500 and 5000 B.C.

Probably five or six of the Archaic sites were occupied during the Middle Archaic period, between 5000 and about 1500 B.C., judging from the presence of Chiricahua, Pinto, and Gypsum points. Six or seven locations probably witnessed

occupations during the Late Archaic period (ending ca. A.D. 200) because they contained San Pedro, Elko, Cortaro, and possibly Cienega points. Our thanks to Bruce B. Huckell of the Arizona State Museum for identifying all of the Archaic points collected during the survey.



*Petroglyph panel on a large boulder in the Gunsight Mountain Archaeological District. Ruler = 12 inches.*

Occupation of the survey area appears to have continued with little or no interruption after the end of the Archaic period, because the earliest Hohokam site dates to the Pioneer period (about A.D. 200 to 750). At least 115 of the Gunsight Mountain archaeological sites were occupied by the Hohokam. Among these are at least 22 sites that contain extensive deposits of prehistoric refuse, suggesting fairly intensive habitation in small settlements between A.D. 850 and 1450. (Continued, page 2.)

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**GUNSIGHT MOUNTAIN** (continued from page 1)

Hohokam habitation of the survey area is indicated by 97 earthen mounds strewn with artifacts. Some of these are trash mounds, but others apparently are the ruins of adobe structures that were built above ground during the Classic period.

Other sites were inhabited, too, but probably by only one or two families at a time. And still other Hohokam sites were utilized for farming, gathering and processing the area's natural resources, making petroglyphs, or temporary shelter, rather than for home sites.



*Recording bedrock mortars, once used to process mesquite and other plant foods.*

Two plainware pottery sherds that are believed to date to the protohistoric period (1450-1700) were found. These sherds may represent either the Tohono O'odham or the Sobaipuri Indians. Each of the sherds came from the surface of a trash mound at a large Hohokam site. Whether they represent actual habitation at these sites or only brief visits to the Hohokam ruins is unknown.

Of the five sites with evidence of historic period occupation, one is a ranch that is still inhabited. The 1902 U.S. General Land Office survey map contains the notation "Ruins of old House" at this location, suggesting that at least one of the houses there was inhabited prior to 1900. Two historic sites contain cabin foundations plus associated refuse. Another includes glass and artifacts dating between 1880 and the 1920s, plus rock piles evidently used to mark mining claims, but no evidence of on-site habitation. Historic period use of the fifth site is indicated solely by the presence of a survey monument dated 1935.

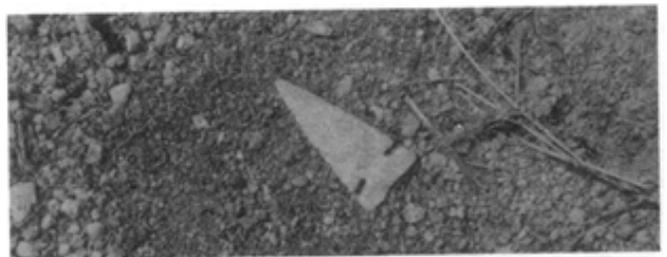
Within the 130 archaeological sites over 400 cultural features were visible. They include:

- 176 mortar holes in bedrock and boulders

- 97 earthen mounds at Hohokam habitation sites (mentioned above)
- 35 rock clusters interpreted as Hohokam agricultural features
- 27 rock clusters whose fire-affected rocks indicate use as roasting pits
- 22 rock clusters of unknown function
- 23 petroglyph design elements
- 10 small stone check-dams used for soil or water control
- 9 miscellaneous masonry features
- 9 polished bedrock metates or "slicks"
- 8 historic fences and walls
- 4 rock rings
- 3 or 4 historic houses or house ruins
- 3 other pits
- 2 Hohokam pithouses (1 exposed by erosion, the other by a pothunter).
- 2 rock shelters containing prehistoric cultural material.

Besides archaeological sites, 167 "nonsite" locations were recorded during the survey. The nonsite locations include isolated artifacts (mostly prehistoric) plus various post-1945 features, among them an abandoned habitation site; several recent mine tunnels, shafts, and prospects; over 100 rock piles, rock clusters, and posts interpreted as monuments marking mining claims; and rock cairns on mountain tops.

Prehistoric artifacts encountered during the survey include pottery, chipped stone, ground stone, and shell jewelry items that are fairly typical of archaeological assemblages in the Tucson area, although one corrugated potsherd from the Hopi area was found. Other prehistoric cultural material noted included large, handmolded clay spindle whorls used for spinning fibers into thread; a painted, hand-molded ceramic figurine of a woman; crystals, possibly used for magic or rituals; bone fragments, apparently of both humans and other animals; fire-cracked rocks; and mineral specimens that were likely collected by the prehistoric site inhabitants.



*Hohokam point found on the surface during the Gunsight Mountain survey.*

Historic period artifacts consist mostly of glass and metal items with some wood and various other items made after 1880. (Continued page 7.)

## PROFILE OF AN INSTITUTE VOLUNTEER

In this issue we salute Harry Ashby, an *Archaeology in Tucson* volunteer who has been available and willing to take on most any kind of task that needed doing. Harry has been volunteering for the Institute since August 1987. Since then he has spent well over 200 hours doing archaeological field work on the Gunsight Mountain archaeological survey and on the Institute's Los Morteros and WAPA site excavations. He has also contributed an uncounted number of hours in our laboratory, doing (as he so accurately puts it) "menial tasks": checking artifact bags in from the field, washing and labeling artifacts, boxing up the artifacts and samples for curation at the Arizona State Museum, and transferring information from field maps to the permanent records that we turn over to the Arizona State Museum archives. Harry has also donated his time working on the Arizona Archaeological and Historical Society's Redtail site excavation and on the Arizona State Museum's archaeological digs at Homolovi State Park and the Marana Mound site. Those of you who have worked with him know that he gets along well with his co-volunteers—maybe that's why he was a labor relations manager before he retired.

One thing that we've really come to appreciate is Harry's sensibility about adjusting one's efforts to the conditions at hand. Working in the hot Arizona desert, we often face situations of extreme heat, extreme cold, or rugged working conditions, and sometimes these conditions can become downright dangerous. Realizing this, Harry has been sensible enough to slow down when the temperature goes over 100 and to "Just Say No" when asked if he wants to scale a rugged mountain to look at an archaeological find. His actions have reminded project supervisors—and hopefully other *AIT* volunteers—that there are times and places where we must temper our efforts in order to reduce risks to ourselves and others. Keep up the good work, Harry!




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## THE SABINO CANYON RUIN: AN INTRODUCTION

It was the large ruins of what is now called the Hohokam Classic period that drew the interest of early researchers in southern Arizona. Just over 100 years ago the Hemenway expedition carried out extensive excavations in a series of large sites with adobe compounds and platform mounds in the Phoenix area. Those excavations were never fully reported by the expedition members, but they were the basis of Dr. Emil Haury's 1934 doctoral dissertation at Harvard University, published by the Peabody Museum in 1945.

In Tucson, early excavations were conducted at the Tanque Verde Ruin on the far east side of the valley, at Martinez Hill on the San Xavier District of the Tohono O'odham Reservation, and at University Indian Ruin near the junction of the Pantano and Tanque Verde Washes. With the notable exception of Julian Hayden's excellent report on the portion of the excavations at University Indian Ruin that he directed, information on these early archaeological studies in the Tucson area are accessible only through Master's theses, short articles in *The Kiva*, and through notes in museum archives.

The Sabino Canyon Ruin is another Classic period site in the northeastern Tucson Basin that drew early interest. But the story of its exploration is even more obscure than the others. In the article that begins on the next page, University of Arizona graduate student John Welch helps roll back some of the obscurity surrounding this important site.

This is the first time that an article not directly related to an *AIT* or Institute project has been published in the *Archaeology in Tucson* Newsletter, but we hope that there are many more to follow. One of the goals of the expanded format for the Newsletter is to allow a broader coverage of the archaeology of southern Arizona. Articles that explore the history of archaeological research in this area are of special interest.

Anyone wishing to submit a manuscript for publication in the *AIT* Newsletter should contact Bill Doelle to discuss the topic and a time frame. Our thanks to John Welch for pioneering this expansion of the Newsletter and for sharing his valuable information about a little-known Tucson Basin site.

## EARLY INVESTIGATIONS AT THE SABINO CANYON RUIN

John R. Welch

*The Fenster School of Southern Arizona*

The history of the Sabino Canyon Ruin (AZ BB:9:32 [ASM]) provides a glimpse at prehistoric research done in the Tucson Basin by scientists who went on to achieve international reputations. An all star cast that included Ellsworth Huntington, A.E. Douglass, William N. Smith, Emil W. Haury, and Garman Harbottle contributed most of what is known about the large Tanque Verde phase village site that occupies the triangular terrace of upper bajada above the confluence of the Sabino and Bear Canyon drainages.

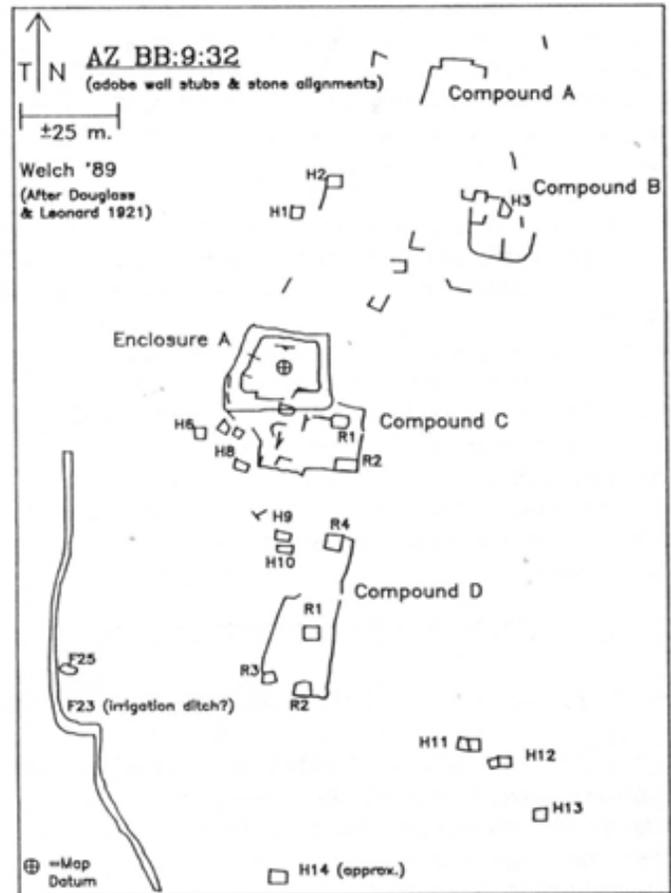
Most of the site is on the campus of The Fenster School of Southern Arizona, a private boarding school. The Fenster School has been in operation since 1971. Previously the campus was home to The Southern Arizona School for Boys (1930-1971). Students and staff at both institutions have benefited from and contributed to the traditional partnership between archaeology and secondary education in Southern Arizona.

Ellsworth Huntington, the Yale geographer, was among the first to develop a scholarly interest in Tucson Basin prehistory. Best known for formalizing the controversial theory of environmental determinism, Huntington was interested in the relationship between agrarian settlement patterns and arid climates where irrigation was imperative for successful food production. He considered archaeology "the most important type of evidence as to the relation of man to the climate of pre-Columbian days". Drawn to Tucson to study the effect of the environment on the Hohokam, Huntington counted 68 houses while investigating the Sabino Canyon Ruin on March 18 and 19 of 1910. He offered the following interpretation of the Sabino Canyon Ruin:

Judging by the number of houses, the amount of pottery, and the presence of a large public structure, this was no temporary village, but was inhabited permanently. The inhabitants must have been cultivators of the soil, for their village is carefully placed where the stream comes out of the mountains and the arable land begins (1914:53).

Huntington listed his assumptions in his field notes: "Hohokam were a distinctively agricultural people." and "Arizona agriculture has always been dependent upon irrigation." Huntington estimated a population of 250 at the village. His belief that two acres of irrigated fields were

required per person caused him to wonder at the dearth of irrigable acreage near the site.



*Map of the compounds and rooms at the Sabino Canyon Ruin. Based on the 1921 map of Douglass and Leonard.*

Huntington's notes suggest that he believed that the prehistoric Tucson climate permitted dry farming and that a change to drier conditions might have caused the canyon village's downfall. Although Huntington's interpretation was limited by a failure to consider the enormous diversity of wild foods available to a settlement less than two miles from every Sonoran biotic community, the links between settlement, subsistence, and climatic dynamics remain central topics in today's investigations of Hohokam prehistory.

Shortly after Huntington's visit to southern Arizona, he began correspondence and cooperative research with newly appointed University of Arizona professor Andrew Ellicott Douglass.

Douglass, the "Father of Dendrochronology," shared Huntington's interest in climatic, economic, and settlement dynamics. Douglass probably first visited the Sabino Canyon Ruin as a result of his attraction to Huntington's idea that archaeological data can inform on ancient environmental change.

Between November 14, 1920 and April 9, 1921, Douglass took time out from his teaching, his administrative responsibilities as Director of the rapidly expanding Steward Observatory, and his ambitious research on both archaeological dendrochronology and the correlation of sun spot activity and climatic cycles to spend parts of ten weekends at the Sabino Canyon Ruin.

Working with Heman Burr Leonard, a U of A Professor of Mathematics, Douglass prepared an exacting map of the site's architecture and a brief report that was presented in 1922 at a regional meeting of the American Association for the Advancement of Science (AAAS). The map includes an irrigation ditch running along the site's west margin. Given Huntington's interest in agriculture and keen eye, it is peculiar that the feature was not reported earlier. Douglass's notes are ambiguous, but he seems to have seen both modern and prehistoric irrigation features at the site.

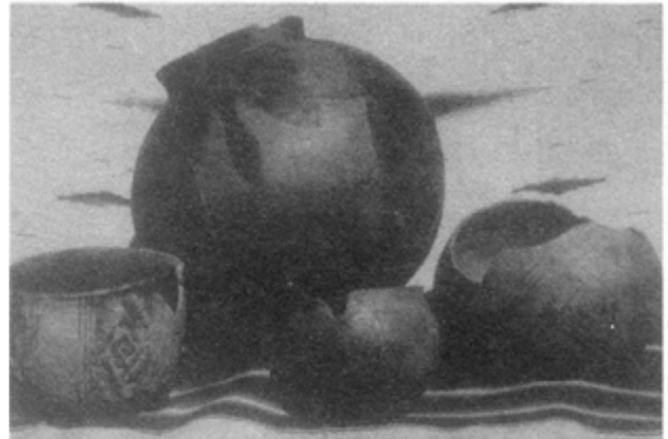
The text of the AAAS paper has not been located, but the abstract reveals that their work was far ahead of its time. The report explicitly recognized archaeological sites as repositories of social, ecological, and even astronomical information. Leonard and Douglass appealed to all scientists, regardless of disciplinary affiliation, to record the West's quickly disappearing ruins.

Beyond this, in an early bit of archaeoastronomy, Douglass and Leonard revealed the rationale behind their considerable investment in the site map: it appears that Douglass was searching for evidence that the ancient farmers employed observations of celestial events to help schedule food production. In particular, Douglass seems to have been interested in the idea that wall orientations either helped predict optimal times to plant or reflected prehistoric concerns with particular constellations or planets. It would be many years before archaeology and astronomy would again join forces to interpret architectural patterns, and this aspect of Douglass's diverse research interests has yet to be recognized.

Only seven years after Douglass's work, Captain Russell B. Fairgrieve selected the mouth of Sabino Canyon as the site for his Southern Arizona School for Boys (SAS). Fairgrieve envisioned an institution that would take advantage of the

northeast Basin's rich natural and cultural resources to both attract students and diversify their education.

Fairgrieve's students at SAS took immediately to this idea. William Neil Smith, who went on to become a great student of Sonoran ethnology and ethnohistory, developed his lasting interest in Native American desert adaptations while exploring the ruins on the SAS campus between 1934 and 1936. "Seri Bill's" notes have yet to be found, but he left with the school a collection of his finds, including a complete duck effigy pot and a number of whole vessels.



*Tanque Verde Red-on-brown pottery and a large plainware jar excavated from the Sabino Canyon Ruin.*

The next to take up archaeology at the Sabino Canyon Ruin was Mr. J. Donald Everitt, who taught at SAS from 1937 until the campus was sold to the Fenster Ranch School in 1971. Responding enthusiastically to Captain Fairgrieve's plans, Master Everitt and his "Pathfinders Club" established many of the trails in the Santa Catalinas. Additionally, Everitt's "Pothunters Club" (named long before the term became pejorative) opened digs in Compound D (see map). Nonetheless, Mr. Everitt remembers abundant earlier excavations and believes that "Seri Bill" was responsible for the vast majority of the digging.

One eager member of Everitt's "Pothunters" was Garman Harbottle, a 1940 SAS graduate. Harbottle has combined his interests in prehistory and chemistry in a distinguished career as a Senior Research Scientist at Brookhaven Lab. In a recent letter to the Fenster School Alumni Office, Harbottle noted that his research interests were "directly traceable to work on the 'Indian digs' in the Canyon at SAS, 1936-1940."

The next work on the site that ended up in the public domain resulted from a December 1938 visit by Emil W. Haury to record the Sabino Canyon Ruin for the Arizona State Museum. Haury's description of the site as "extremely picked over" supports Everitt's claim that every definable architectural feature had been probed by 1937. Haury also mentions a "fort" to the south of the architectural center, describing a low stone-walled compound still visible today. The feature is still puzzling.



A black-and-white postcard from the Southern Arizona School. Garman Harbottle is second from left. The back of the postcard bears a 1-cent stamp and a 1939 postmark.

Work by SAS students and staff continued sporadically through the 1960s. Regrettably, many of the best pieces of the collections made by Smith and Everitt were pilfered when SAS went under and the campus changed hands. The Fenster School of Southern Arizona (coed, college preparatory, boarding and day) reopened on the former SAS campus in 1974 (for more information see Bonnie Henry's article cited in the bibliography below).

Today, Fenster pursues Captain Fairgrieve's vision of a school dedicated to exploiting both traditional and uniquely local educational resources. The long partnership between secondary schools and Arizona archaeology lives on at Fenster. The school offers, in addition to its college preparatory curriculum, a diverse program of field trips, participation in research projects, and classes in anthropology and archaeology. Fenster's archaeological program is successful in large part because of its proximity to the Sabino Canyon Ruin, a Tucson Basin site with a fascinating history of early research.

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Designs from Tanque Verde Red-on-brown vessels.  
Drawings by Ron Beckwith.

## GUNSIGHT MOUNTAIN (continued from page 2)

What is the significance of the archaeological sites around Gunsight Mountain? Their importance derives mainly from their potential to produce a wealth of information about the changes that have occurred in the human societies that occupied this desert area. Specific subjects for future study include changes in prehistoric subsistence on arid-land upper bajadas; prehistoric and historic changes in demography and settlement patterns in the Avra and Altar valleys; prehistoric cultural identity of the people who occupied these valleys; prehistoric social complexity in southern Arizona; and future development of the region's archaeological chronology.

The main reason the Institute initiated an archaeological survey around Gunsight Mountain is because we see a dire need for conservation of archaeological sites in southern Arizona. Steady population growth and land development at increasing distances from Tucson are having serious detrimental effects on the cultural heritage of the region. If we are to preserve a significant percentage of our ancient ruins, we need to act now to conserve our archaeological resource base.

The Gunsight Mountain survey project will culminate in the nomination of many outstanding examples of undisturbed archaeological sites to the National Register of Historic Places, and so will help preserve some of our cultural heritage for future generations of Arizonans. There are no imminent plans for excavations at any of these sites, for if they are listed in the National Register they can serve as a repository of archaeological information for future research.

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The Institute for American Research is a private, nonprofit, research and educational organization that specializes in the preservation of the American past. The Institute was founded in 1968, and its headquarters are located at 300 N. Los Carneros Road, Goleta, CA 93117. Telephone: 805-964-3549.

In Arizona, the Institute specializes in the archaeology of the Tucson Basin and southern Arizona. *Archaeology in Tucson* (AIT) is a membership program of the Institute for American Research, and the AIT Newsletter is published quarterly. The Institute's Arizona offices are located at 245 South Plumer, Suite 14, Tucson, AZ 85719. Telephone: 602-622-6663.

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ARCHAEOLOGY IN TUCSON 245  
South Plumer, Suite 14 Tucson,  
Arizona 85719



## NEW MEMBERSHIP CATEGORY

A new membership category is now available for those of you who would like to upgrade your membership from Supporting (\$25 per year) but find it a long stretch to Sustaining (\$ 100 per year). A Contributing membership will be \$50 per year.

Speaking of membership upgrades, *Archaeology in Tucson* is fiscally sound at its present level of operation, but our goal is an expanded program. The training classes and volunteer excavations outlined in the Winter issue are a high priority. They are intended to preserve information from local sites that are threatened by development. Using volunteer labor lowers costs, but it is important that the artifacts be properly cleaned, labeled, inventoried, and analyzed prior to permanent storage in the Arizona State Museum. These activities all have costs associated with them, and your support of AIT can help underwrite those costs.

## HORNED LIZARDS FROM THE ASM BASEMENT

The horned lizard has caught the fancy of desert dwellers for more than a thousand years. The Arizona State Museum has prepared a special summer exhibit to display some of the diverse ways that these small desert creatures have been captured in Native American art forms. Stop by the State Museum, just inside the west gate of the University of Arizona from 9-5 Monday through Saturday, 2-5 PM Sundays. The exhibit opens on July 7 and will run through the end of the year.

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