An Archaeological Survey of the South Rim of Walnut Canyon National Monument, Arizona

By Robert C. Euler

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INTRODUCTION

An intensive archaeological survey of the south rim of Walnut Canyon National Monument was carried out in the fall of 1961 by the Arizona State College Archaeological Survey at the request of the National Park Service under a permit issued by the United States Department of the Interior. Although the Monument had been established in 1906 (Colton 1932a:1) and detailed surveys and some excavation accomplished in the cliff dwellings of the canyon and at surface sites on the north rim (Colton 1932b; Van Valkenburgh 1961), no inventory of south rim sites had been made. The contract called for the Survey to undertake such an investigation on the south rim only and within the boundaries of the National Monument. It proved impractical to so limit the work. Areas immediately adjacent to the boundary as well as all south rim tributaries except the major gorge of Wild Cherry Canyon at the eastern extremity of the monument were therefore thoroughly investigated.

An initial reconnaissance by the author, accompanied by Mr. Russell Fleming of the Walnut Canyon staff and Dr. Ralph Luebben of the Department of Anthropology, Arizona State College, was made on July 10, 1961. Fleming's intimate knowledge of the fire roads and terrain of the south rim aided greatly in our later investigations. The actual survey was done over three week-ends, September 16–17, September 30–October 1, and October 14–15, 1961. The following anthropology students at Arizona State College assisted the author: Gary Ewert, Oliver Hodapp, Kenneth Lincoln, and Larry Powers. In all, a total of twenty-seven man days was spent in reconnaissance and survey. I should like to express my appreciation to the above, as well as to Mr. Meredith Guillet, then Superintendent of Walnut Canyon National Monument; Mr. Frank Wilson, then Archaeologist at the Monument; Dr. Erik Reed and Mr. Charlie Steen of the Southwest Region headquarters of the National Park Service in Santa Fe, for their support of the project. In truth, it was Wilson through whose contagious enthusiasm interest in the area was initiated; and it was Powers who gave major assistance every day we were in the field as well as in the laboratory analyses. The more detailed original report, containing aerial stereo photographs by means of which the sites were mapped, is on file at Walnut Canyon National Monument. Collections and field notes are in the permanent records of the Arizona State College Archaeological Survey.

ENVIRONMENT

The general environment of Walnut Canyon has been described several times (Colton 1929, 1932a, 1932b; Van Valkenburgh 1961). The south rim differs very little from the north rim in its attributes. Pine and oak covered rolling ridges, sometimes forked, extend to the main canyon rim, while small rocky canyons which bound them become precipitous as they head northward. Several of these canyons extend well to the south of the monument boundary and these make access to various ridges circuitous. Spectacular views from the ends of the ridges are obtained of the San Francisco Peaks and the cliff dwellings curving around the "island" of the "3rd Fort." Small parks, "hill-fenced open glades of pleasantness" as Mary Austin (1903) called them, provide other vistas. Access to the "4th Fort" is gained from the south rim by means of a narrow, rocky spur projecting from near the western boundary of the monument.

The average elevation is only slightly greater than that on the north side, sites being recorded from 6340 to 6860 feet as measured with a Thommens altimeter.

Soil cover seems to be somewhat heavier on the south, a thick carpet of pine needle duff covers much of the ground, and the Kaibab limestone is exposed mainly near the canyon rim.

Ponderosa pine (Pinus ponderosa) and oak (Quercus gambelii) constitute the dominant vegetation in all save the extreme eastern sector of the monument, where juniper (Juniperus monosperma), pinyon (Pinus edulis), and cliff rose (Cowania mexicana) predominate. Douglas fir (Pseudotsuga taxifolia) is rare and confined to north facing canyon slopes. Prickly pear cactus (Opuntia sp.) is common and an occasional broad leaf yucca (Yucca baccata) was observed.

Faunal records were minimal, only a few mule deer (Odocoileus hemionus) and one turkey (Meleagris gallopavo) being noted.
WALNUT CANYON NATIONAL MONUMENT
ARCHAEOLOGICAL SITES ON SOUTH RIM

MONUMENT BOUNDARY
EXISTING MONUMENT BOUNDARY FENCE
ARCHAEOLOGICAL QUADRANGLE DIVISION
VISITOR CENTER

Figure 1 — Archaeological site map, south rim of Walnut Canyon National Monument.
Figure 2 — Architectural types, south rim of Walnut Canyon National Monument.
Figure 3 — Ariz. I:14:5 and I:14:12, one-room masonry pueblos of the Elden Phase.
<table>
<thead>
<tr>
<th>R.I.D. of full</th>
<th>ALAMOSA BROWN WARE</th>
<th>MOGOLLON RED WARE</th>
<th>LITTLE COLORADO WARE</th>
<th>TUZIYAN RED WARE</th>
<th>TUSIYAN WHITE WARE</th>
<th>TOLUCA RED WARE</th>
<th>TOLUCA WHITE WARE</th>
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<td>Ceramic Analysis</td>
<td>Archaeological survey of south rim of Walnut Canyon National Monument.</td>
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**Table 1**
trending canyon near the western boundary of the monument, one shelter (1:14:3), a limestone overhang 17.0 meters long, 4.2 meters deep, and 2.2 meters high, had formed near the floor of the canyon. The pictographs it contained were mostly human representations, painted in red, yellow, and white. There was no other sign of occupation of the cave. Near the south-central region of the monument, a small shelter (1:14:27), approximately five by ten meters, was found at the bottom of a small wash. The floor of this cave was irregular, badly eroded, and in the direct path of drainage. One questionable abrading stone or mano (Fig. 5a) and one sherd of Winona Brown were the only artifacts recovered. In a deep canyon in the central section of the surveyed area, near its junction with Walnut Canyon, a larger shelter (1:14:28) was recorded. This was twenty-two meters long and seven meters deep. It contained two masonry walls, dry-laid and two courses high, protruding from the rear face of the bedrock, bounding an area four meters square. A fragmentary sandstone metate and one corn cob were the sole human indications. Certainly the wall was man-made but its age and cultural affiliation are indeterminable at present.

Masonry architecture, utilizing sandy, unshaped Kaibab limestone blocks, predominated at all other sites (Fig. 2). All are ascribed, in whole or in part, to the Elden phase. Sites of this construction were scattered at random throughout the area surveyed. Ten sites (1:14:2, 5, 10, 16, 17, 21, 22 and 1:15:5, 6, and 9), each consisting of one-room, square or rectangular structure had walls, or their indications, on each of the four sides (Fig. 3). Several of these walls were disaligned because of tree root growth and none was more than one or two courses high. Another, larger site (1:14:4B), included six single and detached rooms, three of which were rectangular without added features. These single units ranged in size from 2.0 x 2.3 meters to 4.0 x 6.3 meters. Only one structure (1:14:4B, room 6) contained a wing wall, extending north from the northeast corner of the enclosing wall.

Five masonry pueblos were two-room sites (1:14:1 and 15 and 1:15:3, 7, and 11), all similar though, of course, larger than most of the single room units. They ranged from 2.8 x 5.0 meters to 4.7 x 8.0 meters in plan. No masonry sites contained more than two contiguous rooms.

Three additional enclosed masonry rooms (1:14:4B, room 3, 1:14:12B, and 1:14:13) presented variations. The first was a quadrant (3.7 x 4.4 meters), the second, D-shaped (3.2 x 3.2 meters), and the third, a trapezoid (3.7 x 4.1 meters). Men-
Little Colorado White . . . . 3.2  
Tusayan Gray . . . . . . . . . . . . . . 4.0  
Tusayan White . . . . . . . . . . . . . . 1.2  
Tsegi Orange . . . . . . . . . . . . . . 0.1  
Gibola White . . . . . . . . . . . . . . 0.1  
Jeddito Yellow . . . . . . . . . . . . . . 0.4  
Jeddito Plain . . . . . . . . . . . . . . 0.1  
San Francisco Mountain Gray . . . . 0.3  
Unidentified . . . . . . . . . . . . . . 0.2

Ceramic typology follows Colton and Hargrave (1937), Colton (1941), and Colton (1958).

An examination of the ceramic analysis table (Table 1) wherein types, from early to late, are grouped by ware, clearly shows the rationale behind the temporal placing of the sites. The majority of sherds, 71.5%, are Sunset Red, a good indicator of the Elden phase of the Sinagua Branch.

If the total collection represents a valid sample from the area under investigation, and I believe it does, it reveals several points of interest in addition to the obvious one of an overwhelming utilization of indigenous Alameda Brown ware by the prehistoric residents of Walnut Canyon. It indicates very little contact with the makers of Little Colorado Gray and White wares (3.3% of the total sherds) although production of those ceramic wares probably was centered along the Little Colorado River near the point of confluence of the Walnut Creek-Canyon Padre drainage. Interaction with the Kayenta branch of the Anasazi, as seen in the numbers of Tusayan Gray and White and Tsegi Orange wares (5.3% of the total) was also at a minimum. It is worth noting, however, that the utility types of Tusayan Gray Ware (4.0%) were more common than the decorated types of Tusayan White Ware (1.2%).

Only three minor instances of contact with more outlying areas appear. At 1:14:21, an Elden phase site, four sherds of Verde Brown were recovered. At 1:14:7, another Elden phase unit, two sherds of Snowflake Black-on-White from the upper Little Colorado drainage were collected. Paraphenetically, in view of the recent studies of this type (Martin, et al. 1962:105-110), it should be understood that my identification of these sherds was based upon Colton’s (1941:62-63) brief description and a comparison of sherds in the type collection of the Museum of Northern Arizona. At a third site, 1:15:9, probably utilized in the Rio de Flag phase as well as in the Elden, four sherds of Kirkland Gray, a Cohonina Branch type in production prior to 1150 A.D., were found. This sherd area also contained the only evidence of a post-Sinagua visitation of the region, by Pueblo IV peoples, in the form of one probable sherd of Jeddito Plain and six of Kokop Black-on-Orange, all from the same vessel. It is doubtful that this represents an actual occupation, however.

No complete or restorable vessels were found during the survey.

Too much weight should not be placed upon the above ceramic data. If, as is probable, the south rim occupation was closely tied with that in the canyon and on the north rim, one should consider ceramic analyses from those areas together with this one.

**ARTIFACTS**

In addition to the ceramics, all other artifacts recovered were either ground or chipped stone. These came from seventeen sites; twenty-one others contained no surface specimens.

**Ground stone:** (9)

Manos (7)—Only two manos are complete (Fig. 4a, b). They are oval, one-hand, with one convex grinding surface, of basalt. These were, respectively, 10.4 and 14.0 cm. long, 10.1 and 10.3 cm. wide, and 8.2 and 4.3 cm. thick. Four fragmentary manos also are basalt and one was made from an unshaped slab of Coconino sandstone. All the fragmentary specimens are more or less oval, one-hand; four have one convex grinding surface, while one (Fig. 5a) has a flat abrading plane. All fall into the Elden phase.

Metate (1)—One fragmentary, vesicular basalt metate (Fig. 5b) was recovered. It has a concave grinding area and otherwise is too incomplete to classify.

Stone bead (1)—A fragmentary, ground and polished cylindrical stone bead with a 3 mm. wall thickness was found at 1:15:7, an Elden phase site.

**Chipped stone:** (42)

Projectile points (20)—Seven of these points were manufactured of chert, nine of obsidian, three of pitch-stone, and one of quartzite. Four are small, side-notched, concave based, with the stem wider than the shoulder (Fig. 6e, i, m, n). These roughly fit McGregor’s (1941:185) types K and I. Only two are sufficiently complete to permit measurement. These are, respectively, 1.7 and 1.9 cm. long, 1.1 and 1.5 cm. wide at the base, and 8 and 3 mm. thick. Four other points are diagonal notched (Fig. 6d, f, h, i). Two fit Colton’s (1946: 290) types T and U. Three of these four have convex bases, the other is concave. In all the stem is narrower than the shoulder. Only one is complete; it is 3.9 cm. long, 2.0 cm. wide at the shoulder, and 6 mm. thick. Eight additional points are stemless, unnotched, and generally triangular (Fig. 6g, j, k, p, q, r, t, u). Two fit McGregor’s (1941:185) type F and one, his type A. Three of the eight are com-
FIGURE 4 — Manos. Quadrangle 1:14, (d) Site 24; Quadrangle 1:15, (a, b) Site 9, (c, e) Site 10, (f) Site 11.

FIGURE 5 — (a) Abrader from Site 1:14:27; (b) Metate fragment from Site 1:15:9.
FIGURE 6 — Projectile points. Quadrangle 1:14, (j, k) Site 4B, (l) Site 7, (q, t) Site 10, (m) Site 17; Quadrangle 1:15, (c) Site 2, (p) Site 3, (a, d) Site 6, (b, f, g, h, i, r, s) Site 7, (n, o, u) Site 8, (e) Site 9.

FIGURE 7 — Worked flakes and scrapers. Quadrangle 1:14, (d) Site 6, (e) Site 21; Quadrangle 1:15, (m) Site 1, (f) Site 3, (i) Site 6, (b, c, g, k, l) Site 7, (a, h, j, n) Site 8.
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<th>Phase</th>
<th>Sherd area</th>
<th>Rock shelter</th>
<th>One-room masonry</th>
<th>Wing wall</th>
<th>Two-room masonry</th>
<th>Abnormal masonry</th>
<th>Unshaped, single wall</th>
<th>Unshaped, double wall</th>
<th>Boulder mound</th>
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<th>Check dam</th>
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<th>Side notched projectile</th>
<th>Diagonal notched projectile</th>
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**Table 2** — Trait list, archaeological survey of south rim of Walnut Canyon National Monument.

X — trait present. 1/ — E=Elden; P=Padre; R=Rio de Flag; CP=Cinder Park. 2/ — U=Uniface; B=Biface.
complete: measurements average 2.7 cm. long, 1.2 cm. wide, and 4 mm. thick. Four unclassifiable fragmentary projectile points also were collected. All points belong to the Elden phase except the one concave based, diagonal specimen (Fig. 6 d) which falls into the Rio de Flag phase.

Blades (6) (Fig. 8)—These are all thin; five of the six are bifacially pressure flaked; bases, where present, are convex. Three were made of chert, two of obsidian, and one of quartzite. Only one specimen, asymmetrical, is complete. It is 4.6 cm. long, 2.5 cm. wide, and 1.9 cm. thick. All but one are from Elden phase sites. One of white chert, bifacially flaked, ovoid, symmetrical but with the base missing (Fig. 7 a), is from 1:15:6, a Rio de Flag phase unit.

Drill (1) (Fig. 6 o)—The base of a bifacially flaked, obsidian drill, perhaps tri-cornered, was recovered at 1:15:8, an Elden phase site.

Side scrapers (2) (Fig. 8 m, n)—One is unifacial, chert, 6.4 x 3.0 x 1.0 cm. The other is bifacial, chert, and fragmentary. Both are assignable to the Elden phase.

Worked flakes (13) (Fig. 7 a-l)—All are fragmentary; seven are unifacially chipped on one edge, the remainder are bifacial. One was flaked from jasper, the rest from obsidian. All but one are from Elden phase sites. One bifacial, obsidian fragment is from a Rio de Flag phase area.

It is difficult to summarize on the basis of such scanty data. Oval, one-hand manos seem common in the Elden phase. Stemless, triangular projectile points outnumber side—or diagonal-notched by a factor of two. Small thin blades and worked flakes are numerous (Table 2).

PICTOGRAPHS — PETROGLYPHS

Only one panel of pictographs, mostly of small human figures, painted in red, yellow, and white, was noted. These depictions were in the rock shelter 1:14:3 which contained no classifiable artifactual material.

![Blades](image)

**Figure 8 — Blades. Quadrangle 1:14, (c) Site 12, (e, f) Site 16; Quadrangle 1:15, (a) Site 6, (b) Site 7, (g) Site 8, (d) Site 9.**

[13]
No petroglyphs were seen.

The existence of another shelter containing pictographs in the bottom of Wild Cherry Canyon was reported by a local rancher. This area, outside the scope of the present survey, should be investigated.

NON-ARTIFACTUAL REMAINS

Stone: The nature of the unshaped architectural building stones and the presence of numerous unworked obsidian flakes on the ridge east of Wild Cherry Canyon already have been noted. Unworked obsidian and chert flakes were also collected at thirteen sites but such detritus was not frequent.

Vegetal: One corn cob was found at the unclassifiable shelter 1:14:28. It was 5.1 cm. long, 2.0 cm. in diameter and had 10 rows.

These constitute the data obtained during the Walnut Canyon south rim survey. They are not great, primarily because the small area investigated was not heavily populated. The recorded sites were undisturbed; there were no evidences of vandalism. Perhaps three of the sites had been visited earlier by Museum of Northern Arizona archaeologists.

There remains the conjecture of those aspects of culture of this relatively small segment of Sinagua Indians revealed in the investigation to the whole.

CULTURAL SUMMARY, COMPARATIVE DATA, AND CONCLUSIONS

The occupation of the south rim of Walnut Canyon by the Sinagua principally during the El- den phase, while minimal, undoubtedly was related to that in the canyon itself. It is suggested that, with few exceptions, this highland utilization was not perennial. The small size of the structures, particularly the U-shaped units, the lack of sufficient limestone blocks to warrant postulation of complete masonry construction, and the paucity of numbers and varieties of artifacts, point to a more periodic utilization, probably during the farming season. Although it has been intimated (Colton 1932b:19; Van Valkenburgh 1961:15) that the areas farmed by these Indians were located north of the more heavily populated southern exposures of the canyon walls, it is here postulated that the relatively flat lands of the south rim could have been similarly used by these agricultural people.

Certainly, however, the canyon itself did not present any particular barrier to active communication and it is not to be implied that those people who used the south rim were in any way isolated from those to the north. Rather, it would appear that Sinagua occupation of the entire Walnut Canyon region, the canyon and both rims, was integrated and centered around the cliff dwellings of the canyon walls. Those who made use of the south rim did so for purposes of farming in the glades and other natural clearings, utilizing semi-permanant shelters as they did so, as well as for hunting and gathering in the vicinity. Water supplies were obtained in the canyon. Since our reconnaissance was limited primarily to the monument boundaries, the nature and extent of this use farther to the south has not been determined. Colton (1932b:19), however, did not find sites beyond the "5th Fort" to the west of the monument on the south side; this would seem to support a hypothesis favoring a population collected near and integrated with the cliff sites.

While architectural components and artifact types agree in general with those previously described for the Sinagua (Colton 1948:271-273, 283-291), it is perhaps to be expected that this small geographical area would not yield the variety known for the whole. When one makes detailed comparison with the other archaeological studies of Walnut Canyon, however, one sees certain disconformities. Van Valkenburgh's (1961) survey of the north rim apparently yielded no material culture other than ceramics and architecture; at least, neither her publication (1961) nor her manuscript (1958) on file at Walnut Canyon National Monument report such. However, architecturally, the south rim survey revealed no dirt mounds, spaced stone outlines, or boulder shelters within enclosures (Van Valkenburgh 1961:2; see also Maule 1960). It should be noted here, that after personal examination of several "dirt mounds" used presumably for "fieldside storage of crops" (Van Valkenburgh 1961:3), I do not believe these to be the product of human agency. Rather, they appear to be a wind-produced mounding of earth around large pinyon and juniper trees. Further, the "spaced stone outlines" recorded by Van Valkenburgh (1961:5-6) in some instances may not be sites. Maule (1960), who excavated one of these (NA5891), reported "the rock outlines that on the surface appeared to be walls were [natural] outcroppings." Van Valkenburgh (1961:4-5) also noted U-shaped structures which were not seen on the south rim. Of more significance, is that her definite masonry structures, including at least one U-shaped site (Van Valkenburgh 1961:4), really differed from those of the south rim only in that some on the north contained more than two rooms. Check dams are found on both rims (Van Valkenburgh 1961:5) and probably, since they are often difficult to locate, are more numerous than has been realized.

Comparison of north and south rim ceramics indicates a good correlation (Van Valkenburgh...
1961:12). There are more Kayenta decorated types to the north, but this is not unexpected. Early, preemptive ceramic evidence is scarce on both rims, as is that for post-Elden phase occupation.

It is when one attempts to compare other artifactual evidence from the south rim with that from the canyon itself that one sees the greatest divergence. Rixey and Voll (1962:90-95) list, among other excavated specimens from cliff dwellings, vesicular basalt cylinders, stone pottery anvils, two-handed manos, a mortar, stone beads, and pendants, none of which was observed at south rim sites. This may be due to the fact that the former were recovered from other than the surface, but it also may be postulated that the nature of the occupation on the rim, more seasonal than permanent, did not require such tool variety. Yet, the south rim sites yielded more one-hand manos and more un-notched projectile points than the canyon sites. These are not viewed as a major factor of change, although their presence in such numbers is atypical (Colton 1946:286, 290; Rixey and Voll 1962:91).

In conclusion, several suggestions for future archaeological investigation should be preferred. First, the survey should be extended well to the south and east of the monument to include the approaches to Anderson Mesa and Canyon Padre, including Wild Cherry Canyon. Secondly, certain south rim sites should be excavated to provide additional data primarily related to architecture. These would include two U-shaped structures, I:14:23 and I:14:25. At least one of the masonry check dams, as has been noted, should be stratigraphically tested. The collection of selected soil samples for phosphate content should be extended.

With these suggestions accomplished, archaeologists should then be able to, and must, write a more definitive and conclusive culture-history of the prehistoric occupation of the Walnut Canyon region.

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