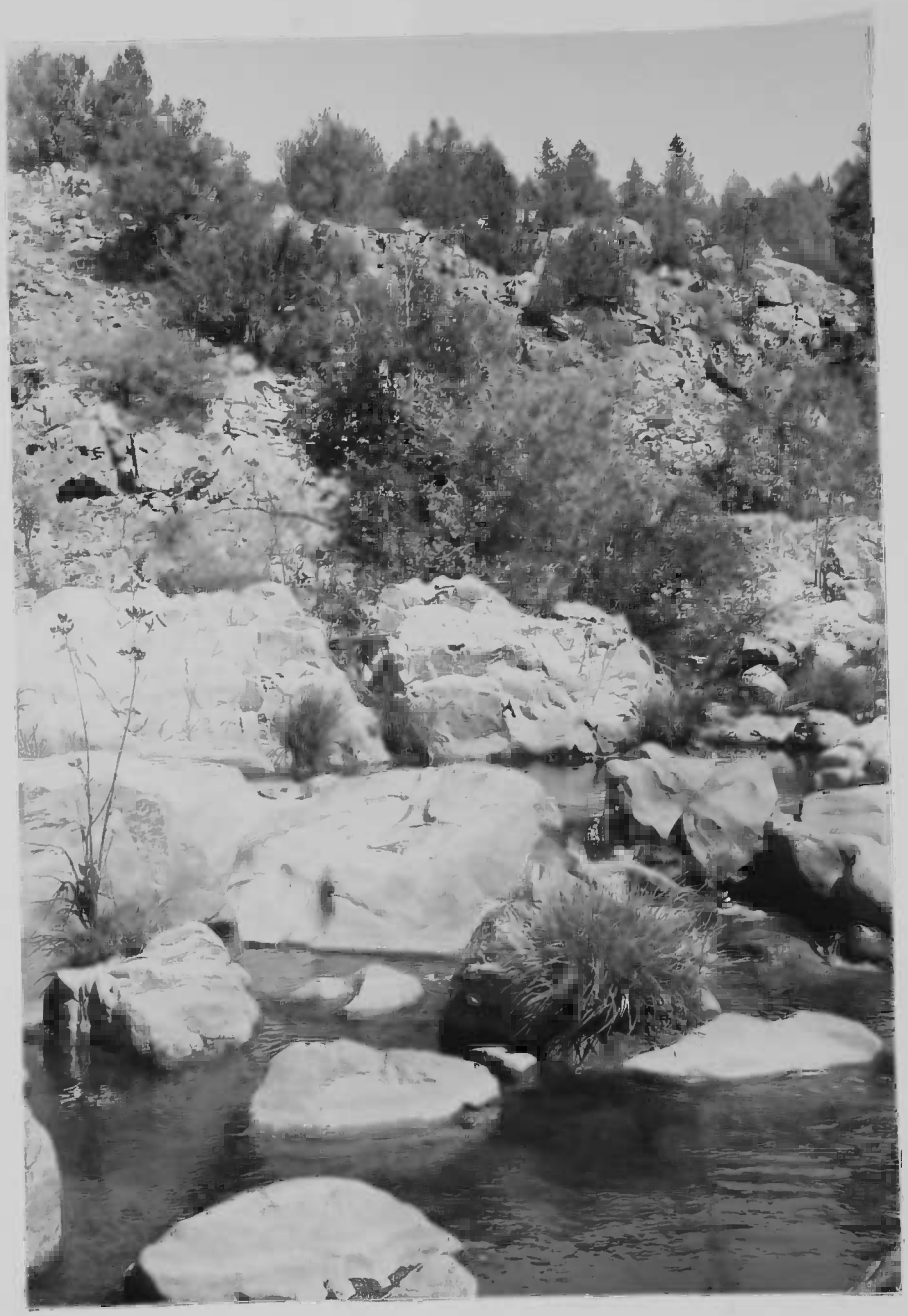

The East Verde is a rapidly degrading stream flowing through a country of high relief.

AN ARCHEOLOGICAL RECONNAISSANCE OF THE EAST VERDE RIVER IN CENTRAL ARIZONA

by

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I. Introduction

A. Problem

The East Fork of the Verde River rises in high foothills of the Mogollon Rim east of Pine, Arizona, and traverses a southwesterly course to its junction with the Verde proper just below the mouth of Fossil Creek. A canyon-cutting stream throughout most of its length, the East Verde begins at an elevation of over 6000 feet and drops to about 2500 feet at its mouth, some 30 miles to the southwest. As Map 1 and the Frontespiece show, only rarely does the stream valley widen out appreciably to form bottomlands attractive to farmers, and even today there are few access roads crossing or approaching it. Local vegetation ranges from pinyon-juniper-ponderosa pine cover on the higher elevations to a mesquite-chapperal-saguaro environment at lower elevations near the mouth.

The East Fork is the southernmost of six tributaries entering the Verde River from the east and draining a large area along the Mogollon Rim from Williams to Pine. This great drainage pattern was occupied in prehistoric times by two known cultures, the Southern Sinagua and the Hohokam.

The Sinagua, following Colton's interpretation, spread from the Flagstaff area and the plateau to the east down into the Verde Valley after 1100 A. D., and may have used the East Verde as one avenue of entrance. Colton based his theory on the presence of Sinagua utility

wares at scattered sites in the vicinity of the East Verde drainage (Colton, 1946a: 302).

A site survey along the course of the stream should clarify its role as a possible route of Sinagua diffusion.

Prior to the development of the Sinagua as a cultural entity on the plateau, Hohokam elements from the Gila Basin had moved up the Verde from its mouth to occupy land along that stream on its upper reaches. These people eventually penetrated to the plateau where they founded at least one colony near the present town of Flagstaff and had a direct hand in the formation of the Sinagua culture itself. After the Sinagua influx which began in the twelfth century, "pure" Hohokam groups in the Verde Valley, never very numerous, were absorbed or driven out. To date, Hohokam penetration up the valley's tributaries to the plateau cannot be accurately guaged through lack of survey data. Perhaps the East Fork played some part in this movement.

Beyond the Hohokam occupation of the Verde Valley prior to 900 A. D., we can say very little. To date only one pre-Hohokam site from the Verde Valley has appeared in print (Shutler, 1950). Unfortunately, the survey just completed can add little information to the early phases of occupation of the area.

Approaching the modern period, we know that the East Verde formed a friendly boundary between historic Yavapai and Tonto Apache groups (Gifford, 1936: 253). Positive identification of camp sites occupied by these people in the area concerned would provide data on Apache and Yavapai material culture.

Topographically and ecologically, the East Verde River offers itself as a logical alternate route from the southern part of the Verde

to the Plateau. We know that it was favored by historic Tonto Apache as a raiding route, and there is no reason to suppose that movement along its course did not take place in prehistoric times.

The primary purpose of the East Verde survey is to provide basic information on the culture content of a region little known archeologically, and to serve as a guide for more intensive future work.

B. Historical Background

First notice of the Tierra Incognita of central Arizona is derived from reports of Spanish exploration in that area in the late sixteenth and early seventeenth centuries, beginning with Don Antonio de Espejo's trip to the mines on the upper reaches of the Verde River in 1583 (Bartlett, 1943a: 21-36), and followed soon after by Captain Marcos Farfan and Don Juan de Oñate on their way to the Gulf of California (Bartlett, 1943b: 35).

Although these early white explorers queried the local rancheria Yavapai about the country downriver (Hammond and Rey, 1953: 412), no exploration in that direction was undertaken, and to our knowledge, the lower Verde and its tributaries remained a mystery until the advent of Americans some two and a half centuries later.*

Within twenty years after the Louisiana Purchase, American trappers, traders, and sundry adventurers were traversing Arizona in

*Hinton, quoting Schoolcraft, mentions a Jesuit priest, identified by him as Fray Jacobi Seidelmeir, who supposedly ". . . went as far north as the Rio Verde in the neighborhood of the present U. S. camp of that name in the middle of the 18th century. He [Seidelmeir] wrote at length of the ruins found in that latitude (Hinton, 1878: 393)."
However, if Seidelmeir was the author of the Rudo Ensayo, as many historians believe, his itineraries as described in that work could not have carried him so far north of the Gila Basin. The reference to ruins is of course meaningless as an indication of locale.

ever-increasing numbers. Many of the first American reports concerning central Arizona are replete with references to the remains of ancient peoples found in that region.

In 1834, two groups of trappers comprising over two hundred men met on Bill Williams Fork and proceeded to the Hopi towns, probably following Oñate's route of two centuries before. One of the party, quoted in the Sacramento Union for September 17, 1853, mentioned numerous "ruined cities" on the upper reaches of the Verde River (Schroeder, 1954: 60), and in the early 1850's, Whipple's guide Antoine Leroux told him that the banks of the Verde were ". . . covered with ruins of stone houses and regular fortifications . . . (which were similar to) the great pueblos of the Moquiños (Whipple, 1853: 14)." At about the same time (1854) Leroux traveled up the Verde from its junction with the Salt River, and leaving that stream, followed an Indian trail up the East Verde, topping out on the Mogollon Rim and thence to the Hopi towns (Whipple, 1856: 14-15). This marks the first entrance of white men into the East Verde drainage of which we have definite knowledge.

In 1864, a year before the first permanent white settlement was established in the Verde Valley, a party led by the notorious Indian fighter and rancher King Woolsey left the territorial capitol of Prescott, and crossing the Black Hills, followed the course of the Verde River to a point about eight miles below Clear Creek and then southeasterly across foothills and mesas to Fossil Creek, the East Verde, and Tonto Basin. On the return journey, this group followed the East Verde for much of its length (Farish, 1916: 260-61).

Seven years later, Genung and Bowers headed a punitive expedition

from Prescott into Tonto Basin, pursuing Indians who had stolen stock from Bower's ranch. They worked their way up the East Verde to the vicinity of Black Mesa on the middle reaches of that stream, where they surprised and plundered a Tonto Apache (?) camp after the Indians had fled (Genung, n.d.: Ms. in the Southwest Museum).

Two years after this, Lt. Bourke followed an "Apache Mohave" trail in the same area along the south edge of Black Mesa (Bloom, 1934: 430).

The foregoing certainly indicates the existence of a well known historic trail or trails which followed the East Verde for most if not all of its length. Undoubtedly the use of such a route extends back into the prehistory of the region.

The decade of the 1870's ushered in a new era of American development in the Verde Valley proper. The presence of a permanent garrison at Camp Verde had by the late '70's substantially curtailed Indian raids, encouraging an increasing influx of white settlers into the valley.

During this period, the first article on Verde Valley antiquities appeared with the publication of a brief note on the ruins around Montezuma Well by Dr. W. J. Hoffman of the Hayden Survey, and Dr. Edgar Mearns, Post Surgeon at Camp Verde, began collecting data on ruins all over the lower Verde Valley in the course of army expeditions and hunting trips. Descriptions of some of these, notably Montezuma Castle, appeared in a short article written by him for the Popular Science Monthly, October, 1890. Mearns' greatest contribution was an archeological base map, printed in the Thirteenth Annual Report of the Bureau of American Ethnology, 1896. This map showed several ruins in the area

south of Verde Hot Springs, near the mouths of Fossil Creek and the East Verde (Mindeleff, 1892: 186; Plate XI).

Growing scientific interest in the Verde Valley as a possible link between northern and southern Arizona cultures led the Bureau of American Ethnology to undertake the first institutional study of the area. Cosmos Mindeleff, Bureau archeologist, started at the mouth of the Verde River and worked north to Beaver Creek, and from that point, Dr. J. W. Fewkes, also of the Bureau, surveyed sites along the river to and beyond its headwaters (Fewkes, 1913: 185). Most of Mindeleff's survey was confined to the immediate vicinity of the Verde River and a short distance up the three tributaries encountered--the East Verde, Fossil Creek, and Clear Creek. From the East Fork north the only arable lands consisted of alluvial benches along the stream bed, and practically all ruins were found on these bottoms or on some overlook nearby. The only exceptions noted were crude, dry masonry "forts" perched on crags and buttes several miles from the nearest extensive farm land. No Yavapai or Apache camp sites were recorded, but Mindeleff was primarily interested in prehistoric masonry structures and may have overlooked them. This is unfortunate because logical spots for camp sites along the river have been subject to freshets for years since the introduction of cattle in large numbers and consequent overgrazing of the slopes. Camp sites then visible may in many cases have eroded away since Mindeleff traversed the area.

When his survey was completed, Mindeleff had the following typology of sites: (1) masonry villages on bottomlands, (2) masonry villages on overlooks, (3) cavate lodges along the stream, (4) boulder marked sites, (5) irrigation works. Sole criteria for the study were

architecture and village layout; and surface collections of minor antiquities, if made, were not given consideration in the text of his report, although the presence at the masonry villages and "forts" of a "southern redware" and corrugated sherds was noted in passing (Mindeleff, 1892: 217).

In his evaluation of the surveyed sites, Mindeleff concluded that the masonry pueblo structures of the lower Verde represented a comparatively late period in Pueblo history; that the occupation was a short one; and that the population, in spite of the numerous sites, was not large, possibly no more than 700 (ibid., 257). These demographic conclusions are congenial to the thinking of most modern Southwesternists. If Titiev's study of village breakdown at Hopi Oraibi is an indication of what may have happened in ancient times for a given area, it would be easy to postulate a continuous pattern of village establishment, growth, abandonment or fission through internal or external stress, and removal to another site where the pattern might repeat itself, especially if there were potential weaknesses in the group's social or governmental structure (Titiev, 1944).

The absence of circular kivas on the lower Verde Mindeleff attributed to the lack of diffusion of a dying trait. So far no such structures have been unearthed in the Verde Valley, but typical late "Hopi type" square kivas occur on the Mogollon Rim east of Flagstaff (McGregor, 1956: 49-50), and a possible kiva, or "kihu," to use Fewkes' terminology, appears at Tuzigoot on the upper Verde (Caywood and Spicer, 1935: 103).

To this day we do not know the southern limit of the square kiva or "kihu" trait along the Verde. However, use of a kiva presupposes a

ritual complex which might well have been overshadowed in the south by a different set of religious usages brought from the Gila Basin.

Speculating on the abandonment of the area, Mindeleff felt that the trend of migration was toward Tusayan, with some offshoots reaching the Zuni country. This last was based on his interpretation of ground plan similarities between some of the masonry pueblos encountered on the survey and late Zuni villages. Mindeleff was careful to point out that the term "migration" could not be taken in the sense it was used to describe early European folk wanderings. He saw it rather as a gradual movement without any preconceived goal (Mindeleff, 1892: 258-61).

To explain the fortified nature of most of the late sites and the reasons behind the removal itself, Mindeleff brought in barbarian hordes ancestral to the Apache and Yavapai possessors of that area in historic times (ibid., 266). Today most students feel that this theory is at best an oversimplification of the problem.

Concerning architectural technique and style, Mindeleff was an avowed environmental determinist. Cavate lodges, for example, were dug at such widely scattered localities as Frijoles Canyon, New Mexico, the San Juan River of the Four Corners area, and the Verde, not because people with a common culture were striving to follow rigid architectural canons, but because easily worked tufa and calcareous deposits in the locality offered an easy solution to the housing problem (ibid., 260).

After Mindeleff's time forty years passed before further professional work of any scope was done on the lower reaches of the Verde. Unfortunately, amateurs were not so reticent, and by 1920 most of the spectacular and easily accessible ruins in the Verde Valley had felt the heavy hand of the "pot hunter."

In the late 1920's a research museum backed by private means had its inception. The new organization, known as the "Gila Pueblo Archeological Foundation," built headquarters at the site of ruined Gila Pueblo near Globe. Under the directorship of Harold Sterling Gladwin, it began a series of far flung surveys in an attempt to trace the antecedents of the elusive Red-on-Buff Culture of Pimeria. These surveys were finally to result in the excavation of Snaketown on the Gila River Indian Reservation, center of the ancient Hohokam, but not before the trail had led from the Colorado River to the Rio Grande and from Sonora to the Verde Valley. Gladwin's summary of the state of knowledge concerning the Red-on-Buff Culture at that time, and his reasons for pushing the survey northward were given in the following: "It has been stated that these people are not related to the Pueblos, that entering Arizona probably from the south or southeast, they filled the southern country touching the Pueblos along a diagonal line from Kingman to Safford, roughly the line of the Mogollon Rim. A large section of this line of contact is provided by the eastern rampart of the Verde Valley, and it is only natural that complications should there be met and conditions arise which demand new vision, in order to obtain a true perspective of the past (Gladwin, 1930: 163)."

Concerning the lower Verde, Gladwin accepted Mindeleff's architectural typology, but added the following new categories: cliff dwellings, small house groups, true fortifications, trash mounds, sherd areas, and rock shelters (ibid., 168). The first two were an obvious refinement in masonry village classification; the third, fortresses, was separated from Mindeleff's "defensive sites" on the basis of their non-domiciliary nature. The last three were types easily overlooked but of

extreme importance to the definition of the frontiers of the Red-on-Buff Culture which Gladwin was seeking (ibid., 168-73).

In the area surveyed, pottery was the most significant cultural manifestation at all sites, and Gladwin's conclusions were mainly based on it. Sherds were collected from a total of 185 sites from the mouth of the Verde to its upper reaches and it was hoped thereby to gain tentative definitions of culture complexes and their carriers (ibid., 173). The ceramic studies just then coming into their own in the Southwest were not a completely new archeological concept. As early as 1886 Furtwangler and Loschche had published an exhaustive catalogue of Mycenean wares (both whole vessels and sherds) in their Mykenisch Vasen, marking, as Daniel notes, "the beginning of that essential of modern archeology, the corpus of finds (Daniel, 1951: 167)."

Early work on ceramic sequences gave only "floating" chronologies, but this was soon to change in at least one culture area--the American Southwest. There, in 1901, the astronomer A. E. Douglass began amassing data which ultimately resulted in a master plot extending two millenia into the past which mirrored tree growth ring by ring and year by year over much of that area. Southwesternists were quick to take advantage of such a superb tool, and by 1930, they had dated many ruins on the Colorado Plateau. Seriation and stratigraphic studies of decorated sherds found at these ruins began to bear fruit in an ever increasing number of dated pottery types.

Unfortunately, no dated timber was found on Gladwin's survey and most of the sherds collected were local plainwares which had never been described before, but in spite of the difficulties a pattern began to emerge from the mass of sherds collected.

Gladwin divided the plainware into five distinct classes. . The first two, Gila Redware and Salado Redware, he had noted and defined in other areas; the last three were then unknown. These were: (1) "a smooth brown ware possessing a heavy proportion of mica tempering . . . which, when well made resembled red-on-buff varieties, but when thick and crude was more apt to be found with a local decorated type called Verde Black-on-grey (2) a red, porous, brick-like ware, unpolished, often with heavy firing clouds. . . ." which seemed close to modern Pima and Papago pottery, though no connection was necessarily implied. Only rarely were decorated types found with this redware. (3) a "thick blackware," frequently covered with fingernail marks. Sherds of this last ware were quite often found in rock shelters and were assigned to the Apache (Gladwin, 1930: 178).

Decorated intrusive types were identified as follows: Gila Polychrome, Colonial (now Santa Cruz) Red-on-buff, Sedentary (now Sacaton) Red-on-buff; Tusayan Black-on-white, Black-on-red, and Polychrome, and Four Mile Polychrome. To these already established types, Gladwin added three more: Pueblo I Black-on-white (now Kana-a), Verde Black-on-grey, and a Brown-on-yellow (now Jeddito Black-on-yellow). The buff wares were Hohokam types, while the rest came from the plateau, with the exception of locally made Verde Black-on-grey (ibid., 176-77).

On the basis of his survey, Gladwin concluded that the Verde Valley had been a cultural frontier, or better, a cul-de-sac, which had received increments of four distinct populations. First came the Proto-Kayenta peoples responsible for the pueblos and cliff dwellings on Oak and Beaver Creeks. These were identical architecturally and ceramically with sites Colton was later to call Sinagua, or part Sinagua, around

Flagstaff--Elden Pueblo, Wupatki, Turkey Tanks and others.* This occupation in the Verde lasted longer than any other and was divided into two phases, as early "pure" black-on-white and a later brown-on-yellow. Architectural types for the Proto-Kayenta group ranged from cavate lodges and cliff dwellings to small houses and compact pueblos (ibid., 195).

The second wave of occupation as interpreted by Gladwin was that of red-on-buff pottery making people from the south. The early (Colonial) phase was sparsely represented in a total of fourteen sites throughout the entire survey area, and was contemporaneous with the Proto-Kayenta occupation to the north. The Colonial phase red-on-buff peoples seem to have maintained themselves in frontier outposts, gradually losing some of their "pure" traits (i.e.--red-on-buff pottery) and gaining new ones, notably in architecture, where the masonry pueblo replaced the native Hohokam pit house. Only one "pure" post-Colonial Phase Hohokam site was found on Gladwin's survey.

Movement of a third group, the puebloan Salado, was postulated from the east along the East Verde and Fossil Creeks. This group was supposedly responsible for Mindeleff's boulder outlined sites and carried with it black-on-red, black-on-white, and polychrome pottery. To Gladwin, the boulder outlines were ". . . identical with those in the Tonto Basin . . . and along the shores of Roosevelt Lake (ibid., 199)."

The next group was represented ceramically by Verde Black-on-grey and was centered in the Prescott area west of the Verde Valley

*Gladwin did not accept Colton's Sinagua Culture as a valid entity. Colton has answered his rebuttal on pp. 305-09 of the Sinagua report, 1946.

proper. This was a puzzling tradition and Gladwin was not unmindful of the possibility of hybridization, by a ". . . melding of red-on-buff and Tusayan techniques (ibid., 199)." An alternate theory considered the Black-on-Grey Culture as one of the Yuman family, whether Yavapai, Walapai, or Havasupai, which had ". . . absorbed enough puebloan culture, on top of their own primitive agricultural knowledge to have given them the semblance of a pueblo sub-culture (ibid., 200)."

Gladwin saw the late prehistoric years of the Verde Valley marred by "incessant fighting," due possibly to what he called a "Salado-Tusayan" war, basing his belief on the increasingly defensive architecture of the period (ibid., 201).

Allegedly Apache sherds were encountered almost entirely in rock shelters and none were found in association with the pueblo ruins. This led Gladwin to doubt the presence of the Apache at the time when the pueblos were occupied, therefore ruling out the theory which chose this group as the enemies against which the puebloan peoples of the Verde Valley erected their strongholds (ibid., 201).

From the early 1920's to date, another institution, the Museum of Northern Arizona at Flagstaff, has maintained an active interest in the Verde Valley. Under the directorship of Dr. Harold S. Colton, archeological surveys were first initiated in the Flagstaff area. Out of these grew the concept of a new pueblo sub-culture, the Sinagua Branch.

Colton explains the Sinagua as an amalgum of three peoples: Kayenta Anasazi of the northeast, Cohonina from the region west and northwest of the San Francisco Peaks, and a frontier enclave of southern Hohokam which reached the Flagstaff area at an early date. After its formation, the new entity sent offshoots into the Verde Valley around

1100 A. D. which extended at least as far south as the East Fork of the Verde (Colton, 1946a: 14-17). Montezuma Castle and the large valley pueblos were begun at this time. The later phases of their occupation were synonymous with Gladwin's Brown-on-yellow period of the Proto-Kayenta group.

Ceramics have played a major part in the delineation of the Sinagua sub-culture, which is characterized by a lack of decorated pottery and a concentration on oxidized plainwares. Colton based his conclusions regarding Verde Valley Sinagua elements on three basic ceramic conceptions: (1) that certain painted pottery types mainly manufactured on the plateau had been dated by tree ring studies (2) that sites once occupied by a particular tribe could be identified by the utility pottery as well as the decorated pottery (3) that small decorated vessels were widely traded, while utility pottery almost always had a local source (ibid., 303).

Sinagua frontiers have been defined almost entirely by the absence or preponderance of Alameda Brown Ware, a smooth brown or red pottery, rarely decorated, constructed by paddle and anvil, and often, but not always, smudged inside. The culture exhibits two branches, the Northern Sinagua of the plateau and the Southern Sinagua, formerly the Los Reyes Branch, of the Verde Valley and undetermined points south (ibid., 302).

After more than twenty years of evaluation, Colton has arrived at the following synthesis of Verde Valley culture history:

Pre 500 A. D.: Lithic sites with no pottery have been found at the base of the eastern escarpment. Tools are mostly scrapers of chert and resemble assemblages from the Little Colorado Valley. There is not

enough data to define a culture as yet, but the sites found are similar to Cochise assemblages from southeastern Arizona.

500-700 A. D.: Small sites found at the west side of the valley, dated by the presence of Lino Black-on-grey. Utility pottery was a crude paddle and anvil brown ware similar to early Alameda Brown Ware and Tizon Brown Ware, the latter from western Arizona. Stonework associated with these sites consisted of oval metates and one-handed manos. Colton has suggested relationships between this complex and the Patayan Culture of the Colorado River which was contemporaneous with Basket Maker III on the plateau (ibid., 303-04).

700-900 A. D.: Sites representing this period were rare in the Verde Valley and appeared in two different physiographic regions. One group, identified by a brown utility ware, lived in the sandy parks at the base of the northeast escarpment at elevations of 4000 to 5000 feet, annual precipitation today being about fifteen inches. The second group occupied much lower elevations in an arid region along the river with less than ten inches of rainfall. This second group was a colony of Santa Cruz phase Hohokam (ibid., 304). A site of the latter group near the mouth of Clear Creek exhibits a large ball court of the Snaketown type. Between the Hohokam and upland groups stretched a belt of undesirable land about sixteen to twenty miles wide. Dated trade sherds Kana-a Black-on-white and Deadman's Black-on-red place the two peoples temporally.

900-1125 A. D.: The two distinctive populations continued their occupation of river and upland respectively, with the unoccupied strip still present between them. The uplanders dry farmed, but the river folk utilized irrigation ditches, although not to such an extent as

their Gila Basin cousins. Several Casa Grande type ball courts are associated with sites of this period, which represented the greatest Hohokam expansion in the Verde Valley. They were soon to be submerged or run out by Sinagua "invaders." Foreign index types Black Mesa Black-on-white, Sosi Black-on-white, Holbrook Black-on-white, and Tusayan Black-on-red date this period.

1125-1300 A. D.: Sites dated by intrusive Flagstaff Black-on-white, Tusayan Black-on-red, Citadel Polychrome, Walnut Black-on-white, Wupatki Black-on-white, and Tusayan Polychrome with local Alameda utility ware fall between these dates, and are represented by the large valley pueblos and cliff dwellings, Tuzigoot being the only fully excavated example (ibid., 303-04).

1300-1400 A. D.: This was the age of florescence, decay, and final desertion of the Verde Valley by the Sinagua pueblo builders, and was characterized by the continued occupation and additions to the large hilltop pueblos and cliff dwellings. Alameda Brown Ware was still common and intrusive Jeddito Black-on-yellow and Kayenta Black-on-white with some late Little Colorado Polychromes indicate still-present trade connections. On the East Verde drainage the Sinagua had intercourse with Salado people of the Tonto Basin, judging from certain ceramic similarities and trade wares (ibid., 304-05). Colton noted that the headwaters of the East Verde were environmentally much like the old home of the Sinagua, implying that this river may have once been a route of entry from the plateau to the lower Verde Valley (ibid., 302).

Concerning final exodus from the Verde Valley, Colton feels that the northward movement has been overstressed. While some people

certainly moved in that direction to add to the Hopi population, he pictures also a southern drift of Sinagua people down the Verde River to its juncture with the Salt River and thence to mixture with indigenous Hohokam in the Salt River Valley (ibid., 311).

In a recent synthesis, Albert H. Schroeder of the National Park Service has postulated a distribution of Pioneer Period Hohokam from the Gila Basin to the Verde Valley.

Subsequently, between 800 and 900 A. D., Santa Cruz Phase Hohokam moved up the Salt River to the mouth of Tonto Creek, but further movement upstream into Tonto Basin and the Verde has not been substantiated by scant evidence which exists so far (Schroeder, 1953: 77). Some time after 900 A. D., Sedentary Period Hohokam traits diffused as far as Flagstaff, where a colony was established at Winona Village, but "by 1200 A. D. . . . the traits introduced by [this] colony [and perhaps others] were submerged almost completely (ibid., 77)."

Between the late eleventh and early twelfth centuries, cinder falls resulting from volcanic upheavals had a mulching effect on previously barren land, turning it into desirable farming soil almost overnight. This newly fertile area immediately attracted groups of diverse cultural makeup, as Colton has shown, but puebloan people seem to have contributed more heavily in material culture traits which have survived to puzzle the archeologist. During the melding of these various peoples certain recognizable traits began to emerge which would ultimately result in a new sub-culture, specifically, the formation of a local redware and a change in mortuary custom, from a postulated southern pattern of cremation to inhumation in an extended position (ibid., 77-78). Actually the Sinagua method of burial was a departure from the Kayenta

peoples, who flexed their dead, as well as from the ancestral (?) cremation pattern, and was explained by Schroeder as a case of selective borrowing with retention of certain pre-interment ceremonies making it necessary to also retain the (postulated) prone body position which was used in earlier crematory rites (ibid., 78). Architecture, too, underwent a profound change as the Sinagua moved out of their deep pit houses and into masonry pueblos, beginning around 1100 A. D.

With increase in population, the new and vigorous Sinagua spilled into the Verde Valley, and, Schroeder believes, ultimately into the lower Verde, Tonto Basin, and into the Gila Basin sometime after 1300 A. D. Gladwin's Salado Culture of the Tonto Basin, Schroeder feels, was too selectively defined, and was ". . . based on two culture patterns existing side by side in that area." In place of the old Salado, he postulates ". . . a Sinagua-Hohokam blend and a pueblo group from the upper Salt area (ibid., 79-80)."

The theories advanced in the proceeding pages concerning culture content and sequence in the lower Verde, Tonto Basin, and East Verde drainage have been based on very few surveyed sites and even fewer excavated ones. Only a coordinated program of site surveys and stratigraphic excavation in both single- and multi-phase sites will substantiate, modify, or replace them.

II. Sites

A. Survey Field Method

Authorization for the survey was obtained from the Smithsonian Institution through the Forest Supervisor, Tonto National Forest, in the name of the Arizona State Museum (USFS letter of August 3, 1955). Collections and printed site data will be deposited with that institution.

Duplicate site cards and a copy of the completed thesis will be on file at Southwestern National Monuments Headquarters, Globe, Arizona, and a small sample of sherds representing the new types discovered will be available for study at the Museum of Northern Arizona, Flagstaff.

The original intent in making the survey was to examine in detail the country along the East Verde from its headwaters to its mouth, with a relatively complete inventory of sites from all occupation phases as the goal. It was soon realized, however, that such a comprehensive attack on a rough and trackless area would require more time and resources than the writer possessed, and a system of spot checking in the more easily accessible areas was substituted. In spite of this, the writer feels that the 28 sites collected represent a good cross section of East Verde archeology.

Few roads approach or cross the river, and horses were not available, so it was necessary to negotiate much of the survey area on foot. A total of fifteen trips were made on the writer's lieu time from duties at Tuzigoot National Monument, beginning in June and ending in November

of 1955. Altogether, some 25 days were spent actually in the field.

Equipment used on the survey consisted of the following: trowel, 50 foot tape, pencils and stationery, bags for sherds, compass, topographic quadrangles appropriate to the area, 10X hand lens, small pair of 6X binoculars, and camera with film. Camping necessities were an army mountain pack, bedroll, light poncho, small first aid kit, and sufficient dehydrated food for the duration of each trip.

Sampling of areas along the course of the East Verde was fairly complete except for three localities--the extreme headwaters and the top of the Mogollon Rim, "The Gorge," and the Verde River south of the East Fork. The top of the Rim near headwaters may well yield significant material, but roads to this area were impassable during most of an unusually wet summer. "The Gorge," a series of box canyons near the mouth of the East Verde (Map 1), is rumored to contain a number of cliff dwellings, but local cowhands say they are for the most part inaccessible without climbing equipment. Bourke (in Bloom, 1934: 159-83), reported a large Yavapai camp of over 200 camp fires on the Verde not far below the mouth of the East Fork in 1871, but time limitations did not permit a careful search of this area.

As a check on the main stream, several tributaries and areas away from the river were sampled, as follows: Pine and its environs, Sycamore Creek about six miles north of the East Verde, and the Verde River between Verde Hot Springs and the mouth of the East Fork.

Sites were numbered serially as they were found, but will receive Arizona State Museum survey numbers when the material is accessioned at that institution. Each site was located by Township, Range, and Section on the USGS quadrangle appropriate to the locality.

In general, location was no problem because of the rugged relief typical of the area. Only on Polles Mesa (Map 1) was any difficulty encountered, specifically at Sites 23 and 24. Here dense stands of juniper prevented triangulation with distant topographic features, and nearby stock tanks had to substitute for more permanent reference points. Fortunately both sites are comprised of large sherd areas which are easy to see if the searcher is in the general vicinity.

For recording data on each site a standard Arizona State Museum site card was used. On this card is space for the following information: type of site, general surroundings, culture depth, pottery and other minor antiquities, and number, condition, and construction of rooms if present. Ecological data include nearest water, arable land, and general floral and topographic environment. Space on the back of the form is provided for a sketch map of the site and any further remarks.

Photographs were taken at any site where features were obvious enough for such treatment. They were also taken of minor antiquities too cumbersome to move and of environmental features along the stream.

Time, weather, and weight considerations militated against anything but the most rudimentary digging at any of the sites. This consisted of trowel tests for sherds in areas where they were rare and sampling of culture depth.

B. Site Data

SITE 1

Located on the slope of a hill on the north bank of the East Verde near the mouth of Fuller Creek, T 11½ N, R 10 E, Sec. 1; SW

quarter of the NE quarter (Map 1). The structure (Fig. 1) is a semi-circular wall of uncoursed dry masonry, open on the cliff side and provided with a narrow entrance on the north (Plate 1, upper). Today, no portion of the wall exceeds 75 centimeters in height, but tumbled debris indicates an original elevation of perhaps a meter and a half. There is no indication that the enclosure was ever roofed, nor are there any masonry remains within the enclosing wall (Plate 1, lower).

Surrounding terrain is hilly and heavily covered with juniper, pinyon, oak, manzanita, and agave. Nearby hilltops bear stands of ponderosa pine. Elevation of the site is 5200 feet above sea level. The East Verde lies about 150 feet below.

No cultural material was found in the enclosure, which was built on bedrock, but some 30 meters to the southwest a circular handstone similar to those shown in Plate 13 was recovered.

Evidence for some time lapse since use was indicated in the growth of several fairly large oak trees which have partially disrupted the walls of the enclosure on its west side.

A faint but definite trail leads from this site to Site 2.

SITE 2

A rock shelter just below Site 1 and about 350 feet above the junction of Fuller Creek with the East Verde, T 11½ N, R 10 E, Sec. 1 (Map 1). The shelter faces south on a terrace above the river and is about 22 meters long and a maximum of 5 meters deep. In front of the shelter is a prominent "balanced rock" formation.

The only evidence of masonry consisted of a badly tumbled boulder wall which partially blocked a crevice giving access to the brow of the hill above and Site 1.

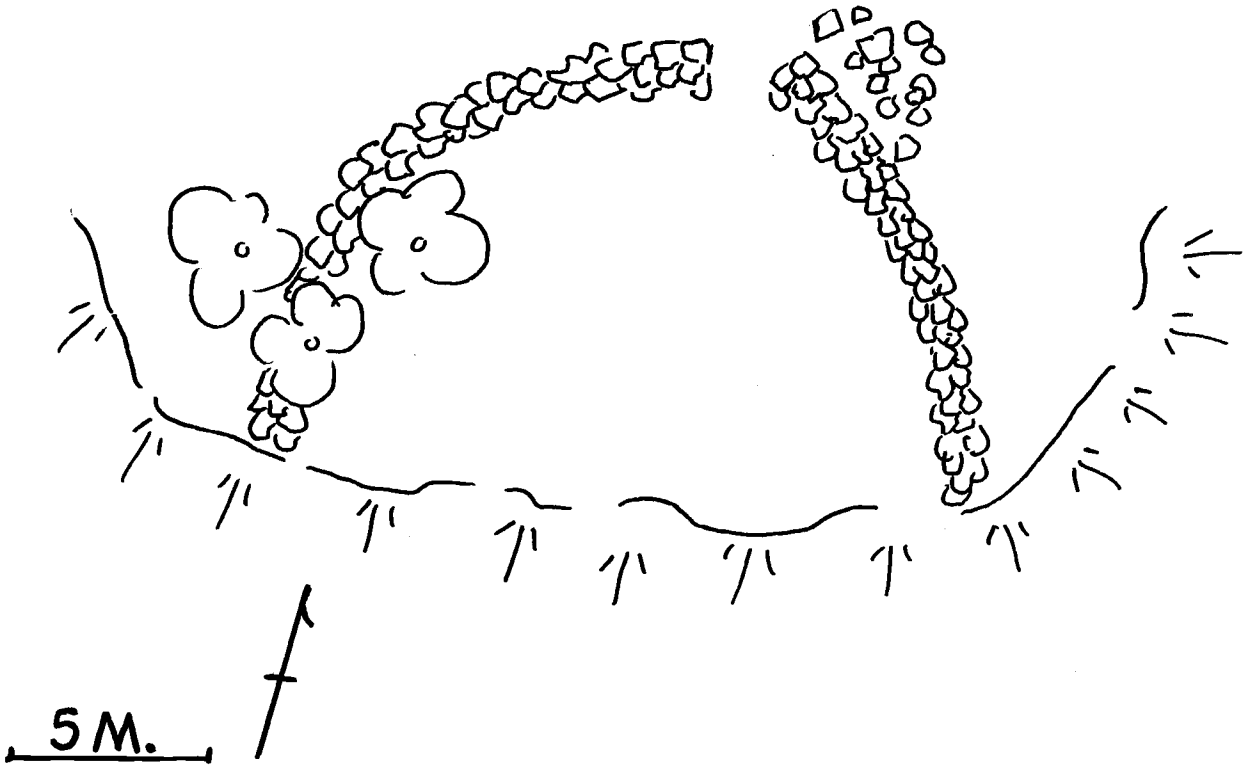

Fig. 1. Plan View of Site 1.

Cultural material was scanty. A few corncobs of the twelve row variety were removed from a natural cache in the back wall of the cave, and a small chert scraper (Plate 15a) occurred a few inches under the cave floor, which was ashy and unconsolidated. No sherds were found.

The most interesting signs of use consisted of a group of black and red pictographs faintly depicted on the back wall of the shelter (Fig. 2).

Judging from the trail connection, it is probable that Sites 1 and 2 were contemporaneous.

SITE 3

A group of crude petroglyphs (Plate 2) occurs in a shallow overhang about 1 mile north of Sites 1 and 2 on the same side of the river, T 12 N, R 10 E, Sec. 34, elevation 5100 feet.

In front of the petroglyph station is a long terrace just above the river which has been farmed in recent times.

No cultural remains other than the petroglyphs were encountered at this site.

SITE 4

A large rock shelter (Fig. 3) located at an elevation of 5500 feet in the prominent cap strata of Little Diamond Rim (Plates 3 and 4), above the East Verde in the vicinity of Sunflower Mesa, T 11½ N, R 10 E, Sec. 14; NE quarter of the NW quarter (Map 1).

In spite of the favorable size and location of this shelter and the abundance of smoke stains on its ceiling, little culture was evident on the surface. Trowel tests in the floor were sterile and imply wind and rain deposition for an unknown depth, under which the remains of fire

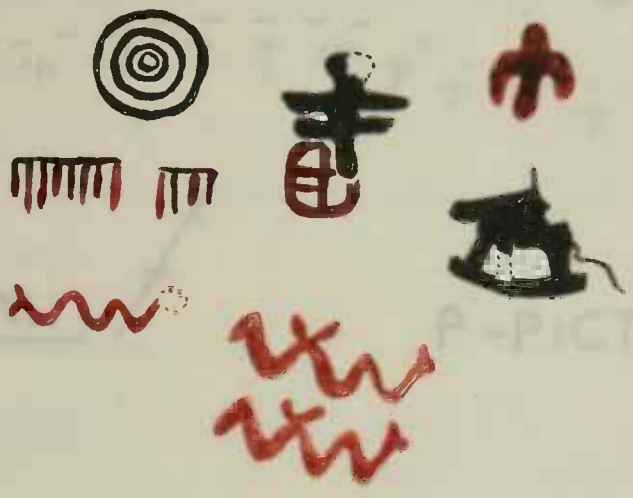

Fig. 2. Pictographs at Site 2.

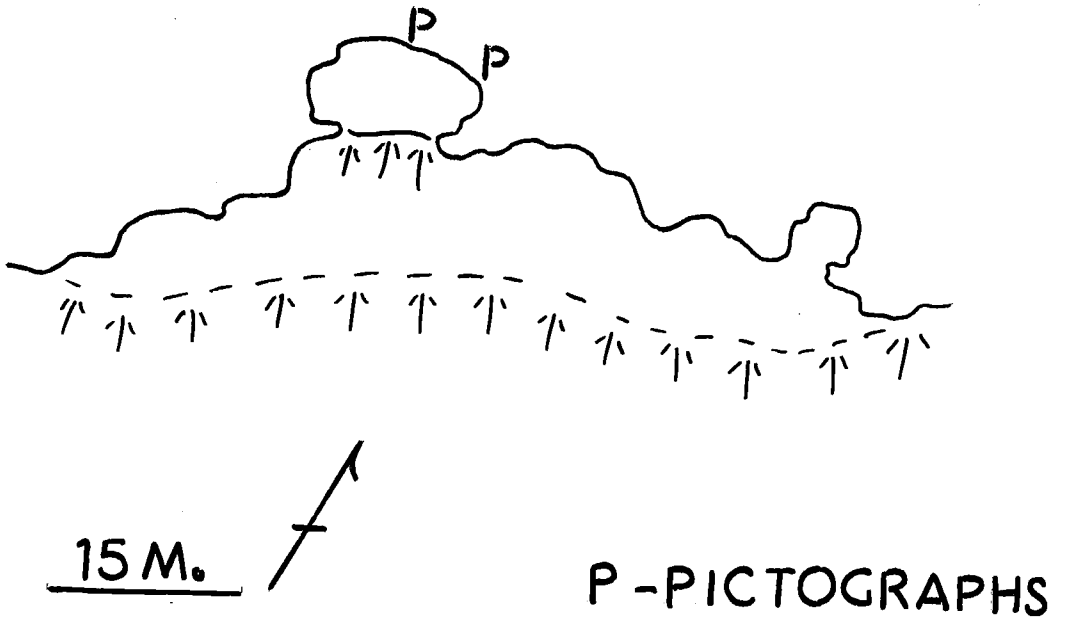

Fig. 3. Plan View of Site 4.

hearths on the original floor must exist. Near the western end of the shelter a small concentration of "Apache Indented" sherds was collected, and on the back wall of a narrow alcove black painted pictographs were noted (Fig. 4).

The foothills and valley below are thickly overgrown with manzanita, juniper, catclaw acacia, prickly pear, and agave. Ponderosa pine and pinyon occur on top of Little Diamond Rim.

From surface indications, I would surmise that this cave was not used continuously for any length of time, although it probably provided shelter to diverse groups throughout the history of human occupation in the area.

Sherd Analysis:	NO.	%	
"Apache Indented"	19	100	
	19	100	total

Other Culture: A few scattered flakes and spalls of a slate-like stone.

SITE 5

Located in T 11 N, R 6 E, Sec. 2; NW quarter, about one half mile northwest of Site 6 on an unnamed mesa between the Verde River and Fossil Creek overlooking Childs Power Plant at an elevation of 4000 feet (Map 1).

The structure (Fig. 5) is little more than a rectangular outline of rough boulders with projecting "wings" which may be fragmentary walls of other rooms. Lack of tumbled stone implies that the masonry, unless deeply buried, was never much higher than it is today.

The mesa top supports good stands of juniper with associated grasses, prickly pear, and agave. The nearest water obvious today is

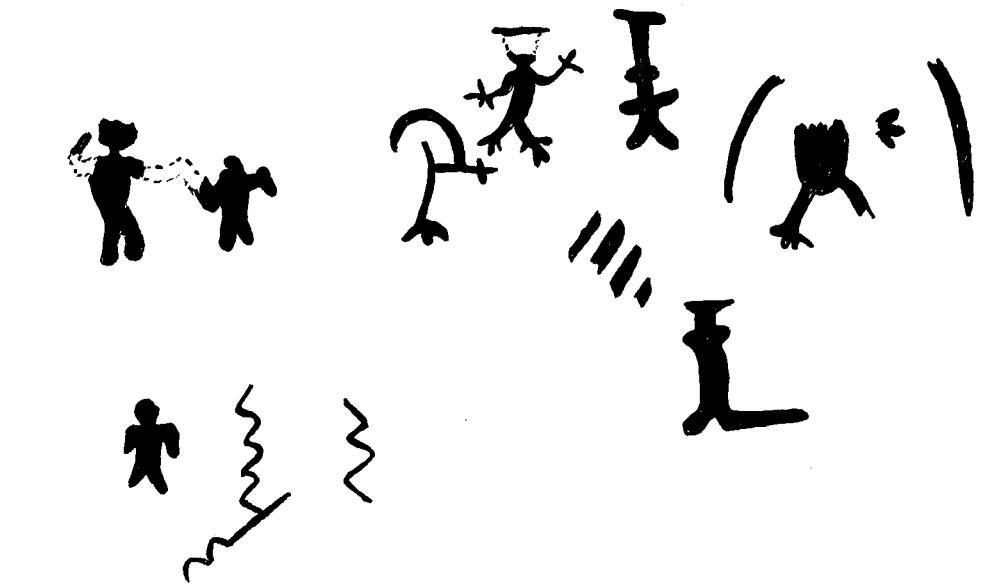

Fig. 4. Pictographs at Site 4.

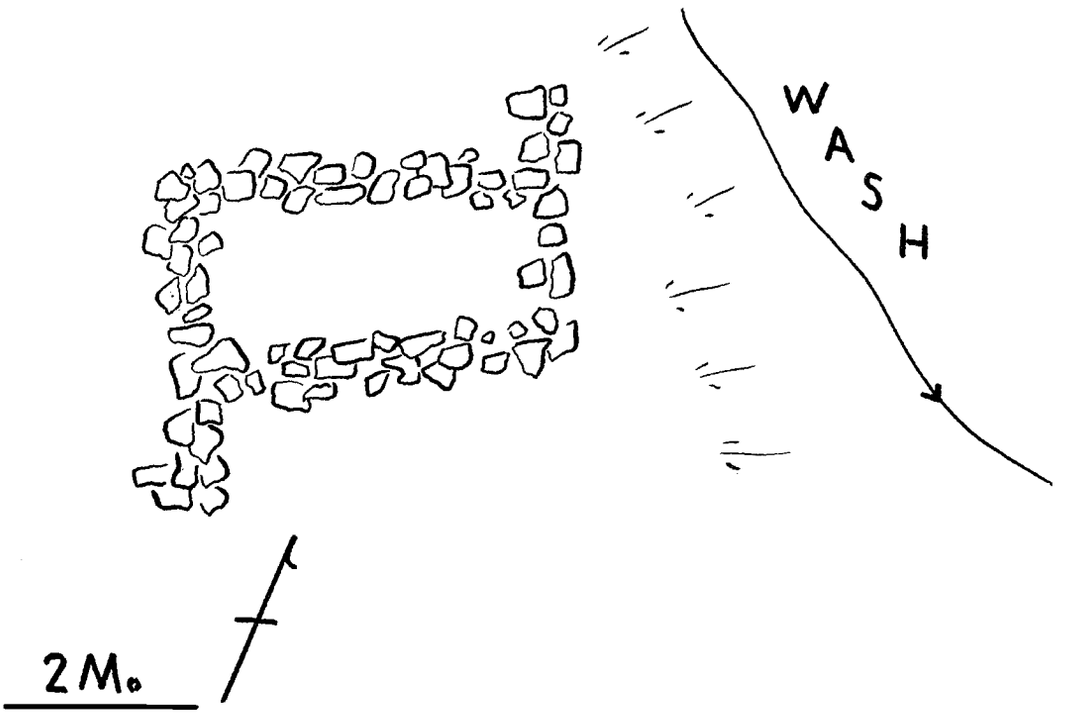

Fig. 5. Plan View of Site 5.

the Verde River, 1000 feet below, but seep springs under the mesa rim probably exist.

Other than a few sherds and two petroglyphs (Fig. 6) which occur on a boulder about one half mile to the northeast, surface culture is shallow and scanty.

Sherd Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	9	53	
Pine Brown (new type)	3	17	
Tuzigoot Red	1	5	
	13	75	total
HOHOKAM PLAIN WARE			
Wingfield Plain	1	5	
	1	5	total
LITTLE COLORADO WHITE WARE			
Deadmans Black-on-white	3	17	
	3	17	total

SITE 6

A group of petroglyphs (Fig. 7) occurring on the broken cap stratum of the mesa southwest of Site 5, T 11 N, R 6 E, Sec. 6; NE quarter, elevation about 4000 feet. At this point the mesa overlooks the junction of Fossil Creek with the Verde River (Map 1). The vantage point affords an extensive panorama of the Verde downriver into Bloody Basin. The petroglyphs are crude and quite faint, and there is no other indication of culture nearby. Probably the site was utilized as a lookout.

Fig. 6. Petroglyphs Near Site 5.

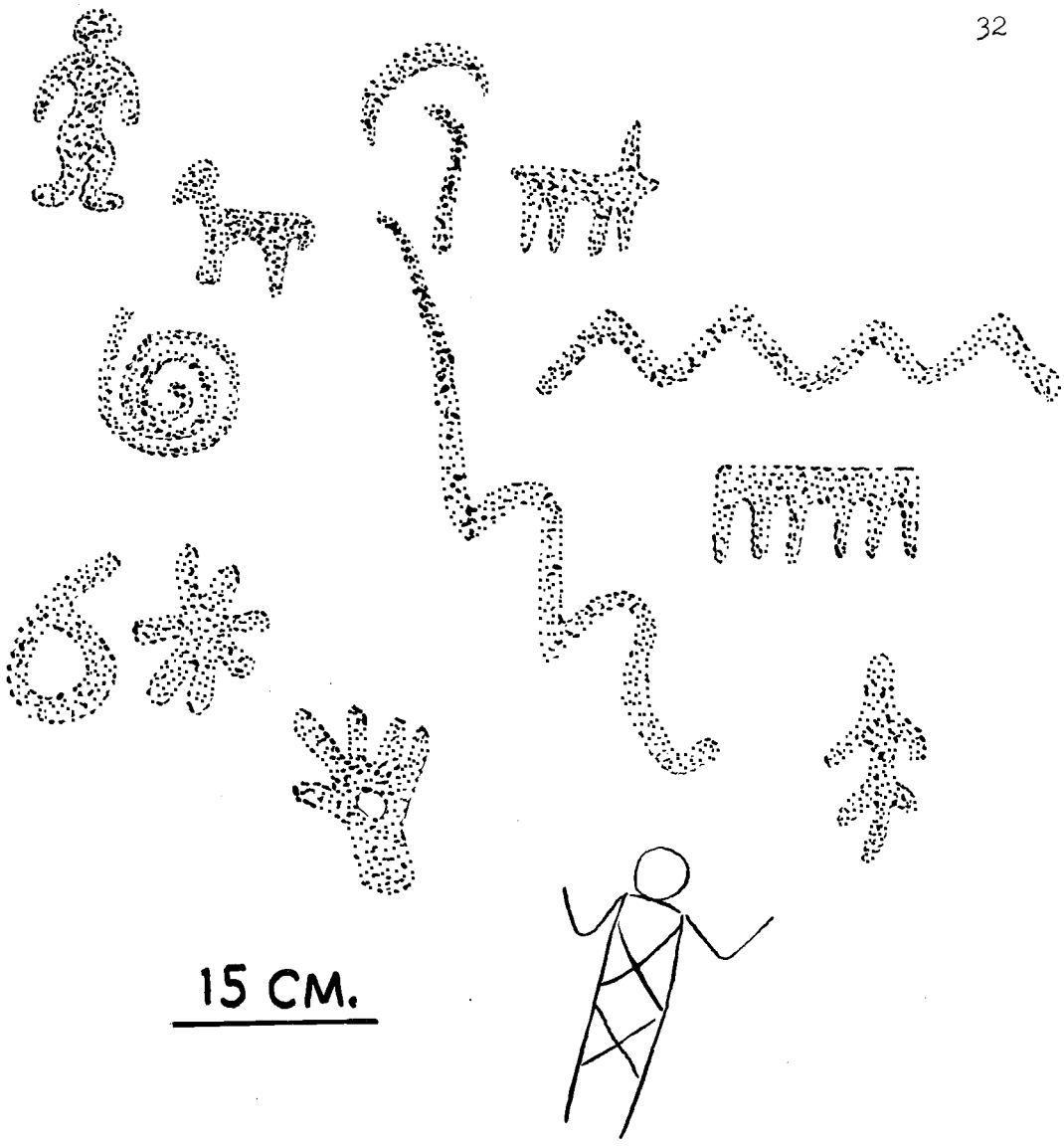

Fig. 7. Petroglyphs--Site 6.

SITE 7

A cliff dwelling of about 15 rooms (Figs. 8 and 9) at the base of Cedar Bench, one half mile north of the mouth of the East Fork, on the east side of the Verde River and about 900 feet above that stream at an elevation of 3400 feet, T 11 N, R 6 E, Sec. 14; NW quarter (Map 1). Surrounding vegetation consists of a few saguaro, with crucifixion thorn, creosote bush, prickly pear, agave, and juniper common on the foothils, and pinyon, Arizona cypress and some ponderosa pine on top of Cedar Bench and the surrounding higher elevations. Nearest water occurs as small seep springs, probably not permanent, at the base of Cedar Bench, but permanent water was to be had from the nearby streams. Flat terraces at the mouths of the East Fork and Fossil Creek could have been farmed as well as the tops of nearby mesas.

The greatest number of rooms occur at the lowest of the three levels (Fig. 9), and one roof is preserved in the most complete room. This roof consisted of a mud and flagstone cap resting on a layer of yucca leaves and juniper bark, under which was a layer of small pinyon (?) and juniper poles, supported by a primary horizontal rafter of ponderosa pine and two large vertical posts of the same species. Absence of collapsed upper walls and floors indicates a one story construction throughout, although the surviving roof was at one time surrounded by a parapet, as indicated by a surviving corner fragment.

Masonry is of crude, unshaped boulders and slabs, similar to that found at Tuzigoot and Montezuma Castle in the Verde Valley. A perfect rectangular door occurs in the plastered wall of a detached, masonry sealed niche (Fig. 8). This section was not entered. The midmost level of the village consists of a shallow ledge covered with the tumbled

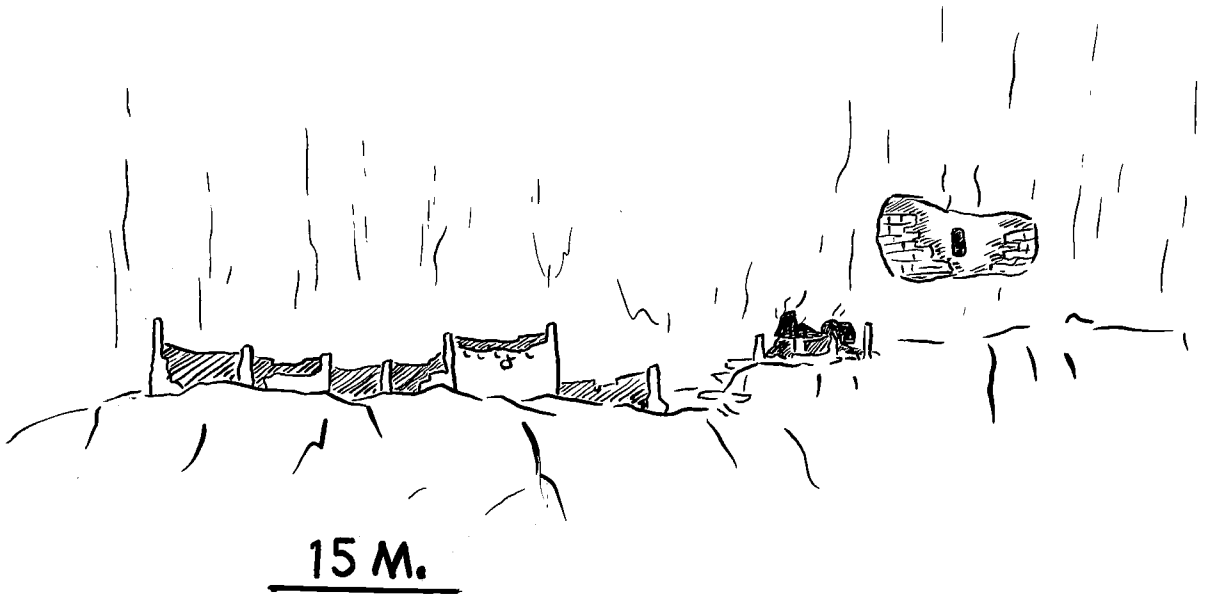

Fig. 8. Elevation of Site 7.

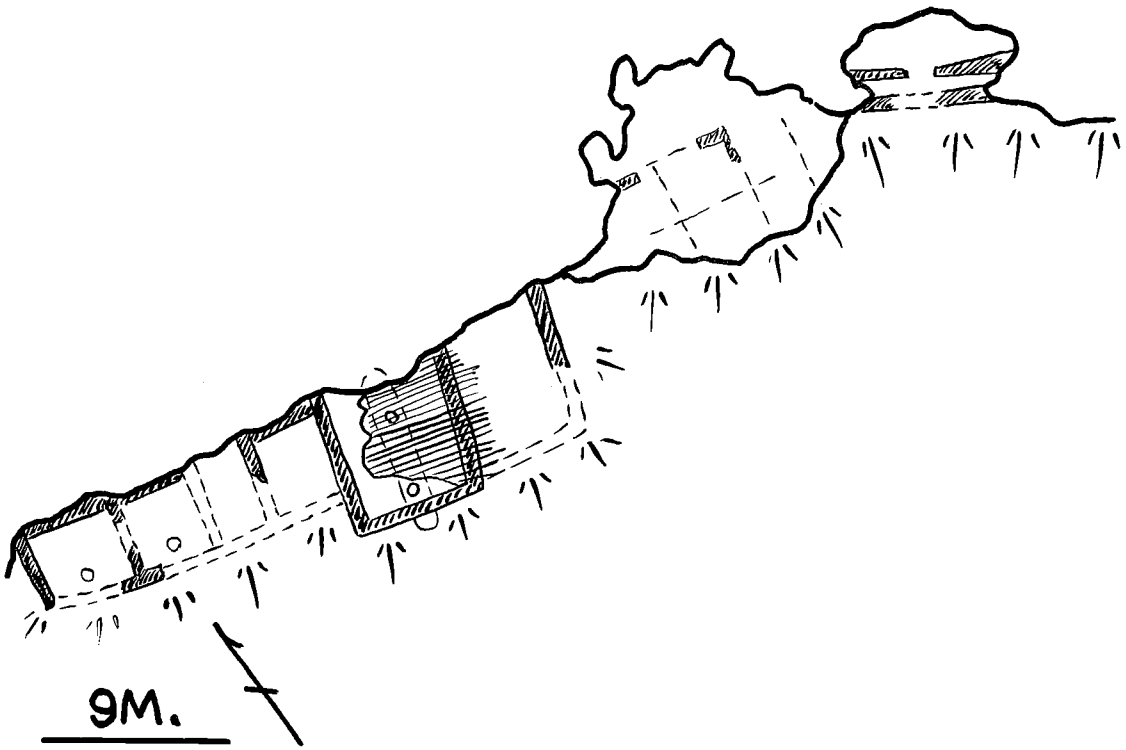

Fig. 9. Plan View of Site 7.

remains of probably no more than 4 or 5 rooms. Natural pockets at the back of this ledge were possibly utilized for storage.

In and around the rooms and on the talus slope below are considerable numbers of sherds, broken manos and trough metates, and fragments of stone and bone. Most of the rooms are filled with an estimated ½ to 1 meter of drift and trash. Some stratigraphy may be present on the front slope, although much has washed away due to its exposed position.

Pictures and a brief description of this ruin were published in Arizona Highways, March, 1951.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	10	62	
Turkey Hill Red	1	6	
Tuzigoot Red	4	26	
Tuzigoot White-on-red	1	6	
	16	100	total

SITE 8

A rectangular outline of rough masonry (Fig. 10), T 11 N, R 6 E, Sec. 14, NW quarter, similar to Site 5 but considerably larger, occupying a knoll between Site 7 and the Verde River, which lies some 500 feet below it (Map 1).

Although none of its walls are now more than 60 centimeters high, interior debris indicates the cellular pattern usually associated with pueblo construction, but unless the site is deeply buried, there is not enough masonry present to indicate stone construction throughout.

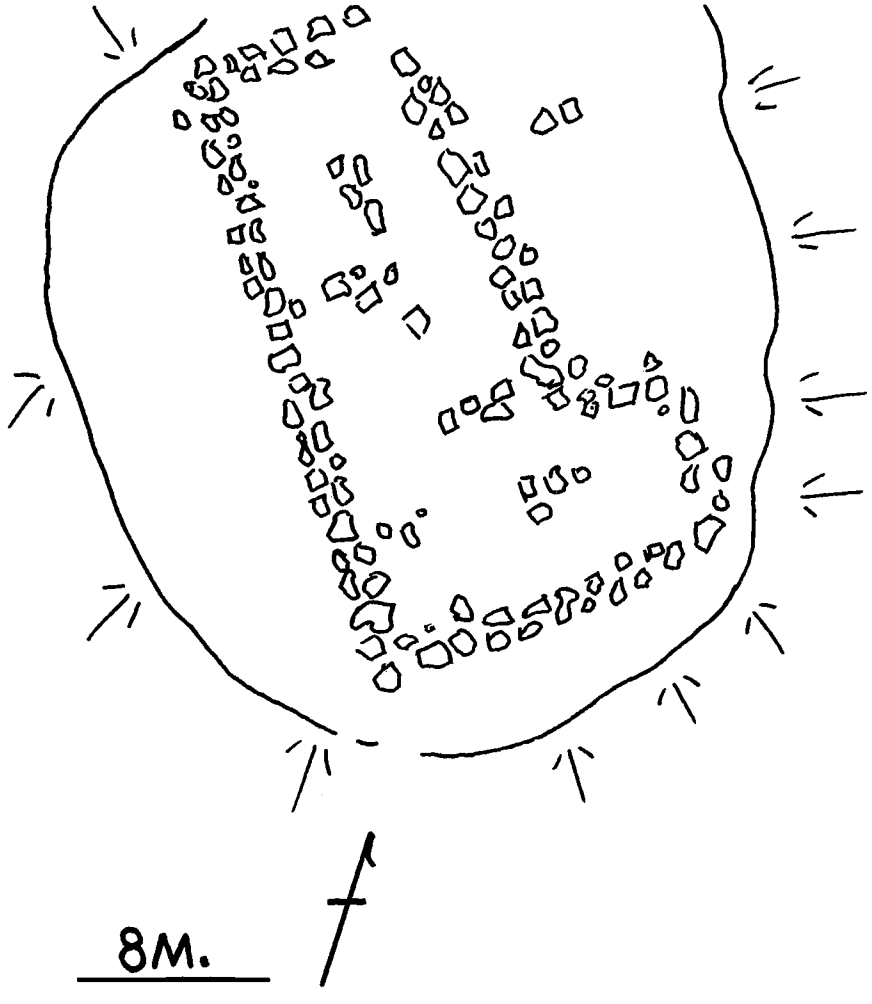

Fig. 10. Plan View of Site 8.

Vegetation cover and farmland possibilities are the same as those in the vicinity of Site 7. Elevation is 2900 feet.

Although culture depth was not tested, lack of volume of surface debris indicates a short occupation phase. Scanty sherds were the only surface finds.

Ceramic Analysis:

Plain

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	3	60	
Tuzigoot Red	1	20	
	4	80	total
TUSAYAN WHITE WARE			
Kayenta Series	1	20	
	1	20	total

SITE 9

A circular enclosure of unshaped boulder walls (Fig. 11) occupying a conical hill, elevation 5200 feet, below Site 4, T 11½ N, R 10 E, Sec. 14 (Map 1). Walls were apparently never more than breast high.

Only a few sherds occurred inside the enclosure.

The commanding position of the site and lack of occupational debris imply use as a place of refuge and lookout post rather than habitation.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	7	77	
Clear Creek Brown	1	11	
	8	88	total

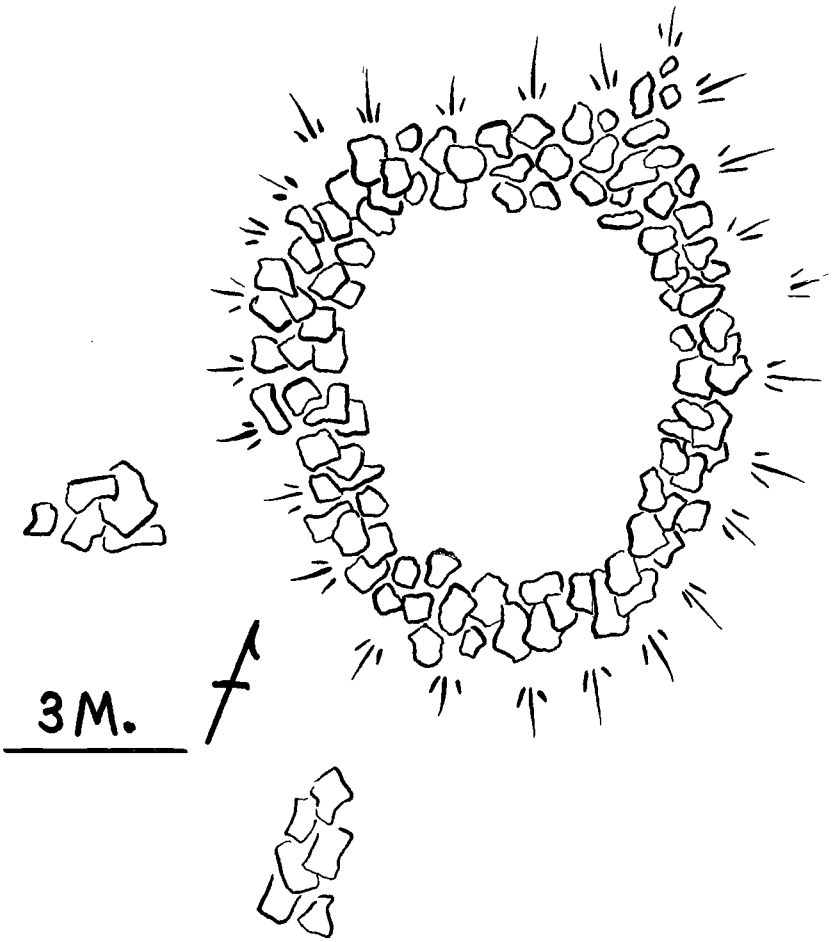

Fig. 11. Plan of Site 9.

LITTLE COLORADO WHITE WARE	NO.	%	
Holbrook (?) Black-on-white	1	11	
	1	11	total

SITE 10

An apparent camp site on the east bank of the East Verde at the confluence of Butcher Creek with that stream about one mile above the Pine-Payson highway bridge.

The site is characterized by ashy earth, some sherds, numerous flakes and chips, and broken handstones. No house remains are evident.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	25	100	
	25	100	total

Other culture consisted of broken ovoid and rectangular handstones similar to those in Plate 13, and much flaking debris, which included a few projectile points and scrapers (Plates 14, a, g; 15, b, c, d).

SITE 11

A small sherd area between an unnamed wash and Butcher Creek, on the slope of a thickly wooded hill, T 11 N, R 10 E, Sec. 15. General surroundings are pinyon, juniper, and oak forest, elevation, about 5000 feet.

The only culture occurring here was a small concentration of sherds. If the site was occupied, most evidence has been washed away

or buried. A small upright stone slab found nearby may have been part of a dwelling foundation. However, trowel tests near it proved sterile to a depth of some 40 centimeters.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	40	100	
	40	100	total

SITE 12

A boulder outline (Fig. 12) on a spur 1000 feet above Childs Power Plant on the east bank of the Verde River, elevation 3500 feet, about 6 miles north of the mouth of the East Verde, T 11½ N, R 6 E, Sec. 12; NE quarter (Map 1).

Walls today project only about 30 centimeters above the ground, and are of unshaped boulders (Plate 5). Trowel tests to a depth of about 30 centimeters inside the outline encountered many sherds, identical to those picked up on the surface, and considerable rock, which may or may not have been part of the original walls. Ashy soil and flecks of charcoal throughout the tests may indicate the structure was burned.

The area is littered with sherds, broken rock, and flaking debris, and discolored earth around the masonry outline implies sheet trash deposition. A fragmentary trough metate (Plate 5) was found near one wall.

Vegetative cover of the vicinity is commonly mesquite, prickly pear, agave, and juniper. Runoff farming may have been possible on numerous spurs and terraces nearby. The site lies just off the road

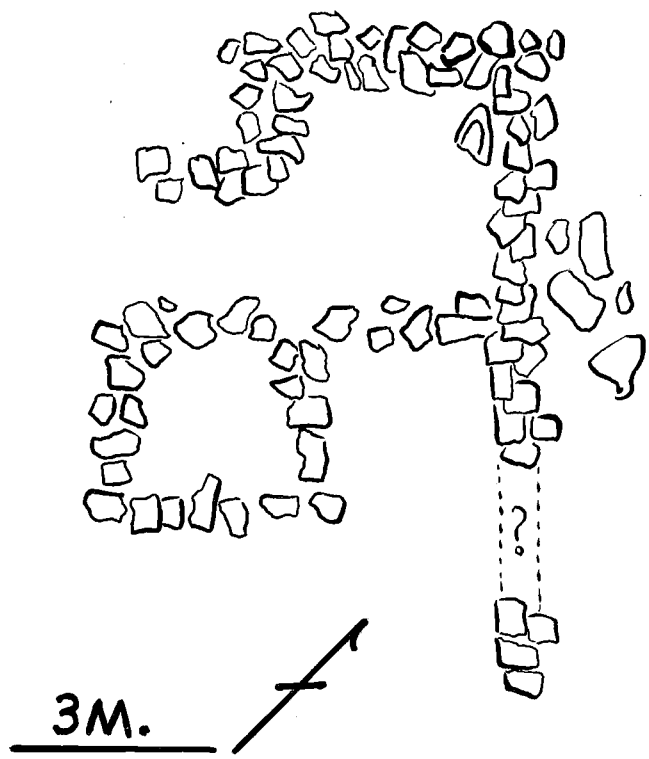

Fig. 12. Plan View of Site 12.

to Childs Power Plant and Verde Hot Springs.

Ceramic Analysis:

	NO.	%	
ALAMEDA BROWN WARE			
Verde Brown	37	34	
Clear Creek Brown	14	13	
Tuzigoot Red	7	6	
Pine Brown (new type)	7	6	
Hardscrabble Brown (new type)	20	16	
	79	75	total
HOHOKAM PLAIN WARE			
Wingfield Plain	5	5	
	5	5	total
LITTLE COLORADO WHITE WARE			
Holbrook Black-on-white	14	13	
	14	13	total
HOHOKAM BUFF WARE			
? Red-on-buff	5	5	
	5	5	total

SITE 13

An apparent camp site occupying both sides of the road between Pine and Payson, about 6 miles south of the former at the local gravel pit, near juncture of intermittent Sycamore Creek with Buckhead Draw, T 11 N, R 8 E, Sec. 11; NE quarter of the NW quarter, elevation 4900 feet (Map 1).

The site consists of sheet trash (ashy earth) and cultural debris scattered over an area about 15 meters wide and 50 meters long.

No sherds were noted here, but flaking debris was common and included fragmentary projectile points and scrapers, circular and rectangular handstones, and an elliptical bedrock metate, identical with those in Plate 12, pecked into a boulder near the road.

The nearest permanent water today is the East Fork of the Verde, located about 3 miles (airline) south.

Heavy forest and scrub cover of juniper, oak, and manzanita is characteristic of the hilly surroundings.

SITE 14

A concentration of a dozen bedrock metates of elliptical shape occurring on boulders in and near the dry stream bed of Sycamore Creek, about 1/8 mile upstream from Site 13 (Map 1).

The average metate is 37 centimeters long, 15 centimeters wide, about 15 centimeters deep, and a flattened ellipse in cross section (Plate 12, upper).

Forest cover is identical with that surrounding Site 13; elevation 5000 feet.

One sherd of Tonto Red (Tonto Series) was collected near the metate concentration, but other than this the site was sterile.

This site is listed as NA 3853 by the Museum of Northern Arizona. Three oval one-handed manos were collected here by that institution.

Ceramic Analysis:

TONTO SERIES	NO.	%	
Tonto Red	1	100	
	1	100	total

SITE 15

An area of camp litter surrounding seven bedrock metates of the elliptical type (Fig. 13) depicted in Plate 12 occurring on the slope of a hill at an elevation of 5400 feet in heavy juniper-manzanita forest and scrub cover, about ½ mile southeast of Site 13, T 11 N, R 9 E, Sec. 11; NE quarter of the SW quarter (Map 1).

Culture consists of the bedrock metates, one being a double specimen (Plate 12, lower), a broken ovoid handstone identical with those shown in Plate 13, a few sherds, and fragments of projectile points and blades (Plate 14, c, d, e). Of special interest here is the variety of form noted in the projectile points.

Culture depth appears shallow, but is scattered over an area about 50 meters in diameter. Concentration is obvious near the bedrock metates.

Ceramic Summary:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	10	100	
	10	100	total

SITE 16

A fortified compound of rough dry masonry (Fig. 14) occupying the top of a prominent hill at an elevation of 5800 feet about ¼ mile north of Pine, overlooking the highway as it enters that town T 11½ N, R 8 E, Sec. 25; SE quarter of the NW quarter (Map 1).

Today the site is thickly overgrown with manzanita and stands of Arizona cypress, with juniper and ponderosa pine common in the vicinity. Good farmlands at the base of the hill and surrounding Pine

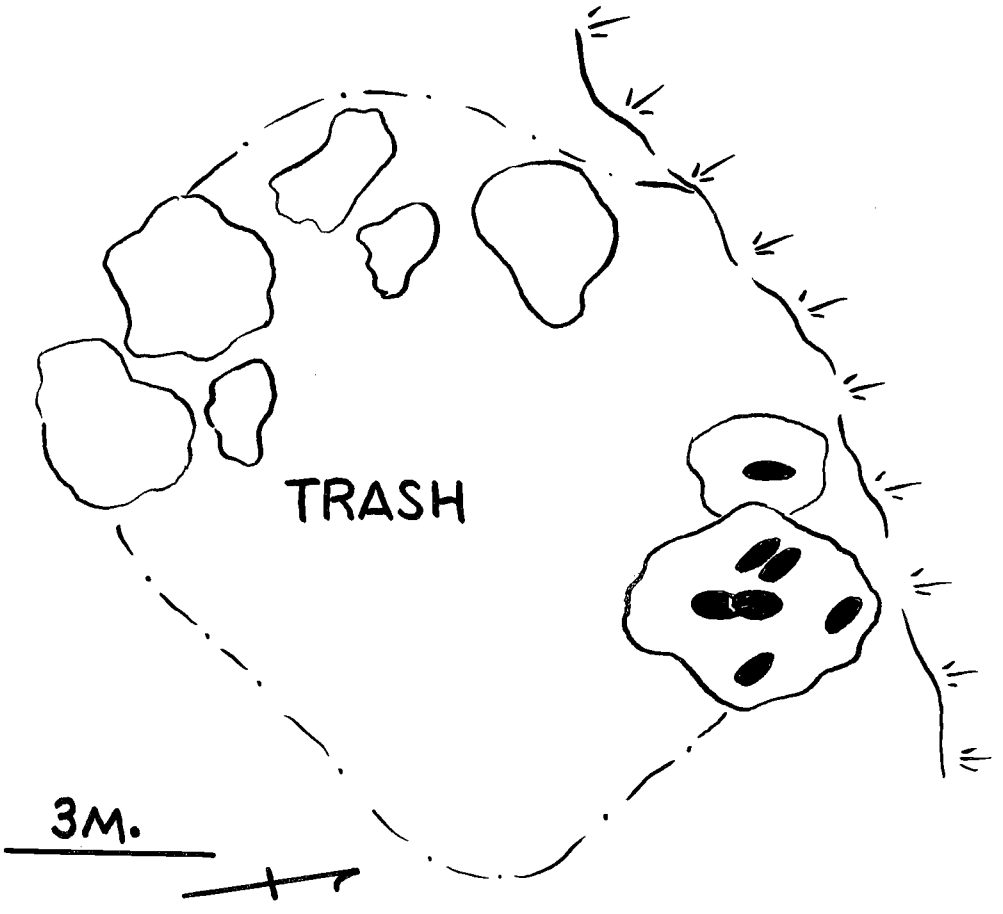

Fig. 13. Arrangement of Bedrock Metates at Site 15.

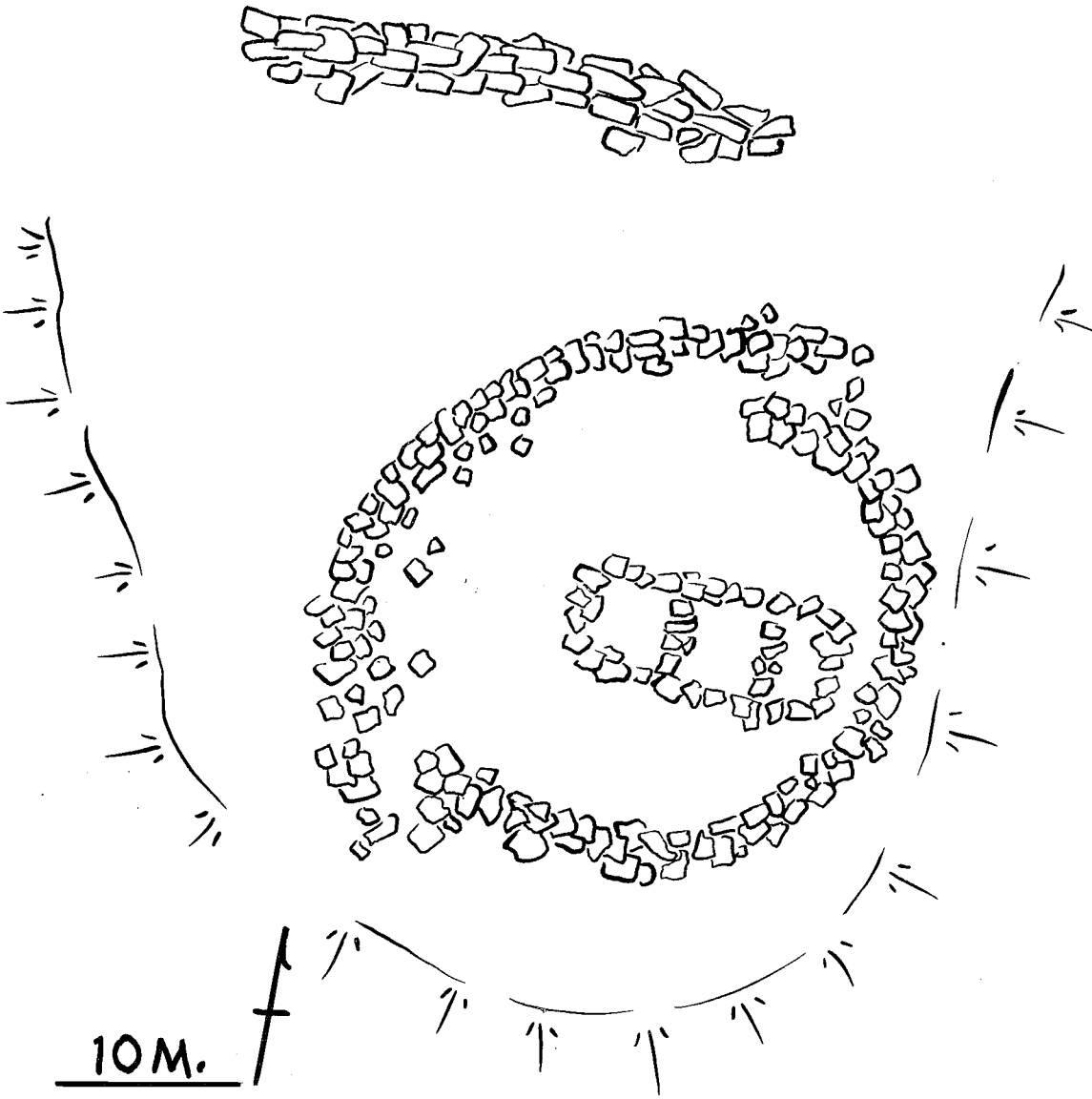

Fig. 14. Plan View of Site 16.

are utilized today, and judging from the amount of cultural material picked up by farmers in their plowing, this locality had relatively heavy aboriginal use. No permanent streams are present today, but springs are numerous and annual rainfall is more than adequate for dry farming.

The main compound of the structure is composed of dry slab masonry walls about 1 meter thick, which may have originally been a maximum of 2 meters high. The outer wall (Plate 6), roughly circular in shape, is broken at two places, one on the east, the other on the southwest, where the walls were carried past each other to form short passageways into the interior. Inside the enclosure are the remains of a line of three masonry rooms, never any higher than one story judging from the volume of fallen debris. The presence of these rooms and a detached heavy wall paralleling the main enclosure on the north (Plate 7) set this ruin somewhat apart from the fortified outlooks with which it has been classed.

Cultural deposition is concentrated in the southern portion of the site, and is indicative, with the rooms, of permanent occupation.

Surface finds were commonly sherds, although some chipping debris and a fragmentary trough metate were noted.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	11	18	
Pine Brown (new type)	40	66	
Polles Brown (new type)	10	16	
	61	100	total

SITE 17

Located in T 11 N, R 9 E, Sec. 17; SE quarter of the NW quarter, elevation, 4400 feet, on a low ridge overlooking the highway bridge which crosses the East Verde between Pine and Payson, on the southeast side of that river (Map 1). Directly under this site is rock shelter Site 18.

Site 17 consists of a fragmentary rough stone wall on the bedrock of the ridge. The wall today is about 50 centimeters high and less than 2 meters long, and other than a few chips of stone, no culture was associated with it. The wall may have originally been part of a fortified enclosure similar to Site 9, or a shrine, or possibly of non-Indian derivation. However, its commanding position and its proximity to Site 18 imply an aboriginal origin.

SITE 18

Located just under the ridge surmounted by Site 17 and facing the East Verde where it makes a south-trending meander, T 11 N, R 9 E, Sec. 17, elevation, 4350 feet, this rock shelter extends at its front for about 26 meters and is about 10 meters deep at the deepest point (Map 1).

Although much of the ceiling at this site has fallen, pockets of debris between the collapsed boulders indicate a fair cultural depth. This debris is made up of corn cobs, fragments of dried vegetable fiber, a few sherds, some bone fragments, and fragments of cane, which in one instance proved to be the nock and some 45 centimeters of an arrowshaft.

Three bedrock metates, one in a detached boulder near the mouth of the shelter and two about 90 meters north of the cave, proved to be

of the same elliptical type already described for Sites 13 and 15.

In spite of its proximity to the road, this site has been little disturbed by vandals.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	2	100	
	2	100	total

SITE 19

A group of boulder outlined enclosures (Plate 8) located on the west side of the Verde River about ¼ mile below Childs Power Plant and about 100 feet above the stream bed on a sloping terrace, T 11 N, R 6 E, Sec. 13; NW quarter of the NW quarter (Map 1).

A horse trail following the river cuts through the western side of the site.

Little remains of any masonry walls but the bare outlines and only two "rooms" are wholly traceable, one an oval, the other a square structure (Fig. 15).

Sherds and stone fragments were scattered over a wide area, with concentrations indicating refuse deposits a short distance east and south of the rectangular outline. This deposition included small fragments of trough metates of basalt, as well as rectangular, one-handed manos of the same material. Sherds were plentiful.

The site lies at an elevation of 2700 feet and is surrounded with a sparse cover of juniper, creosote bush, and mesquite. Cottonwood and sycamore are common on the river.

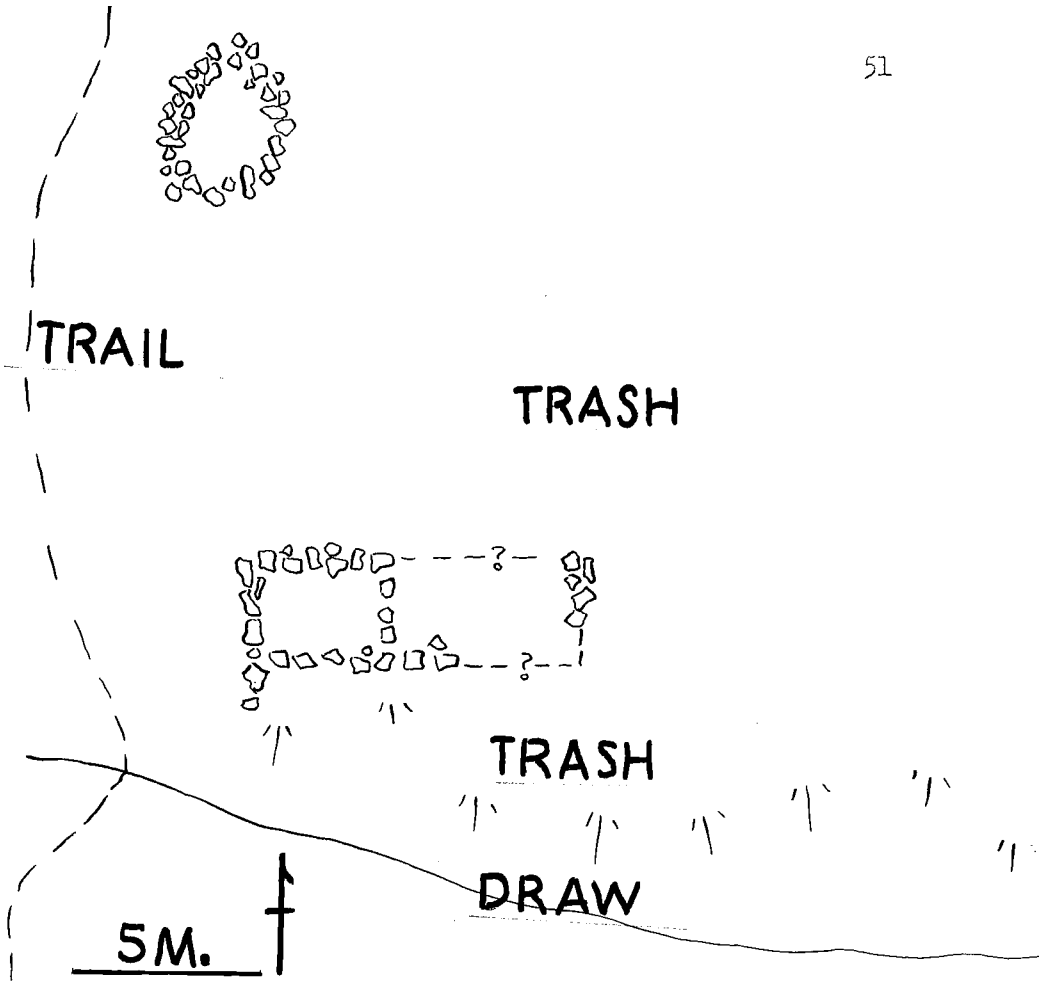

Fig. 15. Plan View of Site 19.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	46	53	
Tuzigoot Red	5	6	
Hardscrabble Brown (new type)	3	3	
Polles Brown (new type)	4	4.5	
Pine Brown (new type)	2	2	
	60	68.5	total
HOHOKAM PLAIN WARE			
Wingfield Plain	5	6	
	5	6	total
LITTLE COLORADO WHITE WARE			
Holbrook Black-on-white	6	7	
	6	7	total
SAN JUAN ORANGE WARE*	15	17	
	15	17	total

*Too eroded for typing

SITE 20

Lies on a prominent, barren ridge overlooking the East Verde River below NB Ranch, between Bushy Hollow and City Creek, at an elevation of 3650 feet, T 10 N, R 8 E, Sec. 13; NE quarter. It is designated "Indian Ruins" on USGS Payson Quadrangle, edition of 1942 (Map 1).

The structure, an apparent defensive enclosure of dry slab masonry open on the cliff side (Fig. 16), is in a good state of preservation. The highest standing wall is 2 meters, probably little if any lower than it was originally, and wall thickness is about 1 meter. A

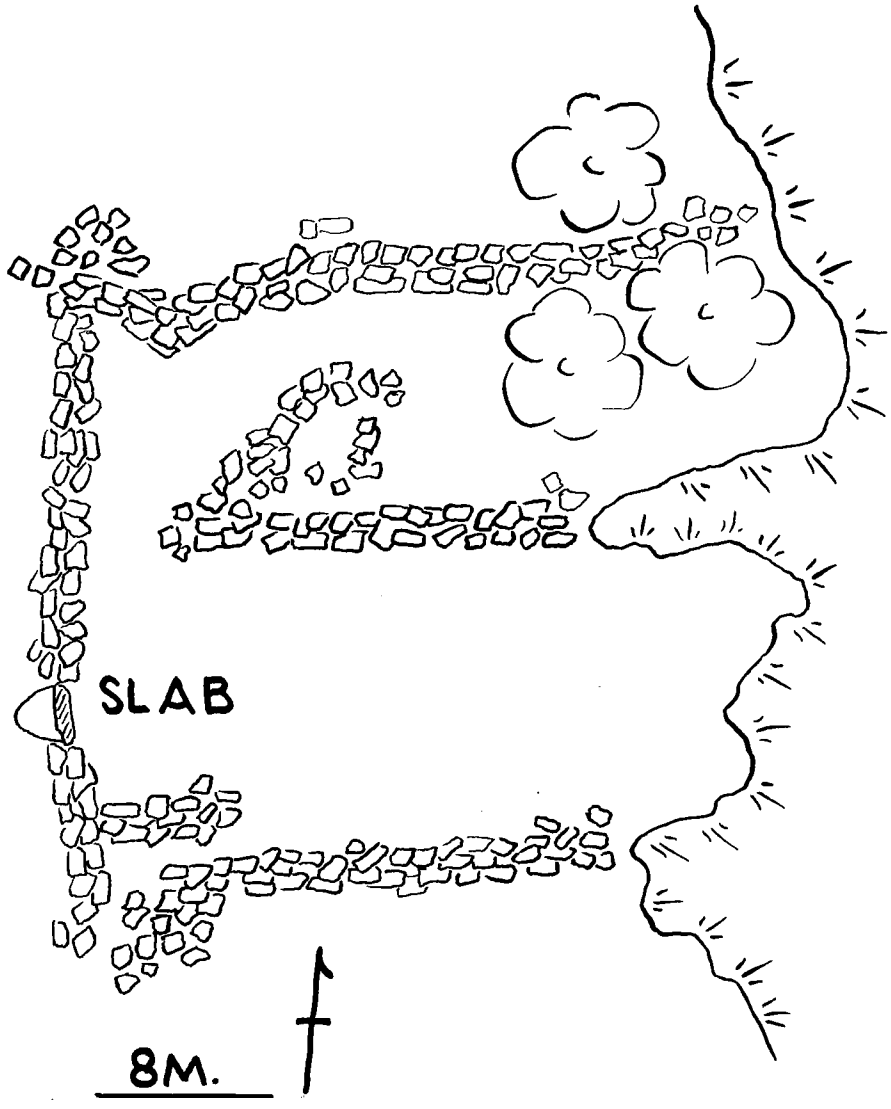

Fig. 16. Plan View of Site 20.

partition bisects the enclosed area, running from the brink of the cliff to within 2 meters of the rear wall (Plate 9, upper). On the north side of the partition is an arc of tumbled masonry which appears to have joined it at one time. No other evidence of interior construction exists on the bedrock floor of the enclosure. A narrow entrance in the southwest corner is blocked by a curtain wall 2.5 meters long and now 1.5 meters high. About a meter north of this an upright stone slab 1.5 meters long protrudes from the masonry of the western wall (Plate 9, lower). Similar slabs have been noted in southwestern Colorado, at Kin Tiel pueblo in eastern Arizona, and at the modern pueblo of Zuni, where they have religious significance. (Mindeleff, 1891: 147-48). In the northwest corner of the enclosure a small salient angle occurs. It is about 1.5 meters wide and commands the north and west sides of the enclosure.

Vegetative cover surrounding the site is juniper, agave, and prickly pear. Nearest obvious water today is the East Verde, some 300 feet below. Bottomlands in the locality are now farmed as they probably were in the past. The general locality is one of the most favorable for agriculture encountered on the entire course of the river.

Culture debris, other than the walls themselves, is negligible at this site, although some depth may be found outside the enclosure. The few sherds encountered occurred at scattered points inside the walls.

A spot on the river directly opposite Site 20 is marked "Indian Ruins" on the topographic sheet, but a thorough search of the area failed to produce traces of it. Local ranchers know of no such ruin in the area indicated.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	7	88	
Pine Brown (new type)	1	12	
	8	100	total

SITE 21

About ½ mile west of Site 20 and some distance below it is an outcrop stratum of weathered metamorphosed rock which is honeycombed with small overhangs and "caves." The only one examined, Site 21, has a "roof" composed of several mushroom-shaped masses of stone which have weathered away from the main stratum. Under these are abundant traces of fires (some of which are modern, judging from a few broken bottles), relatively numerous plainware sherds, and flaking debris.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	5	83	
Pine Brown (new type)	1	17	
	6	100	total

SITE 22

A sherd and refuse concentration approximately 25 meters in diameter located at an elevation of about 3300 feet on a sloping terrace above the confluence of Rock Creek with the East Verde, about 12 miles above its mouth in foothills at the east end of Polles Mesa, T 10 N, R 8 E, Sec. 8; NW quarter.

The steep, broken terrain surrounding the site is covered with stands of juniper, grasses, agave, and various cacti. Sycamore,

cottonwood, and mesquite thickly fringe the water courses. Relatively small patches of arable land occur on terraces immediately above the East Verde, which at this point enters a steep-walled canyon for the remainder of its journey to the Verde proper.

Cultural remains noted on the surface are confined to numerous sherds, broken and whole grinding tools (Plate 13, upper), and some flaking debris. Although concentration of this material and ashy appearing earth imply trash deposition and thus occupation, no house remains occur on the surface.

Ceramic Analysis:

	NO.	%	
ALAMEDA BROWN WARE			
Verde Brown	46	68	
Clear Creek Brown	4	6	
Polles Brown (new type)	6	9	
	56	83	total
HOHOKAM PLAIN WARE			
Wingfield Plain	5	7	
	5	7	total
LITTLE COLORADO WHITE WARE			
Holbrook Black-on-white	4	6	
Deadmans Black-on-white	3	4	
	7	10	total

SITE 23

A sherd and refuse concentration located on Polles Mesa, T 10 N, R 8 E, Sec. 33; center, about 2½ miles east of Site 25 and ¼ mile from the south rim of the mesa at an elevation of about 4200 feet (Map 1).

Surroundings are thick stands of juniper, with some agave, prickly pear, yucca, and grassy flats, which in spite of their rocky character provide ample soil for primitive dibble stick agriculture. Local reports of check dams to confine runoff and conserve soil were not confirmed by direct observation, but only a small part of the mesa was given the benefit of a hasty reconnaissance because of adverse weather conditions. However, it seems likely that the apparently extensive population at one time occupying Polles Mesa would necessarily have had recourse to mesa tops for dry farming due to lack of arable land along the stream bed some 800 feet below (Plate 17).

In culture content and general character, Site 23 is similar to Site 22, and judging from the pottery, roughly contemporaneous. Other than sherds, one small triangular side notched projectile point of basalt was collected (Plate 14, h).

Ceramic Analysis:

	NO.	%	
ALAMEDA BROWN WARE			
Verde Brown	46	40	
Tuzigoot Red	12	10	
Clear Creek Brown	12	10	
Pine Brown (new type)	11	9	
Hardscrabble Brown (new type)	1	.8	
Polles Brown (new type)	2	1.7	
	84	71.5	total
HOHOKAM PLAIN WARE			
Wingfield Plain	8	7	
	8	7	total

LITTLE COLORADO WHITE WARE	NO.	%	
Holbrook Black-on-white	12	10	
KAYENTA SERIES			
Deadmans Black-on-white	11	9	
DEADMANS SERIES			
Tusayan Black-on-red	1	.8	
	24	19.8	total

SITE 24

A sherd area similar to Sites 22 and 23 occurring on the slope of a small hill about 1½ miles northwest of Site 23 on Polles Mesa and less than ¼ mile east of a new stock tank used by the NB Ranch, T 10 N, R 7 E, Sec. 29 (NE quarter of the SW quarter), elevation 4200 feet (Map 1).

Surface indications imply considerable trash deposition, although as in the case of Sites 22 and 23, no appreciable mounding of debris or evidence of architecture is apparent today.

A high percentage of Little Colorado White Ware sherds is notable at this site.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	2	13	
Clear Creek Brown	1	6	
TONTO SERIES (?)			
Tonto Red	1	6	
	4	25	total

LITTLE COLORADO WHITE WARE	NO.	%	
Holbrook Black-on-white	11	73	
	11	73	total

SITE 25

This site, the largest encountered, is a pueblo ruin of at least 20 ground floor rooms (Fig. 17) located on the western tip of Polles Mesa overlooking the East Verde and some 800 feet above it at an elevation of 4200 feet, T 10 N, R 7 E, Sec. 25; SE quarter of the SE quarter (Map 1).

Vegetative cover is the same as that occurring around Sites 23 and 24 and nearest water is the East Verde, except for possible seep springs under the rim of the mesa.

Walls of the capital "D" shaped structure were crudely constructed of unshaped boulders and slabs, without the use of the large volumes of mortar so characteristic of the Sinagua pueblos in the Verde Valley proper. Dimensions of the walls averaged 1 meter in thickness and a maximum present height of 1.5 meters. Masses of tumbled debris obliterating much of the ground plan on the interior of the pueblo indicate the possibility of several two story sections. None of the walls exhibited the facing and rubble cores common to the north (Plate 10).

Local cattlemen report a much larger pueblo about 2 miles northeast of Site 25, and between the two a very large clearing which they call the "racetrack" which may or may not have been contemporaneous with the pueblo occupation. Unfortunately, weather conditions prevented an examination of these two features.

Cultural materials on the surface were commonly sherds; little else was noted. Depth of culture is greatest outside the southwest

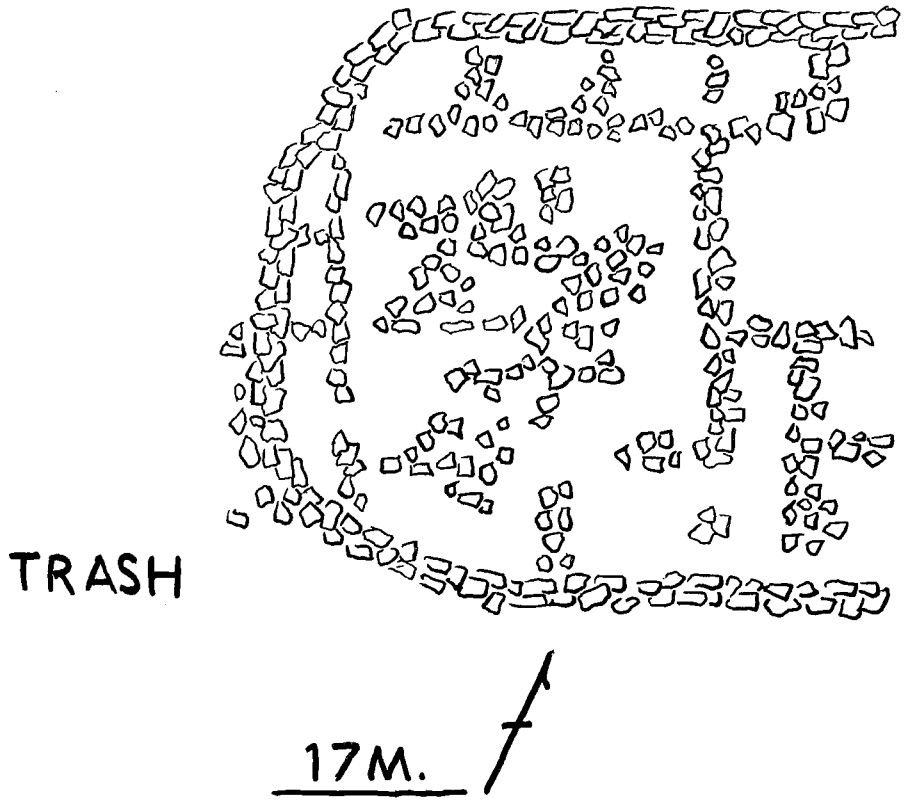

Fig. 17. Plan View of Site 25.

corner of the village, where there is the suggestion of a low mound about 7 meters in diameter.

Ceramic Analysis:

	NO.	%	
ALAMEDA BROWN WARE			
Verde Brown	3	10	
Tuzigoot Red	8	30	
Polles Brown (new type)	1	3	
Pine Brown	3	10	
	15	53	total
WINSLOW ORANGE WARE			
Tuwiuca Orange	1	3	
ALAMEDA RED WARE			
Homolovi Polychrome	1	3	
CHAVEZ PASS SERIES			
Chavez Pass Polychrome	1	3	
	3	9	total
JEDDITO YELLOW WARE			
Jeddito Black-on-yellow	7	24	
ROOSEVELT RED WARE			
Gila Polychrome	4	14	
	11	38	total

SITE 26

A crude circular enclosure (Fig. 18) with an entrance on the western side similar to those at Site 16 crowning a conical hill at an elevation of 4220 feet overlooking the north bank of the East Verde where it trends southward to form a meander about ½ mile below the ford

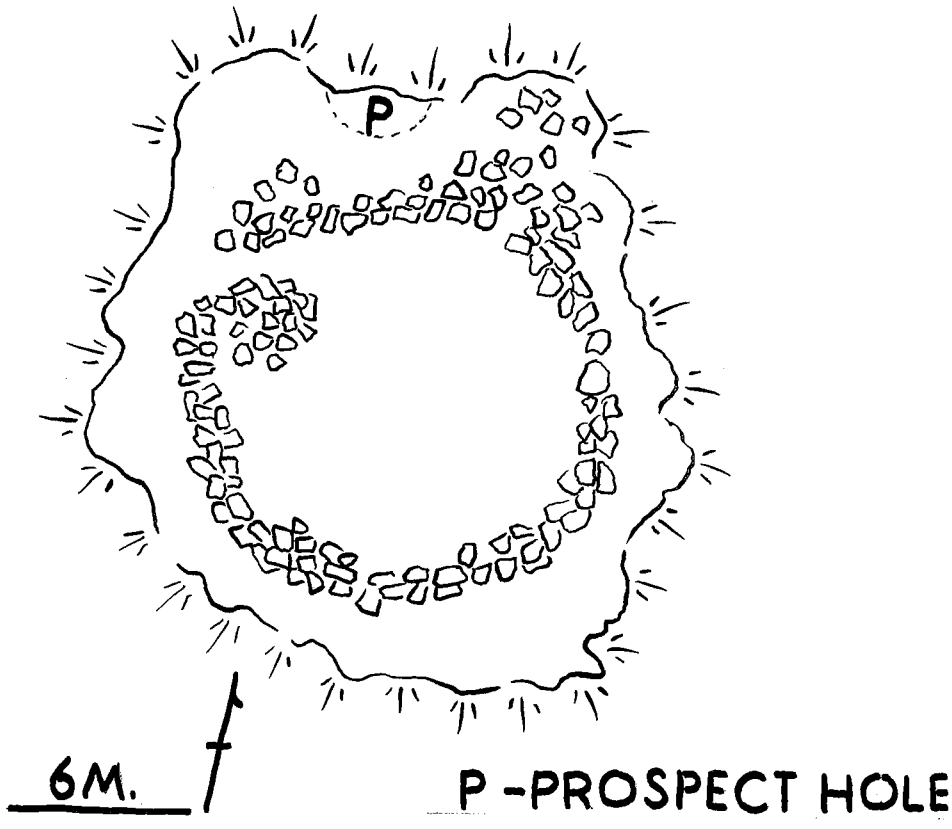

Fig. 18. Plan View of Site 26.

on the "Doll Baby" Ranch road. It is marked "Indian Ruins" on the USGS Pason Quadrangle (edition of 1942), T 10 N, R 8 E, Sec. 4; NE quarter (Map 1).

The walls of the structure, built on bedrock and with no interior features, consist of unshaped boulders and slabs of dry masonry, a maximum 1 meter wide and 1.5 meters high. Apparently they were never more than 2 meters high. The entrance is about 1 meter wide (Plate 11).

Local vegetation consists of pinyon and juniper, with agave and prickly pear common on the grassy hillsides. Nearest water is to be had in the East Verde about ½ mile southeast. No good bottomlands for farming are nearby.

In its construction, general appearance, and pottery this enclosure is similar to Sites 1, 9, 16, possibly 17, and 20. The last named site can be seen with field glasses on its ridge about 3½ airline miles southwest.

Rarity of sherds and other cultural refuse indicates little use as an occupational site.

A few meters northwest of the enclosure and under a shallow outcrop of rock is a "prospect hole," dug into alternate layers of clay and a blue-green shale to a depth of about 1 meter. The colored material is too soft for ornaments and too light in color for paint. Perhaps it is a memento of some wandering white prospector.

Ceramic Summary:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	15	88	
Clear Creek Brown	2	12	
	17	100	total

SITE 27

A camp site located on a terrace immediately above the East Verde, about 200 yards below the abandoned Gowan Mine works and on the eastern side of the river at an elevation of about 3900 feet (Map 1).

Broken handstones (Plate 13, lower), flaking debris, a few sherds, and lenses and low mounds of ashy earth are littered over a wide area. These are mixed with the obvious debris of a mining camp--rusted cans, old bottles, etc. There are also a few faint traces of rectangular boulder foundations which appear more White than Indian, but only excavation will reveal their origin.*

Across the stream 12 bedrock metates of the elliptical type (Plate 12) occur on a high, flat boulder.

General surroundings are pinyon and juniper on the higher elevations with cottonwood, sycamore, and mesquite thickets along the stream bed. The river here is closely confined and there is little available bottomland.

Ceramic Analysis:

ALAMEDA BROWN WARE	NO.	%	
Verde Brown	2	100	
	2	100	total

SITE 28

A small group of shallow bedrock mortars about 15 centimeters in diameter and 5 to 7 centimeters deep occurring on a terrace overlooking

*Milton Wetherill of the Museum of Northern Arizona informs me that mining activity here is no earlier than the late '80's and early '90's.

the north bank of the East Verde where it makes a sharp bend westward, about 1½ miles downstream from Site 27, T 11 N, R 9 E, Sec. 3; NE quarter, elevation 4300 feet (Map 1).

The only other culture evident is a fragment of trough metate a few meters from the bedrock mortars.

An old arrastra and an abandoned donkey engine attest mining activity nearby in recent times. A much eroded, stone banked horse trail skirts the terrace on its way to an abandoned ranch house and the Gowan Mine.

While it is known that many old time prospectors made themselves mortars in which to grind ore samples, the pecking marks in these specimens, which show the probable use of a stone tool, and the presence of the metate fragment imply Indian origin.

More intensive search in the immediate area may well reveal an occupation site.

III. Discussion

A. Architecture and Village Layout

1. Masonry Pueblos: These, the most sophisticated structures on the East Verde, compare favorably in construction with the large Sinagua villages on the Upper Verde, but if the survey is any indication, are not common in the area under consideration.

Rare pueblos with Sinagua affiliations are known from the Payson area (Museum of Northern Arizona sites 779 and 1902 on Reiser's Ranch) but none was located by the writer above Polles Mesa. This feature lies about 6 miles above the mouth of the East Verde and bears considerable evidence of occupation through several phases.

Between Polles Mesa and the mouth of the East Verde are 6 known structures which have a pueblo ground plan. Two of these (Site 25 and an unsurveyed pueblo) occupy the western tip of the mesa. A third lies at the mouth of the East Verde (Mindeleff, 1892: 201), two (Sites 7 and 8) lie at the base of Cedar Bench and the last a mile or so north and about $\frac{1}{2}$ mile above the mouth of Fossil Creek on its east bank (ibid., 204). These two sites were not visited by the writer, but ground plans of the structures are reproduced here in Figures 19 and 20. Other sites of this type no doubt exist but are well hidden in exceedingly rough and broken country.

Mindeleff's two sites are rectangular clusters of room outlines which occupy low terraces immediately above stream bed and are generally close to small patches of arable bottomland on the river. Survey Site #8, in foothills above the east bank of the Verde between the East Fork

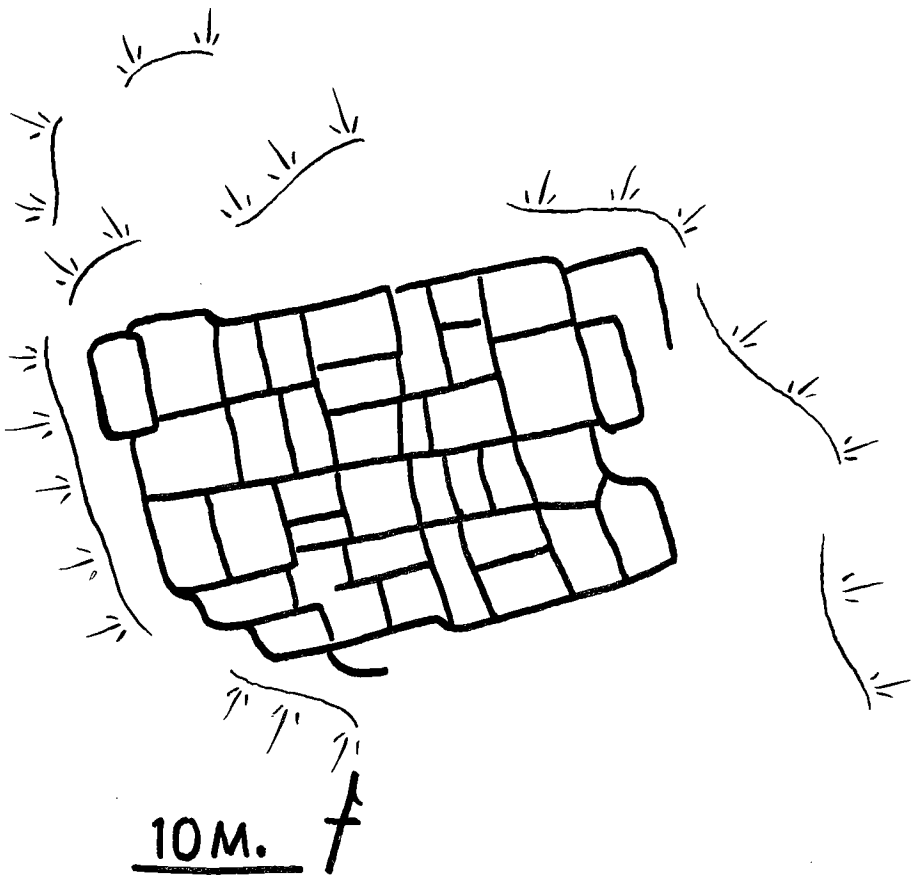

Fig. 19. Mindeleff's Ruin Near the Mouth of the East Verde.

(Mindeleff, 1892; Fig. 280)

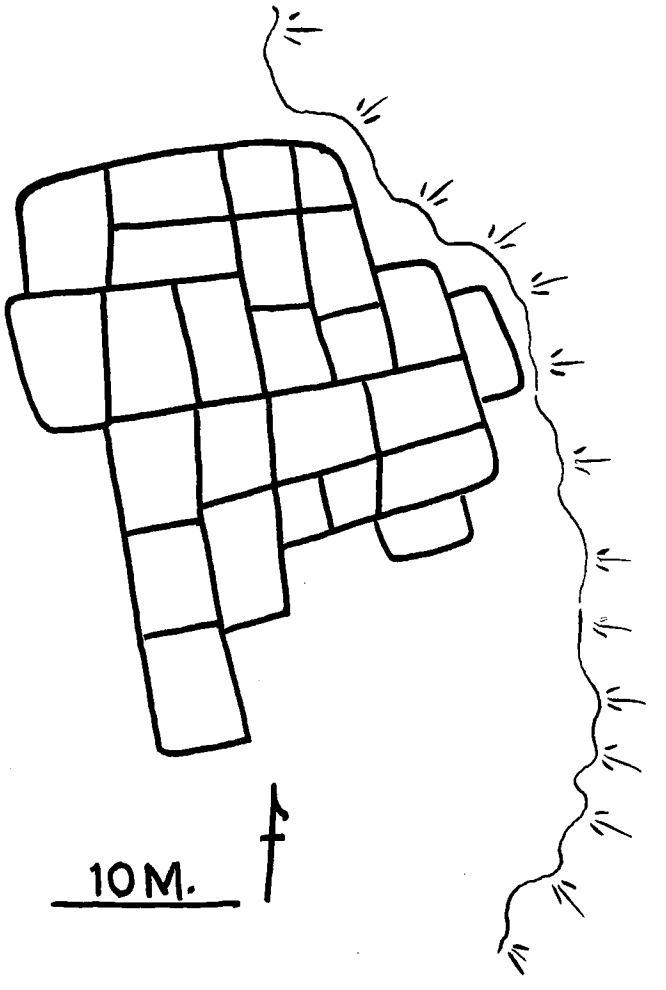

Fig. 20. Mindeleff's Ruin Near the Mouth of Fossil Creek.

(Mindeleff, 1892; Fig. 281)

and Fossil Creek, has affinities with Mindeleff's sites. Mindeleff collected no pottery from his sites, but if sherds from Site #8 are typical, this class of small riverine pueblos was occupied from 1100 to about 1250 A. D.

Pueblos built at higher elevations are Sites 7, 25, and a large unsurveyed village on Polles Mesa overlooking The Gorge. These all have high standing boulder and slab walls in which little mortar was utilized, in this respect differing from the large Sinagua towns of the Upper Verde where walls were often half mud by volume (Caywood and Spicer, 1935: 24). Another anomaly is the "D" shaped outline of Site 25, common enough in Eastern Arizona but relatively rare in the Sinagua area.

Pottery found at Sites 7 and 25 indicates that the two were contemporaneous. The large unsurveyed pueblo a mile north of Site 25 is said by local cattlemen to contain "over 200 rooms." By verbal description it can be classified with Sites 7 and 25 and was probably a sister village.

The lack of standing masonry at Mindeleff's small riverine pueblos (Mindeleff, 1892: 197, 201) and at Site #8 is puzzling. Perhaps they were robbed of their walls by later groups (unlikely because stone is plentiful in the area) or perhaps the foundations only were of stone. The rest of the pueblo may have been jacal construction.

Large rooms are typical of most Southern Sinagua pueblos and those on the East Verde are no exception, as an examination of the ground plans for the ruins under discussion will show. With reference to room specialization, we can say very little without excavation. Some smaller than average rooms along the curved back wall of Site 25 may have served as storage, but this was the only surface indication of

specialized use. Mindeleff mentioned a fragmentary curved wall at his small masonry village at the mouth of the East Verde (Fig. 19). This occurred outside the village proper and was believed by him to be a terrace retainer possibly used as a burial ground (ibid., 201). Kiva depressions were not encountered in this area, but ordinary rooms may have been set aside for religious use as they appear to have been at Tuzigoot (Caywood and Spicer, 1935: 103).

Doors, roofs, and other minor construction features were no different from those found in the large Sinagua pueblos of the upper Verde. One door, about 2½ feet wide and 4 feet high, was noted in a plastered wall at Site 7 (Fig. 8). Other than this none was indicated. Doors at the Sinagua site of Tuzigoot were rare. Here only 3 were found, all of which had been sealed during the occupation (ibid., 36-7). In general, most Sinagua pueblos appear to have been entered solely by means of ladders and rooftop hatchways. No evidence for loopholes or "windows" was encountered on the survey.

One preserved roof at Site 7 is probably typical for the group as a whole and differs little from those noted at Tuzigoot and Montezuma Castle. Here, in most cases, two large vertical supports held the main roof beam which in turn supported secondary rafters. Over these rested bark or reed thatching, mud, and flagstone. The timber used at Site 7 is mostly datable ponderosa pine and pinyon in contradistinction to the undatable cottonwood and sycamore used at Tuzigoot and Montezuma Castle. To my knowledge, Site 7 is the only Southern Sinagua site where datable wood occurs.

To summarize, pueblo structures seem to be rare on the immediate course of the East Verde, those surveyed or known from the literature

being limited to the lower reaches of that stream and its confluence with the Verde proper. These sites appear to be of two distinct types and occupational phases. The earlier pueblos were small rectangular villages, possibly of ephemeral jacal construction but with boulder foundations, which occupied terraces adjacent to the stream bed of the Verde, East Verde, and Fossil Creeks overlooking patches of arable bottomland. If the small sampling of sherds at Site 8 is indicative, these sites did not survive past 1300 A. D.

The second type, thick walled, dry slab masonry pueblos and cliff dwellings occupying much higher terrain, may have been founded at a time contemporaneous with the riverine villages, but outlasted the latter, as attested by late intrusives and local plainwares. Except for the prevalence of dry slab masonry and the "D" shaped outline of Site 25, these late sites are not different from the large Sinagua valley pueblos of the Upper Verde. Excavation may prove a cultural as well as temporal disparity between the riverine pueblos and the higher sites, but sherds and other surface indications give no such evidence.

If the two types of pueblo represent a cultural unit (Southern Sinagua) and if the temporal sequence is valid, we may postulate a period of strife leading to an abandonment of the riverine sites and their adjacent fields and a retreat to already occupied locations in the more easily defended high country overlooking the Verde and its tributaries in this vicinity.

Evidence to be presented later in this paper indicates that on Polles Mesa, at least, dry farming and runoff irrigation were practiced, making the inhabitants of that area more or less self sufficient in their isolated and impregnable positions.

2. Boulder Marked Sites: Three sites of this type, numbers 5, 12, and 19, were located on the survey. They consist of rectangular boulder outlines less than ½ meter above ground today, but trowel tests at Site 12 indicate a foundation extending at least 2 feet under the present ground surface. In arrangement, two of the sites, numbers 5 and 12, resembled an incipient puebloan ground plan of four or five contiguous rooms. The one complete rectangular "room" outline at Site 19 was much larger than the others, being roughly 6 meters square.

No definable trash mounds were noted at these sites, but broken stone manos, chips, and potsherds were fairly common over a wide area surrounding them.

Although rectangular forms were the rule, one circular outline about 2 meters in diameter was noted at Site 19. Similar circles of rock have been found by the writer recently on a terrace immediately above the town of Cottonwood.* These were at first thought to be outlines of historic Yavapai wickiups, but sherds from the site were Puebloan Alameda Brown and Jeddito Yellow Wares contemporaneous with the occupation of nearby Tuzigoot.

Boulder marked sites were recognized as a distinct type by Cosmos Mindeleff during the first survey of the Lower Verde. He described them as groups of oblong rooms, ". . . similar in size and ground plan to the rooms composing the village ruins . . . but differing in . . . character of site and character of masonry." Many of these he noted on bluffs overlooking bottomland, directly on bottomland, or near dry washes ". . . where every spring they must have been threatened

*Sherds and ground plan of this site are on file at Tuzigoot National Monument.

with overflow." Judging from their position, he believed that ". . . permanency was not an element of much consideration in their selection (Mindeleff, 1892: 235)." The locations of Sites 5 and 12 high above the river indicates that such sites cover a wider range of terrain than Mindeleff realized.

Speculations on the function of the boulder marked sites have not been tested by excavation. Mindeleff believed them to have been more or less temporary farm outlooks and walled garden plots contemporaneous with the masonry pueblos along the river, basing his opinion on their provenience near the latter and similarities in the pottery found at each type of site (ibid., 235). Finds of Verde Brown, Clear Creek Brown, Wingfield Plain, and intrusive Holbrook Black-on-White seem to bear him out, at least with regard to the small riverine pueblos. However, no late sherds were encountered at the boulder marked sites.

In his study of Pueblo architecture, Victor Mindeleff mentions a Pima tradition that similar boulder outlines near the mouth of the Verde River were "ancient gardens," and further that almost identical walled plots were used by the Zuni of his day for the raising of such special crops as chile, beans, and tobacco (Mindeleff, V., 1891: 216).

That some, at least, of these sites were very closely connected with farming activities is indicated by a boulder marked site near the mouth of Clear Creek found to be associated with irrigation works. At another, Mindeleff mentions ". . . traces of what may have been a storage reservoir (Mindeleff, 1892: 236)."*

Another indicator of possible Hohokam affiliation is the

*Actually a Hohokam ball court.

presence of Wingfield Plain, a schist tempered plainware of supposed local Hohokam derivation, at the surveyed boulder sites. However, most of the ceramic connections of the boulder sites seem to have been with the north and northeast, rather than the south.

Certainly the only route to an understanding of the function, cultural connections, and temporal placement of the boulder marked sites lies through a program of excavation in a representative group of them.

B. Fortified Sites

Easily the most interesting and enigmatic sites encountered on the survey were the remains of masonry enclosures crowning hills and high bluffs. As a glance at Map 1 will show, five of these were located along the river from its upper to its lower reaches. The sixth, Site 16, occupies a high hill overlooking the town of Pine. This site is aberrant in its greater amounts of occupational debris and in its evidence of interior masonry rooms. Another unusual and unexplained feature is a thick extra-mural wall which parallels the main structure on the north (Plate 7). Mindeleff found a similar wall at one of the large masonry pueblos below the mouth of the East Fork on the Verde (ibid., 199).

Scarcity of sherds and other debris at the remaining sites would seem to indicate that they were used only as places of refuge during times of stress.

The largest of the forts is Site 20, which covers a partition-bisected area about 25 by 17 meters square on top of a high barren ridge overlooking the lower East Fork. This ridge can be easily seen from a much simpler fortified enclosure, Site 26, located on a hill about 5 miles up-river. This last site is typical in its simple circular form and lack of interior construction.

That Site 20 was a relatively sophisticated effort at military architecture is attested by its size, higher walls, and such features as a salient angle defending the northwest corner of the enclosure and a curtain wall blocking its narrow entrance.

Its Indian origin is argued by a total lack of any European material culture and the presence of Alameda Brown Ware sherds inside the enclosure. These sherds and the lack of a wall on the cliff side, which would make it an untenable position in an age of firearms, point to a prehistoric date of construction.

Fortified dry masonry outlooks are common in central Arizona, and were noted by the first scientific workers in the area. However, it is doubtful if they represent one cultural group. The so-called "Cohonina Forts" west of Flagstaff have been attributed by high sherd percentages of San Francisco Mountain Grey Ware to the Cohonina people (Colton, 1946: 81-84; McGregor, 1951: 76-81). Those on the East Verde exhibit a great preponderance of Sinaguan Alameda Brown Wares in the admittedly small sample collected. Only one sherd of intrusive decorated pottery (Little Colorado White Ware) was found at any of the forts. Assuming that the predominant Verde Brown sherds were of local derivation, we may postulate the construction and use of the forts by Southern Sinaguan groups. Absence of intrusive pottery from the area south of the East Verde and the defensive nature of the sites may indicate that the Sinagua met opposition as they moved off of the Mogollon Rim, and that their frontier stabilized at least for a time along the course of the East Verde stream, even though movement continued down the Verde proper. More intensive work south of the East Fork should determine whether or not this frontier remained static.

Historic references to parties of Yavapai on the East Fork of the Verde utilizing heights from which to roll boulders on their American attackers (Genung, n.d.: MS in the Southwest Museum) lead one to the tantalizing speculation that some of the forts may have been re-used in later times. However, no cultural evidence for such use, either on the part of the Yavapai or Tonto Apache, was encountered in or near the fortified enclosures.

C. Rock Shelters: Sites of this type were much sought after by many Indian groups, whether for occupation, storage, or temporary hunting and gathering camps, and specimens large enough to have been attractive to successive users often yield the best stratigraphic outlines of local culture history.

Five cave or rock shelter sites were located on the East Fork. They ranged from shallow overhangs to large caves over 30 meters wide and as much as 10 meters deep, occurring in weathered metamorphic strata on or above the river from its upper to its lower reaches.

Surface sherds and other cultural debris was not common in any of the sites, although trash deposition at least 1 meter deep is revealed between fallen roof slabs at one. Fortunately for potential excavators, this site, #18, is in an easily accessible position only a few hundred yards from the Pine-Payson highway bridge.

Although the Yavapai are known to have often preferred caves for winter quarters (Gifford, 1936: 269), no direct evidence of this group was found on the surface at any of the surveyed sites. Apache (Tonto) occupation in at least one cave site is apparent in the presence of "Apache Indented" sherds at Site 4. Verde Brown sherds at Sites 18 and 21 indicate the presence of an earlier people who had access to

Sinaguan Alameda Brown Ware.

The only other cultural items noted at the rock shelters were several bedrock metates of the deep, elliptical type, petroglyphs and pictographs, and a fragmentary cane arrowshaft.

That some farming was done even on the upper reaches of the river is indicated by the presence of corn cobs in a rock shelter not far from the source of the East Verde in the Mogollon Rim.

D. Puebloan Refuse Areas: Sites 22, 23, and 24 fall under this classification and all were located on Polles Mesa or on its eastern slopes (Map 1). They are characterized by concentrations of broken manos of the ovoid, square, and rectangular variety, flaking debris, and sherds. Ashy earth indicative of trash deposition is apparent but no noticeable mounds are present. The concentrations cover areas up to 60 meters in diameter, and a light scattering of material covers a much wider area. The large amount of surface debris certainly bespeaks settlements of some kind, but no indications of housing are apparent on the surface. Excavation in one of these sites might well bring to light pit house or surface jacal foundations.

Synchronous occupation of all three sites is indicated by the pottery found. Predominance of Alameda Brown Ware, types Verde and Clear Creek Brown, points to Sinagua affiliations, and a small amount of local Hohokam Wingfield Plain to contacts with that group. Total absence of late wares and presence of Little Colorado intrusives Holbrook and Deadmans Black-on-white place the sites somewhere between the late Pueblo I and early Pueblo II periods of the Anasazi sequence.

If the predominance of Alameda Brown Ware is significant, Polles Mesa was occupied by the same cultural group, Southern Sinagua,

beginning at least as early as the 11th century A. D. with the occupation of small pit houses or jacal villages and culminating with the construction of the two large pueblos on the western tip of the mesa after the beginning of the 14th century A. D.

Intrusive trade wares indicate exclusively northern and northeastern connections at the earlier sites with southern and southeastern Roosevelt Red Ware (Gila Polychrome) coming in during the Pueblo IV occupation. What part the Verde Hohokam elements, represented by Wingfield Plain in the earlier sites, played in this culture sequence only excavation will reveal.

E. Non-Pueblo Camp Sites: A total of eight of these small sites (10, 11, 13, 14, 15, 21, 27, and 28) were located (Map 1) and many more are probably hidden in the rough and heavily overgrown terrain along the East Fork. All were in close proximity to the main stream or to intermittent tributaries. Of the total number, five were located by the presence of bedrock metates, usually of the deep elliptical type (Plate 12), although in one case shallow circular mortars occurred. In some cases the metates were found in the stream bed itself or on large boulders immediately above the stream.

Some sites had no cultural material other than the bedrock grinders, but the majority were characterized by concentration of discarded ovoid and squarish one-handed manos, considerable chipped stone including broken blades, scrapers, and projectile points, and a few sherds of Alameda Brown Ware. No architecture was apparent at any of the sites.

With only one exception the sites were located on small terraces immediately above the stream bed and in several cases were located near

bottomlands which could have been farmed.

Cultural affiliation of these sites is difficult to assess. Although the sherds recovered are an indication of contemporaneity with the Southern Sinagua, their rarity seems to rule out a cultural relationship with that group. The rest of the meager cultural inventory noted at these sites tends to support the ceramic evidence. In general, the grinding tool complex is not Sinaguan. Bedrock grinders are not listed by Colton as a Sinagua trait, and the ovoid, one-handed manos so prevalent here are described as fairly common only in later phase Sinagua sites on the plateau (Colton, 1946: 283). Further, the projectile points collected (Plate 14) do not compare closely with known Sinagua types (ibid., 289-90). As a general working hypothesis we may assume then that these small sites are the remains of camps possibly resorted to seasonally by non-puebloan peoples of as yet unknown antecedents.

F. Check Dams and Clearings: Check dams, though not seen by the writer, are rumored to exist on the many shallow washes draining Polles Mesa. These were probably built to retain soil as well as water in much the same manner as other known examples in the Southwest, notably Mesa Verde in southwestern Colorado. Works of this type would certainly be a fair indication that the surface of the mesa was farmed.

Between Site 25 and the large unsurveyed pueblo overlooking The Gorge on the north side of Polles Mesa is a very large rectangular clearing known locally as the "racetrack." Unfortunately time and weather did not allow an inspection, but cowhands who work the mesa say it is large enough to serve as an airstrip for light planes and several times has been so used. Verbal descriptions agree that it is quite smooth, with a shallow bank of displaced malapai boulders around its

perimeter. In the absence of a detailed survey, its purpose remains obscure. Perhaps it was some type of ceremonial enclosure--a dance area, racetrack, or ball court. Another possibility is that it served as a reservoir. Enough rain falls on this area today to make the use of two large cattle tanks practicable. Of its aboriginal character none of the local cattlemen are in doubt, and if proximity means anything, it may have been contemporaneous with the two large pueblos on this end of the mesa. Apparently works of this type are not uncommon on the lower Verde. Milton Wetherill, of the Museum of Northern Arizona, told the writer that several are rumored to exist in this area, but none has been surveyed to date.

G. Pictographs: Black and red pictographs and shallow, crudely executed petroglyphs were encountered at five sites (2, 3, 4, 5, and 6). Of these, three occur on the upper reaches of the East Fork and two in the vicinity of its mouth between Sites 5 and 7 (Map 1). In layout they ranged from small isolated examples on scattered boulders to quite extensive groups on the rear walls of rock shelters.

In content there is little difference between the painted and pecked groups. Both show a preference for curvilinear, rather than geometric design elements, and depict small human and animal forms as well as abstract "rake," spiral, and meandering line designs (Figs. 2, 4, 6, and 7) (Plate 2).

Cultural affiliation of the rock pictures can only be surmised, but in their faintness and degree of patination, all appear to be quite old.

Informants told Gifford that the Matkitwawipa band of Yavapai were not responsible for rock pictures and did not know their meaning.

They attributed them to the Ichikiyuka, (yuka, first people doing) the ancient builders of the ruined stone pueblos of the vicinity (Gifford, 1936: 252, 290).

There is little basis in the extant literature for attributing rock pictures to Apache groups. Although Fewkes stated, on what ground he doesn't say, that certain pictographs in the vicinity of Sedona were the work of Apaches (Fewkes, 1913: 197), both pictographs and petroglyphs are absent from all Apache groups except the White Mountain band in Gifford's trait list, and he further states that Southern Tonto informants considered the creation of any rock picture as "wicked" (Gifford, 1940: 154). Pictographs and Apache potsherds did occur together at one rock shelter, but of course proximity alone does not imply association.

In design content the pictographs and petroglyphs are not remarkable. Such common recurring motifs as the meandering line, bulls-eye, spiral, "rake" or "comb," and stick-like human and animal figures are valueless as cultural indicators because of their wide distribution throughout the western United States. In general, however, their lack of geometric and rectilinear motifs and their crudeness places the East Verde examples closer to the Great Basin and the Cohonina area west of Flagstaff than to the Colorado Plateau (Colton, 1946b: 7; McGregor, 1951: 131-32), and were probably made by some ancient people who may have been affiliated with the Southern Sinagua or their predecessors, but apparently not with Athapaskan and Yuman groups who occupied the area in historic times.

H. Minor Antiquities

1. Ceramics

Particular attention was paid to sherd collections on the survey because of their value as indicators of time and culture, but in spite of this a total of only 657 sherds was collected from 21 of the 28 surveyed sites. All sherds were washed, sacked for the appropriate site, and taken to the Museum of Northern Arizona where comparative collections and expert opinion were available.

Most of the types delineated (Table 1) have already been described by Colton and Hargrave (Colton and Hargrave, 1937) and by Colton alone (Colton, 1941), but in addition to these, Colton was able to describe three new varieties of Verde Brown, Alameda Brown Ware, as follows:

Hardscrabble Brown (New Type)

Variety of Verde Brown

Described by: Dr. H. S. Colton.

Named by: Fred Peck for Hardscrabble Mesa, Gila County, Arizona.

Examples: AT 10562 (Museum of Northern Arizona sherd file).

Type Site: Fred Peck Site 12.

Stage: Late Pueblo II in part.

Time: 1050-1100 (?) A. D.

Description: Construction: paddle and anvil. Surface Color: brown. Fired: oxidizing atmosphere. Temper Shape: angular. Temper Color: gray. Temper Material: probably basalt, fine grained, sometimes dark and vesicular. Temper Quantity: medium abundant. Vessel Walls: .70, .43, .48, .68, .65 cm. Surface Color: brown to reddish. Surface Finish: smooth.

TABLE I. CERAMIC WARE AND TYPE FREQUENCY BY PERCENTAGE

TYPE OF SITE		NON-PUEBLO CAMP SITES						CAVES		PUEBLOAN REFUSE AREAS			BOULDER MARKED SITES			MASONRY PUEBLOS			FORTIFIED ENCLOSURES			
SITE NUMBER		10	11	14	15	21	27	4	18	22	23	24	5	12	19	7	8	25	9	16	20	26
TOTAL SHERDS		25	40	1	10	6	2	16	2	68	116	15	17	108	86	16	5	29	9	61	8	17
WARE & SERIES	TYPE																					
ALAMEDA BROWN WARE	VERDE SERIES: Verde Brown	100	100		100	83	100		100	68	39	13	60	34	53	62	60	10	77	18	87.5	88
	VERDE SERIES: Clear Creek Brown									6	10	6*		13					11*			12
	VERDE SERIES: Hardscrabble Brown (NT)										T*			15	3							
	VERDE SERIES: Pine Brown (NT)					17*				9	9		20	6	2			10		65	12*	
	VERDE SERIES: Polles Brown (NT)										1.5				5			3*		16		
	VERDE SERIES: Tuzigoot Red										10		7*	6	6	31	20*	26				
	VERDE SERIES: Tuzigoot White-on-red															6*						
	TONTO: Tonto Red			100								6*										
HOHOKAM PLAIN	Wingfield Plain									7	7		7*	4	6							
HOHOKAM BUFF	? Red-on-buff (eroded)													4								
SAN JUAN RED DEADMANS SERIES	Tusayan Black-on-red										T*											
JEDDITO YELLOW	Jeddito Black-on-yellow																	24				
LITTLE COLO. WHITE	Holbrook Black-on-white									6	10	73		13	7				11*			
	Deadmans Black-on-white									4	9		20									
TUSAYAN WHITE KAYENTA SERIES	? (eroded)																20*					
SAN JUAN ORANGE	? (eroded)														17							
WINSLOW ORANGE	Tuwiuca Orange																	3*				
	Chavez Pass Polychrome																	3*				
	Homolovi Polychrome																	3*				
ROOSEVELT RED	Gila Polychrome																	14				
APACHE (?)	Indented							100														

657 Total Sherds
514 Alameda Brown Ware (78%)
65 Little Colo. White (10%)
29 Hohokam Plain & Buff Ware (4%)
49 All other (6%)

* 1 sherd

T less than 1%

Surface Features: none. Forms: jars. Paint or Decoration: none.

Comparison: Temper similar to Kinnikinnick Brown, but differs in having lighter color and fine texture.

Range: East Verde drainage.

Remarks: In the few specimens seen the temper is quite variable in color and character. Sherds were oxidized in Experiment 214, orange.

Cultural Affiliation: Southern Sinagua.

Polles Brown (New Type)

Variety of Verde Brown

Described by: Dr. H. S. Colton.

Named by: Fred Peck for Polles Mesa.

Examples: AT 10561 (Museum of Northern Arizona sherd file).

Type Site: Fred Peck Site 16, above Pine.

Stage: In part late Pueblo II.

Description: Construction: paddle and anvil. Core Color: gray to brown. Fired: at end in oxidizing atmosphere. Temper shape: angular to rounded. Temper Color: buff to reddish when oxidized. Temper Texture: medium to coarse. Temper Material: volcanic tuff (?). Temper Quantity: sparse. Vessel Walls: weak. Vessel Wall Thickness: .54, .70, .55, .64, .60, .69 cm. Fracture: crumbling. Surface Finish: smooth to rough. Surface Features: none. Forms: mostly jars. Paint: none. Decoration: none.

Comparison: Similar to other Alameda Brown Ware except yellow to reddish temper coarse, rounded.

Range: East Verde drainage.

Remarks: Sherds oxidized in Experiment 214, orange.

Cultural Affiliation: Southern Sinagua.

Pine Brown (New Type)

Variety of Verde Brown

Described by: Dr. H. S. Colton.

Named by: Fred Peck for Pine, Gila County, Arizona.

Examples: AT 10563, 10568 (Museum of Northern Arizona sherd file).

Type Site: Fred Peck Sites 16 and 24.

Stage: In part late Pueblo II.

Time: 1050-1100 (?) A. D.

Description: Construction: paddle and anvil. Core Color: brown. Source of Clay: (?) Fired: oxidizing atmosphere. Temper Shape: rounded and partly rounded quartz and rock sand. Temper Material: quartz and rock. Temper Quantity: medium to sparse. Temper Texture: fine to coarse, irregular. Vessel Walls: thickness jars, .54, .80, .88, .75, .70, .73 cm.; bowls, .40, .55; jar, smooth variety, .6, .88, .50 cm. Fracture: crumbling. Surface Color: brown. Surface Finish: rough to smooth. Surface Features: none. Forms: bowls and jars. Rims: IA3, IIB3.

Range: East Verde drainage.

Comparison: Verde Brown; abundant medium to fine angular quartz. Clear Creek Brown; abundant quartz sand. Tonto Red; coarse and abundant angular quartz.

Remarks: Sherds oxidized in Experiment 214, orange.

Cultural Affiliation: Southern Sinagua.

(Colton, personal communication)

In the total sherd sampling, small to medium bowl and jar forms are indicated. None of the very few bowl rim sherds came from bowls of

more than about 45 cm. in diameter. Large storage vessels may well be present on the floors of unexcavated rooms. One sherd of Tuzigoot Red revealed the characteristic sharply bent shoulder.

No evidences of disturbance were noted at any of the sites, therefore it may be assumed that the ceramic picture reflected by surface collections is a correct one.

Table 1 summarizes the ceramic data resulting from the survey. An examination of this table reveals Alameda Brown Ware as the predominant ceramic group in all pottery bearing sites on the East Verde. High gross amounts of Alameda Brown Ware sherds are, however, concentrated at the sherd areas, boulder sites, pueblos, and the more extensive fortified enclosures on the middle and lower reaches of the river. Paucity of sherds of any kind at the upriver camp sites and their non-pueblo cultural inventory (other than pottery) implies occupation of this area by a non-pueblo people. High percentage of Alameda Brown Ware in the scanty sherds strewing these sites is an indication of contemporaniety with the Southern Sinaguan settlements downstream.

Judging from the presence of Alameda Brown Ware and advanced stone masonry at the larger and more elaborate fortified enclosures, these were Southern Sinagua structures. Two smaller and much simpler enclosures located near Cave Sites 2 and 18 were without pottery. Their rudimentary and crude nature may indicate cultural borrowing on the part of the non-pueblo camp site dwellers already mentioned. Presence of abundant Alameda Brown Ware and masonry rooms at fortified Site 16 near Pine (the only fortified enclosure so endowed) implies a Southern Sinagua occupation between Fossil Creek and the East Verde in the foothills of the Mogollon Rim.

Ceramically the fortified enclosures appear to occupy the same temporal stratum as the Sinaguan (or partly Sinaguan) boulder sites and sherd areas (probably jacal or pit house villages) near the mouth of the East Verde. Absence of later types of Alameda Brown Ware (i.e., Tuzigoot Red) and late intrusives at any of the fortified sites points to their abandonment prior to Pueblo IV times. Only one intrusive, a sherd of Holbrook (?) Black-on-white, was collected from this group.

Presence of Hohokam Plain and Buff Wares as well as Alameda Brown Ware at the sherd areas and boulder sites near the mouth of the East Verde may be indicative of admixture here between the encroaching Southern Sinagua and Verde Hohokam groups already in possession of the area. The latter appear to have died out as a cultural entity by Pueblo IV times here as well as on the upper reaches of the Verde proper. No Hohokam Wares were found at any of the sites on the middle and upper reaches of the East Verde, although a few sherds of Wingfield Plain were collected on Polles Mesa. Pending more detailed work, it may be assumed, then, that the human and natural environment along the East Verde throughout most of its length was not congenial to settlement by the Hohokam. Certainly the Verde proper offered many more advantages to irrigation agriculturalists.

Trade, as reflected by the presence of decorated intrusive wares, seems to have been primarily oriented to the northeast, Little Colorado White Ware being the commonest intrusive on the East Verde. A high percentage of this ware (mostly Holbrook Black-on-white) at one of the sherd areas on Polles Mesa may be an indication that some Little Colorado puebloans followed their trade pottery down the East Verde as far as its junction with the Verde proper. Evidence for the maintenance of

ties with the Little Colorado area until the final abandonment of the East Verde by Southern Sinagua groups is indicated by the presence of both Winslow Orange Ware and Jeddito Yellow Ware at one of the late pueblos on Polles Mesa. Significantly, trade with the region south of the course of the East Verde (as reflected by pottery) was not important. Only two sherds of Tonto Red (from upriver camp sites) and a few sherds of Gila Polychrome at the Polles Mesa pueblo were noted.

Numerically unimportant occurrence of San Juan Red, San Juan Orange, and Tusayan White Wares at some of the boulder marked sites on the Verde near the mouth of the East Fork indicate sporadic contact with the Verde Valley proper and the San Francisco Mountains area on the plateau. However, little importance can be attached to the presence of these wares as all were widely traded.

Indubitable ceramic evidence of Apache and Yavapai occupation of the East Verde was not uncovered by the survey, except for a small group of so-called "Apache Indented" sherds at Site 4. This cave is in country known to have been occupied by the Tonto Apache in historic times. Yavapai pottery has never been adequately described, beyond the fact that it was made by both Southeastern and Northwestern bands and was brown to reddish in color (Gifford, 1932, 1936). More intensive work in the Verde Valley and central Arizona may possibly reveal some types now identified with Sinagua peoples as ancestral Yavapai in derivation.

2. Stone

a) Trough metates. Vesicular basalt metates with a full trough grinding surface open at both ends were found in fragmentary condition at five sites, including one "fortified" outlook, one camp

site, one sherd concentration on Polles Mesa, and at two boulder outlined sites. In estimated size, shape, and method of use, none of these differed appreciably from Bartlett's Figures 1 and 5d in her study of Sinagua milling tools (Bartlett, 1933: 6, 10). The best preserved example of this type of metate is illustrated in Plate 5. No surface evidence of bin metates was noted at any site, and they will probably prove rare in any future excavations. To date few bin metates have been uncovered in the Sinagua area, not surprising since they are late and especially common only in the Hopi country. However they do occur with trough types as far south as the Sierra Anchas in Pueblo IV cliff dwellings (Haury quoted in ibid., 25-26).

b) Bedrock Metates. These were by far the most numerous type found on the survey. With one exception, they range in cross section from a rounded rectangle to a flattened ellipse, are elliptical in plan, and an average 35 centimeters long, 17 centimeters wide, and 15 centimeters deep at the deepest point. A cross section of the long axis forms a gentle arc (Plate 12). Small ovoid and squarish handstones found near many of the elliptical metates were probably used in conjunction with them.

Without exception the bedrock grinders were located along the banks of the East Fork or on tributary streams, and in one or two instances were found on boulders in the stream bed itself. All were associated with open camp sites or rock shelters distributed from the high country to the lower reaches of the river.

Cultural affiliations of this type are uncertain. No mention of bedrock metates is made by Colton in his partial trait list for the Northern Sinagua (Colton, 1946a: 283), nor is such an item included in

the lengthy trait list for the Southern Sinagua pueblo of Tuzigoot on the upper Verde (Unpublished ms. on file at Tuzigoot National Monument). An examination of the literature and personal observation indicates that they are rare to absent on the Verde proper and seldom occur near pueblo ruins. However they have been noted by Colton on Dry Creek in the general vicinity of the Cochise-like pre-ceramic site excavated by Shutler. In spite of their proximity to this site they are typologically foreign to it, but so little work has been done on this horizon in the Verde Valley it would be unwise to deny the possibility of a cultural connection.

Turning for clues to the historic occupants of the East Verde drainage, we find that Gifford attributes the circular bedrock mortar only to the Northeastern Yavapai, whose southern boundary was the lower East Fork of the Verde. These they used almost entirely for the preparation of mesquite bean meal and consequently were limited to the range of that tree. Further, his informants told him that certain bedrock metates (unfortunately not described) which were reported from Camp Creek near the Verde River, and two examples seen (but again not described) near Prescott, had been made by unknown ancient people and were never used by the Yavapai. Ancient bedrock metates in Western Yavapai territory were reportedly used on occasion by that band (Gifford, 1936: 280).

The Tonto Apache are known to have occupied the upper reaches of the East Fork at least as far back as the eighteenth century, but little information on their material culture is available. However, Gifford's trait list, based on recollections of Apache informants, specifically mentions the bedrock metate as absent from all Apache

groups except the Cibecue and Mescallero bands, who infrequently re-used ancient ones but never made them (Gifford, 1940: 24). According to the same source, the commonest Tonto Apache milling tools were vesicular basalt trough metates picked up in ruins (ibid., 24-25). If this is true we are left with the tentative assumption that the open camp sites associated with so many of the elliptical grinders were neither Tonto Apache nor Yavapai and must have predated the occupation of the East Verde by these groups, as attested by surface finds of prehistoric Verde Brown and Tonto Red sherds at several sites.

c) Circular Bedrock Mortars: Several of these were located on a terrace a few miles upriver from Site 26. None was over 35 centimeters in diameter and all were quite shallow. Both Tonto Apache and Yavapai, as well as puebloan groups, used this type of mortar.

d) Basin Metates: One basin metate, not connected with a surveyed site, was found leaning against an abandoned prospector's shack in the foothills of the Mogollon Rim. This specimen was pecked in an unshaped slab of fine grained stone about 50 centimeters square. Although no other examples of this type were encountered, their use is implied by the presence of bifaced circular handstones which showed definite signs of rotary wear on their working surfaces.

Metates of this type, while characteristic of the earlier phases of many Southwestern cultures from Cochise to Mogollon and Basket Maker, endured into the Pueblo IV period in the Hopi country and the Verde Valley, and were used by the historic Paiute and Havasupai (Bartlett, 1933: 20-21), but not by Apache groups (Gifford, 1940: 78).

e) Manos and Handstones: Most of the mullers noted or collected in the course of the survey were oval to squarish in shape,

made of fine grained granitic rock, bifaced and one-handed. (Plate 13). Incipient faceting was noted on several of the square or rectangular variety, which ranged from about 10 to 12 centimeters long and 3 to 5 centimeters thick. The largest ovoid handstone measured about 10 centimeters in diameter and some 5 centimeters thick in the middle.

There is little doubt that the small squarish and some ovoid types were used with elliptical bedrock metates. Although none was actually found in situ, they were particularly common at sites where the former occurred. An examination of the worn surfaces of some of the circular types indicates their use either in a basin metate or in any available shallow circular depression in the native rock.

True manos were absent at the open camp sites but present as fragments at the pueblo ruins, boulder outlines, and refuse areas on Polles Mesa. These were without exception small, rectangular, and faceted by use. In general there is nothing to distinguish them from Sinaguan or other puebloan types.

Differences of function are implied in this variety of handstones. That the primary purpose of most Southwestern manos and metates was the grinding of cultivated corn and beans is a fact too well known to elaborate here. However, it is quite likely that the bedrock metates described above were used for other purposes. Their presence at open camp sites in heavily forested, hilly country not congenial to large scale primitive farming probably indicates that they were used in the preparation of wild seeds.

f) Projectile Points: A total of nine fragmentary projectile points were recovered on the survey (Plate 14), and of these only one, Plate 14, h, came from a puebloan site. The rest were surface

finds at the open camp sites, which were characterized by an abundance of flaking debris although scanty in other culture. The commonest type was triangular, straight based, and side notched, but as Plate 14 indicates, serrated, tanged, and lancet-like forms were also present. Prevalent technique of manufacture was a fine random flaking, and materials used included basalt, chert, jasper, and quartzite. Obsidian, the commonest stone used for points and blades by the Sinagua, was absent at all of the sites surveyed.

In general, the points found bear little resemblance to Sinagua forms as illustrated by McGregor (Colton, 1946: 289), and comparison with Hohokam specimens from Snaketown is even less rewarding (Gladwin, et al, 1937: Plates 85-91).

Tanged forms occur in the Cohonina Branch (McGregor, 1951: 105), Forestdale Mogollon (Haury and Sayles, 1947: 75), and at Alkali Ridge in Southeastern Utah (Brew, 1946: Fig. 172). The lancet-like form is reminiscent of some Cohonina types (McGregor, 1951: 105).

Judging from description alone a gross similarity with known Tonto Apache types is indicated for most of the group. Gifford's trait list describes tanged, stemmed, side notched, and serrated triangular types for this group (Gifford, 1940: 31), and Smart, writing in 1868, described the typical Tonto Apache arrow as tipped with ". . . an elongated triangular piece of quartz, flint, or rarely iron . . . sharp at the point and slightly serrated along the margin" (Smart, 1868: ?).

The commonest Northeastern Yavapai point type, as illustrated by Gifford (Gifford, 1936: Fig. 20), was unlike any of the East Verde examples, being smaller, deeply serrated, and furnished with a concave base but no side notches.

g) "Knives," Scrapers, and Gravers: These were abundant at the camp sites, as mentioned before, and lacked any distinctive features. Fragmentary leaf-shaped blades or knives were numerous, and many of the fortuitous flakes noted were retouched for use as scrapers and gravers (Plate 15).

h) Perishable Culture: A portion of a cane arrow-shaft 43 cm. long bearing the nock and sinew wrapping for feathers was recovered in surface trash at Site 18. The specimen bore no painted or incised decoration, and in this respect resembles Tonto Apache specimens (Gifford, 1940: 30). The nock was a simple groove cut just above a joint in the cane and further reinforced by the sinew wrapping which originally held the feathers at the butt end. Quill stumps in the sinew binding indicate the original three feather fletching.

There is no feature on this fragment which would set it apart from thousands of others found all over the Southwest. Cane was used for shafts wherever it grew, and the use of three feathers to form the stabilizing vanes was almost universal (Gifford, 1940: 31). No quill stumps survived on the forward end to indicate whether feather placement was simply radial or spiral.

I. Ecology

The drainage of the East Fork of the Verde River extends in latitude from about 34 degrees, 14 minutes to 34 degrees, 27 minutes N., and in longitude from 112 degrees, 40 minutes to 111 degrees, 15 minutes W. The altitudinal range is from about 2500 feet above sea level at juncture with the Verde proper to slightly under 7000 feet in the extreme headwaters (Map 1). The upper reaches of the river lie in the foothills of the Mogollon Rim, a striking topographic feature which

extends from near the Verde River in eastern Yavapai County to the White Mountains in southern Apache County. For much of its length this escarpment presents an almost vertical wall a thousand feet or more high. On the lower reaches of the river the most prominent topography is embodied in the Mazatzal Range. With a maximum elevation of about 8000 feet, this long, narrow range extends from just below the mouth of the East Fork in a generally southwest direction on the east side of the Verde River to the Salt River near Roosevelt Dam. East of the Mazatzal Range lie the Tonto Basin and the Sierra Anchas.

Geologically the region reveals a complex history, with evidence of much sedimentary deposition and subsequent uplift, vulcanism, and orogeny. The resulting contorted strata include unmodified and metamorphosed limestones, gneisses, schists, volcanic rock, and greatly eroded outcrops of the basic granites. None of the red and yellow sandstones so prominent in northern Arizona exist here.

As a glance at Map 1 and Plates 16 and 17 will indicate, stream run-off has been the most effective erosional agent at work in the drainage of the East Fork. Rainfall in this general area today is relatively abundant due to its position in the unobstructed path of prevailing westerly storms from the Pacific Coast. United States Weather Bureau figures for 1954, a slightly drier than usual year, give a total of 21 inches at Childs Power Plant on the Verde River a few miles above the mouth of the East Fork, 24 inches for the Tonto Natural Bridge locality midway up the river, and 28 inches for the headwaters under the Mogollon Rim. Temperature data for the same year indicate a frost free season ranging from 256 days at a 2500 elevation near the mouth of the East Fork to 176 days in the Payson area at an elevation of about 5000 feet.

On the plateau north of the Mogollon Rim a 126 day period is about average (United States Department of Commerce, 1954: 198-99). In so far as rainfall and temperature are concerned, farming on the entire course of the East Fork of the Verde is possible where arable land occurs.

Flora along the East Verde is characterized by abundance and diversity. The foothills of the Mogollon Rim in the upper reaches of the stream and the higher elevations downriver are covered with evergreen forest, partly ponderosa pine and extensive groves of Arizona cypress, while the lower slopes bear several species of evergreen oak and some pinyon and juniper. Associated xerophytic plants include various cacti, yucca, beargrass, sotol, and agave. Confined to the stream bed and stream-side terraces are Fremont cottonwood, Arizona walnut, and Arizona sycamore. In this zone on the lower reaches mesquite thickets are common.

A thick cover of chaperral (including the obnoxious wait-a-minute bush) clothes most of the bottomlands and hills along the stream from its mouth to the foothills of the Mogollon Rim and makes cross-country travel by foot or horseback extremely unpleasant. As the river drops to a semi-desert environment near its juncture with the Verde proper, ocatilla, creosote bush, salt bush, and some saguaro are encountered.

The varied and abundant fauna of the mountains, hills, and canyons of the East Verde drainage would have offered good hunting to primitive peoples. Ample water, dense cover, and more than adequate browse attracted mule deer, bighorn sheep, black bear, mountain lion, grey fox, coyote, bobcat, and rabbits, squirrels, and other small

rodents (Burt and Grossenheider, 1952: 48 ff). Quail, duck, and geese are also common in the area today and probably were present in earlier times.

Two types of soil satisfactory for farming occur in central Arizona. On the higher wooded elevations decaying duff and forest rubbish furnished humus to the earth. Along the streams, terraces and pockets of rich but somewhat saline soils occur (Kearney and Peebles, 1951: 11). Wherever such bottomlands are large enough they have been brought under cultivation by American farmers, but extensive bottoms are rare on the East Verde. However, the small terraces and alluvial fans at the mouths of tributary washes could have been easily cleared and farmed with the simple digging stick, as was done by the Tonto Apache in historic times. The Tonto usually dry farmed, but in case of need, could and did build rock and mud check dams and dig small irrigation ditches. They are also known to have occasionally farmed small upland plots of forest soil (Gifford, 1940: 17). One major drawback to small scale streamside cultivation is the fact that the soil is more or less at the mercy of the whims of the river and often disappears or re-forms with each spring and summer freshet. In general, the topography of the river prohibits the formation of extensive bottomlands attractive to the sedentary farmer, and certainly the heavily wooded upper reaches would have offered little incentive to people with only the most rudimentary land clearing tools.

Large scale dry farming is indicated for at least one area surveyed, Polles Mesa. Here, about six miles upriver from the mouth of the East Verde, evidences of relatively heavy settlement in the form of abundant refuse areas and pueblos occur, while reported check dams on

shallow washes draining the top of the mesa and lack of any nearby bottomlands on the stream itself point to utilization of the mesa agriculturally. At one time in the remote past the top of this mesa was covered by a cap stratum of basalt, now much broken and decomposed. Present soil resulting from the decay of this rock is quite deep and appears to be of good quality, for it now supports extensive stands of juniper, grasses, and low shrubs. The rockiness of the soil would have offered no unsurmountable obstacles to the Indian farmer, who, lacking the plow, had no need to clear and level large acreages for his crops. In similar circumstances the modern Hopi farmer resorts to the ancient digging stick, utilizing small pockets of available soil to accommodate individual plants. The result is a group of small garden plots carefully shielded from wind and runoff by low masonry walls and terraces which serve also to conserve as much moisture as possible. Check dams built on shallow washes tend to silt up in time, thus furnishing additional terraces of rich soil for farming. Throughout its puebloan occupation, Polles Mesa must have been dotted with such plots and terraces serving individual families, clans, and villages.

Demographic conclusions for the East Verde must remain tentative until more work is done in the area. However the results of the survey imply a rather small puebloan population, marginal in character when compared to the much greater number of sedentary farmers in the upper Verde Valley, concentrated on the lower reaches of the river and along the Verde proper in this vicinity where larger tracts of bottomlands and level mesas for dry farming are present.

Paucity of sites on the upper reaches of the river and their ephemeral character implies a thin settlement by probable hunters and

gatherers who apparently did some small-scale farming, as indicated by the presence of corn cobs in several rock shelters. This people, whose meager cultural inventory fails to link them with either the Southern Sinagua or Tonto Apache and Yavapai, were contemporaneous with the Southern Sinagua at least during the life span of Verde Brown and Holbrook Black-on-white pottery types. Absence of later sherds at any of their camp sites suggests the disappearance of this group as a distinct entity by Pueblo IV times.

Since no indubitable Yavapai or Tonto Apache camp sites were found on the survey little can be said regarding their distribution along the East Fork, and until more intensive work is done we must rely on documentary sources. Tonto Apache witnesses before the Indian Claims Commission in 1951 gave their group a range from the Mogollon Rim to the Verde River ". . . in the middle and upper reaches of the streams flowing west or south, from Beaver Creek in the north, to the Tonto Basin in the south (Schroeder, 1954: 101)." This would include middle and upper portions of the East Verde drainage.

Regarding the time of arrival of Tonto Apache bands in this country, available evidence points to a gradual drift from the main Apache group in the Cibecue area to the northeast, into the land below the Mogollon Rim sometime in the middle to late eighteenth century, when they were mentioned as bordering the Nijora or Yavapai by Spanish chroniclers (ibid., 102). Within the memory of living Yavapai, this boundary crossed the East Verde a few miles below Pine Creek on the lower reaches of the river (Gifford, 1936: Map 1).

Tonto Apache numbers at the time of contact with Americans are difficult to estimate because of the confusion in the minds of military

men and settlers as to their affiliation. As often as not they were lumped with the Yavapai because of the great similarity of their respective cultural inventories. Friendly intercourse and reciprocal marriage between the two separate linguistic entities, the one Yuman, the other Athapaskan, did nothing to clarify the situation. However it is doubtful if the Tonto Apache were as numerous as the Yavapai, who in the 1860's probably averaged about 2000 people over their entire range (Schroeder, 1954: 163). Representatives of both groups who occupied the East Verde seasonally or on a more or less permanent basis certainly comprised only a small percentage of the combined total.

IV. Summary and Conclusions

An archeological reconnaissance, by its nature, cannot result in detailed conclusions. These must wait on an intensive program of excavation in sites surveyed. However, postulations based on surface evidence can be formulated.

The survey, conducted on the East Fork of the Verde River from its headwaters to its mouth, yielded a total of 28 sites ranging from large masonry pueblos and cliff dwellings to fortified outlooks, rock shelter, open camp sites, and refuse areas. With the exception of the fortified outlooks, masonry structures were restricted to the lower reaches of the river.

Fortified structures were not utilized as dwellings except in one case (Site 16 near Pine) and occupied high points overlooking the East Fork from its lower reaches to the Mogollon Rim.

Camp sites and rock shelters often associated with a peculiar type of elliptical bedrock metate were noted in the headwaters region and downriver as far as American Gulch west of Payson. Culture noted on the surface at the camp sites does not resemble either that of Tonto Apache or Yavapai groups known to have occupied the area in historic times. Alameda Brown Ware at these camp sites indicates that they were contemporaneous with the Southern Sinagua.

No recognizable pre-ceramic or historic Tonto Apache or Yavapai sites were encountered.

All of the sites where pottery occurred were restricted to a period of roughly 500 years beginning sometime toward the close of the first millenium A. D. and ending with the abandonment of the large Pueblo IV masonry villages on Polles Mesa after 1400 A. D. Absence of late sherds at the camp sites and fortified outlooks implies an end date for sites of this type prior to the occupation of the late pueblos.

Pottery indicates that the builders of the masonry pueblos were affiliated mainly with the Southern Sinagua. By far the greatest sherd percentages encountered here were Alameda Brown Ware.

A substantial minority of Verde Hohokam Wingfield Plain and a few red-on-buff sherds as well as prevalence of Alameda Brown Ware at the boulder outlined sites and the heavy sherd and trash concentrations on Polles Mesa may be indicative of early Southern Sinagua-Verde-Hohokam contact or intermixture on the lower East Fork and the Verde proper. No evidence of Salado connections at these boulder sites was reflected in the pottery, thus tending to refute Gladwin's theory that they were of Salado derivation (Gladwin, 1930: 199).

Identity of the builders of the fortified outlooks and the users of the open camp sites remains obscure. Unfortunately cultural depth is scantily indicated at most sites of the above two types, but rare surface sherds are all Alameda Brown Ware, indicating contact with the Southern Sinagua. On the basis of this and the use of masonry, it is my belief that the builders of the fortified outlooks were Southern Sinagua people.

Stonework and bedrock metates not typical of the Southern Sinagua would imply that the people who used the camp sites were a non-puebloan group, probably seasonally nomadic hunters and gatherers, who

had access to a few Sinagua vessels through trade. Significantly, no sherds from the Roosevelt or Tonto Basin areas were found at the camp sites or fortified outlooks.

In their character and sparsity the surveyed sites indicate the East Fork of the Verde River to have been a marginal area to sedentary farmers throughout most of its history, but in its upper reaches, abundant game, wild plant crops, water supply and relatively mild climate attracted a succession of hunting and gathering cultures which culminated with the Tonto Apache and Yavapai in historic times.

Prevalence of Alameda Brown Ware at all pottery bearing sites tends to support Colton's belief (Colton, 1946: 301-02) that Southern Sinagua influence, though not necessarily settlement, permeated the East Verde along most if not all of its length.

V. Recommendations

Only an intensive program of excavation in representative sites will yield detailed enough data to be of service in building a culture history for the area. Since the area is so little known the primary concern of excavation should be the uncovering of such basic information as cultural affiliation and temporal sequence and placement.

The sites listed below would appear from surface indications to repay study through excavation:

1. Site 18, a rock shelter with some culture depth, is close to the Pine-Payson Highway bridge and easy of access. Stratitesting here might well yield evidence of Tonto Apache or Yavapai occupation in the upper levels and possibly pre-ceramic material farther down.

2. Site 27 (see Map 1) is the largest camp site encountered and contains at least one small mound of cultural debris. Nearby are several elliptical bedrock mortars. Excavation here should yield a considerable amount of information to confirm or refute my belief that the occupiers of such sites were contemporaneous with but not related to the Southern Sinagua.

3. To my knowledge excavation in a boulder outlined site has never been undertaken in spite of the fact that such sites have been noted by almost every worker on the lower reaches of the Verde River.

Surface pottery and lack of masonry walls other than the outlines indicate a group which may have been an amalgum of indiginous Verde Valley Hohokam and elements of early Southern Sinagua. Site 12 is

the best example of this type of site encountered on the survey and is easily accessible from the Verde Hot Springs road.

4. Only one fortified outlook appears to have enough cultural deposition to repay digging. Site 16 is easily reached from the town of Pine. Except for the fact that it is aberrant in its possession of interior rooms, this site falls into the same class as the others surveyed. Surface sherds, although more numerous here, are the same Alameda Brown Ware found at all of the pottery bearing sites.

5. Most of the sherds recovered from the refuse areas on Polles Mesa are Alameda Brown Ware, with early Little Colorado types Holbrook Black-on-white and Deadmans Black-on-white commonly present. This would seem to indicate an early Southern Sinagua occupation of the lower East Verde. Excavation at Site 22, the largest of these sherd and trash concentrations, may reveal remains of early Sinagua houses, possibly ephemeral jacals or pithouses similar to those used by the Northern Sinagua before they were influenced by pueblo architecture.

6. Partial excavation of Site 25 or the reportedly much larger unsurveyed pueblo a short distance north of it would be beneficial in determining the degree to which the Southern Sinagua may have been influenced by the Hohokam and adjacent Salado on the lower Verde and the degree of their cultural unity with Sinagua groups in the Verde Valley proper during the time of the late valley pueblos and cliff dwellings represented by the excavated sites of Tuzigoot and Montezuma Castle. Unfortunately these sites are not accessible by car and any extensive field work done would entail the establishment of a camp.

7. Site 7, a cliff dwelling about six miles northwest of Polles Mesa, above the east bank of the Verde River, contains a wealth

of datable timber, including large beams of ponderosa pine, pinyon (?) and juniper, and to my knowledge, is the only known Southern Sinagua site to be so endowed. Borings should be taken to furnish a series of dates through which Southern Sinagua occupation of this area can be more accurately placed temporally.

In conjunction with any future excavation on Polles Mesa a more intensive survey covering the entire surface of the mesa should be undertaken, with emphasis on settlement pattern, farming as indicated by the reported check dams, and attention to peculiar features, especially the large clearing known locally as the "racetrack." Reports of other clearings of this type in the general area indicate that they may be a local manifestation, but none has been examined to date.

Finally, intensive search, aided by available documents as well as data from informants, should be made for Tonto Apache and Yavapai camp sites with a view to the delineation of the material culture of these groups at the time of their contact with Americans.

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Entrance at Site 1.

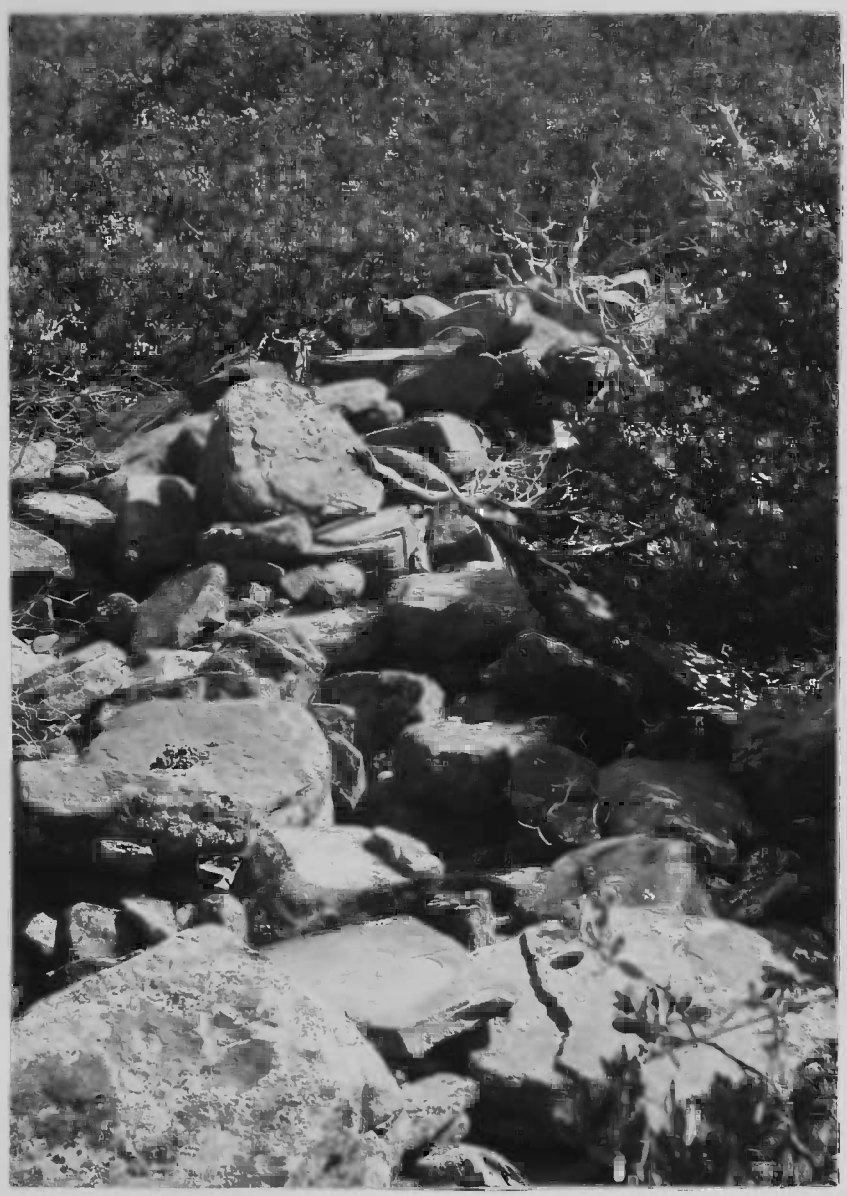
Site 1. General view. Looking northwest.

Petroglyphs at Site 3.

Site 4 from below. Looking northwest.

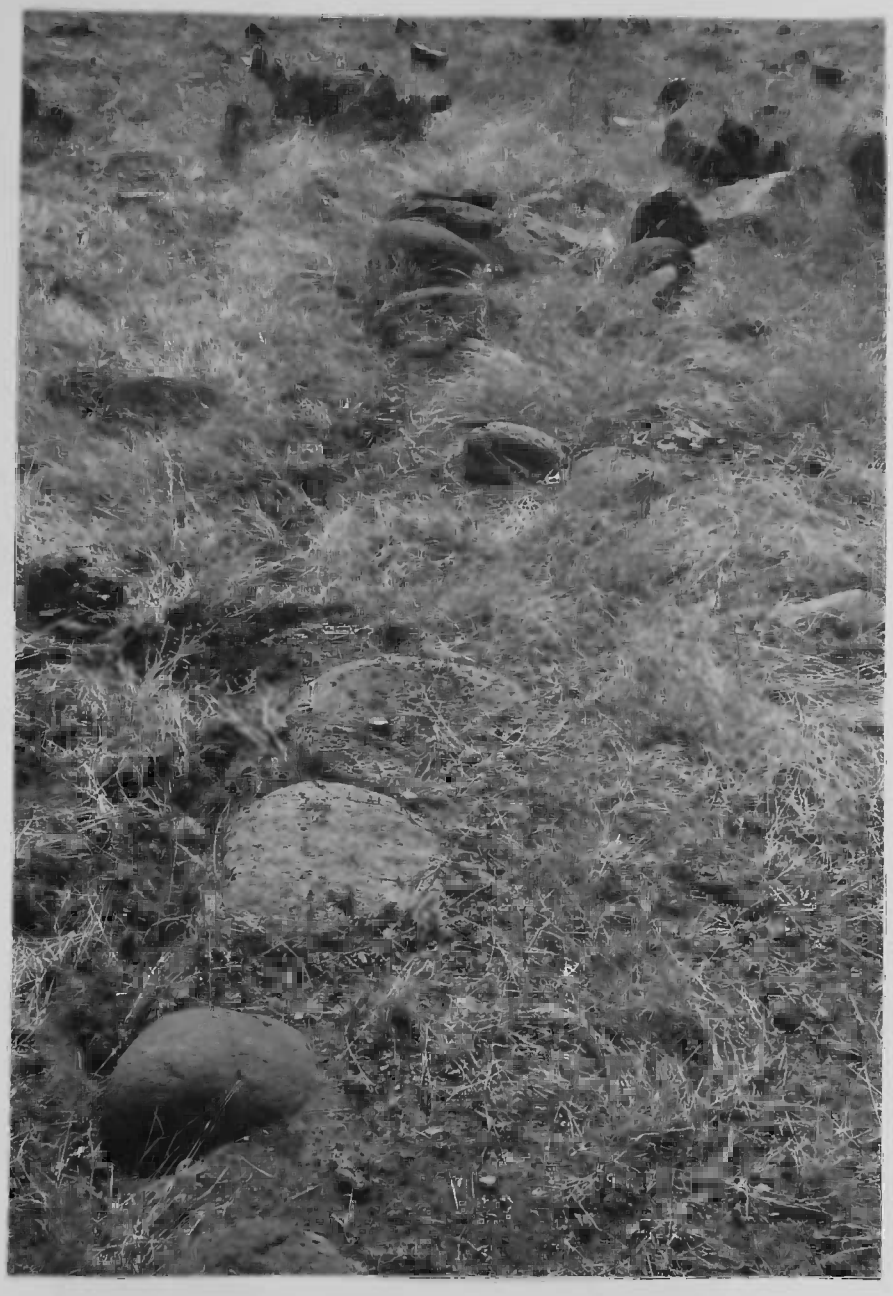
Site 4. Interior of cave.

Site 12. Wall detail. (Note broken metate).



Site 16. Part of enclosure wall.

Site 16. Detail of extra-mural wall.



Site 19. Boulders in Alignment.

Site 20. General view with partition wall in foreground. Looking northeast.

Site 20. Upright slab and wall detail.

Site 25. Tumbled partition walls.

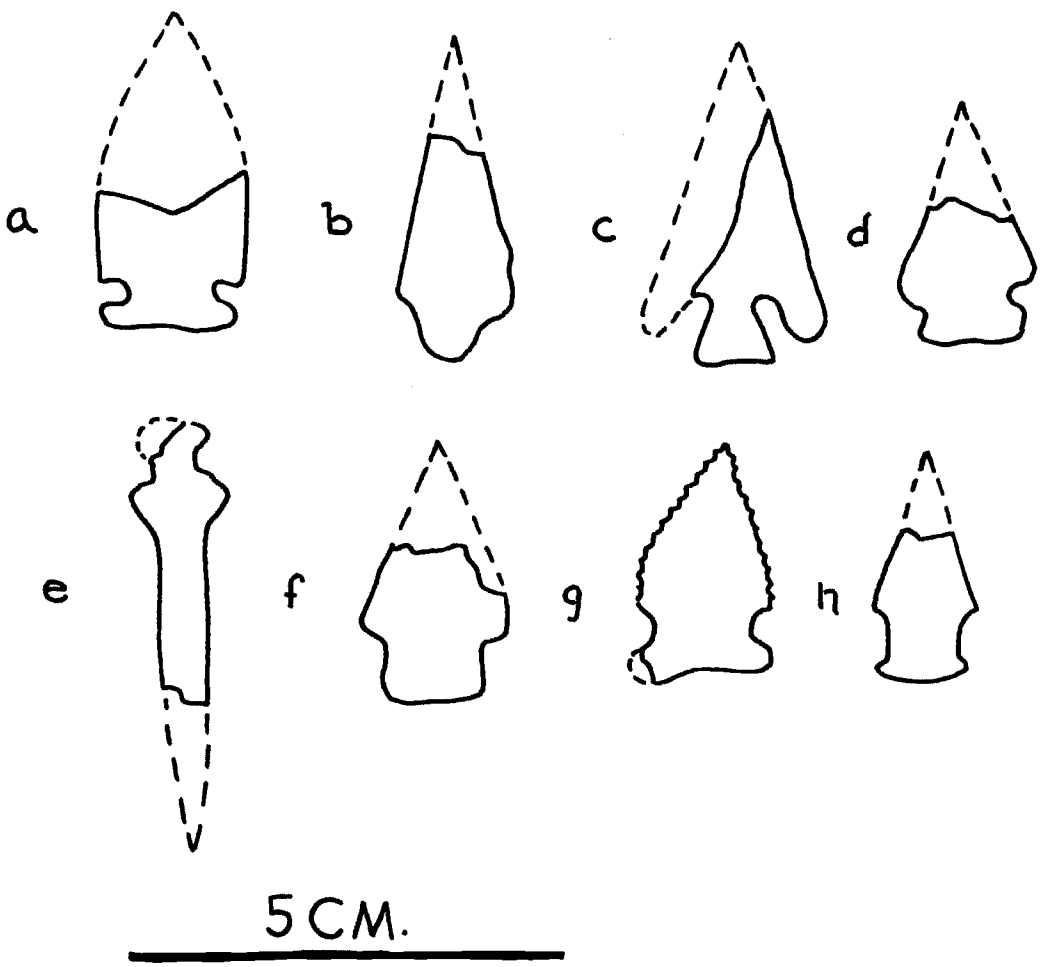
Site 26. Masonry detail and entrance.

Typical pair of elliptical bedrock metates.

Double bedrock metate. An unusual form.

Handstones from a refuse area. The ovoid and squarish forms are typical of the grinding stone complex at most of the sites surveyed.

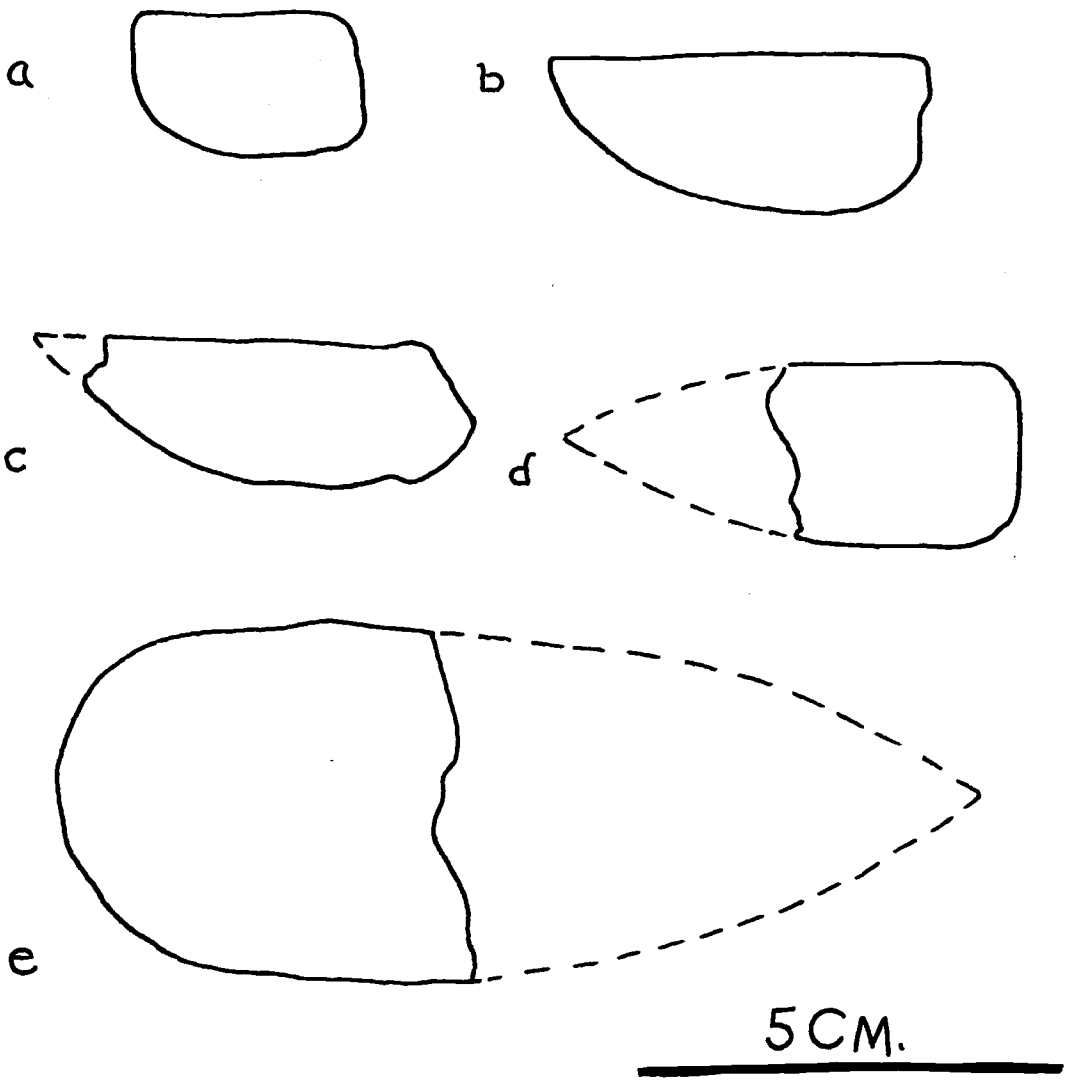
Handstones from Site 27, a camp site.



Range of Projectile Point Types

a through g are from camp sites;

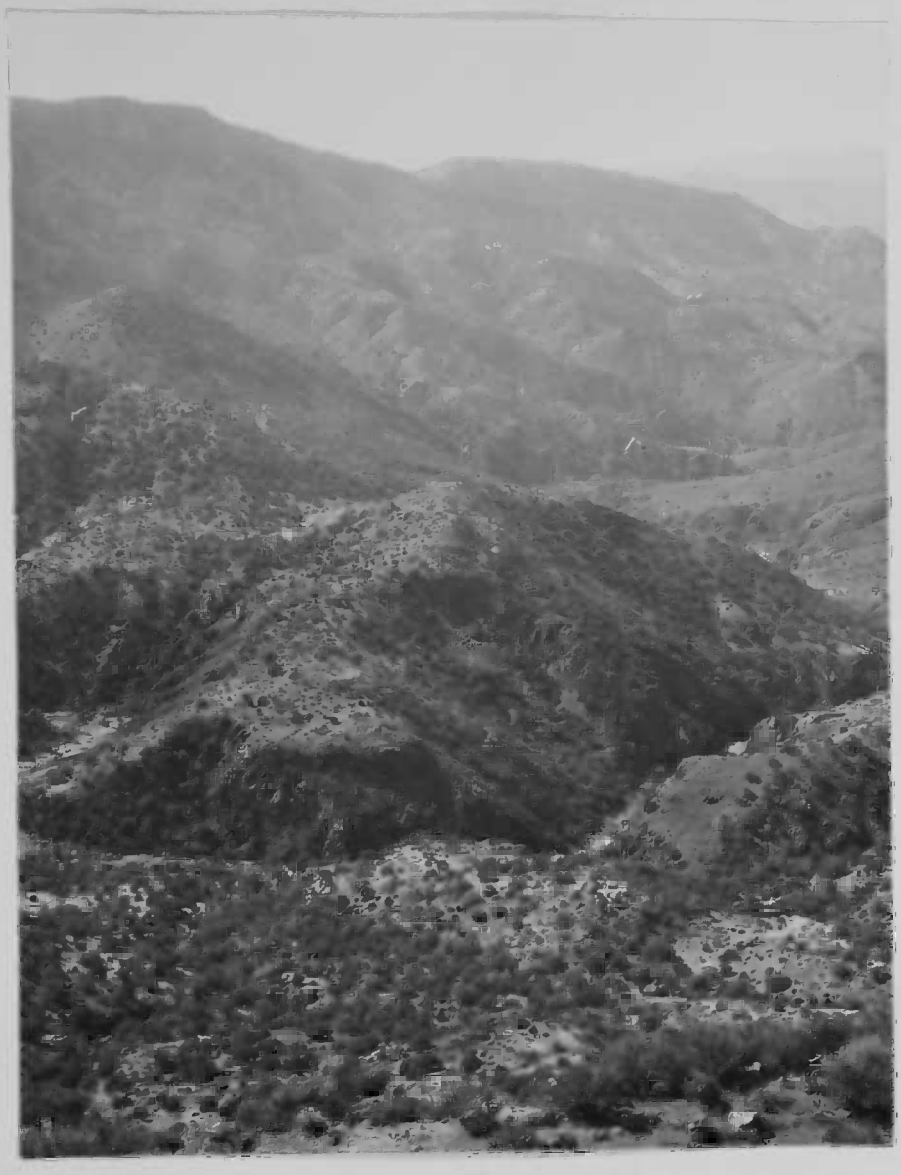
h from a puebloan sherd area.



Range of Knife and Scraper Form

All of the examples are from camp sites.

The middle reaches of the East Verde. Looking southwest across Cypress Canyon toward the Mazatzal Range.



Looking down from Polles Mesa to the narrow canyon of the East Verde a short distance above its mouth.

EAST VERDE DRAINAGE

MAP 1

ARCHEOLOGICAL SITES SURVEYED FOR THE ARIZONA STATE MUSEUM ON THE EAST FORK, VERDE RIVER, CENTRAL ARIZONA. SUMMER OF 1955 FRP

LEGEND:

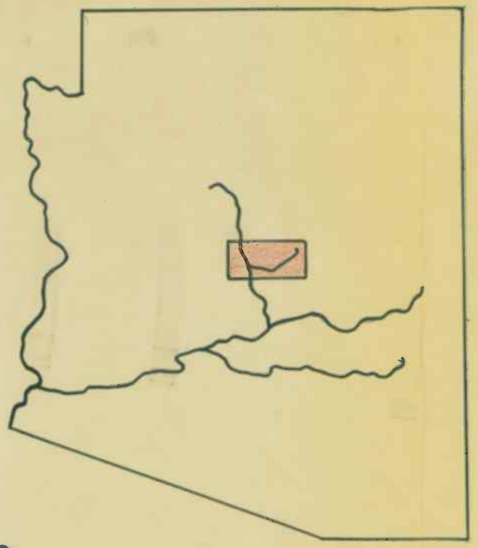
(▲) SITES

SCALE:

ONE INCH EQUALS ONE MILE

CONTOUR INTERVAL 500 FEET

(Base map adapted from USGS Pine, Payson, and Turret Peak Quadrangles.)



MOGOLLON RIM

5000

6000

5500

SITE 16 (FORT)

PINE

SITE 3 (PETROS)

SITE 1 (FORT)

SITE 2 (CAVE)

SITE 9 (FORT)

SITE 4 (CAVE)

5500

5000

Childs Power Plant

SITE 12 (BOULDER SITE)

SITE 19 (BOULDER SITE)

HOGG

SITE 5 (BOULDER SITE)

SITE 6 (PETROS)

VERDE RIVER

4500

5000

SITE 14 (CAMP)

SITE 13 (CAMP)

SITE 15 (CAMP)

SITE 10 (CAMP)

SITE 17 (FORT ?)

SITE 11 (CAMP)

SITE 18 (CAVE)

SITE 8 (SMALL PUEBLO)

SITE 7 (CLIFF PUEBLO)

3500

4000

2500

EAST VERDE RIVER

3000

4500

SITE 25 (LARGE PUEBLO)

SITE 24 (SHERD AREA)

POLLES MESA

SITE 23 (SHERD AREA)

4000

4500

SITE 27 (CAMP)

SITE 28 (CAMP ?)

SITE 26 (FORT)

3500

SITE 22 (SHERD AREA)

VERDE

SITE 21 (CAMP)

SITE 20 (FORT)