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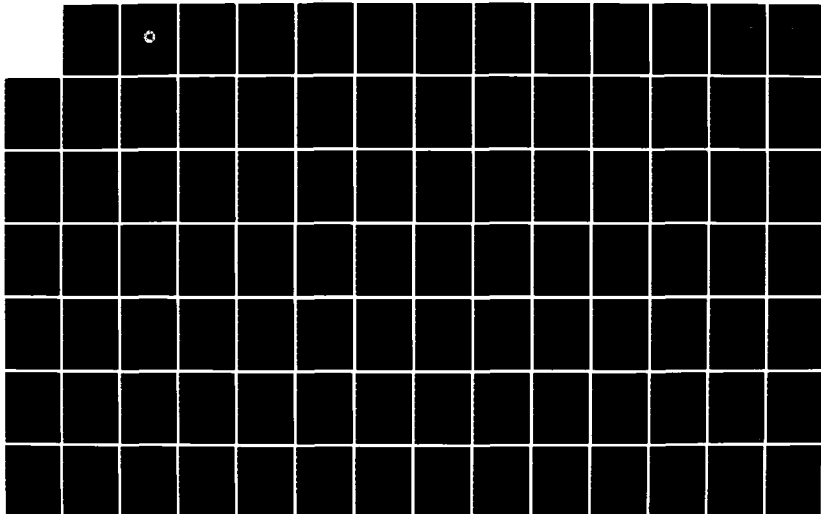
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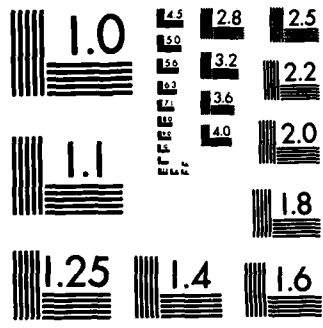
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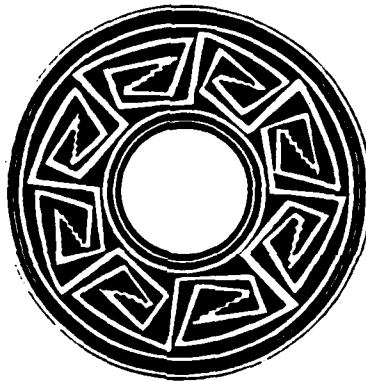
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**PREHISTORY AND HISTORY OF THE UPPER GILA RIVER,
ARIZONA AND NEW MEXICO:
AN ARCHAEOLOGICAL OVERVIEW**

AD-A144 616

---FINAL REPORT---



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**Prepared For the
Los Angeles District Army Corps of Engineers
(Contract No. DACW09-83-M-2448)**

By

David A. Phillips, Jr.

**With Contributions By
Linda L. Swann
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**New World Reseach, Inc.
P.O. Box 40937
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February 1984

Western Division Report of Investigations. No. 2

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ABSTRACT

→ From July 1983 to February 1984, New World Research, Inc. carried out a cultural resources literature search and field check of portions of the upper Gila River and the lower and middle San Francisco River. The purpose of the research was to provide initial planning information for proposed brush removal, channel clearing, local flood control, and a dam and reservoir site. Areas checked included the Winkelman-Kelvin area, the Safford Valley, the Camelsback Dam and Reservoir site, the Clifton area, and the Duncan area in Arizona; and also the Cliff-Gila and Glenwood areas in New Mexico. In all, 191 separate prehistoric and historic sites (and one paleontological site) were located in published and archival sources.

The archaeology of the upper Gila region is poorly understood; to help remedy this, somewhat extended introductory discussions are provided. Previous research in the area is outlined. The environmental setting is discussed. The prehistoric and historic periods are summarized. Subsequently, the cultural resources located by the overview research are evaluated, and a discussion of the study area's archaeological sensitivity is provided.

Three concluding chapters are provided. In the first, the state of upper Gila archaeology is briefly discussed. In the second, evaluations of site significance are provided. In the third, recommendations regarding site avoidance and further survey are provided.

→ The project's key management findings are as follows: (1) The upper Gila region is an area of unusually rich cultural resources, which indicates that any extensive land-altering project could incur lengthy and costly mitigation procedures. (2) Some of the mitigation procedures could be avoided by careful restriction of the areas to affected. (3) intensive survey is recommended as the next step in cultural resources research for some of the areas; a sample survey seems more appropriate in the remainder. A bibliography for upper Gila archaeology is provided. ↑

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Others who gave assistance, information, or useful advice included Rosemary Talley and Laura Holt (Laboratory of Anthropology, Museum of New Mexico), David G. Batcho and Fred Plog (New Mexico State University), Joe Janes (National Forest Service), Gay Kinkade (Bureau of Land Management, Safford District), Betty Lee (Eastern Arizona College Museum of Anthropology), Minabell Laughlin (Arizona State University), Richard and Virginia Ellison (of Silver City, New Mexico), the Billingsley Family (of Duncan, Arizona), W. Ryder Ridgeway (of Safford, Arizona), and Jack and Vera Mills (of Elfrida, Arizona).

To all of these persons, a sincere Thank You.

D.A.P.

L.S.

J.A.

CHAPTER 1

INTRODUCTION

Background to the Project

On July 26, 1983, the Los Angeles District, Corps of Engineers (henceforth the Corps) issued a purchase order to the Tucson office of New World Research, Inc. (NWR), for a cultural resource overview of selected portions of the upper Gila River area. These areas included: (1) a 4000 foot (1220 m.) wide corridor centered on the Gila River, between the mouth of the San Pedro and a point just downstream from Kelvin, Arizona; (2) a corridor of similar width, between the head of Brown's Canal (near San Jose, Arizona) and the mouth of the San Carlos River; and (3) the floodpool of the proposed Camelsback Dam and Reservoir, including all areas below the 3,442 foot contour upstream from Black Canyon.

The overview was obtained in order to provide a cultural resources literature search and field check for proposed channel clearing, local flood control, and a dam and reservoir site. Authority for the overview is derived from Public Law 91-190 (The National Environmental Policy Act of 1969); Public Law 93-291 (Preservation of Historic and Archeological Data), amending Public Law 96-523 (The Reservoir Salvage Act of 1960); and the National Historic Preservation Act of 1966 as amended by Public Law 94-422.

In October 1983, the Corps issued a change order expanding the scope of the work. The following areas were added: (1) a 1.6 mile section of Whitewater Creek, extending from the confluence with the San Francisco River, near Glenwood, New Mexico; (2) a 23 mile section of the Gila river in the vicinity of Cliff and Gila, New Mexico; (3) 2 miles of the Gila in the vicinity of Duncan, Arizona; and (4) 2 miles of the San Francisco River and 1 mile of Chase Creek in Clifton, Arizona.

The study area locations are shown in Figures 1 and 2. In the remainder of this report, the terms "study area" and "study unit" will refer to the specific areas for which the COE has requested archaeological studies; the term "upper Gila region" will be used to denote the general region in which the specific study areas are located. More precisely, for this study the upper Gila region will be taken to include the watershed of the Gila River upstream from North and South Buttes (near Price, Arizona), excluding the San Pedro and San Simon drainages.

Previous Archaeological Studies

It is a sign of the archaeological wealth of the upper Gila region that the first Europeans to enter the region took note of its archaeology. In

1539, Marcos de Niza crossed the Gila Valley of Arizona and marked the ruined village of Chichilticale (either in that valley or in Eagle Pass next to it) as the start of a great depopulated area between the San Pedro Sobaipuri and the Zuni pueblos. Between 1540 and 1542, the same ruin was visited and noted by the Coronado expedition.

The next account of the region's archaeology appears in a report by Bartolome Saenz, a Jesuit priest who in 1756 was part of a Spanish military expedition to the upper Gila River (Kessel 1971). The record is silent until ninety years later, when another military expedition--this time American--crossed the same region. One of the officers, William Emory, produced a description of the local natural history and mentioned the antiquities along the river (Emory 1848).

The first archaeologically oriented scientist in the general study area was Adolf Bandelier (1892; Lange and Riley 1970), who carried out a quick reconnaissance of the upper Gila watershed in 1884. Bandelier's observations were limited and sketchy, and therefore not very useful. Within the upper Gila region, Bandelier apparently only travelled in the uppermost reaches of the Gila River (in the vicinity of today's Gila Cliff Dwellings National Monument) and in the portion of the Gila River valley now covered by San Carlos Reservoir (see Lange and Riley 1970:472-473). However, Bandelier did make note of a ruin near Fort Thomas, and another eight miles east of that settlement; the latter was associated with an irrigation ditch which, Bandelier thought, carried runoff from the foothill zone of Mount Graham (Bandelier 1892:409-412).

In the late 1890s and early 1900s, Jesse Walter Fewkes and Walter Hough both recorded sites along the upper Gila River. Fewkes (1904) visited Buena Vista, and also mentioned the Epley Ruin near Solomon. The latter site was partly destroyed in 1897 and since then may have disappeared completely. Fewkes also noted the occurrence of cremations in sites of the area, and mentioned that terraced gardens were present near San Jose and Solomon. It is worth noting that at the turn of the century, traces of prehistoric irrigation ditches could still be seen in the Gila Valley (Fewkes 1904:178-179).

Hough reported on his own work in 1907; among the sites tabulated were one at Clifton and a number in the Gila Valley. Hough noted that Solomonville was located on top of two ancient ruins, "one now leveled"; other sites were located at Olney's Ranch, upstream from Solomonville, and near San Jose. Hough apparently made collections from these sites during his work (1907:35).

Hough's "No. 5 Pueblo" was the site of Buena Vista. Hough noted a masonry roomblock-central plaza complex, detached roomblocks, a large "reservoir" (ballcourt), an irrigation ditch at the foot of the terrace, and trash mounds. Another of Hough's Gila Valley sites, "No. 6 Pueblo", was an adobe ruin with a large central mound, and included cremations in pots (a Hohokam trait). Like Fewkes, Hough noted the presence of grid gardens on the gravel-topped terraces in the upper end of the valley.

In 1922, Wesley Bradfield, L. B. Bloom, and K. M. Chapman carried out a brief archaeological reconnaissance in southwestern New Mexico. Their work included a visit to the Cliff-Gila study area, where the party noted the Woodrow Ranch ruin.

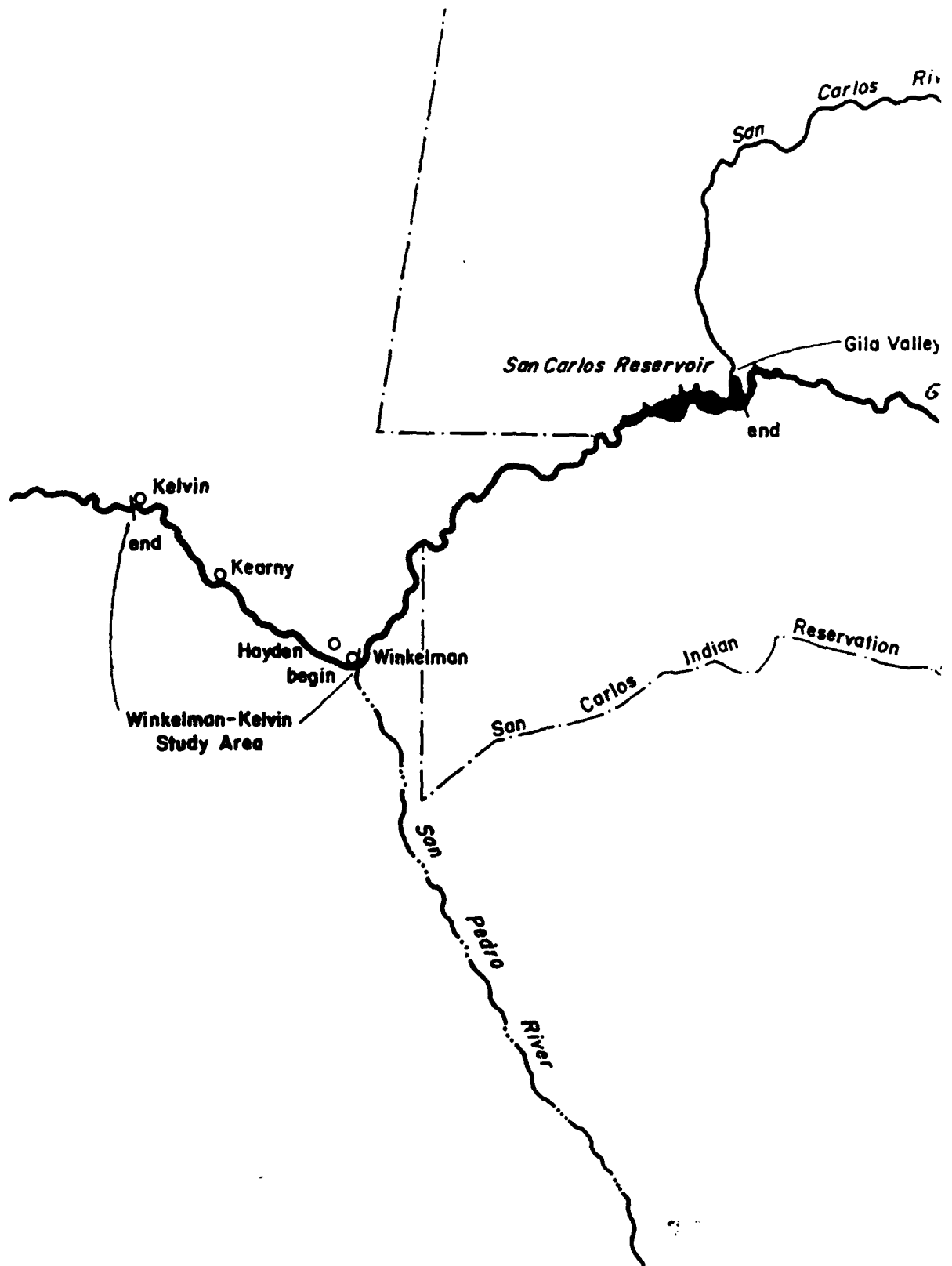


Figure 1. Study Areas in Arizona.

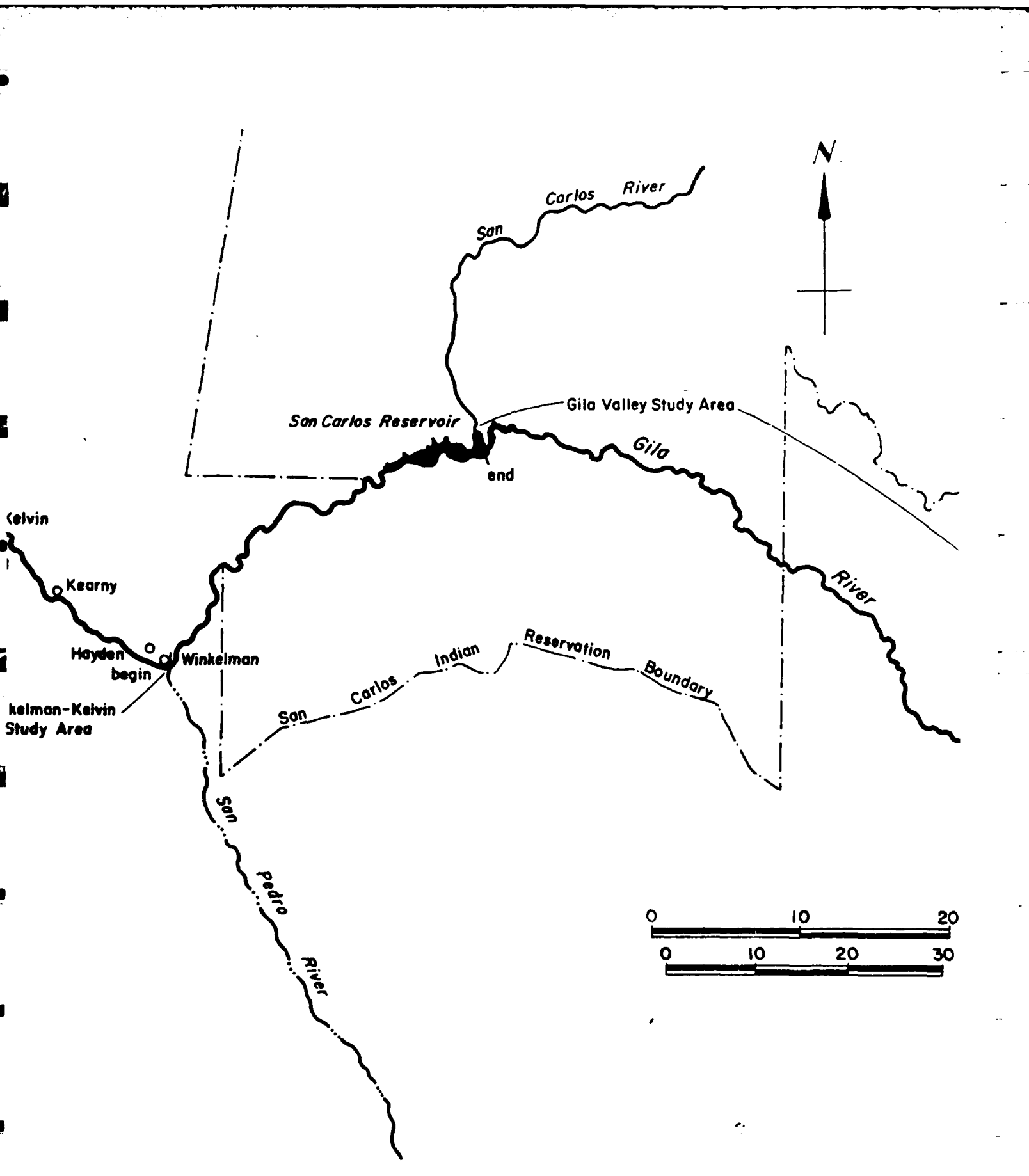
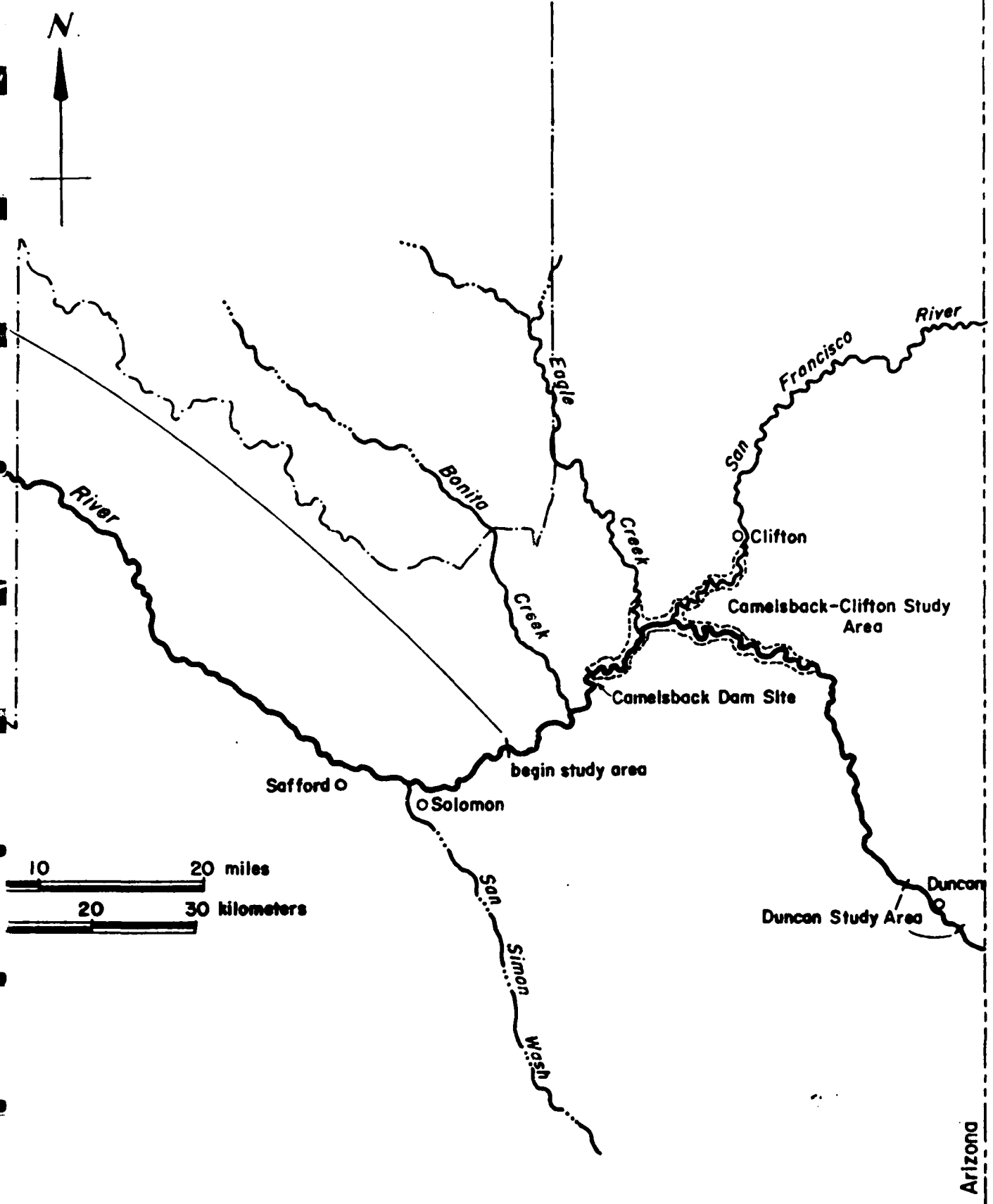


Figure 1. Study Areas in Arizona.



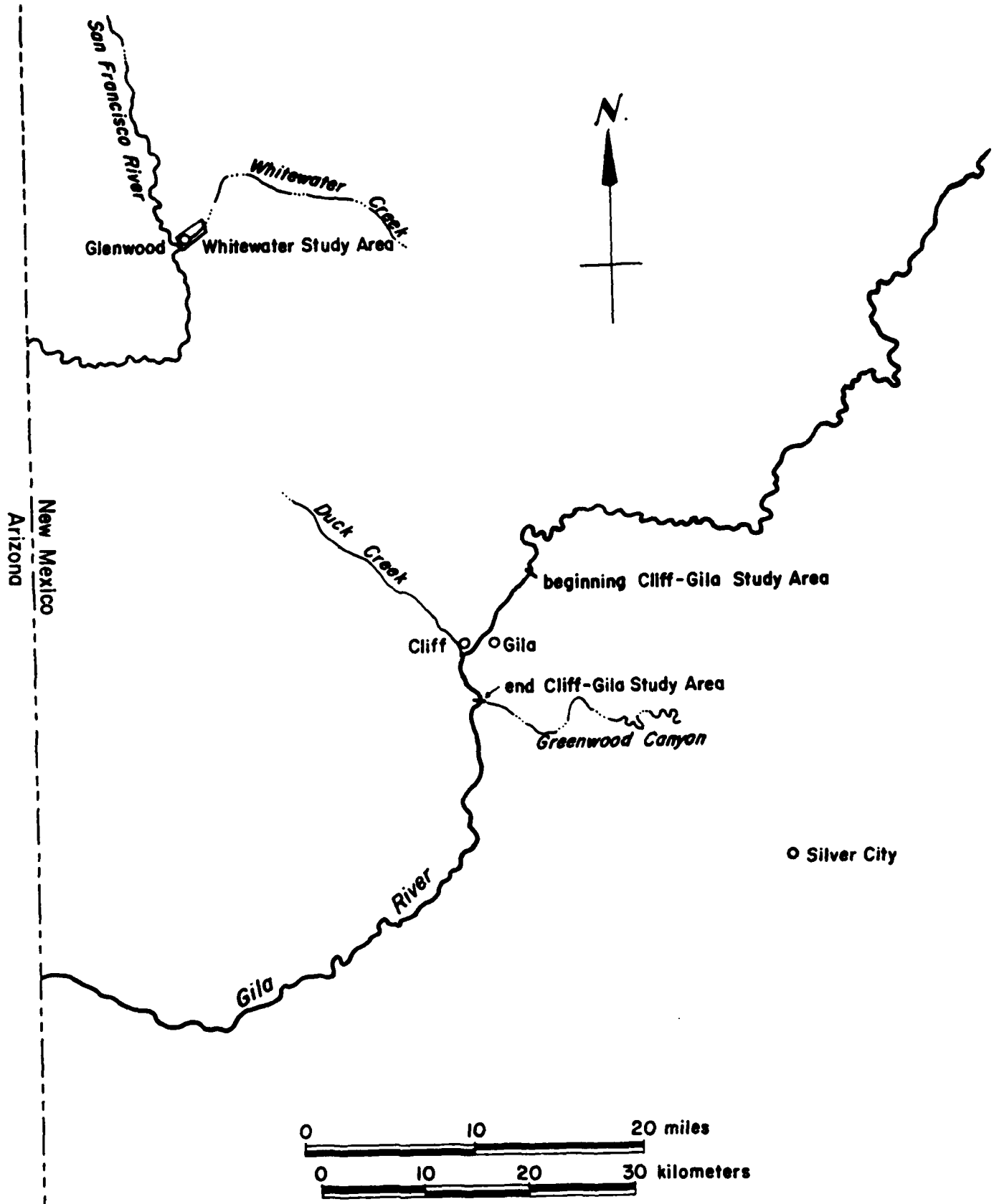


Figure 2. Study Areas in New Mexico.

In 1926, Byron Cummings excavated the Gila Ranch Ruin near Bylas, Arizona. However, no report was ever prepared (Simpson and Westfall 1978:21). Three years later, Carl Sauer and Donald Brand (1930) carried out a surface collection program in southeastern Arizona. Five of the sites they collected at were in the Gila valley; these included the Curtis Ranch Site (Buena Vista) and Dewey Flat Pueblo. In addition, pottery and shell were reported from in or near Fort Thomas, and a site was located on a bluff somewhere near Geronimo.

The fifth site, Gila Bank Pueblo, is a bit of a mystery; although probably within the Gila Valley study unit, it does not clearly correspond with any of the known sites. Moreover, an Arizona State Museum crew under E. J. Hands was supposedly digging at Gila Bank Pueblo in 1929 (Sauer and Brand 1930:423), but no records of this dig were found. (It is possible that the Gila Bank and Dewey Flat pueblos were originally considered two separate locations in 1929 but were later combined as AZ V:15:18 [ASM].)

Towards the end of the 1920s, the Gila Pueblo Foundation carried out reconnaissance work along the upper Gila River, as part of its overall research program. A number of sites were recorded which may fall within the study area. Unfortunately, locational data were poor and site descriptions cursory; as a consequence, the survey files are not very useful for current research. A later report by the Gladwins (1936) drew on the upper Gila survey data, although not in any great detail.

In the thirties, the same foundation sponsored excavations by Emil Haury in ruins of the upper Gila region; while the ruins lie outside the study areas, the report which followed (Haury 1936) forms the basis for all subsequent Mogollon studies. Haury later directed Joe Ben Wheat (1955) in the latter's synthesis of Mogollon prehistory; unfortunately Wheat's effort has not stood up very well over time.

In 1947, the Peabody Museum (Harvard) Upper Gila Expedition carried out an initial reconnaissance of the upper Gila region; in the following two years more intensive reconnaissance was completed. In all, 638 sites were found. However, publication of the survey results was delayed for several years (Danson 1957).

The Peabody Museum project was one of the few to work along the lower San Francisco River. Among the sites found by the expedition were two just upstream from Clifton (and therefore just outside the study area). These were both pueblos on "benches" overlooking the San Francisco; decorated pottery on the sites was of the Mimbres tradition.

The end of the fifties saw the beginning of "salvage" research in the upper Gila region. In 1959, Donald Tuohy (of the Arizona State Museum) carried out a reconnaissance of portions of the floodplain (and some adjacent areas) of the upper Gila river. One of his areas extended between the Earven Flat Dam Site (at the upper end of the Gila Valley, Arizona) and the San Carlos Reservoir, and the other extended from Winkelman downstream to about Kelvin. The project was carried out for the Corps of Engineers, which was contemplating a channelization project along the Gila. Tuohy (1960) located 39 sites and tested five of these; most dated between A.D. 1000 and 1450. Based on Tuohy's recommendations, William Wasley and Alfred Johnson excavated AZ U:16:8 and U:16:10 (ASM), two pueblos which they dated to the twelfth

century A.D. and used to define the Bylas phase, which was seen as a local variant of Western Pueblo culture (Johnson 1965; Wasley and Johnson 1966).

In New Mexico, the first of the "salvage" work in the region actually had a planning orientation. From 1961 to 1964, the Museum of New Mexico carried out a survey of existing state highways (Alexander 1966). The survey covered areas within 1000 feet of existing centerlines. On-foot coverage appears to have been selective, however, being limited to the most likely areas for sites. Among the sites encountered throughout the state were several within the Cliff-Gila study area.

In 1963, Wasley and Gwinn Vivian carried out a two-day reconnaissance of the reservoir area for the proposed Camelsback dam, but recorded only one site (Vivian 1963). The extent of their study area was not stated, but given the short time spent in the field, the reconnaissance must have been quite superficial. Vivian informs me that as part of the same trip, the two State Museum archaeologists visited sites of the Gila Valley, added to Tuohy's notes, and collected some sherds.

Also in 1963, Vivian carried out a reconnaissance of the reservoir area for the proposed Buttes Dam, and located six sites (Wasley and Vivian 1965). One of these sites (downstream from the study areas) was subsequently excavated in 1968 (Wasley and Benham 1968), as the sum total of the proposed salvage effort for Buttes Dam. The excavated site was Santa Cruz and Sacaton phase Hohokam (A.D. 850-1000), and included pithouses, a ball court, trash mounds, cremations, and cooking pits.

In 1965 and 1966, the Museum of New Mexico carried out salvage excavations along a highway right-of-way between Cliff and Riverside, New Mexico. Three sites within the present study area were excavated: LA 5779 (Lee Village), a Late Pithouse period Mogollon sites; LA 5793 (Ormand Village), a Salado site; and LA 6783 (Dinwiddie Site), a Late Pithouse period and Mimbres phase site. A brief salvage report was prepared (Hammack and others 1966). Several years later, Stanley Bussey described Lee Village more thoroughly in his doctoral dissertation (1972) and a monograph (1975).

In 1968, Robert Blair wrote a student paper (now in the Arizona State Museum Library) on the Ray Mining District. The paper is of interest as it contains data from interviews with a retired local mining engineer, and has a sketch map of Kelvin and Riverside as of 1968.

In 1969 and 1970, Jeffrey Brown (1973,1974) recorded (or re-recorded) 11 sites in the Gila Valley of Arizona, and excavated a small portion of the Methodist Church site in Safford. As part of his research, Brown enumerated a number of hypotheses concerning Salado origins, and proceeded to dispute most of them. Brown's thesis includes a discussion of the Maverick Mountain phase in the Safford Valley.

In 1971, James Fitting directed limited student excavations in three sites within the Cliff-Gila study area: the Heron Ruin (Burns 1972), the Riverside Site (Baker 1971), and the Saige-McFarland Site (Fitting, Ross, and Gray 1971). Each of these sites contained a Mimbres component. The Heron Ruin was reportedly partly excavated several years earlier, by members of the Silver City Historical Society.

From 1971 to 1976, Jack and Vera Mills (1978) carried out excavation work at Buena Vista. (When Buttigieg-Berman [1977] carried out a survey through the site in 1977, she noted the Mills' work at the site.) The site has almost been eradicated by construction and pothunters since then, so their report is a valuable one.

The Mills obtained five archaeomagnetic dates for the site, ranging from A.D. 1180 \pm 45 to 1405 \pm 15 (1978:5-6; these are DuBois dates). The broad archaeomagnetic date range is bolstered by the Mills' ceramic and stratigraphic evidence.

In the upper Gila region as elsewhere, the early seventies saw a shift from "salvage" oriented archaeology to "cultural resource management" projects. This change is worth noting because of an associated change in the quality of field survey and recording procedures. Before 1972, the main function of site forms was to note the existence of sites; any evaluation of research potential was carried out in the field. Consequently, most pre-1972 survey records simply cannot be used to evaluate site significance. In contrast, forms used after 1972 were generally intended to document significance (or lack thereof), and the corresponding reports often explicitly discuss site significance. Consequently, work done from the early seventies onward is, on the whole, much more useful than that of previous decades.

The first of the cultural resource oriented projects within the study units took place in 1973, when Mark Grady (1974) of the Arizona State Museum directed the Phase I archaeological survey for the Buttes Dam and Reservoir site. During this phase, an intensive survey was carried out on the south side of the river, including the maximum flood pool limits and a one-half mile (0.8 km.) buffer zone. Two years later, Sharon Debowski directed the survey of the north side of the river, again covering the maximum flood pool and a half-mile (0.8 km.) buffer zone. In addition, small parcels outside the flood pool but related to dam development were surveyed. In all, the Buttes Dam and Reservoir surveys yielded 272 loci ranging from Archaic to historic (Debowski and others 1976). This is the same area that, when surveyed a decade earlier by "salvage" archaeologists, yielded only six sites.

In 1974, Patricia Gilman and Peter Sherman (1975) of the Arizona State Museum surveyed the floodplain, first terrace, and second terrace north of the Gila River in a study area 16 km. north of Safford. Five sites were located (AZ CC:1:2, 17, 18, 19, and 20 [ASM]), including agricultural features, a CCC erosion-control system, a large pueblo, and a petroglyph site.

In 1974, the Arizona State Museum prepared overview documents for the Middle Gila Planning Unit and the Winkelman-Black Hills area for the Bureau of Land Management (Debowski and Fritz 1974; Teague 1974). These were overview including listings of known sites in those areas.

In 1975, Gay Kinkade (1975) of the Arizona State Museum surveyed Foote and No Name Washes, which are southeast of Safford, Arizona. The survey area was to be affected by a floodwater control project. Kinkade located 21 activity loci, all but one of which were lithic scatters on terrace tops or slopes. The one site with pottery appeared to date from A.D. 900 to 1250, based on the presence of redwares and red-on-brown wares. Subsequently, Fitting (1977) carried out a data recovery program at these sites; this included controlled surface collections and test excavations.

Kinkade spent the latter part of 1975 working at the Safford District Office, Bureau of Land Management, as an Arizona State Museum employee under contract to the BLM. As part of this work, Kinkade carried out clearance surveys and assisted in the upgrading of the Safford District's cultural resource management policies and procedures (Kinkade 1976). One of the projects completed by Kinkade at this time was a reconnaissance of the "box" (canyon) upstream from the Safford Valley, as part of an environmental assessment for a proposed geothermal project (Kinkade 1975,1980). Five archaeological and five historical sites were found on this occasion. Kinkade later became the Safford District Archaeologist for the BLM, and continues to hold that position at this writing.

In 1976, New Mexico State University carried out an excavation of LA 13921, a small aboriginal site just outside the Glenwood section of the present study area. (The site had previously been recorded and tested by Joseph Janes [1975,1976] of the Gila National Forest, Silver City.) Although a surface masonry scatter was present, excavation failed to reveal any permanent structure. The site appeared to be a temporary or limited use area. Chipped and ground stone were found; although no pottery was located, the site was identified as Mogollon. A radiocarbon date of 1180 ± 70 was obtained from a mixed sample (Bussey and Bussey 1977).

Also in 1976, Wirth Associates completed an environmental review of proposed transmission line corridors from Silver King to Hayden, Arizona. The study corridors, much wider than the actual transmission line rights-of-way, blanketed much of the Winkelman-Kelvin study unit. Prehistoric resources were reviewed by Arizona State University, while historic resources were studied by Archaeological Research Services (Stone 1976). Both projects appear to have included site visits.

In 1977 and 1978, Kay Simpson and Deborah Westfall (1978; Simpson and others 1978; Westfall, Rozen, and Davidson 1978), of the Arizona State Museum, carried out a survey and data recovery program along a series of transmission lines to be built by the Arizona Electric Power Cooperative (AEPCCO). These lines crossed the Gila in two places east of Solomonville, and in one place west of Guthrie, Arizona; it also crossed the San Francisco River below Clifton, Arizona. In all, 89 sites were located, several of which lie within the present study areas.

Starting in the late 1970s, the Bureau of Reclamation sponsored additional studies of the Buttes Reservoir area, as part of the Central Arizona Water Control Study (CAWCS; the Buttes area was later dropped from consideration). The studies were carried out by Dames and Moore, with prehistoric research subcontracted to Arizona State University and historic research carried out by Archaeological Research Services. (There was a fair amount of overlap in study area with the Silver King to Hayden transmission line review, cited earlier.)

The historic research consisted of an evaluation of the significance of known historic resources, some of which occur within the Winkelman-Kelvin study unit. As part of the prehistoric research, Neitzel (1983) carried out surface counts and collections at several of the sites in the Winkelman-Kelvin unit. A separate study, by Francis (n.d.), compared settlement patterns in the Buttes area with those of the Gila River Indian Reservation. The final versions of these reports should be available soon.

In 1979, Archaeological Research Services carried out archaeological spot checks at a number of bank stabilization and dike restoration sites along the Gila River near Duncan and Safford, Arizona, for the Soil Conservation Service. Two sites (one of them in the Gila Valley study unit) were located. The project, while limited, is noteworthy as being one of few in the floodplain of the upper Gila. As such, it provides hard evidence for the statement that sites occur in that river's floodplain.

A second project in the Gila's floodplain has also documented the existence of prehistoric remains in that physical setting. In 1980, the Minuteman Salvage Crew (sponsored by the Eastern Arizona College Museum of Anthropology) undertook some emergency work on the Daley farm near Thatcher, Arizona (Lee 1980). Although the work was limited, it supported the hypothesis that Bylas phase sites occurred in the eastern end of the Safford Valley.

One of the latest prehistoric sites in the upper Gila River region is Killeylekia, north of Cliff, New Mexico. In the late 1970s, Richard and Virginia Ellison excavated part of that site as part of a private museum. Like the sites just discussed, Killeylekia is in the floodplain of the Gila; during the flood of 1978 it suffered serious damage and the museum has been closed since then. In 1984, however, the Ellisons were back at work at the site and were rehabilitating the museum grounds.

In 1981, Richard Accola reported on a sample survey of the middle San Francisco River. None of his sample units overlapped with the Glenwood study area, but several fell nearby. Accola's (1981) report described settlement patterns noted by the survey, and concluded that the middle San Francisco River area had mostly been abandoned by about the twelfth century A.D.

In the upper Gila region, the eighties may well become the "decade of the overview". In 1980, Steven LeBlanc and Michael Whalen completed an archaeological overview of south-central and southwestern New Mexico for the National Forest Service and the Bureau of Land Management. This report is especially useful as it summarizes work accomplished by LeBlanc's Mimbres Foundation in the seventies. Two years later, Professional Analysts (1982) submitted a draft version of an overview for the BLM's Safford District, which covers southeastern Arizona. Unfortunately, the Safford District overview was never completed. Gay Kinkade informs me, however, that the report is likely to be revised and updated for publication in the near future.

One archaeological overview of southeastern Arizona which has been published appears in the BLM's (1980) Final Environmental Statement for the Upper Gila-San Simon Grazing Management Program. Among other things, this evaluates a number of sites near the Gila River in terms of potential for eligibility to the National Register. Data in the report indicate that about a quarter of the sites on BLM land in these areas have been vandalized, and that about 40 percent have suffered some form of human disturbance.

Yet another overview of the region was prepared in 1981 and 1982, Hemphill Associates carried out a Class I (overview) survey of portions of the upper Gila region, as part of the Upper Gila Water Supply Study (Fitting, Hemphill, and Abbe 1982). Among the areas investigated were the Camelsback reservoir site and the Cliff-Gila area; results of the study have been incorporated in this report wherever applicable. A Class II (sample) survey

project has since been undertaken by Richard Chapman (Chapman and others 1983); the study should be extremely valuable when completed.

In 1983, Don Clifton (New Mexico State Highway Archaeologist) surveyed a segment of State Road 174 in Whitewater Canyon, N. M. The survey began in the Glenwood section of the present study area, and extended upstream along the canyon. No cultural resources were found within the study area, but two historic sites (LA 43918 and 43919) were recorded upstream from there (Clifton 1983).

Several small survey projects have been carried out in recent years by the Arizona State Museum in or near the study area; these projects are documented in the Museum's survey files and project numbers are provided by way of reference. Susan Brew and Linda Mayro carried out a survey of sewage pump locations in Hayden, but found no sites (1977-7). In 1978 and 1979, two materials pit locations were surveyed in the Safford Valley, with negative results (1978-37; 1979-81). In 1979, Brew and Michael Fink carried out a survey for the Indian Health Service in Bylas and Peridot (1979-32); Brew and Richard Ervin later tested AZ V:11:14 (ASM) as part of the same project. Finally, the Museum carried out a waterline, well, tank site, and sewerline survey in the same general area, again for the Indian Health Service (1980-130).

Collections

It appears that a number of collections have been taken from sites in the study area, especially from sites in the Gila Valley (Professional Analysis 1982). However, few of these collections have been analyzed. Institutions which definitely have collections include the National Museum of Natural History (Smithsonian Institution), Washington, D.C.; the Museum of Anthropology, Eastern Arizona College, Thatcher (which recently obtained the Mills collection); the University of Colorado Museum, Boulder, the Laboratory of Anthropology, Museum of New Mexico, Santa Fe; and the Arizona State Museum, Tucson. In addition, a collection exists as part of the private excavations of Kweylleleka in the Cliff-Gila study unit. Some survey collections may exist at the University of Michigan, Ann Arbor. Also, rumor has it that collections from the Safford Valley were sent to institutions in Utah by early Mormon colonists. Taken together, these collections would be a valuable resource for understanding the prehistory of the region.

Work Done by the Project

The present overview was prepared between July 1983 and February 1984 by the author, who served as Principal Investigator and also did much of the basic research. Initially, the author was assisted by Jeffrey Altschul, who carried out visits to most of the sites listed in Table 1. The author was also assisted by Linda Swann, who took part in field checks, visits to site archives, and assembly of the final report.

Institutions and persons contacted are listed in Appendix 3. In an attempt to ensure that all available resources would be located, Phillips,

TABLE 1
SITES VISITED DURING THE OVERVIEW STUDY

<u>Site Category</u>	<u>Number</u>	<u>Name</u>	
Prehistoric			
1. Village	AZ V:13:56 (ASM)	Buena Vista	
	AZ V:13:58 (ASM)		
	AZ CC:2:3 (ASM)		
	AZ CC:2:4 (ASM)		
	AZ CC:2:16 (ASM)		Yuma Wash Site
	AZ CC:2:31 (ASM)		
	AZ CC:3:46 (ASM)		Powers Ruin
	AR02-04-721 LA 4937		Kwilleylekia
2. Artifact Scatter	AZ CC:2:50 (ASM)		
	AZ CC:2:51 (ASM)		
	AZ CC:2:52 (ASM)		
Historic			
1. Military Post	AZ V:16:4 (ASM)	Fort Thomas*	
2. Transportation	NWR 1	S.P.R.R. Bed and Bridge	
	NWR 2	U.S. 70 Bridge	
	NWR 4	Old Safford Road Bridge	
	SHPO 106	Kelvin Bridge	
3. Habitation	NWR 6		
4. Conservation	HS02-04-106	Wilkerson Ranch (old CCC camp)	
	NWR 21	Glenwood Fish Hatchery	
	NWR 23	Glenwood CCC Camp	
5. Mining/Industrial	AZ V:13:33 (ASM)	Kelvin, Az.	
	NWR 3	Arizona Copper Co. Smelter, Clifton	
6. Religious	NWR 22	San Isidro Church, Gila	

(*Proved to be outside study area)

Swann, and Altschul travelled to locations with site records whenever practicable. In some cases, however, contact was made by letter or telephone.

One of the goals of the project was to identify sites and locations of religious or cultural significance to native Americans, to prevent inadvertent disturbance of such locations. To do this, New World Research made several attempts to contact officials of the San Carlos Indian Reservation. Unfortunately, these attempts at contact were rebuffed and no Native American input could be obtained.

All sites and surveys located during this project were plotted onto U.S.G.S. topographic sheets, and a set of copies of the site forms was assembled. This information, along with photographs taken during the project, was submitted to the Los Angeles District, Corps of Engineers, and should be available for study at the District office. For future workers in the area, summary descriptions of the sites are provided in Appendix 1. Locational information is provided in Appendix 2, and site locations are depicted in Figures 3 through 15 in the same appendix. (As it contains sensitive and legally restricted information, Appendix 2 may have been deleted from some copies of this report.)

Much of the report is taken up by a cultural historical overview of the upper Gila River. Although the upper Gila is archaeologically and historically an extremely important area within the Southwest, it has received little attention. I believe that the tendency to ignore the upper Gila has hurt our understanding of Southwestern archaeology in general, and therefore have prepared an overview narrative that is longer than absolutely necessary. While Chapters 3 and 4 only begin to untangle what went on along the upper Gila River, they will perhaps stimulate others to consider the importance of the resources involved.

CHAPTER 2

NATURAL SETTING

This chapter presents only a brief discussion of the upper Gila environment. More detailed information can be obtained from the sources in the bibliography at the end of the report.

Geology and Hydrology

The project study area lies within the Mexican Highlands or Mountain section of the Basin and Range physiographic province. As with the Basin and Range province as a whole, the "stretching apart" of North America has led to the creation of fault-block mountain ranges, and between the mountains great amounts of eroded material have been trapped. As this detritus slopes outward from the ranges, it forms pediment zones or "bajadas" dissected by numerous deep washes or arroyos. The Mountain section of the Basin and Range is characterized by narrower basins and higher mountain ranges than the Desert section to the west.

In closed basins, the bajadas feather out into flat, dry lake beds, or playas, with their own localized sedimentary deposits. Such deposits do occur in the region, but from at least the Middle Pleistocene onward a number of the basins have been linked by the Gila and its tributaries. Alluvial deposits of Cenozoic age flank the river; most (but not all) are relatively undeformed and form prominent terraces.

The Gila River springs from the Mogollon Mountains in west-central New Mexico; it flows generally westward, detouring around one mountain mass after another, until it reaches the Colorado at Yuma, Arizona. For the first half of its journey, the river alternates between narrow canyons (called "boxes") and long, fairly gentle valleys. All of the present study area lies within this first portion of the river.

When the Gila first emerges from the high mountains, it flows through a broad valley which includes the Cliff-Gila study area. Here, the valley includes irrigable bottomlands flanked by alluvial terraces. Below this area, the river cuts through a narrow canyon in the Burro Mountains into the Redrock Valley, and from there through a second narrow canyon to emerge in the Duncan-Virden Valley. In this valley the Duncan study area is located.

Below the north end of the valley (known there as York Valley), the Gila has carved a canyon through the Peloncillo mountains, a highly faulted and dissected mass of basalt and other rocks. At the upperstream end of the Peloncillo mass the Gila is joined by the San Francisco River, which reaches

it by cutting a deep canyon through detrital formations. The large wedge of land between the two rivers is somewhat less rugged than the mountains themselves, being composed of a series of terraces (Simpson and Westfall 1978:5-6; Fitting, Hemphill and Abbe 1982:14).

Shortly downstream from the confluence of the Gila and San Francisco Rivers, near the mouth of Black Canyon, is the proposed Camelsback damsite. If the dam were built as planned, the 3442 foot maximum floodpool would extend all the way back up the Gila to York Valley and up the San Francisco into Clifton, which is itself a study area. (Since the Camelsback and Clifton study areas are contiguous, they are often combined in the report.)

In the Gila Valley of Arizona--known popularly as the Safford Valley--the Gila River flows through a deeply cut trough, which is flanked by steeply rising terrace deposits over older lake clays. Both the floodplain and the lowest terraces of the river are fairly broad in this valley, making it an ideal location for irrigation farming.

Below the Gila Valley, the river again enters a canyon, part of which is dammed to form the San Carlos Reservoir. The river then emerges into a narrow, unnamed valley at Winkelman and flows north and west. The valley is wedged tightly between the Dripping Springs and Tortilla Mountains; the former are largely Paleozoic with some Precambrian units, while the latter are mostly steeply tilted Precambrian rock (Pierce 1967:56-57). Along this portion of the Gila, alluvial terraces are not consistently present, and can vary in width from less than 50 to more than 600 m. Terraces apparently were good spots for placing habitation sites and obtaining chippable stone (Debowski and others 1976). The bottom of this valley forms the Winkelman-Kelvin study area.

At Kelvin, the Gila turns west and flows through yet another canyon, this one the location of the proposed Buttes Dam. At the lower end of the canyon, the river slices between two massive buttes and emerges into the broad desert lowlands which characterize the remainder of its journey.

Although none of the study units along the Gila occur within its mountainous uppermost section, the overview does include one minor area in the mountains of New Mexico. This is the study area at the mouth of Whitewater Creek, a tributary of the San Francisco River.

Flooding and Stream Channel Change

Although they are minor events from a geological perspective, the floods and stream channel changes of the last century or so have been impressive on the human scale. The more striking of these is flooding; by coincidence, one of the worst floods in recorded history took place during the present study.

Although a number of floods have caused damage along the Gila and San Francisco Rivers, the "Flood of '83" (Arizona Daily Star 1983) is an outstanding example of the breed. From September 27 until October 8 of that year, almost constant rain fell over southern Arizona and southwestern New Mexico. Areas that normally receive little or no rain at that time of year were doused with 6 to 12 inches in the space of a week. Most of the water simply ran off into the rivers.

The uppermost section of the Gila escaped lightly, at least relative to the damage suffered in the flood of 1978. The worst flows were along the San Francisco, and along the Gila downstream from the two rivers' confluence. Hardest hit was Clifton, which lies in the very bottom of a narrow valley. On October 1, eight feet of water poured into the town; peak flow in the San Francisco was 87,400 feet per second. Over 600 houses and 86 of 126 businesses were severely damaged. The Clifton Casa Grande, the oldest building in the town and a National Register property, was damaged. The Park Avenue bridge, for which a Register nomination was being prepared, was completely swept away.

On October 2, with Clifton still flooded, the Gila spilled into Safford, Hayden, Kearney, Winkelman, Riverside, Kelvir and Florence. Many of these towns are old ones, and in many cases historic properties were damaged or destroyed. At Kelvin, an early concrete bridge was washed out.

Except for the instances just described, the 1983 flood is not known to have damaged any of the sites listed in Appendix 1. This is because most of the sites recorded to date are out of the floodplain of the Gila and its tributaries. It is likely, however, that unrecorded sites were damaged or washed away during the flooding.

A less publicized aspect of the Gila is its tendency to redefine its channel according to its own wishes. In addition to meandering around a bit, the Gila has varied its channel width dramatically in the last century (Burkham 1972). Between 1846 and 1904, the stream channel was stable and narrow. From 1905 to 1907, however, the channel widened rapidly to about 2000 feet (610 m.). From 1918 to 1970 natural reconstruction of the channel took place, so that average channel width was less than 200 feet (60 m.) in 1964. By 1968, the channel had widened again slightly, to about 400 feet (120 m.).

Past Biotic Environment

Demonstrated human occupation of the Southwest began at the end of the Pleistocene. It would appear that from this time until about 5500 B.C., the climate of the greater Southwest was notably cooler and wetter than today. Evidence for this claim comes from alluvial deposits (Antevs 1955; Haynes 1968), from pollen (Mehringer 1967), and from packrat midden analyses (King 1976; King and Van Devender 1976; Van Devender 1977; Betancourt and Van Devender 1981). Juniper forests were found as low as 2000 feet, and plains-type grasslands probably extended through southern Arizona and New Mexico as far west as the Papagueria. Although a general warming and drying tendency can be inferred, some Pleistocene fauna continued to survive into this period.

*According to the Bryan-Antevs climate model (Antevs 1955), the subsequent period--the Altithermal, from 5500 to 2000 B.C.--was much warmer and drier than today. Martin (1963) has disputed the evidence for such an extreme period, based on his pollen studies, but the weight of evidence still favors Antevs' position (see Irwin-Williams 1979:32). The start of this period witnessed the eastward retreat of Plains-type grasslands, the upward retreat of forests, and the spread of modern desert communities. Once these shifts were complete, however, the packrat data indicate that vegetation was not

grossly different from that today. In other words, environmental effects on human groups during the Altithermal were probably more in terms of fluctuations in biotic productivity rather than of wholesale shifts in the natural setting.

The period from 2000 B.C. to the present is termed the Medithermal, and the climate was much like that of today. As in recent times, episodes of drought and arroyo cutting are known to have occurred, and in some cases seem to be associated with population shifts or other cultural changes (see Euler and others 1979).

Within the study area, a fairly dense occupation took place between A.D. 500 and 1450, and undoubtedly led to changes in the local environment. In the Gila floodplain, large areas must have been converted to farmland; nearby terraces and bajada slopes were made over into "dry" farming or check dam plots. And, after a thousand years, firewood collection must have had an impressive effect on local stands of mesquite and cottonwood. Although it is customary to think of induced environmental change as starting with the Anglo-American occupation, it almost certainly began much earlier.

Between A.D. 1450 and 1870, when human use of the area was minimal, regeneration of floodplain and other biotic communities undoubtedly took place. After the immigration of European-Americans, however, the process of induced change began once again (Dobyns 1978). The floodplain of the Gila River was converted--once again--to irrigation agriculture. This new burst of farming has been most extensive in the Gila Valley, Cliff-Gila, and Duncan study areas but has also occurred on small plots within the Winkelman-Kelvin and Camelsback-Clifton units. Upland areas have been subjected to a century of intensive grazing, which has resulted in vegetation changes and substantial erosion (York and Dick-Peddie 1969). The flow in the Gila River and its tributaries has been substantially reduced by irrigation, storage dams, and groundwater pumping. Finally, the introduction of exotic species--most notably saltcedar--has in some cases led to the displacement of native forms of life.

The best formal study of vegetation changes along the Gila was prepared by Turner (1974). This study was based on a 1914 vegetation map and supplementary data in the form of journal entries, photographs, and maps. Together, the sources indicated that "the original floodplain vegetation here [the lower end of the Gila Valley] and on adjacent reaches comprised forests of cottonwood and willow, thickets of seepwillow, arrowweed, and soapweed; and low woodlands of mesquite." This community had not been static, however; it had always responded to changes in the river itself (Turner 1974:H18).

After the flood of 1916, however, saltcedar--an exotic species--immediately established itself in the Safford Valley. Saltcedar is an extremely aggressive colonizer, maturing rapidly (often in its first year), fruiting over much of the year, producing up to 500,000 seeds per mature plant, and spreading its seeds by either wind or water (Turner 1974:H14-H17). As result, Turner notes, the invasion of saltcedar is "largely irreversible". While this species has not eradicated native forms, in many places it has become dominant.

Present Biotic Setting

Throughout the study areas, the surviving riparian communities are all variants of the same basic complex. For the Gila Valley of Arizona, Turner (1974:H6) has described this vegetation form as follows:

Cottonwood is still present but in widely scattered stands; willow is seldom found and then only in isolated clumps; the luxuriant strip of grass at the water's edge is composed not of "grama" but of Bermuda grass, a plant that is probably new since 1846. Seepwillow is locally abundant, but along much of the valley it can be found only along the open channel. Seepweed is still most common in open stands of vegetation where the water table is shallow. At present, all along the [Gila] valley [of Arizona], the lowest levels bordering the river are heavily beset with underbrush comprising a single species, saltcedar...

Mesquite, which once formed dense bosques on low terraces and flood-plain edges, is now less common than before; groves have been cut down to provide fuel wood and to open up the land to irrigation farming. In the Gila Valley, mesquite is now dominant only in some of the side drainages (BLM 1978:16). These same species are also present in the other Arizona study areas. In the Cliff-Gila and Glenwood study units, however, the riparian association is simpler; vegetation along the streams is usually parklike stands of mature cottonwoods and sycamores.

In Arizona, much of the land flanking the river bottom is primarily composed of Lower Sonoran desert shrub (paloverde-cactus) associations or ones in which creosotebush is dominant; some desert grassland areas occur but these are minor. As one moves upstream along the Gila, these communities are replaced by Chihuahuan forms and then, in the Cliff-Gila and Glenwood areas, juniper-pinyon woodlands. It is worth pointing out that in both Arizona and New Mexico, many of the areas typed as grasslands have been partly altered into desert scrub by a century of intensive grazing (see York and Dick-Peddie 1969).

Climate and Agriculture

Climate data for Arizona (Sellers and Hill 1974) and New Mexico (Tuan and others 1973) indicate that most of the upper Gila region is poorly suited for direct rainfall farming. The Cliff-Gila area receives about 16 inches of rain a year; as one moves down the Gila into Arizona, the average drops to 10 inches or less. However, temperature is much more favorable for farming. The same references indicate that in each of the study areas, frost-free seasons last 200 days or more.

The combination of Gila River water, irrigable bottom lands, and a long growing season explains why the area has been so intensively farmed over

the centuries. Both prehistoric and historic farmers irrigated crops, but throughout the study area the prehistoric peoples also built check dams, grid gardens, and other means of utilizing runoff water from rainfall (Woodsley 1980). It would appear that use of such runoff control structures effectively doubled the amount of moisture obtained from rainfall, thus making "dry" farming a possibility in areas where no modern farmer would dream of putting a crop.

CHAPTER 3

PREHISTORY

Paleo-Indian and Archaic

The earliest known occupants of the American Southwest were the Clovis people, who reached the area by about 9500 B.C. (Figure 3). These Paleo-Indian foragers are best known locally from sites in the southeastern part of Arizona, such as Naco (Haury, Antevs, and Lance 1953) and Lehner (Haury, Sayles, and Wasley 1959). Surface finds of Clovis points are widespread in the state (Huckell 1982). In at least some parts of Arizona, the Clovis culture was replaced by that of the Folsom peoples at about 9000 B.C.

In contrast, there is little evidence for early Paleo-Indians in southwestern New Mexico. The two Paleo-Indian sites which have been reported (Fitting and Price 1968) are Midland, which is closely related to Folsom.

To date, no Paleo-Indian sites have been found within the actual study areas. Sites of that period are rare, however, so the lack of them along the Gila does not mean that paleo-Indians did not forage along the river.

While Paleo-Indian groups undoubtedly used a variety of wild foods, they appear to have relied heavily on large Pleistocene species such as mastodon and buffalo. The disappearance of Paleo-Indians from the upper Gila region is probably related to the local extinction of such large herd species. At the same time, however, it is worth remembering that the shift from Paleo-Indian to Cochise Archaic was underway before Pleistocene species had completely disappeared (see Sayles and Antevs 1941; Sayles 1945, 1983).

The succeeding Archaic peoples depended most heavily on small game and especially on wild plant foods. The local Archaic tradition in the upper Gila region is known as the Cochise Culture (Sayles and Antevs 1941) which, as first defined, contained three stages. The first of these, the Sulphur Springs stage, dated before 8000 B.C.; from its ground stone tools and lack of dart points it was thought to be a plant food oriented complex. Sites of the Chiricahua stage (8000 to 3000 B.C.) contained both points and ground stone, so a mixed foraging economy was deduced. The final stage, San Pedro, was dated between 3000 and 500 B.C.; pithouses and limited farming were adopted during the course of this stage, and pressure-flaked tools were typical.

Sayles (1945, 1983) later added a Cazador stage between Sulphur Spring and Chiricahua (and revised his dates for the sequence). This was done in order to account for early sites with projectile points; Sayles saw Cazador as a period of increased emphasis on hunting.

As can be seen, Sayles' view of Cochise is based on an extremely simplistic interpretation of material culture. A more sophisticated alternative

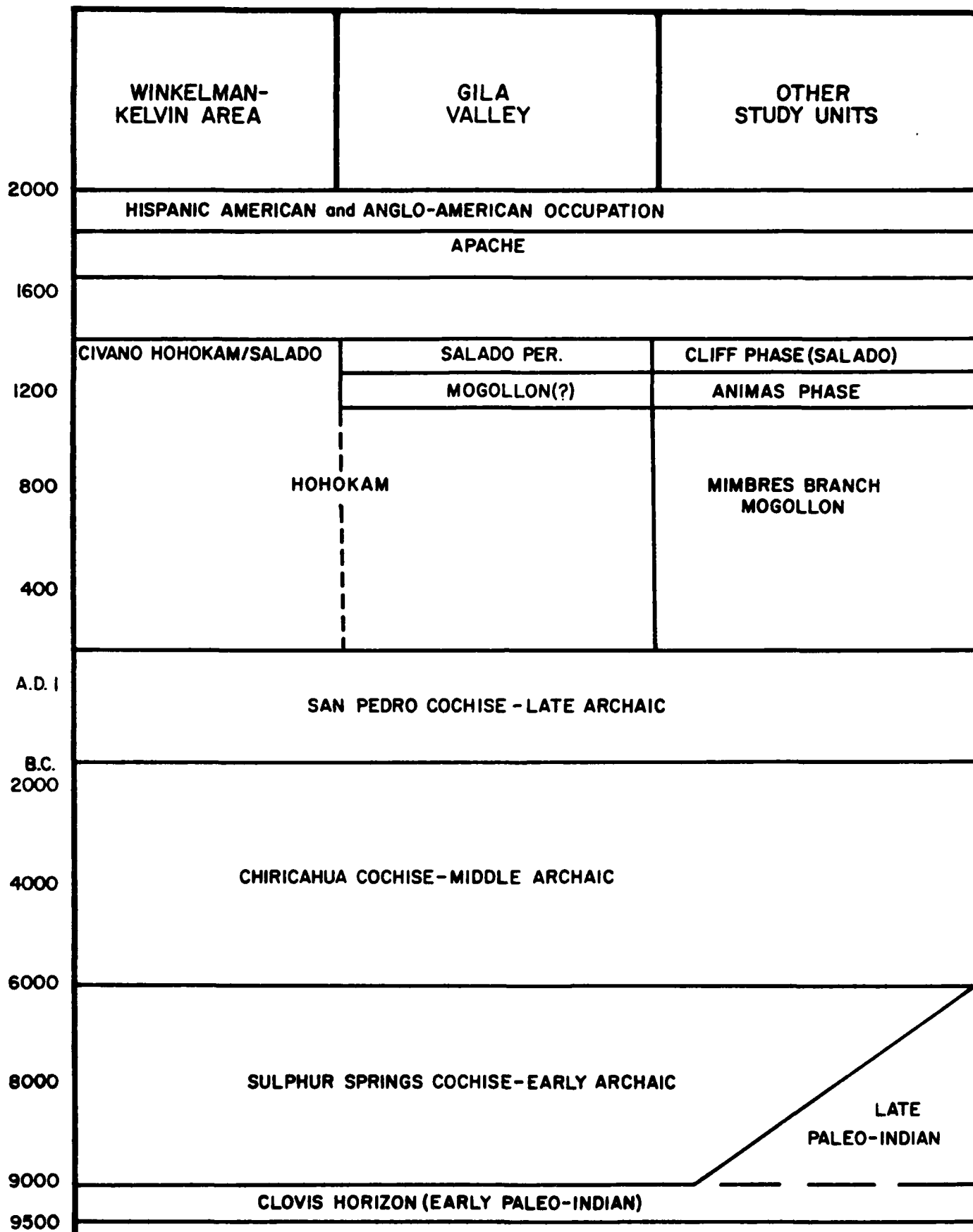


Figure 3. Basic Cultural Historical Sequence for the Upper Gila.

can be found in Whalen's (1971) dissertation. Whalen argues that at the Double Adobe type site, Sulphur Spring and Cazador remains occur in the same geologic context; moreover, cutting and scraping tools occur along with burned and splintered bone in the Sulphur Spring deposits, even if projectile points are absent. Thus, Cazador loci can be seen as a facies of the Sulphur Spring complex.

Whalen (1971) also provides dates for the Cochise sequence which, with slight modifications, are accepted today. Current best dates are 7000 to 3500 B.C. for Sulphur Spring, 3500 to 1500 for Chiricahua, and 1500 B.C. to A.D. 200 or 300 (depending on location) for San Pedro.

Finally, while Sayles and Antevs' (1941) site data merely confirm the use of stream-edge locations, Whalen's San Pedro Valley data provide more substantial information on Cochise culture settlement strategies. Whalen's data indicate that Chiricahua stage base camps are located near arroyo banks and water sources, while special activity sites occur in bajada and mountain areas.

So far, no Archaic sites have been located within the Arizona portion of the study area. Debowski and others (1976) located four Archaic sites within the Buttes Reservoir area, on the basis of chipped stone morphology and patination; but all four are downstream from the current study area. Tuohy (1959) located a lithic component (at AZ CC:2:9) buried under several meters of fill, across the Gila from the mouth of San Simon Creek. However, no definitive date for this component was indicated.

In New Mexico, within the Cliff-Gila study area, one Middle to Late Archaic site (LA 34800) was located by the University of Michigan in 1971. In addition, the Dinwiddie and Ormand sites reportedly contained Archaic artifacts and structural remains (Hammack and others 1966). Very likely, a number of Archaic sites have been masked by the heavy Ceramic period occupation of bluffs and terraces along the upper Gila.

The Archaic-Formative transition has yet to be documented within the study area. To the south, east, and north, however, the Archaic gives way to Mogollon at about A.D. 200 (see Schroeder 1982). To the west, at about the same time, Hohokam settlements appear. Although the origins of the Mogollon and Hohokam are not well documented, the transition is probably best understood as an evolutionary change among native Archaic peoples. This shift entailed an increase in intensity of farming, a corresponding shift to more settled village life, and the adoption of a brownware pottery tradition which had spread along the Sierra Madre Occidental in Mexico.

Mogollon

The upper Gila region was settled by three branches of the Mogollon culture. Two of these branches--Black River (or Point of Pines) and San Simon--are of marginal interest to this study. The third branch--the Mimbres--actually occupied areas along the river, and will be described in some detail. The key source of information on the Mimbres Branch is the work of the Mimbres Foundation, as summarized by LeBlanc and Whalen (1980).

The Mimbres branch occupied southwestern New Mexico. It extended northward along the San Francisco River to 33 degrees, 40 minutes North latitude, or north of Alma, New Mexico. (North of the Cliff-Duck Creek area, however, Mimbres sites begin to resemble those of adjacent Mogollon branches [LeBlanc and Whalen 1980:3].) In Arizona, Mimbres sites are found as far up the Blue River as 33 degrees, 35 minutes North latitude. North of these points the Cibola Branch Mogollon were found (Wheat 1955:21).

The dividing line between the Mimbres and Black River branches, north of the Gila, seems to have run along the Blue Range in Arizona. South of the Gila, there is no clear boundary; the Gila upstream from the Camelsback Dam site is within the Mimbres area, but west of there the Mimbres and San Simon branch sites are interspersed (Wheat 1955:27-28).

As will be detailed later, the Gila River as far upstream as Safford was colonized and controlled by the Hohokam. This "foreign" enclave acted as a wedge between the westernmost Mogollon branches, the Black River and San Simon, whose territories began in the uplands flanking the river (see Wheat 1955:27-28). (However, Sayles [1945] once indicated that San Simon sites extended all the way to the Gila River in the Gila Valley.)

From this discussion, it should be clear that in addition to the Hohokam, only one Mogollon branch, the Mimbres, is of direct concern within the study areas. Two other branches, though--Black River and San Simon--were close enough to have an effect on prehistoric events.

Early Mogollon: A.D. 250 to 550

Alternative names for this initial Mogollon occupation are Early Pithouse period (Anyon, LeBlanc, and Gilman 1981), Al Cabo (LeBlanc and Whalen 1979), Mogollon I (Wheat 1955), Pine Lawn (Willey 1966), Pine Lawn-Georgetown (Bullard 1962), Hilltop (Stuart, Gauthier, and Merlan 1981:179), and Cumbre (Anyon, Gilman, and LeBlanc 1981). In practical terms, this period represents the adoption of brownware pottery by the existing San Pedro Cochise (Late Archaic) population. Although the emergence of Mogollon pottery has sometimes been put in the last few centuries B.C., the growing consensus is that pottery did not reach the northern Southwest until about A.D. 200 (Schroeder 1982). Early Mogollon pottery included brown plainware, which sometimes was slipped red (though not highly polished) or given a fugitive red coating.

Throughout the Mogollon area, sites of this period are usually on high knolls or bluffs, in locations with defensive possibilities. The easiest access to the villages is sometimes controlled with a wall. Villages can be large, with over 10 houses apiece, but many of the sites are apparently smaller (Anyon, Gilman, and LeBlanc 1981:210; Stuart, Gauthier, and Merlan 1981:179).

Stuart, Gauthier, and Merlan (1981:179) speculate that some undiagnostic sherd scatters in valley floors are coeval with the knolltop and bluff sites, but there is no direct evidence to support this idea. In general, the lack of diagnostic items specific to the Early Pithouse period has made it difficult to identify special-activity sites of that age (LeBlanc and Whalen 1980:133).

It is worth noting that the early village sites tend to overlook substantial areas of alluvial fill in valley bottoms, especially in the juniper-pinyon zone (LeBlanc and Whalen 1980:128). Presumably, some kind of floodwater farming was taking place in these locations. Although the point has been debated, it appears that the Mogollon of this period were living in the villages for most, if not all, of the seasonal round.

Pithouses vary greatly in terms of size, shape, depth, orientation, and features (Stuart, Gauthier, and Merlan 1981). The tendency is towards circular or oval pithouses (LeBlanc and Whalen 1980:112).

In the general Cliff area, Fitting (1973a) has reported on an Early Pithouse village named the Winn Canyon Site. This included six pithouses, all circular; one was possibly used for storage. Alma Plain pottery was found, along with a redware classified as San Francisco Red.

Georgetown Phase: A.D. 550-650

Traditional dates for the Georgetown phase tend to fall in the first few centuries A.D. However, the Harris site tree-ring dates fall in the range of A.D. 582 to 624 (Anyon 1979). Anyon, Gilman, and LeBlanc (1981) have included this phase as the first in their Late Pithouse period, which runs from A.D. 550 to 1000.

The most dramatic contrast with the preceding phase is a shift of village locations from high points to terraces just out of the local floodplains. Such locations would have been less defensible but closer to farm plots. Villages tend to have 10 to 15 houses, with round or D-shaped house plans predominating. San Francisco Red pottery makes up about 10 to 20 percent of the ceramic assemblage. Other types include Alma Plain, Alma Neck-banded, and Alma Scored (Anyon, Gilman, and LeBlanc 1981; LeBlanc and Whalen 1980:145).

Sites of the Georgetown phase are actually fairly uncommon. It would appear that a population loss occurred in the Mogollon area between about A.D. 500 and 700, although the archaeological data are limited. Martin and Plog (1973:81) have suggested that a gradual population increase among the early Mogollon was reversed in the sixth and seventh centuries, because of declining rainfall. As supporting evidence they cite a decrease in the amount of corn in layers of this age at Tularosa Cave. LeBlanc (in LeBlanc and Whalen 1980:129-130) disagrees, but Stuart, Gauthier, and Merlan (1981:181) counter that LeBlanc lacks the hard data with which to counter Martin and Plog's argument.

In general, Late Pithouse period burials are flexed and laid on their back or side. In the Georgetown phase, burials are almost always extramural or else in abandoned pithouses (LeBlanc and Whalen 1980:18).

San Francisco Phase: A.D. 650-850

This phase has been variously dated; Anyon's (1979) tree-ring dates range between A.D. 625 and 775, with a clustering of dates between A.D. 736 and 748. The A.D. 650-850 range adopted by Stuart, Gauthier, and Merlan

(1981:188) is based on Graybill's (1973, 1975) work. Anyon, Gilman, and LeBlanc (1981:216-217) date the San Francisco phase between A.D. 650 and 750, although the data they present could be reconciled with a terminal date close to A.D. 800. Typical pottery includes Mogollon Red-on-brown, San Lorenzo Red-on-brown, and Alma Neck-banded.

Sites continued to be located on terraces just out of floodplains; actually, many San Francisco phase sites represent continued occupation of Georgetown phase villages. About 15 to 20 pithouses (or more) occur on each site; and kivas are present. On some sites, clusters of pithouses (each with their own kiva) are found (Stuart, Gauthier, and Merlan 1981:189). Houses tend to be rectangular with rounded corners, more uniform in size, and more uniform in internal features; rampways become more common (Anyon 1979:199-200).

After the apparent population drop during the preceding phase, a modest increase in the number of sites occurs during the San Francisco phase. Also, despite the continuing importance of wild foods, the use of domesticates seems to have increased somewhat (Stuart, Gauthier, and Merlan 1981:193).

LA 13921, the small site excavated just outside the Glenwood study area (Bussey and Bussey 1977), is probably a San Francisco phase site. This was a possible field house or temporary camp overlooking the lower section of Whitewater Creek.

Three Circle Phase: A.D. 850 to 975 or 1000

Stuart, Gauthier, and Merlan's (1981:193) dates for this phase are based in part on tree-ring dates reported by Anyon (1979); these range from A.D. 801 (noncutting date) to 964, with a clustering between 888 and 898.

During the 125 to 150 years of this phase, a noteworthy shift takes place in Mogollon ceramic design. During the preceding phase, an innovation was adopted in which red designs were painted on a white slip background instead of on a brown or tan surface. This new style, known as Three Circle Red-on-white, was produced in very small amounts before A.D. 850, but during the Three Circle Phase it became a typical decorated ware. Later in the same phase, a well-executed black-on-white style, Mimbres Bold Face was adopted; this was the direct precursor of the later Classic Mimbres style. Some archaeologists have believed that the shift from red-on-brown to red-on-white to Bold Face Black-on-white to Classic Mimbres was too extensive to have occurred in so little time, but it is worth remembering that the Three Circle phase represents six or seven generations of potters. This would be more than enough time to accumulate expertise and innovation in a thriving ceramic tradition.

Plainware of this period includes Three Circle Neck Corrugated, in which the coils (thinner than in Alma Neck Banded) cover up to the upper third of the vessel. Through time, this type was developed into forms in which the corrugation covered most or even all of the vessel's exterior (LeBlanc and Whalen 1980:152).

Three Circle phase pithouse villages appear to continue to grow in size. According to Minnis (1969:617), average village size is about 25

pithouses, with many having 60 to 70 (or even more) of these structures. However, site size appears to vary within the Mimbres area; size is greatest in the Mimbres valley itself and tends to decrease as one moves away from that valley (Stuart, Gauthier, and Merlan 1981:196).

Architectural changes are fairly minor. Pithouses tend to be smaller and shallower than before, and are rectangular (rather than subrectangular) in plan. Interiors of house pits are often faced with masonry, forming half-walls. Also, pithouses are often superimposed on one another. There are usually one or two communal houses per site; these are usually larger than before, and by the Three Circle phase they have become somewhat formalized.

A strong pattern of intramural burials is present in the Mimbres Valley, but this pattern is rare in the Gila drainage and may be absent in the San Francisco drainage (Stuart, Gauthier, and Merlan 1981:195-196). Some differences in burial furniture do occur, but their significance is unclear. Cremations occur in Three Circle phase sites, but are rare (LeBlanc and Whalen 1980:189-190).

A substantial increase in population occurred during this phase. Stuart, Gauthier, and Merlan (1981:194-196) seem somewhat equivocal about the increase; they speak of a "surge" in population at ca. A.D. 850 to 900, but they also suggest that simple geometric growth could be responsible. A related phenomenon is an apparent increased dependence on domesticated food species; LeBlanc and Whalen (1979) believe that there was a heavy dependence on floodplain agriculture at this time. (They do not believe, however, that irrigation was used.) As part of this intensification, sites spread into secondary drainages (LeBlanc and Whalen 1979; Stuart, Gauthier, and Merlan 1981:194). A similar pattern of secondary drainage use appears to be widespread in the Mogollon area at this time (Stafford and Rice 1979; Zubrow 1974).

Trade also seems to have increased during this phase. Turquoise appears and is common in sites, as is shell. Macaws also appear in the archaeological record at this time (Stuart, Gauthier, and Merlan 1981:196-197).

A Three Circle phase site within the Cliff-Gila study area, LA 5779 (Lee Village) was excavated by the Museum of New Mexico in 1965 (Hammack and others; Bussey 1972,1975). Located on a terrace above the Gila River, the site contains (by estimate) about 90 pithouses; 37 were partly or fully excavated. The dominant pottery types were Cliff and Mangus Black-on-white, Alma Neck-banded, and Three Circle Neck Corrugated. Some round houses were present, but rectangular houses predominated; most had lateral ramp entries. Common floor features included hearths and central roof support posts.

Twelve inhumations and four cremations were located at the site. Only one of the inhumations may have been subfloor. Bussey (1975:19-20) suggests that the cremations are of Hohokam individuals; this is plausible as shell goods, palettes, and occasional Hohokam sherds were also found at the site.

An archaeomagnetic date of A.D. 950 was reported for the Lee Site by DuBois, but the date has not been properly documented (Bussey 1975:17). Bussey's own dates, based on pottery, place the village at A.D. 920 to 980.

The Pithouse to Pueblo Transition

To normative-minded archaeologists, the shift from pithouses to pueblos, combined with a change from red-on-brown to black-on-white pottery, represents a fundamental change in the Mogollon culture. As noted by Anyon, Gilman, and LeBlanc (1979:222), it is common to attribute this shift to heavy "influence" or even a "takeover" by the Anasazi to the north. It is therefore worth the effort to point out some of the continuities between the pithouse and pueblo periods in the study region.

First, it appears that the adoption of black-on-white pottery is not contemporaneous with the shift to above-ground structures (Anyon, Gilman, and LeBlanc 1979). Instead, black-on-white pottery was first produced in the Mimbres branch by peoples who continued to live in pithouses for about another century. Moreover, even if the stylistic development of Mogollon pottery was influenced by other traditions (and which Southwestern style was not?), there is a logical series of technical innovations: from plain brownware, to red-on-brown, to a lightened brown background, to red on a white background, to black-on-white.

As for the adoption of pueblo architecture, the style may have been imported but local trends probably underlie the change. We have already noted that population increase, spread into secondary drainages, growth of village size, and increases in ceremonial structure size all mark the Three Circle phase. Moreover, Lightfoot and Feinman (1982) have argued for an emerging tribal leadership among the pithouse period Mogollon. (Lightfoot and Feinman's data seem a little scanty, but certainly no village of fifty or more pithouses was organized solely along lineage principles.) Extrapolating all of these trends into the following phase, it is not difficult to see that some kind of socioeconomic reorganization of Mogollon society was likely.

Classic Mimbres: A.D. 975 to 1150

During the Classic Mimbres period, roughly a century and a half, the potters of southwestern New Mexico consistently produced some of the most beautiful pottery in the New World. This was in a sense unfortunate, as it has encouraged the destruction of Mimbres sites by looters. The same beauty has also dazzled archaeologists, who have tended (until recently) to overlook other aspects of Mimbres culture.

Mimbres sites vary greatly in size, ranging from four or five rooms to about 200 rooms. In the Mimbres Valley itself, LeBlanc and Whalen's (1979) data appear to indicate some form of settlement hierarchy: sites have as few as 2 rooms or as many as 200, with most of the sites being small ones. However, as one moves away from the Mimbres valley, sites appear to be smaller, with less contrast between small and large sites (Stuart, Gauthier, and Merlan 1981:199-200; see also Graybill 1973 and Lekson 1974). In other words, variability in site size appears to involve both local and regional socioeconomic factors.

Site architecture is based on square to rectangular above-ground rooms. Most commonly, Mimbres branch walls were built with cobbles set in adobe mortar. (However, it might be more exact to note that Southwestern peoples of this time tended to use tabular masonry, cobble-and-mortar masonry,

or adobe as local supplies dictated.) The practice was to build roomblocks, often of 10 to 12 or so rooms, and an associated kiva; a common site type would include two of these roomblocks (Stuart, Gauthier, and Merlan 1981).

Classic Mimbres burials are usually located beneath room floors, and most have a Classic Mimbres bowl inverted over the head (Gilman 1979). However, cremations and exterior burials have also been found. Grave goods include shell ornaments, turquoise, and macaw feathers, in addition to the Mimbres bowls. Some variability in the amount of grave goods appears to be present, but the significance of this has not yet been explained.

During the Classic Mimbres period, expansion into secondary drainages appears to have continued. Settlements were also extended into lower, drier areas than before. This trend can be related to a continued population growth (Stuart, Gauthier, and Merlan 1981:200-201). We can speculate that despite the cultural achievements of the Classic Mimbres peoples, continued population growth had led to the need to exploit more marginal areas, and also to greater vulnerability to environmental shifts. It is interesting that corn pollen frequencies drop as the phase proceeds, and that shifts in frequencies of faunal remains do occur (Stuart, Gauthier, and Merlan 1981:203).

One probable Mimbres response to growing population was the adoption of canal irrigation (LeBlanc and Whalen 1980:112). No Mimbres canals have been discovered to date, in part because European irrigation in the same areas has covered over any traces of the aboriginal ditches.

In the Cliff-Gila study area, several Mimbres phase sites have been excavated or tested; two of these were villages presumably housing a number of families. At the Heron Ruin (Brown 1972), a small plaza was surrounded on at least three sides by post-reinforced masonry rooms (a second plaza-roomblock complex may have also been present). Almost all pottery was either brownware or Mimbres painted styles (Mangus or Classic Mimbres Black-on-white). Both inhumations and cremations were present. At the second excavated Mimbres village, the Saige-McFarland Site (Fitting, Ross, and Gray 1971), a Late Pithouse component was also encountered.

In contrast, occupations at the Riverside and Dinwiddie Sites (Baker 1971; Hammack and others 1966) were probably limited to one or two families. Both of these sites included a Late Pithouse component; the Riverside site also included Salado and possible Archaic remains.

As so little is known about the Mimbres occupation in Arizona, the recent (and unpublished) work by the Arizona State Museum at the Powers Ruin deserves mention. (This site, located on the Gila near Guthrie, would be surrounded on three sides by the Camelsback reservoir at high water.) The site includes two components, one being Late Pithouse and the other Classic Mimbres. Chet Shaw informed me in 1983 that despite the presence of Mimbres decorated pottery, the plainwares at the site most closely resemble those of the Black River (Point of Pines) branch Mogollon. This ceramic datum should serve as a reminder that, at its peripheries, the Mimbres phenomenon may have been little more than a veneer over local practices.

Sauer and Brand (1930:428-429) report a minor Classic Mimbres occupation about 11 km. south of Safford; this consists of several tiny pueblos near the old Hot Springs area. This is west of the traditionally acknowledged

Mimbres area, and appears to represent a colony of sorts within the San Simon branch area.

Animas Phase: A.D. 1150/1175 to 1375/1400

Midway through the twelfth century A.D., the Mimbres culture comes to an abrupt halt. LeBlanc and Whalen (1980) argue that the Mimbres area was briefly abandoned at this time, although Stuart, Gauthier, and Merlan (1981) disagree. In any case, the subsequent occupation in the Mimbres area is known as the Animas phase. (The Black Mountain phase [LeBlanc and Whalen 1979] can be considered at least partly synonymous with this designation.)

Animas phase villages tend to be large, averaging about 125 rooms, and tend to be located in lower, "drier" settings which usually have good agricultural soils. Typically, the pueblos are roughly U-shaped, enclosing plazas, are built of massive puddled adobe, and lack kiva-like structures. It is interesting that at this same time, small groups of people appear to have continued living (and burying their dead) in Mimbres sites (Stuart, Gauthier, and Merlan 1981:207).

The nature of the change from Classic Mimbres to Animas occupations is unclear. The subsistence stress inferred for the Classic Mimbres period may have ceased to be a problem once the Animas phase was underway. More to the point, the Animas phase may represent the local manifestation of a Casas Grandes interaction sphere (LeBlanc 1979; Schaafsma 1979). In that case, some form of "cultural conquest" could be sufficient to explain the changes which occurred.

It is also worth noting that at the same general time of the Classic Mimbres to Animas shift (A.D. 1150), the Hohokam of southern Arizona were undergoing substantial changes, and many parts of the northern Southwest (including the Cohonina and Virgin areas) were being abandoned. The causal factors behind the Classic Mimbres-Animas break may thus extend far beyond the Mimbres area itself.

In the Cliff-Gila study area, an Animas phase site (LA 34794, or Villareal II) has been excavated (Lekson and Klinger 1973). The site was located on a terrace above the Gila River and included a main block of five rooms, an outlying room unit, two rock concentrations, and two check dams. Beneath the main roomblock were two Mimbres pit structures, and the lower of two floors in the outlying room may have been Mimbres also.

Pottery at Villareal II was mostly plain brown ware. Other types present at the site included Gila Red, Clapboard Corrugated, Playas Red Incised, Tularosa Fillet Rim, black-on-white styles (Mangus, Mimbres, Chupadero, Tularosa), polychromes (Gila, Tonto, Tucson, El Paso), Wingate Black-on-red, and Three Rivers Red-on-terracotta. From this assemblage it would appear that a rather extended (possibly multiple) occupation occurred at the site.

Lekson and Klinger (1973:37) remark that the "Animas phase in the Upper Gila seems to lack the Chihuahua component in its ceramic inventory." This is to be expected, as the upper Gila region would lie at the very fringes of the Casas Grandes sphere of influence.

The Animas phase may have "peaked" at about A.D. 1250 to 1275, and continued until after the collapse of Casas Grandes (Stuart, Gauthier, and Merlan 1981:207). Its ultimate fate is unknown, but in at least some areas it was displaced, at about A.D. 1300, by a Saladoan occupation. In the former Mimbres area, this new occupation is known as the Cliff phase, to be discussed later in this report.

Hohokam

Although the earliest Hohokam closely resemble the earliest Mogollon (one could argue that the first Hohokam were a desert branch of the Mogollon), their cultural evolution rapidly took on a divergent course. The Hohokam represent a sedentary, pottery-making people who farmed with the aid of irrigation canals (Haury 1976:39); through time they maintained contact with northwestern Mexico (as seen in the use or adoption of Mesoamerican artifacts) and developed the only artificial mound complex in the American Southwest.

The earliest Hohokam lived just west of the study area, but during the Colonial Period (A.D. 550-900) they spread up the Gila. The Hohokam reached their easternmost extent at Safford (Gladwin and Gladwin 1937; Gumerman and Haury 1979). In colonizing the Gila Valley, the Hohokam formed an intrusive element in a region otherwise settled by the Mogollon.

The Hohokam were undoubtedly responsible for some of the aboriginal canals known to have existed in the Gila Valley. Moreover, they were clearly the builders of the agricultural alignment systems in the Winkelman Valley (Debowski and others 1976), and may have built those alignments reported for the Gila Valley (Tuohy 1959; see Woosley 1980:323, Fig. 1 for an aerial photograph). The Hohokam also maintained a regional system of ballcourts, examples of which occur in both the Winkelman-Kelvin and Gila Valley areas (Wilcox and Sternberg 1983).

In the Sedentary period (A.D. 900-1150), some organizational changes can be detected among the Hohokam. The overall Hohokam regional network seems to have become less homogeneous, with local cultural variants appearing in "peripheral" areas.

Little else can be hazarded about the Preclassic (pre-1150) Hohokam in the study area, because almost no excavation has ever been directed towards this portion of the Hohokam sphere. As a consequence, the work by Jack and Vera Mills (1978) at the "Curtis Site" (Buena Vista) takes on great importance. The Mills' report indicates that Buena Vista was occupied from the Hohokam preclassic on through the Salado period. A Hohokam style cremation area was found at the site, but the inhabitants contemporary with the cremations may already have been living in pueblo-like structures rather than pithouses. It is also worth noting that while Hohokam style pottery is common at the site, so are contemporary Mogollon styles, including Mimbres Black-on-white.

Interpretations based on little more than pottery must be taken with caution, but it appears that by A.D. 1100 or 1150 the Hohokam abandoned the Gila Valley. Hohokam occupation continued in the Winkelman-Kelvin study area;

actually, Hohokam sites are rather dense in that area (Debowski and others 1976; Tuohy 1960). Francis (n.d.) believes that at the end of the Sedentary period, the Winkelman-Kelvin area saw an aggregation of population into fewer, larger, and previously unoccupied sites.

Salient characteristics of the Classic sites include compound walls, cobble masonry structures, and Gila Red and Gila Polychrome pottery, the last of these indicating site occupation until after A.D. 1300. Both large and small habitation sites appear to be present, and two rockshelters in the Buttes Survey area contained Classic components (Debowski and others 1976:170-171). A clustering effect may be present during the Classic; one such cluster would be in the Kelvin-Riverside area (Debowski and others 1976:172) and another in the Winkelman area (see Tuohy 1960).

The "X" Period: Occupation of the Gila Valley
Between A.D. 1150 and 1300

After about A.D. 1100 to 1150, the archaeological remains in the Gila Valley are in some sense Mogollon rather than Hohokam. That is, in at least some sites utilitarian pottery types were Mogollon-derived, and above-ground architecture was used.

Nonetheless, the 150-year period in question is extremely poorly understood. Basically, we do not know what was going on during this time in the Gila Valley, despite its importance as a center of population. The period has never been formally defined, and most scholars seem to have overlooked it entirely. In this overview, the period will be provisionally designated as the "X" period, for lack of a better name.

Two, possibly three cultural complexes were present in the Safford Valley during this period. The first of these, the Bylas Phase, was defined on two sites at the northwestern end of the Gila Valley (Johnson and Wasley 1966); one, AZ V:16:10 (ASM), actually lies within the Gila Valley study unit.

Decorated pottery of the Bylas Phase included Casa Grande Red-on-Buff, Safford Variety; San Carlos Red-on-Brown; and varied intrusive types. Utility wares included Mogollon style plain and texture brownwares. Architecture included surface rooms, usually contiguous and often grouped around enclosed courtyards. Walls were of rock and adobe, possibly with upper wall construction of wattle and daub. Doorways were present and sometimes had step entries. Hearths were both clay- and slab-lined; deflectors were present but not common. Storage bins occurred, and a functional division between living and storage rooms can be inferred (Johnson and Wasley 1966:249).

Ground stone artifacts included shaft smoothers, three-quarter grooved and full-grooved axes, hammerstones, unifacial and bifacial manos, "hand-stones", pestles, trough metates, stone vessels, palettes, paint grinding stones, disks, balls, rings, and "medicine stones". Chipped stone artifacts included small triangular side-notched points, drills, triangular knives, scrapers, cobble choppers, and tabular slate and shale knives. Shell objects included needles, bracelets, pendants, tinklers, and beads. Bone awls and

tubes were found, as well as human figurines of clay and sherd pendants, disks, and dishes (Johnson and Wasley 1966:250-251).

Disposal of the dead was by cremation and inhumation; other types may be present (Johnson and Wasley 1956:250-251).

Wasley and Johnson originally dated the phase from A.D. 1100 to 1200, but the phase probably starts later and probably extends later in time (guess dates would be A.D. 1150 to 1250 or later). At present, the phase is only known from the Gila Valley (Johnson and Wasley 1966; Brown 1973; Eastern Arizona College 1981).

Brown's (1973) work in the Pueblo Viejo area indicates that not all Gila Valley sites fit the description for the Bylas phase. Among "X" period sites lacking San Carlos Red-on-Brown and the local variant of Casa Grande Red-on-buff, at least two other ceramic patterns can be defined. In one pattern, large amounts of Maverick Mountain Polychrome are present, and in the other pattern it is absent.

The presence of Maverick Mountain phase sites in the Gila Valley at this time greatly complicates the interpretive picture. As originally defined in the Point of Pines area (Haury 1958), Maverick Mountain is believed to represent the immigration of Kayenta Anasazi into already-occupied Mogollon areas in east-central and southeastern Arizona. The diagnostic pottery for the phase, Maverick Mountain Polychrome, is stylistically derived from Tusayan Polychrome of the late Kayenta tradition. Alexander Lindsay (1983) is carrying out a definitive study of the Maverick Mountain phase; so far the concept of immigrant Kayenta Anasazi groups is strongly supported.

The "X" period therefore represents a complex tangle of phenomena: the abandonment of the valley (or cultural reaffiliation) by Hohokam peoples, the spread of Bylas phase settlers (who made Mogollon style plainwares but a Hohokam style red-on-buff pottery), the immigration of large numbers of Anasazi from the north, and possibly even a fourth grouping of persons who were Mogollon but not of the Bylas phase. How these people related temporally, spatially, and socially, and how they became more apparently uniform by A.D. 1300 (the onset of the Salado horizon) is thoroughly unclear.

Hopefully, future work will clear up this tangle. Meanwhile, however, it is important to remember the following: that in the Gila Valley there was a period that was--in some sense--transitional between Hohokam and Mogollon. This fact is important because in two adjacent areas, the Globe-Miami area and the Tonto Basin, broadly similar transitional phases (Mogollon-related, post-Hohokam, pre-Salado) occur at the same time. In any case, this poorly understood period represents the immediate precursor of Salado in the Gila Valley, and decipherment of the Salado problem will very likely involve decipherment of the social forces operating in the period just before A.D. 1300.

Salado

Around A.D. 1300, a new material culture complex appeared in the upper Gila region, and almost simultaneously in much of southern Arizona outside

that basin. Termed the Salado, this complex includes the use of the Salado polychromes--Pinto, Tonto, and Gila. Settlements of the fourteenth century appear to have been fewer in number, but larger, than before; these appear to have been spaced fairly evenly along the Gila. Sites included roomblocks ranged around plazas; surrounding walls ("compound walls") are common.

Attempts to explain the origin and spread of Salado have generally been unsuccessful. Moreover, the various speculations about this complex have often conflicted with one another, resulting in a good deal of confusion. Some of this confusion, as of 1973, is aptly summarized by Brown:

In spite of the almost total lack of data concerning Salado manifestations in the Safford Valley, this area figures prominently and by implication in a number of Salado origin and migration speculations. Steen, for instance, proposes that the Salado originated in the Safford Valley... (1940:29). Wasley, on the other hand, maintains that the Safford Basin was colonized by Saladoans from the Tonto Basin (Lindsay and Jennings 1968:2). Gladwin proposes that the Safford Basin was colonized by two waves of Saladoans. One wave came from the Cibola area at A.D. 1300. Johnson (1965:79) proposes that the "Salado Invasion" was really a post 1300 expansion of the Western Pueblo culture of the central mountain region of Arizona and western New Mexico into southern, desert areas. Young (1967:101) and Haury (1945:211) imply that the Safford Basin may have been colonized by retreating Saladoans from the Gila Basin during the period from AD 1400 to 1450.

To deal with this problem, it is best to begin with the traditional definition of Salado. This complex includes polychrome, black-on-white, polished redware, and corrugated plainware pottery; above-ground structures of masonry or massive adobe, cliff dwellings, compound walls, storage pits, and sheet deposition of trash (as opposed to mounds)(see Simpson and Westfall 1978:25). In practice, though, the presence of moderate to large amounts of Gila, Tonto, or Gila Polychrome has lead archaeologists to label a given set of remains as Salado.

Most past interpretations of Salado have assumed that it represents an ethnic group, and became widespread due to a series of migrations from some "homeland". The problem has been that for each area, archaeologists have tended to ascribe the local appearance of Salado to a migration from somewhere else; as a result, the Salado are always arriving at places, but never leaving.

The first serious alternative interpretation was provided by Johnson (1965), based on early arguments by Erik Reed (1948). Johnson argued that processes of cultural blending led to the disappearance of traditional Mogollon culture and the emergence of a new complex termed "Western Pueblo." (The Bylas phase was cited by Johnson and Wasley [1966] as one example of this syncretic process.) Salado, as part of the Western Pueblo complex, would in effect represent a new culture growing out of the melting pot.

As more work is done in the Southwest, a second alternative interpretation of the Salado is beginning to take form. It is possible that Salado is not a culture, in the sense of being either an old or a new ethnic unit. Instead, it appears to be the deliberate adoption of a limited new constellation of traits by a number of different cultural units which continued to maintain their autonomy. This interpretation finds support in the basic diagnostic item of the Salado horizon, Gila Polychrome pottery. Patricia Crown informs me that her neutron activation analysis of that type indicates local manufacture in the various portions of its range, rather than production at a single source. (Significant local variation also appears to be present in decorative styles, although this has never been demonstrated formally.)

The notion that "Salado" cross-cuts cultural boundaries is also indicated by the pottery types found in association with Salado polychromes. Invariably, the plainware pottery represents a continuation of local traditions, rather than the introduction of new wares. In other words, Salado polychrome represents an exception to continuing local heterogeneity in ceramic styles.

The other major diagnostic of the Salado horizon, architecture, is not inconsistent with an interpretation of multi-cultural origins. Although the Salado phenomenon apparently involved the spread of compound-wall building, all of the major Salado areas had a preceding occupation with above-ground architectural development. In the Gila Valley, this occupation was the "X" period; in New Mexico it was the Mimbres and Animas phases; in the Globe-Miami area the Miamia phase; in the Hohokam heartland the Soho phase; and so on. In other words, the shift in architecture was more one of style than of basic construction techniques.

If the Salado indeed represents a "polycultural" phenomenon, it remains to be seen what such a phenomenon could represent. Defining the adaptive and social forces behind the Salado horizon remains the basic challenge for Gila River Basin archaeology in the period between A.D. 1300 and 1450.

In the Gila Valley of Arizona, Salado sites are common (Tuohy 1960; Brown 1973, 1974), and appear to be spaced fairly evenly along the river. Architecture consists of pueblo structures of rooms or room-wall combinations surrounding a plaza. Construction materials were varied, probably reflecting what was available nearby. Slab-lined and clay lined firepits, rectangular doorways, and T-shaped doorways were used (Brown 1973). Brown has argued that compounds with central mounds (the pattern in the Hohokam area) are absent east of the San Carlos River, but according to Hough (1907), the "No. 6 Pueblo" near Safford did have a large central mound.

Pottery for the Pueblo Viejo Salado included Salado Polychromes, White Mountain redwares, Cibola White Ware, Mogollon style plain and textured brown wares, and minor amounts of Maverick Mountain wares. Artifacts included triangular plain and side-notched points of chert and obsidian, three-quarter groove axes, unifacial and bifacial manos, polishing stones, shaft smoothers, and tabular knives; rings, pendants, bracelets, and beads of shell; and bone awls (Brown 1973:132-133).

West of the Gila Valley, a Salado period occupation is present in the Winkelman-Kelvin area (Debowski and others 1974); in this area, however, the occupation has been identified as Classic Hohokam rather than intrusive. Part

of the reason for this is an apparent occupational continuity between the pre-Salado and Salado periods.

In the New Mexico portion of the study area, the Salado period is termed the Cliff Phase. Sites are typically compounds which enclose pueblo-type rooms, with either adobe or cobble-adobe architecture; about 30 to 100 rooms are found at a given location. Both burials and cremations are found. Although sites are located near large streams, no irrigation networks have been documented so far for the New Mexico Salado occupation (Stuart, Gauthier, and Merlan 1981:208-209).

In the Cliff-Gila study unit, Ormand Village (Hammack and others 1966) represents a Salado site built on top of possible Georgetown phase and Archaic components. Ormand included house mounds (adobe rooms on cobble foundations), a ceremonial structure, trash mounds, and a cremation area. Pottery at the site included Gila and Tonto Polychrome, Tucson Polychrome, and Chihuahuan pottery styles.

A second Salado site in the same study unit, Kwilleylekia, has not been reported on, but is known to contain Jeddito Black-on-yellow, Zuni Glaze pottery, and Glaze A pottery in addition to Salado polychromes, El Paso Polychrome, and Chihuahuan styles (Hammack and others 1966:34). These types indicate a late, post-1400 occupation, probably one of the last in the region. Kwilleylekia is also noteworthy for being within the floodplain of the Gila River, while most recorded sites of the study area are on nearby bluffs or terraces.

The Salado complex is the last prehistoric manifestation in the upper Gila area. It apparently came to an end at about A.D. 1450, at which point the study areas were abandoned. LeBlanc (1979:33) believes that in the Cliff area, the end was sudden--in some cases, food was left cooking in pots. Ninety years later, the first Spanish explorers reached the same region and found no living inhabitants; to them it was the gran despoblado, the great depopulated lands.

CHAPTER 4

HISTORIC PERIOD

The present study area was, by chance, traversed by the first Europeans to enter the Southwest. In 1539, a party under Marcos de Niza--a Franciscan missionary--travelled from Culiacan to Zuni and back (Bolton 1949), crossing the upper Gila in the process.

The next year, Niza's route was repeated by Coronado's expedition; from this party we have a rough description of the route. It went north from the present international border along the San Pedro River; then it passed northeast through the Arivaipa Valley to Eagle Pass. Near this pass was Chilchitcale, a ruin marking the start of the "despoblado" or depopulated region between the upper Pimans and Zuni. Coronado's party travelled through the pass, skirted the eastern base of the Santa Teresa Mountains, and reached the Gila River near present-day Geronimo. From there, Coronado proceeded along the river's south bank until the Bylas area, where the expedition crossed and went north (Bolton 1949:105-109). Coronado returned to Mexico by the same route in 1542, and several other trips over the route were made by members of the expedition.

The entire study area lies within the region described as the "despoblado", and therefore the archaeological evidence for abandonment is confirmed. In 1540, the nearest population was that of the Sobaipuri Pimans living on the San Pedro river. Occasional visits by these Pimans to adjacent portions of the upper Gila River are indicated by rare protohistoric sites (Neitzel 1983:96).

It is significant that the Apache were not present in east-central Arizona in the 1540s. A century and a half passed before the next visit by the Spanish to the region, at which time the Apache were definitely in the area. This timing is consistent with the belief that Athapaskan-speakers reached the eastern southwest in the sixteenth century, and were subsequently driven south and west into the mountains of New Mexico and Arizona.

The second Spanish exploration of the upper Gila region, just alluded to, was the Kino-Manje party of November 1697 (Bolton 1960). This party descended the San Pedro to its junction with the Gila, then proceeded downstream along the Gila. Somewhere near Kelvin, the party climbed away from the river to avoid the narrows below. Passing over the Tortilla Mountains, Kino and Manje then rejoined the Gila a few miles downstream. During this trip, the party camped somewhere in the present study area on November 16.

In 1697, the San Pedro Valley was still occupied by the Sobaipuri, but their settlements did not extend all the way to the Gila. The lands to the north and the east of these Piman-speakers (that is, the study area), was now Apache territory.

Forty years later, in 1737, Father Ignacio Keller journeyed down the San Pedro to the Gila River, thus briefly reaching a portion of the study area. By this point, the Sobaipuri villages on the San Pedro had been abandoned due to Apache attacks (Wagoner 1975:99).

For many years, contact between the Apache and the Spanish (and Spanish subjects) continued to be hostile. This hostility kept the Spanish from extending settlements into the present study area, but military expeditions were numerous. In 1747, for example, a Spanish military column entered the upper Gila region via the Silver City area; travelling along the Gila, the soldiers discovered and named the San Francisco River (Kessel 1971:137). Ten years later, another military expedition was sent into the same region, this time with a Jesuit priest--Bartolome Saenz--as chaplain. Saenz's account (Kessel 1971), written in March 1757, is a valuable early look at the upper Gila.

On November 1, 1756, Saenz set out from Fronteras with one of the expedition's columns. Travelling via the Lordsburg area and Mangas Spring, they reached the Cliff-Gila study area. From this point a reconnaissance party went to the San Francisco River and back. Saenz's description includes the earliest known description of sites probably within the study areas:

From Todos Santos [Cliff area] on, one begins to see ruins of ancient buildings with square patios, as well as other vestiges, of earthenware jugs, ollas, and pots decorated with a variety of colors in paints. On the ground I also saw clearly that they had brought an irrigation ditch which carried the water to their fields... At the place called La Casita down river to the west... perhaps ten leagues distant ... Here also I saw similar ruins [Kessel 1971:147].

Saenz also recorded his observations about the Apache of the region. He noted that "The Apache plant plots of maize from Todos Santos [Cliff Area] along the entire Rio Gila and in the Cañada de Santa Lucia [Hooker Damsite area]" (Kessel 1971:149). He also stated that:

The Apache do not seem to have permanent houses; instead, wherever they stop to gather a bit of maize or grass seed, they build a few little half-huts of no more than branches. In the rancheria that Don Gabriel [de Vildosa] assaulted, a decorated doll of jiguites [brush or grass?] and little deer hooves was found; also many prepared deerskins and buffalo hides which they say are brought by the Comanche [or more eastern Apache?], whom the Apache call Natage, in trade for horses and mules [Kessel 1971:150].

It would appear that Saenz was a careful observer. His reference to farm plots in Mescalero Apache territory is interesting, this group supposedly did very little farming (Opler 1983a).

Saenz' party turned back before reaching the confluence with the San Francisco. The following year, though, Saenz accompanied another campaign in the same areas. Some of the Apaches captured during this campaign had dark-colored blankets and buffalo robes which were apparently obtained from Pueblo Indians to the north (Kessel 1971).

Other Spanish parties undoubtedly passed through the study area. For example, in 1788 a Spanish force battled the Apaches in the Pinal Mountains (Wagoner 1975:150); to reach this area, the troops almost certainly crossed the study corridor. However, most Spanish travelers left little documentary evidence of their routes.

Towards the end of the eighteenth century, Spanish officials recognized that the "military solution" was not working against the Apache, and proceeded with an alternative approach. The Apache were induced to settle near Spanish settlements where they were provided with food, firearms (with the guns of the day, a musketeer was less dangerous than a good archer), and all the liquor they could drink. Within a few years, the Apache "problem" was largely defused and the Spanish began spreading out from their existing settlements.

Although none of the new settlements were in the study area, one area was fairly close. This was Santa Rita del Cobre, a mining camp near present day Silver City. Mining may have started as early as 1800; more likely, though, the first work there was done in 1804 (Walker 1979).

In 1821, Mexico gained its independence and, due to political turmoil, subsidies for the Apache no longer reached the outer provinces. Many of the Apache then left the Spanish settlements for their old homelands, and once again began raiding. The Mexican response, a renewal of the "military solution", was as unsuccessful as ever, and newly settled areas were almost all abandoned by the 1830s. The workings at Santa Rita were still maintained, but this was a lonely outpost in hostile territory. The frontier of effective political control lay in the Rio Grande Valley to the East, and at Tucson, over 70 km. to the south and west.

One consequence of the lack of Mexican settlements north and east of Tucson was the infiltration of Anglo-American and French-American trappers into the Southwest. The Gila River served as the major trapper's route from southern New Mexico into southern Arizona, resulting in the designation of this route as the "Gila Trail". Only one substantial account of these explorations exists; this is the narrative of James O. Pattie (Flint 1930; Wagoner 1975).

In December 1824, a fur-trapping expedition which included Sylvester and James O. Pattie reached the headwaters of the Gila by way of Santa Rita; the group then proceeded downstream, trapping the beaver which were so plentiful in the Gila watershed. In January 1825 the party reached the mouth of the San Francisco and trapped along that river; one of their camps was apparently in or near Clifton.

The party then returned to the Gila and by the end of the month had apparently reached the Gila Valley. They encountered Apache at San Carlos Creek (?) and other Indians farther downstream; the latter had just prepared a roasting pit, possibly for mescal.

In March 1825, the Patties reached the mouth of the San Pedro (or "Beaver River"), where their party trapped for a week. They then proceeded downriver, reaching the narrows below Kelvin. At this point the Patties turned back (March 20) and ascended the Gila into New Mexico. By the end of April they were back in Santa Rita. James Pattie briefly returned to the mouth of the San Pedro in June 1825, to retrieve furs cached at that location.

In January 1826, James Pattie accompanied an expedition of French-American trappers (including Miguel Robidoux); again, the trip started at the Santa Rita mines. By the end of the month, the group was in the Gila Pima villages; a bloody fight broke out and many of the Europeans (and Pimans) were killed. Pattie and two other survivors joined another party of trappers in the area; led by Ewing Young, this group worked the Salt River and then returned east by a northerly route.

At least one other trapping expedition travelled the Gila in 1826; this was led by Ceran St. Vrain, and included the young Kit Carson.

In 1827, the Patties led a final expedition along the Gila. Starting in September, they reached the mouth of the San Pedro on October 15. There they stayed for a month and built a canoe. On November 15 they floated on down the Gila and out of the study area. On reaching the Colorado, part of the party split; some members returned to Mexico but James Pattie went on to California (Flint 1930).

James Pattie's account, told years later to a friend who could write, has some shortcomings. Nonetheless, many of the details appear to be accurate. The account confirms that Apaches were present in the study area. Although the Patties did not travel into Sobaipuri territory, it is clear that by this time the lower San Pedro Valley was firmly under Apache control.

Several other American parties are known to have used the Gila River route during the Mexican period (Walker and Bufkin 1979). In 1828, a party under Ewing Young again worked the Gila for beaver. In 1831, one David Jackson travelled the Gila to California and back, on a horse and mule buying trip. In the 1830s, several parties apparently traded with Apache living along the Gila River near Safford. One of these parties, led by James Kinter in 1836, traded guns, powder, and lead for horses.

This listing of trips along the Gila would undoubtedly be more extensive if more of the trappers had been literate. It is clear, though, that in the quarter-century following Mexican independence the Gila became a well-known route across Arizona.

Anglo-American infiltration of northern Mexico was followed, in 1846, by military seizure of the same territories. In that year, Col. Steven Kearny's "Army of the West" left Fort Leavenworth, Kansas, for California; in August the expedition captured Santa Fe. While still in New Mexico, Kearny met Kit Carson; this famous guide was bearing a dispatch from California to Washington, D.C. and had used the Gila Trail--familiar from his trapping days--in passing through Arizona. Kearny convinced Carson to return to California as a guide for the column. Although the Gila route was an arduous one for a large party (and one that included two mounted howitzers), Carson recommended it in order to avoid the Mexican garrison in Tucson.

Kearny agreed, and the detachment passed through the study area; for Carson, of course, it was a return passage. Among the other members of the column was Lt. William Emory, whose observations (1848) can be considered the first scientific study of the Gila and its environs.

On October 20, 1846, just before reaching the Gila, the column met a group of Apache--some dressed in Mexican clothing--who wished to trade with the soldiers. That evening, the column camped somewhere near present-day Gila, New Mexico; on October 21 it camped near Riverside and by the 23rd it had reached the vicinity of Duncan, Arizona. Other camps were made near Guthrie (October 25), Safford (October 28), Fort Thomas (October 29), Bylas (October 30), and San Carlos (October 31). While located within the study units, the campsites just mentioned can be located only approximately.

The party reached the mouth of the San Pedro on November 5, and on November 7 it camped at the mouth of Mineral Creek (a name provided by Emory). The following day the group proceeded downstream, out of the study area, and eventually reached California.

Aware that sites occurred along the Gila, Emory noted his first examples in the Duncan-Virden area. Other sites were seen between Duncan and Guthrie, at Bonita Creek (an old Apache camp was noted at the mouth of the creek), in the Gila Valley, and in the Winkelman-Kelvin area (Emory 1848). As might be expected, Emory's descriptions of the sites are terse.

With the settlement of the Mexican-American War in 1848, the Gila itself gained significance as a boundary between the United States and Mexico. All of the study area on the north bank of the Gila was United States territory; as originally surveyed, the south bank was Mexican west of a point near Thatcher, Arizona, and U.S. land east of there. This border definition was disputed, however. The alternative boundary divided the south bank of the Gila at about the mouth of San Simon Wash (Wagoner 1975:280-282). However, none of this had any practical repercussions, since the Gila was beyond the effective frontiers of both nations at this time.

The gold rush of 1849 led a number of parties to cross southern Arizona; at least one such party travelled along the upper Gila (Bloom 1945; Oliphant 1955). However, most of the argonauts passing through this region travelled by a less arduous route, passing through Tucson and other villages in northern Mexico. The Mexican route was also the logical one for a trans-continental railroad, so in 1854 the United States purchased the northern Mexican strip and incorporated it into the Territory of New Mexico. Thus, in 1854 the study area ceased to include an international boundary.

In 1853, even before the Gadsden Purchase had been signed, the United States began locating railroad routes through that territory. The survey was under the command of Lt. John G. Parke, who surveyed several possible routes between 1853 and 1855. One of these followed the San Pedro downstream to the Gila, then passed along that river (through the Winkelman-Kelvin study area) to the Pima villages (Wagoner 1975:323-325).

A more important development, in a negative sense, was the locating and construction of the El Paso--Fort Yuma wagon road in 1857 and subsequent years. Acknowledging the difficulties of the Gila Trail, this route ran down the San Pedro to the mouth of Aravaipa Creek, and then turned west across the

Tortilla mountains (Wagoner 1975:328-332). Thus, wagon traffic was routed away from the study area--a pattern of avoidance which was to become permanent.

Pre-Reservation Apache in the Nineteenth Century

Despite the large territory controlled by the Apache in historic times, the archaeological evidence for pre-reservation occupation is surprisingly rare. An Apache food gathering site was recorded in the Buttes Reservoir area (Debowski and others 1976:94), just west of the Winkelman-Kelvin study unit. Tuohy (1960) recorded two glass trade beads at AZ V:15:4 and V:16:1 (ASM) in the Gila Valley, indicating that the Apache had visited those prehistoric sites. North of the Gila Valley, in the Point of Pines area, Gifford (1980) has located Apache remains in cave sites, while Asch (1960) has described a site with 14 post-pueblo stone rings about 3 m. in diameter. Accola (1981) found a single Apache site in his sample survey of the middle San Francisco drainage. Otherwise, however, known Apache sites are exceedingly rare in the in the the upper Gila area (see Gunnerson 1979:169). Most of our knowledge of pre-reservation Apache therefore comes from historic and ethnographic data.

By the 1800s, the Apache had evolved into their ethnographically recognizable structure. The term "Apache" refers to a number of linguistically distinct Athapaskan speakers; two major groupings or tribes controlled territory in and around the study areas. These were the Chiricahua Apache (Opler 1983) and Western Apache (Basso 1983). The Chiricahua territory included the Gila River drainage above the mouth of the San Francisco, and the San Francisco above the Blue. Western Apache territory included the lower portion of the San Francisco River and the Gila between the San Francisco and the San Pedro. Within the Western Apache, the White Mountain band controlled the Gila Valley and the San Carlos band controlled the river to the west.

Control of the Gila between Winkelman and Kelvin is unclear; it may have been San Carlos Apache territory, Southeastern Yavapai territory, or (as is more likely given temporal shifts) both. The Southeastern Yavapai were close allies of the Apache, and had a highly similar technology; the two were invariably confused by early travellers.

The division of Apache into major linguistic groups (tribes) and subgroups (bands) had little day-to-day meaning to the Apache themselves (Basso 1983). Instead, local groups--expressed in concrete terms as settlements--were the real political and social whole. Within the local groups, related individuals formed economic and residence units roughly equivalent to extended families.

The Apache seasonal cycle began at low-altitude winter camps, some of which were along the Gila. In May, the Apache moved to farm sites in the mountains and planted their plots. Elders, the disabled, and some children would remain at the farm camps over the summer to tend the crops, but most persons moved on to summer gathering locations. In early summer, saguaro and prickly pear fruit was gathered, along with mescal; later, acorns, mesquite beans, and yucca were collected. In early fall, the crops were harvested.

Late fall was a time to gather pinyon nuts and juniper berries, as well as to hunt; the Apache then returned to their winter camps (Basso 1972:3).

The Apache supplemented this round with raids into Mexico, for beef, horses, and other supplies. The Apache distinguished between raiding (an economic activity, basically theft) and warfare (which was for revenge, and deliberately violent) (Goodwin 1971). When Europeans responded to raids with extermination campaigns, the Apache in turn applied the rules of war to the Europeans; violence was met with violence, and the cycle would then feed itself.

So much has been written about the Apache's bloodthirsty nature that a disclaimer is needed. The Apache were as selective as the Europeans in their violence; they maintained friendly trade relations with the Hopi, Zuni, and Yavapai. If there was a deep historical hatred of Hispanics, the hatred was two sided, and when Americans first entered the region the Apache often distinguished American from Hispanic and allowed them peaceful entry. Once Americans became common in the area, however, they responded to isolated incidents of Apache thievery and violence with a conscious program of extermination, in which torture, murder of prisoners, and mutilation of the dead was common. The Apache responded in kind.

The Conquest of Apacheria

The image of brave settlers "winning the West" is as mythical as that of the inherently bloody Apache. In truth, the entire country west of the Louisiana Purchase was conquered militarily. The first part of this conquest, of course, was the war with Mexico. The second, more protracted part consisted of the defeat of native peoples.

At first, the Army's policy--set by local commanders--mirrored the civilian Anglo-Hispanic policy of extermination. Later, however, the goal was to "save" the Apache by defeating them militarily and placing them on reservations. The basic strategy used throughout this period was to build military posts in unconquered areas; from these posts, patrols could attack unsubdued Indians and, as policy changed, could also monitor those which had surrendered.

Among the posts established in the Southwest, several are of direct concern to the present study. Within the Cliff-Gila study area, a temporary camp known as Gila Depot was used during 1857. This outpost was used as the base for an extended campaign against the Apache (Myers 1968). In 1863, Fort West was established a mile to the north of the former camp (the new location being an old Mimbres site)(Myers 1968; Frazer 1972:108). Fort West was supposed to protect the Pinos Altos mining district, but was poorly sited for doing this; as a consequence, the post was abandoned the following year. It is interesting that the fort's records mention that farmers were present in the Cliff-Gila area at the time (Myers 1968); most likely they arrived with the post, depended on it for protection, and left when the soldiers left.

Somewhere within the Gila Valley study unit, the Army established "Camp Goodwin" in 1864. The camp was a temporary one, used until a permanent site could be chosen. When that was done, a little later in the same year,

the camp on the Gila was abandoned. The permanent post, well outside the Gila Valley study unit, was known first as Fort Goodwin and later as Camp Goodwin. The site was unhealthy, however, and was abandoned in 1871 (Frazer 1972:8-9). There may have also been another temporary camp (Camp Rigg) in the Gila Valley next to the river.

Fort Thomas was established in 1876 at the present site of Geronimo but was moved in 1878 to the present town of Fort Thomas; in both cases, historic remains may well extend into the actual study area. Fort Thomas was a replacement for Camp (Fort) Goodwin after the Chiricahua Apache were removed to San Carlos. The fort was abandoned in 1891 (Frazer 1972:12), but the area has continued to this day as a town in the Gila Valley.

American military pressure on the Apache was fairly limited until the end of the Civil War; thereafter it was relentless. Sporadic resistance continued until 1886, but by 1870 the Army had effectively confined the Apache to small segments of their former territory. The Western Apache, whose territory was marginal to the main thrusts of American expansion, escaped the worst effects of the fighting; in 1871 part of their lands became the White Mountain Reservation. The Chiricahua, less fortunate, lay in the direct path of the Americans; they were to lose all their land and end up as forced guests on the White Mountain reserve.

The White Mountain Reservation, as originally defined, was fairly generous--it included all of the Gila River and its valley between modern-day Hayden and the Arizona-New Mexico border. From that point onward, however, the reservation was steadily reduced to meet the demands of European farmers and miners. Changes involving the study area included the removal of the Gila Valley in 1873 and the removal of a strip along the western edge in 1877. In 1896 the reservation was divided into the San Carlos and Fort Apache Indian Reservations, an administrative division which continues to this day.

European Settlement

From the 1850s on, new mines, ranches, and settlements appeared in southern Arizona and New Mexico. The study area, however, was near the heart of the Chiricahua Western Apache lands, and was therefore avoided until the Apache had been defeated and confined to reservations. Once this was completed, however, settlement proceeded as a series of ethnic migrations (Meinig 1971). Each of the study areas will be discussed in turn.

Camelsback-Clifton Study Unit

The first non-Apache historic settlements in the study area were apparently at Clifton; these actually predated the end of effective Apache resistance. By 1865, placer deposits were being worked along the San Francisco River; in 1869 Lt. John Bourke was one of several persons to note rich copper deposits in the same area. However, the real start of the area took place in 1872, when prospectors operating under the new Federal mining law organized the Copper Mountain Mining District (Patton 1977:1-9).

For Western mining in general, the secret to success was investment capital. In the case of Clifton, this capital was organized by Charles Lesinsky, a Las Cruces merchant. The Lesinsky and Freudenthal families (which were related) bought part--and later all--of Henry Metcalf's Longfellow mine in 1872. The two families were part of a network of German Jewish businessmen who established themselves in the Southwest early on, and provided the financial and mercantile lifeblood for development in the years before the spread of traditional commercial networks (Parrish 1960; Meinig 1971).

At that time, standard practice was to ship ores to Swansea, Wales, for smelting. The isolation of Clifton made this uneconomical, so the Lesinsky brothers built a crude smelter along Chase Creek in 1873. (Later that year, the smelter operation was moved down to the mouth of the creek.) At first, local mesquite charcoal was used as smelter fuel, but the supply was quickly exhausted; from then on charcoal was produced in the Gila Valley by I. E. Solomon and shipped to Clifton (Patton 1977).

The smelted copper was shipped by oxcart from Clifton to Kansas City, using Hispanic teamsters from New Mexico. On return trips, the wagons brought back supplies, which the Lesinskys used or sold in a store in Clifton (Patton 1977:13).

In 1882, the Lesinskys sold the Longfellow Mine; the following year it was obtained by a group of Scottish capitalists who organized as the Arizona Copper Company, Ltd. Shortly before, the Southern Pacific Railroad had built a line across southern Arizona and New Mexico, and the new company moved immediately to take advantage of this outlet. In 1883 and 1884 it built a narrow gauge railroad from Clifton to the S.P.R.R. at Lordsburg, New Mexico. (The track was replaced in 1901 with standard gauge [Myrick 1970:93-94].) This railroad and its successors cross the Camelsback reservoir area at Guthrie, Arizona. In the Clifton area, a number of spur lines feeding the mines were also built.

The Arizona Copper Company was not the only one operating in the Clifton-Morenci area. A second large operation was the Detroit Mining Company, which was bought by Phelps Dodge in 1887. At Metcalf, the Shannon Mining Company operated from 1901 onwards. Still, the Scottish-owned operation was certainly the foremost in the Clifton area, being a pioneer in copper mining technology. In the 1890s, James Colquhoun and the company staff perfected the first technique for concentrating oxide ores, by means of mechanical concentrators and sulphuric acid leaching. In 1895, the same group pioneered the wet concentration method for sulphide ores; ten years later the company pioneered the use of electric haulage in the region's underground mines, along with the use of percolating water and tin to leach out and precipitate unmined copper. Finally, the company pioneered the commercial application of the oil flotation method for concentrating ores (Patton 1977:23-31).

From 1912 to 1914, the company built a new smelter on the edge of the San Francisco River (Patton 1977:31). This has long since been shut down and largely dismantled.

At about this time, Clifton was at its peak. Population crested about 1910, and the greatest period of building ended by World War I. Thereafter, the trend was towards less labor-intensive mining and refining techniques, and

the number of jobs slowly dwindled. Because of this, commercial and residential development was slowed and much of the early historic character of the town has been preserved.

In the early twentieth century, mining operations were gradually consolidated. In 1918, the Shannon venture was bought out by the Arizona Copper Company; the latter, in turn, sold out to Phelps Dodge in 1921 following a collapse of the copper market. Thus, from 1921 on Phelps Dodge was the only major owner of holdings in the Clifton area (Patton 1977:33-56; Cleland 1952).

By this point, the better ores had all been mined out and the future of Clifton required the development of processing techniques for low-grade material. An economically feasible approach was developed by 1928, but the Great Depression then intervened. By 1932, the entire Phelps Dodge operation had shut down, and many residents abandoned their homes (Patton 1977:56-61). Clifton almost became a ghost town.

In 1937, however, conditions were good enough to allow resumption of work. In order to process the low-grade ores economically, open-pit mining was introduced and new reduction works were built at Morenci (Patton 1977:62-65). Since that time, despite economic conditions that were sometimes cloudy, Phelps Dodge has continued to mine copper in the Clifton area until today.

The history of a mining town such as Clifton is dominated by the activities of the mines; but the town itself has had a colorful and sometimes turbulent life. From the first, the town had both "Anglo" and "Mexican" populations, and although the relationship was not equal the Hispanic community was not powerless. Both groups, for example, opposed the Chinese, whom the Lesinskys brought in as cheap labor; the Chinese were soon excluded from mine work and eventually left the town.

Subsequent years saw the influx of other groups: blacks, Scots, and Italians. The black community was sizeable in the early 1900s, but most left after World War II. (One of the original organizers of the Copper Mountain Mining District in 1872 had been black.) The Scots community came to Clifton when the Arizona Copper Company was organized; some of their descendents still live in the town. The Italians were the last unified ethnic group to join the Clifton population (Patton 1977:35).

Clifton has seen its share of bad times. Labor and management have had many confrontations; the San Francisco River and Chase Creek have from time to time destroyed parts of the town. Recent events--in which a protracted strike was compounded by a devastating flood--fit right in with Clifton's past. Even the one-two punch of unsuccessful strike and flood is not new; it happened in 1903 (Park 1977). As long as there is copper to be mined, however, Clifton is likely to keep coming back.

South of Clifton, the Camelsback reservoir area has seen much less intensive development. The rail connection from Clifton to Lordsburg, New Mexico, crosses the reservoir area, as does a branch line, the Morenci Southern. When the latter was built in 1901, the hamlet of Guthrie was founded as the transfer point on the old Arizona and New Mexico; at one time, apparently, a number of Chinese maintained truck farms there. Today, however, only one family still lives there (Simpson and Westfall 1978:69; Billingsley

1983:6). Another transportation route crossing the Camelsback study area is the old toll road from Safford to Clifton.

Limited mining activity has also taken place in the Camelsback unit, and more recently there has been some ranching in the canyons. At one of the ranches, a large water wheel was built on the Gila in order to raise water into an irrigation ditch; this device may be a unique cultural resource. Nearby, at Gillard Hot Springs, a resort hotel operated temporarily. One of the more recent historical resources of the area is Wilkerson Ranch (just outside the high water line), which in the thirties was a CCC camp. The occupants of the camp spent much of their time building small erosion control structures; these were undoubtedly good for the soil but a real headache for archaeologists, who have trouble distinguishing them from the prehistoric version.

Gila Valley

In the Gila Valley downstream, the first European settlers--aside from those associated with the military posts--were apparently Hispanic Americans. Founding the village of San Jose in 1873, this ethnic community was also responsible for establishing the village of Sanches in 1889 (Granger 1960:131). Poulson and Youngs (1938:3) claim that Hispanic Americans were present in the Gila Valley by the 1850s and 1860s, but this is undoubtedly an error; in those decades the valley was under the firm control of the Apache.

One question for which the author could not find an answer was the origin of this Hispanic community. According to Comeaux (1981:156), the only community founded in Arizona by New Mexico Hispanics was St. Johns in the Little Colorado Valley. However, the Arizona Hispanic population was largely confined to the Santa Cruz Valley until the Apache were defeated, and did not do much colonizing thereafter. Ryder Ridgeway has suggested to me that the colonists came from a variety of locations, and were organized by Tucson-based businessmen; this is certainly consistent with the land speculations of the day. In any case, the origin of the Gila Valley Hispanics therefore remains a subject for additional research.

A year after the initial colonization of the valley, a group of Anglo-American farmers from the Gila Bend area also moved in; they named their new settlement Safford in honor of the territory's governor (Granger 1960:131). In 1879, Mormon settlers from Showlow and Forestdale founded the village of Pima; Thatcher, founded by a single Mormon family in 1881, was formally established in 1883 (Stout 1975:3-7; Anonymous 1979). According to the Mormon farmers, their first canal in the valley was originally a prehistoric ditch; its name, therefore, was the "Montezuma Canal" (Granger 1960:131).

The Hispanic, Mormon, and Gentile Anglo immigrants to the Gila Valley were all irrigation farmers. A separate wave of immigration, in the early 1870s, consisted of Texas cattlemen who infiltrated southeastern Arizona via the El Paso region (Meinig 1971:28-29, Fig. 4-1, 35) and gained control of the hilly flanks of the Gila Valley. These same hills saw some mining activity, although no deposits rivalling Globe's or Morenci's were ever located.

In the early years of European occupation, a crucial economic link to the outside world was provided by Isador E. Solomon, after whom the town of

Solomon (Solomonville, Solomonsville) was named. This businessman was related to Lesinsky brothers, and when Clifton's local supply of mesquite charcoal was exhausted it was Solomon who in 1876 began supplying the smelters with fuel. Solomon's employees obtained the mesquite from the extensive bosques in the Gila Valley, charred it, and shipped it by wagon over the old toll road to Clifton (Hopkins 1950:12).

Solomon also operated a store (in the town named after him) which became the first financial center in the Gila Valley. Solomon is best known, however, as the organizer of the Gila Valley Bank, which he opened in a corner of his store in 1900. That same institution, now known as the Valley National Bank of Arizona, went on to become the largest financial institution in the Rocky Mountain states (Hopkins 1950).

The economic framework of the region was completed in the 1880s by the Gila Valley, Globe and Northern Railway (GVG&N), which led from Bowie north to Safford, then along the Gila and across the San Carlos reservation to the copper mines at Globe. Construction began in 1894, and service was extended as far as Pima in the same year. In 1895, rail service to Fort Thomas was inaugurated, and this town became a shipping point for the valley's cattle. In the same year, track was laid as far as the San Carlos boundary, and in 1886 the town of Geronimo was established as the local office of the GVG&N. As this was now the railhead to Globe, a town quickly sprang up there. The railroad finally reached Globe itself in 1898 (Myrick 1975:829-858).

It is worth noting that within the study area two major relocations of the GVG&N were made; in 1907 the track was moved away from the river to avoid washouts, and in 1928 the Calva-Peridot section was switched from the south to the north side of the Gila. The railroad itself became part of the Arizona Eastern and ultimately of the Southern Pacific Railroad system (Myrick 1975).

Two minor historical aspects of the GVG&N deserve mention here. First, GVG&N Engine No. 1 was the former Central Pacific No. 60, which had been shipped 'round the Horn to help build the country's first transcontinental line; known as the Jupiter, it took part in the Golden Spike ceremony at Promontory, Utah, in 1869 (Myrick 1975:840). Second, the GVG&N line formed part of the Apache Trail tour route, which was one of the early attempts to cash in on Southwestern tourism and which ran from 1914 until World War II (Myrick 1975:896-899).

The GVG&N was instrumental in reducing the Gila Valley's economic isolation, but the area has never lost its rural character; and the valley's economic structure has not changed greatly since 1900. The greatest shift during this period was a growing emphasis on cotton production, which in turn led to an influx of Southern blacks who formerly worked the cotton fields. The blacks were once concentrated in the segregated community of Hollywood, but after repeated floods almost all of that hamlet's residents have moved elsewhere, either to Safford or out of the valley.

Only one scholar seems to have noted the ethnic diversity of the Gila Valley. In reviewing the Gadsden Purchase region at the turn of the century, Meinig has commented:

Much of the social geography of this subregion was mirrored in miniature along a sixty-mile stretch of the

upper Gila Valley, a sort of "pocket" just north of the main corridor: from Clifton and Morenci, the one cramped along the narrow canyon floor and the other clinging to the mountainside high above, old mining camps now stabilized by the big copper works, permanent towns full of a fluid conglomeration of peoples; to San Jose, a dozen miles downstream, a tiny isolated hispano agricultural village; to Solomonsville, a relatively old Anglo town named after an early Jewish merchant, the county seat and chief trade center along the newly completed railroad branch; to a solid strip of Mormon farms and villages focused upon Thatcher, the seat of the local church leadership with its big meeting house and academy; to Camp Thomas, the Army post guarding the portal of the Indian Reservation; and finally on beyond to the clusters of brush ramadas [wickiups] of the captive Apaches. Over the countryside on either side of this riverside strip, prospectors roamed the mountains and Texas ranchers held the foothills and plains. It was a rich human diversity which expressed half a dozen different movements of the past quarter-century (Meinig 1971:60-61).

Winkelman-Kelvin Valley

Settlement of this portion of the study area was fairly late. Farming and ranching apparently began in the late 1870s and early 1880s (see Granger 1960: 119-120; Myrick 1975 II:583; Debowski and others 1976:39). Development of the Ray copper deposits (on Mineral Creek) may have begun in the early 1870s, but was not fully underway until a decade later (Dunning and Peplow 1959:82-83, 116). The Christmas mine was initially located in 1880, but lay within the San Carlos reservation and could not be developed until 1902; in that year the coveted area was removed from the reservation and a formal claim was made (Dunning and Peplow 1959:354; Granger 1960:98-99).

In 1877, a stage station for the Globe-Florence road was established at Riverside (Granger 1960:297). The original stage station was destroyed in 1891; its replacement was still standing in 1956 (Debowski and others 1976:124). The station grew into a small town, despite the founding of Kelvin across the Gila, and still manages a precarious existence to this day.

The Globe-Florence road apparently ran south of the Gila from Florence to Riverside, then crossed the Gila and passed up Kane Springs Canyon on its way to Globe. The Kane Springs Canyon segment gained notoriety in 1899 when Pearl Hart and a companion held up the stage (the exact location is unknown but it could have been within the study area). In the male-dominated society of the day, this armed robbery by a woman attracted national attention (Debowski and others 1976:43-44).

A second stage route apparently ran along the Gila from Riverside to the San Pedro, then along that river to Dudleyville, Mammoth, and Benson (Knox 1931:77).

The most important economic development in the Winkelman-Kelvin valley was the growth of the Ray mine complex on Mineral Creek. Despite construction of a smelter at or near Kelvin in 1883 (McClintock 1916:419), this economic development was hindered by the low grade of the ores. One promising start was made at the turn of the century, but proved abortive. In 1899, the Ray mine was taken over and reorganized by British capitalists, who proceeded to lay out a concentrator and mining camp at Kelvin. To connect with the Southern Pacific, a road was built from Kelvin to Red Rock, with steam tractors to pull the wagons (Debowski and others 1976:126-127). (The tractors did not work out as planned, however, so teams were used instead.)

For a few years, Kelvin was a small outpost of the Empire. Well-dressed gentlemen rode on English saddles, washed in bathtubs connected to mains, and shaved in front of French plate glass mirrors; for recreation there were tennis courts and a golf course. A telephone system was being installed. Unfortunately, the entire investment was wasted, as had become obvious by 1902; the ore was simply too low-grade to justify working (Debowski 1976:126-127). The town of Kelvin went into immediate decline, although it is still in existence; archaeological remnants of the grand British scheme still exist (Blair 1968). It is worth noting that from 1908 onwards, the Ray mines slowly regained their importance as low-grade mining and processing methods were perfected.

The eventual success of the Ray mines was guaranteed by the building of a railroad along the Gila from Phoenix to Winkelman, between 1902 and 1904; an extension, to the Christmas mines, lasted only briefly (Myrick 1975). The building of the Phoenix and Eastern (P&E) represents an interesting skirmish in the great railroad wars between 1860 and 1915, as well as the last serious attempt to make use of the Gila Trail; some of the details will be presented here.

To industrialists staring at maps of North America, the Gila River appeared to be a natural route for a mainline railroad. Any track following the stream would have a gentle grade from California to New Mexico; indeed, the grade would be far gentler than that followed by the Southern Pacific today. However, the Gila's many "boxes", or canyons, effectively discouraged any development of the route in the nineteenth century.

As the twentieth century dawned, this all changed. The Santa Fe interests made a flanking move on Southern Pacific's thirty-second parallel route. The Phoenix and Eastern was organized and, by 1904, had stolen the first march. The narrows below Kelvin were breached, and the line was extended to the mouth of the San Pedro (thus giving rise to the railhead town of Winkelman). The greater prize loomed ahead--the section of the Gila upstream from the San Pedro, where twenty-five miles of work would connect the P&E to the Gila Valley and the GVG&N.

At this point, however, the Southern Pacific struck back with its own line, the Arizona and Eastern (A&E); grading of a second line in the Winkelman-Kelvin Valley began. (The point was not so much to create a second main line across Arizona as to preempt the valley and thus preserve Southern Pacific's monopoly.) The two railroad beds often infringed on each other, and confrontations flared between the work crews. But alas for romantics, the frontier was already gone by 1900--the crews contented themselves with a fistfight or two, while the real blood was drawn in court by lawyers. Finally, in 1907,

the Southern Pacific acquired the P&E (the A&E roadwork, its role as a legal ploy outlived, was abandoned). As the SP already had a main line through southern Arizona, it had no need to complete the Winkelman-Gila Valley segment, and the P&E ended up as a branch line of the SP system, with Winkelman as its terminus (Myrick 1975). (The San Manuel Arizona, which connects from Winkelman to the San Manuel Smelter, was built in 1956.)

The town of Winkelman was established in 1904 on the Barbara Winkelman ranch; a year later it was moved to its present location. A copper reduction works was built there, but its continuing survival has depended on its role as a railhead, and on the reduction works at Hayden nearby, which were established about 1910. The only other town in the valley, Kearny, was built in the 1950s as Ray was swallowed by an open pit operation. Today, with the Christmas and Ray Mines closed, the entire area is faced with an uncertain future.

Duncan, Cliff-Gila, and Glenwood Areas

Less information was obtained about these areas than those previously discussed, in part because of their more strongly rural character. The Duncan and Cliff-Gila areas are similar in the sense that each is a portion of the Gila in which ranching and irrigation farming were the major activities, and in which the population was either scattered or else found in very small towns. The earliest occupation of each area was related to transport of goods between more prosperous areas, and to ranching. Irrigation farming appears to have developed more slowly. In 1890, only about 500 acres were under cultivation in the Duncan-Virden area (Poulson and Stromberg 1950:7).

The area around Duncan was probably first settled in the 1870s, by Hispanics who maintained small ranches and freighted between Clifton and Silver City. Anglo-American (predominantly Texan) ranching began about 1880. The area received an economic boost with the building of the Arizona and New Mexico rail line through the Duncan area in 1883 and 1884. It was at this time that Duncan was founded as a rail town, and the post office moved from nearby Purdy (Granger 1960:166; Billingsley 1983). The town of Virden, just over the line in New Mexico, was later founded as a Mormon colony.

Because of its rail connection with the outside world, Duncan soon became a minor mercantile hub for surrounding communities, including several mines. One of the town's merchants, Benjamin Billingsley, started his store in 1895, and about five years later he built a house which remains as an example of territorial architecture. Billingsley's last store is also still standing.

Apparently a Hispanic neighborhood ("Chihuahuita") formerly existed in Duncan, but was eventually abandoned due to floods. A ranch run and staffed by Irish immigrants was also locally prominent (Billingsley 1983).

In the Cliff-Gila area, the town of Gila was the first to warrant a post office (in 1875). The town of Cliff was established in 1885 or 1886, but did not receive a post office for another decade (Pearce 1965).

The lack of a rail connection probably reinforced the rural character of the Cliff-Gila area. The area was fortunate enough, however, to be on the wagon route between two mining centers, Alma and Silver City. From 1882 to

1929, a stage line ran between these two centers and had a local stop at "Gila Depot" (Williams and McAllister 1979).

The town of Gila does contain some structures of special interest, the headquarters buildings of the LC Ranch. The ranch was founded in 1880 by Tom Lyons and Angus Campbell, who sold their Silver City area mining and foundry interests to raise the needed money. Starting with the Nogales or White House Ranch, they soon managed to corner the water rights in the entire area. In 1885, the Lyons and Campbell Ranch and Cattle Company was organized, bringing in Eastern capital. At its height, the ranch covered much of southwestern New Mexico, and employed over 175 cowboys and farmers.

The ranch headquarters was moved to Gila in 1890, and became an outpost of elegance in the upper Gila region. Built in a U-shape (a later wing gave it the form of an E), the main building is notable for its larger-than-usual scale. Original interior decor was as elegant as any Victorian might hope for. A number of other buildings, including a store and post office, were built nearby.

The LC Ranch went into decline by World War I, and Lyons was killed in El Paso in 1917. Thereafter, bits and pieces of the ranch were sold off until, by about 1930, only the five-acre headquarters complex was left. This briefly became a utopian colony during the early thirties (Morris 1981), and has since passed through a number of private owners. Although the ranch is gone, the buildings remain as an example of "cattle baron architecture" in the West.

During a brief visit to Gila, a number of other potentially early structures were noted. Most commonly, these were adobe houses with pitched, corrugated-metal roofs (and sometimes a shed-roof annex at the rear). However, other types are also present--even a log cabin was seen. The author briefly recorded a notable example of rural religious architecture, the church of San Isidro, in the same town. According to a local informant, the church was built by the Mexican employees of Tom Lyons, who donated the land for the project. The church was built of adobe and most likely dates to about 1890.

In Cliff and Riverside, most buildings appear to be recent. However, a few older buildings were present and included structures of adobe, of molded cement block (patterned like rusticated stonework), and wood-framed buildings with board-and-batten siding.

Little is known about the Glenwood study unit. Although many buildings are recent, a number of older buildings do occur. The older structures are typically rectangular frame buildings with board-and-batten siding. The study unit does contain an interesting element of public architecture, the Glenwood Fish Hatchery. This was built in 1938 by the WPA, and has since been operated by the New Mexico Department of Game and Fish. The structures were built of concrete studded with river cobbles, with the latter being decorative (that is, a deliberately rustic architectural element) rather than structural.

The Glenwood unit was formerly the site of a CCC camp. Until recent years, the CCC buildings were used as a summer camp, but they have since been torn down. At present, all that remains of the former CCC operation is a few concrete pads. Well upstream from the study unit is the Whitewater Canyon Pipeline, an engineering feature on the State Register of Cultural Properties.

CHAPTER 5

ARCHAEOLOGY OF THE UPPER GILA RIVER: A DISCUSSION

The Upper Gila River as a Major Archaeological Region

If nothing else, the preceding discussion on prehistory (Chapter 3) and history (Chapter 4) along the upper Gila River should make one fact abundantly clear: the upper river was the focus of an extremely rich and diverse human occupation. Although preceramic use of the river area is poorly documented, remains of the ceramic period are abundant. The Cliff-Gila area in New Mexico and the Gila Valley of Arizona represent unusual degrees of concentration of remains; indeed, the eastern end of the Gila Valley can be thought of as one big site.

It is surprising, therefore, how little attention the region has received from Southwestern archaeologists. The colonization and later abandonment of the Gila Valley by the Hohokam, the extreme concentration of population along the river during the Salado phase, and the abandonment of the entire region at about A.D. 1450 represent major changes in the course of Southwestern prehistory as a whole. And yet archaeologists have either overlooked the area in their syntheses of Southwestern prehistory or else have glossed over these events, simply seeing them as minor developments peripheral to those in better-studied areas.

Given the relative lack of excavation work along the upper Gila, the tendency to ignore its prehistory is perhaps explainable. In the future, however, more work--especially more digging--is needed, particularly along the Arizona portion of the upper Gila. The alternative is to continue missing important parts of the puzzle in attempts to synthesize the prehistory of the Southwest.

Future Research Issues

It is common to find in older reports the concluding phrase "More work needs to be done." The phrase reflected a time in which so little was known about an area of study that almost any new information would substantially change the existing syntheses.

For the upper Gila, the phrase still holds true. Data from survey, excavation, pollen studies, faunal studies, flotation, ceramic and lithic analysis, and dating studies are all urgently needed, not only to satisfy research designs but also simply to know what patterns would emerge. When our ignorance is as vast as it is, serendipity will count for much.

Still, it is possible to indicate a few specific research themes or needs for the region. These are presented in terms of major periods or cultural groupings.

Paleo-Indian and Archaic

The lack of known Paleo-Indian sites is not surprising, as sites of that period are rare. The lack of recorded Archaic period sites is more disturbing, however. Many Archaic loci have probably been obscured by subsequent occupations, but in part there has probably been a failure to recognize sites belonging to the period.

Future workers in the area should be careful to develop formal criteria for differentiating Archaic sites from other types of non-ceramic site, before going into the field. Nelson (1980), Berman (1979:18), and Huckell (1980) have all discussed the issue. The following criteria could be useful ones:

1. Projectile points: these are the only truly diagnostic Archaic items. Points should therefore be sketched, photographed, or collected whenever encountered during survey.

2. Other formal chipped stone tools: Nelson does not believe these to be very diagnostic; he suggests, though, that a relative abundance of unnotched bifaces may be indicative of the Archaic. In Arizona, the presence of carefully prepared scrapers is also sometimes taken as suggesting Archaic occupation.

3. Ground stone: Archaic sites may include "one-hand" cobble manos and unshaped slab or shallow basin metates, the latter often being ground on both sides. However, as these types of ground stone are often found on later sites, their presence suggests Archaic use only if other types of ground stone are absent.

4. Raw material type: exotic lithic materials tend to be less common on Archaic sites than on Paleo-Indian ones, according to Nelson. However, in Arizona at least Archaic sites still tend to have more exotic cherts than Ceramic Period ones.

5. Patination: this is not an entirely reliable indicator of age, but it does appear that highly patinated chert surfaces have rarely developed in the 1800 years since pottery reached the Southwest. Thus any site with highly patinated flaked stone should be considered has potentially having an Archaic component.

Mogollon

Mogollon culture was probably established throughout the upper Gila region by about A.D. 300; the first known colonists in the Gila Valley are thought to be Hohokam who arrived at about A.D. 550. If true, this means that for 250 years the Gila Valley was unoccupied despite Mogollon populations to the north and south.

This does not seem reasonable; there must have been some occupation of the Gila Valley between A.D. 250 and 550 (even if it was light), and the most likely candidates for this are the Mogollon. Future survey in the valley should be sensitive to the possibility that sites lacking decorated pottery types might be Early Pithouse period sites rather than later limited-activity areas.

Another problem with the Mogollon period in the study area has to do with cultural affiliation. In this report, the Camelsback-Clifton, Duncan, Cliff-Gila, and Whitewater Canyon Mogollon have been classified as Mimbres branch because Mimbres style black-on-white pottery is found at sites in those areas. The social context of this pottery distribution is unknown, however. Future work in the area should attempt to define how different local groups of Mogollon were interacting.

Hohokam

Almost every fact which has been asserted for the Hohokam in the Gila Valley is based on extrapolation from the Phoenix basin; all we really know from our highly unsystematic records is that Hohokam traits occur in Gila Valley sites. Thanks to the Buttes Reservoir survey, our knowledge of Hohokam in the Winkelman-Kelvin section is a little better. But for the upper Gila Hohokam, more than any other group, our ignorance precludes the asking of specific research questions. The need is instead for excavation data of all kinds, from which questions can subsequently be framed.

The "X" Period

As was indicated in Chapter 3, the Safford Valley occupation between about A.D. 1150 and 1300 is very poorly understood; it seems to be a time of cultural and populational flux. At the same time, however, it was probably a critical period in the area's prehistory. Understanding the "X" period (as I have provisionally termed it, for want of a better name) will probably assist greatly in our understanding of the subsequent Salado horizon.

The first step in untangling this period will be a basic exercise in cultural historical reconstruction. There is a need to define occupations precisely and place them in time and space. Specifically, the temporal and spatial relationships among the terminal Hohokam occupation, the Bylas phase sites, the Maverick Mountain sites, and other possible but undefined occupations need to be worked out.

Salado Horizon

The term "Salado Horizon" reflects the fact that the main Salado diagnostic--Salado Polychrome--appears over a wide area (and apparently a number of independent groups) within a fairly narrow time span. What, specifically, this horizon represents is an open question. The ideas advanced in Chapter 3 are only a few of the many possibilities for explaining the "meaning" of Salado.

In the Arizona portion of the study area, continuity between pre-Salado and Salado peoples can be argued. Salado horizon sites of the Winkelman-Kelvin area often have a pre-Salado Hohokam component; as a consequence, they are often referred to as Classic Hohokam rather than as Salado. In the Gila Valley, even if the connection between the "X" period populations and the Salado is unclear, there is no reason to suppose that a break occupation took place.

In New Mexico, the story may have been different. LeBlanc and Nelson (1976; see also LeBlanc and Whalen 1980) believe that the Salado occupation along the Gila in New Mexico represents an intrusive group; continuity with the Animas phase population is denied. If so, this complicates the picture: the upper Gila Salado would involve internal culture change in some cases and migration in others.

One characteristic of the Salado horizon is that sites tend to be fewer but larger than before. It is likely that this aggregation of population is not accidental--that it was connected to increased social integration of populations. The emergence of Salado traits could then be "explained" as part of this process of increased social integration; but what did the process entail? In the core of the Hohokam area, workers are starting to find evidence for the gradual development of social ranking, redistributive economic practices, and craft specialization; but no models of non-Hohokam Salado society have ever been developed. As with so many other questions, this cannot be addressed until we have more and better data from the region.

Apache

Like Paleo-Indian archaeology, the basic problem for the pre-Reservation Apache period is finding sites. Sites were seasonal or temporary; perishable items made up most of the material culture; pottery was not often used; and chipped stone was largely replaced by metal.

Still, sites are sometimes identified for this period, and any that are found must be considered significant because they are so rare. Future workers should be familiar with Apache pottery in order to be able to identify it in the field. The occurrence of stone rings at Willow Creek Ruin (Asch 1960) should also be kept in mind. Finally, on the San Carlos portion of the Gila Valley study area, it will be important to identify post-reservation Apache sites, as Tuohy (1960) did on his survey.

European Settlement

The main point to be made here is that in the past, archaeologists working in the upper Gila region have largely ignored the historic period, looking past it to the Ceramic period. As Chapter 4 demonstrates, however, the region is endowed with a rich history of European settlement; many of the associated structures are still in existence. Any archaeological project in the region should be prepared to deal with historic archaeology and architectural history as well as prehistoric remains.

One specific need in historic research can be pointed out. This has to deal with early Hispanic settlement of the upper Gila river. Historical

sources are basically silent about this occupation, which--except for mining and military ventures--was the first European occupation in the region. It would be useful to find out where these colonists came from and what changes they have gone through from 1873 to the present.

CHAPTER 6

EVALUATION OF RESOURCES

The Study Areas--General Comments

At the risk of making the point too often, the study areas encompassed by this overview are extremely rich in prehistoric and historic resources. It is important to stress that this is evident even though the level of survey coverage is, on the whole, fairly low. The previously recorded sites in the study area generally represent those larger, more impressive ruins which would be found easily during reconnaissance work. The few intensive surveys done in the study areas indicate that whenever intensive work is done, a large number of additional sites, large and small, will be found.

The best example of this is the Buttes Reservoir Survey (Debowski and others 1976). As noted in Chapter 1, the original survey for the reservoir had been a reconnaissance that yielded six site locations. When intensive survey meeting modern legal and professional standards was carried out, 272 sites were found in the same area. Because of the Buttes intensive survey, over 40 sites are described in Appendix 1 for the Winkelman-Kelvin study area. Perhaps double that number would be described if the entire study corridor were intensively surveyed.

The next study unit, the Gila Valley section, represents a 4000 foot wide corridor through one of the most important archaeological areas in the Southwest. Gilman and Sherman (1975:6) have stated, "The Safford Valley may have constituted one of the most densely populated areas in the Southwest and, considering its position as a zone of intercultural contact, it is one of the archaeologically most interesting."

A specific indication of the sensitivity of the Gila Valley study area comes from the final environmental statement for the Upper Gila-San Simon grazing area, which includes much of the upper Gila region falling in Arizona. In the statement, density estimates were prepared for both archaeological (i.e., aboriginal) and historic (European) sites. The majority of the grazing area was judged to have a "high" archaeological site density, with much of the remainder being of "moderate" density. Predicted historical site density was lower, but still substantial (see BLM 1980:Maps 2-16,2-18).

The Camelsback reservoir area is located in rugged canyons, and one might expect a low density of remains. This, however, is definitely not the case. Kinkade's (1975, 1976) limited work within the area turned up a number of sites, both prehistoric and historic, and projects in the hills near the reservoir have also turned up abundant cultural resources. As Fitting, Hemphill, and Abbe (1982) stated, "We would consider the Camelsback alternative to rank high in terms of historic resources." If the entire reservoir

area were surveyed, it is likely that a large number of additional sites would be located within the potential impact zone.

The Duncan area is less well studied, but the indications thus far is that numerous sites are found in the area; conceivably, the density could be as high as in the Gila Valley. As for the Cliff-Gila area, the Fitting survey--not a 100 percent survey in the current sense--has turned up a high density of large sites of several different phases (the one known Archaic site from the study areas is located in the Cliff-Gila unit). A truly intensive survey would probably turn up a large number of additional sites which represent more limited use areas. It is worth noting that Fitting, Hemphill, and Abbe (1982) ranked the Gila-Mangas alternative (which coincides to a large degree with the Cliff-Gila study area) as the highest, in terms of archaeological sensitivity, of the areas they had reviewed.

The final study unit, at Glenwood, New Mexico, is small, and the surrounding area seems to have relatively few archaeological sites. One location which might have had historic value, the Glenwood CCC camp, has been razed. However, a detailed study might reveal a number of structures of historic interest. It is worth commenting that examples of early rural architecture occur in all the study areas.

It should be re-emphasized that only a small fraction of the study area has been intensively surveyed. If all of the study areas were subjected to 100 percent survey coverage, the number of recorded archaeological sites could easily triple.

Significance of Individual Sites

Summary descriptions of individual sites are provided in Appendix 1, and some have been discussed in Chapters 3 and 4. At this point, preliminary evaluations of site significance will be made.

Many of the archaeological remains located within the study areas have already been evaluated in earlier documents, or else the existing information is too limited to allow adequate evaluation. Because of this, the information on site significance can be presented in summary form (Table 2). One thing is certainly clear from this information: the study areas are characterized by a high proportion of significant remains. The discussion which follows examines the sources used in determining significance; the author's comments are based in part on a comparison of the recommendations with the original site survey data.

Many of the sites in the Winkelman-Kelvin section were recorded as part of the Buttes Reservoir Survey. In the report for that survey, the authors concluded that "every archaeological entity is significant" (Debowski and others 1976:160), and proposed to include all of their sites in a National Register district. The truth, of course, is that some sites are more significant than others. However, the Buttes survey also proceeded on the assumption that "isolated cultural manifestations which provide no more information than that inherent within the artifacts themselves (no contextual data) should not be given site status" (p. 52). As a consequence, in the field there was a

TABLE 2
SITE TYPES, AFFILIATION, AND SIGNIFICANCE

SITE	TYPE	AFFILIATION	SIGNIFICANT? (Ref.)
<u>Winkelman-Kelvin Section, Arizona</u>			
AZ V:13:4 (ASM)	Small Pueblo Structure	Civano Hohokam?	? (7)
AZ V:13:5 (ASM)	Small Pueblo Structure	Civano Hohokam?	? (7)
AZ V:13:6 (ASM)	Sherd-Lithic Scatter	Sacaton Phase	? (7)
AZ V:13:7 (ASM)	Small Pueblo(s); Historic Component	Civano Hohokam/ Anglo	YES (1)
AZ V:13:8 (ASM)	Small Pueblo	Civano and earlier (?) Hohokam	? (?)
AZ V:13:16 (ASM)	Hunting-Gathering/ Historic Trash	Prehistoric/ Anglo	YES (1)
AZ V:13:17 (ASM)	Hunting-Gathering	Prehistoric	YES (1)
AZ V:13:24 (ASM)	Agricultural	Hohokam	YES (1)
AZ V:13:25 (ASM)	Rock Shelter	Prehistoric	YES (1)
AZ V:13:26 (ASM)	Hunting Blind	Prehistoric	YES (1)
AZ V:13:27 (ASM)	Lithic Quarry-Workshop	Prehistoric	YES (1)
AZ V:13:28 (ASM)	Lithic Quarry-Workshop	Prehistoric	YES (1)
AZ V:13:29 (ASM)	Small Lithic Quarry- Workshop	Prehistoric/	YES (1)
AZ V:13:30 (ASM)	Agricultural	Hohokam	YES (1)
AZ V:13:31 (ASM)	Small Lithic Quarry- Workshop	Prehistoric	YES (1)
AZ V:13:32 (ASM)	Lithic Quarry-Workshop	Prehistoric	YES (1)
AZ V:13:33 (ASM)	Primary Habitation/ Town of Kelvin, Az.	Prehistoric/ Anglo	YES (1,22)
AZ V:13:34 (ASM)	Small Lithic Quarry- Workshop/Mine?	Prehistoric/ Anglo	YES (1)
AZ V:13:35 (ASM)	Small Lithic Workshop	Prehistoric	YES (1)
AZ V:13:38 (ASM)	Agricultural/Ranching	Prehistoric/ Anglo	YES (1)
AZ V:13:39 (ASM)	Small Lithic Quarry- Workshop	Prehistoric	YES (1)
AZ V:13:40 (ASM)	Agricultural/Lithic Scatter	Prehistoric	YES (1)
AZ V:13:41 (ASM)	Small Lithic Quarry- Workshop	Prehistoric	YES (1)
AZ V:13:42 (ASM)	Hunting-Gathering/ Ranching	Prehistoric/ Anglo	YES (1)

TABLE 2 (Contd.)

SITE TYPES, AFFILIATION, AND SIGNIFICANCE

SITE	TYPE	AFFILIATION	SIGNIFICANT? (Ref.)
AZ V:13:43 (ASM)	Rock Shelter	Prehistoric	YES (1)
AZ V:13:44 (ASM)	Agricultural	Prehistoric	YES (1)
AZ V:13:45 (ASM)	Rock Shelter	Prehistoric	YES (1)
AZ V:13:46 (ASM)	Secondary Habitation	Prehistoric	YES (1)
AZ V:13:48 (ASM)	Agricultural	Prehistoric	YES (1)
AZ V:13:49 (ASM)	Hunting-Gathering	Prehistoric	YES (1)
AZ V:13:50 (ASM)	Lithic Quarry-Workshop	Prehistoric	YES (1)
AZ V:13:51 (ASM)	Lithic Quarry-Workshop	Prehistoric	YES (1)
AZ V:13:52 (ASM)	Agricultural	Prehistoric	YES (1)
AZ V:13:53 (ASM)	Agricultural	Prehistoric	YES (1)
AZ V:13:54 (ASM)	Lithic Workshop	Prehistoric	YES (1)
AZ V:13:56 (ASM)	Agricultural/Temporary Campsite	Hohokam Hist. Aborig.	YES (1)
AZ V:13:58 (ASM)	Primary Habitation	Hohokam	YES (1)
AZ V:13:59 (ASM)	Primary Habitation	Hohokam	YES (1)
AZ V:13:62 (ASM)	Secondary Habitation	Prehistoric	YES (1)
AZ V:13:63 (ASM)	Primary Habitation/ Ranching	Prehistoric/ Anglo	YES (1)
AZ V:13:64 (ASM)	Secondary Habitation		YES (1)
AZ V:13:65 (ASM)	Secondary Habitation/ Some Hist. Remains	Prehistoric/ Anglo	YES (1)
AZ BB:1:1 (ASM)	Sherd Scatter	Civano Hohokam	? (7)
AZ BB:1:2 (ASM)	Compounds-Trash Mounds	Civano Hohokam	? (7)
AZ BB:1:3 (ASM)	Pueblo Compound-Trash Mounds	Civano Hohokam	? (7)
AZ BB:1:4 (ASM)	Part of AZ BB:1:3 (ASM)(?)		? (7)
AZ V:13:1 (ASU)	Pithouse village (?)	Hohokam	YES (10)
AZ V:13:2 (ASU)	One Room Structure	Hohokam	YES (10)
AZ V:12:3 (ASU)	One Room Structure, Rock Piles, Sherds	Hohokam	YES (10)
AZ V:13:4 (ASU)	Small Pueblo	Hohokam	YES (10)
AZ V:13:5 (ASU)	Village, Ballcourt	Hohokam	YES (10)
AZ V:13:1 (ARS)	Settlement of River- side, Arizona	Anglo	YES (22)
AZ V:13:2 (ARS)	Sultana-Arizona Mine	Anglo	NO (23)
AZ V:13:3 (ARS)	Kearney Cemetary	Anglo	? (7)
AZ V:13:4 (ARS)	Rail Station (Ray Jct.)	Anglo	? (7)

TABLE 2 (Contd.)

SITE TYPES, AFFILIATION, AND SIGNIFICANCE

SITE	TYPE	AFFILIATION	SIGNIFICANT? (Ref.)
Stone No. 28	Rail Siding (Branaman)	Anglo	NO (23)
Stone No. 73	Habitation	Anglo	NO (23)
Stone No. 75	Smith's Houses	Anglo	YES (23)
Stone No. 76	Holliday's House	Anglo	NO (23)
Stone No. 86	Approx. Site of Camp	Spanish	NO (25)
NWR 8	Bridge	Anglo	NO (17)
<u>Gila Valley Section, Arizona</u>			
AZ V:15:3 (ASM)	Part of AZ V:15:4 (ASM)(?)		? (7)
AZ V:15:4 (ASM)	Numerous compounds- trash mounds	Salado	? (7)
AZ V:15:7 (ASM)	Sherd Scatter	Late PIII(?)	? (7)
AZ V:15:8 (ASM)	Small Pueblos	Late PIII(?)	? (7)
AZ V:15:9 (ASM)	Sherd Scatter-Poss. Dwelling Units	PIII(?)	? (7)
AZ V:15:10 (ASM)	Sherd Scatter	Aboriginal	? (7)
AZ V:15:11 (ASM)	Small Pueblos	Salado	? (7)
AZ V:15:12 (ASM)	Sherd Scatter	Prehistoric	? (7)
AZ V:15:13 (ASM)	Small Pueblo(?)	PIII(?)	? (7)
AZ V:15:18 (ASM)	Large Group of Pueblos- Trash Mounds	Salado	? (7)
AZ V:16:4 (ASM)	Sherd Scatter	Mogollon	NO (7)
AZ V:16:5 (ASM)	Sherd Scatter/Hearths	Prehistoric	? (7)
AZ V:16:8 (ASM)	Series of Pueblos with- in Compound Walls/Trash Mounds and Borrow Pits	Salado	? (7)
AZ V:16:9 (ASM)	Groups of Pueblos with Compound Walls	Salado	? (7)
AZ V:16:10 (ASM)	Groups of Pueblos with- in Compound Walls-Trash Mounds/Wickiup	Salado/Recent Apache	? (7)
AZ V:16:11 (ASM)	Small Compound-Poss. Ballcourt	Late PI-PIII(?)	? (7)
AZ V:16:12 (ASM)	Artifact Scatter	Prehistoric	? (7)
AZ V:16:13 (ASM)	Wickiup	Apache (1900-)	? (7)
AZ V:16:14 (ASM)	Camp Goodwin (Army)		NO (9)
AZ V:16:16 (ASM)	Pithouse Village?	Mogollon?	? (7)
AZ V:16:17 (ASM)	3+ Pueblos	Salado	? (7)

TABLE 2 (Contd.)

SITE TYPES, AFFILIATION, AND SIGNIFICANCE

SITE	TYPE	AFFILIATION	SIGNIFICANT? (Ref.)
AZ V:16:20 (ASM)	Pueblos-Pithouses- 3 Trash Mounds	Mogollon/Bylas Phase	YES (10)
AZ W:13:2 (ASM)	Small Pueblos with Compound Walls	PIII(?)	? (7)
AZ W:13:3 (ASM)	Sherd, Lithic Scatter	Early PII--PIII	NO (2)
AZ W:13:5 (ASM)	Sherd-Lithic Scatter	Prehistoric	NO (2)
AZ CC:1:4 (ASM)	Small Pueblo-Ballcourt	Hohokam/Salado?	? (7)
AZ CC:1:8 (ASM)	Isolated Pueblo Room (Outlier of AZ CC:1:7 [ASM]?)	Salado?	? (7)
AZ CC:1:19 (ASM)	Pueblo	Salado	YES (10)
AZ CC:2:3 (ASM)	Pueblos	Salado	? (11)
AZ CC:2:4 (ASM)	Small Pueblos Within Compound Walls?	Salado	YES (12)
AZ CC:2:5 (ASM)	Small Pueblo	Late PII-Early PIII?	? (7)
AZ CC:2:6 (ASM)	Small Pueblo	Late PII-Early PIII?	? (7)
AZ CC:2:7 (ASM)	Rock Shelter	Prehistoric	? (7)
AZ CC:2:8 (ASM)	Small Pueblo	Late PII-Early PIII?	YES (2)
AZ CC:2:9 (ASM)	Deeply Buried Lithic Remains/Small Pueblo- Trash Mounds	Pre-ceramic?/Prehis- toric Pueblo	? (7)
AZ CC:2:10 (ASM)	Isolated Dwelling Unit	Prehistoric	? (7)
AZ CC:2:16 (ASM)	Pueblo	Salado(?)	YES (2)
AZ CC:2:37 (ASM)	Lithic Scatter-Rock	Prehistoric	YES?(13)
AZ CC:2:48 (ASM)	Sherd-Lithic Scatter	Prehistoric	YES?(13)
AZ CC:2:49 (ASM)	Sherd-Lithic Scatter	Prehistoric	YES?(13)
AZ CC:2:50 (ASM)	Sherd-Lithic Scatter	Prehistoric	YES?(13)
AZ CC:2:51 (ASM)	Lithic Scatter	Prehistoric	YES?(13)
AZ CC:2:52 (ASM)	Lithic Scatter-Rock Alignments	Prehistoric	YES?(13)
AZ W:13:1 (ASU)	Sherd-Lithic Scatter	Prehistoric	? (7)
AZ CC:1:1 (ASU)	Pueblo	Salado?	? (7)
AZ CC:1:1 (ARS)	Habitation	Prehistoric	YES (24)
AZ CC:2:1 (ARS)	Sherd-Lithic Scatter and Hearths	Prehistoric	? (24)
ARO2-04-224	Unknown	Unknown	? (2)

TABLE 2 (Contd.)
SITE TYPES, AFFILIATION, AND SIGNIFICANCE

SITE	TYPE	AFFILIATION	SIGNIFICANT? (Ref.)
ARO2-04-359	Agricultural	Prehistoric	? (7)
ARO2-04-364	Unknown	Unknown	? (2)
ARO2-04-721	Sherd-Lithic Scatter	Salado(?)	? (7)
HS02-04-005	Enterprise Canal	Anglo	NO (2)
EAC/80	Pueblo	Bylas Phase	NO?(9)
<u>Camelsback-Clifton Section, Arizona</u>			
AZ W:15:7 (ASM)	Clifton, Arizona	Anglo	YES (18)
AZ W:15:17 (ASM)	Lithic Scatter/Rock	Prehistoric/	NO (5)
	Alignments/Metal Pipes	Historic	
AZ W:15:18 (ASM)	Rock Shelter	Prehistoric	? (7)
AZ CC:3:1 (ASM)	Agricultural or Con- servation?	Unknown	? (4)
AZ CC:3:20 (ASM)	Railroad bed and associated artifacts	Historic Anglo	NO (5)
AZ CC:3:46 (ASM)	Pueblo village	Mimbres	YES (5)
AZ CC:3:47 (ASM)	Pueblo village with compound walls	Salado	YES (5)
ARO2-04-197	Lithic scatter	Prehistoric	? (7)
ARO2-04-198	Habitation Site	Hohokam, Mogollon	? (7)
ARO2-04-199	Sherd-Lithic Scatter	Hohokam(?)	? (7)
ARO2-04-200	Small Pueblo	Hohokam, Mogollon	? (7)
ARO2-04-201	Lithic Scatter	Prehistoric	? (7)
ARO2-04-273	Chipping Station	Aboriginal	? (7)
ARO2-04-274	Habitation Site	Prehistoric	? (7)
ARO2-04-945	Unknown	Aboriginal	? (7)
HS02-04-026	Water Wheel	Historic	YES (2)
HS02-04-027	Ranch-Farm Buildings	Anglo	NO (7)
HS02-04-028	Ranch Buildings	Anglo	NO (7)
HS02-04-029	Mining Test and Structures	Anglo	NO (7)
HS02-04-038	Hot Springs Resort	Anglo	YES (7)
HS02-04-106	CCC Camp/Recent Ranch	Anglo	YES (10)
SHPO No. 12 (Greenlee)	Rte. 666 Bridge over Gila River	Recent Anglo	NO (14)
HA 11	Pueblo	Prehistoric	YES (5)
HA 12	Pueblo	Prehistoric	YES (5)

TABLE 2 (Contd.)

SITE TYPES, AFFILIATION, AND SIGNIFICANCE

SITE	TYPE	AFFILIATION	SIGNIFICANT? (Ref.)
NWR No. 1	Morenci So. RR Bridge	Anglo	YES (10)
NWR No. 3	Az. Copper Co. Smelter	Anglo	YES (10)
NWR No. 4	Old Safford Road Bridge	Historic Anglo	YES?(10)
<u>Duncan Section, Arizona</u>			
FS02-04-006	Paleontological	n/a	(26)
SHPO No. 9	House (Billingsley)	Anglo	YES (19)
<u>Cliff-Gila Section, New Mexico</u>			
LA 58	Sherd Scatter	Mimbres Phase	? (6)
LA 2454	Pueblo	Mimbres Phase	YES-ON N.R.
LA 4937	Pueblo	Cliff Phase	YES-ON N.R.
LA 4981A,B	Military Camp	Historic Anglo	YES (5)
LA 5356	Pueblo	Mimbres Phase	? (5)
LA 5421	Pueblo	Three Circle, Mimbres Phases	YES (5)
LA 5775	Pueblo	Mimbres Phase	NO (5)
LA 5776	Pueblo	Mimbres Phase	NO (5)
LA 5777	Pueblo	Mimbres Phase	NO (5)
LA 5778	Pueblo	Mimbres Phase	NO (5)
LA 5779	Pueblo	Mimbres Phase	NO (5)
LA 5790	Pueblo	Cliff Phase	YES (5)
LA 5791	Pueblo	Cliff Phase	YES (5)
LA 5792	Pueblo	Cliff Phase	YES (5)
LA 5793	Pueblo	Cliff Phase	YES (5)
LA 6000	Pithouse Village, Pueblo, Military Post	Three Circle, Mimbres, Hist. Anglo	YES (5)
LA 6783	Pithouse Village, Pueblo	Three Circle, Mimbres Phases	NO (5)
LA 6784	Pueblo	Mimbres Phase	NO (5)
LA 6785	Pithouse Village, Pueblo	Three Circle, Mimbres(?), Cliff Phases	? (5) YES (5)
LA 34778	Pueblo	Mimbres, Animas Phases	YES (5)
LA 34779	Pueblo	Mimbres, Animas Phases	YES (5)
LA 34788	Pueblo	Mimbres Phase	YES (5)

TABLE 2 (Contd.)
SITE TYPES, AFFILIATION, AND SIGNIFICANCE

SITE	TYPE	AFFILIATION	SIGNIFICANT? (Ref.)
LA 34789	Pueblo	Mimbres, Cliff	YES (5)
LA 34793	Pueblo	Mimbres Phase	YES (5)
LA 34794	Pueblo	Animas Phase	YES (5)
LA 34795	Pithouse Village	Three Circle Phase	YES (5)
LA 34796	Pithouse Village	Three Circle Phase	YES (5)
LA 34797	Pueblo	Mimbres Phase	YES (5)
LA 34798	Pithouse Village	Mogollon	YES (5)
LA 34799	Pueblo, Pithouse(s)	Mimbres Phase	YES (5)
LA 34800	Lithic Scatter	Mid-Late Archaic	YES (5)
LA 34802	Pueblo	Mimbres Phase	YES (5)
LA 34803	Pueblo	Mimbres Phase	? (8)
LA 34804	Pueblo	Mimbres Phase	NO (5)
LA 34806	Pueblo	Mimbres Phase	YES (5)
LA 34830	Pueblo	Mimbres Phase	NO (5)
LA 34831	Pueblo	Mimbres Phase(?)	YES (5)
LA 34832	Isol. Stone Structure	Mogollon	NO (5)
LA 34833	Sherds, Poss. Structure	Mogollon	NO (5)
LA 39305	Lithic Scatter	Mogollon	? (3)
LA 39310	Lithic Scatter	Mogollon	? (3)
LA 39312	Lithic Scatter	Mogollon	? (3)
LA 39313	Jacal Structure, Lithic Scatter	Mogollon	? (3)
LA 39315	Roomblock	Mimbres, Cliff Phases	? (3)
St. Reg. No. 189	Ranch Buildings	Anglo	YES (16)
NWR No. 22	Church	Hispanic	YES (10)
<u>Glenwood Section, New Mexico</u>			
LA 13921	Temporary Camp?	San Francisco Phase (?)	NO (6)
NWR No. 21	Hatchery	Anglo	(21)
NWR No. 23	CCC Camp	Anglo	NO (20)

TABLE 2 (Contd.)

SITE TYPES, AFFILIATION, AND SIGNIFICANCE

NOTES:

- (1) As evaluated by Debowski and others (1976); part of their proposed Buttes archaeological district.
- (2) As evaluated by the Bureau of Land Management (1978).
- (3) According to the Laboratory of Anthropology's Archaeological Records Management System Site File (printout date 12/19/83), insufficient information is available to evaluate these sites. Based on a review of the available forms, the statement seems to be appropriate.
- (4) Runoff control structures. These should be considered significant if aboriginal (Fitting, Hemphill, and Abbe 1982), but they are probably not significant if CCC work.
- (5) As evaluated by Fitting, Hemphill, and Abbe (1982). Sites of "high" or "medium" potential are listed here as significant. Sites whose potential is "low" or "none" are listed here as not significant.
- (6) Excavated site with no further research potential; also, location is outside study area.
- (7) Insufficient information on site nature, extent, and condition, due either to limited nature of records on site or else due to time elapsed since last recording.
- (8) This site is listed as having low research potential, partly damaged by Fitting, Hemphill, and Abbe (1982), but site records prepared in 1983 describe it as intact.
- (9) Reported destroyed by local informants.
- (10) Tentative evaluation, based on survey records.
- (11) Although basically destroyed, this site is so important that even the odd remnant--if it can be found--should be investigated whenever possible. This site was once the largest Salado village in the Gila Valley.
- (12) As defined here, AZ CC:2:4 (ASM) includes AZ CC:2:31 (ASM), which Simpson and Westfall (1978) recommended for nomination to the National Register (a nomination form was prepared and submitted to the SHPO, where it is on file). The other components of the site also appear to be significant.
- (13) Sites not recommended by Simpson and Westfall (1979) for National Register nomination, but otherwise considered important (see text).
- (14) The structure at the location on SHPO maps is recent. The apparent intended structure is the Old Safford Road Bridge.
- (15) A NRHP nomination has been prepared for the site; it is on the New Mexico Register of Cultural Properties.
- (16) On the New Mexico Register of Cultural Properties.
- (17) Destroyed by the Flood of 1983.
- (18) The town of Clifton and associated mining operations contain numerous historic properties; one of them, the Clifton "Casa Grande" (big house) is on the National Register.

TABLE 2 (Contd.)
SITE TYPES, AFFILIATION, AND SIGNIFICANCE

NOTES (Contd.):

- (19) A National Register nomination has been prepared for this property.
- (20) Site is mostly destroyed.
- (21) Will be 50 years old in 1988; at that time the property will most likely be eligible for the National Register.
- (22) According to Stone (1976); part of Stone's proposed Mineral Creek Historic District
- (23) According to Stone (1976).
- (24) According to Stone (1979).
- (25) This "site" is the approximate location only, for an early historic campsite. No known associated remains.
- (26) Paleontological site, included for informational reasons only.

"filtering process" in which only the more extensive remains were recorded as sites. The Buttes sites in Table 2 therefore represent a sample from which more ephemeral loci have already been excluded.

A second source of significance recommendations was the AEPCO survey reported by Simpson and Westfall (1978). Here again, some ambiguity in the concept of significance may be detected. Simpson and Westfall recommended National Register nomination for only three of their sites; but they clearly considered the remaining sites important in some sense, as they carried out a program of monitoring and data recovery at a sample of these loci. And, as in the previous case, minimal qualifications for site status were defined, thus "filtering out" the least substantial of the prehistoric remains. Finally, recent visits to a few of the sites (as part of the current project) indicate that powerline construction did not necessarily destroy their information potential. There is a good reason, therefore, to consider the AEPCO sites in Table 2 as at least potentially significant.

A third source of recommendations came from the Upper Gila-San Simon Environmental Statement (BLM 1978). The author's impression is that some of the sites not considered significant in that document could, in fact, be considered important--if not in terms of their extent or content, then as representative of more limited-function site types. (This means, however, that any sites listed as significant in the document can be considered as such.)

The same criticism could be leveled at a fourth source of evaluations, the Class I study for the Upper Gila Water Supply Study (Fitting, Hemphill, and Abbe 1982). While the author concurs with most of the evaluations in that report (to the extent that site data permit), there seems to be a bias against the few small sites which Fitting recorded. It would be extremely useful to know exactly how small and large sites were integrated in the various periods of regional prehistory.

For many of the sites, however, it is simply not possible to evaluate the resources given existing survey data. Many of the sites in the study areas were last recorded before the early seventies, and the forms of the day were simply not designed with questions of significance in mind. For example, the standard Arizona State Museum form for many years consisted of prompts on a five-by-eight inch card, and it was common practice in the past to leave out such basic information as site size, site condition, and setting. Moreover, there is no guarantee that a site recorded twenty years ago is still in existence. Thus, for many sites, the only way to evaluate them properly would be to revisit and re-record them. Given what is known about the study area as a whole, however, the author believes many of the ambiguous-status sites in Table 2 are likely to prove to be significant once properly recorded.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

The upper Gila River was the focus of one of the densest prehistoric occupations in the American Southwest, and the historic occupation has also been substantial. The 191 sites documented in this report probably represent only a fraction of the total number of archaeological and historical locations which exist in the various study areas. Moreover, a high percentage of the sites appear to be significant; many of the prehistoric ones are pithouse or pueblo villages of considerable size.

Because of this, any major construction project along the upper Gila River is likely to have a severe impact on a large number of archaeological and historical resources. It could be difficult to design an impact mitigation program which did justice to these resources, and yet was not extremely costly and time consuming.

As a consequence, our first recommendation involves avoidance. If the project is to be carried out at all, it should incorporate means of avoiding at least those areas in which cultural resources are most concentrated.

There are two ways of doing this. The first is precise and restricted definition of the project area. The study units, as defined for this overview, included many areas of alluvial terrace adjacent to, but well above, the floodplain of the Gila. These terrace settings are one of the primary locations for sites in the region, and account for many of the sites listed in Appendix 1. NWR recommends that the Corps define actual project zones in such a way that terrace locations of this kind are excluded. As a consequence of this, future cultural resources work for the project will be greatly reduced and simplified.

If this is done, two points remain to be made:

--Because of the high density of sites near the Gila, secondary activity areas connected with the project (for example, borrow pits for construction fill) have a good probability of having an impact on cultural resources. For this reason, secondary impact areas should be surveyed whenever possible, to ensure avoidance of significant archaeological resources.

--Excluding terrace locations will not eliminate the cultural resources from project areas. Survey data show that at least some archaeological sites occur within the floodplain of the Gila; and the consensus among archaeologists who know the area is that more sites are found in the floodplain than is indicated by existing survey records.

The second way in which avoidance can be practiced is to avoid sites within project areas whenever possible. Of course, avoidance is not always practical--there may be only one place to put a flood control structure. But

for something like brush removal, it may be better to let some areas of brush remain in place than to allow mechanical disturbance of sites.

Whether or not the Corps is able to adopt these avoidance procedures, additional research is needed to document the distribution, density, and significance of cultural resources in the various study areas. None of the areas has been fully surveyed, and in many cases the existing site data are not adequate for even preliminary estimates of significance.

Specific recommendations for each study area are as follows:

1. Much of the Winkelman-Kelvin study area has already been surveyed as part of the Buttes Reservoir and Central Arizona Water Control projects of the Bureau of Reclamation; the survey records are good and resurvey of those areas is not necessary. The remainder of the study area is fairly limited, and we therefore recommend that it be taken care of in one step--in other words, intensive survey with 100 percent sample coverage.

2. Similarly, the Glenwood study area is so small that intensive survey of the entire area should be carried out. The actual impact zone should be defined as precisely as possible, however, to minimize the amount of survey required. In particular, it would be desirable to exclude the one known resource within the study area, the Glenwood Fish Hatchery.

3. The proposed Camelsback Reservoir area poses definite challenges for survey; the country is rugged and difficult of access. A sample survey of the area might therefore consume an inordinate amount of time simply reaching sample units. Moreover, the role of a sample survey has largely been fulfilled by the BLM's work in the same canyons; it is already clear that prehistoric and historic archaeological resources are present in some number. We therefore suggest that the next logical step is to proceed with intensive survey of the reservoir area. This survey should either encompass the entire reservoir area, or else deal with it in terms of very large survey units (e.g., the entire San Francisco River portion as one unit, Eagle Creek as another, and the Gila as a third).

4. The city of Clifton and its environs represent a rich historical resource. The flood of 1983 notwithstanding, the Clifton area contains a number of properties which individually are either on the National Register or probably meet the criteria for National Register eligibility. Inclusion of most of the Clifton area in a single Historic District would not be inappropriate. (However, organizing the information needed for such a nomination would be a project in itself.)

Because the 1983 flood dealt such a blow to the Clifton area, it is worth pointing out that the town has gone through the same thing several times before. It has come back each time, and will probably continue to do so as long as there is copper to be mined. It may be impossible to protect the town from the worst floods, but no community is immune to disaster. From a purely cultural resources standpoint, the damage done by occasional flooding is perhaps less than the loss incurred in writing off the community. Of course, where peoples' well-being is involved, this concern for the historic structures in the town should be a secondary one.

5. For the remaining areas--the Gila Valley, Duncan, and Cliff-Gila study units--sample survey is the most appropriate next step. We would like to point out, however, that it might be possible for the Corps to again narrow the scope of the study. There are two ways in which this could be done:

--First, distinguish recently created from older land surfaces within the Gila floodplain. As Burkham's (1972) study indicates, substantial portions of the Gila floodplain have been completely eroded away, then re-deposited, within the last century. If maps such as Burkham's were prepared for each of the project areas on the Gila, it should be possible to define zones within the floodplain in which prehistoric or early historic remains were unlikely. Some degree of study would be needed to determine whether later historic remains were present (e.g., map studies and field checks), but it would be reasonable to suggest that intensive survey would not be needed in such areas of recent alluvium.

--Second, eliminate areas of major land surface modification. In past years, many irrigated fields more or less conformed to the original floodplain or terrace surfaces; disturbance of archaeological remains was confined to the plow zone. Now, however, more and more field areas are being terraced using heavy earth moving equipment, and any archaeological sites in the fields are destroyed in the process. An example of this is the Daley site (Lee 1980), which was eradicated as a result of agricultural field levelling. If agricultural lands are included in the project zones as finally defined, the fields in question could be checked to see whether they might be excluded from survey.

For the actual sample survey, 15 percent coverage will probably be sufficient to provide information of site density distribution in the project areas. This sample should be stratified so that each of the three areas (Gila Valley, Duncan, Cliff-Gila) is adequately represented, but otherwise the areas are similar enough (and the Gila floodplain homogenous enough within each area) that no environmentally based sampling strata can be suggested.

No inherently appropriate sample units can be suggested, as the study areas (either in their present form, or as defined more narrowly) are irregular themselves. Linear transects, irregular sample units (with boundaries along roads, washes, and other easily defined features), or quarter sections would probably all be feasible. (If quarter sections were used, adjustments would have to be made for portions of quarter sections not falling in the study areas). The Corps might wish to allow prospective contractors to propose and defend their own sample units.

It is not possible to indicate the actual amount of area to be included in the sample survey, as this would depend on the size of the study areas and these will hopefully be redefined more strictly by the Corps. If, as it turned out, the impact areas were largely confined to areas of recent alluvial deposition or active floodplain, actual survey might be quite limited and it might even be possible to cover the study areas in a single program of intensive survey. Otherwise, however, the initial sampling program remains the most appropriate next step for the Gila Valley, Cliff-Gila, and Duncan units.

A CULTURAL RESOURCES BIBLIOGRAPHY
FOR THE UPPER GILA RIVER, ARIZONA AND NEW MEXICO

- Accola, Richard M.
1981 Mogollon settlement patterns in the middle San Francisco drainage, West-Central New Mexico. The Kiva 46(3):155-158.
- Alexander, Robert K.
1966 Archaeological and Historical Survey Along New Mexico Highways. Museum of New Mexico Research Records 2. Santa Fe.
- Anonymous
1886 "Mines and mining at Riverside." The Pinal County Record, January 29, 1886. Pinal County, Arizona.
1979 Pioneer Town: Pima Centennial History. Eastern Arizona Museum and Historical Society, Inc., Pima, Az.
- Antevs, Ernst
1955 Geologic-climate dating in the West. American Antiquity 20:317-355.
- Anyon, Roger, Patricia A. Gilman, and Steven A. LeBlanc
1980 A reevaluation of the Mogollon-Mimbres archaeological sequence. The Kiva 46(4):209-226.
- Arizona Daily Star
1983 The flood of '83: a special report. Arizona Daily Star, Oct. 17, 1983. Tucson.
- Asch, C. M.
1960 Post-Pueblo occupation at the Willow Creek Ruin, Point of Pines. The Kiva 26(2):31-42.
- Baker, Gayla S.
1971 The Riverside Site, Grant County, New Mexico. Southwestern New Mexico Research Reports 5. Department of Anthropology, Case Western Reserve University, Cleveland. [Site located near Riverside, N.M.]
- Bandelier, Adolf F.
1892 Final Report of Investigations Among the Indians of the Southwestern United States, Carried on Mainly in the Years from 1880 to 1885, Pt. 2. Papers of the Archaeological Institute of America, American Series 4. Cambridge, Mass.
- Basso, Keith H.
1971 "Introduction." In Western Apache Raiding and Warfare, by Grenville Goodwin, pp. 9-25. University of Arizona Press, Tucson.
1983 Western Apache. In Handbook of North American Indians, Volume 10: Southwest, ed. by Alfonso Ortiz, pp. 462-488. Smithsonian Institution, Washington, D.C.

Baydo, G. R.

- 1970 Cattle Ranching in Territorial New Mexico. Ph.D. dissertation, University of New Mexico, Albuquerque.

Beck, Warren A., and Ynez D. Haase

- 1969 Historical Atlas of New Mexico. University of Oklahoma Press, Norman.

Beckett, P. H.

- 1978 Cerro de las Piedras Site, Collection and Excavation of PSC-1, Greenlee County, Arizona. Cultural Resource Management Report 273. Department of Sociology and Anthropology, New Mexico State University, Las Cruces.

Bender, A. B.

- 1934 Frontier defense in the territory of New Mexico, 1846-1853. New Mexico Historical Review 9(3):249-272.

- 1934 Frontier defense in the territory of New Mexico, 1853-1861. New Mexico Historical Review 9(4):345-373.

Berman, Mary Jane

- 1978 The Mesa Top Site: An Early Mogollon Village in Southeastern Arizona. Cultural Resources Management Division Report 280. Department of Sociology and Anthropology, New Mexico State University, Las Cruces.

- 1979 Cultural Resources Overview of Socorro, New Mexico. Report prepared for the Forest Service and Bureau of Land Management.

Betancourt, Julio L, and Thomas R. Van Devender

- 1981 Holocene vegetation in Chaco Canyon, New Mexico. Science 214(5421): 656-658.

Billingsley, Robin, Assembler

- 1983 Duncan: Fountain of the Gila River. Privately Published.

Blair, Robert

- 1968 Early copper mining in the Ray District near Mineral Creek. Ms. (student paper) at Arizona State Museum Library, University of Arizona, Tucson.

BLM

- 1978 Department of the Interior Final Environmental Statement, Upper Gila-San Simon Grazing Management Program. U.S. Department of the Interior, Bureau of Land Management, Arizona.

- 1980 "Cultural Resources." Portion of ms. for Gila Box EAR. On file at Safford District office, Bureau of Land Management, Safford, Arizona.

Bloom, Lansing B.

- 1945 From Lewisburg to California in 1849: notes in the diary of William H. Chamberlain. New Mexico Historical Review 20:144. [1849 use of the Gila Trail]

- Bolton, Herbert Eugene
 1960 Rim of Christendom: A Biography of Eusebio Francisco Kino, Pacific Coast Pioneer. Russell and Russell, New York.
- Bradfield, Wesley, L. B. Bloom, and K. M. Chapman
 1928 A preliminary survey on the archaeology of Southwestern New Mexico. El Palacio 24(6):99-112.
- Brook, Vernon R.
 1977 A courtyard and two rooms at Red Rock, New Mexico. Transactions of the 12th Regional Archaeological Symposium for Southeastern New Mexico and Western Texas.
- Brown, David E., and Charles H. Lowe
 1980 Biotic Communities of the Southwest (Map). Technical Report RM-78. Rocky Mountain Forest and Range Experimental Station, U.S. National Forest Service, Fort Collins, Colorado.
- Brown, Jeffrey Lawrence
 1973 The Origin and Nature of Salado: Evidence from the Safford Valley, Arizona. Doctoral dissertation, University of Arizona, Tucson.
 1974 Pueblo Viejo Salado sites and their relationship to Western Pueblo culture. The Artifact 12(2):1-53.
- Brunett, Fel V.
 1972 Preliminary report of 1972 excavations at the Black's Bluff site, MC 144, Gila National Forest, near Cliff, New Mexico. Ms. at Gila National Forest.
- Burkham, D. C.
 1972 Channel Changes of the Gila River in Safford Valley, Arizona, 1846-1970. USGS Professional Paper 655-G, U.S. Government Printing Office, Washington, D.C.
- Burns, Peter E.
 1972 The Heron Ruin, Grant County, New Mexico. Southwestern New Mexico Research Reports 7. Department of Anthropology, Case Western Reserve University, Cleveland. [Classic Mimbres site of ca. 40 rooms at Riverside, N.M.]
- Bussey, Stanley D.
 1972 Late Mogollon Manifestations in the Mimbres Branch, Southwestern New Mexico. Doctoral dissertation, University of Oregon.
 1975 The Archaeology of Lee Village: A Preliminary Report. Center of Anthropological Study Monograph 2. Las Cruces, N.M.
- Bussey, Stanley D., and Patrick H. Beckett
 1975 An Archaeological Survey of a Proposed 345 KV Power Transmission Line Corridor from Deming, New Mexico to Greenlee County, Arizona. Cultural Resource Management Division, Report 12. Department of Sociology and Anthropology, New Mexico State University, Las Cruces.

- Bussey, Stanley D., and D. Beth Bussey
 1977 Excavation of a small prehistoric site in Whitewater Canyon near Glenwood, Catron County, New Mexico. New Mexico State University Report 157. Las Cruces.
- Buttigieg-Berman, Mary Jane
 1977 An Archaeological Survey of a Proposed Powerline Right-of-Way in Graham County, Arizona. Cultural Resource Management Division Report 171. Department of Sociology and Anthropology, New Mexico State University, Las Cruces.
- Calvin, Ross
 1946 River of the Sun: Stories of the Storied Gila. University of New Mexico Press, Albuquerque. [Popular account.]
- Carlson, A. V.
 1969 New Mexico's sheep industry, 1850-1900: its role in the history of the territory. New Mexico Historical Review 44(1):25-49.
- Chapman, Richard C., Cye William Gossett, William J. Gossett, and Peter L. Eidenvach
 1983 Upper Gila Water Supply Study, Class II Archaeological Survey Research Design. Deuel Associates, Albuquerque.
- Christianson, P. W.
 1974 The Story of Mining in New Mexico. New Mexico Bureau of Mines and Mineral Resources, Socorro.
- Cleland, Robert Glass
 1952 A History of Phelps Dodge, 1834-1950. Alfred A. Knopf, New York. [Includes historical information on Clifton, Az.]
- Colquhoun, James
 n.d. The Early History of the Clifton-Morenci District. William Clowes and Sons.
- Comeaux, Malcom
 1981 Arizona: A Geography. Westview Press, Boulder.
- Corle, Edwin
 1951 The Gila: River of the Southwest. Rinehart and Company, New York. [Popular account]
- Danson, Edward B.
 1950 Preliminary report of the Peabody Museum Upper Gila Expedition, reconnaissance division. El Palacio 57(12):383-390.
- 1957 An Archaeological Survey of West Central New Mexico and East Central Arizona. Papers of the Peabody Museum of American Archaeology and Ethnology 44(1). Harvard University, Cambridge, Mass.
- Debowski, Sharon S., and Gordon Fritz
 1974 The Archaeological Resources of the Middle Gila Planning Unit of the Bureau of Land Management. Arizona State Museum Archaeological Series 46. University of Arizona, Tucson.

- Debowski, Sharon S., Anique George, Richard Goddard, and Deborah Mullon
 1976 An Archaeological Survey of the Buttes Reservoir, Volume 1.
Arizona State Museum Archaeological Series 93. University of Arizona,
 Tucson.
- DiPeso, Charles C.
 1979 Prehistory: O'otam. In Handbook of North American Indians, Volume
9: Southwest, ed. by W. C. Sturtevant and Alonso Ortiz, pp. 91-99.
 Smithsonian Institution, Washington, D.C.
- Dobyns, Henry F.
 1978 Who killed the Gila? Journal of Arizona History 19(1):17-30.
 [Human effects on the Gila River]
- Doyel, David E.
 1972 Cultural and Ecological Aspects of Salado Prehistory. Master's
 Thesis, California State University, Chico.
 1974 Excavations in the Escalante Ruin Group, Southern Arizona. Arizona
State Museum Archaeological Series, No. 37. University of Arizona,
 Tucson.
- Dunning, Charles H.
 1959 Rock to Riches. With Edward H. Peplow, Jr. Southwest Publishing
 Company, Phoenix. [Popular but useful account of the history of
 mining in Arizona.]
- Eastern Arizona College
 1981 The Daley Site: An Archaeological Salvage Report. Publication No. 1.
 Museum of Anthropology, Eastern Arizona College, Thatcher.
- Emory, Lieut. Col. William H.
 1848 Notes of a Military Reconnaissance from Fort Leavenworth in Missouri
 to San Diego in California. U.S. Congress, Senate Executive Document
 41. 30th Congress, 1st Session. Washington, D.C.
- Euler, Robert C., George J. Gumerman, Thor N. V. Karlstrom, Jeffrey S. Dean,
 and Richard H. Hevley
 1979 The Colorado Plateau: cultural dynamics and paleo-environment.
Science 205: 1089-1091.
- Faulk, Odie B.
 1973 Destiny Road: The Gila Trail and the Opening of the Southwest.
 Oxford University Press, New York.
- Fewkes, Jesse W.
 1904 Two Summers' Work in Pueblo Ruins. Twenty-Second Annual Report of
the Bureau of American Ethnology, Part 1, pp. 3-196. Washington, D.C.
- Fierman, Floyd S.
 1960 Some early Jewish settlers on the Southwestern Frontier. Texas
 Western Press, El Paso.

Fitting, James E.

- 1970 Preliminary notes on some southwestern New Mexico lithic industries. The Kiva 36(1):15-21.
- 1971 Chipped Stone from the 1967 Mimbres Area Survey, Part I. Southwestern New Mexico Research Reports 8. Case Western Reserve University, Cleveland. [Included chipped stone studies for the upper Gila River area of N.M.]
- 1972 Preliminary report on Cliff Valley settlement patterns. The Artifact 10(4):15-30.
- 1973 An early Mogollon community: a preliminary report on the Winn Canyon Site. The Artifact 11(1,2):1-94. [Cliff area Early Pithouse period village]
- 1973 Excavation and analysis of Gila River Mimbres sites. American Philosophical Society Yearbook, 1972: 595-596.
- 1974 The preceramic Eaton Site. The American Philosophical Society Yearbook, 1973. American Philosophical Society, Philadelphia.
- 1977 Mitigation of Adverse Effects to Archaeological Resources on the Foote Wash Conservation and Development Project. Commonwealth Associates, Inc., Jackson, Michigan.
- 1978 Archaeological interpretations based on ethnobotanical inferences in the upper Gila region. In The Nature and Status of Ethnobotany, ed. by Richard I. Ford, pp. 367-388. University of Michigan Museum of Anthropology, Anthropological Papers 67. Ann Arbor.

Fitting, James E., Claudia B. Hemphill, and Donald R. Abbe

- 1982 The Upper Gila Water Supply Study: A Class I Cultural Resources Study. Hemphill Associates, Springfield, Oregon.

Fitting, James E., and T. D. Price

- 1968 Two late Paleo-Indian sites in southwestern New Mexico. The Kiva 34(1):1-8.

Fitting, James E., James L. Ross, and B. Thomas Gray

- 1971 Preliminary Report on the 1971 Intersession Excavations at the Saige-McFarland Site (MC 146). Southwestern New Mexico Research Reports 4. Department of Anthropology, Case Western Reserve University, Cleveland.

Fitzsimmons, J. P.

- 1959 The structure and geomorphology of west-central New Mexico. Guidebook of West-Central New Mexico Geology, pp. 112-116. New Mexico Geological Society.

Flint, Timothy, Ed.

- 1930 The Personal Narrative of James O. Pattie of Kentucky. R. R. Donnelly and Sons, Chicago.

Francis, Julie E.

- n.d. Hohokam settlement patterns along the Gila River: a comparison of the Gila River Indian Reservation and the Buttes Reservoir District. Ms. (portion of a draft report on the Central Arizona Water Control Study; submitted to the Bureau of Reclamation by the Office of Cultural Resource Management, Department of Anthropology, Arizona State University, Tempe).

Frazer, Robert W.

- 1965 Forts of the West: Military Forts and Presidios and Posts Commonly Called Forts West of the Mississippi River to 1898. University of Oklahoma Press, Norman.

Gelderman, Frederick W.

- 1970 Soil survey of the Safford area, Arizona. U.S. Department of Agriculture, Soil Conservation Service.

Gifford, James L.

- 1980 Archaeological Explorations in Caves of the Point of Pines Region, Arizona. Anthropological Papers of the University of Arizona 36. Tucson.

Gillarman, Elliot.

- 1964 Mineral Deposits of Western Grant County, New Mexico. New Mexico Institute of Mining and Technology, Bulletin 83.

Gilman, Patricia L., and Peter Sherman

- 1975 An archaeological survey of the Graham-Curtis Project: Phase II. Arizona State Museum Archaeological Series 65. University of Arizona, Tucson.

Gladwin, Winifred, and Harold S. Gladwin

- 1936 The Eastern Range of the Red-on-Buff Culture. Medallion Papers 16. Gila Pueblo Foundation, Globe, Arizona.

Gomolak, Andrew R.

- 1977 An Archaeological Clearance Survey of Proposed New Line Changes and Access Road Locations for the Greenlee-Hidalgo 345 KV Powerline. Cultural Resources Management Division Report 99. Department of Sociology and Anthropology, New Mexico State University, Las Cruces.

Goodwin, Grenville

- 1937 The characteristics and function of clan in a southern Athapascan culture. American Anthropologist 39:394-407.
- 1942 The Social Organization of the Western Apache. University of Chicago Press, Chicago.
- 1971 Western Apache Raiding and Warfare. Edited, with an introduction, by Keith H. Basso. University of Arizona Press, Tucson.

Grady, Mark

- 1974 An Archaeological Survey of the Buttes Reservoir: Phase I, Preliminary Report. With Contributions by Veletta Canouts and David

- Phillips. Arizona State Museum Archaeological Series 50. University of Arizona, Tucson.
- Granger, Byrd H.
1960 Will C. Barnes' Arizona Place Names. University of Arizona Press, Tucson.
- Graybill, Donald A.
1973 Prehistoric Settlement Patterns in the Mimbres Region, New Mexico. Doctoral dissertation, University of Arizona, Tucson. University Microfilms, Ann Arbor.
1975 Mimbres-Mogollon adaptations in the Gila National Forest, Mimbres District, New Mexico. U.S.D.A. Forest Service, Southwestern Region, Archaeological Reports 9.
- Greever, W. S.
1957 Railway development in the Southwest. New Mexico Historical Review 32(2):151-203.
- Gregory, David A.
1981 Western Apache archaeology. In: The Protohistoric Period in the American Southwest, A.D. 1450-1700, ed. by D. R. Wilcox and W. B. Masse, pp. 257-274. Arizona State University Anthropological Research Papers 24:257-274. Tempe.
- Gross, Frederick, and William Dick-Peddie
1979 A map of primeval vegetation in New Mexico. The Southwestern Naturalist 24(1):115-122.
- Grove, P. S., B. J. Barnett, and S. J. Hansen, eds.
1975 New Mexico Newspapers: A Comprehensive Guide to Bibliographic Entries and Locations. University of New Mexico Press, Albuquerque.
- Gunnerson, James H.
1979 Southern Athapaskan archaeology. In Handbook of North American Indians, Vol. 9: Southwest, ed. by Alfonso Ortiz, pp. 162-169. Smithsonian Institution, Washington, D.C.
- Hammack, Laurens C., Stanley D. Bussey, Ronald Ice, and Alfred E. Dittert, Jr.
1966 The Cliff highway salvage project: a preliminary report describing the archaeological investigations at three sites located within the right-of-way of S1165(18). Laboratory of Anthropology Note 40. Museum of New Mexico, Santa Fe.
- Harbour, Jerry
1966 Stratigraphy and Sedimentology of the Upper Safford Basin Sediments. Doctoral dissertation, University of Arizona, Tucson. University Microfilms, Ann Arbor.
- Haury, Emil W.
1936 The Mogollon culture of southwestern New Mexico. Medallion Papers 20. Gila Pueblo, Globe, Az.

- 1945 The Excavations of Los Muertos and Neighboring Ruins in the Salt River Valley, Southern Arizona. Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, 24(1). Cambridge, Mass.
- 1950 The Stratigraphy and Archaeology of Ventana Cave. University of Arizona Press, Tucson.
- 1958 Evidence at Point of Pines for a prehistoric migration from Northern Arizona. In: Migrations in New World Culture History, ed. by Raymond H. Thompson, pp. 1-16. University of Arizona Bulletin 29(2); Social Science Bulletin 27. Tucson.
- 1976 The Hohokam: Desert Farmers and Craftsmen, Excavations at Snaketown, 1964-1965. University of Arizona Press, Tucson.
- Haury, Emil W., Ernst Antevs, and J. F. Lance
 1953 Artifacts with mammoth remains, Naco, Arizona. American Antiquity 19(1):1-24.
- Haury, Emil W., E. B. Sayles, and W. W. Wasley
 1959 The Lehner mammoth site, southeastern Arizona. American Antiquity 25(1):2-42.
- Haynes, C. Vance, Jr.
 1968 Geochronology and late Quaternary alluvium. In Means of Correlation of Quaternary Successions, ed. by R. B. Morrison and M. E. Wright, pp. 591-631. University of Utah Press, Salt Lake City.
- Hopkins, Ernest J.
 1950 Financing the Frontier: A Fifty Year History of the Valley National Bank. The Arizona Printers, Phoenix. [Traces early history of banking in the upper Gila region]
- Hough, Walter
 1907 Antiquities of the Upper Gila and Salt River Valleys in Arizona and New Mexico. Bureau of American Ethnology Bulletin 35. Washington, D.C.
- 1914 Culture of the Ancient Pueblos of the Upper Gila and Salt Region, New Mexico and Arizona. United States National Museum Bulletin 89. Washington, D.C.
- Huckell, Bruce B.
 1980 The ANAMAX-Rosemont Testing Project. Report submitted by the Cultural Resource Management Division, Arizona State Museum, University of Arizona, to U.S.D.A. Forest Service and ANAMAX Mining Co., Tucson. [Includes criteria for recognizing Archaic sites when points are absent, pp. 194-198.]
- 1982 The Distribution of Fluted Points in Arizona: A Review and Update. Arizona State Museum Archaeological Series, No. 145. University of Arizona, Tucson.

Irwin-Williams, Cynthia

- 1979 Post-Pleistocene Archeology, 7000-2000 B.C. In Handbook of North American Indians, Vol. 8: Southwest, ed. by Alfonso Ortiz, pp. 31-42. Smithsonian Institution, Washington, D.C.

Janes, Joseph B.

- 1975 An archaeological survey of the proposed Daniel L. McKnight Land Exchange, Gila National Forest, New Mexico. Survey Report, U.S.D.A., Gila National Forest, Silver City.
- 1976 An archaeological evaluation of site AR-03-06-04-22 (McKnight Land Exchange), Gila National Forest. Ms., testing report, U.S.D.A., Gila National Forest, Silver City.

Jenkins, Myra Ellen, and Albert H. Schroeder

- 1974 A Brief History of New Mexico. University of New Mexico Press, Albuquerque.

Johnson, Alfred E.

- 1965 The Development of the Western Pueblo Culture. Doctoral dissertation, University of Arizona, Tucson. University Microfilms, Ann Arbor.

Johnson, Alfred E., and William W. Wasley

- 1966 Archaeological excavations near Bylas, Arizona. The Kiva 31(4): 205-253.

Keleher, William A.

- 1973 Historic Settlement of Southern New Mexico. In Technical Manual: 1973 Survey of the Tularosa Basin, pp. 182-186. Human Systems Research, Inc.

Kessel, John H.

- 1971 Campaigning on the upper Gila, 1756. New Mexico Historical Review 46(2):133-160. [Spanish campaigns against the Apache in 1747, 1756, and 1757]

King, James E., and Thomas R. Van Devender

- 1976 Pollen analysis of fossil packrat middens from the Sonoran desert. Quaternary Research 8:191-204.

King, Thomas, Jr.

- 1976 Archaeological Implications of the Paleobotanical Record from Lucerne Valley Area of the Mohave Desert. San Bernadino County Museum Association Quarterly 23(4).

Kinkade, Gay M.

- 1975 An archaeological survey of the Gila Box geothermal lease project: Phase I. Report prepared for the Bureau of Land Management, Safford District, by the Arizona State Museum, Tucson.
- 1975 Foote Wash--No Name Wash Project. Arizona State Museum Archaeological Series 67. University of Arizona, Tucson.
- 1976 Cultural Resource Management Program: BLM Safford District. Arizona State Museum Archaeological Series 100. University of Arizona, Tucson.

- Klinger, Timothy C., and Stephen Lekson
 1973 A bead cache from Saige-McFarland: A Mimbres site in southwestern New Mexico. The Artifact 11(4):66-68.
- Knechter, M. N.
 1938 Geology and Ground Water Resources of the Valley of Gila River and San Simon Creek, Graham County, Arizona. U.S.G.S. Water Supply Paper 796:181-222.
- Laboratory of Anthropology
 n.d. University of Michigan and Case Western Reserve Univ. Gila River Survey Data. Ms. at Laboratory of Anthropology, Museum of New Mexico, Santa Fe.
- Lapham, M. H., and N. P. Neill
 1904 Soil Survey of the Solomonsville Area, Arizona. U.S.D.A., Field Operations, Bureau of Soils.
- LeBlanc, Steven A.
 1979 The dating of Casas Grandes. American Antiquity 45(4):799-806. [Includes a discussion of southwestern New Mexico chronology.]
- LeBlanc, Steven A., and Ben A. Nelson
 1976 The question of Salado in southwestern New Mexico. The Kiva 42(1):71-79.
- LeBlanc, Steven A., and Michael E. Whalen
 1980 An Archaeological Synthesis of South-central and Southwestern New Mexico. With contributions by Roger Anyon, Patricia A. Gilman, Paul E. Minnis, and Margaret C. Nelson. Report prepared for the Forest Service and Bureau of Land Management by the Office of Contract Archaeology, University of New Mexico, Albuquerque.
- Lee, Betty Graham, Ed.
 1981 Cornerstones of the 1908 L.D.S. Academy: A Researcher's Guide. Museum of Anthropology, Eastern Arizona College, Thatcher.
- Lekson, Stephen H.
 1978 Settlement Patterns in the Redrock Valley, Southwestern New Mexico. Master's thesis, Eastern New Mexico University, Portales.
- Lekson, Stephen, and Timothy Klinger
 1973 A Mimbres Stone Effigy Vessel. The Artifact 11(4):5-7. [An effigy grinding stone from the Saige-McFarland Site.]
- 1973 Villareal II: Preliminary notes on an Animas Phase site in Southwestern New Mexico. Awanyu 1(2):33-38.
- Lightfoot, Kent G., and Gary M. Feinman
 1982 Social differentiation and leadership development in early pithouses in the Mogollon Region of the American Southwest. American Antiquity 47(1):64-86.

Lindgren, W.

1905a The copper deposits of the Clifton-Morenci District, Arizona. USGS Professional Paper 43.

1905b Description of the Clifton Quadrangle. USGS Geological Atlas Folio 129.

Lindsay, Alexander J., Jr.

1983 Anasazi population movements to southeastern Arizona. Paper read at the Annual Meeting, Society for American Archaeology.

Lindsay, Alexander J., Jr., and Calvin H. Jennings

1968 Salado Red Ware Conference: Ninth Southwestern Ceramic Seminar, October 13-14, 1967. Museum of Northern Arizona Ceramic Series 4. Flagstaff.

Martin, Paul Schultz

1963 The Last 10,000 Years: A Fossil Pollen Record of the American Southwest. University of Arizona Press, Tucson.

Martin, Paul Sidney

1979 Prehistory: Mogollon. In: Handbook of North American Indians, Vol. 9: Southwest, ed. by Alfonso Ortiz, pp. 61-74. Smithsonian Institution, Washington, D.C.

Mehring, Peter J., Jr.

1962 Pollen analysis and the alluvial chronology. The Kiva 32(3):96-101.

Meinig, D. W.

1971 Southwest: Three Peoples in Geographical Change, 1600-1970. Oxford University Press, New York.

Mills, Jack P., and Vera M. Mills

1969 The Kuykendall Site: A Prehistoric Salado Village of Southeastern Arizona. Special Report Number Six for 1967. El Paso.

1970 A carved stone head and other material from a storage room at the Dinwiddie Site. The Artifact 8(2):11-13.

1972 The Dinwiddie Site: A Prehistoric Salado Ruin on Duck Creek, Western New Mexico. The Artifact 10(2):i-iv, 1-50.

1977 The Red Rock Site: A Mimbres Village on the Gila River, Grant County, Western New Mexico. Transactions of the 12th Regional Archaeological Symposium for Southeastern New Mexico and Western Texas.

1978 The Curtis Site: A Prehistoric Village in the Safford Valley. Privately published by the authors.

Minnis, Paul

1978 Paleoethnobotanical indications of environmental disturbance: a case study. In The Nature and Status of Ethnobotany, ed. by R. I. Ford. Anthropological Papers, Museum of Anthropology, University of Michigan, 67. Ann Arbor.

- 1980 The Archaic in southern New Mexico. With a contribution by Margaret C. Nelson. In: An Archaeological Synthesis of South-central and Southwestern New Mexico, by Steven A. Leblanc and Michael E. Whalen, pp. 63-102. Office of Contract Archaeology, University of New Mexico, Albuquerque.
- Moolick, R. T., and T. T. Durek
 1966 The Morenci District. In Geology of the Porphyry Copper Deposits, Southwestern North America, ed. by S. R. Titley and C. L. Hicks, pp. 221-232. University of Arizona Press, Tucson.
- Morris, James K.
 1981 Outpost of the Cooperative Commonwealth: the history of the Llano del Rio Colony in Gila, New Mexico, 1932-1935. New Mexico Historical Review 56(2):177-195.
- Myers, Lee
 1968 Military establishments in southwestern New Mexico: stepping stones to settlement. New Mexico Historical Review 43(1):5-48.
- Myrick, David F.
 1966 The strange story of the El Paso and Southwestern Trains. Trains, Feb. 1966, pp. 44-49.
- 1968 Pioneer Arizona Railroads. Colorado Railroad Museum, Golden.
- 1970 New Mexico's Railroads: A Historical Survey. Colorado Railroad Museum, Golden.
- 1975 Railroads of Arizona, Vol. I: The Southern Roads. Howell-North Books, Berkeley.
- 1980 Railroads of Arizona, Vol. II: The Central Roads. Howell-North Books, San Diego.
- Neitzel, Jill E.
 1983 Archaeological Investigations at the Proposed Buttes Reservoir: A Descriptive Report. Draft report submitted to the Bureau of Reclamation by the Office of Cultural Resource Management, Department of Anthropology, Arizona State University, Tempe.
- Nelson, Margaret C.
 1980 Paleo-Indian. In: An Archaeological Synthesis of South-central and Southwestern New Mexico, by Steven A. Leblanc and Michael E. Whalen, pp. 38-62. Office of Contract Archaeology, University of New Mexico, Albuquerque.
- O'Neill, A. P.
 1973 A Resume of Clifton's Heritage: 1873-1973. Clifton Centennial Special Newspaper Publications, Oct. 26, 27, and 28, 1973.
- Oliphant, J. Orin, Editor
 1955 On the Arkansas Route to California in 1849: Journal of Robert B. Green. Bukness University Press, Lewisburg, Pa. [1849 use of the Gila Trail]

Olmstead, F. H.

- 1919 Gila River Flood Control: A Report on Flood Control of the Gila River in Graham County, Arizona. U.S. Congress, Senate Document 436, 65th Congress, 3rd Session.

Opler, Morris E.

- 1983a The Apachean culture pattern and its origins. In Handbook of North American Indians, Vol. 10: Southwest, ed. by Alfonso Ortiz, pp. 368-392. Smithsonian Institution, Washington, D.C.

- 1983b Chiricahua Apache. In Handbook of North American Indians, Vol. 10: Southwest, ed. by Alfonso Ortiz, pp. 401-418. Smithsonian Institution, Washington, D.C.

Park, Joseph F.

- 1977 The 1903 "Mexican Affair" at Clifton. Journal of Arizona History 18(2):119-148. [1903 strike]

Parrish, William J.

- 1960 The German Jew and the commercial revolution in territorial New Mexico. New Mexico Historical Review 35(1):1-29; 35(2):129-150.

Patton, James Monroe

- 1945 The History of Clifton. Master's thesis, University of Arizona, Tucson.

- 1977 History of Clifton. Greenlee County Chamber of Commerce, Clifton, Arizona. [New version of the M.A. thesis]

Pearce, T. M., Editor

- 1965 New Mexico Place Names: A Geographical Dictionary. University of New Mexico Press, Albuquerque.

Pierce, H. Wesley

- 1967 Geologic Guidebook 2-Highways of Arizona, Arizona Highways 77 and 177. Arizona Bureau of Mines, Bulletin 176. University of Arizona, Tucson.

Poulson, E. N., and L. H. Stromberg

- 1950 Soil Survey of the Duncan Area, Arizona-New Mexico. Series 1941 1. U.S. Department of Agriculture.

Poulson, E. N., and F. O. Youngs

- 1938 Soil Survey of the Upper Gila Valley Area, Arizona. USDA Bureau of Chemistry and Soils Series 1933(15).

Professional Analysts

- 1982 Southeast Arizona Class I Inventory Unit. Draft cultural resource overview submitted to the Bureau of Land Management by Professional Analysts, Eugene, Oregon.

Reed, Erik K.

- 1948 The Western Pueblo archaeological complex. El Palacio 55(1):9-15.

- 1950 East-central Arizona archaeology in relation to the Western Pueblos. Southwestern Journal of Anthropology 6(2):120-138.
- n.d. A Review of Upper Gila Prehistory. Ms. on file at Western Archeological and Conservation Center, National Park Service, Tucson.
- n.d. Archaeological Report on the Upper Gila Investigation Area. Ms. on file at Western Archeological and Conservation Center, National Park Service, Tucson.
- Robinson, R. F., and A. Cook
- 1966 The Safford copper deposit, Lone Star Mining District, Graham County, Arizona. In Geology of the Porphyry Copper Deposits, Southwestern North America, ed. by S. R. Titley and C. L. Hicks, pp. 251-266. University of Arizona Press, Tucson.
- Sauer, Carl, and Donald Brand
- 1930 Pueblo Sites in Southeastern Arizona. University of California Publications in Geography 3(7):415-458.
- Sayles, E. B.
- 1945 The San Simon Branch: Excavations at Cave Creek and in the San Simon Valley, I. Material Culture. Medallion Papers 34. Gila Pueblo, Globe, Az.
- 1983 A Cultural Sequence in Southeastern Arizona. Anthropological Papers of the University of Arizona 42. Tucson.
- Sayles, E. B., and Ernst Antevs
- 1941 The Cochise Culture. Medallion Papers, No. 24. Gila Pueblo, Globe, Az.
- Schroeder, Albert H.
- 1952 Documentary evidence pertaining to the early historic period of Southwestern New Mexico. New Mexico Historical Review 27(2):137-167.
- 1960 The Hohokam, Sinagua, and Hakataya. Archives of Archaeology, No. 5. Society for American Archaeology.
- Schroeder, Albert H., Editor
- 1982 Southwest Ceramics: A Comparative Review. The Arizona Archaeologist 15.
- SCS
- 1973a General Soil Map of Graham County, Arizona. USDA, Soil Conservation Service, Portland.
- 1973b General Soil Map of Greenlee County, Arizona. USDA, Soil Conservation Service, Portland.
- 1974 General Soil Map, New Mexico. USDA, Soil Conservation Service, Albuquerque.

Sellers, William D., and R. H. Hill

- 1974 Arizona Climate, 1931-1972. Second Ed., Rev. University of Arizona Press, Tucson.

Simpson, Kay, Carol Coe, Carole McClellan, and Kathryn Ann Kamp
(assemblers)

- 1978 The AEPCO Project, Volume III: Greenlee to Apache Site Descriptions. Arizona State Museum Archaeological Series 117. University of Arizona, Tucson.

Simpson, Kay, and Deborah A. Westfall

- 1978 The AEPCO Project, Volume I: Greenlee to Dos Condado Survey and Data Recovery of Archaeological Resources. With Contributions by Jeanette Dickerson, E. Jane Rosenthal, Jon Czaplicki, and Gerald K. Kelso. Arizona State Museum Archaeological Series 117. University of Arizona, Tucson.

Skinner, Elizabeth

- 1974 Similarity of lithic industries in the Burro Mountains and the Cliff Valley of southwestern New Mexico. The Artifact 12(3):26-44.

Steen, Charlie R.

- 1940 Excavations in the upper ruin, Tonto National Monument. In Archaeological Studies at Tonto National Monument, ed. by Louis R. Caywood. Southwestern Monuments Association Technical Series 2. Globe, Az.

Stone, Lyle M.

- 1976 Silver King to Hayden Transmission Line Study, Environmental Baseline Report, Cultural Resources--History. Draft report prepared for Wirth Associates, Phoenix, by Archaeological Research Services, Tempe.

- 1979 Archaeological Surveys of Proposed Bank Stabilization and Dike Restoration Projects on the Gila River near Duncan and Safford, Arizona. Report prepared for U.S.D.A., Soil Conservation Service, Phoenix, by Archaeological Research Services, Tempe.

Stone, Lyle M., and James E. Ayres

- 1983 Historic Cultural Resources in Relation to the Central Arizona Water Control Study. Report prepared for the Bureau of Reclamation, Phoenix, by Archaeological Research Services, Tempe.

Stout, Wayne

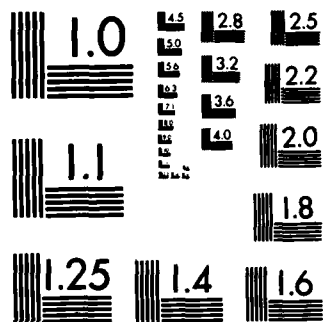
- 1975 A History of Thatcher, Arizona. Privately published, Salt Lake City.

Stuart, David E., Rory P. Cauthier, and Thomas W. Merlan

- 1981 Prehistoric New Mexico: Background for Survey. State of New Mexico, Historic Preservation Bureau, Santa Fe.

Tatman, O. T.

- 1931 Archaeological notes from ruins located three miles east of Solomonville, Arizona, on land owned by Donald Curtis. Ms. on file at Henderson Museum, University of Colorado Boulder. [Tatman's work is summarized in Brown 1973.]



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

- Teague, Lynn
 1974 The Archaeological Resources of the Winkelman and Black Hills Unit of the Bureau of Land Management. Arizona State Museum Archaeological Series 47. University of Arizona, Tucson.
- Tenney, James Brand
 1927 History of mining in Arizona. Ms. on file at Special Collections, University of Arizona Main Library, Tucson.
- Theobald, John, and Lillian Theobald
 1961 Arizona Territory Post Offices and Postmasters. Arizona Historical Foundation, Phoenix.
- Tuan, Yi-Fu, Cyril E. Everard, Jerold G. Widdison, and Iven Bennett
 1973 The Climate of New Mexico (Revised Edition). State Planning Office, Santa Fe.
- Tuck, Frank J.
 1963 Fifty Years of Mining in Arizona, 1912-1962. Second Ed. Arizona Department of Mineral Resources, Tucson.
- Tuohy, Donald R.
 1960 Archaeological survey and excavation in the Gila River channel between Earven Dam Site and Buttes Reservoir Site, Arizona. Report to the National Park Service by the Arizona State Museum. Typescript on file in Arizona State Museum Library Archives, Tucson.
- Turner, Raymond H.
 1974 Quantitative and Historical Evidence of Vegetation Changes Along the Upper Gila River, Arizona. Geological Survey Professional Paper 655-H. Government Printing Office, Washington, D.C.
- Van Devender, Thomas R.
 1977 Holocene woodlands in the Southwestern deserts. Science 198:189-192.
- Vivian, R. Gwinn
 1963 Survey conducted by the Arizona State Museum for the National Park Service. Letter report for Contract No. 14-10-0333-995. On file at Arizona State Museum, Tucson.
- Wagoner, Jay J.
 1975 Early Arizona: Prehistory to Civil War. University of Arizona Press, Tucson.
- Walker, Billy D.
 1979 Copper genesis: the early years of Santa Rita del Cobre. New Mexico Historical Review 54(1):5-20.
- Walker, Henry D., and Don Bufkin
 1979 Historical Atlas of Arizona. University of Oklahoma Press, Norman.
- Wallace, W. S.
 1957 Stagecoaching in territorial New Mexico. New Mexico Historical Review 32(2):204-210.

- Wasley, William W.
 1958 Archaeological sites recorded between Earven Dam site and Buttes Reservoir on the Gila River, Arizona. Typescript, Arizona State Museum, Tucson. [Bound with the copy of Tuohy (1959) cited above.]
- 1962 A ceremonial cave on Bonita Creek, Arizona. American Antiquity 27(3): 380-394.
- Wasley, William W., and Blake Benham
 1968 Salvage excavations at the Buttes Dam site, southern Arizona. The Kiva 33(4):244-279.
- Wasley, William W., and R. Gwinn Vivian
 1965 Report of surveys carried out by the Arizona State Museum for the National Park Service under Contract 14-10-0333-995. Ms. at Arizona State Museum, University of Arizona, Tucson.
- Weber, David J.
 1971 The Taos trappers: the fur trade in the Far Southwest, 1540-1846.
- Westfall, Deborah A., Kenneth Rozen, and Howard M. Davidson
 1979 The AEPCO Project, Volume II: Dos Condado to Apache Survey and Data Recovery of Archaeological Resources. With Contributions by Jon S. Czaplicki and Gerald K. Kelso. Arizona State Museum Archaeological Series 117. University of Arizona, Tucson.
- Whalen, Norman M.
 1971 Cochise Culture Sites in the San Pedro Drainage. Doctoral Dissertation, Department of Anthropology, University of Arizona, Tucson.
- Wheat, Joe Ben
 1955 Mogollon Culture Prior to A.D. 1000. Memoirs of the Society for American Archaeology 10. Menasha.
- Wilcox, David R., and Charles Sternberg
 1983 Hohokam Ballcourts and their Interpretation. Arizona State Museum Archaeological Series 160. University of Arizona, Tucson. [Discusses all Hohokam ballcourts, including those along the upper Gila River]
- Williams, Jerry L., and Paul E. McAllister
 1979 New Mexico in Maps. Technology Application Center, University of New Mexico, Albuquerque.
- Williams, O. A.
 1937 Settlement and Growth of the Gila Valley as a Mormon Colony, 1879-1900. Master's thesis, University of Arizona, Tucson.
- Wilson, Eldred D.
 1965 Guidebook 1-Highways of Arizona, U.S. Highway 666. Arizona Bureau of Mines, Bulletin 174. University of Arizona, Tucson.
- Woosley, A.
 1980 Agricultural diversity in the prehistoric Southwest. The Kiva 45(4): 317-335.

Wothke, C. A., and W. H. Yarbough

1953 Economic Study of Gila County. Arizona State College, Tempe.

York, J. C., and W. A. Dick-Peddie

1969 Vegetation changes in southern New Mexico during the last hundred years. In Arid Lands in Perspective, ed. by W. A. McGinnies and B. J. Goldman, pp. 157-166. University of Arizona Press, Tucson.

Young, Jon N.

1967 The Salado Culture in Southeastern Arizona. Doctoral Dissertation, University of Arizona, Tucson. University Microfilms, Ann Arbor.

APPENDIX 1
SITE SUMMARIES

Winkelman-Kelvin Section, Arizona

SITE NO: AZ V:13:4 (ASM)

DESCRIPTION: Site Type/Function: small pueblo structure. Size: 20 x 20 m. Topographic Setting: On rocky remnant in dissected piedmont area, near Gila floodplain. Biotic Setting: prickly pear, cholla, paloverde. Affiliation/Age: Civano phase Hohokam (?). Condition: poor, partly potted (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Touhy 1960.

SITE NO: AZ V:13:15 (ASM)

DESCRIPTION: Site Type/Function: small pueblo structure. Size: structure is 6 x 4 m. Topographic Setting: On rocky remnant in dissected pediment area. Biotic Setting: mesquite, prickly pear, cholla. Affiliation/Age: Civano phase Hohokam (?). Condition: partly destroyed (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ V:13:6 (ASM)

DESCRIPTION: Site Type/Function: sherd scatter. Size: 100 x 20 m. Depth: superficial. Topographic Setting: High flat above Gila flood plain. Affiliation/Age: Sacaton phase Hohokam.

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. References: Tuohy 1960, Debowski and others 1976.

REMARKS: manos, fractured rock also noted.

SITE NO: AZ V:13:7 (ASM)

OTHER DESIGNATIONS: AZ V:13:37 (ASM); BR II-16; Site No. 14 (Stone 1976); K-6 (Stone and Ayres 1983)

DESCRIPTION: Site Type/Function: small pueblo(s)/historic trash, borrow pit, and railroad line. Topographic Setting: on first terrace above Gila River. Affiliation/Age: Civano phase Hohokam/Historic Anglo. Condition: poor; much historic disturbance (1976).

DOCUMENTATION: Recorded by: Tuohy (1959); Kearns, Costan, Nickerson, Greenfelt (1975); Rieger (1975). Location of Records: ASM. References: Debowski and others 1976; Stone 1976; Stone and Ayres 1983.

SITE NO: AZ V:13:8 (ASM)

DESCRIPTION: Site Type/Function: small pueblo. Size: 150 x 50 m. Topographic setting: alluvial fan near Gila River. Biotic setting: greasewood. Affiliation/Age: Civano phase and earlier Hohokam. Condition: east edge being eroded by Gila River; otherwise good (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

REMARKS: Oval depression at site may be a small reservoir.

SITE NO: AZ V:13:16 (ASM)

OTHER DESIGNATIONS: BR-64; AZ V:13:7 (ASU)

DESCRIPTION: Site Type/Function: buried remains (sherd and lithic deposit; historic trash). Topographic setting: exposed stratum in arroyo bank. Biotic Setting: mesquite, saltcedar, burroweed, grasses, saguaro, prickly pear. Affiliation/Age: prehistoric, historic. Condition: buried, exposed portion eroding, considerable human disturbance (1973).

DOCUMENTATION: Recorded by: Neily, Antieu (1973). Collected by: Neitzel (1980). Location of Records: ASM, ASU. Location of Collections: ASU. References: Grady 1974; Debowski and others 1976; Neitzel 1983.

SITE NO: AZ V:13:17 (ASM)

OTHER DESIGNATIONS: BR-65

DESCRIPTION: Site Type/Function: sherd and lithic area. Topographic setting: on high bench (artificial?) above Gila River. Biotic Setting: sparse cover, burroweed and mesquite. Affiliation/Age: prehistoric. Status: graded?--within town of Riverside, Az. Anglo trash present (1973).

DOCUMENTATION: Recorded by: Antieu, Neily (1973). Location of Records: ASM. References: Grady 1974, Debowski and others 1976.

SITE NO: AZ V:13:24 (ASM)

OTHER DESIGNATIONS: BR II-1; K-14 (Stone and Ayres 1983); AZ V:13:10 (ASU)

DESCRIPTION: Site Type/Function: agricultural, sherd and lithic scatter; historic trash concentration. Size: 154 x 106 m. Topographic Setting: On saddle and spurs of a knoll overlooking the Gila River. Biotic Setting: bursage, palo verde, cholla, saguaro, barrel cactus, etc. Affiliation/Age: Hohokam/Anglo. Condition: road through site, recent campsite, otherwise good (1975).

DOCUMENTATION: Recorded by: Kearns, Witter, Kinkade (1975); Rieger (1975). Collected by: Neitzel (1980). Location of Records: ASM, Arizona State

University. Location of Collections: ASU. References: Debowski and others 1976; Neitzel 1983.

SITE NO: AZ V:13:25 (ASM)

OTHER DESIGNATIONS: BR II-2; AZ V:13:11 (ASU)

DESCRIPTION: Site Type/Function: rock shelter. Size: 12 x 2.5 m. Topographic Setting: in base of hillside in piedmont area. Biotic Setting: palo verde, saguaro, ocotillo, mesquite, tamarisk, etc. Condition: poor; roof-fall, recent use (1975).

DOCUMENTATION: Recorded by: Kearns (1975); Rieger (1975). Collected by: Neitzel (1980). Location of Records: ASM, ASU. Location of Collections: ASU. References: Debowski and others 1976; Neitzel 1983.

SITE NO: AZ V:13:26 (ASM)

OTHER DESIGNATIONS: BR II-3

DESCRIPTION: Site Type/Function: hunting blind. Size: 30 x 10 m. Topographic Setting: top of a knoll in a piedmont area. Biotic Setting: creosote bush, palo verde, bursage, saguaro, grasses, etc. Affiliation/Age: prehistoric. Condition: good, undisturbed (1975).

DOCUMENTATION: Recorded by: Powers, Witter, Kincaid, Beach (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:27 (ASM)

OTHER DESIGNATIONS: BR II-4

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Size: 350 x 350 m. Topographic Setting: on top and slope of an escarpment near Gila River. Biotic Setting: bursage, palo verde, saguaro, cholla, creosote bush, etc. Affiliation/Age: prehistoric. Condition: good, little disturbance (1975).

DOCUMENTATION: Recorded by: Costan, Greenfelt, Nickerson (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

REMARKS: Multiple loci present.

SITE NO: AZ V:13:28 (ASM)

OTHER DESIGNATIONS: BR II-5

DESCRIPTION: Site Type/Function: lithic workshop. Size: 240 x 80 m. Topographic Setting: on top of a gently sloping pediment ridge covered by rock pavement. Biotic Setting: saguaro, bursage, paloverde, staghorn cholla. Condition: fair, two power lines cross site (1975).

DOCUMENTATION: Recorded by: Powers, Witter, Beach, Kincaid (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:29 (ASM)

OTHER DESIGNATIONS: BR II-6

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Size: 70 x 30 m. Topographic Setting: on pediment ridge near Gila River. Biotic Setting: palo verde, saguaro, cholla, brittlebush, jojoba, etc. (?). Affiliation/Age: prehistoric. Condition: good (1975).

DOCUMENTATION: Recorded by: Kearns, Myers (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:30 (ASM)

OTHER DESIGNATIONS: BR II-7

DESCRIPTION: Site Type/Function: agricultural, lithic scatter. Size: 200 x 20 m. Topographic Setting: on knoll and in saddle in piedmont area. Biotic Setting: palo verde, cholla, bursage, jojoba, saguaro, etc. Affiliation/Age: Hohokam. Condition: powerline-related bulldozing (1975).

DOCUMENTATION: Recorded by: Powers, Witter, Kincaid, Beach (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:31 (ASM)

OTHER DESIGNATIONS: BR II-8; AZ V:13:19 (ASU)

DESCRIPTION: Site Type/Function: lithic scatter. Size: 140 x 80. Topographic Setting: on spur of an escarpment, near Gila River. Biotic Setting: paloverde, cholla, brittlebush, wild buckwheat, etc. Affiliation/Age: prehistoric. Condition: disturbed by railroad construction and bulldozing (1975).

DOCUMENTATION: Recorded by: Costan, Nickerson, Greenfelt (1975). Collected by: Neitzel (1980). Location of Records: ASM, ASU. Location of Collections: ASU. References: Debowski and others (1976); Neitzel 1983.

SITE NO: AZ V:13:32 (ASM)

OTHER DESIGNATIONS: BR II-9

DESCRIPTION: Site Type/Function: lithic procurement. Size: 40 x 15 m. Topographic Setting: on gently sloping, rock-covered pediment. Biotic Setting: bursage, palo verde, cholla, saguaro, prickly pear, Mormon tea. Affiliation/Age: prehistoric. Condition: excellent (1975).

DOCUMENTATION: Recorded by: Powers, Witter, Kincaid, Beach (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:33 (ASM)

OTHER DESIGNATIONS: Kelvin, Az.; BR II-12; BR II-14; NWR-7; AZ V:13:13 (ASU); Site 1 (Stone 1976); K-5 (Stone and Ayres 1983).

DESCRIPTION: Site Type/Function: prehistoric site; historic mining town (still occupied). Size: 1000 x 1000 m. Topographic Setting: on terrace and pediment above Gila River and Mineral Creek. Biotic Setting: cholla, palo verde, wolfberry, prickly pear, mesquite, saguaro. Affiliation/Age: prehistoric, historic Anglo, recent. Condition: prehistoric component largely destroyed by historic occupation; some vandalism to historic remains (1975).

DOCUMENTATION: Recorded by: Kearns, Myers, Costan, Nickerson (1975); Rieger (1975). Collected by: Neitzel (1980). Location of Records: ASM, ASU. Location of Collections: ASU. References: Debowski and others 1976; Stone 1976; Stone and Ayres 1983; Neitzel 1983.

SITE NO: AZ V:13:34 (ASM)

OTHER DESIGNATIONS: BR II-11; AZ V:13:14 (ASU)

DESCRIPTION: Site Type/Function: lithic scatter/historic mining(?). Size: 180 x 70 m. Topographic Setting: saddle in dissected piedmont/ escarpment area. Biotic Setting: saguaro, bursage, palo verde. Affiliation/Age: prehistoric/historic. Condition: part of prehistoric site disturbed by mining(?) activity.

DOCUMENTATION: Recorded by: Powers, Witter, Kincaid, Beach (1975); Rieger (1975). Collected by: Neitzel (1980). Location of Records: ASM, ASU. Location of Collections: ASU. References: Debowski and others 1976; Neitzel 1983.

SITE NO: AZ V:13:35 (ASM)

OTHER DESIGNATIONS: BR II-13

DESCRIPTION: Site Type/Function: Lithic Scatter. Size: 35 x 10 m. Topographic Setting: knoll slope at the end of a prominent ridge, near Gila River. Biotic Setting: bursage, cholla, palo verde, acacia, saguaro. Cultural Affiliation/Age: prehistoric. Condition: good despite overgrazing (1975).

DOCUMENTATION: Recorded by: Kindaid, Beach (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:38 (ASM)

OTHER DESIGNATIONS: BR II-17; Site No. 16 (Stone 1976); K-8 (Stone and Ayres 1983)

DESCRIPTION: Site Type/Function: agricultural, sherd and lithic scatter, historic ranching. Size: 165 x 80. Topographic Setting: on long, gently sloping, narrow pediment ridge near Gila River. Biotic Setting: cholla, acacia, palo verde, prickly pear. Affiliation/Age: prehistoric, historic Anglo. Condition: good, largely undisturbed (1975).

DOCUMENTATION: Recorded by: Witter, Kinkade, Powers, Beach (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976; Stone 1976; Stone and Ayres 1983.

SITE NO: AZ V:13:39 (ASM)

OTHER DESIGNATIONS: BR II-18

DESCRIPTION: Site Type/Function: Lithic Scatter. Size: 50 x 20 m. Topographic Setting: on gravel terrace overlooking Gila River. Biotic Setting: acacia, cholla, prickly pear, wolfberry. Affiliation/Age: prehistoric. Condition: poor, railroad and other mechanical disturbance (1975).

DOCUMENTATION: Recorded by: Coston, Myers (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

REMARKS: a historic mining pit was placed in the center of the site.

SITE NO: AZ V:13:40 (ASM)

OTHER DESIGNATIONS: BR II-19

DESCRIPTION: Site Type/Function: agricultural, lithic scatter. Size: 100 x 80 m. Topographic Setting: dissected pediment. Biotic Setting: grasses, burrobrush, mesquite, acacia, cholla, etc. Affiliation/Age: prehistoric. Condition: excellent (1975).

DOCUMENTATION: Recorded by: Kinkade, Powers, Beach (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:41 (ASM)

OTHER DESIGNATIONS: BR II-20

DESCRIPTION: Site Type/Function: lithic scatter. Size: 130 x 60 m. Topographic Setting: long, flat-topped spur off an escarpment near the Gila River. Biotic Setting: palo verde, cholla, saguaro, prickly pear, etc. Cultural Affiliation/Age: prehistoric. Condition: good, little disturbance.

DOCUMENTATION: Recorded by: Coston, Myers (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:42 (ASM)

OTHER DESIGNATIONS: BR II-21; Site No. 15 (Stone 1976); K-7 (Stone and Ayres 1983)

DESCRIPTION: Site Type/Function: ranch structures, sherd and lithic scatters. Size: 100 x 50 m. Topographic Setting: Pleistocene terrace above Gila River. Biotic Setting: acacia, grasses. Affiliation/Age: historic Anglo, prehistoric. Condition: historic occupation has led to disturbance of prehistoric remains (1975).

DOCUMENTATION: Recorded by: Witter, Kinkaid, Powers, Becker (1975), Rieger (1975). Reference: Debowski and others 1976; Stone 1976; Stone and Ayres 1983.

SITE NO: AZ V:13:43 (ASM)

OTHER DESIGNATIONS: BR II-22

DESCRIPTION: Site Type/Function: rock shelter, lithic scatter. Size: 40 x 30 m. Topographic Setting: deep arroyo in pediment deposits. Biotic Setting: palo verde, hackberry, cholla, saguaro. Affiliation/Age: prehistoric. Condition: substantial erosion, some historic use (1975).

DOCUMENTATION: Recorded by: Coston, Nickerson (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:44 (ASM)

OTHER DESIGNATIONS: BR II-23

DESCRIPTION: Site Type/Function: agricultural, lithic scatter. Size: 80 x 60 m. Topographic Setting: on low pediment just out of Gila floodplain. Biotic Setting: cholla, acacia, paloverde, wolfberry, etc. Affiliation/Age: prehistoric. Condition: excellent (1975).

DOCUMENTATION: Recorded by: Witter, Kinkade, Powers, Becker (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

REMARKS: Eight rock piles present.

SITE NO: AZ V:13:45 (ASM)

OTHER DESIGNATIONS: BR II-24

DESCRIPTION: Site Type/Function: rock shelter/lithic scatter. Size: 150 x 80 m. Topographic Setting: alluvial escarpment overlooking Gila River. Biotic Setting: saguaro, paloverde, prickly pear, cholla. Affiliation/Age: prehistoric. Condition: sheet erosion present (1975).

DOCUMENTATION: Recorded by: Coston, Nickerson (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:46 (ASM)

OTHER DESIGNATIONS: BR II-25

DESCRIPTION: Site Type/Function: agricultural, sherd and lithic scatter. Size: 340 x 80 m. Topographic Setting: on top of a pediment ridge near Gila River. Biotic Setting: cholla, prickly pear, mesquite, saguaro, bursage, etc. Affiliation/Age: prehistoric. Condition: fair--railroad cuts through part of the site (1975).

DOCUMENTATION: Recorded by: Witter, Beach, Coston, Powers (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:48 (ASM)

OTHER DESIGNATIONS: BR II-27

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Size: 700 x 300 m. Topographic Setting: on top of a pediment ridge north of Gila River. Biotic Setting: creosote, palo verde, bursage, saguaro. Affiliation/Age: prehistoric. Condition: poor--slope wash, powerline through site (1975).

DOCUMENTATION: Recorded by: Kinkade (1975); Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:49 (ASM)

OTHER DESIGNATIONS: BR II-28; AZ V:13:15 (ASU)

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Topographic Setting: escarpment bordered by washes. Biotic Setting: palo verde, bursage, cholla, saguaro. Affiliation/Age: prehistoric. Condition: slope wash; also disturbed by a highway and pits (1975).

DOCUMENTATION: Recorded by: Kearns, Nickerson (1975); Rieger (1975). Collected by: Neitzel (1983). Location of Records: ASM, ASU. Location of Collections: ASU. Reference: Debowski and others 1976; Neitzel 1983.

SITE NO: AZ V:13:50 (ASM)

OTHER DESIGNATIONS: BR II-30; AZ V:13:20 (ASU)

DESCRIPTION: Site Type/Function: lithic scatter. Size: 300 x 250 m. Topographic Setting: on top of an escarpment overlooking the Gila River. Affiliation/Age: prehistoric. Condition: damaged by bulldozing, road cuts, power lines (1975).

DOCUMENTATION: Recorded by: Kearns, Myers, Greenfelt (1975). Collected by: Neitzel (1980). Location of Records: ASM, ASU. Location of Collections: ASU. Reference: Debowski and others 1976; Neitzel 1983.

SITE NO: AZ V:13:51 (ASM)

OTHER DESIGNATIONS: BR II-32

DESCRIPTION: Site Type/Function: lithic scatter. Size: 225 x 100 m. Topographic Setting: on low escarpment, on fairly level ground. Biotic Setting: bursage, palo verde, saguaro, cholla, prickly pear. Affiliation/age: prehistoric. Condition: mechanical disturbance present (1975).

DOCUMENTATION: Recorded by: Kearns, Myers, Greenfelt (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:52 (ASM)

OTHER DESIGNATIONS: BR II-34; AZ V:13:16 (ASU)

DESCRIPTION: Site Type/Function: agricultural, sherd and lithic scatter. Size: 140 x 100 m. Topographic Setting: on a level area in a piedmont zone near the Gila River. Biotic Setting: palo verde, mesquite, cholla, grasses. Affiliation/Age: prehistoric. Condition: minor damage from road and bulldozer cuts (1975).

DOCUMENTATION: Recorded by: Kearns (1975); Rieger (1975). Collected by: Neitzel (1980). Location of Records: ASM, ASU. Location of Collections: ASU. References: Debowski and others 1976; Neitzel 1983.

SITE NO: AZ V:13:53 (ASM)

OTHER DESIGNATIONS: BR II-36; AZ V:13:12 (ASU)

DESCRIPTION: Site Type/Function: agricultural, lithic scatter. Size: 280 x 240 m. Topographic Setting: on a terrace above Gila River. Biotic Setting: cholla, palo verde, saguaro. Affiliation/Age: prehistoric. Condition: good (1975).

DOCUMENTATION: Recorded by: Coston, Nickerson (1975); Rieger (1975). Collected by: Neitzel (1980). Location of Records: ASM, ASU. Location of Collections: ASU. References: Debowski and others 1976; Neitzel 1983.

SITE NO: AZ V:13:54 (ASM)

OTHER DESIGNATIONS: BR II-60

DESCRIPTION: Site Type/Function: lithic scatter. Size: 290 x 60 m. Topographic Setting: narrow spur between arroyos. Biotic Setting: cholla, paloverde, acacia, wolfberry. Affiliation/Age: prehistoric. Condition: erosion, grazing present (1975).

DOCUMENTATION: Recorded by: Coston, Myers (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:10:56 (ASM)

OTHER DESIGNATIONS: BR II-171; Site 19 (Stone 1976); K-15 (Stone and Ayres 1983)

DESCRIPTION: Site Type/Function: habitation, agricultural/historic trash concentration. Site Size: 1100 x 1100 m. Topographic Setting: on flat-topped ridges. Biotic Setting: palo verde, bursage, acacia, mesquite. Affiliation/Age: Hohokam and/or Salado; historic. Condition: slope wash, some bulldozing present (1975).

DOCUMENTATION: Recorded by: Witter, Coston, Beach (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976; Stone 1976; Stone and Ayres 1983.

REMARKS: prehistoric component includes an elaborate series of farming or runoff control features--check dams, terraces, rock piles, spreaders.

SITE NO: AZ V:13:58 (ASM)

OTHER DESIGNATIONS: AZ V:13:6, 7, and 18 (ASU); BR II-173

DESCRIPTION: Site Type/Function: habitation, agricultural. Size: 1500 x 500 m. Topographic Setting: terrace and low "benches" above Gila River. Biotic Setting: palo verde, bursage, creosote bush, mesquite. Affiliation/Age: Hohokam and/or Salado. Condition: slope wash, bulldozing, and pothunting present (1975).

DOCUMENTATION: Recorded by Witter, Coston, Beach (1975); Rieger (1975); Yablon (1976). Collected by: Neitzel (1980). Location of Records: ASM; Arizona State University. Reference: Debowski and others 1976; Neitzel 1983.

REMARKS: village or villages with room blocks, compounds, trash mounds, a ball court, and rock pile and agricultural areas.

SITE NO: AZ V:13:59 (ASM)

OTHER DESIGNATIONS: BR II-176; Site No. 13 (Stone 1976); K-4 (Stone and Ayres 1983)

DESCRIPTION: Site Type/Function: habitation, agricultural. Size: 350 x 125. Topographic Setting: terrace remnant and pediment. Biotic Setting: paloverde, bursage, mesquite, cholla, prickly pear. Affiliation/Age: Hohokam. Condition: site bulldozed; house construction, pothunting, etc.

DOCUMENTATION: Recorded by: Witter, Greenfeldt, Coston (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976; Stone 1976; Stone and Ayres 1983.

SITE NO: AZ V:13:62 (ASM)

OTHER DESIGNATIONS: BR II-202

DESCRIPTION: Site Type/Function: habitation or field house. Size: 35 x 35 m. Topographic Setting: low pediment ridge near Gila River. Biotic Setting: acacia, cholla, mesquite, barrel cactus. Affiliation/ Age: prehistoric. Condition: good (1975).

DOCUMENTATION: Reference: Debowski and others 1976.

SITE NO: AZ V:13:63 (ASM)

OTHER DESIGNATIONS: BR II-203; Site No. 17 (Stone 1976); K-10 (Stone and Ayres 1983)

DESCRIPTION: Site Type/Function: village, agricultural site. Size: 1150 x 250. Topographic Setting: first terrace out of Gila River. Biotic Setting: paloverde, bursage, mesquite. Condition: some mechanical disturbance (1975).

DOCUMENTATION: Recorded by: Witter, Coston, Beach (1975), Reiger (1975). Location of Records: ASM. References: Debowski and others (1976); Stone 1976; Stone and Ayres 1983.

SITE NO: AZ V:13:64 (ASM)

OTHER DESIGNATIONS: BR II-204

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Size: 48 x 40 m. Topographic Setting: on sloping pediment spur. Biotic Setting: acacia, cholla, mesquite. Affiliation/Age: Hohokam. Condition: road, fence across site (1975).

DOCUMENTATION: Recorded by: Kinkade, Nickerson, Powers (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976.

SITE NO: AZ V:13:65 (ASM)

OTHER DESIGNATIONS: AZ V:13:8 (ASU); BR II-205; Site No. 18 (Stone 1976); K-9 (Stone and Ayres 1983)

DESCRIPTION: Site Type/Function: sherd and lithic scatter, historic shack. Size: 185 x 75 m. Topographic Setting: on edge of floodplain, at base of pediment. Biotic Setting: mesquite, paloverde, creosote bush, hackberry, cholla. Affiliation/Age: prehistoric, historic. Condition: pipeline and road have heavily disturbed both components (1975).

DOCUMENTATION: Recorded by: Witter, Coston (1975), Rieger (1975). Location of Records: ASM. Reference: Debowski and others 1976; Stone 1976; Stone and Ayres 1983.

SITE NO: AZ BB:1:1 (ASM)

DESCRIPTION: Site Type/Function: sherd scatter. Size: 25 x 20 m. Topographic Setting: alluvial fan next to Gila floodplain. Biotic Setting: cholla,

mesquite, greasewood. Affiliation/Age: Civano Hohokam. Condition: site may have been plowed (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM.
Reference: Tuohy 1960.

REMARKS: abandoned farm, age not specified, present on site.

SITE NO: AZ BB:1:2 (ASM)

DESCRIPTION: Site Type/Function: small pueblo (compound?), trash mounds.
Size: 50 x 50 m. Topographic Setting: pediment about 10 m. above Gila floodplain. Biotic Setting: mesquite, cholla, saguaro. Affiliation/Age: Civano Hohokam. Condition: natural erosion taking place (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM.
Reference: Tuohy 1960.

SITE NO: AZ BB:1:3 (ASM)

DESCRIPTION: Site Type/Function: pueblo within compound walls, trash mounds.
Size: 200 x 130 m. Depth: 1 m. Topographic Setting: adjacent to a large arroyo, at foot of a steeply sloping alluvial fan. Biotic Setting: mesquite. Affiliation/Age: Civano Hohokam. Condition: partly pothunted; one edge being cut away by an arroyo (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ BB:1:4 (ASM)

DESCRIPTION: Site Type/Function: small pueblo, isolated dwellings. Size: 20 x 10 m. Topographic Setting: on tip of alluvial fan next to floodplain; about 6 m. above floodplain. Biotic Setting: mesquite. Affiliation/Age: Civano Hohokam.

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

REMARKS: site is across an arroyo from AZ BB:1:3: (ASM), and is probably a continuation of the same.

SITE NO: AZ V:13:1 (ASU)

OTHER DESIGNATIONS: T-11

DESCRIPTION: Site Type/Function: pithouse village(?), pottery, chipped stone. Size: 250 x 130 m. Topographic Setting: terrace above Gila floodplain. Biotic Setting: creosote, mesquite, cholla. Affiliation/Age: Hohokam. Condition: mechanically disturbed (1976).

DOCUMENTATION: Recorded by: Yablon (1976). Location of Records: ASU.

SITE NO: AZ V:13:2 (ASU)

OTHER DESIGNATIONS: T-12

DESCRIPTION: Site Type/Function: cobble structure, sherds, chipped and ground stone. Size: 50 x 40 m. Topographic Setting: crest of low rise. Biotic Setting: creosotebush, paloverde, cholla, saguaro. Affiliation/Age: Hohokam. Condition: site cut by road (1976).

DOCUMENTATION: Recorded by: Yablon (1976). Location of Records: ASU.

SITE NO: AZ V:13:3 (ASU)

OTHER DESIGNATIONS: T-13

DESCRIPTION: Site Type/Function: structure, multiple rock piles, pottery, chipped stone. Size: 120 x 100 m. Topographic Setting: crest of low rise. Biotic Setting: creosotebush, paloverde, saguaro, cholla. Affiliation/Age: Hohokam. Condition: site crossed by dirt roads (1976).

DOCUMENTATION: Recorded by: Yablon (1976). Location of Records: ASU.

SITE NO: AZ V:13:4 (ASU)

OTHER DESIGNATIONS: T-14

DESCRIPTION: Site Type/Function: pueblo, pottery, chipped stone. Size: 50 x 50 m. Topographic Setting: on edge of a ridge, overlooking terraces of Gila. Biotic Setting: creosotebush. Affiliation/Age: Hohokam. Condition: pot-hunted (1976).

DOCUMENTATION: Recorded by: Yablon (1976). Location of Records: ASU.

SITE NO: AZ V:13:5 (ASU)

OTHER DESIGNATIONS: T-15

DESCRIPTION: Site Type/Function: village (ballcourt, cobble structures, rock piles, sherds, chipped stone). Size: 100 x 75 m. Topographic Setting: on two adjacent ridges. Biotic Setting: creosotebush, saguaro, paloverde. Affiliation/Age: Hohokam. Condition: undisturbed (1976).

DOCUMENTATION: Recorded by: Yablon (1976). Location of Records: ASU.

SITE NO: AZ V:13:1 (ARS)

OTHER DESIGNATIONS: K-11; Site No. 72; Riverside, Az.

DESCRIPTION: Site Type/Function: Riverside, Az. Size: 610 x 240 m. Topographic Setting: low terrace above Gila River. Affiliation/Age: Anglo. Condition: inhabited (1976).

DOCUMENTATION: References: Stone 1976; Stone and Ayres 1983.

REMARKS: Riverside was included by Stone in his proposed Mineral Creek Historic District. Although most housing is recent, Stone noted several earlier buildings.

SITE NO: AZ V:13:2 (ARS)

OTHER DESIGNATIONS: K-12; Site No. 26; Sultana-Arizona Mine

DESCRIPTION: Site Type/Function: mine. Size: 150 x 150 m. Topographic Setting: hillside. Affiliation/Age: Anglo. Condition: recent activity has apparently eradicated traces of historic mining (ca. 1980).

DOCUMENTATION: Recorded by: Stone and Ayres (ca. 1980). References: Stone 1976; Stone and Ayres 1983.

REMARKS: Not shown on Figure 4 but just south of Riverside.

SITE NO: AZ V:13:3 (ARS)

OTHER DESIGNATIONS: Kearney Cemetary

DESCRIPTION: Site Type/Function: cemetary, 20+ graves. Size: ca. 60 x 60 m. Affiliation/Age: Anglo.

DOCUMENTATION: Recorded by: Stone and Ayres (ca. 1980). Reference: Stone and Ayres 1983.

SITE NO: AZ V:13:4 (ARS)

OTHER DESIGNATIONS: Ray Junction, Az.

DESCRIPTION: Site Type/Function: rail station (foundations, trash). Size: 30 x 30 m. Affiliation/Age: Anglo (1911-ca. 1964).

DOCUMENTATION: Recorded by: Stone and Ayres (ca. 1980). References: Stone and Ayres 1983; Myrick 1980.

SITE NO: Pinal County No. 106 (SHPO)

OTHER DESIGNATIONS: NWR-8

DESCRIPTION: Site Type/Function: bridge. Size: ca. 100 feet long by 15 feet wide by 50 feet high (30.5 x 5 x 15 m.). Topographic Setting: spans Gila River. Biotic Setting: riparian vegetation. Affiliation/Age: Historic

Anglo (built in 1916). Condition: bridge was still in use until the flood of '83, but was then washed out (1983).

DOCUMENTATION: Part of a proposed thematic listing in SHPO files. Recorded by: Altschul (1983). Location of Records: ASM.

SITE NO: 28 (Stone 1976)

OTHER DESIGNATIONS: Branaman, Az.

REMARKS: "This site, shown on the 1910 USGS Ray quadrangle map, appears to be a railroad siding site which served an early Branaman Ranch. No evidence of this site exists at present due to highway construction and land cultivation" (Stone 1976).

SITE NO: 73 (Stone 1976)

REMARKS: "Old House" marked on an 1879 BLM survey map; Stone (1976) could not relocate the site and presumes that it has been destroyed. Just out of the Gila floodplain.

SITE NO: 75 (Stone 1976)

REMARKS: "Smith's" houses marked on an 1879 BLM survey map. Stone (1976) revisited the site and found at least one collapsed wooden structure, the possible remains of a second, and a trash scatter dating from ca. 1890-1930. Stone believed that the research potential of this site remained good.

SITE NO: 76 (Stone 1976)

REMARKS: "Holliday's House" marked on an 1879 BLM survey map; Stone (1976) could not relocate this site and presumes that it has been destroyed.

SITE NO: 86 (Stone 1976)

OTHER DESIGNATIONS: Paraje de Manje

REMARKS: The location shown represents the approximate location of the Kino-Manje campsite of November 16, 1697 (Stone 1976). No corresponding physical remains have been located.

Gila Valley Section, Arizona

SITE NO: AZ V:15:3 (ASM)

DESCRIPTION: Site Type/Function: isolated dwelling unit, 3-4 rooms. Size: 20 x 15 m. Topographic Setting: next to small arroyo, about 3 m. above

arroyo bottom. Biotic Setting: mesquite, burrobrush. Condition: poor; at least one room cut by the arroyo.

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

REMARKS: there is a significant disagreement between the site card and the description provided in Tuohy (1960:22). On the site card the description is as provided above. In the report, it is described as "sherds from an arroyo cut" and "no surface features".

SITE NO: AZ V:15:4 (ASM)

DESCRIPTION: Site Type/Function: village with numerous compounds; trash mounds. Size: "about 1/4 mile sq." Topographic Setting: on sloping alluvial fan adjacent to Gila River. Biotic Setting: mesquite. Affiliation/Age: Salado. Condition: intact (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

REMARKS: a blue glass trade bead was found at this site (Tuohy 1960:13).

SITE NO: AZ V:15:7 (ASM)

DESCRIPTION: Site Type/Function: sherd area, metate fragments present. Size: 100 sq. m. Topographic Setting: terrace about 20 m. above Gila floodplain. Biotic Setting: saltcedar (due to flooding). Affiliation/Age: Late Pueblo III (?). Condition: formerly flooded by San Carlos Reservoir (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ V:15:8 (ASM)

DESCRIPTION: Site Type/Function: two (?) small pueblos. Size: large unit apparently 50 sq. m., another unit ca. 300 m. to east. Topographic Setting: flat-topped promontory. Biotic Setting: greasewood. Affiliation/Age: Late Pueblo III (?). Condition: good (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ V:15:9 (ASM)

DESCRIPTION: Site Type/Function: sherd scatter with possible multiple dwelling units; ground stone present. Size: 100 sq. m. Topographic Setting: on low terrace about 5 m. above floodplain of Gila. Affiliation/Age: Pueblo III (?). Condition: previous inundation by San Carlos Reservoir (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

REMARKS: Sacaton Red-on-buff pottery was found at the site (Tuohy 1960).

SITE NO: AZ V:15:10 (ASM)

DESCRIPTION: Site Type/Function: sherd area; ground stone present. Size: 50 x 50 m. Topographic Setting: low alluvial fan next to an arroyo. Biotic Setting: mesquite. Condition: site partly disturbed by a natural gas pipeline (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ V:15:11 (ASM)

DESCRIPTION: Site Type/Function: small pueblos. Size: 300 x 50 m. Topographic Setting: near mouth of a large arroyo, ca. 5 m. above the Gila floodplain. Biotic Setting: greasewood, mesquite. Affiliation/Age: Salado. Condition: site being eroded by Gila River (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ V:15:12 (ASM)

DESCRIPTION: Site Type/Function: sherd scatter; ground stone, cracked rock present. Topographic Setting: gently sloping pediment. Biotic Setting: mesquite.

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ V:15:13 (ASM)

OTHER DESIGNATIONS: Site 19 (Hough)

DESCRIPTION: Site Type/Function: small pueblo (?). Size: 200 x 200 m. (?) Topographic Setting: on flat adjacent to Gila floodplain. Biotic Setting: originally mesquite; now saltcedar. Condition: poor; flooded by San Carlos Reservoir; one rectangular room noted (1959).

DOCUMENTATION: Recorded by: Hough (ca. 1897?), Tuohy (1959). Location of Records: ASM. Reference: Hough 1907; Tuohy 1960.

REMARKS: Hough reported a 76 foot long "tank" (ballcourt or reservoir) at the site. Tuohy was unable to relocate this feature.

SITE NO: AZ V:15:18 (ASM)

OTHER DESIGNATIONS: AZ C:16:37 (GP); Gila Bank Ruin; Dewey Flat Pueblo.

DESCRIPTION: Site Type/Function: large pueblo village (50+ rooms), possible irrigation structures, trash mounds. Topographic Setting: low, flat alluvial fan. Biotic Setting: mesquite. Affiliation/Age: Salado. Condition: good; partly excavated.

DOCUMENTATION: Recorded by: Cummings (1939), Tuohy (1959). Location of Records: ASM. Reference: Sauer and Brand 1930; Tuohy 1960.

REMARKS: This site was partly excavated in 1926 by Byron Cummings; no report was ever prepared. In the Arizona State Museum site files is a partial manuscript titled "Investigation of Dewey Flat Sites." This manuscript indicates that in 1961, Joel Shiner, L. R. Caywood, and Lee Chase carried out a reconnaissance of Dewey Flat prior to the bulldozing of the area for agriculture.

At the east end of the flat they located a pueblo supposedly occupied from the middle 1100s to the late 1200s (Pueblo III); the outlines of "hundreds" of small rooms were noted. Several trash mounds were also present. At the west end of the flat, they located a smaller pueblo, possibly occupied from about A.D. 1100 and 1250. In and around this same site they noted remnants of one-room historic dwellings, which dated from about 1880 to about 1910.

Prehistoric room construction was with rounded cobbles.

According to the same anonymous manuscript, corrugated and plain brownwares were most frequent on the site surface. Black-on-white pottery was common, with Tularosa-like material predominant. Some St. Johns and Pinedale Polychrome sherds were present. San Carlos Red-on-Brown were found, but supposedly others were either copies of Casa Grande Red-on-buff or late developments out of Cerros Red-on-white or Encinas Red-on-brown.

Salado polychromes were not found during the 1961 survey, leading the author of the manuscript to state that Dewey Flat was not a Salado site. However, Salado vessels are present in the Arizona State Museum collections (presumably Cummings') from the site. An anonymous note in the site files lists the following types for Dewey Flat: Casa Grande Red-on-buff, Sacaton Red-on-buff, Tularosa Black-on-white, McDonald Corrugated ("lots"), Tularosa Fillet Rim (one sherd), Point of Pines Punctate, and the following whole vessel types--Gila Black-on-red, Gila Polychrome, Tonto Polychrome, Pinto (?) Polychrome, San Carlos Red-on-Brown.

Photographic plates of artifacts (collected by Cummings?) show whole vessels, a trough metate, a palette, a bone awl, side-notched projectile points with concave bases, a Glycymeris shell bracelet fragment, perforated sherd disks, and polished stone axes, among other items.

The site was once recorded as AZ V:16:1 (ASM), but the designation was changed when its location was more precisely determined. It is worth noting that although this site is also termed Gila Bank Pueblo, Sauer and Brand (1930) indicate that Dewey Flat and Gila Bank were two separate sites.

SITE NO: AZ V:16:4 (ASM)

OTHER DESIGNATIONS: AR02-04-227 (BLM)

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Size: 150 x 30 m. Topographic Setting: sloping alluvial terrace cut by Gila flood plain. Biotic Setting: mesquite, burrobrush. Condition: good (per BLM, 1978). Covered with sediment? (1979, see below).

DOCUMENTATION: Recorded by: Tuohy (1959), Ball (1974). Location of Records: ASM, BLM Safford District Office. References: Tuohy 1960, BLM 1978.

REMARKS: In 1974, Ball revisited what he believed to be this site and re-recorded it for the BLM as AR02-04-227. However, the location recorded by ASM for AZ V:16:4 is about 2.5 km. away from the location plotted by Ball for AR02-04-227. Either one of the plottings is in error or two sites are involved.

A note added to the BLM form for AR02-04-227 indicates that as of 1979, the site was covered by sediments and no longer visible.

SITE NO: AZ V:16:5 (ASM)

OTHER DESIGNATIONS: AR02-04-228 (BLM)

DESCRIPTION: Site Type/Function: sherd scatter; hearths marked by fire cracked rock. Size: 200 x 30 m. Topographic Setting: bottomland. Biotic Setting: on edge of cleared field in mesquite. Condition: poor; clearing and plowing (1959, 1974).

DOCUMENTATION: Recorded by: Tuohy (1959), Ball (1974). Location of Records: ASM; BLM Safford District Office. Reference: Tuohy 1960.

SITE NO: AZ V:16:8 (ASM)

DESCRIPTION: Site Type/Function: series of pueblos within compound walls; trash mounds; borrow pits. Size: 150 x 150 m. Topographic Setting: on pediment next to Gila floodplain. Affiliation/Age: Bylas Phase. Condition: being eroded by Gila River (1959); excavated in 1963.

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Excavated by Arizona State Museum. References: Tuohy 1960; Johnson and Wasley 1966.

SITE NO: AZ V:16:9 (ASM)

DESCRIPTION: Site Type/Function: small pueblo, trash mound. Size: 50 x 25 m. Topographic Setting: near arroyo draining into Gila, on sloping pediment ca. 3 m. above Gila floodplain. Biotic Setting: mesquite. Affiliation/Age: Salado. Condition: fair; cut by an old railroad right-of-way, a pipeline, and a telephone line (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM.
Reference: Tuohy 1960.

SITE NO: AZ V:16:10 (ASM)

OTHER DESIGNATIONS: Bylas Ruin

DESCRIPTION: Site Type/Function: groups of pueblos within compound walls, trash mounds; Apache wickiup. Size: 150 x 150 m. Topographic Setting: low piedmont cut by gullies. Biotic Setting: greasewood; some mesquite in gullies. Affiliation/Age: Salado/historic Apache. Condition: undisturbed (prior to 1959); tested(?) (1959); partly excavated (1963).

DOCUMENTATION: Recorded by: Tuohy (1959). Partly excavated by Arizona State Museum in 1963. References: Tuohy (1960), Johnson and Wasley (1966).

REMARKS: According to a comment by D. Creel on the site card for AZ V:16:16, the plotting of this site is slightly inaccurate.

SITE NO: AZ V:16:11 (ASM)

DESCRIPTION: Site Type/Function: small pueblo compound, oval depression (possible ballcourt). Size: 100 x 50 m. Topographic Setting: low piedmont. Biotic Setting: cleared area with burrobrush. Affiliation/Age: Late Pueblo II--Early Pueblo III. Condition: good (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ V:16:12 (ASM)

DESCRIPTION: Site Type/Function: sherd scatter; manos and shell present.

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

REMARKS: According to a note added to the site card by Creel in 1981, the plotting of this site is very tentative.

SITE NO: AZ V:16:13 (ASM)

DESCRIPTION: Site Type/Function: Apache Wickiup. Affiliation/Age: post 1900 Apache. Condition: damaged (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy (1960).

SITE NO: AZ V:16:14 (ASM)

OTHER DESIGNATIONS: Graham Co. No. 35 (SHPO); Camp Goodwin

DESCRIPTION: Site Type/Function: military post. Affiliation/Age: historic Anglo. Condition: destroyed (?).

REMARKS: In 1983, NWR personnel tried to relocate this site, but according to local informants it has been destroyed in order to build cotton fields. Incidentally, there seems to be some confusion in the historic preservation records between Camp Goodwin, Fort (also Camp) Goodwin, and Fort Thomas.

SITE NO: AZ V:16:16 (ASM)

DESCRIPTION: Site Type/Function: village, no surface architecture. Size: "ca. 20 acres." Topographic Setting: low pediment above Gila channel and floodplain. Biotic Setting: mesquite, burrobush. Affiliation/Age: "somewhat earlier than Ariz. V:16:10."

DOCUMENTATION: Recorded by: Wasley (1963). Location of Records: ASM.

REMARKS: According to a note added by Creel to the site card in 1981, the plotting of this site may be inaccurate.

SITE NO: AZ V:16:17 (ASM)

DESCRIPTION: Site Type/Function: 3 or more pueblo units; these are "rectangular rooms with compounds". Size: 100 x 100 m. Topographic Setting: on pediment next to Gila floodplain; arroyo nearby. Biotic Setting: mesquite, greasewood. Affiliation/Age: Salado? Condition: fair (1963).

DOCUMENTATION: Recorded by: Wasley, Vivian (1963). Location of Records: ASM.

REMARKS: According to a note added by Creel to the site card in 1981, the plotting of this site does not agree with its supposed relation to AZ V:16:8 (ASM), which is supposed to be 500 feet to the west.

SITE NO: AZ V:16:20 (ASM)

OTHER DESIGNATIONS: IHS B-12

DESCRIPTION: Site Type/Function: village containing at least three distinct compounds; also, at least four additional room blocks; pithouses probable. Size: 200 x 150 m. Topographic Setting: alluvial terrace next to Gila River. Biotic Setting: saltbush, mesquite on site, saltcedar near site. Affiliation/Age: Bylas Phase Mogollon. Condition: site disturbed by a gas line, a telephone line, a road, and some vandalism (1980).

DOCUMENTATION: Recorded by: Huckell (1980). Location of Records: ASM.

SITE NO: AZ W:13:2 (ASM)

DESCRIPTION: Site Type/Function: small pueblos with compound walls(?). Size: 200 x 100 m. Depth: 1 m. Topographic Setting: sloping alluvial

terrace next to Gila floodplain. Biotic Setting: mesquite, burrobrush. Affiliation/Age: Pueblo III(?). Condition: poor; partly bulldozed (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ W:13:3 (ASM)

OTHER DESIGNATIONS: ARO2-04-229 (BLM)

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Size: 50 x 50 m. Depth: superficial. Topographic Setting: low alluvial fan sloping down to Gila floodplain. Biotic Setting: mesquite. Affiliation/Age: Early Pueblo II to Pueblo III. Condition: fair (1978).

DOCUMENTATION: Recorded by: Tuohy (1959), Ball (1974). Location of Records: ASM; BLM Safford District Office. Tested by Tuohy in 1959. References: Tuohy 1960, BLM 1978.

REMARKS: Tuohy's testing indicated little or no depth to the site.

SITE NO: AZ W:13:5 (ASM)

OTHER DESIGNATIONS: ARO2-04-230 (BLM)

DESCRIPTION: Site Type/Function: sherd and lithic scatter; possibly a camp site. Size: 15 x 10 m. Depth: superficial. Topographic Setting: alluvial terrace above Gila floodplain. Condition: poor; vandalized (1978).

DOCUMENTATION: Recorded by: Tuohy (1959), Ball (1974). Location of Records: ASM; BLM Safford District Office. References: Tuohy 1960, BLM 1978.

REMARKS: The following note was added to the BLM's site form: "I think this is one the Hollands dug in spring of 1976. B. L."

SITE NO: AZ CC:1:4 (ASM)

DESCRIPTION: Site Type/Function: small pueblo, ball court. Size: 30 m. x ?. Topographic Setting: pediment, 2 m. above Gila floodplain. Biotic Setting: mesquite, burrobrush; agricultural fields below site. Condition: fair, tested (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Tested by Tuohy (1959); relocated and checked by Wasley, Vivian (1963). Location of Records: ASM. Reference: Tuohy (1960).

SITE NO: AZ CC:1:8 (ASM)

DESCRIPTION: Site Type/Function: 3 to 4 isolated rectangular dwelling units, sherd scatter. Size: 150 x 50 m. Topographic Setting: alluvial terrace sloping down to Gila floodplain. Biotic Setting: mesquite, burrobrush.

Condition: poor; disturbed by construction of a historic mill (now abandoned) and a canal.

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy (1960).

REMARKS: Tuohy (1960:20) believed this site to be an outlier of AZ CC:1:7 (ASM), a large compound pueblo of Pueblo IV age. Although the historic mill mentioned on the site card is never discussed by Tuohy, it should be considered a potential cultural resource.

SITE NO: AZ CC:1:19 (ASM)

OTHER DESIGNATIONS: Graham County No. 15 (SHPO)

DESCRIPTION: Site Type/Function: pueblo (rubble and trash mound, trash scatter). Size: "approx. 40 acres"; mound is ca. 75 x 50 m., with trash scatter extending about 100 m. westward from mound. Topographic Setting: first terrace above Gila. Biotic Setting: low annuals, young grasses, sage, creosote bush, amaranths. Affiliation/Age: Hohokam. Condition: generally fair despite substantial pothunting (1975).

DOCUMENTATION: Recorded by: L. Teague (1975). Location of Records: ASM. Reference: Gilman and Sherman 1975.

SITE NO: AZ CC:2:3 (ASM)

OTHER DESIGNATIONS: ARO2-04-722 (BLM); AR-78-2; No. 5 Pueblo (Hough 1907), Arizona L:2:11 (GP); AZ CC:2:2 (American Foundation); Buena Vista Pueblo, Pueblo Viejo, Curtis Ranch Site, Chichitcale.

DESCRIPTION: Site Type/Function: large pueblo village with compounds, house mounds, trash mounds, ball court, reservoir, canals. Size: "1/2 mile sq." Depth: 2 m. in one cut. Topographic Setting: terrace next to Gila floodplain. Affiliation/Age: Salado. Condition: destroyed? (see below).

DOCUMENTATION: Recorded by: Tuohy (1959), Buttigieg-Berman (1975), Lee (1978). Collected by: Sauer and Brand (1929); Wasley and Vivian (1963), Buttigieg-Berman (1975). Excavated by: Tatman (1931); Mills and Mills (1970s). Location of Records: ASM, BLM Safford District Office, University of Colorado Museum. Location of Collections: University of Colorado Museum; University of Arizona; Mills private museum (Elfrida, Arizona). References: Fewkes 1904:171-172. Pl. 66; Hough 1907:32-35; Tuohy 1960; Brown (1976); Mills and Mills 1978; Buttigieg-Berman 1977.

REMARKS: This site may have first been recorded ca. 1897, when Fewkes and Hough were in the valley. In 1931, under Earl Morris' direction, Oscar Tatman began excavation work at the site but was then stopped due to outside pressure. The notes, maps, and artifacts from this work were sent to the Henderson Museum, and were later summarized by Brown (1976). It appears that in the areas worked by Tatman, there were three clusters of buildings, each with pueblo style rooms associated with central plazas. Brown argued that the

closest affiliation was with the Point of Pines-Reserve area, at ca. A.D. 1325-1350. However, the site falls within the general Salado tradition.

In 1963, despite some disturbance, the site was reported to be "remarkably well preserved" by Wasley. In 1976, however, Lee noted excavations, building, farming, pothunting, and road construction at the site, describing it as "destroyed". In 1983, when the site was revisited by NWR, the remnants were being mined for artifacts.

SITE NO: AZ CC:2:4 (ASM)

OTHER DESIGNATIONS: AZ CC:2:31 (ASM); ARO2-04-721 (SHPO); Graham County No. 27 (SHPO)

DESCRIPTION: Site Type/Function: small pueblos within compound walls (?), agricultural features. Size: 600 x 550 m. Topographic Setting: terrace near Gila floodplain. Biotic Setting: mesquite, saltbush, creosote, cottonwood, willow. Affiliation/Age: Salado. Condition: fair to good despite erosion, soil deposition, mechanical disturbance.

DOCUMENTATION: Recorded by: Tuohy (1959); Altschul (1983). Location of Records: ASM. Reference: Tuohy 1960; Simpson and Westfall 1978.

REMARKS: In 1976, Simpson and others recorded AZ CC:2:31 (ASM) within an AEPCO power line right-of-way, roughly south of AZ CC:2:4 (ASM). Altschul's visit to these sites for NWR in 1983 indicated that they are, in fact, parts of the same large site.

SITE NO: AZ CC:2:5 (ASM)

DESCRIPTION: Site Type/Function: small pueblo. Affiliation/Age: Late PII-Early PIII?

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ CC:2:6 (ASM)

DESCRIPTION: Site Type/Function: isolated dwelling units, 3-4 rooms. Size: 20 x 15 m. Topographic Setting: terrace next to Gila floodplain, between two arroyos. Biotic Setting: greasewood, prickly pear, mesquite. Affiliation/Age: Late Pueblo II to Early Pueblo III (?). Condition: poor; vandalized.

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

SITE NO: AZ CC:2:7 (ASM)

DESCRIPTION: Site Type/Function: rock shelter. Size: 50 x 50 m.; shelter itself is about 8 m. high by 20 to 25 m. long. Topographic Setting: wall of the canyon of the Gila. Biotic Setting: mesquite near shelter; floodplain

nearby is mixed agricultural and willows. Affiliation/Age: prehistoric.
Condition: good; tested (see below).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Partly tested by Tuohy (1959). Reference: Tuohy 1960.

REMARKS: The shelter contained upright slabs, which Tuohy interpreted initially as a three room structure. Tuohy began testing the site but was forced to stop due to the danger of flooding of access by the Gila.

SITE NO: AZ CC:2:8 (ASM)

OTHER DESIGNATIONS: AR02-04-225 (BLM); Earven Flat Site

DESCRIPTION: Site Type/Function: small pueblo (4-6 rooms), grid gardens. Size: 25 x 25 m. (plus?). Topographic Setting: gravel covered pediment. Biotic Setting: greasewood, ocotillo, prickly pear, other cactus. Affiliation/Age: Late Pueblo II to Early Pueblo III (?). Condition: poor; vandalized (BLM 1978), disturbed by construction of private homes (B. Lee, personal communication to J. Altschul, 1983).

DOCUMENTATION: Recorded by: Tuohy (1959), Ball (1974). Location of Records: ASM, BLM Safford District Office. References: Touhy 1960, Brown 1973, BLM 1978.

REMARKS: though described as a small pueblo in the original records, AZ CC:2:8 (ASM) has also been described as a large habitation site (BLM 1978).

SITE NO: AZ CC:2:9 (ASM)

DESCRIPTION: Site Type/Function: small pueblo with trash mounds; deeply buried lithic remains. Size: 25 x ? m. Topographic Setting: alluvial fan. Biotic Setting: mesquite, greasewood. Affiliation/Age: see below. Condition: fair, some vandalism to pueblo component; tested by Tuohy (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Tested by Tuohy (1959). Reference: Tuohy 1960.

REMARKS: At the same location as a prehistoric pueblo, Tuohy noted a deeply buried level of lithic artifacts. This is one of the few good candidates for a preceramic site within the present study area. Tuohy (1960:36) also noted seven pieces of bottle glass, possibly flaked, at the site; if these were indeed worked they would represent a third, presumably historic aboriginal component.

SITE NO: AZ CC:2:10 (ASM)

DESCRIPTION: Site Type/Function: isolated rectangular structure. Size: 5 x 2 m. Topographic Setting: gravel topped pediment area, near a small canyon. Biotic Setting: greasewood. Affiliation/Age: prehistoric. Condition: good (1959).

DOCUMENTATION: Recorded by: Tuohy (1959). Location of Records: ASM. Reference: Tuohy 1960.

REMARKS: On the site card, Tuohy notes "cleared rectangular areas nearby"; these may be grid gardens.

SITE NO: AZ CC:2:16 (ASM)

OTHER DESIGNATIONS: AR02-04-164 (BLM)

DESCRIPTION: Site Type/Function: pueblo. Size: 70 x ? m. Topographic Setting: first terrace above Gila floodplain; slightly rolling terrain and some small drainages across site. Biotic Setting: hedgehog cactus, cholla, mesquite, grasses. Affiliation/Age: prehistoric. Condition: poor; chaining of mesquite, vandalism (1975).

DOCUMENTATION: Recorded by: Walker (1974), L. Teague (1975), Altschul (1983). Location of Records: ASM; BLM Safford District Office. Reference: Brown 1973.

SITE NO: AZ CC:2:37 (ASM)

OTHER DESIGNATIONS: Graham Country No. 26 (SHPO)

DESCRIPTION: Site Type/Function: chipped and ground stone scatter, rock cluster. Size: 88 x 60+ m. Topographic Setting: on dissected edge of a flat-topped ridge or mesa; gravelly surface. Biotic Setting: sparse; cholla, mesquite, acacia, snakeweed, grasses, prickly pear, creosote bush. Affiliation/Age: prehistoric. Condition: good (1976).

DOCUMENTATION: Recorded by: Simpson and others (1976). Location of Records: ASM. Reference: Simpson and Westfall 1978.

REMARKS: Recorded only within AEPCO's right-of-way; full extent is unknown.

SITE NO: AZ CC:2:48 (ASM)

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Topographic Setting: in Gila floodplain near present channel. Biotic Setting: altered--agricultural. Affiliation/Age: prehistoric. Condition: disturbed; in a field which has been leveled and deeply plowed.

DOCUMENTATION: Recorded by: Simpson and others (1976). Location of Records: ASM. Reference: Simpson and Westfall 1978.

REMARKS: Black-on-white, red-on-buff, corrugated, and brown plainware sherds were all noted on this site.

SITE NO: AZ CC:2:49 (ASM)

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Topographic Setting: Gila floodplain, near present channel. Biotic Setting: altered--agricultural. Affiliation/Age: prehistoric. Condition: disturbed; in a field that has been leveled and heavily plowed.

DOCUMENTATION: Recorded by: Simpson and others (1976). Location of Records: ASM. Reference: Simpson and Westfall 1978.

SITE NO: AZ CC:2:50 (ASM)

DESCRIPTION: Site Type/Function: sherd and lithic scatter, rock piles and alignments. Size: 345 x 215 m. Topographic Setting: first bench above Gila floodplain; gravel surface. Biotic Setting: sparse creosote. Affiliation/Age: aboriginal. Condition: good; some deposition, minimal erosion and disturbance (including jeep trail).

DOCUMENTATION: Recorded by: Simpson and others (1976). Location of Records: ASM. Reference: Simpson and Westfall 1978.

REMARKS: Site was briefly revisited in 1983 and was found to be in good condition.

SITE NO: AZ CC:2:51 (ASM)

DESCRIPTION: Site Type/Function: lithic scatter, rock pile, rock circles. Size: 390 m. x 350 m. Topographic Setting: just out of Gila floodplain, on small rise and nearby mesa top. Biotic Setting: creosote. Affiliation/Age: aboriginal. Condition: generally good; sheet and rill erosion, some deposition, many jeep trails, recent trash (1976, 1983).

DOCUMENTATION: Recorded by: Simpson and others (1976), Altschul (1983). Location of Records: ASM. Reference: Simpson and Westfall 1978.

SITE NO: AZ CC:2:52 (ASM)

DESCRIPTION: Site Type/Function: lithic scatter, five rock clusters. Size: 190 x 57+ m. Topographic Setting: narrow bench overlooking Gila floodplain. Biotic Setting: creosote bush, hedgehog cactus, ocotillo, barrel cactus, pincushion cactus. Affiliation/Age: aboriginal. Condition: somewhat disturbed due to a road and AEPCO powerline.

DOCUMENTATION: Recorded by: Simpson and others (1976), Altschul (1983). Location of Records: ASM. Reference: Simpson and Westfall 1978.

REMARKS: recorded only within AEPCO's right-of-way; full extent unknown.

SITE NO: AZ W:13:1 (ASU)

DESCRIPTION: Site Type/Function: sherd and lithic scatter. Topographic Setting: "alluvial valley". Biotic Setting: desert scrub.

DOCUMENTATION: Recorded by: Morris and Rittenhouse (1966). Location of records: ASU.

SITE NO: AZ CC:1:1 (ASU)

OTHER DESIGNATIONS: AR02-04-739; AR-95-L

DESCRIPTION: Site Type/Function: masonry pueblo. Size: 1/4 square mile. Topographic Setting: open flat along Gila River. Biotic Setting: mixed paloverde-cactus. Condition: poor; railroad, road, irrigation canal, and extensive pothunting have all damaged site (1966).

DOCUMENTATION: Recorded by: Morris and Rittenhouse (1966); Lee (1976). Location of Records: ASU; BLM Safford District Office.

REMARKS: Site included Gila Polychrome, possible Fourmile Polychrome, and red-on-buff pottery.

SITE NO: AZ CC:1:1 (ARS)

DESCRIPTION: Site Type/Function: habitation (sherd, lithic, ground stone scatter). Size: 150 x 90 m. Topographic Setting: edge of terrace above Gila River. Affiliation/Age: Prehistoric. Condition: crossed by power line and dirt road (1979).

DOCUMENTATION: Recorded by: Stone (1979). Location of Records: Archaeological Research Services, Tempe. Reference: Stone 1979.

REMARKS: Pottery included brown, "gravel" tempered plainware. Close to AZ CC:1:4 (ASM), and could be part of that site.

SITE NO: AZ CC:2:1 (ARS)

DESCRIPTION: Site Type/Function: sherd, lithic scatter, buried hearths. Size: 60 x 60 m. Depth: ca. 1 m. Topographic Setting: edge of floodplain cut bank, next to Gila River. Biotic Setting: cotton field. Condition: cultivated, with plow zone to ca. 0.6 m. (1979).

DOCUMENTATION: Recorded by: Stone (1979). Location of Records: Archaeological Research Services, Tempe. Reference: Stone 1979.

REMARKS: Pottery included redwares, brown "gravel" tempered plainwares, brown corrugated wares, and black-on-white wares. Flaked stone, two buried hearths with fire-cracked basalt cobbles in them.

SITE NO: AR02-04-224

REMARKS: Site form could not be located (1983).

SITE NO: AR02-04-359 (BLM)

DESCRIPTION: Site Type/Function: agricultural field (cleared areas, rock piles, rock alignments, check dams, food processing area, chipped and ground stone). Size: 970 m. x 370 m. Topographic Setting: gently sloping terrace. Biotic Setting: creosote bush, annual grasses. Condition: good (1978).

DOCUMENTATION: Recorded by: Kinkade (1978). Location of Records: BLM Safford District Office.

REMARKS: According to the site form, "The site is significant for its data potential for reseach on prehistoric agriculture and food processing. Dryland agricultural sites are common in the area but generally lack artifacts and terracing."

SITE NO: AR02-04-364 (BLM)

REMARKS: Site form could not be located (1983).

SITE NO: HS02-04-005 (BLM)

OTHER DESIGNATIONS: Enterprise Canal

DESCRIPTION: Site Type/Function: historic irrigation canal. Size: originally ca. 24 km. (15 mi.) long. Condition: poor, mostly destroyed.

DOCUMENTATION: Recorded by: Shiflet (1972). Location of Records: BLM Safford District Office.

REMARKS: The Enterprise Canal was started in 1885.

SITE NO: Daley/EAC/80

OTHER DESIGNATIONS: Daley Site

DESCRIPTION: Site Type/Function: pueblo. Topographic Setting: Gila floodplain. Biotic Setting: altered--agricultural. Affiliation/Age: Bylas phase Mogollon. Conditon: disturbed by farming, partly excavated (1980).

DOCUMENTATION: Partly excavated by Eastern Arizona College Minuteman Salvage Crew (1980). Reference: EAC 1981.

REMARKS: This site lies just outside the study area; since the full extent of the site is unknown it may possibly extend into the corridor.

Camelsback-Clifton Section, Arizona

SITE NO: AZ W:15:7 (ASM)

OTHER DESIGNATIONS: Clifton, Az.; Greenlee Co. No. 2 (SHPO). (Contains: AZ W:15:4 [ASM], the Clifton Cliff Jail; AZ W:15:19 [ASM], the Clifton "Casa Grande"; Greenlee Co. No. 17 (SHPO), the Clifton S.P.R.R. Depot).

REMARKS: An important early mining community of Arizona, site of early copper mines and smelters. See references in the bibliography (especially Patton 1977) for further information. See also the summary discussion in Chapter 4.

Clifton has been divided into several historical sub-districts according to the records in the State Historic Preservation Office, Phoenix. These are: (2a) Clifton Casa Grande Building, a National Register property. The "Casa Grande", 8 Park Avenue, was built by Henry Lesinsky in 1874 and is the oldest building in the town; (2b) Chase Creek District; (2c) Clifton Jail. This was built by blasting short adits into the cliffside, and barring over the entrances; (2d) Eastside District; (2e) North Clifton District; (2f) Phelps Dodge Guest House; (2g) Shannon Hill District; and (2h) South Clifton District.

Clifton was also the site of the Park Avenue through truss bridge, for which a draft nomination to the National Register had been prepared. This bridge, built in 1917-1918, was one of the few Parker style bridges left in the state. In the flood of 1983, it was swept away. The same flood caused damage to the Casa Grande.

SITE NO: AZ W:15:17 (ASM)

OTHER DESIGNATIONS: AEPCO 35

DESCRIPTION: Site Type/Function: lithic scatter, rock piles and alignments of unknown age, rusted pipe fragments. Size: 127.5 x 37.5 m. Topographic Setting: terrace overlooking San Francisco River. Affiliation/Age: mixed aboriginal/historic European. Condition: historic component has disturbed prehistoric component, otherwise possible effects by sheet erosion.

DOCUMENTATION: Recorded by: Simpson et al. (1976). Location of Records: ASM. Reference: Simpson and Westfall 1978.

SITE NO: AZ W:15:18 (ASM)

DESCRIPTION: Site Type/Function: rockshelter (ceramic and lithic remains present). Size: 15 x 5 m. Depth: at least 25 cm. Topographic Setting: side canyon in terrace formations next to San Francisco River. Biotic Setting: sparse; shrubs and prickly pear. Affiliation/ Age: Mogollon? Condition: undisturbed (1976).

DOCUMENTATION: Recorded by: Simpson et. al. (1976). Location of Records: ASM. Reference: Simpson and Westfall 1978.

SITE NO: AZ CC:3:1 (ASM)

OTHER DESIGNATIONS: ARO2-04-014 (BLM)

DESCRIPTION: Site Type/Function: rock terraces. Topographic Setting: bluff overlooking river. Affiliation/Age: either aboriginal (agricultural) or historic Anglo (runoff control).

DOCUMENTATION: Recorded by: Wasley and Vivian (1963).

REMARKS: Fitting, Hemhill and Abbe (1982:63) considered this site to have a high research potential, and described it as "...an impressive series of rock alignments covering at least a quarter mile of river terraces at the lower end of the York Valley. It appears, from the air, to be a major water control feature for dry farming on the terraces." However, a CCC camp (HS02-04-106, Wilkerson Ranch) is located across the river from this site, and it is very possible that the alignments are CCC erosion control structures.

SITE NO: AZ CC:3:20 (ASM)

OTHER DESIGNATIONS: AZ02-04-404 (BLM); AEPCO 11, AEPCO RDS 104

DESCRIPTION: Site Type/Function: lithic scatter; historic railroad bed and associated trash; rock piles and alignments. Size: 416 x 280 m. Topographic Setting: entire first terrace above Gila floodplain; continues northward in saddle between two hills. Biotic Setting: sparse; creosote bush, acacia, snakeweed, yucca. Affiliation/Age: lithic scatter is aboriginal; railroad is pre-WW I; rock alignments could belong to either component. Condition: pre-historic site was disturbed by construction of railroad; dirt road cuts through site.

DOCUMENTATION: Recorded by: Simpson and others (1976); Coe, Rieger (1977). Tested and collected by ASM (1977). Location of Records: ASM; BLM Safford District Office. Location of Collections: ASM. Reference: Simpson and Westfall 1978.

SITE NO: AZ CC:3:46 (ASM)

OTHER DESIGNATIONS: Powers Ruin

DESCRIPTION: Site Type/Function: pithouse/pueblo village. Size: 160 x 50 m. Topographic Setting: high terrace remnant overlooking Gila floodplain and a side canyon. Biotic Setting: mesquite, creosote bush; mesquite bosque on Gila floodplain. Affiliation/Age: Three Circle and Mimbres phase Mogollon. Condition: good; partly excavated by University of Arizona (1983).

DOCUMENTATION: Recorded by: B. Huckell, L. Huckell, Crown, Gregory (1981). Location of Records: ASM. Reference: a report is being prepared at this time.

REMARKS: One of the few undamaged Mimbres sites along the Gila in Arizona. At high water, the Camelsback reservoir would surround this site on three sides.

SITE NO: AZ CC:3:47 (ASM)

OTHER DESIGNATIONS: ARO2-04-161 (BLM); Eagle Creek Ruin

DESCRIPTION: Site Type/Function: pueblo with compound walls, central plaza. Size: 150 x 100 m. Topographic Setting: mesa near Gila River. Biotic Setting: mesquite, prickly pear, ocotillo, paloverde, sotol, hackberry. Affiliation/Age: Salado. Condition: one or two potholes but otherwise undisturbed.

DOCUMENTATION: Recorded by: Urban (1982). Location of Records: ASM.

SITE NO: ARO2-04-197 (BLM)

DESCRIPTION: Site Type/Function: chipped and ground stone scatter. Size: 10 x 10 m. Topographic Setting: small bench overlooking Gila River. Biotic Setting: mesquite. Affiliation/Age: aboriginal. Condition: good (1975).

DOCUMENTATION: Recorded by: Kinkade (1975). Location of Records: BLM Safford District Office.

SITE NO: ARO2-04-198 (BLM)

DESCRIPTION: Site Type/Function: habitation; 4 loci of cobble structures and associated trash. Size: 120 x 60 m. Topographic Setting: pediment near Gila River. Biotic Setting: creosote bush. Affiliation/Age: Mogollon or Hohokam. Condition: good, despite some vandalism (1975).

DOCUMENTATION: Recorded by: Kinkade (1975). Location of Records: BLM Safford District Office.

SITE NO: ARO2-04-200 (BLM)

DESCRIPTION: Site Type/Function: habitation; small pueblo. Size: 10 x 10 m. Topographic Setting: high pediment sloping into Gila River. Biotic Setting: creosote bush; mesquite nearby. Affiliation/Age: Mogollon or Hohokam. Condition: poor; extensive vandalism (1975).

DOCUMENTATION: Recorded by: Kinkade (1975). Location of Records: BLM Safford District Office.

SITE NO: ARO2-04-201 (BLM)

DESCRIPTION: Site Type/Function: lithic scatter. Size: 200 x 100 m. Topographic Setting: first bench above and between Gila and San Francisco Rivers. Biotic Setting: thorn scrub. Affiliation/Age: aboriginal. Condition: good (1975).

DOCUMENTATION: Recorded by: Kinkade (1975).

SITE NO: AR02-04-273 (BLM)

DESCRIPTION: Site Type/Function: chipping station. Size: 4 x 4 m. Topographic Setting: on high ridge top overlooking Gila River valley. Biotic Setting: desert scrub. Affiliation/Age: aboriginal. Condition: good (1976).

DOCUMENTATION: Recorded by: Kinkade (1976). Location of Records: BLM Safford District Office.

REMARKS: The site appears to be just out of the proposed maximum flood pool for the Camelsback reservoir.

SITE NO: AR02-04-274 (BLM)

DESCRIPTION: Site Type/Function: 2+ room pueblo structure, sherd and lithic scatter. Size: 100 x 50 m. Topographic Setting: low bench above Gila River. Biotic Setting: cholla, grasses, catclaw. Affiliation/Age: prehistoric. Condition: good; barbed wire fence across site (1976).

DOCUMENTATION: Recorded by: Kinkade (1976). Location of Records: BLM Safford District Office.

SITE NO: AR02-04-945 (BLM)

REMARKS: Site form could not be located (1983).

SITE NO: HS02-04-022

OTHER DESIGNATIONS: Rock House

DESCRIPTION: Site Type/Function: homestead (one-room, dry-laid masonry, dirt floor). Size: "5 acres" (presumably includes farming area). Topographic Setting: on bank of permanent tributary of Gila. Affiliation/Age: historic, early 1900s. Condition: good (1974).

DOCUMENTATION: Recorded by: Walker (1974). Location of Records: BLM Safford District Office.

SITE NO: HS02-04-026

DESCRIPTION: Site Type/Function: water wheel and irrigation ditch. Size: 5 x 5 m. Topographic Setting: bank of Gila River. Biotic setting: batamote, mesquite. Affiliation/Age: historic, early 1900s. Condition: good (1978).

DOCUMENTATION: Recorded by: Kinkade (1975). Location of Records: BLM Safford District Office. Reference: BLM 1978.

REMARKS: this site consists of a water wheel, adjacent earth and timber platform, and irrigation canal leading from the wheel. The wheel supplied water for a small farm nearby, and supplied water for an unknown type of mill.

The wheel was built of 2 x 4 in. boards, with rectangular buckets of 1 in. planking and metal supports; total diameter of the wheel was about 16 ft. (5 m.). A structure of this kind is unusual in the Southwest.

SITE NO: HS02-04-027 (BLM)

OTHER DESIGNATIONS: Aragon Place

DESCRIPTION: Site Type/Function: farm and ranch headquarters. Size: 70 x 50 m. Topographic Setting: heavily dissected pediment next to Gila River. Biotic Setting: mesquite, riparian shrubs, cottonwood along Gila; creosote-bush on pediment ridges. Affiliation/Age: historic, mid 1900s to ca. 1970. Condition: poor--house burned and collapsed, collecting (1978).

DOCUMENTATION: Recorded by: Kinkade (1975). Location of Records: BLM Safford District Office. Reference: BLM 1978.

SITE NO: HS02-04-028 (BLM)

OTHER DESIGNATIONS: Maques Place

DESCRIPTION: Site Type/Function: ranch house and fenced pasture. Size: 40 x 40 m. Topographic Setting: highly dissected pediment next to Gila River. Biotic Setting: mesquite. Affiliation/Age: historic, mid 1900s. Condition: good (1978).

DOCUMENTATION: Recorded by: Kinkade (1975). Location of Records: BLM Safford District Office. Reference: BLM 1978.

SITE NO: HS02-04-029 (BLM)

DESCRIPTION: Site Type/Function: miner's habitation (two masonry structures, mining test hole)? Size: 125 x 20 m. Topographic Setting: edge of ridge top, next to small wash. Biotic Setting: creosote bush, mesquite. Affiliation/Age: historic, 1800s (?) to 1900s (?). Condition: good (1978).

DOCUMENTATION: Recorded by: Kinkade (1975). Location of Records: BLM Safford District Office. Reference: BLM 1978.

SITE NO: HS02-04-038 (BLM)

OTHER DESIGNATIONS: Gillard Hot Springs

DESCRIPTION: Site Type/Function: hot springs resort. Size: 200 x 80 m. Affiliation/Age: historic Anglo, early 1900s. Condition: good.

DOCUMENTATION: Recorded by: Kinkade (1975). Location of Records: BLM Safford District Office. Reference: BLM 1978.

REMARKS: Partly buried? Concrete foundations, hot springs, beach, access road.

SITE NO: HS02-04-106 (BLM)

OTHER DESIGNATIONS: Wilkerson Ranch

DESCRIPTION: Site Type/Function: Civilian Conservation Corps (CCC) camp. Topographic Setting: terrace near Gila River. Biotic Setting: mesquite, creosote bush, cottonwood, saltbush. Affiliation/Age: historic Anglo (Great Depression/New Deal). Condition: fair; partly disturbed.

DOCUMENTATION: Recorded by: Altschul (1983). Location of Records: ASM.

REMARKS: Site consists of CCC camp headquarters building and several out-buildings. Some of the outbuildings, including the jail, are still standing but in poor condition. The site is currently being used (1983) as a base for ranching operations, and is undergoing increasing amounts of disturbance. The site is just out of the proposed maximum floodpool for the Camelsback reservoir.

SITE NO: Greenlee County No. 12 (SHPO)

OTHER DESIGNATIONS: Gila River Bridge, U.S. Route 666

REMARKS: This bridge is a steel girder structure which, according to a local informant, was built about 1953. Although this is the location indicated on the SHPO's maps for Greenlee Co. No. 12, more likely the intended bridge is that described below as NWR No. 4.

SITE NO: Greenlee County No. 23 (SHPO)

OTHER DESIGNATIONS: Salcido Ranch

REMARKS: No information on this site could be located.

SITE NO: NWR 1

DESCRIPTION: Site Type/Function: bridge and rail bed. Topographic Setting: bridge spans Gila River; rail bed passes along it. Affiliation/Age: see below. Condition: good (1983).

DOCUMENTATION: Recorded by: Altschul (1983). Location of Records: ASM.

REMARKS: This trestle bridge and rail bed are part of the former Morenci Southern road from Morenci to Guthrie, and was built ca. 1901. After the 1983 flooding, it was inspected from a distance, and apparently had suffered no damage.

SITE NO: NWR 3

OTHER DESIGNATIONS: Arizona Copper Company Smelter Complex

DESCRIPTION: Site Type/Function: copper smelter complex. Size: ca. 250 x 250 m. Topographic Setting: on artificially created terrace lying in Gila floodplain. Affiliation/Age: historic Anglo. Condition: largely dismantled and disturbed (1983).

COMMENTS: Buildings associated with the smelter are either destroyed or rapidly decaying. However, an inspection after the 1983 flooding showed that it escaped damage from that source.

SITE NO: NWR 4

OTHER DESIGNATIONS: Old Safford Road Bridge

DESCRIPTION: Site Type/Function: bridge. Topographic Setting: bridge spans Gila River. Affiliation/Age: historic Anglo; Depression-New Deal Era. Condition: fair; the bridge is still in use, but the Ionic designs along the railing are cracking or entirely gone.

DOCUMENTATION: Recorded by: Altschul (1983). Location of Records: ASM.

REMARKS: This bridge is a concrete structure built during the New Deal era, perhaps by crews from the Wilkerson Ranch CCC camp. The bridge was briefly revisited after the flood of 1983, and proved to have escaped damage.

SITE NO: HA 11

REMARKS: This is a pueblo seen from the air by Hemphill Associates (Fitting, Hemphill, and Abbe 1982). Location is approximate. No site records were located.

SITE NO: HA 12

REMARKS: A pueblo noted in the same fashion as HA 11.

Duncan Section, Arizona

SITE NO: Greenlee Co. No. 9 (SHPO)

OTHER DESIGNATIONS: Benjamin F. Billingsley House

REMARKS: Queen Anne style residence built ca. 1900 by Benjamin Billingsley, one of the first merchants in Duncan. A National Register nomination form has been prepared for this structure. The house was partly inundated during the flood of 1978, but escaped damage during the flood of 1983. Billingsley's last store is also standing in the town.

SITE NO: FS02-04-006

OTHER DESIGNATIONS: U. of A. Paleontology Catalogue Locality 31

REMARKS: This location is included for information purposes only. The site contains vertebrate remains possibly of Blancan remains. Site location is approximate.

Cliff-Gila Section, New Mexico

SITE NO: LA 58

DESCRIPTION: Site Type/Function: Ceramic Scatter. Topographic Setting: terrace. Biotic Setting: grassland. Affiliation/Age: Mimbres phase (also Cliff phase). Condition: intact.

DOCUMENTATION: Recorded by: LA, MNM. Collected by LA, MNM. Location of Records: LA, MNM.

SITE NO: LA 2454

OTHER DESIGNATIONS: N.M. State Register No. 126; Woodrow Ruin

DESCRIPTION: Site Type/Function: pueblo with multiple room blocks, pithouse village with two great kivas. Size: 275 x 150 m. Topographic Setting: high terrace above Gila River. Affiliation/Age: Mimbres phase and earlier Mogollon.

DOCUMENTATION: Location of Records: SHPO, Santa Fe, and LA, MNM.

SITE NO: LA 4937

OTHER DESIGNATIONS: N.M. State Register No. 221; G-287; Kwilleylekia

DESCRIPTION: Site Type/Function: pueblo, ceramic scatter. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Cliff phase. Condition: excavated, percent unknown.

DOCUMENTATION: Recorded by: U. of Michigan, Ann Arbor (1971). Collected by U. of Michigan, Ann Arbor. Location of Records: LA, MNM; U. of Michigan, Ann Arbor.

REMARKS: excavated in the 1960s and 1970s by Richard and Virginia Ellison, who built a private museum at the site. The site was flooded out in 1978 and has been closed since then. In 1984, however, the Ellisons had resumed digging and were rehabilitating the grounds.

SITE NO: 4981 A, B

OTHER DESIGNATIONS: Gila Depot

DESCRIPTION: Site Type/Function: military installation. Size: between 100 and 5000 sq. m. Topographic Setting: terrace. Biotic Setting: juniper,

cottonwood, mesquite. Affiliation/Age: Anglo/American, territorial period.
Condition: intact (1966).

DOCUMENTATION: Recorded by: Snabury, Cal. State Los Angeles (1966). Location of Records: LA, MNM.

SITE NO: LA 5356

DESCRIPTION: Site Type/Function: pueblo, ceramic scatter. Size: between 100 and 500 sq. m. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: vandalized (1971).

DOCUMENTATION: Recorded by: unknown (1971). Collected by: unknown. Location of Records: LA, MNM.

SITE NO: LA 5421

OTHER DESIGNATIONS: Saige Site (?)

DESCRIPTION: Site Type/Function: pueblo, pithouse village. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Three Circle, Mimbres phases. Condition: mechanically disturbed (1971).

DOCUMENTATION: Recorded by: U. of Michigan, Ann Arbor (1971). Collected by: unknown; collections at U. of Michigan, Ann Arbor. Location of Records: U. of Michigan, Ann Arbor.

REMARKS: This site is mistakenly identified as G-11 in the LA, MNM site records.

SITE NO: LA 5422

OTHER DESIGNATIONS: Saige-McFarland Site

DESCRIPTION: Site Type/Function: pithouse village, pueblo. Affiliation/Age: Late Pithouse; Mimbres phase. Condition: partly excavated (1971).

DOCUMENTATION: Recorded by: Fitting (1971; 1976). Location of Records: unknown, but see Site Book, Vol. 1 and 2, Lab. of Anthro. survey records. Reference: Fitting, Ross, and Gray 1971.

SITE NO: LA 5775

DESCRIPTION: Site Type/Function: pueblo, sherd and lithic scatter. Size: 12 x 12 m. Topographic Setting: hilltop. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: intact (1961).

DOCUMENTATION: Recorded by: Alexander (1961). Collected by LA, MNM. Location of Records: LA, MNM. Reference: Alexander 1964.

SITE NO: LA 5776

DESCRIPTION: Site Type/Function: pueblo, sherd and lithic scatter. Size: 30 x 15 m. Topographic Setting: hilltop. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: intact (1961).

DOCUMENTATION: Recorded by: Alexander (1961). Collected by LA, MNM. Location of Records: LA, MNM.

SITE NO: LA 5777

DESCRIPTION: Site Type/Function: pueblo, sherd and lithic scatter. Size: 15 x 15 m. Topographic Setting: hilltop. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: intact (1961).

DOCUMENTATION: Recorded by LA, MNM (1961). Collected by LA, MNM. Location of Records: LA, MNM. Reported by: Alexander 1964.

SITE NO: LA 5778

DESCRIPTION: Site Type/Function: pueblo, sherd and lithic scatter. Size: 45 x 25 m. Topographic Setting: hillslope. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: vandalized (1961).

DOCUMENTATION: Recorded by: Alexander (1961). Collected by LA, MNM. Location of Records: LA, MNM. Reported by: Alexander 1964.

SITE NO: LA 5779

OTHER DESIGNATIONS: Lee Village

DESCRIPTION: Site Type/Function: pithouse village, sherd and lithic scatter. Size: 110 x 60 m. Topographic Setting: terrace. Biotic Setting: cottonwood, willow, juniper, mesquite. Affiliation/Age: Three Circle phase. Condition: intact (1961).

DOCUMENTATION: Recorded by: Hammack (1965). Collected, excavated by LA, MNM. Location of Records and Collections: LA, MNM. References: Alexander 1964; Hammack and others 1966; Bussey 1972, 1975.

SITE NO: LA 5790

DESCRIPTION: Site Type/Function: pueblo, sherd and lithic scatter. Size: 280 sq. m. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Cliff phase. Condition: intact (1961).

DOCUMENTATION: Recorded by: Dawson (1961). Collected by LA, MNM. Location of Records: LA, MNM. Reference: Alexander 1964.

SITE NO: LA 5791

DESCRIPTION: Site Type/Function: pueblo, sherd and lithic scatter. Size: 75 x 60 m. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Cliff phase. Condition: vandalized (1961).

DOCUMENTATION: Recorded by: Dawson (1961). Collected by LA, MNM. Location of Records: LA, MNM. Reference: Alexander 1964.

SITE NO: LA 5792

DESCRIPTION: Site Type/Function: pueblo, sherd and lithic scatter. Size: 140 sq. m. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Cliff phase. Condition: intact (1961).

DOCUMENTATION: Recorded by: Dawson (1961). Collected by LA, MNM. Location of Records: LA, MNM. Reference: Alexander 1964.

SITE NO: LA 5793

OTHER DESIGNATIONS: Ormand Site

DESCRIPTION: Site Type/Function: pueblo, sherd and lithic scatter. Size: 240 x 120 m. Topographic Setting: terrace. Biotic Setting: grasses, mesquite, tumbleweed. Affiliation/Age: Mogollon. Condition: excavated, percentage unknown (1961).

DOCUMENTATION: Recorded by: LA, MNM (1961). Excavated by LA, MNM (1965). Location of Records and Collections: LA, MNM. References: Alexander 1964; Hammack and others 1966.

SITE NO: LA 6000

OTHER DESIGNATIONS: NE 49; Fort West; Fort West Hill; G-281

DESCRIPTION: Site Type/Function: (1) pithouse village, pueblo, kiva, sherd and lithic scatter; (2) military post. Size: greater than 10,000 sq. m. Topographic Setting: bench. Biotic Setting: grassland. Affiliation/Age: (1) Mogollon, Late Pithouse and Mimbres phase; (2) Anglo. Condition: vandalized (1983).

DOCUMENTATION: Recorded by: Water Power Resources (1983). Location of Records: Human Systems Research; U. of Michigan, Ann Arbor. Reference: Myers 1968; Frazer 1972.

SITE NO: LA 6783

OTHER DESIGNATIONS: Dinwiddie Site

DESCRIPTION: Site Type/Function: pithouse village, pueblo. Size: 45 x 45 m. Topographic Setting: floodplain/valley bottom. Biotic Setting: grasses,

yucca, mesquite, cholla. Affiliation/Age: Three Circle and Mimbres phases. Condition: mechanically disturbed, partly excavated (1966).

DOCUMENTATION: Recorded by: Hammack (1965). Excavated by LA, MNM. Location of Records and Collections: LA, MNM. References: Hammack and others 1966; Bussey 1972.

SITE NO: LA 6784

DESCRIPTION: Site Type/Function: pueblo, sherd scatter, burial. Size: 45 x 30 m. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: vandalized (1965).

DOCUMENTATION: Recorded by: Hammack (1965). Collected by LA, MNM. Location of Records: LA, MNM. Reported by: Hammack, Bussey, and Ice 1966.

SITE NO: LA 6785

OTHER DESIGNATIONS: Lee Village

DESCRIPTION: Site Type/Function: isolated masonry structure, possible masonry structure, possible subterranean structure. Size: 12 x 12 m. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: partly excavated (1971).

DOCUMENTATION: Recorded by: Hammack (1965). Collected by LA, MNM. Location of Records and Collections: LA, MNM. Reference: Hammack and others 1966.

SITE NO: LA 34778

OTHER DESIGNATIONS: G-11, Domingues Site

DESCRIPTION: Site Type/Function: pueblo, ceramic scatter. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Mimbres and Cliff phases. Condition: mechanically disturbed (1972).

DOCUMENTATION: Recorded by: U. of Michigan, Ann Arbor. Collected by U. of Michigan, Ann Arbor. Location of Records: LA, MNM, and U. of Michigan, Ann Arbor.

SITE NO: LA 34779

OTHER DESIGNATIONS: G-12, DeFausel Site

DESCRIPTION: Site Type/Function: pueblo, sherd scatter. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Mimbres, Animas phases. Condition: partly destroyed (1972).

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1972). Location of Records: LA, MNM, and U. of Michigan, Ann Arbor.

SITE NO: LA 34788

OTHER DESIGNATIONS: G-1, Heron Ruin

DESCRIPTION: Site Type/Function: pueblo, sherd scatter. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: excavated.

DOCUMENTATION: Recorded by: U. of Michigan, Ann Arbor (1972). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor. Reference: Burns (1972).

SITE NO: LA 34789

OTHER DESIGNATIONS: G-2, Riverside Ruin

DESCRIPTION: Site Type/Function: pueblo, sherd scatter. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Mimbres phase, Cliff phase. Condition: excavated, percentage unknown.

DOCUMENTATION: Recorded by: U. of Michigan, Ann Arbor (1972). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor. Reference: Baker 1971.

SITE NO: LA 34793

OTHER DESIGNATIONS: NE33A; G-18; Villareal I

DESCRIPTION: Site Type/Function: pueblo, ceramic scatter. Size: between 1000 and 500 sq. m. Topographic Setting: bench. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: vandalized; excavated, percentage unknown (1983).

DOCUMENTATION: Recorded by: Human Systems Research. Location of Records: LA, MNM, and Human Systems Research.

SITE NO: LA 34794

OTHER DESIGNATIONS: NE33B; G-19; Peabody Museum Survey No. 9; Villareal II

DESCRIPTION: Site Type/Function: pueblo with adobe and jacal roomblocks, plaza; fire-cracked rock features. Size: greater than 10,000 sq. m. Topographic Setting: bench. Biotic Setting: woodland. Affiliation/Age: Animas phase for pueblo; unknown Mogollon for fire-cracked rock features. Condition: vandalized; excavated, percentage unknown (1983).

DOCUMENTATION: Recorded by Human Systems Research (1983). Location of Records: LA, MNM and Human Systems Research. Reference: Lekson and Klinger 1973.

SITE NO: LA 34795

OTHER DESIGNATIONS: G-20; Villareal III

DESCRIPTION: Site Type/Function: pithouse village, pottery. Topographic Setting: floodplain/ valley bottom. Biotic Setting: woodland. Affiliation/Age: Three Circle phase.

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34796

OTHER DESIGNATIONS: G-21; Villareal IV

DESCRIPTION: Site Type/Function: pithouse village. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Mogollon. Condition: intact (1971).

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34797

OTHER DESIGNATIONS: G-22; Guerrero I

DESCRIPTION: Site Type/Function: masonry pueblo, pithouse, sherd scatter. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Mogollon. Condition: vandalized (1971).

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971). Location of Records: LA, MNM and U of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34798

OTHER DESIGNATIONS: G-23; Guerrero II

DESCRIPTION: Site Type/Function: pueblo, pithouse(s). Topographic Setting: mesa or butte. Biotic Setting: woodland. Affiliation/Age: Mogollon.

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34799

OTHER DESIGNATIONS: G-24; Maldonado No. 1

DESCRIPTION: Site Type/Function: masonry pueblo, pithouse(s). Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Mimbres phase.

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34800

OTHER DESIGNATIONS: G-25; Eaton Site

DESCRIPTION: Site Type/Function: lithic scatter. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Archaic, between 5000 B.C. and A.D. 200. Condition: tested.

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34802

OTHER DESIGNATIONS: G-29; Spar Canyon No. 1

DESCRIPTION: Site Type/Function: masonry pueblo. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Mimbres. Condition: intact (1971).

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34803

OTHER DESIGNATIONS: CC33A; G-30; Spar Canyon No. 2

DESCRIPTION: Site Type/Function: jacal pueblo, ceramic scatter, hearth. Size: greater than 10,000 sq. m. Topographic Setting: bench. Biotic Setting: grassland. Affiliation/Age: Mimbres phase. Condition: intact (1983).

DOCUMENTATION: Recorded by: Human Systems Research (1983). Location of Records: LA, MNM and Human Systems Research.

SITE NO: LA 34804

OTHER DESIGNATIONS: G-31; Domingues Canyon I

DESCRIPTION: Site Type/Function: masonry pueblo, sherd scatter. Topographic Setting: terrace. Biotic Setting: woodland. Affiliation/Age: Mimbres phase. Condition: vandalized (1971).

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971).
Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of
Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34806

OTHER DESIGNATIONS: G-33; Massey Ruin

DESCRIPTION: Site Type/Function: masonry pueblo, sherd scatter. Topographic
Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/
Age: Mimbres phase.

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971).
Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of
Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34830

OTHER DESIGNATIONS: G-60

DESCRIPTION: Site Type/Function: masonry pueblo. Topographic Setting:
terrace. Biotic Setting: woodland. Affiliation/Age: Mogollon. Condition:
mechanically destroyed (1971).

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971).
Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of
Collections: U. of Michigan, Ann Arbor.

SITE NO: 34831

OTHER DESIGNATIONS: G-61

DESCRIPTION: Site Type/Function: masonry pueblo. Topographic Setting:
terrace. Biotic Setting: woodland. Affiliation/Age: Mimbres phase?

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971).
Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of
Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 34832

OTHER DESIGNATIONS: G-62

DESCRIPTION: Site Type/Function: isolated masonry room. Topographic Set-
ting: terrace. Biotic Setting: woodland. Affiliation/Age: Mogollon.

DOCUMENTATION: Recorded by: U. of Michigan, Ann Arbor (1971). Location of
Records: LA, MNM and U. of Michigan, Ann Arbor.

SITE NO: LA 34833

OTHER DESIGNATIONS: G-43

DESCRIPTION: Site Type/Function: sherd scatter, possible masonry room. Topographic Setting: floodplain/valley bottom. Biotic Setting: woodland. Affiliation/Age: Mogollon. Condition: vandalized (1971).

DOCUMENTATION: Recorded and Collected by: U. of Michigan, Ann Arbor (1971). Location of Records: LA, MNM and U. of Michigan, Ann Arbor. Location of Collections: U. of Michigan, Ann Arbor.

SITE NO: LA 39305

OTHER DESIGNATIONS: CC31A

DESCRIPTION: Site Type/Function: lithic scatter. Size: between 5000 and 10,000 sq. m. Topographic Setting: bench. Biotic Setting: woodland. Affiliation/Age: Mogollon. Condition: intact (1983).

DOCUMENTATION: Recorded by: Human Systems Research. Location of Records: LA, MNM and Human Systems Research.

SITE NO: LA 39310

OTHER DESIGNATIONS: NE37A

DESCRIPTION: Site Type/Function: lithic scatter, fire-cracked rock. Size: greater than 10,000 sq. m. Topographic Setting: bench. Biotic Setting: grassland. Affiliation/Age: Mogollon. Condition: intact (1983).

DOCUMENTATION: Recorded by: Human Systems Research (1983). Location of Records: LA, MNM and Human Systems Research.

SITE NO: LA 39312

OTHER DESIGNATIONS: NE40A

DESCRIPTION: Site Type/Function: lithic scatter. Size: between 25 and 100 sq. m. Topographic Setting: low rise. Biotic Setting: desert scrub. Affiliation/Age: Mogollon. Condition: intact (1983).

DOCUMENTATION: Recorded by: Human Systems Research (1983). Location of Records: LA, MNM and Human Systems Research.

SITE NO: LA 39313

OTHER DESIGNATIONS: NE45A

DESCRIPTION: Site Type/Function: isolated jacal room, lithic scatter. Size: between 100 and 500 sq. m. Topographic Setting: hillslope. Biotic Setting: grassland. Affiliation/Age: Mogollon. Condition: intact (1983).

DOCUMENTATION: Recorded by: Human Systems Research (1983). Location of Records: LA, MNM and Human Systems Research.

SITE NO: LA 39315

OTHER DESIGNATIONS: CC29A

DESCRIPTION: Site Type/Function: adobe roomblock. Size: between 500 and 10,000 sq. m. Topographic Setting: terrace. Biotic Setting: grassland. Affiliation/Age: Mimbres Mogollon and Salado. Condition: vandalized (1983).

DOCUMENTATION: Recorded by: Human Systems Research (1983). Location of Records: LA, MNM and Human Systems Research.

SITE NO: State Register No. 189

OTHER DESIGNATIONS: LC Ranch Headquarters

REMARKS: Hollywood-scale headquarters buildings for Tom Lyons, one of the true cattle barons of the West. The original section was built in 1890. After the decline of the ranch, the building was briefly used as a utopian colony. For additional information, see Calvin 1946, Morris 1981, and comments in Chapter 4.

SITE NO: NWR 22

OTHER DESIGNATIONS: San Isidro Church

DOCUMENTATION: Briefly recorded by NWR in 1984. Location of Records: LA, MNM.

REMARKS: Located near the LC Ranch headquarters. According to a local informant, the church was built by Hispanic employees of Tom Lyons, who donated the parcel. This would date the church to ca. 1890. Architectural style of the church is consistent with such a date.

Glenwood Section, New Mexico

SITE NO: LA 13921

OTHER DESIGNATIONS: AR03-06-04-22 (NFS)

DESCRIPTION: Site Type/Function: temporary structure (?), possible hearth, lithic scatter. Size: between 100 and 500 sq. m. Topographic Setting: ridge. Biotic Setting: woodland. Condition: eroded, excavated (1976).

DOCUMENTATION: Recorded by: Janes (1975); LA, MNM (1976). Excavated by: Bussey, New Mexico State U. (1976). Location of Records: LA, MNM (survey form only); New Mexico State U. (?). Location of Collections: New Mexico State U. (?). References: Janes 1975, 1976; Bussey 1977.

REMARKS: This site is outside the Whitewater Canyon study area, but is described here as the only known prehistoric site close to that study area.

SITE NO: NWR 21

OTHER DESIGNATIONS: Glenwood Fish Hatchery

DOCUMENTATION: Briefly recorded by NWR in 1984. Location of Records: LA, MNM.

REMARKS: Hatchery built in 1938 by the WPA, and including several buildings of an interesting style (concrete walls studded with river cobbles).

SITE NO: NWR 23

OTHER DESIGNATIONS: Glenwood CCC camp

REMARKS: In recent years the buildings were used as a summer camp, and were subsequently torn down. The only remains of the CCC operation at this time are a few slab foundations.

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