

AN ARCHAEOLOGICAL SURVEY FOR A POTENTIAL EXPANSION OF
SUN CITY WEST, MARICOPA COUNTY, ARIZONA

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Submitted by:
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February 1, 1991

Introduction

Archaeological Consulting Services, Ltd. (ACS) conducted a cultural resource survey of private land directly north of Sun City West. The purpose was an inventory and assessment of cultural resources that might be affected by real estate development associated with future expansion of the community. The survey was requested by Mr. Arnie Lahlun of Stanley Consultants, on behalf of the Del Webb Corporation. Four sites and numerous isolated finds were recorded within the project area. These archaeological remains included two prehistoric artifact scatters, 46 prehistoric isolated finds, two historic sites associated with early twentieth century homesteading, and 63 historic isolated finds.

Project Area

The project area incorporates 1,100 acres (445 ha) directly north of Deer Valley Road, between Sun City West to the south and the McMicken Dam outlet channel to the north. The area encompasses the western half of Section 15, the entire area of Section 16, and the eastern quarter of Section 17 within Township 4 North, Range 1 West (Gila and Salt River Baseline and Meridian) (Figure 1).

The survey area appears level but gently slopes to the southeast, with elevations ranging from 1,320 ft (397 m) to 1,270 ft (382 m). Major washes flow toward the southeast. The creosote flats are typical of the lower basin zones within the Sonoran Desert. Creosotebushes are the dominant vegetation. Low shrubs such as brittlebush, which are often associated with creosote, are conspicuously rare. Short grasses grow on the alluvial flats. Mesquite and palo verde trees border the washes, and scattered saguaro and barrel cacti are more frequent at the higher elevations within the northeastern portion of the project area. Within the past century, the overall density of the vegetation has likely been diminished by groundwater pumping for agriculture, livestock grazing, and the disruption of natural drainage patterns by the construction of the McMicken Dam outlet channel and, to its north, the Beardsley Canal.

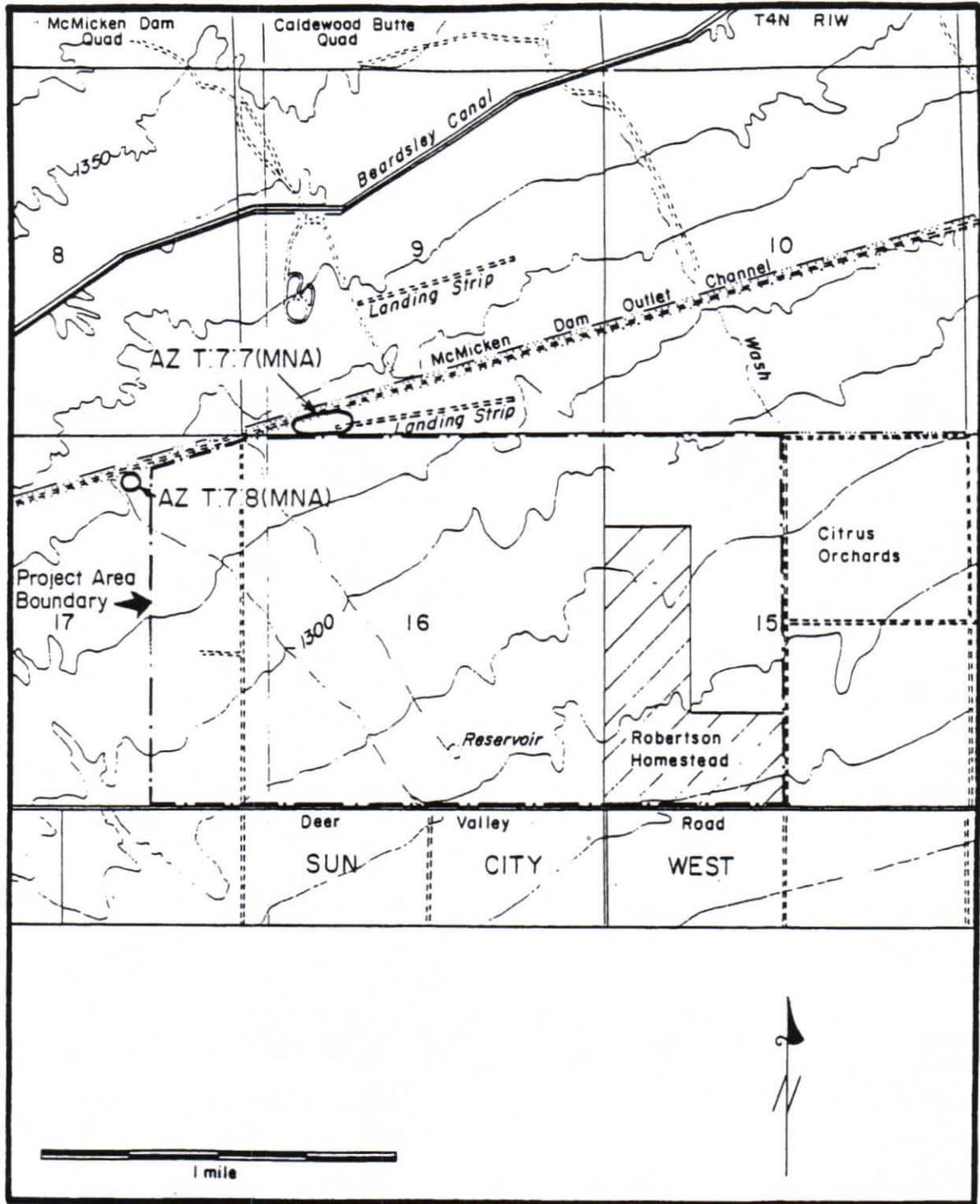


Figure 1. Portions of the USGS 7.5' McMicken Dam and Calderwood Butte topographic quadrangles showing the location of the project area, nearby archaeological sites, and the historic Robertson homestead.

Aside from a small number of low gravel-covered rises in the western half of the project area, the ground surface is covered by sparse gravel overlying the sandy loam substrate. The surface has been subjected to sheet wash and, in a few areas, headward erosion. Modern ground disturbance has resulted from road construction at the southern perimeter of the project area and airstrip construction at its northern margin. Near the half-section point between Sections 16 and 17, a road leads westward to the remains of a recent house, beyond which lies a large trash dump containing construction debris and plant trimmings. The trash dump may have covered cultural materials; prehistoric artifacts were found in its vicinity. Otherwise, sparse vegetation afforded excellent surface visibility of archaeological materials throughout the project area.

Previous Research and Cultural Background

Prior to the fieldwork, cultural resource files were checked at the State Historic Preservation Office and Arizona State Museum (ASM) for the presence of previously recorded sites in or near the project area. Only a single parcel of 5 acres (2 ha) within the project area, located at the extreme southeastern corner of Section 16, had been surveyed (Madsen 1984). No sites or isolated finds have been previously recorded within the project area. However, a survey of the Palo Verde to Westwing transmission line, adjacent to the McMicken Dam outlet channel, located two prehistoric sites immediately north of the area (Stein et al. 1977) (Figure 1). The Museum of Northern Arizona (MNA) conducted the survey, as well as additional investigations at one of the sites.

Site AZ T:7:8(MNA) (NA15,138) was a small artifact scatter, measuring 10 m (33 ft) by 20 m (66 ft), at the edge of a wash in the northeastern corner of Section 17. The site contained pottery characteristic of the Hohokam cultural tradition, chipped stone flakes, and basalt manos. It appeared to have been a plant processing station. Site AZ T:7:7(MNA) (NA15,137) was a more substantial artifact scatter, covering 50 m (164 ft) N-S by 300 m (984 ft) E-W, located within a wedge-shaped area between the McMicken Dam outlet channel, the adjacent modern airstrip, and the northern boundary of Section 16. Since the site would have been difficult to avoid during transmission line construction, MNA conducted a program of data recovery. Investigative procedures included a random sample surface collection of 25% of the site area and excavation of 20 1 m² test units (Yablon 1979:10). Recovered artifacts included 505 ceramic sherds, classified into the following Hohokam-affiliated types: 70% phyllite-tempered Wingfield Plain; 23% sand-tempered Gila Plain, Salt variety; 2% highly micaceous Gila Plain, Gila variety; and 5% red-on-buff decorated sherds. Also recovered were 34 chipped stone specimens consisting of flakes, cores, scrapers, and hammerstones. Fragments of grinding stones included 14 trough metate specimens, three slab metate pieces, and six whole or fragmentary manos. Test excavations indicated no subsurface features and a site depth of less than 10 cm (4 in).

Characteristics of the decorated sherds indicated occupation during the Colonial and Sedentary periods, from approximately A.D. 700 to 1100. The site lacked structures or discrete activity areas indicative of year-round habita-

tion. Yablon (1979:20) argued that the quantity, types, and spatial patterning of artifacts suggested repeated seasonal occupations. Based on the presence of trough metates, generally associated with the cultivation and processing of maize, he concluded that the local Hohokam may have practiced floodwater farming along washes carrying runoff southward from the Hieroglyphic Mountains. Insufficient evidence precluded an evaluation of the relative importance of farming, as opposed to the use of wild floral and faunal resources. AZ T:7:7(MNA) was probably a larger site disturbed by the construction of the McMicken Dam outlet channel and dike. However, a recent survey of the Mead to Phoenix transmission line route by MNA, directly north of the channel, located no sites within that area (Keller 1986).

South of the project area, ACS surveyed the northern quarter of Section 20, now under development as a neighborhood within Sun City West (Rankin 1988). The area contained nine prehistoric isolated finds, predominantly metate fragments and whole manos.

Bontrager and Stone (1987) surveyed the margins of Grand Avenue (U.S. 60) between El Mirage and the Beardsley Canal. Near the community of Beardsley, they found a historic trash scatter probably deposited during the early 1920s.

Historic materials were also found along Reach 9 of the Granite Reef Aqueduct route, roughly 5 mi (8 km) north of the project area (Brown 1977). Recorded sites included two homesteads dating to the early 1920s. Informant interviews revealed that during the early 1900s, a stagecoach station was situated near a spring at the southwestern edge of Bunker Peak, a mountain located 2.5 mi (4 km) northwest of the project area. Four prehistoric sites along the aqueduct were artifact scatters ranging up to 30 m (98 ft) in diameter. Typically situated on low gravel rises within 100 m (328 ft) from large washes, these scatters incorporated Hohokam red-on-buff and red ware ceramics, Wingfield Plain sherds, and chipped and ground stone implements manufactured from basalt. They may have been temporary plant gathering and processing areas. An additional prehistoric site incorporated a series of linear rock alignments that may have functioned as check dams or agricultural terrace borders. At one of the artifact scatters, incised Gila Butte Red-on-buff sherds indicated an early Colonial period occupation, perhaps extending back to A.D. 500. The dominant plain ware type at that site was Gila Plain, rather than Wingfield Plain, the latter being more common in this region along the Agua Fria River (Brown 1977:18).

Prehistoric seasonal camps, temporary camps, or resource processing stations in the desert basins may have been used by inhabitants of more permanent camps or villages situated near more dependable water sources, such as the Agua Fria River or springs in the Hieroglyphic Mountains. The river, about 5 mi (8 km) east of the project area, supported numerous Hohokam farming villages, whose inhabitants employed a variety of agricultural strategies incorporating canal irrigation, terraced and bordered fields, and rainwater diversion systems (Green and Effland 1985). Sites along the Agua Fria River include pithouse villages and stone pueblos, limited activity loci, and rock art. They have been dated to the Colonial through early Classic periods of the Hohokam cul-

tural sequence, from about A.D. 500 to 1200. Some archaeologists regard this area as the northern periphery of the Hohokam territorial range, perhaps colonized by migrants from the Hohokam heartland along the lower Salt and middle Gila rivers. The area appears to have been used less intensively after A.D. 1150. The Northeastern Yavapai, more mobile people who drew proportionately greater sustenance from wild plants and game, historically occupied the region.

Miners moved into the area during the late 1800s. By 1890, major wagon roads included Grand Avenue between Phoenix and Wickenburg, and a road from Phoenix to Prescott along the Agua Fria River. The late nineteenth century witnessed the first historic effort to dam the Agua Fria for diversion of the water into irrigation systems (Green and Effland 1985:21). In 1893, W. H. Beardsley formed the Agua Fria Construction Company to build a dam and primary canal. Construction began in 1893, but was suspended due to financial difficulties. With support from financier Donald C. Waddell, the Beardsley Land and Investment Company finally completed the Waddell Dam and Beardsley Canal by 1925. Beardsley and his partners sold out to the Pacific Development Company of Los Angeles, which purchased over 39,00 acres (15,783 ha) west of the Agua Fria River. A promotional campaign to draw settlers to the planned agricultural paradise was extinguished by the onset of the Great Depression (Green and Effland 1985:23).

Survey Methodology

The fieldwork was conducted between January 10 and January 16, 1991, by crews of four persons including Connie Stone (Field Director), Dave Barz, Eric Baunach, Peg Davis, and Ted Silk. The crew traversed successive north-south transects, each a mile long, spaced at intervals of 20 m (66 ft). Spatial concentrations of cultural resources were marked with colored flagging tape and metal tags.

Survey Results

Given the barren appearance of the creosote flats, the survey revealed an unexpectedly high number and variety of cultural materials. Altogether, the survey documented two prehistoric sites, 46 prehistoric isolated finds, two historic sites, and 63 historic isolated finds. Relative densities vary, but cultural materials are scattered throughout the project area (Figure 2).

Prehistoric Sites

The two prehistoric sites are artifact scatters situated along washes in the western portion of the project area. Site boundaries are drawn to encompass discrete concentrations of artifacts, labeled as separate loci, and relatively high densities of isolated finds.

AZ T:7:52(ASM)

This site, which is located in the northwestern corner of Section 16, likely

a U-shaped rock alignment; its function is uncertain.

As shown in Figure 2, a canal parallels the section line. Near the northern edge of Section 15, it has been obliterated by modern ground disturbance. This canal likely originated at the Beardsley Canal, located 1 mi (1.6 km) to the north. In the southern portion of AZ T:7:50(ASM), a branch canal borders a system of parallel earthen berms that appear to have functioned as field borders. Within this area, obviously disturbed (tilled?) ground supports a particularly dense growth of native grasses.

Such well-preserved agricultural systems are rarely found at historic sites in Arizona (Stein 1989). Vegetation bordering the canals and berms rendered them visible on an aerial photo blueprint provided to ACS by the Del Webb Corporation. Inspection of the original aerial photo could clarify the extent and configuration of the agricultural system.

The trash at AZ T:7:50(ASM) consists of hundreds of fragments of metal, glass, and ceramic artifacts. Metal artifacts include food cans, coffee and tea tins, meat tins, tool parts, a portion of a cast iron stove, an enamel coffee pot lid (blue granite ware), cartridge cases, shotgun shells, and glass-lined zinc Mason jar caps. Parts of a shearing instrument indicate that sheep may have been kept at the farm, perhaps supported by alfalfa raised there. Other artifacts include bottle and jar fragments; sherds of milk glass, sun-colored amethyst glass, and blue Ball jars; and pieces of porcelain china dinner ware. Table 2 summarizes the initial dates and, where applicable, the final manufacturing dates for distinctive artifacts found at the two historic sites and as isolated finds within the project area. Sources for this information include Toulouse (1971) for glass ware; Lehner (1988) for porcelain; Simonis (1990) for evaporated milk cans; and for information on artifacts found at historic sites within Arizona, Hull-Walski and Ayres (1989), Stein (1981, 1988), and Stone (1990).

Manufacturing dates of historic artifacts indicate most intensive use of the area between 1910 and 1945. A high proportion of purple glass indicates an occupation prior to 1920. Manganese, a decolorizing agent imported from Germany, became unavailable during World War I. Glass containing manganese turns amethyst or purple when exposed to ultraviolet rays. The totality of the evidence indicates that AZ T:7:50(ASM) was occupied or used primarily during the 1910s, 1920s, and 1930s.

Plat books and homestead patents on file at the BLM state office revealed that the site area coincides with the Robertson homestead (Figure 1). Orval A. Robertson received patent (#590595) to 160 acres (65 ha) in 1917, under the provisions of the Enlarged Homestead Act of 1909. The law required that claims be cultivated in non-native crops. A 1912 amendment changed the residency requirement from five to three years, but the homesteader had the option of being absent from the claim for five months of each year. Thus, Robertson probably filed his claim between 1910 and 1915, dates consistent with the artifact assemblage at AZ T:7:50(ASM). The records show that an earlier homesteading entry, filed in 1891, was cancelled. In general, land was not

Table 2. Manufacturing Dates for Historic Artifacts Within the Project Area.

Artifacts	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960
<u>Sites</u>										
glass-lined zinc Mason jar lids	1869									
U.S. Cartridge Co. "CLIMAX" shell	1870								1936	
sun-colored amethyst/purple glass	1880					1915				
hole-in-cap fruit/vegetable cans			1890						1930	
Winchester No. 12 "REPEATER" shell					1901				1938	
Crown Potteries china					1902					1955
Remington UMC No. 12 "NITRO CLUB" shell					1910					
"BEST FOODS" jar						1922				
CLOROX bottle							1929			
Owens-Illinois glass							1929			1954
Patent numbers on Owens-Illinois bottles								1934		1954
Royal porcelain								1933		
<u>Isolated Finds</u>										
hole-in-cap P/V cans			1890							1930
milk can types, diameter and height in inches (Simonis 1990):										
#5 2 8/16 2 8/16						1903	1914			
#10 2 15/16 4 4/16							1917	1929		
#12 2 15/16 3 14/16							1917	1929		
#15 2 7/16 2 8/16							1920	1931		
#17 2 8/16 2 6/16								1931	1948	
#18 2 15/16 3 14/16, "Punch here"								1935	1945	
Hazel-Atlas glass						1920				1964
Diamond glass						1924				
Owens-Illinois bottle (Heinz patent #213)								1929	1940	
Illinois Pacific Coast glass							1930	1932		
PUREX bleach bottle								1939		
Owens-Illinois "Duraglas"								1940		1963
"RAVENNA" dinnerware, Shenango China Co.										1960
Wheaton glass										1946

available for homesteading until it had been surveyed and subdivided into sections by the GLO (Stein 1989). The GLO survey of Township 4 N, Range 1 W was not officially filed until 1896. Colton, the surveyor, observed that there were no settlers within the township at that time.

The examined records do not indicate the nature of land use or changes in ownership after the land was patented in 1917. The datable artifacts and the probable linkage of the canal to the Beardsley Canal, completed in 1925, indicate that the Robertson homestead was farmed through the 1930s. It is possible that the northern field area bordered by rock alignments, close to the wells, was cultivated to fulfill the legal homesteading requirements and later incorporated into an expanded system of fields linked to the canal. It is difficult to interpret the lack of obvious structural remains. Evidence from other desert homesteads indicates the possibility of rather insubstantial shelters such as tent houses, dugouts, or structures erected on dirt floors. Houses often were dismantled and carted away. It is possible that the homestead was occupied periodically rather than continuously. Shelter remnants may have been too ephemeral to be readily visible to the survey crew.

In addition to the historic materials, several prehistoric artifacts are scattered through the area encompassed by AZ T:7:50(ASM). These isolated finds include three whole slab metates, two whole manos, and a mano fragment.

AZ T:7:51(ASM)

This site is a trash scatter, covering an area approximately 70 m (230 ft) N-S by 60 m (197 ft) E-W, within the northeastern quarter of Section 16 (Figure 2). It contains several hundred fragments of sun-colored amethyst glass, porcelain, crockery, and blue Mason jars; more than 30 metal cans and a few buckets; and a few green and blue bottles. Similarities in artifact types, and the site's proximity to AZ T:7:50(ASM), suggest that it served as a domestic trash dump for the users of that site.

Historic Isolated Finds

Historic isolates, consisting primarily of cans and bottles, are scattered throughout Section 16 and the eastern quarter of Section 17 (Figure 2). BLM records show that the latter area was patented by cash entry, a procedure that allowed homesteaders to purchase land in lieu of fulfilling residency requirements. Henry N. Lewellen received patent (#834343) to 160 acres (65 ha) in 1921. The records hold no evidence of homesteading in Section 16. The dispersed distribution of the cans and bottles indicates that cowboys might have stopped for a quick meal while tending to livestock, since this area has been used for grazing cattle. Table 3 summarizes the nature of the historic isolated finds within the project area.

Table 3. continued

<u>Isolate No.</u>	<u>Description</u>
39	1 evaporated milk can, type #17 (see Table 2)
40	Karo Syrup bottle, Owens-Illinois "Duraglas"; 2 evaporated milk cans, type #18 (see Table 2)
41	body of early 1950s Mercury sedan
42	1 evaporated milk can, type #18 (see Table 2)
43	1 HC can
44	clear pint bottle, Owens-Illinois glass
45	1 HC can
46	2 brown pharmaceutical bottles, Wheaton glass, post-1946
47	1 evaporated milk can, type #15; 2 HC cans; Heinz Heinz bottle, patent 211; brown beverage bottle, Illinois Pacific Coast glass; "Ravenna" dinner ware
48	1 HC can
49	1 HC can
50	1 HC can
51	rock alignment parallel to section line road, 15 m long, up to 2 m wide, 80-90 rocks; no associated artifacts; function uncertain
52	1 HC can
53	1 evaporated milk can, type #10
54	2 HC cans
55	2 HC cans
56	1 HC can
57	1 HC can, 1 enamel (gray granite ware) cooking pot
58	1 HC can
59	1 HC can
60	1 HC can
61	80-90 cans, including evaporated milk cans, type #12; 1 enamel (gray granite ware) cooking pot; fragments of glass and porcelain; single dumping episode
62	1 HC can
63	50-60 cans including HC cans; single dumping episode

Recommendations

Isolated cultural materials have been adequately recorded in areas outside of the defined site boundaries; they can yield little further information. In those zones of the project area, cultural resources pose no constraints on future development. Development of the south half of Section 16 poses no threat to existing cultural resources, if the bordering archaeological sites are avoided or, if necessary, protected by fences.

The four sites recorded within the project area are potentially eligible for nomination to the National Register of Historic Places, by virtue of the fol-

lowing qualities: they retain sufficient physical integrity to yield information on prehistoric and historic activities; the historic sites are more than 50 years old; and under "criterion D", the sites are likely to yield information important in prehistory and history. Therefore, additional archaeological investigation is recommended for these sites prior to development.

Prehistoric Sites

The prehistoric sites, AZ T:7:52 and T:7:53(ASM), can yield information regarding changes through time in Hohokam use of desert basin resources. Although much archaeological work has taken place along the Agua Fria River, there is relatively limited knowledge of settlement patterns, economic strategies, and social affiliations of groups who occupied the desert zone west of the Agua Fria. Brown (1977) suggested that this was a zone of interaction between the river-based Hohokam and inhabitants of the mountainous country to the north. Raw material studies of ceramics and grinding implements could yield information regarding the geographic and social ties of the site users.

At the prehistoric sites, further investigations should focus on the five areas of relatively high artifact density designated as numbered loci. These areas include low gravel rises that have been subjected to relatively minimal disturbance from erosion. Surface collection and artifact analysis should be supplemented by subsurface testing to determine the depth of the cultural deposits and the presence of subsurface features. Soil deposition appears to have buried artifacts at some of the loci, although investigations at nearby AZ T:7:7(MNA) revealed that the depth of that site did not exceed 10 cm (4 in). Pollen or flotation samples from subsurface archaeological contexts could indicate whether floodwater farming took place along the washes, as suggested by Yablon (1979).

Historic Sites

The historic sites, AZ T:7:50 and T:7:51(ASM), can yield information regarding the history of homesteading and early irrigation systems in the desert regions of Arizona. Although homesteading was a "major factor in the settlement and growth of Arizona" (Stein 1989:2), only a few historic homesteads have received detailed study. AZ T:7:50(ASM) is particularly interesting in several respects. The first serious attempt to settle and farm the area culminated in the successful conveyance of a title patent. In general, failures outnumbered successes for desert homesteading claims. A locally high water table, soil labeled as "first rate" by the surveyor Colton, and the proximity of major roads may have contributed to the success of the Robertson homestead. The field borders, rock alignments, and canals are a significant aspect of the site. Stein (1989:11) noted that "of all the man-made features at homesteads, agricultural fields are probably the most elusive." Study of the agricultural system at AZ T:7:50(ASM) could reveal how homesteaders coped with the challenge of desert farming. The site may also offer information relevant to the history of the Beardsley Canal and its effects on historic settlement of the area west of the Agua Fria River.

Archaeological studies of the historic sites should involve the collection and analysis of artifacts, a search for evidence of structural features or latrine deposits, and mapping of the agricultural system and other features. The examination of aerial photos could aid in site mapping. Archaeological analyses could help reveal the nature of homestead life and the homesteaders' ties to the larger community and the Arizona economy through time. Additional documentary studies could reveal the history of ownership and occupancy of the site after the original patent was granted to Robertson. There appear to have been two major motives for homesteading. During the Great Depression of the 1930s, homesteading offered one of the few options for obtaining property at little cost other than labor and persistence. An alternative motive was the acquisition of land for immediate or eventual financial gains. Patented land, which cost little in monetary terms, was often sold soon after receipt of the patent. Robertson may have foreseen an increase in the value of his land upon the completion of the planned Beardsley Canal. Potentially productive documentary sources include homesteading case files maintained at the National Archives, deed indices maintained by the County Recorder, and old city directories and newspapers.

Information and artifacts recovered from studies of the prehistoric and historic sites could be used in interpretive exhibits displayed at Sun City West recreational and cultural centers. Many residents would be interested in the history of their community, which has evolved from an Indian food gathering ground, to an area farmed by resourceful homesteaders, to a thriving modern city.

Archaeological Consulting Services Ltd.

