

Research Design and Plan of Work for
Testing and Data Recovery
for a Proposed Expansion of
Sun City West, Maricopa County, Arizona

Sun City West
Expansion Property,
North of Deer
Valley Drive

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Introduction

In January, 1991, 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 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. Because the sites have been determined to be significant cultural resources, data recovery was recommended (Stone 1991), and the State Historic Preservation Office concurred (Howard 1992).

Because the sites have been determined eligible without subsurface inspection, two levels of effort have been proposed, referred to as the minimum and maximum levels. The minimum level of effort will include mapping and collecting a sample of the surface artifacts within the identified sites. It also will involve subsurface investigations, including hand excavation of 1 x 1 m units and limited backhoe trenching to determine whether subsurface features are present. If subsurface features are present or there is a strong likelihood that they are present based on the work conducted under the minimum level of effort, work will then shift to the maximum level of effort guidelines. This will include more systematic backhoe trenches and excavation of all or a sample of the subsurface features identified. Once the fieldwork is complete, there will be no need for monitoring during construction. However, if during construction human remains are encountered, all work should stop in the immediate area and Lynn Teague of Arizona State Museum (ASM) should be notified in compliance with state law.

Project Area

The project area includes 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, all 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 area surveyed 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 creosotebush flats found here are typical of the lower basin zones within the Sonoran Desert. 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 slightly 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 the Beardsley Canal to the north.

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 cover 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

A comprehensive summary of previous research in the area was provided in the survey report (Stone 1991). Only the aspects of the previous research that are directly relevant to the proposed data recovery program will be repeated here.

No sites or isolated finds had 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 (AZ T:7:7 and T:7:8(MNA)) (Stein et al. 1977) (Figure 1). The Museum of Northern Arizona (MNA) conducted the survey and subsequent excavation at the larger site, AZ T:7:7(MNA).

Site AZ T:7:8(MNA) (NA15,138) was a small artifact scatter, measuring 10 x 20 m (33 x 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) north-south x 300 m (984 ft) east-west, located within a wedge-shaped area between the McMicken Dam outlet channel, the adjacent modern airstrip, and the northern boundary of Section 16. Because 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 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 an 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 habitation. 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 might have practiced floodwater farming along washes carrying run-off 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).

Hohokam families or task groups might have ventured into the project area from nearby villages or from camps closer to springs in the Hieroglyphic Mountains. Additional survey evidence from surrounding areas is necessary to evaluate those alternatives. Groups also might have traveled from villages along the Agua Fria River, about 5 mi (8 km) east of the prehistoric sites. At first consideration, this seems unlikely, as abundant mesquite likely existed along the river. Yet, mesquite groves along the Agua Fria might have been depleted by clearing for fuel and agricultural fields (Dove 1984). In addition, Indian groups often traveled far to gather mesquite beans when agricultural harvests failed.

Prehistoric Site Descriptions

AZ T:7:52(ASM)

This site, which is located in the northwestern corner of Section 16, likely represents a southern extension of AZ T:7:7(MNA) (Figure 1). It covers an area approximately 650 x 600 m (2,132 x 1,968 ft) and includes four artifact concentrations with 46 isolated artifacts or small scatters dispersed in between the concentrations. No obvious cultural features are associated with the artifact concentrations, or loci; two loci are situated on low gravel rises. Away from the relatively stable gravel rises, lower alluvial areas contain isolated finds, possibly redeposited by sheet wash. The 46 recorded isolates included single occurrences and small concentrations of artifacts distributed throughout the site area. Fifteen isolates consisted of 20 or fewer ceramic sherds, primarily Wingfield Plain. Sand-tempered and micaceous Gila Plain are also present. Red-on-buff sherds included specimens datable to the Colonial period associated with micaceous Gila Plain. Thirteen isolated finds consisted of whole or fragmentary metates and manos, manufactured primarily from basalt. One specimen appeared to be a portion of a trough metate. Nine isolates included chipped stone cores, flakes, and hammerstones of basalt and greenstone. The remaining isolated finds were small concentrations of multiple artifact types and three historic artifacts: a forged horseshoe, an evaporated milk can, and a bottle.

Locus 1 covered an area approximately 200 x 100 m (656 x 328 ft), at the southeastern margin of AZ T:7:52(ASM) (Figure 1). This area of heavy sheet wash, located downstream from the other loci, may represent an area of secondary deposition. At least 50 potsherds were noted, including reddish-brown and smudged Wingfield Plain, sand-tempered Gila Plain, and sand-tempered sherds containing gold mica particles. Other scattered artifacts included at least five metate fragments, a circular mano, and several flakes of fine-grained basalt or dacite.

Locus 2, most proximate to AZ T:7:7(MNA), incorporated an area approximately 70 m (230 ft) in diameter, with a core concentration of artifacts situated on a low gravel rise measuring about 30 m (98 ft) in diameter (Figure 1). At least 500 sherds, 30 specimens of ground stone, and 10 chipped stone artifacts are incorporated within the locus. Wingfield Plain again predominates, with sand-tempered Gila Plain and Hohokam buff ware sherds also present. There are also a few sherds of thin, lightly polished, sand-tempered brown ware. These specimens appear similar to Yavapai pottery types, which would indicate use of the locus over a long time span by different cultural groups. A similar mix of pottery types was collected from a site north of the White Tank Mountains (Brown and Stone 1982:108).

Locus 3, located roughly at the center of AZ T:7:52(ASM), covers an area 80 x 75 m (262 x 246 ft) (Figure 1). Within an area of headward erosion, artifacts are visible in arroyo walls, below the present ground surface. Although the cultural deposits appear to be shallow, there is a distinct possibility of subsurface artifacts or features. This area, adjacent to a major wash, likely has experienced periods of deposition that may have buried cultural materials. The artifact scatter contained at least 300 sherds including Wingfield Plain, sand-tempered and micaceous Gila Plain, and red-on-buff sherds, one of which probably dates to the Colonial period; a basin metate fragment; two heavily used manos; two basalt hammerstones; a chert core; and at least 20 flakes of fine-grained basalt.

Subsistence Practices

The concept of subsistence, as used here, includes more than nutrition. It covers the provisions, tools, and shelter necessary for existence within a particular physical and social niche. Exactly what elements were used and how they were obtained are two targets of this research.

Simply put, subsistence practices are the various ways in which people obtain the necessities of life. The resources available in the immediate vicinity of the sites probably were fairly restricted. However, a selection of resources, including food, fibers, lithic material, and clay are today, and probably were then, found relatively near the sites. Food and raw material for tools and shelter could have been gathered on the valley floor, from the river and its borders, and on the bajadas and slopes of the White Tank Mountains. Agriculture would have been possible at these sites, using either natural runoff or canal irrigation or both. In short, the residents probably could have been self-sufficient in terms of basic life-supporting resources: food and shelter, and the equipment needed to procure, prepare, and preserve these basic items.

However, one of the hallmarks of prehistoric peoples is the use of nonlocal materials that can result from exchange relationships or long-distance travel. Sometimes, as in the case of the Hohokam, it denotes membership in a network defining a larger entity. For the Hohokam, these resources included specific materials for producing red-on-buff pottery and ceremonial items (both of which probably signaled participation in the Hohokam system), and marine shell (which signaled Hohokam participation in a pan-Southwestern exchange network). The exchange of perishable items easily procured by different groups would have provided a breadth of diet necessary for healthy life, and/or insurance against crop failure or localized natural disasters.

Thus, a variety of methods for obtaining the necessities of life were available to the Hohokam in this area. Direct procurement of natural resources nearby or at varying distances, horticulture, agriculture (using canal or dry farming techniques), exchange with neighboring settlements, or combinations of these methods were used. The question is, what methods were used at this time and this place?

Settlement Patterns

Climate and topographical features of the landscape are important, but not the sole factors that affect the settlement patterns of prehistoric groups. Equally important is the social landscape. To begin to understand how a site fits into a settlement pattern, it is necessary to interpret the site's function, determine its chronological placement, assess the degree and direction of interaction, and make a regional study of contemporary sites and their interrelations.

The degree of permanence of a site, in conjunction with the set of activities that was performed there, is crucial to understanding its function and, thereby, its role in the settlement system. In many cases in the American Southwest and elsewhere, temporary or seasonal sites were constructed to provide shelter for people and provisions during planting, harvesting, collecting, or hunting excursions. These impermanent sites may be thought of as segments of a certain site structure, embedded in a larger settlement pattern.

Social Affiliation

Familial connections, a historical sense of affinity, and economic interactions are three facets of social affiliation. Embedded in this theme is a quest to understand the extent and strength of the Hohokam system in the "Northern Periphery." Participation in the networks described above undoubtedly had social as well as economic advantages. Such benefits of membership would have included alliances for marriage, labor, and protection.

Context: Prehistoric settlement patterns in the Agua Fria drainage

The primary issue here is the possible satellite relationship of these sites to larger sites along the Agua Fria or elsewhere.

1. Are the sites temporary, seasonal, or permanent (Cable and Doyel 1983:194-195; Crown 1983; Green 1989:1054)?
2. Is there evidence that tools and pottery were made at the sites, or does a lack of stone debitage and ceramic materials suggest that production occurred elsewhere?
3. If these sites are found to be the remains of impermanent or seasonal occupations, do larger sites occur nearby that could be related to these sites? In what direction do they lie, how large are they, and what are their affiliations?

Context: Affiliation of prehistoric groups in the area west of the lower Agua Fria River

An important issue is the relative prominence of ties to the Hohokam of the Salt-Gila Basin versus ties to the Prescott region. A corollary issue concerns the degree to which the inhabitants of sites in this area participated in the Hohokam system and/or the pan-Southwestern exchange network. Addressing both issues involves answers to similar questions.

1. What kinds and proportions of nonlocal materials occur at the sites?
2. If time depth is exhibited in the material culture, does the proportion of Hohokam ceramic wares change relative to wares associated with northern groups, as was noted at the sites along the Agua Fria (Green 1989; Howard 1989)?
3. Does some or all red-on-buff pottery contain micaceous schist? Or is it locally made, tempered with sand, as it was at late Colonial period sites along the Agua Fria River (Green 1989:1064) and as Doyel and Elson (1985) observed at sites along New River.
4. Do carved palettes, stone bowls, and shell ornaments (all hallmarks of the Hohokam system) occur?

Field Methods for the Prehistoric Sites

Sites AZ T:7:52 and T:7:53(ASM) differ in size and in the composition of their surface remains. The area of the former site is about 20 times that of the latter. The smaller site has high proportions of flaked and ground stone artifacts on its surface in contrast to AZ T:7:53(ASM), which has a high proportion of sherds (Table 1).

The four loci at AZ T:7:52(ASM) also have variable characteristics (Table 1). Their sizes range from 20,000 m² (Locus 1) to 2,475 m² (Locus 4). Artifacts observed on the surface range from 0.03 per 10 m² in Locus 1 to 1.10 artifacts per 10 m² in Locus 2.

It is not clear how physiographic differences among the loci have affected the present distribution of surface artifacts. The two loci in AZ T:7:52(ASM) that are on low gravel rises have the highest overall density of artifacts, but Locus 1 at AZ T:7:53(ASM), which also is on a low gravel rise, has one of the lower artifact densities (Table 1).

tifacts, such as decorated ceramics and projectile points, will be collected and point provenienced if they occur off-transect. Information about artifacts within the sites, but outside the loci was recorded during the survey.

Archaeological testing will be done to determine if subsurface cultural remains are present. Testing will be limited to those areas previously demarcated by site boundaries (Figure 1). Testing will commence with 1 x 1 m hand-excavated units placed at the discretion of the Field Director within the loci. From three to six such units will be placed within each locus. They will be excavated in natural levels, if present, or in arbitrary levels not to exceed 10 cm in thickness. Excavation will be discontinued in a unit once two culturally sterile levels have been excavated.

The backhoe will conclude the testing for the minimum level of effort by placing no more than 50 m of trench into each locus, for a possible grand total of 250 m of trench. The trenching will be monitored by an archaeologist, the trench walls will be faced to provide a clean profile, and profile drawings will be made of any features identified. If no features are found, a 2 m section of trench will be profiled at each site as a record of the natural strata. In the absence of subsurface features, the minimum level of effort will be considered sufficient to have recovered the sites' significant values in terms of the surface artifact collection and the site maps. The artifacts will be analyzed as described below.

Maximum Level of Effort

If subsurface remains are indicated by the testing, additional backhoe trenches will be placed into each locus systematically at 20 m intervals to characterize the number and type(s) of features present. The entire locus may not need to be subjected to this trenching; it will be concentrated in areas most likely to yield subsurface remains as determined by the 1 x 1 m units and the minimum level of backhoe trenching. The 20-m distance between trenches should be sufficient to provide a good indication of the subsurface composition of the site and can be supplemented by trenches placed judgmentally as needed.

As before, an archaeologist will monitor trenching operations, and any features exposed in the trench walls will be profiled. After the documentation of exposed features is completed, the details of data recovery will be finalized. If a large number of features is found, the different feature classes will be sampled for data recovery. For example, if two pithouses are found at each site, that is a small number and they both would be excavated. If 10 pithouses are found at each site, which is highly unlikely, then four would be excavated at each site and would be considered a representative sample.

Data recovery comprises a series of procedures designed to recover significant information from the cultural remains identified. The general procedures for data recovery have been organized by feature type. When necessary, overburden will be mechanically stripped from features before their excavation. It is possible, even likely, that some feature classes will not be found.

Structures. Structures will be excavated in their entirety. To ensure appropriate levels of accuracy of provenience, larger houses will be excavated in quarters. The upper fill of houses smaller than 3 m in diameter will be considered to maintain an appropriate level of provenience control when excavated in halves.

Controlled excavation of structural fill will be restricted to a 1 x 2 m unit excavated in arbitrary 20 cm levels, unless cultural strata are apparent. Cultural strata (e.g., roof fall, ash lens) will be excavated as individual levels for more specific provenience information. The remainder of the structure fill will be removed without controlled excavation down to the roof fall level, or down to 10 cm above the floor as defined in the control unit. The last 10 cm of fill directly above the floor will be maintained as a separate provenience. These kinds of provenience controls are important in determining site formation processes, which in turn are believed to have behavioral significance (Glennie and Lipe 1984; Kent

Laboratory Procedures for Prehistoric Sites

Artifacts will be transported to the ACS laboratory on a daily basis for processing and analysis. Processing will involve washing the ceramics, chipped stone, ground stone, shell, and special stone artifacts (e.g., turquoise pendants, schist palettes). Faunal bone will be dry-brushed. After analysis, all materials will be cataloged and boxed for curation at the Arizona State Museum (ASM), unless the Del Webb Corporation wants the material.

Analysis Procedures

The research questions defined above address three themes: subsistence practices, settlement patterns, and social affiliation of the groups living in a desert environment west of the Agua Fria River. Answers to these questions will be sought by interpreting the results of the analyses described below. Classes of archaeological remains include structures and other features, artifacts, botanical and faunal remains, and chronometric dating materials. The analyses are discussed in terms of their contribution to the research.

A preliminary analysis, to be performed on artifacts collected from the surface will provide counts of artifacts within classes (e.g., plain and decorated ceramics, lithic debitage, chipped and ground stone tools, shell, bone, etc.). These counts, which will be tallied by collection unit, will provide estimates of the amount and diversity of materials to be found at the sites and will be used to guide the placement of trenches. This preliminary analysis will be done as soon as possible, in order that the information may be available to the Field Director before the trenching begins.

Chronology. The question of chronology is vital to the resolution of these questions by organizing information from other analyses. If found, samples of charcoal for radiocarbon dating and fired sediments for archaeomagnetic dating will be collected for possible analysis. Other data sets that will contribute to chronology are ceramic stylistic types, discussed below, and the relative stratigraphy of archaeological contexts.

Ceramic Artifacts. The contribution of ceramic studies will focus on providing a chronology on which to anchor the results of other analyses. A secondary but important contribution will be to define activities related to subsistence. Third, identification of ceramic materials, technology, and styles associated with other prehistoric groups may contribute to the study of affiliation and settlement pattern.

The study of ceramic artifacts, which will classify sherds by ware and macroscopic temper inclusions, also will record a variety of other physical properties. These include interior and exterior surface finish (e.g., slipping, polishing, striating, smudging), post-finishing effects (e.g., painting, fire-clouding), use wear (e.g., nicks, scratches), and thermal alterations (e.g., blackening, spalling, vitrification). Vessel form will be identified whenever possible. The general form of each rim and the size of its aperture will be recorded. Combinations of these technological properties will provide categories that can be tentatively associated with vessel function and thus with subsistence activities. Different processing and storage needs require a variety of vessels with particular qualities (Arnold 1985) and result in specific physical and thermal alterations to the vessel (Schiffer 1989).

In addition to the technological study outlined above, decorated ceramics will be classified by temporally sensitive stylistic type when possible (Gladwin et al. 1965; Haury 1976; Wood 1987). Excavation contexts (levels within features or sample units) may be assigned a relative chronological placement based on the proportions of types. These rough approximations of temporal sequence can then be applied to other artifact classes found in association. In some instances, the relative order of features may be determined by this information.

Archaeobotanical Remains. Pollen and macrobotanical remains will be analyzed in an effort to explore subsistence practices. This information can be used to identify patterns of resource procurement and processing, and to gauge the relative importance of wild foods in the diet. Samples of soil for macrobotanical flotation and pollen extraction will be taken from structures, pits, and other features. With this information and chronological data obtained from other analyses, changes in subsistence practices can be examined.

Human Remains. Human remains are not expected; however, if burials are discovered, all work in the immediate vicinity will stop, and Lynn Teague of ASM will be notified, as per state law.

Historic Sites

Historic Cultural Background

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 in 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).

Historic Site Descriptions

AZ T:7:50(ASM)

This site incorporates wells, trash deposits, canals, and a field system extending over an area approximately 1,000 x 350 m (3,280 x 1,148 ft) within the westernmost quarter of Section 15 (Figure 1). Two wells, situated only 10 m (33 ft) apart, are located at the site's northern margin. One well, possibly dug by hand, is a hole approximately 3 m (10 ft) in diameter, filled with trash consisting primarily of a crumpled sheet metal liner or tank, and a metal mattress frame. The other well was probably drilled. It is marked by a pipe approximately 25 cm (10 in) in diameter, surrounded by square nails and wire that suggest the former existence of a windmill.

The wells are surrounded by a scatter of metal, glass, and ceramic trash. Although evidence of a structure was expected, no concrete or earthen house foundations were observed. Such structural components as wooden beams, sheet metal, and window glass also were absent.

A series of rock check dams or field borders was located southwest of the wells and trash scatter. Three linear rock alignments are linked to earthen berms, approximately 50 cm (20 in) high, that extend in a perpendicular direction from an old canal. The canal runs parallel to the section line. The berms are approximately 30 m (98 ft) long, and the rock alignments range from 15 m (49 ft) to 20 m (66 ft) long. Buried rocks indicate that the earthen berms might incorporate additional segments of rock alignments. The berms and rock alignments range from 50 cm (20 in) to 1 m (39 in) wide, and distances between them range from 20 m (66 ft) to 30 m (98 ft). Initially interpreted as check dams, these features appear to have been borders of rectangular field plots. About 35 m (114 ft) south of the linear alignments is a U-shaped rock alignment; its function is uncertain.

AZ T:7:51(ASM)

This site is a trash scatter, covering an area approximately 70 m x 60 (230 x 197 ft) within the north-eastern quarter of Section 16 (Figure 1). 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 Context Statement for Historic Sites

The two historic sites, AZ T:7:50 and T:7:51(ASM), have been determined eligible for National Register inclusion under Criteria a and d. Criterion a addresses properties associated with events that have contributed significantly to the broad patterns of our history. Criterion d applies to properties that have the potential to yield information important in history or prehistory. In the following paragraphs, the historic contexts will be established under which these properties may contribute to our understanding of the past.

A cursory examination of the surface artifacts from both AZ T:7:50 and T:7:51(ASM) indicates that both sites date to the same period, the 1910s through the 1930s. This was a significant period in the history of the state, a time when homesteading was at its peak. People were struggling to survive the difficulties of World War I and the Great Depression, and homesteading provided opportunities for the landless to become self-sufficient. In spite of the fact that most Arizona homesteads failed, the documentary evidence indicates that AZ T:7:50(ASM) was one of the few that succeeded. Archaeological data are deficient for this time period in Arizona.

The element of place for the historic sites can be defined as an undeveloped desert area peripheral to urban Phoenix. This was an area of little rainfall, but with substantial subsurface moisture, where agriculture was possible if that ground water could be utilized (Stone 1991). Initially hand-dug and drilled wells tapped that resource, but as the water table receded, the wells were apparently replaced or supplemented by dams and canals (Stone 1991).

The final element of the historic context concept is that of theme. The dominant theme for the historic sites is homesteading. Secondary themes are agriculture and a possible association with the development of water resources.

There are few comprehensive studies of homesteading activities in Arizona (for example, Ayres and Stone 1983; Stein 1981, 1988), and few relatively undisturbed sites remain. The two Sun City West historic sites include wells, trash deposits, canals, and an extensive agricultural field system. All features appear to be intact and therefore have great potential for increasing our understanding of the homesteading movement during this period. Though the initial survey found no evidence of structures at the site, the basic requirement of the homestead laws was residence on the land, and therefore the remains of that residence, even if periodic, should be present.

A careful examination of the documentary records, combined with archaeological investigations of AZ T:7:50 and T:7:51(ASM), and an analysis of the copious artifactual evidence can contribute considerably to our understanding of the social, economic, and agricultural systems utilized by the homesteader of the early twentieth century in the arid desert area north of Phoenix.

There are technological questions that also need to be addressed. The development of small-scale farming would have been difficult even though the soil was "first rate," as described by the land office surveyor, Colton (Stone 1991). An examination of the techniques used to develop the agricultural fields and to dig the two wells should provide clues to the sophistication of the tools available to the

centrated in the area near the wells, as proximity to water would have been a deciding factor in locating such features, and a large trash scatter is located here.

A grid will be established dividing the area into 5 ft squares. In order to provide the best possible chance of encountering evidence of structures, every other square will be shovel-scraped, and all artifacts collected. As there is currently no information on structures available, it would be difficult at this time to outline precisely how they will be excavated. Generally speaking, if the structure is less than 10 ft on its longest side, it would likely be excavated as a unit. If greater than 10 ft, it might be excavated in halves. Regardless of its size in plan, it would be excavated in natural levels if present (i.e., everything above the floor separate from everything on the floor) or levels no greater than 4 inches if natural levels are not evident. Pollen and flotation samples will be collected from the structures, and those with the best contexts will be submitted for analysis.

Latrines and Wells. Latrines are usually an excellent source of information on the social and economic status of the people who used them. People deposited all forms of discards there, and when no longer usable, latrines were covered over and another was dug. Therefore, a site in existence before indoor plumbing could have numerous latrines, which have the potential of documenting the history of the family living on the land. Latrines often leave depressions in the ground, and when shovel-scraped can be identified by a definite change in soil color. Flotation samples will be taken in an effort to determine the diet of residents.

Old wells often became trash pits when no longer needed, are less likely to have been vandalized than surface features and latrines which are a common target of "pothunters," and, therefore, can yield valuable information on the economic situation of the homesteader. This well may also provide data on construction methods and the water table at the time it was dug.

The latrines and hand-dug well will be cleared of rubbish and investigated. There are several large structural beams protruding from the weathering sides of the well. These appear to be the remains of a platform or protective covering. These beams will be exposed in an effort to determine their function. The method proposed for further investigation of these deep features takes into consideration the safety of the excavators and OSHA regulations. They will be investigated after all other recording at the site has been completed, particularly any nearby features. The plan view of the feature will be established through hand stripping. A backhoe will be used to excavate a trench adjacent to the features to expose them in profile. No one will enter the backhoe trench if it extends below 5' until safety measures are taken to step the trench back according to OSHA regulations. The reason for investigating these features last is that the trench may need to be stepped back 8' or more and the process of stepping the excavation will destroy anything in its path.

Agricultural Features. Agricultural features will also be thoroughly investigated. At least one rock alignment and berm, and the U-shaped alignment will be hand-excavated to record the water and erosion control systems. Pollen samples will be taken to determine what non-native plants were growing in the area, and the fields will be measured. The data will then be used to determine the crops planted, and the acreage cultivated. By using U.S. Department of Agriculture information on crop yields at the time, potential yields will be postulated to determine the possibility of self-sufficiency. Trenches across the main canal will permit measurement of its carrying capacity. It is assumed that the canal originated at the Beardsley Canal. This question should be resolved, if possible. The method used to deliver water from the wells to the fields and residence will also be investigated.

Most homesteaders kept livestock to supplement crop yields. The presence of a shearing tool in the trash areas may indicate that sheep were raised, which would mean that fencing was necessary. Determining the presence of any farm animals and the means to control them will also be a focus of the data recovery process.

wood, lumber, cement, and other structural items, which are obviously man-made but defy a more precise identification. The clothing inventory will include items such as shoes, buttons, and buckles. Should the collection require it, additional classifications and refinements will be made.

Each classification will include an assignment of context, a functional organizing device that serves to group diverse artifacts into spheres of action. Contexts include food-processing, commercial food use, alcoholic beverage use, non-alcoholic beverage use, chemical and cleaning products, household furnishings, personal grooming and dressing, adults' and children's leisure activities, military service, firearms use, industrial activities, agricultural work, animal care, transportation, and construction or repair activities. Contexts can provide information on economic and commercial practices, available commercial resources, occupations, cooking procedures, age, sex, housing, personal habits, and diet.

Many valuable resources are available to assist the analyst in identifying and dating historic artifacts (Berge 1980; Fike 1987; Rock 1987; Simonis 1990; Toulouse 1971). The analyst will use information derived from these and other reliable sources to determine the function and age of the items in the collection.

Reporting

A draft report will be prepared that includes site descriptions, methodology, results of fieldwork and analysis, and developed historic contexts. The draft will be sent to Del Webb Corporation and SHPO for comments. These comments will be incorporated into a final report. If the plan developed above is implemented, the construction of the proposed development can proceed upon the acceptance of the final report.

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SHPO STANDARDIZED REPORT ABSTRACT

AGENCY: Arizona State Land Department

PROJECT TITLE: Sun City West Expansion

DATE OF REPORT: February 5, 1992

AGENCY PROJECT NUMBER: State Application #53-99633

ACS PROJECT NUMBER: 92-001

PROJECT DESCRIPTION: Archaeological survey for state land sale

LOCATION: Near Sun City West, Maricopa County
Plotted on the USGS 7.5' McMicken Dam quadrangle
Township 4N/1W, Section 17

NUMBER OF SURVEYED ACRES: 367

METHODOLOGY: Pedestrian survey spaced 15-20 m apart.

NUMBER OF SITES: 7

NUMBER OF POTENTIALLY ELIGIBLE SITES: 1

LISTING OF POTENTIALLY ELIGIBLE SITES: AZ T:7:69(ASM)

COMMENTS: Seven sites were recorded: one prehistoric Hohokam site (AZ T:7:69(ASM)) possibly dating to the Colonial-Sedentary time period, and six historic trash scatters, AZ T:7:70, T:7:71, T:7:72, T:7:73, and T:7:74(ASM), dating principally from the late 1940's through the 1950's. Fourteen mostly historic and modern isolated finds were also recorded.

Site AZ T:7:69(ASM), given the sparse nature of the scatter, the presence of ground stone, and its proximity to previously existing mesquite bosques in the area (Stone 1991:8-11) appears to represent a seasonally-occupied locus for plant processing, either in conjunction with small-scale floodwater farming or gathering of locally available resources. This prehistoric artifact scatter appears to be similar to other scatters recorded along the Palo Verde to Westwing transmission line (Stein et al. 1977; Yablon 1979), along the Granite Reef Aqueduct (Brown 1977; Brown and Stone 1982), and in particular, in the adjacent parcel to the east (Stone 1991). Given its proximity to nearby site AZ T:7:8(MNA), recorded just outside the project area, AZ T:7:69(ASM) might have been related functionally, if not temporally, to the activity locus at AZ T:7:8(MNA).

The six recorded historic scatters seem to represent piles of individual household trash that were periodically dumped in convenient, unoccupied desert areas. The material represented in these trash piles possibly date from as early as the pre-World War I era, but most items appear to date principally from the 1940's through at least through the early 1960's. Given the extent of the trash scatter at AZ T:7:70(ASM), just north of Deer Valley Road, multiple dumping episodes are probably represented. The dumping episodes at this locus, based primarily on bottle dates, are likely to have taken place mainly between the late 1940's through the early 1950's. Although nearby homesteads and camps dating used from the early 1910's through the 1930's Depression Era have been identified in the area (Stein et al. 1977; Stone 1991), definite pre-World War I and 1920's-1930's material at these trash scatters is limited. Sun-colored amethyst glass fragments were identified as an isolated find and in as-