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Archaeology on the Periphery: Recent Research in the Safford Basin

Anna A. Neuzil, *Center for Desert Archaeology*

THE ARCHAEOLOGY OF THE SAFFORD BASIN, in the grand scheme of the Greater Southwest, is not well known. While surrounding areas received substantial attention through major excavation projects, the Safford Basin was little visited during the early and formative years of Southwestern archaeology. However, the archaeologists who did examine the area, such as Emil Haury, William Wasley, and Richard Woodbury, were intrigued by what they characterized as a “blending” of cultural traits seen in the basin; some sites showed evidence of Hohokam, Mogollon, Anasazi, and Mimbres attributes. Yet no major projects were undertaken in the Safford Basin to research this so-called “blending” until the 1960s, and subsequent research was sporadic at best.

The last decade and a half has seen a relative explosion of archaeological research in the Safford Basin. Much of this can be explained by the increase in cultural resource management projects undertaken in advance of road construction and other development. Academic research has also become more frequent in the Safford Basin, and government agencies that manage land in the area have also taken an active role in conducting and facilitating archaeological research. Together, this research has made substantial strides in furthering our understanding of the past in the Safford Basin, particularly during the Classic period (A.D. 1200–1450; see page 2).

Early reconnaissance at large sites in the valley revealed a unique mixture of material culture, including a large ballcourt at the Buena Vista Ruin alongside locally produced Middle Gila Buff Wares, suggesting a relationship with the Hohokam heartland to the west. A few sites had masonry architecture and locally made ceramics, as well as Maverick Mountain ceramics decorated in a nonlocal style, indicating ties to the Puebloan north. Such apparent mixing begs the question of who the people living at these sites were. How did they identify themselves and their neighbors? Furthermore, it appears



The Safford Valley displays a striking juxtaposition of the past and present, as modern and ancient agricultural fields are situated adjacent to each other in the shadow of Mt. Graham and the Pinaleno Mountains.

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the archaeological labels of Hohokam, Mogollon, and Anasazi used in this area do not even begin to characterize the variability in material culture and variety of people seen in the archaeological record of the Safford Basin. As the articles in this issue of *Archaeology Southwest* demonstrate, much of the recent research in the area has been geared toward answering these questions.

Canals and agricultural water management have been another longstanding area of research in the Safford Basin. Evidence for prehistoric and historic manipulation of the landscape of the Safford Basin to promote agriculture is still visible. For example, many of the floodplain canals used by early Mormon settlers in the late 1800s were modified ancient canals (see pages 9–11). Today, several of these same canals continue to be used to irrigate cotton and other crops. Excavation and analysis of a canal on the southern side of the Gila River floodplain suggest that the use of canal irrigation extends back more than two millennia in the Safford Basin (see page 15). Further research has indicated that additional canals were also constructed to collect mountain runoff at several locales along the northern foothills of the Pinaleno Mountains. Gridded fields serve as another example of human modification of the ancient landscape that have been used to increase agricultural potential in the region (see page 7).

The articles in this issue summarize current research in the Safford Basin. Although archaeologists have greatly increased our knowledge of what the area was like prior to the arrival of Spanish explorers, much remains to be learned. Unfortunately, the rapid destruction of many sites in the area—through looting and other illicit activities—has led to the irretrievable loss of much of the archaeological record. Thus, what is left is all the more valuable and must be protected and studied with care.

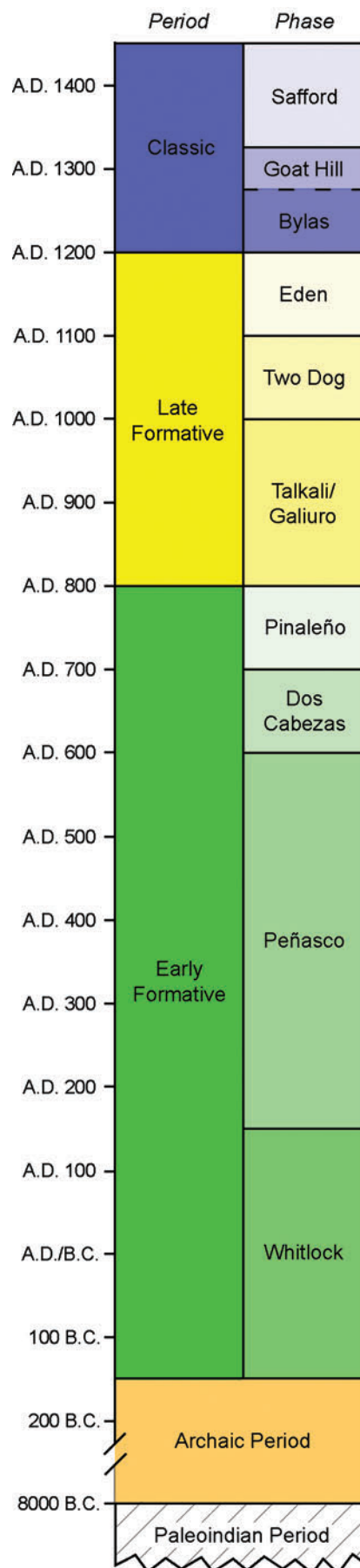
Migration in the Safford Basin

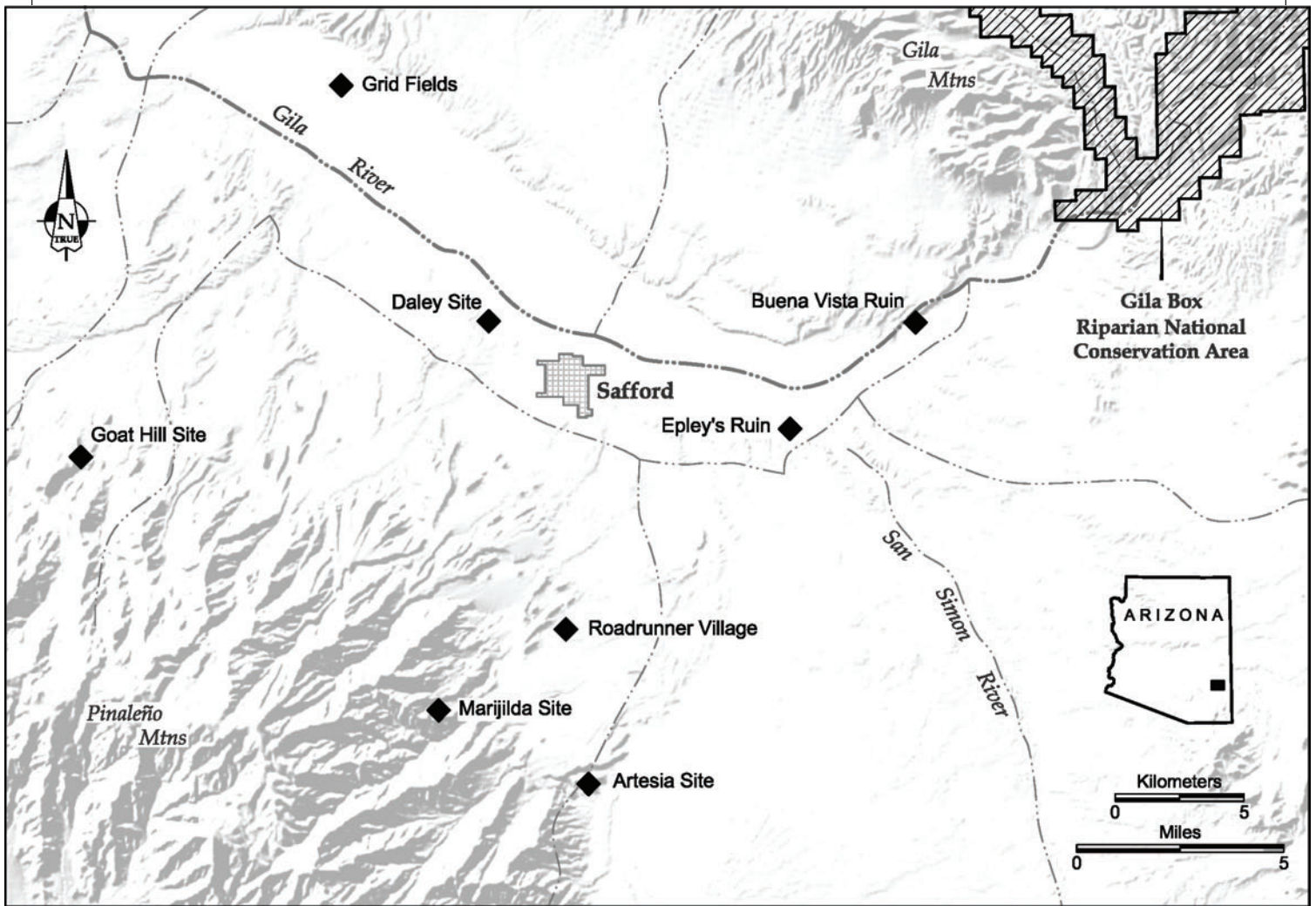
Anna A. Neuzil, Center for Desert Archaeology

AN INCREDIBLE DIVERSITY of material culture is found in the archaeological record of the Safford Valley. Numerous archaeologists who visited the area from the late 1800s to the mid-1900s commented on this diversity, but few proffered satisfying explanations to account for it. Recent research into several Classic period (A.D. 1200–1450) sites has demonstrated that migration from the Ancestral Puebloan area in the northern Southwest accounts for some of this diversity, particularly during the late 1200s and the 1300s. Additional evidence from earlier sites suggests that the migrants who settled in the Safford Basin at this time were likely not the first to live alongside the local population.

The first wave of migration apparently entered the Safford Basin during the eleventh or twelfth centuries from the Mimbres area of southwestern New Mexico. Mimbres Black-on-white sherds found at Safford area sites dating to this time were made with raw materials local to the Safford Basin but decorated in a manner almost indistinguishable from ceramics made in the Mimbres heartland, implying that Mimbres people themselves moved into the Safford area, bringing with them knowledge of the technology and design styles used to manufacture Mimbres ceramics. Given that Mimbres Black-on-white ceramics are found at sites along with locally produced San Simon Series and Middle Gila Buff Ware ceramics, it appears that upon their arrival the Mimbres migrants settled among local populations.

Safford Basin Chronology





The Safford Valley with sites mentioned in this issue of Archaeology Southwest highlighted.

The second wave of migration entered the Safford Basin during the early to mid-1200s, and is evidenced by a dramatic increase in the number of corrugated ceramics at sites dating to this time. Corrugated ceramics were quite rare at Late Formative sites (A.D. 800–1200); in contrast, during the early to mid-1200s, corrugated ceramics sometimes constitute as much as 80 percent of a site's entire ceramic assemblage. Previously, corrugated ceramics were concentrated in the Mogollon highlands of east-central Arizona and west-central New Mexico, suggesting that migrants from this area moved into the Safford Basin and brought the knowledge of corrugation technology with them. The pervasiveness of corrugated ceramics at sites dating from the early to mid-1200s suggests these highland Mogollon migrants also lived among local populations at the same settlements.

The final wave of migration entered the Safford Basin from the Puebloan north during the late 1200s and the 1300s; this is seen in a distinctive suite of material culture

traits, including perforated plates, Maverick Mountain Series ceramics, kivas, and masonry roomblock architecture visible in whole or in part at all sites dating to this time period. Also during this time, migrants appear to have first settled apart from the local population, as exemplified by the Goat Hill site (see page 4), where there is no evidence of a local population. Subsequently, migrants and local populations lived side by side, sharing material culture and ultimately forging a new identity that incorporated aspects of both cultures.

While population movement is not a new topic in Southwestern archaeology, this history of migration into the Safford Basin is unique. Mimbres and Mogollon highland migrations to the area likely paved the way for the later Puebloan migrations, making it easier for Puebloan migrants to become integrated into the local population. Therefore, the Safford Basin appears to have been a place where outsiders were not only tolerated, but were also welcomed.

The Goat Hill Site and Ancestral Pueblo Migrations into the Safford Basin

Kyle Woodson, Gila River Indian Community and Arizona State University

THE ABANDONMENT OF the Four Corners region and the southward migration of Kayenta-Tusayan (hereafter Kayenta; see map on page 8) groups during the late 1200s led to a significant restructuring of communities and networks throughout central and southeastern Arizona. Some Kayenta groups probably moved short distances and were rapidly assimilated into communities in adjacent districts. Other groups traveled well beyond the southern limit of the Ancestral Pueblo world into southeastern Arizona where, as newcomers, they initially settled in enclaves segregated from local populations. Kayenta immigrant enclaves along these migration routes include the Maverick Mountain roomblock at Point of Pines Pueblo, about 35 miles north of Safford, and the Reeve and Davis Ranch Ruins in the San Pedro Valley. My research at the Goat Hill site during the mid-1990s showed that immigrants also settled in the Safford Basin.

The Goat Hill site is a masonry pueblo located atop a steep butte on the northern bajada of the Pinaleno Mountains. The site consists of a circular arrangement of 35 coursed masonry rooms surrounding a plaza with a D-shaped kiva. The single-story ring of rooms includes 13 habitation rooms, 20 storage rooms, and 2 multiuse structures. There are several clusters or suites of two or three rooms; three rooms contain entry boxes. Ninety percent of the decorated ceramic assemblage consists of Maverick Mountain Polychrome and Maverick Mountain Black-on-red. Most of this pottery was manufactured in the Safford area, but a small quantity is compositionally and stylistically similar to Maverick Mountain sherds found at Point of Pines. Other ceramic types include Tucson Polychrome and Tucson Black-on-red, Pinto and Gila Polychromes, Nantack Polychrome, Tularosa Fillet Rim, Reserve Indented Corrugated, and perforated plates. Relative and chronometric dates indicate the site was occupied from about A.D. 1275 to 1325.

Several characteristics of the Goat Hill site indicated that it had been occupied by migrants from the Kayenta region, including the D-shaped kiva, small rooms arranged

into suites, and entry boxes. Also, a preponderance of Maverick Mountain Series pottery and perforated plates are common attributes of sites occupied by migrants from the Four Corners region. These traits, along with the defensible hilltop location, stand in stark contrast to the local contemporaneous settlement pattern and further indicate that the Goat Hill occupants were “outsiders.”

More recent work has revealed other migrant Puebloan enclaves along the northern bajada of the Pinaleno Mountains, including the Smith Tank site, AZ CC:2:23 (BLM), and the Marijilda site (see page 5).



Top: Goat Hill and Lefthand Canyon, facing northeast. Bottom: D-shaped kiva at the Goat Hill site, facing northeast.

Marijilda Site

Bill Gillespie and Mary Farrell
Coronado National Forest

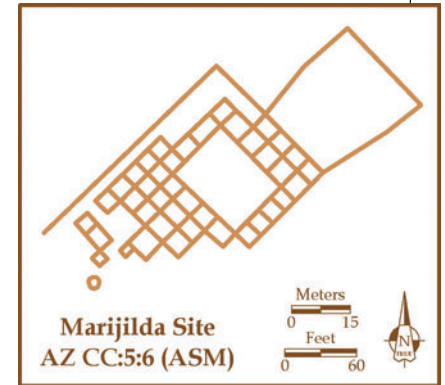
WITH A MOUND OF ARCHITECTURAL RUBBLE two meters in height, the Marijilda site is a unique and well-preserved masonry pueblo on the Coronado National Forest, with evidence it once housed Ancestral Puebloan immigrants.

The pueblo, situated on the rocky terrace northwest of Marijilda Wash, is roughly rectangular and measures about 90 meters by 50 meters. It contains blocks of contiguous rooms and associated plazas. The main roomblock has at least 40 rooms, some of which may have been two stories tall. There are two small plazas inside the roomblock, and a third is adjacent to the northeast end. A masonry wall with two distinct entryways encloses the pueblo on three sides; the fourth side abuts the steep bank of Marijilda Wash.

Like many sites in the region, Marijilda has been damaged by looters. However, perhaps because of its remote location and deep rubble room fill, it is relatively intact. The first archaeologist to examine the site closely was Jeffrey Brown, a University of Arizona student. He mapped the ruin and described artifacts from rooms that had been excavated by private collectors. Although no authorized archaeological excavations have been conducted at the site, we have gained some insight from surface recording and examination of architecture and artifacts exposed by illegal excavations.

In addition to its architecture, several attributes suggest that the Marijilda site was occupied by Puebloan immigrants to the Safford area. Four of five rooms that have been excavated to floor level have rectangular, slab-lined

hearths, a characteristic of more northern sites. Decorated ceramics from the site are dominated by Roosevelt Red Wares and Maverick Mountain types, but also include White Mountain Red Wares and Cibola White Wares. Corrugated vessels showing a variety of styles, and Tularosa Fillet Rim bowls are also common. Architecture and ce-



Roomblock layout of the Marijilda site.

ramics indicate the site was occupied sometime in the 1300s.

Close to the Marijilda site are some of the distinctive and well-preserved agricultural fields that characterize the Safford area. Boulders on the alluvial fan surface near Marijilda have been rearranged to create multiple series of terraced garden plots. The Marijilda agricultural complex is representative of what James Neely (see page 7) has described as a "Foothills System" of agricultural development. Neely has found that a canal system that begins in Marijilda Canyon just upstream from the site once distributed water to numerous fields and several smaller villages downstream. Perhaps the inhabitants of the site controlled a complex irrigation and domestic water system.

The Marijilda site was listed on the National Register of Historic Places in 1988 as the principal habitation site of the Marijilda Canyon Prehistoric Archaeological District. Other sites in the district include nearby agricultural fields, smaller habitations, and petroglyphs. Marijilda and the associated sites continue to be important to con-

temporary Pueblo people. Hopi visitors note that petroglyphs and agricultural fields as well as habitation sites like the Marijilda site itself are significant to them. The Mt. Graham area is known to the Zunis as *Wi la tsu Kya: yallawa*, and archaeological sites in this area are considered indicative of the past migrations of the Zuni people.



Top: Stacked cobble masonry architecture at the Marijilda site. Bottom: Evidence of remodeling at the Marijilda site: a filled-in doorway in an exposed room.

Irrigation and Migration: Bits and Pieces of Safford Basin Archaeology

Jeffery J. Clark, Center for Desert Archaeology

TANTALIZING INFORMATION came to light during excavations in 2001, by Desert Archaeology, Inc., between Safford and Thatcher in a project funded by the Arizona Department of Transportation. As is often the case with highway projects, only bits and pieces of several sites were investigated. Nonetheless, these results added a great deal to our knowledge of the Safford Basin and the vicinity.

Prior to this project, ancient canals along the Gila River in the Safford Basin were known to exist from reports by early Anglo settlers and evidence from neighboring valleys, but their exact locations were unidentified. During this project, Desert Archaeology was able to trace three ancient canal segments for more than 500 feet beneath a modern cotton field near the western edge of Safford. Two canals were radiocarbon dated between A.D. 1 and A.D. 300, making them among the oldest canals excavated in the area (see page 15). A radiocarbon date from a maize kernel in a nearby pit indicates that maize was likely one of the early crops. Considering the small areal extent of our excavations, it is unlikely that this discovery is an isolated occurrence. These ancient canals were not substantially different from the earthen canals built by early Anglo and Hispanic settlers that continue in use today (see pages 9–11).

Desert Archaeology also investigated the southern margin of the Daley site in eastern Thatcher. This site was known to be a thirteenth-century compound village based on an earlier salvage excavation by Eastern Arizona College (EAC) in the 1980s, directed by Betty Lee (see page 19). Our narrow exposure revealed several late-thirteenth-century pithouses built in loose silt

and sand. The area was dissected by washes at the time of the settlement and would have been in peril during the



View of the project area north of U.S. 70, in west Safford (looking southwest at Mt. Graham).

monsoon or winter rainy season. Therefore, these pithouses were probably a temporary camp that was built near the edge of the permanent village investigated by EAC.

Virtually all of the Maverick Mountain Series pottery recovered from both our excavations and those of EAC were from this short-lived pithouse settlement rather than from the compound and associated features. Although we must be cautious in connecting a particular pottery type with an ancient group because pottery was often traded widely, Maverick Mountain Series pottery bears a strong resemblance to Kayenta (see map on page 8) ceramics from northeastern Arizona. In addition, Kayenta enclaves identified at Point of Pines and the Goat Hill site in the Safford Basin are associated with large quantities of Maverick Mountain pottery (see page 4). Therefore, the correlation of Maverick Mountain sherds with the pithouses



Top: A small pithouse at the edge of the Daley site; this pithouse was probably a temporary shelter for Kayenta/Tusayan migrants. Right: Profile of canal dating to A.D. 1 to 300, beneath the plowzone of a modern cotton field.



at the edge of the Daley site suggests it was a camp that was briefly occupied by Kayenta groups who were searching for a new home.

Dry-farming and the Rock-bordered Grid Fields of the Safford Basin

James A. Neely and William E. Doolittle
University of Texas at Austin

THREE ANCIENT AGRICULTURAL STRATEGIES are present in the Safford Valley: dry-farming/runoff fields receiving moisture from rain and snowfall, fields irrigated by Gila River canals, and foothill fields irrigated by canals fed from springs and runoff. Of these, dry-farming may comprise the largest total area of cultivation. Most dry-farmed/runoff fields have been securely dated to the Late Formative and Classic periods (A.D. 800–1450). However, there is a growing body of evidence that extends the use of Safford Basin dry-farmed fields into the Early Formative period (150 B.C.–A.D. 800).

One of the largest, and certainly the most impressive, dry-farmed field complexes recorded lies just north of the Gila River near the town of Pima, Arizona. Several types of rock constructions make these extensive fields easily recognizable. Linear borders, terraces, checkdams, and rock piles are present, but rock-bordered grids comprise the vast majority of these large agricultural fields.

The grid fields cover an area of almost four square miles, and consist of about 30 irregularly shaped and subdivided areas. Approximately 55 miles of rock alignments provide a farming area of about 203 acres. A multidisciplinary team investigated these fields in the late 1990s and found several lines of evidence indicating that agave was the crop grown. Based on areal measurements, an estimated 44,500 agave plants are believed to have been grown on, rather than inside, the rock alignments. Agave is superbly adapted to the arid climate of the desert Southwest. The agave grown on the rock alignments may have been part of the regular diet, a survival crop harvested when the staple cultigens failed due to drought, and/or used as a trade crop supplying food, fiber, and other products.

Unlike other similar field areas found in the Safford Valley, the field areas north of Pima had many sherds lying on the surface. Roasting pits, habitation sites, and fieldhouses were also present. Sherds represented a date range from about A.D. 750 to 1400, and three radiocarbon assays provided corrected dates of A.D. 495 ± 60 , 505 ± 40 , and 1375 ± 40 . Although the early radiocarbon dates have been considered with some circumspection, two

factors should be considered. First, they could represent the early use of this area for the collection of wild agave



Rock-bordered grid fields cover the Pleistocene terrace north of the Gila River in the vicinity of Pima, accompanied by terraces, checkdams, and rock piles.

before the construction of the grids. Second, the recent evidence for canal irrigation perhaps as early as 190 B.C. in the Safford Basin (see page 15), and even earlier evidence of dry-farming and canal irrigation elsewhere in the Southwest, suggests that dry-farming may have been a common practice in the Safford Basin by A.D. 500.

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Salado Archaeology in the “Area Between”

Steve Lekson, University of Colorado at Boulder

SOUTHWESTERN NEW MEXICO is known as the home of the ancient Mimbres, painters of wonderful black-on-white pottery depicting people and animals, gods and myths. Southeastern Arizona is famed as the homeland of the Hohokam, who created elegant red-on-buff pottery, an extensive network of irrigation canals, and monumental ballcourts. Outshone by Mimbres and Hohokam achievements, the “Area Between”—as it has been called—has until recently been largely overlooked by archaeologists.

The Mimbres and Hohokam cultures peaked in the eleventh century and declined thereafter. By A.D. 1150, Mimbres villages had been deserted and the Hohokam world had shrunk and become splintered. It took about 100 years for the “Area Between” to hit its stride around A.D. 1250. After that time, the “Area Between” was part of a different story, distinct from the earlier Hohokam and Mimbres areas.

The principal river of the “Area Between” is the Gila: it starts in the rugged Mogollon uplands of southwestern New Mexico, flows out into the Chihuahuan Desert at Cliff and Redrock and Safford, and courses through the Sonoran Desert of Arizona on to the Colorado River. The river’s valleys through the Chihuahuan Desert were particularly useful, featuring abundant water, a long growing season, and proximity to the Mogollon uplands with timber and game. The Upper Gila in New Mexico had been densely populated through Mimbres times, but between A.D. 1150 and 1250 long stretches of its valleys, like most of the old Mimbres region, were empty. The end of the Mimbres culture was part of a much larger story. Far to the north, in the Four

Corners area, the Chaco Canyon occupation rose and fell, and the Mesa Verde area was abandoned. Those disruptions rippled down into the Upper Gila and the “Area Between.” With the final troubles in the Four Corners, about A.D. 1250, the empty valleys of the Upper Gila filled with new villages. Who were those people?

In Arizona, far to the west, Kayenta immigrants set up small colonies among remnant Hohokam populations.

Along the Rio Grande, far to the east, Mesa Verde people moved into deserted canyons and creeks. From Casas Grandes, far to the south, the city of Paquimé established outposts in New Mexico’s “boot heel”—the southwesternmost corner of the state, rich in turquoise. And amid all those movements, those alarms and excursions, the “Area Between” became home to the Salado.

“Salado” is a term with many meanings. In the “Area Between,” it indicates large adobe pueblos with Gila Polychrome, Tucson Polychrome, and other colorful pottery (de-

rived at only one or two removes from Kayenta peoples moving into the Mogollon uplands). Salado people in the upper Gila came from the near north, from the Mogollon uplands—the last in a long row of dominoes that stretched back to the Four Corners. The new towns—and some were quite large—were centrally located between Kayenta (and late Hohokam) to the west, Mesa Verde to the east, and Casas Grandes to the south.

Those three forces were unequal: Kayenta and Mesa Verde intrusions, while substantial, were only the thin, tail ends of pressured migrations out of the Four Corners. Casas Grandes, to the south, was not the last gasp, the end of the



The “Area Between” in the Greater Southwest.

trail. Casas Grandes was an astonishingly dynamic, cosmopolitan, and powerful new player, and Paquimé, the Casas Grandes center, was the premier city of the Southwest from the 1200s through the 1400s. Paquimé's rise no doubt attracted Kayenta, Mesa Verde, and Salado immigrants to the "Area Between"—Casas Grande's northern reaches. Peoples fleeing the troubled north headed toward

the "bright lights of the big city"—and toward stability and prosperity that was only a distant memory in their homelands, the Four Corners region. Paquimé fell about A.D. 1450, and new towns in the upper Gila and the "Area Between" were once again empty, their peoples having moved back north to the modern Pueblos, or south into Mexico.

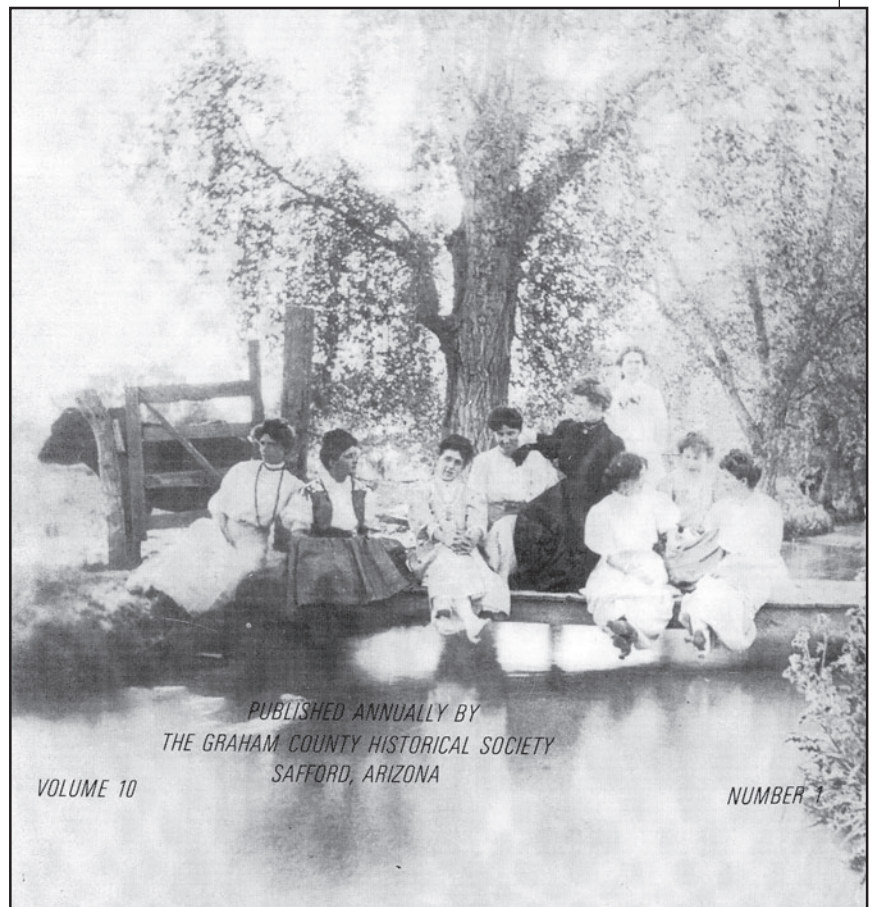
Historic Canals of the Safford Basin

Verna Rae Colvin

Patricia A. Cook, Desert Archaeology, Inc.

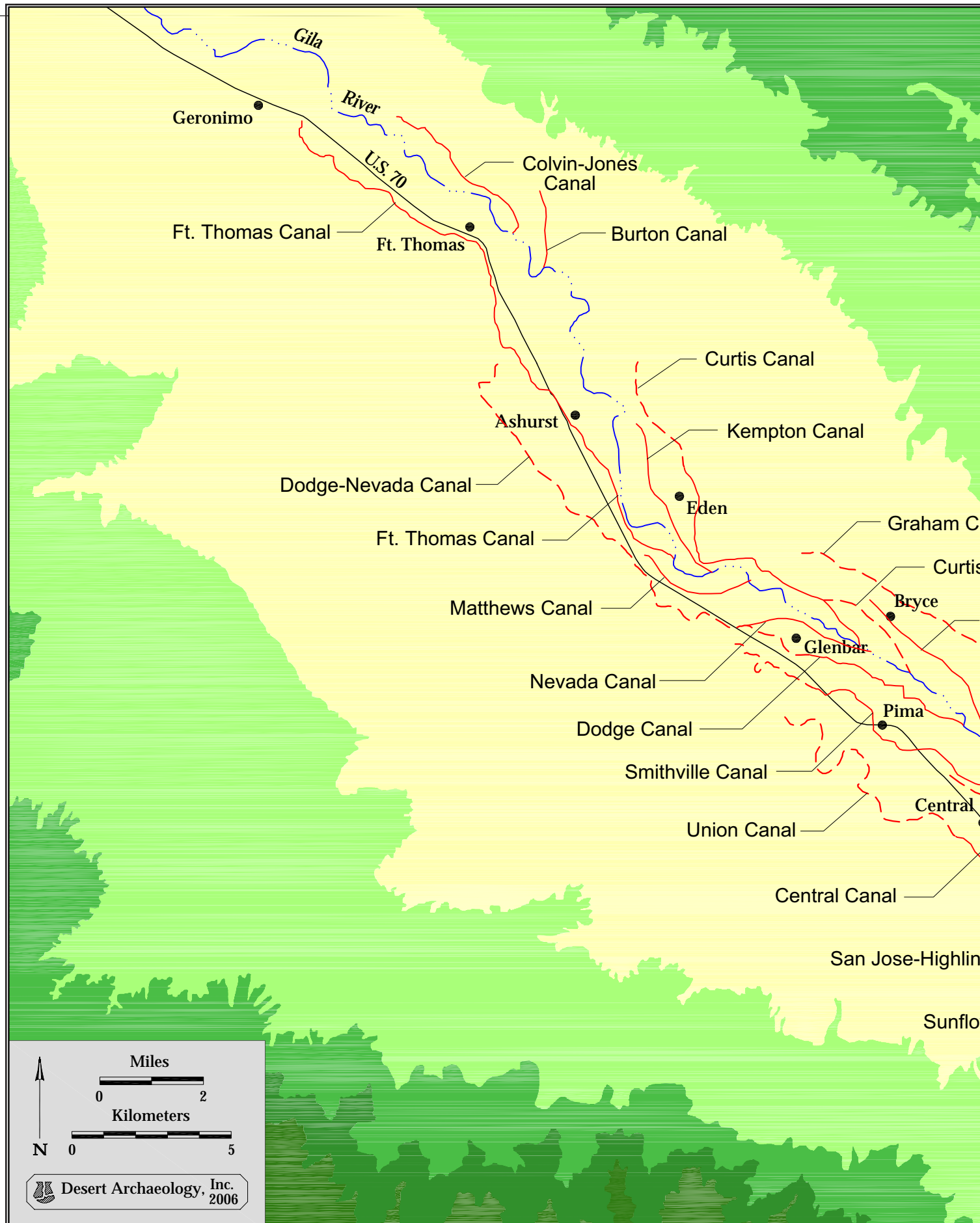
MORE THAN TWO MILLENNIA AGO, canal irrigation was practiced by the inhabitants of the Gila Valley. Some of these canals were reused by early Euro-American and Mexican settlers of the Safford Basin, and they form the basis of the canal system that crisscrosses the valley today. A hundred years ago, 30 canals irrigated the farmlands of the Safford area. Today, 10 primary canals, with a total length of more than 125 miles, irrigate at least 33,000 acres of agricultural land (see pages 10–11). Town parks, school grounds, and house gardens also benefit from Gila River water transported by canals. Irrigation agriculture and canals have played an important role in the history of the Safford Basin; indeed, neither the valley's previous populations nor its current residents could thrive without the help of canals to capture and use water from the Gila River.

Recent archaeological research has demonstrated that canals were present and in use in the Safford Basin between 190 B.C. and A.D. 10 (see page 15). When the first Euro-American settlers arrived in the Safford area in 1871, these prehistoric canals were still visible. Mexican and later Mormon settlers used these prehistoric canals as the basis of their irrigation systems, expanding upon the prehistoric canal system. The Montezuma Canal was the first constructed during the Historic period, excavated in 1872 by several Mexican families. Additional canals were constructed in quick succession, including the Brown–Sanchez–Michelena–Tidwell, Central–Union, San Jose–Highline, and Sunflower canals. These early historic canals were excavated manually by hand shoveling as well as using scrapers pulled by horses. Diversion dams were constructed of brush and rocks. Ca-



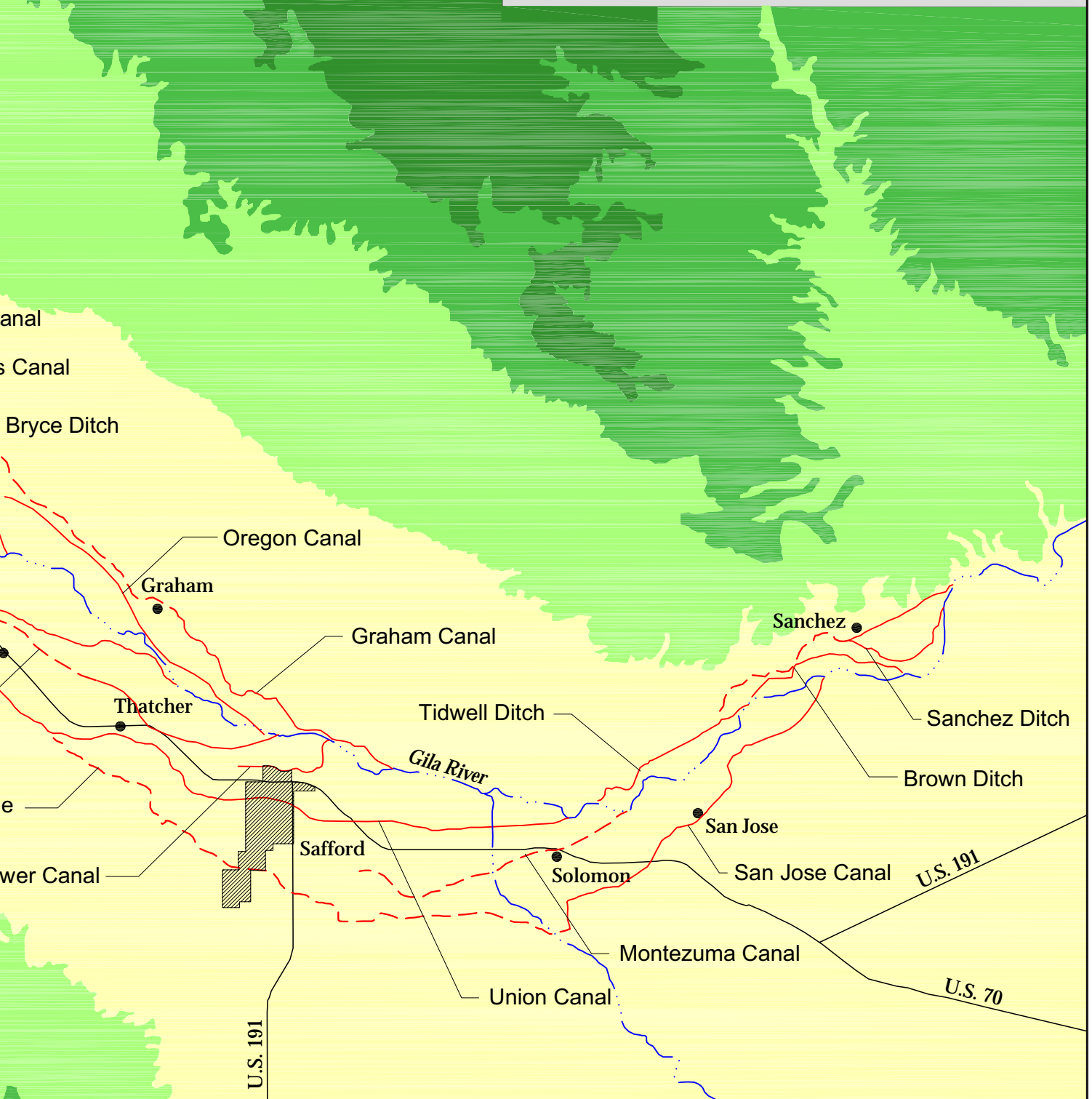
Women enjoying the shade of cottonwoods along a historic canal in the Safford Valley around the early 1900s.

nal systems continued to expand, with most of the major historic canals constructed between 1872 and 1895. During this time, the main crops grown were corn, alfalfa, barley, and wheat. Beginning in 1935, canal systems were overseen by the Gila Valley Irrigation Authority, which ensured continuous water flow in amounts set by the Gila River decree of 1935. Several of the historic canals built in the late nineteenth century are still in use today.



Historic Canals of the Safford Basin

- Canals
- Canal Extensions
- Gila River



The Archaeology of the Gila Box Riparian National Conservation Area

Tobi Taylor, Center for Desert Archaeology

ONE OF ONLY TWO Riparian National Conservation Areas (RNCAs) in the United States, the Gila Box RNCA, created in 1990, comprises 22,000 acres and is home to four perennial waterways—the Gila and San Francisco rivers and Bonita and Eagle creeks—as well as various large mammals, reptiles, and more than 200 species of birds. Although there were once extensive riparian ecosystems throughout the Southwest, today only the Gila Box RNCA and the San Pedro RNCA, both in Arizona, are federally protected.

The Bonita Creek area, 15 miles of which are inside the boundaries of the RNCA, has a long history of human habitation. Lieutenant Samuel E. Tillman, part of the Wheeler survey, was the first person to write about Bonita Creek's prehistoric cliff dwellings, in 1873. However, the author of the first published account of the sites in the area, written in 1897, was William Stowe Devol, for whom Pueblo Devol was named.

Nearly 70 years later, William Wasley recorded the materials found at the Bonita Creek ceremonial cave, including several made of wood (flowers, buttons, cones, a pendant, and terraced objects), miniature baskets, bows and arrows, cotton cloth, a smudged ceramic bowl, and a Maverick Mountain Polychrome jar. Wasley inferred that this cache was related to the influx of Kayenta immigrants into the Safford Basin (see pages 2–3).

In the 1990s, the Bureau of Land Management (BLM) undertook a research and stabilization project at Pueblo Devol, a cliff dwelling with about 50 rooms in three distinct alcoves that was occupied from roughly the mid-1200s to 1400. Although it was clear from the lack of surface arti-

facts that the site had been looted, archaeologists excavated a pit that contained many perishable items, including baskets and a bow. This site, too, appears to have been occupied by immigrants from the north.

Archaeologists have also examined historic sites in the Bonita Creek area. Although the first Anglo to visit Bonita Creek appears to have been James Ohio Pattie, who traversed the area in 1825, during a beaver-trapping expedition, it was not until just after the Civil War that Anglos and Hispanics began to settle in the Bonita Creek area. Chinese farmers appear to have arrived in the area in the 1880s.

One historic site on Bonita Creek recorded by BLM archaeologists, the Old Lady Gay Ranch, was excavated and stabilized by BLM archaeologists in 2002–2003. The site had several owners over the years, some Anglo and some Hispanic. It was named after its probable first owner, the wife or widow of the proprietor of a store in the Clifton-Morenci area. It appears that Old Lady Gay lived alone at the ranch, farming and raising cattle until around 1910. Two structures dating to the turn of the twentieth century remain on the site—a house and barn,

both constructed of stone masonry set in earthen mortar. Local oral history suggests that the buildings were constructed by Chinese laborers, but excavations at the site could not substantiate that claim.

Although the Gila Box RNCA is perhaps best known for its riparian ecosystem, it is also highly significant in terms of its cultural resources, both prehistoric and historic. Today BLM archaeologists work to preserve what remains of that rich human history and to interpret and make it available to the public.



In 2006, archaeologists from the Center for Desert Archaeology relocated, assessed, and interpreted the condition of 10 sites along Bonita Creek in the Gila Box Riparian National Conservation Area. Cliff dwellings ranged from this impressive site to small, informal shelters with single walls.

The San Simon Basin

Patricia A. Gilman, University of Oklahoma, Norman

ONE OF THE LARGEST RIVERS in the southern Southwest is the San Simon, which flows into the Gila River just east of Safford. During the Late Archaic (1500 B.C.–A.D. 100) and Pit Structure (A.D. 100–1050) periods, the San Simon Basin was filled with people who lived at many large sites, but who then left the valley permanently after A.D. 1050. Why did people leave this basin, where they had successfully lived for more than 2,000 years?

Not only were there many people in the San Simon area before its comparatively early abandonment, but several of them may have come from the Hohokam and Mimbres heartlands to the west and east. Their presence is indicated by significant amounts of painted pottery in the styles of those areas, with Mimbres black-on-white pottery often outnumbering the local San Simon red-on-brown sherds.

At the encouragement of Betty Lee, a local archaeologist (see page 19), and Gay Kinkade, a longtime Bureau of Land Management archaeologist in the Safford office, I started the San Simon Archaeological Project in 1986. Many avocational archaeologists from both Arizona and Oklahoma, along with students and professionals, have worked on surveys and excavations with me over the years.

Recently, several graduate students at the University of Oklahoma have produced research that illuminates the questions mentioned above. Margaret Dew's settlement pattern study shows that there were indeed many people in the San Simon Basin during the Late Archaic period, and many more in the Pit Structure period, after which time there was a dramatic decrease in population. Bernard Schriever notes that the largest Pit Structure pe-

riod sites were occupied for a long time, suggesting that maintaining access to resources like the best farmland near some sites was advantageous. Kari Schmidt has found that big game was never an important part of the diet during the Late Archaic and Pit Structure periods, in contrast to surrounding areas where it was much more significant.

Research by Kristina Dobschuetz on Hohokam artifacts in the San Simon Basin and by John Smith on the Hohokam, Mimbres, and San Simon ceramics indicates that people from the Hohokam and Mimbres areas migrated into the valley. Thomas Gruber's research on painted ceramic designs across the southern Southwest, however, suggests that painted pottery in the San Simon had a design layout that was different from the pottery of surrounding

areas. Smith proposes that these ceramics with "exotic" designs were likely made in the San Simon region from paste recipes that mirrored those in the Mimbres and Hohokam regions, while Gruber's work indicates that people painted designs on the pottery in a local style.

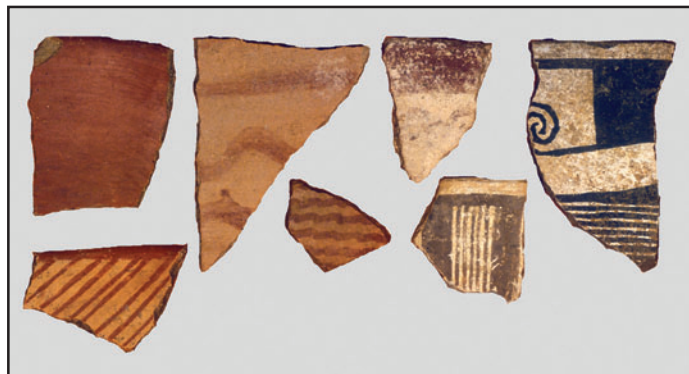
These results suggest that both environmental and social factors may explain the multiplicity of people in the basin and the early abandonment. The lush setting along

the drainages and access to many environmental zones may have attracted people to the basin in the first place, but we wonder if the lack of large game was a result of overhunting in the Middle Archaic period, suggesting some environmental fragility. Maintaining social relationships among local people

and those from the Hohokam and Mimbres regions must not have been easy, and perhaps social tensions contributed to the early abandonment.



Pit structure from the Timber Draw site, San Simon Basin.



San Francisco Red, three San Simon red-on-brown, Hohokam red-on-buff, and two Mimbres black-on-white sherds from the San Simon Basin. Ceramics can give us insight into cultural affiliation, economic structure, and cultural activities at sites.

Eden Phase Occupations at Two Mogollon Villages

David E. Purcell, Four Corners Research, Inc.

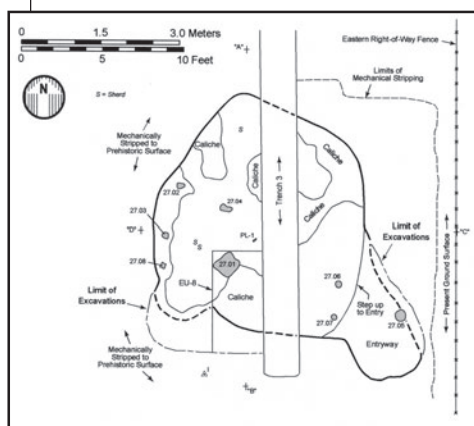
FEW EDEN PHASE SITES in the Safford Basin had been studied until excavations by Archaeological Research Services, Inc. (ARS) in 2001–2002. Under the auspices of the Arizona Department of Transportation, ARS conducted work in a narrow right-of-way along U.S. 191 south of Safford at two large villages, the Artesia site and Roadrunner Village, located on the middle bajada of the Pinaleno Mountains. Both sites had a long occupation, beginning in the Early Formative period and, at Roadrunner Village, extending into the Bylas phase. During the Two Dog and Eden phases of the Late Formative period, both sites experienced their most intensive occupations.

Although the Artesia site appears to have been extensive, only four prehistoric features were found intact in the project area, owing to damage from nearby road construction. Two features—a large storage pit and a pithouse—may have been used in the Eden phase. A radiocarbon date and ceramic dates corresponded closely, indicating that the pithouse was occupied around A.D. 1000 to 1150.

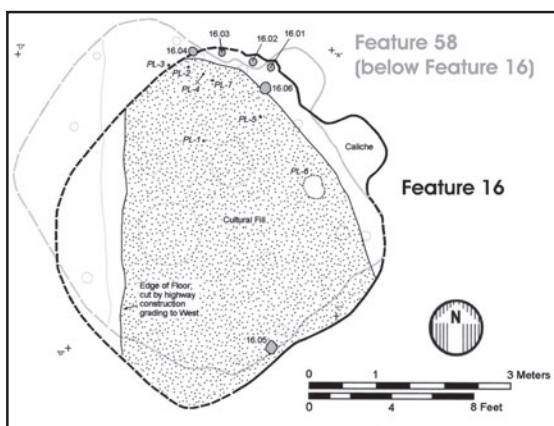
Roadrunner Village also sustained damage from road construction, which apparently removed much of the Bylas phase occupation. Despite this, 48 features were excavated, including 17 habitation structures. Twenty features appear to have been used after A.D. 1000, with four securely dated to the late Two Dog and Eden phases, and nine others dated to the same interval, though less confidently. One of the pithouses excavated at Roadrunner Village was very similar in date, architectural form, and contents to the Eden phase



Feature 27 at the Artesia site.



Plan view of Feature 27 at the Artesia site; view is to the southeast. Feature 27 dates to the Two Dog and Eden phases, approximately A.D. 1000 to 1150.



Plan view of Feature 16 superimposed over Feature 58 at the Roadrunner site. Feature 16 is a Two Dog/Eden phase pithouse dated A.D. 1050 to 1130. Feature 58 is an earlier Two Dog phase pithouse dated A.D. 1000 to 1050.

particularly the construction of multi-room surface dwellings of masonry and adobe. Pithouses remained the preferred house form at Roadrunner Village until very late in the Eden phase, and the many associated storage pits suggest that these were permanent, year-round dwellings, and not fieldhouses. Eden phase inhabitants exploited the resources of the local environment, principally rabbits, prickly pear, wild seeds and herbs, and maize.

Epley's Ruin

Annick Lascaux, Tierra Right of Way Services, Ltd.

Gary Huckleberry, Geoarchaeological Consultant

COVERING MORE THAN 200 ACRES, Epley's Ruin was described in the 1890s by archaeologists J. W. Fewkes and Walter Hough as consisting of numerous house mounds and a large adobe ruin with a high central mound. While recording the site, Fewkes and Hough also observed both cremations and inhumations at the site, which Fewkes interpreted as representing two cultural groups and/or two distinct occupations. By the 1890s, the site had already been damaged by field-leveling and adobe-quarrying activities. Fewkes then turned his attention toward the Buena Vista Ruin, also known as the Curtis site or the Solomonville site, three miles northeast of Epley's Ruin.

The next major investigation at Epley's Ruin was conducted in the winter of 2004–2005 by archaeologists from Tierra Right of Way. Three prehistoric canals were documented. The earliest canal, one of the oldest in the Safford Basin and the Greater Southwest, radiocarbon dates to 190 B.C. to A.D. 10. Another canal radiocarbon dates to A.D. 640 to 770. Both canals were east-west distribution canals that brought irrigation water to fields west of the village. A third canal—a north-south-flowing lateral canal radiocarbon dating to A.D. 760 to 960—brought water directly to fields north of the site. These findings suggest the presence of a well-established irrigation community in the Safford Basin long before Hohokam groups entered the area.

The village portion of the site that was documented by Hough and Fewkes and dates to the 1300s is, for the most part, no longer extant. Other features encountered by the recent excavations extend from the Peñasco phase (A.D. 200–450) to the Bylas phase (A.D. 1200–1300). Peñasco phase remains were limited to household refuse in trash middens, which included San Francisco Red and plain ware sherds. Dos Cabezas phase and Galiuro phase (A.D. 650–950) features included three pithouses, one roasting pit, and one inhumation. Continued use of trash middens during this time is indicated by ceramics (e.g., early broadline red-on-brown; Galiuro Red-on-brown; Santa Cruz Red-on-buff, Safford variety; and Kiatuthlanna Black-on-white). The Encinas phase (A.D. 950–1100), which was defined by E. B. Sayles for the San Simon Mogollon area, is represented by a small, special-function pithouse, a possible isolation room with a hearth, and two Encinas Red-on-brown serving bowls. Some of the other ceramic types from this time interval include Sacaton Red-on-buff, Safford variety, and Cerros and Three Circle Red-on-white.

Two pithouses were built and inhabited during the Encinas/Eden phase transition (A.D. 1050–1150). Radiocarbon and archaeomagnetic dates from A.D. 1150 to A.D. 1250 indicate an occupation transition between the Eden phase and the Bylas phase. Ceramic types support this time interval, with the majority of types consisting of Encinas Red-on-brown and Sacaton and Santan Red-on-buff, Safford variety. Cibola White Ware includes Puerco, Escavada, and Reserve types. One of the pithouses was eventually incorporated in the roomblock and was remodeled twice, with the addition of cobble-reinforced adobe walls and two new adobe floors. The southeastern portion of the floor in one of the adobe rooms appears to have been associated with craft production. That portion con-



Eden phase roomblock and underlying features at Epley's Ruin.



Top: Sample of painted ceramics from Epley's Ruin: (a–c) Mimbres black-on-white; (d–e) San Simon Mogollon Red-on-brown; (f–g) Cibola White Ware; (h–j) Hohokam Red-on-buff, Safford variety. Bottom: Stone and marine shell ornaments from the site.

tained 22 turquoise tesserae, quartz beads, and worked chrysocolla, as well as unworked *Glycymeris* shell.

The five rooms in the Eden phase roomblock were surface rooms, and only two had a connecting doorway—a habitation room and a probable storage room. The roomblock extends northward under the road embankment. Some of the ceramics associated with the roomblock include Reserve/Tularosa Black-on-white; Wingate Black-

on-red; Mimbres Style III Black-on-white; Chupadero Black-on-white; Casa Grande Red-on-buff, Safford variety; San Carlos Red-on-brown; and Playas Red Incised.

In spite of the destruction that has occurred at Epley's Ruin, recent excavations indicate that there is still valuable evidence for the early occupation of the site, thus affording a great opportunity for future study of the development of early communities in the Safford Basin.

A History of the Mills Collection

Linda Blau, Mark Bryce, and Brent McEuen
Eastern Arizona College

ARDENT AVOCATIONAL ARCHAEOLOGISTS Jack and Vera Mills conducted extensive excavations on Southwestern archaeological sites from the 1940s through the 1970s. Most of their work was carried out on private land at sites throughout southeastern Arizona, and the Millses kept notes, made maps and drawings, and published detailed reports of their excavations. They also restored numerous pottery vessels, and amassed more than 600 whole and restored pots and over 5,000 other artifacts. At their home in Elfrida, Arizona, the Millses displayed their collection in a small museum to which the general public was invited.

In the late 1970s, the Millses became acquainted with Safford residents Betty and Robert Lee (see page 19). Betty Lee, who taught anthropology at Eastern Arizona College (EAC), was director of the college's newly created Museum of Anthropology. Aware that the Millses wished to have their collection kept intact, housed, and exhibited in a local facility, the Lees offered EAC's fledgling museum for that purpose.

The Jack and Vera Mills Collection at the time was valued at more than \$200,000, and several museums across the country, as well as some private foreign investors, were interested in it. After extensive negotiations, the EAC Foundation acquired the collection, with the Millses receiving a \$125,000 tax break and \$75,000 raised through donations. Robert Lee spearheaded the fund-raising drive, raising \$50,000 in donations from



Jack and Vera Mills at the museum in their home in Elfrida, Arizona.

local business people, EAC alumni, and others. The remaining \$25,000 was paid by the EAC Foundation in increments of \$5,000 per year at no interest.

A significant condition of the agreement was that the Mills Collection be displayed in perpetuity. However, the EAC museum was torn down in 1994 to make way for a student dormitory, and the collection was placed in temporary storage. A new building, now known as Student Services, was designed specifically to showcase the Mills Collection. This building was completed in 2003, and the Mills Collection is once again on display. The public may again view this premier collection of Salado pottery. Admission to the display is free. For more information about visiting the Mills collection



Effigy vessels from the Mills Collection on display at Eastern Arizona College.

tion at EAC, visit http://www.eac.edu/About_EAC/Mills_Collection/ or call 928.428.8320.

Research on the Mills Collection

Patrick D. Lyons and Anna A. Neuzil
Center for Desert Archaeology

ONE OF THE MOST COMPREHENSIVE assemblages of whole ceramic vessels and other artifacts recovered from sites in southeastern Arizona and southwestern New Mexico is the Jack and Vera Mills Collection, curated by Eastern Arizona College, in Thatcher. Over the course of a week in September 2004, we, along with research assistant Mathew Devitt, analyzed a portion of the whole vessels that are currently on display in the college's Student Services building. It quickly became apparent that the collection has great research potential, particularly in light of the rapid and ongoing destruction of many archaeological sites in southeastern Arizona.

One of the most important results of our work was the recognition of several new types of Roosevelt Red Ware (Salado polychromes). Roosevelt Red Ware is found at sites in many parts of the Southwest after A.D. 1300. Traditionally, three main types have been distinguished: Pinto, Gila, and Tonto Polychrome. However, the Mills Collection, derived from some of the latest occupied precontact sites in the region, includes vessels that do not fit the established typology. In addition to Cliff Polychrome, a late variant of Gila Polychrome, five other newly defined types are present.

Nine Mile Polychrome is similar to Cliff Polychrome. Both occur only in recurved bowl form and exhibit a banded design field on the interior surface, at the rim. This consists of black paint on a band of white slip. Nine Mile differs from Cliff Polychrome in that the remainder of the interior surface of the former is slipped red and bears no painted designs. The exterior of a Nine Mile Polychrome bowl usually bears a Gila or Tonto Polychrome design.

Phoenix Polychrome is similar to Nine Mile Polychrome but without a banded zone of black-on-white interior decoration; the entire interior is slipped red. Phoenix Polychrome bowls exhibit either Gila or Tonto Polychrome exterior designs. Recurved Roosevelt Red Ware bowls exhibiting Gila or Tonto exterior designs and smudged interiors are referred to as Dinwiddie Polychrome.

Los Muertos Polychrome is distinguished by the use of red paint alongside black paint on white-slipped surfaces. This type occurs in a variety of bowl and jar forms. Cliff White-on-red, which only appears in recurved bowl form, exhibits a red-slipped exterior, a smudged interior, and white painted decoration on top of the red slip.

The Mills Collection includes the largest number of complete specimens of these types currently available for analysis, and our work with them has improved chronological resolution at a regional scale. Armed with these new types, it is



Top: Dinwiddie Polychrome. Bottom: Los Muertos Polychrome.



Phoenix Polychrome



Nine Mile Polychrome



Cliff White-on-red

possible to pinpoint other sites that were occupied just prior to the arrival of Europeans in the Southwest. Our analyses also made it abundantly clear that the full research potential of the Mills Collection and other collections at the college has yet to be completely realized. The Mills Collection alone contains in excess of 1,000 whole vessels, as well as sherds, ground and flaked stone artifacts, shell, and other objects. This collection and its associated documentation may hold the keys to unlocking some of the more tantalizing secrets of the prehistoric past in southeastern Arizona.

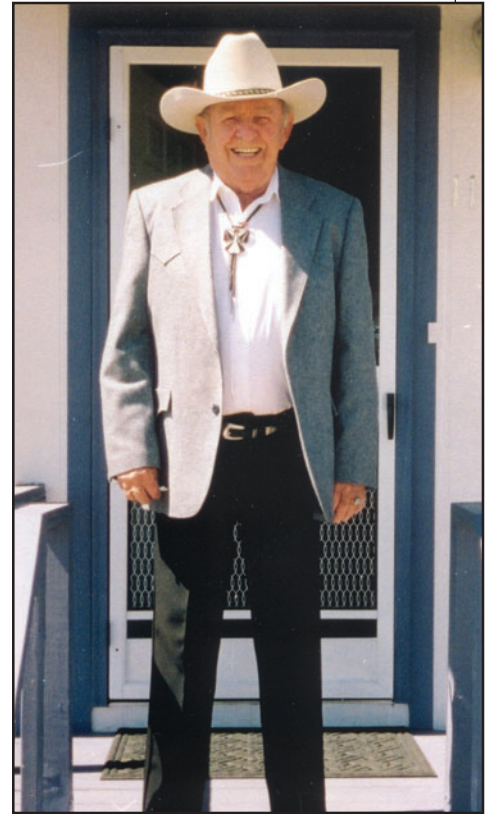
Rex Owens

Anna A. Neuzil, Center for Desert Archaeology

SINCE HIS ARRIVAL in the Safford area in 1972, Rex Owens has been a great advocate for the cultural resources of the Safford Basin and surrounding region. His main goal, he says, has been to ensure that archaeological sites on private lands and collections of artifacts in private hands get the attention they deserve. Rex has encouraged local landowners to preserve archaeological sites on their property and donate heirloom collections of artifacts to local museums for curation. In addition, he has written up several excavations undertaken on private land in the Safford Basin that would otherwise have languished unpublished, including his own excavation of a ceremonial structure at the Owens-Colvin site on land he previously owned. Rex donated the collections from these excavations to the Graham County Historical Society in Thatcher, where they are currently on display in the Prehistory Room.

Rex became interested in archaeology in his youth, when he started collecting projectile points and axes and exploring caves around his home in Pecos, Texas. This interest stayed with him as he moved around the Southwest, leading him to explore the archaeological resources of Alpine, Texas, La Plata, New Mexico, and the Gatlin site in Gila Bend, Arizona.

Upon moving to the Safford Basin, Rex began taking classes in archaeology and anthropology at Eastern Arizona College. Rex has made a substantial contribution to preserving archaeological sites in the Safford Basin, serving a term as the President of the Coronado Chapter of the Arizona Archaeological Society, as a Site Steward, along with his wife Jayne, for several years, and working with the Bureau of Land Management as a volunteer on several local excavations. Rex's constant advocacy for the archaeological resources of the Safford Basin has greatly advanced our understanding of the past, and his efforts in this capacity are much appreciated.



Rex Owens at his home in Eden, Arizona, in 2004.

Your Attention, Please



members of the Tohono O'odham Nation (not the Hopi Tribe) on a tour of San Pedro Valley archaeological sites.

We regret an error in the caption to this photograph in the last issue of *Archaeology Southwest* (volume 20, number 1, Winter 2006, page 13). The Center Preservation Fellows Jim Vint and Chip Colwell-Chanthaphonh were accompanying members

We ask you to join us in celebrating the birth of Grace Emma Neuzil Doschka on May 22, 2006. Less than a week after putting her finishing touches on this issue of *Archaeology Southwest*, Anna Neuzil gave birth to her first child. Congratulations to Anna and to her husband Jeremy Doschka.



Issue editor Anna Neuzil, with her new daughter, Grace Emma Neuzil Doschka.

Betty Graham Lee (1920-2005)

Anna A. Neuzil, Center for Desert Archaeology

BETTY GRAHAM LEE was a unique and constant presence in the archaeological community of the Safford Basin, one of the few people who knew the archaeology of the area from the ground up, so to speak. She began her anthropological studies at the University of Washington, in Seattle, and graduated from the University of Arizona in Tucson, in 1978. While working on her bachelor's degree, Betty was employed by the Safford District Office of the Bureau of Land Management, recording numerous sites in the area, including many on private land. Thereafter, she taught anthropology and archaeology classes at Eastern Arizona College (EAC) in Thatcher, as well as serving as the Director of EAC's Museum of Anthropology and its field school. Betty also worked for the Mimbres Foundation as a ceramic consultant, spent two field seasons working at the historic site of Guevavi in southern Arizona, and worked for one season in Israel with Tel Aviv University. After her retirement in 1985, Betty devoted herself to relocating the village of Chichilticale, an archaeological site described in the narratives of the 1540 Coronado expedition, and in the process recorded several important archaeological sites along Aravaipa Creek. Her résumé includes several publications that served as the foundation of our current understanding of the past in the Safford Basin.

I am particularly indebted to Betty, for she introduced me to much of the archaeology of the Safford and Aravaipa valleys, as well as to several local landowners and others with an interest in the archaeology of the area. She also provided me with her own notes on several local sites. My dissertation research certainly would have been more difficult without her help, and I am grateful to have benefited from her generous spirit. The Safford Basin experienced a great loss when Betty Lee passed away last November; her presence and perspective are greatly missed.



Betty Lee and Anna Neuzil at the Rattlesnake Mesa site in the Aravaipa Valley in 2002.

See the Center for Desert Archaeology website for more information: <<http://www.cdarc.org>>

THE CENTER FOR DESERT ARCHAEOLOGY, a private, nonprofit organization, promotes stewardship of archaeological and historical resources through active research, preservation, and public outreach. The Center is a 501(c)(3) organization and is supported through donations, memberships, and grants from individuals, foundations, and corporations. Center members receive an annual subscription to *Archaeology Southwest*, substantial discounts on other Center publications, opportunities to participate in archaeological projects, and invitations to special lectures and events. For more information or to join, contact Linda Pierce, Programs Manager, at 520.882.6946, or lpierce@cdarc.org.

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Back Sight

PRESERVATION FELLOWS ARE VITAL and indispensable to the Center for Desert Archaeology's mission. These fellowships are a blend of research, public outreach, and stewardship—the three strategies for implementing the Center's mission of “preserving the places of our shared past.”

With this issue of *Archaeology Southwest*, issue editor Anna Neuzil fulfills the final requirement of her three-year fellowship. During her tenure as a Preservation Fellow, Anna conducted background research on the Safford and Upper Aravaipa valley areas, finalized a research design, and worked with a variety of private landowners, past researchers, and government agencies. She conducted surveys, mapping, and surface collection at some 30 sites, investigating the evidence and chronology of the migrations of Puebloan groups into the Safford area for her University of Arizona Ph.D. dissertation.

This issue of *Archaeology Southwest* is being distributed widely in the Safford Valley through the support of the Arizona Department of Transportation (ADOT). As part of a road-widening project between Safford and Thatcher, ADOT included funding for a public outreach component to the excavations conducted by Desert Archaeology, Inc. (see page 6). The map of historic irrigation canals in the Safford Basin on pages 10 and 11 was created thanks to ADOT's support.

Archaeology Southwest is frequently a venue for disseminating the important contributions of contract-funded archaeology to the public. For example, this issue incorporates work from two other contract-funded projects as well as university-based research, government programs, and projects by multiple avocational archaeologists. The diversity of the contributors to this issue is another measure of Anna's professional growth during her fellowship. Clearly, she has helped to expand the community of persons and organizations interested in the archaeology and history of the Safford Basin.

The Center will soon select two new Preservation Fellows. One will be based in Phoenix, working with volunteers and writing a dissertation about the petroglyphs of the South Mountains. A second will conduct research and public outreach in the Upper Gila area east of Safford. One of these fellowships is funded by the Center's Preservation Fellow Endowment, while the second is made possible by a private donor. Your support of the Center also assists our Preservation Fellow Program, which is increasingly central to the implementation of our preservation archaeology mission.

back sight (băk sīt) n. 1. a reading used by surveyors to check the accuracy of their work. 2. an opportunity to reflect on and evaluate the Center for Desert Archaeology's mission.



Anna Neuzil leads a tour of the sites used in her dissertation research. This site is now protected by a conservation easement held by the Southeast Arizona Land Trust.

*William H. Doelle, President & CEO
Center for Desert Archaeology*

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