A Cultural Resources Inventory for a Proposed Water Line for the Town of Patagonia, Arizona

Prepared by
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Prepared for
Town of Patagonia
P.O. Box 767
Patagonia, Arizona 85624

Overview of the project area, view to the south-southwest.

June 2012
ASM Accession No. (pending)
WSA Technical Report No. 2012-25

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WSA

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ABSTRACT

Report Title: A Cultural Resources Inventory for a Proposed Water Line for the Town of Patagonia, Arizona

Report Date: June 2012

Report Number: WSA Technical Report No. 2012-25

Agency: U.S. Department of Agriculture's Rural Development program; Arizona State Historic Presevation Office

Permit Number: Arizona State Museum Blanket Permit No. 2012-028bl

Project Description: The Town of Patagonia (TOP) proposes to construct a water line located 1 mile northeast of Patagonia, Arizona. The project area includes land owned by the TOP and private landowners. Part of the funding for the project will be provided by the U.S. Department of Housing and Urban Development's Community Development Block Grant program, as well as by the U.S. Department of Agriculture's Rural Development program. As federal funds will be used for this project, TOP must be in compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800. William Self Associates, Inc., was contracted by the TOP to conduct archaeological survey of this segment of the proposed water line. The area of potential effect (APE) is linear and consists of a 30-foot-wide corridor that is 529.48 feet long. One previously recorded prehistoric archaeological site, AZ EE:6:32 (ASM), is within the project area; this archaeological property was rerecorded and the site card has been updated at the Arizona State Museum. No new cultural properties were identified during the project.

Acres Surveyed: 0.37 acres (15,884 square feet)

Project Number: WSA Project No. 2012-32

Project Location: The APE consists of a 529.48-foot long, 30-foot-wide linear "L"-shaped corridor located on land owned by the TOP as well as on land that is privately owned. The project area is located 1 mile northeast of the town of Patagonia, in Township 22 South, Range 16 East, section 6, Gila and Salt River Baseline and Meridian, as shown on the Mount Hughes, Arizona 7.5-minute USGS topographic quadrangle

Unevaluated Properties: 0

NRHP-Eligible Properties: AZ EE:6:32 (ASM)

NRHP-Ineligible Properties: 0

NRHP-Listed Properties: 0

Total Project Properties: 1

Recommendations: One previously recorded prehistoric property was identified within the APE; this site is recommended as eligible to the National Register of Historic Places under Criterion

D. As the cultural property is located within the current project's APE, WSA recommends that measures be taken to protect AZ EE:6:32 (ASM) from damage by construction-related activities and other aspects of the proposed project. If avoidance of the site is not possible, WSA recommends that further archaeological evaluation and documentation of this site be conducted to mitigate the possible effects of the proposed activities.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

The Town of Patagonia (TOP) proposes to construct a water line for its residents located 1 mile northeast of Patagonia, Arizona. The project area includes land owned by the TOP and private landowners. The proposed project will be partly funded by the U.S. Department of Housing and Urban Development's Community Development Block Grant program as well as by the U.S. Department of Agriculture's Rural Development program. As federal funds will be used for this project, TOP must be in compliance with Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR 800. William Self Associates, Inc. (WSA), was contracted by the TOP to conduct archaeological survey of this segment of the proposed water line. The area of potential effect (APE) is linear and consists of a 30-foot-wide corridor that is 529.48 feet long. One previously recorded prehistoric archaeological site, AZ EE:6:32 (ASM), is within the APE; this archaeological property was rerecorded and the site card has been updated at the Arizona State Museum (ASM). No new cultural properties were identified during the project.

PROJECT SETTING

The APE consists of a 529.48-foot long, 30-foot-wide linear "L"-shaped corridor located on land owned by the TOP as well as on land that is privately owned. The project area is located 1 mile northeast of the town of Patagonia, in Township 22 South, Range 16 East, section 6, Gila and Salt River Baseline and Meridian, as shown on the Mount Hughes, Arizona 7.5-minute USGS topographic quadrangle (Figure 1).

ENVIRONMENTAL SETTING

The project area is located in southeastern Arizona, on the southern *bajada* of the Santa Rita Mountains northeast of the town of Patagonia. This area of southern Arizona is part of the Mexican Highland section of the Basin and Range physiographic province (Hayes 1991:36, Figure 4). The area is framed by several mountain ranges including the Canelo Hills to the east, the Patagonia Mountains to the south, and the Santa Rita Mountains to the west. Both the Santa Rita and Patagonia mountains are a mixture of Mesozoic volcanic and granitic rock and Cenozoic sands and gravels (Chronic 1983).

The project area and its immediate vicinity are part of the Encinal and Mexican Pine-Oak Woodland and the Plains Desert Grassland biotic communities, although riparian forests are present nearby, along Sonoita Creek (Brown and Lowe 1994). The project area is situated at an elevation of 4,250 feet (1,295 m) above sea level and is part of a moderately rugged area of secondary and tertiary drainages that trend generally north to south, eventually meeting the Santa Cruz River south of the project area. The largest drainage in the vicinity is Sonoita Creek, a northeast-to-southwest–trending perennial stream that was dammed in 1968 to form Patagonia Lake. The project area itself sits on a ridgetop between two finger ridges overlooking the Sonoita Creek valley.

The climate is semiarid, with average annual precipitation of 44.8 cm (17.65 inches). Most of the rain falls during brief, intense summer storms. Average temperatures range from a maximum of 35.2°C (95.3°F) in July to a minimum of -2.6°C (27.3°F) in January.

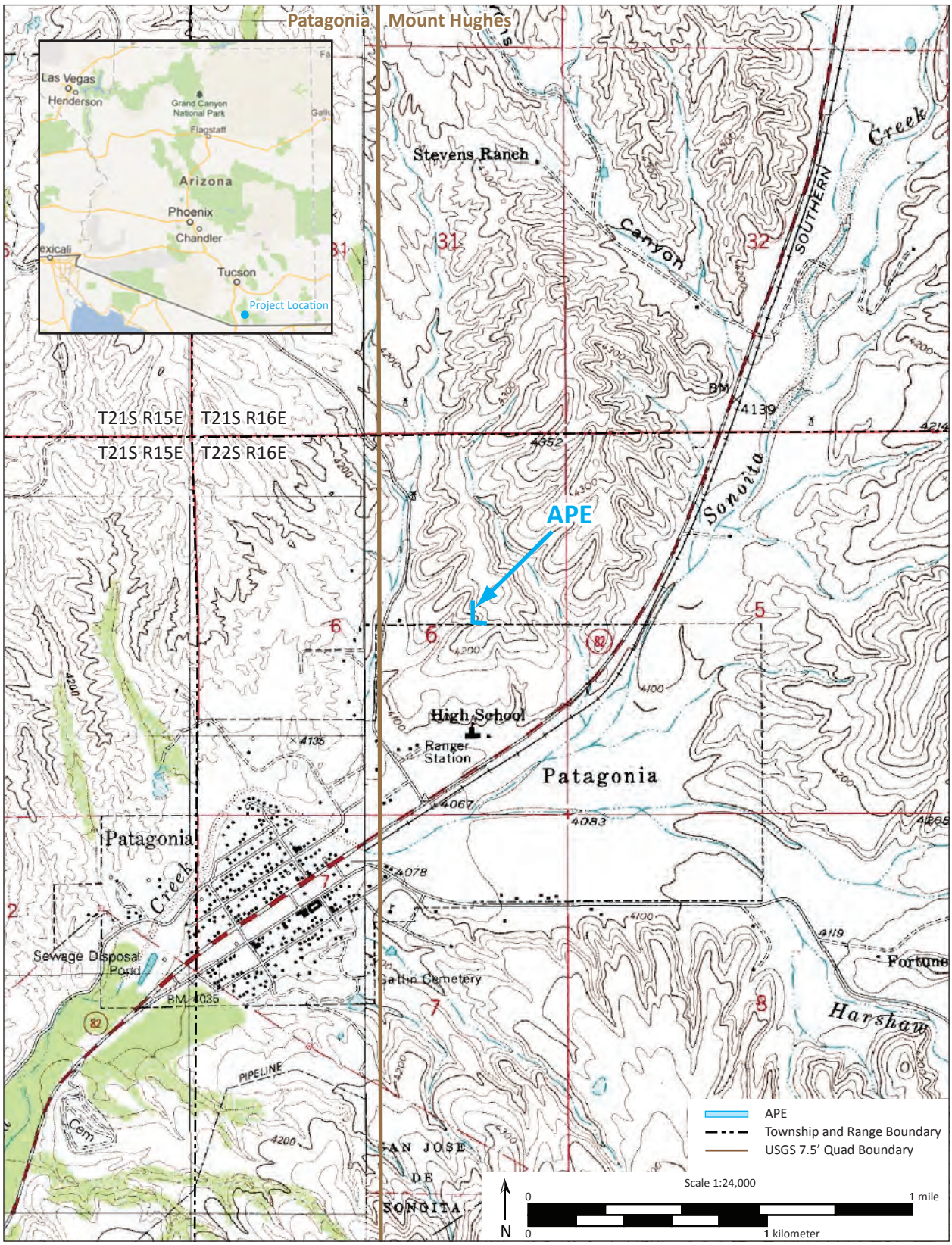

Figure 1. Project location.

CULTURE HISTORY

An overview of the prehistoric background of southeastern Arizona was presented recently by Boley (2011). In the immediate vicinity of Patagonia and the Sonoita valley, a limited amount of archaeological work focusing on prehistoric and protohistoric sites has been carried out. However, Patagonia and the Sonoita Valley, located within the greater middle Santa Cruz River valley, saw the same general sequence of Native American cultural traditions better known from archaeological work in adjacent areas, including in the San Rafael Valley to the east (Danson 1946; McWilliams 2001); in the Rosemont area of the Santa Rita Mountains, approximately 25 km (15.5 miles) north of Patagonia (e.g., Ferg and Glass 1984; Huckell 1984a; Tagg et al. 1984); and in the Las Cienegas National Conservation Area, located northwest of Patagonia (e.g., Ayres and Slawson 1994; Boley and Milliken 2010a, 2010b, 2010c; Stevens 2001). These traditions include the primarily hunting, highly mobile cultures of the Paleoindian period (10,000–7000 B.C.), the primarily hunting-and-gathering cultures of the Archaic period (7000–1 B.C.), and the pottery-making, farming, and more-sedentary cultures of the Formative (A.D. 1–1450) and Protohistoric (A.D. 1450–1700) periods. The Hohokam form the northernmost extension of a broad cultural pattern extending from the archaeological cultures of northern and western Mexico defined by shared stylistic, material, and iconographic attributes, and represent the dominant Formative period cultural tradition in the area; the Sobaipuri (the easternmost of the O'odham) and the Apache represent the traditions of the Protohistoric period. For additional information regarding details on the temporal and cultural subdivisions in these broad periods, and on the transition of Native American cultures from prehistoric times to the historic period (A.D. 1450–1700) near the project area, the reader is referred to the discussions of MacWilliams (2001) and LeBlanc and Gillespie (2004).

Of most relevance to the current project, archeological research in the northern Santa Rita Mountains conducted for the ANAMAX-Rosemont project in the 1970s documented numerous sites dating to the Archaic and Formative periods. Archaic sites were generally small and consisted of specialized and unspecialized multiple activity areas, limited activity areas, and lithic reduction sites (Huckell 1984a). Activity areas of all types were generally located in canyons, while lithic reduction areas were found primarily on ridge tops, where raw materials are abundant. Temporally, these sites represented the entire Archaic period, with sites dating to each of the defined sub-periods—Early (9500–4850 B.C.), Middle (4850–1550 B.C.), and Late Archaic (1550 B.C.–A.D. 300). The same project also documented sites dating to the Formative and Protohistoric periods. The Formative period sites contained ceramics diagnostic of the Hohokam, San Simon, and Trincheras traditions, though the sites were generally considered Hohokam (Ferg and Glass 1984), while the Protohistoric sites were attributed to the Sobaipuri (Huckell 1984b). Hohokam and Sobaipuri sites haves also been documented throughout the Sonoita Creek watershed (Wheat Scharf Assoc. 2003:14).

The historic period in southern Arizona has been reviewed by Sheridan (1995) and Wilson (1995), and a history of Patagonia in particular is provided by Bunker (n.d.) and Mihalik (1985). The first European expedition to enter the region was that of Fray Marcos de Niza, which crossed into what is now Arizona from Mexico in 1539. A monument to Niza near Lochiel, west of the project area, claims the San Rafael Valley as the place where he first entered Arizona, but the actual location may have been elsewhere in southeastern Arizona. The first European settlement in the project area was probably the *visita* called Los Reyes de Sonoidag, located near present-day Patagonia and from which the modern town of Sonoita takes its name (Barnes and Granger 1960:325),

which archaeologists believe was founded in the late 1690s by the Jesuit priest Eusebio Francisco Kino. Kino initiated the Catholic conversion of the region, establishing missions along the Santa Cruz as far north as San Xavier del Bac. The beginning of private land ownership in the area dates to 1825, when the Mexican government awarded the San José de Sonoita land grant, which follows Sonoita Creek southwest of Patagonia and was one of ten large private land grants made in southern Arizona between 1821 and 1843 (Sheridan 1995:128). After the Gadsden Purchase of 1854, southern Arizona became part of the United States.

Ranching, military activities, and mining were the important forces behind European-American settlement of the Sonoita Valley and its vicinity, from the Spanish and Mexican periods through the territorial period and into early statehood. Following the award of several large land grants, cattle ranching became a significant economic activity in the area, peaking in the 1880s (Sheridan 1995126–134). Prior to and after the Civil War, several forts, including Fort Buchanan (1856), Fort Crittenden (1867–1873), and Fort Huachuca (1877–present), were established in the area to protect settlers from Apache raids. Mining in the region began during the Spanish period but did not become a substantial industry until the 1870s. The project area is near the greater Harshaw and Patagonia mining districts, which consisted of as more than 50 mines south-southwest of Patagonia. Mining activity in the region declined after the first decade of the twentieth century but has continued intermittently ever since (Ralph and Chau 2012a, 2012b).

Completion of the New Mexico & Arizona Railroad through the Sonoita Valley in 1882 opened the area to increased Euroamerican settlement. A successful businessman, Civil War veteran, and rancher, Rollins Rice Richardson of Pennsylvania, founded the town of Patagonia in 1896 when he relocated the town of Crittendon (near the former military fort) 3 miles southwest to where a portion of his cattle ranch intersected with the railroad and Sonoita Creek (Barnes and Granger 1960:322; Bunker n.d.; Wheat Scharf Assoc. 2003:22). The railroad brought prosperity to Patagonia, which served as the shipping center for the surrounding ranches and mines, and by the beginning of World War I, the town housed a two-story railroad depot, an opera house, three hotels, a schoolhouse, two parks, and several general stores and saloons (Bunker n.d.). However, beginning in the late 1920s and continuing for the next 50 years, Patagonia's prosperity declined as the ranching and mining industry slowed and the railroad was abandoned. Today, the town of Patagonia is once again prosperous, capitalizing on its unique environmental landscape, which includes Patagonia Lake and the Patagonia-Sonoita Creek Wildlife Refuge, as well as its ranching history to bring tourism to the area (Town of Patagonia 2011).

PREVIOUS INVESTIGATIONS

Prior to initiation of the field survey, a Class I inventory consisting of a records review and site file check was conducted using the AZSITE online database. The Class I inventory also included a review of historic General Land Office (GLO) maps of the area. In consulting four available GLO maps of Township 22 South, Range 15 East, no historic properties were found to intersect the current project's APE (GLO 1883, 1905, 1908, 1915).

The Class I inventory indicated that six previous archaeological surveys have been conducted within a 1-mile radius of the APE (Table 1). The previous projects include linear surveys and block

Table 1. Cultural resource surveys conducted within 1 mile of the project area.

ASM Project Number	Client/Sponsor	Undertaking	Performing Agency/ Consultant	References
1992-134.ASM	Town of Patagonia	Patagonia reservoir	Cultural and Environmental Systems, Inc.	Heuett 1992
1993-174.ASM	Town of Patagonia	Patagonia reservoir	Desert Archaeology, Inc.	Wocherl 1993
1994-256.ASM	El Paso Natural Gas Company	Harshaw Creek pipeline replacement	Archaeological Consulting Services, Ltd.	Adams 1994
1996-459.ASM	Arizona Department of Transportation	SR 82, Nogales-Sonoita-SR 90	Archaeological Research Services, Inc.	Hathaway 1997
2001-344.ASM	ATC Associates, Inc.	telecommunications tower	Aztlan Archaeology, Inc.	Slawson 2001
T75-8.BLM	unknown	unknown	Bureau of Land Management	unknown

surveys. Two of the previous surveys were conducted for the Patagonia Reservoir and are very close to the current APE.

Four archaeological sites are located within 1 mile of the APE (Table 2). Three are prehistoric and one is historic. AZ EE:6:32 (ASM), a prehistoric property, is the only previously recorded site that is located within the project's APE.

Table 2. Previously recorded archaeological sites within 1 mile of the project area.

Site Number	In Current Project Area?	Temporal/Cultural Association	Site Type (Site Name)	References
AZ EE:4:43(ASM)	no	historic/ Euroamerican	New Mexico and Arizona Railroad	Cook, ed. 2007; Gunn and Stone 1993; Hathaway 1997; Knoblock 2001; Myrick 1975; Wright 1996
AZ EE:5:19(ASM)	no	unknown prehistoric	artifact scatter	Wallace 1992
AZ EE:6:19(ASM)	no	Classic period/ Hohokam	large village with burials, cremations, and room outlines	Wheeler 1978; Wood 1976
AZ EE:6:32(ASM)	yes	unknown prehistoric (possibly Archaic [4800 B.C.–1500 B.C.])	rock alignment	unknown

SURVEY METHODS AND RESULTS

WSA archaeologist Ian Milliken conducted a pedestrian survey on May 24, 2012. The archaeological survey was conducted in accordance with Arizona State Historic Preservation Office standards and non-collection survey guidelines developed by the Arizona State Museum (ASM Staff 1993; Fish 1995). Photographs and notes were taken during the survey, and a handheld Trimble global positioning system (GPS) unit was available to record any possible cultural resources or other project details. The entire 30-foot-wide, 529.48-foot-long corridor was surveyed.

The APE is located on top of two finger ridges that are connected to a primary ridge that runs north to south (see Figure 1). The APE is "L"-shaped. The north-south part of the "L" is on private land and measures 315.56 feet long. This portion passes over a southwesterly running finger ridge, and then descends into a deep ravine. The APE then turns east, and comes up out of the ravine and onto a second figure ridge. The ground surface within the APE was densely vegetated within the ravine, but ground visibility on both ridge tops and slopes was generally excellent. Several well-established dirt roads provide direct access to the Patagonia Reservoir and to the project area.

No previously unknown cultural properties were identified during the survey. One previously recorded archaeological site, AZ EE:6:32 (ASM), was rerecorded and updated, and is discussed below.

AZ EE:6:32 (ASM)

Land Status: Town of Patagonia, private

Site Type: resource procurement site with one rock feature

Culture & Period: unknown prehistoric, possibly Archaic period (4800 B.C.–1500 B.C.)

Site Area: irregularly shaped; maximum width 534 m (1,634 feet) northwest to southeast by 307 m (1,752 feet) southwest to northeast; total site area is 43,100 m^2 (463,922 square feet).

Landform: ridgetop and associated finger ridges, and bounded by moderate to steep slopes on all sides.

Vegetation: Encinal and Mexican Pine-Oak Woodland and the Plains Desert Grassland biotic communities; observed vegetation includes mesquite trees and brush, agave, prickly pear, acacia, and various grasses (Brown and Lowe 1980).

Site Sediments: silty sand with abundant cobbles of rock exposed on the surface

Elevation: varies between 1,279 and 1,306 m (4,196–4,285 feet) asl

Legal Description: Township 22 South, Range 16 East, section 6, S½ of NE¼, and, N½ of SE¼, Gila and Salt River Baseline and Meridian.

Diagnostic Artifacts: none

Previous Research: The site was originally recorded by Cultural and Environmental Systems, Inc. (CES), in 1992 as part of the planning effort for the TOP reservoir expansion (Heuett 1992). At the time, the site was described as an Archaic lithic scatter that contained one rock feature and four artifact concentrations. CES described the rock feature as a "light structure" measuring 4.3 m by 3.3 m, that was composed of cobbles and small boulders, and which contained one core and three pieces of lithic debitage. The four observed artifact concentrations were defined as areas in which the density of artifacts varied from 2 to 10 artifacts per square meter. CES proposed that these concentrations may indicate multiple occupations of the site, or if contemporaneous, may demonstrate discreet activity areas. Additionally, CES suggested that the site was occupied during the Middle Archaic, based on the recovery of several patinated tools including a double-edged uniface, a scraper, and several bifaces. No culturally or temporally diagnostic artifacts were identified.

The site was revisited and rerecorded by Desert Archaeology, Inc. (DAI), in 1993 as part a project involving the construction of a new reservoir extension for the TOP (Wocherl 1993). DAI was able to relocate the four lithic artifact concentrations as well as the previously identified rock structure. DAI noted that the largest of the lithic concentrations was found in the northern-most area of the site, and contained a density of 5 to 8 artifacts per square meter. Another of the lithic artifact concentrations, located adjacent to the portion of the reservoir that resulted from the 1992 project, had clearly been impacted by construction activities. The highest artifact density was found in a portion of a lithic concentration on which the reservoir extension project was going to be constructed. Here they noted 10 to 15 artifacts per square meter were present in an area measuring 15 to 20 m (49–66 feet) in diameter. The previously recorded rock feature was described as an oval depression measuring 3 m by 2.8 m (9.9 feet by 9.2 feet), and 20 cm deep. As part of their recording, DAI noted a distinct rock alignment within this feature that was 10 to 20 cm in diameter. DAI was unable to locate any temporally or culturally diagnostic artifacts, and noted that all artifacts were flaked stone debitage and tools, and one hammerstone.

Site Condition: Fair; alluvial processes on the ridgetop have had the effect of dispersing artifacts down the adjacent finger ridges. Additionally, WSA observed several dirt roads that are not depicted on the site maps for previous recordings of the site, probably indicating that these roads were constructed within the last 19 years. WSA did not observe any diagnostic flaked stone tools; due to proximity of the site to the town of Patagonia, this may be the result of private collecting.

Description: AZ EE:6:32 (ASM) is a large and diffuse prehistoric resource processing site with one possible rock feature present (Figure 2). The site is located 1 mile northeast of the town of Patagonia on a ridge top that has been directly impacted by the construction of two adjoining reservoirs. The site is characterized by a moderate-density artifact scatter primarily composed of flaked stone debitage and numerous cores. The debitage has diverse attributes, and WSA was unable to locate any distinct artifact concentrations. Flaked stone cores are abundant throughout the site, and the assemblage as a whole demonstrates both multidirectional and unidirectional knapping technologies. Many of the cores were discarded before being exhausted. Very little shatter associated with lithic reduction activities was observed. Many of the flaked stone artifacts demonstrate considerable wear as well as some evidence of patina, perhaps indicating an occupation during the Archaic period. Raw material types are quite diverse, and include artifacts of limestone, sandstone, quartzite, andesite, and rhyolite. WSA did not locate any diagnostic flaked stone tools, ground stone, or ceramic artifacts.

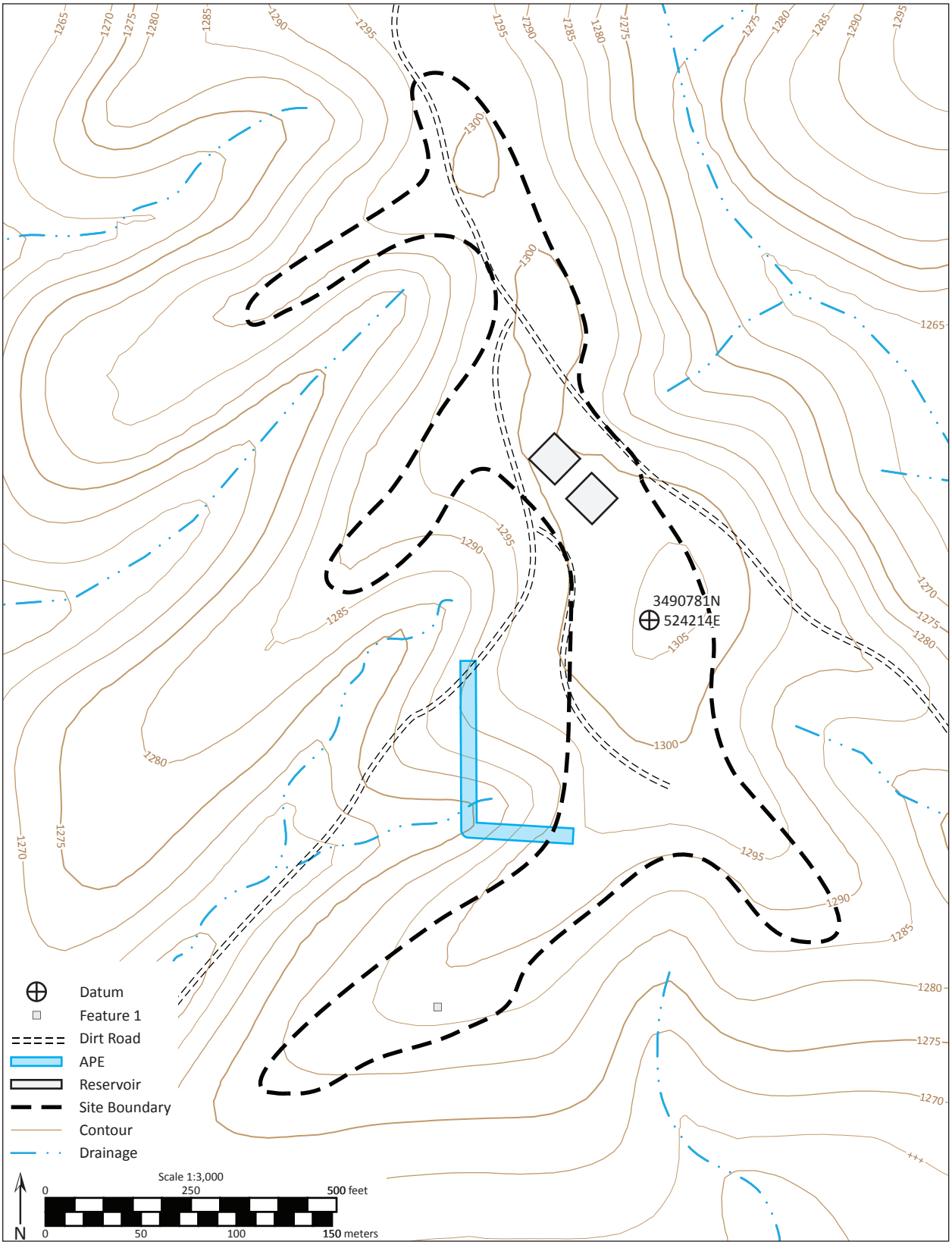

Figure 2. Site sketch map of AZ EE:6:32 (ASM).

WSA was also unable to relocate the rock feature that was previously recorded by both CES and DAI, but did identify one rock feature that is a distinct concentration of small boulders and medium to large cobbles (Figure 3). The rock feature measures approximately 5.6 m north to south by 4.8 m east to west. Several cores and pieces of debitage were observed on the ground surface adjacent to this area.

Figure 3. Photograph of Feature 1 at AZ EE:6:32 (ASM), view to the north.

EVALUATION AND MANAGEMENT RECOMMENDATIONS

The original recording of AZ EE:6:32 (ASM) in 1992 recommended the site as eligible for listing on the National Register of Historic Places (NRHP) under Criterion D for its potential to yield archaeological information of importance to prehistory. A subsequent recording of the site completed shortly thereafter, in 1993, did not evaluate the site for eligibility, and AZSITE lists the site as unevaluated. Based on the current condition of the site which, despite suffering some effects due to alluvial processes, has a sizeable artifact assemblage and maintains the possibility of buried cultural deposits as well as the integrity it had at its earlier recording, WSA agrees with the initial recorder of the site and recommends that the site be considered eligible for listing on the NRHP under Criterion D. WSA also recommends that measures be taken to protect AZ EE:6:32 (ASM) from damage by construction-related activities and other aspects of the proposed project. If the site cannot be avoided by the project, WSA recommends that further archaeological evaluation and documentation of this site be conducted to mitigate the possible effects of the proposed activities.

REFERENCES CITED

Adams, Kim
1994 *Archaeological Assessment of a Parcel along the El Paso Natural Gas Company Nogales Line (No. 2020), near Patagonia, Santa Cruz County, Arizona*. Archaeological Consulting Services, Tempe.

Arizona State Museum (ASM) Staff
1993 *Arizona State Museum Archaeological Site Recording Manual.* Arizona State Museum, University of Arizona, Tucson.

Ayres, James E., and Laurie V. Slawson
1994 *Cultural Resources Overview of the Pima County Cienega Creek Natural Preserve*. Cultural and Environmental Systems, Tucson.

Barnes, Will C., and Byrd Granger (editors)
1960 *Will C. Barnes' Arizona Place Names*. University of Arizona Press, Tucson.

Boley, Michael J.
2011 Cultural Context. In *The Prehistory of the Marsh Station Road Site (AZ EE:2:44 [ASM]), Cienega Creek, Southeastern Arizona*, edited by John C. Ravesloot, Michael J. Boley, and Melanie A. Medeiros, pp. 5–17. ASM Archaeological Series 202. Arizona State Museum, University of Arizona, Tucson.

Boley, Michael J., and Ian M. Milliken
2010a *Las Cienegas National Conservation Area Recovery—Grassland Restoration Project, Class I and Class III Cultural Resources Inventory, Gardner Canyon Cultural Survey Project Area, BLM Project No. AZ-421-2010-3*. WSA Technical Report No. 2010-02. William Self Associates, Tucson.

2010b *Las Cienegas National Conservation Area Recovery—Grassland Restoration Project, Class I and Class III Cultural Resources Inventory, Oak Tree Cultural Survey Project Area, BLM Project No. AZ-421-2010-1*. WSA Technical Report No. 2010-03. William Self Associates, Tucson.

2010b *Las Cienegas National Conservation Area Recovery—Grassland Restoration Project, Class I and Class III Cultural Resources Inventory, Oil Well Cultural Survey Project Area, BLM Project No. AZ-421-2010-2*. WSA Technical Report No. 2010-04. William Self Associates, Tucson.

Brown, David E., and Charles H. Lowe
1994 *Biotic Communities of the Southwest.* University of Utah Press, Salt Lake City.

Bunker, Lisa Waite
n.d. History of Patagonia. Electronic document, http:www.patagoniapubliclibrary.org/?page_id=3, accessed June 2012.

Cook, Patricia (editor)
2007 *The Fairbank Data Recovery Project: Prehistoric and Historic Era Excavations along the San Pedro River*. Technical Report No. 2003-09. Desert Archaeology, Tucson.

Danson, Edward B.
1946 An Archaeological Survey of the Santa Cruz River from the Headwaters to the Town of Tubac in Arizona. Unpublished M. A. thesis, Department of Anthropology, University of Arizona, Tucson.

Ferg, Alan
1984 *Hohokam Habitation Sites in the Northern Santa Rita Mountains*. ASM Archaeological Series 147(2). Arizona State Museum, University of Arizona, Tucson.

Fish, Paul R.
1995 Revised Site Definition Policy. Memorandum issued to Arizona State Museum Permittees by the Archaeology Division, Arizona State Museum, University of Arizona, Tucson.

General Land Office (GLO)
1883 Survey plat of Township 22 South, Range 16 East, Gila and Salt River Baseline and Meridian, prepared by T.F. White. U.S. Surveyor General's Office, Tucson, Arizona. Electronic document, from Cadastral Survey Plat Images, a digital video disc compiled in 2006 by the U.S. Department of the Interior, Bureau of Land Management, Arizona State Office, Phoenix.

1905 Survey plat of Township 22 South, Range 16 East, Gila and Salt River Baseline and Meridian, prepared by Philip Contzen. U.S. Surveyor General's Office, Phoenix, Arizona. Electronic document, from Cadastral Survey Plat Images, a digital video disc compiled in 2006 by the U.S. Department of the Interior, Bureau of Land Management, Arizona State Office, Phoenix.

1908 Survey plat of Township 22 South, Range 16 East, Gila and Salt River Baseline and Meridian, prepared by John F. Hesse. U.S. Surveyor General's Office, Phoenix, Arizona. Electronic document, from Cadastral Survey Plat Images, a digital video disc compiled in 2006 by the U.S. Department of the Interior, Bureau of Land Management, Arizona State Office, Phoenix.

1915 Survey plat of Township 22 South, Range 16 East, Gila and Salt River Baseline and Meridian, prepared by John F. Hesse. U.S. Surveyor General's Office, Phoenix, Arizona. Electronic document, from Cadastral Survey Plat Images, a digital video disc compiled in 2006 by the U.S. Department of the Interior, Bureau of Land Management, Arizona State Office, Phoenix.

Gunn, Trevor, and Lyle Stone
1993 *A Cultural Resources Survey of Two Sections of State Route 82 Right-of-Way and Associated Easements near Patagonia, Santa Cruz County, Arizona*. Report No. 93:28. Archaeological Research Services, Tempe.

Hathaway, Jeffrey B.
1997 *Cultural Resource Survey of Two Highway Segments along State Route 82 between Nogales and the Junction of State Route 90 (from Mileposts 1.2 to 28.0 and Mileposts 45.3 to 51.2) in Santa Cruz and Southwestern Cochise Counties, Arizona*. Project Report 96:71. Archaeological Research Services, Tempe.

Hayes, Phillip T.
1991 Geology and Topography. In *Geology and Minearl Resources of Arizona,* pp. 35–58. Bulletin 180 (Part I). Arizona Geological Survey, Tucson. Originally published 1969, Arizona Bureau of Mines, Tucson.

Heuett, Marylou
1992 *A Class III Archaeological Survey of a Proposed New Reservoir Site for the Town of Patagonia, Arizona*. Technical Report. Cultural & Environmental Systems, Inc., Tucson.

Huckell, Bruce B.
1984a *The Archaic Occupation of the Rosemont Area, Northern Santa Rita Mountains, Southeastern Arizona*. ASM Archaeological Series 147(1). Arizona State Museum, University of Arizona, Tucson.

1984b Sobaipuri Sites in the Rosemont Area. In *Miscellaneous Archaeological Studies in the Anamax-Rosemont Land Exchange Area*, edited by Martyn D. Tagg, Richard G. Ervin, and Bruce B. Huckell pp. 107–130. ASM Archaeological Series 147(4). Arizona State Museum, University of Arizona, Tucson.

Knoblock, Keith
2001 *A Cultural Resources Survey for a Proposed Fiber Optic Corridor Spanning Southeastern Arizona in Pima, Santa Cruz, and Cochise Counties*. Report No. 421/423. Lone Mountain Archaeological Services, Tucson.

Le Blanc, Christopher, and William Gillespie
2004 *San Rafael Valley Manzanita Project: Background Research and Survey Strategy.* Heritage Report No. 2004-05-67. On file, Supervisor's Office, Coronado National Forest, Tucson.

MacWilliams, Arthur C.
2001 *The San Rafael de la Zanja Land Grant River Corridor Survey*. 2 vols. Submitted to Arizona State Parks, Phoenix. Arizona State Museum, University of Arizona, Tucson.

Mihalik, Paul A.
1985 *Patagonia Profile: A History and Guide to Patagonia, Arizona*. Padre Pio Publishers, Patagonia, Arizona.

Myrick, David F.
1975 *Railroads of Arizona, Volume II: The Southern Roads*. Howell-North, Berkeley.

Ralph, Jolyon, and Ida Chau
2012a Harshaw District, Patagonia Mountains, Santa Cruz County, Arizona, USA.

Mineralogical Research Company. Electronic document, http://www.mindat.org/loc-28564.html, accessed June 2012.

2012b Harshaw District, Patagonia Mountains, Santa Cruz County, Arizona, USA. Mineralogical Research Company. Electronic document, http://www.mindat.org/loc-4368.html, accessed June 2012.

Sheridan, Thomas E.
1995 *Arizona: A History.* University of Arizona Press, Tucson.

Slawson, Laurie V.
2001 *A Cultural Resources Inventory for a Proposed Telecommunications Site (Patagonia-41143), Northwest of Patagonia, Arizona*. Technical Report No. 2001-50. Aztlan Archaeology, Tucson.

Stevens, Michelle N.
2001 Archaic and Early Agricultural Period Land Use in Cienega Valley, Southeastern Arizona. Unpublished Ph.D. dissertation, Department of Anthropology, University of Arizona, Tucson.

Tagg, Martyn D., Richard G. Ervin, and Bruce B. Huckell
1984 *Miscellaneous Archaeological Studies in the Anamax-Rosemont Land Exchange Area*. ASM Archaeological Series 147(4). Arizona State Museum, University of Arizona, Tucson.

Town of Patagonia
2011 Town of Patagonia, Arizona: History. Electronic document, http://townofpatagonia.com/about/history, accessed June 2012.

Wallace, Henry D.
1992 *Agua Caliente Ranch Archaeological and Historical Resource Inventory*. DAI Letter Report No. 92-126. Desert Archaeology, Tucson.

Wheat Scharf Associates
2003 Corridor Management Plan for the Patagonia–Sonoita Scenic Road. Prepared by Wheat Scharf Associates for the Arizona Department of Transportation, Intermodal Transportation Division, Transportation Enhancement/Scenic Roads Section. Electronic document, http://www.azdot.gov/Highways/SWProjMgmt/enhancement_scenic/scenicroads/PDF/cmp_patagonia_text.pdf, access June 2012.

Wheeler, R. Linda
1978 *Human Skeletal Remains from Patagonia School, Arizona*. Office of Cultural Resource Management Report 76-79. Department of Anthropology, Arizona State University, Tempe.

Wilson, John P.
1995 *Islands in the Desert: A History of the Uplands of Southeastern Arizona.* University of New Mexico Press, Albuquerque.

Wocherl, Helga
1993 *An Archaeological Survey for a Proposed New Reservoir for the Town of Patagonia, Arizona*. Desert Archaeology Letter Report No. 93-150. Desert Archaeology, Inc., Tucson.

Wood, Donald G.
1976 *An Archaeological Evaluation of the Prehistoric Cultural Resources of the Selected Land, Patagonia Union School District Land Exchange, Coronado National Forest, Arizona*. Coronado National Forest, Southwestern Region, USDA Forest Service, Tucson.

Wright, Thomas E.
1996 *A cultural Resources Survey of State Route 83 Right-of-Way between Canelo and Interstate 10 (Mileposts 13.5–58.4), in Pima and Santa Cruz Counties, Arizona*. Project Report No. 96:53. Archaeological Research Services, Tempe.