ABSTRACT

At the request of Dan Datolla of Southwest Properties of New Mexico, Woods Canyon Archaeological Consultants, Inc. conducted a cultural resource reconnaissance survey of the proposed Pinyon Springs Ranch development, northwest of Magdalena, New Mexico in Socorro County. The Pinyon Springs Ranch is a land development project that will divide a 8400 acre ranch into roughly 300 separate parcels. Home site lot size varies between 20 and 50 acres. In accordance with Socorro County subdivision ordinances and New Mexico State law, a reconnaissance survey was conducted of the development and the results of the survey are presented in this report.

Approximately 1700 acres were inventoried within the ranch. The survey areas focused on the portion of the ranch that will see the most impacts (roads and utility corridors) and areas most likely to contain cultural resource sites.

The cultural resource survey located 24 sites with 25 total components and 43 isolated occurrences. The majority of the sites are small single or multiple residence habitations dating the Pueblo II to early Pueblo III periods. Other represented site types include a Pueblo II – PIII artifact scatter, a Basketmaker III to early Pueblo I habitation, an Archaic artifact scatter, an artifact scatter of unknown cultural affiliation, and a isolated slab feature, also of unknown cultural affiliation. A historic component was also recorded, consisting of a brush corral and small, three sided structure associated with early ranching activities and a historic coal mine was also recorded.

Of the 24 located sites, 21 are recommended as eligible to the National Register of Historic Places. In order to avoid and protect these resources during the development, the roads and utility corridors were redesigned to miss these cultural resource sites. The development of the ranch as a subdivision will not directly effect significant cultural resources.

Table of Contents

List of Figures

List of Tables

INTRODUCTION

At the request of Dan Datolla of Southwest Properties of New Mexico, Woods Canyon Archaeological Consultants, Inc. (Woods Canyon) conducted a cultural resource reconnaissance survey of the proposed Pinyon Springs Ranch development, northwest of Magdalena, New Mexico in Socorro County. Figure 1 presents a map illustrating the general location of the survey.

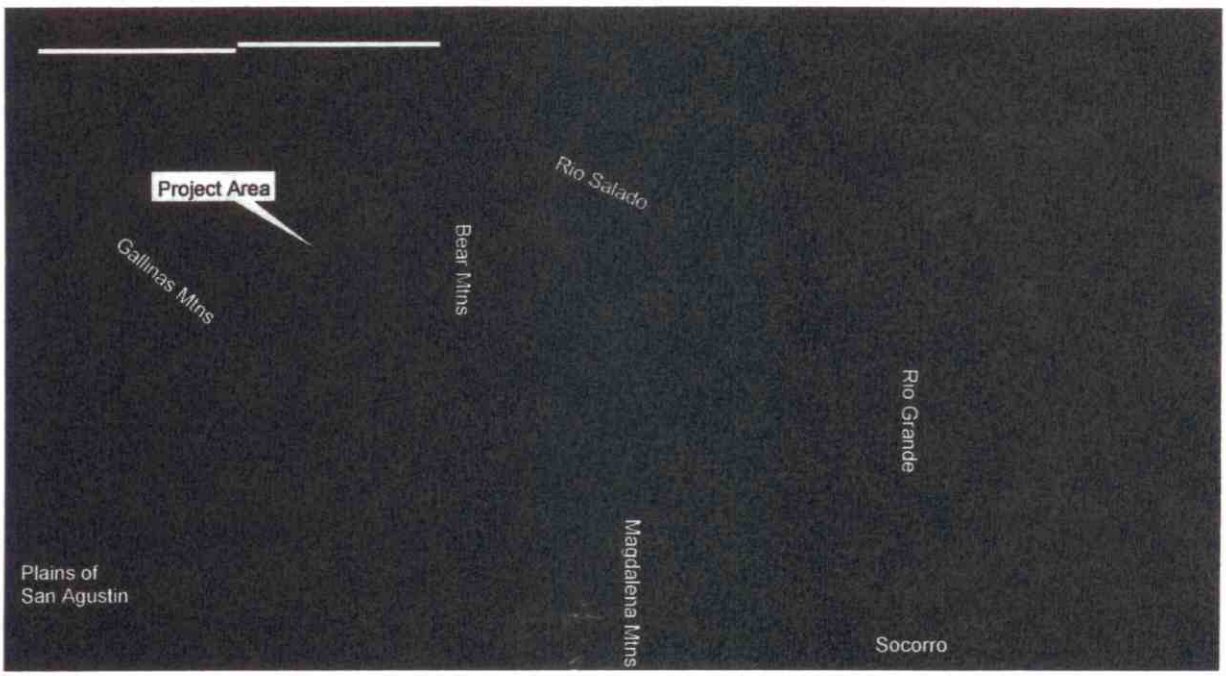

Figure 1. Map illustrating the location of the project area.

The Pinyon Springs Ranch is a land development project that will divide a 8400 acre ranch into roughly 300 separate parcels. Home site lot size varies between 20 and 50 acres. In accordance with Socorro County subdivision ordinances and New Mexico State law, a reconnaissance survey was conducted of the development and the results of the survey are presented in this report. The rationale for what areas would be investigated during the reconnaissance was presented and approved by the New Mexico State Historic Preservation Office (Fetterman 2002 and Ensey 2002).

Personnel

The archaeological reconnaissance was conducted by Jerry Fetterman, Leslie Sesler, and Tim Hovezak during the week of April 17 - 23, 2002. The final page layout and the drafting for this report were prepared by Jennifer Oliver.

ENVIRONMENTAL SETTING

The Pinyon Springs Ranch is located in central New Mexico between the Bear Mountains and the Gallinas Mountains, northwest of the present day town of Magdalena, New Mexico and immediately southeast of the Alamo Band Navajo Indian Reservation. The ranch is located at elevations between of 6600 and 7400 feet, and centers over the drainages of Jaralosa Creek and Dry Lake Canyon. Jaralosa Creek, an intermittent stream with multiple floodway springs, flows north into the Rio Salado. Dry Lake Canyon drains south-southeast into La Jencia Creek, also a tributary to the Rio Salado (See Figure 2). The Rio Salado is a permanent stream located approximately 8 miles to the northeast of the project area. In addition to these drainages, there are numerous springs in the area in the Bear Mountains and along Jaralosa Creek. It is these seeps and springs that probably provided the most reliable water sources for the prehistoric inhabitants of the project area.

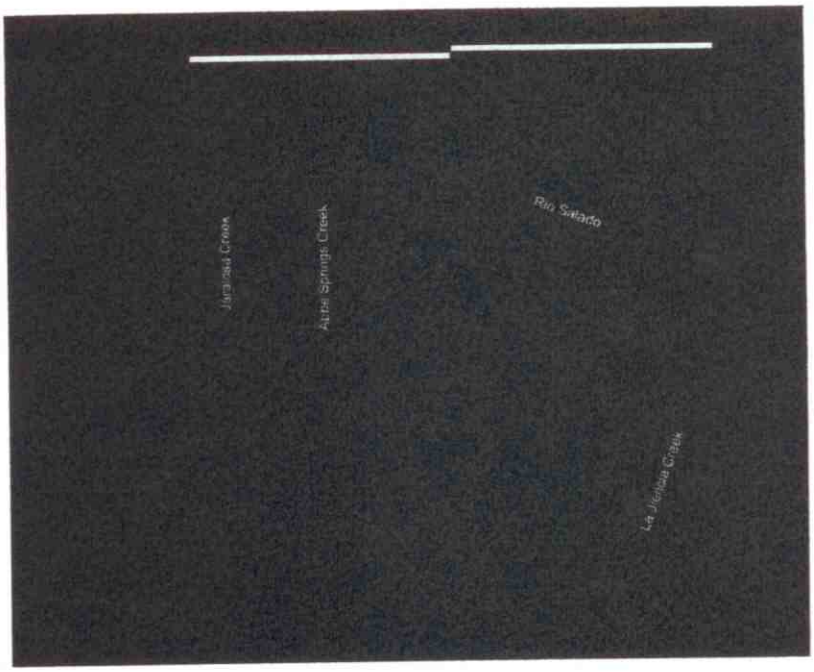

Figure 2. Photograph illustrating the project area in relation to major drainages.

The topography of the area varies considerably between the more gentle slopes associated with the Dry Lake Canyon in the eastern half of the project area (See Figure 3) and the steeper, more dissected slopes associated with the Jaralosa Creek drainage in the west half of the project area. Terrain along Dry Lake Canyon consists of long, gently sloping ridgelines bordering southeast and southwest trending ephemeral drainages. These ridge tops are covered with residual gravels derived from metamorphic and igneous rock, particularly rhyolite and vesicular basalt, but exposed bedrock is rare. Soils are weakly- to moderately-developed from eolian and residual sediments in some areas on the ridges, but are well developed in drainage bottoms, derived from alluvial and eolian sediments.

Figure 3. Photograph illustrating the project area in the Dry Lake Canyon section.

In contrast to the Dry Lake Canyon drainage, Jaralosa Creek flows north, and the terrain is deeply dissected by numerous, short, steep, ephemeral drainages entering the creek from the east and west (See Figure 3). Sandstone and rhyolite bedrock exposures are common, especially in the uplands bordering the west side of Jaralosa Creek. Much of the bedrock is tilted and broken, creating rocky, dissected terrain with steep, rock-spined ridges. Soils in most areas are poorly developed on thin eolian deposits. Alluvial terraces do flank Jaralosa Creek in several areas, particularly where larger ephemeral drainages enter from the east. Soils in these areas are well developed and would be suitable for agriculture.

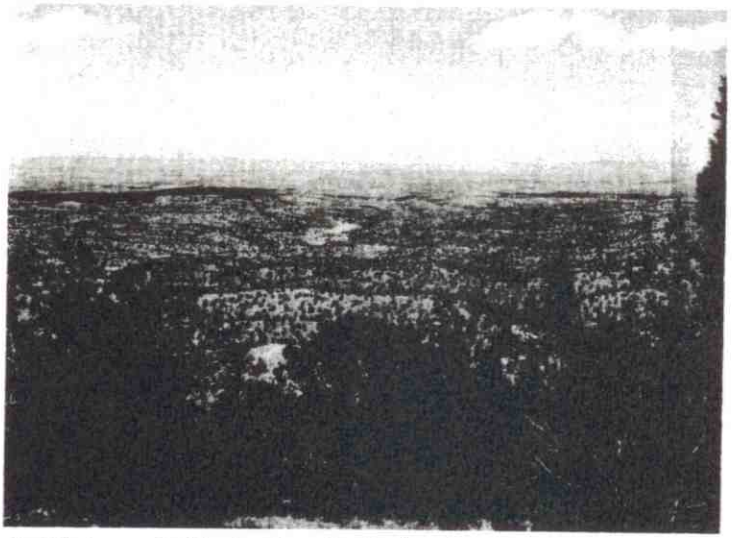

Figure 4. Photograph illustrating the Project Area in the Jaralosa Creek section.

Vegetation over much of the project areas is composed of a pygmy pinyon-juniper woodland interspersed with open grassland and desert scrubland. Much of the woodland on the ranch has been chained, and now supports immature pinyon and juniper trees with grass and various shrubs. Juniper dominates the sparse over story in most areas. Other common species include pinyon pine, cholla and prickly pear cactus, yucca, rabbitbrush, salt bush, low sagebrush, snakeweed, buckwheat, and various native and non-native grasses. Mountain mahogany is present in some areas. Riparian habitat borders parts of Jaralosa Creek, and includes cottonwood, willow, non-native tamarisk, oak brush, squaw bush, and other deciduous shrubs (See Figure 4).

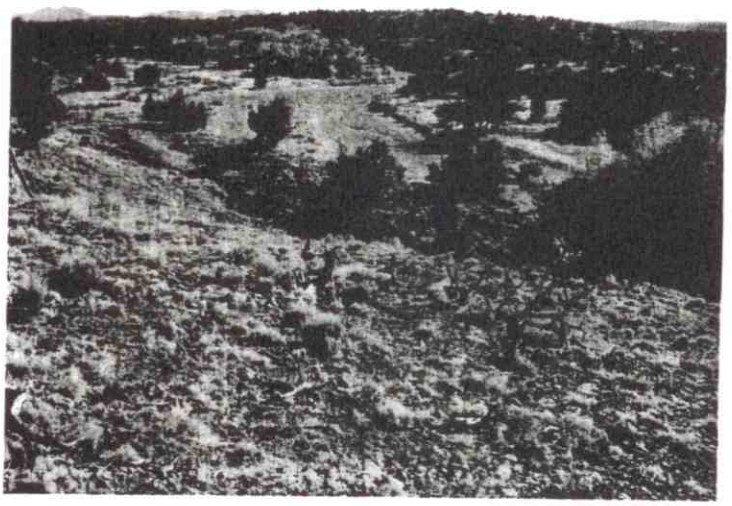

Figure 5. Photograph of vegetation along Jaralosa Creek.

Knapable lithic materials are abundant within the development area, with rhyolite being the most commonly used material. Various siltstones, quartzites, and vesicular basalt that was used for producing ground stone tools can be found within the residual gravels in eastern part of the project. Small alluvial cobbles eroding from bedrock formations in the western portion of the project add a variety of cherts and quartzites. A workable black silicified wood is also abundantly present in one small area between Jaralosa Creek and State Highway 169 at the west edge of the ranch.

CULTURAL SETTING

Prehistoric

Stuart and Gauthier (1981), in *Prehistoric New Mexico, Background for Survey*, list the area north of New Mexico State Highways 60 and 36, between Magdelena and Fence Lake, as being under-surveyed, poorly understood, and poorly represented in the archaeological literature. This situation has not been satisfactorily rectified since *Background for Survey* was written in the early 1980s. An additional complication is that the development project, located in the middle of this poorly researched area, is not within any one clear, definitive culture area, but borders the Alpine and Mimbres Mogollon culture areas to the south and southwest, the Jornada Mogollon culture area to the southeast, and the Anasazi culture area to the west and north.

Prehistoric occupation of the southwestern United States began during the Paleo-Indian Period, sometime after 10,000 B.C. (Stuart and Gauthier 1981). The period is characterized by big game hunters using distinctive lanceolate fluted projectile points. Several Paleo-Indian sites have been excavated in the region, include the Mockingbird Gap Site, located to the southeast of Socorro, New Mexico, and Ake Site, located on the Plains of San Agustin to the southwest of the project area. Over 150 Clovis projectile points have been recovered from the Mockingbird Gap site, which dates sometime between 9000 and 6000 B.C. (Weber and Agogino 1968). The Ake site produced Folsom projectile points, and remains of muskrat and bison (Beckett 1980). Bat Cave, located on the southern margins of the Plains of San Agustin to the southeast of the Ake Site also has a late Paleo-Indian component (Dick 1965). This area may have the highest concentration of Paleo-Indian sites in the region, although no clear settlement patterns have been established for west-central New Mexico.

Shifting climatic patterns and other factors brought about a change in human adaptive strategies that ushered in the beginning of the Archaic period beginning about 6000 B.C. Big game exploitation was supplanted by more varied hunting strategies and increasing reliance on gathered plant foods. Both the Cochise and Oshara Archaic traditions may be associated with prehistoric developments in the region, although the areas where these traditions have been defined are located at some distance from the project area.

The Cochise tradition was originally defined for Archaic sites in south-central Arizona (Sayles and Anteves 1941), and is usually associated with Basin and Range areas in the southern Southwest. It has been divided into three phases: the Sulphur Springs phase, dating from about 7500 to 3500 B.C.; the Chiricahua phase, dating from about 3500 to 1500 B.C.; and the San Pedro phase, spanning from 1500 B.C. to the first or second centuries A.D. The tradition is thought to be the antecedent of the Mogollon culture.

The Oshara Tradition was originally defined by Irwin-Williams (1973) in the Arroyo Cuervo drainage area, a tributary of the Rio Puerco (of the east) in northwestern New Mexico. The tradition is divided into five phases, beginning with the Jay phase, dating from about 5500 to 4800 B.C. The Jay phase is followed by the the Bajada phase (4800-3200 B.C.), the San Jose phase (3200-1800 B.C.), the Armijo phase (1800-800 B.C.), and the En Medio phase (800 B.C.-A.D. 400). The En Medio phase represents early agriculturalists and is equivalent to the Basketmaker II period in the Pecos classification system. The Oshara tradition is believed to be antecedent to the Anasazi culture./

Projectile point styles have been used to distinguish these two traditions; however, there are similarities

between the points identified for each tradition, and misclassification of point types may be a problem (Gossett 1985). In the Fence Lake Coal Mine area, located to the west of the current project, both projectile point styles have been identified at Archaic sites (Hogan 1985). This may indicate that the transition zone between desert Basin and Range and the Colorado Plateau is also a transition zone between the Cochise and Oshara traditions.

Sites dating to the Archaic period have been located in the vicinity of the project area. The Ake site, mentioned above, contains an Archaic component, as does Bat Cave and Tularosa Cave. Evidence of early cultigens was found at these two latter sites (Dick 1965, Martin and Plog 1973).

The transition to agriculture marks the beginning of substantial changes in material culture and settlement, and the differentiation of regionally distinctive culture traditions. Most notable changes include the appearance of pottery, development of the bow and arrow, the increasing use of pit structures, and ceremonial architecture. Both the Mogollon culture and the Anasazi culture have been applied to the Formative and Classic Prehistoric periods of development in the region surrounding the project area. In a cultural resources overview of the Socorro area, Berman (1979) uses the cultural/chronological sequences for both groups and follows Haury's (1936) and Martin's (1979) classification scheme for the Mogollon, and the Pecos classification scheme (Kidder 1927) for the Anasazi.

The Mogollon and Anasazi traditions have usually been distinguished by differences in pottery, pit structure architecture, and site structure (Cordell 1984, Wheat 1955). Brown-firing pottery, deep pithouses with ramp entryways, but lacking benches, deflectors and sipapus, and haphazard site and village layout are characteristics of Formative Mogollon culture. In contrast, Anasazi material culture includes gray ware pottery, pit structures with vent tunnels, roof entry, benches, and sipapus, and typically very predictable site and village layout.

The Pecos classification scheme uses Basketmaker II (ca A.D. 1-500) for the pre-pottery, agricultural Anasazi, followed by Basketmaker III (A.D. 500-700), Pueblo I (700-900), Pueblo II (900-1100), Pueblo III (1100-1300) and Pueblo IV (1300-1650). These date ranges represent a "one size fits all" approach to temporal sequencing of the Anasazi culture; the Pecos classification system has been widely adjusted and supplanted by various phase schemes to account for local and regional variability.

The Formative Mogollon, extending from about A.D. 1 to A.D. 1000 is divided into the Early Pithouse, and Late Pithouse phases. The Early Pithouse, or Pine Lawn phase begin between A.D. 1 and A.D. 250 and terminates at A.D. 500 or 550 (Stuart and Gauthier 1981). The Late Pithouse is divided into the Georgetown (A.D. 550-650), San Francisco (A.D. 650-850) and Three Circle (A.D. 850-1000) phases. While the sequence of these phases is not disputed, the precise dates of each have not been satisfactorily established (Anyon and others 1981). The first pottery, Mogollon Brown Ware, appears in the Pine Lawn phase. Pit structures during the Pine Lawn and Georgetown phases are generally circular with large, broad entrances (Wheat 1955). By the San Francisco phases, many of the pithouses are square or rectangular and this persists in most areas through the Three Circles phase (Bertram and others 1990).

As early as the Pine Lawn phase there are distinctive structures that may have served a communal or ceremonial function. During the San Francisco phase, many more ceremonial structures occur, and by the Three circle phase, some structures exhibit features similar to those found in modern kivas (Martin and Rinaldo 1947, Martin and others 1949)

Beginning at approximately A.D. 900 or 1000, there is enough differentiation in the expression of certain cultural traits within the Mogollon cultural complex to define different branches. In the Gila National Forest, two branches, the Alpine and the Mimbres, have been defined. (Danson 1957). Regional phase sequences that have been used include the Reserve phase (A.D. 1000-1100) and the Apache Creek phase (A.D. 1075-1150) in the Pine Lawn region and the Tularosa River area; the Tularosa phase (1100-1300); and in the Mimbres Valley the Classic Mimbres phase (1000-1150), the Black Mountain-Animas phase (1150-1300, and the Cliff-Salado phase (A.D. 1300-1450) (Anyon and others 1981, Bluhm 1960, Kayser 1972, Nelson and La Blanc 1986).

The Jornada branch of the Mogollon occupied areas along the Rio Grande. Mera (1943) designated the

northwest sector of the area occupied the Jornada as the Soccoro expression or Socorro district. The earliest manifestation of the Jornada branch in this area is the San Marcial phase, defined by the appearance of San Marcial Black-on-white pottery, roughly coinciding with the late Basketmaker III or early Pueblo I Anasazi period. The succeeding phases are the Early and Late Socorro phases (Marshall 1973), corresponding to the Pueblo II and Pueblo III periods elsewhere in the Southwest. Socorro Black-on-white is the dominant painted ware at this time, and appears in conjunction with Los Lunas Smudged, a variety belonging to the southern "Upper Gila" brown ware group (Mera 1940). Mera (1940) further suggests that the area west of the Rio Grande River where Socorro Black-on-white was once very prominant, is largely abandoned by the Pueblo III period, with the population probably shifting to the south and east along the Rio Grande valley. Casa Colorado and Chupadero Black-on-whites, probably outgrowths of Socorro Black-on-white, then become the dominant decorated wares.

After about A.D. 1000, distinctions between the Mogollon and Anasazi cultures become less pronounced and both areas go through a set of similar changes. Some scholars suggest using a unified Puebloan sequence for both areas after A.D. 1000. During this later series of developments, above ground architecture becomes more prominent. During the Reserve phase/Pueblo II, single story masonry structures are common, often comprising multiroom linear or L-shaped roomblocks. Population appears to grow substantially and expand into areas not previously occupied, especially low elevation areas (Stuart and Gauthier 1981). Sites dating to the Pueblo II period are fairly common throughout the west-central portion of New Mexico. Pueblo II sites have been recorded along the lower Puerco River and the Rio Salado drainage (Wimberly and Eidenbach 1980) to the northeast of the project area, and to the west in the Fence Lake and Quemado areas (Bernard-Shaw 1993; Bullard 1962; Hogan 1985).

During the subsequent Tularosa phase/Pueblo III and Pueblo IV periods, there appears to be a marked abandonment of much of the region surrounding the Pinyon Springs Ranch area. The population that did remain appears to have aggregated into multi-story sites with hundreds of rooms. An important large aggregated village is the Gallinas Springs site located in the foothills of the Gallinas mountains to the southwest of the project area. The site consists of a multi-tiered, multi-storied pueblo containing as many as 500 rooms (Bertram and others 1990). Similarities to Mesa Verde style pottery and architecture has prompted some researchers to suggest that the site was occupied by Mesa Verde immigrants (Davis and Winkler 1962).

Later Pueblo IV sites in the region include the Goat Springs site located in the Cibola National Forest (Danson 1957; Warren and Wilson 1974) and several sites in the Rio Salado drainage at La Jara Butte and on the Rio Grande near San Acacia (Wimberly and Eidenbach 1980).

Historic

The first non-Native American who visited the area was a small party of Spanish soldiers in the 1540s. This party diverted from the rest of the Spanish army which was moving north up the Rio Grande River. The party traveled into the Magdalena area and named the mountain to the south of town "La Sierra de Magdalena" as it reminded them of a similarly-shaped mountain called "La Sierra de Maria Magdalena" in the Spain.

The area was outside of the region that was utilized by the Spanish settlers and significant use of the area by non-Native Americans did not occur until the discovery of silver and lead in the Mountains south of Magdalena in 1863 and 1866, respectively. Mining and settlement in the area increased over the years and boomed once a spur railroad was built into the area in 1885. By 1886, the Magdalena area contained "two general stores, one notion store, one drug store, two livery stables, three restaurants, two blacksmith shops, two lumber yards, one hardware store, a sash and door establishment, one book store, one feed store, one church, one school house, and four saloons." (Magdalena Centennial Committee 1984:11). In 1918, Magdalena had two schools and 600 pupils. The area continued to grow until the late 1920s – early 1930s when the banks and mines closed down.

While much of the region's growth is attributable to the economic effect of mining in the Magdalena Mountains, the growth is also attributable to the use of the area for ranching and as a shipping point of livestock. Big and small cattle and sheep ranches covered the area north and west of Magdalena and in the project area.

The rail station at Magdalena served as a shipping point for a large section of Western New Mexico and part of Eastern Arizona. Ranchers located 125 miles away trailed their livestock to Magdalena. '(Magdalena Centennial Committee 1984:107)." In the late 1880s, the Magdalena Stock Driveway was established. This was one of the most important and long-lasting stock driveways in the west. It was used until the 1960s when trucking of livestock replaced cattle drives.

INVENTORY METHODS

Literature Search

A literature search was conducted online of the State Register of Historic Places, ARMS database, and the ARC-IMS database. Within the project area three sites had been previously located and three investigations had been previously conducted. Site LA5988, a Pueblo II masonry structure with 10 rooms, was located on a reconnaissance of the region in association with the Wetherill Mesa Project in 1961. This site was originally plotted on a state highway map and was not relocated on this survey. Site LA52357, an artifact scatter of 18 flakes and Pueblo II ceramics was found on a survey of a power line through the western portion of the project area. This site was recommended as being non-eligible to the National Register of Historic Places. Site LA84905, the remains of a historic coal mine dating to the late 1920s, was recorded in association with a survey for the Abandoned Mine Land Bureau. This site was unevaluated.

In addition to the ARMS search, a check of the GLO maps was conducted. No structures were indicated on the 1908 map checked. Indicated on the map was a road on the eastern side of the project area that has been upgraded over the years and now serves as Forest Service Road 123.

Field Methods

The cultural resource investigation report here was conducted according to a plan devised by Woods Canyon in consultation with the New Mexico State Historic Preservation Office. This plan consisted of conducting a sample survey of the proposed development. Since roads will be placed throughout the development and since they will constitute the heaviest impact from the development it was decided to survey the roads as the primary means of sampling. By surveying the roads to a width of 600 feet an approximate 25% of the proposed subdivision would be inventoried. In addition prime locations for sites were investigated and previous sites revisited.

The plan was modified only slightly in the field. Of the 26.25 miles of the roads, 5.75 were located on narrow steep slopes where the survey 600 feet wide was not very productive. In these areas, it was decided to narrow the transect width to 200 feet. The surveys consisted of a Class III pedestrian survey composed of linear transects no more than 20 meters apart..

The survey, which covered a total of 1702 acres, can be divided into road sections 600 foot wide, road sections 200 foot wide, and focused survey blocks. Figure 6-8 present maps of the project area detailing the location of the survey areas and Table 1 presents data on the types of survey areas. Three focused survey blocks were inventoried: Two located on the benches above Jaralosa Creek near natural springs, and one at the end of one of the roads in an especially high site density area.

Table 1. Survey Areas

Survey Type	Number of Survey Units	Acreage
Road Transects – 600 feet wide	17	1492
Road Transects – 200 feet wide	4	140
Focused Survey Blocks	3	70
Total		1702

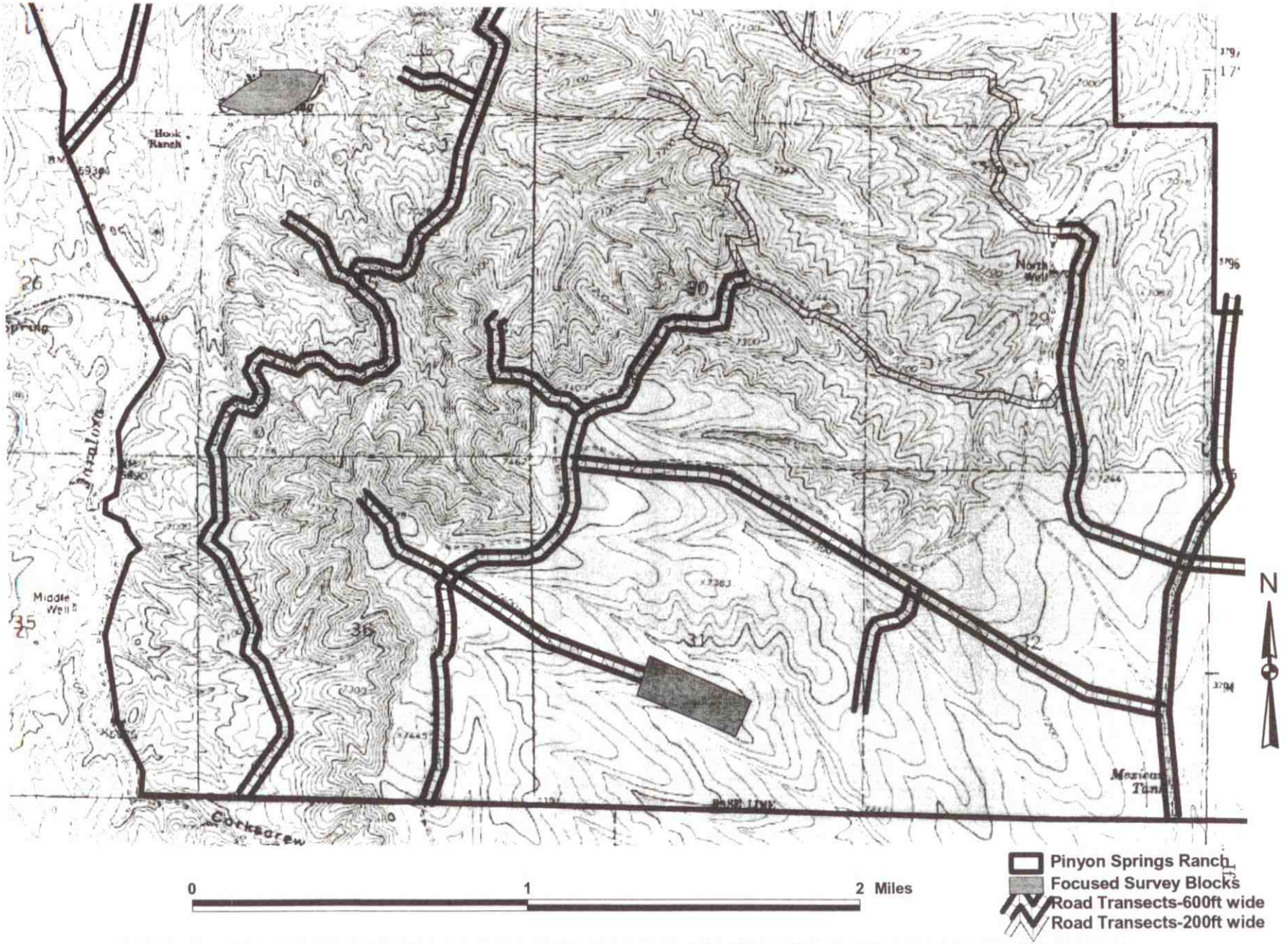

Figure 6. Map of the southwest portion of the project area showing survey areas. (after USGS Indian SpringsCanyon, 7.5' map), T1N, R5 and 6W

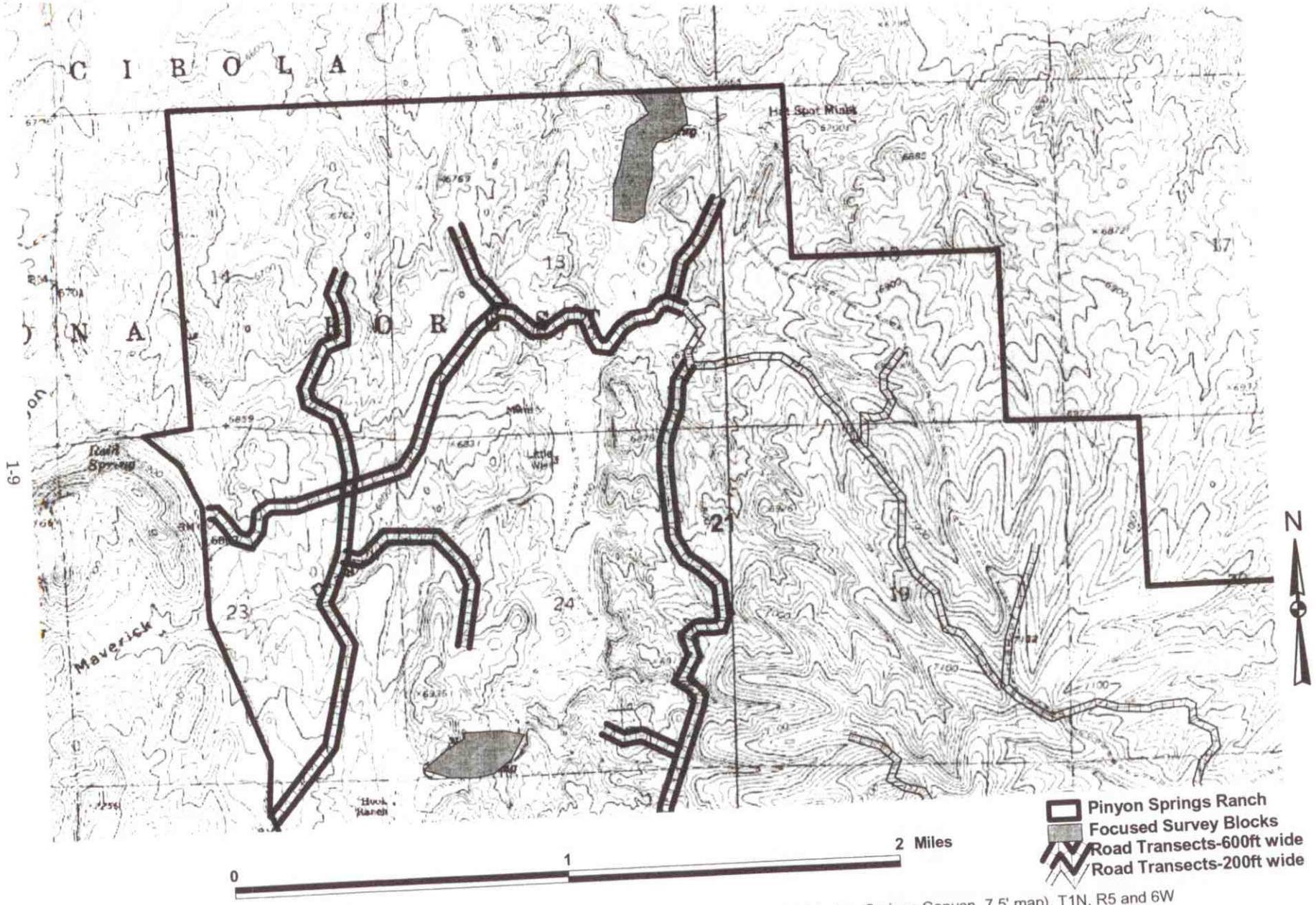

Figure 7. Map of the northwest portion of the project area showing survey areas. (after USGS Indian Springs Canyon, 7.5' map), T1N, R5 and 6W

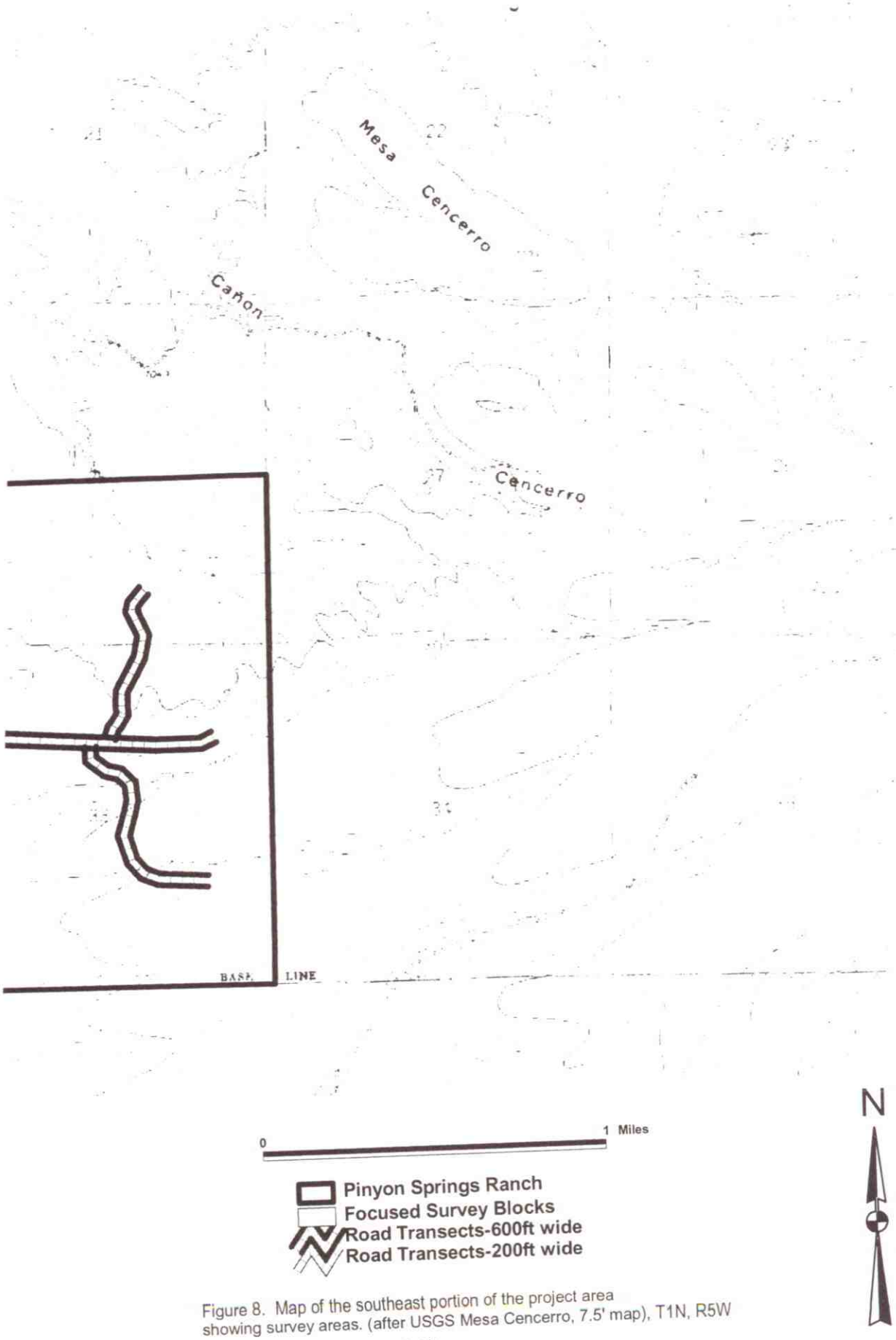

Figure 8. Map of the southeast portion of the project area showing survey areas. (after USGS Mesa Cencerro, 7.5' map), T1N, R5W

:ultural resource consisted of more than 10 items in a 100 square meter area it was considered an :haeological site: if it was less it was considered an isolated occurrence. Sites were documented on :w Mexico State Historic Preservation Site Forms, photographed, and located with the help of GPS its and GIS technology. Artifacts were analyzed in the field, photographed if appropriate, and with e exception of ceramics from six sites were left in place.

ıe ceramics from six sites were collected for Tony Laumbach of the Farm and Ranch Museum of :w Mexico State University, Las Cruces. Ms. Laumbach provided Woods Canyon with an excellent erview of the ceramics of the region. The collections were done to curate a variety of the local ramics for future scientific use.

ıe survey was conducted after the initial planning for the subdivision and the center line of the ıads were indicated on the ground with pin flags. After the inventory, recommendations were made Southwest Properties for avoidance of significant sites. The plans for the roads were modified to oid the cultural resource sites and the new routes were staked in the field and field checked by an :haeologist from Woods Canyon.

RESULTS

he cultural resource survey located 24 sites with 25 represented components and 43 isolated ccurrences (see Figure 9-11 for the location of these resources). Twenty-two of the sites were ewly found sites and two were previously recorded sites. Table 2 presents the data on the isolated ccurrences. As a result of the isolated occurrences limited nature, they are considered non-significant nd ineligible for inclusion on the National Register of Historic Places.

'he majority of isolated occurrences are single artifacts or small artifact clusters, typically numbering 0 items or less. A few of the isolated occurrences comprise more than 10 artifacts, but these are either ıot drops from single vessels, represent single episodes of lithic reduction, or are located in erosional ontexts with no possibility of locational integrity. The IOs also include a couple of historic dumps ırobably representing single events. A couple of mine adits, represented by small excavated areas, vere also recorded as Isolated Occurrences.

Table 2. Isolated Occurrences.

No.	Description	UTM Location Zone 13
1	Socorro B/w jar sherd	280620 mE; 3793872 mN
2	Socorro B/w jar sherd	280592 mE; 3794080 mN
3	Plain gray jar body sherd	280344 mE; 3794237 mN
4	4 Soccoro B/w jar sherds, 1 white ware jar sherd, 1 shaped bifacial handstone, 1 rhyolite core reduction flake	279746 mE; 3794087 mN
5	1947 era historic dump with wine and other bottles, sardine cans, wash tub in 10 by 10 m area	278687 mE; 3795058 mN
6	Charcoal stain in wash cut, 1 by 4 m	277558 mE; 3794506 mN
7	5 rhyolite core reduction flakes, 2 black igneous core reduction flakes, 1 white quartzite flake fragment, 1 red chert angular debris, 15 by 15 m area	277716 mE; 3794394 mN
8	8 Socorro B/w sherds from same vessel, 1 rhyolite core reduction flake, 10 by 15 m area.	278851 mE; 3793905 mN
9	Rhyolite core, multidirectional	278473 mE: 3794137 mN
10	6 Socorro B/w sherds, 3 unidentifiable white ware sherds, 20 by 50 m area	277934 mE; 3794334 mN