



CULTURAL RESOURCES ON THE
LINCOLN NATIONAL FOREST

CONTRIBUTIONS BY:

JULIO L. BETANCOURT
JEFF BOYER
PATRICIA M. SPOERL
JOSEPH A. TAINTER

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Cultural Resources Miscellaneous Papers



USDA FOREST SERVICE
SOUTHWESTERN REGION
ALBUQUERQUE, N.M.

NO. 35

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USDA Forest Service
Southwestern Region

FOREWORD

This number marks a departure from a publishing tradition started in the Southwestern Region in 197[^]- The series which has been known as *Cultural Resources Reports* has included both lengthy studies of specific sites or regions and short papers on a variety of subjects. This year there has been a division into two separate publications.

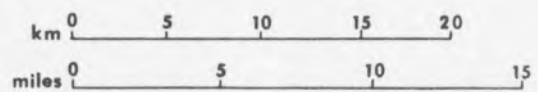
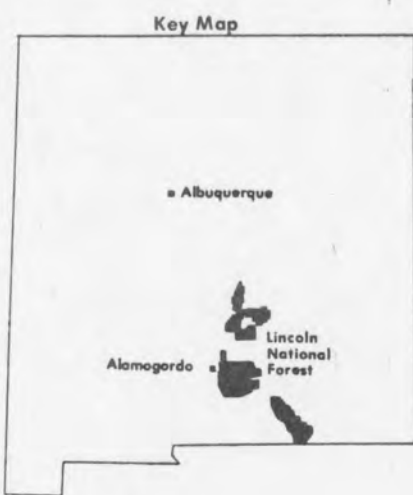
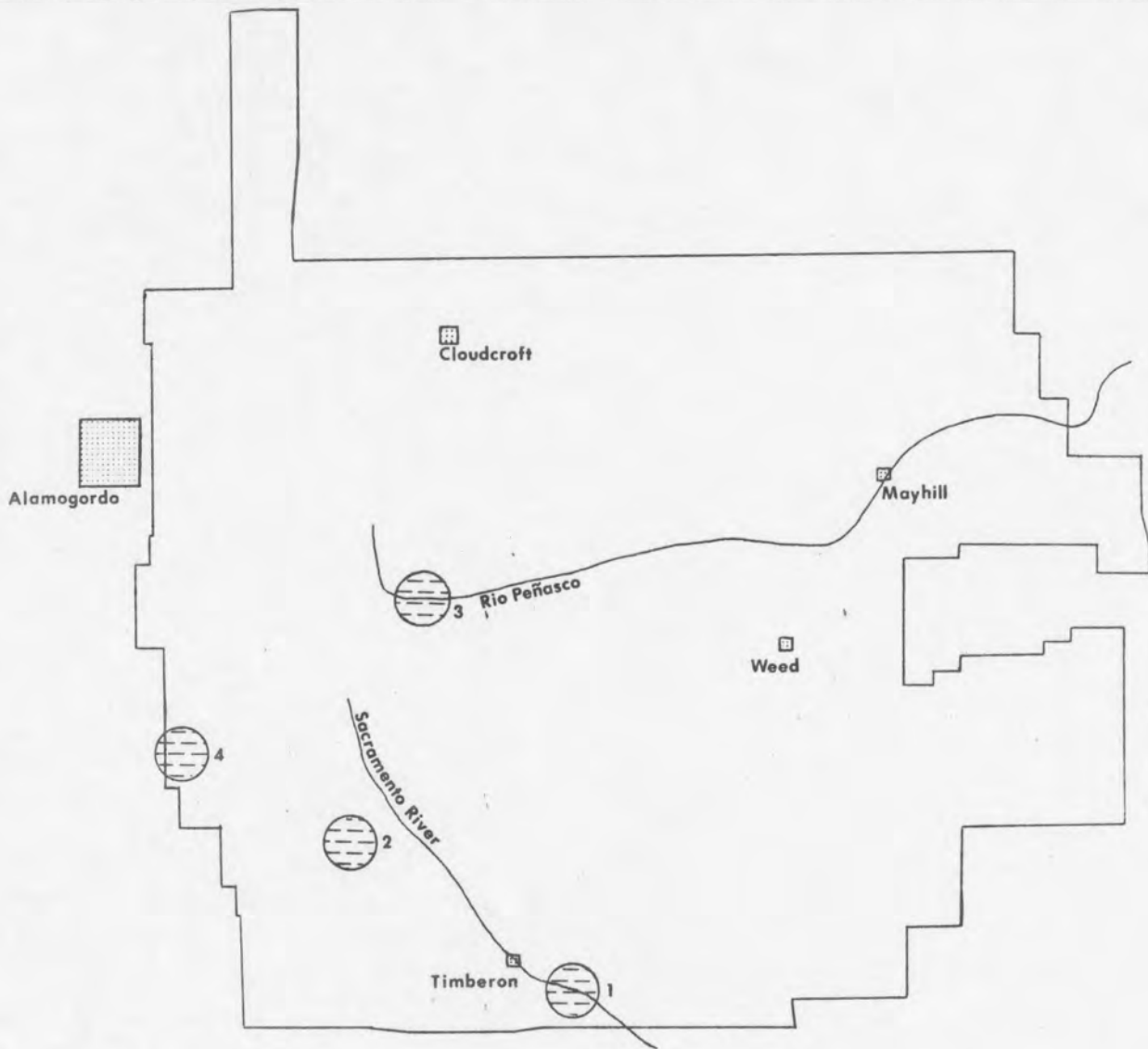
The format of the old *REPORTS* will be preserved under the new title *Cultural Resources Miscellaneous Papers*, of which this edition is the first. Unlike past practice, however, individual papers will not have separate numbers but will be collected under a single issue number. Papers in this series receive minimal editorial attention and the emphasis will lean toward prompt publication of brief reports. Most of the papers in this series will be selected from those prepared in response to project needs and thus will be produced by Forest Service employees. However, as this volume illustrates, appropriate papers will also be accepted from other sources.

The other half of the old *REPORTS*, the longer monographs, will hereafter appear in the double column format and more polished printing previously reserved for our *Cultural Resources Overview series*.

Distribution of the two new series will be identical to that of *REPORTS*.

Edi tor

Series editor. Dee F. Green; volume editor, David Gillio.
Final typescript by Polly Davis, graphics assistance
by Jeff Boyer.



- ① Site 51, Spoerl and Boyer
- ② Snakey Canyon, Tainter
- ③ Camp Marcia, Spoerl
- ④ Dog Canyon, Betancourt

Lincoln National Forest. Reports in this volume describe circled areas.

Test Excavations At A Small Site Along The Sacramento River

Patricia M. Spoerl

Introduction

Evaluation of cultural resources, that is, the process of determining the significance of a specific resource, is fundamental to any cultural resource management program. The conservation of all cultural resources for future scientific research and for public benefit, would be an ideal situation, but it is not possible given the necessity for certain land disturbing activities which impact these resources. Therefore, evaluations regarding the significance of cultural resources are critical for management purposes, and to ensure that the most significant sites are conserved.

The National Register criteria for determining significance provide one means of evaluating cultural resources, and must be applied to cultural resources affected by federal undertakings. These criteria are broadly defined, and the one applicable to prehistoric sites states that significant resources include those "that have yielded or are likely to yield information important to prehistory or history."

How is the value of a site to prehistory or history to be determined? This question may become particularly complex when applied to sites which are visible only as small ephemeral scatters of chipped stone with no evidence of architectural features. These types of sites are quite numerous in the Sacramento Mountains of south-central New Mexico. Are such sites significant because they possess subsurface materials or features which may contain important information? Do they represent seasonal or temporary hunting or gathering camps, and if so, how do these fit into the overall settlement-subsistence system of a prehistoric people? It is because of such questions and the need to assess the significance of small non-architectural sites on other than an intuitive basis that the following report is written. A small expenditure of time and energy is necessary to make adequate assessments of significance for small artifact scatters, and the effort placed on such determinations is necessary in order to more effectively manage the cultural resource.

The Problem

Improvements to the Sacramento River Road (No. 537) along a 3-mile stretch south of Timberon were proposed by the Otero County Highway Commission. The proposed improvements, involving realignment of unsafe curves and

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difficult river crossings, necessitated a cultural resources investigation in compliance with federal legislation and Forest Service policy. Mayhill District para-archeologist, David Coe, conducted a cultural resources survey along the proposed right-of-way on March 2d, 1980, and located archeological site AR-03-08-01-51. The author examined the site on April 12, 1980 (Spoerl 1980c). The site would be directly impacted by the new road alignment. The proposed centerline had been located across the eastern corner of the site, and the right-of-way for the road included 33 feet on either side of the centerline.

AR-03-08-01-51 consisted of a sparse lithic scatter located on a bench along the south side of the Sacramento River. Cultural material was evident along the bench for approximately 200 meters. This material occurred only on the edge of the bench. None was observed more than 15 meters from the edge although the relatively flat bench continued southward for approximately 60 meters. Stone tools encountered on the surface included a projectile point and a fragment of a grooved stone (presumably an arrow shaft straightener) from the northwestern end of the site, and a core from the northeastern portion. Two plain brownware sherds were also present.

An adequate determination of the significance of AR-03-08-01-51 could not be made solely from the information available on the surface. It was not known whether the site contained subsurface cultural manifestations, whether the surface material had been washed from higher up along the bench (no cultural material was present, however a rectangular depression occurred), or whether it had been purposefully deposited only along the edge of the bench. In addition, the kinds of activities which may have taken place at the site could not be determined from the surface evidence.

Three sherd and lithic scatters noted on nearby high benches along the Sacramento River indicated that settlement or utilization of such areas was not uncommon. Timberon, the resort community located approximately 3 miles northwest of the site, was the scene of prehistoric usage as evidenced by the large number of artifacts recovered during house construction and road building. Reports indicate that ceramic and projectile points continually appear on the surface of the golf course. This information suggested that AR-03-08-01-51 might also possess some depth, particularly since soils on this bench appeared relatively deep. In addition, the densest concentration of artifactual material occurred around an ant hill indicating that material may have been brought to the surface. Local artifact collectors also report an abundance of prehistoric cultural material on state and private land north of, and in the vicinity of, Timberon.

Prehistoric sites have also been located approximately 10 miles further south along the Sacramento River. These were located during archeological surveys on the McGregor Guided Missile Range in 1975 (BLM site files, Las Cruces). Sites located on terraces of the Sacramento River included lithic

scatters with concentrations of burned rock and/or hearths, and scatters of ceramics and lithics, several of which may have been habitation sites. Some of these sites were located on narrow terraces near the mouth of tributary drainages, a similar situation as AR-03 "08-01t-51. One site, a sherd and lithic scatter with possible features, received test excavations (Beckes 1977b: 1**). Cultural material was present to 20 centimeters in depth, but no features were encountered. A rectangular depression was tested but no structural remnants were found. Some material was also present eroding out of the edge of the terrace above the Sacramento River.

The above information was not sufficient to properly evaluate AR-03~08-01t-51. Therefore, recommendations made to the Forest Supervisor were to: 1) move the location of the road so as to avoid impacts to the site; or 2) if avoidance is not possible, conduct further investigations (i.e., test excavations) in order to acquire additional information with which to assess the significance of the site and its eligibility for nomination to the National Register of Historic Places.

Because of engineering requirements and the physical terrain, the Forest Supervisor decided that the location of the proposed road could not be altered. Therefore, additional information had to be obtained concerning the site. If it was determined to be significant, mitigation of the impacts to the site by the proposed road would be necessary. If the site was determined to be not significant in terms of National Register eligibility criteria, or if sufficient information regarding the site was obtained from test excavations, the proposed project could proceed without adverse effect on cultural resources.

The author was asked to conduct test excavations at AR-03 "08-01t-51 for the purpose of assessing its significance. These excavations were carried out on April 16 and 17, 1980, with the help of Dr. Dee F. Green, Dr. David Gil lio, and Robert Armstrong of the Regional Office in Albuquerque, and David Coe and Stan Stroup of the Lincoln National Forest. Karen Armstrong also assisted in the excavations.

The Setting

AR-03~08-01t-51 is located along the south side of the Sacramento River. The Sacramento River begins high in the Sacramento Mountains near Sunspot and flows southward until it drains into the Salt Valley bolson in west Texas. The bench upon which the site is situated lies at an elevation of 6700 feet. Geologically, the area is part of the Yeso foundation, containing variegated soft sandstone and siltstone, and thin-bedded gray limestone. The dominant soil in the vicinity of the site is Pachic Argiustoll. It is described as a deep, dark, warm, moist soil which is medium to heavy textured. It has formed an alluvium derived from mixed sources although limestone is the dominant rock type. Woodland type vegetation cover is typical of the area with a primarily pinyon-juniper overstory and grass understory. Juniper grows along the edge of the slopes of the bench while the top of it is covered with an open grassland (Figure 1).



Figure 1. Typical ground cover. Test Square 6, before excavation.

Methods

The total area over which cultural material was present covered approximately 3,000 square meters (ca. 200 meters x 15 meters); however, only a small portion of this area included the right-of-way. Figure 2 illustrates the location of the centerline and the 33 foot wide right-of-way. The area to be considered for test excavations included approximately 300 square meters. A random sampling design involving establishment of a grid over the site was proposed because no surface features or artifact concentrations (other than the ant hill) were present. Establishment of this grid and selection of random squares for excavation was not completely possible, however, due to the lack of proper equipment and time constraints. Therefore, a judgmental sample of seven test squares was selected for excavation within the highway right-of-way. Two meter squares, divided into 1-meter quadrants, were chosen as excavation units in order to uncover maximum surface area due to the lack of surface indications.

The selection of seven (Nos. 1-7) 2-meter squares consisted of approximately a nine percent sample of the right-of-way in which cultural material was present. Four of these squares (Nos. 3, 4, 5, ant^h &) were excavated as shown in Figure 3- Portions of two additional test squares, established 4

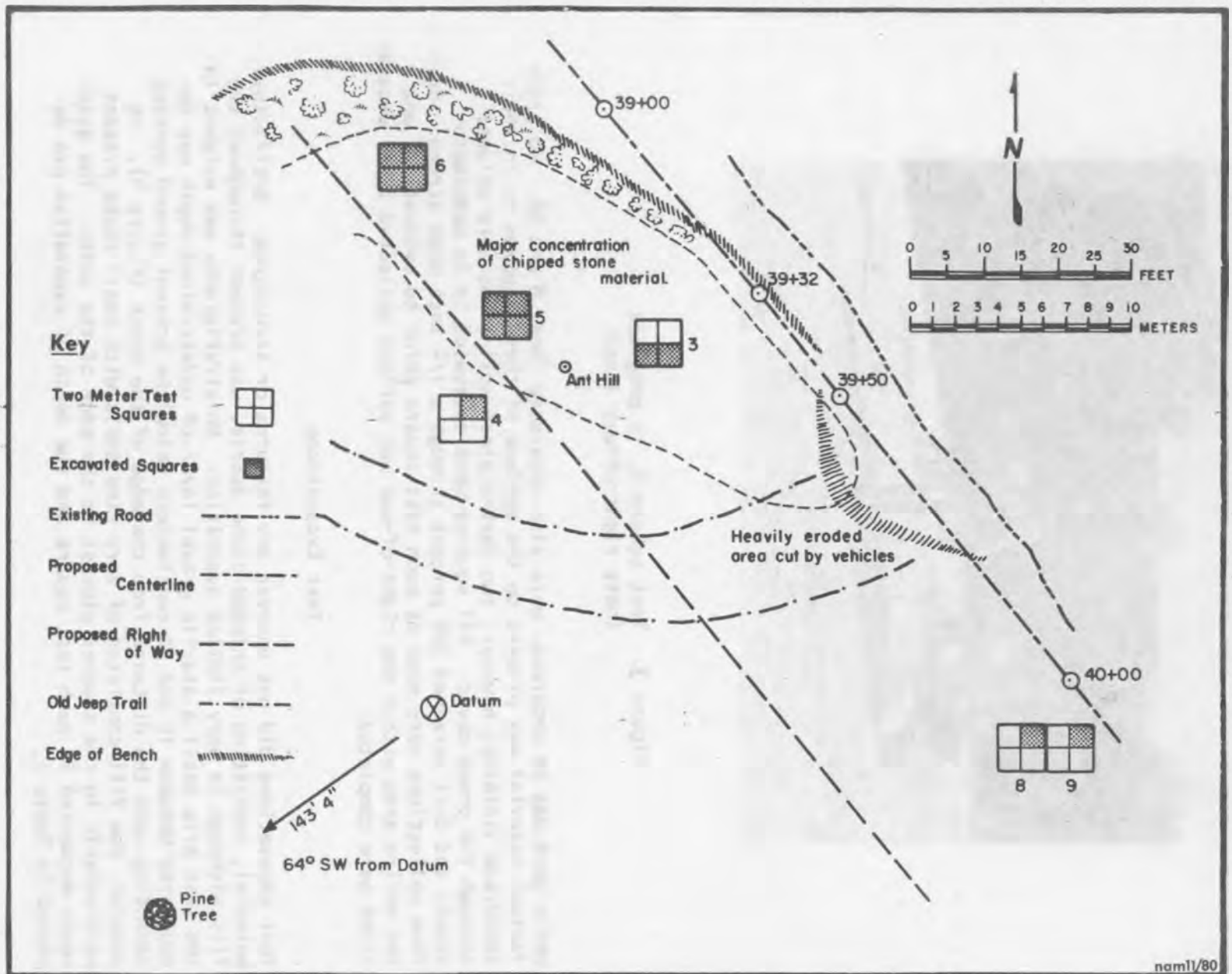


Figure 2. Sacramento River Road site AR-03 "08-04-51.



**Figure 3. Test square 5, in progress
(note right-of-way line).**

while work was in progress, were also excavated (Nos. 8 and 9). No artificial material was present on the surface of these squares or in their immediate vicinity; however, two dark-stained soil areas were evident through the grass cover. All squares were excavated, in 10 centimeter levels and dirt screened 100 percent through a 1/4 inch mesh screen. Surface collections were made at each test square prior to excavation, and the entire area within the right-of-way was surface collected after excavations were completed.

Test Excavations

Test excavations did not uncover any features or structures. Artificial material, consisting of chipped stone debris, was present throughout the fill although in very limited quantities. No stratigraphy was evident in the test pits until a sterile gravel layer of undetermined depth was encountered between 10 and 50 centimeters below the present ground surface depending upon the distance from the edge of the bench (Figure 4). In general, the fill consisted of very fine soils with small rocks present particularly in the squares closest to the edge of the bench. The quadrants excavated in each test square and the depth of excavation are depicted in Table 1.



Figure A.

Test Square 5. Quad A.
Underlying gravel layer.

Table 1. Excavated Test Squares at AR-03~08-0A-51

Test Square	Depth (cm)	Quadrant Excavated																					
3	0-10 0-10	C D																					
4	0-10 10-20 20-30 30-50	<table border="1"> <tr><td></td><td>ABC</td><td>D</td></tr> <tr><td></td><td> X </td><td></td></tr> <tr><td>X </td><td></td><td></td></tr> <tr><td></td><td> X </td><td></td></tr> <tr><td></td><td> X </td><td></td></tr> </table>		ABC	D		X		X				X			X							
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	ABC	D																					
X	X	X																					
	X^																						
	1X																						
8	0-10	B																					
9	0-10 10-30	B B																					

X=excavated

A total of 250 lithic artifacts were analyzed from the site. Jeff Boyer of the Regional Office in Albuquerque analyzed the material recovered (Boyer, this volume). Basic data regarding the artifactual material are shown in Table 2.

.. Discussion

Various cherts comprised virtually the entire lithic assemblage. Four pieces of limestone, which may not be the debris of lithic manufacture, were the only exceptions. A wide variety of cherts (fine-grained, coarse-grained, and of different colors) were used. This situation is similar to that at sites further south along the Sacramento River where chert was the most commonly used material, and virtually the only material used as non-ceramicsites (Pigott and Dulaney 1977:110, 111). Chert is available in numerous parts of the Sacramento Mountains. The two points found are also made of dark brown and black chert. These gray-to-brown and black cherts represent a high proportion of the points recovered on the McGregor Range (Pigott and Dulaney 1977:90).

The lithic assemblage does not provide substantial information regarding the kinds of activities which may have taken place at the site. Boyer (this volume) notes that the lithic artifacts indicate mainly secondary and tertiary stages of reduction. Four of the flakes exhibit signs of intentional retouch and 12 show signs of use wear. One core was encountered, two projectile points (one fragment, one whole) and a grooved stone, presumably the fragment of an arrow shaft straightener. Such a small number of tools is not sufficient to suggest with any degree of certainty, the kinds of activities which may have occurred. A temporary camp site is indicated by the paucity of cultural material. Hunting activities may have taken place based upon the presence of projectile points and the arrow shaft straightener.

The time period of usage is also subject to considerable speculation. The point recovered from the surface (Figure 5) is similar to the ones recovered

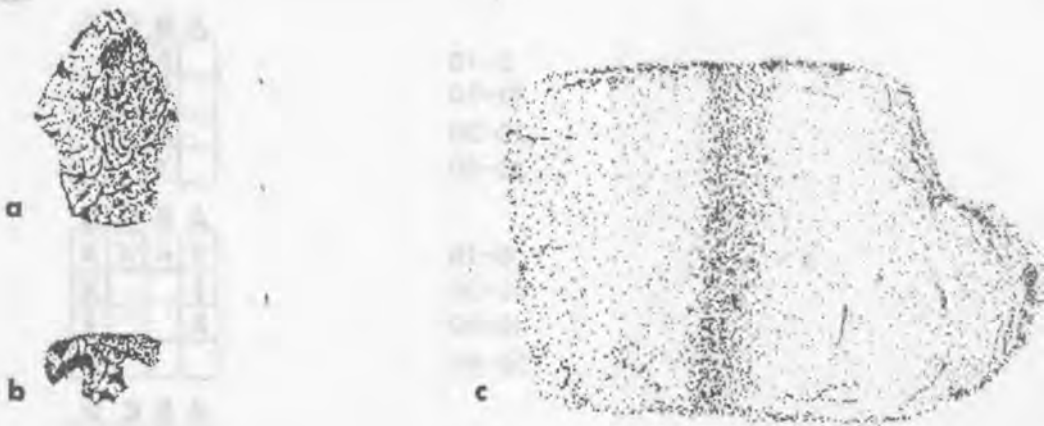


Figure 5- Stone tools from AR-03-08-0A-51
(full size): a. found on the surface
outside the right-of-way; b. from test
square 3; c. from the surface outside
the right-of-way.

Table 2. Artifactual Material Recovered at AR-03~08-0A-51

Provenience	Chert			Limestone	Other
	Flakes	Chips	Cores	Chips	
T. Sq. 3 (surface)	5			1	
T. Sq. 3 (C, 0-10 cm)	7	2			point frag.
T. Sq. 3 (D, 0-10 cm)	7	A			
T. Sq. A (A, 0-10 cm)	5			1	
T. Sq. A (B, 10-30 cm)	A				
T. Sq. 5 (surface)	6	1			
T. Sq. 5 (A, 0-10 cm)	1	3			sherd
T. Sq. 5 (A, 10-A0 cm)	9	5		1	
T. Sq. 5 IB, 0-10 cm)	1				
T. Sq. 5 (C, 0-10 cm)	3				
T. Sq. 5 (D, 0-10 cm)	3	2			
T. Sq. 5 (D, 10-20 cm)	2				
T. Sq. 5 (D, 20-A0 cm)	3			1	
T. Sq. 6 (surface)	5	2			
T. Sq. 6 (A, 0-10 cm)	3	A			
T. Sq. 6 (B, 0-10 cm)	8	2			
T. Sq. 6 (C, 0-10 cm)	8	3	1		
T. Sq. 6 (C, 10-20 cm)	2				
T. Sq. 6 (D, 0-10 cm)	6				
T. Sq. 8 (B, 0-10 cm)	1				
T. Sq. 9 (B, 0-10 cm)	3				
R/O/W Surface	A5	10			
Ant Hill	30	31			point frag (?)
Other Surface					projectile point grooved stone frag, brownware sherds
Tota 1s	176	69	1	A	

from preceramic and early ceramic contexts in other parts of southern New Mexico (Beckes 1977a:50, Martin and Rinaldo 1952:159» Southward 1978:59). while the point fragment is more reminiscent of late prehistoric styles (Beckes 1977a:6A). The presence of brownware ceramics at the site and of Chupadero black-on-white at neighboring sites also indicates usage during later prehistoric times.

The natural setting of the site may be a factor in the kinds of information recovered. The variation in soil depth, undifferentiated nature of the fill, and the presence of small quantities of chipped stone throughout the fill, suggest that the portion of site included in the right-of-way may represent a wash situation. There appears to have been considerable soil movement on this bench (P. Gose, personal communication). The major portion of the site may be located higher along the bench with the materials along the edge indicating soil movement (a wash situation). While no artifactual material is evident on the surface higher up along the bench, soil movement may have covered any material which was once present.

Few generalizations can be made regarding AR-03-08-0A-51. It appears from the available evidence that the site represents a limited activity area used in conjunction with hunting activities. Surficial material is similar to numerous small artifact scatters encountered in the Sacramento Mountains east and north of the area (Spoerl 1980a, 1980b and Tainter, this volume). It is also similar to some sites located further south along the Sacramento River, except that most of these sites, located at lower elevations, also contain concentrations of fire-cracked rock. Brownware ceramics, found in minute quantities at some of these sites, and projectile point styles may indicate usage during Pithouse and/or Pueblo period times rather than the earlier Archaic times.

If AR-0B-0S-0^~SI is typical of similar sites in the southern Sacramento Mountains, it appears that many of the sites visible only as sparse lithic scatters do represent temporary limited activity sites and contain little depth or subsurface features. This "if" is a large one, however, and additional investigations are necessary before such generalization will have much validity. Future research emphases regarding such sites should include testing hypotheses regarding the kinds of activities which may have taken place, possible relationship^ with neighboring settlements, and the temporal period of usage.

Recommendations for Management

The archeologists who participated in the test excavations concluded that the portion of the site which will be impacted by road improvements is not eligible for nomination to the National Register of Historic Places. Excavations indicated that little additional information could be gained from the area of the site included within the road right-of-way. The author was present at the site when the edge of the bench was cut for road alignment. No additional cultural resources were encountered in the cut or any other indications of an occupational level.

Analysis of Lithic Artifacts: Site AR-03-08-04-51

Jeff Boyer

Introduction

Some 250 lithic artifacts were collected from six 2-meter square test pits, as well as from the surface of the site within the proposed right-of-way (see Table 2; Spoerl, this volume). This discussion presents the results of the descriptive analysis of those artifacts.

Methods

The artifacts were analyzed using formats devised for other Forest Service projects. The formats include attributes which provide both description and data potentially useful in examining lithic manufacture and use.

Sources such as Crabtree's (1972) "An Introduction to Flint Working" were consulted for definitions of specific attributes. Chapman (1977) and Chapman and Schult (1977) were used as sources for recognizing tool use. In addition, Don Alexander, USDA Forest Service, was instrumental in identification of lithic material.

Results of the Analysis

The analysis is geared towards description of material selection, tool manufacture and tool use. Selection of raw material is discerned by monitoring the raw material of each artifact. Tool manufacturing techniques are revealed by the presence of cortex and of prepared striking platforms. Tool use is indicated by evidence of retouch and wear.

Test Pit 3

Material Selection

Material collected from test pit 3 is predominantly chert. Chert comprises all of the flakes from the surface and the two excavated quads. Also, chert comprises 100 percent of the chips and angular debris from the excavated quads. The only exception to this emphasis on chert is one limestone fragment which was tentatively identified as angular debris.

Manufacture

Cortex

Sixty percent of the surface flakes have cortex on some portion of the dorsal surface, although only one flake has cortex on the entire dorsal surface. Only one flake has no cortex.

Prepared December 1980

In the 0-10 cm level, another pattern is present. In both quads C and D, a high percentage of flakes have no cortex, 71 percent and 43 percent, respectively. In quad D, the same percentage of flakes have cortex on the platforms.

Platform Preparation

There are no prepared platforms in the surface flakes. In the 0-10 cm level, the number of prepared platforms is low. In quad C, only one flake and in quad D, only two flakes have prepared platforms.

Tool Use

Retouch

Only one retouched artifact was collected from test pit 3- Artifact number 51.32 was found in the 0-10 cm level of quad C. The artifact has unidirectional retouch on a lateral edge on the ventral surface.

Wear

Two surface flakes show possible signs of wear due to use. Both show uniface step scars.

The retouched artifact from quad C, 0-10 cm level, also shows signs of wear. Bifacial step scars are present in the area of the retouch. Two other areas on the opposite lateral edge exhibit unifacial step scars.

Test Pit k

Material Selection

With one exception, all material from test pit k is chert. This material is all subsurface, no surface material is present. The exception is a piece of limestone which was tentatively classified as debris, but may not be related to lithic use.

Manufacture

Cortex

Two different patterns regarding presence of cortex are present in the material from test pit k.

Material from the 0-10 cm level was found only in quad A. Only one flake has no cortex as all, while 60 percent have cortex on a portion of the dorsal surface. Sixty percent also have cortex on the platform. No flakes have cortex on the entire dorsal surface.

Material from the 10~30cm level came only from quad B. In that material, 75 percent has no cortex at all. The remaining one flake has cortex on the platform.

Platform Preparation

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Only one flake from each quad has a prepared platform.

Tool Use

Retouch

No retouched artifacts were recovered from test pit 4.

Wear

One flake from quad A, 0-10 cm level, was found to exhibit possible signs of wear. That flake shows crescentic scars on the distal end and one lateral edge.

Test Pit 5

Material Selection

All of the surface artifacts from test pit 5 are chert. The same is true of artifacts from 0-10 cm level. In fact, the only exception in all levels are in the 10-40 cm level of quad A, and in the 20-40 cm level of quad D. One piece of limestone which was identified as possible debris was found in the 10-40 cm level of quad A. Another piece of limestone was found in the 20-40 cm level of quad D. It was questionably identified as a possible flake.

Manufacture

Cortex

Among the surface artifacts, 66 percent have no cortex at all. One flake has cortex on the platform and a portion of the dorsal surface. Another flake has cortex on the entire dorsal surface.

The material from the 0-10 cm level presents inconclusive evidence. In quads A, B, and D, none of the flakes have cortex. Quads A and B, however, contained one flake each. Quad D contained only three flakes. In quad C, two flakes (66.6 percent) have cortex on some portion of the dorsal surface. One of those also has cortex on the platform.

Of the flakes from the 10-40 cm levels, a high percentage have no cortex. This figure ranges from 50 percent (one flake) in the 10-20 cm level of quad D to five flakes in quad A and all four flakes in the 20-40 cm level of quad D. In quad A, the remaining 44.4 percent have cortex on a portion of the dorsal surface. One flake has cortex on the platform. In the 10-20 cm level of quad D, one flake has cortex on the dorsal surface.

Platform Preparation

Two surface flakes have prepared platforms. Only one flake in the 0-10 cm level has a prepared platform; it was found in quad A. In the 10-40 cm level of quad A, three flakes have prepared platforms. In quad D, two flakes from the 10-20 cm level, and one flake from the 20-40 cm level, have prepared platforms.

Tool Use

Retouch

Two retouched artifacts were found in the 10-40 cm level of quad A. Artifact 51.84 shows bidirectional feather scars on both lateral edges. Artifact 51.86 shows unidirectional retouch on the dorsal surface.

Wear

Artifact 51.86 also exhibits possible crushing in the area which was retouched. The retouch and wear produce a deep concavity in the edge of the artifact.

One artifact from the surface shows possible crescentic scars along both lateral edges. A flake from the 0-10 cm level of quad A also shows crescentic scars. A flake from the 0-10 cm level of quad B shows unifacial feather scars on the ventral surface, as well as possible nibbling on the same lateral edge. Nibbling and possible rounding occur on the proximal and lateral edges of a flake from the 0-10 cm level of quad C. There is also nibbling on the lateral edges of a flake from 0-10 cm level of quad D.

Test Pit 6

Material Selection

All material from all levels and all quads in test pit 6 is chert. This includes flakes from the surface and 0-10 cm level in all quads, as well as the 10-20 cm level in quad C. It also includes chips and angular debris from the surface and 0-10 cm level of quads A, B, and C, and the only core from the site, which was found in the 0-10 cm level of quad C.

Manufacture

Cortex

Four of the surface flakes have cortex on a portion of the dorsal surface. One flake has no cortex.

In the 0-10 cm level, two patterns are represented. In quads A, B, and C, high percentages of flakes have no cortex (66.6 percent, 50 percent and 87.5 percent, respectively). These quads have low or equal percentages of

flakes with partial cortex (.33- 3 percent, 50 percent and 0 percent, respectively). In quad D, however, 33-3 percent of the flakes have no cortex, while 66.6 percent have cortex on a portion of the dorsal surface. Only one flake in quad C has cortex on the platform.

The 10-20 cm level was excavated only in quad C. Only two flakes were found. One has no cortex, the other has cortex on part of the dorsal surface.

Platform Preparation

Only one flake from the surface has a prepared platform. In quads B, C, and D in the 0-10 cm level, the percentages with prepared platforms are 37.5 percent (three flakes), 12.5 percent (one flake), and 16.6 percent (one flake) respectively. In the 10-20 cm level of quad C, one of the two flakes has a prepared platform.

Tool Use

No retouched flakes or flakes showing signs of wear were recovered from test pit 6.

Test Pit 8

Material Selection

Only one flake was found in test pit 8. It came from the 0-10 cm level and is chert.

Manufacture

Cortex

The flake has no cortex.

Platform Preparation

The flake has a prepared platform.

Tool Use

The flake is not retouched and show no signs of wear.

Test Pit 9

Material Selection

Three flakes were collected from the 0-10 cm level. They are chert.

Manufacture
Cortex

None of the flakes have cortex.

Platform Preparation

One of the flakes has a prepared platform.

Tool Use

The flakes are not retouched and show no signs of wear.

General Surface Collection

V

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Material Selection

All of the artifacts collected from the surface within the right-of-way are chert. This includes flakes, chips, and angular debris.

Manufacture
Cortex

Sixty percent (27 flakes) of the flakes have no cortex, 28.8 percent (13 flakes) have cortex on a portion of the dorsal surface, and 8.8 percent (four flakes) have cortex on the platform. Only one flake has cortex on the entire dorsal surface.

Platform Preparation

Nine flakes (20 percent) have prepared platforms.

Tool Use

Retouch

No retouched artifacts were collected from the surface.

Wear

Two flakes show signs of wear. One flake has bifacial feather and step scars on the proximal and one lateral edge. The other flake shows unifacial feather scars on what may be the distal end.

Anthill

Seventy artifacts were collected from the anthill. Thirty-nine are flakes and 31 are chips and angular debris. Except in the discussion on material selection, only 18 flakes are used to derive the figures given. The remaining 21 flakes are too small to be individually numbered. Consequently, they were not included in the calculations.

Material Selection

All of the 29 flakes and the 31 chips and debris are chert.

Manufacture

Cortex

Fifteen flakes have no cortex. Two flakes have some cortex and one flake has cortex on the entire dorsal surface.

Platform Preparation

Five flakes have prepared platforms.

Tool Use

Retouch

Artifact 51.189 exhibits bifacial retouch on both lateral edges. The artifact may be a midsection of a projectile point. It shows no signs of wear.

Summary

Material Selection

With only four exceptions, the assemblage is composed entirely of chert. Those exceptions are of limestone, and may not be debris of lithic manufacture.

Pigott and Dulaney (1977:87) note that in the McGregor Range directly to the south of the site area, chert is the most commonly used material. In some site types, various cherts are virtually the only materials used. Those types include non-ceramic camp complexes and lithic scatters (ibid:110, 111).

In all types of sites in the Range, various cherts make up about 77 percent of material present. Most of those materials are available all over the area, including the Sacramento Mountains (ibid:109), however, some chert types occur in localized deposits.

Site AR-03-08-0[^]-51 is characterized by a wide variety of cherts, some more fine-grained and/or coarse-grained or of different colors than others. Sites with the widest variety of materials from the Range include villages, ceramic camp complexes, and burned rock loci (ibid:110, 111).

This information suggests that the "occupants" of site AR-0S-0S-0It-SI were exploiting a variety of chert sources. It does not, however, necessarily suggest anything about the function or length of occupation of the site.

Manufacture

The artifacts suggest little evidence for primary reduction of lithic material at the site. Instead, secondary and tertiary stages of reduction are suggested. Evidence for this includes the low numbers of fully-cortical flakes and high numbers of very small flakes and the moderately high numbers of prepared platforms. Such platform may be indicative of intentional modification prior to later stages of reduction. Another factor is the moderately high frequency of lipping (Crabtree 1972:7*0) The average percentage of flakes with lipping is 30 percent. Lipping may be associated with soft-hammer and pressure flaking.

Tool Use

Four artifacts show signs of intentional retouch. Two of these came from below 10 cm, one from the 0-10 cm level and one from the surface. The retouched artifact on the surface, a possible projectile point fragment, was found on an anthill, and so may have been redeposited there from an unknown depth by ants.

Twelve artifacts show signs of use wear. Only one came from below 10 cm, six were from the 0-10 cm level, and five from the surface. Feather scars are the most common on surface artifacts, with four instances. One instance, each of crescentic scars and step scars, occurs on surface flakes. Nibbling occurs in three cases on artifacts from the 0-10 cm level. Crescentic scars occur on two artifacts and step scars on one artifact from that level. The only wear on artifacts below 10 cm is one possible instance of crushing.

Survey of The Wright Spring Watershed

Joseph A. Tainter

Introduction

In order to ensure that no cultural resources will be affected by the proposed Wright Spring (Snaky Canyon) watershed project, an archeological survey was conducted on 250 acres of the Cloudcroft District, Lincoln National Forest, New Mexico, in April 1978. The purpose of the Snaky Canyon watershed project is to alleviate the effects of an arroyo which is deeply entrenched within the valley. A variety of alternative plans for dealing with this arroyo have been formulated. These plans, and their projected impacts on cultural resources, are discussed in later sections of this report.

Survey Area

The portion of Snaky Canyon included in the present survey (Figure 1) is an alluvial valley located at an elevation of about 7,000 feet in the southwestern section of the Sacramento Mountains. This valley is ringed by low ridges on the west and east, and by hills on the north. Farther to the north are high peaks of the Sacramento Mountains. To the south and west, at lower elevations, lies the arid Tularosa Basin.

The vegetation of the Wright Spring watershed is predominantly pinyon-juni per. The pinyon-juni per vegetation dominates the ridges and hills surrounding the valley, and is present in smaller amounts in the valley itself. The valley presents a more open situation, tending toward grassland and including occasional groves of oak.

Snaky Canyon contains a set of resources which would have been attractive to an aboriginal population. Among the more noticeable resources are pinyon nuts and acorns, both available in the fall. There are undoubtedly other vegetal resources of use to human populations within the survey area, but a professional biologist might be needed to identify all of these. A small herd of deer was observed during the course of the archeological survey, and other faunal resources are undoubtedly present in the area. Perhaps the most significant resource, however, is Wright Spring itself, a permanent and apparently reliable water source. The extensiveness of the archeological remains present around Wright Spring suggests that this water source was active in aboriginal times.

The Survey

The survey was conducted by systematically examining 100 percent of the project area. During the course of this survey, a total of 18 archeological

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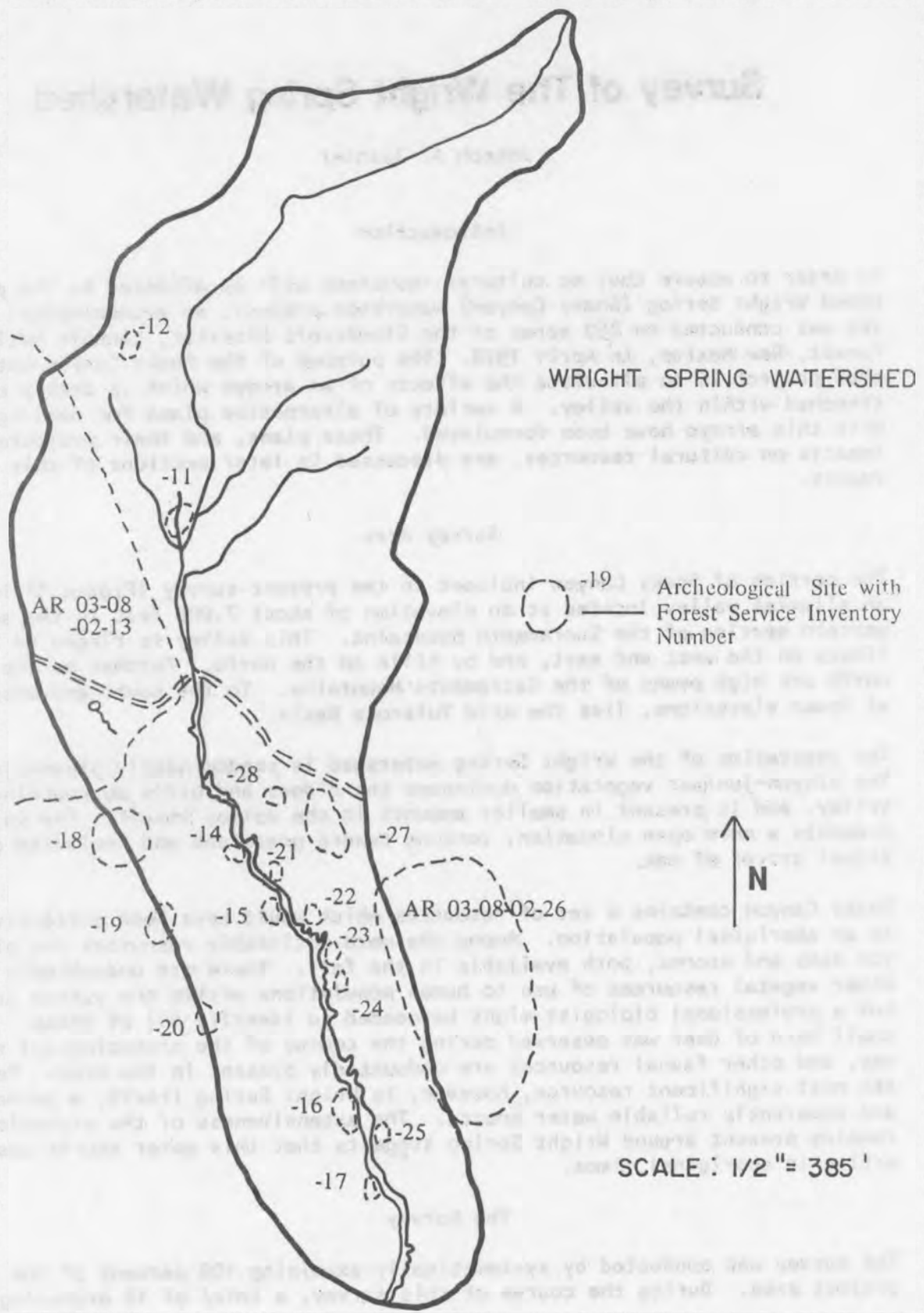


Figure 1, Wright Spring Watershed showing archaeological sites.

sites were found. Site locations are on file with the Forest Service. These sites are numbered AR-03 "08-Q2-11 through 28 in the files of the Lincoln National Forest. Several of these sites have been eroded during the process of arroyo entrenchment. A description of each site, and its present condition, follows:

AR-03-08-02-11 is a lithic scatter covering an area of about 300 square meters. A mano fragment and a metate fragment were observed on the site. The site is heavily eroded and is in certain danger of further erosion.

AR-03-08-02-12 is a lithic scatter covering an area of about 600 square meters. Lincoln black-on-red, Chupadero black-on-white, and Jornada brown ceramics were observed. One worked black-on-white sherd was found on the site. This site is lightly eroded, but is not located near any arroyo, and so is not in danger of substantial further erosion.

AR-03-08-02-13 is a very large lithic scatter covering an area of at least 100,000 square meters. It occupies essentially the entire ridge to the west of Wright Spring, and encompasses the present location of the spring itself. The site has been damaged by Forest Road 90, by ORV trails, and by a recently installed electric powerline. The site is not in danger of erosion.

AR-03-08-02-14 is a lithic scatter covering an area of 120 square meters. A hammerstone was observed on the site. The site has not been subjected to erosion, but would be endangered by increased lateral extension of the arroyo.

AR-03-08-02-15 is a lithic scatter covering an area of about 180 square meters. A metate fragment and a piece of Jornada brown pottery were observed on the site. This site has been heavily eroded and is in danger of further erosion.

AR-03-08-02-16 is a lithic scatter covering an area of about 150 square meters. A one-hand mano was observed on the site. The site is slightly eroded, but is in danger of further erosion.

AR-03-08-02-17 is a lithic scatter covering an area of 170 square meters. It is situated in a grove of oaks, and was most likely an acorn-gathering camp. It has not been subjected to heavy erosion, and is not immediately threatened by further erosion. However, increased lateral extension of the arroyo would threaten the site.

AR-03-08-02-18 is a lithic scatter covering an area of about 300 square meters. It is situated atop a ridge and is not in danger of erosion.

AR-03-08-02-19 is a small lithic scatter covering an area of 100 square meters. It is situated on a ridge and is not in danger of erosion.

AR-03-08-02-20 is a very small lithic scatter covering 60 square meters. It is located on a ridge top and is not in danger of erosion.

AR-03-08-02-21 is a lithic scatter covering an area of about 200 square meters. It has been slightly eroded, but is in moderate danger of further erosion.

AR-03-08-02-22 is a lithic scatter covering an area of about 200 square meters. A one-hand mano and an eroded piece of brownware pottery were found at the site. This site is heavily eroded and is in danger of further erosion.

AR-03-08-02-23 is a small lithic scatter covering an area of about 100 square meters. The site has been heavily eroded and is in danger of further erosion.

AR-03-08-02-24 is a small lithic scatter covering an area of about 100 square meters. A chert hoe was found on the surface of this site. This find suggests that at least some of the seasonal sites found in the Wright Spring watershed were spring and/or summer agricultural camps, established by populations whose permanent settlements were at lower elevations in the Tularosa Basin. This site has been slightly eroded, but is in danger of further erosion.

AR-03-08-02-25 is a small lithic scatter covering an area of about 120 square meters. It has not yet been eroded. However, if the arroyo extends laterally, then this site would be threatened within a few years.

AR-03-08-02-26 is a very large lithic scatter covering an area of about 250,000 square meters. The site covers an entire ridge to the southeast of Wright Spring. This site has been slightly damaged by the unnumbered road which extends south from Forest Road 90 in Section 25- Being situated on a ridge, it is not in danger of erosion.

AR-03-08-02-27 is a moderately large lithic scatter covering an area of about 3,500 square meters. It has not been heavily eroded, and is not in danger of further erosion.

AR-03-08-02-28 is a small lithic scatter covering an area of about 100 square meters. It has not been eroded, and is not in danger of erosion.

Assessment of the Archeological Resources

The Snaky Canyon archeological sites fall within the geographical provenience of what is termed the Jornada Branch of the Mogol Ion, as defined by Lehmer (19⁸). The Tularosa Basin area and the Jornada Mogol Ion present some of the least understood aspects of the prehistory of New Mexico. The earliest occupation of the Tularosa Basin is attributable to the PaleoIndian period, and may date to as early as 9000 B.C (summarized by Dart 1977). The succeeding Archaic period (beginning around 7000 B.C.) developed in response to the post-Pleistocene climate modification which characterized the Southwest. The Archaic adaptation seems to have focused on a more diversified resource base than preceding time periods, necessitating a pattern of seasonal movement

about the landscape. Human Systems Research (1973) has excavated a major Archaic site, Fresnal Shelter, on lands of the Lincoln National Forest northeast of Alamogordo. This site appears to date in the interval 2000 B.C. to 100 A.D. The later portion of the Archaic period in this area has been termed by Lehmer (19⁸), the Hueco Phase, and extends until perhaps 250 A.D. Some reliance on agriculture is probable for the last few centuries of the Hueco Phase, but the major subsistence focus seems to have been hunting and gathering.

The succeeding Mesilla Phase (ca. 250 - 1100 A.D.) seems to have been characterized by a major change in adaptation. Pithouse architecture is one of the characteristics of the Mesilla Phase, an attribute which identifies a relatively sedentary population. Such sedentism may be associated with an agricultural adaptation although present evidence is insufficient to substantiate this. Pottery appears during this phase.

The Dona Ana Phase (1100 - 1200 A.D.) marks a period of cultural transition. It is characterized most noticeably by pueblo-type architecture (contiguous adobe rooms) and by an expanded ceramic assemblage. Pithouse architecture continued in use. The switch to surface architecture suggests changes in the direction of larger, and more complex, social units. This must be regarded a major cultural transformation. Pueblo-type dwellings are inherently more expandable than pithouses. Such a shift to surface construction would be expected in a situation where social units were expanding in size, thus, necessitating the continual addition of architectural units.

The El Paso Phase (1200 - 1A00 A.D.) witnessed the abandonment of pithouse architecture. Pueblo-type structures, either linear or rectangular in form, become the common village pattern. Some of these reached sizes of up to 100 rooms. For reasons which are poorly understood, the area was abandoned by around 1⁰⁰ A.D., thus bringing an end to the Jornada sequence.

Our lack of knowledge concerning the Jornada area includes not only chronological concerns, but also the broader, and ultimately more meaningful, anthropological questions related to human ecology and cultural change. Major research remains to be initiated into questions dealing with the population dynamics, subsistence adaptation, social organization, and settlement patterns of the Jornada Mogol Ion, and more particularly, with changes in these characteristics through time.

It is particularly in the area of settlement patterns that the Wright Spring archeological sites promise to yield significant information.

Ceramics found during the Snaky Canyon survey suggest that the sites date to the Dona Ana and/or El Paso Phases. (This is by no means certain, though, since ceramics were not found on all sites.) For the eastern Jornada areas, perhaps the only well-established fact concerning the settlement patterns of these phases is that major settlements seem to concentrate

along the western edge of the Sacramento Mountains, at the bottom of the escarpment, near drainages originating in the mountains (see Marshall 1973:93; Dart and Yates 1977; Bussey and others 1976). This placement suggests diversion irrigation of agricultural fields from mountain runoff. Until the discovery of the Wright Spring sites, little else was known about the late Jornada settlement patterns in this area.

Late Jornada populations were by no means entirely dependent upon domesticated foodstuffs, and extensive use of the natural resources of the Sacramento Mountains may be postulated. Indeed, several authors have sketched tentative ideas about Archaic subsistence-settlement systems involving the Sacramento Mountains (Human Systems Research 1972:30; Beckes and Dibble 1976:13). Collecting of floral resources would have begun in lower elevations during early spring, and progressed to higher elevations as summer approached. The yearly cycle of collecting wild plant foods would have culminated with the harvest of pinyon nuts and acorns in the fall. Faunal resources may have been collected at all seasons in the mountains, with variations depending upon such factors as degree of herd aggregation and weather. This pattern of resource use would leave an archeological record characterized by short-term, special-use sites situated for the exploitation of specific resources. The archeological record of the Wright Spring watershed appears to reflect such a transhumant pattern of land use.

Three floral resources may have been of paramount importance to native populations using Snaky Canyon. These are pinyon nuts, acorns and aboriginal cultigens. This last will be discussed first. Perhaps one of the more significant finds of the Snaky Canyon survey was a chert hoe on the surface of AR-03-08-02-2[^] (see map). The presence of this implement suggests that several of the seasonal sites in this drainage were high-altitude agricultural camps. Before the present survey, this aspect of Jornada settlement patterns had not been documented. Wright Spring is at an elevation of about 7,000 feet. At Mountain Park, a Sacramento Mountain community situated at an elevation of 6720 feet, the season suitable for growing maize lasts about 150 days (Human Systems Research 1973:197). An experiment in growing Chapalote corn at this altitude demonstrated the feasibility of aboriginal agriculture at elevations comparable to Wright Spring (Human Systems Research 1973:50). Undoubtedly the major reason for the practice of agriculture in Snaky Canyon is the existence of Wright Spring. This reliable water source would have allowed diversion irrigation of fields.

The sites postulated to have been agricultural camps include AR-03-08-02-14, 15, 21, 22, 23, and 2b. These sites are situated in close proximity, in a broad and relatively flat section of the watershed. In fact, they are situated in the best portion of the watershed for practicing agriculture. South of this cluster of sites, in the vicinity of AR-03-08-02-16, 17, and 25, the canyon becomes constricted and would not have been suitable for agriculture.

The presence of millingstone fragments on sites 15 and 22 indicate at least the anticipation of reoccupation of these localities. Millingstones additionally suggest occupation during the late spring and/or fall collecting seasons. This seasonal interpretation is reinforced by the fact that these sites are located in the more open valley bottom rather than the wooded ridge tops or slopes. Such selection for an open vegetation structure suggests cool-season occupations with a concomitant desire for maximum solar exposure. Thus, the available data suggest that sites 1A, 15, 21, 22, 23, and 2k functioned as spring agricultural planting camps and/or as fall harvesting camps.

The agricultural fields which existed in Snaky Canyon would have required periodic maintenance such as irrigation and protection against depredation by animals. The population which used Snaky Canyon may have met these needs either by maintaining persons in residence near the fields during the entire growing season, or by visits to the area at frequent intervals. In either case, such activities would result in an archeological record more extensive than that resulting from short-term occupation focused on planting or harvesting. Such agricultural maintenance camps may be represented by sites 13 and 26, which are the most extensive settlements in the drainage. The fact that these sites are situated on the tree-covered ridges, a setting which would have afforded shade and cool conditions, affirms the notion of warm-seasoned occupation.

The remaining sites (AR-03-08-02-11, 12, 16, 17, 18, 19, 20, 25, 27, and 28) are relatively small in size and are situated in groves of pinyon or oak. These characteristics suggest short-term occupation for the purpose of collecting pinyon nuts or acorns. Both of these resources are available in the fall and, as in many areas of the West, pinyon nuts could have served as a stored winter food resource. With the completion of the fall harvest of natural and cultivated plant foods, the major yearly use of Snaky Canyon would come to an end, to begin again the following spring with the collection of early green plants and planting of agricultural fields.

There appear, then, to be three major types of aboriginal settlements in Snaky Canyon. These are:

1. Agricultural planting and harvesting camps (AR-03-08-02-1k, 15, 21, 22, 23, and 2k).
2. Agricultural maintenance camps (AR-03-08-02-13 and 26).
3. Pinyon/acorn collecting camps (AR-03-08-02-11, 12, 16, 17, 18, 19, 20, 25, 27, and 28).

During the yearly round, aboriginal populations whose permanent settlements were at lower elevations along the eastern edge of the Tularosa Basin would have ascended to Snaky Canyon in the spring to collect early green plants

and to plant agricultural fields. Throughout the summer months these populations occupied extensive camps on ridges above the fields to irrigate and to perform other agricultural maintenance tasks. In the fall, harvesting activities took place in the drainage, focused on both the agricultural crop as well as on pinyon nuts and acorns.

In current archeological theory, culture is viewed as an adaptive system made up of interrelated and interdependent parts. One advantage of a systemic view of culture is that, when an observation or proposition is advanced concerning one part of a cultural system, corresponding propositions may follow regarding interrelated portions of the system. The interpretations advanced here concerning the Wright Spring settlements suggest additional research questions concerning late Jornada cultural systems. Among these are the following:

1. If late Jornada populations were maintaining high altitude agricultural fields far from their permanent villages in the Tularosa Basin, the maintenance and transport costs associated with these fields would have been higher than the costs associated with valley fields located closer to places of residence and consumption. The question immediately arises as to why these extra costs would have been undertaken. The answer which most obviously suggests itself is that population density in the area had exceeded the carrying capacity of lowland agricultural fields, thus necessitating the use of more distant fields. If this proves to be the case, then we may ask if growth of Jornada populations to such a level was related to the pattern of sedentism which was apparently established during the Mesilla Phase, or even earlier (cf. Tainter 1979).

2. The establishment of agricultural planting, harvesting, and maintenance camps in Snaky Canyon raises questions concerning late Jornada social organization. Were the Snaky Canyon fields owned by corporate social groups which pooled and distributed agricultural products among their members? What were the mechanisms of structural segmentation by which Snaky Canyon task groups were formed from a larger social unit? Were the tasks of maintaining the Snaky Canyon agricultural fields rotated on an egalitarian basis among the members of corporate groups, or were these tasks allocated through a social hierarchy? Many other questions concerning late Jornada social organization will undoubtedly present themselves.

3. In what ways was the use of Snaky Canyon contingent upon yearly fluctuations in environmental productivity? Were the agricultural fields used only if moisture was insufficient for lowland irrigation? Were acorns used only as a back-up resource depending upon the success or failure of the pinyon crop?

- A. Were the pinyon-gathering camps in the watershed used exclusively by the social units which corporately owned the agricultural fields? It

is common in the ethnographic literature of the western United States to find references indicating that, during years of good pinyon harvests, access to local pinyon crops was unrestricted. If this were the case among the prehistoric Jornada Mogol ion, certain aspects of the Snaky Canyon settlement system would be clarified. On the surface it seems puzzling that the population which maintained the agricultural camps in the watershed would not use these same camps for pinyon harvest. However, if the agricultural camps were not maintained every year, or if a number of different social groups used the canyon during the pinyon harvest, then the existence of many different pinyon camps would be expectable.

Finally, it should be noted that this projected pattern of land use is not an established fact, but is simply a projection which must be rigorously evaluated against the archeological record of the Wright Spring watershed. If this projected settlement pattern, or some other, can be substantiated, then a major gap in our knowledge of late Jornada settlement patterns will have been filled. Viewed in this context the Snaky Canyon archeological sites are highly significant in their potential to contribute information to understanding the prehistory of the area.

Effect of Project Alternatives

Three alternatives for dealing with the Snaky Canyon Arroyo have been proposed by Forest Hydrologist David White.

Alternative I. Shape approximately 1200 feet of gully below the road with structures installed as necessary. Stabilize eroding banks and tributaries to lower portion of arroyo by shaping the arroyo wall and reseeding.

This alternative would have a severe, adverse effect on most or a 11 sites adjacent to the arroyo which lie below the road. This includes sites 1**, 15, 16, 17, 21, 22, 23, 2k, and 25. Since the land alteration in this area would be essentially indiscriminate it would probably be necessary to collect data from all the listed sites in advance of the project.

Alternative II. Install gully plugs in the 1200 feet of arroyo below the road with minimum shaping of the arroyo banks. Again, the eroding banks and tributaries to the lower portion of the gully would be stabilized.

This alternative might have less affect on cultural resources than Alternative I. However, all sites adjacent to the arroyo below the road would still be subject to potential impacts. Such impacts could range in severity up to the level anticipated under Alternative I.

Alternative III. This would include either Alternative I or I I plus the installation of structures in the arroyo above the road.

In addition to the sites which would be affected under Alternative I and II, this alternative would affect site 11, since this site lies in an area of very heavy erosion.

A Brief History of The Early Years on The Lincoln National Forest

Patricia M. Spoerl

Introduction

During the 1800s many people moved westward and settled areas which had previously been occupied only by Indians or Spanish colonists. Because of this settlement, significant changes began to occur in the landscape of the West. Millions of acres of forested land were cleared for agriculture. Millions more acres were damaged due to wasteful logging operations, fires, overgrazing and subsequent erosion. A concern for this destruction of our nation's natural resources led to passage of the Land Law Revision Act of 1891 which authorized the President to set aside lands as forest reserves. These lands were to be managed by the General Land Office of the Department of Interior. The Organic Act of 1897 established the basic purpose of these reserves and formed the basis of later multiple-use management of national forests. In 1905, management of the forest reserves was transferred to the Department of Agriculture and the Forest Service was created.

The mountainous areas of south-central New Mexico lying between the Tularosa Basin and the Pecos River drainage were first considered for withdrawal as forest reserves during the late 1800s. What is now the Lincoln National Forest was originally part of five forest reserves or national forests (Figure 1). The Lincoln Forest Reserve was created by the Proclamation of July 26, 1902, and included the Capitan and White Mountains in Lincoln County. Additions made to this reserve in 1905, 1906 and 1907 created a forest area similar to that included today in the Smokey Bear Ranger District (Figure 2).

The Proclamation of April 19, 1907, created the Guadalupe National Forest, and a few days later, on April 24, the Sacramento National Forest was created (Figure 3). A year later, on July 2, 1908, the Sacramento and Guadalupe forests were consolidated as the Alamo National Forest. Additional land on the west side of the Guadalupe and along the western escarpment of the Sacramentos was included in the forest by two proclamations in 1910. In 1917, the Alamo National Forest was transferred to the Lincoln National Forest and the entire area became known as the Lincoln National Forest (Figure 1). An additional area has played a role in the Lincoln's history. The Gallinas Forest Reserve west of Corona was created in 1907. It was later included in the Lincoln National Forest and was not transferred to the Cibola National Forest until 1958.

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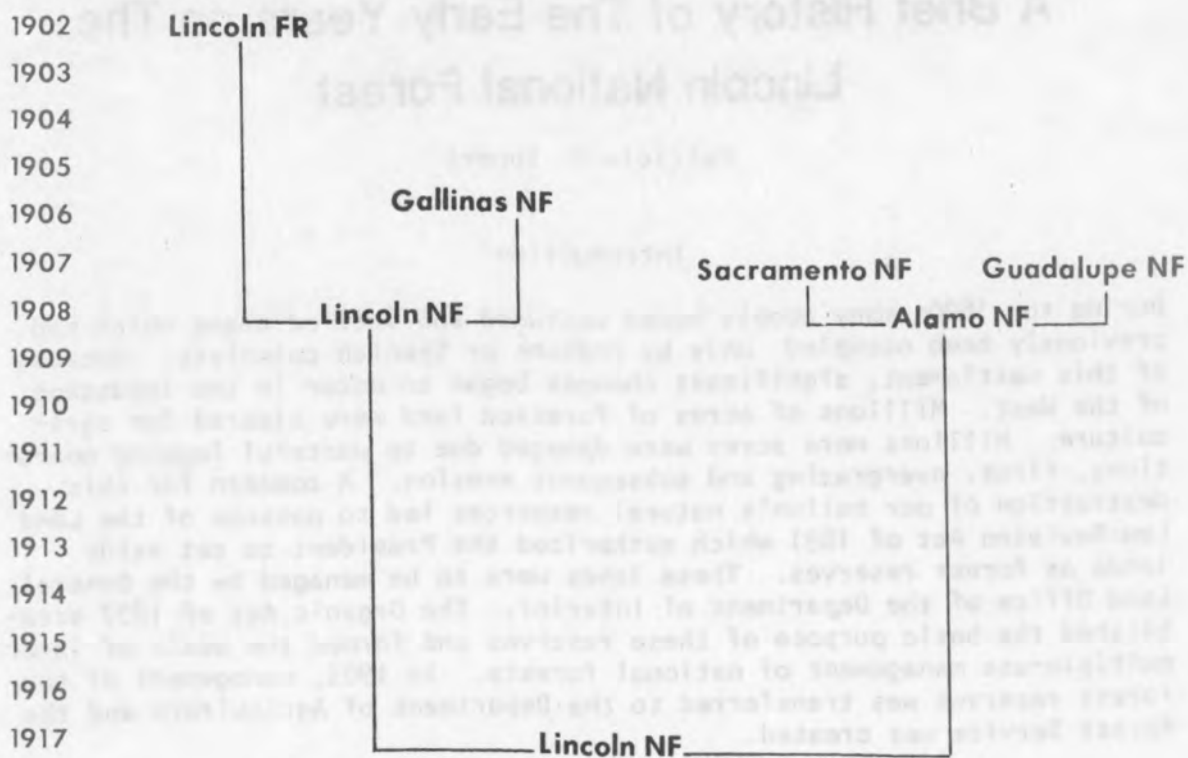


Figure 1. Growth of Lincoln National Forest.

Historical information regarding the Lincoln National Forest is quite limited. A few documents exist from the early part of this century, and then a large gap occurs in the files from approximately 1920 until after World War II. The following sections contain a brief summary of the early history of the forest.

Establishment of the Forests

Reasons for establishing the original forests varied. The Lincoln Forest Reserve was set aside in 1902 after several years of concern by the Reclamation Service and the Texas Legislature regarding the area's water supply. The primary purpose in withdrawing the lands included in the Capitan and White Mountains was "to protect and conserve the water necessary for the success of the Hondo Project", (1906 Report on the Southeast Addition to the Lincoln Forest Reserve). Sufficient forest cover had to be maintained in the mountains to protect the Hondo watershed from erosion because of its importance to settlers in the Pecos Valley. The value of the area for recreation purposes was also recognized at that time.

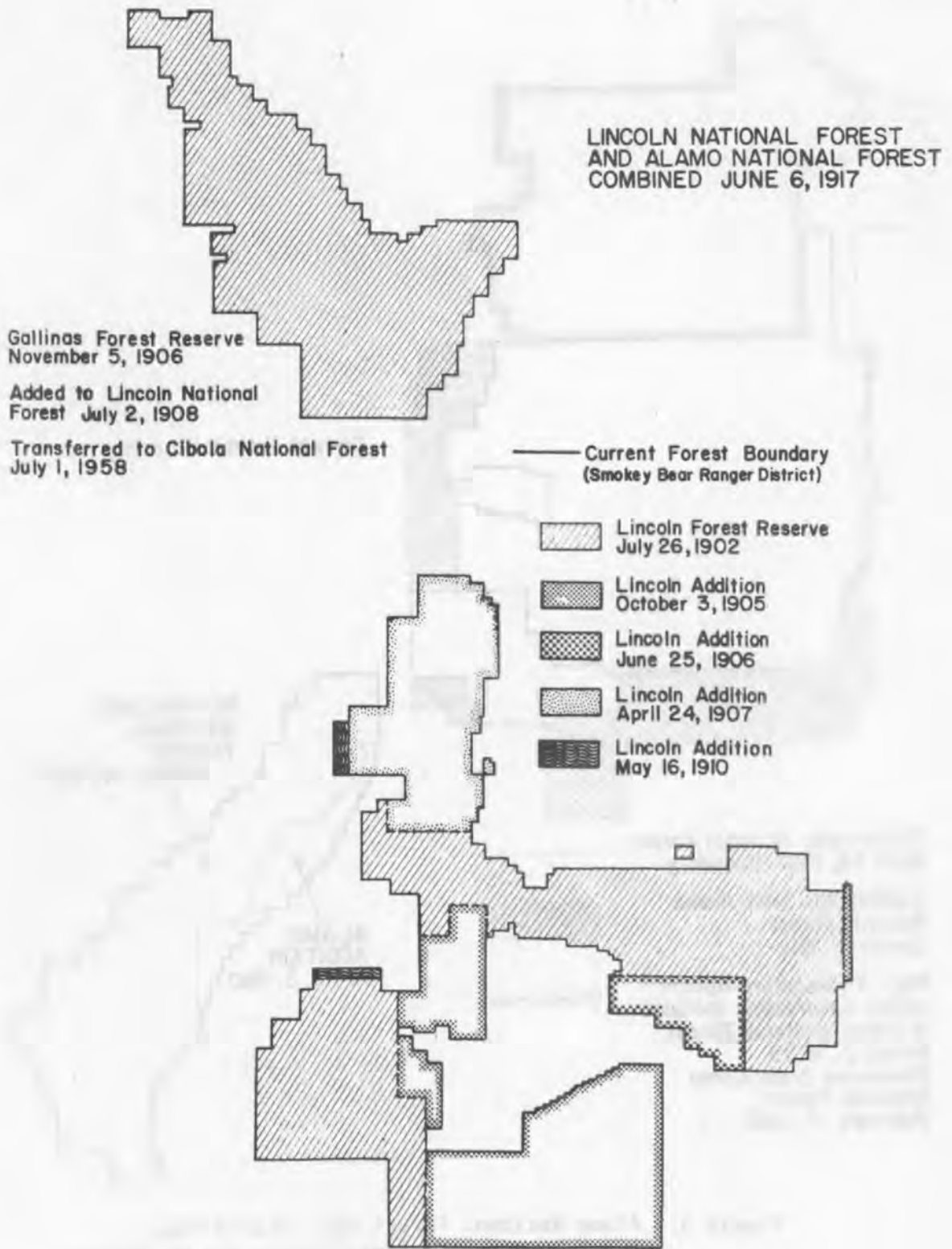


Figure 2. Lincoln National Forest in 1910, showing additions.
Units, but not distances between them, are to scale.

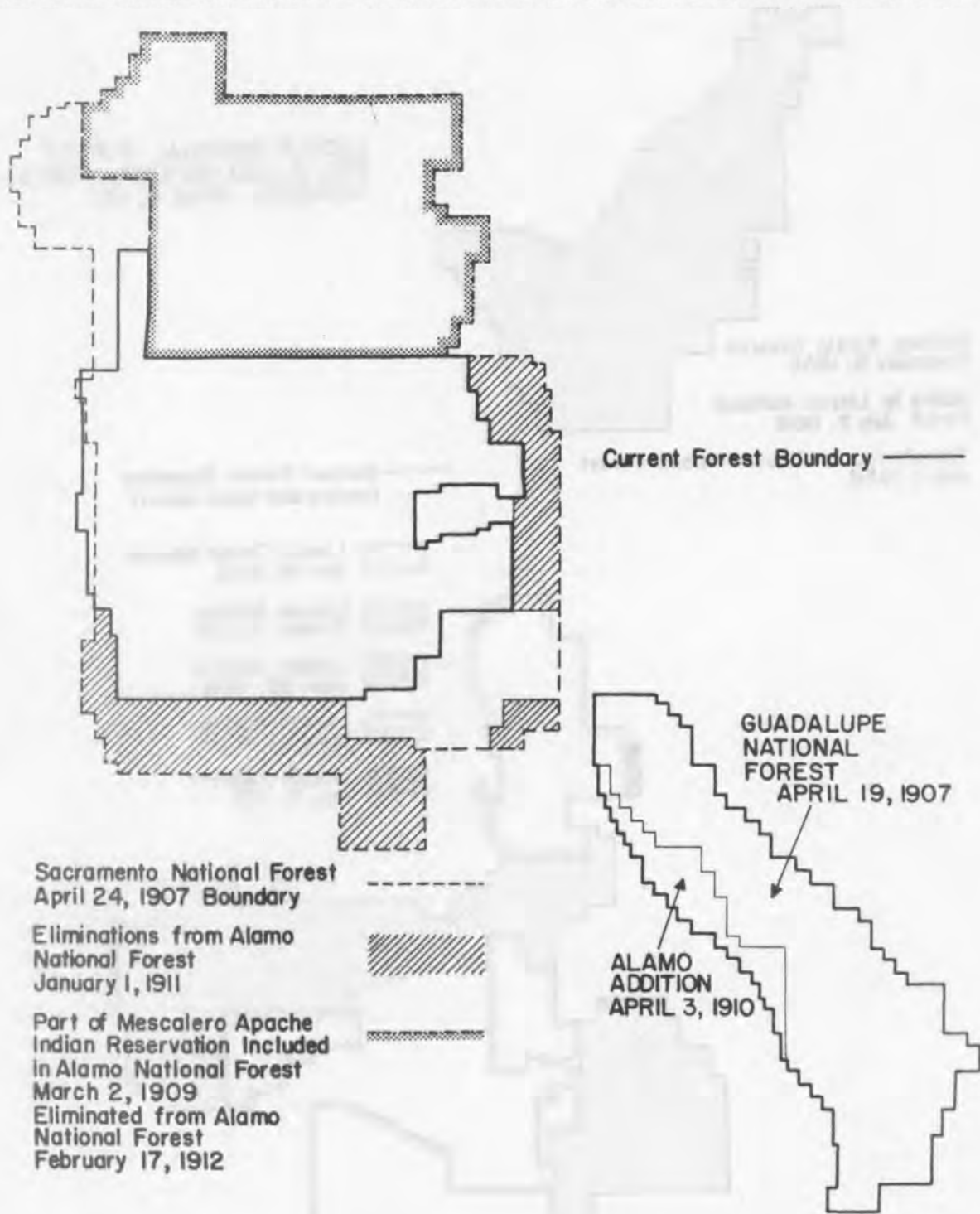


Figure 3. Alamo National Forest was created from the Sacramento National Forest and Guadalupe National Forest on July 2, 1908. Units, but not distances between them, are to scale.

The Sacramento Mountain area was recommended as a national forest because of: 1) its hydrographic relation to the Pecos Valley; 2) the commercial value of its forests; and 3) its value as a recreation area high above the desert floor. Watershed protection, however, was the primary concern.

The eastern slope of the Sacramentos was the primary source of fuel and fence posts for people in the Pecos Valley, and the cutting of tremendous numbers of pinyon and juniper was creating severe environmental problems.

In addition, overgrazing of the land had been occurring for several years.

In the report proposing the creation of the Sacramento National Forest an estimated 17,000 head of cattle and horses, 10,000 sheep and 40,000 goats were listed as being grazed in this portion of the Sacramento Mountains.

Apparently the Sacramento Mountain region had been withdrawn for a forest reserve several years prior to 1907, but was restored to the public domain before official documentation was completed. Much of the timbered land in the area was then alienated. There were two classes of alienated land at the time, the latter of which was considered a major drawback in establishing the national forest. The first class involved bona fide homestead settlers along the river valleys. The second were territorial selections (New Mexico was not a state at this time), timber homesteads, and scripts covering the commercial timber along the summit. This second class was for the purpose of controlling the best timber along the summit of the Sacramentos. Forty-five thousand acres of this land was in the hands of the Alamo Lumber Company alone. Because much of this land would later revert to the government (by 1960), and because of the additional concerns of watershed and recreation, the Sacramento Mountains were finally established as national forest.

The Guadalupe Mountain area was considered valuable for several reasons:

1) its good supply of juniper for fence posts and fuel, a supply which was rapidly being exhausted; 2) its water supply to the Pecos Valley; and 3) its year-round grazing capability. This forest was established for one major reason, however, watershed protection. Several floods had occurred in the Pecos Valley near Carlsbad prior to 1907- Area residents believed that the flooding was caused mainly by vegetation removal due to overgrazing in the Guadalupe Mountains, and wanted the protection afforded to federal lands. That there was overgrazing was evident from early accounts; and, a dry period prior to the floods also caused damages.

A year of disaster occurred in 1903; 1902 had been unusually dry, and there was only a trace of snow in the winter. From February to July, 1903, occurred what is known as "the big die-up," in which parts of the Guadalupes lost 30 percent of the stock. In the Sacramentos the loss was even heavier. The range was already poor and heavily stocked. The weakened animals ate much dirt with grass roots, and traveled frequently 20 miles to water, often going dry three days in order to reach feed.

At the water they would drink to repletion and then be unable to get out of the pools and streams. Thousands of carcasses polluted the Pecos. (Favorable Report on the Proposed Guadalupe Forest Reserve, New Mexico, 1906.)

By 1906 the grazing land was fully stocked with cattle again and roughly 12,000 goats were grazed in Last Chance and Dark Canyons. Establishment of the forest in 1907 allowed for reduction of these numbers so that environmental deterioration could be slowed. The Supervisor's Office for the new forest was located in Carlsbad.

It was only 1 year after these two forests were established that they were combined into the Alamo National Forest with winter headquarters in Alamogordo and summer headquarters in Cloudcroft. It would be another 9 years before the Alamo and the Lincoln would be consolidated as the Lincoln National Forest.

Boundary Adjustments

Numerous boundary changes have occurred over the years on the Alamo, and later the Lincoln National Forest. The original proclamations contained general descriptions based primarily on township boundaries which did not always correspond very well with mountain ranges or forested land. More accurate surveys were made after establishment of the forests, and adjustments to the boundaries were made in numerous instances.

Lands north and south of the Rio Ruidoso, in the Indian Divide area, and west of Angus were added to the Lincoln Forest Reserve in 1905. An area on the south side of the Capitans near Lincoln was added in 1906. Then in 1907 public sentiment regarding watershed protection led to inclusion of the White Oaks watershed and the Patos Arroyo watershed. The Jicarilla Mountains and Jacks Peak were added because of their good standing woodland even though they contained little water.

Petitions for eliminations of land began almost immediately after establishment of the reserves or forests. They were designed primarily by area residents in an attempt to increase privately owned land. An area forming the northwest portion of the Alamo National Forest was originally part of the Lincoln Forest Reserve. It was transferred to the Sacramento National Forest when this forest was established and then eliminated in 1911 (Figure 3). Other eliminations were made along the southern and eastern boundaries of the Alamo National Forest in the vicinity of Elk, Pinon and the McDonald Flats (Figure 3). Part of the Mescalero Apache Reservation was included in the Alamo National Forest for a short time, being restored to its original status as reservation land early in 1912. The Wright Springs area was in private ownership until 1967 when approximately 23,000 acres became Forest Service administered land. Other boundary adjustments have been made and are still being made. Most land acquired or eliminated today is accomplished through formal exchanges.

Elimination of Forests ??

In 1913 a movement was initiated to eliminate the entire Alamo National Forest. An ex-Forest Service employee led the movement, involving a formal petition and presentation of the case to the Department of Agriculture in Washington, D. C. Three main reasons were given for the proposed elimination of the forest. First, only 235,000 acres of the 900,000 included in the forest contained timber, and of that amount, a mere 20,000 acres could be used; the remainder of the timbered land, or timber cutting rights, were in private ownership. Second, it was argued that water production and water quality had not changed since establishment of the forest; therefore, the rationale for creating the forest to aid in watershed protection was not considered valid. Third, local residents felt that the Forest Service restricted their freedom by reducing the number of livestock, and requiring permits for grazing and other activities such as building pipelines or irrigation ditches. Needless to say, the movement was not a success.

Around this time some individuals from Texas and southern New Mexico proposed creation of a national park out of the White Mountains, part of the Mescalero Apache Indian Reservation, White Sands, the lava beds and Elephant Butte Dam. At times, various parts of the Sacramento Mountains were also included in the proposals. A bill to create such a park was introduced into the Senate in 1912. Interest in this national park continued for a number of years before finally subsiding. Forest Service correspondence of November 1921 documents interest in the proposal by groups in Las Cruces, Alamogordo and El Paso. Local interest in such a park was high because it was generally believed that a park would result in the spending of large amounts of federal money for roads connecting areas to be included in the park, and would be an important advertising feature for the area. Substantial support was never gained for this proposal because the Forest Service lands, while very scenic, were not an outstanding natural attraction comparable to other national parks at the time, such as Yellowstone and Grand Canyon. It was generally felt that the Sacramentos and White Mountains were best left as forest lands to be used and enjoyed for wide variety of purposes. The White Mountains were designated as a wilderness in 1964.

Early Years on the Alamo National Forest

Throughout the early 1900s, grazing rather than timber was the dominant industry on the Alamo National Forest. Gifford Pinchot, the first Chief of the Forest Service, initiated a system of grazing fees which met with considerable resistance among local cattlemen and sheepmen. Many stockmen felt that this permit system for use of forest lands could not be enforced; however, by 1911 a sufficient number of court cases had demonstrated that the grazing fee could and would be enforced. Some timber harvesting was carried out by the Forest Service, but a vast majority of the logging was done privately on alienated lands along the western crest of the Sacramentos.

There were initially more ranger districts on the forest than exist today, partially because of the large amount of travel time necessary to cover a district. Most rangers travelled on horseback, and often raised hay or cane near their district offices as feed for their animals. In 1910 there were nine district offices: Las Luz, Fairchild (along the Peñasco), Mayhill, Elk, Weed, Carrissa, Pinon, Sargent Seep and Carson Seep; the latter two located in the Guadalupe Mountains. The Sargent Seep Ranger Station at the north end of the Guadalupe was used only until 1913. After that time, the entire Guadalupe Division was administered from the Carson Seep Ranger Station at the southern end of the district, although a ranger station at Indian Creek, located near the center of the division, was used periodically.

The ranger districts in the Sacramento Division have been reorganized a number of times since their formation based on various administrative needs and boundary changes. In 1910 the Elk and Mayhi 11 districts were combined into the Mayhill Ranger District, and in 1911 the La Luz district and Fairchild district were combined into the La Luz district with the ranger station located at the Fresno site near High Rolls. This district eventually became the Cloudcroft district with headquarters in Cloudcroft. The Mayhill Ranger District has had a particularly complex history. The Alamo Advisor reports that in 1912 the Weed district was absorbed by the Pinon and Mayhill districts with the Pinon one being included in the Mayhill one in 1917- It may have been at this time that the Weed and Mayhill districts were split again because they were later consolidated in 1930. Part of the Weed district was also incorporated into the Peñasco Ranger District at that time. This district was later combined with the Mayhill one around 1952. Then in 1959 the Mayhill district was divided once again into the Weed and Mayhill districts, and the name of the Weed district was changed to Sacramento two years later. These districts remained the same until 1971 when they were consolidated into the present Mayhill district. The Mayhill Ranger Station was located at the mouth of Cherry Canyon in 1911 and this piece of land is still set aside as the Mayhill Administrative Site.

The limited information regarding the Alamo National Forest comes mainly from The Alamo Advisor, a monthly newsletter for forest employees published between 1910 and 1912 (copies of the newsletter for November 1910 - February 1912 are on file at the Supervisor's Office in Alamogordo). The range issues of grazing fees, allotments, permits, and trespasses were the subject of considerable discussion in the newsletter, although information regarding timber sales, free and special uses, claims, boundaries and improvements were included, along with news from district personnel.

A wide variety of news items were contained in The Alamo Advisor. In the December 1910 issue a table listing the minimum stumpage rates covering the classes of timber sold on the Alamo appeared as follows:

Saw Timber		\$3-00 per M ft. BM
Cordwood		
Green		.50 per cord
Dead		.25 per cord
Fence Posts	7 feetlong	.05 each
	(2¢ for each additional foot)	
Poles		.015 per linear foot
Stays		.01 each

Distinctly inferior species such as aspen could be sold at half rates.

As mentioned above, overgrazing was one of the major reasons for establishing the Sacramento and Guadalupe forests. For the 1911 grazing season, the Department of Agriculture authorized grazing of 18,500 head of cattle and horses, 12,000 sheep and goats, and 100 head of hogs for the Alamo forest (including both the Sacramento and Guadalupe divisions). These numbers are considerably less than when the Sacramento National Forest was created and considerably more than today.

In 1910 and 1911 a substantial amount of time was spent posting forest boundaries. The March 1911 Alamo Advisor reports that

Deputy Supervisor Balthis and party are still running out the Eastern Boundary line of the Forest on which work they have been for several weeks. They report that they wore out the soles of their shoes and thought they would have to go bare-footed but fortunately they got hold of some Mexican tortillas and were able to mend their boots.

In September 1911 it was reported that

To day, 118 miles of the exterior boundary of the Sacramento Division has been surveyed and posted, which leaves 26 miles yet unposted. Of this amount, 9 miles borders a territorial township which is fenced, and 2 miles where only an aeroplane or bird could get over the Forest.

Forest improvements such as barns, corrals and ranger stations were also important news. The construction of a new Supervisor's Office in Cloudcroft was quite an accomplishment. In February 1911 It was written that

An office building 30' x 30' is about to be completed. This office is located on Glorietta Street, North Cloudcroft, has

3 rooms; the main office is 20' x 30', a private office 10' x 10', and a record room 10' x 20'. If the Supervisor is not too busy during the next month a negative will be made of the Office Building and appear at an early date on the front cover of the Advi sor.

The Supervisor was apparently not too busy because a picture did appear on the cover of the March issue along with additional description of the office.

The ceiling in this office is 11' !* in height, ceiled through-out with Texas pine, with the exception of the record room. . . . it is expected that we will shortly have a rustic picket fence surrounding the place.

A great deal of time was spent installing a telephone system between the Supervisor's Office and the districts. This system was used primarily during fire seasons to report forest fires. The April 1911 Advi sor reports that

The telephone trunk line from the Supervisor's Office to the Fairchild Ranger Station is completed, and we now have excellent service to Fairchild, Weed and Carrissa Ranger Stations and can get the Pinon Ranger Station over the commercial line. The Supervisor's Office is also in connection with Elk Ranger Station over the Peñasco commercial line.

A lighter note is often found in the newsletter.

Rangers Brubaker, L. E. Anderson, and Parker took leave of absence and visited Cloudcroft for the Fourth. Ask them how it rained and how nice the mud was. (July 1911)

Some things don't change over time.

Early Years on the Lincoln National Forest

Very little information is available regarding the early years on the Lincoln Forest Reserve and National Forest. Like the Alamo, the Lincoln published a newsletter, the Lincoln Newsletter. Unfortunately, only three issues remain in the Forest Service files, those from September, October and December 1911-

The newsletter indicates that grazing was a major concern on the forest; however, overgrazing does not appear to be as extreme as on the Alamo National Forest.

Unless cattlemen restock their ranges during the next four months, which is very improbable, the number of cattle applied at the beginning of the next grazing season will be considerably below the average; however, there is some talk of purchasing cattle from Mexico (September 1911)-

Apparently timber was not a major industry on the forest.

A number of small sales have been made in the past two months. Of course this brings in a little revenue but unless the ranger is very economical with his time they do not pay. These small sales have shown up bad, economically, on the Lincoln. It is a problem to know just how to transact this business to make it pay. (December 1911)

Boundary surveys were carried out throughout the early years on the forest.

On several Forests in the District [Region] where surveys of pastures have been made it was generally found that the old surveys were inaccurate and in a good many instances the new surveys developed the fact that the enclosure contained a larger acreage than the permit called for thus causing considerable loss to the Service. As it is quite possible that the same conditions prevail here, it is felt that a careful check of all pasture permits in force on this Forest is necessary and work will be taken up at the earliest possible date that the weather will permit. (December 1911)

One of the major accomplishments on the Lincoln during 1911 was completion of the Capitan Gap trail which enabled access to the summit of the mountains from both sides. One incident reported during work on this trail was that

The burro which met its death through accident while being used by the Forest Service in constructing the north Capitan Trail was paid for by the Forest Officers in charge of the work. (October 1911)

The Lincoln National Forest was divided into numerous districts during the early 1900s, primarily because it included several different mountain ranges. Because of periodic consolidation and/or reorganization of ranger districts, the exact number and location of these districts over the years is not always c lepr.

In September 1911* eight districts were listed in the Lincoln Newsletter (mailing address are in parentheses):

White Mountain	(Capitán)
Ruidoso	(Glencoe)
Tucson	(Capitan)
North Capitan	(Richardson)
South Capitan	(Lincoln)
North Gallinas	(Progreso)
South Gallinas	(Holloway)
Patos	(White Oaks)

The same newsletter also mentions three other ranger districts; the Mesa, Baca, and Block; these may refer to the White Mountain, South Capitan, and North Capitan districts respectively. In December of 1911 several of the district rangers were furloughed because of lack of funds so each of the four remaining administered two districts (i.e., North and South Gallinas, Patos and North Capitan, Tucson and South Capitan, and White Mountain and Ruidoso).

The present Smokey Bear Ranger District represents the consolidation of at least six ranger districts. The original Ruidoso and Mesa districts were combined as the White Mountain district in 1929 with the district office located at the Mesa site. In 1938 the area encompassed by these districts became the Ruidoso district. The district office was moved to Ruidoso in 1958. Other parts of the Lincoln Division were gradually consolidated and in the mid 1950s the Smokey Bear district, with headquarters in Capitan, was formed from the previously existing districts. This district was then combined with the Ruidoso district in 1973 to form the current Smokey Bear Ranger District.

Civilian Conservation Corps

Few major changes appear to have occurred within the Forest Service during the 1920s. The Great Depression of the 1930s did, however, have a direct impact on the Lincoln National Forest. Because of the depression, President Roosevelt conceived a public work program. This program was designed to conserve the nation's natural resources and to make use of unemployed young men through implementation of projects on federal lands involving forest stand improvement, reforestation, prevention of soil erosion, fire suppression and road construction. His proposed measure was passed by Congress in the spring of 1933, and the Civilian Conservation Corps (CCC) was initiated, a program which was to last until 1942. The Department of Labor selected men between the ages of 17 and 23 for enrollment in the program and the War Department enrolled the men, fed, clothed and transported them. The departments of Agriculture and Interior selected appropriate work projects, and supervised and administered work camps.

By 1935 there were more than 500,000 men enrolled in camps all across the country. Their administrative sites and structures were built to specifications detailed by the Washington Office of the Forest Service. The predominant style of architecture was "rustic;" that is, native materials were used to blend with the environment, and early pioneer and regional building techniques were utilized. This type of architecture is now associated primarily with the CCC era. Administrative sites generally included similar facilities: an office, parking area, flagpole, service court (gas and oil buildings), warehouses (general and fire), shops (machine, blacksmith, etc.), equipment storage facilities, a barn, and a corral.

An administrative site was built at Mayhill and used during the early 1930s. Some of these structures (i.e., office and residence) are still in use today by the Forest Service. Road building, such as the road into Sixteen Springs Canyon from McGee to Walker Canyon and then into Sixteen Springs, was a major activity for men stationed at the Mayhill camp.

Camps were also located on the western side of the Sacramento Mountains, at High Rolls and near La Luz. Enrollees at the High Rolls camp helped improve the West Side Road, and extended it from San Andres Canyon past Hornbuckle Hill. Temporary tent camps were set up along West Side Road during its construction (near San Andres Canyon and Wright Spring). Other work projects in the area included road improvements along the La Luz Canyon road and the construction of rock and log erosion control structures, many of which were placed along West Side Road and in Karr and Fresno canyons.

A Civilian Conservation Corps camp was also established in Dark Canyon on the eastern edge of the Guadalupe Mountains. The land upon which the camp was located is now in private ownership. CCC men stationed here built a road to the fire lookout in Dark Canyon, and then built a lookout tower, and a larger cabin and cistern. Fence building was also an activity in this area.

Enrollees in CCC camps near Capitan and Cedar Creek were involved in a variety of projects. The Mesa barn, used for storage purposes today, was built. Monjeau Lookout, important for fire protection purposes, was also constructed at this time. Improvements to recreational facilities along Cedar Creek were also carried out. The shelter at the Cedar Creek picnic area is another example of the rustic architecture characteristic of CCC structures.

Executive Order

LINCOLN—ALAMO NATIONAL FORESTS

NEW MEXICO

Under authority of the Act of Congress of June 4, 1897 (30 Stat., 11), and upon recommendation of the Secretary of Agriculture, it is hereby ordered that on after July 1, 1917, all the lands included within the boundaries of the Alamo National Forest, New Mexico, as fixed and defined by proclamation of April 3, 1916, (No. 1330), be transferred to and administered as a part of the Lincoln National Forest, New Mexico.

It is intended by this Executive Order, for economy of administration, to merge into one National Forest, thereafter to be known as the Lincoln National Forest, all the lands which on July 1, 1917, are within the Alamo and the Lincoln National Forests, and the boundaries of the Lincoln National Forest, as they exist at that date, are hereby modified accordingly.

This Executive Order is not intended to add to the Lincoln National Forest any lands which on July 1, 1917, are not embraced within the Alamo National Forest, nor to release from reservation for National Forest purposes any lands at that date within the Alamo National Forest.

WOODROW WILSON

THE WHITE HOUSE,

6 June, 1917.

[No. 2633.I]

A Summary Description of The Historical Settlement of Marcia

Patricia M. Spoerl

Introduction

The village of Marcia, or Camp Marcia, was an important settlement in the Sacramento Mountains during the railroad era. It is located along the Rio Peñasco (see frontispiece) approximately 9 miles south of Cloudcroft within the boundaries of the Lincoln National Forest. The village, occupied between 1919 and 1922, was the mountain headquarters and locomotive maintenance center for lumber companies operating along the western edge of the Sacramento Mountains. Mapping of the remains of this village and the following summary description of the village has been prepared because Forest Service timber projects are proposed in the vicinity of this historical site.

Information for the following discussions of Marcia was gained partially from a manuscript entitled, "Marcia, New Mexico," prepared by members of Geography 98, New Mexico State University-Alamogordo, taught by Dr. Karl Wuersching in 1976. Their report is based upon historical documents and interviews with people who had lived in Marcia.

Camp Marcia

The history of Camp Marcia is interwoven with the growth and development of railroad and logging activities in the mountains of south-central New Mexico. Construction of the El Paso and Northeastern Railroad from El Paso to Alamogordo and more northern points began in 1897. The need for timber from the mountains led to the construction of the so-called "Cloud Climbing Railroad" into the Sacramento Mountains. This railroad, from Alamogordo to Cloudcroft was completed in 1899. From Cloudcroft the main railroad line continued southward to Russia Station. During the following years numerous spur lines were added along the canyon bottoms and ridges of this high timber country in order to gain access to valuable timber for the sawmills located in the desert below. Because of this railroad expansion Marcia was founded in 1919 as a maintenance center for steam engines, and for the purpose of harvesting timber for the Alamogordo Lumber Company.

The camp site was selected because of abundant water, both from the Rio Peñasco, and from springs which feed into it, and because of the surrounding stands of mixed conifer which could be harvested. Previous groups of people had also utilized this area, perhaps because of its plentiful supply

Prepared October 1979

A Summary Description of The Historical
Settlement of Marcia

of water, and because the Peñasco Valley provided access across the Sacramento Mountains and into the Pecos Valley. A limited amount of prehistoric cultural material left by these people is evident today at Marcia, and additional evidence may have been buried or disturbed by activities at the village. Historical records indicate that the Apaches also camped in this area during the 1800s.

Marcia was established through an agreement between the Alamogordo Lumber Company and the Alamogordo and Sacramento Mountain Railroad Company. The railroad company was responsible for building and maintaining the railroad lines in the area while the lumber company maintained the locomotives and carried out the logging activities. People who were affiliated with the railroad logging companies lived there along with local farmers and ranchers. The village contained an average population of about 75, with 25 to 30 families living there at any one time.

The lumber company owned many of the structures in camp including the commissary, the company barn and a repair shop for the maintenance of railroad engines. The remains of this repair shop are evident today, especially the work pit dug into the ground to facilitate repair work under engines (Figure 1). The camp had a schoolhouse, a one-room wooden structure which also served as a church. The bases of two lumber company water tanks are evident today (Figure 2). These tanks were fed by a spring in nearby Shop Canyon, while the community water faucet was fed from a separate spring on the western edge of camp (Figure 3).

A cemetery is located at the eastern end of the camp, and is now in private ownership. The geography class report provides a listing of the gravestones in the cemetery. Several unmarked graves are present, and 12 gravestones contain the names and ages of those buried. It is interesting to note that nine of the twelve graves contain individuals who were buried between 1898 and 1911, prior to the establishment of Marcia. Two of the three graves, marked between 1924 and 1930, are infants. These gravestones indicate that the cemetery was used mainly by early homesteaders in the area than by residents of Marcia.

Marcia existed as a community for only a little over 20 years. By the 1940s trucks had become a more efficient means of transporting lumber than the railroad and the railroad became obsolete as a means of moving logs. Without the railroad, the facilities and railroad employees at Marcia were no longer necessary, and by the end of 1942, the camp was deserted. In 1947, an employee of the nearby Cross Heart Ranch burned the structures remaining in the village because they were considered a hazard to livestock.

Prepared October 1979



Figure 1. Pit for engine repair
(No. 15 on Figure 3) ·



Figure 2.
Possible Oil and water
tank platform. Map
reference No. 16 on
Figure 3*

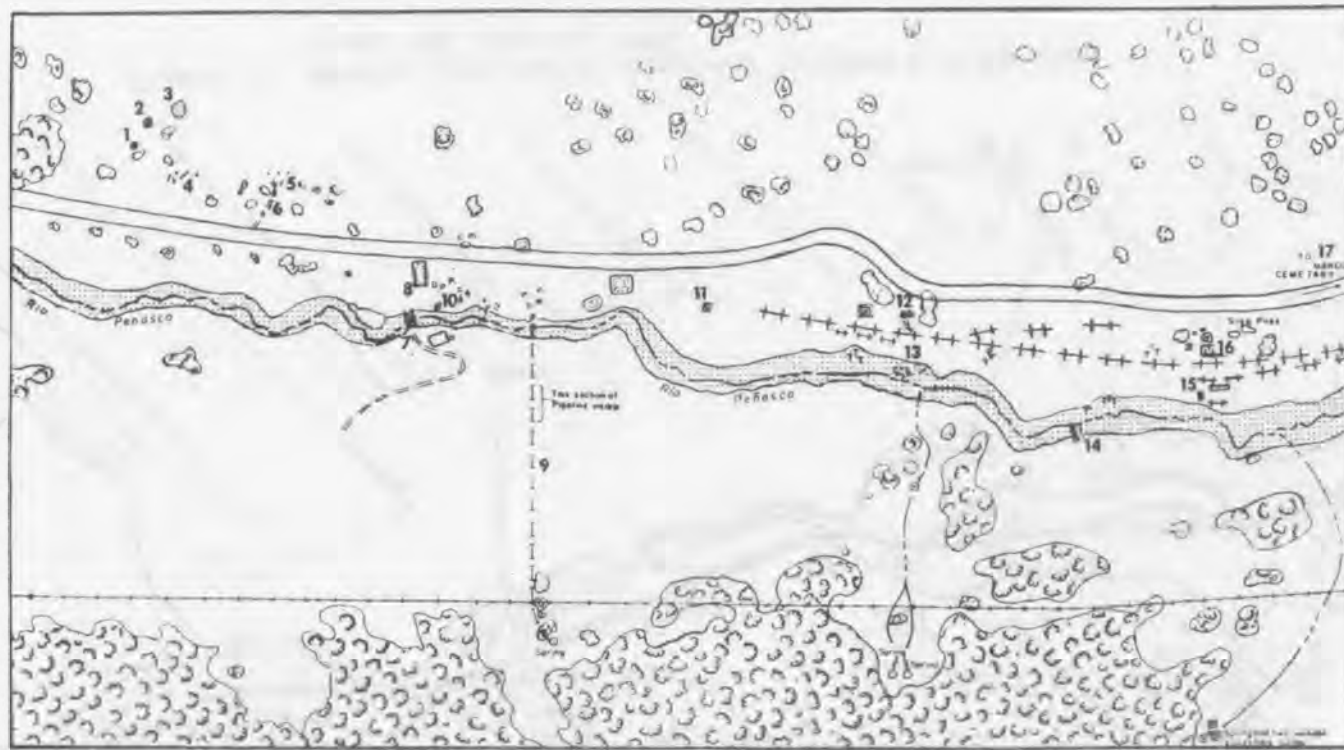
Today, there is very little evidence left of Marcia. Some other features which are visible are shown in Figures 5 and 6. Some of these structures cannot be correlated directly with those shown on the map prepared by the geography students (Figure **) . Remains which are still well-defined include the bridge over the Rio Peñasco, railroad tracks at the eastern edge of town, a log structure presumably used as a base for oil and water tanks, and several garden plots. The remains of additional structures and features are evident, but cannot definitely be designated as a specific structure within the settlement.

The majority of the structures apparently were built directly on the surface. In some cases, flat stones, which may have served as cornerstones for houses, are present in areas where homes once stood. A large depression, supposedly evidence of the commissary's root cellar, is one of the few indications of subsurface construction activities.

Recommendations

The mapping of the Marcia area, photographing of visible features, and the geography class's report based on interviews and written records, has provided sufficient documentation of this historic settlement. Marcia played a vital role in the settlement of the Sacramento Mountains, and was an important part of the logging industry in the first part of this century. Marcia, as an historic site, however, is not considered eligible for nomination to the National Register of Historic Places. No structures remain today, only foundations and scattered remnants of structures. This document and that of geography class **98, are considered sufficient for the preservation of information relevant to this settlement.

-ET-
ON



LEGEND

1. Small rectangular stone foundation - i
2. Small rectangular stone foundation/Trash
3. Cellar
4. Possible fence posts
5. Remains of corral with gate
6. Possible roadway.
7. Bridge and roadway (Bridge islet) & Garden plots.
8. Underground pipeline - crosses river to come out in a faucet
9. Stone foundation-platform type-B's?
10. Stone foundation-9* 10-
11. Platform type structure
12. Wooden staircase type structure
13. Remains of probable footbridge
14. Pit and bellows stakes.
15. Wooden platform
16. Marcia cemetery (approx 600' from No 16)

SYMBOLS

- | | | | |
|-------|-----------------------|--|------------------|
| ••••• | Fence Posts | | Trees |
| —•— | Pipe | | Steep River Bank |
| ○ | Drain | | Main Road |
| ††† | Trash | | Major Drolnoge |
| | Scattered Wood | | Fence |
| | Depression | | Pipeline |
| | Garden Plot | | |
| | Stone foundation | | |
| —+—+— | Visible Railroad ties | | |
| ○ | Spring | | |
- n/re
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DAVI OIL LIO



Figure 3* Camp Marcia site as mapped in 1979 by USDA Forest Service archeologists.

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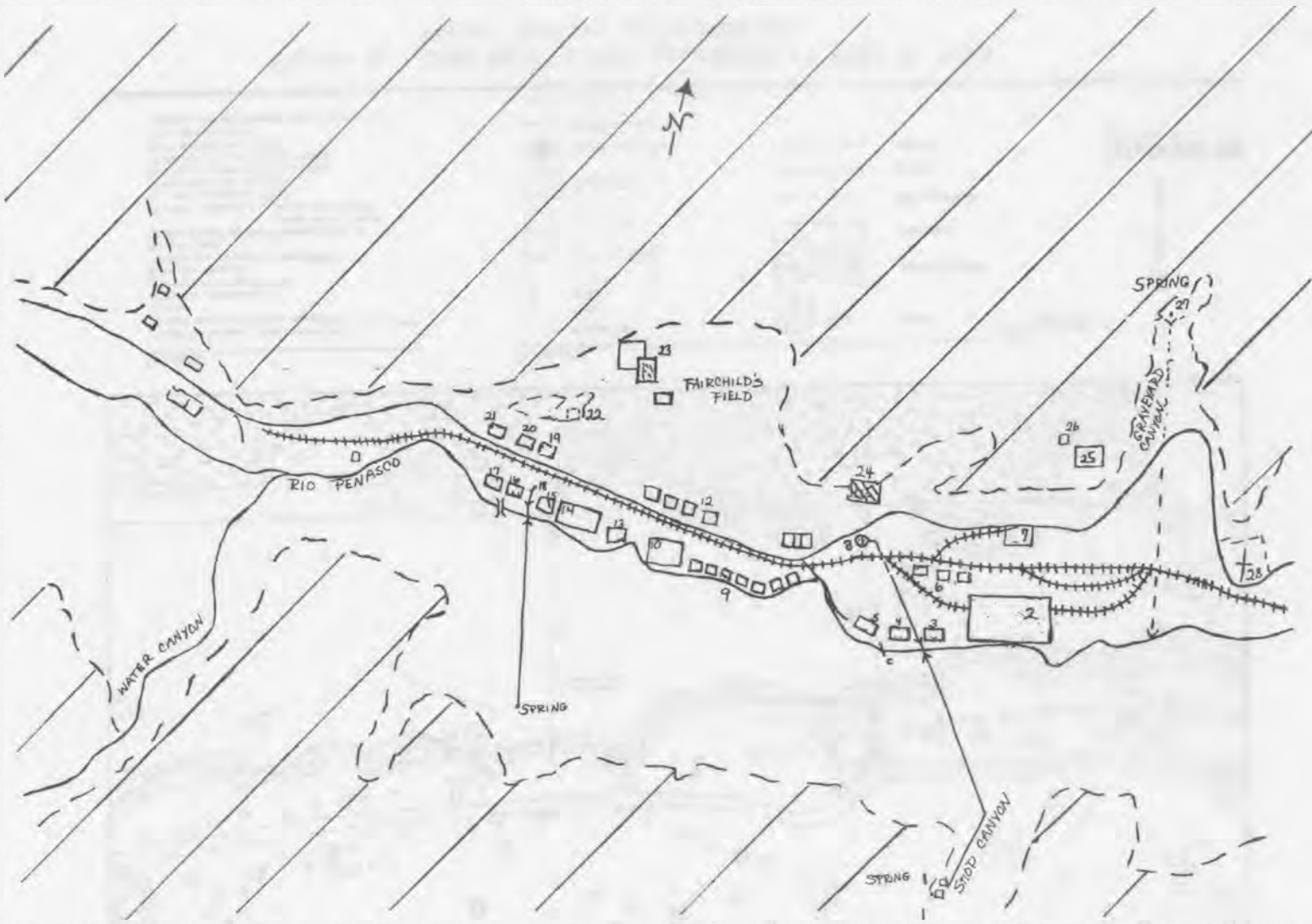


Figure h. Marcia, when fully occupied, as mapped by Geology Class b38, NMSU-A, ^7b.

KEY TO FIGURE A
(From Geography <198, NMSU-1, 197*0

1. Shop Canyon spring tanks. Used to store water for railroad water tank. (8) 15' x 18' (x 10')
2. RR roundhouse. Used to service steam engines at night. 100' x 175'
3. Ernest Rogers' house. 30' x 15'
4. James Goslin's house. 30' x 15'
- 5- Dr. Shields' house. 30' x 15'
6. Section crew houses. Carlisle-Stewart-Hughes. 15' x 24'
7. Two tier (water and oil) tanks. Used for steam engines. 20' x 15' (x 15')
8. Galvanized water tank for RR. 16' round x 15'
9. Section crew houses. Smaller houses for "wet laborers." 12' x 18'
10. Community barn. No charge. 50' x 75'
11. Messhall. 35' x 20'
12. ¹Loggers and shop workers houses. 15* x 24'
13. Sandoval's house. Worked In the commissary. 30' x 15'
14. Commissary. Company store. 50' x 25'
- 15- Frank Carr, Sr., house. Company superintendent. 30' x 15*
16. Avery Neal's house. Scaler, 30' x 15'
17. Mrs. Morris' house. School teacher. 15' x 24'
18. Community spring. Piped Into camp.
19. P. B. Hendricks' house. Company bookkeeper. 30' x 15'
20. Hash's house. Engineer. 15' x 24'
21. Nelson's house. Engineer. 15' x 24'
22. Commissary's root cellar.
23. Samuel Fairchild's house and barn.
24. Old school barn. (1920-28) 20' x 35'
25. New school house. (1929-48) 25' x 35'
26. Teachridge. School teacher's house. 15' x 20'
- 27* Stock spring. Piped under ground to Rio Peñasco so as not to erode.
28. Cemetery.



Figure 5-
Platform for oil and
water storage tanks
(No. 16).



Figure 6.
Bridge over Rio
Peñasco (No. 7)*

A History of Mescalero Apache - U.S. Army Encounters in Dog Canyon, New Mexico: 1849 - 1880

Julio L. Betancourt

During the latter half of the 19th century, the blue mass of the Sacramentos entered a chapter in the chronicles of Apache warfare. This southernmost part of New Mexico is rugged country, full of legend and landscape. Theater of the Lincoln County War, the land has seen its share of protagonists and antagonists, the Billy the Kids and Pat Garrets, for better or for worse, the fabric of the gun-toting West.

At dusk, the jagged profile of the Organs, interrupted only at San Agustín Pass, pierces the setting sun. In the foreground, the barchan dunes of the White Sands, scoops of gypsum from the bottom of Pleistocene Lake Lucero, continue their migratory trek across the Tularosa Basin. The Malpais, a recent and cavernous lava flow, darkens the horizon to the north. The snowed peak of Sierra Blanca looms majestically over this desert landscape. At 12,000 feet in elevation, it was our southernmost glacier during the last Ice Age. On the east flank of the Basin, the Organs are mirrored by the eroded fault scarp of the Sacramentos, a layered cake of carbonaceous sediments buried at sea. Midway along the fault scarp is Dog Canyon, one of several recesses that interrupt the escarpment and donate precious water to an otherwise parched expanse of creosote and mesquite (Figure 1). At Dog Canyon, rainwater seeps through fractures in the limestone and flows along bedding planes to maintain perennial flow and lush vegetation in the bottom of the gorge. Not so long ago, Mescalero Apache availed themselves of this well-watered gateway to the forested Sacramentos, often with the U. S. Army at their heels. What follows is simply a documentary of their encounters.

Subsequent to initial exploration in the 16th century, Spanish colonial efforts extended northward into the provinces of Nueva Viscaya, Sonora, Coahuila and New Mexico. This rapid expansion was characterized by continual warfare with nomadic and semi-nomadic Indians, of which the Apache proved the most troublesome. Though the name Apache finds frequent mention in the archives of this early period, it seems unwarranted to assume that all references allude to Athapascan-speaking groups. In fact, the Apache label is on occasion applied to any northern Indian in the Spanish Borderlands (Griffen 1969:71). The same holds true of the various divisions of the Apache; they are simply distinctions based on geographical location and cannot be expected to reflect rigid group boundaries. Adding to the confusion, Athapascan migration into the area was a fairly recent phenomenon.

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Figure 1. The mouth of Dog Canyon, **one of several breaks along the abrupt escarpment of the Sacramento Mountains.**

with intrusive Apache groups absorbing large segments of the original population. Today, division of the Apache into Eastern and Western groups is based on differences in social structure (Goodwin 1969)-¹

The term Mescalero Apache generally refers to that Eastern Apache group occupying the region between the Rio Grande and Pecos River south of the 3rd parallel and roughly north of the International border (Schroeder 1973:121). Prior to the mid-1700s, groups referred to as Queredlos, Vaqueros, Apache del Perrillo, Faraones, Natages and Mescalero were reported in this area. After 1750, only the Natage appears along with that of Mescalero, although a later distinction was made between the Agua Nueva and the Mescalero.

Even though several expeditions noted the presence of Apache in the Sierra Blanca, Sierra Obscura and Organ Mountains throughout the 17th and early 18th centuries, a systematic military campaign was not conducted in the area until the 1770s. Spanish advance from central Mexico had been disorganized and spasmodic, with isolated settlements straddled across inhospitable terrain. The line of presidios which had been organized to protect these settlements was most ineffective. In 1766, the Spanish Crown sent the Marques de Rubi to reconnoiter the 2,000 mile border and to make recommendations towards improving the presidial line. Rubi's report, resulting from nearly 2 years of surveying the Interior Provinces, was approved in 1771 (Moore and Beene 1971:266-267). That same year, Lieutenant Hugo O'Conor prepared to attack Apaches north of the Rio Grande. In November he campaigned in the Guadalupe and Organ Mountains against the Mescalero and Natage, who had been raiding north into New Mexico and south into Nueva Viscaya. There the troops surprised a large ranchería, killed 1*5 Apaches and wounded many more before the survivors fled (John 1975:446).

O'Conor's initial success inspired a concerted attack in southern New Mexico and far west Texas by spring of 1775. He organized a force of 1,500 men and officers, a substantial army for a remote frontier area of the 18th century (Christiansen 1960). The massive offensive promised to entrap the Apache with two large detachments in the mountains west of the Rio Grande. Successful in this venture, O'Conor was met near Doña Ana by Captain Bellido of San Elizario and the lieutenant governor of El Paso who informed him of Apaches roaming the Sacramento Mountains. O'Conor marched there and routed the enemy. O'Conor's diary mentions an Ojo del Perro (Dog Spring), but this refers instead to a locale near the Chihuahua-New Mexico border (O'Conor 1776).

¹The major difference is that Western groups, such as the Tonto of Cibecue and White Mountain Apache (all in Arizona), practiced subsistence farming. Although not definitely established, it is thought that agricultural life was responsible for the development of the clan in Western groups, which is conspicuously absent in the Eastern groups.

In the following year, Spanish forces struck again, driving the Apache into the Sacramento Mountains and Sierra Blanca range and east towards the headwaters of the Colorado River (Texas). At the latter locale, the Mescalero suffered an ill fate at the hands of marauding Comanches who slaughtered close to 300 families (Thomas 1932:6A). During this second campaign, O'Conor fell ill. Also plagued with political woes, he was ordered to Mexico City, where he was stripped of rank and ordered to write a complete report of his activities on the northern frontier (Moore and Beene 1971:269). O'Conor's personal demise marked the restoration of Apache dominance in the area, with substantial military campaigns not resuming until after the Mexican War. During this interlude, the Mescalero were inflicted greater casualties by the far-ranging Comanche than by Spanish or Mexican forces.

In the 2 centuries preceding the Gadsden Treaty, the Mescalero had cultivated little sympathy for Mexican settlers who sought to make their lives permanent on the northern frontier. By the mid-19th century, a new group threatened the free rein of the Apache. The way for Anglo settlement of the area was being paved by military reconnaissances and the establishment of a line of forts within Apache territory. By 1847, American soldiers had pushed southward to El Paso. In 1849, gold seekers bound for California departed from Texas coast ports, heading west along the Rio Grande in supply-laden wagons. For the Apache, a new source of plunder had arrived.

Dog Canyon first comes to light in 1849. On the 5th of July, Brevet Major Steen (First Dragoons), Lieutenant G. H. Thomas (Third Artillery) and 30 men of Company H (Second Dragoons) were sent after Apache who had killed several Mexicans near Placer Mines, some 40 miles south of Santa Fe. On the 11th, Steen encountered one of two Mexicans who survived the encounter. Near Dog Canyon, the party overtook the enemy and the ensuing battle left five Indians and three dragoons dead. From the canyon, the party headed for Doña Ana, then garrisoned by Company H of the First Dragoons, Lieutenant D. B. Sackett in command. At San Agustín Springs (on the west side of the Organ Mountains), they found an old ox abandoned by some Mexican freighters, which was promptly killed and eaten (Rodenbough 1975:163-164, Thomas 1971:33, and Steen 1849)-

Later that year, U. S. Topographical Engineers reconnoitered southern New Mexico for possible connections with the prospective wagon route from San Antonio to El Paso. In early September, Captain Marcy crossed San Agustín Pass exploring alternate routes joining Fort Smith and Santa Fe. Circumventing the Sacramentos, the party headed southeast for the Hueco Mountains, where they had been told was a fine supply of water. Though Marcy says nothing of Dog Canyon, he does note that the Apache inhabiting the Organ Mountains are led by an "ambitious chieftain by the name of Gomez, who has received a Spanish education in Mexico . . ." (Marcy 1850:198). Two weeks

later, Lieutenant W. F. Smith left El Paso (Fort Bliss had been established earlier that year) to survey the Sacramentos. From San Nicolas Spring, just north of San Agustín Pass, Smith . . . followed a large Indian trail to Cañon del Perro . . . this canon furnishes a fine supply of water, but it is so narrow and rough that the Indian trail, instead of following it, leads directly over the mountain" (Smith 1950). He continued north along the Sacramento escarpment, venturing in and out of major canyons and trekking mostly on well-traveled Indian trails. The escarpment south of Dog Canyon was not explored due to the absence of springs in that area (Figure 2).

In August 1853, a Mescalero band raided a California emigrant train near Van Horn, on the San Antonio road, driving off about 150 head of stock. Ten of the emigrants were ambushed while following the trail into Dog Canyon (Bender 197** : 113*11*0 · From headquarters in Santa Fe, General Garland contemplated a punitive expedition with the added purpose of locating a military post in the heart of Mescalero country (Thomas 197** : 3** "35) · In January 185**, Lieutenant D. T. Chandler led a force of 130 men into the White and Sacramento Mountains and along the Rio Bonito. In the latter part of the journey, they followed the Sacramento escarpment to the south, noting that various trails led west across the Tularosa Basin into Dog Canyon. In the canyon, Chandler found several abandoned lodges (Chandler 185*0-

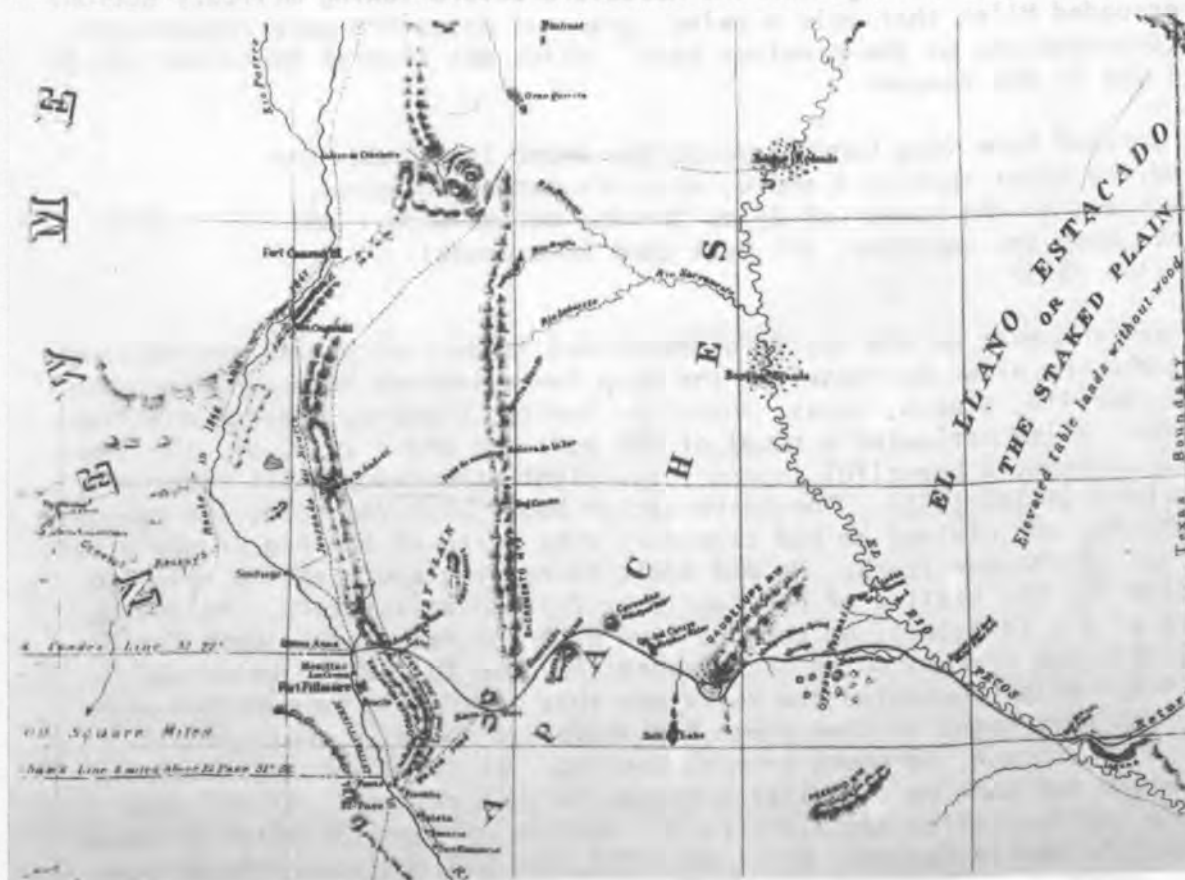


Figure 2. Captain R.B. Marcy's map of 1852 showing routes of reconnaissance in Texas and New Mexico. Map copy provided by the State Records Center and Archives, Santa Fe, New Mexico.

Chandler's venture was the first full-scale invasion of Mescalero country since O'Conor. The promise of a military post in the Mescalero heartland was the first stimulus for white settlement. In 1855, the first appeal for a public survey in the Territory was a request of actual settlers in the confluence areas of the Rios Bonito and Ruidoso (Westphall 1965:16). Garland sent out a detachment that winter under Captain R. S. Ewell to reconnoiter the Pecos and its tributaries in the Capitans and Sacramentos. During this brief campaign, the detachment was badly routed by the Mescalero along the upper Peñasco. Several soldiers, including Captain Henry Whiting Stanton, lost their lives. The fort, named after Stanton, was finally established in May 1855 (Opler and Opler 1950:7).

Just a month prior, Colonel Dixon S. Miles and troops from Fort Filmore had carried out another expedition into the area. Miles was considered by many the antithesis of Garland, who had achieved the reputation of a cruel and exacting general with little understanding of the Indian problem. Miles had managed to gain the Mescalero's confidence in previous encounters, but feared this confidence would dwindle at the sight of 300 troops.

Miles arrived on the Rio Bonito in April and was met by Indian Agent Michael Steck who advised conferring with the Mescalero before taking military action. Steck persuaded Miles that only a select group of Mescalero were responsible for the depredations of the previous year. Miles met several Mescalero chiefs on April 3rd in Dog Canyon:

I arrived here (Dog Canyon) yesterday about 1 o'clock--the Indians after raising a smoke, which Francisco answered, came out to the number of 25 or 30--and met me when I got into camp ten captains, all here came into council
(Miles 1855)

Sixteen names appear on the roster of Mescalero leaders attending the meeting. Included are the elder Barranquito, the Agua Nueva leaders Mateo and Venancio, Josefino, Barilla, Blanco, Copas, Josecita, Huelta, Llanero, Capitán and Pluma (Pee 1855) - Miles estimated a total of 400 warriors and " . . . all the women and children--what a beautiful chance for a fight--the troops will never get such another" (Miles 1855). The conversation began with Venancio, the youngest of the chiefs, who claimed he had ceased raiding north of the Rio Grande after the arrival of the Americans. He did admit to raiding south of the river in retaliation for the killing of his family by Chihuahuan settlers. Following the death of his relatives, he came to live with the Mescalero. Each chief explained his own circumstances and pleaded the case for better relations with whites. Miles counseled the Mescalero that they would fare better with the American government if they chose one leader to speak in their behalf. At the moment, though, he could promise nothing. At issue was that Venancio had a Mexican boy captive and Miles arranged for his release. Miles' good faith temporarily stalled Mescalero raids, opening up some 150 miles of wagon road (Santa Fe Weekly Gazette, April 28, 1855, and Daily Missouri Republican, April 27, 1855).

The origin of the Agua Nueva band is something of an enigma. Historical reference to the Agua Nueva is unique in suggesting Mescalero social units larger than the leader's group (i.e., Marcos' band, Gomez's band, etc.). Basehart studied the problem through Mescalero informants in the 1950s and tested their replies against the plethora of ethnohistorical data (Basehart 197*0-² Primarily, Basehart compared the documented movement of particular leaders with the informant's association between leader and territory. For the Agua Nueva, movements can be traced with some accuracy because "... at least 3/4 of the robberies committed by Mescalero have been committed by Agua Nueva Apaches who range on both sides of the Rio Grande between El Paso and Presidio del Norte" (Steck 1956a). In 1857, Steck reported that:

The Mescaleros who have been committing depredations belong to the dept, of Texas . . . live in the southern portion of the Guadalupe and in the Limpia Mts. from there into the mts. between the city of Chihuahua 6 the Rio Grande (Norteños and Agua Nuevas). (Steck 1857)

Again in 1859, he emphasized that:

The Agua Nuevas have lived in the vicinity of Dog Canyon for more than a year, and nearly all if not all the thefts have been traced in that direction. And I am of further opinion that there are now Comanches with them in the Guadalupe Mts. (Steck 1859a)

Basehart's informants revealed that a traditionally-known group, the tsebekinende or "Rock House People," engaged in regular seasonal movements from a permanent base in Chihuahua to the Sacramento range, a pattern overlapping with the historically-documented wanderings of the Agua Nueva. According to informants, tsebekinende and Mescalero intermarried frequently, but were not considered Mescalero. This may be partly consistent with the known hostility between the Agua Nueva and other Mescalero groups (Reeve 1858).

Informants differed as to whether affinities were more with the Chiricahuas than with the Mescalero. From Steck's letters, it is known that the Agua Nueva had close ties with the Mimbres division of the Chiricahua (Steck 1859a). On the other hand, Venancio's father-in-law was the Mescalero chief Marcos (Reeve 1858). Basehart thinks that the correlation of the Agua Nueva

²See, in particular, pp. 130-45-

with his informants' tsebekinende group is reasonable, adding that the resulting group was Mescalero. A second alternative agrees with the correlation, but argues that the group was an independent band linked to both the Mescalero and the Chiricahua. Since the significant kinship unit of the Mescalero is the matrilineal extended family, it is plausible that a non-Mescalero like Venancio could play a leading role in a band mainly composed of local Mescalero.

By the late 1850s Dog Canyon had become a popular haunt of the Agua Nueva, but territorial boundaries were mostly nonexistent. In April 1856, Captain J. Van Horne reported that Barranquito, one of the few peaceful Mescalero chiefs, visited Fort Stanton complaining there was no game in Dog Canyon (Thomas 197[^]:28). In the late summer, Barranquito was found dead in the Sierra Oscura. Steck convinced his son Cadete and 35 heads of families to farm at the mouth of Alamo Canyon. The Agua Nueva band, under Mateo and Venancio, continued to operate out of Dog Canyon and refused to join the Mescalero sodbusters (Reeve 1938:261).

In July 1858, a party of Mescaleros crossed into Texas and raided Colonel James B. Leach's Pacific Wagon Road crew (the proposed road would connect El Paso and Fort Yuma) about 5 miles north of Fort Bliss. Lieutenant William H. Jackson, with a party of 20 mounted rifles, followed hot in pursuit. As usual, the itinerary included Soledad, San Agustín and San Nicolas Springs, and the end of the trail led to an Indian camp perched above Dog Canyon. Jackson persuaded chiefs Venancio and Manuelito to return several mules and a horse and deliver the balance of the stock to Fort Stanton (Jackson 1858). In the following month, the Agua Nueva raided near Fort Bliss and again Jackson trailed them to the Sacramentos, opposite Cottonwood Springs (along Tularosa Creek) (Bender 197[^]:152).

By the end of the year, the Agua Nueva and other hostile bands were raiding at will throughout southern New Mexico. The Mesilla Guard, a militia made up of concerned citizens, was already taking charge of a situation they felt was badly neglected by the U. S. Army (Sonnichsen 1958:86-87)- This complicated the well-intentioned efforts of Agent Steck. The difficulty in identifying the culprits of particular raids was compounded by a militia hellbent on seeking revenge. On the 29th of December, one Mexican was killed and stock stolen opposite Fronteras on the west side of the Rio Grande. Steck lamented that,

What part, if any, the Mescalero and Agua Nuevas had had in these depredations, will be difficult, if not impossible to find out. All there seems to be against them is, that the trail appeared to be heading towards Dog Canyon. I am inclined to believe that the Indians come from Marcos' band who are living in the Guadalupe Mountains. (Reeve 1859a)

In January 1859, nine horses were stolen from the mail station at Cornudas, east of Fort Bliss. The trails led in the direction of the White Mountains, but none were followed far enough to identify the guilty party (Reeve 1859a). When asked about these and other recent raids, Cadete blamed Mateo and Venancio, "who lived most of the time about Dog Canyon" (Reeve 1859b).

Later that month, Mateo and Venancio struck again, stealing some cattle and three mules from San Elizario. Second Lieutenant H. M. Lazelle, 8th United States Infantry, was ordered, by the Commanding Officer at Fort Bliss to track the Agua Nueva and recover the stolen animals. Three days had passed since the incident so Lazelle prepared his troops for a long pursuit (Daily Missouri Republican, March 3, 1859). Aided by a Mexican scout from San Elizario, the party set out on the 1st of February. The trail led 30 miles west and veered south for another 20 miles, finally assuming a northeasterly direction towards the southern point of the Cornudas Mountains. The chase continued on for about 100 miles to a small spring south of the Sacramentos. There Lazelle noted that others had joined the Apaches.

Lazelle's party arrived at Dog Canyon about noon on the 7th day, following the trail into the canyon:

We followed the trail about 2i miles into the canon by a narrow winding path with skirts the bases of high and almost inaccessible mountains whose slopes traverse each other, perfectly obscuring our view for a distance of more than one hundred yards at a time; at frequent intervals it crossed a watery and rocky ravine and its whole nature was such as to prevent more than one person passing at a time; it finally opens into a broad space . . . interspersed with deep rocky ravines and steep hills of various heights with ragged stony sides, some of them are partially covered with a dwarfish growth of scrubby evergreens. As we neared this open space . . . our spies in advance reported that we had been discovered, and that the Indians were coming down to us. On arriving at a little plateau in the opening, the Indians numbering about 30 warriors, armed, painted and stripped, raised a white flag and insisted upon a talk, asking what we wanted. Without displaying a flag, we replied . . . that we had come there for our cattle . . . We told them that we had followed the trail there and asked them to explain it. They replied . . . that three bad men had driven oxen into their canon and had killed two there, but then they had quarreled with them and made them drive his other two off, that their chief would be down soon to talk with me. (Crimmins n.d. and Lazelle 1859)

Lazelle warned the Indians that he had not come to talk, but to follow the trail, even if it meant going through their camp. He moved on for about half a mile with the Indians slowly retreating. The Apaches sounded a second warning, but Lazelle advanced to within 100 yards of the Indian camp. A new explanation was offered that the cattle were killed and the trail long obliterated. The scout Garcia was taken to the spot where the cattle were killed: "A large number of temporary and very recently erected lodges constructed of boughs and leaves in this immediate vicinity were . . . proof enough that more than three Indians had been engaged in the transaction. Their women and children had been removed from their camp and nothing could be found in it." Completely surrounded, Lazelle decided to retreat 2 miles down the canyon and await a better opportunity. Camp was fixed for the night.

Before dawn, Lazelle resolved to attack. Taking 22 men, he moved stealthily up the canyon leaving the balance of the party to guard the animals. The Indians anticipated the approach and moved further up the canyon. An ambush materialized with the Indians, now in great numbers, attacking the flanks of the single file of soldiers (Figure 3). Heavy losses were suffered and a hasty retreat was made down the canyon. The Indians pursued to the mouth of the canyon, inflicting even more damage. Lazelle, himself wounded, immediately sent an envoy to Fort Fillmore to anticipate the wounded and recruit reinforcements. At San Agustín Springs, he was met by Brevet Major Gordon from Fillmore, bringing assistance to the wounded. Lazelle's report to Jackson concluded that:

There is but little doubt, but that during the night of our entrance into the canon, the Indians received a considerable accession to their strength, as their number much exceeded that of the previous day and could not have been painted, armed and stripped for the fight. I regret exceedingly to state my unusually severe loss, having had three killed and seven wounded.

Should we trust Lazelle's account, it suggests that several Mescalero bands joined for defense. In 1859, Venancio and Mateo's group included 15 men and boys and 32 women and children (Steck 1859b). Lazelle encountered a larger force, certainly numbering more than 30 warriors and indicating solidarity at a higher level than the simple band. Tribal-wide defensive measures are suggested for a least one other instance (Steck 1856b) and Basehart cites other occasions in which tribal unity involved concerted action against non-Indian outsiders (Basehart 197**:¹A1). Tribal solidarity was likely a function of the Mescalero subsistence pattern, whereby dependence upon a broad range of resource areas dictated that all have equal access to hunting and gathering lands (Ibid:¹3). An elaborate network of interpersonal (through kinship or communal hunting trips) and interband relations was a consequence of this widespread mobility, and could be relied on for defensive purposes.



Figure 3. Lazelle apparently followed the bottom of Dog Canyon and ascended to this bench where the Apache resisted from a position along the small rocky ridge in the foreground.

Following the skirmish with Lazelle, Venancio and Mateo pleaded their innocence to Steck. They blamed José de la Luz and Manuelito. Ironically, Manuelito and Venancio a few months later joined forces to raid Leach's road crew (Steck 1859b).

The skirmish with Lazelle convinced J. L. Collins, Superintendent of Indian Affairs that the most effective way to deal with the Indians was to remove them to a reservation, where they would be out of contact with

white settlers. An important strategy was to persuade the Mescalero to surrender their nomadic ways and embrace the sedentary confines of agriculture. Collins sent Special Agent Archuleta in the spring of 1860 to assist Steck in establishing an agricultural village on the Peñasco River. Steck was instructed to recruit the Dog Canyon hostiles for this endeavor (Reeve 1938:261). Archuleta's stay was brief and he was soon replaced by Thomas Claiborne, who promptly distributed rations to the 500 Apache who had been visiting Fort Stanton regularly.

Apparently, this new show of friendship did not impress the Agua Nueva. Early in February 1861, the band attacked a Mexican wagon train. Captain Carter L. Stevenson, in command at Fort Stanton, dispatched Claiborne with 20 men to follow the trail. A group of Mexican settlers also organized to pursue the raiders into the Organ Mountains and Dog Canyon (Bender 197**:
165-166).

At the opening of the Civil War, the fate of the Mescalero seemed doomed. An agreement between various bands and Colonel G. B. Crittenden was reached in May 1861 following successful expeditions into Mescalero country from Forts Stanton, Fillmore and Union. The agreements made some provisions for hunting privileges in settled areas in exchange for peace (Ibid:167-168). However, rations were discontinued at the outbreak of the Civil War and abandonment of Fort Stanton in August. Raiding by the Mescalero resumed. Forts Stanton and Fillmore were briefly occupied by the Texan Column under General George Sibley, but by September the Confederates were driven from the territory by General Canby. Union forces reoccupied military posts and federal authority was re-established. Meanwhile, the reservation policy had regained popularity, interrupted only briefly by the outbreak of the Civil War and reinforced by the mandate to establish a new order.

Colonel Kit Carson was sent to Fort Stanton both to reoccupy the post and to subdue the Mescalero. A second arm of this expedition, headed by Captain William McCleave with two companies of California troops, was to proceed through Dog Canyon moving east and south into the old Mescalero haunts. A third regiment, commanded by Captain Roberts, would march from Franklin to Hueco Tanks on the New Mexico-Texas border, and then northwest into the Sacramento and Organ Mountains. Roberts' forces included Gregorio Garcia of San Elizario, the same scout who accompanied Lazelle in the 1859 skirmish (Gibson 1965:24-25). In November 1862, McCleave encountered about 500 Mescaleros, with 100 warriors, in Dog Canyon and completely routed them.

(McCleave's figures are probably exaggerated.) Those Mescalero able to escape hurried to Fort Stanton, where a sympathetic Kit Carson advised them to go to Santa Fe at once and sue for peace (Sabin 1919:414-415). Cadete, acting on behalf of the beleaguered Mescalero* spoke the following at Santa Fe:

You are stronger than we. We have fought you so long as we had rifles and powder; but your weapons are better than ours. Give us weapons and turn us loose and we will fight you again;

but we are worn out; and we have no more heart; we have no provisions, no means to live; your troops are everywhere; our springs and waterholes are either occupied or overlooked by your young men. You have driven us from our last and best stronghold, and we have no more heart. Do with us as may seem good to you, but do not forget that we are men and braves. (Sonnichsen 1958:101)

The reference to "our last and best stronghold" is probably Dog Canyon. Cadete's observation that the military had learned some lessons of warfare with the Apache by posting troops at major springs and waterholes is a significant one. This same strategy would later force Victorio south into Mexico and towards his death at the hands of Colonel Joaquin Terrazas (Betancourt 1978). Cadete's speech did not impress General James Carleton. His plans remained to incarcerate the Mescalero along with the Navajo at Bosque Redondo, near a favorite Apache camp along a bend of the Pecos River with the newly-established Fort Sumner at the center (Bender 197**: 113). By midsummer of 1863, the plan materialized, with an emphasis on agricultural pursuits. But it didn't take long for difficulties to arise between the Navajo and Mescalero, who were traditional adversaries. Beginning in July, Mescalero had started to filter out of Bosque Redondo, joining those that had remained at large. By the following summer, Mescalero were reported stealing stock, one group running off mules between Santa Fe and Dog Canyon (Ibid:197). In November of 1865, an expedition was organized against refugees from Bosque Redondo. Major Emil Fritz learned of Apaches camping in Dog Canyon (Ibid:211). Military excursions into Mescalero country continued into the following year, but with little success. One party proceeded from Fort Stanton to Dog Canyon in March 1866, but no Apaches were sighted near the canyon (Ibid:21*f). Significantly, military records no longer mention Agua Nueva in the area, and it is assumed that the group migrated south into Mexico or joined their Chiricahua counterparts to the west.

In September 1867, Mescalero ran off 150 head of stock from the vicinity of Mora. Captain Francis Wilson left Fort Union with 55 men. Company D, Third Cavalry, and proceeded south through Forts Sumner and Stanton to Dog Canyon, where they were joined by 52 men of Company K, Third Cavalry. The pursuit followed through Dog Canyon to the Guadalupe Mountains and south of the New Mexico-Texas border, ending in a bitter skirmish near three Apache rancherías in the Sierra Diablo (Bender 197**:222, Shroeder 1973:1**3).

The military continued to concentrate scouts into the Guadalupe and to the south, while Apache raiding shifted towards Tularosa and across the Basin to the Organ Mountains. In April 1868, a military escort for a supply wagon was ambushed upstream from Tularosa en route to Fort Stanton. Badly

outnumbered, they sent to town for help and took cover in some old fortifications to the west of Round Mountain. Twenty-six villagers soon arrived and according to one version of the story, repelled the Apaches (Sonnichsen 1958:127-131)* By the following year, raids in the Tularosa and Fort Stanton areas had reached alarming intensity. Requests by southern New Mexico settlers for a reservation in the area increased. In April 1871, A. P. Morrow made a general reconnaissance through the Sacramentos, Guadalupe and Sierra Blanca. The party also searched Dog Canyon for Mescalero camps, but the canyon appeared abandoned (Thomas 197[^]:51). By May 1873, the Mescalero Reservation had been set aside, promising to put an end to Mescalero raiding. But the reservation would work to the advantage of hostile groups, allowing them to play tag with the military while gaining neutral ground within its boundaries (Reeve 1938:270).

Dog Canyon again reaches the limelight in 1878. After establishment of the reservation, the Mescalero had fallen prey to horse thieves from Texas. At the outbreak of the Lincoln County War, some of the Mescalero fled the reservation. An agency clerk was killed by Billy the Kid while protecting Indian stock. Reservation Indians resorted to raids in the Fort Davis area and in the general region of the Trans-Pecos (Sheridan 1882:76-77)* To control frequent leaving of the reservation, the Army sent Captain Henry Carroll on a scouting expedition of the Guadalupe and surrounding country. Carroll approached Dog Canyon from the town of La Luz on August 5* On nearing the canyon, they picked up a trail of 20 to 25 horses:

Looking around to see which way they had left, a camp of 12 lodges was found some distance up the mountain . . . evidently had left in great haste, most of Equipage, trinkets, etc. with considerable food was left in the camp. The trail was found going up the canyon (Carroll 1878). (Figure h)

Carroll ordered Lieutenant Wright to take a detachment up Alamo Canyon expecting that the Indians could be intercepted on the rim of the Sacramentos. Carroll followed the trail up an "almost perpendicular bluff so rocky as to preclude the possibility of the animals getting up."

Scarcely had the ascent been made when we were fired into by the Indians from the bluff over our heads . . . A mile further on they made another stand to save their herd, but soon disappeared again. We could now see the women and children going up the last bluff.

Continuing on foot, Carroll arrived at a spring up the canyon and waited there for the horses to catch up. The trail then led around a narrow rocky ledge winding under a bluff on which the Apache were stationed. The 17 men with Carroll were divided into two groups, with one covering the other while passing the bluff. A volley of shots and rock tumbled upon the first



Figure 4. The main Mescalero camp was probably located on this relatively flat terrain at the head of the canyon.

party, forcing soldiers to take cover under the lower ledges of the cliff. The trail was followed into the night, but by moon-set the Apaches had scattered. Wright finally caught up with Carroll's party and after another brief scouting, returned to the fort. The only casualty of the expedition was the accidental shooting of a corporal by a private (Carroll 1878).

To the west in Arizona, trouble had long been brewing between settlers and Warm Springs Apaches. In June 1879, Victorio and his band were moved to the Mescalero Reservation to prevent further friction. Facing an indictment for murder and horse theft, Victorio soon left the reservation and headed for Mexico (Opler and Opler 1950:28-30). Some of the Mescalero leaders and warriors joined him. Using the International border effectively, Victorio managed to elude the military during the following months. Indian Agent Russell (the fifth agent on the reservation since 1871) reported that by April 1880, 200 or more Mescalero had joined Victorio and that the 50 or 60 men involved "were of course the worst Indians belonging to the Agency" (Ibid:28).

Meanwhile, Colonel E. Hatch, with the Military Division of the Missouri, had received instructions to leave at once for the field of active operations in southern New Mexico. At Fort Craig, he learned that Major Morrow

was on his return from Mescalero country after several engagements. After a month of reconnoitering in the Black Range and San Mateo Mountains, Indian scouts reported that Victorio was camped in the Organ Mountains. On April 8, Colonel Hatch engaged Victorio's warriors in Hembriillo Canyon. Three Indians were killed and eight soldiers wounded. Twenty-five horses and mules perished in the battle (Sheridan 1882:9*0. The Indians fled to the reservation. In the interim, Colonel Benjamin Grierson of Fort Davis moved in two detachments from the east and south and towards the Mescalero Agency.

On April 12, Grierson met Hatch at the Agency, where there were about 400 Indians, mostly women and children. Bent on disarmament, the Mescalero men were sent for 2 days later. Scarcely had the disarming commenced when several Indians bolted from the agency. Hatch ordered Morrow to scout towards Dog Canyon. There he engaged the Apaches, killed three warriors and one sub-chief (?) and captured 25 head of stock (Sheridan 1882:9*0- About 300 Mescalero were confined as prisoners of war until September when they were allowed limited freedom tethered to within 8 miles of the Agency (Reeve 1938: 278).

Victorio escaped into Mexico, but hounded by federales under Colonel Valle, he crossed the Rio Grande in July 1880. Operating from Fort Davis, Grierson had effectively set up a web of subposts at spring locations along the Texas side of the Rio Grande. Victorio, in bad need of provisions, fresh mounts, and reinforcements, was unable to breach Grierson's strategic network for the following 2 months. Colonel Joaquin Terrazas and 1000 Mexican troops cornered Victorio in the Tres Castillos range. During the ensuing battle, Victorio was killed by a Tarahumara Indian auxiliary on October 15, 1880. The old warrior Nana and 30 or 40 warriors managed to escape into Texas (Sonnichsen 1958:188). Nana engaged the Army in several skirmishes throughout the following year.

Final mention of Dog Canyon in military records is in May and July 1881. Leaving Fort Cummings on May 19, Lieutenant Guilfoyle and a large detachment headed for Fort Seldon. From there he proceeded through Doña Ana to Welshman Ben Davies' ranch at San Agustfn Springs, where he was joined by Lieutenant Schaeffer with a detachment of 25 men. Guilfoyle's party continued on to San Nicolas Spring:

. . . from there a night march to water holes at White Sands on May 25 . . . and on May 26, started at sundown for Dog Canon, but not knowing the country myself and having no guide, found that I had kept too far to the left and struck Alamo Canon instead of Dog Canon, on the morning of May 27. Remained in Alamo Canon all of the 27th, scouting the mountains within a radius of about six miles. On May 28 took the cavy (cavalry) and pack train around the foothills of the Sacramentos to Dog Canon, sending Indians under the chief of scouts over the mountains to join me there--Dog Canon boxes about half a mile from its mouth (this was probably not Dog Canyon) and so being unable

to get to the Peñasco by way of this cañon I went back to Alamo Cañon and taking Major Morrow's old trail, followed it into the Alamo ciénega. (Guilfoyle 1881)

On July 17, Nana's band ambushed chief packer Burgess and one of Guilfoyle's men in Alamo Canyon. Burgess was wounded and three mules were stolen. Two days later, Guilfoyle followed the trail west of Dog Canyon. A skirmish with 13 Indians resulted at White Sands, where the Indians had just killed two men and a woman. On July 25, Guilfoyle followed the trail to the San Andres range, where he captured two horses, twelve mules, many blankets and all the Indians' provisions (Sherman 1882:99). By the end of the summer, Nana had fled into Mexico for the last time.

By 1881 mention of Dog Canyon in military records is confined to a few minor incidents. With the Apache threat under control entered a new wave of settlers, raising the population of Doña Ana to greater than 7600. Frank Rochas, a French immigrant, settled at the mouth of the canyon prior to June 1886, when he is first listed in county tax records. A few years later arrived Oliver Lee and his half-brother Perry Altman, young cattlemen from Texas. They established ranch headquarters barely a mile west of Frenchy's cabin, where the gravelly bajada meets the basin floor. For Frenchy, the story ends rather abruptly in 1890, when he was found dead from gunshot in his cabin. A few years elapsed after his death before Oliver Lee filed for the water rights to Dog Canyon. For the next decade, Lee maintained control of the canyon, a decade that saw him through a murder indictment and turbulent politics in southern New Mexico. Undaunted by personal misfortune, he reached the State Senate in 1922-24. Dog Canyon exchanged hands many times until 1930, when the National Park Service obtained water rights to secure supplies for its new monument at White Sands.³

³A more lengthy account of Dog Canyon's history after 1880 is provided in: Wimberly, Mark, Pete Eidenbach and J. L. Betancourt (1979), Canyon del Perro: A history of Dog Canyon, New Mexico. Human Systems Research, Tularosa, New Mexico, 261 pp.

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J. L. B.

References Cited

Basehart, Harry B.

- 197*» Mescalero Apache subsistence and socio-political organization.
In Apache Indians XII. Garland Publishing, Inc., New York.

Beckes, Michael R.

- 1977a Descriptive analysis of projectile points. In A Cultural Resource Inventory and Assessment of McGregor Guided Missile Range, Otero County, New Mexico, Part II, pp. 1-1-80, by M. R. Beckes, A. R. Dulaney, J. D. Pigott, R. F. Scott, IV, and N. K. Smiley. Texas Archeological Survey Research Report No. 65- University of Texas, Austin.

- 1977b Descriptive report of test excavations. In A Cultural Resource Inventory and Assessment of McGregor Guided Missile Range, Otero County, New Mexico, Part II, pp. 1-1-0, by M. R. Beckes, A. R. Dulaney, J. D. Pigott, R. F. Scott, IV, and N. K. Smiley. Texas Archeological Survey Research Report No. 65- University of Texas, Austin.

Beckes, Michael R. and David S. Dibble

- 1976 Archaeological reconnaissance survey, McGregor Missile Range, Fort Bliss, Texas: Interim report, In Draft Environmental Statement, Land Use Withdrawal, McGregor Range, Fort Bliss, Texas. Department of the Army, Headquarters Training and Doctrine Command.

Bender, Averam B.

- 197[^] A study of Mescalero Apache Indians. In Apache Indians XI, pp. 61-310. Garland Publishing, Inc., New York.

Betancourt, J. L.

- 1978 Preliminary reconnaissance of archaeological resources in the southern Quitman Mountains. In The Southern Quitman Mountains: Natural Areas Survey. University of Texas Press, Austin. A

Bussey, Stanley, Richard Kelly and Judith Southward

- 1976 LA 1-921, Three Rivers, Otero County, New Mexico: a project of excavation, stabilization, and interpretation of a prehistoric village. Cultural Resources Management Division, Report No. 69. New Mexico State University, Las Cruces.

Carroll, Henry

- 1878 Report of a scout to the Guadalupe Mountains and Sacramento Range. Copy of original on file at Human Systems Research, Tularosa.

Chandler, Captain D.

1854 Letter from Fort Conrad, New Mexico, to Major W. A. Nichols, Adj. General, Albuquerque, January 24, 1854. National Archives, Record Group No. 98.

Chapman, R. C.

1977 Analysis of the lithic assemblages. In Settlement and Subsistence Along the Lower Chaco River: The CGP Survey, pp. 371-52, C. A. Reher, ed. University of New Mexico Press, Albuquerque.

Chapman, R. C. and J. A. Schutt

1977 Methodology of lithic analysis. Archaeological Investigations in Cochiti Reservoir, New Mexico, Vol. 2: Excavation and Analysis, 1975 Season, pp. 83-96, R. C. Chapman and J. V. Biele, eds. Office of Contract Archeology, University of New Mexico, Albuquerque.

Christiansen, Paige W.

1960 Hugo O'Connor: Spanish Apache relations on the frontiers of New Spain, 1771-1776. Unpublished Ph.D. dissertation, University of California, Berkeley.

Crabtree, Don E.

1972 An introduction to flint working. Occasional Papers of the Idaho State University Museum, No. 28. Pocatello.

Crimmins, M. L.

n.d. Note D - The Dog Canyon fight near Alamogordo, New Mexico (February 8, 1859). Ms. in Fort Bliss historical files, Fort Bliss, Texas.

Dart, A1

1977 Cultural resource impact statement for New Mexico State Park and Recreation Commission, Oliver Lee Memorial State Park, Alamogordo, New Mexico. Anthropology Division, Contract Archeology Section, Project 66.12. Museum of New Mexico, Santa Fe.

Dart, A1 and Brenda Yates

1977 Cultural resource impact statement for New Mexico State Park and Recreation Commission, Dog Canyon Landfill Site, Otero County, New Mexico. Anthropology Division, Contract Archeology Section, Project 65.15- Museum of New Mexico, Santa Fe.

Gibson, A. M.

1965 The life and death of Albert Jennings Fountain. University of Oklahoma Press, Norman.

Goodwin, Greenville

1969 The social organization of the Western Apache. The University of Arizona Press, Tucson.

Griffen, William B.

1969 Culture change and shifting populations in central northern Mexico.
Anthropological Papers of the University of Arizona, No. 13* The
University of Arizona Press, Tucson.

Guilfoyle, Lieutenant

1881 Letter from Fort Bliss to Asst. Adjutant General, Department of
New Mexico, Santa Fe, July 15. 1881. On file at Human Systems Research,
Tularosa.

Human Systems Research

1972 Human Systems Research training bulletin, Tularosa Valley project:
1972 excavations at Fresnal Shelter. Human Systems Research, Tularosa.

1973 Human Systems Research technical manual: 1973 survey of the
Tularosa Basin: research design. Human Systems Research, Tularosa.

Jackson, W. H.

1958 Letter from Fort Bliss to Major T. H. Holmes, July 22, 1858.
National Archives, Record Group 98.

John, Elizabeth A. H.

1975 Storms brewed in other men's worlds. Texas ASM University Press,
College Station.

Lazelle, H. M.

1859 Letter to William H. Jackson, February 18, 1859- National Archives,
Record Group No. 9^* *

Lehmer, Donald J.

19^8 The Jornada branch of the Mogollon. University of Arizona Social
Science Bulletin No. 17. Tucson.

Marcy, Captain R. B.

1850 The report of Captain R. B. March's route from Fort Smith to Santa
Fe. 31st Congress, 1st Session, Senate Ex. Document 6A:169-233- Union
Office, Washington.

Marshall, Michael

1973 The Jornada culture area. Jji Human Systems Research Technical
Manual: 1973 Survey of the Tularosa Basin: The Research Design. Human
Systems Research, Tularosa.

Martin, Paul S. and John B. Rinaldo

1952 Mogollon cultural continuity and change: the stratigraphic
analysis of Tularosa and Cordova Caves. Fieldiana: Anthropology,
No. 1*0. Chicago Natural History Museum, Chicago.

Hiles, Colonel D. S.

1855 Letter from Dog Canyon to Indian Agent Michael Steck, April 3,
1855. Steck Papers (SP-UNM), University of New Mexico Library, Special
Collections, Albuquerque.

Moore, Mary and Delmar L. Beene

1971 The interior provinces of New Spain, the report of Hugo O'Conor,
January 30, 1776. Arizona and the West 13(3):265~282.

O'Conor, Hugo

1776 Letter to Viceroy Antonio Maria Bucareli y Ursua, January 30, 1776.
Carrizal, Document 5^o, Volume 88, Provincias Internas, Archivo General
y Público de la Nación, Mexico, D. F.: Diario Numero 3, Seguido desde 21
de Noviembre del año de *Mib*, hasta el día 7 de Enero de 1775. Original
in the Bancroft Library, University of California, Berkeley.

Opler, M. E. and C. H. Opler

1950 Mescalero Apache history in the Southwest. New Mexico Historical
Review 25(1):1-36.

Pee, P. E.

1855 Minutes of a "talk" held at Dog Canyon between Colonel Miles,
Third Infantry, and several chiefs of the Mescalero Apache. National
Archives, Record Group No. 75.

Pigott, John D. and Alan R. Dulaney

1977 Lithic material from McGregor Range: mineral types and their
source areas. Jn A Cultural Resource Inventory and Assessment of
McGregor Guided Missile Range, Otero County, New Mexico, Part II, pp.
81-126, by M. R. Beckes, A. R. Dulaney, J. D. Pigott, R. F. Scott, IV,
and N. K. Smiley. Texas Archeological Survey Research Report No. 65.
University of Texas, Austin.

Reeve, Frank D.

1938 The Federal Indian policy in New Mexico 1858-1880. New Mexico
Historical Review 13:261-279-

Reeve, Lieutenant Colonel G. V. D.

1858 Letter from Fort Stanton to Major W. A. Nichols, July 15, 1858.
National Archives, Record Group No. 98.

1859a Letter to M. Steck, January 24, 1859- Steck Papers (SP-UNM),
University of New Mexico Library, Special Collections, Albuquerque.

1859b Letter to Lieutenant J. D. Wilkins, January 17, 1859- Steck
Papers (SP-UNM), University of New Mexico Library, Special Collections,
Albuquerque.

- Rodenbough, Theo. F.
1975 From Everglade to Canon with the Second Dragoons: 1836-1875.
D. Van Nostrand, New York.
- Sabin, E. L.
1919 Kit Carson days 1809-1868. A. G. McClurg and Co., Chicago.
- Sheridan, Lieutenant P. H.
1882 Report of engagements with hostile Indians within the military division of the Missouri from 1868 to 1882. Washington Printing Office (facsimile edition, 1969, the Old Army Press, Bellevue, Nebraska).
- Shroeder, Albert H.
1973 The Mescalero Apache. J_r^ Human Systems Research Technical Manual: Survey of the Tularosa Basin, pp. 121-1^ . Human Systems Research, Tularosa.
- Smith, W. F.
1950 Reports of the Secretary of War, with reconnaissances of routes from San Antonio to El Paso. 31st Congress, 1st Session, Senate Ex. Document 6A:13^1^ . Union Office, Washington.
- Sonnichsen, C. L.
1958 The Mescalero Apaches. University of Oklahoma Press, Norman.
- Southland, Judith
1978 Archaeological investigations of the cultural resources along a water distribution system in Caballero Canyon, Otero Canyon, New Mexico. Cultural Resources Management Division, Publication No. 260. New Mexico State University, Las Cruces.
- Spoerl, Patricia M.
1980a A cultural resources investigation of the proposed Upper Elk timber sale, Mayhill Ranger District, Lincoln National Forest, New Mexico. Report No. 80-001. On file at Lincoln National Forest, Alamogordo.
1980b A cultural resources investigation of the proposed North Elk timber sale, Mayhill Ranger District, Lincoln National Forest, New Mexico. Report No. 80-028. On file at Lincoln National Forest, Alamogordo.
1980c A cultural resources investigation of the proposed Sacramento River road project, Mayhill Ranger District, Lincoln National Forest, New Mexico. Report No. 80-012. On file at Lincoln National Forest, Alamogordo.
- Steen, E.
18A9 Letter to Lieutenant J. H. Dickson, Asst. Adj. General, Santa Fe, July 22, 18^9. National Archives, Record Group No. 98.

Steck, M.

1856a Letter from Fort Stanton to Governor Meriweather, Santa Fe, November 17* 1856. Steck Papers (SP-UNM), University of New Mexico Library, Special Collections, Albuquerque.

1856b Quarterly report, Apache Agency, New Mexico, December 10, 1856. Steck Papers (SP-UNM), University of New Mexico Library, Special Collections, Albuquerque.

1857 Letter from Apache Agency to Colonel J. L. Collins, June 8, 1857. Steck Papers (SP-UNM), University of New Mexico Library, Special Collections, Albuquerque.

1859a Letter from Fort Stanton to Colonel J. L. Collins, February 11, 1859- National Archives, Record Group No. 75-

1859b Letter to Colonel J. L. Collins, February 27, 1859- Steck Papers (SP-UNM), University of New Mexico Library, Special Collections, Albuquerque.

Tainter, Joseph A.

1979 Cultural evolution in the Jornada Mogollon area. In Jornada Mogollon Archaeology: Proceedings of the First Jornada Conference, pp. 377-382, Patrick H. Beckett and Regge N. Wiseman, eds. New Mexico State University, Las Cruces.

Thomas, Alfred B.

1932 Forgotten frontiers: a study of the Spanish Indian policy of Don Juan Bautista de Anza, Governor of New Mexico, 1777-1787. University of Oklahoma Press, Norman.

197^ The Mescalero Apache 1653-187^ . _l_n Apache Indians XI, pp. 13-60. Garland Publishing Co., New York.

Van Horn, Captain J.

1856 Letter from Fort Stanton to Major V/. A. Nichols, April 17, 1856. National Archives, Record Group No. 98.

Westphal, Victor

1965 The public domain in New Mexico 185^-1891. The University of New Mexico Press, Albuquerque.

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