

MUSEUM OF NEW MEXICO

OFFICE OF ARCHAEOLOGICAL STUDIES

**THE MERRILL SITE (LA 104890): TESTING REPORT AND
DATA RECOVERY PLAN FOR A MULTICOMPONENT
SITE ON NM 156 IN QUAY COUNTY, NEW MEXICO**

Peter Yoshio Bullock

ARCHAEOLOGY NOTES 264

MUSEUM OF NEW MEXICO

OFFICE OF ARCHAEOLOGICAL STUDIES

**THE MERRILL SITE (LA 104890): TESTING REPORT AND DATA
RECOVERY PLAN FOR A MULTICOMPONENT SITE ON NM 156
IN QUAY COUNTY, NEW MEXICO**

Peter Yoshio Bullock

**Submitted by Yvonne R. Oakes
Principal Investigator**

ARCHAEOLOGY NOTES 264

SANTA FE

1999

NEW MEXICO

ADMINISTRATIVE SUMMARY

On December 20, 1998, the Office of Archaeological Studies, Museum of New Mexico, conducted limited archaeological testing of LA 104890 on NM 156 east of Santa Rosa, Quay County, New Mexico. Limited testing at LA 104980 was conducted at the request of the New Mexico State Highway and Transportation Department (NMSHTD) to determine the extent and importance of cultural resources present as part of the Archaeological Sites Stabilization and Protection Project (ASSAPP). The site is on state land administered by NMSHTD and acquired from private sources.

LA 104890 is a dual-component site comprised of a surface lithic artifact scatter with an associated hearth. In the other component, two hearths are exposed in a low roadcut below the hearth and lithic artifact scatter. The remaining portion of the site has a high potential to contribute to the prehistory and perhaps the history of this area of New Mexico. Further investigations are recommended.

NMSHTD Project J00089, TPE-7700(14), CN 9163
MNM Project 41.596
CPRC Archaeological Survey Permit No. SP-146

CONTENTS

ADMINISTRATIVE SUMMARY	ii
INTRODUCTION	1
ENVIRONMENT	3
Geology	3
Climate	4
Flora and Fauna	4
CULTURAL RESOURCES OVERVIEW	5
Paleoindian Period	5
Archaic Period	5
Pueblo Period	6
Plains Indian Groups	6
Hispanic Occupation	7
Anglo-American Period	7
TESTING RESULTS	9
Auger Holes	9
Cultural Features	9
Lithic Artifact Analysis	11
ASSESSMENTS AND RECOMMENDATIONS	12
DATA RECOVERY PLAN	13
Previous Research	13
Research Questions	13
Field Methods	16
Site-Specific Research	18
Laboratory Methods	18
Research Results	19
REFERENCES CITED	20
APPENDIX 1: SITE LOCATION INFORMATION	25
APPENDIX 2: POLICY ON COLLECTION, DISPLAY, AND REPATRIATION OF CULTURALLY SENSITIVE MATERIALS	27
APPENDIX 3: CURRICULUM VITAE	31

Figures

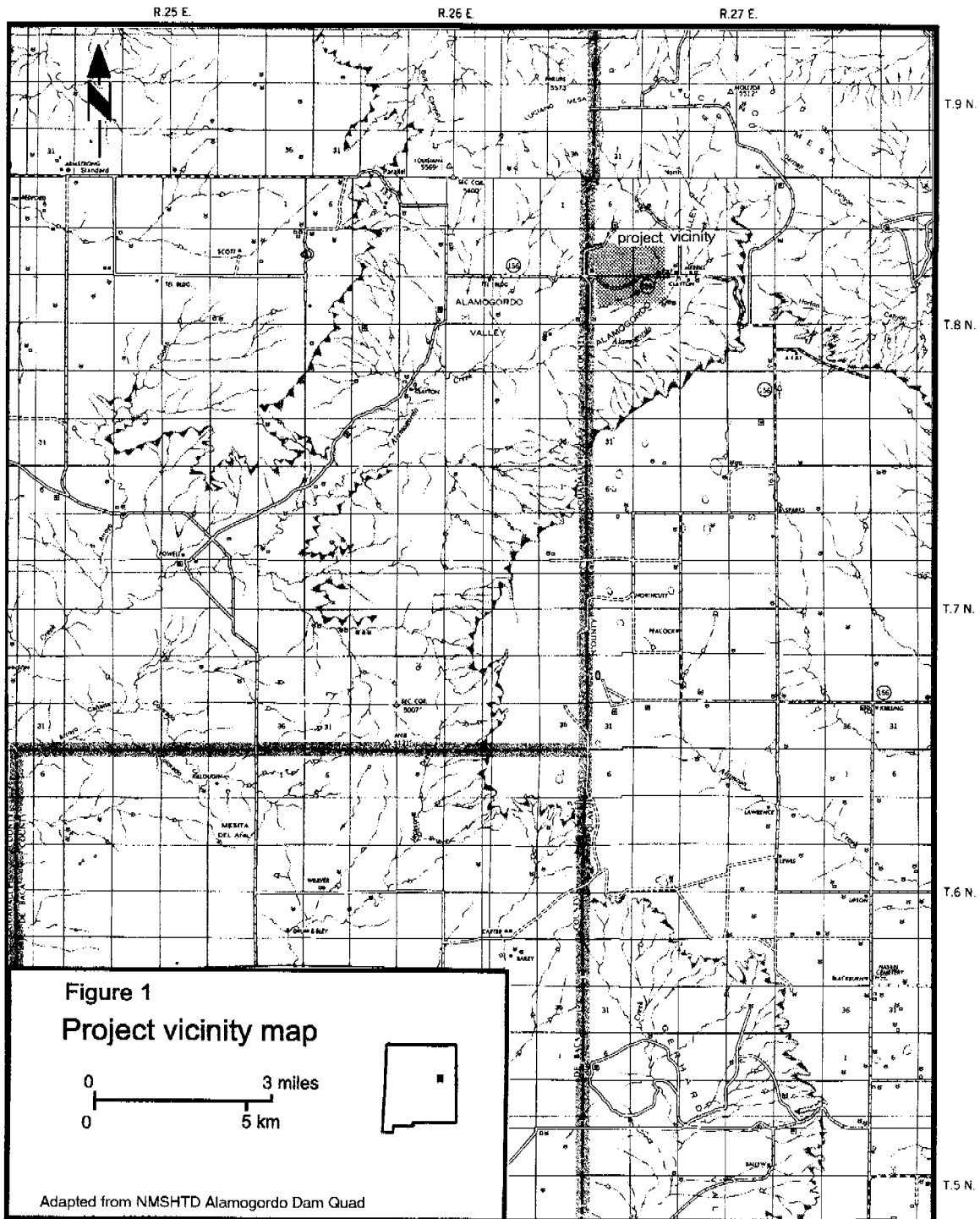
1. Project vicinity map	2
2. LA 104980 site map	10
3. Site location map (removed from copies for public distribution)	26

INTRODUCTION

As requested by the New Mexico State Highway and Transportation Department (NMSHTD), a limited testing program was conducted at LA 104890, which is within the existing right-of-way of NM 156 in southwestern Quay County, New Mexico (Fig. 1 and Appendix 1). The site was investigated as part of the Archaeological Sites Stabilization and Protection Project (ASSAPP). Limited testing was conducted under CPRC Archaeological Survey Permit No. Sp-146. Testing was conducted by Peter Bullock, who was assisted by Rick Montoya. Yvonne R. Oakes served as principal investigator. Figures and artifacts were drafted by Ann Noble, and the report was edited by Tom Ireland.

The *National Register of Historic Places*, the *State Register of Cultural Properties*, and the site files of the New Mexico Cultural Resource Information System were consulted, and no sites nominated to or approved for submission to either inventory are located in the vicinity of LA 104890.

LA 104890 was originally recorded as a hearth exposed in a low roadcut, with an associated scatters of lithic artifacts within the NM 156 right-of-way. The purpose of the limited testing was to determine the extent and importance of the endangered portion of the site within the existing right-of-way. The site is on state land acquired from private sources and administered by the NMSHTD.



ENVIRONMENT

The site is east of the Pecos River, below the escarpment of Luciano Mesa, at the head of the Alamogordo Valley. The elevation of the site is 1,896.96 m (4,940 ft). The area east of Santa Rosa is primarily rolling mixed grassland. Occasional outcrops of exposed sandstone and shale occur, principally on the tops of ridges and on the exposed breaks of the mesas that form the edge of the caprock. The area supports a cover of mixed grasses. Rocky areas and slopes of the caprock are characterized by juniper parkland. Common invasive species include mesquite, cholla, and narrowleaf yucca.

Geology

Quay County forms part of the Great Plains physiographic province (Jelinek 1967:35). The terrain is characterized by broad plains dipping gradually eastward. In this region of the southern plains, this eastward dip ends where it comes into contact with the caprock of the Llano Estacado.

The Pecos River is approximately 56 km (35.0 miles) west of LA 104980. A two-tiered canyon system comprises the oldest portion of the Pecos River Valley, predating the major course shift to the south of the middle Pecos River in the late Pleistocene (Jelinek 1967:5). This portion of the Pecos River Valley varies in width and is lined for most of its length by broken cliffs of the second river terrace, formed of sandstone from the Santa Rosa and Chinle formations (Lucas et al. 1985:172-173). Away from the cliff edges, these Triassic sandstones are buried in most places by Pleistocene sands and gravels (Kues et al. 1985:64).

Processes of solution have promoted a karst topography along the Pecos Valley. Water acts on underlying beds of gypsum and limestone, causing the collapse of the surface sandstones and shales of the Santa Rosa formation (Lucas et al. 1985:172). The resulting sinkholes feed surface runoff into the Pecos River and numerous springs and seeps along the Pecos River terraces (Levine and Mobley 1976:11).

Soils within the project area are characteristic of the Haplargids-Torriorthents-Calciorthids association. Widely distributed, this association is dominated by gently rolling or undulating topography with widely spaced, small, steep escarpments, buttes, and rocky outcrops. This soil association is characterized by a thin brown to reddish brown noncalcareous fine loam topsoil, usually underlain by a light reddish brown or pink limey loam. Soils are deep and formed of generally medium to fine alluvial and colian sediments. These soils tend to be susceptible to erosion where vegetation cover is depleted or removed, and gullies and arroyo cutting frequently takes place. Areas of this soil association are usually utilized as rangeland, primarily supporting mixed grasses and mesquite (Maker et al. 1974:67-68).

Soils of the Camborthids-Calciorthids association dominate the southern portion of the project area within the Alamogordo drainage. The topography of this association is varied, ranging from level or gently sloping broad valley areas to steep escarpments and breaks. Soils are characterized by moderate to deep alluvial deposits. Topsoils are generally light brown to light reddish-brown fine sandy loam. Subsoils are a reddish-brown calcareous sandy loam containing a weak lime zone. These soils are moderately to highly susceptible to erosion. Gullies are common within valley bottoms. This association is used as rangeland, and variable vegetation coverage (primarily mixed grasses) results in highly variable capacity (Maker et al. 1976:70-71).

Climate

The climate of the project area is typical of eastern New Mexico, which is characterized as steppe or desert grassland (Casterter 1956:256, Fig. 1). The project area is mixed juniper parkland and mixed grassland. During the Pleistocene this area is likely to have been mixed deciduous and pine woodland (Brunswig 1992:11-13). Sabal palms (with a current range extending from northern Mexico into South Texas) were common as far north as Santa Fe and the Panhandle of Oklahoma (Axelrod 1985). Major change occurred about 8,000 years ago in connection with melting icecaps. Seasons became more extreme, with greater changes in temperature. Winters became colder, and summers became hotter. Although the amount of available moisture appears to have fluctuated repeatedly through the Archaic period, the overall trend for the region has been toward a dryer regime and a summer-dominated rain pattern (Sebastian and Larralde 1989:16, Fig. 1.9). In this area of New Mexico most precipitation occurs in the form of summer showers, and winter snow provides smaller amounts of precipitation (Tuan et al. 1973:24, Fig. 6). Annual precipitation in Santa Rosa averages 35 cm (13.8 inches) (Gabin and Lesperance 1977:148-149; Tuan et al. 1973:18, Fig. 2). The average number of frost-free days is 200 (Tuan et al. 1973:87, Fig. 38). South to southwesterly winds averaging 10 miles an hour are prevalent throughout the year (Maker et al. 1974:6-7).

Flora and Fauna

The proximity of the Llano Estacado puts the site area within the grassland biome (Casterter 1956:256, Fig. 1). In reality, the project area is in an area of mixing between the woodland biome and the mixed grass biome. Vegetation differences in this area characterize soil and geological types of formation rather than climatic variation. Within the general project area, juniper parkland is present in the rocky breaks along the sides of Luciano Mesa, in areas of rocky and gravelly knolls, rough broken areas, and north-facing slopes, where grasses are poorly developed. The mixed grassland biome exhibits a uniform physiography and vegetative character. Differences in relative vegetation composition result from climatic, topographic, and soil variation (Casterter 1956:266). Grassland is present in the Alamogordo Valley in areas of medium to fine soils penetrable by grass root systems (Casterter 1956:271). In this area the mixed grassland biome is dominated by short grass prairie climax vegetation (Levine and Mobley 1976:3). Grasses common to the project area include little bluestem, blue grama, sideoats grama, and sand dropseed. Snakeweed, cholla, and mesquite are common shrubs (Maker et al. 1974:67).

Faunal populations vary according to their habitats and local climatic and geological variations. These habitats tend to correspond with local plant communities. The number of plant communities near or in the project area is greater than that of any single specific vegetation zone. Faunal species in the project area include jackrabbit, cottontail rabbit, prairie dog, and assorted small rodents such as mice, ground squirrels, and gophers. Larger faunal species common to the area include antelope, badger, and coyote. Deer and bobcat are also characteristic, but less common, species occurring in the area. Historically, bison were also common in the southern plains adjacent to the Pecos River Valley (Levine and Mobley 1976:16-17).

CULTURAL RESOURCES OVERVIEW

A detailed reconstruction of the cultural history of east-central New Mexico is beyond the scope of this report. Regional summaries are available for the area (Harlan et al. 1986; Levine and Mobley 1976).

Paleoindian Period

The Paleoindian period (10,000-5,500 B.C.) was first recognized in 1926 at the Folsom site in northeastern New Mexico (Wormington 1947:20). A series of Paleoindian traditions have since been defined, beginning with Clovis and continuing through Plano (Stuart and Gauthier 1981:294-300). Originally defined on the plains of eastern New Mexico, the Paleoindian cultural area has since been expanded to include virtually all of North America. Although originally believed to be dependent on big game hunting, the importance of plant gathering and small animal hunting to Paleoindian subsistence is now recognized (McGregor 1965:120; Willey 1966:38; Jennings 1968:78-79; Wilmsen 1974:115; Cordell 1979:19-21; Stuart and Gauthier 1981:31-33).

Paleoindian sites of any tradition are rare. Paleoindian sites are recorded in the region, including the Clovis type site of Blackwater Draw, Locality No. 1, and Blackwater Draw, El Llano. But few of these sites have been recorded in the general Santa Rosa area. Distinctly shaped Paleoindian projectile points have been found, but usually as isolated finds. One isolated Clovis projectile point base has been recorded in the Pecos River Valley, just to the northwest of the project area (Bullock 1995). Other Paleoindian sites are probably present, buried under alluvial or eolian deposits (Cordell 1982).

Archaic Period

The Archaic occupation of the upper Pecos River Valley appears to have lasted until quite late. Levine and Mobley (1976) define the Archaic occupation of northeastern New Mexico as lasting from 5000 B.C. until about A.D. 1000. A local chronology has not been developed for this area of New Mexico. Projectile points in eastern New Mexico have been identified under a number of different schemes, including those of the Oshara Tradition (Irwin-Williams 1973) and chronologies used in central and western Texas (Johnson 1967; Suhm and Jelks 1962).

The Archaic period is best defined in western New Mexico, where it is generally referred to as the Oshara Tradition (Irwin-Williams 1973). This period is distinguished by distinctive projectile points and lithic artifact scatters, including grinding implements, fire-cracked rock, and a lack of ceramics. Archaic subsistence adaptations are based on a highly mobile broad-based economy characterized by a combination of seasonally scheduled hunting and gathering activities. The Oshara Tradition is divided into five phases: Jay (5500-4800 B.C.), Bajada (4800-3200 B.C.), San Jose (3200-1800 B.C.), Armijo (1800-800 B.C.), and En Medio (800 B.C.-A.D. 400) (Irwin-Williams 1973). Although centered in the northwestern area of New Mexico, Oshara Tradition projectile points do occur as isolated occurrences as far east as the project area.

A sequence of projectile points for central and western Texas was developed by Johnson (1967) based on stratified sites yielding radiocarbon dates. This sequence is divided into five overlapping periods: Period 1 (8350-4800 B.C.), characterized by Luna and Plainview projectile points; Period 2 (6810-1315 B.C.), characterized by Early Barbed, Pandale, Nolan, Travis, and Bulverde projectile points; Period 3 (4850 B.C.-A.D. 110), characterized by Shumla, Almagre, Langtry, Pedernales, and Montell projectile points; Period 4 (350 B.C.-A.D. 1245), characterized by Ensor, Frio, Darl,

Figuro, and Godley projectile points; and Period 5 (A.D. 50-1710), characterized by Scallorn, Livermore, Bonham, and Perdiz projectile points. In a number of cases the same projectile point morphologies have been given different names based on location. Additional chronologies, including a localized sequence for the lower Pecos River Valley, have also recently been developed (Shelley 1994).

Pueblo Period

Evidence of Puebloan use of the Santa Rosa area is abundant, although no Pueblo sites with residential architecture have been recorded. The closest recorded pueblos are at Pintada Canyon, approximately 32 km (20 miles) west of Santa Rosa. The Puebloan sites at Pintada appear to date from A.D. 1200 to 1400. Ceramics assemblages are dominated by Chupadero Black-on-white and brown utilitarian wares (Stuart and Gauthier 1981). Pueblo ceramics are found in association with open air sites, lithic artifact scatters, and rockshelters along the Pecos River, side canyons, and some main arroyos. The occasional occurrence of other ceramic types indicates regional trade and possible use of the area by Pueblo groups from the Glorieta Mesa and Galisteo Basin areas. Sites associated with Puebloan use of the Pecos River Valley have been recorded for the western side of the Pecos River, opposite the project area (Hannaford 1976), and from the Los Esteros Lake area (Levine and Mobley 1976).

Jornada Mogollon ceramics also occur in the Santa Rosa area. A number of possible Jornada Mogollon sites have been recorded (Harlan et al. 1986:42; Levine and Mobley 1976). None of the sites recorded for the Santa Rosa area are known to have structures present, although they are recorded to the south (Corley 1965), in the area of Fort Sumner (Jelinek 1967:119-124).

A local pueblo traditional sequence is documented for the middle Pecos River Valley by Jelinek (1967). This tradition seems to develop in the late A.D. 800s out of the Jornada Mogollon. Anasazi or Anasazi-derived ceramics appear in the middle Pecos River Valley after A.D. 900 with the development of the Mesita Negra phase (Jelinek 1967:64-65). The presence of these structural sites suggests the gradual spread of sedentary subsistence based on maize agriculture east from the centers of the Mogollon and Anasazi traditions. The eastern limits of this probably marginal area appear to have been the Pecos Valley (Jelinek 1967:145-147). These developmental sequences continue until the termination of Crosby phase in the lower middle Pecos Valley, between A.D. 1250 and 1300, and the termination of the Late McKenzie phase in the upper middle Pecos Valley, about A.D. 1300 (Jelinek 1967:65-67).

Plains Indian Groups

Both Kiowa and southern Athapaskan groups appear to have moved into the eastern portion of New Mexico during the late protohistoric period. Apachean sites are scattered throughout southeastern New Mexico as well as the central plains and may date anywhere from the late 1400s to the late 1800s (Harlan et al. 1986:52).

Shoshonean-speaking Comanches moved in the southern plains about 1700-1715. Most other Native American groups were driven from the area by these horse-mounted buffalo hunters, except for the closely politically allied Kiowas. Extermination of the buffalo herds combined with American military campaigns removed the Comanches, Kiowas, and other "Plains Indian" groups from the southern plains by 1875 (Schemer 1981). Sites identified as possibly Apache, Comanche, or other "Plains Indian" have been identified north of the project area at Los Esteros Lake (Levine and Mobley 1976).

Hispanic Occupation

The Hispanic presence on the eastern plains of New Mexico was minor prior to the American era. The presence of mobile and potentially hostile Apache and later Comanche and Kiowa Indians prevented Hispanic settlement along the upper Pecos until after the arrival of American control in the 1850s. By 1860, 16 Hispanic settlements had been built on Pecos River land grants (Harlan et al. 1986:58), primarily from the Anton Chico Land Grant north. The Agua Negra Land Grant was formalized in 1865 by Don Celso Baca, and the ranch settlement of Agua Negra Chiquita later became the settlement of Santa Rosa. By the 1880s Hispanic settlements were well established at Pintada on Pintada Arroyo and at Puerto de Luna on the Pecos River. Farming was concentrated along the Pecos River and major drainages, but the main economic thrust of the Hispanic population was sheep raising. Sheep raising in the area of Santa Rosa was dominated by two major sheep ranches, the Agua Verde and the Juan de Dios, until the collapse of sheep prices in the 1920s ruined most of the sheep raisers (Harlan et al. 1986:58).

Racial tensions became apparent in the Pecos Valley as Anglo-American settlers, primarily from Texas, moved into the area after the late 1860s. A Texan-Hispanic conflict, generated by the Texas war of independence from Mexico, was exacerbated by the fact that Texans tended to be cattle ranchers, while the Hispanics tended to raise sheep. This mutual dislike occasionally degenerated into violence and conflict. However, the different settlement patterns of the two groups tended to lessen this propensity for conflict. The Hispanic settlements were primarily in the Pecos River and Canadian River floodplains, while the Anglo-Americans tended to settle in dispersed ranches away from the river (Harlan et al. 1986:57-58).

Anglo-American Period

An American presence became established in the eastern part of New Mexico with the construction of Fort Union, Fort Sumner, and Fort Stanton in the early 1860s (Levine and Mobley 1976:31). However, Anglo-American settlement in the eastern plains of New Mexico did not occur to any great extent until after the American Civil War.

Texas cattle ranchers began moving into the area in the mid-1860s. Some of the first to arrive were Charles Goodnight and Oliver Loving, who brought a herd of cattle to Fort Sumner in 1866. The Loving-Goodnight Trail eventually ran from Cheyenne, Wyoming, south through eastern New Mexico to Belknap, Texas (Harlan et al. 1986:59). A second herd of cattle was brought to Fort Sumner from Paris, Texas, by John Chisum in 1866. Essentially the first Anglo-American settler to the middle Pecos Valley, Chisum eventually controlled a ranch 100 miles wide, stretching for 150 miles along the Pecos River (Broster 1983:13-14).

In time, a number of dispersed ranches were established, despite the hostile relations between the settlers and the resident Plains Indians. The occurrence of regional "vernacular" architectural styles of some of these early ranch structures aids in their dating. One Texas vernacular style, the "dog trot" house, was comprised of two rows of rooms separated by a covered breezeway. Construction of Texas "dog trot" houses in the southern plains was limited to a period from the 1860s to the early 1880s, when increased economic and political integration of the area with the rest of the United States resulted in this form being replaced by Victorian styles. A classic "dog trot" house, the Jones-Howard Ranch, has been recorded southwest of the project area on San Juan de Dios Arroyo.

Settlement of the area increased rapidly after 1875 with the final defeat of the Comanches and

Kiowas and their removal to Oklahoma. This increase in settlement also saw increased friction between the Anglo-American and Hispanic populations. A combination of drought and severe winters in 1887 and 1889, and declining cattle prices ultimately destroyed the great cattle empires of the plains (Harlan et al. 1986:57-58).

The Rock Island and Pacific Railway reached Tucumcari in 1902. This joined the El Paso and Rio Grande Railroad at Santa Rosa in 1902, linking the plains to Albuquerque and cities in the Midwest. Homesteading farmers followed the railroad into the area. This part of New Mexico was soon known for the dryland farming of wheat, shorgum, and pinto beans. Tucumcari, Santa Rosa, Portales, and Clovis were all eastern New Mexico railroad towns that prospered as shipping points for livestock and produce (Harlan et al. 1986:59).

Many of the farms in the area continued until the "dustbowl" days of the 1930s. Drought, combined with the economic slump of the Great Depression, forced many of the small landowners to sell their land (Harlan et al. 1986:60). Most of the area around Santa Rosa and Tucumcari reverted to cattle ranching in the 1940s, an activity that continues today. Cattle raised around Tucumcari are now shipped by truck to Clovis, where they are loaded onto trains or shipped by truck directly to Amarillo.

TESTING RESULTS

LA 104890 is a lithic artifact scatter measuring 16 by 6 m (Fig. 2). Associated with it are three features, all of them hearths, exposed in the adjacent roadcut. The site is in an area of stabilized lower talus slope below the Caprock geological formation. It is on the north side of NM 156 adjacent to a cluster of large boulders within the right-of-way. The site elevation is 1,509.1 m (4,951 ft). The roadbed of NM 156 is built up by approximately 0.5 m in the area of LA 104890, and the built-up area of fill extends 5 m beyond the edge of the highway to the south base of the ditch. The site has been modified by scraping connected with ditch deepening. This has resulted in a shallow roadcut along the north side of NM 156. Three features are exposed in this roadcut, all of them hearths.

A number of factors endanger the remaining portion of LA 104890. The roadcut connected with ditch deepening is experiencing extensive erosion from runoff. Future ditch clearing may include rescraping the roadcut that forms the ditch wall. Periodic cattle drives along NM 156 have degraded the grass cover and contributed to site erosion.

Limited testing followed the procedures and practices outlined in the *Testing and Site Evaluation Proposal* (SHPO Log 43648). A main datum and baseline were established for the site. Surface artifacts were pinflagged to locate artifact clusters and to assist in recording and mapping site limits. A map of the site was produced using 50 m tapes, and surface artifacts, auger tests, and cultural features were plotted.

Auger holes were hand excavated in staggered rows across the site area to determine the nature and extent of subsurface cultural deposition. Each auger hole was dug to a depth of 30 cm, or until culturally sterile soil was reached beneath a cultural deposit. All augured areas were backfilled when excavation was completed.

A total of 8 lithic artifacts were recorded at LA 104890. These artifacts were piece-plotted, analyzed in the field, and left in place. All of these artifacts have eroded out of the ditch roadcut and are associated with at least one of the exposed features.

Auger Holes

A total of 19 auger holes were dug at LA 104890. Auger holes were dug in 2 m intervals in a series of staggered transits across the most intact portion of the right-of-way, away from the highway. Auger tests were dug to a depth of 30 cm or until culturally sterile soil beneath a cultural deposit was reached. No artifacts were recovered from any of the auger holes. However, a cultural deposit was found in a number of the auger holes at LA 104890, particularly south and east of the boulder cluster. Auger Holes 10-12 and 16-18 had charcoal stains; the rest were culturally sterile.

Cultural Features

Cultural features and a cultural deposit were found in the portion of LA 104890 within the proposed project limits. Three features are present in the roadcut associated with ditch deepening.

Feature 1 is a small hearth in the central area of the site. Present as an area of dark charcoal-stained soil, this feature measures approximately 20 by 60 cm. This feature is directly under the surface grass layer and may represent a second, later (possibly protohistoric) component.

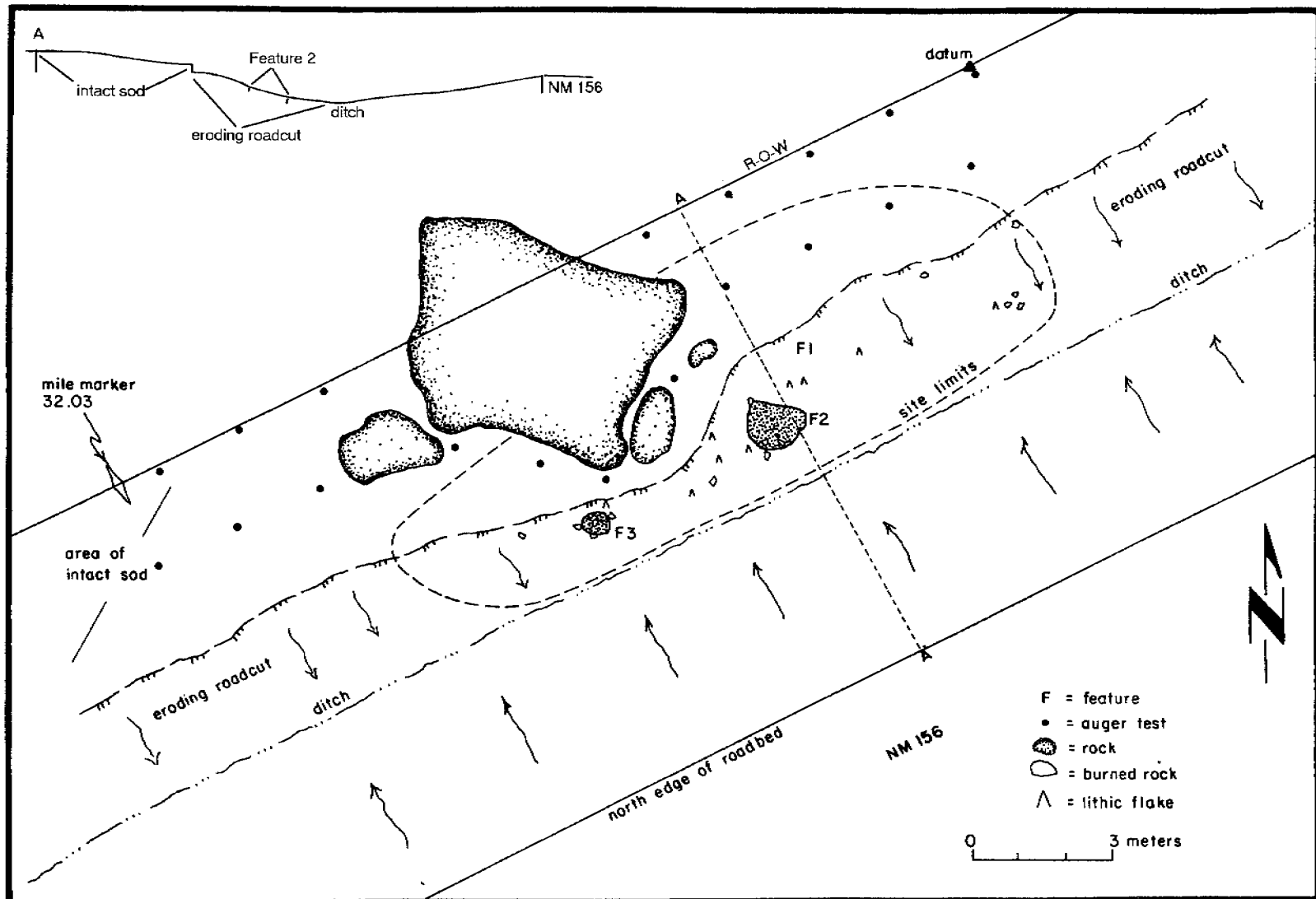


Figure 2. LA 104890 site map.

Feature 2, a hearth, was recorded in 1994. Feature 2 is comprised of dark, charcoal-stained soil within a rough circle of burnt rock. The feature measures 1.6 by 1.4 m and is 50 cm deeper than Feature 1 in the roadcut.

Feature 3, a hearth, is exposed in the roadcut. South of the boulders, this feature is visible as a cluster of burnt rock approximately 70 cm below the modern ground surface. The exposed portion of this feature measures 50 by 60 cm. Features 2 and 3 could be contemporary.

An intact cultural deposit, 45 cm thick, is visible as a discolored area of charcoal-stained soil. Auger holes were used to find this deposit and measure its extent within the right-of-way. The deposit is limited to an area within the existing right-of-way that measures 4 m northwest-southeast by 15 m southwest-northeast. The deposit is under Feature 1 and appears to be associated with Features 2 and 3.

Lithic Artifact Analysis

Eight lithic artifacts were recorded. All of the artifacts have eroded out of the roadcut associated with ditch deepening and could not be connected to any specific feature. These artifacts were analyzed in the field and left in place.

Five materials are represented by these eight artifacts. Visually, the obsidian resembles Jemez obsidian from north-central New Mexico. The other four materials (chert, quartzitic sandstone, quartzite, and siltstone) are locally available (Banks 1990).

All of the artifacts are core flakes, except for a single chert biface. All of the assemblage is comprised of whole artifacts. The biface and three of the core flakes show evidence of being used for cutting. The small size of the assemblage, coupled with the redepositional nature of these artifacts makes any further interpretations suspect. Coupled with the lack of diagnostic artifacts, it is impossible to assign this site to a specific cultural period. However, given the lack of metal artifacts and the time frame represented by the 50 cm of fill between site occupations, we have defined the site as possibly Archaic, with a possible later protohistoric occupation.

ASSESSMENTS AND RECOMMENDATIONS

Information derived from the surface mapping and test excavations at LA 104890 and analysis of the recovered artifacts provides some insight into site function and aids in the interpretation of the portion of the site within the existing right-of-way.

LA 104890 is a multicomponent site. Limited testing revealed two components separated by approximately 50 cm of fill (Fig. 2). The earliest component is comprised of two features exposed in the eroded roadcut, a possible associated lithic artifact scatter, and a cultural deposit of charcoal-stained soil. A second later component is represented by a single exposed feature with possibly associated lithic artifacts.

The artifact assemblage suggests that these components represent two Archaic occupations, or possibly an Archaic occupation and a protohistoric occupation. The presence of a cultural deposit associated with features may indicate long-term site use. Conversely, the lack of such a deposit in the later component could indicate short-term use. Evidence of stratified site use in eastern New Mexico is rare for any period and would be an important addition to knowledge of the area.

Archaeological testing within the right-of-way at LA 104890 has revealed cultural features and deposits likely to yield important information on the prehistory of the site and the region. The site is endangered by routine ditch maintenance, erosional forces, periodic cattle drives along NM 156, and the desire of NMSHTD to remove the boulders sheltering the site. Consequently, we recommend that a data recovery program be undertaken at LA 104890.

DATA RECOVERY PLAN

The portion of LA 104890 within the existing right-of-way of NM 156 has the potential to yield important information about the prehistory of southern Quay County. The OAS data recovery plan will focus on research questions that can be dealt with using site-specific data. Intersite comparisons and interpretations on a regional level will also be undertaken, depending on the nature of the data recovered.

Previous Research

Very little archaeological work has been done in the vicinity of the site. Peckham (1975) recorded a protohistoric tipi ring village and an undifferentiated Archaic rockshelter. The only other archaeological survey in the area was the HDR Missile Project survey conducted by the Agency for Conservation Archaeology at Eastern New Mexico University in 1981. Of the six sites recorded on the caprock east of LA 104890, four were historic homesteads abandoned in the 1930s, and two were undifferentiated lithic artifact scatters.

More work has been done further west. Bullock (1996, 1997a, 1997b), tested a series of sites from just east of Santa Rosa south along U.S. 84 to the De Baca County line. These sites were of Paleoindian, Archaic, and protohistoric age. Although these sites appear to represent similar utilization of the area through time through a number of cultural approaches, their lack of site integrity limited their information potential.

Creation of Los Esteros Lake to the north of Santa Rosa resulted in the large-scale investigation of the affected Pecos River Valley (Mobley et al. 1978; Ward et al. 1987). The large number of sites recorded and excavated revealed intensive seasonal or short-term use of the area by a large number of cultural groups through time. Based on the model developed by Schelberg and Akins (1987), resource procurement focused on the Pecos Valley because of the increased quantity of resources available at this juncture between grassland and riverine ecotones. Each group used the area in culturally specific ways. One constant was the lack of permanent residents prior to the Hispanic period.

The small amount of previous archaeology in this portion of eastern New Mexico has focused on differences in short-term resource procurement strategies between cultural groups. While this may reflect the types of sites investigated, recent work to the south at the Barrett site in Fort Sumner (Bullock, in prep.) suggests that a wider range of sites may be occurring in the general area than has been recognized.

Research Questions

Data recovery at LA 104890 will address questions of cultural affiliation, site structure, and resource procurement. The presence of a number of cultural components may enable comparisons to be made regarding similarities and differences in land-use patterns through time.

Cultural Affiliation

What are the cultural affiliations of the people who used this site? What is the relationship between cultural affiliation and site use?

The cultural affiliation of the people who utilized this site provides important baseline

information for comparing site utilization and structure. Cultural affiliation is usually determined on the basis of diagnostic artifacts or ceramics. The age of LA 104890 is not known. When diagnostic artifacts or ceramics are not present, cultural affiliation can be determined based on the characteristics of the rest of the lithic artifact assemblage. A model for the cultural and temporal differentiation of the lithic artifact assemblages, in the absence of diagnostic artifacts, has been developed by Schelberg and Akins (1987). This model compares hunter-gather subsistence (Binford 1980) and Early and Late Archaic subsistence (Irwin-Williams 1984) with observations of prehistoric and historic Pueblo subsistence patterns (Akins and Bullock 1992). Based on the concept that different cultures will utilize the same lithic resource in different ways, this model tracks four marker attributes within lithic artifact assemblages. The ratio of debitage to tools (including utilized debitage) and the percentages of flakes, cores, and bifaces within an assemblage will be determined.

Two trends are found to occur through time. The ratio of debitage to tools and the percentage of flakes within lithic assemblages increase through time. Conversely, the percentages of cores and bifaces within assemblages decrease. Thus, through a comparison of these four attributes, cultural affiliation can possibly be determined when diagnostic artifacts are not present. This is accomplished by plotting an assemblage's position within a progression between well-dated sites (Bullock 1996).

The excavation will focus on the systematic recovery of lithic artifacts for the spatial analysis of artifacts and attribute distributions of the component level to determine cultural affiliation. Lithic artifact concentrations, features, and activity areas will be excavated. Analysis will stress artifact type and attributes.

Site Structure

How did this site function, and what is the relationship between function and cultural affiliation? Do differences in site structure reflect differences in function, or simply culturally based differences in the execution of similar activities?

An understanding of site structure can be gained from the artifact assemblage and the presence or absence of features (both formal and expedient). The attributes of any features can also be indicators of site structure and the types and range of activities that took place at that locale.

The common assumption has been that small ephemeral sites such as LA 104890 served as short-term resource procurement areas (Bullock, 1996, 1997a, 1997b; Mobley et al. 1978). However, work connected with Los Esteros Lake (Mobley et al. 1978) and at Fort Sumner Bridge (Bullock, in prep.) has shown that resource procurement sites can involve relatively long-term site occupation. The features at LA 104890 suggest repeated use and occupations of varying lengths.

Different cultural groups may utilize the same resource in different ways (White 1974). These differences are reflected in variations in the site structure and may be more apparent than real. While differences in site structure can reflect differences in utilization, they may also reflect variations in activity approach at the cultural level (Adams 1978). Answering questions of site structure will require the recovery of flotation and pollen samples from, and the careful, systematic excavation of, features.

Resource Procurement

If the Merrill site (LA 104890) is a resource procurement site, what is the focused resource? Is the site connected with subsistence, and does it reflect seasonal or expedient site use? What subsistence differences are reflected by the two components at this site, and do they reflect changes in subsistence through time?

Subsistence can be directly inferred from dietary evidence and indirectly investigated through the technology represented in the procuring and processing of food. Dietary evidence includes flora and faunal remains. Technological evidence includes the tools used in the procurement and processing of food. While dietary evidence may be collected, technological evidence will be the most abundant in the form of chipped stone artifacts.

Subsistence should be reflected in the ecological zones associated with site location. The location of this site at the base of the High Plains escarpment puts it near the border of two hunting and foraging areas (plains grassland and wooded broken country). Its location would be likely to maximize available plant and animal resources (Epp 1984; Thurmond 1990; Reher and Winter 1977).

Differences in hunting and gathering strategies may be reflected in the artifact assemblage (Kelly 1988), even when they occur within a single culture. Abundant plant resources result in tool production and use focused on gathering and processing, with an emphasis on expedient and generalized tools. One result of plant processing would be an emphasis on processing tools. A lithic artifact assemblage focused on formalized and specialized tools would be more likely if hunting, rather than plant gathering, was the main thrust of subsistence activity.

Answering questions of resource procurement and changes in subsistence strategy requires the systematic recovery during excavation of floral and faunal remains. Although floral remains are not likely to be abundant at this site, faunal remains could be present, possibly in large quantities. Contexts likely to yield floral and faunal remains are hearths, storage pits, use surfaces, and midden deposits. The observed presence of possible prehistoric use surfaces at this site suggest that both palynological and macrobotanical remains may be present. Samples will be collected during excavation and processed and analyzed for both pollen and macrobotanical remains. If storage pits are present, pollen samples will be collected from the pit floors. Pollen retrieval is also possible from the surface of ground stone artifacts and, if recovered, will be sampled. Hearths have the most potential to yield macrobotanical remains. Fill from hearths will also be sampled, processed, and analyzed for these remains. Hearths and middens may also contain fragmentary faunal remains.

Lithic artifacts can be an indicator of subsistence activities based on the technological levels of lithic material reduction, tool production, and use. The level of tool technology within a culture varies according to the form of site utilization (Akins and Bullock 1992). Kelly (1988) has suggested that the level of tool technology results from the distance from residential sites and the source of suitable raw materials for tool production. The chipped stone assemblage will be examined in terms of reduction strategy, assemblage diversity, and tool use.

The processing of food can be inferred by the presence of ground stone artifacts such as manos and metates. It could also indicate whether the site ever served as a habitation site. The form of a metate may indicate the product to be processed. Lancaster (1986) suggested that basin metates are more commonly associated with the processing of wild grass seeds, while trough metates are evidence of the grinding of maize. This functional differentiation will be used in the analysis of any

ground stone that may be recovered from LA 104890.

Field Methods

LA 104890 is dual-component site composed of a surface artifact scatter with features exposed in a small roadcut. Associated with one or more of these features is an area of charcoal-stained soil. The fieldwork will concentrate on the features and artifact concentrations that represent components within the site area.

1. Investigations at the site will be limited to the remaining site area, all of which is within the existing right-of-way. The site will be reexamined, and surface artifacts, feature locations and site limits will be pinflagged.
2. A 1 by 1 m grid system will be superimposed across the site, with a transit, stadia rod, and 50 m tape. All grid designations will be based on the southwest corner of this superimposed grid.
3. Surface artifacts within the proposed project limits will be collected in 1 by 1 m units. All artifacts within collection units will be placed in bags labeled by grid coordinates.
4. Excavation will focus on features and associated use surfaces exposed in the roadcut as well as artifact concentrations. The excavation methods will include surface stripping and feature excavation. All excavated dirt will be screened in 1/4 inch wire mesh. The artifacts will be collected and placed in bags with the appropriate grid designation. Vertical control will be maintained with a site datum tied into the grid system. Subdatums tied to the site datum will be used as appropriate.

Surface stripping will be done by hand in 1 by 1 m units. The entire cultural area delineated during testing will be stripped. This will ensure that any associated features or activity areas will be recovered or exposed. Surface stripping will cease if additional features or artifacts are not found. Artifact type distribution may provide additional functional or temporal information about each of the two cultural components.

The presence of features is considered an indicator of an occupational level. Once surface stripping has been completed, any features or cultural deposits present will be defined and possible activity areas associated with them carefully uncovered by hand. As excavation proceeds, structural components of features will be mapped using the closest set point. The mapping of features will aid in the identification of occupational levels or surfaces.

5. Feature excavation will begin by exposing the top of the feature and the immediate surrounding area. The exposed stain or soil change will be mapped and photographed (if appropriate). Once defined, each feature will be excavated as a discreet unit, regardless of its location on the grid system. The feature will be bisected, and half will be excavated in natural levels, if possible, exposing the natural stratigraphy of the feature fill. The exposed cross section will be photographed and profiled, and the stratigraphy will be described using a Munsell color chart and standard geomorphological terms. The second half of the feature will be excavated in natural layers. Soil samples, archaeomagnetic samples, and carbon-14 samples will be collected as appropriate. All dirt removed during excavation will be screened in 1/4 inch wire mesh, and the artifacts bagged and labeled by excavation unit.

Once each feature is completely excavated, feature maps and profiles will be drawn and tied into the grid system and site elevations. Drawings will include a scale, north arrow, and key to

abbreviations and symbols. Written description will be on standard forms that will include provenience, dimensions, soil matrix, artifact, construction, time frame, excavation techniques, and other data. Photographs will record each excavated feature. All photographs will be recorded on a photo data sheet.

Excavation documentation will consist of field notes and grid forms compiled by the excavator. The forms will contain locational, dimensional, stratigraphic, and contextual information. General notes outlining excavation strategy and rationale, field interpretations, and decisions will be kept by the project director and site assistants.

Although no structures are expected at this site, any structures encountered will be approached like features. A portion of any pit structure will be excavated in natural levels, if possible, until culturally sterile soil has been reached. The resulting profile will be drawn and photographed. The second portion of the pit structure will then be excavated in natural stratigraphic layers. Artifacts on the pit structure floor will be piece-plotted and drawn onto a scale map of the pit structure, as will any floor features encountered. All dirt from the pit structure will be screened through 1/4 wire mesh, and the artifacts recovered, bagged, and recorded by provenience. The pit structure will then be tied into the grid and mapped.

Artifacts from each provenience will be bagged and labeled by excavation unit. A field specimen number will be assigned to all bags by provenience, and a field artifact catalogue maintained for the site. Materials necessary for immediate preservation of fragmentary and unstable faunal or macrobotanical remains will be used.

6. Any human remains will be treated according to the procedures outlined by the laws and regulations of the State of New Mexico (Sec. 16-6-11.2 NMSA 1978; HPD Rule 89-1) and the Museum of New Mexico's "Policy on Collection, Display, and Repatriation of Culturally Sensitive Materials" (SRC Rule 11, adopted January 17, 1991, and modified February 5, 1991; see Appendix 2).

7. Carbon-14 samples will be collected from features and other possible cultural contexts as appropriate. Samples will be ranked according to their context and data potential. Preferred samples should lack potential sources of contamination such as rodent burrows and nests, prolonged exposure during excavation, and proximity to modern surfaces or disturbance. Archaeomagnetic samples and dendrochronological samples will be collected according to the processing laboratory's standards.

9. Macrobotanical samples will be collected if the possibility of preservation is high and the potential for contamination is low. All samples will be collected with a dry, clean trowel and placed immediately into a bag or tin foil. Samples will only be collected from contexts with a high potential for useful information. Archaeomagnetic samples and dendrochronological samples will be collected according to the processing laboratory's standards.

Sample locations will be plotted on plan and profile drawings of features and proveniences. The sample bags will be labeled with the provenience designation, feature number, location within the feature, and stratigraphic position. The samples will also be recorded on specimen forms with labeling information, environmental data, contextual information, and any other comments that may be useful to the laboratory analysis.

10. An updated map of the site will be made with a transit, stadia rod, and 50 m tape. The map will include feature locations, excavation areas, and relevant topographic features.

Site-Specific Research

Each site component will be excavated and studied as outlined above. Data from the features and artifacts associated with each component will be used to address questions of cultural affiliation, site structure, and resource procurement.

Artifact and site data will be used to investigate the cultural and temporal relationship between the two components. Similarities and contrasts between the different components may enable interpretations to be made regarding cultural development and landscape use.

Laboratory Methods

Prior to artifact analysis, all artifacts will be cleaned, and any material requiring conservation will be treated. Collected samples of charcoal and macrobotanical remains will be processed and prepared for shipment to the appropriate laboratory for analysis. The specialists involved will be consulted for special preparations required before shipment. Working copies of filed maps and feature drawings will be prepared and made available to the special analysts.

The lithic artifact analysis will follow the guidelines of *Standardized Lithic Artifact Analysis: Attributes and Variable Code Lists* (OAS 1994a). Morphological and functional attributes will emphasize material reduction, manufacture and maintenance, and tool use.

Any ceramics that may be recovered will be identified according to existing regional typologies. Analysis will take place in the OAS laboratory, conducted by C. Dean Wilson. The primary focus of analysis will be dating, function, and source of manufacture.

In the event that ground stone artifacts are recovered, analysis will follow the guidelines of *Standardized Ground Stone Artifact Analysis: A Manual for the Office of Archaeological Studies* (OAS 1994b). Analysis will emphasize tool manufacture and maintenance, tool use, and the recovery of pollen from artifact surfaces that can be used in the study of resource procurement, subsistence, and site structure.

Faunal remains will be analyzed in the OAS laboratory by Nancy J. Akins. Specimens will be analyzed for species, sex, age, portion, condition, evidence of butchering, and evidence of taphonomic processes. Faunal remains are important indicators of subsistence strategy and site formation and use. The detail of the analysis will be dependent on the abundance and condition of the recovered faunal remains.

Macrobotanical remains from collected samples will be analyzed at the Office of Archaeological Studies by the staff ethnobotanist, Mollie S. Toll. The analysis will identify plant resources used prehistorically and will aid in the study of subsistence and site function.

Upon completion of the attribute data, the coded data will be computerized. Statistical interpretation will be geared toward examining and contrasting patterns in artifact distribution that reflect technological organization at the site and cultural levels. Results will be illustrated with graphs, tables, charts, and maps as appropriate. Artifacts with attributes important to site interpretation will be illustrated in the text.

Specialized dating techniques will be conducted by contracted specialists, carbon-14 by Beta Analytic, pollen analysis by Rick Holloway, and dendrochronology dating by the Tree-Ring

Laboratory at the University of Arizona. Archaeomagnetic analysis will be conducted in the OAS archaeomagnetic laboratory.

Research Results

A final report will be published in the Office of Archaeological Studies' Archaeology Notes series. The report will present all important excavation, analysis, and interpretive results. Included will be photographs, maps, and tables. Raw data such as field notes, maps, photographs, and artifact categories will be given to the State Historic Preservation Division, Archaeological Records Management Section, currently at the Laboratory of Anthropology in Santa Fe. The artifacts will be curated in the Museum of New Mexico's Archaeological Research Collection.

REFERENCES CITED

Adams, E. Charles

- 1978 The Function of Limited Activity Sites in the Settlement of the Lower Piedra District, Colorado. In *Limited Activity and Occupation Sites*, edited by Albert E. Ward, pp. 95-107. Contributions to Anthropology No. 1. Center for Anthropological Studies, Albuquerque.

Akins, Nancy J., and Peter Y. Bullock

- 1992 *Test Excavations at Two Sites on the Bernalillo Grant in Sandoval County*. Archaeology Notes 70. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Axelrod, Daniel I.

- 1985 Rise of the Grassland Biome, Central North America. *Botanical Review* 51(2):164-196.

Banks, Larry D.

- 1990 *From Mountain Tops to Alligator Stomachs: A New Look at Lithic Sources in the Trans-Mississippian South, the Southern Plains, and Adjacent Southwest*. Oklahoma Anthropological Society Memoir No. 4. Norman.

Binford, Lewis R.

- 1980 Willow Smoke and Dogs' Tails: Hunter-Gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity* 45(1)4-20.

Brunswick, Robert H., Jr.

- 1992 PaleoIndian Environments and Paleoclimates in the High Plains and Central Rocky Mountains. *Southwestern Lore* 58(4):5-23.

Broster, J. B.

- 1983 *Economic and Ecological factors Contributing to the Lincoln County War: 1876-1878*. COAS: New Mexico Archaeology and History 1(3). COAS Publishing and Research, Las Cruces.

Bullock, Peter Y.

- 1995 A Clovis Point from the Upper Pecos Valley, New Mexico. *Kiva* 61(1).

- 1996 *U.S. 84-Sunshine Mesa: The Testing of Twelve Sites Southeast of Santa Rosa, New Mexico*. Archaeology Notes 130. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

- 1997a *U.S. 84-Sunshine Breaks: The Testing of Ten Sites Southeast of Santa Rosa, New Mexico*. Archaeology Notes 165. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

- 1997b *U.S. 84-Sunshine Valley: The Testing of Three Sites Southeast of Santa Rosa, New Mexico*. Archaeology Notes 176. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

in prep.

The Barnett Site: Excavation of A Late Archaic Site on the Pecos River at Fort Sumner, New Mexico. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

- Castetter, Edward F.
1956 The Vegetation of New Mexico. *New Mexico Quarterly* 26(3):256-288.
- Cordell, Linda S.
1979 *Cultural Resources Overview: Middle Rio Grande Valley, New Mexico*. Government Printing Office, Washington, D.C.
1982 An Overview of Prehistory in the McKinley Mine Area. In *Anasazi and Navajo Land Use in the McKinley Mine Area near Gallup, New Mexico*, vol. 1, edited by Christine G. Allen and Ben A. Nelson, pp. 75-120. Office of Contract Archeology, University of New Mexico, Albuquerque.
- Corley, John A.
1965 A Proposed Extension of the Jornada Mogollon. *Bulletin of the Lea County Archaeological Society* 1:30-36.
- Epp, Henry T.
1984 Ecological Edges and Archaeological Site Location in Saskatchewan, Canada. *North American Archaeologist* 5(4):323-336.
- Gabin, Vickie L., and Lee E. Lesperance
1977 *New Mexico Climatological Data Precipitation, Temperature, Evaporation, and Wind: Monthly and Annual Means 1850-1975*. W. K. Summers and Associates, Socorro.
- Hannaford, Charles A.
1976 *Archaeological Survey and Mitigation of Three Sites along SR 203 in Guadalupe County, New Mexico*. Laboratory of Anthropology Notes 150. Museum of New Mexico, Santa Fe.
- Harlan, Mark E., Stephen C. Lent, John C. Acklen, Kurt F. Anschuetz, John B. Broster, James L. Moore, and Bradley J. Vierra
1986 *Archaeological Investigations for the Eastern Interconnection Project*. Public Service Company of New Mexico, Albuquerque.
- Irwin-Williams, Cynthia
1973 *The Oshara Tradition: Origins of the Anasazi*. Contributions in Anthropology 1(2). Eastern New Mexico University, Portales.
1984 Hunter-Gather Culture Change and Development of Sedentism in the Southwest. Proposal submitted to the National Science Foundation.
- Jelinek, Arthur J.
1967 *A Prehistoric Sequence in the Middle Pecos Valley, New Mexico*. Anthropological Papers No. 31. Museum of Anthropology, University of Michigan, Ann Arbor.
- Jennings, Jesse D.
1968 *Prehistory of North America*. McGraw-Hill, New York.
- Johnson, Leroy, Jr.
1967 Toward a Statistical Overview of the Archaic Cultures of Central and Southwestern Texas. *Bulletin of the Memorial Museum* 12.

- Kelly, Robert L.
1988 The Three Sides of a Biface. *American Antiquity* 53(4):717-734.
- Kues, Barry S., Spencer G. Lucas, Gary Wendock, John W. Hawley, Kenneth K. Kietzke, and Adrian P. Hunt
1985 Third Day Road Log: From Santa Rosa to Sumner Lake, Ft. Sumner, Vaughn, Pastura, and Vegas Junction. In *New Mexico Geological Society Guidebook, Santa Rosa to Tucumcari: The 36th Field Conference*, edited by Spencer G. Lucas, pp. 63-76. New Mexico Geological Society, Socorro.
- Lancaster, James W.
1986 Ground Stone. In *Short-Term Sedentism in the American Southwest: The Mimbres Valley Salado*, edited by B. A. Nelson and S. A. LeBlanc, pp. 177-190. University of New Mexico Press, Albuquerque.
- Levine, Frances, and Charles Mobley
1976 *Archaeological Resources at Los Esteros Lake, New Mexico*. Southern Methodist University Contributions In Anthropology No. 17. Department of Anthropology, Institute for the Study of Earth and Man, Southern Methodist University, Dallas.
- Lucas, Spencer G., Adrian P. Hunt, and Michael Morales
1985 Stratigraphic Nomenclature and Correlation of Triassic Rocks of East-Central New Mexico, A Preliminary Report. In *New Mexico Geological Society Guidebook, Santa Rosa to Tucumcari: The 36th Field Conference*, edited by Spencer G. Lucas, pp 171-189. New Mexico Geological Society, Socorro.
- McGregor, John C.
1965 *Southwestern Archaeology*. University of Illinois Press.
- Maker, H. J., H. E. Dregne, V. G. Link, and J. U. Anderson
1974 *Soils of New Mexico*. Agricultural Experimental Station Research Report No. 285. New Mexico State University, Las Cruces.
- Mobley, Charles M., C. Shaw, and Francis Levine
1978 Site Assessment Data. In *Archaeological Research and Management at Los Esteros Reservoir, New Mexico*, edited by Charles M. Mobley, pp.67-129. Archaeological Research Program, Department of Anthropology, Southern Methodist University, Dallas.
- OAS (Office of Archaeological Studies)
1994a *Standardized Lithic Artifact Analysis: Attributes and Variable Code Lists*. Archaeology Notes 24c. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.
1994b *Standardized Ground Stone Artifact Analysis: A Manual for the Office of Archaeological Studies*. Archaeology Notes 24b. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.
- Peckham, Stewart
1975 New Mexico Cultural Records Information System (NMCRIS) files, State Historic Preservation Division, Office of Cultural Affairs, Santa Fe.

- Reher, Charles A., and David Witter
 1977 Archaic Settlement and Vegetation Diversity. In *Settlement and Subsistence along the Lower Chaco River: The CGP Survey*, edited by Charles A. Reher, pp. 113-127. University of New Mexico Press, Albuquerque.
- Schelberg, John D., and Nancy J. Akins
 1987 Turtles, Sciurids, and Artemesia: Seasonal Exploitation at Los Esteros. In *Advances in Middle Pecos Archaeology: Proceedings of a Symposium Held at the Fourth Jornada Mogollon Conference, Tularosa, New Mexico, October 12, 1985*, edited by Susana R. Katz and Paul Katz, pp. 15-29. United States Department of the Interior, Bureau of Reclamation, Pecos River Projects Office, Carlsbad.
- Schemer, S. G.
 1981 A Historical Overview for the MX Operating Base Expansion, Clovis, New Mexico. Manuscript on file, Eastern New Mexico University, Portales.
- Sebastian, Lynne, and Signa Larralde
 1989 *Living on the Land: 11,000 Years of Human Adaption in Southeastern New Mexico: An Overview of Cultural Resources in the Roswell District, Bureau of Land Management*. Cultural Resources Series No. 6. New Mexico Bureau of Land Management, United States Department of the Interior, Santa Fe.
- Shelley, Phillip H.
 1994 A Geoarchaeological and Technological Evaluation of the Archaic Archaeology of the Llano Estacado and Adjacent Areas of New Mexico. In *Archaic Hunter-Gatherer Archaeology in the American Southwest*, Contributions in Anthropology 13(1), edited by Phillip H. Shelley, pp. 372-404. Eastern New Mexico University, Portales.
- Stuart, David E., and Rory Gauthier
 1981 *Prehistoric New Mexico: Background for Survey*. New Mexico State Historic Preservation Division, Santa Fe.
- Suhm, D. A., and E. B. Jelks
 1962 *Handbook of Texas Archaeology: Type Descriptions*. Texas Archaeological Society and Texas Memorial Museum, Austin.
- Thurmond, J. Peter
 1990 Late Paleoindian Utilization of the Dempsey Divide on the Southern Plains. Plains Anthropology Society Memoir No. 24. *Plains Anthropologist* 35:131.
- Tuan, Yi-Fu, Cyril E. Everard, Jerold G. Widdison, and Iven Bennett
 1973 *The Climate of New Mexico*. Revised edition. State Planning Office, Santa Fe.
- Ward, Albert E., John D. Schelberg, and Jerold G. Widdison
 1987 *Archaeological Investigations at Los Esteros Reservoir, Northeastern New Mexico*. Contributions to Anthropological Studies No. 4. Center for Anthropological Studies, Albuquerque.
- White, Leslie A.
 1974 *Zia, the Sun Symbol Pueblo*. Reprint of 1962 Bureau of Ethnology report. University of

Albuquerque Press and Calvin Horn Publishers, Albuquerque.

Willey, Gordon R.

1966 *An Introduction to American Archaeology, North and Middle America*. Prentice-Hall, Englewood Cliffs, New Jersey.

Wilmsen, Edwin N.

1974 *Lindenmeier: A Pleistocene Hunting Society*. Harper and Row, New York.

Wormington, H. Marie

1947 *Prehistoric Indians of North America*. Denver Museum of Natural History, Denver.

APPENDIX 2: POLICY ON COLLECTION, DISPLAY, AND REPATRIATION OF CULTURALLY SENSITIVE MATERIALS

Office of Cultural Affairs
Museum Division
(Museum of New Mexico)
P.O. Box 2087, 113 Lincoln Ave.
Santa Fe, New Mexico 87504

Rule No. 11

Adopted: 01/17/91

I. INTRODUCTION

The policy of the Museum of New Mexico is to collect, care for, and interpret materials in a manner that respects the diversity of human cultures and religions.

Culturally sensitive materials include material culture as well as the broader ethical issues which surround their use, care, and interpretation by the Museum. The Museum's responsibility and obligation are to recognize and respond to ethical concerns.

II. DEFINITIONS

- A. "Culturally sensitive materials" are objects or materials whose treatment or use is a matter of profound concern to living peoples; they may include, but are not limited to:
 - 1. "Human remains and their associated funerary objects" shall mean objects that, as a part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later;
 - 2. "Sacred objects" shall mean specific items which are needed by traditional religious leaders for the practice of an ongoing religion by present-day adherents;
 - 3. Photographs, art works, and other depictions of human remains or religious objects, and sacred or religious events; and
 - 4. Museum records, including notes, books, drawings, and photographic and other images relating to such culturally sensitive materials, objects, and remains.
- B. "Concerned party" is a museum-recognized representative of a tribe, community, or an organization linked to culturally sensitive materials by ties of culture, descent, and/or geography. In the case of a federally recognized Indian tribe, the representative shall be tribally authorized.
- C. "Repatriation" is the return of culturally sensitive materials to concerned parties. Repatriation is a collaborative process that empowers people and removes the stigma of cultural paternalism which hinders museums in their attempts to interpret people and cultures with respect, dignity, and accuracy. Repatriation is a partnership created through dialogue based upon cooperation and mutual trust between the Museum and the concerned party.

- D. The Museum of New Mexico's Committee on Sensitive Materials is the committee, appointed by the Director of the Museum of New Mexico, that shall serve as the Museum of New Mexico's advisory body on issues relating to the care and treatment of sensitive materials.

III. IDENTIFICATION OF CONCERNED PARTIES

- A. The Museum shall initiate action to identify potentially concerned parties who may have an interest in culturally sensitive material in the Museum's collections.
- B. The Museum encourages concerned parties to identify themselves and shall seek out those individuals or groups whom the Museum believes to be concerned parties.
- C. The Museum's sensitive materials committee shall review all disputed individual claims of concerned-party status in consultation with the tribe, community, or organization which the individual(s) claim to represent.

The Museum's sensitive materials committee shall assist, when necessary, in designating concerned parties who have an interest in culturally sensitive materials contained in the collections of the Museum of New Mexico.

- D. The Museum shall provide an inventory of pertinent culturally sensitive materials to recognized concerned parties.
- E. The Museum shall work with concerned parties to determine the appropriate use and care of and procedures for culturally sensitive materials which best balance the needs of all parties involved.

IV. IDENTIFICATION AND TREATMENT OF CULTURALLY SENSITIVE MATERIALS

- A. Within five years of the date of adoption of this policy, each Museum unit shall survey to the extent possible (in consultation with concerned parties, if appropriate) its collections to determine items or material which may be culturally sensitive materials. The Museum unit shall submit to the Director of the Museum of New Mexico an inventory of all potentially culturally sensitive materials. The inventory shall include to the extent possible the object's name, date, and type of accession, catalogue number, and cultural identification. Within six months of submission of its inventory to the Director of the Museum of New Mexico, each Museum unit shall then develop and submit a plan to establish a dialogue with concerned parties to determine appropriate treatment of culturally sensitive items or materials held by the unit.
- B. As part of its treatment plans for culturally sensitive materials, the Museum reserves the right to restrict access to, or use of, those materials to the general public. The Museum staff shall allow identified concerned parties access to culturally sensitive materials.
- C. Conservation treatment shall not be performed on identified culturally sensitive materials without consulting concerned parties.

- D. The Museum shall not place human remains on exhibition. The Museum may continue to retain culturally sensitive materials. If culturally sensitive materials, other than human remains, are exhibited, then a good-faith effort to obtain the advice and counsel of the proper concerned party shall be made.
- E. All human skeletal remains held by the Museum shall be treated as human remains and are *de facto* sensitive materials. The Museum shall discourage the further collection of human remains; however, it will accept human remains as part of its mandated responsibilities as the State Archaeological Repository. At its own initiation or at the request of a concerned party, the Museum may accept human remains to retrieve them from the private sector and furthermore may accept human remains with the explicit purpose of returning them to a concerned party.

IV. REPATRIATION OF CULTURALLY SENSITIVE MATERIALS

- A. On a case-by-case basis, the Museum shall seek guidance from recognized concerned parties regarding the identification, proper care, and possible disposition of culturally sensitive materials.
- B. Negotiations concerning culturally sensitive materials shall be conducted with professional discretion. Collaboration and openness with concerned parties are the goals of these dialogues, not publicity. If concerned parties desire publicity, then it will be carried out in collaboration with them.
- C. The Museum shall have the final responsibility of making a determination of culturally sensitive materials subject to the appeal process as outlined under Section VII A.
- D. The Museum of New Mexico accepts repatriation as one of several appropriate actions for culturally sensitive materials only if such a course of action results from consultation with designated concerned parties as described in Section III of this policy.
- E. The Museum may accept or hold culturally sensitive materials for inclusion in its permanent collection.
- F. The Museum may temporarily accept culturally sensitive materials to assist efforts to repatriate them to the proper concerned party.
- G. To initiate repatriation of culturally sensitive materials, the Museum of New Mexico's current deaccession policy shall be followed. The curator working with the concerned party shall complete all preparations for deaccession through the Museum Collections Committee and Director before negotiations begin.
- H. Repatriation negotiations may also result in, but are not limited to, the retention of objects with no restrictions on use, care, and/or exhibition; the retention of objects with restriction on use, care, and/or exhibition; the lending of objects whether permanently or temporarily for use to a community; and the holding in trust of culturally sensitive materials for the concerned party.
- I. When repatriation of culturally sensitive materials occurs, the Museum reserves the right

to retain associated Museum records but shall consider each request for such records on an individual basis.

VI. ONGOING RECOVERY OR ACCEPTANCE OF ARCHAEOLOGICAL MATERIALS

- A. In providing sponsored archaeological research or repository functions, the Museum shall work with agencies that regulate the inventory, scientific study, collection, curation, and/or disposition of archaeological materials to ensure, to the extent possible under the law, that these mandated functions are provided in a manner that respects the religious and cultural beliefs of concerned parties.
- B. When entering into agreements for the acceptance of, or continued care for, archaeological repository collections, the Museum may issue such stipulations as are necessary to ensure that the collection, treatment, and disposition of the collections include adequate consultation with concerned parties and are otherwise consistent with this Policy.
- C. In addition to the mandated treatment of research sites and remains and in those actions where treatment is not mandated, defined, or regulated by laws, regulations, or permit stipulations, the Museum shall use the following independent guidelines in recovering or accepting archaeological materials:
 - 1. Prior to undertaking any archaeological studies at sites with an apparent relationship to concerned parties, the Museum shall ensure that proper consultation with the concerned parties has taken place.
 - 2. When so requested by concerned parties, the Museum shall include an observer, chosen by the concerned party, in the crew of an archaeological study.
 - 3. The Museum shall not remove human remains and their associated funerary objects or materials from their original context nor conduct any destructive studies on such remains, objects, and materials except as part of procedures determined to be appropriate through consultation with concerned parties, if any.
 - 4. The Museum reserves the right to restrict general public viewing of in situ human remains and associated funerary objects or items of a sacred nature and further shall not allow the public to take or prepare images or records of such objects, materials, or items, except as part of procedures determined to be appropriate through consultation with concerned parties. Photographic and other images of human remains shall be created and used for scientific records only.
 - 5. The Museum reserves the absolute right to limit or deny access to archaeological remains being excavated, analyzed, or curated if access to these remains would violate religious practices.