MUSEUM OF NEW MEXICO

OFFICE OF ARCHAEOLOGICAL STUDIES

THE U.S. 70 PROJECT: ARCHAEOLOGICAL TESTING AND DATA RECOVERY PLAN FOR TWO PREHISTORIC SITES IN THE DUNNAHOO HILLS, CHAVES COUNTY, NEW MEXICO

by
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Submitted by
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ADMINISTRATIVE SUMMARY

In April of 1993, an archaeological team from the Office of Archaeological Studies, Museum of New Mexico, tested two prehistoric sites along U.S. 70 north of Roswell, New Mexico. The work was done at the request of the New Mexico State Highway and Transportation Department (NMSHTD) as part of Project SD-(NH)-070-7(212)33. Both sites have mixed ownerships--private surface, BLM mineral rights, and NMSHTD of the surface.

The testing program at each site (LA 6825 and LA 6826) included intensive surface artifact inventory and augering. Because both sites yielded sufficient indications for subsurface features, data recovery is recommended. This document details the results of the testing and proposes a data recovery plan.

MNM Project 41.556 (Dunnahoo Hills T&E)
NMSHTD Project SD-(NH)-070-7(212)33
CPRC Excavation Permit SE-87

CONTENTS

Figures

Tables

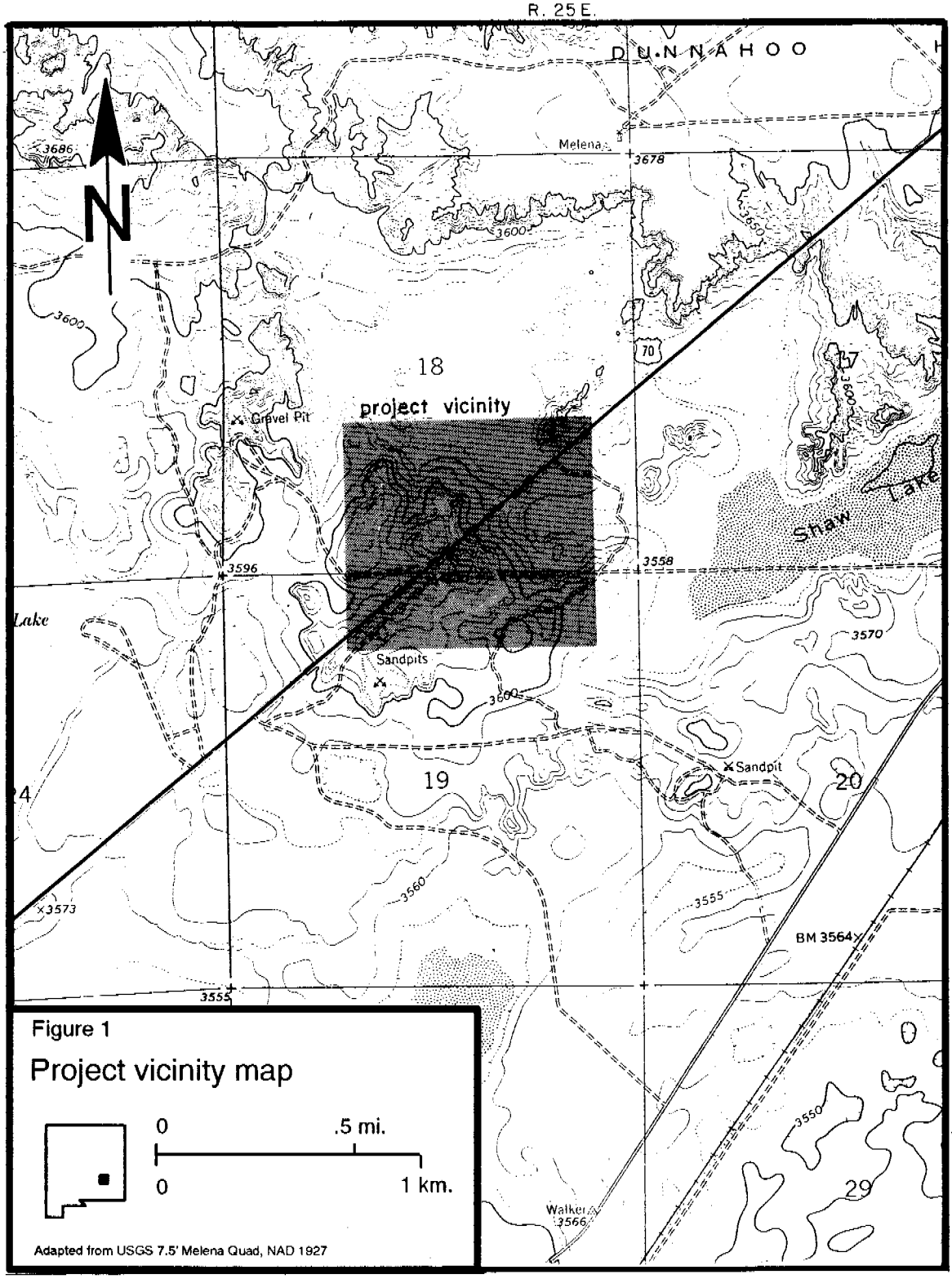
INTRODUCTION

In January of 1993 archaeologists from the New Mexico State Highway and Transportation Department (NMSHTD) performed a cultural resources survey along U.S. 70 northeast of Roswell, New Mexico (Marshall 1993) (Fig. 1). The highway project will involve the existing right-of-way and an additional strip of land along the south side of the present right-of-way. The strip is 75 ft (approximately 23 m) wide and extends the length of the proposed highway project. Ownership of those portions of the sites lying within the proposed highway project, including the strip along the south side of the right-of-way, are NMSHTD ownership of the surface, private ownership of the surface, and Bureau of Land Management (BLM) ownership of the mineral rights (Appendix 1). Because ownership of the mineral estate was not properly identified prior to testing, consultation with the BLM specifically regarding the archaeological testing proposal was not undertaken. The situation has been discussed with both the NMSHTD and the BLM, and the project is now in compliance regarding ownership.

The Federal Highway Administration (FHA), with the concurrence of the State Historic Preservation Officer (SHPO), expressed the opinion that the available information was sufficient "to justify a determination of eligibility for LA 6826 at this time" (letter PPM-NM, from John Baxter, FHWA, to Thomas W. Merlan, SHPO). Accordingly, the NMSHTD requested that the Office of Archaeological Studies (OAS), Museum of New Mexico, test those portions of sites LA 6825 and LA 6826 lying within the proposed highway project to determine whether further work was warranted, and to collect data for planning the excavations.

The testing was accomplished April 12-22, 1993, by R. N. Wiseman, Patrick Severts, and Robert Sparks. Potentially important subsurface remains were found at both sites, indicating that a data recovery program should be completed before construction. The present report details the testing results and presents a data recovery plan for both sites.

The hard-working office crew deserves many thanks for their long hours of labor on this and other projects of the OAS. Nancy Akins identified the animal bones, Mollie S. Toll identified the charcoal, and Nancy Hunter Warren developed and printed the photographs. In the production room, Robin Gould did the technical editing and Ann Noble did the drafting and layout. In the front office, Pat McCollum kept the books, and Delinda Andermann and Theresa Romero did the 1,001 tasks that form the glue of the organization.


R. 25 E.
DUNNAHOO
Melena
3686
3678
3600
3650
N
18
project vicinity
Gravel Pit
70
17
T.9 S.
Shaw
Lake
3596
3558
Lake
3570
Sandpits
3600
Sandpit
19
20
24
3573
3560
3555
BM 3564
3555
0
3550
29
Walker
3566
Figure 1
Project vicinity map
0
.5 mi.
0
1 km.
Adapted from USGS 7.5' Melena Quad, NAD 1927

NATURAL ENVIRONMENT

LA 6826 is situated on the top of a ridgelike isolate of the Dunnahoo Hills. The site is 1,106 m above sea level and 20 m above the surrounding flatlands. The ridge provides an excellent view of grazing lands to the north, east, and southwest. Shaw Lake, a very large wet-weather lake is 1 km to the east.

LA 6825 is situated among low coppice dunes at the northeastern foot of the ridge on which LA 6826 is located. The site is 1,090 m above sea level and has a good but more restricted view of grazing lands to the north and east.

The Dunnahoo Hills are a semi-isolated remnant of undivided strata of the Artesia Group (Permian). The surface geology of the surrounding, lower-lying terrain is Quaternary alluvium of the Pecos Valley (Dane and Bachman 1965).

Soils in the vicinity of the project sites belong to the Upton-Simona association. Maker and others (1971:15) describe these soils as having "...small and scattered areas of deep soils...dominated by shallow soils underlain by fractured, strongly cemented to indurated, caliche."

Reakor soils, a major component of this association that is especially common in the vicinity of the sites, are a reddish-brown calcareous loam. Today, the vegetation of this association is used mostly for grazing because the soils are generally too shallow for irrigation. Small-plot farming of the type practiced by prehistoric peoples would have been possible, but such plots would necessarily be rather widely scattered because of the distribution of the small pockets of deeper, more arable soils. Thus, gardening would have been possible in the vicinity of the sites, but serious cropping would have been much easier several kilometers further south where larger expanses of arable land are to be found.

Prior to intensive agricultural development in the late 1800s, surface and underground water sources in the Roswell area were especially productive. Occupants of the project sites had permanent water available to them at the Pecos River 5.5 km to the east. Skull Lake, lying 1.5 km to the west, was also a potential water source for the prehistoric peoples. Although we suspect that its water is unfit for human consumption today, it is possible that such was not the case prior to the twentieth century when the freshwater component of the underground aquifer was removed by overpumping for irrigation. Prior to that time, the Bottomless Lakes, which are hydrologically similar to Skull Lake and are located 24 km to the south, had potable water lenses at the water surface (Earl King, pers. comm. 1981).

According to Kuchler (1964), the potential natural vegetation of the project area is creosote bush-tarbush *(Larrea-Flourensia)* association, though the site is located in a marginal part of the association. Many of the minor species of this association that would have been most useful to man (yucca, agave, sotol, and some species of cactus) either do not occur or do not occur in useful numbers this far north. Mesquite occurs on and in the vicinity of the site today, but again, the numbers of plants preclude the possibility that it was a major resource for humans.

One of the natural attractions of the Roswell area was the variety and abundance of wildlife. Early pioneers describe large herds of antelope, cottontails, jackrabbits, and an abundance of fish (Shinkle 1966). The Pecos River formed the western boundary of the range of the great bison herds that

frequented the southern Great Plains, though small herds and individuals moved west of the river as well. During the field project (April), antelope in groups of 5 to 30 animals were observed grazing most days in the valley north and northeast of the project sites. These animals usually entered the valley from the west in the morning. They evidently overnighted in the vicinity of Skull Lake to the west.

The Pecos River is also a flyway. The Bitter Lakes Wildlife Refuge outside Roswell harbors an abundance of migratory ducks, geese, and other species, especially during the spring and fall. The project sites are located among the various units of the refuge, which is, and presumably was always, the heart of this important resource.

Roswell's climate today is characterized by mild winters and hot summers. The normalized mean January temperature is 3.3 degrees C; that of July is 25.9 degrees C; and the yearly mean is 14.7 degrees C. The average frost-free season is in excess of 200 days (Tuan et al. 1973).

Precipitation is currently summer dominant. The mean normalized annual amount is 295 mm, with 210 mm falling in the growing season of April through September (U.S. Department of Commerce 1965).

CULTURE HISTORY

Pecos Valley within New Mexico

The following culture history outline of southeastern New Mexico is distilled from a number of sources. Sources for the prehistoric period include Stuart and Gauthier (1981; a general study of New Mexico archaeology), Sebastian and Larralde (1989; an overview of east-central and southeastern New Mexico), Kelley (1984; a more specific study of the Sierra Blanca region west of Roswell), Jelinek (1967; the Pecos River north of Roswell), Katz and Katz (1985a; the Pecos River south of Roswell), and Leslie (1979; the region east of the Pecos River and especially the southeastern corner of New Mexico). The primary references used for the historic period are Katz and Katz (1985b) and Shinkle (1966). The reader desiring more information is referred to those volumes for more details.

Human occupation of southeastern New Mexico began with the Llano complex ("Clovis Man") of the Paleoindian period, which dates at least 13,000 years ago. These people and their successors of the Folsom period hunted large mammals (so-called megafauna, such as mammoths and extinct forms of bison) and maintained a nomadic or seminomadic lifestyle. Although most accounts of Paleoindians refer to them as big-game hunters, it is a virtual certainty that the people collected and consumed wild vegetal foods and small animals as well as large animals. Paleoindian occupation and use of the project area is demonstrated by Clovis, Folsom, and Eden projectile point fragments being found during the Haystack Mountain Survey (Bond 1979), a tract survey conducted only 22 km northeast of the project sites.

The retreat of the Pleistocene glaciers and resultant warming of the more southerly latitudes resulted in a shift in human adaptation to what archaeologists call the Archaic period. This adaptation was more eclectic and focused on smaller animals such as deer and rabbits. The appearance of grinding tools and specialized burned-rock features suggests a greater reliance on plant foods. The Archaic lifeway was also one of hunting and gathering, with the economy focused on small game and wild plant foods.

The Archaic of the greater Roswell region has not been systematically studied. Archaeologists, looking at the remains from single site excavations or limited surveys, have posited affiliations with the central Texas Archaic (Bond 1979), the Texas Panhandle Archaic (Jelinek 1967), the Oshara Tradition of northwestern New Mexico (Jelinek 1967), and the Chihuahua Tradition and the Cochise Culture of south-central and southwestern New Mexico and adjacent Arizona (Wiseman n.d.).

Further south, along the Pecos River in the Carlsbad area, an Archaic sequence (including hunter-gatherers dating to the pottery period) developed by the Katzes may pertain to the non-Jornada-Mogollon remains of the Roswell area (Katz and Katz 1985a). The sequence starts with the Middle Archaic, rather than the Early Archaic, suggesting that there may have been an occupational hiatus between the Paleoindian and the Avalon phase (3000-1000 B.C.). Little is known about the peoples of the Avalon phase other than the fact that they inhabited the floodplain near the river channel during at least part of the year, camped and constructed hearths in the open, and consumed one or more species of freshwater shellfish. The subsistence orientation at these sites was clearly riverine. Projectile points are currently unknown for this phase.

Late Archaic peoples of the succeeding McMillan phase (1000 B.C. to A.D. 1) are better known in that more sites with more remains have been documented. They built relatively small hearths (1-m-

diameter clusters of small rocks) and burned-rock rings. Previously named projectile point styles associated with the McMillan include the Darl and the Palmillas types. Subsistence involved exploiting both riverine and upland plant and animal species.

The terminal Archaic Brantley phase (A.D. 1 to 750) saw a continuation of the previous patterns and a greater use of burned-rock rings. Although this suggests that certain upland resources such as agave and sotol were becoming more important in the diet, the ratio of riverine to upland sites remained the same, with the emphasis still on floodplain living. Projectile point types commonly associated with the Brantley phase include the previously known San Pedro style; a newly described provisional type, the Pecos point; and several less standardized, but nevertheless familiar, styles of points commonly found in the region.

During the Globe phase (A.D. 750 to 1150), at least in the Carlsbad locale, occupation of the floodplain environment reached its zenith. Four major changes also occurred at this time. Brown ware ceramics, the bow and arrow, and a type of rock habitation structure (the stone circle or piled-rock structure) appear for the first time. In addition, the subsistence system changes from a riverine emphasis supplemented by upland foods to one that emphasized upland products supplemented by riverine foods. Projectile point styles are dominated by the corner-notched arrow tips called Scallorn. In many ways, the Globe phase appears to have been transitional between earlier and later adaptive patterns.

After A.D. 1150, occupation along the river in the Carlsbad area diminished greatly. The people who remained in the area retained their essentially Archaic, hunter-gatherer lifestyle, but continued to use pottery.

By way of contrast, late prehistoric or pottery-period occupation in the Roswell area involved villages of pithouses or pueblo-style architecture and impressive accumulations of trash (termed, at least in part, the Lincoln phase by Kelley [1984]). Corn agriculture was clearly important to the diet, but hunting, fishing, and gathering of wild plant foods were still important. This occupation ended rather abruptly sometime in the fourteenth or fifteenth century when the entire region was abandoned, at least by sedentary peoples. Just what happened to these people (and the whereabouts of their descendants) is unknown.

North of Roswell, along the Pecos River below Fort Sumner, a slightly different late prehistoric sequence has been defined (Jelinek 1967). These remains also include architecture, but the structures and the pottery are more directly tied to cultural events in central New Mexico. These small villages of pithouses, and later on, small pueblos of *cimiento* construction, were abandoned about A.D. 1250 or 1300 when, as Jelinek (1967) suggests, the people quit farming to hunt bison full-time.

While Jelinek focused his attention on sites 40 and more kilometers north of the project area, minor surveys led him to postulate two separate, though related, phases applicable to our project area. These are the Crosby phase and the Roswell phase. Because the details of each phase are sketchy and discussed in a comparative manner with the equivalent phases in the north, Jelinek (1967) does not present singular, coherent descriptions. The descriptions given here are gleaned from various statements scattered throughout his report.

The Crosby phase is equivalent to the Early and Late Mesita Negra phases in the north and dates ca. A.D. 1000 to 1200. The type site for the phase, P9, is located a few kilometers southwest of the Bob Crosby Draw site (Jelinek 1967). It is characterized as a "concentration of several hundred flakes and/or

sherds and occasional indications of permanent architecture," but elsewhere, Jelinek states that the sites "appear to represent temporary camps." It differs from Mesita Negra phase sites in that the pottery assemblage is dominated by Roswell Brown rather than the Middle Pecos Micaceous Brown of Mesita Negra phase sites. The lithic assemblage is like that of Mesita Negra phase sites. The two identifiable projectile points are wide, corner- and side-notched arrow(?) points with convex blade and basal edges. The reader is left wondering about the validity of the Crosby phase, for Jelinek (1967:67) states that it is "distinct" but then questions it on ceramic grounds.

The Roswell phase is equivalent to the Early and Late McKenzie phases in the north and dates ca. A.D. 1200 to 1300. The two sites listed for this phase, P7 and P8, are characterized as "concentrations of several thousand flakes and/or sherds with little or no indication of permanent architecture." We are left to presume that "permanent architecture" refers to pithouses or pueblos, such as those excavated closer to Fort Sumner. Roswell phase sites differ from Mesita Negra phase sites in that the pottery assemblage is dominated by Roswell Brown, Jornada Brown, and Chupadero Black-on-white rather than the McKenzie Brown and Middle Pecos Black-on-white of McKenzie phase sites. The lithic assemblage, including numbers of small end scrapers, is like that of Mesita Negra phase sites. The three identifiable projectile points are wide, side-notched arrow points with convex blade edges and straight to convex basal edges and a triangular, multiside-notched form.

The period between the abandonment of southeastern New Mexico in the 1400s and the coming of the unidentified peoples described by the early Spanish explorers in the late 1500s is unknown. It is probable that nomadic use of the region continued during this time. Jelinek (1967) refers to the occasional late prehistoric Rio Grande glaze sherds, increased abundance of obsidian, and a tipi ring site to his post-McKenzie phase. These remains, plus abandoned *rancherías* described by early Spanish explorers, certainly indicate the presence of hunter-gatherers during the protohistoric and early historic periods, but the inhabitants effectively disappeared as an identifiable people before more detailed accounts and relationships could be recorded.

From Spanish contact until after the American Civil War, roaming Apache and other Plains tribes kept Spanish, Mexican, and Euro-American settlement of southeastern New Mexico in abeyance. Following the Civil War, mass westward movement of Americans and eastward drifting of small groups of New Mexico Hispanics led to settlement of the region. Roswell was founded about 1870. Artesian water was discovered in 1891, and its development promoted widespread irrigation and a rapid influx of people. The railroad reached Roswell in 1894, irretrievably setting the course for urbanization of the area. The town's economy, then as today, was based on agriculture and stockraising.

Roswell Locality

The prehistoric occupation of the Roswell area is poorly known. The problem stems from three major sources. Few projects other than small contract surveys have been done; the area is peripheral to two major culture areas: the Plains to the east and the Southwest to the west, and attempts at relating the Roswell area archaeological remains to one or the other often yield ambiguous results. The third reason is that artifact collecting has been a popular activity for Roswell residents over the past 50-75 years. The loss of information from this activity can never be gauged, but it is clearly very serious if local collections and folklore are any indication. Thus, the brief culture history that follows is based on work from surrounding regions, and its applicability to the Roswell area must be viewed as tentative.

Late prehistoric (i.e., Pottery period) sites in the immediate vicinity of Roswell appear to reflect the oasislike character of the area. That is, local natural resources are especially favorable to more intensive occupation and presumably greater population stability than in surrounding areas. It is not surprising, then, that a number of sites known or suspected of having architecture are present, and that they have the character (substantial trash deposits, much pottery, pithouses, and pueblo-style dwellings) of the more sedentary Jornada-Mogollon peoples to the west. For this reason, Jane Kelley (1984) has tentatively included the Roswell locality within the geographic reach of her Lincoln phase, which dates to the late thirteenth, fourteenth, and perhaps early fifteenth centuries. Somewhat earlier remains (e.g., Rocky Arroyo site, Wiseman 1985) also generally fit the Jornada Mogollon configuration and can be tentatively included with them.

Other sites with structures from the Ceramic period, however, such as King Ranch (Wiseman 1981) and Fox Place (Wiseman 1991), are enigmatic and currently unassignable to an existing cultural chronology. These last two sites are viewed with special interest in regard to LA 6825 and LA 6826 because all fours sites may have been utilized by the same group of people.

These late prehistoric remains in the vicinity of Roswell contrast with the extensive scatters of artifacts that are commonly found in the sand dune country east of the Pecos River (such as the Bob Crosby Draw site) and on the Sacramento Plain north, west, and south of Roswell (Stuart and Gauthier 1981). It is currently unclear how these scatters relate to either Jornada-Mogollon or Plains manifestations. Given the geographic location of the sites, they could have been occupied by peoples from either culture area. How do we make a determination? Some progress is being made in this direction (Speth 1983; Rocek and Speth 1986), but we are far from the last word on the matter.

PREVIOUS ARCHAEOLOGICAL WORK IN THE ROSWELL AREA

Except for a number of small-scale contract archaeological projects associated with oil and gas exploration, archaeological investigations in the Roswell area have been few in number. The list below includes some of the more significant investigations.

* Sample survey of the Abo Oil Field north of Roswell (Kemrer and Kearns 1984); documented a wide-range of site types, probably all of which are campsites, lithic material collection/quarry areas, and collecting sites; no structural sites identified with certainty;

* Testing of the Townsend site north of Roswell (Maxwell 1986); recovered hearths, artifacts, and animal bones from three time periods defined by radiocarbon dates--490-250 B.C. (pre-pottery), A.D. 460-820 (pottery and corner-notched arrow points), and A.D. 1200-1400 (pottery and side-notched arrow points); bison bones associated with earliest and latest periods.

* Survey and excavation along the Middle Pecos River northeast of Roswell (Jelinek 1967); defined culture sequence from Paleoindian to Late Prehistoric for Fort Sumner section of Pecos River; excavations focused on Late Prehistoric (pottery) phases;

* Excavations at several sites in the Haystack Mountain area northeast of Roswell (Schermer 1980); test excavations at several Pottery period camp sites; darts points at several of the sites may indicate Archaic occupations as well;

* Excavation of the Garnsey Spring Campsite (Pottery period and possibly some Late Archaic remains) and the protohistoric Garnsey Bison Kill east of Roswell (Parry and Speth 1984; Speth 1983);

* Excavation at the Rocky Arroyo site south of Roswell (Wiseman 1985); excavation of a large, deep pit structure in a small village dating to the A.D. 1200s;

* Excavation at the Henderson site southwest of Roswell (Rocek and Speth 1986); excavation in surface rooms and pit structures dating to A.D. 1200s and 1300s;

* Excavation at Bloom Mound southwest of Roswell (Kelley 1984); excavation in surface rooms and pit structure dating to A.D. 1300s;

* Survey of the Two Rivers Reservoir southwest of Roswell (Phillips et al. 1981); documented lithic material quarries, camp sites, collecting sites, and probable pottery-period structural sites;

* Excavation of the historic period Ontiberos Homestead west of Roswell (Oakes 1983);

* Testing of 20 lithic artifact sites west of Roswell (Hannaford 1981); and

* Excavation of the Fox Place site at Roswell (Wiseman 1991); excavation of part of a large village containing numerous small pit structures and one large, deep ceremonial pit structure, all dating to the A.D. 1200s and early 1300s.

Both the *National Register of Historic Places* and the *State Register of Cultural Properties* have been consulted. No properties listed on either register, nor any properties currently under nomination to either register, are within or adjacent to the project right-of-way.

TESTING PHASE

Field Techniques

The testing techniques at each site were the same. First, all surface artifacts were pinflagged. Next, a site datum was established near the existing right-of-way fence south of the highway by driving a 2-ft section of ½-inch rebar into the ground. The fence served as the primary baseline for the site grid. The surface artifacts, by type (flake, core) and material type, were then counted in units of 2-by-2-m squares in order to calculate density per sq m and distribution across the sites.

Subsurface testing was accomplished with a 3-inch bucket-auger. Several lines of auger holes were dug through selected parts of each site. Auger interval was 1 m. All fill was screened through 1/8-inch wire mesh into a bucket.

LA 6825

Site Description

LA 6825 is a small sherd, lithic artifact, and burned-rock scatter situated among a group of small to medium-sized coppice dunes (Figs. 2-4) on both sides of U.S. 70. The site is either a camp or a short-term residential location and *may* have been associated with LA 6826. Overall site size is 73 m north-south by 50 m east-west.

The site area, as defined by augering, is much larger than indicated by the surface artifact scatter. Part of the difference is because surface artifacts are present primarily where surface erosion and rodent burrowing have exposed them. Augering indicates undisturbed cultural deposits are primarily 10 to 30 cm below the surface in areas where erosion is minimal. Subsurface features such as hearths and pits/pithouses were discovered by augering. Cultural materials at the site include sherds, flakes, cores, and burned rocks. No ground stone artifacts were noted.

Approximately 80 percent of the site area as defined by the archaeological surveyor lies within the proposed highway project. Because no surface artifacts were found within the highway right-of-way north of the highway, testing was restricted to the project zone south of the highway.

Testing Results

North of the highway, an area measuring 48 m east-west by 15 m north-south was inventoried for artifacts, but none were found. South of the highway, an area measuring 48 m east-west by 36 m north-south (total of 1,124 sq m, excluding the area covered by mesquite bushes) was inventoried for artifacts and other cultural remains (Fig. 5). A total of 31 lithic artifacts, 19 pottery sherds, 8 burned rocks, and a probable hearth of burned rocks was found (Table 1). The artifact density within the inventory area is 0.04 items per sq m. However, since the artifacts tend to cluster in some units and are absent in others, a recalculation of the central artifact area (total of 420 sq m) indicates a density of 0.12 items per square meter.

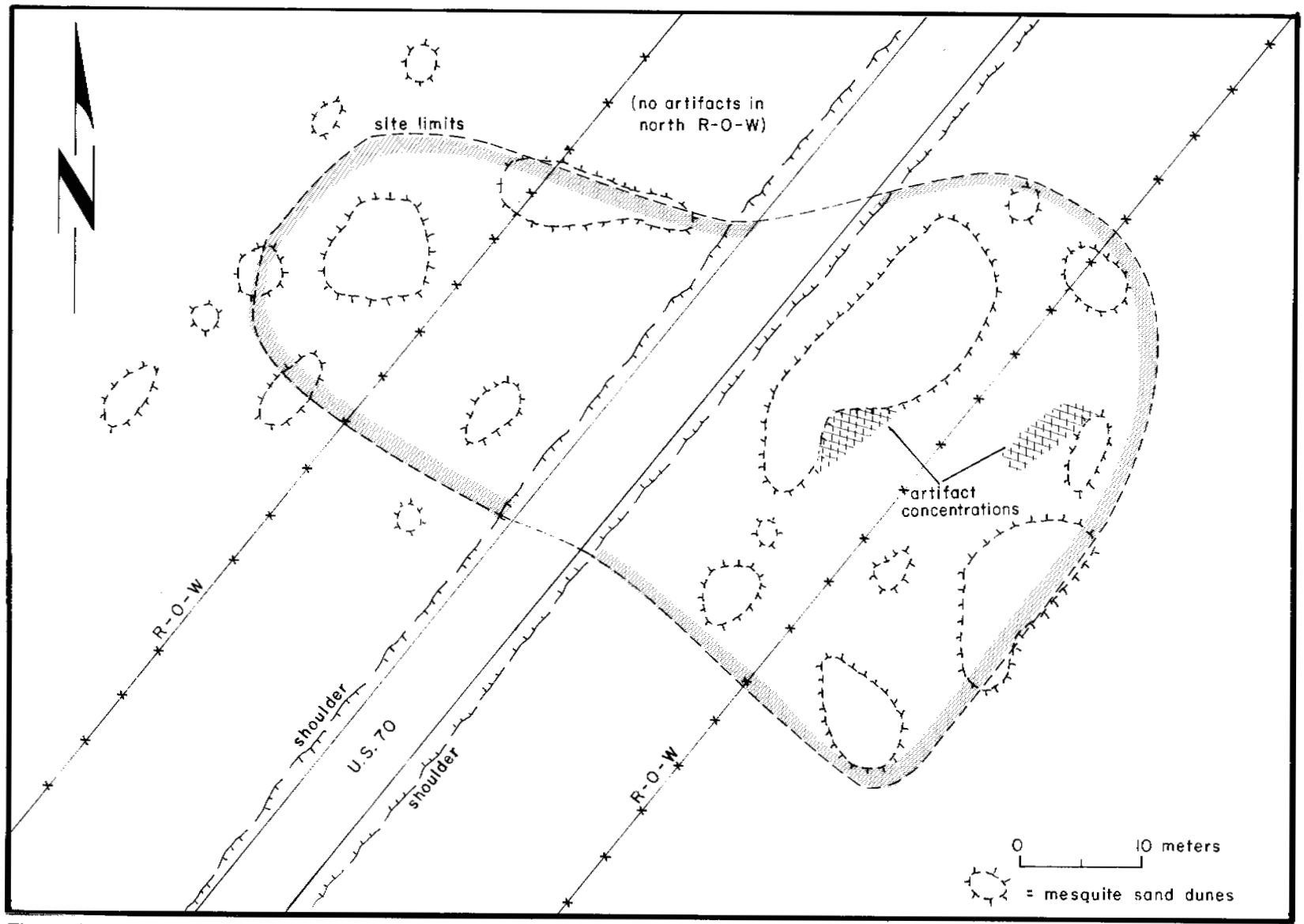


Figure 4. LA 6825, site sketch map.

Table 1. Summary of Surface Lithic Artifacts at LA 6825 by Type and Material

Material	Flakes	Cores	Total	Percent
Quartzite	9	1	10	32
Chert	9	1	10	32
Siltite	1	0	1	3
Chalcedony	5	0	5	16
Other	5	0	5	16
Totals	29	2	31	99

Material Descriptions:
Quartzite: purple, green, or orange-red
Chert: gray, red, black, tan, and varying shades thereof
Siltite (silicified siltstone): black or light brown
Chalcedony: clearish gray with occasional black inclusions
Other: unknown

Six lines of auger tests--totaling 125 holes--were placed in various parts of the site area south of the highway (Fig. 6). Test depths in most instances were determined by the length of the auger handle (without extension) and limitations induced by ground surface slopes and bunch grass hummocks. Final depths varied from 170 to 189 cm. At three locations (7N/0E, 3S/15E, and 14S/6W) rocks stopped the tests at 27 cm, 30 cm, and 60 cm respectively. In each case, the rocks may be cultural features.

The sediments revealed in the augering were fairly uniform and appear to be mostly or entirely natural. No natural organic stains were noted during the augering, but at least two cultural (charcoal) stains were. The idealized natural sediment profile is a light reddish sandy clayey silt that increases in color intensity, compaction, and clay content with depth. Variations such as interlensing of tan sandy silts do occur, but these appear to be natural.

Cultural materials and charcoal were recovered from 59 of the 125 auger tests, and 22 tests produced these items from two or more levels (Fig. 6). The materials came from virtually every level down to 170 cm below surface.

The vertical distribution of items recovered by the auger indicates three general zones of occurrence--surface to 40 cm, 40 to 75 cm, and 75 to 170 cm (Figs. 7-9). The majority of items came from the upper zone, especially between 15 and 30 cm. Many fewer items came from the middle zone, and still fewer items came from the lower zone. We believe that the items in the lower zone got there mostly, if not totally, by dropping down from higher up during the augering process, by rodent burrowing, or by root action. We saw no convincing evidence to suggest that deeply buried cultural deposits exist at the site, though it will be necessary to make deep excavations during the final phase of work to confirm or deny this interpretation.

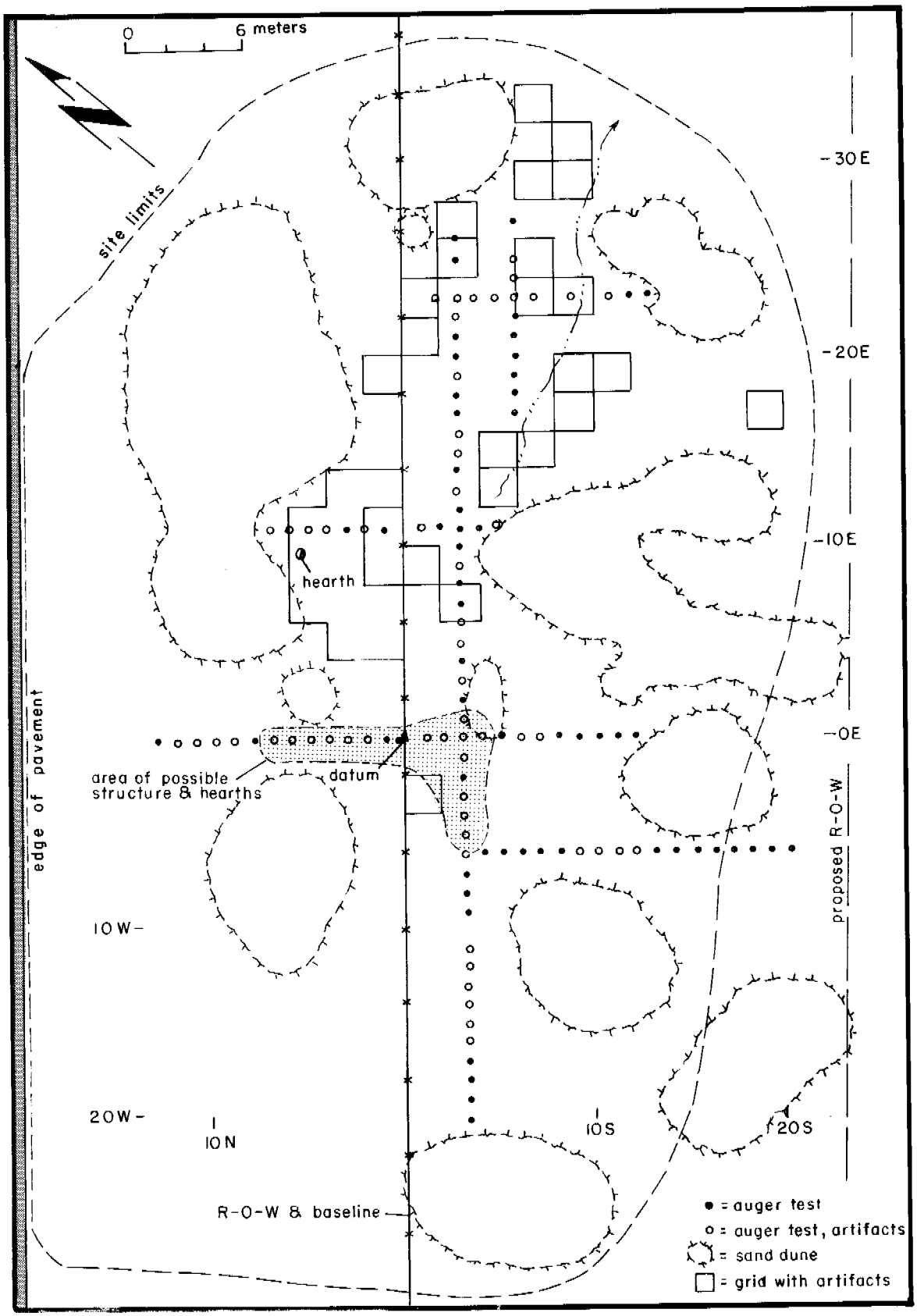


Figure 6. LA 6825, auger test locations.

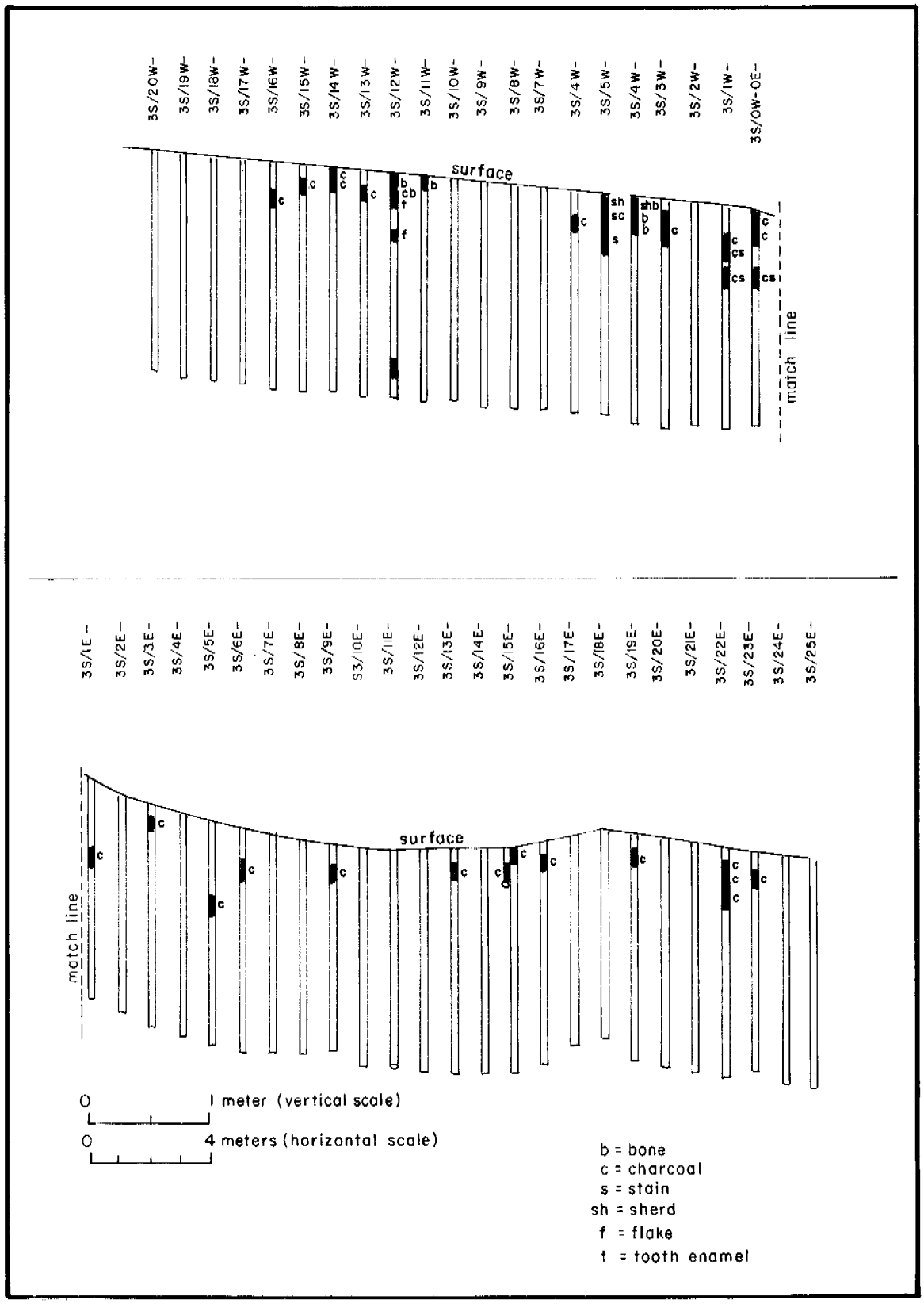


Figure 7. LA 6825, auger test profiles; Line 3S between 20W and 25E.

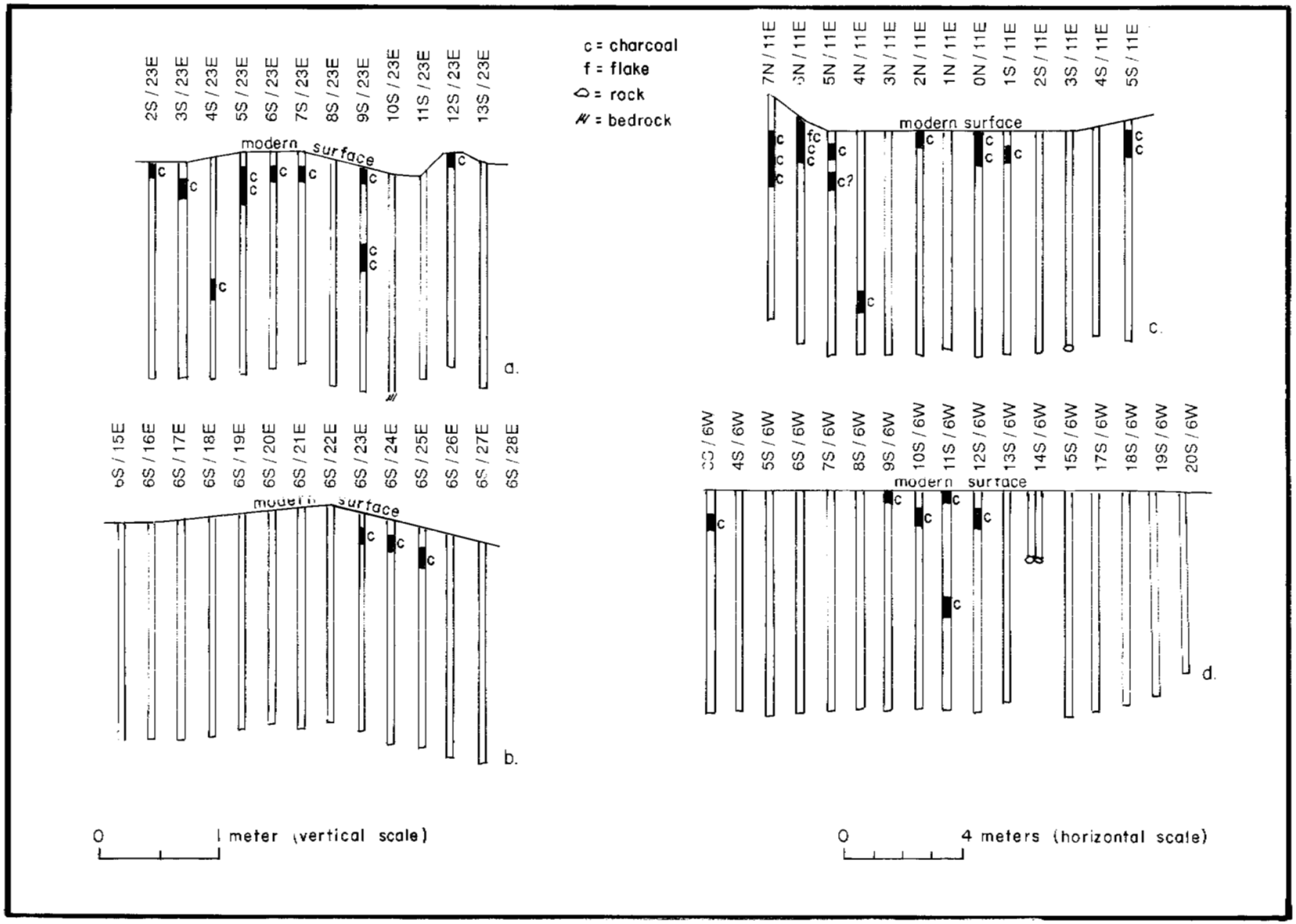


Figure 8. LA 6825, auger test profiles; (a) Lines 23E/2S to 13S; (b) 6S/15E to 28E, (c) 11E/7N to 5S, (d) 6W/3S to 20S.

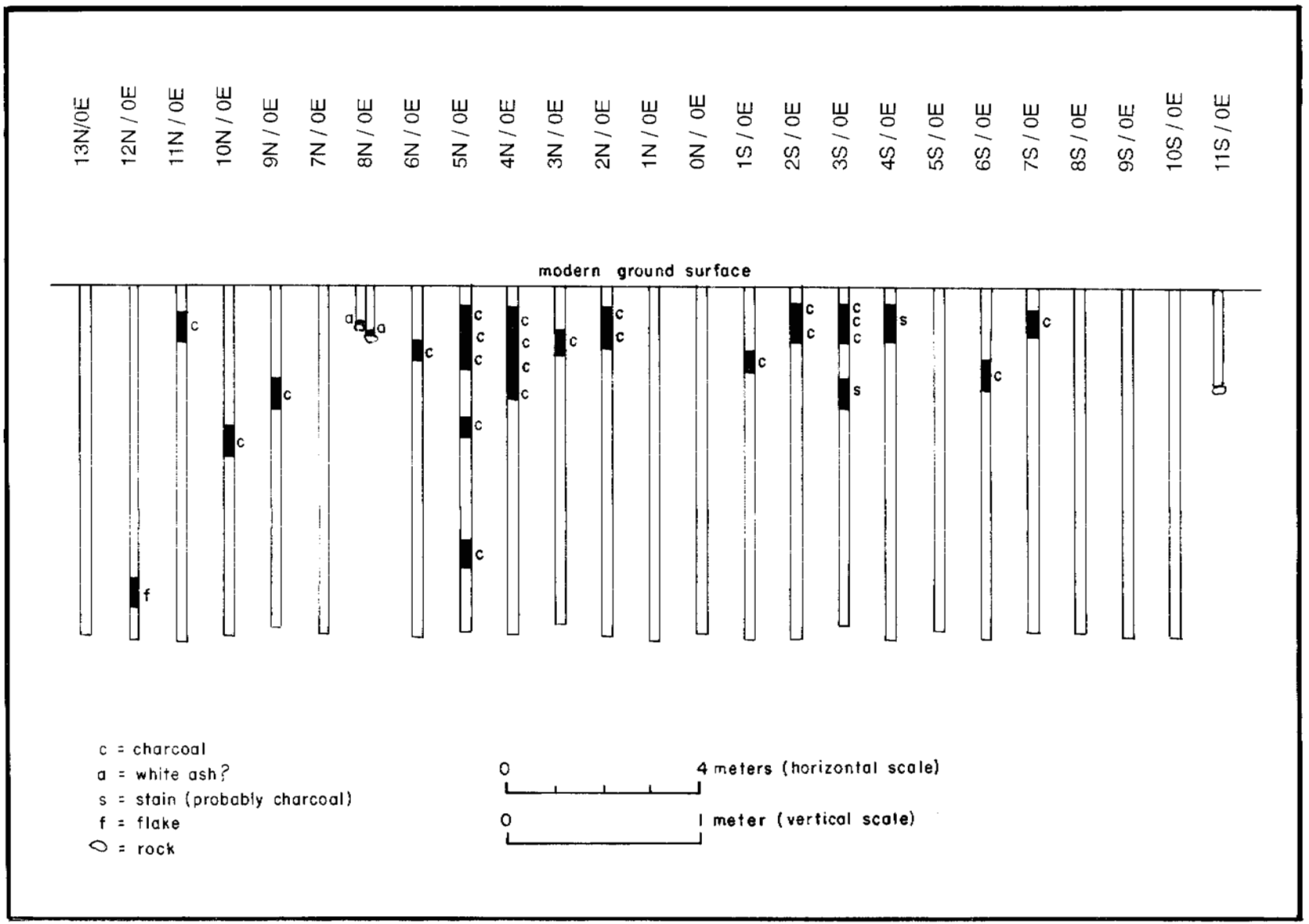


Figure 9. LA 6825, auger test profiles; Line 0E between 13N and 11S.

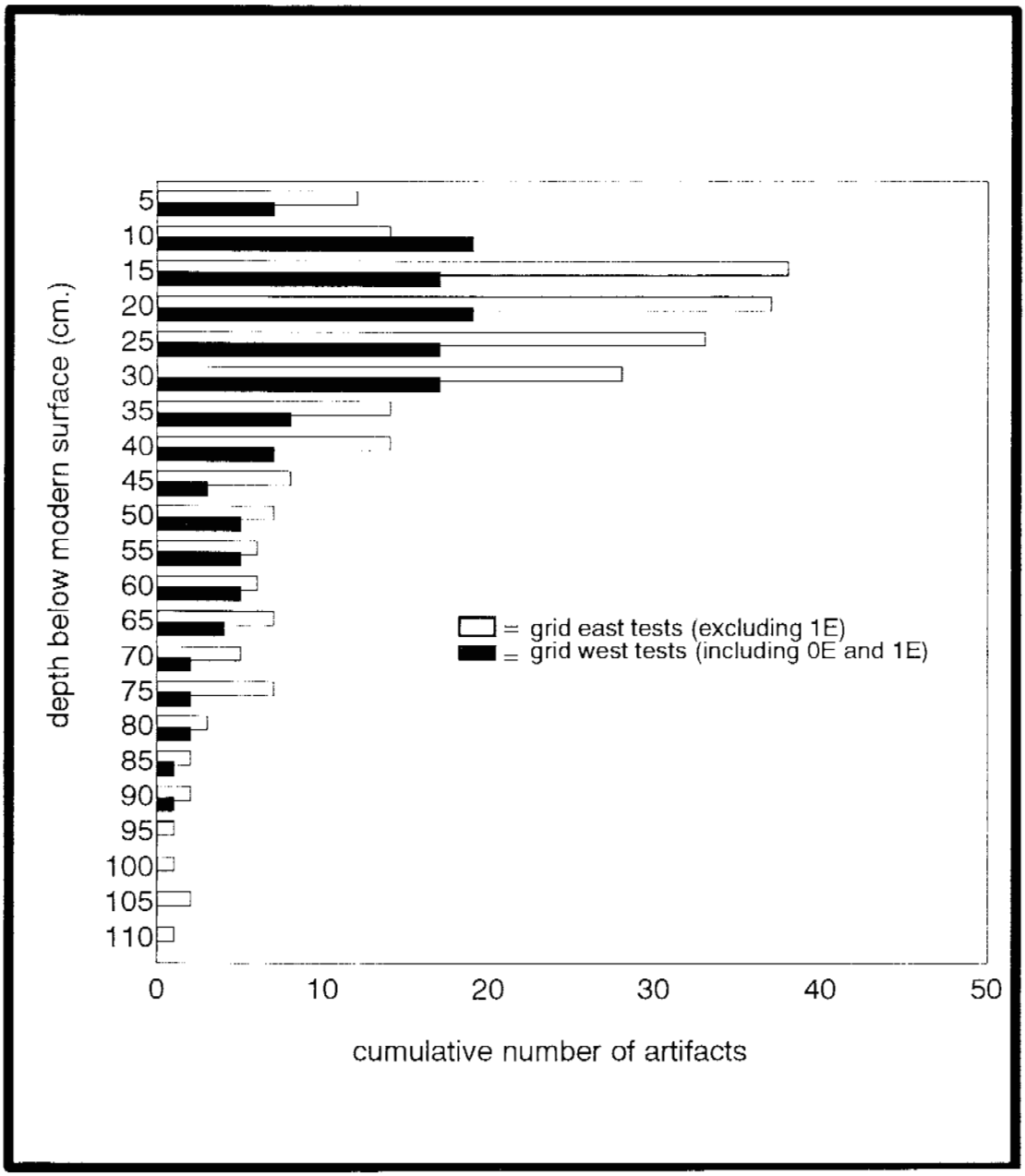


Figure 10. LA 6825, summary of vertical distribution of cultural materials and potential cultural materials in auger tests.

The horizontal distribution of items and manifestations is provocative. Most are clustered, and clusters occur throughout the areas tested (Fig. 10). Five clusters (or loci) appear to be especially important because the concentration of materials, both horizontally and vertically, probably indicates cultural features or intact cultural deposits. It should be noted that four of these loci are on the western edge of the surface artifact scatter where the ground surface is less eroded. The loci are:

. line 11E between 4N and 7N, including a nearby hearth eroding out of the sand;
. line 3S between 11W and 16W;
. line 3S between 3W and 6W;
. line 0E [0W] between 2N and 7N;
. the combination of line 0E [0W] between 1S and 4S and line 3S between 1E and 1W

As yet undiscovered features undoubtedly occur near these loci and perhaps elsewhere in the site as well, for the augering merely sampled various areas.

Of the 101 cultural or potentially cultural items and manifestations noted during the augering, 77+ are charcoal bits and flecks (tiny pieces under 5 mm in size), 7 are organic stains (probably all from charcoal), 2 are pottery sherds, 2 are flakes, 1 is a core, and 12 are animal bones and tooth fragments. Six pieces of charcoal were collected from 4N/0E (36-48 cm), 3S/0E [or 0W] (10-20 cm, 20-30 cm, and 50-65 cm), 3S/1E (60-75 cm), and 3S/5W (15-30 cm). All but one were identified as mesquite, and that from 3S/5W is saltbush (identifications by Mollie S. Toll). All but three of the bones and tooth fragments are cottontail, one is medium to large bird, one is small ground squirrel, and one (tooth fragment) is unspecified mammal (identifications by Nancy Akins). Though we cannot be certain, the bones are probably all post-occupational intrusives.

LA 6826

Site Description

LA 6826 is a large lithic artifact scatter situated on top of a high, gravel-capped ridge (Figs. 11 and 12) that extends both north and south of U.S. 70. The site is a lithic material quarry/workshop. The location also provides an excellent overview of a valley to the east and northeast that is favored today by antelope for feeding. Overall site size is 520 m north-south by 215 m east-west.

For the most part, the artifacts lie on exposed natural soils. One part of the site within the proposed highway project is covered by a shallow accumulation of eolian sand. Augering in this sandy area indicates cultural deposits lie 10 to 50 cm below the surface. Judging by the depths of recovered charcoal and artifacts, subsurface features such as hearths and pits may be present. Cultural materials at the site include flakes, cores, and burned rocks. No pottery or ground stone artifacts were noted.

The proposed highway project crosses the narrowest point of the site; south of the highway the site area within the highway project measures 46 m east-west (parallel with the highway) by 26 m north-south. That part of the site lying within the project area north of the existing highway consists of a few widely scattered artifacts resting on disturbed natural soils.

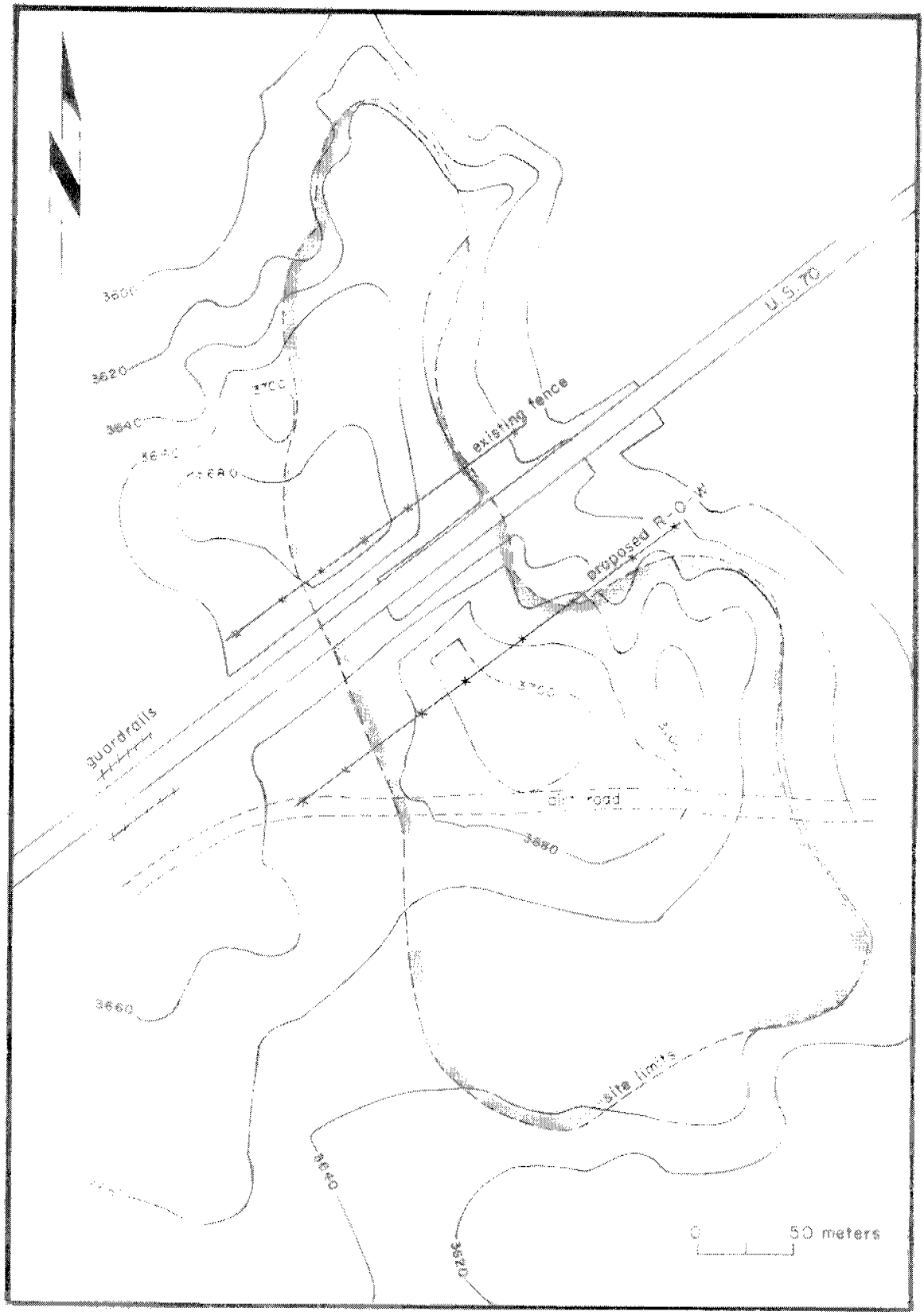


Figure 11. LA 6826, site sketch map.

Figure 12. LA 6826, part of site within highway project; figure standing on top of small dune that was auger tested.

Testing Results

South of the highway, an area measuring 50 m east-west by 28 m north-south (total of 1,196 sq m) was inventoried for artifacts (Fig. 13). A total of 724 lithic items was found (Table 2), yielding a density of 0.61 items per sq m of the total space inventoried. Since the artifacts tend to cluster in some units and are absent in others, however, a recalculation of the productive units (total of 580 sq m) indicates a density of 1.25 items per sq m total.

Three tubular shell beads were also found on the surface. One each came from 1-by-1-m squares 2N/5W, 6S/4E, and 11S/9E. The beads are fairly standardized in size, ranging 13 to 14 mm long, 9 to 10 mm in outside diameter, 5 to 6 mm in inside diameter, and 1.4 to 2.1 g in weight. Shaping was minimal and consisted mostly of squaring off the ends. The exterior of one has six facets, evidently from grinding away unwanted outer shell material. The shell species has not yet been identified, but a marine "tusk" shell is suspected. It is possible that the specimens are fossils, though the calcium carbonate composition has been retained. All were collected.

Four lines of auger tests--totaling 45 holes--were placed in the large sand accumulation in the south-central part of the highway project (Fig. 14). Final depths in most instances were determined by bedrock and varied from 45 to 175 cm. The wide variation in depth is clearly due to undulations in the bedrock as well as in differences in surface topography.

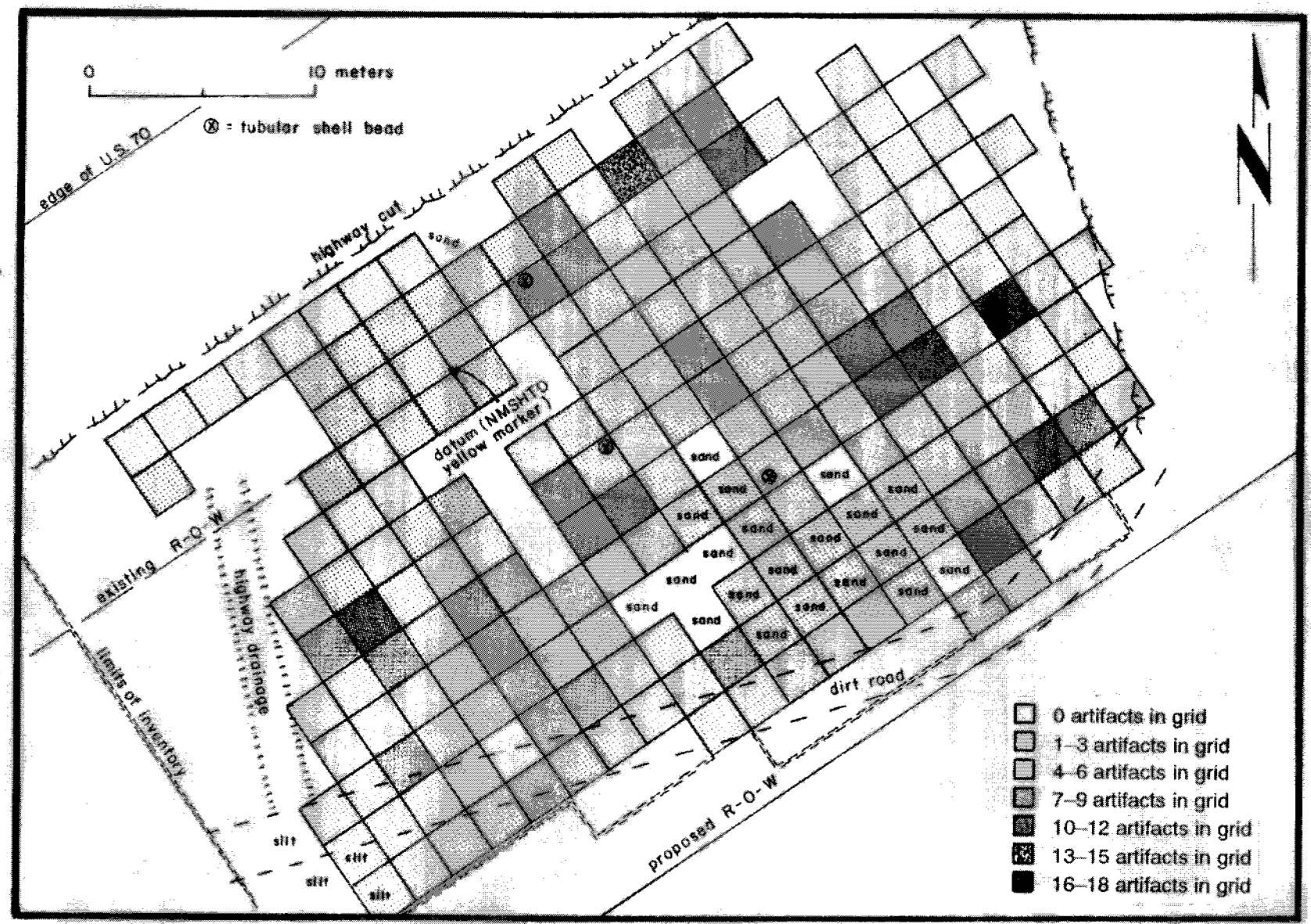


Figure 13. LA 6826, surface artifact distribution map.

Table 2. Summary of Surface Lithic Artifacts at LA 6826 by Type and Material

Material	Flakes	Cores	Total	Percent
Quartzite	304	30	334	46
Chert	213	31	244	34
Siltite	92	5	97	13
Chalcedony	32	3	35	5
Other	11	3	14	2
Totals	652	72	724	100

Material Descriptions:

Quartzite: purple, green, or orange-red
Chert: gray, red, black, tan, and varying shades thereof
Siltite (silicified siltstone): black or light brown
Chalcedony: clearish gray with occasional black inclusions
Other: one flake of silicified wood; all others unknown

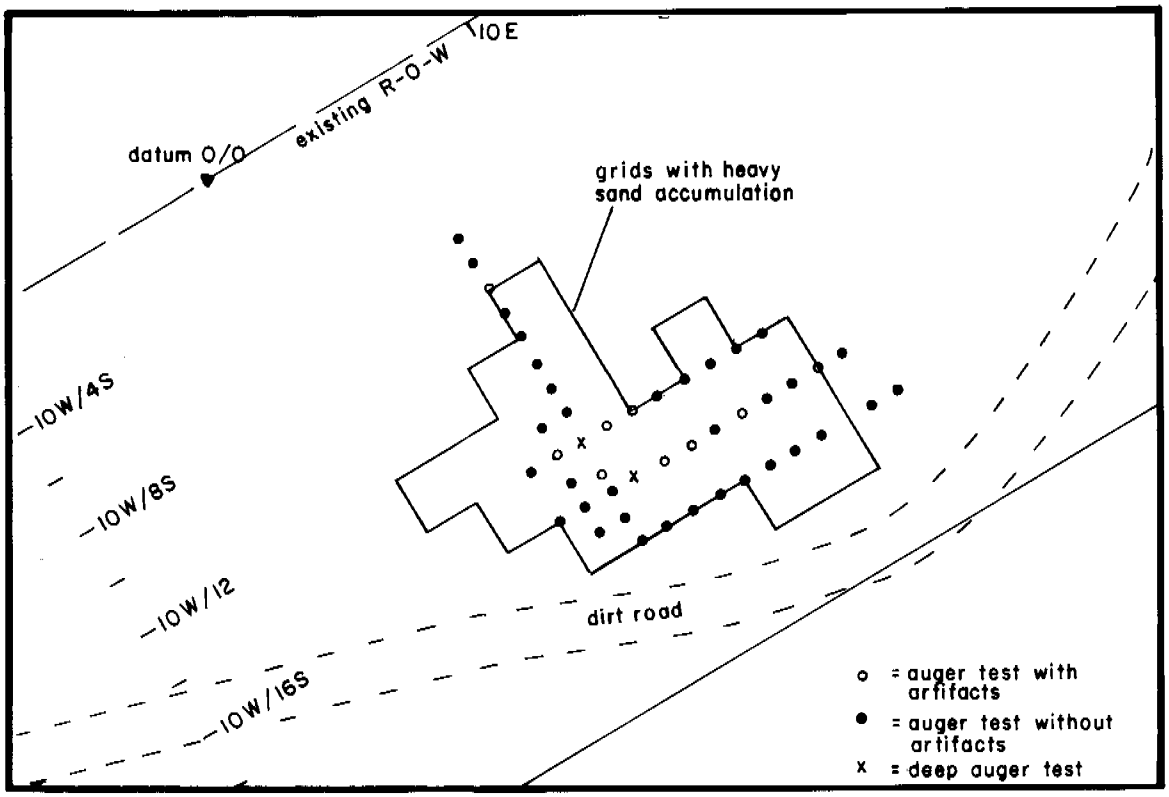


Figure 14. LA 6826, auger test locations.

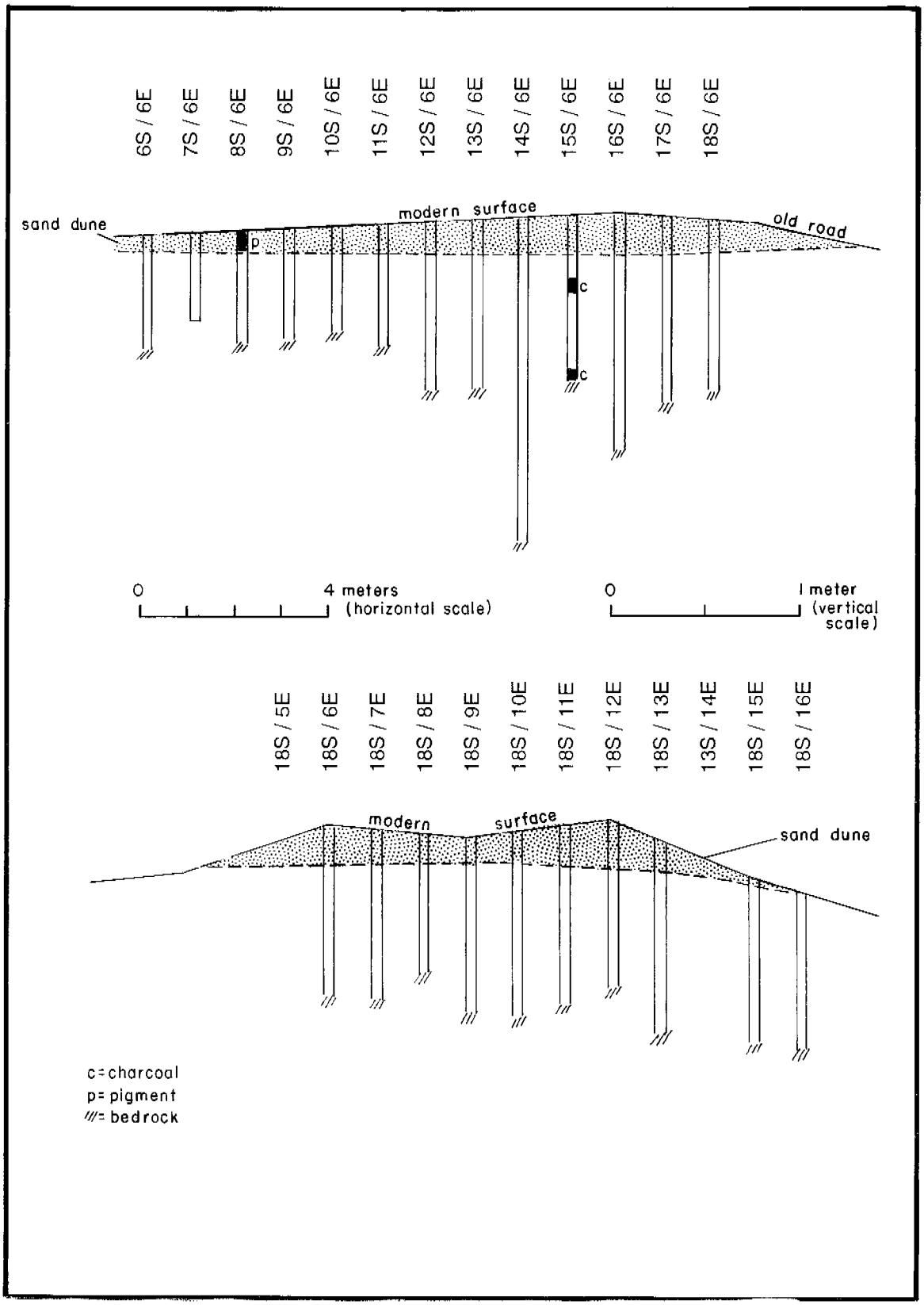


Figure 15. LA 6826, auger test profiles; (a) Lines 6E/6S to 18S, (b) 18S/5E to 16E.

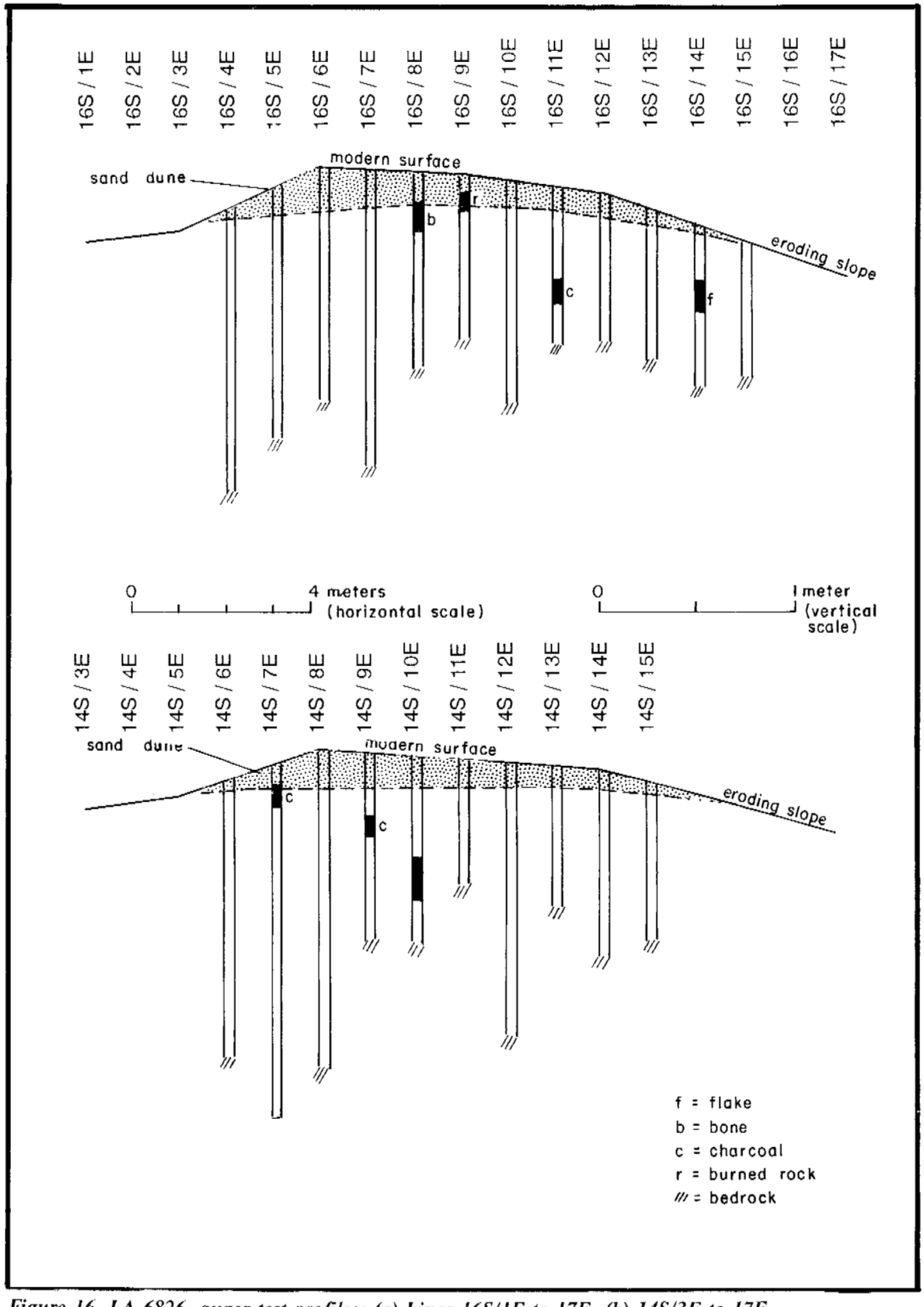


Figure 16. LA 6826, auger test profiles; (a) Lines 16S/1E to 17E, (b) 14S/3E to 17E.

An examination of the auger profiles reveals that the configuration of the bedrock is fairly regular along three of the four lines (Figs. 15-16). The surprising element is that the configuration of the bedrock varies considerably from line to line. The profile along line 16S reveals a distinct upward arch in the bedrock, while those along lines 6E and 18S are relatively horizontal but somewhat undulating. The tests at 14S/6E, 16S/7E, and 16S/10E are anomalously deep, probably because they are in sediment-filled cracks. Although it is possible that these deep tests encountered cultural features, their great depth and the basically sterile nature of the sediments makes this interpretation unlikely.

The fourth profile, along line 14S between 4E and 13E, is unusual considering that it is parallel to and only 2 m north of the 16S line. The bedrock profile is highly irregular and only in the most general sense reflects that of line 16S. Again, two tests (14S/5E and 14S/10E) are anomalously deep, and 14S/5E did not even encounter bedrock.

The sediments revealed in the augering were fairly uniform and appear to be mostly, if not entirely, natural. No organic stains, natural or cultural, were noted during the augering. The idealized section has a surface layer of 10 to 45 cm of light reddish sandy clayey silt. The second unit is of similar composition but somewhat more compact, increases in clay content with depth, and varies from 25 to 60 cm in thickness. About half of the auger tests revealed a variation on the second unit in that alternating light (tan to lighter red) and "normal" (reddish) layers may be present. These different colors may represent different source areas and shifts in wind patterns that led to alternating depositions of sediment at the site. The third unit, comprised of red silty clay with white specks of gypsum, represents the uppermost geologic stratum and varies from 3 to 25 cm. The fourth unit is bedrock.

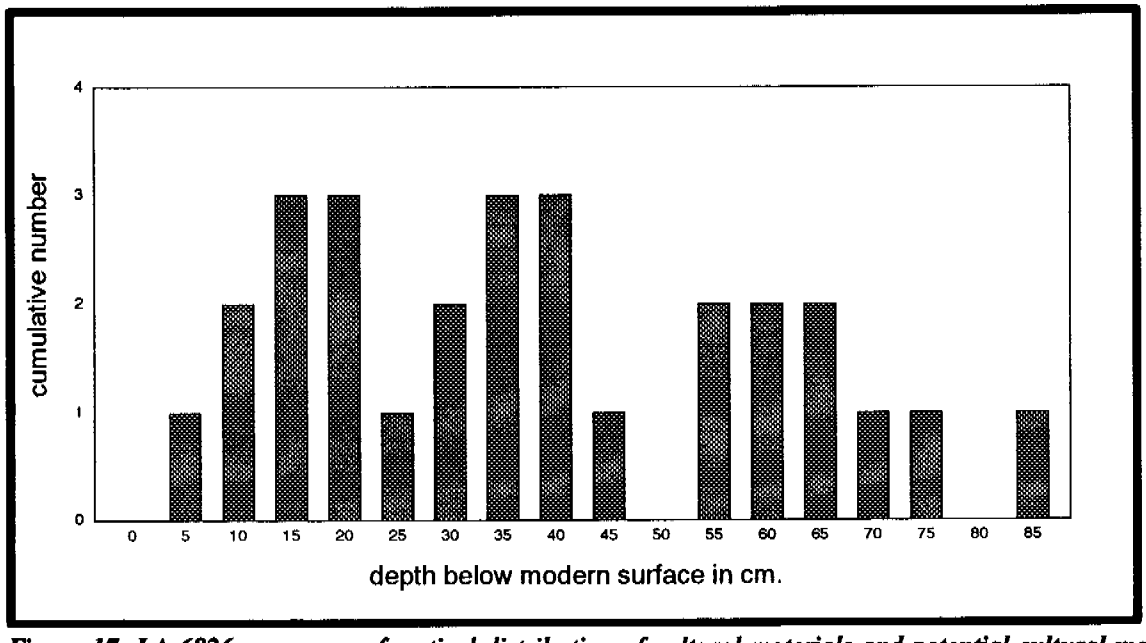


Figure 17. LA 6826, summary of vertical distribution of cultural materials and potential cultural materials in auger tests.

Cultural materials and potential cultural materials were recovered from 9 of the 45 auger tests, but only one of the tests produced these items from more than one level. The materials came from virtually every level down to 85 cm below surface. The total number of items is too low to form reliable patterns in their vertical distribution (Fig. 17), but judging by the graph, particular attention should be paid to the depths of 10-15 cm, 35-40 cm, and 55-65 cm during any subsequent work at the site.

Of the ten cultural or potentially cultural items noted during the augering, six are charcoal bits and flecks (small tiny pieces under 4 mm in size), one is a quartzite flake fragment, one is a piece of worked white pigment (calcium carbonate, as determined by testing with dilute HCl), one is a small piece of burned rock, and one is a fragmented deer(?) radius shaft.

Summary

LA 6825

LA 6825 is an artifact scatter situated in sand dunes lying on the leeward side of a high ridge. The situation protects the site from the prevailing spring winds and is therefore an ideal location for camping or short-term residence. Surface artifacts and features include flakes, cores, pottery sherds, occasional burned rocks, and a rock hearth eroding from the sand. Auger testing revealed substantial evidence for subsurface features such as hearths, pits, and perhaps structures. The presence of potentially datable hearths and structures on the site indicate that LA 6825 may be important to the prehistory of the region by providing little-known temporal and cultural sequences.

LA 6826

LA 6826 is an artifact scatter situated on top of a high, gravel-topped ridge. The situation is excellent for obtaining lithic materials for artifact manufacture and for observing the nearby low-lying grasslands for prey species, especially antelope. Antelope were observed every day of the testing phase. Surface artifacts include flakes, cores, tubular shell beads, and occasional burned rocks. Auger testing revealed evidence for subsurface cultural materials including flakes, deer/antelope bone, burned rock, and charcoal. Features such as hearths and pits may be present. The site may provide information on lithic procurement and reduction technology for this region. The potential for datable material would also be an important contribution.

DATA RECOVERY PLAN

Introduction and Theoretical Perspective

For a number of years archaeologists have been discussing whether hunter-gatherer groups (called "Neoarchaic" by Lord and Reynolds 1985) were living in proximity to Southwestern farming groups during the Pottery period, a notion that has particular relevance to southeastern New Mexico. Agreement on the matter appears to be consensual and is summarized by Sebastian and Larralde (1989:83):

> An alternative model of Ceramic period occupation in the Roswell District, then, would be that populations of both agriculturists and hunters and gatherers were to be found there. The presence of ceramics on sites created by groups of both types, it could be argued, has caused the remains of two very different settlement and subsistence systems to be lumped together into an apparently anomalous pattern. This alternative model appears to account for at least as much of the observed patterning in the Roswell District as the model that considers all Ceramic period sites to be a part of a single adaptation, and it offers several potential directions for future research.

Areas where the remains of purported Pottery period hunter-gatherers have been found include Los Esteros Reservoir on the Pecos River near Santa Rosa (Mobley 1979), the Llano Estacado along the New Mexico/Texas state line (Collins 1969), along the Pecos and lower Hondo rivers at Roswell (Wiseman 1981, 1985, 1991), east of the Pecos River near Artesia (Kauffman 1983), along the Pecos River north of Carlsbad (Katz and Katz 1985a), and in the Guadalupe Mountains (Roney 1985). In most cases, the sites believed to be those of hunter-gatherers are either open, nonstructural sites, or rock shelters and caves. Two exceptions--the King Ranch site (LA 26764) and the Fox Place (LA 68188) at Roswell--have small, oval to circular pit structures (Wiseman 1981, 1985, 1991).

Various criteria have been used to suggest that a given site or group of sites are those of full-time hunter-gatherers rather than of horticulturists or agriculturists. Criteria include aspects of the chipped stone technology (percentage of biface thinning flakes and material types, for instance), mano and metate types, projectile point types, artifact assemblage composition, items of exchange, subsistence patterns, and rock art. Of these, Mobley (1979) provides the most thorough treatment. The reader wishing more discussion of these matters is referred to Sebastian and Larralde (1989:82-83).

The theory of interstitial hunter-gatherers is both sensible and reasonable, but one thorny problem remains. How do we as archaeologists, using archaeological data, make a convincing case? How do we distinguish hunting-gathering sites created by farmers from those created by full-time hunter-gatherers? Until this is accomplished, we cannot confirm the existence of Neoarchaic peoples in the region.

We, like Sebastian and Larralde (1989), regard Lewis Binford's (1980) subsistence-strategy concepts of foragers and collectors as a useful point of departure, especially when viewed as two ends of a continuum and not as a dichotomy. In their simplest form, foragers move the people to the food resources, and collectors move the food to the people. Collectors do this by means of task groups that are sent out for as long as necessary to obtain specific resources and return them to the group. The primary differences are the degrees and ways in which people plan, organize, and conduct their food-quest.

The concept of foraging and collecting as a continuum has two general dimensions. The first is that, in a given year or over a series of years, the strategy of a group--depending on season, climatic regimen, economic success, demography, and other factors--often combines both approaches into a "mixed" strategy (see Boyd et al. 1993 for a recent discussion). Both approaches require, or are better facilitated by, an intimate knowledge of resource distributions and detailed planning on the part of the people. But in general, forager behavior is more opportunistic, and collector behavior is more methodical.

The other dimension is that, at least in some regions of the southern Plains and the Southwest during certain time periods, a collector lifeway actually became the established strategy and simple foraging was abandoned altogether. Boyd and others (1993) suggest that this situation occurred on the southern Plains when bison became more abundant during the Late Archaic, Late Prehistoric, and Protohistoric periods. Jelinek (1967) posits that the lure of bison was so strong during the Late Prehistoric period that the farmers of the Middle Pecos Valley abandoned gardening in favor of bison hunting as a lifeway.

In the Southwest, further development of a collector lifeway was facilitated by the addition of cultigens, especially corn, to the hunter-gatherer diet and involved a greater degree of sedentism. But it is becoming increasingly clear that several different paths led to the adoption of cultigens and that different preconditions to the change existed in different areas. Once integrated into the diet, cultigens did not necessarily assume paramount importance over other foods. Not all peoples relied on cultigens to the same degree, nor did that degree of reliance necessarily remain the same or progressively increase throughout the history of a given people. Like the shifts back and forth in the hunter-gatherer subsistence mix, the ratios of wild versus domestic foods may have shifted back and forth as well.

Returning for a moment to the forager lifeway, Sebastian and Larralde (1989) believe that the Roswell area Archaic peoples followed a subsistence strategy of *serial foraging,* rather than the simple foraging lifeway as defined by Binford. They define serial foraging as follows (1989:55-56):

> A strategy of serial foraging involves a small residential group that moves into the general vicinity of an abundant resource and camps there, uses the target resource and other hunted and gathered resources encountered in the general area until the target resource is gone, or until another desired resource is known to be available, and then moves on to the next scheduled procurement area. Such a strategy could be expected to create a great deal of redundancy in the archaeological record, an endless series of small, residential camps from which daily hunting-and-gathering parties move out over the surrounding terrain, returning to process and consume the acquired foods each evening. If the resources were randomly distributed, all the sites would look generally the same. But since many of the resources appear in the same place year after year or in some other cyclical pattern, some sites tend to be reoccupied.

Reoccupied sites, then, would look like a clustering of the small sites that would have been produced by a single-event, serial-foraging site.

> The only exception to the rule of basically redundant but sometimes overlapping small campsites would be the winter camps. Given the relatively brief winters of the Roswell District, many of the sites would, on the surface, be no different in appearance from reoccupied short-term camps. Excavation of such sites might recover resources indicating a winter seasonal occupation or features indicative of storage, however. If we were able

> to differentiate single, large-group occupations from multiple, small-group occupations, we might find that winter sites differ from warm season camps in that they were occupied by larger groups. (Sebastian and Larralde 1989:56)

The settlement types of serial foragers should then start taking on the appearance of collectors' sites.

By way of contrast, people leading a collector lifeway usually have a primary site where they live for a certain part of the year over a series of years. In the Southwest and southern Plains, the basis for this greater sedentism is frequently the cultivation and storage of domestic plants such as corn. Other resources that have been suggested for this role include succulents like agave and sotol (Roney 1985; Sebastian and Larralde 1989) and bison (Boyd et al. 1993). This primary site is commonly referred to as a base camp or habitation site and is characterized by hearths and storage pits in the former instance and architecture and storage pits in the latter. Generally speaking, the tools and waste materials at these sites indicate that numerous and varied activities were performed and that the sites were occupied and frequently reoccupied for relatively long periods of time. Other factors such as permanence of water source, fuel supplies, and other necessities are usually implicated in the location of these sites.

Storage, usually in the form of pits, is believed to be a key factor in the existence and the identification of base camps and habitation sites, for they signal the need to preserve quantities of foodstuffs. Generally speaking, the implication is that storage signifies a location that is easily protected or otherwise secure from theft by other people. Sebastian and Larralde (1989:86) advance the interesting hypothesis that, because some resource patches are spread over the landscape and create a logistical problem for exploitation, some people may actually have cached foods in the collection areas and then moved their families from cache to cache as needed throughout the winter season.

Since a variety of wild plant and animal foods are important to the diet of collectors, work parties are sent out to gather these and other needed resources. For the most part, a specific resource is the target of these work parties, but other resources may be gathered opportunistically. These secondary sites are commonly referred to as special activity sites or locations and are generally characterized by more specialized tool kits, which may be readily identifiable with specific resources or resource zones. Hearths may or may not be present, but structures and storage pits are absent.

So, how *do* we distinguish between the hunting-gathering sites of these two groups? Of the several scholars working in eastern and southeastern New Mexico, C. M. Mobley (1979) uses a comprehensive set of criteria to look at the question of whether sites along the Pecos River belong to hunter-gatherers or to Puebloan peoples to the west. The domains of information he uses are:

* individual plant and animal species used
* biotic zones or communities exploited
* artifact assemblage composition, especially the percentages of projectile points and ground stone items
* mano and metate types
* core-flake technology, especially platform types, percentage of cortex, and material types
* biface technology, especially platform types, percentage of cortex, and material types
* exchange items, especially artifacts, lithic materials, plants, and animals
* rock art (style, subject matter, and techniques)

We propose to use the applicable criteria, in part, in the analysis of the U.S. 70 highway project sites.

Research Questions

The research proposed for sites LA 6825 and LA 6826 will be directed towards answering the question posed and discussed in the preceding section (see 1 below). To do this, it will be necessary to focus on several related questions, all of which are outlined below.

1. The primary question to be investigated is whether the sites were those of indigenous hunter-gatherers or by the farmers inhabiting nearby architectural sites like Bloom Mound, Henderson Pueblo, and Rocky Arroyo.

Establishing the identity and culture history of people through their cultural remains is the essence of archaeology. Archaeologists typically equate constellations of artifacts, architecture, economic structure, and even single pottery types with a people, often on the basis of nothing more than untested assumption. This particular problem is highlighted in southeastern New Mexico. Because of its proximity to Plains cultures, scholars have debated unsuccessfully for years about the origin and cultural affiliation of the thousands of sites lying between the Pecos River and the Llano Estacado. The problem is nearly intractable because the artifacts on these sites are not greatly varied, the sites are rather simple in their content and character, and differences in artifacts and sites are not readily apparent over vast areas. Simply stated, does the presence of Southwestern pottery mean that the site occupants were Jornada-Mogollons? If not, who were they and how do we make a convincing case?

The Office of Archaeological Studies recently investigated a closely allied problem on the Picacho Project. On this project we excavated an open-air, late Archaic site and a series of small Pottery period caves and shelters (Wiseman n.d.). The excavated part of the Sunset Archaic site (LA 58971) revealed several large storage pits, three hearths, a midden, other features, manos and metates, and some animal bone but few projectile points. Corn remains (cupule fragments and pollen) were ubiquitous in the excavated deposits. Several radiocarbon dates indicate occupation during the first four and one-half centuries A.D. No pottery or other evidence of occupation dating after the early A.D. 400s was noted.

Tintop Cave, the largest of the Sunset Shelters (LA 71167), produced stratified occupations, a few hundred sherds, lithic debitage, manos and metates, projectile points, several hearth areas, and animal bone. Corn remains (cupule fragments and pollen) and beans were present but in fewer numbers than at the Sunset Archaic site. Pottery and radiocarbon dates indicate occupation between A.D. 1000 and about 1425.

One of the key questions posed in the Picacho Project was whether we could determine if the remains at the two sites were from the same or different cultures. A subsidiary question focused on whether the remains at the Sunset Shelters were those of full-time hunter-gatherers or of farmers in their seasonal, hunting-gathering mode. The results, after lengthy comparisons of the artifact assemblages and economic data, were largely inconclusive.

Because of the problems encountered on the Picacho Project, our approach on the Dunnahoo Hills Project is admittedly a fishing expedition. During the course of the project we hope to isolate one or more criteria by which the sites of the two lifestyles can be distinguished at the level of hunter-gatherer camps. To do this, we need to compare our data with those from several other sites in the area. We will be looking at variation between the two sites in expedient vs. formal tool use, the caching of artifacts such as ground stone vs. portability, use of seasonally available resources and seasonal structures, and the presence of

storage pits. A determination of corn utilization is also necessary to determine if residents of either site were farmers. This will be examined through macrobotanical and palynological analyses of economic material from hearths, pits, and structures. and carefully compare aspects of artifact assemblages, structures, thermal features, economic strategies, and any other information that might provide clues to the solution. The process will be largely subjective because of the nature of the data and because we do not anticipate a clear-cut answer. By their nature, these situations require careful weighing of the evidence and summary arguments.

2. Is LA 6825 a base camp/habitation? Are structures, storage pits, other types of pits, and thermal features (hearths, cooking pits, etc.) present? Do the features in the site form a single cluster, suggesting a single occupation? Or, are two or more clusters of features present, suggesting two or more occupations? If two or more occupations are present, were the activities or site function during each occupation the same or different?

Determining whether cultural features (structures, storage pits, thermal features, etc.) are present is critical in defining site types. Such features define base camps (or habitation sites), and their absence is generally indicative of special activity sites. Important subsidiary studies will assist in determining site type, as well as overall subsistence patterns, and include floral, faunal, and artifactual data, as discussed below.

3. What artifact assemblages are present at LA 6825 and LA 6826? What types of tools and manufacture debris are present and in what percentages? On the basis of the artifacts, what types of activities were performed at the site? How do these assemblages compare with those from other sites in the region?

The types of artifacts at a site help define the kinds of activities that took place at each specific location. Manos and metates imply grinding plant foods, projectile points imply hunting, and scrapers imply hide dressing. Multipurpose tools such as hammerstones, awls, and drills, and manufacture debris such as chipped lithic debris, shell fragments, and some types of fragmentary artifacts, imply a host of generalized activities involving the manufacture or maintenance of items associated with day-to-day living. A wide range of artifact and debris types imply a base camp/habitation situation, and fewer artifact and debris types imply special activity sites. The percentages of each category will provide a *very rough* index to the relative frequency of occurrence of each activity at the site.

Caution is required in interpreting the data in this manner because of the effects of tool use-life on artifact assemblage composition (Schlanger 1990), because this line of interpretation makes several assumptions about the data and the activities they represent, and because the technique greatly simplifies a number of complex variables and conditions.

With these details worked out, we can then compare the project sites with farming sites in the Roswell area. Sites to be used in this comparison include the Fox Place (LA 68188), Tintop Cave (LA 71167), Rocky Arroyo (LA 25277), and, if possible, the Henderson site (LA 1549).

4. What plants and animals were being processed or consumed at LA 6825 and LA 6826? What biotic communities were being exploited? Were the inhabitants of the sites exploiting all available biotic communities or only selected ones? Were cultigens being grown and consumed? What season or seasons were the sites occupied?

Plant and animal remains recovered at archaeological sites provide first-line evidence for reconstructing various aspects of the human food quest. Animal bones and the pollen and charred remnants of plants will be studied to identify the species present and the biotic zones exploited, characterize the diet and food preparation techniques, and provide insights into the effects of taphonomic processes on the archaeological record. Floral and faunal data also have the potential of providing data on season of the year that they were collected or hunted. Although only certain plant and animal remains provide seasonal data, they are very useful in helping to define the time of the year the sites were occupied. Since it is unlikely that the data from the project sites constitute a total view of the diet throughout the year or through time, it will be necessary to compare these results with those of other projects in the region to gain a better understanding of the total subsistence system.

The presence/absence of cultigens is one aspect of the subsistence picture that may help answer the question as to whether the site occupants were full-time hunter-gatherers or farmers in a hunting-gathering mode. Leslie's (1979) assessment of the structural sites in the vicinity of Hobbs in far southeastern New Mexico, though without benefit of flotation and pollen recovery techniques, suggests that corn was not being grown east of the Pecos River within New Mexico. The WIPP Project (Lord and Reynolds 1985), located between Leslie's sites and the Pecos River, excavated three nonstructural sites but failed to find evidence of cultigens in flotation and pollen samples. On the other hand, corn was clearly being grown within the Pecos Valley at Roswell (Kelley 1984, appendix 6; Rocek and Speth 1986; Wiseman 1985) and probably near Fort Sumner as well (Jelinek 1967). Further south along the Pecos at Brantley Reservoir, the Katzes (1985a) did not find evidence of farming in the several nonstructural, prehistoric sites they excavated. Thus, if cultigens are documented for LA 6825 or LA 6826, especially in quantity, the remains may help us determine whether the site occupants were farmers or full-time hunter-gatherers. The finding of small amounts of cultigens would be less clear, for they could have been obtained in trade from farmers.

5. What exotic materials or items at the sites indicate exchange or mobility?

Materials and artifacts not naturally available in a region are indicative of either exchange relationships with other people or a mobility pattern that permits a group to acquire these items during their yearly round. Judging which situation is applicable to the project sites is difficult and will require careful comparison with data from the Roswell region. If we can determine whether the site occupants acquired the goods through trade or by direct access, we will gain perspective on the territory they used and therefore on the identity of the people themselves.

The absence of exotic materials is another matter entirely. In small sites and sites of short occupation, the absence of exotics may be misleading simply because such items may not have had time to find their way into the archaeological record. Or, perhaps the occupants simply did not acquire exotic materials. Either way, we may never know at any specific site. But this is precisely where comparisons with other assemblages in the region and the long-term accumulation of excavation data from numerous sites, both large and small and of all types, is necessary for acquiring perspective and, eventually, resolving the problem.

6. What are the dates of the occupation(s) at LA 6825 and LA 6826? Do the various areas of the site date to one period, or are several different time periods represented in different areas of the site?

Accurate dating of sites and components is essential for studying change and the direction of change in prehistory. The dating situation is critical in southeastern New Mexico where dendrochronology, the most

accurate and preferred dating technique, works poorly or not at all (W. Robinson, pers. comm. 1975). Few absolute dates derived by other techniques are currently available (Sebastian and Larralde 1989). Recent advances in radiocarbon dating make it the most viable technique for southeastern New Mexico at the present time. Techniques like obsidian hydration and thermoluminescence have been used in southeastern and south-central New Mexico. These techniques, however, are fraught with problems that must be resolved before they will be reliable for general use.

Sites like LA 6825 and LA 6826 are notoriously difficult to date because they usually contain so few datable materials. During excavation, charcoal will be recovered from as many features and cultural situations as possible. Because of the importance of dating the project sites, we will submit both very small samples (for accelerator mass spectrometry analysis) and bulk samples (carbon-stained sands) for dating if necessary.

7. What were the biological relationships and nutritional status of the people who inhabited LA 6825 and LA 6826?

In many ways human skeletal materials can answer most of the questions about the biological and cultural relationships that archaeologists ask of archaeological data. Human skeletal remains, however, are not common, are not recovered in sufficient numbers for statistical reliability, and are frequently not well enough preserved for many types of studies. Thus far, analyses of human remains from southeastern New Mexico are few in number, but the results have been interesting, especially regarding the central research question (1) posed here.

The two most provocative human biology studies are the analyses of the skeletons from the Henderson site (Rocek and Speth 1986) and the Robinson site (Katzenberg and Kelley 1991). For our purposes, the two most important findings of Rocek and Speth (1986:167) are:

> Physically, the inhabitants of the Henderson Site have resemblances to both the Pueblo populations to their west and, more markedly, to the more scattered peoples of western Texas to their east and south. However, there is no evidence that the Henderson Site was settled by recent migrants from either area; instead, the data point to some degree of stability in the local population.

Although their findings are preliminary and therefore not fully discussed, Katzenberg and Kelley (1988, 1991) have chemical and other data that complement Rocek and Speth. Although they do not say so in the published form of their paper (1991), Katzenberg and Kelley suggested at the 1988 Mogollon Conference that one of the individuals recovered from the Robinson site was skeletally and chemically unlike the others and was more similar to people who have high meat diets (1988). The implication is that this individual may have been a visitor from the Plains. Thus, it is possible that human remains recovered by the project could contribute significantly to the research domain that is central to this project.

Nutritional studies, particularly isotope and element analyses (carbon, strontium, etc.), will be used to estimate the relative contributions of plant and animal foods and of gathered and cultivated foods to the diet. A key aspect of these studies is the nature of the native vegetation in the region. Carbon isotope ratios, which have been used to estimate relative dependence on corn in the Midwest, are dependent on the photosynthetic pathways of the plants consumed. Since many Southwestern plants consumed by humans, and animals that eat these plants are consumed by humans, use the 3-carbon pathway, the job

of sorting out the information from isotope studies will be more difficult. Under these circumstance, it is advisable to study the isotope signatures of the animal bones for comparative data.

The Potential of LA 6825 and LA 6826 for Answering the Research Questions

LA 6825

The potential of this site for being a basecamp/habitation was confirmed through testing. The presence and preservation of subsurface features and cultural deposits indicate a strong potential for recovering many of the categories of data necessary for answering the research questions. At a minimum, we anticipate uncovering a possible structure or storage pit, and two hearths. Excavation will undoubtedly uncover more features. If other features are found, the possibility arises that more than one component is present. Additional components will provide either redundant or different information on the use of the site through time. The fill of the one structure/storage pit contains charred materials that should be useful for dating and for subsistence data. The more data we recover, the greater the likelihood that we will have the information we need to successfully address the research questions.

LA 6826

This site was originally thought to be a quarry and preliminary processing site for chipped stone artifacts. Testing yielded animal bone, implying consumption of food, and possibly use of the site as a staging area for hunts. Charcoal indicates the presence of hearths and perhaps other thermal features and implies that the occupation may have lasted several days or more. Thus, we need to clarify the occupational status of this site by addressing questions 2 through 6 as posed above. Once this procedure is completed, we will be able to assess question 1.

Field Strategy

The first activity at both LA 6825 and LA 6826 will be to reestablish the baselines and surface grids. Next, surface artifacts will be relocated and collected according to 2-by-2-m squares.

At LA 6825 excavations will commence with intensive augering in areas not covered during the testing phase. Transects of auger holes, spaced at 1-m intervals, will be selectively placed throughout the sand-covered western part of the site. The results of the augering, when combined with the results from the testing phase, will identify the locations of subsurface features that will then be excavated. Augering will be accomplished with a hand-operated, 3-inch bucket-auger used in the testing phase. During the testing phase, lines of auger tests were found to be a rapid and effective sampling technique for locating subsurface remains.

Once the primary locations of subsurface features have been identified through augering, the primary excavation of those areas at both LA 6825 and LA 6826 will be accomplished using hand tools in 1-by-1-m squares. All fill will be screened through 1/8-inch wire mesh. If human burials are found,

the fill surrounding the burial will be screened through 1/16-inch wire mesh.

Vertical control will be flexible and will proceed in one of two ways--either by arbitrary levels or stratigraphic units. The decision on which approach to use will be made after initial excavations (1-by-1 or 1-by-2-m square) determine the nature of the deposits in each area. The initial excavations will proceed in 10-cm arbitrary levels.

Where stratigraphy is absent, excavations will be conducted in arbitrary levels no finer than 10 cm nor grosser than 20 cm. Level thickness will be determined by location of the unit (especially whether inside or outside structures) and the depth and content of the cultural fill. Use-surfaces will be excavated separately and subsequent arbitrary levels maintained thereafter.

Where stratigraphy is present, excavations will focus on each identifiable stratum as a unit. If a unit is large and thick (e.g., is several sq m in area and 30 or more cm thick), it may be subdivided and excavated in a manner determined to be appropriate at the time of excavation. Since strata are usually inclined (such as during the filling of a depression), subdivisions will parallel the plane of deposition.

We expect to encounter small clusters of artifacts, burned rocks, and cultural features, all separated from one another by expanses of nonartifactual areas. Accordingly, excavations will involve the opening of large areas to find all features and artifacts that compose each cluster and the adjacent sections of nonactivity areas between them.

Part of the work will focus on looking under sand dunes, both for cultural items and features and for assessing the stratigraphic relationships between cultural clusters. In some cases, a backhoe will be used to remove the upper portions of sand dunes, placing the sand in a dump truck; the sand will then be dumped off-site but within the right-of-way. We expect to find some cultural clusters under the dunes.

In all excavations, burned rocks and other large, cultural items will be left in place to provide a visual record of the cultural configuration. We hope to identify activity areas in this manner.

Cultural features such as hearths, pits, and perhaps even structures are anticipated. When found, each feature will be excavated separately. Special attention will be given to obtaining soil samples for dating, flotation analysis, and pollen analysis from features.

Once the hand excavations have exposed cultural clusters, backhoe trenches will be placed in selected locations to explore the geologic stratigraphy, confirm the presence or absence of cultural cluster boundaries and site boundaries, and establish stratigraphic relationships among cultural clusters.

During the excavations, photographs, drawings, and notes will be made as needed to document work progress, impressions, initial interpretations, features, and details uncovered during the work. Subsidiary maps will be prepared for each excavation area and will include all cultural features, excavation units, and modern features (highway markers, fence lines, etc.).

Human Remains and Sensitive Objects

We do not anticipate finding human remains at LA 6825 or LA 6826. If we do, we will treat them with

sensitivity and will abide by stipulations resulting from consultations between the officials of appropriate Native American groups, the New Mexico Historic Preservation Office, the NMSHTD, and the OAS. Also, the conditions outlined in the following documents will be met: Historic Preservation Division Rule 89-1 ("Regulations for the Issuance of Permits to Excavate Unmarked Human Burials in the State of New Mexico"); and Museum of New Mexico Rule 11, as amended April 2, 1991 ("Collection, Display, and Repatriation of Culturally Sensitive Materials"). Copies of both documents are included in this report as Appendix 2.

Human remains or sensitive materials identified and recovered will not be handled or photographed in the field except as part of scientific data recovery by authorized persons. Photographs of human remains and other sensitive materials will not be allowed by or released to the news media, the general public, or other unauthorized persons. The only person authorized to take photographs of human remains and sensitive materials is the person designated by the project supervisor to take documentary photographs as part of the data recovery plan.

Laboratory Study

Artifact Preparation

All artifacts will be washed in preparation for analysis and eventual curation. Exceptions are animal bone and human bone; these items will be dry brushed but not washed.

Preliminary Sorting and Tabulating

A preliminary sort will be done of all artifacts to tabulate the total number present and to familiarize the analysts with the variation in types and materials. All items will be accounted for in this manner.

Full or Sample Analysis

All artifacts recovered by the project will be subjected to a detailed analysis unless the collections number in the many thousands. In the latter case, a sample of the artifacts will be analyzed.

In the event very large numbers of artifacts (many thousands) are recovered, a sample will be selected for detailed analysis. In drawing the sample, primary consideration will be given to items from critical proveniences--structure floors, bottom fills of other types of features, use surfaces, stratified contexts, datable locations, and proximity to features.

The types of proveniences most likely to be excluded from the analysis are excavations for ascertaining site peripheries (for example, backhoe trenches), exploratory excavations that have negative results (do not locate activity areas, culturally meaningful deposits, or features), and surface collections.

We emphasize that collections from these proveniences will undergo preliminary sorting, tabulation, and scrutiny for rare or unusual artifact types and materials.

Animal Bone

The animal bone analysis will provide several types of information pertinent to answering research question 4. Paramount for our purposes, it will inform us about the species present, the relative proportions of species taken (the "mix"), hunting strategies, and seasonality.

Faunal remains will be analyzed for species, age, season of death, taphonomy, and evidence of butchering, cooking, and consumption. An attempt will be made to determine which elements were used by the prehistoric occupants of the sites and which were post-occupational intrusives.

Chipped Stone Debitage

A key aspect of the analysis of the chipped stone debris will be to reconstruct the core reduction technology. We need to know what the sizes, shapes, and internal imperfections of the raw material units were and how they affected the sizes, shapes, and other characteristics of the end products, the flakes, and ultimately, the artifacts produced from them. This exercise is necessary because of the nature of the raw materials available to the prehistoric people and will be useful in looking for and evaluating similarities and differences in metric and nonmetric attributes of flakes, cores, and chipped stone artifacts throughout the region. The chipped stone analysis will permit us to answer research question 3 (artifact production technology) and 5 (exchange and social relations).

The chipped stone debris will be analyzed for type (core, flake, angular debris), subtype (types of cores and flakes), material, metric dimensions (length, width, thickness, weight), platform characteristics, cortex, termination type, heat treatment, intentional retouch, and use wear.

Dating

Each radiocarbon sample will first be sorted by plant species and then grouped by photosynthetic pathway (3C, 4C, CAM, etc.). The samples will then be submitted to Beta-Analytic, Inc., for dating.

Formal Artifacts

All artifacts typeable to traditional categories of curated tools (projectile points, drills, manos, metates, etc.) will be analyzed according to assumed anticipated primary function. We readily acknowledge that many individual artifacts were ultimately used in a variety of ways, but the primary function, judged by design characteristics (shape, material, etc.), will be the main criteria for assignment. In some cases, artifacts were put to secondary uses after they were no longer needed or functioned properly in their primary roles. By analyzing artifacts and assemblages from the standpoint of anticipated primary roles or needs, we can ascertain what activities the people expected to perform, and probably did perform, at a given location. Use-wear studies and other evidence for secondary uses can assist us in discerning actual uses. The two kinds of evidence, then, can give us a more complete picture of the functions of the sites and allow us to answer research question 3 (artifact assemblage and the activities performed at the sites) and probably 5 (exchange and social relations).

Formal artifacts will be analyzed for type (primary function inferred from design characteristics), material (stone, bone, shell, pottery, etc.), metric dimensions (length, width, thickness, weight), use wear, and other attributes that have merit (burning, breakage type, pigment, etc.).

Human Remains

Laboratory treatment of human remains and sensitive materials will follow the stipulations resulting from consultations between the officials of appropriate Native American groups, the New Mexico Historic Preservation Division, the NMSHTD, and OAS. Also, the conditions outlined in the following documents will be followed: Historic Preservation Division Rule 89-1 ("Regulations for the Issuance of Permits to Excavate Unmarked Human Burials in the State of New Mexico"); Museum of New Mexico Rule 11, as amended April 2, 1991 ("Collection, Display, and Repatriation of Culturally Sensitive Materials"); and New Mexico statutes pertaining to the treatment of human remains (pursuant to Section 18-6-11.2 NMSA 1978). Copies are included in this report as Appendix 2.

Human remains or sensitive materials identified and recovered will not be handled or photographed in the laboratory except as part of scientific data recovery by authorized persons. Photographs of human remains and other sensitive materials will not be allowed by or released to the news media, the general public, or other unauthorized persons. The only person authorized to take photographs of human remains and sensitive materials is the person designated by the project supervisor to take documentary photographs as part of the data recovery plan.

Subject to consultation, the following nondestructive observations and studies will be conducted on human remains recovered during the excavations: standard anthropometrics, gender, age, pathologies, and anomalies.

If the bone is sufficiently well preserved, and depending on the results of consultations with the appropriate agencies, destructive studies may be undertaken. The samples for these studies will be of two types: (1) a minimum of two dime-sized pieces of bone from each individual represented, and (2) one cross section of the end of one long bone. The dime-sized pieces will be ground for chemical analysis.

Overall, the proposed studies will yield information on stature, gender, diet, health, nutritional status, and genetic relationships to regional and extraregional peoples. These results will be used to evaluate the subsistence and exchange questions posed in research question 7.

Plant Materials

Plant remains, as documented through pollen, microscopic plant fragments from flotation samples, and macroremains (large enough to be seen with the unaided eye), will also provide several other types of information pertinent to answering research question 4. They will inform us on wild species collected, domesticated species grown, the relative proportions of wild and domestic species used (the "mix"), wild-plant collecting strategies, and seasonality.

The floral materials will be analyzed to lowest taxonomic order possible and plant part

represented. An attempt will be made to determine which remains were used by the prehistoric occupants of the sites and which were post-occupation intrusives.

Pottery

Pottery in a site like LA 6825 is important for three reasons, all of which will inform on research questions 5 (exchange and social relations) and 6 (dating). It provides a relative date for the occupation, indicates socio-economic ties with pottery-producing villages, and documents certain activities (food service, cooking, storage, etc.) that may have taken place at the site.

The analysis will monitor several attributes, including temper, paste, surface finish, vessel form, and pottery type. The degree of success in the analysis will rely heavily on the nature of the sherds themselves and the natural processes they have undergone since the site was occupied.

The sherds observed at LA 6825 appear to be fairly typical of pottery found in most sand dune sites--they are so small that the identification of vessel form and function will be difficult in many cases. One positive aspect is that the surfaces of the sherds are intact, indicating recent exposure to the elements and promising valuable information about the pottery. It also signals the presence of intact cultural deposits at the site. Surface attributes of pottery are critical for proper identification of type, time period, and cultural affiliation.

Data Integration and Interpretation

Once all of the analyses have been completed, the results will be synthesized and used to address research question 1. Pertinent sites in the region, as reported in the archaeological literature, will be compared to the project sites to gain perspective on regional culture dynamics.

Publication of Findings and Disposition of Records and Collections

The final report will be prepared and published in the *Archaeology Notes* series of the Office of Archaeological Studies, Museum of New Mexico. All paper records will be submitted to the Archeological Records Management System (ARMS) of the Historic Preservation Division, Office of Cultural Affairs. The collections, with the exceptions noted below, will be submitted to the Museum of New Mexico Archaeological Research Collections. Deposition of human remains and any burial goods will be according to understandings reached through consultation with the appropriate governmental agencies and Native American group(s) to be determined by the SHPO and the NMSHTD.

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APPENDIX 2. DOCUMENTS RELATING TO THE TREATMENT OF HUMAN REMAINS

HISTORIC PRESERVATION DIVISION

LA VILLA RIVERA, ROOM 101

SANTA FE, NEW MEXICO 87503

"REGULATIONS FOR THE ISSUANCE OF PERMITS TO
EXCAVATE UNMARKED HUMAN BURIALS
IN THE STATE OF NEW MEXICO"

SECTION 1. STATUTORY AUTHORITY

The following regulation is created pursuant to Section 18-6-11.2 NMSA 1978.

SECTION 2. PURPOSE

The purpose of this regulation is to establish the procedures under which permits for the removal of unmarked human burials shall or may be issued and the requirements and stipulations for analysis, treatment and disposition of unmarked human burials.

SECTION 3. APPLICABILITY

Section 18-6-11.2 NMSA 1978 applies to all lands of the State of New Mexico and all private lands in the State of New Mexico. It does not apply to federal lands or to lands held in trust for an Indian Tribe by the federal government.

SECTION 4. DEFINITIONS

A. "Committee" means the Cultural Properties Review Committee, as authorized and defined in Section 18-6-4, NMSA 1978, which consists of seven members as follows:

1) the State Historian at the State Records Center and Archives;

2) one person professionally recognized in the discipline of architectural history;

3) one person professionally recognized in the discipline of history;

4) one person professionally recognized in the discipline of architecture;

5) one person professionally recognized in the discipline of archaeology;

6) one person professionally recognized in the discipline of historic archaeology;

7) one additional person who is professionally recognized in

(a) history
(b) architectural history or architecture or
(c) archaeology.

B. "State Archaeologist" means the state official described in Section 18-6-15, NMSA 1978.

C. "State Historian" means the state official described in Section 18-6-14, NMSA 1978.

D. "State Historic Preservation Officer" (SHPO) means the state official described in Section 18-6-8, NMSA 1978.

E. "Permitting authority" means the SHPO, the Cultural Properties Review Committee and the State Archaeologist.

F. "Permit" means a written authorization issued by the permitting authority to conduct archaeological excavations of human burials.

G. "Unmarked burial ground" means a location where there exists a burial or burials of any human beings that are not visibly marked on the surface of the ground in any manner traditionally or customarily used for marking burials and includes any funerary object, material object or artifact associated with the burial or burials.

H. "Human burial" means a human body or human skeletal remains and includes any funerary object, material object or artifact buried, entombed or sepulchered with that human body or skeletal remains.

I. "Appropriate efforts to determine age" means estimation of the date of burial based on historic records (e.g., county or municipal vital statistics, church records, or other archival materials) or on associated funerary objects, material objects or artifacts or on interviews with area residents or any other efforts determined appropriate by the permitting authority.

J. "Living persons who may be related to the human burial" means the designated spokesperson of any tribal group or clan or any person or persons with demonstrable consanguinal, affinal or direct historical association with the burial in question.

K. "Lawful disposition of the human burial" means disposition of the human remains and associated funerary objects in a manner approved by the permitting authority, including, but not limited to, reburial or curation by a museum or similar facility.

L. "Appropriate location" means the location of reburial of human remains and associated funerary objects, material objects or artifacts, as required by the permitting authority and as determined in consultation with the landowner and with any person who may be related to the human burial.

M. "Medical Investigator" (MI) means the licensed physician described in Section 24-11-3 NMSA 1978.

O. "**Skeletal Remains**" means any part of the body of a deceased human being in any stage of decomposition.

P. "**Landowner**" means the public or private owner of any land or estate in which a burial is interred.

Q. "**Office of Indian Affairs**" (OIA) means the commission created by Section 28-12-4 NMSA 1978.

SECTION 5. COORDINATION WITH THE STATE MEDICAL INVESTIGATOR

Excavation, removal, disturbance or destruction of an unmarked human burial or unmarked burial ground may be carried out only by authority of the State Medical Investigator or of the permitting authority.

Any case of sudden, violent or untimely death, any death whose cause is unknown, and any death by criminal act or omission is presumed to have medicolegal significance. It is the responsibility of the MI, in cooperation with the law enforcement agency of jurisdiction, to determine whether an unmarked human burial or unmarked burial ground has such medicolegal significance.

Consistent with this responsibility, all unmarked human burials and unmarked burial grounds in the State of New Mexico shall be presumed to fall under the authority of the MI pursuant to Section 18-6-11.2(D) NMSA 1978.

Any person who discovers an unmarked human burial or unmarked burial ground shall cease any activity that may disturb that burial or burial ground or any object or artifact associated with that burial or burial ground and shall notify the local law enforcement agency having jurisdiction in the area. The local law enforcement agency shall notify the MI and the SHPO. The local law enforcement agency may choose not to notify the SHPO in cases in which it is manifestly evident that the burial is recent and death was caused by a criminal act.

When notified by law enforcement the SHPO will designate a staff archaeologist or another professional archaeologist, holding a permit as described below (Section 6.B), to respond to the discovery of an unmarked human burial or unmarked burial ground. Such permitted professional must be prepared to show adequate and appropriate identification or authorization to law enforcement or to MI personnel. When the MI and such professional archaeologist concur in a determination that the unmarked burial or burial ground is without medicolegal significance, the case shall be terminated by the MI to the SHPO in writing.

Following termination of jurisdiction by the MI, discoveries of additional human burials within the same unmarked burial ground may be deemed by the MI to fall within the same case and may be terminated in the same case file as the original find.

If no representative of the permitting authority is present to inspect the site of the discovery of an unmarked human burial, the burial shall be presumed to fall under the authority of the MI. The MI may terminate jurisdiction to the SHPO in such case.

Either the MI or the SHPO may request that an authorized representative of the other office take sole responsibility for making a field examination of an unmarked human burial and for determining whether the burial has cultural significance.

Unmarked human burials or burial grounds shall not be excavated by the MI except as the MI or the representative of the MI and law enforcement deem necessary to determine medicolegal significance. When a staff archaeologist of the SHPO or other professional archaeologist permitted by the permitting authority responds to the discovery of an unmarked human burial or burial ground, excavation of that burial or burial ground to determine medicolegal significance will be carried out, to the greatest extent deemed feasible by the MI or representative of the MI, under the direction of the professional archaeologist.

When the MI determines that an unmarked human burial or burial ground has medicolegal significance, the MI shall retain jurisdiction of that burial or burial ground and shall proceed consistent with Section 24-11-5 ff. NMSA 1978 and established investigative protocols of the MI and of the law enforcement agency of jurisdiction.

Any unmarked human burial which is determined by the MI not to have medicolegal significance shall be presumed to have cultural significance and shall be deemed to fall under the provisions of Section 18-6-11.2(E-I) NMSA 1978.

On the request of the SHPO to the MI in any case in which the MI retains jurisdiction of an unmarked human burial or burial ground, that burial or burial ground will be excavated, removed and analyzed, to the greatest extent deemed feasible by the MI, under the direction of a staff archaeologist or professional archaeologist permitted by the permitting authority.

SECTION 6. PERMITTING PROCEDURES AND REQUIREMENTS PERTAINING TO THE REMOVAL OF HUMAN BURIALS

A. Permitting Procedures -- Individual Permits (Section 18-6-11.2(E) NMSA 1978)

1) All applicants for a permit to exhume human burials shall meet the following requirements:

   a. Hold a graduate degree in archaeology, anthropology, or equivalent training acceptable to the permitting authority; or

b. Be a member in good standing of an amateur archaeological society certified by the Archaeological Society of New Mexico; and

c. Have at least 6 months of archaeological field experience within the region where the project will be undertaken, under the guidance of or in cooperation with a recognized professional archaeologist, or demonstrated competence based on analogous experience acceptable to the permitting authority; and

d. Demonstrate an ability to carry out archaeological excavation, documentation and report preparation. Amateur societies may be required to coordinate with a professional archaeologist to provide the necessary technical assistance.

Applicants shall provide the SHPO with vitas of all members of the applicants' organization expected to supervise the excavation of a burial. Vitas need not be submitted with subsequent permit applications, provided that the applicant ensures that the information contained in this file is current at the time of a subsequent permit application. The use of volunteers or other individuals who may not meet the specified qualifications is acceptable only if they will be directly supervised by the permittee or qualified personnel.

2) Individual case permits will be issued to excavate all burials in specific unmarked burial grounds. The permitting authority will take action on the permit within 60 days of receipt of application.

3) Applications for individual permits will include the following:

a. A legal description of the location of the burial (i.e., Township, Range, Section, to the 1/4 1/4 Section), land ownership, and a copy of the appropriate USGS 7.5' quad with the location identified.

b. Current vitas of personnel who may supervise the excavation. Such persons must be present while burials are being excavated and must directly supervise any volunteers or assistants who participate in the excavation of the burial.

c. A preliminary set of recommendations outlining the methods and techniques to be employed during the permitted activity, including methods for estimating the date of interment and general procedures that may be used to identify and notify living persons who may be related to the human burial. All excavation and analysis will be conducted in accordance with the guidelines listed in Section 7.

d. Written authorization from the landowner to remove the burial(s).

e. The information requested in Section 8 and any preliminary proposals for reinterment or other appropriate disposal of the human burial consistent with the guidelines listed in Section 9.

4) The application information and all attachments shall be reviewed by the permitting authority.

5) The SHPO will notify the applicant in writing of the approval or disapproval of the permit by the permitting authority.

6) The term of an individual permit will be set by the permitting authority, not to exceed 1 year.

7) The permitting authority may expedite the review process in emergency discovery situations.

B. Permitting Procedures -- Annual Permits

1) Permits to excavate burials may be issued on an annual basis. The annual permits are intended to provide for expeditious removal of burials in discovery situations by eliminating the 60 day review period required for an individual permit. Excavations of human remains under an annual permit may take place after notification of the SHPO.

2) All applicants for annual permits to exhume human burials shall meet the following requirements:

a. Hold a graduate degree in archaeology, anthropology, or closely related field or equivalent training acceptable to the permitting authority; and

b. Have at least 6 months of archaeological field experience within the region where the project will be undertaken, under the guidance of or in cooperation with a recognized professional archaeologist, or demonstrated competence based on analogous experience acceptable to the permitting authority; and

c. Demonstrate an ability to carry out archaeological excavation, documentation and report preparation.

3) Applications for annual permits will include the following:

a. Current vitas of personnel who may supervise excavation of a human burial or unmarked burial ground. Vitas need not be submitted with subsequent permit applications, provided that the applicant ensures that the information contained in this

file is current at the time of a subsequent permit application. The use of volunteers or other individuals who may not meet the specified qualifications is acceptable only if they will be directly supervised by the permittee or qualified personnel.

b. A brief discussion of the methods and techniques to be employed during the permitted activity, including methods for estimating the date of burial, general procedures that may be employed to identify and notify living persons who may be related to the human burial, and general procedures for determining the disposition of human burials, including curation agreements. All excavation and analysis will be conducted in accordance with the guidelines listed in Section 7.

4) The application information and all attachments shall be reviewed by the permitting authority.

5) Upon completion of the review process, the SHPO will notify the applicant in writing of the approval or disapproval of the permit.

6) The term of an annual permit shall be the end of calendar year in which it was approved.

7) Written notice of a permittee's intent to use an annual permit shall be submitted in writing to the SHPO before excavation begins and will include:

a. A legal description of the location of the burial (i.e., Township, Range, Section, to the 1/4 1/4 Section), land ownership, and a copy of the appropriate USGS 7.5' quad with the location identified.

b. Written authorization from the landowner to remove the burial(s).

c. The information requested in Section 8.

d. A list of the personnel supervising and conducting excavations of the human burial.

8) The holder of a blanket permit may act as a representative of the SHPO in consultation with the MI under Section 5 above. If it is determined that the human burial or unmarked burial ground falls under Section 18-6-11.2(F) NMSA 1978, the permit holder may proceed to remove the burial, consistent with the terms of the permit, immediately following notification of the SHPO.

C. Procedures for Appeal of Permit Denial

1) Any applicant denied a permit by the permitting authority or aggrieved by the terms of a permit shall have the right to appeal the decision.

2) The SHPO shall inform the applicant, in writing, that a permit has been denied and shall specify the reason for denial.

3) Any applicant wishing to appeal the denial of a permit or the terms of a permit shall write to the SHPO requesting a hearing. The hearing board may designate an alternative to serve in his place if, for any reason, he believes it would be inappropriate to serve on the hearing board. Within 2 weeks of receipt of a request for a hearing, the SHPO will inform the applicant in writing of the date, time, and place of the hearing at which the appeal will be heard.

4) The chairman of the committee will serve as the chairman of the hearing board. The hearing will be conducted in accordance with the committee's rules of procedure. Decisions in any case brought before the board will be decided by a majority vote of the members of the board. The SHPO will inform the applicant in writing of the decision of the hearing board. The decision of the hearing board will be a final administrative decision.

5) All appeals shall include a statement of the applicant's reason for requesting an appeal and shall contain any additional information that the applicant believes will support the appeal.

D. Permit Stipulations

1) Recipients of burial excavation permits issued by the permitting authority agree to abide by all stipulations contained in this regulation and any special stipulation that may be imposed by the permitting authority.

2) All costs incurred in the execution of the activities conducted under the permit shall be borne by the permittee.

3) The State of New Mexico, including its bureaus and employees and landholding agencies, shall be held blameless for any and all events, deeds or mishaps resulting from the activities of the permittee, regardless of whether or not they arise from operations authorized under the permit.

4) The permitting authority shall determine, in consultation with any living relative, conditions for the appropriate disposition of the human remains and any or all of the associated funerary objects, material objects or artifacts. All conditions for final disposition will become stipulations of the permit.

5) Documentation of all funerary objects, material objects, or artifacts associated with a human burial will be provided to the SHPO, consistent with provisions in Section 7(D). The permittee will ensure that all documented items are disposed of in accordance with the disposition plan. The permit will also stipulate measures to ensure that the burials and associated funerary objects, material objects, or artifacts remain undisturbed after disposition.

6) If the excavation is delayed as a result of unforeseen circumstances and cannot be completed within the permit period, the permittee shall contact the SHPO in writing to request an extension of the term of the permit. This request must be received by the SHPO prior to the expiration date of the permit in order to be considered.

7) If the excavation is discontinued and cannot be completed as a result of unforeseen circumstances, the permittee shall notify the SHPO in writing to request a cancellation of the permit. Disposition of any human remains and associated funerary objects, material objects or artifacts collected during the excavation conducted under the permit and of copies of all written and photographic records resulting from a discontinued excavation will be determined by the permitting authority.

8) Failure by a permittee to comply with these and any additional special stipulations set forth in this regulation or on the permit itself shall be considered adequate reason for revocation of a permit and denial of future permits.

9) If fieldwork is not begun within the permit period, and an extension has not been requested as described above, the permit shall become void at the end of the permit period.

SECTION 7. GUIDELINES FOR EXCAVATION OF HUMAN BURIALS

A. Methodology

1) Excavation of human burials will be consistent with current professional archaeological standards.

2) Specific excavation methods may be stipulated by the permitting authority.

B. Records

The following documents will be prepared whenever a burial is excavated:

1) Archaeological Records Management System (ARMS) forms for each burial ground, if not previously recorded.

2) Plan maps of each burial and associated funerary objects, material objects or artifacts.

3) Photographs of each burial in situ with associated funerary objects, material objects or artifacts.

4) Description of field methodology, including observations about soils and the context of each burial within the burial ground.

C. Analysis of Human Remains

Analysis will include but is not limited to:

1) Sex, age, basic measurements.

2) Pathologies.

3) Photodocumentation.

D. Analysis of Associated Funerary Objects, Material Objects, or Artifacts

This analysis will include, but is not limited to:

1) A written inventory list of all items associated with the burial and removed from the burial ground, to be submitted to the SHPO before final disposition of the remains. The list must be specific in terms of material, typology, quantity and condition of the items recovered (e.g., 2 sherds of a Rio Grande Glaze A bowl, 4 complete projectile points and 1 bone awl).

2) Scaled photographs of all recovered items, to be submitted with written inventory. The photographs should be labeled with the name of the permittee, provenience of the burial (e.g., burial number, site number, county), date of excavation and disposition of items (e.g., reburied on site, curational repository).

SECTION 8. GUIDELINES FOR IDENTIFICATION AND NOTIFICATION OF LIVING PERSONS WHO MAY BE RELATED TO A BURIAL

A. Unmarked Burials -- Native American

1) With an application for a one-time permit or a notification of activation of an annual permit, the applicant or permittee shall provide the following information to SHPO:

a. A description of the context of the burial (e.g., historic or prehistoric archaeological site) with information about the site type, probable cultural affiliation, and apparent date of interment; and

b. Tentative date of completion of excavations.

2) Upon receipt of the permit application or notification of an excavation under an annual permit, the SHPO will notify the State Office of Indian Affairs in writing of the location and will transmit to the OIA any available information about the human burial or unmarked burial ground.

3) The OIA will attempt to identify living persons who may be related to the human burial. The Office of Indian Affairs or a designated spokesperson for a tribe or clan claiming a relationship to a human burial may make recommendations for disposition of human remains as it considers appropriate. Recommendations for disposition must be received within 30 days of notification to OIA by the SHPO.

B. Unmarked Burials -- Non-Native American

1) With an application for a one-time permit or a notification of activation of an annual permit, the applicant or permittee shall provide the following information to the SHPO:

a. A description of the context of the burial (e.g., historic or prehistoric archaeological site) with information about the site type, probable cultural affiliation, and apparent date of interment; and

b. Tentative date of completion of excavations; and

c. Actions to be taken to identify persons who may be related to the human burial.

2) The permittee will attempt to locate and notify any persons who may be related to the human burial in writing or through legal notices.

3) If contacted, persons who may be related to a human burial shall be requested by the permittee to make recommendations within 30 days on the disposition of the human remains and associated funerary objects, material objects or artifacts.

SECTION 9. GUIDELINES FOR DISPOSITION OF HUMAN REMAINS AND ASSOCIATED FUNERARY OBJECTS, MATERIAL OBJECTS OR ARTIFACTS

A. SHPO Notification

1) The permittee will notify the SHPO within 45 days of completion of permitted excavations and will submit a recommended plan for the disposition of human remains to the SHPO for approval.

These recommendations will take into consideration any permit stipulations imposed by the permitting authority, comments from any living person who may be related to the burial, and the wishes of the landowner. The plan will provide a legal location of the reburial site or the location of an approved curatorial facility. An inventory list of all funerary objects, material objects or artifacts found in association with the burial, or collected in the course of excavation, will be submitted with the plan for disposition.

2) The SHPO will review the permittee's recommendations for approval or denial, ensuring that any living person who may be related to the burial will have been notified and given an opportunity to provide comments on final disposition of the human remains and associated funerary objects, material objects and artifacts.

3) Upon completion of the review process, the SHPO will notify the permittee in writing of approval or disapproval of the recommended plan. If the recommendations in the plan are disapproved the SHPO will provide direction for proper disposition.

B. Implementation of the Disposition Plan

1) Once accepted, the disposition plan will be implemented within 30 days, or within a specified period to be agreed upon by the SHPO. The permittee will provide written notice to the SHPO of completion of the disposition plan.

2) If reinterment or disposition is delayed as a result of unforeseen circumstances and cannot be completed within the time period specified in the permit, the permittee shall contact the SHPO in writing to request an extension. This request must be received prior to expiration of the specified time period in order to be considered.

3) The cost of reinterment will be born by the permittee except when, having specified reinterment in a manner requested by a tribe, clan or person who has claimed and demonstrated a relationship to the human burial, the SHPO requires that tribe, clan or person to assume such cost.

4) Funerary objects, material objects or artifacts associated with a human burial will be released to the landowner by written instrument, after all other terms of the permit are met, unless a specific request for reinterment is made by a tribe, clan or person claiming and demonstrating a relationship to the human burial and approved by the SHPO.

C. Review of Conditions of Disposition Plan

1) At the timely request of any affected landowner or any person claiming a relationship to a human burial, the permitting authority may review the conditions of a disposition plan prior to its being made final. A request for such review must be made in writing to the SHPO. Within 2 weeks of receipt of request for such review, the SHPO will inform the requesting party of the date, time and place of such review.

2) The chairman of the committee will serve as the chairman of the review panel. The hearing will be conducted consistent with the committee's rules of procedure. Any decisions as to the terms of the disposition plan will be incorporated into the plan, which will be made final by vote of the permitting authority. The SHPO will transmit the final disposition plan to the requesting party and to the permittee.

3) All requests for review shall include a statement of the requesting party's reason for requesting such review and will contain any additional information that the requesting party believes will support the appeal.

SECTION 10. REPORTING GUIDELINES

A. Reporting Requirements

1) Within 12 months of the completion of fieldwork, all permittees are required to submit 2 copies of a final report on the excavations of a human burial or burial ground conducted under the permit to the SHPO. If, as a result of unforeseen circumstances, the final report cannot be submitted within this period, the permittee shall submit 2 copies of an interim report to the SHPO, giving an estimated completion date for the final report.

2) Upon acceptance of the final report by the permitting authority, the SHPO shall send written notification to the permittee of the completion of the permit responsibilities. All reports submitted in fulfillment of the permit requirements shall conform to report guidelines set forth in this section. The permittee shall submit 2 copies of the final report on the excavations of human burials or unmarked burial grounds.

3) If, due to unforeseen circumstances, a permitted excavation is not undertaken, the permittee shall notify the SHPO in writing and request a cancellation of the permit or permit activation notification. This request, which shall contain a statement that no fieldwork was conducted and state the reason for the request, shall be accepted in lieu of the above required report, and the SHPO shall notify the permittee in writing of the cancellation.

4) Failure by a permittee to submit the required reports in a timely manner or in conformance with current reporting guidelines shall be considered adequate reason for denial of future permits.

B. Minimal Standards for Human Burial Excavation Reports

1) Abstract or Summary shall provide brief information with regard to who, what, where.

2) Provenience information

a. General project area: Provide a brief verbal description of the location of the burial with reference to Township, Range, and Section (to the 1/4 1/4 Section). Ownership of the land should be clearly stated. Surface lessee should be indicated if known.

b. Map: Include a map of the general area showing major terrain reference points and project location. UTM coordinates may be given for the location of burial excavations. Maps should include a copy of a USGS topographic quadrangle. All maps should include project identification, name of person preparing map, scale and north arrow.

3) Excavation methodology shall include a description of excavation and recordation techniques. The field personnel should also be identified.

4) Description of burials

a. Physical description: Discuss the nature of the burial, associated remains, relation of the burial to other cultural features in the immediate area. Note any particular characteristics of the human remains and associated funerary objects (e.g., flexed burial oriented to the east, covered in a woven blanket of hair, with a mano positioned near the feet).

b. Cultural/temporal affiliations: State and discuss the criteria used to make this determination.

c. Plan: Depict the positioning of the human remains and associated funerary objects in relation to the burial. This may be accomplished by a sketch map, but should include a north arrow, scale, and key to map symbols.

d. Inventory: A list of all funerary objects, material objects and artifacts associated with the burial. The inventory list should be accompanied by scaled, labeled photographs of each item.

e. Photodocumentation: All burials should be photographed and the photos cataloged. The report should explicitly describe where the photographs will be stored. Glossy black and white photographs are preferred.

f. Analysis summary section: Analysis of human remains and associated funerary objects, material objects and artifacts will be discussed. The results of the analysis will also be presented.

g. Final disposition: Disposition of the human remains and associated funerary objects, material objects and artifacts will be described. If the human remains are reinterred, the exact location of the reinterment site should appear in the disposition plan but not in the final report. If curated, the location of human remains or funerary objects, material objects or artifacts associated with the burial should be identified in the report (e.g., Museum of New Mexico, or artifacts in the possession of a landowner, including address).

State Records Center
404 Montezuma
Santa Fe, New Mexico 87503

Rule Cover Sheet
Side A - New Rule

FILED WITH STATE RECORDS
RECORDS AND ARCHIVES

89 SEP 15 AM : 03

1 Instructions (Above Space for SRC Use Only)

Side A or Side B of this Rule Cover Sheet must be completed before a rule can be filed with the Records Center under the State Rules Act. Please refer to State Rules: Format, Style and Filing Requirements before completing this Rule Cover Sheet.

→**This Rule Cover Sheet must be typed and signed with black ink.**

→If the rule to be filed is a "New Rule" (i.e., a rule which establishes policy where no rule has previously existed) complete Side A of this Rule Cover Sheet only.

→If the rule to be filed is a "Modifying Rule" (i.e., a rule which changes an existing rule either by adding to or deleting from it) complete Side B of this Rule Cover Sheet only.

2 Entire Name Of Agency

Office of Cultural Affairs
Historic Preservation Division

3 Agency Address

La Villa Rivera
228 E. Palace Avenue, Room 101
Santa Fe, New Mexico 87503

4 New Rule Title

REGULATIONS FOR THE ISSUANCE OF PERMITS TO EXCAVATE UNMARKED HUMAN BURIALS IN THE STATE OF NEW MEXICO

5 New Rule Number

HPD Rule 89-1

6 Number of Sheets

16

7 Authorization

Name: Thomas W. Merlan
Title: Director
Date: 9/15/89

Thomas W Merlan
Signature

SRC-17A rev. 81

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 POLICY ON COLLECTION, DISPLAY AND REPATRIATION OF CULTURALLY SENSITIVE MATERIALS 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) claims 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, care 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 collections.

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 restrictions on use, care and/or exhibition; the lending of objects either 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.

APPENDIX 3. CURRICULUM VITA

NAME: REGGE NEAL WISEMAN DATE: 5/1/93

ADDRESS: 818 Niñita
Santa Fe, NM 87501
(505) 988-3115

ACADEMIC TRAINING:

University of New Mexico - 1965-1969 - B.A., Anthropology major, History minor.
Arizona State University - 1970-1971 (21 graduate hours in Anthropology).

TRAINING SESSIONS

U.S. Forest Service Antiquities Law Enforcement Seminar - Dec. 1980.

Historic Preservation and Federal Projects seminar presented by Harbridge House, Inc., for the Advisory Council for Historic Preservation - November 1980.

POSITIONS

July 1986 to Present	Supervisory Archaeologist, Office of Archaeological Studies, Museum of New Mexico.
Oct. 1984-June 1986	Curator, Archaeological Repository, Museum of New Mexico.
July 1983-Oct. 1984	Staff Archaeologist, Laboratory of Anthropology, Museum of New Mexico.
March 1979-June 1983	Assistant State Archaeologist, Museum of New Mexico,
July 1976-Feb. 1979	Supervisory Archaeologist (MS II level), Museum of New Mexico.
Feb. 1974-June 1979	Supervisory Archaeologist (MS I level), Museum of New Mexico.
Nov. 1971-Jan. 1974	Supervisory Archaeologist (CA III level), Museum of New Mexico.
June 1971-Oct. 1971	Assistant Archaeologist (CA III level), Museum of New Mexico.
April-May 1971	Lab Assistant, Department of Anthropology, Arizona State University.
June-Sept. 1969	Assistant Archaeologist (CA III level), Museum of New Mexico.
August 1968	Assistant Archaeologist (CA II level), Museum of New Mexico.
June-July 1968	Teaching Assistant, University of New Mexico Archaeological Field School.

ORGANIZATIONAL MEMBERSHIPS

Society for American Archaeology (since 1966).
New Mexico Archaeological Council (since 1980).
Plains Anthropological Society (since 1975).
Arizona Archaeological and Historical Society (since 1967).
Archaeological Society of New Mexico (since 1980).
El Paso Archaeological Society (since 1970).
Albuquerque Archaeological Society (since 1981).

ORGANIZATIONAL POSITIONS

Ethics Committee, New Mexico Archaeological Council (1981).
Nominations Committee, New Mexico Archaeological Council (Chair 1982).
Standards Committee, New Mexico Archaeological Council (Chair 1986).
Trustee, Archaeological Society of New Mexico (1983-1989).
Publications Committee, Archaeological Society of New Mexico (Chair, 1983-1988).
Co-Editor, Pottery Southwest (quarterly newsletter), Albuquerque Archaeological Society (1981-1987).
Special committee on Contract Archaeologist/Federal Archaeologist Relations, New Mexico Archaeological Council (Chair 1987-1988).

PROFESSIONAL INTERESTS

Archaeology of the Greater American Southwest
Southwest/Texas/Plains Relationships
Human Ecology
General Ecology
Agriculture and Soils
Human Paleopathology and Nutrition
Trade Networks

PUBLICATIONS

1970 Hypotheses for Variation Observed in Late Pueblo Manos and Metates. Southwestern Lore 36(3), 5pp.

1970 Artifacts of Interest from the Bloom Mound, Southeastern New Mexico. El Paso Archaeological Society, The Artifact 8(2), 10pp.

1970 BM III? P II?. El Paso Archaeological Society, The Artifact 8(3), 8pp.

1971 The Neff Site, A Ceramic Period Lithic Manufacture Site on the Rio Felix, Southeastern New Mexico. El Paso Archaeological Society, The Artifact 9(1), 30pp.

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1974 An Archaeological Clearance Investigation and Impact Statement for the San Ysidro - Southern Union Gas Company Storage Facility Distribution Line Near San Ysidro, New Mexico. MNM, Laboratory of Anthropology Notes No. 109, Santa Fe.

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1978 Eastern New Mexico Archaeology: A Case Example of Interpretive Potential. MNM, Laboratory of Anthropology Notes No. 133, Santa Fe.

1978 An Archaeological Survey for the Community Development Program, Santa Fe, New Mexico. MNM, Laboratory of Anthropology Notes No. 197, Santa Fe.

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Weaver, Jr., S.S. Burton, and M. Laughlin. El Palacio 85(1), 1 page.

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1979 Recent Excavation and Survey Near Bent, Otero County, New Mexico. IN Jornada Mogollon Archaeology: Proceedings of the First Jornada Conference edited by P.H. Beckett and R.N. Wiseman. Published by the Cultural Resources Management Division, Department of Sociology and Anthropology, New Mexico State University and the Historic Preservation Bureau, State of New Mexico, Las Cruces and Santa Fe.

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1983 Archaeological Taxonomy and Confusion - Welcome to the Jornada. COAS: New Mexico Archaeology and History 1(1), Las Cruces. 10pp.

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1985 A Preliminary Report on the Excavation of the Abajo de la Cruz Site (LA 10832), Otero County, New Mexico. COAS: New Mexico Archaeology and History 3(1), 12pp., Las Cruces.

*1986 An Initial Study of the Origins of Chupadero Black-on-white. Albuquerque Archaeological Society, Technical Note No. 2.

1987 Review: Food, Diet, and Population at Prehistoric Arroyo Hondo Pueblo by Wilma Wetterstrom. With additional reports on the Ethnobotanical Pollen by Vorsila Bohrer and the Artifacts of Woody Plants by Richard W. Lang. El Palacio 93(1), 2pp.

1988 Cimarron West: The Testing and Evaluation of Three Prehistoric Sites On the Southern Edge of the Park Plateau, Northeastern New Mexico. MNM, Laboratory of Anthropology Notes No. 434, Santa Fe.

1988 Preliminary Descriptions and Field Observations of the Belen Bridge Site Excavations. Papers of the Archaeological Society of New Mexico: 13, edited by Anne V. Poore, Albuquerque.

1988 Archaeological Survey of the Alamogordo Relief Route. MNM, Laboratory of Anthropology Notes No. 444, Santa Fe.

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1988 The Roswell Relief Route: Survey, Testing, Evaluation, and Data Recovery Plan for Ten Prehistoric and Historic Sites in Chaves County, New Mexico. MNM, Laboratory of Anthropology Notes No. 467, Santa Fe.

1988 The Continuing Saga of the King Ranch Site (LA 26764): Update and Summary of Findings. Fourth Jornada Mogollon Conference (Oct. 1985) Collected Papers edited by Meliha S. Duran and Karl W. Laumbach. Human Systems Research, Inc., Tularosa, NM, 32 pp.

1988 Pottery Production for the Spanish: A Preliminary Analysis of the Indian-Made Ceramics Recovered by the La Fonda Project, Santa Fe, New Mexico. Laboratory of Anthropology Notes No. 499, Santa Fe.

1988 Report of Testing at Beth's Cave (LA 47481), Fort Stanton, Lincoln County, New Mexico. Report submitted to the Roswell District Office, Bureau of Land Management, Roswell.

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1989 Data Recovery Plan for the Sunset Shelters (LA 71167), Lincoln County, New Mexico. MNM, Laboratory of Anthropology Notes No. 477, Santa Fe.

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1992 The Other End of the Network: Alibates Material West of the Plains/ Pueblo Frontier. Plains Anthropologist 37-139:167-170.

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1992 Another Stirrup-Spouted Vessel Found in New Mexico. Pottery Southwest 19(2): 1-2, Albuquerque Archaeological Society.

1992 Prehistoric White Signal: Archaeological Testing and Evaluation of Two Sites and Data Recovery Plan for LA 83772 Along N.M. 90 Southwest of Silver City, New Mexico. OAS/MNM, Archaeology Note No. 60, Santa Fe.

1992 Canyon Bottoms of the Pajarito: Testing and Evaluation at White Rock Y for Highway Project F-054-1(5). OAS/MNM, Archaeology Note No. 88, Santa Fe.

1992 The Roswell Relief Route Project, Phase 2: Assessment and Data Recovery Plan for Six Prehistoric and Historic Sites, Roswell, New Mexico. OAS/ MNM, Archaeology Note No. 94, Santa Fe.

(with R.H. Cobean and C.C. Pfingsten)
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(with M.Y. El-Najjar, J.S. Bruder, M. Heller, and R.I. Ford)
1976 Multi-Disciplinary Investigations at the Smokey Bear Ruin (LA 2112), Lincoln County, New Mexico. COAS Publishing and Research Monograph No. 4, Las Cruces.

(with Patrick H. Beckett)
1979 Comments and Queries. IN Beckett and Wiseman (editors) (see below). Reprinted in Prehistoric New Mexico: Background for Survey by David E. Stuart and Rory P. Gauthier. Published by the Historic Preservation Bureau, State Planning Office, Santa Fe.

(with Patrick H. Beckett) (Editors)
1979 Jornada Mogollon Archaeology: Proceedings of the First Jornada Conference. Published by the Cultural Resources Management Division, New Mexico State University and the Historic Preservation Bureau, State of New Mexico, Las Cruces and Santa Fe.

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1986 The Bronze Trail Site Group: More Evidence for a Cerrillos - Chaco Turquoise Connection. IN By Hands Unknown: Collected Papers in Honor of James G. Bain edited by Anne V. Poore. Papers of the Archaeological Society of New Mexico: 12, edited by Anne V. Poore,

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(with David A. Phillips, Jr.)
1988 Data Recovery Plan for the Picacho Site (LA 58971), Lincoln County, New Mexico. MNM, Laboratory of Anthropology Notes No. 461, Santa Fe.

(with Bart Olinger)
1991 Initial Production of Painted Pottery in the Rio Grande: The Perspective from LA 835, The Pojoaque Grant Site. IN Puebloan Past and Present: Papers in Honor of Stewart L. Peckham, pp. 209-217, edited by Meliha S. Duran and David T. Kirkpatrick. Archaeological Society of New Mexico, Albuquerque.

(with Polly Schaafsma)
1992 Serpents in the Prehistoric Pecos Valley of Southeastern New Mexico. Archaeological Society of New Mexico: 18, edited by Meliha S. Duran and David T. Kirkpatrick, pp. 175-183, Albuquerque.

(with Steven D. Emslie and John D. Speth)
1992 Two Prehistoric Puebloan Avifaunas from the Pecos Valley, Southeastern New Mexico. Journal of Ethnobiology 12(1):83-115.

(with Robin E. Farwell and Yvonne R. Oakes)
1992 Investigations Into the Prehistory and History of the Upper Rio Bonito, Lincoln County, Southeastern New Mexico. MNM, Laboratory of Anthropology Notes No. 297, Santa Fe.

In Press:

*. Dating of the Middle Developmental Period as Seen from the Pojoaque Grant Site (LA 835). Accepted for publication in to Kiva, the journal of the Arizona Archaeological and Historical Society, Tucson.

. Preliminary Impressions of Archaic and Ceramic Period Occupations Along the Upper Rio Hondo, Lincoln County, New Mexico. Paper presented at the 6th Jornada Conference, Las Cruces, October, 1989.

. Testing and Evaluation of Three Prehistoric and Historic Sites on the Grants Project, Cibola and McKinley Counties, New Mexico for NMSHTD Project IR-040-1(90)63. OAS/MNM, Archaeology Notes No. , Santa Fe.

. Archaeological Testing and Evaluation of LA 71686 Near Grants, Cibola County, New Mexico for NMSHTD Project SP-2603(201). OAS/MNM, Archaeology Notes No. 37, Santa Fe.

. The Fox Place and Roswell Country Prehistory: A Preliminary Report. Paper presented at the 7th Jornada Conference, El Paso - Juarez, November 8-9, 1991.

. Prehistoric Pottery of the Sierra Blanca - Roswell Region: Appraisal and

Speculation. Paper presented at the 7th Jornada Conference, El Paso - Juarez, November 8-9, 1991.

*. The Belen Bridge Site and the Late Elmendorf Phase of Central New Mexico. OAS/MNM, Archaeology Notes No. , Santa Fe.

. Limited Excavations at LA 83772, a Multicomponent Mogollon Site Along State Road 90, White Signal, Grant County, New Mexico. OAS/MNM, Archaeology Notes No. , Santa Fe.

. Jornada Branch of the Mogollon Culture. IN Archaeology of Prehistoric North America: An Encyclopedia. To be published by Garland Publishing Company, Inc., New York City, 1996.

. Pottery from the Artesia Project (MNM 41.552). Submitted to J. Boyer, OAS/MNM, Santa Fe (2/20/93).

. Tentative Chronological Framework of Paleoindian and Archaic Projectile Points in Lincoln County, South-Central New Mexico. Submitted to The Artifact, El Paso Archaeological Society (3/26/93).

. Archaeological Testing Report and Data Recovery Plan for Two Prehistoric Sites Along US 70 Near the Pecos River Crossing, Chaves County, New Mexico. OAS/MNM, Archaeology Notes No. , Santa Fe.

ARCHAEOLOGICAL FIELD EXPERIENCE:

Field Schools

1966 University of New Mexico's Sapawe Project directed by Dr. Florence H. Ellis; 6 weeks; beginning undergraduate level student; Pueblo IV biscuit ware pueblo excavations, laboratory analysis, and evening classes.

1967 University of New Mexico's Arroyo Hondo Project directed by Dr. J.J. Brody; Rio Arriba County; 6 weeks; advanced undergraduate level student; Pueblo II period pithouse excavations, laboratory work, and evening classes.

Volunteer Work

1965 Rio Rancho Folsom Site Project directed by Mr. Gerald Dawson of the University of New Mexico; 4 days excavation as a crew member.

1966 Artificial Leg Project directed by Dr. Theodore R. Frisbie of the University of New Mexico; 12 days as a crew member on a late Basketmaker III - early Pueblo I village north of Albuquerque; excavation and laboratory analysis.

1984 Brantley Project directed by Drs. Paul and Suzanna Katz of the Incarnate Word College, San Antonio, Texas; 2 days as a crew member in the excavation of a stone enclosure site northeast of Carlsbad, New Mexico; culture and period unknown.

Research Excavations

1963 Baca Site (LA 12156); Lincoln County, N.M.; 3 days test excavations in a Lincoln Phase pueblo (Jornada Mogollon).

1966 Smokey Bear Ruin (LA 2112); Lincoln County, N.M.; 6 days excavations in a Lincoln Phase pueblo (Jornada Mogollon).

1967 Salas Site (LA 588); Lincoln County, N.M.; 5 days test excavations in a Lincoln Phase pueblo (Jornada Mogollon).

1968-1969 Artificial Leg Site #12 (LA 35493); Bernalillo County, N.M.; 15 days test excavations in a Coalition Period site (Rio Grande Anasazi).

1969 Salas Site (LA 588); Lincoln County, N.M.; 4 days test excavations in a Lincoln Phase pueblo (Jornada Mogollon).

1969 Smokey Bear Ruin (LA 2112); Lincoln County, N.M.; 1 month excavations in a Lincoln Phase pueblo (Jornada Mogollon).

1979 Bent Site (LA 10835); Otero County, N.M.; 3 days test excavations in a Three Rivers(?) Phase storage site (Jornada Mogollon); a continuation of earlier CRM project.

1980 Rocky Arroyo Site (LA 25277); Chaves County, N.M.; 19 days excavations in a Glencoe(?) Phase habitation site (Jornada Mogollon).

1980 Pueblo Indian Cliffs (LA 15935); Los Alamos County, N.M.; 4 days excavation in a small Coalition Period pueblo (Rio Grande Anasazi); in cooperation with the Los Alamos Archaeological Society.

1981 King Ranch Site (LA 26764); Chaves County, N.M.; 2 days excavation in a site of uncertain phase affiliation (dates circa A.D. 1150-1250) (Jornada Mogollon).

1982 Kite Site (LA 38448); Torrance County, N.M.; 5 days excavations in a pithouse site of uncertain phase affiliation (Rio Grande Anasazi); joint project with COAS Publishing and Research and the Museum of New Mexico

1983 Site AS-8 (LA 13197); Sandoval County, N.M.; 6 days excavations in a late Coalition Period pueblo and underlying features (Rio Grande Anasazi); Albuquerque Archaeological Society and Bureau of Land Management project.

1984 Robinson Site (LA 46326); Lincoln County, N.M.; 6 days excavations in a Lincoln Phase pueblo (Jornada Mogollon); I served as a consultant in field techniques and pottery identification to the joint University of Calgary - Lakehead University Capitan-North Project.

1985 Robinson Site (LA 46326); Lincoln County, N.M.; 2 1/2 days

excavations in a Lincoln Phase pueblo (Jornada Mogollon); 1 1/2 days evaluation of a Corona Phase site (Jornada Mogollon); I served as a consultant in field assessment and pottery identification to the joint University of Calgary - Lakehead University - Simon Fraser University Capitan-North Project.

1985 King Ranch Site (LA 26764); Chaves County, N.M.; 2 days excavations in a site of uncertain phase affiliation (dates circa A.D. 1150-1250)(Jornada Mogollon).

1985 Beth's Cave (LA 47481); Lincoln County, N.M.; 2 days test excavations to evaluate deposits for the Bureau of Land Management; uncertain phase affiliation (probably ceramic period) (Jornada Mogollon).

Research Surveys

1971 Apache Creek Survey, Catron County, N.M.; 2 months after-hours reconnaissance survey for a three mile section of Apache Creek; performed in conjunction with the Whiskey Creek Project CRM excavations.

1972 Gallita Rincon Survey, Catron County, N.M.; 2 days after-hours reconnaissance survey of the northern side of Gallita Rincon; performed in conjunction with the Gallitas Springs Project CRM excavations.

1973 Hinkson Ranch Survey, Cibola County, N.M.; intensive tract survey of 2 1/2 sections of land along the New Mexico - Arizona state line south of the Zuni Indian Reservation; 3 months.

1975 Rio Bonito Survey, Lincoln County, N.M.; 2 days reconnaissance survey of a two mile section of the Rio Bonito between the east boundary of the Fort Stanton Reservation and the Double Crossing at the mouth of Salazar Canyon.

1975-1979 Bent Survey, Otero County, N.M.; 6 weeks of reconnaissance survey of 8 miles along the Rio Tularosa and Nogal Canyon drainages.

Contract Archaeology Excavations (CRM):

Project leaders write budgets and research designs for their projects. They have direct responsibility for all phases of the project (field, laboratory, analysis & report writing). The work must meet both professional and cultural resource management standards.

1968 Fort Sumner (LA 8777), De Baca County, N.M.; 1 month excavation at a late 19th century fort; I served as assistant supervisor under Dr. John P. Wilson.

1969 Fort Sumner (LA 8777), De Baca County, N.M.; 3 month excavations continued from the previous year; I again served as assistant supervisor to Dr. John P. Wilson.

1971 Whiskey Creek Project, Catron County, N.M.; 3 month excavation of 6 sites representing the Pinelawn through Tularosa Phases (Reserve Mogollon); I served as assistant supervisor to Mr. David W. Kayser but had direct responsibility for the excavations at 2 sites and testing at the 3 surface sites.

1971 Puerto del Sur Project, San Miguel County, N.M.; 7 weeks excavation of a stone enclosure site (dated circa A.D. 1150-1250) and preparation a preliminary report; full analysis and final report accomplished on my own time (see Plains Anthropologist paper on Sitio Creston); I served as project leader.

1972 Gallita Springs Project, Catron County, N.M.; 6 weeks excavation of sites representing Pinelawn through Tularosa Phases (Reserve Mogollon); I served as assistant supervisor under Mr. David W. Kayser but had direct responsibility for the excavations and tests at 5 of the sites.

1972 Bent Project, Otero County, N.M.; 4 months excavation of 2 sites representing the Three Rivers(?) and early Lincoln(?) Phases (Jornada Mogollon); preliminary report prepared for contract obligations; full analysis and report preparation accomplished on my own time (though still ongoing; see report on the Bent Site); I served as project leader.

1978 Tsaya Project, McKinley County, N.M.; 10 weeks excavation of 3 sites representing Basketmaker III through Pueblo III (San Juan Basin Anasazi); I served as project leader.

1982 First Interstate Bank Building Project (LA 35100), City of Santa Fe, N.M.; 17 days test excavations in Spanish Colonial, Hispanic-American, and Anglo-American remains in the Historic District of Santa Fe; I served as assistant to Mr. Curtis F. Schaafsma but had direct responsibility for the testing program in areas adjacent to suspected architectural locations.

1983 Kearney Partners Project (LA 46300), City of Santa Fe, N.M.; 7 days test excavations in a late Developmental Period subterranean structure (Rio Grande Anasazi); I served as project leader.

1983 Big Joe Project, City of Santa Fe, N.M.; 7 days test excavations in Hispanic-American/Anglo-American remains in the Historic District of Santa Fe; I served as crew member under Mr. Timothy D. Maxwell.

1986 Belen Bridge Project (LA 53662), Valencia County, N.M.; 11 weeks excavation of a Late Elmendorf Phase pithouse site (Rio Grande Anasazi?); I served as project leader.

1986 Cimarron-West Project, Colfax County, N.M.; 13 days testing and evaluation of 3 sites representing the Vermejo through Escritores Phases (A.D. 400-1100) of the Cimarron District; I served as project leader.

1987 Belen Bridge Project (LA 53662), Phase 2 (see above); 4 weeks excavation; I served as project leader.

1987 White Rock Y Project, Santa Fe County, N.M.; 9 weeks testing and evaluation of 13 lithic and sherd sites representing Archaic(?) and Coalition - Classic occupations (Rio Grande Anasazi); although I served as project leader, I was in the field only 3 of the weeks because of other commitments; the field work was carried out by Steven R. Hoagland, the project assistant.

1988 Valencia Project, Valencia County, N.M.; 1 week testing and evaluation of 2 habitation sites representing the Classic to early historic (Indian) and the late Spanish Colonial (Hispanic) periods; I served as project leader.

1989 Picacho Project, Lincoln County, N.M.; 12 weeks excavation of a Late Archaic storage site and four small Jornada Mogollon caves and rock shelters; I served as project leader.

1990 Roswell Relief Route Project, Chaves County, N.M.; 17 weeks excavation of a 13th century pithouse village; I served as project leader.

1991 Grants Project, Cibola and McKinley Counties, N.M.; 2 weeks testing and evaluation of 2 prehistoric lithic & sherd scatters (Archaic through Pueblo III?) and 1 Navajo residential site (20th century); I served as project leader.

1991 Grants II Project, Cibola Counbty, N.M.; 1 week testing and evaluation of 1 prehistoric lithic & sherd scatter (Archaic through Pueblo I?); I served as project leader.

1991 Roswell Relief Route Project, Chaves County, N.M.; 3 days surface inventory of an historic site (late 19th-early 20th century); I served as project leader.

1991 White Signal Project, Grant County, N.M.; 10 days testing and evaluation of 2 Mimbres-Mogollon habitation sites (Cumbre? through Mimbres phases); I served as project leader.

1991-1992 El Cerrito Bridge Project, San Miguel County, N.M.; 5 weeks excavation of a deep campsite of unknown cultural affiliation; I served as project leader.

1992 Luna Y-North Project, Catron County, N.M.; 3 weeks testing and evaluation of 10 Reserve-Mogollon sites (Pinelawn? through Tularosa phases; I served as project leader.

1992 White Signal Project, Grant County, N.M.; 4 weeks excavation at a Mimbres-Mogollon habitation site (Late Pithouse Period?); I served as project leader.

1993 Dunnahoo Hills Project, Chaves County, N.M.; 2 weeks testing and evaluation of 2 artifact scatter sites (phases unknown); I served

as project leader.

Contract Archaeology Surveys

1972 AT&T Longlines Project, a transect through McKinley, Cibola, Valencia, and Torrance counties, N.M.; 6 weeks; 150 miles of 100 feet wide right-of-way; I served as team leader.

1972 NTUA Distribution Line Project; a transect survey in McKinley County, N.M.; 1 day; 5 miles of 50 feet wide right-of-way; a 1 person project.

1972 Gulf Oil Corporation Drill Hole Project, small tract surveys in McKinley County, N.M.; 2 days; survey of 10 drill hole locations and access roads; a 1 person project.

1972 BIA Carrizo Road Project, a transect survey in Otero County, N.M.; 1 day; 8 miles of 150 feet wide right-of-way; a 1 person project.

1973 TG&E (now TEP) Transmission Line Project, a transect survey in McKinley County, N.M.; 3 weeks; 30 miles of 300 feet wide right-of-way; I served as team leader.

1973 Union Carbide Drill Hole Project, small tract surveys in McKinley County, N.M.; 3 days; survey of 20 drill hole locations and access roads; a 1 person project.

1973 TG&E (now TEP) Reactor Road Project, a transect survey in McKinley County, N.M.; 1 day; 3 miles of 100 feet wide right-of-way; a 1 person project.

1973 Pittsburg & Midway Project, a tract survey in McKinley County, N.M.; 1 day; vehicle and pedestrian reconnaissance of 1 section of land; a 1 person project.

1974 BLM Malpais Project, a reconnaissance in Cibola County, N.M.; 6 weeks; a selective survey of portions of 50 sections of land; a 1 person project.

1974 NMSHTD Quemado-South Project, a transect survey in Catron County, N.M.; 1 day; 11 miles of 100 feet wide right-of-way; a 1 person project.

1974 NMSHTD Bent-East Project, a transect survey in Otero County, N.M.; 1 day; 5 miles of 100 feet wide right-of-way; a 1 person project.

1974 NMSHTD Alamogordo-South Project, a transect survey in Otero County, N.M.; 1 day; 8 miles of 100 feet wide right-of-way; a 1 person project.

1974 Kerr-McGee Churchrock II Mine and Access Road Project, a tract and transect survey in McKinley County, N.M.; 1 day; 50 acres for mine location and 3 miles of 100 feet wide right-of-way; a 1 person

project.

1974 NMSHTD Gallup-South Project, a transect survey in McKinley County, N.M.; 1 day; 8 miles of 100 feet wide right-of-way; a 1 person project.

1974 NMSHTD Gallup-East Project, a transect survey in McKinley County, N.M.; 1 day; 4 miles of 300 feet wide right-of-way; a 1 person project.

1974 JMEC Huerfano Butte Area Project, a transect survey in McKinley County, N.M.; 1 day; 10 miles of 50 feet wide right-of-way; a 1 person project.

1974 JMEC Cuba Area Project, a transect survey in Sandoval County, N.M.; 1 day; 5 miles of 50 feet wide right-of-way a 1 person project.

1974 JMEC Governador Area Project, a transect survey in San Juan County, N.M.; 1 day; 4 miles of 50 feet wide right-of-way; a 1 person project.

1974 JMEC San Ysidro Area Project, a transect survey in Sandoval County, N.M.; 1 day; 9 miles of 50 feet wide right-of-way; a 1 person project.

1974 FHWA Cuba-East Project, a transect survey in Sandoval County, N.M.; 1 day; 5 miles of 100 feet wide right-of-way; a 1 person project.

1974 Conoco Miscellaneous Drill Hole Projects, small tract surveys in McKinley County, N.M.; 3 days; circa 20 drill hole locations and access roads; 1 person projects.

1974 NMSHTD San Ysidro Project, a transect survey in Sandoval County, N.M.; 1 day; 2 miles of 100 feet wide right-of-way; a 1 person project.

1974 NMSHTD San Ysidro-West Project, transect and tract surveys in Sandoval County, N.M.; 2 days; 5 miles of 100 feet wide right-of-way and 50 acres of borrow pit locations (plus access roads); a 1 person project.

1974 NMSHTD Naschitti-North Project, a transect survey in San Juan County, N.M.; 1 day; 6 miles of 100 feet wide right-of-way; a 1 person project.

1975 NMSHTD San Marcial-South Project, a transect survey in Socorro County, N.M.; 2 days; 8 miles of 300 feet wide right-of-way; a 1 person project.

1975 NMSHTD Sierra-Socorro County Line - North Project, a transect survey in Socorro County, N.M.; 2 days; 9 miles of 300 feet wide right-of-way; a 1 person project.

1975 Mountain Bell Grants-San Mateo Distribution Line Project, a transect survey in Cibola and McKinley counties, N.M.; 2 days; 16 miles of 25 feet wide right-of-way; a 1 person project.

1975 World Humates, Ltd. (now Global Resources) Project, a tract survey in Sandoval County, N.M.; 5 days; 1 section of land; a 1 person project.

1975 NMSHTD San Jon By-Pass Project, a transect survey in Quay County, N.M.; 1 day; 3 miles of 300 feet wide right-of-way; I served as project leader.

1975 NMSHTD San Jon-West Project, a transect survey in Quay County, N.M.; 1 day; 5 miles of 300 feet wide right-of-way; I served as project leader.

1975 NMSHTD Sheep Springs-North Project, a transect survey in San Juan County, N.M.; 2 days; 11 miles of 100 feet wide right-of-way; a 1 person project.

1975 NMSHTD Shiprock-East Project, a transect survey in San Juan County, N.M.; 1 day; 5 miles of 100 feet wide right-of-way; a 1 person project.

1975 NMSHTD Hogback-East Project, a transect survey in San Juan County, N.M.; 1 day; 4 miles of 100 feet wide right-of-way; a 1 person project.

1975 NMSHTD Las Vegas-North Project, a transect survey in San Miguel County, N.M.; 1 day; 5 miles of 100 feet wide right-of-way; a 1 person project.

1975 NMSHTD Espanola Bridge Project, a transect survey in Rio Arriba County, N.M.; 1 day; 2 miles of 150 feet wide right-of-way; I served as project leader.

1975 NMSHTD Pojoaque-West Project, a transect survey in Rio Arriba County, N.M.; 1 day; 8 miles of 100 feet wide right-of-way; a 1 person project.

1975 NMSHTD miscellaneous borrow pit projects, small tract surveys in Valencia, Dona Ana, and Otero counties, N.M.; 1 day; 4 borrow pit locations totalling about 10 acres; a 1 person project.

1977 Santa Fe CDP Project, a tract survey in Santa Fe County, N.M.; 3 months; intensive survey of 4 1/2 sections of land; I served as project leader.

1987 NMSHTD White Rock Y Project, a tract survey in Santa Fe County, N.M.; 4 days; intensive survey of circa 55 acres; I served as project leader.

1988 Rodeo Business Park, North Parcel, a tract survey within the City of Santa Fe for Ater Flance Company; 1 day; an intensive survey of

72 acres; I served as project leader.

1988 Alamogordo Relief Route Survey, a linear survey around the west side of the City of Alamogordo, Otero County, for the NMSHTD; 3 days; 5 miles of 200 feet R-O-W; I served as project leader.

1988 Roswell Relief Route Survey, a linear survey around the west side of the City of Roswell, Chaves County, for the NMSHTD; 5 days; 16 miles of 200 feet R-O-W; also, a tract survey of a borrow pit (139 acres); I served as project leader.

1989 Aden Survey, a linear survey west of Las Cruces, Dona Ana County, for the NMSHTD; 2 days; survey of 2.5 miles of 300 feet R-O-W and the field checking of ca. 10 previously recorded sites; I served as project leader.

1992 Bent Survey, a linear survey in northern Otero County for the NMSHTD; 2 days; survey of 2.5 miles of 300 feet R-O-W; I served as project assistant.

Cultural Resources Monitoring:

1973 TG&E (now TEP) Phase I Project during the construction of a power line between Zuni Pueblo and the north boundary of the Gila National Forest southwest of Quemado, N.M.; McKinley, Cibola, and Catron counties; distance of 70 miles; 2 1/2 months; a 1 person project.

1973-1974 TG&E (now TEP) Phase II Project during the construction of a power line between the San Juan Power Plant and Zuni Pueblo, N.M.; San Juan and McKinley counties, N.M.; distance of 160 miles; 6 months; a 1 person project.

1974 PNM Ojo Power Line Project during construction of a power line between the Four Corners Power Plant and Chili, N.M.; San Juan and Rio Arriba counties, N.M.; distance of 250 miles; 2 months; a 1 person project.

Note: Monitoring included flagging archaeologoical sites, assisting the bulldozer operator in finding safe routes around the sites during access road construction, periodic inspection of the sites for both direct and indirect impacts, and the investigation and reporting site damage to the appropriate company officials.

LABORATORY EXPERIENCE

My major analytical strengths are in pottery (typology and some petrographic work), lithic manufacture debris (technology and some use-wear), and artifact studies. I have performed these analyses for most of my projects.
I have also done some descriptive work on maize and faunal remains as well as performed preliminary sorting of flotation samples.

TEACHING EXPERIENCE

1968 University of New Mexico's Field School directed by Dr. Florence H. Ellis. I served as teaching assistant and instructed students in field excavation techniques. 6 weeks; 9 students under my supervision.

1981 Archaeological Society of New Mexico's (ASNM's) Heaton Canyon Field School directed by Mr. Stewart L. Peckham. I substituted for the director when he had to return to Santa Fe to assume other duties. I directed the activities of 6 crew chiefs and taught introductory classes in ceramics, lithics, and faunal analysis. 2 weeks; 20 students total.

1983 ASNM's Heaton Canyon Field School. I served as the director for the entire session during which I supervised the general operations of the school and taught introductory classes in Southwestern archaeology, ceramic analysis, and kiva architecture. 4 weeks; 15 students total.

1984 ASNM's Heaton Canyon Field School. Same duties as in 1983. 4 weeks; 15 students total.

ADMINISTRATIVE EXPERIENCE

From January 1 to June 30, 1976 and again from January to May of 1980 I supervised and coordinated the Museum of New Mexico's contract archaeology program with federal, state, and corporate representativesMy duties included the supervision of planning in cultural resource management, archaeological inventorying, clearance surveys, and excavations. Planning included consulting with and educating corporate representatives as to the purposes, values, goals, and legal bases in cultural resources management; budget preparation and negotiation; antiquities permit acquisition; and personnel hiring and management. Project execution involved logistics; instructing, fielding, and giving general direction to crews; general supervision of laboratory analyses and report preparation; content and technical editing; and the preparation of annual reports as required. I was also given the responsibility for seeing that overdue reports were completed and submitted.

Museum of New Mexico projects I have administered, either totally or in part, include:

- Ojo Power Line Project (Public Service Company of New Mexico).
- San Mateo Cultural Resource Inventory (Kerr-McGee Corporation).
- Homestake Cultural Resource Inventory (Homestake Mining Company)
- Chili Excavation Project (New Mexico State Highway & Transportation Department or NMSHTD).
- Naschitti-North Excavation Project (NMSHTD).
- San Antonio Excavation Project (NMSHTD).
- Carnue Excavation Project (NMSHTD).

- Tijeras Excavation Project (NMSHTD).
- Galisteo Basin Seismic Survey Project (Teledyne Corporation).
- United Nuclear Churchrock II Mill Excavation (United Nuclear Corporation).
- Four Corners - Albuquerque Transmission Line Survey Project (Public Service Company of New Mexico).

CONTRACT ARCHAEOLOGY - ANALYSIS AND REPORT PREPARATION, IN WHOLE OR IN PART, FOR PROJECTS EXCAVATED BY OTHER ARCHAEOLOGISTS

1976-1977 Zuni-Blackrock Excavation Project, McKinley County, N.M.; pueblo and 2 field house sites dating between A.D. 1000 and 1300.

1979 Carnue Excavation Project, Bernalillo County, N.M.; late Coalition Period pueblo and pithouses.

1979 Naschitti-North Excavation Project, San Juan County, N.M.; 2 late Pueblo II-early Pueblo III Anasazi field house sites.

1992 Angus-North Excavation Project, Lincoln County, N.M.; 5 Glencoe Phase pithouse sites (ca. A.D 1000-1300).

Note: My involvement in these projects resulted when the project leaders could not complete the projects. I was assigned to complete the analyses and prepare reports in order to fulfill contract obligations.

ETHNOGRAPHY

1968 Santa Clara and Santa Ana Pueblos; 2 days interviews for grinding implements study as part of a class project.

ASSISTANT STATE ARCHAEOLOGIST'S DUTIES

From March, 1979 to July 1, 1983, I performed the duties of this position. These included the monitoring of reports and field projects undertaken on state lands; review of environmental impact statements, environmental assessments, mining plans, and other official documents for comments and other actions; attendence of public meetings held by federal, state, and private concerns in which proposed land disturbing activities and management decisions affecting archaeological resources were discussed and public input solicited (I routinely wrote follow-up comments and submitted these to the appropriate agencies and companies); consult, upon request, with federal agencies in matters pertaining to damage to or destruction of cultural resources; collect evidenceand, if necessary, serve search warrants in cases of damage to or destruction of cultural resources on state lands; answer questions and disseminate information concerning cultural resource legislation (both state and federal); and represent the Office of the State Archaeologist at meetings and in the field when the State Archaeologist was unable to do so.

MISCELLANEOUS EXPERIENCE AND ACTIVITIES

Professional Contacts. By virtue of my positions and responsibilities as

an employee of the Museum of New Mexico and my field experience throughout the state, I am frequently consulted by various federal, state, and private archaeologists and cultural resource managers on matters of archaeological site locations, settlement patterns, site densities, significance, preservation, and mitigation.

Public Contacts. I believe that contacts and cooperation with interested lay persons are both desirable and necessary, partly because those who support archaeology have the right to know about archaeological matters and because the ultimate fate of the discipline rests in their understanding, appreciation, and favorable action. Accordingly, I have tried to make casual contacts with the public both interesting and informative as well as to simply to answer their questions.

Avocational Societies. I have endeavored to strengthen cooperation and understanding among avocational and professional archaeologists through participation in society field schools, programs, and monthly and annual meetings. I recently served on the Board of Trustees of the Archaeological Society of New Mexico, my principal duty having been the chairman of the Publications Committee. During my tenure on the Publications Committee I was instrumental in upgrading the format and quality of the main publication of the Society, the Papers of the Archaeological Society of New Mexico. I also served 2 years as the director of ASNM's excavation field school at Heaton Canyon. Over the years I have engaged other professional archaeologists in Society work. Additionally, for 8 years I served as co-editor for the Albuquerque Archaeological Society's quarterly newsletter Pottery Southwest (see below).

Editorial Experience. In addition to the editorial work performed during my administrative periods with the Research (formerly the Contract) Section of the Laboratory of Anthropology, Museum of New Mexico, I was co-editor of the quarterly newsletter, Pottery Southwest. In this capacity, I solicited and edited short papers and other items and handle most of the correspondence with contributors.

EVALUATION

Throughout my years of academic training, work experience, and independent studies, I believe that I have satisfactorily progressed in acquiring knowledge in archaeology as well as in several other disciplines, including botany, zoology, ecology, human nutrition and paleopathology, and soils. My attempts to integrate this knowledge and thereby further the aims of the archaeological discipline have been reasonably successful. In this regard, I believe that the asterisked reports and papers in the publications list constitute my more substantive contributions.