MUSEUM OF NEW MEXICO

OFFICE OF ARCHAEOLOGICAL STUDIES

DATA RECOVERY PLAN FOR THE BOB CROSBY DRAW SITE (LA 75163) AND LA 103931 ALONG U.S. 70, CHAVES COUNTY, NEW MEXICO

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ADMINISTRATIVE SUMMARY

In February of 1993, the New Mexico State Highway and Transportation Department (NMSHTD) requested that the Office of Archaeological Studies (OAS), Museum of New Mexico, conduct a testing program at LA 75163 along highway U.S. 70, north of Roswell, New Mexico. The work was to be done as part of NMSHTD Project BR-070-7(15)348, a bridge replacement and highway widening project. LA 75163 is on NMSHTD right-of-way and lands to be acquired from private sources.

A preliminary field visit was made to LA 75163 in late February 1993. Observations made at that time, plus information on previous excavations provided by Human Systems Research, Inc., convinced archaeologists that data recovery is warranted without further testing.

In February and March of 1994, the NMSHTD requested that the OAS survey an area for the relocation of a utility line. LA 103931 was found and recorded during this survey (Wiseman 1994).

Permission was granted by the NMSHTD to prepare this data recovery plan in 1993 and was amended to include LA 103931 in 1994.

MNM Project 41.557 (Bob Crosby Draw Project DRP)
NMSHTD Project BR-070-7(15)348

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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 (Evans 1993) (Fig. 1; Appendix 1 [removed from copies in general distribution]). One previously recorded prehistoric site, LA 75163, was found within the proposed project area. Limited excavations were conducted at the site in 1990 by Human Systems Research, Inc., for a US West fiberoptics cable (Sechrist and Laumbach 1991).

In February of 1993, the NMSHTD requested that the Office of Archaeological Studies (OAS), Museum of New Mexico, test that part of LA 75163 lying within the proposed highway project. In late February 1993, R. N. Wiseman of OAS visited LA 75163 as part of the planning process for testing. After carefully searching the proposed highway project area and reviewing the findings of Human Systems Research, Inc. (HSR), he recommended that the project go directly to data recovery (letter to William L. Taylor, March 1, 1993). Instructions to proceed with development of the data recovery plan were received on March 4, 1993.

In February and March of 1994, the OAS surveyed a corridor for the relocation of a utility line. LA 103931, found and recorded during this survey (Wiseman 1994), will be excavated during the data recovery phase of this project.

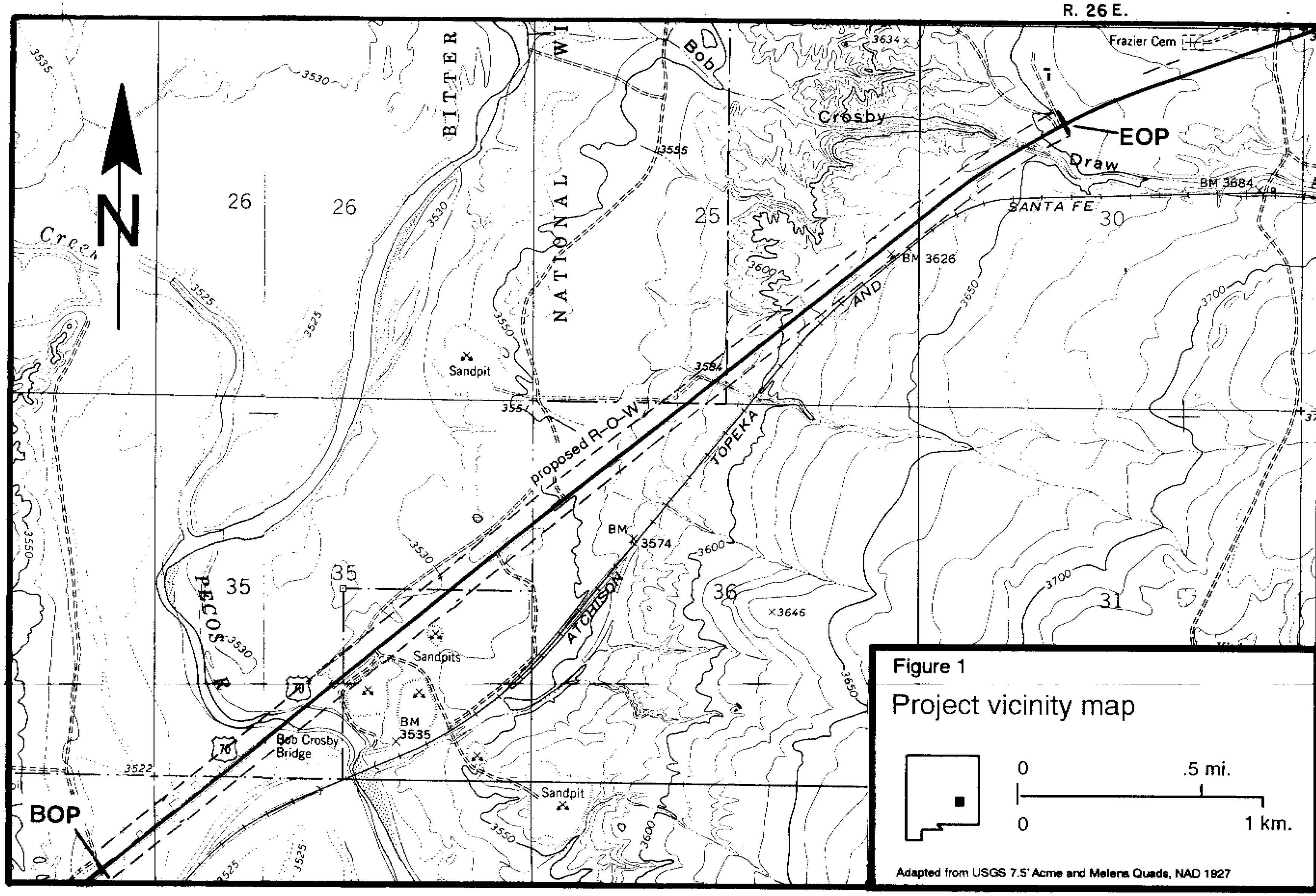

Figure 1

Project vicinity map

Adapted from USGS 7.5' Acme and Melena Quads, NAD 1927

NATURAL ENVIRONMENT

The Bob Crosby Draw site is situated on a low rise on the south side of Bob Crosby Draw. The rise is 200 m upstream from where the draw cuts a deep canyon in its drop down the escarpment, which forms the east side of the Pecos Valley. The site, at an elevation of 1,115 m above sea level, has a good, though distant, view of the Pecos Valley. The land surrounding the site is fairly flat and slopes gently to the west.

The surface geology of the project area consists of the undivided strata of the Artesia Group (Permian) (Dane and Bachman 1965).

Soils in the vicinity of the Bob Crosby Draw site belong to the Reeves-Holloman-Gypsumland Association (Maker et al. 1971). Reeves soils are the best in this association for agriculture, but their limitations are severe enough that their overall potential is generally low. Reeves soils are characterized as:

> moderately deep, light colored calcareous loams underlain by gypsiferous earth or rock...[at depths]...of 20 to 40 inches. They are moderately to strongly saline in localized areas where drainage is restricted. In this unit, the Reeves soils typically occupy gently sloping plains or the slightly depressed or swale areas. (Maker et al. 1971:15)

From the standpoint of growing cultigens, swales would normally be the best locations because they collect water, a rare natural commodity in the vicinity of the Bob Crosby Draw site (see below). Thus, most areas of this soil would not be suitable for horticulture, which leaves the sand dunes as the other major possibility under aboriginal conditions. Overall, it is unlikely that gardening, especially on a sustained basis, would be possible in the vicinity of the site.

Prior to intensive agricultural development in the late 1800s, surface and underground water sources in the Roswell area were especially productive. Occupants of the Bob Crosby Draw site had permanent water available to them at the Pecos River 2 km to the west. Water was presumably also available from the same spring in Bob Crosby Draw that flows today. But because we currently lack information on the quality, quantity, and seasonality of this source, we cannot evaluate its role in the occupation of the Bob Crosby Draw site. This aspect must be investigated, for it is possible that the water, having come through gypsum beds, may have been unpotable.

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 (i.e., yucca, agave, sotol, and some species of cactus) that would have been most useful to man 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.

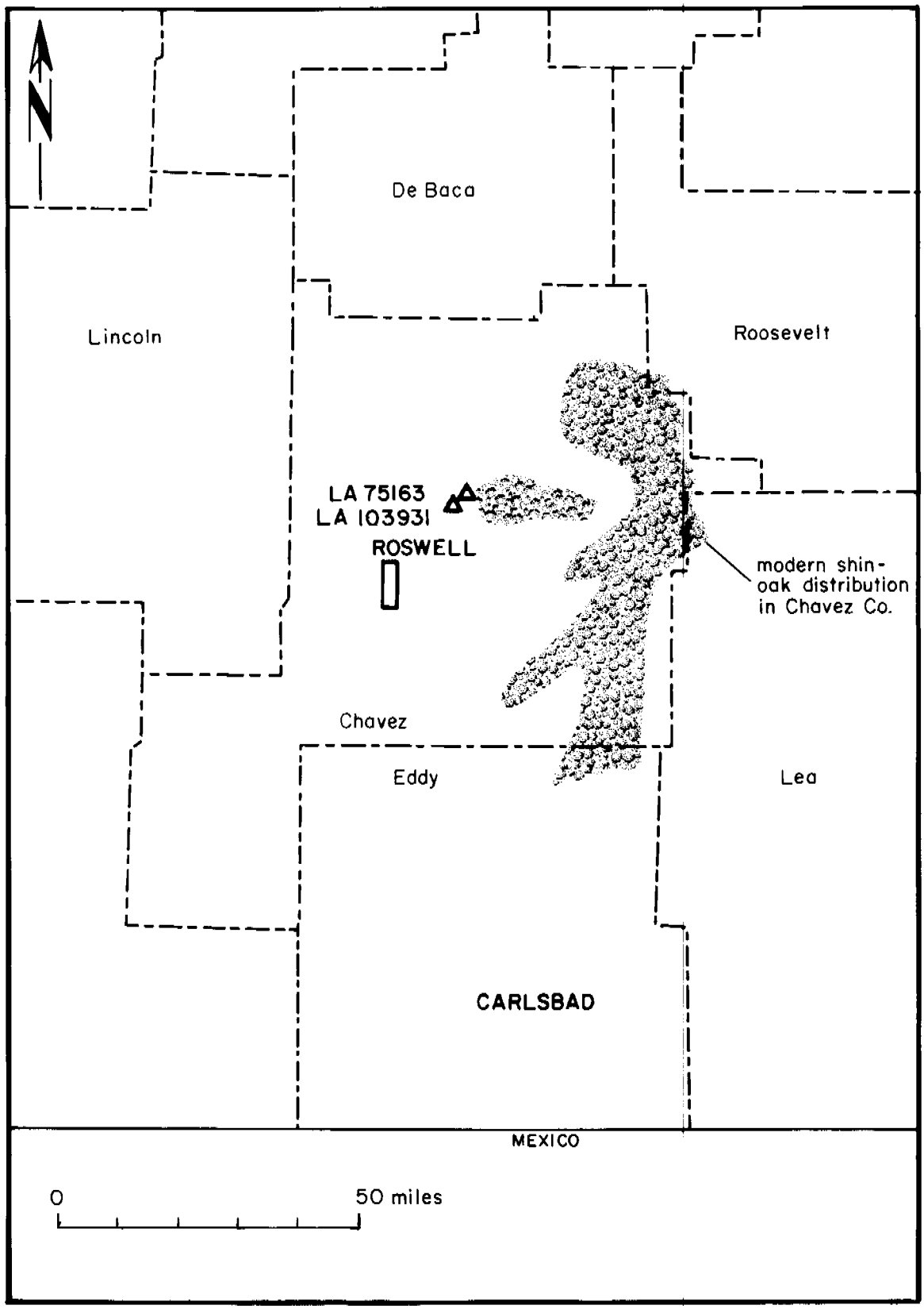

Figure 2. Modern shin-oak distribution (adapted from distribution maps prepared by P. Flanary, Bureau of Land Management).

The one plant resource that would have been useful to humans, and one which Kuchler does not include in his reconstruction, is the shin-oak (*Quercus* sp.), a prolific, low-growing plant produces large acorns. Evidently, these nuts do not have the high tannic acid content that require special preparation for human consumption. Today, a major concentration of shin-oak grows 10 to 12 km east of the Bob Crosby Draw site. This concentration is the largest and closest concentration of the species to the Pecos Valley in Chaves County (Fig. 2).

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.

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 Bob Crosby Draw site is located 2 km east 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

Roswell Locality

The prehistoric occupation of the Roswell locality is poorly known. The problem stems from three major sources. One is that few projects other than small contract surveys have been done. Another is that the area is peripheral to two major culture areas: the Plains to the east and the Southwest to the west; 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 the Fox Place (Wiseman 1991), are enigmatic and currently unassignable to an existing culture chronology. These last two sites are viewed with especial interest with regard to the Bob Crosby Draw site.

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.

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 8.7 km northeast of LA 75163.

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, and 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, in prep.).

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 some time 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, at least in part, 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) contradicts himself by stating 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 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 *rancherias* 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.

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. Except where noted, the sites are prehistoric.

* sample survey of the Abo Oil Field north of Roswell (Kemrer and Kearns 1984);
* testing of the Townsend site north of Roswell (Maxwell 1986);
* survey and excavation along the Middle Pecos River northeast of Roswell (Jelinek 1967);
* excavations at several sites in the Haystack Mountain area northeast of Roswell (Schermer 1980);
* excavation of the Garnsey Spring Campsite 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 at the Henderson site southwest of Roswell (Rocek and Speth 1986);
* excavation at Bloom Mound southwest of Roswell (Kelley 1984);
* survey of the Two Rivers Reservoir southwest of Roswell (Phillips et al. 1981);
* 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).

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.

THE BOB CROSBY DRAW SITE
(LA 75163)

Where undisturbed, LA 75163 is a large, sandy site situated on a small, low hill beside Bob Crosby Draw (Fig. 3). The crown of the hill and part of the slopes have mesquite-topped dunes that reach heights of 1 to 2 m above the surrounding ground surface. Overall site size is 220 m east-west and 150 m north-south. Average depth of cultural deposits below surface appears to be 30 to 50 cm, though Human Systems Research (HSR) found occasional artifacts as deep as 105 cm during their excavations.

Clusters of flakes, burned rock, and an occasional potsherd are found across the site. Several possible hearths are currently beginning to show on the surface in several non-blowout areas within the highway project. South of the pavement and to a lesser extent north of it, the existing highway cut running the 220-m length of the site has an almost continuous exposure of burned rock and artifacts. The possibility for finding intact hearths and other cultural features, including structures, within the proposed highway project is excellent.

The Bob Crosby Draw site was occupied on numerous occasions. Small, thin flakes of highly varied materials (including Alibates Silicified Dolomite) and what appears to be a Clovis end scraper (P. H. Beckett, pers. comm., March 1993) suggest a Paleoindian component at the north end of the site. The Archaic Period, especially the Late Archaic, is represented by a Hueco point recovered by HSR (Secrist and Laumbach 1991) during their excavations at the south end of the site. Pottery--in the form of brown ware, Chupadero Black-on-white, corrugated, and Lincoln Black-on-red(?) from HSR excavations and scattered surface proveniences--indicates one or more Formative (or Late Prehistoric period) occupations. HSR was unable to secure materials suitable for absolute dating during their excavations.

LA 75163 was well situated with respect to a major attraction--the spring in Bob Crosby Draw. Hundreds of sites in southeastern New Mexico occur at both higher and lower elevations, but comparatively few have the advantage of a nearby spring. Other potential advantages include the position of the site overlooking the nearby Pecos Valley and its marshes that attract migratory water fowl. Another resource of importance, if it was there in the past, would have been the shin-oak belt that currently lies only a few kilometers to the east.

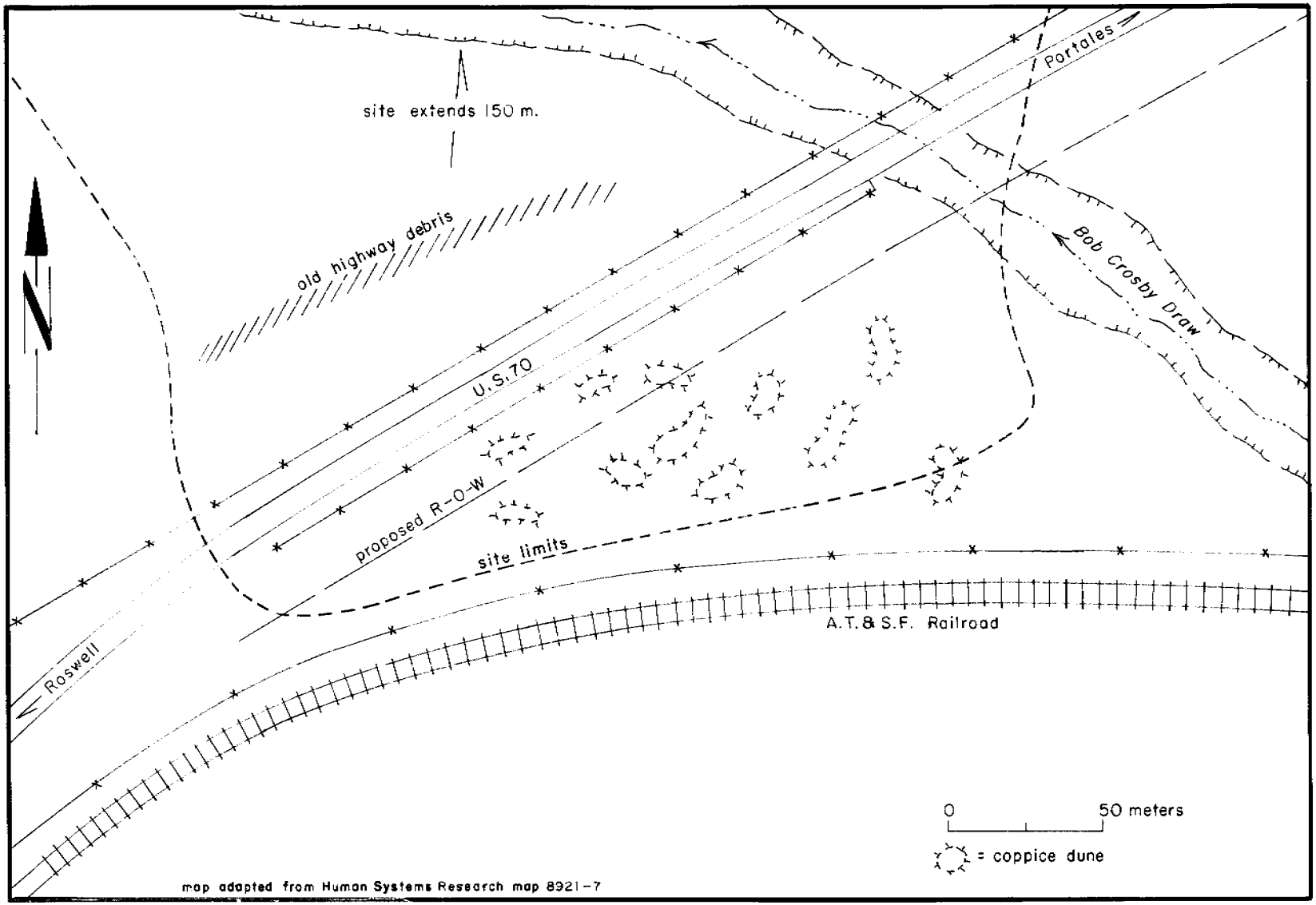

Figure 3. LA 75163 site sketch map.

LA 103931 is a small pottery and lithic artifact scatter exposed by the ruts of two 2-track roads (Fig. 4). Most of the site is covered by an even mantle of sand that averages 20 cm deep and is stabilized by closely spaced tufts of grass. Because of this, the potential for intact subsurface remains and deposits is excellent.

Artifacts were noted over an area 10 by 25 m in size, but the main concentration is smaller, covering an area of about 10 by 10 m. Soil stains and other indicators for features are absent, but the limited exposure afforded by the road ruts is too limited to be certain on this point.

Artifacts noted during the survey include sherds from at least two different vessels, a Chupadero Black-on-white jar and a Three Rivers Red-on-terracotta bowl. Chipped lithic items include chert, chalcedony, and quartzite flakes and a chert biface fragment. The pottery indicates the site was occupied some time during the period A.D. 1100 to 1400.

LA 103931 is important for two reasons. First, it is a single component site, and as such, provides the opportunity to look at the remains of a short-term occupation that lacks the disturbance and ambiguity caused by multiple occupations at the same location. Studies generally indicate that large sites like the nearby LA 75163 (Bob Crosby Draw site) are actually clusters or groupings of smaller components like LA 103931; the earlier components in closely grouped occupations frequently display evidence of, or at least are suspected of, disturbance or mixing of artifacts and artifact patterns during the later occupations.

Second, and perhaps more important, LA 103931 appears to be essentially undisturbed by modern activities, especially artifact collecting. Thus, we have the relatively rare opportunity to recover an intact artifact assemblage in a region that has suffered serious artifact collection over the past 50 to 75 years.

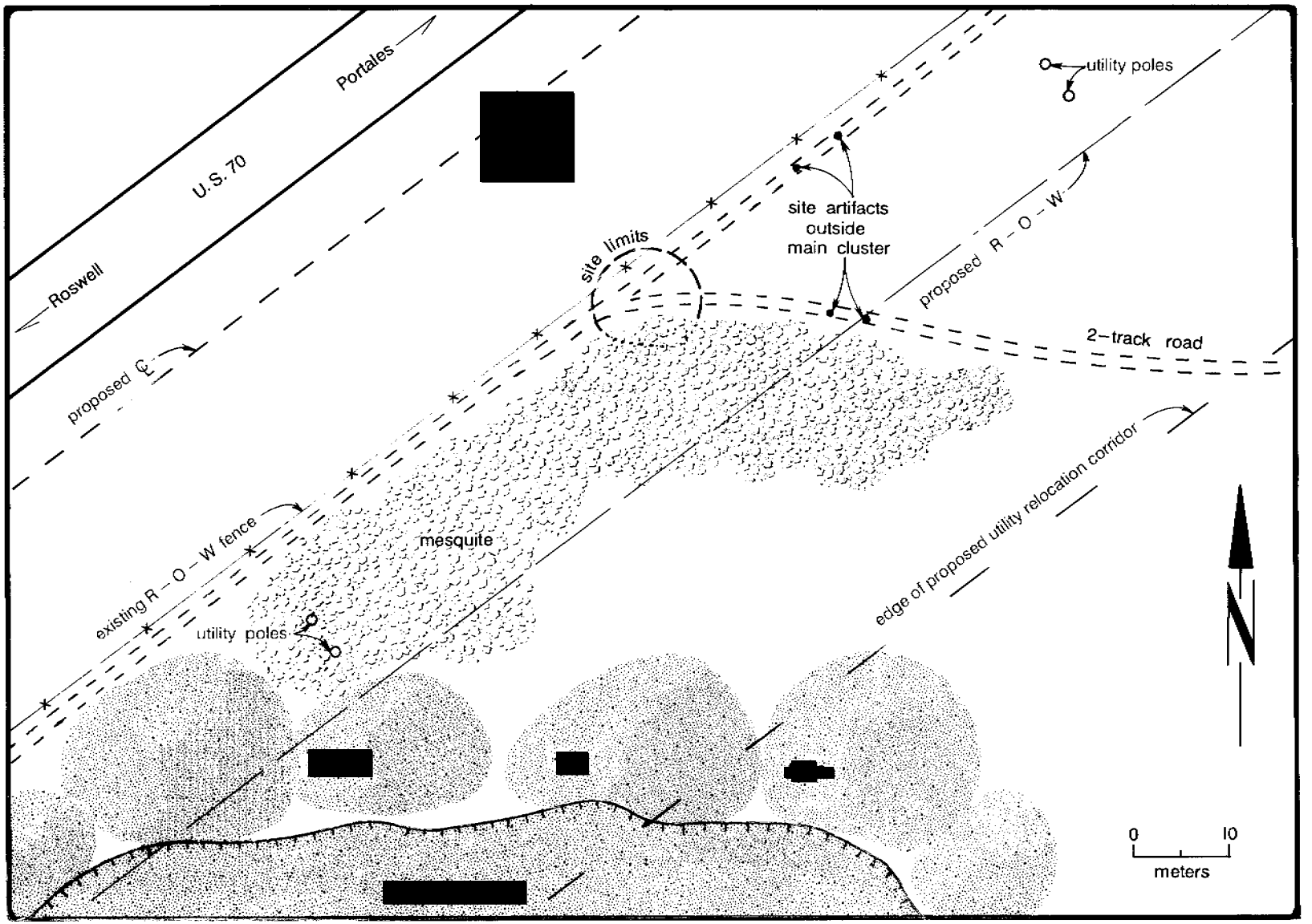

Figure 4. LA 103931 site sketch map.

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 horticultural/agricultural 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). In virtually all cases, the interpretive arguments were advanced ex post facto.

Various criteria have been used to suggest that a given site or group of sites are those of full-time hunter-gatherers rather than horticulturists. 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 (see below). 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 very thorny problem remains. How do we as archaeologists, using archaeological data, make a convincing case? How do we distinguish hunting-gathering sites created by horticulturists 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. But first it is useful to review them 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.

It should be mentioned at this point that I view horticulture (garden farming) and agriculture (crop farming) as other options in the collector-lifeway, rather than wholly different lifeways, as do many scholars. The justification lies in the fact that in a worldwide perspective, horticulture and agriculture are also practiced with varying degrees of intensity and are usually part of subsistence systems that include significant wild plant food components. Therefore, the position taken here is that horticulture and agriculture are best viewed as being part of the food-acquisition continuum and as such, form the opposite end of the spectrum from simple foraging. In this scheme, hunting-gathering collectors (economies lacking domesticates) fall somewhere in the middle of the continuum.

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 regime, economic success, demography, and other factors--often combines both approaches into a "mixed" strategy (see Boyd et al. 1993). 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 or "normal" strategy. 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 horticultural peoples 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 cultivated plants (horticulture) 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 horticulture and that different preconditions to the change existed in different areas. Once integrated into the diet, cultigens did not inevitably 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 prehistory 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) (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 often 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 also important to the diet of collectors, the people send out work parties to gather these and other resources they need. 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 as to 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 LA 75163 and LA 103931 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 site was made by indigenous hunter-gatherers or by the horticulturists inhabiting nearby architectural sites like Bloom Mound, Henderson Pueblo, and Rocky Arroyo.

The requirements for answering this question depend on the results of the analyses of the following research questions. Once these results are in, we will compare them with data from all types of sites in the Roswell region that have produced comparable data. 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 a weighing of the evidence, some of which may be contradictory, and a summational argument.

2. Are LA 75163 and LA 103931 base camp/habitations or special activity sites or some combination? Are structures, storage pits, other types of pits, and thermal features (hearths, cooking pits, etc.) present? Do the features in each 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 the LA 75163 and LA 103931? 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 each site?

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. Multi-purpose 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.

4. What plants and animals were being processed or consumed at LA 75163 and LA 103931? What biotic communities were being exploited? Were the site inhabitants exploiting all available biotic communities or only selected ones? 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.

5. What exotic materials or items 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 or some combination of these factors. 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.

6. What are the dates of the occupations at LA 75163 and LA 103931? Do the various areas of the sites date to one period, or are several different time periods represented in different areas of each 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. However, techniques like obsidian hydration and thermoluminescence are fraught with problems that must be resolved before they will be reliable for general use.

Sites such as LA 75163 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 site, we anticipate submitting samples for dating by accelerator mass spectrometry as well as by more conventional radiocarbon techniques.

7. What were the biological relationships and nutritional status of the people who inhabited LA 75163 and LA 103931?

In many ways human skeletal materials can answer most of the questions about the biological and cultural relationships that archaeologists ask of archaeological data. The problem is, human skeletal remains are not common, are not recovered in large enough numbers for statistical reliability, and are frequently not sufficiently well 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 Henderson Pueblo (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 conference proceedings (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.

The Potential of LA 75163 for Answering the Research Questions

LA 75163 is clearly a large, multicomponent site that represents, in its entirety, the Paleoindian, Late Archaic, and Late Prehistoric periods. Judging by the differential distribution of artifacts and burned rock, the site may have been used as both a base camp/habitation and for one or more specialized activities. Broad-scale excavation will undoubtedly uncover features such as hearths and possibly pits and structures. Multiple components will provide either redundant or different information on the use of the site through time. The more data we recover, the greater the likelihood that we will be able to successfully address all of the research questions.

The Potential of LA 103931 for Answering the Research Questions

LA 103931 is a small, single-component site that represents the Late Prehistoric period. If no features (hearths, pits, structures) are present, the site probably represents special activity use, oriented towards wild plant collection. In this event, mesquite is abundant in the vicinity and could have been the target resource. If features (hearths, pits, structures) are present, then the site probably represents a longer occupation that may have been seasonal. Because LA 103931 is single component, we have the opportunity to examine the remains of an occupation and subsistence activity not disturbed by subsequent occupations. The data from this site will not only be valuable in and of themselves, they will probably help us understand patterns encountered at LA 75163.

Field Strategy

The first activity at both LA 75163 and LA 103931 will be to establish main datum, several subsidiary datums, baselines, and a surface grid. Next, surface artifacts will be located and collected by to 2-by-2-m squares at LA 75163 and 1-by-1-m squares at LA 103931.

We will excavate virtually all of that portion of LA 75163 that lies within the project area. The only areas that may not be excavated are those under the three largest dunes. The decision to excavate under the dunes will be made based on if good indications exist that potentially significant cultural remains are to be found there. Each large dune will be trenched in two or three places by backhoe to assess the potential for cultural remains. We anticipate that the finished excavation will total between 400 and 800 sq m.

Excavations at LA 103931 will be initiated by opening an area measuring 5-by-10 m, centered on the main artifact concentration. If indicators warrant, the excavation may be opened as needed. We anticipate that the finished excavation will be no smaller than 50 sq m (about 5 by 10 m) nor larger than 100 sq m (10 by 10 m).

Excavations will be accomplished using hand tools and working 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, but in general will proceed in one of two ways--either by arbitrary levels that follow the contours of the modern surface or stratigraphic units. The decision as to which approach to use will be made after an initial excavation unit (1-by-1-m square) determines the nature of the deposits in each area. The initial excavation 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, if definable, will be excavated separately in order to preserve the integrity of the artifact assemblages associated with them.

Where features or stratigraphy are present, excavations will focus on each identifiable feature or stratum as a unit. If a unit is large and thick (e.g., is several square meters in area and 30 or more centimeters 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.

At LA 75163, part of the work will focus on looking under the four sand dunes, both for cultural items and features and for assessing stratigraphic relationships among nearby cultural clusters. The three large dunes (1 to 2 m high and capped by mesquite) will each be trenched in two or three places by backhoe. If potentially significant remains are encountered, the bulk of the sand will be removed by backhoe to a point just above the cultural layer. The cultural layer will then be excavated by hand. The fourth sand dune is lower (50 cm in height) than the other three and is not capped by mesquite. The backhoe will be used to remove the entire upper portion of this dune, and the lower portion will be excavated by hand.

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 exhausted the potential for broad-scale excavation and the exposure of 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 75163 or LA 103931. If we do, we will treat them with sensitivity and will abide by stipulations imposed by 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 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").

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 typable 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 criterion for assignment. In some cases, artifacts were put to secondary uses after they were no longer needed or functioned properly in their primary roles. But 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 Gila National Forest, 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 sites like LA 75163 and LA 103931 is important for three reasons, all of which will inform on Research Question 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 each 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 75163 and LA 103931 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 or impossible. 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 Archaeological Repository of the Museum of New Mexico. 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).

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1991 The Fox Place and Roswell Country Prehistory: A Preliminary Report. Paper presented at the 7th Jornada Conference, October 1991, in El Paso, Texas and Ciudad Juarez, Chihuahua, Mexico.

1994 *A Cultural Resource Survey of a Utility Relocation Corridor along US 70 Northeast of Roswell: NMSHTD Project BR-070-7(15)348, CN 1688.* NMSHTD Report 94-13, Environmental Section, Preliminary Design Bureau, New Mexico State Highway and Transportation Department, Santa Fe.

in prep. The Land Between: Archaic and Formative Occupations along the Upper Rio Hondo of Southeastern New Mexico. Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

APPENDIX 2. DOCUMENTS REGARDING THE TREATMENT OF HUMAN REMAINS

18-6-11. Permit required for excavation of archaeological sites; penalty.

A. It is unlawful for any person or his agent or employee to excavate with the use of mechanical earth moving equipment an archaeological site for the purpose of collecting or removing objects of antiquity when the archaeological site is located on private land in this state, unless the person has first obtained a permit issued pursuant to the provisions of this section for the excavation. As used in this section, an "archaeological site" means a location where there exists material evidence of the past life and culture of human beings in this state but excludes the sites of burial of human beings.

B. Permits for excavation pursuant to Subsection A of this section may be issued by the committee upon approval by the state archaeologist and the state historic preservation officer when the applicant:

(1) submits written authorization for the excavation from the owner of the land;

(2) furnishes satisfactory evidence of being qualified to perform the archaeological excavation by experience, training and knowledge;

(3) submits a satisfactory plan of excavation for the archaeological site and states in the plan the method by which excavation will be undertaken; and

(4) agrees in writing, upon the completion of the excavation, to submit a summary report to the committee of the excavation, which report shall contain relevant maps, documents, drawings and photographs, together with a description of the archaeological specimens removed as a result of the excavation. Failure to file the summary report shall be grounds for refusing issuance of a future permit to the person.

C. All archaeological specimens collected or removed from the archaeological site as a result of excavation pursuant to Subsections A and B of this section shall be the property of the person owning the land on which the site is located.

D. Nothing in this section shall be deemed to limit or prohibit the use of the land on which the archaeological site is located by the owner of the land or to require the owner to obtain a permit for personal excavation on his own land, provided that no transfer of ownership is made with the intent of excavating archaeological sites as prohibited in this section, and provided further that this exemption does not apply to marked or unmarked burial grounds.

E. Any person convicted of violating the provisions of this section is guilty of a misdemeanor and shall be punished by a fine not to exceed one thousand dollars ($1,000) and in addition thereto shall forfeit to the state all equipment used in committing the violation for which the person is convicted.

History: 1953 Comp., § 4-27-12.1, enacted by Laws 1977, ch. 75, § 1; 1989, ch. 267, § 2.

The 1989 amendment, effective June 16, 1989, in Subsection A inserted "or his agent or employee" in the first sentence, and substituted all of the present language of the second sentence following "state" for "and includes the sites of burial and habitats of human beings: Indian, Spanish, Mexican and other early inhabitants of this state"; in Subsection B inserted "pursuant to Subsection A of this section" and "and the state historic preservation officer"in the introductory paragraph; in Subsection C inserted "pursuant to Subsections A and B of this section"; in Subsection D added all of the language beginning with "and provided further"; and made minor stylistic changes throughout the section.

18-6-11.2. Permit required for excavation of unmarked burials; penalty.

A. Each human burial in the state interred in any unmarked burial ground is accorded the protection of law and shall receive appropriate and respectful treatment and disposition.

B. A person who knowingly, willfully and intentionally excavates, removes, disturbs or destroys any human burial buried, entombed or sepulchered in any unmarked burial ground in the state, or any person who knowingly, willfully and intentionally procures or employs any other person to excavate, remove, disturb or destroy any human burial buried, entombed or sepulchered in any unmarked burial ground in the state, except by authority

of a permit issued by the state medical investigator or by the committee with the concurrence of the state archaeologist and state historic preservation officer, is guilty of a fourth degree felony and shall be punished by a fine not to exceed five thousand dollars ($5,000) or by imprisonment for a definite term of eighteen months, or both. The offender shall upon conviction forfeit to the state all objects, artifacts and human burials excavated or removed from an unmarked burial ground in violation of this section, and any proceeds from the sale by the offender of any of the foregoing shall also be forfeited. As used in this section:

(1) "unmarked burial ground" means a location where there exists a burial or burials of any human being which is 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; and

(2) "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.

C. Any person who discovers a human burial in any unmarked burial ground shall cease any activity that may disturb that burial or any object or artifact associated with that burial and shall notify the local law enforcement agency having jurisdiction in the area. The local law enforcement agency shall notify the state medical investigator and the state historic preservation officer.

D. The state medical investigator may, consistent with the statutes governing medical investigations, have authority over or take possession of any human burial discovered in the state, in which case the provisions of Subsections E and F of this section shall not apply.

E. Permits for excavation of a human burial discovered in an unmarked burial ground shall be issued by the committee within sixty days of receipt of application when the applicant:

(1) submits written authorization for that excavation from the owner of the land on which the human burial is located or the applicant is the owner of the land;

(2) demonstrates appropriate efforts to determine the age of the human burial and to identify and consult with any living person who may be related to the human burial interred in the unmarked burial ground;

(3) complies with permit procedures and requirements established by regulations authorized in this section to ensure the complete removal of the human burial and the collection of all pertinent scientific information in accordance with proper archaeological methods; and

(4) provides for the lawful disposition or reinterment of the human burial either in the original or another appropriate location and of any objects or artifacts associated with that human burial consistent with regulations issued by the state historic preservation officer, except that the committee shall not require, as a condition of issuance of a permit, reinterment or disposition, any action that unduly interferes with the owner's use of the land.

F. Permits for the excavation of any human burial discovered in the course of construction or other land modification may be issued by the committee with the concurrence of the state archaeologist and the state historic preservation officer on an annual basis to professional archaeological consultants or organizations.

G. Except when the committee requires as a condition of the permit that any object or artifact associated with a human burial be reinterred or disposed of with that burial, that object or artifact shall be the property of the person owning the land on which that burial is located.

H. Any object or artifact and any human burial excavated or removed from an unmarked burial ground in violation of this section shall be forfeited to the state and shall be lawfully disposed of or reinterred in accordance with regulations issued by the state historic preservation officer; provided that no object or artifact so forfeited shall ever be sold by the state; and provided further that any object or artifact removed from the land

without the owner's consent and in violation of this section shall be returned to the lawful owner consistent with Subsection G of this section.

I. The state historic preservation officer shall issue regulations with the concurrence of the state medical investigator for the implementation of this section.

History: Laws 1989, ch. 267, § 1.

Effective dates. — Laws 1989, ch. 267 contains no effective date provision, but, pursuant to N.M. Const., art IV, § 23, is effective on June 16, 1989.

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.

1972 The Puerto del Sur Project: Archaeological Salvage Excavations Along Interstate 25 Near Las Vegas, New Mexico. Museum of New Mexico, Laboratory of Anthropology Notes No. 70, Santa Fe.

1973 The Bent Highway Salvage Project, Otero County, New Mexico. MNM, Laboratory of Anthropology Notes No. 74, Santa Fe.

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

Archaeological Society of New Mexico: 12, edited by Anne V. Poore, Albuquerque.

(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

Sites and Data Recovery Plan for LA 83772 Along N.M. 90 Southwest of Silver City, New Mexico. OAS/MNM, Anthropology Notes No. 60, Santa Fe.

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

1992 Early Spanish Colonial Occupation of Santa Fe: Excavations at the La Fonda Parking Lot. IN Current Research on the Late Prehistory and Early History of New Mexico, edited by Bradley J. Vierra, pp. 207-214. New Mexico Archaeological Council Special Publication No. 1, Albuquerque.

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)
1971 A Preliminary Report on Excavations at the Smokey Bear Ruin (LA 2112), Lincoln County, New Mexico. El Paso Archaeological Society, The Artifact 9(3), 18pp.

(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.

(with J. Andrew Darling)
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,

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.

1988 Ceramics of the Cherry Creek Site. Appendix 2 IN Archaeological Test Excavations at the Cherry Creek Site Near Tyrone, Grant County, New Mexico, by James L. Moore, pp. 63-68. MNM, Laboratory of Anthropology Notes No. 462, Santa Fe.

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

*1989 The KP Site and Late Developmental Period Archaeology in the Santa Fe District. MNM, Laboratory of Anthropology Notes No. 494, Santa Fe.

1989 The Roswell Relief Route Project: 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.

1990 Comments on "An Analysis of Burials from the Socorro Mission, Socorro, Texas" by Consuelo Theresa Evans. El Paso Archaeological Society, The Artifact 28(1):84-88.

1990 Raw Material Selection for Chipped Stone Artifacts in Late Developmental Sites of the Santa Fe District. IN Clues to the Past: Papers in Honor of William M. Sundt, pp. 345-350, edited by Meliha S. Duran and David Kirkpatrick. Archaeological Society of New Mexico, Albuquerque.

1990 The Aden Project: Archaeological Survey Along Interstate 10, Dona Ana County, New Mexico. MNM, Laboratory of Anthropology Notes No. 503, Santa Fe.

1991 The Bent Project: Archaeological Excavation at the Bent Site (LA 10835), Otero County, Southern New Mexico. COAS Publishing & Research Monograph No. 5, Las Cruces.

1991 Discussion - Capitan North Project. IN Mogollon V edited by Patrick H. Beckett. COAS Publishing & Research, Las Cruces.

1991 Prehistoric White Signal: Archaeological Testing and Evaluation of Two

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

1983 Rhodes Canyon Ceramics. IN The Prehistory of Rhodes Canyon, N.M. edited by Peter L. Eidenbach. Human Systems Research, Inc., Tularosa.

1984 Ceramics from the Garnsey Spring Campsite. IN The Garnsey Spring Campsite: Late Prehistoric Occupation in Southeastern New Mexico by William J. Parry and John D. Speth. University of Michigan, Museum of Anthropology Technical Reports No. 15, Ann Arbor.

1984 Review: Honoring the Dead: Anasazi Ceramics from the Rainbow Bridge - Monument Valley Expedition by Helen Crotty. Albuquerque Archaeological Society, Pottery Southwest 11(2), 2pp.

*1984 Chupadero and Tabira Black-on-whites - Continuum or Dichotomy? The Kiva 50(1), 15pp.

1985 Bison, Fish, and Sedentary Occupation: Startling Data from Rocky Arroyo (LA 25277), Chaves County, New Mexico. IN Views of the Jornada Mogollon edited by Colleen M. Beck. Eastern New Mexico University Contributions in Anthropology, Vol. 12, 3pp., Portales.

1985 Proposed Changes in Some of the Ceramic-Period Taxonomic Sequences of the Jornada Branch of the Mogollon. IN Proceedings of the Third Jornada Mogollon Conference edited by Michael S. Foster and Thomas C. O'Laughlin. El Paso Archaeological Society, The Artifact 23(1-2), 9pp.

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.

1988 The Valencia Project: A Proposal for Data Recovery. MNM, Laboratory of Anthropology Notes No. 446, Santa Fe.

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

1979 Redware Frequency and Elevation, An Alternative Analysis. El Paso Archaeological Society, The Artifact 17(1), 6pp.

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.

1979 The Naschitti - North Project: The Excavation of Two Small Pueblo II Sites Near Sheep Springs, San Juan County, New Mexico. MNM, Laboratory of Anthropology Notes No. 143, Santa Fe.

1980 The Ceramics from the Garnsey Bison Kill Site. IN Late Prehistoric Bison Procurement in Southeastern New Mexico: The 1978 Season at the Garnsey Site (LA 18399) by John D. Speth. University of Michigan, Museum of Anthropology Technical Reports No. 12, 2pp., Ann Arbor.

*1980 The Carnue Project: Excavation of a Late Coalition Period Pueblo in Tijeras Canyon, New Mexico. MNM, Laboratory of Anthropology Notes No. 166, Santa Fe.

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1981 Further Investigations at the King Ranch Site, Chaves County, New Mexico. IN Archaeological Essays in Honor of Mark Wimberly edited by Michael S. Foster. El Paso Archaeological Society, The Artifact 19(3-4), 30pp.

*1982 Climatic Changes and Population Shifts in the Chuska Valley: A Trial Correlation. IN Collected Papers in Honor of John W. Runyan edited by Albert H. Schroeder. Papers of the Archaeological Society of New Mexico: 7, 16pp., Albuquerque.

*1982 The Tsaya Project: Archaeological Excavations Near Lake Valley, San Juan County, New Mexico. MNM, Laboratory of Anthropology Notes No. 308, Santa Fe.

1982 The Intervening Years - New Information on Chupadero Black-on-white and Corona Corrugated. Albuquerque Archaeological Society, Pottery Southwest 9(4), 3pp.

1982 Review: Excavation of Mound 7, Gran Quivira National Monument, New Mexico by A.C. Hayes, J.N. Young, and A.H. Warren and Contributions to Gran Quivira Archeology, Gran Quivira National Monument, New Mexico edited by Alden C. Hayes. El Palacio 88(1), 2pp.

1982 Review: Ceramic sections of the two Gran Quivira volumes (above). Albuquerque Archaeological Society, Pottery Southwest 9(4), 2pp.

1973 Archaeological Clearance Investigation for the Tucson Gas and Electric Company 345 KV San Juan - Vail Transmission Line, New Mexico to Arizona. MNM, Laboratory of Anthropology Notes No. 112, Santa Fe.

1973 The Malpais Reconnaissance: An Archaeological Inventory and Evaluation of Some Prehistoric Sites in the El Malpais Planning Unit, Socorro District, Bureau of Land Management. MNM, Laboratory of Anthropology Notes No. 103, Santa Fe.

1974 An Archaeological Clearance Investigation and Impact Statement for the World Humates, Ltd. Mine Near San Ysidro, New Mexico. MNM, Laboratory of Anthropology Notes No. 106, Santa Fe.

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.

*1975 Sitio Creston (LA 4939), A Stone Enclosure Site Near Las Vegas, New Mexico. Plains Anthropologist 20-68, 24pp.

1975 Test Excavations at Three Lincoln Phase Sites in the Capitan Mountains Region, Southeastern New Mexico. Archaeological Society of New Mexico, Awanyu 3(1), 29pp.

1975 An Archaeological Clearance Investigation and Impact Statement for the New Mexico State Highway Department Project I-040-6(16)351 Near San Jon, New Mexico. MNM, Laboratory of Anthropology Notes No. 116, Santa Fe.

1975 An Archaeological Clearance Investigation and Impact Statement for Two Southern Union Gas Company Cathodic Protection Lines South of Gobernador, New Mexico. MNM, Laboratory of Anthropology Notes No. 122, Santa Fe.

1976 The San Ysidro Project: Archaeological Investigations Along New Mexico State Highway Department Project F-FF-033-1(17) at San Ysidro, New Mexico. MNM, Laboratory of Anthropology Notes No. 172, Santa Fe.

1976 Review: Theories of Man and Culture by Elvin Hatch. El Palacio 82(1), 1 page.

1977 The Blackrock Project: Archaeological Excavations on the Zuni Indian Reservation, McKinley County, New Mexico. MNM, Laboratory of Anthropology Notes No. 141, Santa Fe.

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.

1979 Review: Proceedings of the 1973 Hohokam Conference compiled by D.E.

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).

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.

- 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.