SITE LA 102411

HUMAN SYSTEMS RESEARCH

AN ARCHAEOLOGICAL SURVEY OF 12.5 HA (30.8 ACRES) ON FOUR PROPOSED WELL PADS AND ACCESS ROADS AT PAVO MESA IN EDDY COUNTY, NEW MEXICO

John P. Hilley

Performed under BLM Special Use Permit No. 3-2920-93-X

Prepared for
Mewbourne Oil Company
Hobbs, New Mexico

Submitted by
Human Systems Research, Inc.
Tularosa, New Mexico

November 1993

HSR Project No. 9363

A NONPROFIT CORPORATION

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ABSTRACT

Mewbourne Oil Company, of Hobbs, New Mexico, proposes to construct four well pads with access roads at Pavo Mesa, Eddy County. Bill Pierce, of Mewbourne Oil Company, requested that an intensive cultural-resource survey be performed to comply with state and federal laws governing cultural-resource protection.

On October 18 and 20, 1993, John Hilley, an archaeologist from Human Systems Research, Inc. (HSR), performed an intensive cultural-resources survey of the four proposed well pad locations and access roads. The total area surveyed was 12.5 ha (30.8 acres), on land administered by the Bureau of Land Management, Carlsbad Resource Area of the Roswell District.

One prehistoric site with two historic roads and three isolated prehistoric lithic artifacts were recorded during the survey. The prehistoric site, LA 102,411, is a widespread lithic procurement and reduction zone containing many small clusters of artifacts and features.

Isolated Occurrence 1 was found at the well pad designated Vandergriff 23 Federal No. 1. The research potential of this isolated occurrence has been exhausted by recordation, and the proposed construction will have no effect on significant cultural resources.

The research potential of Isolated Occurrences 2 and 3, located along the access road to Vandergriff 27 Federal Nos. 1 and 2 and Vandergriff 26 Federal No. 1, has been exhausted through recordation. Archaeological clearance for the southern part of this road is recommended.

Prehistoric and historic use areas of Site LA 102,411 or pieces of the historic road system were found associated with well pads and access roads for Vandergriff 27 Federal Nos. 1 and 2 and Vandergriff 26 Federal No. 1. Construction of these well pads and access roads will have an effect on potentially significant prehistoric and historic cultural resources. Therefore, archaeological clearance cannot be recommended for these pads, as currently delineated. Further documentation of Site

LA 102,411 and its prehistoric and historic context is recommended, as well as preparation of a plan to mitigate the effects of the proposed construction for the three well pads and access roads to Site LA 102,411. Research on historic maps and land-ownership records is recommended to determine the context of the historic roads.

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INTRODUCTION

On October 15, 1993, Bill Pierce, of Mewbourne Oil Company, contacted Karl Laumbach, of Human Systems Research, Inc., and requested an archaeological survey of four well pads located 22 km (14 mi) east-northeast of Artesia, New Mexico (Figure 1). This survey was requested to comply with federal and state laws governing cultural-resource protection.

On October 18 and 20, 1993, John Hilley, an archaeologist in the employ of Human Systems Research, Inc., conducted an intensive cultural-resource survey of the proposed well pad locations and associated access roads. This report gives the results of that survey. Karl Laumbach administered the project for HSR, John Hilley drafted the maps, and John Verploegh edited the report.

PROJECT DESCRIPTION

This project provides an intensive cultural-resources survey of four proposed well pads named Vandergriff 23 Federal No. 1, Vandergriff 26 Federal No. 1, and Vandergriff 27 Federal Nos. 1 and 2, as well as their associated access roads (Figure 2). The access roads were provided a 33-m (100-ft) wide right-of-way. Well pads were provided with an area of 122 by 122 m (400 by 400 ft). A total area of 12.5 ha (30.8 acres) was surveyed.

ENVIRONMENT

The environment of the project area—the location, drainage, climate, soils, and vegetation—partly determined its prehistoric and historic uses.

Location

The project area is in southeastern New Mexico, approximately 22 km (14 mi) east-northeast of the town of Artesia, New Mexico. Three of the wells are on the southwest slope of Pavo Mesa, and the fourth is on Pavo Mesa. Pavo Mesa rises 50 m (175 ft) above the surrounding terrain. Other local landmarks include Red Lake, 3 km (2 mi) to the south, and Crow Flats, which lies 1.5 km (1 mi) to the west. The project area is illustrated on the Diamond Mound, NM (1951), 7.5-min. USGS quadrangle map. No UTM coordinates are provided on the quadrangle map, thus all UTM coordinates have been extrapolated from the adjacent map to the north, the Derrick Draw NM (1951), 7.5-min USGS quadrangle map (this method may have introduced a slight error factor into the coordinates). The legal description of the project areas, with township, range, section, and UTM coordinates, is listed in Table 1.

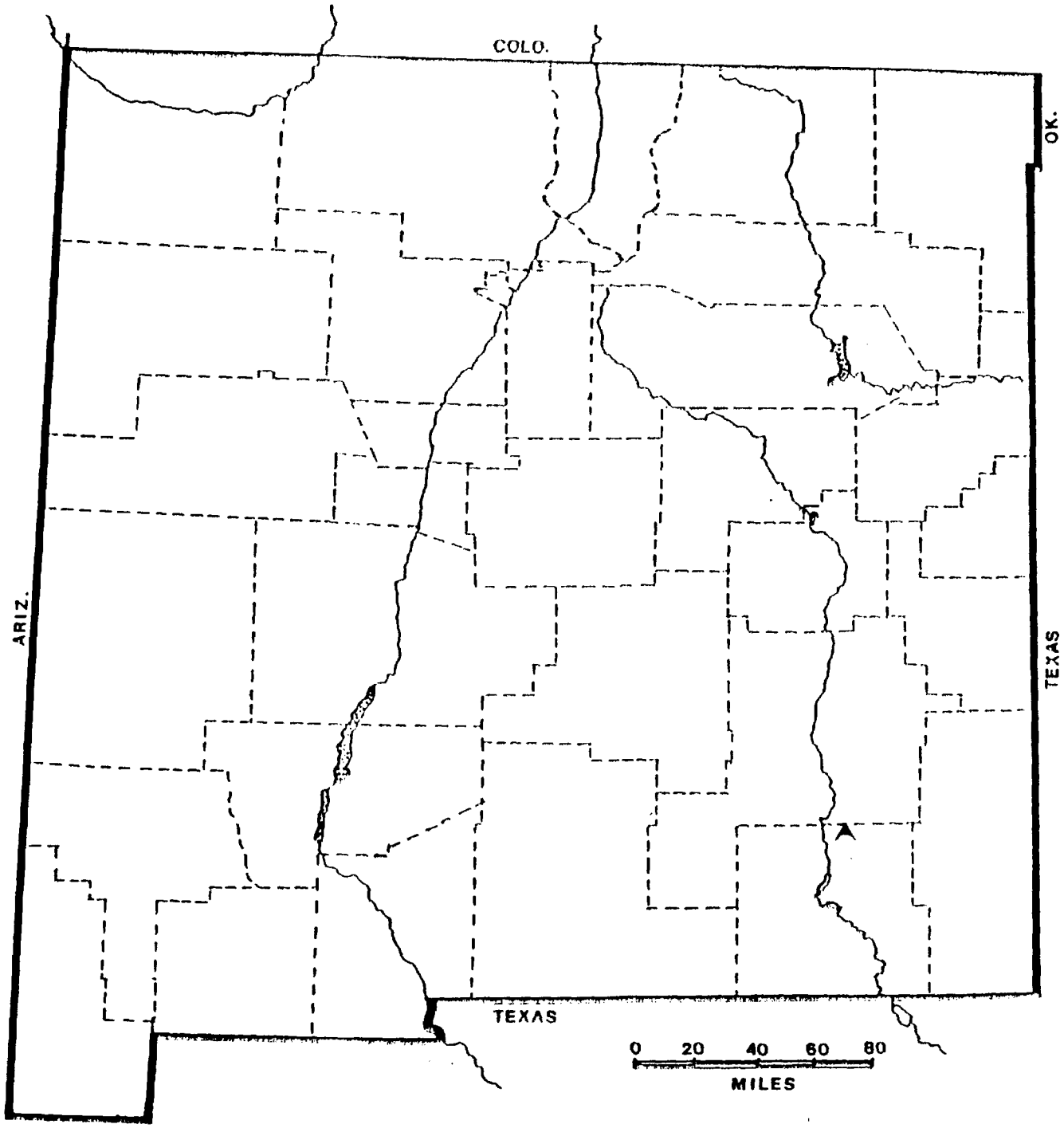

Figure 1. Location of the project area in Eddy County, New Mexico. ▲

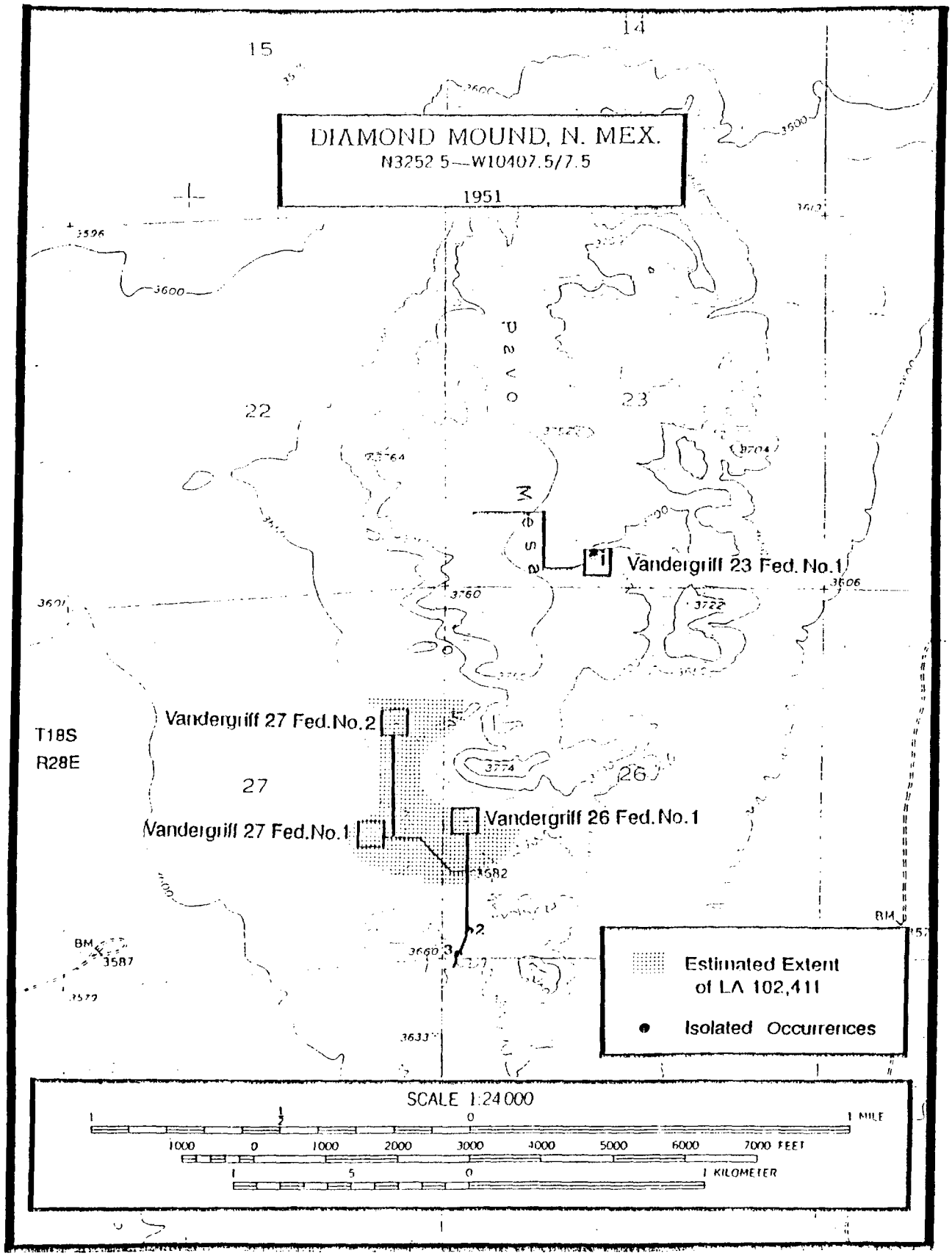

Figure 2. Survey locations for proposed well pads and access roads.

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Table 1. Legal Description and UTMs of the Surveyed Areas.

Location	Legals						UTM Coordinates*		Total Area		Length of R-O-W		Actual Footage Location	
	Township	Range	Section	1/4	1/4	1/4	Easting	Northing	Ha	Acres	m	ft		
Vandergriff 23 Federal No. 1														
Well Center	16S	28E	23	SE	SE	SW	579680	3640600	3.7	9.2	732	2,400	330 FSL	2,210 FWL
Access Road														
Begin	16S	28E	23	NW	SW	SW	579130	3640820						
				NE	SW	SW								
				NW	SE	SW								
End				SW	SE	SW	579620	3640600						
Vandergriff 26 Federal No. 1														
Well Center	16S	28E	26	SW	NW	SW	579140	3639480	3.1	7.6	527	1,730	1,980 FSL	330 FWL
Access Road														
Begin	16S	28E	26	SW	NW	SW	579145	3638900						
				NW	SW	SW								
End				SW	SW	SW	579145	3639420						
Vandergriff 27 Federal No. 1														
Well Center	16S	28E	27	SW	NE	SE	578740	3639420	2.8	6.9	427	1,400	1,380 FSL	990 FEL
Access Road														
Begin	16S	28E	27	SW	NE	SE	578800	3630400						
				SE	NE	SE								
End	16S	28E	26	NW	SW	SW	579160	3639250						
Vandergriff 27 Federal No. 2														
Well Center	16S	28E	27	NE	SE	NE	579840	3639890	2.9	7.1	451	1,480	330 FSL	2,310 FWL
Access Road														
Begin	16S	28E	27	SE	NE	SE	578830	3639840						
				NE	NE	SE								
End				SW	SE	NE	578830	3639400						

*NAd 1927 (Zone 13)

Drainage

The project area is deeply cut by arroyos up to 2 m (6 ft) deep that flow from Pavo Mesa toward the west and south and eventually into Red Lake 3 km (2 mi) to the south.

Climate

The Eddy County area has a semiarid, continental climate that is characteristic of the plains of southern New Mexico (Houghton 1971:77). The average annual rainfall is from 25 to 36 cm (10 to 14 in.). The mean annual temperature is from 15 to 18 degrees C (60 to 64 degrees F), with temperature extremes of 40 degrees C (105 degrees F) in June and -13 degrees C (8 degrees F) in December.

Soils

The soils on the southwestern slope of Pavo Mesa are of the Pajarito series (Chugg et al. 1971). These soils are deep and well-drained with little calcareous material. They have developed in wind-worked material and alluvium derived from mixed, sandy sediments of the uplands and are subject to continuing wind and water erosion.

The soils in the vicinity of Vandergriff 23 Federal No. 1 on Pavo Mesa are of the Tunuco series. These soils are course-textured, excessively drained, and shallow, overlying caliche.

Vegetation

Mesquite (*Prosopis juliflora*) is the predominant vegetation in the survey area. Other plants noted on the project include four-wing saltbush (*Atriplex canescens*) broom snakeweed (*Gutierrezia Sarothrae*), fluff grass (*Tridens pulchellus*), and soap-tree yucca (*Yucca elata*).

RECORDS SEARCH

The National Register of Historic Places and the State Register of Cultural Properties were consulted to determine whether any registered properties are located within the project area or its immediate vicinity. No such properties were found to exist.

PREVIOUS ARCHAEOLOGICAL WORK

A computerized site file search of the Archaeological Resources Management System (ARMS), Historic Preservation Division, Santa Fe, was conducted to identify nearby archaeological sites. Bureau of Land Management records in Carlsbad, New Mexico were also consulted on October 18, 1993, with the assistance of Michael Kyte, Carlsbad Resource Area Archaeologist. As a result of these searches, 17 sites were found to have been previously recorded in the surrounding area and are described in Table 2. The surveys yielding these sites were related to oil and gas exploration.

Site LA 38468, located approximately 270 m (885 ft) south of Site LA 102,411 on a small hill, is a lithic and ceramic scatter. If it is related to Site LA 102,411, it may indicate later use of the local lithic resources.

Table 2. Previously Recorded Sites in Surrounding Sections.

Location/Site	Description	Culture	Temporal Affiliation
T16S R28E SEC. 25			
LA 34385	Small lithic scatter	Unknown	Unknown
T16S R28E SEC. 24			
LA 36559	Lithic and burned rock scatter	Unknown	Unknown
T16S R28E SEC. 35			
LA 38467	Hearth and lithic scatter	Archaic	Unspecific
T16S R28E SEC. 27			
LA 38468	Small lithic and ceramic scatter	Jornada	Unknown
T16S R28E SEC. 23			
LA 51086	Lithic, ground stone, and fire-cracked rock scatter	Unknown	Unknown

Table 2. Previously Recorded Sites in Surrounding Sections (cont.).

Location/Site	Description	Culture	Temporal Affiliation
T16S R28E SEC. 23 (cont.)			
LA 51087	Lithic and burned-rock scatter with two hearths	Unknown	Unknown
LA 51481	Small lithic scatter	Unknown	Unknown
T16S R28E SEC. 34			
LA 51839	Small lithic scatter	Unknown	Unknown
LA 51840	Lithic scatter and hearth	Unknown	Unknown
LA 51941	Lithic scatter	Unknown	Unknown
T16S R28E SEC. 25			
LA 53459	Hearth and lithic scatter	Unknown	Unknown
LA 71170	Lithic scatters with hearths	Unknown	Unknown
LA 86171	Lithic quarry	Unknown	Unknown
LA 86178	Burned rock and lithic scatter	Unknown	Unknown
LA 86179	Burned-rock and lithic scatter	Unknown	Unknown
T16S R28E SEC. 26			
LA 69006	Hearth and burned-rock scatter	Unknown	Unknown
T16S R28E SEC. 15			
LA 81267	Hearth	Unknown	Unknown

CULTURE HISTORY

A culture history for Southeastern New Mexico is included in Appendix A.

RESEARCH DESIGN

The research design for the survey focused on locating cultural material within the project area to determine its temporal, cultural, and functional uses during prehistoric or historic times. Potential research topics include studies of land use, material culture and cultural change exhibited through size, location, and distribution of sites and determination of site function.

SURVEY METHODS

The center and corners of each well pad, as well as the access-road routes were staked and flagged by engineering personnel. The archaeologist surveyed parallel pedestrian transects over each well pad area and on the access-road routes. Well pads measured 122 by 122 m (400 by 400 ft) and access roads were provided with a 33-m (100-ft) wide right-of-way.

One site and three isolated occurrences were located and recorded in the field. Areas of concentrated artifacts within the site were marked by placing blue-and-white-striped flagging tape on mesquite bushes. Areas of the site near the project locations were then sketch mapped, and a Museum of New Mexico, Laboratory of Anthropology, Archaeological Site Survey Form was completed. Because of the extensive nature of this low-density site, it was not possible to absolutely define the site boundaries or to record the whole site.

SURVEY RESULTS

The survey yielded one prehistoric site with two historic roads and three prehistoric isolated occurrences. The boundaries of this extensive site were not defined during this limited survey; however, several concentrated lithic scatters were defined and recorded. The locations of these areas of concentrated artifacts and other cultural resources found during the survey are listed in Table 3. The Laboratory of Anthropology Site form is included in Appendix B.

Table 3. Descriptions and UTM Coordinates of the Cultural Resources.

Location	Description	UTM Coordinates* Center Easting	Northing
Area A	Lithic-artifact concentration**	578700	3639460
Area B	Lithic concentration** with hearths	578850	3639420
Area C	Lithic concentration** with one hearth	578690	3637420
Area D	Lithic concentration**	578250	3639225
IO 1	Tan chert flake, 30 mm long, 15 mm wide, no cortex, utilized	579660	3640630
IO 2	Tan quartzite core, 90 mm long by 90 mm wide, four platforms, no cortex	579160	3639040
IO 3	Gray chert flake, 30 mm long by 25 mm wide, single platform, no retouch, no cortex	579140	3638950

*NAd 1951, Zone 13
** Less than 1 artifact per sq m

Site LA 102,411

Site LA 102,411 (HSR 9363-1) is a extensive lithic procurement area with hearths and chipped-stone scatters. A historic component of the site is two potentially historic roads with associated trash. The site is located in an area of eroded, broken topography on the southwest slope of Pavo Mesa, in Eddy County, New Mexico. The site is partially illustrated on a project map based on information provided by the project surveyors (Figure 3). Four concentrations of artifacts are illustrated in Figure 4, based on paced measurements made by the archaeologist. Minor discrepancies in the relationships of roads and site areas between the maps are the result of the source of the map information.

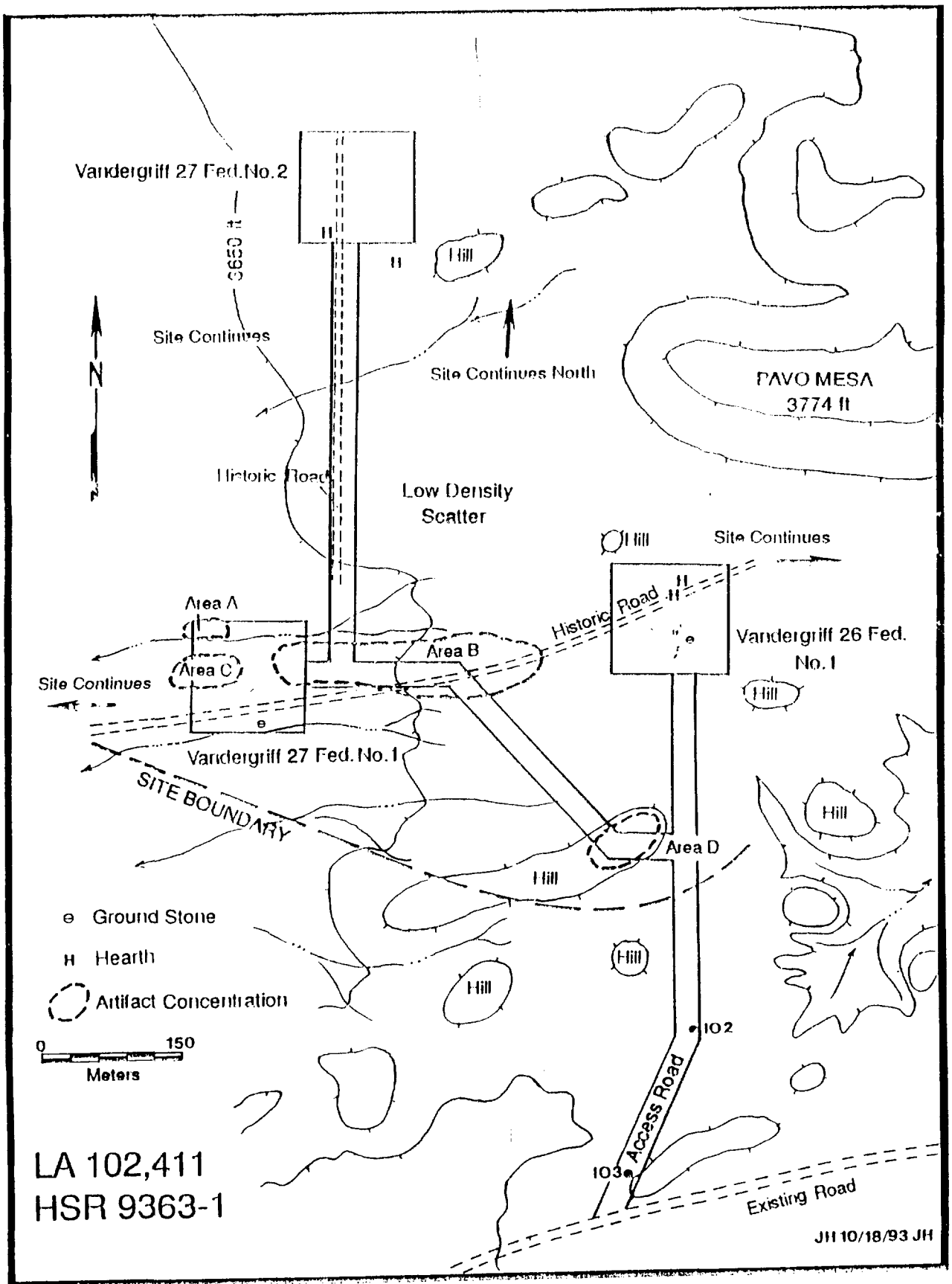

Figure 3. Project map showing location and extent of Site LA 102,411 in relation to proposed well pads (based on information provided by surveyors).

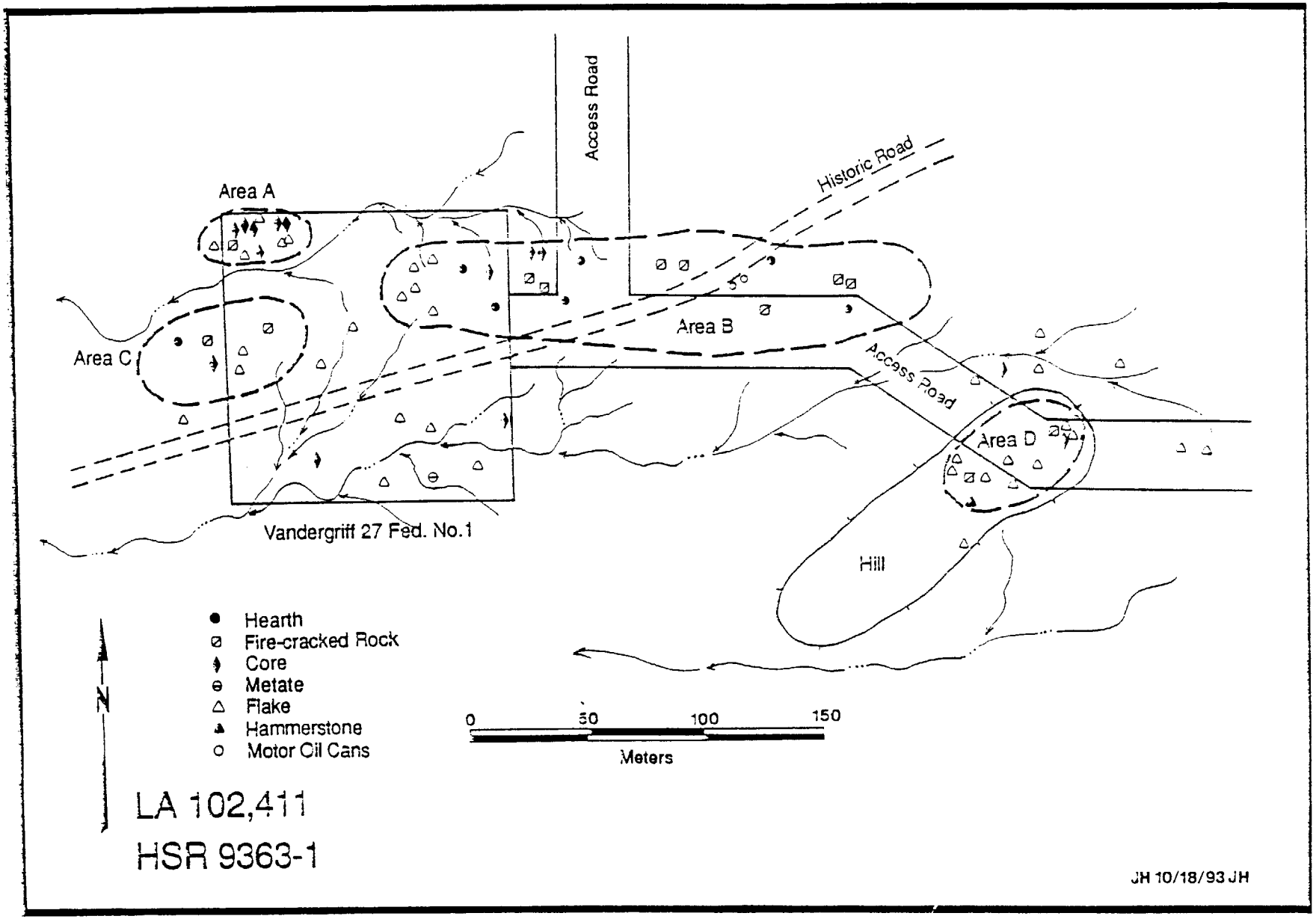

Figure 4. Pace map of high-density areas of cultural resources on Site LA 102,411, a multi-component chipped-stone scatter and historic road system.

The site is situated in the eroded, broken terrain immediately below the slopes of Pavo Mesa. The surface is composed of red, sandy soils of the Pajarito series and is frequently bisected by arroyos that run generally westward and are often as deep as 2 m (6 ft). The areas between the arroyos contain small hummocks of sand anchored by four-wing saltbush and mesquite. These areas present the appearance of small eroded ridges, with very little vegetation between the hummocks. Most of the artifacts were located along these small ridges.

Limitations of time in the scope of this project prevented the entire lithic procurement area from being spatially defined and mapped. However, considering the density and distribution of the recorded areas, the minimum total size for this lithic procurement area must be at least 1,000 m (3,050 ft) north to south by 600 m (1,969 ft) east to west (totaling 60 ha [148 acres]). In fact the site may include the entire southwestern slope of Pavo Mesa.

A total of 11 hearths were identified in or near the surveyed areas. Many of these were extremely eroded, and many more have probably been completely destroyed by erosion. Burned caliche and limestone cobbles were common throughout the site area and were the primary indicators of the hearths. No soil stains were located, but some intact hearths probably exist under dune areas.

The most notable feature of the site is a widespread scatter of lithic debris. Usually the scatter was low density (fewer than 1 artifact per 10 sq m), but several loci were recorded where artifact density was as high as 1 artifact per sq m. Some of these areas fell within the proposed well-pad and access-road locations and were sketched in a paced map developed by the archaeologist (Figure 4). Area A was particularly diagnostic of site function, with the high percentage (55 percent) of lithic core artifacts. This, along with the high frequency of decortication flakes (75 percent) indicates lithic procurement as the site function.

The lithic cores and decortication flakes, along with the natural occurrence of unmodified, fist-sized cobbles of purple (Ogallala) quartzite, chert, and chalcedony, led to the postulation that prehistoric populations visited this site in order to gather lithic materials and to reduce them to more efficiently portable flakes. Similar sites are known to occur along the eastern edge of the Pecos valley in several locations where the Ogallala formation is found (Beckett et al. 1977:4; Bond 1979:35).

A random sample of lithic artifacts (n=29) were examined in the field. Of these, 8 were cores and 7 were flakes with more that 50 percent cortex on the dorsal surface. Material types are given in Table 4. The remainder of this assemblage is flakes, with the exception of a large limestone (180 by 90 by 15 mm), tabular tool that was shaped by bifacial flake removal along one side and end to form a smooth, parabolic edge, which could be used for digging, scraping, or chopping. Ground stone was represented by two sandstone fragments that were too small to analyze.

Two historic roads that cross the site indicate the historic component of the site. Crimped steel cans, mostly motor-oil containers, occur at several locations along the roads. The cans had been opened using a church key or by a pour-spout puncture. Both roads are badly eroded and are not currently in use (Figure 3).

Table 4. Artifact Material Types in Random Sample.

Material Type	No. in Sample	Percent of Sample
Quartzite	11	42
Basalt	3	10
Chert	6	20
Andesite	2	6
Rhyolite	1	3
Chalcedony	4	13
Marble	1	3
Limestone	1	3
TOTAL	29	100

Isolated Occurrences

Isolated Occurrence Nos. 1, 2, and 3 were recorded in the field and plotted on the appropriate USGS map (Figure 2). Their descriptions and locations are listed in Table 3. These two flakes and a core may represent lithic-procurement activities similar to those at Site LA 102,411. The research potential of those isolates was exhausted by field recordation.

RECOMMENDATIONS

Since the research potential of Isolated Occurrence No. 1, located in the northwest quadrant of Vandergriff 23 Federal No. 1, is considered to be exhausted by field recordation, there will be no effect on significant cultural resources from the proposed construction. Archaeological clearance is therefore recommended for this well pad and access road.

The research potential of Isolated Occurrences 2 and 3, located along the access road to Vandergriff 27 Federal Nos. 1 and 2 and Vandergriff 26 Federal No. 1,

has been exhausted through recordation. Archaeological clearance for the southern part of this road is recommended.

The area encompassing the well pads for Vandergriff 26 Federal No. 1 and Vandergriff 27 Federal Nos. 1 and 2 fall within the lithic procurement site, LA 102,411. Construction of these well pads will have an effect on potentially significant cultural resources. During consultation with the BLM Carlsbad Resource Area archaeologist, it was decided that certain measures would be necessary to mitigate the effect on the proposed construction for these three pads: (1) complete site mapping, (2) development and implementation of a data recovery plan to recover cultural-resource data extant on the site and in the area of the pads, and (3) a contextual study of the larger area. Therefore, archaeological clearance cannot be recommended at this time.

REFERENCES CITED

Beckett, Patrick H., Mark C. Strong, Susan M. Strong

1977 *Nomad Trail Archaeological Project in Eddy County, New Mexico, Project Number YA-521-CT6-268.* Cultural Resource Management Division Report No. 64, New Mexico State University, Las Cruces.

Bond, Mark

1979 *A Class III Cultural Resources Inventory of Off Road Vehicle Recreationall Areas in The HaystacK Mountain, Comanche Hill and Mescalero Sands Vicinity Near Roswell, New Mexico.* Cultural Resource Management Division Report No. 327, New Mexico State University, Las Cruces.

Chugg, Jack C., George W. Anderson, Donald L. King, and LaVaughn H. Jones

1971 *Soil Survey of Eddy Area, New Mexico.* U.S. Department of Agriculture, Soil Conservation Service. Washington, D.C.

Houghton, Frank

1971 Climate, In *Soil Survey of Eddy Area, New Mexico*, by Jack C. Chugg, George W. Anderson, Donald L. King, and LaVaughn H. Jones, pp.77-81. U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C.

APPENDIX A:

CULTURAL HISTORY

CULTURAL HISTORY

The prehistory and history of southeastern New Mexico has been summarized from a number of Human Systems Research projects and reports (Duran 1992; Sechrist and Laumbach 1991; and Shields and Laumbach 1989).

Paleoindian

Human populations have occupied the project area for at least 10,000 years. Occupation of Clovis Paleoindian hunters in the area seems to correspond to an increase in effective moisture between 9500 and 9000 B.C. It is believed that the increase in human population was based on an expansion of now-extinct, large animal herds from the Plains and into the southern New Mexico area during this wet period. Although Clovis sites are more widely dispersed than those of later periods, sites are generally found near sources of water.

Binford (1980) suggests that reliance on hunting in a hunting-gathering subsistence strategy may have depended on the length of the growing season. In warm climates, plant foods may have made up the greatest portion of the diet, while in climates with long winters, animal resources became the main food. Therefore, many Paleoindian sites in southeastern New Mexico may not have been related to hunting. Without diagnostic hunting tools such as projectile points and scrapers, sites cannot be identified as Paleoindian.

Archaic Period

After the last Ice Age, about 7,000 years ago, the huge animals disappeared, and the nomads turned more to plants for food. Groups of people moved to take advantage of small game animal populations, seasonal plant harvests, and climate. They did not build permanent structures, nor did they manufacture pottery. Although corn and other agricultural plants are found in Late Archaic sites (1600 B.C. to A.D. 200), these people still depended heavily on wild plant foods.

Ceramic Period

Beginning about A.D. 200, wetter conditions in the greater Southwest may have encouraged farming activities. Pithouse villages became the focus of agricultural activities. With a more sedentary occupation, political, social, and cultural aspects of community living became more complex.

Although trading was practiced throughout most of the earlier periods, it reached a new level during the Late Pueblo periods. Pottery and basket styles developed from strictly plain utilitarian ware to more ornate shapes. Painted pottery was traded along with native and cultivated foodstuffs. It is thought that the area east

of the Pecos River was seasonally occupied by both hunter-gatherers and Pueblo groups.

A massive reorganization in the distribution of human populations occurred in the Southwest during the century following A.D. 1300. By A.D. 1400, the mountain area of Southern New Mexico had been largely abandoned by sedentary agriculturalists.

Historic Period

The archaeological record for much of southern New Mexico is sketchy for the 100-year period between abandonment by the pueblo-dwelling peoples and the arrival of the Spanish in 1541. Athabascan-speaking populations are thought to have arrived in southeastern New Mexico by at least A.D. 1500. The Mescalero Apache of the Sacramento Mountains are descendants of that group.

During the 1600s and 1700s there was infrequent trading between the Apache and the Spaniards. The Comanche came from the north and east into New Mexico around 1700 and began raiding the Spanish settlements. A Spanish defeat of the Comanche in 1778 led the way for a Comanche peace, which in turn encouraged the beginning of the Comanchero trade. Portales Spring near Portales (north of the project area) was a water source used by these early traders (personal communication between Meliha Duran and Phillip Shelley, 1989). Comanche raids resumed during the Mexican and American periods.

Hispanic settlement of southeastern New Mexico during the 1880s was limited to the Sacramento Mountains west of the project. After the American Civil War, the Euro-American population of the area increased with cattle ranchers, merchants, and homesteaders.

In 1866, Oliver Loving and Charles Goodnight began to tap into the Colorado beef market by driving cattle north along the Pecos River. Within a few years the Goodnight-Loving Trail became an important route north. Ranchers, farmers, and homesteaders from all over the United States followed the cattlemen's trail from Texas.

Livestock ranged as far and wide as the owners could maintain control until shortly after the turn of the century, when new public laws began to take effect. The advent of the mining, timber, and oil industries, as well as construction of railroads and other communications systems, followed rapidly.

At present, agriculture and oil and gas extraction are the most evident forms of subsistence in the project area.

REFERENCES CITED

Binford, Lewis R.,

1980 Willow Smoke and Dog's Tails: Hunter-gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity* 45:4-20.

Duran, Meliha S.

1992 *Class I Overview of the Cultural Resources Along U.S. Highway 70 from Roswell to Elida, Chaves and Roosevelt Counties, New Mexico.* Human Systems Research Report No. 9223. Tularosa.

Sechrist, Mark, and Karl W. Laumbach

1991 *Data Recovery at Site LA 75160 Near Kenna Draw, Roosevelt County and Testing at Site LA 75163, Near Bob Crosby Draw, Curry County along the US West Right-of-way, New Mexico.* Human Systems Research Report No. 9001. Tularosa.

Shields, Helen B., and Karl W. Laumbach

1989 *An Archaeological Survey of a Proposed U.S. West Fiber Optic Line from Roswell to Clovis in Chaves, Roosevelt, and Curry Counties, New Mexico.* Human Systems Research Report No. 8921. Tularosa.

APPENDIX B:

MUSEUM OF NEW MEXICO, LABORATORY OF ANTHROPOLOGY,

ARCHAEOLOGICAL SITE SURVEY FORM

LABORATORY OF ANTHROPOLOGY, MUSEUM OF NEW MEXICO
ARCHAEOLOGICAL SITE SURVEY FORM

LA NO.: 102,411
SITE NAME:
OTHER INST. No.: HSR 9363 -1
I.O.: No
UTM: ZONE: 13 E578970 N3639580 (projected from Derrick Draw quad)
LEGAL DESC. T16S, R28E,
SEC. 27 SE 1/4 of NE 1/4
NE 1/4 of SE 1/4
N 1/2 of SE 1/4 of the SE 1/4
SEC. 26 NW 1/4 of SW 1/4
N 1/2 of the SW 1/4 of SW 1/4
GRANT: No
OWNER & ADDRESS: Bureau of Land Management, Carlsbad District.
*MAP REFERENCE: Diamond Mound
DATE: 1951
SCALE: 1:24,000
COUNTY: Eddy
STATE: NM
NEAREST NAMED DRAINAGE: Red Lake
LOCATIONAL DESC. & RECOGNIZED LANDMARKS: This site is located in southeastern New Mexico, approximately 22 km (14 mi) east-northeast of Artesia, NM. Pavo Mesa is immediately to the northeast. Red Lake is 3 km (2 mi) to the south.
SITE TYPE: Undated lithic procurement area.
SITE SIZE: LENGTH 1,000+ m WIDTH 600+ m
ELEVATION (FT): 3,650
TOPOGRAPHIC SETTING (LOCATION & ACCESS): This site is located just below the southwest edge of Pavo Mesa. Access is from U.S. 82, proceeding north on county road 209 for 10 km (6.25 mi), thence west at windmill for 2 km (1.25 mi), thence north by foot for 402 m (1,320 ft).
TOPOGRAPHY: The site is located in broken, eroding terrain just below the southwest edge of Pavo Mesa. Arroyos up to 2 m (6 ft) deep run from east to west, then south toward Red Lake.
SLOPE: 3 to 6 percent
ASPECT: 200 to 345 degrees.
EXPOSURE: Sheltered from north and east by mesa.
LOCAL VEGETATION: Four-wing salt bush (*Atriplex canescens*), mesquite (*Prosopis juliflora*), soaptree yucca (*Yucca elata*), broom snake-weed (*Gutierrezia Sarothrae*).
ECOLOGICAL ZONE: Desertscrub
SOIL TYPE: Pajarito series
LOCAL OUTCROPS: Sand stone, limestone, Ogallala quartzite, chalcedony
NATURE AND DEPTH OF FILL: Eroded sand up to 2 m (6 ft) deep.

ARCHAEOLOGICAL STATUS: No past work known. Present work includes drawing site map, completing site forms.
NATIONAL AND/OR STATE REGISTER STATUS: Potentially eligible
CONDITION OF SITE: Mostly eroded, small portion intact.
MITIGATION/RECOMMENDATION: Data recovery required before proceeding.
SURVEYED FOR:RECORD FORM: SURVEY FORM, SKETCH MAP
LOC. OF FORMS, MAPS, PHOTOS: Human Systems Research, Inc.
SURFACE AND/OR SUBSURFACE COLLECTIONS: No
STRATEGY: NA
LOCATION OF COLLECTED ARTIFACTS: NA
PREVIOUS COLLECTIONS: Unknown
WHEN:
REPOSITORY:
IS THERE ANOTHER SITE CLOSE BY? Yes
LA OR FIELD NO.: LA 38468
MAXIMUM ARTIFACT DENSITY: 1 per sq. meter
ESTIMATED TOTAL ARTIFACTS: 2000 +
TIME DIAGNOSTIC ARTIFACTS: None found
NO. OF TEMPORAL COMPONENTS 2
TEMPORAL COMPONENT (1)
FEATURES: Hearths and lithic scatter
CULTURE: Unknown
PERIOD: Unknown
PHASE: Unknown
SITE FUNCTION: Lithic procurement and processing.
BEST DATE: Unknown
TEMPORAL COMPONENT (2)
FEATURES: Historic roads (2)
CULTURE: EuroAmerican
PERIOD:
PHASE: Statehood-World War II and possibly later
SITE FUNCTION: Road
BEST DATE: 1940 to 1960?
PUBLISHED REFERENCE
DATE: 1993
INSTITUTION: Human Systems Research, Inc., Tularosa
AUTHOR AND TITLE: John P. Hilley, An Archaeological Survey of Four Proposed Well Pads and Access Roads in Pavo Mesa in Eddy County, New Mexico.
FIELD RECORDER: John Hilley
DATE: October 7, 1993
LAB RECORDER: John Hilley
DATE: October 13, 1993
REMARKS:

Site LA 102,411 (HSR 9363-1) is a extensive lithic procurement area with hearths and chipped-stone scatters. A historic component of the site is two potentially

historic roads with associated trash. The site is located in an area of eroded, broken topography on the southwest slope of Pavo Mesa, in Eddy County, New Mexico. The site is partially illustrated on a project map based on information provided by the project surveyors (Figure 3). Four concentrations of artifacts are illustrated in Figure 4, based on paced measurements made by the archaeologist. Minor discrepancies in the relationships of roads and site areas between the maps are the result of the source of the map information.

The site is situated in the eroded, broken terrain immediately below the slopes of Pavo Mesa. The surface is composed of red, sandy soils of the Pajarito series and is frequently bisected by arroyos that run generally westward and are often as deep as 2 m (6 ft). The areas between the arroyos contain small hummocks of sand anchored by four-wing saltbush and mesquite. These areas present the appearance of small eroded ridges, with very little vegetation between the hummocks. Most of the artifacts were located along these small ridges.

Limitations of time in the scope of this project prevented the entire lithic procurement area from being spatially defined and mapped. However, considering the density and distribution of the recorded areas, the minimum total size for this lithic procurement area must be at least 1,000 m (3,050 ft) north to south by 600 m (1,969 ft) east to west (totaling 60 ha [148 acres]). In fact the site may include the entire southwestern slope of Pavo Mesa.

A total of 11 hearths were identified in or near the surveyed areas. Many of these were extremely eroded, and many more have probably been completely destroyed by erosion. Burned caliche and limestone cobbles were common throughout the site area and were the primary indicators of the hearths. No soil stains were located, but some intact hearths probably exist under dune areas.

The most notable feature of the site is a widespread scatter of lithic debris. Usually the scatter was low density (fewer than 1 artifact per 10 sq m), but several loci were recorded where artifact density was as high as 1 artifact per sq m. Some of these areas fell within the proposed well-pad and access-road locations and were sketched in a paced map developed by the archaeologist (Figure 4). Area A was particularly diagnostic of site function, with the high percentage (55 percent) of lithic core artifacts. This, along with the high frequency of decortification flakes (75 percent) indicates lithic procurement as the site function.

The lithic cores and decortication flakes, along with the natural occurrence of unmodified, fist-sized cobbles of purple (Ogallala) quartzite, chert, and chalcedony, led to the postulation that prehistoric populations visited this site in order to gather lithic materials and to reduce them to more efficiently portable flakes. Similar sites are known to occur along the eastern edge of the Pecos valley in several locations where the Ogallala formation is found (Beckett et al. 1977:4; Bond 1979:35).

A random sample of lithic artifacts (n=29) were examined in the field. Of these, 8 were cores and 7 were flakes with more that 50 percent cortex on the dorsal surface. Material types are given in Table 4. The remainder of this assemblage is flakes, with the exception of a large limestone (180 by 90 by 15 mm), tabular tool that was shaped by bifacial flake removal along one side and end to form a smooth, parabolic edge, which could be used for digging, scraping, or chopping. Groundstone was represented by two sandstone fragments that were too small to analyze.

Two historic roads that cross the site indicate the historic component of the site. Crimped steel cans, mostly motor-oil containers, occur at several locations along the roads. The cans had been opened using a church key or by a pour-spout puncture. Both roads are badly eroded and are not currently in use (Figure 3).