

ARCHAEOLOGICAL SERVICES

by

LAURA MICHALIK

Surveys • Monitoring • Consultation • Research

SITE LA 102,922

AN ARCHAEOLOGICAL CLEARANCE SURVEY OF THE PROPOSED  
VANDAGRIFF "26" FEDERAL #2 WELL PAD LOCATION AND ACCESS ROAD  
NORTHEAST OF ARTESIA,  
EDDY COUNTY, NEW MEXICO

by

Laura Michalik  
Principal Investigator

NEW MEXICO  
OIL CONSERVATION DIVISION

EXHIBIT 4

CASE NO. 10,134,117

Performed under BLM Permit No. 84-2920-93-G

Carlsbad Resource Area, Roswell District

A REPORT PREPARED BY ARCHAEOLOGICAL SERVICES BY LAURA MICHALIK  
AND SUBMITTED TO MEWBOURNE OIL COMPANY  
HOBBS, NEW MEXICO

ARCHAEOLOGICAL SERVICES BY LAURA MICHALIK  
CULTURAL RESOURCES REPORT NUMBER 288

November 28, 1993

## ABSTRACT

On November 5, 1993, an archaeological clearance survey of a proposed well pad location and access road was conducted by Joseph Martin of Archaeological Services by Laura Michalik. The proposed project area consists of the Vandagriff "26" Federal #2 Well (990 FNL, 1500 FWL). The area surveyed for the well pad consists of a square parcel of land measuring 400 by 400 feet (3.67 acres). The area surveyed for the proposed access road consists of a corridor of land measuring 450 feet in length by 100 feet in width (1.03 acres). The total area surveyed for this project equals 4.70 acres. The proposed well pad and access road are located on land administered by the Bureau of Land Management, Roswell District, Carlsbad Resource Area in Eddy County, New Mexico in the SW 1/4 of the NE 1/4 of the NW 1/4 and the SE 1/4 of the NW 1/4 of the NW 1/4 of Section 26, T-16-S, R-28-E. The survey was conducted under BLM Permit No. 84-2920-93-G. The project was initiated at the request of Mr. Bill Pierce of Mewbourne Oil Company, P.O. Box 5270, Hobbs, New Mexico 88241 (ph. 505-393-5905).

One prehistoric archaeological site, LA 102922, was identified during the course of this survey. The site can not be avoided and Mewbourne Oil Company has decided not to mitigate. Mewbourne Oil has abandoned their plans to drill at this proposed well pad location.

## MANAGEMENT SUMMARY

Location: Well Pad - SW 1/4, NE 1/4, NW 1/4, Section 26, T-16-S, R-28-E (990 FNL, 1500 FWL)

Road - SW 1/4, NE 1/4, NW 1/4 and SE 1/4, NW 1/4, NW 1/4, Section 26, T-16-S, R-28-E

Land Ownership: BLM, Roswell District, Carlsbad Resource Area

U.S.G.S. Quad: Diamond Mound, NM 7.5' (1951)

Area Covered: Well pad - 400 by 400 feet (3.67 acres)  
Access road - 450 by 100 feet (1.03 acres)  
Total area surveyed - 4.70 acres

Cultural Resources: One prehistoric site, LA 102922

## PROJECT LOCATION AND BACKGROUND

This project involves a 100% cultural resource inventory of a proposed well pad location and access road. The project area is located in the northern portion of Eddy County, approximately 14 miles northeast of the town of Artesia, New Mexico. The proposed project area consists of the Vandagriff "26" Federal #2 Well (990 FNL, 1500 FWL). The area surveyed for the well pad consists of a square parcel of land measuring 400 by 400 feet (3.67 acres). The area surveyed for the proposed access road consists of a corridor of land measuring 450 feet in length by 100 feet in width (1.03 acres). The total area surveyed for this project equals 4.70 acres. The proposed well pad and access road are located on land administered by the Bureau of Land Management, Roswell District, Carlsbad Resource Area in Eddy County, New Mexico. The well pad is located in the SW 1/4 of the NE 1/4 of the NW 1/4 of Section 26, T-16-S, R-28-E. The access road is located in the SW 1/4 of the NE 1/4 of the NW 1/4 and the SE 1/4 of the NW 1/4 of the NW 1/4 of Section 26, T-16-S, R-28-E. The project area is located on the Diamond Mound, NM 7.5' (1951) U.S.G.S. topographic map (Figure 1).



The undertaking calls for the blading of vegetation and leveling of land necessary to establish drilling equipment and conduct drilling operations. The access road will be bladed to connect the well pad to an existing dirt road.

#### RECORDS SEARCH

A records search of the Carlsbad Resource Area Office of the Bureau of Land Management was conducted on November 2, 1993 by Joseph Martin. An examination of the Diamond Mound, NM 7.5' (1951) U.S.G.S. topographic map revealed a number of projects within a one mile radius of the current project area. These projects include a number of surveys for well pad locations and access roads. Several sites were identified within a one mile radius of the current project area. These consist of prehistoric artifact scatters with burnt caliche features. They will not be impacted by the current undertaking. A telephone check of the Laboratory of Anthropology site files conducted by telephone confirmed this information.

#### ENVIRONMENTAL SETTING

The project area lies in a physiographic province known as the Pecos Valley Section of the Great Plains Province (Hawley 1986). It is characterized on the east side of the river by rolling uplands, valleys and basins, and some areas of rough and broken terrain, and on the west side of the river by undulating hills. Specifically, the project area is located on the top of Pavo Mesa, in an area of dunes of various sizes. Drainages within the area flow away from the mesa, towards Crow Flats on the west and toward a series of lakes on the east. Flat Lake and Jake Lake are located two miles north of Pavo Mesa. Slopes within the project area average 0 to 3%. The elevation of the proposed drill pad is 3750 feet above mean sea level. Vegetation is dominated by creosote, javelina bush, mesquite, snakeweed and grasses. Soils consist of

aridisols (Maker and Daugherty 1986). These are light-colored, calcareous soils, found predominantly in the lower elevations of New Mexico. Large portions of the surrounding region have been disturbed by drilling activity and by the blading of access roads as well as by livestock grazing.

### REGIONAL CULTURE HISTORY

Southeastern New Mexico is generally considered in terms of the archaeological record, to have encompassed the eastern extension of the Jornada Mogollon culture area. The record of occupation begins around 10,000 B.C. and lasts through historic times, during which a variety of subsistence-settlement strategies were maintained.

The Paleoindian period (10,000-5,000 B.C.) is generally thought to have been a time during which the economic focus was on the highly mobile hunting of large game species. It is well represented in southeastern New Mexico both by isolated artifacts and by major excavated sites which have been radiocarbon dated to this period. The majority of these sites are found along the Mescalero pediment, but whether this is reflective of actual Paleoindian hunting strategies, or just a result of increased erosion near these features, can not yet be determined.

The Archaic period in southeastern New Mexico dates from 5000 B.C. to approximately A.D. 1000. It is much less well known than the Paleoindian period but like elsewhere in New Mexico, is considered to have been a time when there was a shift away from big game hunting to an emphasis on plant gathering and the hunting of smaller game species. The majority of the Archaic sites in this region are generally assigned to this period on the basis of surface remains, that is, because they are aceramic, or because there are Archaic-style projectile points present.

There are, however, a few sites which have yielded C-14 dates from this period, thus supporting the presence of Archaic populations through absolute dates.

The Ceramic period occupations are also poorly documented since they number proportionately fewer than sites of other periods. They begin anywhere from A.D. 750 to 900 and last anywhere from A.D. 1450 to 1550 and are tied to the advent of agriculture in the region. While there is evidence of increased sedentism and trade throughout the region during this period, only the northern portion shows evidence of agricultural pursuits. There is little evidence of agriculture in the south, bringing to question, the actual dependence of the populations upon agricultural activities. In A.D. 1250 there appears to have been a shift back to the hunting of large game. While some groups later returned (after A.D. 1300) to a partial dependence on agriculture, others continued to rely on bison hunting. This is supported by the records of the early Spanish expeditions in the 16th and 17th centuries which document the presence of mobile hunters in the area.

The Historic period begins with the 1583 journey by the Espejo expedition through the Pecos Valley and was followed by de Sosa's unauthorized expedition in 1590. Although they experienced few problems with the native Indians, the increasingly aggressive presence of the Apaches and Comanches served to keep out additional settlers and explorers for years to come. Attempts were made by the Spanish beginning in the 1770s to subdue the Indians but it was not until the 1850s and 1860s that US military troops began to quiet the area. Small Hispanic settlements began to spring up in the 1850s and were followed by the first cattle drives in the 1860s and the establishment of large cattle ranches in the 1870s. Farming was introduced in the 1880s but cattle and sheep ranching, and the oil and gas industry, continue to dominate the economy of the area today.

## SURVEY METHODS AND RESULTS

The boundaries of the project area were clearly marked by lathe and flagging. The weather was clear and the general lack of vegetation made ground visibility good. The survey of the well pad was conducted by the archaeologist walking straight transects spaced 7.5 meters apart. The survey of the proposed access road was conducted by walking straight transects spaced 7.5 meters from the proposed centerline. This allowed coverage of an area measuring 30 meters (100 feet) in width.

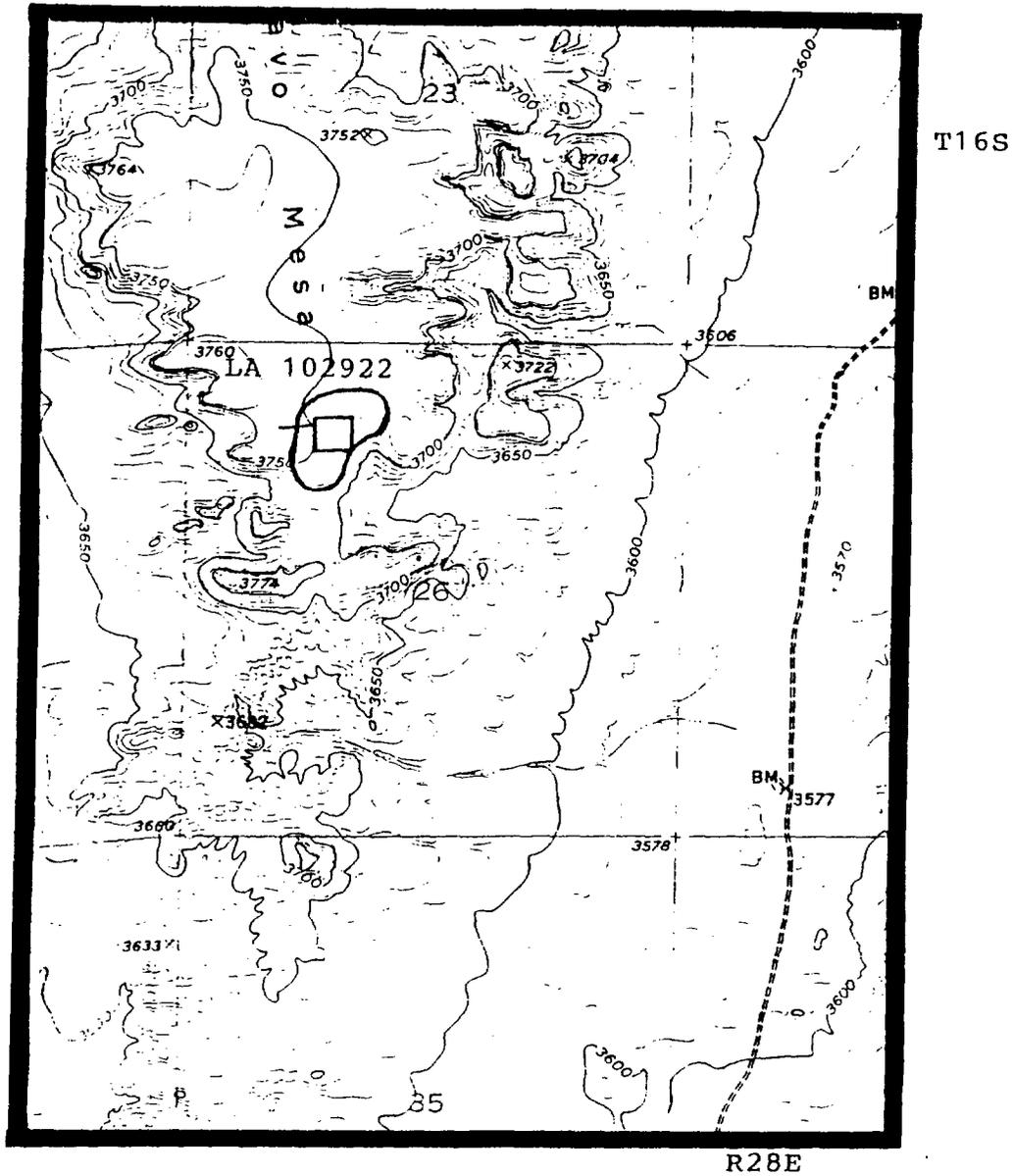
One prehistoric archaeological site, LA 102922, was identified within the boundaries of the proposed well pad and access road (Figure 2). It consists of a large lithic scatter located within the dunes on the top of the mesa (Figure 3). The site measures 430 meters southwest-northeast by 230 meters northwest-southeast (98,900 sq. meters). The site has been disturbed by a two track road which cuts through the western edge of the site as well as by grazing and erosion. The artifacts are lightly scattered across the site and concentrated on the edge of the mesa where the wind has deflated the dunes. The potential for additional subsurface cultural materials exists under the dunes away from the mesa edge.

The lithics number between 700 and 900 and all phases of the reduction sequence are represented. The material types include quartzite, chert, chalcedony and siltstone in a variety of colors. The lithics include approximately 15 cores, 75 primary flakes, 200 secondary flakes, 400 tertiary flakes and 200 pieces of shatter or angular debris. Ten flakes were observed which displayed utilization on one or more sides and appeared to have been used as scrapers. No diagnostic artifacts or formal tools were observed on the site.

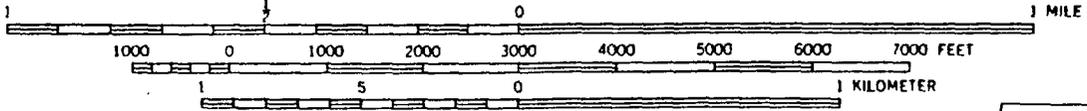
There was no evidence of any features or structures on the surface of the site. Scattered pieces of burnt caliche were observed but there were no articulated hearths.

DIAMOND MOUND, N. MEX.  
N3252.5—W10407.5/7.5

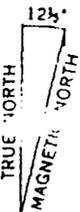
1951



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET



APPROXIMATE MEAN  
DECLINATION, 1951

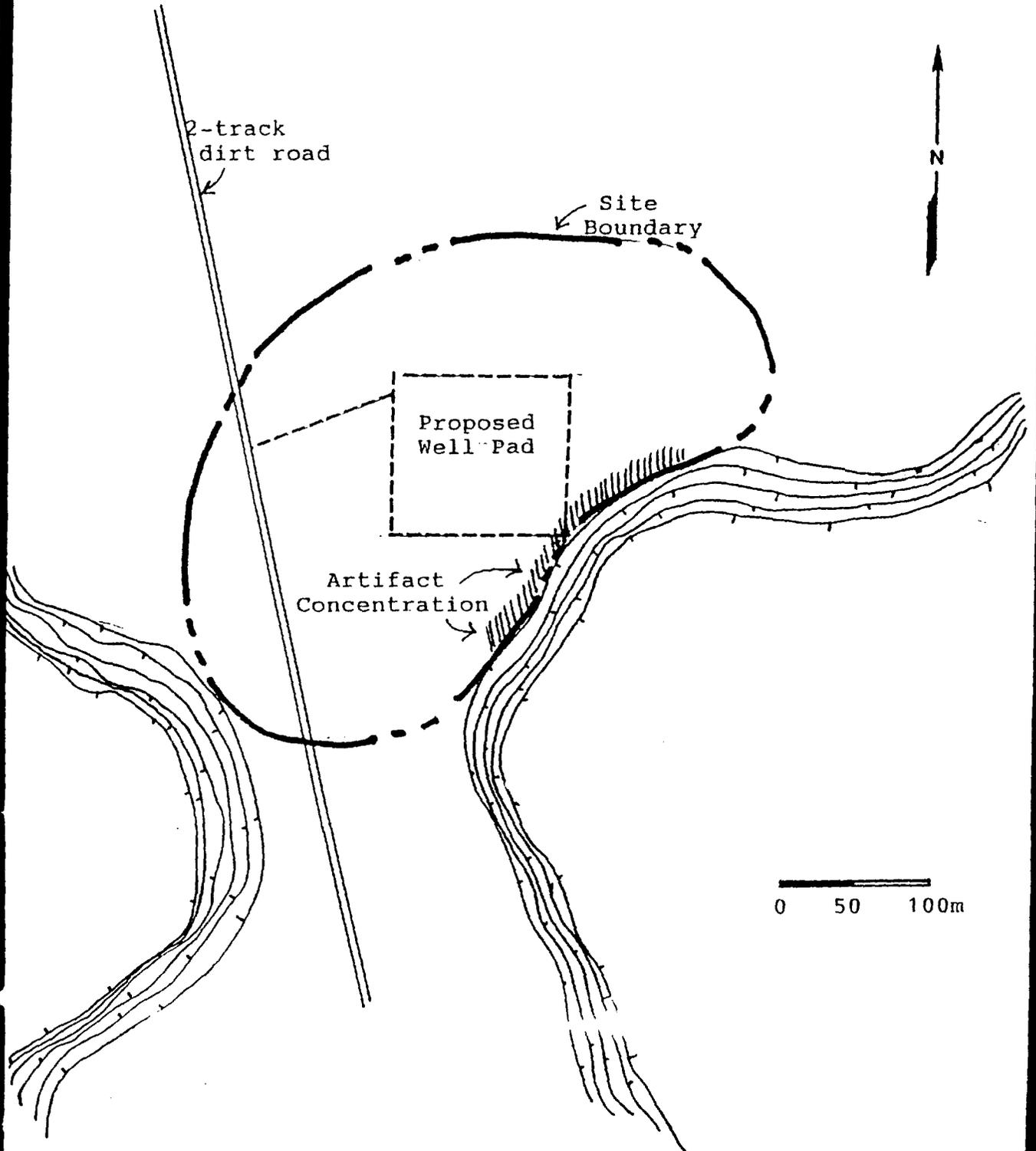


QUADRANGLE LOCATION

Figure 2. Location of LA 102922

LA 102922

J. Martin  
11-5-93



2-track  
dirt road

Site  
Boundary

Proposed  
Well Pad

Artifact  
Concentration

0 50 100m

The site appears to represent a lithic processing and procurement site where local raw materials were gathered and reduced. The site can not be classified temporally or culturally due to the lack of diagnostic artifacts. The site has the potential to yield subsurface deposits under the dune formations. It is potentially eligible to the National Register of Historic Places under Criterion d of 36 CFR 60.4 due to its potential to yield significant information regarding limited activity sites in southeastern New Mexico.

### IMPACT ASSESSMENT

Impact refers to those activities that directly or indirectly affect cultural resources and result in their alteration or destruction. Such impacts can be the result of the immediate effects of construction activities or from the longer term adverse effects that result from modification of the land surface and increased access to site areas. Site LA 102922 will be impacted by the proposed undertaking.

### RECOMMENDATIONS

One prehistoric archaeological site, LA 102922, was identified within the boundaries of the proposed project area. It is potentially eligible to the National Register of Historic Places under Criterion d of 36 CFR 60.4 due to its potential to yield significant information regarding limited activity sites in southeastern New Mexico. The site can not be avoided and Mewbourne Oil Company has decided not to mitigate. Mewbourne Oil has abandoned their plans to drill at this proposed well pad location

## REFERENCES CITED

Hawley, John W.

1986 Physiographic provinces. In New Mexico in Maps, Second Edition. Edited by Jerry L. Williams. University of New Mexico Press. Albuquerque.

Maker, H. J. and L. A. Dagherty

1986 Soils. In New Mexico in Maps, Second Edition. Edited by Jerry L. Williams. University of New Mexico Press. Albuquerque.



LA Number: 1,0,2,9,2,2

Field Number: \_\_\_\_\_

6. LOCATION

Source Graphics:

- USGS 7.5' topographic maps
- other topographic maps Scale: \_\_\_\_\_
- GPS Unit
- rectified aerial photos Scale: \_\_\_\_\_
- unrectified aerial photos Scale: \_\_\_\_\_
- other source graphics (describe): \_\_\_\_\_

UTM Coordinates (center of site): Zone: 13 E 0 N 0

NO UTM GRID ON MAP

Nearest Named Drainage (name, dist., & dir.): DOG CANYON DRAW 4 KM TO NE

Nearest Numbered Road (name, dist., & dir.): 6.8 MILES NORTH OF NM 82

In highway R-O-W?

Directions to Site: GO EAST FROM ARTESIA 13 MILES ON NM 82 TURN NORTH FOR 6.5 MILES TO CROW FLATS

Town (if in city limits): \_\_\_\_\_ State: NM County: EDDY

USGS Quadrangle Name and Date: DIAMOND MOUND 7.5' (1951) USGS Code: 3,2,1,0,4-H,2

PLSS Meridian	Unplatted	Township	Range	Section	1/4 Sections	Protracted
<input type="checkbox"/>	<input type="checkbox"/>	<u>16</u> N <u>S</u>	<u>28</u> E W	<u>26</u>	<u>SW</u> <u>NE</u> <u>NW</u>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	_____ N S	_____ E W	_____	_____	<input type="checkbox"/>

7. PHYSICAL DESCRIPTION

Site Dimensions: 430 x 230 meters Basis for Dimensions (choose one):  estimated  measured

Site Area: 98,900 sqm Basis for Area (choose one):  estimated  measured Elevation: 3,750 feet

Site Boundaries Complete? (choose one):  yes  no (explain): \_\_\_\_\_

Basis for Site Boundaries:  distribution of archeological features & artifacts  modern features or ground disturbance  topographic features  property lines  other criteria (specify): \_\_\_\_\_

Depositional/Erosional Environment:  alluvial  aeolian  colluvial  residual  not applicable (on bedrock)  other process (describe): \_\_\_\_\_

Stratigraphy & Depth of Arch. Deposits (choose one):  unknown/not determined  no subsurface deposits present  subsurface deposits present  stratified subsurface deposits present

Estimated Depth of Deposits: .5 m

Basis for Depth Determinations:  estimated  shovel or trowel tests  core/auger tests  excavations  road or arroyo cuts  rodent burrows  other observations (specify): EROSION ON MESA EDGE

LA Number: 1,0,2,9,2,2

Field Number: \_\_\_\_\_

7. PHYSICAL DESCRIPTION (cont.)

Observations on Subsurface Archeological Deposits: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Nearest Water Source (choose one):  spring/seep  perennial stream/river  intermittent stream/arroyo  perennial lake  
 intermittent lake/playa  other source (specify): \_\_\_\_\_ Distance from Site: 3.4 km

Local Vegetation (list observed plants in decreasing order of dominance):

Overstory: \_\_\_\_\_

Understory: JAVELINA BUSH, CREOSOTE, SNAKEWEED, GRASSES

Vegetation Community (choose one or two):  forest  woodland  grassland  scrubland  desert scrubland  
 marshland  other community (specify): \_\_\_\_\_

Topographic Location:  bench  dune  mesa/butte  ridge  
 alluvial fan  blowout  flood plain/valley  mountain  rockshelter  
 arroyo/wash  canyon rim  hill slope  mountain front/foothill  saddle  
 badlands  cave  hill top  open canyon floor  talus slope  
 base of cliff  cliff/scarp/bluff  lava flow (malpais)  plain/flat  terrace  
 base of talus slope  constricted canyon  low rise  playa  
 other location (describe): \_\_\_\_\_

Observations on Site Setting: SITE IS LOCATED IN DUNES ON TOP OF MESA

8. ASSEMBLAGE DATA

Assemblage Content (all components):

<p>Lithics</p> <p><input checked="" type="checkbox"/> lithic debitage</p> <p><input type="checkbox"/> chipped-stone tools</p> <p><input type="checkbox"/> diagnostic projectile points</p> <p><input type="checkbox"/> non-local lithic materials</p> <p><input checked="" type="checkbox"/> stone tool manufacturing items (cores, hammerstones, etc.)</p> <p><input type="checkbox"/> ground-stone tools</p> <p><input type="checkbox"/> other items (specify): _____</p>	<p>Prehistoric Ceramics</p> <p><input type="checkbox"/> whole ceramic vessel</p> <p><input type="checkbox"/> diagnostic ceramics</p> <p><input type="checkbox"/> other prehistoric ceramics</p> <p>Historic Artifacts</p> <p><input type="checkbox"/> diagnostic glass artifacts</p> <p><input type="checkbox"/> other glass artifacts</p> <p><input type="checkbox"/> diagnostic metal artifacts</p> <p><input type="checkbox"/> other metal artifacts</p> <p><input type="checkbox"/> whole ceramic vessel</p>	<p><input type="checkbox"/> diagnostic ceramics</p> <p><input type="checkbox"/> other historic ceramics</p> <p>Other Artifacts and Materials</p> <p><input type="checkbox"/> bone tools</p> <p><input type="checkbox"/> faunal remains</p> <p><input type="checkbox"/> macrobotanical remains</p> <p><input type="checkbox"/> architectural stone</p> <p><input type="checkbox"/> burned adobe</p> <p><input type="checkbox"/> fire-cracked rock/burned caliche</p>
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LA Number: 1,0,2,9,24

Field Number: \_\_\_\_\_

**8. ASSEMBLAGE DATA (cont.)**

\*please provide rough counts (+/- 10 items) if estimated frequency is less than 100 items

Assemblage Size (all components):	estimated frequency						*counts (if < 100)
	0	1s	10s	100s	1,000s	>10,000	
lithic artifacts (choose one):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
prehist. ceramics (choose one):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
historic artifacts (choose one):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
total assemblage size (choose one):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Dating Potential:  radiocarbon  dendrochronology  archeomagnetism  obsidian hydration  
 relative techniques (e.g., type seriation)  other methods (specify): \_\_\_\_\_

Assemblage Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**9. CULTURAL/TEMPORAL AFFILIATIONS**

Total Number of Defined Components: 1 (attach continuation sheets for component #3 and greater)

Component #1 (earliest) (\*See NMCRS Guidelines for valid periods, default occupation dates, and phase/complex names)

Cultural Affiliation (choose one):  Paleoindian  Archaic  Anasazi  Mixed Anasazi - Mogollon  Mogollon  
 Casas Grandes  Hohokam  Plains Village  Plains Nomad  Navajo  Apache  Ute  Pueblo  
 Hispanic  Anglo/Euro-American  unknown affil.  other affiliation (identify): \_\_\_\_\_

Basis for Temporal Affiliations (choose one):  not applicable  based on associated chronometric data or historic records  
 based on associated diagnostic artifact or feature types  based on analytically derived assemblage data or archeological experience

Period of Occupation: \*Begin Date      \*End Date  
 Earliest Period: \_\_\_\_\_  
 Latest Period (if any): \_\_\_\_\_ (leave blank to use default occupation dates)

Dating Status:  radiocarbon  dendrochronology  archeomagnetism  obsidian hydration  
 relative dating methods (e.g., type seriation)  other methods (specify): \_\_\_\_\_

Basis for Cultural/Temporal Affiliations: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Site/Component Type (choose one):  Simple Feature(s)  Artifact Scatter  Artifact Scatter w/ Features  
 Single Residence  Multiple Residence  Residential Complex/Community  Industrial  
 Military  Ranching/Agricultural  Transportation/Communication  
 Other Type (specify type and explain in Remarks): \_\_\_\_\_

Remarks: \_\_\_\_\_

Assoc. Phase/Complex Name(s): \_\_\_\_\_





LA Number: 1,0,2,9,2,2

Field Number: \_\_\_\_\_

**12. NARRATIVE SITE DESCRIPTION**

One prehistoric archaeological site, LA 102922, was identified within the boundaries of the proposed well pad and access road (Figure 2). It consists of a large lithic scatter located within the dunes on the top of the mesa (Figure 3). The site measures 430 meters southwest-northeast by 230 meters northwest-southeast (98,900 sq. meters). The site has been disturbed by a two track road which cuts through the western edge of the site as well as by grazing and erosion. The artifacts are lightly scattered across the site and concentrated on the edge of the mesa where the wind has deflated the dunes. The potential for additional subsurface cultural materials exists under the dunes away from the mesa edge.

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The site appears to represent a lithic processing and procurement site where local raw materials were gathered and reduced. The site can not be classified temporally or culturally due to the lack of diagnostic artifacts. The site has the potential to yield subsurface deposits under the dune formations. It is potentially eligible to the National Register of Historic Places under Criterion d of 36 CFR 60.4 due to its potential to yield significant information regarding limited activity sites in southeastern New Mexico.

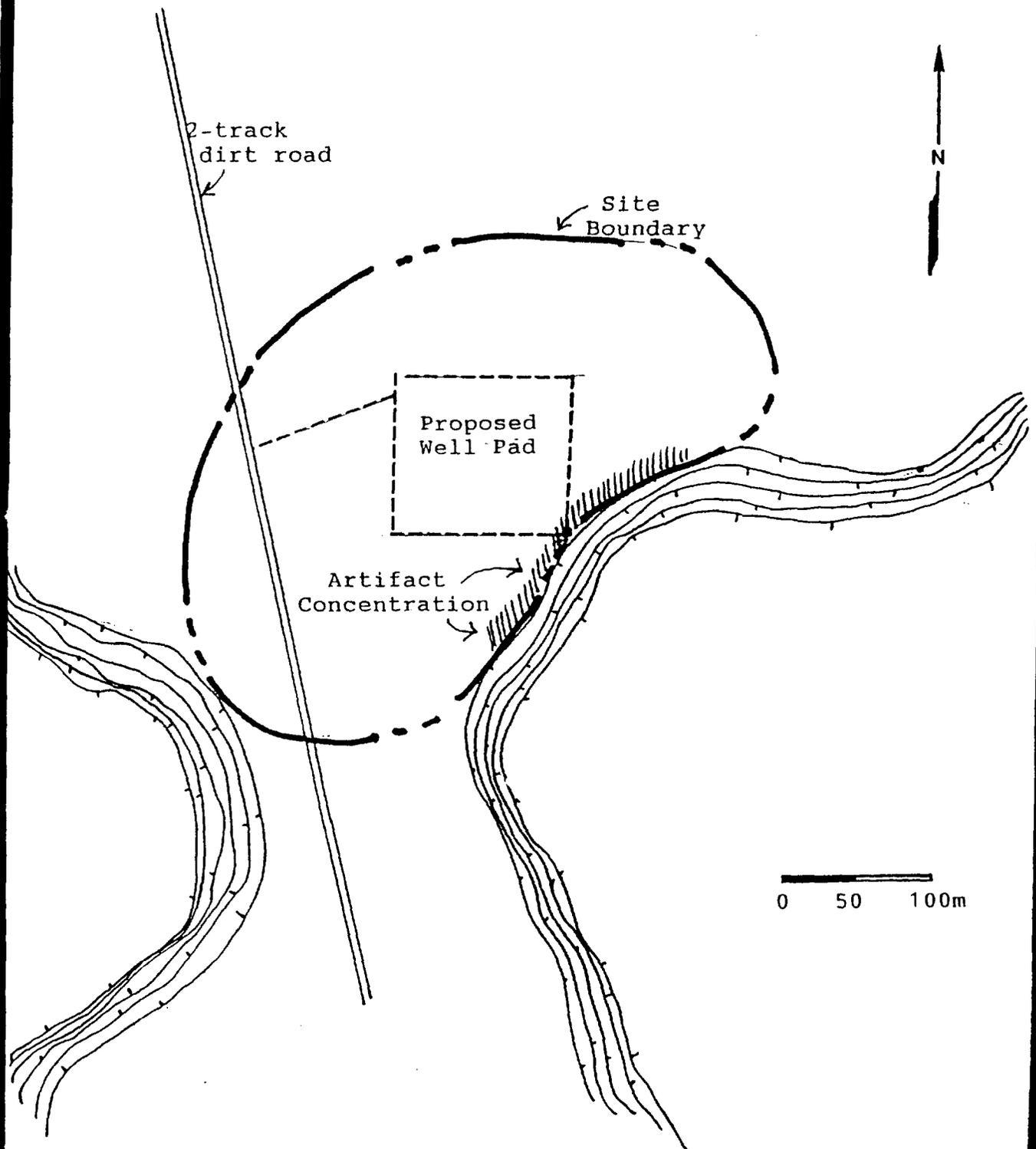
**13. SITE RECORD ATTACHMENTS**

- site location map (USGS topo; required)
- sketch map or site plan (required)
- continuation forms?

other materials (itemize): \_\_\_\_\_

LA 102922

J. Martin  
11-5-93

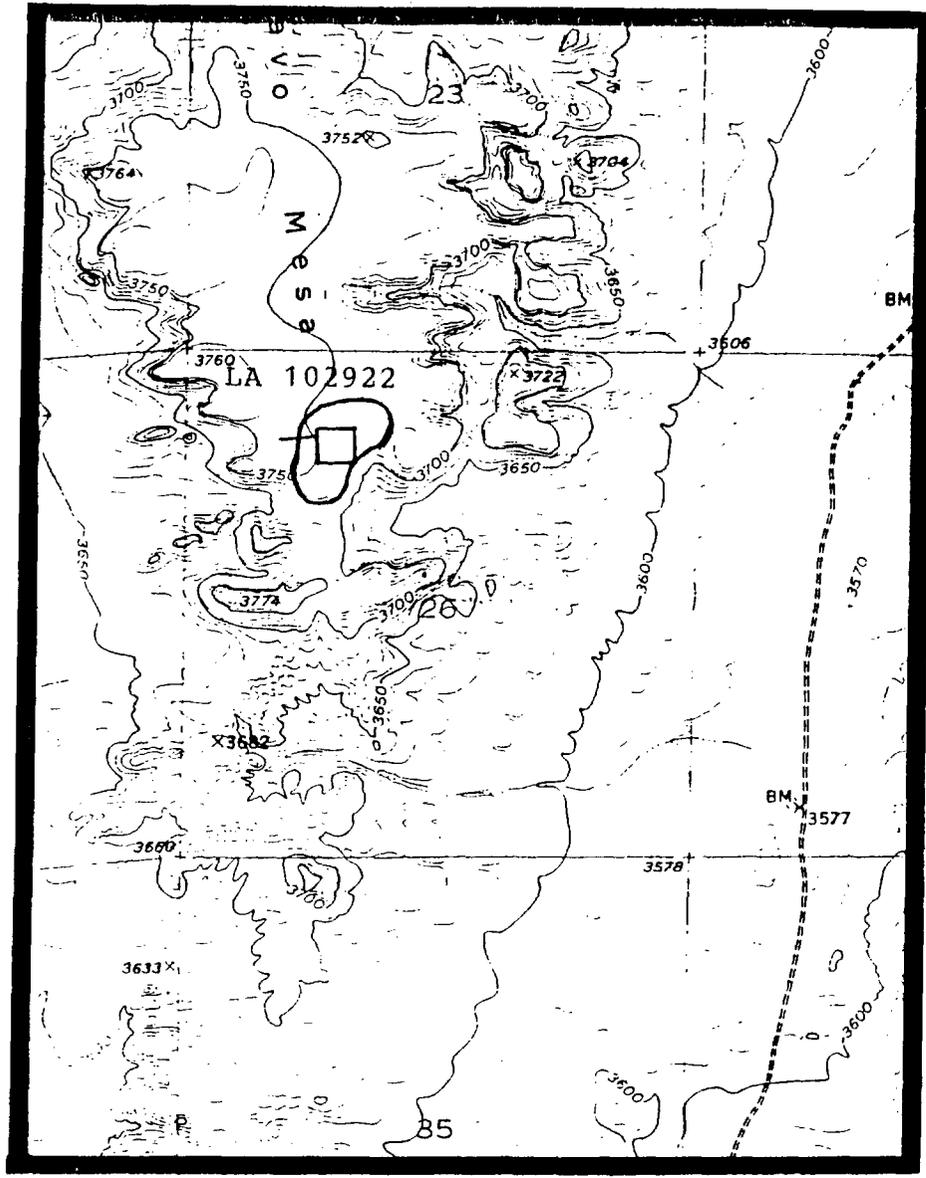


0 50 100m

DIAMOND MOUND, N. MEX.

N3252.5—W10407.5/7.5

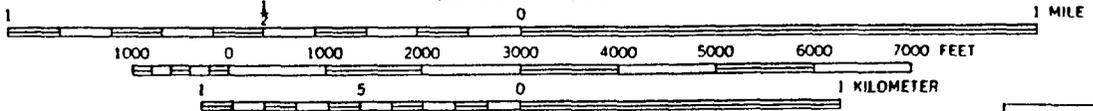
1951



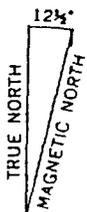
T16S

R28E

SCALE 1:24000



CONTOUR INTERVAL 10 FEET



APPROXIMATE MEAN DECLINATION, 1951



QUADRANGLE LOCATION

Figure 2. Location of LA 102922