

MUSEUM OF NEW MEXICO

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OFFICE OF ARCHAEOLOGICAL STUDIES

Excavation at LA 139021:  
A Late Archaic Special-Activity Site

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ARCHAEOLOGY NOTES 333

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## ADMINISTRATIVE SUMMARY

Between October 20 and October 28, 2003, the Office of Archaeological Studies, Museum of New Mexico, conducted a data recovery program at LA 139021, Santa Fe County, New Mexico. The data recovery program was conducted at the request of the New Mexico Department of Transportation (NMDOT) to recover important archaeological information from cultural deposits within an area of planned improvement to NM 300. The data recovery program followed the procedures specified in Lentz (2003).

LA 139021 is a rather small lithic artifact scatter with one feature, a small roasting pit. The eastern portion of the site was probably removed during the original road construction. A radiocarbon sample from the roasting pit revealed a late Archaic temporal affiliation with a calibrated radiocarbon date of 840 to 520 B.C. The site functioned as a small logistic or special-activity site geared around hunting and plant processing. The small artifact assemblage consisted of small secondary flakes and biface flakes generated during the manufacture or maintenance of projectile points. Formal tools included a San Pedro-like projectile point, a late-stage biface fragment, and a utilized flake and blade. Both local and nonlocal material types were utilized. Nonlocal material types show a territory extending westward toward the Jemez Mountains and Pederal

Peak. Other artifact types were confined to a one-hand mano fragment and a basin metate fragment. The Late Archaic period site inhabitants were most likely a small mixed-gender group exploiting plant and animal resources concentrated in the piñon/juniper woodland and nearby Arroyo Hondo riparian zone. Juniper and piñon fuel wood was recovered from the roasting pit, and economic plants were confined to a few burned goosefoot seeds. No faunal elements were recovered from the site.

The nearest contemporary sites are clustered in the Eldorado area, about 10 km south of the project area. These six sites are located in a similar foothill and woodland setting along Cañada de Los Alamos, historically the strongest spring south of Arroyo Hondo. The sites are generally contemporaneous with the Late Archaic period occupation of LA 139021. However, the majority of the sites are characterized by multicomponent occupations, and Anasazi period sherds are commonly mixed with the artifact assemblages.

All of the cultural material from the remaining portion of the site was recovered during the excavation phase of this project. The site area within the proposed right-of-way is not likely to yield information beyond that already documented, and no further archaeological investigations within the project area are recommended.

NMDOT Project No. TPM-0300(1)00, CN 2968.  
MNM Project No. 41.734 (El Gancho).  
Archaeological Excavation Permit No. SE-204.  
NMCRIIS Activity No. 86357.  
NMDOT Contract No. C04552/04.  
NMDOT Task No. 9.



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## INTRODUCTION

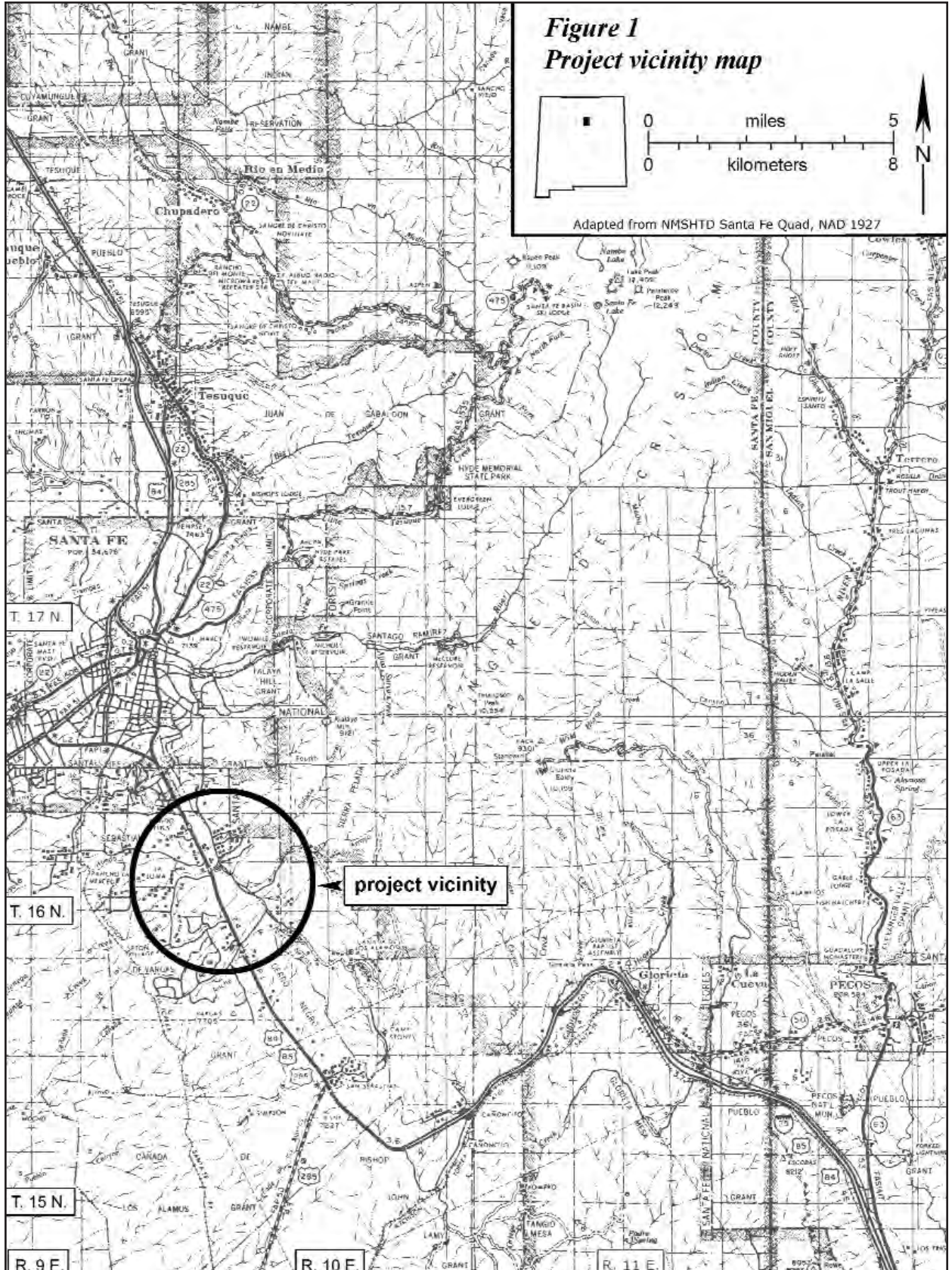
At the request of the New Mexico Department of Transportation (NMDOT), a data recovery program was conducted on the portion of LA 139021 within the proposed construction zone of improvements to NM 300 (Old Las Vegas Highway), Santa Fe County, New Mexico (Fig. 1 and Appendix 1). In cooperation with the Federal Highway Administration (FHWA), NMDOT proposes to rehabilitate and reconstruct NM 300 between MP 0.48 and 6.1. The expansion of NM 300, with turning lanes and a signal at the intersection of County Road 36, will affect LA 139021, which is located on NMDOT land acquired from private sources. Fieldwork was conducted by Charles A. Hannaford

between October 20 and October 28, 2003. The field phase was completed in six person-days. Tim Maxwell was the principal investigator. Maps were drafted by Ann Noble, and the report was edited by Tom Ireland.

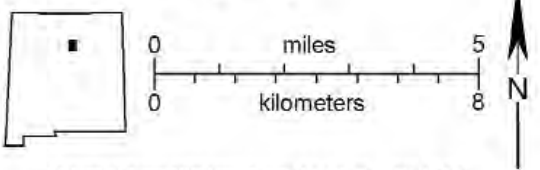
The data recovery program followed the procedures specified in Lentz (2003). Before the fieldwork, the *National Register of Historic Places* and the *State Register of Cultural Properties* were consulted. No properties listed on, nominated to, or approved for submission to either inventory are within the proposed project boundaries.

The report complies with the provisions of the Historic Preservation Act of 1966, as amended.





**Figure 1**  
**Project vicinity map**



Adapted from NMSHTD Santa Fe Quad, NAD 1927

project vicinity



## ENVIRONMENT

Detailed overviews of regional physical and biological environments in the area (Kelley 1980; Rose et al. 1981) were written as the result of archaeological investigations at Arroyo Hondo Pueblo, about 1 km west of the project area. The environmental attributes of the project area are also summarized in the data recovery plan (Lentz 2003:3).

LA 139021 is advantageously situated in relation to surrounding resources on the landscape. The site is at the margin of two physiographic units: the sharply rising foothills of the Sangre de Cristo Mountains, and the rolling flatlands of the west-trending piedmont slope. The foothills contain shallow rocky soils and bedrock exposures of Precambrian granite, quartz, gneiss, schist, and diabase. The foothills are covered by rather dense growths of piñon and juniper woodland with patches of ponderosa pine and scrub oak (Fig. 2). The piñon-juniper woodland contains 135 of 271 plant species within the Arroyo Hondo pueblo catchment (Kelly 1980:60). Of these, 63 species are edible or have medicinal qualities. The woodland is also home to a wide range of animal species, including deer. The foothills provide a rugged hinterland conducive to prehistoric hunting and resource acquisition. The immediate site setting offers abundant firewood, outcrops of metamorphic rock for thermal features, and topographic protection from winds that are often more highly circulating

on the open piedmont to the west.

The piedmont section abuts the foothills at about the 7,100 ft level. The elevation of LA 139021 is 7,200 ft. The woodlands tend to decrease and the open grasslands increase with the westward declining elevation. Pronghorn are still spotted in the open grasslands in the area. The Ancha formation covers much of the piedmont, and this geologic feature is the source of a wide range of potential lithic material in the form of cobbles and axial gravels. Much of the lithic assemblage recovered from the site, including Madera chert, undifferentiated chert, undifferentiated chalcedony, and undifferentiated quartzites, may have been obtained from the nearby piedmont.

Lastly, the west-flowing Arroyo Hondo spring is about 0.5 km south of the site. This powerful spring is still a water source for a wide range of birds and animals. The spring was probably one of the primary reasons for the settlement of Arroyo Hondo Pueblo, about 1 km to the southwest. The terraces and floodplain provide a well-watered riparian zone concentrating a wide range of bird, animal, and plant resources. LA 139021 is on the north terrace within easy access of these nearby resources, but its position on the north nose of the terrace conceals it from the direct view of easily frightened wildlife utilizing the water hole.



*Figure 2. Overview of the site area.*

## ARCHAEOLOGICAL BACKGROUND

The archaeological background of the project area is presented in the data recovery plan (Lentz 2003:5-7). Additional background material can be found in the original survey report (Condie 2003:7-10). Archaeological studies of Arroyo Hondo Pueblo, less than 1 mile from the site, include numerous overviews centered around the excavation of this major site (see specifically Dickson 1979).

As of the date of this project, 34 sites consisting of 43 temporal components have been recorded within about a mile of the site (Table 1). Twenty of the components represent Anasazi land use around the major community settlements of upper (LA 76) and lower (LA 12) Arroyo Hondo Pueblos. Historic period land use is represented by Pueblo, Hispanic, and Anglo/Euroamerican sites, resulting in the next largest group of sites in the immediate area. No Archaic period sites contemporary with LA 139021 are in the immediate vicinity, although four nondiagnostic lithic artifact scatters have been recorded. Assigning temporal affiliations to these nondiagnostic lithic artifact scatters is problematic, considering their location in the middle of a heavily utilized Anasazi landscape.

A survey of 87 acres immediately west of I-25 from the project area recorded six sites consisting of four Anasazi, one Pueblo, four Anglo/Euroamerican, and two unknown temporal components. Two surveys totaling 329 acres along NM 300 immediately northeast of the site recorded only two sites. The sites included an Anglo/Euroamerican road and an unknown lithic artifact scatter dating from A.D. 300 to 1550. LA 139021 was the only nondiagnostic lithic artifact scatter encountered during the course of the 6.7-mile (223-acre) survey of the NM 300 right-of-way. This right-of-way survey provided a transect along the base of the foothills in an environmental setting similar to that of the project area. The survey shows that sites similar to LA 139021 were not commonly encountered.

The Seton Village 7.5' USGS quadrangle containing the project area has only six sites with Archaic period temporal affiliations (Table 2). These sites are all clustered in the Eldorado area, about 10 km south of the project area. The sites are in a similar foothill and woodland setting along Cañada de Los Alamos, historically the strongest spring south of Arroyo Hondo. The sites are generally contemporaneous with the LA 139021 Late Archaic period occupation. However, the majority of the sites are characterized by multicomponent occupations, and Anasazi period sherds are commonly found. The Anasazi components confuse the composi-

**Table 1. Sites in the project vicinity**

Component	Total
<b>Anasazi</b>	
Unknown (A.D. 1-1600)	1
Unknown (A.D. 900-1100)	2
Artifact scatter (A.D. 1100-1300)	1
Unknown (A.D. 1100-1300)	2
Unknown (A.D. 1100-1600)	4
Features and artifact scatter (A.D. 1200-1450)	1
Simple features (A.D. 1200-1600)	2
Residential complex/community A.D. 1300-1400	1
Artifact scatter (A.D. 1300-1600)	2
Features and artifact scatter (A.D. 1300-1600)	1
Unknown (A.D. 1300-1600)	2
Features and artifact scatter (A.D. 1400-1450)	1
<b>Total</b>	<b>20</b>
<b>Pueblo</b>	
Features and artifact scatter (A.D. 1720-1800)	1
<b>Hispanic</b>	
Unknown (A.D. 1539-1993)	1
Residential complex/community (A.D. 1714-1996)	1
Transportation/communication (A.D. 1880-1920)	1
<b>Total</b>	<b>3</b>
<b>Anglo/Euroamerican</b>	
Transportation (A.D. 1821-1880)	1
Ranching/agriculture (A.D. 1908-1912)	1
Features and artifact scatter (A.D. 1910-1995)	2
Simple features (A.D. 1945-1993)	2
Unknown (A.D. 1945-1993)	2
<b>Total</b>	<b>8</b>
<b>Unknown</b>	
Simple features (9500 B.C.-A.D. 1995)	1
Artifact scatter (9500 B.C.-A.D. 1993)	4
Features and artifact scatter (9500 B.C.-A.D. 1880)	2
Artifact scatter (A.D. 1960-1985)	1
Artifact scatter (A.D. 1880-1950)	1
Unknown (9500 B.C.- A.D. 1993)	1
Unknown (A.D. 1539-1993)	1
<b>Total</b>	<b>11</b>
<b>Grand Total</b>	<b>43</b>

tion and temporal affiliation of the lithic artifact assemblages. Only LA 88335 has a single-component occupation with a lithic artifact assemblage similar in size and composition to the LA 139021 assemblage. Semitransparent Jemez obsidian secondary flakes and biface flakes are the most common artifact type, followed by a red chert that is more than likely Madera chert. One Late Archaic period projectile point of obsidian was found on the site, but no features or ground stone artifacts were recorded during the survey.

**Table 2. Archaic period sites on the Seton Village quadrangle**

Site	Period (Date)	Site Type	Topography (elevation in ft)	Size (m)	Description / Reference
LA 75680	Archaic (5500 B.C. to A.D. 200)	Lithic artifact scatter with hearths	Ridge (7100 )	100 x 42	Multicomponent Pueblo and Archaic occupation; >50 artifacts; obsidian hydration dates 3549-252 B.C.; Viklund and Scheick (1989).
LA 75681	Archaic (1800 B.C. to 800 B.C.)	Lithic artifact scatter	Hilltop (7200)	87 x 54	Multicomponent Pueblo and Archaic occupation; 10s of lithic artifacts noted; Viklund and Scheick (1989).
LA 75683	Archaic (1800 B.C. to A.D. 900)	Lithic artifact scatter	Hill slope (7080)	25 x 18	Multicomponent Pueblo and Archaic occupation; 15 artifacts noted including Late Archaic projectile point; Viklund and Scheick (1989).
LA 75686	Archaic (3000 B.C. to A.D. 600)	Lithic artifact scatter with features	Hill slope (7100)	114 x 114	Multicomponent Pueblo and Archaic occupation; >100 artifacts including San Jose hafted scraper, corner-notched knife, and dart points; Viklund and Scheick (1989).
LA 75687	Archaic (1800 B.C. to A.D. 900)	Lithic artifact scatter	Hill slope (7025)	42 by 45	Recorded as single component site, but one banded sherd noted; 20 artifacts; Viklund and Scheick (1989).
LA 88335	Archaic (1800 B.C. to A.D. 1800)	Lithic artifact scatter	Foothill (7020)	50 x 20	Single-component site; 25 artifacts noted including a Late Archaic style projectile point and a spokeshave; Marshall (1992).

# EXCAVATION RESULTS

LA 139021 was originally recorded as a thin lithic scatter with a small charcoal stain (Condie 2003:16). Two projectile points and three pieces of debitage were recorded within a 4 by 3 m (12 sq m) area. An associated charcoal stain measured 0.5 by 0.3 m. Two projectile points were manufactured from obsidian and chert, but both reworked artifacts could not be assigned definitive types or styles. The site was assigned an unknown cultural-temporal affiliation.

LA 139021 is on the north terrace of the Arroyo Hondo on a north-trending slope. Local vegetation includes a piñon-juniper overstory associated with snakeweed, four-wing saltbush, sagebrush, and mixed grasses. Exposed granite bedrock is common in the surrounding area.

## CONDITION

The remaining portion of the site is essentially undisturbed. However, the recorded site area may be the western marginal remnant of a larger site area that extended to the northeast (Condie 2003:16). This site area was removed during the original construction of NM 300. No cultural material was noted on the east side of the highway, but most of this area is currently occupied by the El Gancho parking lot. The current east boundary of the site is cut by a 3 m tall road shoulder. Charcoal stain and a few fire-cracked rocks from the roasting pit were eroding down the shoulder cut. The site terrain slopes to the northwest. The slope has eroded the surface and exposed the underlying soil matrix, characterized by pinkish-white soft caliche. This underlying caliche layer is exposed in over half of the remaining lower site area (Fig. 3). Artifact proveniences may have been effected by this downslope erosion.

## FIELD METHODS

The excavation program followed field methods specified in the data recovery plan (Lentz 2003:15). All excavation was by hand, using standard archaeological hand tools. All fill was screened; the size of the screen mesh was determined by the excavation context. Fill from the 1 by 1 m excavation units and surface-stripped grid units was screened through 1/4-inch mesh. Feature fill and surface strip from two 1 by 1 m grids surrounding the feature were screened through 1/8-inch mesh. The excavation program focused on confirming the potential of the site to yield important information and recovering, through excavation, significant information from the site prior to construction.

## SURFACE COLLECTION

Archaeological investigations began with the collection of surface artifacts. Systematic surface collection was carried out by establishing a 1 by 1 m grid system over the site (Fig. 3). The grid system was aligned with the highway right-of-way (330 degrees) and does not designate magnetic or true north. Grids are provenienced from the southwest corner. The site datum (44N/50E) was set at the level south end of the site and marked with rebar. The ground surface at this point was assigned an arbitrary elevation of 0.0 m. The site slopes about 1.5 m northward between the datum and the 60N line and about 1.70 m westward between the datum and the 40E line (Fig. 3).

The grid system covered a 16 by 12 m area, and the surface of 134 individual grid units was intensively inspected. Surface visibility was excellent. Chipped stone artifacts were found in six (4 percent) of the grid units. Artifact density was limited to one artifact in each of the six grid units. Surface artifacts were found within about a 5 m radius of the single feature on the site. No additional cultural features were noted. Three pieces of fire-cracked rock and a charcoal stain were observed on the steep roadcut directly east of the roasting pit, but no artifacts were found during an inspection of the shoulder cut outside of the grid system. No additional artifacts or cultural features were found during an informal reconnaissance of the immediate area surrounding the grid system. The surface investigation established the presence of a very low-density chipped stone artifact scatter immediately surrounding the single feature on the site.

## EXCAVATION UNITS

Subsurface investigations began with the excavation of two 1 by 1 m excavation units to define the nature and extent of subsurface cultural material. The excavation units exhibited similar soil profiles characterized by an initial layer of reddish-brown compact clay loam with abundant granite gravel followed by a layer of pinkish-white soft caliche (see discussion of stratigraphy below). A single flake was found in Level 1 of Excavation Unit 48N/49E. No charcoal staining or evidence of cultural disturbance was encountered in the two excavation units. The subsurface investigations show that the site is characterized by a surficial artifact scatter.

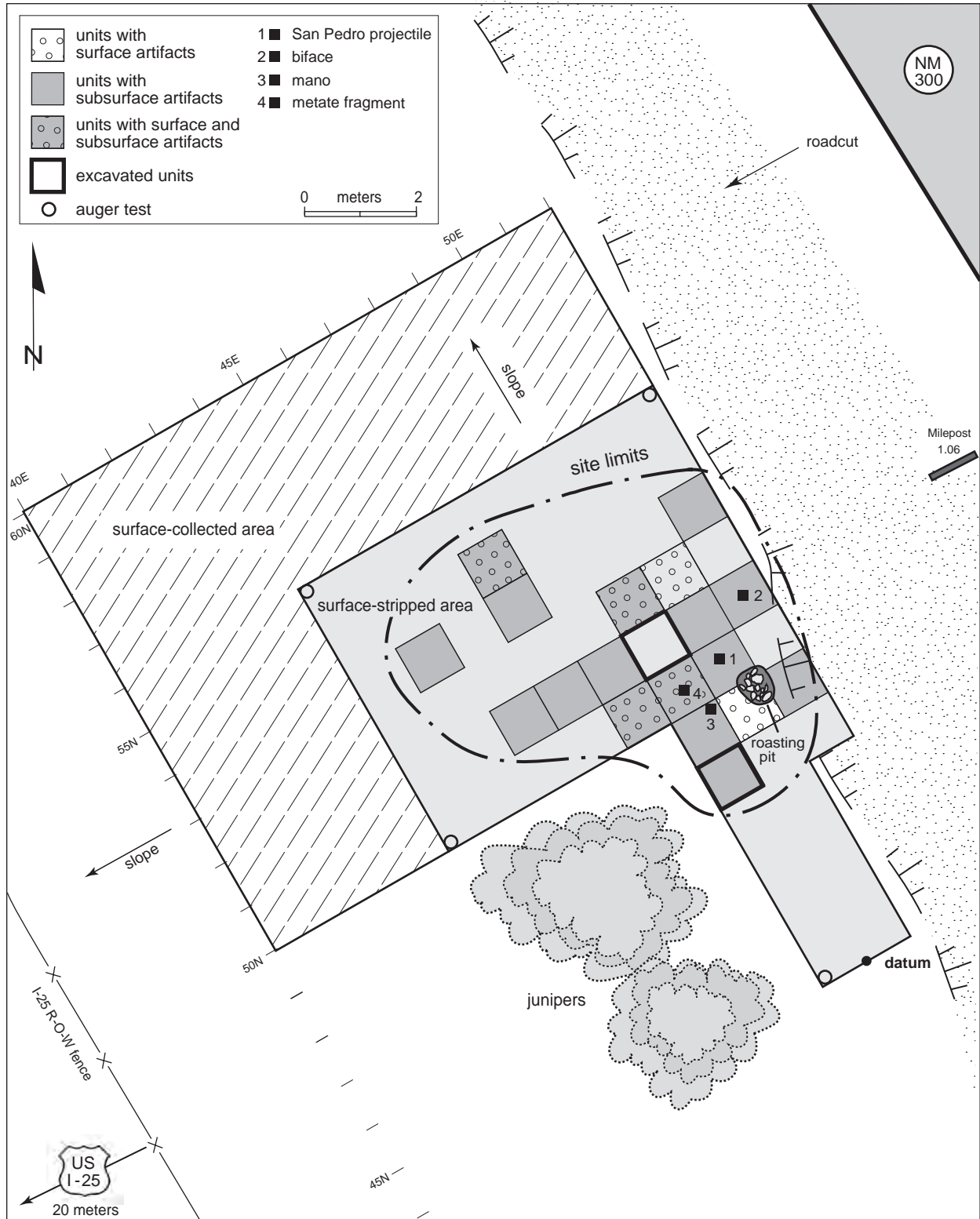


Figure 3. Site map of LA 139021.



### *Excavation Unit 48N/49E*

This excavation unit was placed on the essentially level hilltop about 1 m south of Feature 1, a roasting pit, because of the absence of erosion and slope wash and its proximity to the feature. The excavation unit was dug to a depth of 1.0 m below the surface. Soil consisted of an initial thick layer of reddish-brown compact clay with abundant granite rock content extending to a depth of 90 cm below the surface. There was an abrupt transition to a pinkish-white soft caliche at 90 cm below the surface. An auger test showed that this caliche layer extended to a depth of at least 1.3 m below the surface. Cultural material was confined to a single flake recovered from Level 1 (5-10 cm below the surface). No charcoal or charcoal staining was found in the excavation unit.

### *Excavation Unit 51N/49E*

This excavation unit was placed on the slope about 1 m north of Feature 1, a roasting pit. The excavation unit, centered in the primary artifact scatter characterizing the site, was dug to a depth of 30 cm below the surface. Soil consisted of an initial layer of reddish-brown compact clay and granite to a depth of 30 cm below the surface. The same abrupt transition to a pinkish-white soft caliche was encountered at a depth of 30 cm below the surface. An auger test showed that the pinkish-white caliche extended at least another 20 cm before a rock prevented further augering. No artifacts, charcoal, or evidence of cultural disturbance was found in this excavation unit.

#### AUGER TESTS

The data recovery plan specified the excavation of 11 auger tests. However, the high rock content in the soil precluded excavation of the auger holes. Four auger tests were attempted around the perimeter of the site boundary, but none of the tests could be excavated deeper than 20 cm below the surface (Fig. 3). Judging by the results of the 1 by 1 m excavation units, this should be of sufficient depth to evaluate the presence of subsurface cultural material. No artifacts or evidence of cultural staining were encountered in the four auger tests.

#### STRATIGRAPHY

From the two 1 by 1 m excavation units, it was determined that cultural material is confined essentially to the surface, or the initial 5 cm of loose surface-strip soil. The excavation units and shoulder cuts along the nearby highway define a similar pattern of soil stratigraphy across the site. The soil is similar to Panky soils, which develop on gently sloping areas between drainage

ways (Maker et al. 1971:14). The surface layer consists of a reddish-brown (7.5 YR 4/3) compact clay loam with abundant granite content. This layer was 90 cm thick on the level portion of the site and was completely eroded away on the lower north and west site boundaries. The nearby steep shoulder cuts show that this layer averages about 1 m thick in the site vicinity (Fig. 4). Caliche flecks begin at 10 cm below the surface and become more frequent with depth. The layer is essentially free of cultural material. The prehistoric ground surface was probably equivalent to the modern surface.

The surface layer is followed by an abrupt contact with a massive layer of pinkish-white (7.5 YR 7/3) loose caliche. This layer was exposed at 90 cm below the surface on the level hilltop and is completely exposed north of the 57N line and 44E line (Fig. 3). The nearby shoulder cuts show that this massive layer is about 30 m thick in the site vicinity. However, granite bedrock is exposed at a depth of only about 20 cm on the west side of the freeway (Fig. 5).

#### SURFACE STRIPPING

An area around Feature 1, a roasting pit, was surface stripped to aid in defining the nature and extent of the feature and other possible cultural elements in the immediate vicinity (Fig. 6). The surface-stripped area measured 12 by 8 m, and 62 grids were surface stripped. This included the level hilltop area south of the roasting pit and the extent of the reddish-brown surface soil north to the 57N line and west to the 44E line. The two 1 by 1 m excavation units determined that artifacts were found no lower than 10 cm below the surface. The removal of an arbitrary 10 cm surface strip was deemed sufficient for discovering cultural material across the site. The surface-stripped soil consisted mainly of loose surface material and gravel-sized granite along with the initial crust of the reddish-brown clay.

Artifacts consisting of chipped stone and ground stone artifacts were found in 16 (26 percent) of the surface-stripped grids (Table 3). Artifact density ranged from one in 13 of the grids to a maximum of three in one grid. Artifacts were confined to an 8 by 5 m area mainly downslope from the roasting pit. The presence of artifacts in grids along the edge of the road shoulder suggests that the eastern portion of the site had been removed during the original road construction. Outside of the roasting pit area, the soil was free of cultural staining, and no other features were encountered. The surface stripping verifies the presence of a low-frequency lithic scatter confined primarily to a radius of 5 m around the roasting pit. The eastern margin of the site may have been removed during the original road construction.





*Figure 4. Soil profile in roadcut east of site.*



*Figure 5. Exposed bedrock in roadcut west of site.*



Figure 6. Surface-stripped site area. Note Feature 1 on shoulder cut, left of excavation units.

Table 3. Artifact types by provenience

Grid Unit	Level	Artifact Type								Total
		Core Flake	Biface Flake	Indeterminate Flake	Blade	Biface	Projectile Point	Mano	Metate	
48N/49E	Surface strip	1	-	-	-	-	-	-	-	1
	Level 1	-	1	-	-	-	-	-	-	1
49N/49E	Surface strip	-	-	-	-	-	-	1	-	1
49N/50E	Surface	1	-	-	-	-	-	-	-	1
49N/51E	Surface strip	-	-	1	-	-	-	-	-	1
50N/48E	Surface	1	-	-	-	-	-	-	-	1
	Surface strip	-	1	-	-	-	-	-	-	1
50N/49E	Surface	-	-	1	-	-	-	-	-	1
	Surface strip	3	-	-	-	-	-	-	-	3
50N/50E	Surface strip	-	-	-	-	-	1	-	-	1
51N/46E	Surface strip	-	-	2	-	-	-	-	-	2
51N/47E	Surface strip	-	1	-	-	-	-	-	-	1
51N/48E	Surface strip	1	-	-	-	-	-	-	-	1
51N/50E	Surface strip	-	1	-	-	-	-	-	-	1
51N/51E	Surface strip	-	-	1	-	1	-	-	-	2
52N/49E	Surface	1	-	-	-	-	-	-	-	1
	Surface strip	-	-	-	-	-	-	-	1	1
52N/50E	Surface	-	-	-	1*	-	-	-	-	1
53N/45E	Surface strip	1	-	-	-	-	-	-	-	1
53N/47E	Surface strip	-	1	-	-	-	-	-	-	1
53N/51E	Surface strip	1	-	-	-	-	-	-	-	1
54N/47E	Surface	1	-	-	-	-	-	-	-	1
	Surface strip	1*	-	-	-	-	-	-	-	1
Total		12	5	5	1	1	1	1	1	27

\* utilized flake or blade

### FEATURE 1 (ROASTING PIT)

A single charcoal stain measuring 0.5 by 0.3 m was recorded during the original survey (Condie 2003:16). No additional features were found during the data recovery program.

Before the current excavation, Feature 1 was evident on the surface as a charcoal stain containing fire-cracked rock. The feature was adjacent to the steep road shoulder and sloped eastward down the roadcut (Fig. 3). The feature was somewhat deflated, with a charcoal stain and three fire-cracked granite rocks eroding down the slope cut. The shallow, oblong pit had a basin profile and measured 55 cm north-south by 50 cm east-west, with a depth of about 6 cm (Fig. 7). The shallow pit was almost completely lined with thirteen granite fire-cracked rocks. The granite, available locally, ranged from 8 cm long by 7 cm wide by 5 cm thick to 15 cm long by 12 cm wide by 6 cm thick. All of the rock was lying directly on the feature floor. Each piece of granite was fire-cracked and charcoal-stained (Fig. 8). Charcoal-stained soil and charcoal flecks rested on and between the rock, but less charcoal was observed beneath the rock and directly on the feature floor. A fire using juniper and piñon fuel had apparently been built directly on top of the rock. The fire was hot enough to fire-crack the granite, but no oxidation was observed on the surrounding soil. The absence of oxidation precluded taking an archaeomagnetic sample.

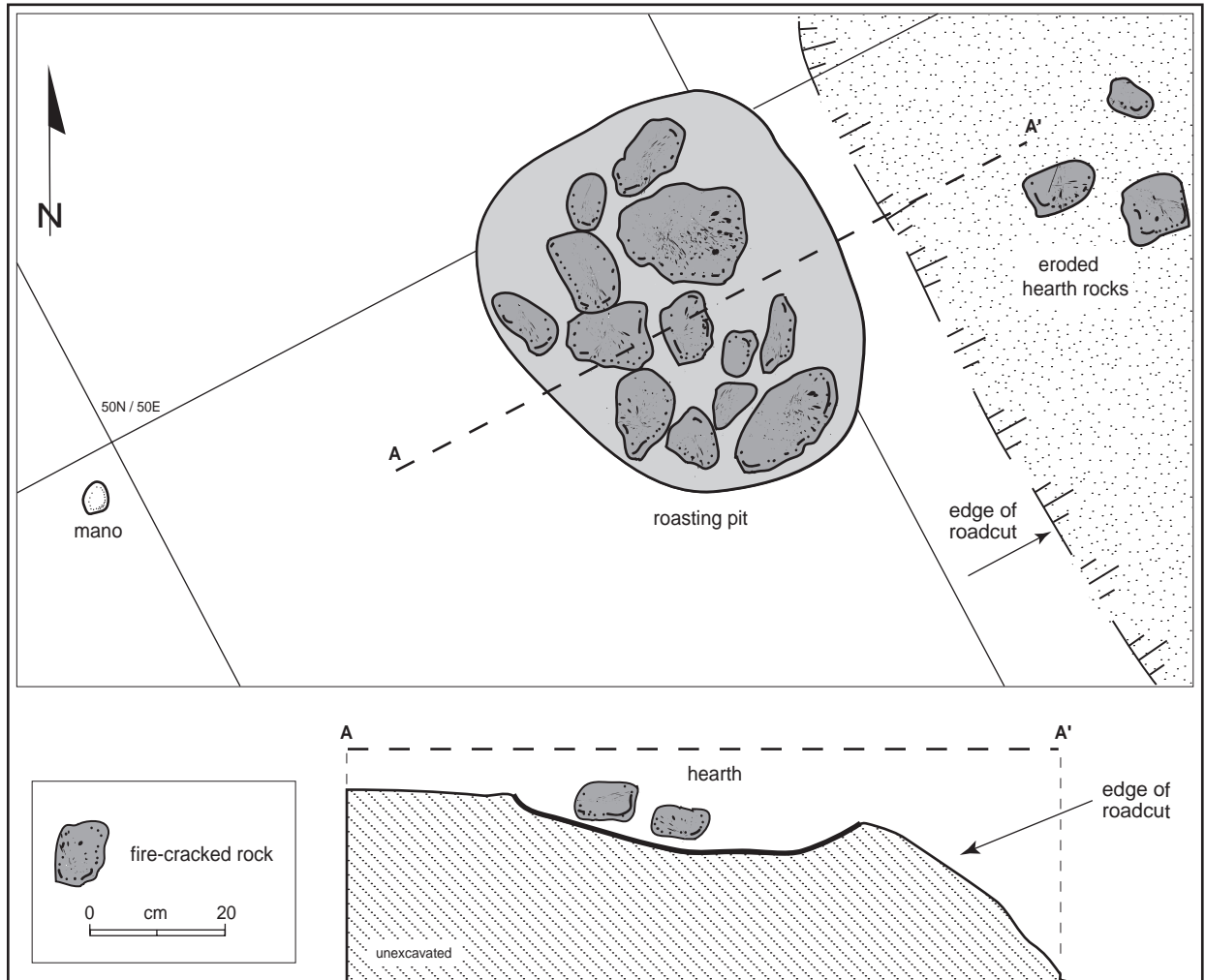
Two flotation samples collected from the north and south halves of the excavated feature produced similar results (see ethnobotanical section). The samples consisted mainly of fuelwoods dominated by juniper and with smaller quantities of piñon and an unknown

conifer. Carbonized goosefoot seeds were the only possible economic resource.

Fuelwood charcoal collected from the feature was submitted as a radiocarbon sample. The small charcoal flecks were identified as juniper. A 2-sigma calibration (95-percent probability) resulted in a calibrated date of 840 to 520 B.C. (Beta sample 186675). The intercept of the radiocarbon age with the calibration curve was 790 B.C. A 1-sigma calibration (68-percent probability) was 810 to 770 B.C. The San Pedro-like projectile point recovered from the site also led to the belief that the site dates to the Late Archaic period (1800 B.C.-A.D. 200). The juniper fuel may produce an old-wood discrepancy of 100 to 200 years. The size of the fuel could not be determined from the remnant small flecks, but the date fits nicely with the postulation of a Late Archaic occupancy, even with a buffer of some 200 years to allow for old wood.

No artifacts were recovered from within the feature. Three flakes and a projectile point were found, one in each of the four grids surrounding the roasting pit. Two nearby artifacts had thermal alteration, suggesting association with the roasting pit. An indeterminate chert flake from Grid Unit 50N/49E had an oxidized appearance and was heat treated or had been heat altered from the roasting pit. The one-hand mano found in Grid Unit 49N/49E, about 1 m to the west, had been fire-cracked into three articulated pieces. Again, this thermal fracturing may have resulted from the roasting pit.

The roasting pit was most likely used to field-process gathered resources. The presence of a basin-metate fragment and a one-hand mano fragment nearby suggest the feature was used for plant processing, minimally represented by carbonized goosefoot seeds.



*Figure 7. Plan and profile of Feature 1, a roasting pit.*



*Figure 8. Feature 1 after excavation.*



## MATERIAL CULTURE

Twenty-five chipped stone artifacts and two ground stone artifacts were recovered during the excavation. In addition, two flotation samples were taken from the roasting pit. Six artifacts were recovered from the surface, 20 from the surface strip, and one from Level 1 (5-10 cm below the surface). The recovered artifacts represent the frequency and range of artifact types on the surviving segment of the site. However, the original site most likely extended eastward and was cut by the original road construction. The original range of site activities is therefore unknown. Two projectile points recorded during the original recording of the site were not recovered during the excavation.

### CHIPPED STONE ARTIFACTS

The assemblage of 25 chipped stone artifacts consisted of 22 flakes, one blade, one biface, and one projectile point. The chipped stone assemblage was analyzed in accordance with *Standardized Lithic Artifact Analysis: Attributes and Variable Code Lists* (OAS 1994).

#### *Materials*

The chipped stone assemblage has nine material types (Table 4). Madera chert (8) is the most common material, followed closely by Jemez obsidian (7). The other material types are represented by single examples or low frequencies of artifacts. Intrusive materials including Jemez obsidian, Polvadera obsidian, undifferentiated obsidian, and Pedernal chert account for 10 of the 25 artifacts. The source of the Jemez obsidian and Polvadera obsidian is the Jemez Mountains, but the source of the opaque undifferentiated obsidian is unknown. The primary source of Pedernal chert is Pedernal Peak, at the north end of the Jemez Mountains. All of the intrusive material types could most likely be found as cobbles along the Rio Grande.

All of the remaining materials may have been locally available. Madera chert could have been obtained from the primary quarries in the Santa Fe vicinity, or as Ancha formation gravels covering the piedmont slope west of the site. Madera chert is represented by fine-grained and medium-grained material occurring in red, white, and mottled gray. All of the remaining undifferentiated chert, chalcedony, basalt, and quartzite could also have been collected from the nearby piedmont gravels.

#### *Artifact Morphology*

The assemblage is dominated by unutilized core flakes (12). The various material types are represented by similar reduction strategies characterized by small secondary flakes with single platforms and an absence of cortex (Tables 4 and 5). The absence of cores, angular debris, and cortex indicates that the various materials were initially processed at off-site localities. Only one nonvesicular basalt core flake exhibited secondary use as a tool in the form of bidirectional rounding on one convex edge.

Biface reduction was also a site activity. The biface flakes are small with retouched or crushed platforms, an absence of cortex, and multiple dorsal flake scars. Material types involved with biface production included Jemez obsidian, undifferentiated obsidian, and nonvesicular basalt. Of interest was the recovery of a Madera chert biface with a transverse fracture suggesting breakage during manufacture. However, no Madera chert biface flakes were recovered during the excavation.

The biface reduction may have been directed toward the manufacture or maintenance of projectile points, the most common formal tool type. Unfortunately, the obsidian and chert points recorded during the original survey were not recovered during the excavation. The report does not differentiate the specific type of obsidian and chert from which the points were manufactured. The single projectile point recovered during the excavation was manufactured from a fine-grained undifferentiated quartzite (Fig. 9). No quartzite biface flakes were recovered.

#### *Artifact Function*

The bulk of the assemblage (21) is composed of unutilized debitage derived from core and biface reduction. Two flake/blades exhibited utilization as tools. The 4.8 cm nonvesicular basalt core flake exhibited wear in the form of bidirectional rounding along one convex edge. The flake had a 35-degree edge angle, and the rounding was apparently produced by using the flake as a knife for cutting. The utilized nonvesicular basalt flake was recovered from the surface strip of Grid Unit 54N/47E.

A Pedernal chert blade was 3.0 cm long by 1.1 cm wide and exhibited rounding on two straight edges. Both edges had 25-degree edge angles. The utilized blade was apparently utilized as a knife for cutting and was recovered from the surface of Grid Unit 52N/50E, about 2 m north

**Table 4. Attribute by material type of chipped stone artifacts**

	Obsidian			Chert			Undifferentiated Chalcedony	Nonvesicular Basalt	Undifferentiated Quartzite	Total
	Jemez	Polvadera	Undifferentiated	Madera	Pederal	Undifferentiated				
<b>Morphology</b>										
Core flake	3	1	-	6	-	-	-	1	1	12
Biface flake	3	-	1	-	-	-	-	1	-	5
Indeterminate flake	1	-	-	1	-	1	1	1	-	5
Blade	-	-	-	-	1	-	-	-	-	1
Biface	-	-	-	1	-	-	-	-	-	1
Projectile point	-	-	-	-	-	-	-	-	1	1
<b>Function</b>										
Unutilized flake	7	1	1	7	-	1	1	2	1	21
Utilized flake/blade	-	-	-	-	1	-	-	1	-	2
Undifferentiated biface	-	-	-	1	-	-	-	-	-	1
Projectile point	-	-	-	-	-	-	-	-	1	1
<b>Material Quality</b>										
Glassy	7	1	1	-	-	-	-	-	-	9
Fine-grained	-	-	-	3	1	1	1	-	2	8
Medium-grained	-	-	-	5	-	-	-	3	-	8
<b>Cortex</b>										
Absent	7	1	1	8	1	1	1	3	2	25
<b>Portion</b>										
Whole	5	-	1	4	1	-	-	1	2	14
Proximal	1	-	-	2	-	-	-	1	-	4
Distal	1	1	-	1	-	1	1	1	-	6
Indeterminate portion	-	-	-	1	-	-	-	-	-	1
<b>Platform Type</b>										
Absent	1	-	-	1	-	1	1	1	-	5
Single	-	1	-	6	-	-	-	1	1	9
Retouched	3	-	1	-	-	-	-	1	-	5
Crushed	3	-	-	-	1	-	-	-	-	4
No platform	-	-	-	1	-	-	-	-	1	2
<b>Total</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>25</b>

**Table 5. Material type by dimensions of chipped stone artifacts**

	Obsidian			Chert			Undifferentiated Chalcedony	Nonvesicular Basalt	Undifferentiated Quartzite	Total
	Jemez	Polvadera	Undifferentiated	Madera	Pederal	Undifferentiated				
<b>Length (cm)</b>										
<1.0	-	-	1	-	-	-	-	-	-	1
1.0-1.9	3	1	-	3	-	1	1	2	-	11
2.0-2.9	1	-	-	3	-	-	-	-	-	4
3.0-3.9	3	-	-	2	1	-	-	-	-	6
4.0-4.9	-	-	-	-	-	-	-	1	2	3
<b>Width (cm)</b>										
<1.0	1	-	1	-	-	-	-	-	-	2
1.0-1.9	4	1	-	4	1	1	1	3	-	15
2.0-2.9	2	-	-	3	-	-	-	-	2	7
3.0-3.9	-	-	-	1	-	-	-	-	-	1
<b>Thickness (cm)</b>										
<0.5	5	-	1	2	1	1	1	2	-	13
0.5-1.0	2	1	-	6	-	-	-	1	1	11
1.8	-	-	-	-	-	-	-	-	1	1
<b>Total</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>25</b>

and downslope of the roasting pit.

Formal tools recovered during the excavation included an undifferentiated biface fragment and a complete projectile point. The undifferentiated biface fragment was manufactured from Madera chert. The remaining portion has a transverse fracture and was apparently broken during the late stage of manufacture. The fragment tapers to a point on one end and measures 3.6 cm long by 3.4 cm wide by 0.7 cm thick (Fig. 10). The biface fragment showed no edge wear. The artifact was recovered from the surface strip of Grid Unit 51N/51E, adjacent to the shoulder cut about 1 m north of the roasting pit.

The complete projectile point has a triangular blade with convex margins exhibiting very finely serrated edges (Fig. 10). The point has lateral notches (side notch openings and obtuse barb angles) at the intersection of the blade and basal edges (see Moore 1999:31). The slight barbs are at an obtuse angle relative to the midline of the point. The stem has straight sides and a straight base. The projectile point was manufactured from a fine-grained quartzite and measures 4.0 cm long by 2.1 cm wide by 0.7 cm thick. The short base is 0.6 cm long and 0.9 cm wide and is unground. The projectile point weighed 5.5 g. The point was manufactured from a flake, and the remaining bulb of percussion gives a pro-



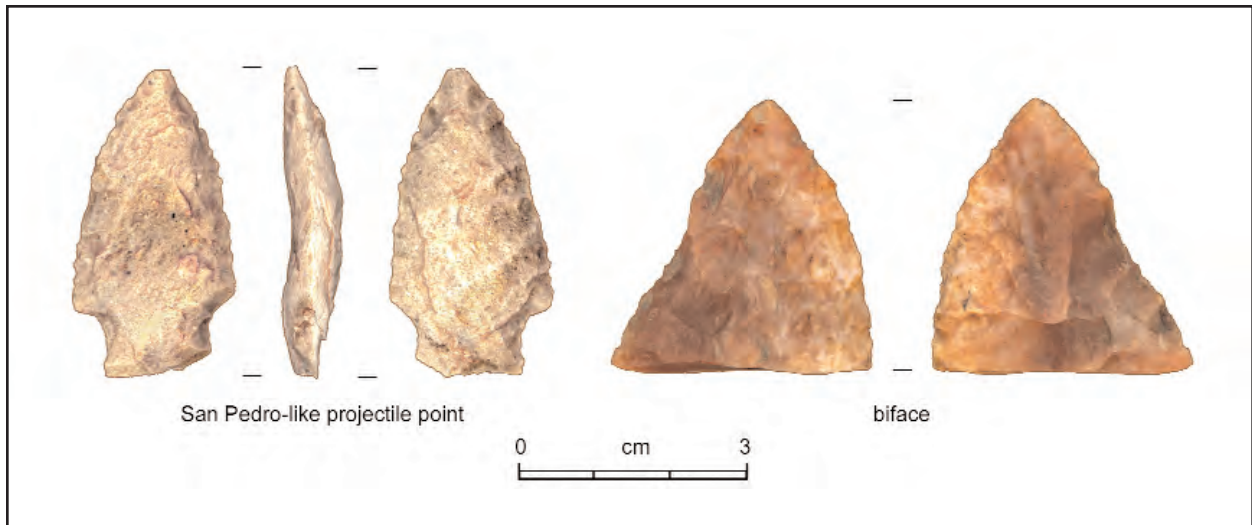


Figure 9. Formal tools recovered at LA 139021.

nounced curve to the profile. The point has a plano-convex cross section. The projectile point was recovered from the surface strip of Grid Unit 50N/50E, about 75 cm north of the roasting pit.

The point is typical of corner or lateral notched points from the Late Archaic period (1800 B.C.-A.D. 200, using the NMCRIS default date range for the time period). The point lacks the deep corner notching and acute barb typical of En Medio points. Instead, the lateral notching and obtuse barbs give it a San Pedro appearance typical of points from southern New Mexico (Moore 1999:32-39). However, its shape may be a function of the maker's inability to produce deep notches on

the quartzite, which is coarser than chert and obsidian. San Pedro points overlap the NMCRIS default date range for the Late Archaic time period and actually have a rather wide distribution, extending from southern Arizona and New Mexico north onto the Colorado Plateau and east into central New Mexico (Moore 1999:62).

Unfortunately, the two projectile points recorded during the original survey were not recovered during the excavation. These projectile points were not relocated during the preliminary examination of the site by the OAS on July 8, 2002 (Lentz 2003:15). Both the intense surface inspection and subsequent surface stripping failed to locate the points during the data recovery project. It is likely that the points were picked up from the site prior to the July visitation. The two points are non-diagnostic because they had been reworked. Condie (2003:16) assigned unknown cultural-temporal designations. Little additional information can be gleaned from the simple line drawings. The chert point was recorded on the surface less than 1 m west of the roasting pit, and the obsidian point was on the surface of the west slope about 3.5 m from the feature. The specific type of obsidian and chert from which the points were manufactured was not specified in the survey report.

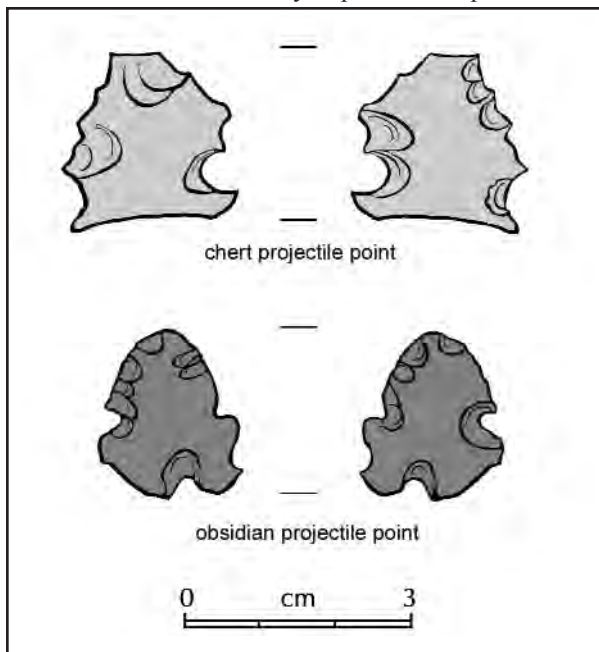


Figure 10. Projectile points recorded during survey.

#### Summary

The small chipped stone assemblage is composed primarily of debitage derived from both core and biface reduction. The presence of three projectile points and a broken late stage biface suggests that the reduction was directed toward the manufacture or maintenance of projectile points. The presence of three projectile points shows that hunting was an important site activity. Tool

maintenance is indicated by the reworked nature of two of the points and the biface debitage. The site inhabitants had access to local materials and nonlocal materials originating in the vicinity of the Jemez Mountains. A San Pedro-like projectile point is similar to a style commonly found in southern New Mexico, but found occasionally in the region. The projectile point is typical of forms from the Late Archaic period (1800 B.C.-A.D. 200).

#### GROUND STONE ARTIFACTS

The ground stone assemblage consists of a one-hand mano fragment and a slab metate fragment. The one-hand mano fragment is made from a medium-grained quartzite cobble. The artifact is represented by three articulated thermal fractured fragments. The mano has a biconvex cross section with polish on both faces. The mano is 5 cm thick, but this is the only dimension that could be obtained from the fragment. The one-hand mano is typical of regional Archaic manos and is apparently contemporaneous with the Late Archaic occupation suggested by the projectile point. The mano was found in the surface strip of Grid Unit 49N/49E less than 50 cm west of the roasting pit. The thermal fractures seemed to coincide and were probably produced during a single burning episode. Their proximity to the roasting

pit suggests that the thermal alteration was produced in the pit. The one-hand mano suggests that plant processing was a site activity, but it is unclear why the mano was burned and thermally fractured.

The slab metate fragment is made from a medium-grained sandstone. The perimeter fragment exhibits shaping in the form of flaking and grinding. One surface has the edge of an oval basin, and the side is unshaped. The margin of the metate is 4.0 cm thick, and the basin is 1.3 cm thick. The metate had apparently worn through and broken from use. No other dimensions could be obtained from the fragment. The basin metate is typical of regional Archaic metates and is most likely associated with the Late Archaic occupation suggested by the projectile point and one-hand mano. The basin remnant exhibits polishing similar to that observed on the faces of the one-hand mano, suggesting that the grinding implement could have been used with the metate. The worn, broken, and apparently discarded condition of the fragment may indicate that the occupation lasted for an extended time. The slab metate fragment was found in the surface strip of Grid Unit 52N/49E about 1 m west of the roasting pit and about 2 m north of the one-hand mano. The metate fragment was not burned or thermally altered. The existence of a slab metate supports the idea that plant processing took place at this site.

# FLOTATION, CHARCOAL, AND WOOD ANALYSIS

Pamela J. McBride

## FLOTATION ANALYSIS

The two soil samples collected during excavation were processed at the Museum of New Mexico's Office of Archaeological Studies by the simplified "bucket" version of flotation (see Bohrer and Adams 1977). The sample volume of FS 22 was 2.4 liters and that of FS 23, 1.75 liters. Each sample was immersed in a bucket of water, and a 30-40 second interval was allowed for settling out of heavy particles. The solution was then poured through a fine screen (about 0.35 mm mesh) lined with a square of "chiffon" fabric, catching organic materials floating or in suspension. The squares of fabric were lifted out and laid flat on coarse mesh screen trays until the recovered material had dried.

Each sample was sorted using a series of nested geological screens (4.0, 2.0, 1.0, 0.5 mm mesh), and then reviewed under a binocular microscope at 7-45x. Charred and uncharred reproductive plant parts (such as seeds) were identified and counted. Flotation data are reported as a standardized count of seeds per liter of soil, rather than an actual number of seeds recovered (Table 6). The relative abundance of nonreproductive plant parts such as pine needles was estimated per liter of soil processed.

To aid the reader in sorting out botanical occurrences of cultural significance from the considerable noise of postoccupational intrusion, data in tables are sorted into categories of "Cultural" (all carbonized remains) and "Noncultural" (unburned materials, especially of taxa not economically useful, and when found in disturbed contexts with modern roots, insect parts, scats, or other signs of recent biological activity).

**Table 6. Flotation plant remains from Feature 1 (frequency and abundance per liter)**

FS No.	22	23
Feature	South Half of Feature 1	North Half of Feature 1
<b>Cultural</b>		
Annuals:		
<i>Chenopodium</i>	2	5.7
Perennials:		
<i>Pinus edulis</i>	needle +	needle +
<b>Noncultural</b>		
Grasses:		
<i>Sporobolus</i>	0.8	
Perennials:		
<i>Juniperus</i>	twig +	

Note: Plant remains are seeds unless otherwise noted.  
+ = 1-10 per liter.

## CHARCOAL AND WOOD ANALYSIS

From each flotation sample, 20 pieces of wood charcoal were identified (a maximum of 10 pieces from the 4 mm and 2 mm screens, respectively). Each piece was snapped to expose a fresh transverse section and then identified at 45x. Identified charcoal from each taxon was weighed on a top-loading digital balance to the nearest tenth of a gram and placed in labeled plastic bags or polypropylene capsules. Low-power, incident-light identification of wood specimens does not often allow species- or even genus-level precision, but it can provide reliable information useful in distinguishing broad patterns of utilization of a major resource class. Charcoal was separated by taxon, weighed, and placed in labeled foil packets for potential submission as carbon-14 specimens.

Macrobotanical wood specimens (generally bigger than specimens recovered in flotation samples) were examined by the same methods employed for flotation charcoal.

## RESULTS

Samples from the north and south half of the roasting pit were virtually identical, yielding carbonized piñon needles, goosefoot seeds, noncultural juniper debris, and unburned dropseed grass (Table 6). The presence of piñon needles is probably a direct result of firewood use. The needles may have been used for tinder, or they may have been attached to branches that were used for firewood. Weedy annual seeds like goosefoot are probably the most widely recovered plant remains from archaeological sites in the Southwest. The adaptive advantage that weedy annuals have of proliferating in disturbed ground around habitation sites make them a readily available resource. These seeds, which ripen in late summer, were the only nonwood cultural remains recovered, providing the sole possible clue to seasonality of site occupation.

Flotation and macrobotanical wood (Tables 7 and 8) was primarily juniper along with some piñon and one fragment of unknown conifer (root holes prevented a taxonomic identification). The most that can be said based on archaeobotanical evidence is that goosefoot seeds may have been used for food, and locally available wood species may have been used for fuel.

**Table 7. Species composition of flotation wood from Feature 1 (count/weight in grams)**

FS No.	22	23
Feature	South Half of Feature 1	North Half of Feature 1
Conifers:		
<i>Juniperus</i>	17 / 0.4 g	13 / 0.20 g
<i>Pinus edulis</i>	2 / .05 g	7 / 0.13 g
Unknown conifer	1 / .03 g	
Total	20 / 0.48 g	20 / 0.33 g

**Table 8. Species composition of macrobotanical wood from Feature 1 (count/weight in grams)**

Conifers:	
<i>Juniperus</i>	116 / 8.47 g
<i>Pinus edulis</i>	12 / 1.03 g
Totals	128 / 9.50 g

## RESEARCH QUESTIONS

The remnant of LA 139021 within the proposed project area of planned improvements to NM 300 was determined to have the potential to yield important archaeological information and was considered eligible for inclusion on the *National Register of Historic Places* on the basis of criterion d. The determination of the site data potential was based on site information documented during the initial site recording (Condie 2003:16-19). The data recovery plan focused on confirming the potential of the site to yield important information and to recover through excavation the significant information from the site prior to construction. The archaeological investigation followed the methodology and objectives of the data recovery plan (Lentz 2003).

### SITE BOUNDARIES

The first objective was to identify the boundaries and dimensions of the site. The site was originally recorded as a lithic scatter and charcoal stain confined within a 4 by 3 m area (12 sq m). The stain and two projectile points were considered an abundance of cultural material for such a small site area, and the presence of a once larger site was conjectured.

The surface collection and surface stripping procedures revealed that the lithic artifact scatter measured about 8 by 5 m (40 sq m) based on the spatial distribution of the artifacts. Artifact frequency was increased from five lithic artifacts, including two projectile points, to 25 lithic artifacts, including an additional projectile point, a biface fragment, and two utilized flake tools. In addition, two ground stone artifacts, a basin metate fragment and a one-hand mano, were recovered. Unfortunately, the two projectile points recorded during the survey were not recovered during the archaeological investigation. Precise boundaries, characterized by empty grid units, were determined on the south, west, and north sides of the lithic scatter. The eastern margin of the site has been cut by a steep, 3 m tall shoulder cut. Artifacts recovered along the top edge of the shoulder cut along with eroded fire-cracked rock and charcoal stain eroding down the slope from the roasting pit suggests that the eastern portion of the site had been removed during the original road construction. These observations reinforce the conjecture of a once larger site, originally noted during the site survey.

The presence of a once-larger site of unknown size hinders observations that can be confidently made about the portion of the site that remains. The archaeological investigations established the presence of a low-density lithic artifact scatter confined to the initial 5 cm of loose

surface fill. Outside of the roasting pit area, the soil was free of cultural staining, and no other features were identified. A specific activity or occupation surface was not identified. The original occupation surface appears to have corresponded with the modern ground surface, or it was within only a few centimeters of the modern surface. The low-density artifact scatter combined with the essentially sterile soil suggest a low-intensity occupation of short duration. Artifacts were confined to about a 5 m radius around the roasting pit, and most of the assemblage was recovered downslope from the feature. The recovered artifacts seem to represent a discrete activity area surrounding the roasting pit, but most of the artifacts were recovered downslope from the feature, and their proveniences may have been effected by erosion and slope wash.

### TEMPORAL CONTEXT

The most important objective of the data recovery program was to determine the temporal context of the occupation. Was the site associated with aceramic or Archaic period groups, or could it be a special procurement site associated with the nearby large Anasazi community settlements at upper (LA 76) and lower (LA 12) Arroyo Hondo Pueblos?

About 7 g of juniper charcoal from the Feature 1 roasting pit returned a conventional radiocarbon age of  $2580 \pm 70$  B.P. (Beta sample 186675). A 2-sigma calibration (95-percent probability) resulted in a calibrated date of 840 to 520 B.C. (2790 to 2460 B.P.). The juniper fuel wood most likely introduces an old wood discrepancy of 100 to 200 additional years. In any event, the radiocarbon date indicates an Archaic period occupation well within the 1800 B.C. to A.D. 200 Late Archaic time range.

The recovered artifact assemblage corresponds with the Late Archaic temporal affiliation. The notable absence of ceramics lends credence to the aceramic occupation. At the very least, the projectile point recovered during the excavation is typical of Late Archaic period styles. Its San Pedro-like appearance overlaps the Late Archaic time range with good radiocarbon associations of 3000 to 1800 B.P. (Moore 1999:62). Both the one-hand mano and basin metate are typical artifacts associated with Late Archaic period occupations. The two reworked projectile points not recovered during the excavation can only be viewed as nondiagnostic, providing little additional information with which to date the site.

In summary, the data indicate that LA 139021 has a



Late Archaic temporal affiliation with a calibrated radiocarbon age of 840 to 520 B.C. The low-density artifact assemblage seems typical of a single low-intensity occupation of short duration. The investigations show that the occupation was not associated with the intense Anasazi period land use centered around upper (LA 76) and lower (LA 12) Arroyo Hondo Pueblos.

#### SITE FUNCTION

Another objective of the data recovery plan was to determine site function. Is the spatial organization of artifacts at LA 139021 the result of alluvial movement, or can patterns be identified to indicate that localized subsistence activities were occurring at that location? What do the site elements say about the social organization and the range of site activities?

As a result of the archaeological excavation, it was determined that LA 139021 was a low-density artifact scatter consisting of 25 chipped stone artifacts and two ground stone artifacts. Cultural features were limited to a single small roasting pit. No evidence of structural components suggesting a residential occupation were found. A formal activity surface was not identified, and charcoal staining was nearly absent from the site, with the exception of the area of the roasting pit. Unfortunately, the presence of a 3 m shoulder cut adjacent to the roasting pit and artifact scatter suggests that the eastern portion of the site had been removed during the original road construction. The original size of the site and the range of its elements is therefore problematic. The following observations on site function are limited to the site elements recovered during the complete excavation of the surviving site remnant.

The small lithic artifact scatter seems to be a distinct activity area surrounding the roasting pit. The artifacts appear to have been deposited at one time as a discrete assemblage, considering the absence of additional features, the near absence of culturally stained fill at the site, and the apparent single use of the roasting pit. The San Pedro-like projectile point, one-hand mano, and basin metate reinforce the indication of Late Archaic period occupation returned by the radiocarbon sample. Most of the artifacts were recovered downslope from the feature, and their locations may have been affected by slope wash and alluvial movement. Taken as a whole, the assemblage represents the litter from a single short-term occupation centered around the roasting pit. A rather short, low-intensity occupation is suggested; however, the worn nature of the basin metate and the thermal cracking of the mano introduce some degree of ambiguity. These artifacts may foreshadow additional site complexity originating from missing site elements from the eastern site area, which may have been

removed during the original road construction.

I conclude from the limited nature of the recovered cultural material that LA 139021 was a logistical or special-activity site, in contrast to a more heavily utilized residential site. Logistical sites are defined as localities where activities related to a specific pursuit took place. The small artifact assemblage embodied a restricted range of activities. Chipped stone tools consisted of three projectile points, one biface fragment, and two utilized flakes. The projectile points provide evidence that the site was connected with hunting activities. The bulk of the chipped stone assemblage was composed of rather small lithic debitage consisting of secondary core flakes and biface flakes. The presence of three projectile points and one late-stage biface fragment broken during manufacture shows that the chipped stone reduction was directed toward biface production, and specifically the manufacture or maintenance of projectile points. Only one flake and one blade had utilized edges, which apparently had been used for cutting.

The presence of the one-hand mano and the basin metate fragment indicate that plant processing was also conducted at the site. The presence of the ground stone artifacts in association with the projectile points suggests that the site inhabitants were most likely a small, mixed-gender group, rather than a specialized group of male hunters. The single surviving feature is the fire-cracked, rock-lined roasting pit. The roasting pit represents a more formal food processing episode than the basic cooking, heat, and light provided by a simple hearth.

#### SUBSISTENCE

Another objective was to determine what food resources were exploited at LA 139021. What does this information tell us about the potential of the local environment?

Unfortunately, very little evidence was recovered concerning food resources processed at the site. Although hunting and/or the manufacture or maintenance of hunting equipment was a site activity, no faunal elements were recovered from the roasting pit or the site. The only material recovered from the feature other than piñon and juniper fuelwood was a small amount of charred goosefoot seeds. This weedy annual is one of the most commonly recovered plant remains from archaeological sites in the Southwest. The seeds mature in the late summer, and their presence in the feature provides information on the season of occupation. At the very least, the charred goosefoot seeds from the roasting pit and the proximity of the ground stone artifacts suggest that plant processing was a site activity. On the other hand, these common weedy seeds may be inciden-

tal to the roasting process. The goosefoot plants and possibly the recovered piñon needles may indicate that plant greens were positioned over the fire-cracked rock during the roasting process. Enough heat was generated during the roasting process to fracture the hard granite, but the specific food or material roasted in the feature remains unknown.

Very little material was recovered during the excavation regarding the subsistence potential of the local environment. At the very least, the site was occupied to take advantage of a wide range of plants and animals within the piñon-juniper woodland and concentrated within the riparian zone of the nearby Arroyo Hondo. Water, animal, and plant resources must have been prevalent, but evidence of the species exploited was not recovered during the excavation.

#### PREHISTORIC ENVIRONMENT

What was the nature of the prehistoric environment when the site was occupied? Again, the small site provided little data relevant to this question. The macrobot-

anical sample from the roasting pit showed that the fuelwood consisted primarily of juniper and piñon. The sample shows that both piñon and juniper were readily available as fuelwood at the time of the Late Archaic period occupation. The present catastrophic die-off of piñon trees as a result of drought stress and the bark beetle may represent a little-understood cyclic pattern through time. Piñon seeds, a common resource in the piñon-juniper woodlands, may not have been as plentiful in the past. The macrobotanical sample suggests an environment similar to that of the present juniper-piñon woodland. However, the presence of both juniper and piñon charcoal, along with burned piñon needles, suggests that both wood types were available close by during the occupation.

The presence of burned goosefoot seeds provides some evidence of seasonality. Seeds of this weedy annual mature in the late summer. The presence of burned goosefoot seeds in the roasting pit argues for a late summer occupation. No other environmentally sensitive material was recovered during the data recovery program.





## SUMMARY

In summary, the data recovery plan has revealed that the remaining portion of LA 139021 is a rather small lithic artifact scatter with one feature, a small roasting pit. The eastern portion of the site had most likely been removed during the original road construction. A radiocarbon sample from the roasting pit revealed a Late Archaic temporal affiliation with a calibrated radiocarbon age of 840 to 520 B.C. LA 139021 functioned as a small logistic or special-activity site geared to hunting and plant processing. The small artifact assemblage consisted of small secondary flakes and biface flakes produced during the manufacture or maintenance of projectile points. Formal tools included a San Pedro-like projectile point, a late-stage biface fragment, and a utilized flake and blade. Both local and nonlocal material types were utilized. Nonlocal materials came from a territory extending westward toward the Jemez Mountains and Pedernal Peak. Other artifact types were confined to a one-hand mano fragment and a basinmetate fragment. The Late Archaic period site inhabitants were most likely a small mixed-gender group exploiting plant and animal resources concentrated in

the piñon-juniper woodland and nearby Arroyo Hondo riparian zone. Juniper and piñon fuelwood was recovered from the roasting pit. Economic plants were confined to a few burned goosefoot seeds. No faunal elements were recovered from the site. The nearest contemporary sites are clustered in the Eldorado area, about 10 km south of the project area. The six sites are in a similar foothill and woodland setting along Cañada de los Alamos, historically the strongest spring south of Arroyo Hondo. The sites are generally contemporaneous with the Late Archaic period occupation of LA 139021. However, the majority of the sites are characterized by multicomponent occupations, and Anasazi period sherds are commonly mixed with the artifact assemblages.

The data recovery program has recovered all of the cultural material from the remaining portion of the site. It was determined that the site area within the proposed right-of-way is not likely to yield information beyond that already documented. No further archaeological investigations within the project area are recommended.



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