

LA 89846 (AR-03-06-03-03723)
HACA NEGRA SITE

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A 89846 was recorded by OAS (Zamora and Sterling 1992) during a cultural resource survey for the NMSHTD along U.S. 180. It was identified as a small chipped stone and ceramic artifact scatter that may be associated with the San Francisco phase (A.D. 700-900) of the Mogollon culture. The observed artifacts (N = 18) consisted of Alma Plain, Alma Smudged and corrugated brown ware sherds, as well as chipped stone debitage. An unrecorded site was located 40 m upslope of LA 89846 during the survey and it was noted that the surface artifacts on LA 89846 may have washed down slope from the site above. The site is located within the Gila National Forest on the north side of U.S. 180, 2.6 km (1.6 miles) west of the town of Luna, Catron County, New Mexico.

A testing program was recommended and conducted by OAS staff during May of 1993. The purpose of testing was to determine the depth and extent of cultural materials within the proposed highway right-of-way. Three 1-by-1-m test pits were hand-excavated and twelve auger holes were used to determine the depth of subsurface cultural materials. The three test pits ranged between .40 m and 1.1 m in depth and with the exception of Test Pit 2, excavation stopped when sterile red clay was encountered. Test Pit 2 contained charcoal and artifacts to a depth of 70 cm. No artifacts were recovered; however, pieces of charcoal were found at depths of 1.1 m.

Artifacts recovered from the test pits included 15 ceramics and 15 pieces of chipped stone. The ceramic assemblage contained Alma Polished, indented corrugated, and Reserve Smudged sherds that suggested a Three Circle phase (A.D. 900-1000) Mogollon occupation of the site. Material types for the chipped stone assemblage included basalt, Luna blue agate, rhyolite, and siltstone. Although no features were located, the testing results indicated that a late Mogollon pit structure may be present due to the depths of recovered artifacts and charcoal.

Site size during the testing of LA 89846 was based on the visibility of surface artifacts and was confined to a 575 sq m area. Subsequent excavations reduced the site limits to 40 m east-west by 9 m north-south (Fig. 2.284).

Two discrete occupational episodes are supported by radiocarbon data from three thermal features that were recorded during the data recovery phase of LA 89846.

One small surface hearth on the west end of the site was excavated and provided radiocarbon samples that resulted in 2-sigma calibrated dates between A.D. 1430 and 1645. Two large slab-lined roasting pits were located at depths between 80 cm and 1.1 m and represent a Late Archaic occupation of the site. Radiocarbon samples from both features provided 2-sigma calibrated dates of 815 to 385 B.C. and 795 to 405 B.C.

The artifact assemblage contained mixed components and could not be used to distinguish a Late Archaic or protohistoric occupation of the site. It is felt that the ceramic assemblage and the majority of the chipped stone debitage was redeposited from LA 112407, which is located 40 m upslope of LA 89846. The bulk of the excavations took place below a shallow drainage, which originates from LA 112407.

LA 112407 consists of a 5-by-6-m rubble mound (possibly three to four rooms) made of shaped and unshaped rhyolitic cobbles with an associated chipped stone and ceramic artifact scatter. Core flakes and angular debris associated with all stages of expedient core reduction and tool manufacture were observed. Lithic materials consisted of local cherts (predominantly Luna blue agate), rhyolite, and basalt. Cores, a few hammerstones, a biface, and a mano were seen on the surface. The ceramic assemblage contained brown wares in the form of Alma Plain, smudged, and local corrugated, as well as white wares of Reserve and Tularosa Black-on-white. Based on diagnostic ceramic types, this site may date from the Tularosa phase of the Mogollon culture.

Sites in the vicinity of LA 89846 include LA 89847, LA 112407, and LA 3279. LA 89847 is a large chipped stone and ceramic artifact scatter northwest of the site that has Late Archaic and Late Pueblo components. LA 3279 (Hough site) is a Tularosa phase roomblock a few hundred meters to the east.

SITE SETTING

LA 89846 is located within the Gila National Forest at the base of a hill slope, between U.S. 180 and the Luna Irrigation Ditch (Fig. 2.285). It is situated inside the highway right-of-way just above the San Francisco River flood plain at an elevation of 2,168 m (7,115 ft). The surrounding terrain is characterized by heavily wooded,

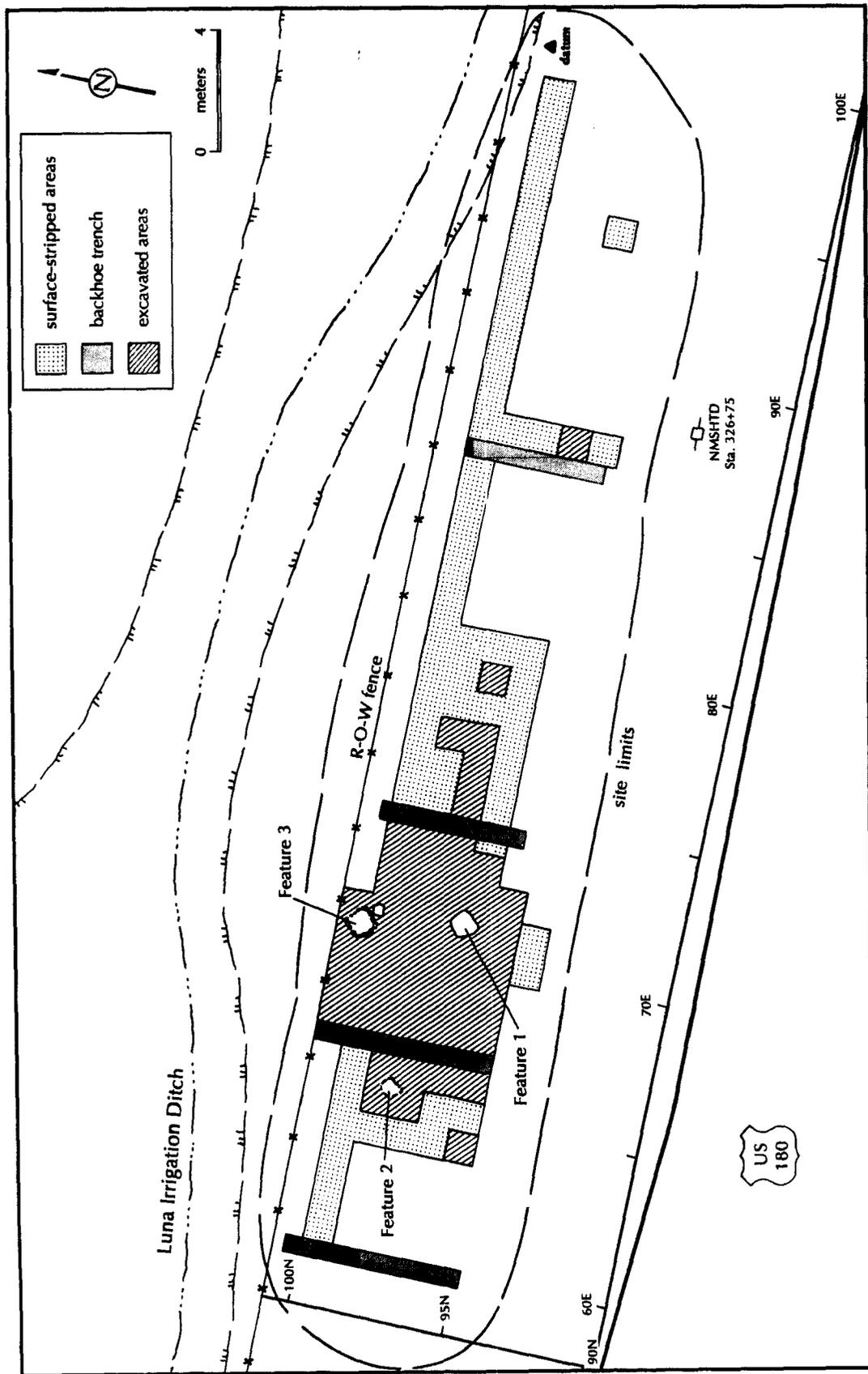


Figure 2.284. LA 89846, Haca Negra.



Figure 2.285. LA 89846, site setting at base of slope.

steep mountain slopes and ridges that drain into the San Francisco River, which is 40 m to the south.

On-site vegetation includes ponderosa pine, juniper, scrub-oak, various grasses, wildflowers, and cactus. The ground surface is covered with heavy pine duff as well as large and small cobbles that have eroded downslope. The Luna Ditch is 2 m north of the site and excavations revealed an additional thick layer of redeposited rock and soil from ditch cleaning operations.

RESEARCH OBJECTIVES

The data recovery plan for LA 89846 was based on the premise that the site represented a potential pithouse site because of the ceramics observed on the site surface and recovered during testing. The ceramic assemblage proved to derive from a small roomblock upslope from LA 89846. After excavations, a protohistoric hearth and two buried Archaic roasting pits were uncovered. Therefore, research objectives for the site were invalid. Analyses, however, followed OAS procedures for examining lithic artifact sites, looking at bifacial tool production in depth. Procurement of materials and reduction technologies were also studied. The site was then compared to other protohistoric and Archaic sites found during the project.

EXCAVATION PROCEDURES

The archaeological survey recorded a small chipped stone and ceramic artifact scatter in an open area between the Luna Irrigation Ditch and U.S. 180 (Zamora and Sterling 1992). The presence of a small roomblock with an associated ceramic and chipped stone artifact scatter upslope of this area was also noted. No features were recorded during the survey, however, the survey results stated that the artifacts may indicate the presence of a subsurface feature or might have washed downslope. A testing program was recommended in order to determine the extent of subsurface deposits and site limits.

In May of 1993, three test pits and twelve auger holes were placed in various locations across the site. Test Pit 1 was excavated to a depth of 50 cm and produced five pieces of chipped stone and one animal bone fragment. Test Pit 2 produced eight ceramics and twelve pieces of chipped stone to a depth of 70 cm. The fill contained flecks of charcoal and an auger hole placed in the base of the unit found charcoal-stained soil to a depth of 1.3 m before reaching bedrock. Test Pit 3 was excavated to a depth of 40 cm and produced one ceramic. An auger hole placed in the base of the unit reached sterile soil at 94 cm.

Twelve additional auger holes revealed charcoal at depths of 1 m across portions of the site; however, no

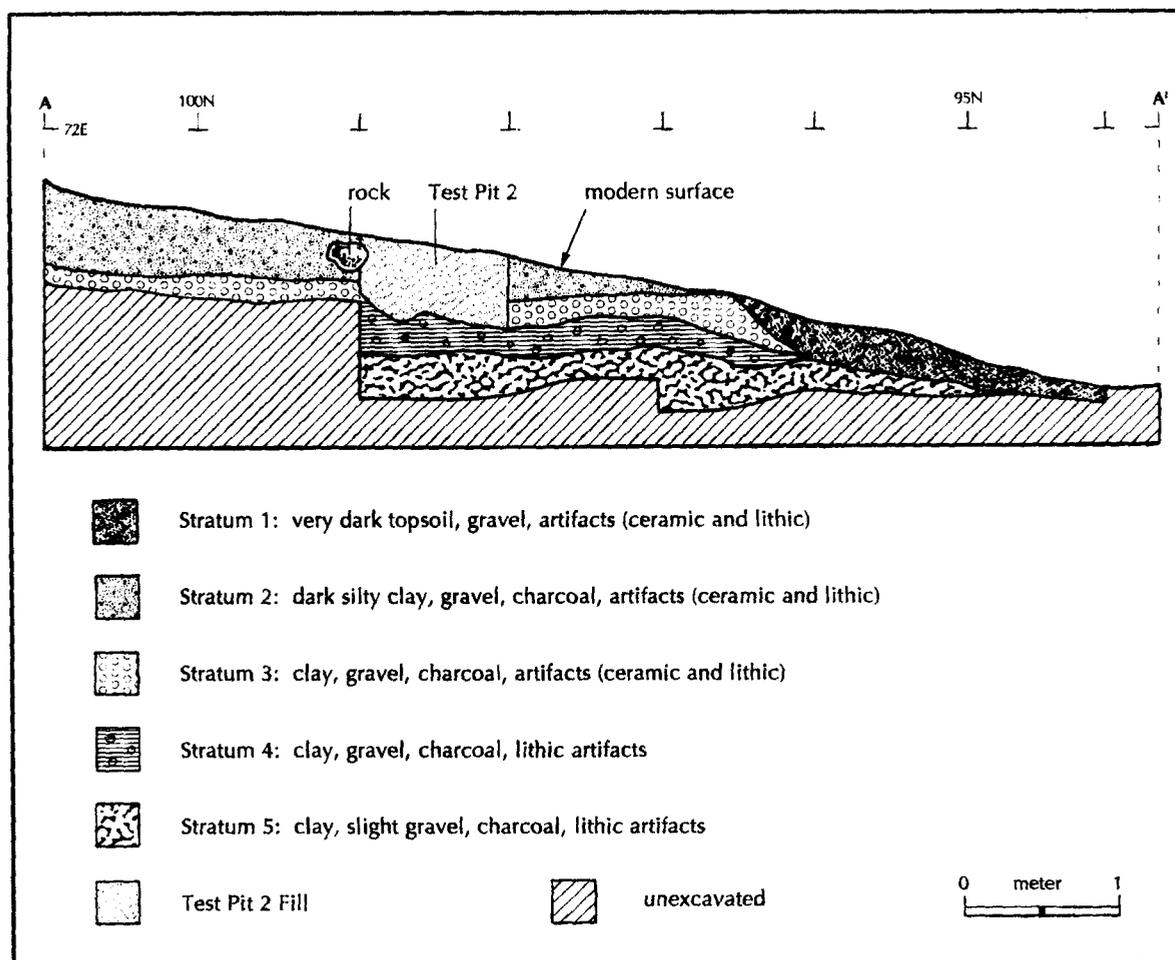


Figure 2.286. West wall profile of units, 94N/72E-101N/72E.

artifacts were located. Due to the depths of artifacts in Test Pit 2, the testing results concluded that a cultural feature may be present at this location.

A total of 15 ceramics, 15 pieces of chipped stone, and 1 animal bone was collected in testing. The ceramic assemblage suggested a possible Three Circle phase occupation. Due to the presence of a possible feature and artifact depths, further archaeological investigations were recommended.

Data recovery at LA 89846 was conducted in 1995. Prior to excavation, surface artifacts were pin-flagged in order to view concentration areas. Datum 100N/100E used in testing was reestablished as the main site datum. A 1-by-1-m grid system was imposed over the artifact concentrations and the three test pits. Base lines were laid out along a north-south and east-west axis intersecting at main datum (100N/100E). An optical transit and stadia rod were used to record the elevation of the north-west corner of each grid unit.

The selection of units to be further investigated was based on the testing results and surface artifact concentrations. Thirty-nine grid units, extending west from the

site datum, were surface stripped (excavated to a depth of 10 cm below present ground surface) and an artifact concentration area was isolated. Test Pit 2 was reexcavated due to the depths of artifacts recovered during testing. Once an artifact concentration area was isolated, individual units were further investigated.

A total of 111 units were excavated. Fifty-five of these were surface stripped only, the remaining units were taken to an average depth of 64 cm below present ground surface in arbitrary 10-cm levels. Three features were found and recorded. A plan view and profile map was drawn to scale and a photograph was taken of each feature. All fill was screened through ¼-inch mesh. The total amount of soil excavated on the site was 47.3 cu m.

Hand-excavation of individual units continued until artifacts diminished or sterile, brown clay with small gravels (Munsell color 10YR 4/3) was encountered. Four backhoe trenches were placed across the site and each revealed similar stratigraphy. One additional backhoe trench was placed on the south side of U.S. 180, 33 m southeast of the datum in an area of isolated surface artifacts. No cultural strata was exposed in the additional

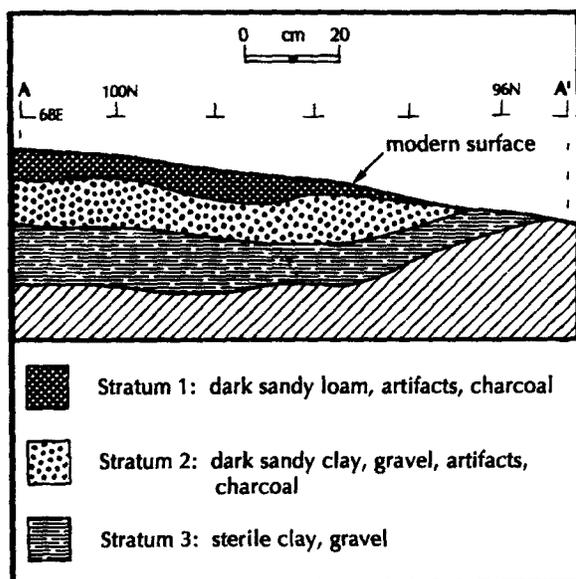


Figure 2.287. Profile of Backhoe Trench 3.

trench and it appears that the surface artifacts were redeposited from LA 89846.

CULTURAL UNITS

LA 89846 was covered by an overburden of rock, soil, and artifacts from LA 112407, which accumulated on the

site over years of erosion and ditch cleaning operations. Although most of the artifact assemblage was intrusive, three subsurface thermal features were found and recorded which provided dates for two separate occupational episodes (Late Archaic and protohistoric). A hand-cut trench on the eastern edges of Features 1 and 3 shows the relevant site stratigraphy in a profile of the west wall along units 94N/72E through 101N/72E (Fig. 2.286).

Strata 1, 2, and 3 contain a mixture of chipped stone and ceramic artifacts from the site upslope as well as the overburden from the Luna Irrigation Ditch. All of these levels could be seen in the backhoe trenches (Figs. 2.287, 2.288); however, the deposits accumulated in varying depths across the site and could rarely be followed during excavation. Roasting Pits 1 and 2 were found at depths of 0.8 m and 1 m in Strata 4 and 5 on what was determined to be a sloping use surface. They appeared to be undisturbed by ditch cleaning or other erosional processes. The hearth was found 15 cm below the ground surface in Strata 2. Excavation procedures concentrated around the three features in an effort to find an activity area or other associated features. The areas adjacent to the features were exposed and four backhoe trenches were placed in artifact concentrations across the site in order to locate other cultural units; however, no other features were found.

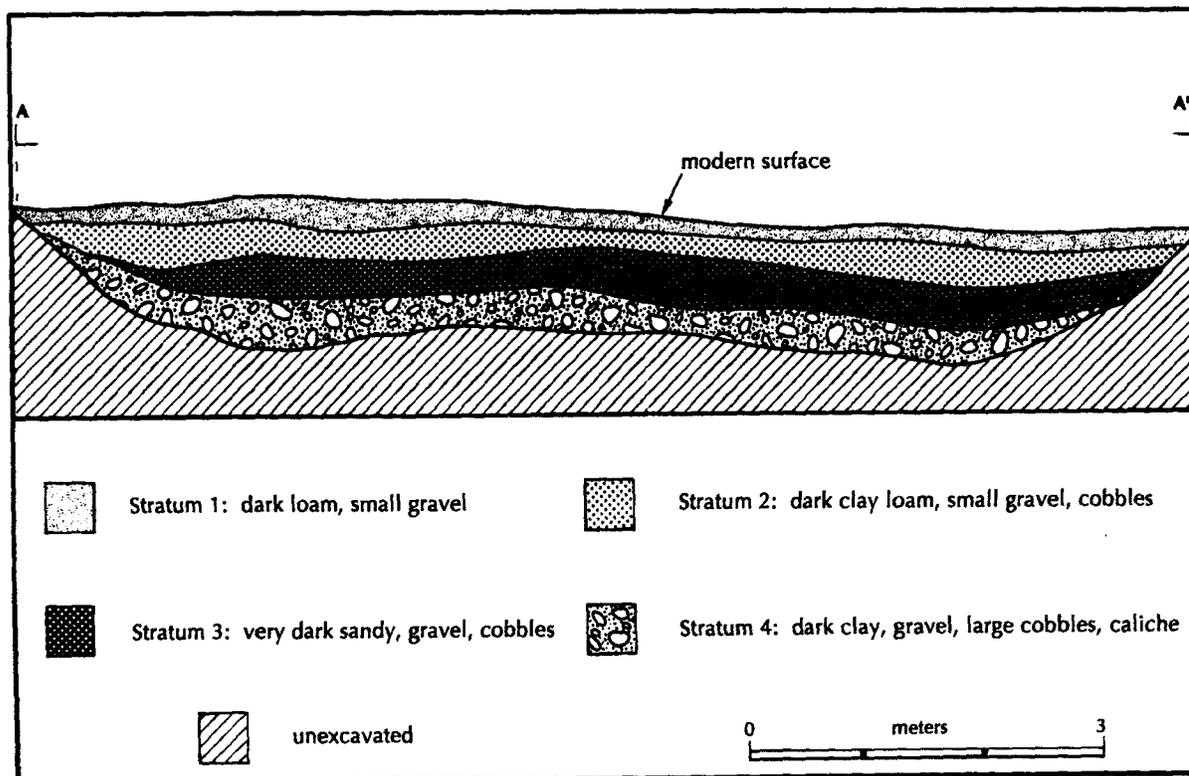


Figure 2.288. Profile of Backhoe Trench 5, south side of U.S. 180.



Figure 2.289. Roasting Pit 1 prior to excavation.

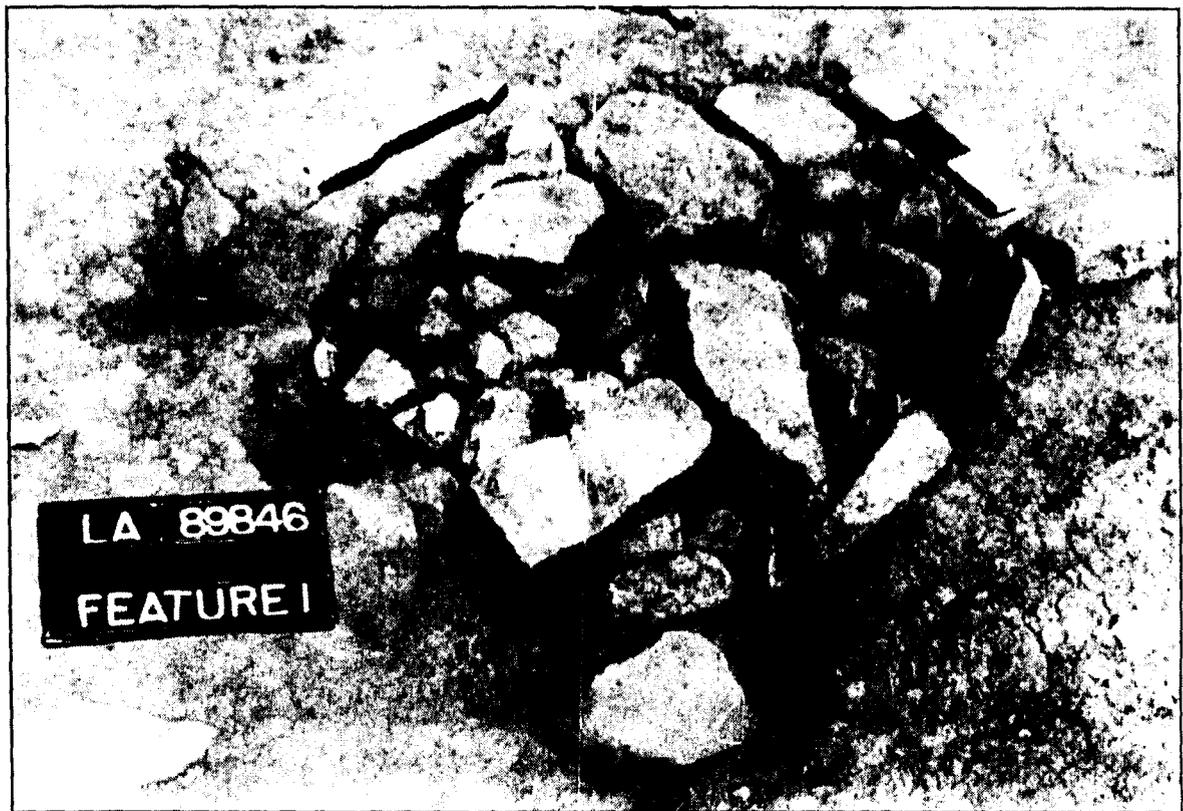


Figure 2.290. Roasting Pit 1, during excavation.

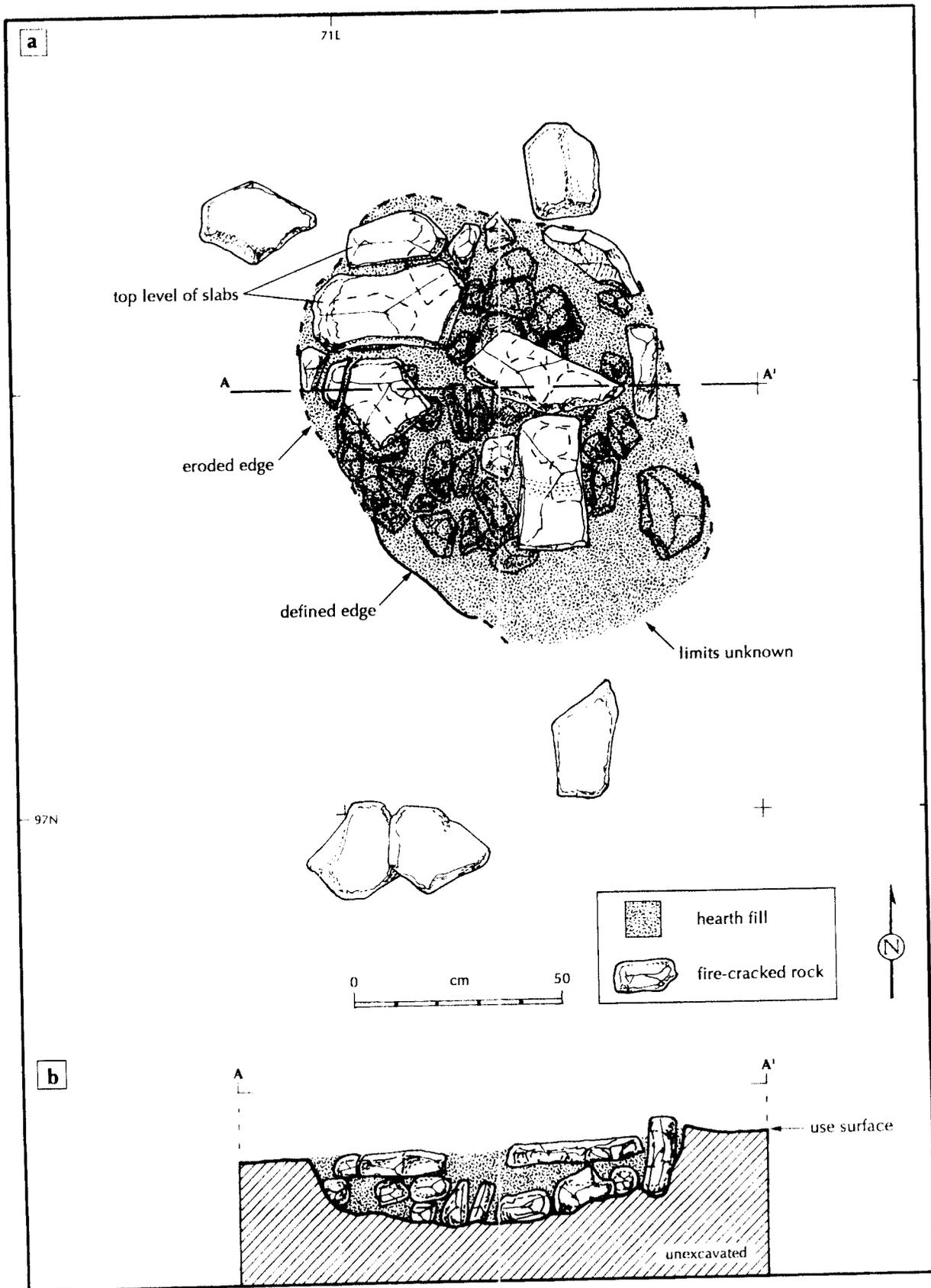


Figure 2.291. Roasting Pit 1, (a) plan, and (b) profile.

Roasting Pit 1

Feature 1 is a slab-lined, rock-filled roasting pit that was located in Grids 97-98N/71E at a depth of 0.8 m. The southern edge was deflated but its measurements were 0.95 m north-south by 0.92 m east-west with a depth of .2 m. The feature was constructed by means of a semi-circular shaped pit dug into the earth, which was then lined with flat and upright slabs, filled with cobbles, and covered by large, flat slabs (Figs. 2.289-2.291). A total of 119 rhyolite cobbles and slabs went into the feature's construction. All of the rocks were blackened or oxidized and fire-cracked. The hearth fill consisted of fist-sized cobbles and dark brown soil (Munsell color 10YR 3/3) that was interspersed with charcoal flecks, burned bone, and seven chipped stone artifacts. Once the rocks were removed, the edges and base of the feature were exposed. The pit and outer edges were heavily oxidized and brown in color (Munsell 7.5YR 5/2).

A possible use surface surrounded this feature and extended upslope to the other roasting pit. On the outside perimeters of the roasting pit were fragments of burned bone and a chert core. One radiocarbon sample was collected from lower portions of the feature fill which provided a 2-sigma calibrated date of 795 to 405 B.C. One pollen and three flotation samples were also taken from feature fill.

Hearth

This is a partially blown-out, rodent-disturbed hearth that was found 15 cm below the present ground surface in Grid 98-99N/65E. The hearth is oval-shaped and formed of loosely stacked large and small rhyolite cobbles. It is oriented southeast to northwest and measures 1.1 m in length by .6 m in width and is .1 m in depth (Fig. 2.292). The hearth fill was very dark, grayish brown (Munsell color 10YR 3/2) with flecks of charcoal and small pieces of fire-cracked rock. The base of the feature was heavily oxidized and brown in color (Munsell 7.5YR 5/2).

Three radiocarbon samples were taken from a concentration of charcoal in the northwest portion of the hearth. A 2-sigma calibrated radiocarbon sample provided a date of A.D. 1430 to 1645. Two chipped stone artifacts were found within the hearth fill and five more on the perimeter of the feature, however, due to the shallow location of the hearth, the artifacts may be intrusive. One flotation and three pollen samples were taken from the feature fill.

Roasting Pit 2

Feature 3 is a slab-lined, rock-filled roasting pit that was located in Grid 100N/70-71E and 101N/70-71E at a depth of 1.1 m. Its measurements are 1.13 m north-south

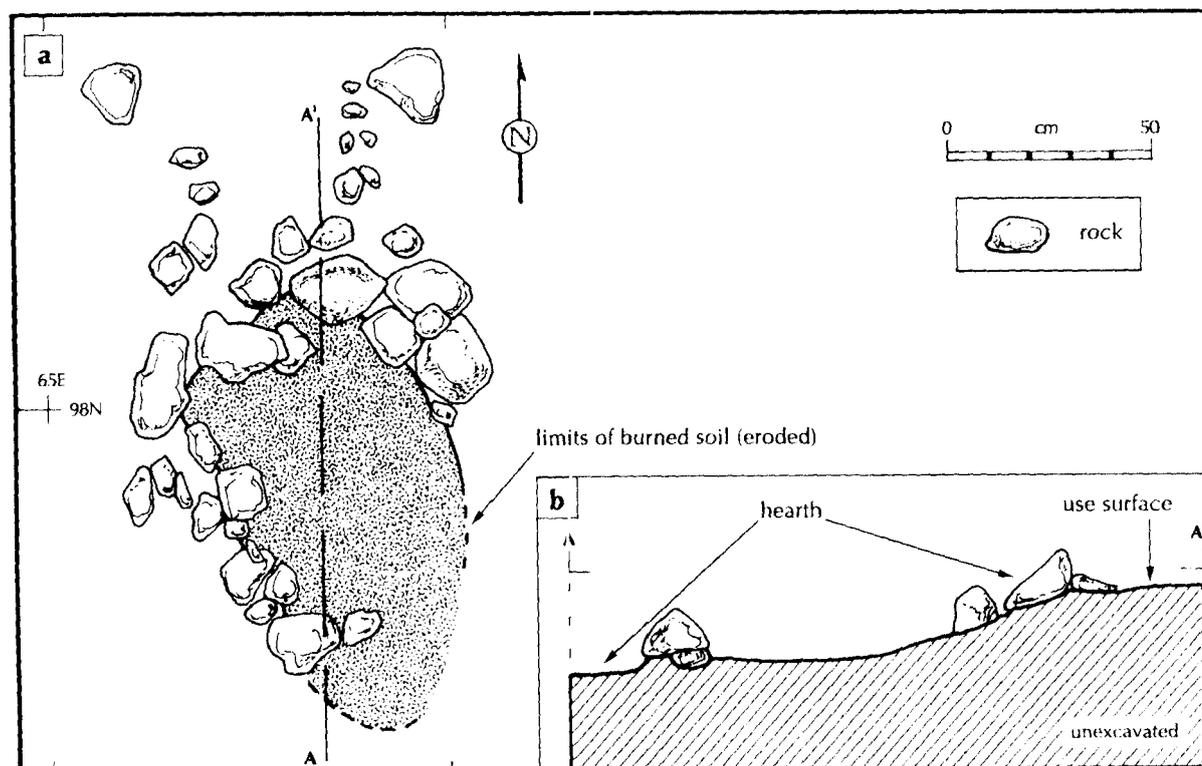


Figure 2.292. Hearth, Feature 2, LA 89846; (a) plan, and (b) profile.

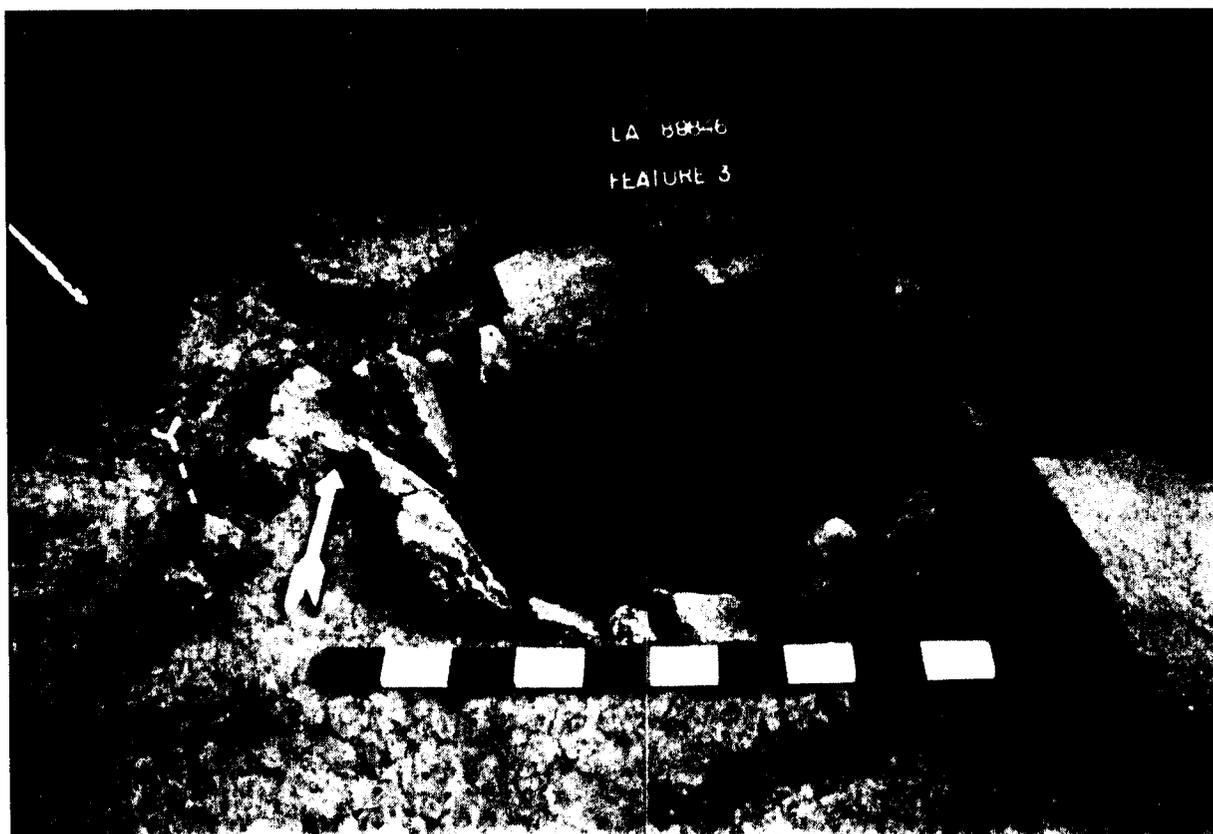


Figure 2.293. Roasting Pit 2, Feature 3, LA 89846.

by 1.15 m east-west and a depth of .3 m. The feature was constructed by means of a circular pit dug into the earth, which was then lined with upright slabs, filled with cobbles, and covered by large, flat slabs (Figs. 2.293, 2.294). A total of 266 rhyolite cobbles and slabs went into the feature's construction. All of the rocks were blackened or oxidized and fire-cracked. The hearth fill consisted of fist-sized cobbles and dark brown clay (Munsell colors 10YR 4/3 and 3/3) that was mixed with charcoal flecks, burned bone, and three chipped stone artifacts. Once the rocks were removed, the edges and base of the feature were exposed. The pit and outer edges were heavily oxidized and brown in color (Munsell 7.5YR 5/2).

A few rocks on the outside of the feature were in place on top of a possible use surface that extended north and downslope to Roasting Pit 1. The northern edge of the feature was on the right-of-way fence line at the base of the Luna Irrigation Ditch, therefore no units to the north could be opened in order to follow the use surface. On the outside perimeters of the roasting pit were fragments of burned bone and a few pieces of chipped stone. Two radiocarbon samples were collected from lower portions of the feature fill, which provided a 2-sigma calibrated date of 815 to 385 B.C. Two flotation and two pollen samples were taken from the feature fill.

ARTIFACTS

The artifact assemblage consists of 1,811 artifacts including 607 ceramics, 1,096 lithic artifacts, 4 projectile points, 3 pieces of ground stone, and 101 faunal remains.

Ceramics

The ceramic assemblage consisted of 607 sherds that are representative of a Late Pueblo time period (Table 2.169). Although a large number of sherds were recovered during excavation, the assemblage is consistent with the Tularosa phase types upslope on LA 112407, and their presence on LA 89846 appears to be the result of redeposition.

Lithic Artifacts

The chipped stone assemblage contains 1,096 artifacts dominated by core flakes and angular debris made primarily of Luna blue agate and cherts (Tables 2.170, 2.171). With the exception of obsidian and nonvesicular basalt, all material types can be found in close proximity to the site.

Four of eleven bifaces are unidentifiable projectile points. All four points are proximal portions (bases);

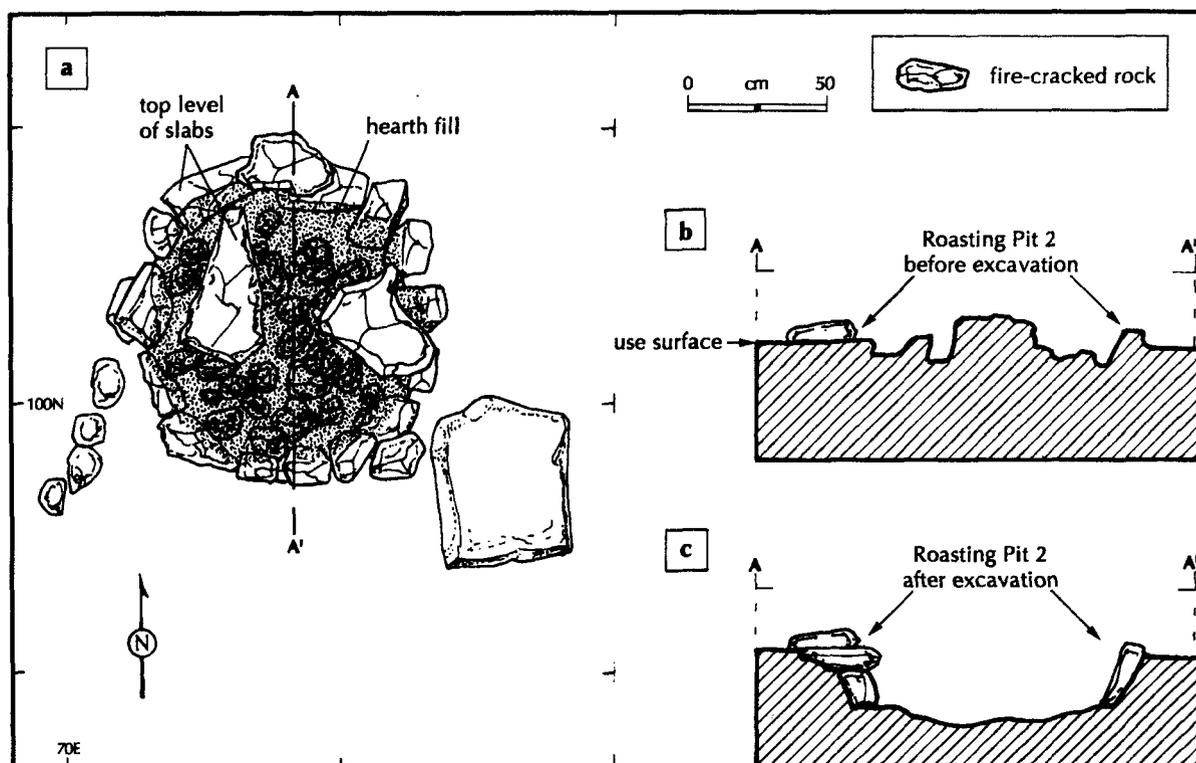


Figure 2.294. Roasting Pit 2, (a) plan, and (b) profile.

Table 2.169. Ceramics from LA 89846

| Cells: Count Row Percent Column Percent | Major Provenience | | Row Total |
|---|-----------------------|--------------------|------------------------|
| | General Fill | Hearth | |
| Alma Plain | 153 98.1% 25.4% | 3 1.9% 75.0% | 156 100.0% 25.7% |
| Alma Rough | 214 99.5% 35.5% | 1 .5% 25.0% | 215 100.0% 35.4% |
| Plain corrugated | 57 100.0% 9.5% | | 57 100.0% 9.4% |
| Indented corrugated | 59 100.0% 9.8% | | 59 100.0% 9.7% |
| Incised corrugated | 9 100.0% 1.5% | | 9 100.0% 1.5% |
| Patterned corrugated | 5 100.0% .8% | | 5 100.0% .8% |
| Indeterminate corrugated | 28 100.0% 4.6% | | 28 100.0% 4.6% |

Table 2.169. Continued.

| Cells: Count Row Percent Column Percent | Major Provenience | | Row Total |
|---|------------------------|--------------------|-------------------------|
| | General Fill | Hearth | |
| Fillet rim smudged | 1 100.0% .2% | | 1 100.0% .2% |
| Plain smudged | 44 100.0% 7.3% | | 44 100.0% 7.2% |
| Late white | 26 100.0% 4.3% | | 26 100.0% 4.3% |
| Red Mesa Black-on-white | 2 100.0% .3% | | 2 100.0% .3% |
| Tularosa Black-on-white | 5 100.0% .8% | | 5 100.0% .8% |
| Column Total | 603 99.3% 100.0% | 4 .7% 100.0% | 607 100.0% 100.0% |

Table 2.170. Chipped Stone Artifacts for LA 89846

| Cells: Count Row Percent Column Percent | Provenience | | | | Row Total |
|---|-------------------------|----------------------|--------------------|----------------------|--------------------------|
| | General Fill | Thermal Feature 1 | Hearth | Thermal Feature 1 | |
| Angular debris | 513 98.7% 47.5% | 1 .2% 16.7% | 5 1.0% 62.5% | 1 .2% 50.0% | 520 100.0% 47.4% |
| Core flake | 542 98.5% 50.2% | 4 .7% 66.7% | 3 .5% 37.5% | 1 .2% 50.0% | 550 100.0% 50.2% |
| Biface flake | 6 85.7% .6% | 1 14.3% 16.7% | | | 7 100.0% .6% |
| Pottid | 1 100.0% .1% | | | | 1 100.0% .1% |
| Core | 6 100.0% .6% | | | | 6 100.0% .5% |
| Uniface | 1 100.0% .1% | | | | 1 100.0% .1% |
| Biface | 11 100.0% 1.0% | | | | 11 100.0% 1.0% |
| Column Total | 1080 98.5% 100.0% | 6 .5% 100.0% | 8 .7% 100.0% | 2 2% 100.0% | 1096 100.0% 100.0% |

Table 2.171. Chipped Stone Material Types for LA 89846

| Cells: Count Row Percent Column Percent | Artifact Morphology | | | | | | Row Total | |
|---|-----------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|---------------------|------------------------|
| | Angular Debris | Core Flake | Biface Flake | Pottid | Core | Uniface | | Biface |
| Chert | 172 52.4% 33.1% | 148 45.1% 28.9% | 1 .3% 14.3% | 1 .3% 100.0% | | 1 .3% 100.0% | 5 1.5% 45.5% | 328 100.0% 29.9% |
| Chalcedony | 1 50.0% .2% | 1 50.0% .2% | | | | | | 2 100.0% .2% |
| Luna blue agate | 298 48.9% 57.3% | 301 49.4% 54.7% | 5 .8% 71.4% | | 2 .3% 33.3% | | 3 .5% 27.3% | 609 100.0% 55.8% |
| Obsidian | 1 9.1% .2% | 7 63.8% 1.3% | | | | | 3 27.3% 27.3% | 11 100.0% 1.0% |
| Basalt | 6 37.5% 1.2% | 9 56.3% 1.6% | 1 6.3% 14.3% | | | | | 16 100.0% 1.5% |
| Rhyolite | 34 31.8% 6.5% | 70 65.4% 12.7% | | | 3 2.8% 50.0% | | | 107 100.0% 9.8% |
| Siltstone | 5 31.3% 1.0% | 10 62.5% 1.8% | | | 1 6.3% 16.7% | | | 16 100.0% 1.5% |

Table 2.171. Continued.

| Cells: Count Row Percent Column Percent | Artifact Morphology | | | | | | | Row Total |
|---|------------------------|------------------------|--------------------|--------------------|--------------------|--------------------|----------------------|--------------------------|
| | Angular Debris | Core Flake | Biface Flake | Pottid | Core | Uniface | Biface | |
| Quartzite | 1 20.0% .2% | 4 80.0% .7% | | | | | | 5 100.0% .5% |
| Quartzitic sandstone | 2 100.0% .4% | | | | | | | 2 100.0% .2% |
| Column Total | 520 47.4% 100.05 | 550 50.2% 100.0% | 7 .8% 100.0% | 1 .1% 100.0% | 6 .5% 100.0% | 1 .1% 100.0% | 11 1.0% 100.0% | 1096 100.0% 100.0% |

three are unidentifiable proximal fragments and one is an Archaic San Pedro proximal fragment. Not only are the points fragmentary, thus making it difficult to assign temporal affiliation, they were recovered from levels probably deposited from the ditch cleaning overburden.

As can be seen in Table 2.171, the majority of the chipped stone debitage came from general fill (98.5 percent) while all three features had a combined total of 12 recovered artifacts. The artifacts recovered from the roasting pits may be directly associated with these features because of their depth, however, the hearth was located 15 cm below the present ground surface where the artifact assemblage is mixed.

Ground Stone

Three pieces of ground stone were recovered from general fill and none were associated with the features. All were made of rhyolite and consisted of an abrading stone, a one-hand mano, and an indeterminate fragment.

ANCILLARY STUDIES

Faunal Remains

Animal bone consisted of 101 fragments recovered from excavated portions (general fill) of the site (Table 2.172). The two roasting pits contained fragments of burned bone. Roasting Pit 1 contained 23 burned bone fragments consisting of 17 large mammals, 5 small mammals, and 1 even-toed hoofed mammal. Roasting Pit 2 contained 6 small mammal bones.

Macrobotanical Remains

The site lies next to the Luna Irrigation Ditch and years of ditch cleaning activities have contributed to the abundance of modern uncharred seeds recovered from all features. Eighteen taxa were recovered from the flotation

samples from the hearth including spurge, mullein, sunflower, borage, evening primrose, and groundcherry among others. Charred pine cone umbos were the only cultural remains recovered. Roasting Pit 1 yielded many of the same modern taxa, but no cultural plant specimens were present. Roasting Pit 2 produced charred pine bark and goosefoot seeds, representing the only possible evidence of food processing at the site. Wood charcoal remains consisted of minute amounts of juniper and unknown conifer recovered from the hearth.

Occupants of Haca Negra were utilizing locally available arboreal species and possibly exploiting goosefoot for the small seeds, which were an abundant and nutritious food resource used by many Native American groups, as documented in numerous ethnographic accounts.

Pollen Remains

Thirteen pollen samples were collected on the site; however, only one was from a cultural feature and was submitted for analysis. The sample was extracted from the base of Roasting Pit 1, beneath a burned slab. The pollen analysis identified six plant types: pine, pigweed, sun-

Table 2.172. Taxonomic Frequencies for Faunal Remains from LA 89846

| Taxon | Number | Percent |
|--------------------------|--------|---------|
| Mammals | 67 | 66.3 |
| Small Mammals | 11 | 10.9 |
| Medium Mammals | 12 | 11.9 |
| Large Mammals | 3 | 3.0 |
| Plains Pocket Gopher | 3 | 3.0 |
| Even-toed Hoofed Mammals | 5 | 5.0 |
| Total | 101 | 100.0 |

Table 2.173. C-14 Dates for LA 89846

| Unit | Beta No. | Age B.P. | Calibrated 1-Sigma Date | Calibrated 2-Sigma Date | Intercept Date | Context |
|--------------------|----------|-----------|----------------------------------|-------------------------|--------------------|-----------------------------|
| 97N/71E 98N/71E | 93531 | 2490 ± 50 | 780-505 B.C. | 795-405 B.C. | 760, 670, 550 B.C. | Roasting Pit 1 (Level 3) |
| 98N/66E | 93530 | 390 ± 50 | A.D. 1450-1520 A.D. 1570-1630 | A.D. 1430-1645 | A.D. 1475 | Hearth (Level 3) |
| 100N/70E | 93532 | 2490 ± 90 | 790-410 B.C. | 815-385 B.C. | 760, 670, 550 B.C. | Roasting Pit 2 (Level 3) |

flower, grass, amaranth, and corn. The identification of corn and amaranth suggests that the site occupants may have relied on some form of agriculture to supplement additional food sources.

DATING METHODS

Radiocarbon samples from three thermal features provided dates for two separate occupational episodes at LA 89846 (Table 2.173). The dates provided evidence of a Late Archaic and protohistoric use of the site. Four projectile point fragments were recovered, but it is unclear what temporal affiliation they may represent.

One radiocarbon sample was collected from the lower fill of Roasting Pit 1. The sample came from the charred remains of six separate wood types: conifer, piñon, pine, cottonwood, willow, and oak. The sample size was small, but AMS dating provided a 2-sigma calibrated date between 795 and 405 B.C. with intercept dates between 760 and 550 B.C.

Three radiocarbon samples were taken from a concentration of charcoal in the northwest portion of the hearth. A radiocarbon sample from charred pieces of piñon, juniper, pine, and conifer, provided a standard 2-sigma calibrated date of A.D. 1430 to 1645 with an intercept date of A.D. 1475.

Two radiocarbon samples were collected from the lower fill of Roasting Pit 2. Burned pieces of piñon, pine, oak, conifer, and unidentified porous wood provided an extended 2-sigma calibrated date of 815 to 385 B.C. with intercepts between 760 and 550 B.C., indicating contemporaneity of the two roasting pits. The samples from the roasting pits were recovered from depths of over 1 m in undisturbed, lower feature fill. Both features represent a Late Archaic occupation of the site. Although the problems of old wood cannot be dismissed, the hearth shows evidence of a brief protohistoric or Athabaskan occupation of the site.

SITE INTERPRETATION

LA 89846 is a multicomponent site that may have been used several times between the Late Archaic and proto-

historic periods. Site use, however, has been complicated by disturbance from ditch cleaning activities and the presence of a small Tularosa phase roomblock (LA 112407) upslope. The artifact assemblage is representative of a Tularosa phase occupation, yet the site features provided dates that only support Late Archaic and protohistoric occupations. The site is located above the San Francisco River floodplain, making it viable for agricultural pursuit, and the surrounding terrain is abundant in plant and animal resources. Being near a permanent water source, it could have served as a base camp location for mobile hunter-gatherer groups or a seasonal site for groups relying on agriculture.

The majority of the artifact assemblage would indicate a Late Pueblo occupation of LA 89846; however, no features or other cultural levels were found that could support an argument for Late Pueblo use of the site. Although ceramics could be found at depths relative to the Archaic features, none were associated; their presence can be explained by extreme rodent burrowing across the site. It is felt that alluvial redeposition and bioturbation is responsible for the presence of a majority of the artifacts.

The site seems to have been occupied primarily by Late Archaic peoples repeatedly over time. Dates from the radiocarbon samples of the roasting pits support an Archaic occupation of the site. Due to feature size and the extreme oxidation of the cobbles in the fill, as well as on the soil surrounding these features, it is apparent that they were used repeatedly. Burned bone and chipped stone debitage in the feature fill and on the surface surrounding each feature, suggest hunting activities and game processing that took place during this occupation.

The Late Archaic occupants of LA 89846 may have also relied on horticulture to augment their use of available resources. Pollen analysis showed evidence of grains being processed. A pollen sample from beneath a slab at the base of Roasting Pit 1 contained a variety of wild seed-bearing grasses and also included maize. No structures were located, but if the Late Archaic peoples who occupied LA 89846 relied on agriculture to supplement additional food resources, this would suggest that the site may be representative of a shift toward a semi-

sedentary or seasonal occupation of areas.

Radiocarbon samples from the hearth provide the only evidence of a protohistoric occupation of the site. No artifacts or cultural levels were found that could be directly associated with this feature; however, the site was probably used as a short-term hunting camp during that time period.

In summary, LA 89846 is located in an area that

would attract both mobile hunter-gatherers and more sedentary groups of people who relied on agriculture. The site probably served as a base camp associated with seasonal rounds of hunting, collecting pifion, acorns, and other edible plants, as well as the practice of agriculture during the Late Archaic. It may also have served as a temporary camp for hunting or other resource procurement during the protohistoric period.