

In subsequent excavations at Navajo Reservoir, artifact assemblages from five probable Dinetah components were found to match the hypothetical trait list with minor modifications (Hester and Shiner 1963:77), but doubt remained as to the reality of the phase. For example, Schoenwetter and Eddy (1964:21) argued that--given the low site numbers recorded during the survey and the use of negative ceramic data as a definitive trait--there was no convincing reason to believe that the Dinetah Phase assemblages differed significantly from Gobernador Phase materials. Eddy (1966:505-508) reiterated this argument in the project summary and raised the additional objection that the small ceramic assemblages from purported Dinetah components made statistical skewing likely.

Since 1979, however, contract-funded excavations at 12 sites in northwest New Mexico (Figure 1) have yielded absolute dates, ceramics, structural evidence, and other data supporting Dittert's hypothesis. These data suggest that ancestral Navajo groups occupied the upper San Juan drainage in the mid-sixteenth century and that these groups might have entered the area as early as AD 1450.

The 12 sites include two in the Gallegos Canyon area investigated by Chambers Consultants and Planners (Reynolds et al. 1984), two sites in Blanco Canyon (Marshall 1985) and one site in the San Juan Breaks (Hogan and Munford 1988) excavated by the University of New Mexico's Office of Contract Archaeology, and seven sites in the middle La Plata River valley excavated by the Division of Conservation Archaeology, San Juan County Museum (Hancock et al. 1988; Reed et al. 1988).

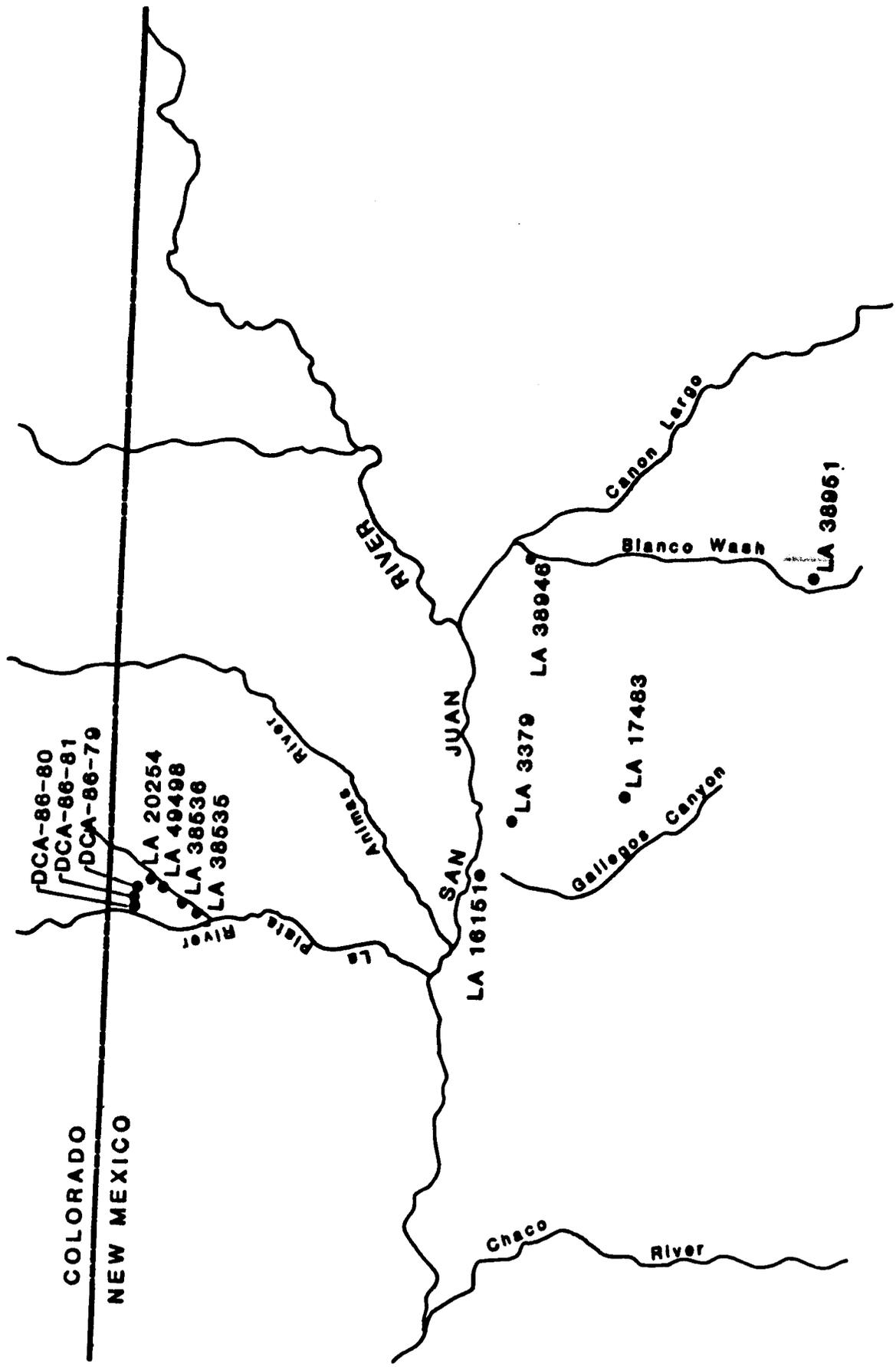


Figure 1. Locations of early Navajo sites discussed in text.

Radiocarbon (C14) dating was the primary method used at these sites but obsidian hydration and thermoluminescence (TL) dates were obtained from the La Plata River sites. The latter are particularly valuable because they provide an independent means of assessing the reliability of the radiocarbon dates.

Calibrated (cal) ages in calendar years are used in this paper for the C14 dates to correct for fluctuations in atmospheric carbon isotopes. A detailed evaluation of the C14 dates can be found in Hogan (1989). Very briefly, the major potential criticism against the acceptance of these dates is the possibility that the samples are from old wood that was scavenged for use by later Gobernador Phase groups. A partial assessment of built-in age can be made by comparing associated C14 and TL dates from the La Plata River sites (Figures 2-3). The confidence intervals for the dates encompassed the TL dates at five of these components. At three other components, there were gaps of 40, 60, and 100 years between the upper confidence limits of the C14 dates and the upper one standard error value for the TL dates. These data suggest that the actual age of the early Navajo occupations occasionally exceeds the upper confidence limits for the C14 dates by 50-100 years.

However, it is the number of consistently early C14 dates from different contexts and different sites that provides the strongest argument against any significant age overestimates. As shown in Figure 2, 20 of the 31 C14 dates from these early Navajo sites have midranges in the fifteenth century and 17 dates have upper confidence limit of AD 1600 or earlier. The probability that all of these independently derived dates

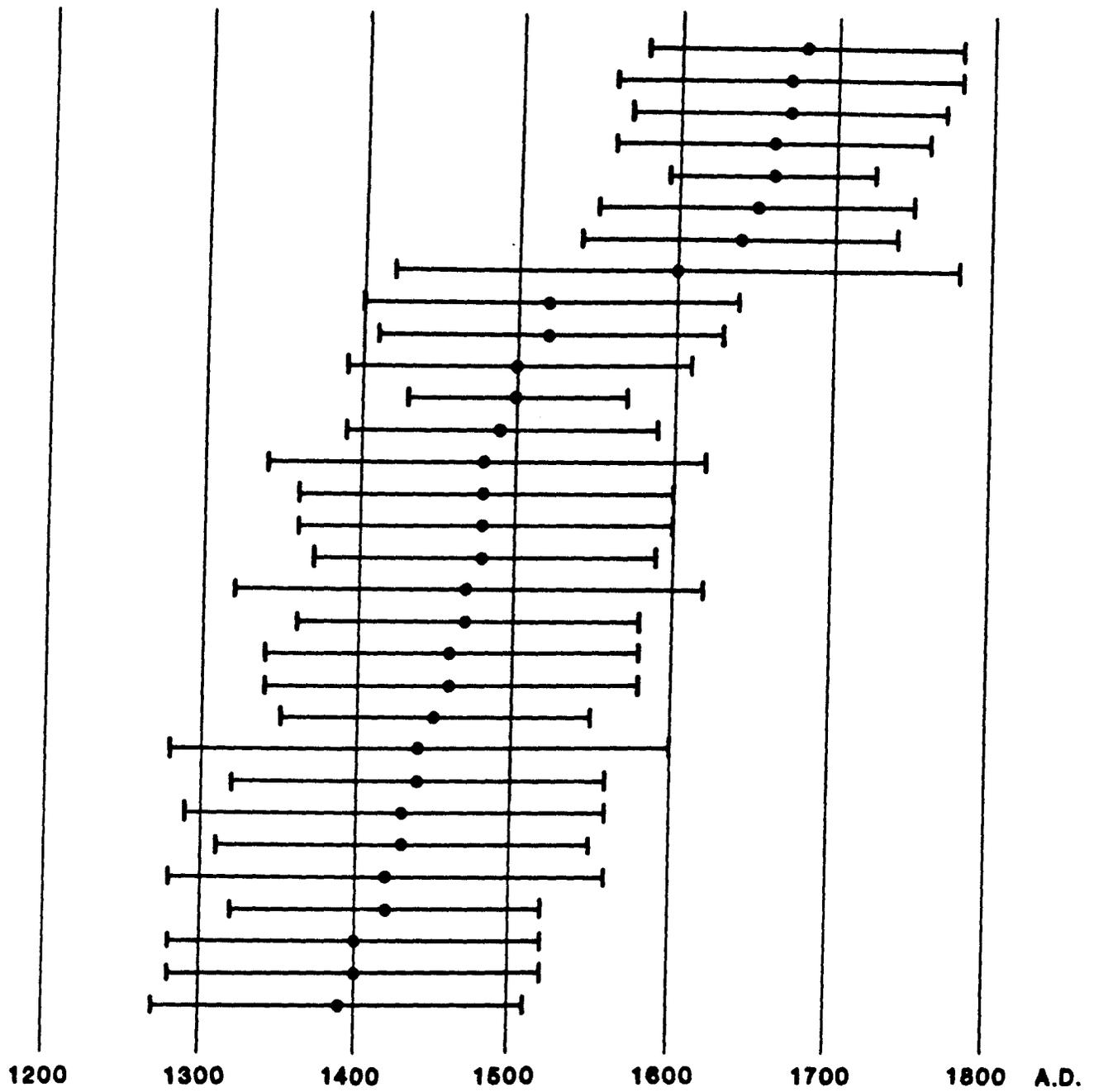
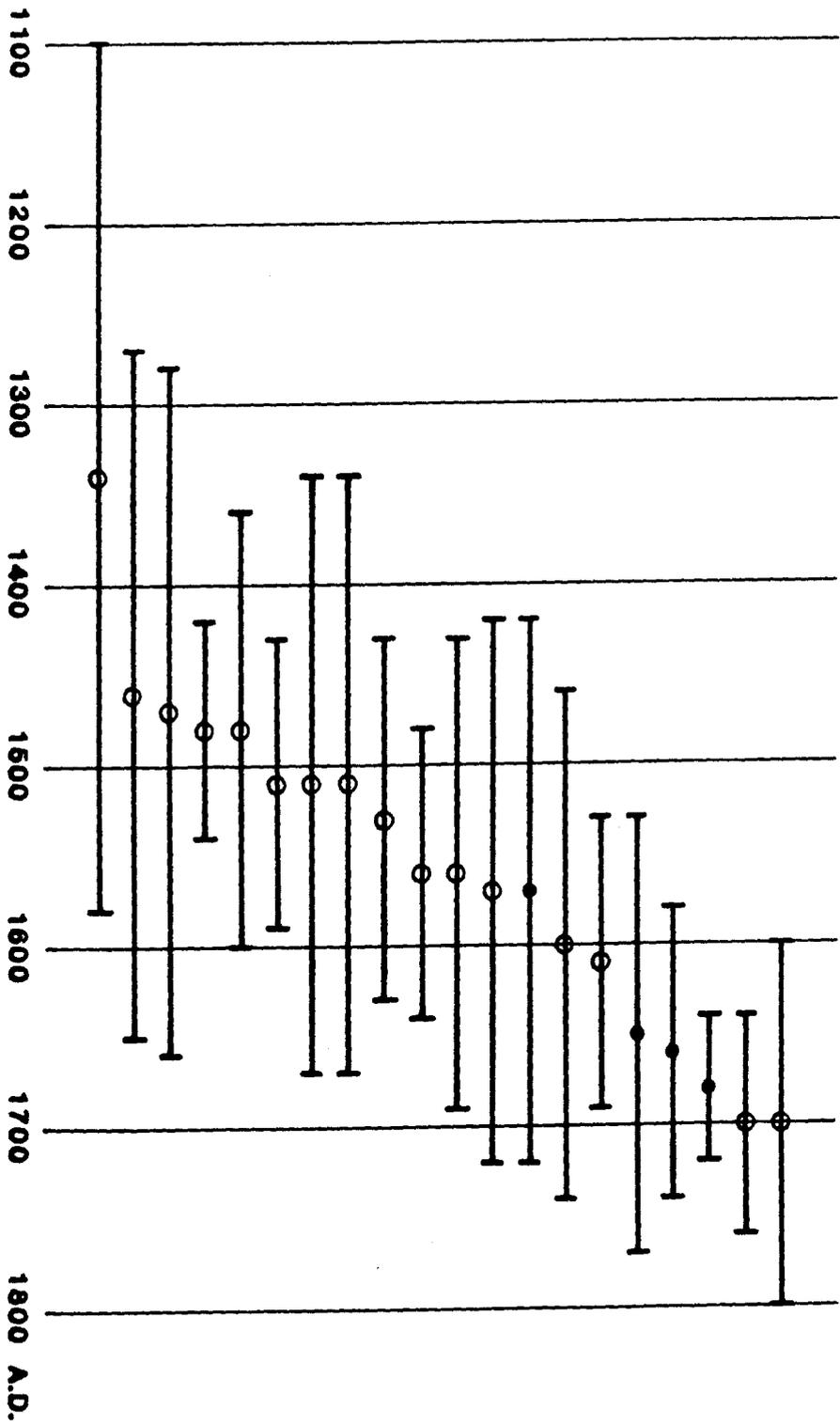


Figure 2. Plot of calibrated ages and 95% confidence intervals for radiocarbon dates from early Navajo sites in the San Juan River drainage.

Figure 3. Plot of midranges and 95% confidence intervals for thermoluminescence dates from early Navajo sites in the middle La Plata River valley. Open circles indicate dates on Dinetah Gray sherds. Solid circles indicate dates on fingertip-indentated Dinetah Gray (Gobernador variety) sherds.



are from post-Revolt or even post-AD 1600 occupations is extremely low, even allowing for moderate age overestimates.

This assertion is further supported by an examination of the TL dates (Figure 3). First, there is little question that these dates are associated with the early Navajo occupation because sherds are dated directly. Second, TL dates are much less likely to overestimate the age of an occupation. The event dated by this method is the last time the sample was heated to ca. 500 C. This event is usually when the pottery was fired, although for sherds recovered from facilities, it could also be when a hearth was last used or when a structure burned. Regardless, there is probably no significant hiatus between the dated event and the early Navajo occupation.

Figure 3 shows the age estimates and confidence intervals of the 20 TL dates on sherds from the La Plata River sites. As expected, these dates are slightly later than the C14 dates; nevertheless, none have midranges later than AD 1700 and only eight have upper confidence limits extending into the eighteenth century. The midranges of eight dates cluster in the sixteenth century, and the midranges for five dates and the lower confidence limits for nine others are earlier than AD 1500.

Thus the TL and C14 dates are generally consistent, and the combined evidence provided by 51 C14 and TL dates from 12 sites indicate that the upper and middle San Juan River drainage was occupied by ancestral Navajo groups during the sixteenth century and further suggest that these groups had entered the region by about AD 1450. The chronological data now available not only validate the Dinetah Phase but push the

initial date for the phase back a hundred years. We therefore believe that there can be no questions about the validity of the Dinetah Phase as a pre-Revolt phenomenon. What remains to be explained is what it was composed of, how it was organized, where it originated, and how it arrived in New Mexico. The first two of these questions will be addressed in the remainder of this paper. First, a brief summary of the sites and the data they yielded.

Gallegos Canyon Sites

Two early Navajo sites were excavated east of Gallegos Canyon, in the uplands south of the San Juan River (Reynolds et al 1984). Both Dinetah and Gobernador components were present at the sites, with the Dinetah composed of middens containing lithics, Dinetah Scored ceramics, and charcoal dated at AD 1470+75 and AD 1480 + 55. One of the sites also contained a Gobernador phase antelope butchering and hunting camp, while the other contained a Dinetah phase cobble alignment possibly representing a shelter, and two hearths (one of the hearths yielded the AD 1480 + 55 date).

The Blanco Canyon Sites

El Campo Navahu (LA 38946) was a small encampment on a low knoll above Blanco Wash (Marshall 1985). Features included an apparent ramada or similar open structure with four corner posts, an interior hearth and possible milling bin, and two interior posts that might represent a loom, storage, or drying rack (Figure 4). Two outdoor hearths were located to the east; two other hearths and a large basin feature were to

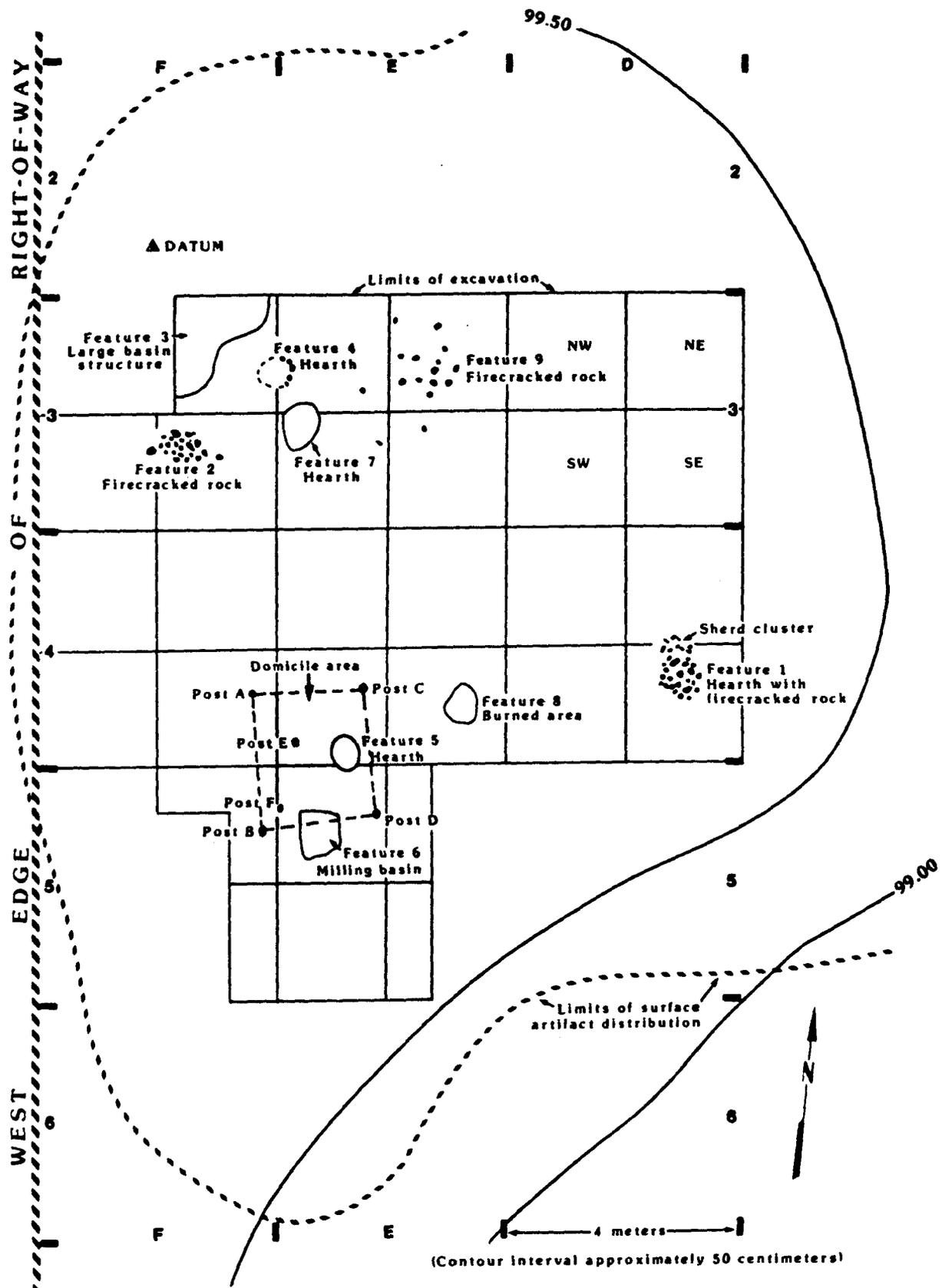


Figure 4. Plan of the excavated area at El Campo Navahu (LA 38946).

the north; and there was also a large lithic assemblage and Dinetah Plain, Dinetah Scored, Gobernador Indented, and Dinetah Buff ceramics. The apparent bin within the structure contained midden fill with burned pigweed, goosefoot, and purslane seeds; rabbit and other small mammal bones; and an unburned tobacco seed. Both of the hearths to the north contained charred corn.

The dating for the site is critical. A burned post from the structure was C14 dates at AD 1470 + 55, while one of the two hearths yielding corn had a C14 date of AD 290 + 75. Marshall (1985) proposed that the early date was due to sampling error, since it was unlikely that this part of the site predated the rest of the site. He also concluded that corn was grown by the Dinetah phase occupants, and that the site was a summertime agricultural camp, with nearby fields that provided not only the corn but also small mammals and weedy plants.

Hogan (1989), in contrast, argued that the AD 290 date is not a sampling error, and that in fact it represents a much earlier Basketmaker II component. He based this proposal on the fact that most of the lithics and relatively few of the ceramics were from this part of the site. He therefore associates the corn with the presumed Basketmaker component, and not with the early Navajo one.

It should be noted that Elyea and Eschman (1985), in their analysis of the lithics from the site, did conclude that they were early Navajo, and that the assemblage as a whole shows a preference for a bifacial reduction strategy, similar to (but not identical to) an Archaic strategy. The assemblage is also characterized by high material

diversity and the presence of exotic materials, and it has numerous bifacial tools. Elsewhere Elyea (1988) concluded that the assemblage demonstrates that bifacial reduction was an integral part of the early Navajo lithic technology, thereby indicating a heavy reliance on hunting and gathering. It also falls between the Archaic and Anasazi technologies, in that it has a lower percentage of bifacial reduction debris than Archaic, yet higher than Anasazi. Elyea therefore proposed that the early Navajo lithic technology reflects a mixture of hunting/gathering and agricultural strategies.

Another important element of the lithic assemblage from El Campo Navahu is the Navajo projectile point (see Figure 13.8, Marshall 1985), which is a small side-notched form with a slightly concave base and which appears as an isosceles or equilateral triangle, and is sometimes unnotched. It is also identical to the Cedar Creek Complex, which was defined on the basis of 212 Dinetah and Gobernador phase points from LA 17843, the Gallegos Canyon site that was an antelope hunting and butchering location (see previous discussion).

Thus, while there is some question about the dating of the site and the presence of corn in a Dinetah component, the lithics (and ceramics) appear to belong to the Dinetah component. Hogan (1989) suggests that the corn and much of the lithic assemblages is Basketmaker II in age. Marshall (1985), Elyea (1988), and Elyea and Eschman (1985) argue that the corn and lithics are Navajo, and should be considered part of the Dinetah phase occupation. The senior author of this paper leans towards the Dinetah interpretation, even though Hogan is the junior author.

La Ceja Blanca (LA 38951) is another multicomponent early Navajo site where corn was present but in a questionable context (Marshall 1985). The Dinetah component was concentrated in the western part of the site, where there were the remains of two to three brush or log structures and associated activity areas, while the later Gobernador component was mainly in the eastern part. The Gobernador consisted of a series of hearths or basin features, and the remains of a probable sweatlodge. Three undated hearths in the eastern part yielded burned corn. Because of their location, Marshall concluded that they were Gobernador in age, but again we have the possibility of Dinetah Phase agriculture, or at least the use of corn. (It should be mentioned at this point that most of the apparent Gobernador phase dates used in this paper actually have midranges prior to AD 1680, so they may well be Dinetah. However, because they overlap into the Gobernador period, and because they're often associated with Gobernador ceramics, we're taking a very conservative approach and are assigning them to the Gobernador phase).

The Dinetah features at La Ceja Blanca include the remains of a 3 m in diameter, possible forked-stick hogan or other type of log/brush structure, with an apparent slab-lined firebox and Dinetah Plain sherds. A charred post from the structure was C14 dated at AD 1500 + 55.

A second structure (Figure 5), which was probably a brush shelter with a cobble foundation along two sides and a slab-lined bin, a hearth, and Dinetah Plain sherds, provided a C14 date from the hearth of AD 1520 + 55. A third structure in the component (another possible forked-stick hogan represented by a scatter of juniper splints) was associated with an Acoma Glaze sherd dated at circa AD 1475-1700.

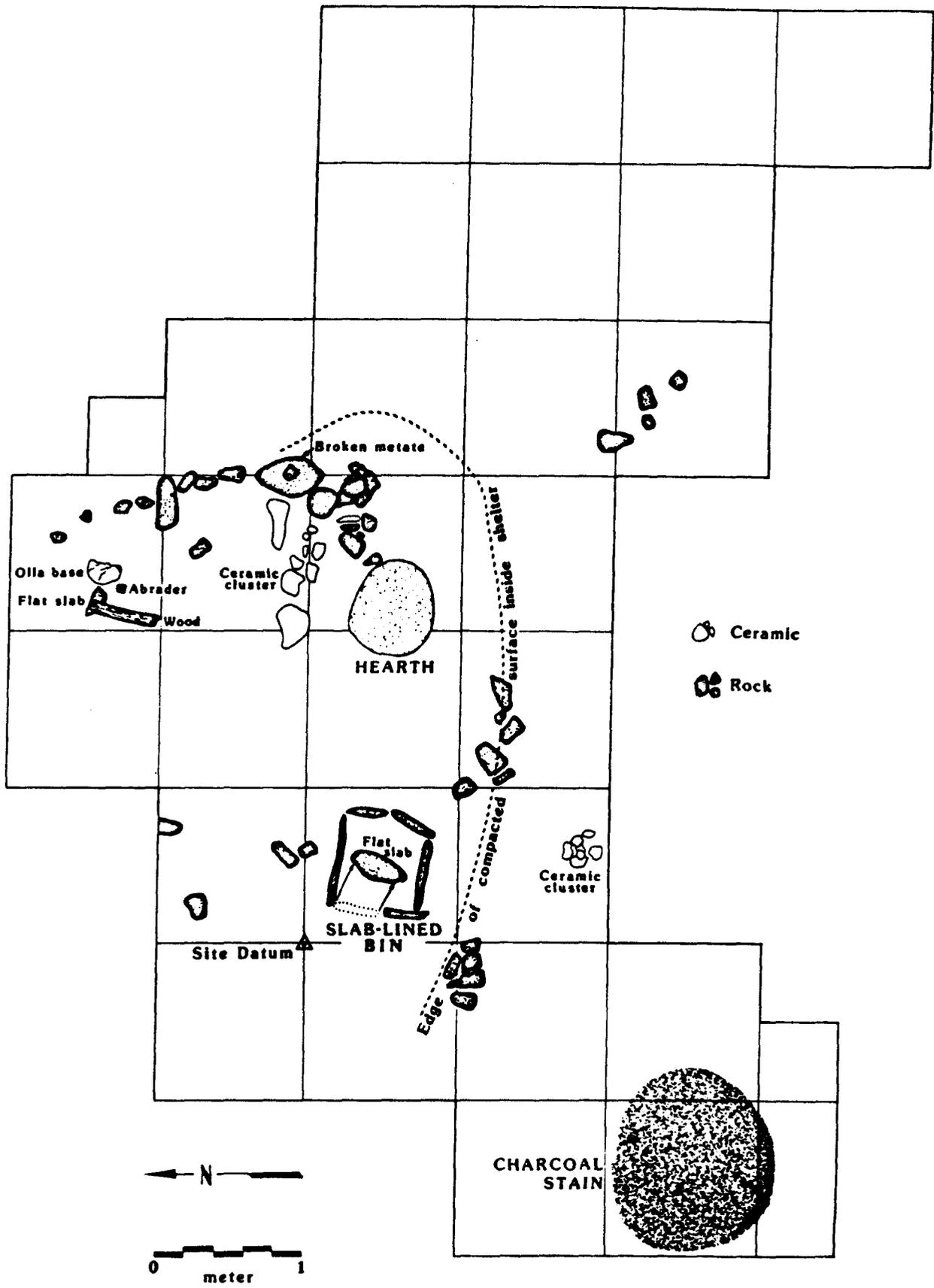


Figure 5. Plan of Provenience D (probable shelter) at La Ceja Blanca (LA 38951).

Faunal and floral remains from these features were very poorly preserved, so it is not possible to determine seasons of use or diet. Marshall, however, did conclude that the site was a hunting and gathering camp, and the artifact distributions indicate that grinding seeds and cooking with pottery vessels occurred inside the structures, while lithic reduction, butchering and possibly stone boiling in baskets took place outside. Surprisingly, the lithic assemblages from both the Dinetah and Gobernador components were very similar, with less evidence of bifacial reduction than at El Campo Navahu.

The San Juan Breaks Site

The final Office of Contract Archaeology - generated data base is LA 16151, located on a wooded ridge in the breaks above the San Juan River south of Farmington (Figure 6). The site consisted of the remains of two apparent forked-stick hogans and four extramural hearths, associated with Dinetah Gray, Dinetah Indented, and possible Gobernador Corrugated vessels, as well as lithics reflecting a full range of economic activities (hunting, plant processing, food preparation, and tool manufacturing and repair).

Both structures were represented by shallow, 2.5-3 m in diameter depressions, and they probably had conical superstructures of juniper poles socketed around the perimeter and leaning inwards and interlocking over the center. Interior vertical support poles were also present, and probably wood, brush, and earth were piled on the outer poles.

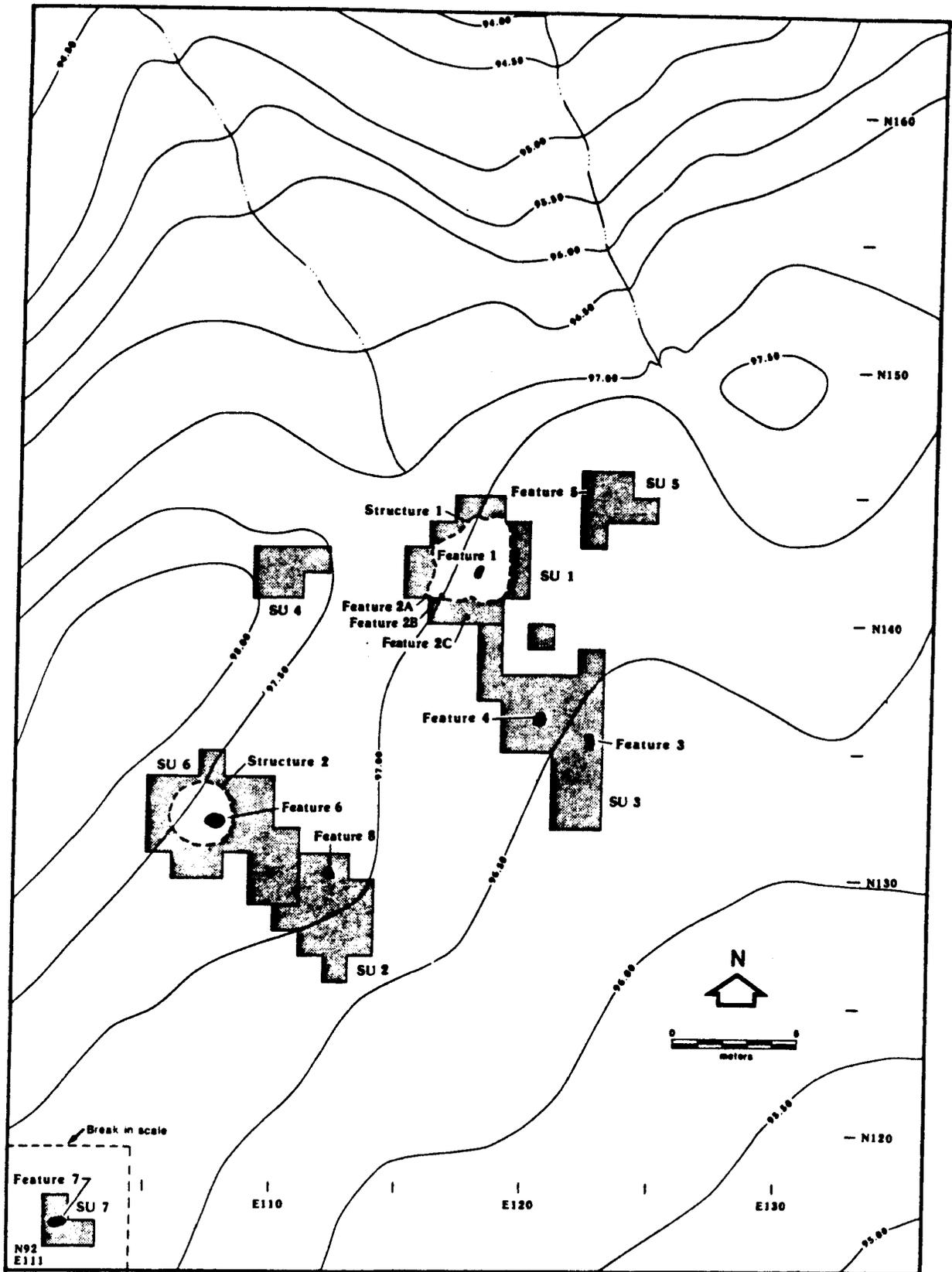


Figure 6. Major features and excavation units at LA 16151.

Simple hearths were inside each of the structures. Charcoal from one was dated at AD 1420 + 70, while a nearby outdoor hearth yielded a date of AD 1440 + 80. A post in the other structure provided a date of AD 1430 + 70, and a distant hearth gave a date of AD 1600 + 90.

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Considering the near identical mid-range dates from the two structures and one hearth--all around 1430--it is possible that the later date reflects a second component, perhaps during the Gobernador Phase.

Hogan and Munford (1988) have suggested that the site was the residence of a family group, perhaps one extended family at one point in time, or several visits by a small family. Either way it could have resulted from a seasonal occupation of several weeks or months duration, probably in the wintertime. Evidence for winter use includes the intensive use of the interior hearths in contrast to the sporadic use of the exterior hearths; the location of the site in a sheltered area with good solar exposure, frost drainage, fuel wood, and nearby water; and the highly fragmented and burned nature of the faunal remains. The animal bones were primarily large and small mammals, such as deer, cottontail, and ceramics, and the surrounding breaks and nearby San Juan Valley are excellent wintertime deer habitat.

Despite the apparent differences in seasons of use at El Campo Navahu and LA 16151, the lithic assemblages from the two sites were nearly identical, with a heavy reliance on bifacial reduction. Because the percentages of bifacial reduction at both sites fall between those of nearby Archaic and Anasazi sites, Elyea (1988) has proposed that the local Dineta population had a heavy reliance on hunting and gathering, but with some agriculture.

The La Plata Mine Sites

Hancock and Moore's paper elsewhere in this volume discusses the evidence for the Dinetah occupation of the La Plata Valley north of the San Juan. Dinetah dates from the seven sites range from the 1400's to the late 1600's, with several of the sites also having later Gobernador phase components. The sites are very similar to those along the Blanco and Gallegos and on the San Juan breaks, in that the ceramic assemblages are almost exclusively Dinetah Gray and varieties thereof, and there are a variety of small, circular structures and other simple features at the sites, including informal log and/or brush structures, a possible sweatlodge, hearth basins, cists, and middens. One site has yielded very strong evidence of maize agriculture, with both corn pollen and charred corn coming from a hearth dated at AD 1520 + 60, 1510 + 40, and 1590 + 40. Another site yielded both charred beans and maize pollen; the beans were from a hearth and ceramic scatter dated at AD 1670 + 50 and 1700 + 50, so they may well represent a Gobernador component.

The maize pollen was recovered from the surface of the site, from an apparent Basketmaker II hearth with a C14 date of AD 140 + 60, and from a burned structure with a C14 date of AD 1460 + 60. Scott (1988) interpreted the latter pollen as reflecting corn that was transported to a temporary Dinetah phase camp, but the presence of corn pollen on the site's surface and in an apparent Basketmaker component raises the possibility of contamination.

Although there were very little faunal and floral remains from these sites, some conclusions about seasonality and economy have been drawn.

Moore (1988), for example, suggested that at least one of the sites was a long term seasonal camp, with a residential structure, hearth, and activity area. It was probably used for several weeks to months at a time as a hub for local hunting and gathering and food processing, perhaps for a small family unit. Nearby smaller sites were outlying foraging locations. Hancock and Moore (1988) add that the botanical remains from five of the sites suggest fall or perhaps even multiseasonal use.

Kerns (1988) found considerable variations in the lithic assemblages at three of the sites, which he proposed were due to differences in season of use, function, and group composition. He also observed a high proportion of scraping, scraping-cutting, and biface artifacts, with many resemblances to a Plain's lithic technology, presumably because of the Navajos' recent arrival from the Plains and their heavy reliance on fauna. He additionally verified the existence of the Navajo projectile point previously noted by Elyea and Eschman (1985) and Reynolds et al (1984), but he could not confirm Elyea and Eschman's findings that early Navajo assemblages could be separated from Archaic and Anasazi assemblages, based on bifacial reduction technique and debris.

Interpretations

Despite the limitations of poor preservation and relatively ephemeral sites, we now have a wealth of information about the Dinetah Phase Navajo occupation of northwestern New Mexico. Among the more obvious interpretations and proposals that can be made are the following:

- 1) There can be no doubt that the early Navajo were in the San Juan drainage by the mid-1500's, and that they may have been there as early as AD 1450, if not earlier.

- 2) There can also be no doubt that the early, pre-Revolt Navajo possessed a pottery making technology, and that they were making Dinetah Gray and related types, probably before they even arrived in the San Juan drainage. Whether the types were developed independently in imitation of basketry styles or adopted from the Plains or northern Woodland groups cannot be demonstrated at the present time. It is clear, however, that they were not adopted from nearby Pueblo groups, and it is obvious that the Navajo arrived with a full blown pottery making complex (see Marshall 1985).

- 3) The early Navajo also possessed a lithic technology oriented towards hunting and gathering, with one or more distinctive projectile point styles. Several authors have suggested that Navajo assemblages can be distinguished from earlier Archaic and Anasazi assemblages based on bifacial reduction attributes, and while others disagree, all researchers agree that the early Navajo technology was oriented towards hunting and gathering, perhaps because of a Plains origin or influence.

- 4) Maize agriculture was practiced by the Dinetah Navajo. The best evidence for it so far is pollen and charred corn from a hearth dated to the 1500s in the La Plata drainage. Four other sites with Dinetah components have also yielded corn and one of them has additionally provided beans. There is the possibility at each of them that the cultigens came from earlier or later contexts, but they nevertheless add

support to our conclusion that agriculture was practiced by the Dinetah Navajo. Early Spanish chronicles of apparent Navajo agriculture in the late 1500s and early 1600s are in accord with this conclusion (Luxan 1582, translated by Hammond and Rey 1929; Benavides 1630, as translated by Ayer 1916).

5) Due to poor preservation, we know very little about the other plant and animal resources utilized by the Dinetah Navajo. Pine and juniper were used for construction materials and fuel, and pinyon nuts and juniper berries were apparently eaten. Pigweed, goosefoot, and purslane were also probably eaten, while tobacco was probably smoked. Animal resources included rabbits and other small mammals, dogs and/or coyotes, and deer and undoubtedly antelope. Certain of the Dinetah Phase sites were most likely occupied after the arrival of the Spaniards in 1540, but there is no evidence for the use or consumption of sheep, cattle, and other domestic stock.

6) The Dinetah Navajo built several different kinds of structures and other features, including apparent forked stick hogans, sweatlodges, ramadas or summer shades, possible rectangular hogans, and other log and brush shelters. Small, ephemeral, brush structures are the most common types of structures at the sites. Shallow, unlined hearth basins are the most common features, and large basins that have been used for winnowing seeds are also sometimes present. Other possible features include loom or other wooden racks, milling bins, and slab-lined fire boxes.

7) A detailed analysis of feature patterning and artifact distributions at all of the sites has yet to be made, but based on Marshall's (1985) study of the two Blanco sites there do appear to have been segregation of activities, at least at some of the sites and at certain times of the year. Both El Campo Navahu and La Ceja Blanca, which are interpreted as summer camps, had evidence of seed grinding and cooking with pottery within the structures, while lithic reduction, butchering, and perhaps stone boiling in baskets occurred outside.

8) The data on seasonality also need to be analyzed in detail, but even at this preliminary stage there are tantalizing hints of residence in wintertime camps in protected locations, and in smaller, summertime camps in more open locations. Marshall (1985), for example, has concluded that the Blanco Canyon Navajo were dispersed in open camps in the lowlands and in adjacent sage-grasslands in the summer, with wintertime nucleation in upland canyons and mesa top locations in hogan villages. The lowlands and grasslands were used for farming, antelope hunting, small game hunting, and plant gathering, while the uplands are used for deer hunting and pinyon nut gathering.

Hogan and Munford (1988) agree with this scenario, and in fact they suggest that the San Juan Breaks site was a winter camp, what with its forked stick hogans, interior hearths, sheltered location, deer bones, and available fuel wood. They also propose that the historic Navajo dual residence pattern of lowland summer camps and highland winter hogan clusters has considerable antiquity in the region.

The La Plata sites could also fit into this pattern, although Hancock and Moore (1988) seem to suggest a somewhat different situation, with large, multiseason camps with semipermanent structures used as hubs for outlying foraging locations. Perhaps all of these sites are part of the same overall seasonal pattern, in that there could have been major upland winter camps as well as major lowland summer camps, both of which had outlying foraging, hunting, and related locations (including farming in the summer). This would certainly accord with Bendavides' observation in the 1620s (as translated by Ayer 1916) that the Navajo were living in "rancherias" - - villages or encampments with semisubterranean, semipermanent structures, from which they departed seasonally for hunting and other activities. Benavides was probably seeing half of the pattern, i.e., either the summer or winter camps. Wozniak (1987), in fact, has suggested just that - - that the ephemeral sites along the Blanco, La Plata, and other drainages of the upper San Juan are actually a cross-section of the 16th and 17th century Navajo settlement system.

9) A related interpretation or at least question has to do with group composition. All of the researchers so far have suggested that we're dealing with family groups - - perhaps single family groups returning over and over again to one site, or extended family groups using the site only once. Regardless, are we dealing with one very wide ranging group, moving throughout the San Juan drainage from the Blanco to the San Juan breaks, then to the La Plata and back again? Or were there separate Navajo families in each drainage, or in a series of drainages? For that matter, how many ancestral early Navajo groups arrived in northwestern New Mexico back in the 1400s and 1500s? Was it just one

extended family to begin with that grew and spread out over time, or was it a whole group of related families? And did the migration keep happening, with more families and groups arriving over time?

Based on Navajo religious taboos against intermarriage among clans and the biological requirement for a sizeable breeding population, we would suggest that it was a sizeable group to begin with. Also, these early sites seem to be appearing all over the upper San Juan, and they probably indicate a sizeable initial population.

10) Whatever the group composition was, it is obvious that there was little contact with the Pueblo Indians in the Dinetah Phase. Acoma, Hopi, and other Pueblo sherds are present at some of these sites yet only in trace amounts, and there is no architectural or other evidence of Pueblo contact. The Navajo projectile point is similar to late prehistoric and protohistoric Pueblo points style, but these small triangular points were widespread across the Southwest, Plains, and mountains, so it is not necessary for the Navajo to have obtained them from the Pueblos. It therefore appears that the early Navajo had very little contact with the Pueblos, although there was probably some trade in hides and meat, perhaps in exchange for corn and ceramics.

11) One other point has to do with the obvious continuity between the Dinetah and Gobernador phases. Although many of the sites in question have both Dinetah and Gobernador components, the only thing distinguishing the two components, aside from the dates, is the presence of a few sherds of Gobernador Polychrome and other late pottery types in the Gobernador components. Otherwise the components are identical, even

the lithic assemblages at La Ceja Blanca are identical, and there is no evidence of intensive contact between the post-Revolt Gobernador Navajo and the Pueblos and Spanish. This is somewhat surprising, especially considering the opposite case at The Old Fort, Three-corn House, Shaft House, and the other nearby "pueblito" sites, where Pueblo-Spanish influences and artifacts are common. It therefore appears that at least in the initial years of the Gobernador phase, Spanish-Pueblo influences were restricted to the defensive pueblito sites, and that there was a continuity in the basic, everyday settlement and subsistence system in the outlying camps and foraging areas.

12) This brings us to our final point, which has to do with the absence of post-1700 open campsites in the area. All of the early Navajo sites that have been excavated, in four separate projects by three different organizations, are Dinetah Phase and early Gobernador phase sites. If there were later (e.g., late 1700-early 1800) sites out there in the lowlands, sage-grasslands, and pinyon-juniper uplands, we should have found them, and obviously we haven't. Thus it appears that there was a major settlement pattern shift, probably with an associated subsistence change, shortly after the Pueblo Revolt. Initially the Navajo continued to use their seasonal camps, but soon they shifted to pueblitos, and by 1750 they left the area entirely.

Powers and Johnson (1987) have commented on this same pattern with respect to 48 Navajo Refugee Pueblito Sites, which date from 1690-1750. At first the sites were located in fairly open country along major canyons, then there was a shift to the edges of mesas and sandstone boulders in canyon bottoms. Pueblo-Spanish influences immediately after

the Pueblo Revolt were probably responsible for the first type of pueblito, while attacks by Utes from the north produced the shift to the more defensive locations, and the eventual abandonment of the area after AD 1750.

Conclusions

In closing, Frank Eddy's 1966 assessment of the Navajo Reservoir data is of relevance:

In this study, I have not used the term Dinetah Phase, and suggest that a thorough test of the concept be made because of the unsatisfactory nature of the reservoir data This is not to say that a pre-Refugee Period Navajo occupation did not take place in the northwest portion of New Mexico . . . but that the sites to demonstrate the specific pre-AD 1700 occupation within the Navajo Reservoir District have not been convincingly isolated (Eddy 1966:506).

As a result of a number of contract archeology projects within the past eight years, we now have the evidence not only to demonstrate that there was in fact a pre-Revolt Navajo occupation in the area, but also to begin to understand the following Gobernador Refugee Period as well.

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