

DOLORS ARCHAEOLOGICAL PROGRAM TECHNICAL REPORTS

Report Number: DAP-081

The Grass Mesa Locality Testing Program, 1979-1980

by

G. Timothy Gross

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Under the supervision of
David A. Breternitz, Senior Principal Investigator

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16. ABSTRACT <p>Eighteen sites were tested in the Grass Mesa Locality during the 1979 and 1980 field seasons. Test excavations, including both probability and judgmental excavation, were conducted at Hanging Rock Hamlet (Site 5MT4650), Cougar Springs Cave (Site 5MT4797), Quasimodo Cave (Site 5MT4789), Dos Cuartos House (Site 5MT2174), Calmate Shelter (Site 5MT4651), and DTA Site (Site 5MT5361). The remaining 12 sites were investigated through surface collection, occasionally augmented by shovel scraping or minimal excavation. The goal of the program was to obtain sufficient information to allow the placement of these sites in the Dolores Archaeological Program spatial and temporal systems with better accuracy than was possible from survey records alone. This report describes the investigations at each of these sites and discusses the structures, features, and artifacts encountered. Temporal and functional assignments are made for each of the sites.</p>			
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Discussion of Bureau of Reclamation comments and explanations of changes not made in the text.

Specific Comments

8. Pit 14 was excavated after the profile was drawn and there was no way to accurately depict the feature in the drawing after the fact. Rather than "fudge" the feature onto the illustration, we have chosen to leave the profile as it was actually recorded.

10. The point in question was quite typical of Anasazi points in the DAP area. Where projectile points are critical in arguments (see discussion of Cougar Springs Cave), they have been illustrated. Typical items will be, and have been discussed in reports by the analysts, and it should be unnecessary to illustrate such items each time they are mentioned in an excavation report.

11. The lines in question "appeared" to be cultural, as the text states. This phrasing implies the true situation, which is that the lines look cultural, but that there is room for doubt. The lines are difficult to discern when examining the actual object, and would be almost impossible to capture in a photograph. With reference to the awls, it is not DAP standard operating procedure to reconstruct bone items simply for photographic purposes. Reconstruction of bone items with glue is inconsistent with conservation policy, and is seldom done.

12. Architectural details available from the monitoring of site destruction have been added to the text. The monitoring report, while providing much useful information, does not provide sufficient detail (nor could it, under the circumstances of site destruction) to allow a detailed comparison with the features at other sites.

14. Because of the timing of the collection and analysis of the material collected by King (1983), that material did not show up on any of the standard output printouts available to the crew chief when he was preparing the report. Since the data were not available during table preparation, they were not included in the tables. We do not doubt the field identifications of the wood, but do not believe that we should report these identifications since they are not consistent with the types of identifications presented in other reports. The data on the identifications are available in the computer files and have the potential to be used in DAP synthetic studies. The field identifications are also available in the report of the monitoring of site destruction (King 1983).

a. For the same reasons of timing of collection and analysis, the identifications of the bone awls were not included in the report.

18. The figure has been modified. The citation of other literature occurs in the synthesis section for this site.

25. Comment 25 was inadvertently overlooked during the final editing of report DAP-081. The presence of Cibola sherds was noted under the discussion of Room 2. The significance of such sherds was discussed under "Extraregional Relationships" in the section on Hanging Rock Hamlet (Site 5MT4650). The inaction on this comment was not noted until the report had been updated and was ready for submission to the Bureau of Reclamation in final form. Had this oversight been noted earlier, a statement about the extralocal source of these sherds might have been added to the discussion of the site. Since such a discussion is provided elsewhere, this oversight does not appear to be particularly serious.

2 May 1984

Albert H. Pfeifle
Contract Officer
Bureau of Reclamation
Upper Colorado Regional Office
P.O. Box 11568
Salt Lake City, UT 84147

THROUGH: Dana Hill, COR

Dear Mr. Pfeifle:

Attached please find the final draft version of The Grass Mesa Locality Testing Program, 1979-1980 by G. Timothy Gross, Report Number DAP-081, 1980 report series.

We request that this report be included in the series being published by the Technical Publication Branch.

Please note that all comments have been incorporated in this report with the exception of those on the attached sheet.

We hope that the Bureau of Reclamation finds this report to be acceptable. We would appreciate written notification within 120 days of the submission of this report.

Thank you.

Sincerely,

David A. Breternitz
Senior Principal Investigator

DAB/bb

Attachment

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The work reported here was accomplished by a number of individuals. Crew composition and crew directorship varied from site to site. Hanging Rock Hamlet (5MT4650), Cougar Springs Cave (5MT4797), DTA Site (5MT5361) and Quasimodo Cave (5MT4789) were tested in 1980 under the direction of T. Gross. D. Howes was assistant crew chief during the excavations as Cougar Springs Cave and at the first period of excavatioⁿ at DTA Site. M. Gould was assistant crew chief for the second session of excavation at DTA Site and for the testing of Quasimodo Cave. Crew members working at these sites at various times included the following individuals:

K. Aasen, N. Aker, E. Blinman, M. Cavanaugh, D. Cifani, M. Cravalho, R. Darsie, G. Glennie, M. Gross, B. Haase, P. Kakos, C. Kenoyer, S. King, K. Kleber, R. Kopperud, R. Lambert, G. Lothson, K. Miller, S. Miller, K. Murray, D. Pittenger, G. Qualey, T. Rowe, A. Salerno, M. Samuels, P. Slayton, R. Sullivan, L. Toburen, K. Torgerson, and H. Wallace.

Dos Cuartos (5MT2174), Sites 5MT2173, 5MT2166, and 5MT2165 were tested in 1980 by a small crew supervised by E. Huber. The crew consisted (at various times) of R. Kipperud, G. Qualey, I. Qualey, and L. Toburen.

In 1980 seven other sites (5MT2170, 5MT2175, 5MT2211, 5MT2212, 5MT2213, 5MT2216, and 5MT2381) were tested under the direction of P. Harden. Crew members included R. Darsie, D. Pederson, and K. Torgerson.

During the 1979 field season testing operations were conducted at three sites. R. Harper supervised a crew, consisting of J. Elliss and L. Wheelbarger, that conducted test excavations at Calmate Shelter (Site 5MT4651). T. Kohler supervised surface collections at two sites (Sites 5MT2160 and 5MT2169). The crew for the surface collection in 1979 consisted of R. Beatty, J. Elliss, and T. Sampson-Brown.

The author is grateful to Pat Hogan, Lynne Sebastian, Carl Phagan, and Cory Breternitz for advice on problems encountered in the excavation of those sites supervised by the author and to Carl Phagan, Bill Lucius, and Eric Blinman for help in understanding the lithic and ceramic artifact collections from the tested sites.

ABSTRACT

Eighteen sites were tested in the Grass Mesa Locality during the 1979 and 1980 field seasons. Test excavations, including both probability and judgmental excavation, were conducted at Hanging Rock Hamlet (Site 5MT4650), Cougar Springs Cave (Site 5MT4797), Quasimodo Cave (Site 5MT4789), Dos Cuartos House (Site 5MT2174), Calmate Shelter (Site 5MT4651), and DTA Site (Site 5MT5361). The remaining 12 sites were investigated through surface collection, occasionally augmented by shovel scraping or minimal excavation. The goal of the program was to obtain sufficient information to allow the placement of these sites in the Dolores Archaeological Program spatial and temporal systems with better accuracy than was possible from survey records alone. This report describes the investigations at each of these sites and discusses the structures, features, and artifacts encountered. Temporal and functional assignments are made for each of the sites.

INTRODUCTION

This report presents the results of DAP (Dolores Archaeological Program) testing operations at 18 sites in the Grass Mesa Locality. The testing operations were conducted at the Track 2 and Track 3 levels as described in the DAP mitigation design (Knudson et al. 1984). Investigations ranged from brief site visits to test excavation. Temporally the sites range from the Archaic through the Sundial Phase. They include limited activity, seasonal, and habitation sites.

Environmental Setting

The environmental characteristics of the Grass Mesa Locality have been summarized by Kohler (1983) and Lipe (1984), and reports on various aspects of the environment of the project area as a whole have been prepared. Bye (1982) has discussed the current distribution of plants; Leonhardy and Clay (1982) have reviewed the geology; and Emslie (1982) has listed the fauna observed in the project area. Table 1 summarizes the environmental settings of the sites discussed in this report. The locations of the sites are presented in figure 1.

As the table indicates, most of the sites occur on the canyon wall and on Batterson-Gladel-Rock outcrop complex soils; most are underlain by the Junction Creek Sandstone Formation. Five sites occur on the flood plain, and one is located on the first terrace of the Dolores River. Three sites occur on Otero fine sandy loam soils, and five sites (all on the flood plain) are underlain by Quaternary alluvium.

Table 1. Summary of the environmental setting of the tested sites in the Grass Mesa Locality

Site No.	Elevation	Landform	Soil type	Geologic unit	Vegetation zone
5MT4650	2054	Canyon wall	M2-CE	Junction Creek Sandstone	Pinyon-juniper woodland
5MT4797	2130	Canyon wall	M2-CE*	Junction Creek Sandstone	Douglas-fir mountain shrubland
5MT4789	2103	Canyon wall	M2-CE	Junction Creek Sandstone	Ponderosa pine-oak forest
5MT4651	2073	Canyon wall	M2-CE*	Junction Creek Sandstone	Riparian woodland
5MT5361	2048	Flood plain	V0	Quaternary alluvium	Riparian grassland/shrubland
5MT2160	2038	Flood plain	Fluvents	Quaternary alluvium	Douglas-fir-mountain shrubland.
5MT2165	2073	Canyon wall	M2-CE	Junction Creek Sandstone	Pinyon-juniper woodland
5MT2166	2067	Canyon wall	M2-CE	Junction Creek Sandstone	Pinyon-juniper woodland
5MT2169	2048	Canyon wall	M2-CE	Junction Creek Sandstone	Pinyon-juniper woodland
5MT2170	2054	Flood plain	M2-CE	Junction Creek Sandstone	Ponderosa pine-oak forest
5MT2173	2073	Canyon wall	V0	Junction Creek Sandstone	Pinyon-juniper woodland
5MT2174	2054	Canyon wall	M2-CE	Junction Creek Sandstone	Pinyon-juniper woodland
5MT2175	2060	Flood plain	M2-CE†	Quaternary alluvium†	Riparian grassland/shrubland†
5MT2211	2073	Canyon wall	M2-CE	Junction Creek Sandstone	Pinyon-juniper woodland
5MT2212	2042	Flood plain	M2-CE	Quaternary alluvium	Ponderosa pine-oak forest
5MT2213	2054	Terrace 1	V0	Quaternary alluvium	Ponderosa pine-oak forest
5MT2216	2103	Canyon wall	M2-CE*	Junction Creek Sandstone	Pinyon-juniper woodland
5MT2381	2067	Canyon wall	M2-CE	Junction Creek Sandstone	Pinyon-juniper woodland

* These sites are in rockshelters with little soil development. Listed are the soil types surrounding the site.

† This site is in a border zone. See site discussion.

NOTE: Elevations are estimated from the Trimble Point 7.5' U.S. Geological Survey Quadrangel Map, converted to meters, and rounded to the nearest meter.

M2-CE - Batterson-Gladel-Rock outcrop complex.

V0 - Otero fine sandy loam.

SOURCE: Landforms from Clay et al. (1979a), soil types from Leonhardy and Clay (1982), geologic units from Clay et al. (1979b), and vegetation zones from Bye (1982:16-17).

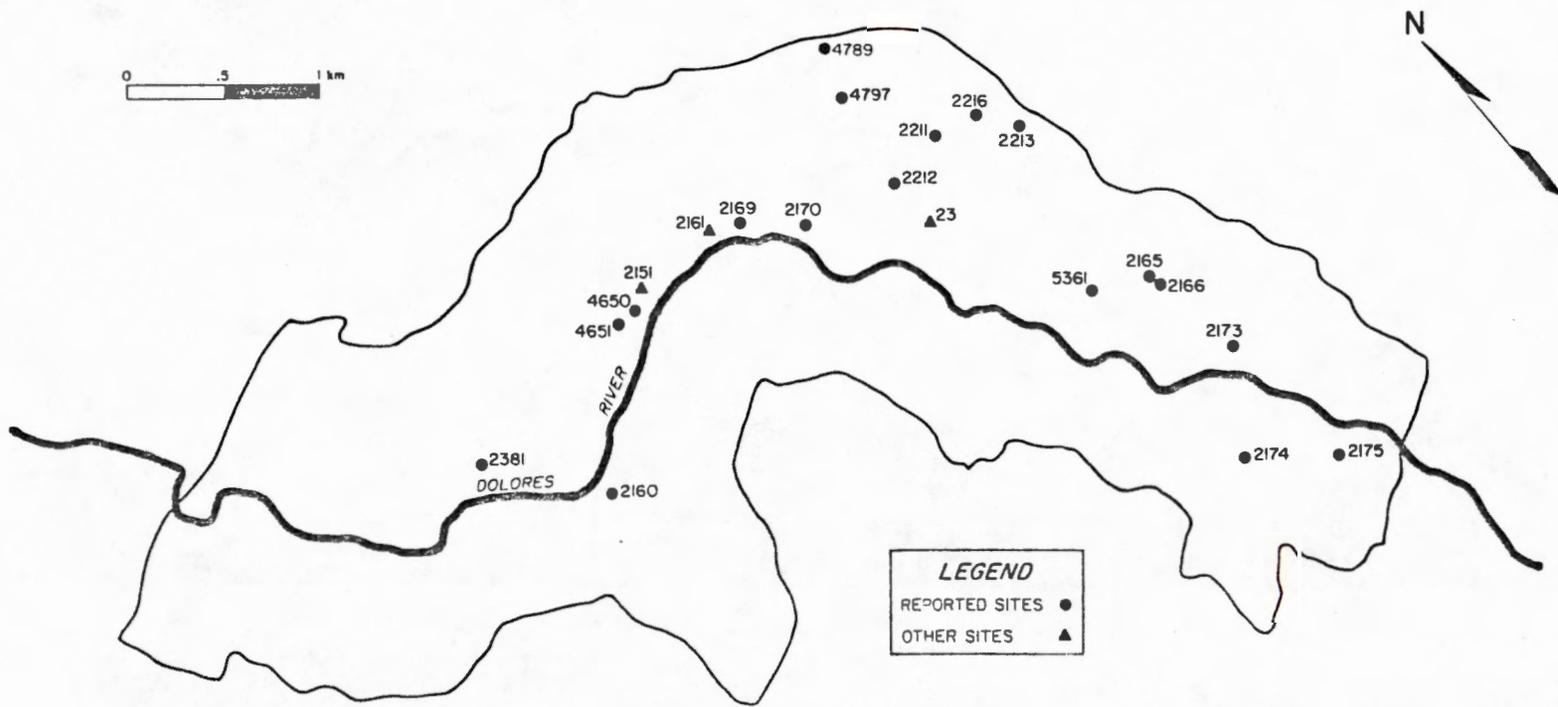


Figure 1. Locations of reported and other sites along the Dolores River, Colorado. The map shows the Dolores River and the locations of the sites. The scale bar indicates a distance of 1 km. The north arrow points towards the top of the map.

The vegetation zones in which sites occur show more variation than landforms, soils, or geologic formations. Nine sites occur in the pinyon-juniper woodland zone, four sites in the ponderosa pine-oak forest zone, three sites in the riparian grassland/shrubland zone, and two in the Douglas-fir-mountain shrubland zone.

Investigative Strategy

Research Objectives

The major goal of the 1979 and 1980 Grass Mesa Locality testing program was to collect sufficient data to allow sites to be placed in the DAP temporal-functional scheme as mandated by the program implementation design (Knudson et al. 1984). Of particular interest were sites that contained evidence of temporal periods or site functions that were not well represented in the project area or in the locality site inventories. For this reason, special attention was paid to sites that were tentatively assigned to either the Archaic Tradition (5000 B.C. - A.D. 500) or to the Sundial Phase (A.D. 1050-1200) (for a comprehensive discussion of the DAP phase scheme, refer to Kane 1981:57-80), and to site types that had not been extensively examined in the locality. Many of the sites that were tested in 1979 and 1980 had not yielded sufficient material from survey surface collections to allow temporal-functional placement.

The documentation of unusual aspects such as petroglyphs, possible structures in rockshelters, or artifacts in deeply buried contexts, was another research goal at several of the sites.

Investigative Methods

The testing program is designed to produce specific types of data with a minimum investment of labor. Lipe (1984) estimates that only 10 percent of total effort expended on investigations in the Grass Mesa Locality was devoted to the testing program. When it is considered that three sites have received 90 percent of the labor expended in the locality, the difference between testing and more intensive investigation becomes apparent.

Intensity of investigation varied from site to site within the testing program. Six of the sites were examined by techniques classed as Track 2 investigation methods (Knudson et al. 1984; Lipe 1984). Research at these sites ranged from full probability sampling with limited expansion beyond the probability squares, to judgmental sampling and hand expansion of backhoe trenches.

Twelve sites were examined using Track 3 investigation methods (Knudson et al. 1984; Lipe 1984). Activities at these sites were primarily limited to surface collection and site description. Detailed site maps were seldom prepared for Track 3 sites, and few photographs were taken. Small shovel tests were performed at several of these sites. Where artifact density and distribution warranted it, artifacts were collected by grid unit. In some cases, sites were divided into superficially distinct areas that formed the basis for surface collection. At a few sites, collections were made from the entire site surface without subdivision. Specific investigative methods are summarized in table 2.

The methods employed in testing sites in the Grass Mesa Locality differ significantly from those employed in other areas of the DAP in

Table 2. Summary of investigative methods employed at the tested sites in the Grass Mesa Locality (Page 1 of 2)

Site No.	Number of units surface collected		Number of units excavated		Investigative track	Comments
	grid	nongrid	probability	judgmental		
5MT4650	41		13	4	2	4- by 4-m surface collection units (surface collection conducted in 1979 [Kohler 1983]); minimal expansion beyond probability squares
5MT4797	38			12	2	2- by 2-m surface collection units
5MT4789	23		4	3	2	4- by 4-m surface collection units
5MT2174		1		4	2	Judgmental excavation of two surface rooms
5MT4651		1		3	2	No intensive surface collection other than that done by the original survey
5MT5361				2	2	Two trenches divided into 1-m-long segments were excavated after overburden had been removed by power equipment. Four additional backhoe trenches were excavated
5MT2160					3	Surface materials were point located in the field and then provenienced by grid square
5MT2165	1				3	

Table 2. Summary of investigative methods employed at the tested sites in the Grass Mesa Locality (Page 2 of 2)

Site No.	Number of units surface collected		Number of units excavated		Investigative track	Comments
	grid	nongrid	probability	judgmental		
5MT2166	25					4- by 4-m surface collection units
5MT2169	51				3	4- by 4-m surface collection units
5MT2170	20				3	8- by 8-m surface collection units
5MT2173		1			3	
5MT2175		1			3	
5MT2211		2			3	
5MT2212					3	Brief reexamination of the site. No new surface collection made
5MT2213	9				3	8- by 8-m surface collection units
5MT2216		1			3	
5MT2381		1		1	3	Preliminary surface collection; 1 small shovel test

that sites in the Grass Mesa Locality were generally not accessible to graders or backhoes. The use of heavy equipment to remove overburden at sites in other localities investigated by the DAP has been a major step in Track 2 testing operations (Hewitt 1983; Greenwald 1980). DTA Site is the only site where heavy equipment was used. Because the majority of the excavations reported were carried out by hand, the sites cannot be reported with the same detail as other Track 2 sites in the DAP area.

Temporal and Functional Placement of Sites

As mentioned above, one of the major goals of the testing program in the Grass Mesa Locality was refinement of the temporal-functional placement of DAP sites. For the six sites that were examined by Track 2 investigations, the placement will be relatively easy since there are excavated samples upon which to rest arguments of chronology and function. For the 12 sites examined by Track 3 methods, the temporal and functional assignments must rest on data composed almost exclusively of surface collection and other information observable without excavation. For these sites, it is necessary to briefly discuss both how well surface materials can be expected to reflect the artifact content of the site as a whole and the criteria for assigning this material to temporal and functional categories.

The Nature of Surface Artifact Assemblages

Before discussing the surface criteria employed to assign sites to temporal and functional units, it is necessary to discuss the ways in which artifacts become visible on the surfaces of sites. It is assumed that artifacts are generally deposited on surfaces and that those surfaces are subsequently covered by sediments after the abandonment of the

site. Several authors have discussed forces that cause artifacts to be moved within sites (Wood and Johnson 1978) and ways in which artifacts move from insite contexts to the site surface (Flannery 1976:62; Ahler and Benz 1980). Those processes of artifact transport which seem most applicable to the Grass Mesa Locality include construction activities of prehistoric site occupants, erosion, faunal turbation (the action of various earthmoving animals), and floral turbation (root disturbance and tree-fall), cryoturbation (freezing-thawing), and site looting. All of these processes should serve to bring artifacts from their original depositional context up to the surface of the site. It seems likely that the nature of the artifacts present on the site surface will be, at least in part, a function of size (Baker 1978) and material type. Most of these processes would act differently on different classes of material. For example, rodents are more likely to bring flakes and flaked lithic tools to the surfaces of their burrows than they are to bring whole metates. The very processes that result in the presence of artifacts on the surface of archaeological sites will tend to skew the assemblage present.

Once artifacts are visible on the site surface, other factors that affect the likelihood of collection of various items come into play. One notable factor is the prior collection of materials from the site surface either by relic hunters or by prehistoric inhabitants. The relic hunter is likely to select items that have some aesthetic value, such as whole tools and painted ceramics. The prehistoric inhabitants of the area are likely to have removed whole or nearly whole tools that could have been sharpened and reused (cf. Ascher 1968) and, perhaps, decorated sherds (Stanislowski 1978:20). Whole artifacts and decorated ceramics are more

likely to be collected than are broken items, debitage, or plain ceramics.

There are two other factors that will affect the likelihood of an item being collected. Perhaps the foremost of these is the extent of vegetation cover on the site. Kohler (1983:26) demonstrated that the greatest concentrations of artifacts collected at Hanging Rock Hamlet (Site 5MT4650) were from areas that lacked vegetation. The second factor is the nature of the artifact: larger artifacts are more likely to be noted than are small items, and artifacts whose colors contrast with the sediment and/or vegetation of the site are more likely to be noticed than are artifacts that tend to blend in with their background. It would seem, then, that there are a number of factors that will bias surface collections, often in relatively unpredictable ways. There should, however, be some correlation between the material collected from the surface of a site and various activities that were carried out at the site prehistorically. Any measure of site function based on artifact collections from the modern ground surfaces of archaeological sites will have to be geared toward those classes of artifacts that are likely to be included in such collections. The absence of artifacts such as whole metates or painted ceramics cannot be allowed too much weight.

The Dolores Archaeological Program Site Typology

A functional typology of sites in the Escalante Sector has been presented by Kane (1983a, 1983b) and forms the basis for the functional typology to be employed in this report. The first major division in this typology is into three classes: limited activity loci, seasonal loci, and habitations. These classes are defined by the following criteria:

the diversity of activities performed at the sites, the number of people (and their organization) involved, and the length of use of the site.

Limited activity loci. These sites are defined by Kane (1983b:35). The period of use for these sites is short, ranging from a few hours to a few days. The number of people involved in the use of a limited activity loci is small, and may be only one individual. Activities are limited and generally only one activity is assumed to have taken place at such sites.

Seasonal loci. Seasonal loci are sites that were used for short time periods (a few days to several weeks). The number of people using the site is assumed to have been small. The activities performed at seasonal loci were diverse but were more restricted than those that occurred at habitation sites. Because people were staying at these sites for some period of time, there may have been some sort of shelter constructed or sought out (e.g., rockshelters).

Habitations. A habitation site is considered to have been the home base for a population where a wide range of activities were carried out. Occupation at these sites was continuous for at least a major portion of the year. At least one household cluster should have been located at any habitation site, and, during the Anasazi portion of the prehistory of the area, substantial architecture should have been present to house the population.

Implications of the Site Typology

The implications of this three-part site type classification are presented in table 3. If archaeological expressions of the variables listed in table 3 can be determined, and if these variables can be measured in surface examination of sites and subsequent artifactual

analysis, then surface-collected sites can be placed into the typology. One major problem is understanding how these variables will be reflected in the archaeological record, and particularly in that portion of the record observable on the surface of the site.

Table 3. Predicted values for several variables for the three major site types

Variable	Limited activity loci	Seasonal loci	Habitation
Architecture	None	Limited if present	Substantial
Diversity of activities	Low	Medium	High
Number of individuals	Few	Indeterminate	One or more households
Intensity of use	Low	Medium	High

The presence or absence of architecture and the diversity of activities performed at a site seem to be the two variables that will have the most readily observable expression in surface examination of sites. Number of individuals using a site and the intensity of use should be reflected to a degree by site size and artifact density (artifacts per unit area). Both of these measures would depend on the accurate measurement of site area. There are differences in the way in which site areas were estimated by the 1972 survey crew and the 1980 testing personnel. There are also problems with the definition of site boundaries such that consistent and comparable estimates of site areas are difficult to obtain from the site records. The problem of measures of site area in the Grass Mesa Locality is further compounded by the differing amounts of brush cover and the fact that a number of the sites

considered in this report are rockshelters where the size of the shelter limits the amount of space that can be occupied. For these reasons, criteria for placing sites into functional classes will rest on evidence of architecture and on estimates of the diversity of activities performed at a site.

The type of architecture often associated with habitation sites is generally substantial. If architecture was present at a site, there should be some surface evidence in the form of rubble mounds, burned jacal, and/or pitstructure depressions. There are times, however, when such evidence may be obscured by vegetation or by postoccupational processes such as rapid sedimentation or erosion.

The diversity of activities carried out at a site should be reflected, to a degree, in the diversity of artifacts present at that site. To the extent that the site surface collections are representative of total site contents, it should be possible to develop some measure of variability that will reflect the diversity of activities performed at the site prehistorically. This does not, however, assume that a one-to-one correlation exists between artifact type and activity. Since several types of tools may be necessary to perform a single task, and multipurpose tools are probably the rule rather than the exception, the measure of artifact diversity will have to be a relative measure. On a comparative basis, a simple count of flaked lithic tool and nonflaked lithic tool morpho-use classes will be used, combined with the number of ceramic wares present. Attention is paid to the presence of the various ceramic wares (i.e., gray ware, white ware, and red ware) based on the assumption that these wares served different functions (refer to Lucius 1982).

Consideration of the measures just presented in light of the disturbance factors discussed earlier suggests that the effects of selective transport of artifacts to site surfaces, and the effects of the selective removal of materials from sites, need to be considered. The measures selected should be those that are least susceptible to skewing processes. These processes will most directly affect the measure of artifact diversity. It will be assumed that the presence of such items as painted ceramics, projectile points, manos, and metates in a surface collection will be good indicators of the nature of the use of the site in question. The absence of such materials, however, cannot be taken as direct evidence of their not having been used at the site. Painted ceramic sherds may well have been removed from site surfaces by previous collectors, but the presence of unpainted sherds from wares that are usually decorated provides good evidence that such ceramics were used at a given site.

Temporal Placement of Sites

Several methods were employed in an attempt to provide date estimates for the sites. Where charred wood was encountered, samples were collected and submitted for tree-ring assessment and/or for radiocarbon dating. Two samples each from Cougar Springs Cave (5MT4797) and DTA Site (5MT5361) were dated using this latter technique. One site, Hanging Rock Hamlet (5MT4650), produced sufficiently burned sediment for archaeomagnetic dating.

The results of the dating test were disappointing. None of the samples submitted for tree-ring dating proved to be adequate, and no dates were obtained. The results of the four radiocarbon dates are confusing: they contradict date assignments for the sites based on the

artifact assemblage and in neither case do two dates from a site agree with one another. The archaeomagnetic samples from Hanging Rock Hamlet produced dates that are not supported by other lines of evidence.

The temporal placement of sites in this report, then, must rest on date estimates that are based on the artifact assemblages, site architecture (where present), and/or stratigraphy. The ceramic collections from sites are the most useful materials in this regard. Blinman (1984) presents procedures for estimating dates for DAP ceramic collections and provides date ranges for ceramic types presented in this report. Evaluation of type occurrences at sites can often produce a relatively narrow date range for the site if the ceramic collections are large enough.

Two other artifact-based approaches are useful in temporal placement of sites discussed in this report. The first is dating based on changes in coil heights of neckbanded ceramics through time. The basis for this approach is described in Blinman (1981), but the technique, the equations, and the resulting dates have been revised (Blinman 1982a). These revised dates will be used in discussing the temporal placement of three sites in this report.

The second approach, developed for the DAP by Phagan (1981), is the use of lithic profiles. This approach examines the percentage representation of selected lithic attributes in groups of sites. Groupings can reflect temporal, functional, or both temporal and functional classes of sites. When these grouped data are compared to the lithic collections from specific sites, an assessment can be made as to whether or not the lithic technology at the site in question is similar to the technology exhibited in the assemblages from any of the

groups of sites. The method allows for the comparison of site collections to assemblages grouped by subphase, phase, or tradition, but it does not provide specific dates for the materials in question. Lithic profiles will be used only when other evidence is not available, or provides contradictory date assignments.

The specific lines of evidence used in the temporal placement of sites in this report will be discussed in the individual sections on site chronology.

Plan of the Report

The results of the 1980 Grass Mesa Locality Testing Program will be presented with the sites grouped by investigation track. Sites investigated using Track 2 methods will be discussed first, in order by intensity of excavation. Following this will be a discussion of the sites examined using Track 3 methods.

The presentations of the various sites in this report will vary for several reasons. The most obvious is that the sites were investigated at different levels of intensity; more data are available for the Track 2 sites than are available from the Track 3 sites. The sites were investigated by several crews under the supervision of several crew chiefs. This has led to some variation in the amount and kinds of data recorded at each site. Finally, the sites themselves are quite different.

While the author has attempted to keep the presentations of the individual sites as consistent as possible, there will be some differences. One notable difference is the level of artifact presentation for the sites. Artifact tables in the sections on Track 2 sites

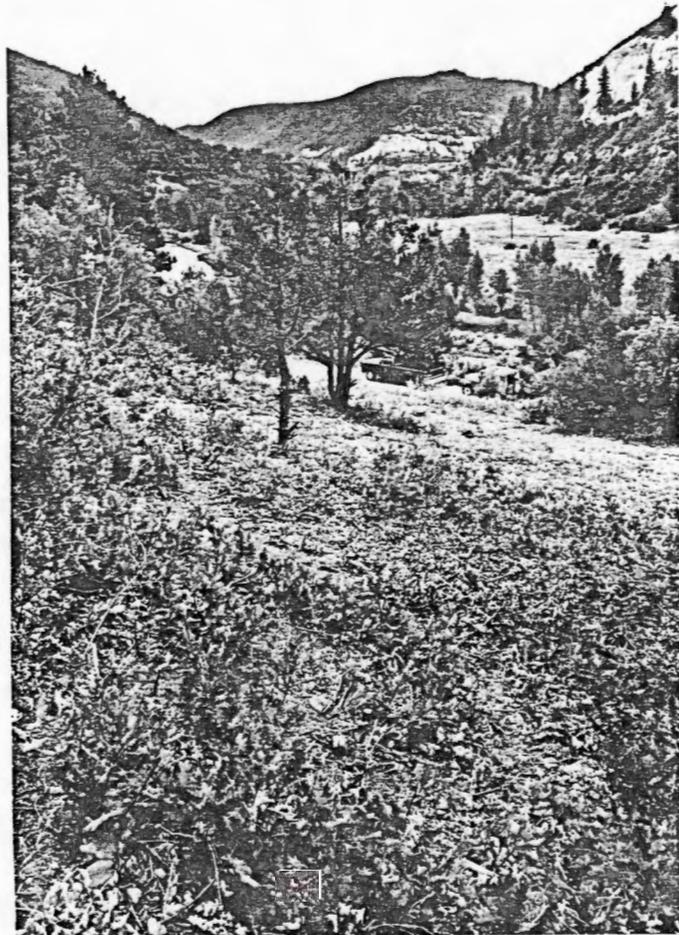


Figure 3. View of Hanging Rock Hamlet, looking east (DAP 048501).

F. CONTOUR INTERVALS

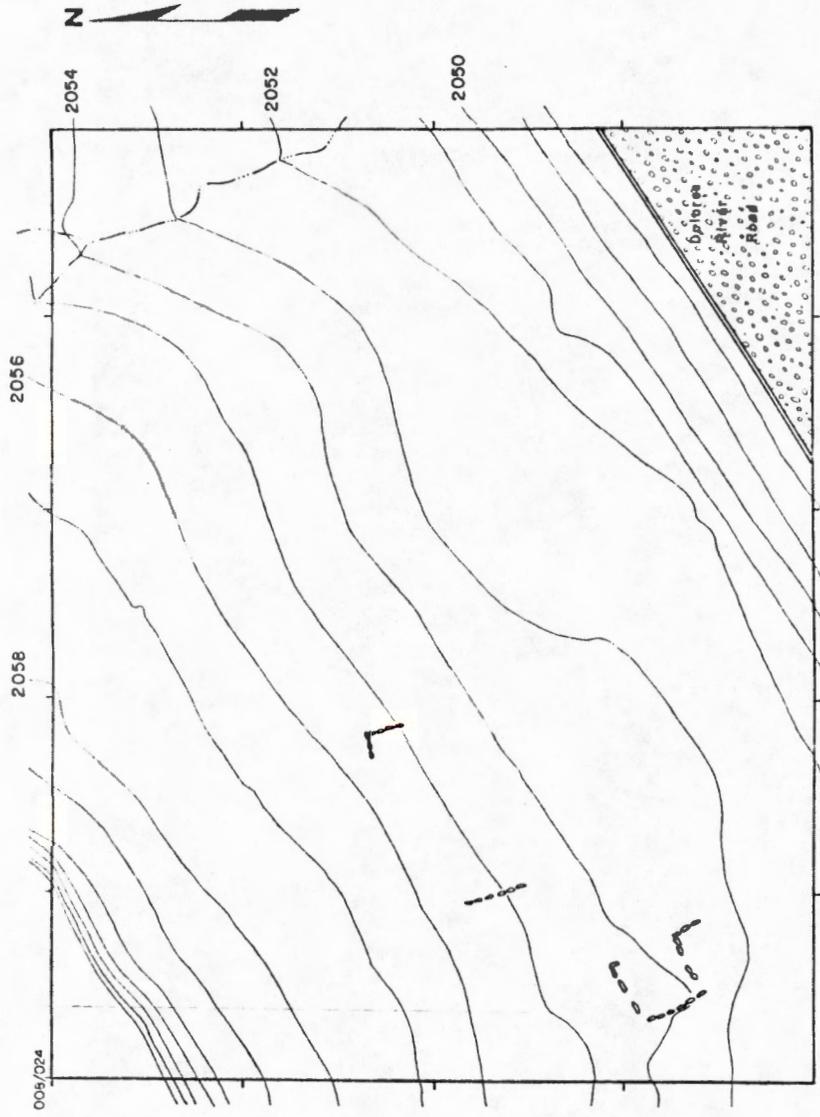


Figure 4. Topographic map of Hanging Rock Hamlet showing the stream and the locations of rock alignments visible after brush clearing.

will present standard DAP tables which include breakdowns of selected attributes for the various types of artifacts. For the Track 3 sites, investigated primarily through surface collection, artifact summary tables will be presented. In addition, as indicated earlier, few maps or photographs were made during the Track 3 investigations. For that reason, there will be few illustrations appearing with the reports on Track 3 sites.

HANGING ROCK HAMLET (SITE 5MT4650)

Introduction

Hanging Rock Hamlet was first recorded by the DAP on 18 October 1978. Surface artifacts and vertical slab alignments defining a 3- by 5-m surface room provided evidence for the presence of the site, thought to be a Basketmaker III/Pueblo I habitation. The site is located on the first terrace of the Dolores River (figs. 2 and 3) in the NE 1/4 of the SW 1/4 of sec. 1, T38N, R16W. The UTM grid coordinates for this location are 4,161,650 mN, 714,600 mE, zone 12. Hanging Rock Hamlet is located west of LeMoc Shelter (5MT2151), and Prince Hamlet (5MT2161) and is very near the northwest abutment of the McPhee Dam. Calmate Shelter (5MT4651) is located just to the west of Hanging Rock Hamlet. Initial collections from the site surface include manos, metates, hammerstones, cores, and bifaces, as well as ceramics.

A surface collection was made during the 1979 field season after the site had been cleared of the thick scrub oak (Quercus gambelii) covering. A grid was established and the artifacts were collected from 4- by 4-m grid units. A topographic map was also prepared (fig. 4).

In discussing the results of this investigation, Kohler (1983) notes the presence of additional surface rooms and two depressions that indicated the locations of possible pitstructures. Based on this evidence and on the nature of the surface artifacts, he agreed with the classification of the site as a habitation. Results of the analysis of the ceramics from the surface collection suggest that the occupation of the site occurred sometime between A.D. 775 and 875.



Figure 2. Aerial view of Hanging Rock Hamlet during excavation, looking north (DAP 061602).

Research Objectives and Investigative Strategy

Hanging Rock Hamlet was selected for Track 2 investigations for several reasons. First, only one other open hamlet (Prince Hamlet, Site 5MT2161) had been investigated in the Grass Mesa Locality, and it was necessary to test at least one more such site to understand something of the variability present within this class of sites. The similarity between Hanging Rock Hamlet and Prince Hamlet made the choice of Hanging Rock quite logical for such purposes. It was also necessary to refine both the temporal and functional assessments of the site. The major field objective, then, was the collection of a representative sample of site material that would allow the unbiased estimation of populations of artifacts and features, as well as provide materials for more accurate temporal and functional placement of the site. Additional goals were to explore building sequences, to determine the function of structures at the site, and to obtain skeletal, faunal, and stratigraphic information about the site as time permitted.

Throughout the course of the investigations at Hanging Rock Hamlet, the crew was operating under severe time constraints. Initiation of work at the site was delayed and the schedule of construction activities in the area set the end date for site testing. Five weeks were spent in intensive testing during July and early August, followed by several short visits to the site by smaller crews to complete the sampling.

Hanging Rock Hamlet was divided into three areas on the basis of surface evidence (fig. 5). Area 1 was the area of the suspected roomblock and was defined on the basis of the extent of the rock rubble and the vertical slab alignments. Area 2 was defined as that portion of the site where pitstructures were most likely to be encountered. The

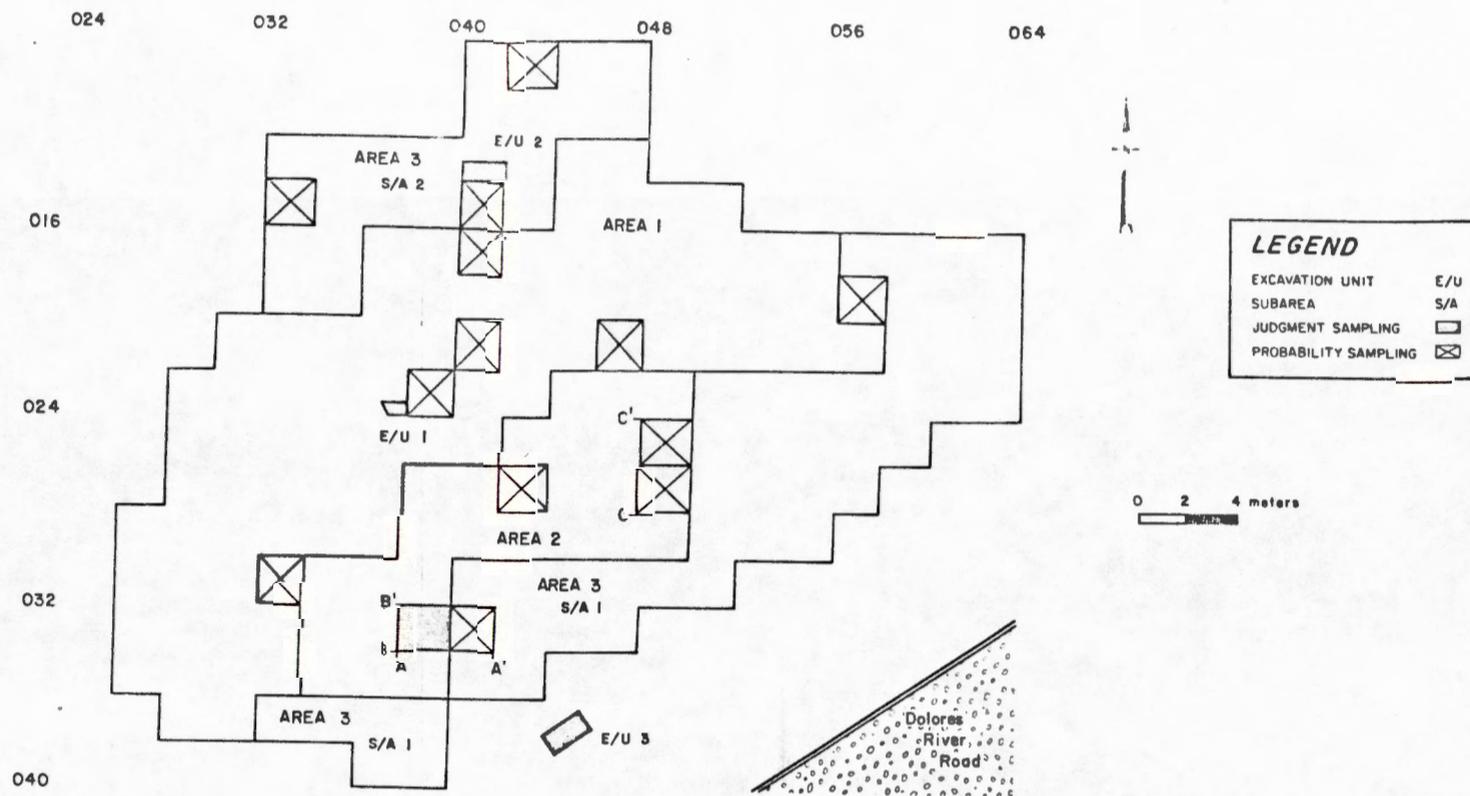


Figure 5. Location of site areas and excavation units at Hanging Rock Hamlet.

Area 2 boundaries were drawn to include the two visible depressions mentioned earlier. The remainder of the site was designated Area 3 and consisted of two noncontiguous subareas: Subarea 1, located south of Areas 1 and 2 in what was suspected to be the remains of the site midden; and Subarea 2, located north of Areas 1 and 2.

A stratified cluster sample consisting of 13 probability squares was excavated at Hanging Rock Hamlet (fig. 5). Seven of these probability squares were excavated in arbitrary 20-cm levels, three were excavated according to natural stratigraphy, and three (located in shallow areas of the site) were excavated without vertical subdivisions. All of the sediments from these units (with the exception of the fills of features) were processed through one-quarter-inch mesh screens. Feature fill was processed through one-eighth-inch mesh screens.

The time constraints placed upon the investigation of this site allowed for only minimal work beyond the probability sample. One additional 2- by 2-m unit in Pitstructure 1, a 1- by 2-m trench in Nonstructural Unit 1, a small trench in Room 1, and a 1- by 2-m trench in midden deposits were excavated. Where possible, sections of wall in the roomblock were exposed by shovel excavation in an attempt to define the surface structures at the site.

Surface Investigations

Surface Evidence

The results of the surface collections at the site are presented by Kohler (1983). He notes that the artifact distributions are primarily a result of the amount of ground cover and resulting leaf litter, and probably do not reflect cultural patterning across the site as a whole.

Because the site was not divided into areas prior to the surface collection, the boundaries of the collection units do not always coincide with the boundaries of site areas. In the discussion that follows, where collection units fall within more than one area, the totals for the collection unit have been divided by the proportion of the surface area of the unit that falls in the site area under discussion.

Surface Artifact Collections

The surface artifact collections from Hanging Rock Hamlet are summarized by site area in table 4. This table presents only those artifacts collected during the 1979 survey because there was no way to determine which areas of the site had produced the material collected during the survey recording of the site. Further, one entire 4- by 4-m surface collection square, and half of four other squares fell outside the site area boundaries. These two factors will result in some discrepancies between table 4 and the "modern ground surface" columns of the material culture summary tables to be presented later in this section. If table 4 is compared with the summary tables in Kohler's (1983:tables 6, 7, and 8) report, there will also be some differences resulting from the exclusion of those units falling outside the defined site areas and from changes in the analytic systems since Kohler's tables were prepared.

Ceramic items comprised the most abundant class of material recovered, followed by flaked lithic debitage, flaked lithic tools, and nonflaked lithic tools.

Surface Evidence of Structures

After the oak brush was cleared from the site surface, remnants of several masonry rooms were evident. The single room originally noted by the survey crew was found to be part of a series of at least three rooms

Table 4. Surface artifact distribution by areas at Hanging Rock Hamlet*

Artifact class Artifact type	Area 1	Area 2	Area 3 Subarea 1	Area 3 Subarea 2	Total
Ceramic items:					
Early Pueblo Gray	74.50	39.50	37.00	5.00	156.00
Polished White	3.25	0.25	2.50	0	6.00
Early Pueblo Red	0.25	0.75	0	0	1.00
Chapin Gray	1.00	1.00	3.00	0	5.00
Moccasin Gray	7.25	3.00	2.25	1.00	13.50
Total	86.25	44.50	44.75	6.00	181.50
Flaked lithic debitage:					
Medium grained	0.75	0	2.25	0	3.00
Fine grained	0.75	0	1.25	0	2.00
Very fine grained	32.35	13.50	10.25	4.00	60.00
Microscopic grained	15.25	2.75	5.00	1.00	24.00
Total	49.00	16.25	18.75	5.00	89.00
Flaked lithic tools:					
Utilized flake	14.75	7.00	5.25	0	27.00
Core	0.25	0.75	0	0	1.00
Used core/cobble tool	2.50	0	0	0	2.50
Thick uniface	1.75	0.75	2.50	1.00	6.00
Thin uniface	0.50	0	0.50	0	1.00
Thick biface	1.25	0	0.75	1.00	3.00
Thin biface	0.25	0	0.75	0	1.00
Total	21.25	8.50	9.75	2.00	41.50
Nonflaked lithic tools:					
Miscellaneous	1.00	0	0	0	1.00
Hammerstone	0.75	0.75	0.50	0	2.00
One-hand mano	0.50	0.50	2.00	0	3.00
Two-hand mano	1.25	0	0.75	0	2.00
Metate fragment	1.00	0	0	0	1.00
Hafted item	1.25	0	0.75	0	2.00
Total	5.75	1.25	4.00	0	11.00

* This table presents only those artifacts collected during the 1979 survey.

NOTE: The fractional values in the tables result from the fact that the surface collection was performed before the site had been divided into areas. Surface collection units often fell in more than one area of the site. Artifact counts are derived by dividing the number of artifacts in a class by the proportion of the surface collection square that fell within the area in question. The process was repeated for each collection unit and the resulting figures were summed for each area of the site. Several units of the surface collection fell partly or completely outside the defined areas at the site and are not reflected in the above figures. Survey artifacts are also not presented above.

as evidenced by the presence of walls both to the northwest and southeast of the originally noted room. Two additional short, vertical slab alignments were noted in Area 1 (fig.4). Large amounts of rock rubble, indicating the approximate location of a roomblock, were also noted in this area.

Two depressions noted in the southeast portion of the site formed the basis for the definition of Area 2. The southwestern depression was relatively well defined. The northeastern depression, on the other hand, was irregular and suggested the presence of one or perhaps two pitstructures. No surface evidence of structures was observed in either subarea of Area 3.

Predictability of Subsurface Cultural Material

The distribution of cultural material on the surface of the site seems to reflect the distribution of recent vegetation more closely than it does subsurface distributions of cultural material. However, alignments of building stone and the presence of rock rubble do reflect, to a degree, the distribution of surface structures. There was some distortion of the pattern caused by downslope movement of building stone. The southeast boundaries of the surface rooms encountered in excavation occurred 1 to 2 m upslope from the southeastern limit of rockfall.

The depressions were good indicators of the presence of pitstructures. Probability squares in both of the depressions encountered pitstructures.

Probability Excavations

Characteristics of the Sample

As mentioned earlier, the probability sample at Hanging Rock Hamlet was a stratified cluster sample. The site was divided into three

sampling strata that were coincident with Areas 1, 2, and 3 (fig. 4). Numbers were assigned to all of the possible 2- by 2-m squares that were located within each area of the site, and units were selected for excavation from a table of random numbers. Thirteen units were selected: six from Area 1, three from Area 2, and four from Area 3 (one in Subarea 1 and three in Subarea 2). Approximately 7 percent of the surface area of the site was included in the probability sample.

Description of Sampling Units - Area 1

Probability square 16S/40E. Probability square 16S/40E is located along the northern boundary of Area 1 and is the northwesternmost excavated unit in this area. The general topography in this portion of the site slopes toward the southeast at an angle of approximately 20°. This area of the site was not covered by scrub oak and seems to have suffered erosion in recent times.

Portions of the wall and floor of Room 2 were encountered in the excavation of probability square 16S/40E. One hearth (Feature 15) was also present in this unit.

Probability square 18S/56E. This probability square is the easternmost unit excavated at Hanging Rock Hamlet and is located on the eastern boundary of Area 1. The unit is located at the base of the slope in an area where the topography becomes more level (slope approximately 15°). The unit is located at the southeast end of a long, massive retaining wall that was built along a small ephemeral drainage. The end of this wall was the major surface evidence located within this square. Surface artifact densities were high in this portion of the site. No surfaces or structures other than the retaining wall were encountered during the excavation of this unit.

Probability squares 20S/40E and 22S/38E. Probability squares 20S/40E and 22S/38E are situated adjacent to one another (the southwest corner of 20S/40E adjoined the northeast corner of 22S/38E). These two units are located near the center of Area 1 where the slope is nearly 20°. This portion of the site is an area of heavy surface concentrations of building stone, and a vertical slab alignment was observed on the surface just to the west of 22S/38E. Surface artifact concentrations were heavy in the 4- by 4-m unit that included 20S/40E and light in the 4- by 4-m collection unit containing 22S/38E. Surface 1 of Room 1 was encountered in these two probability units. Room 1 will be discussed in a following section.

Probability square 20S/46E. Probability square 20S/46E is located in Area 1; the southern edge of the square coincides with the boundary between Areas 1 and 2. This square is on a relatively steep slope and appears to be in an area of surface drainage. The concentration of surface artifacts in this area was high, and numerous building stones were observed on the surface of this square. No surfaces, structures, or features were encountered in this excavation.

Probability square 30S/32E. This square is the westernmost and southernmost unit excavated in Area 1. The topography of this portion of the area is less sloping than in most other sections of the area. Surface artifact distribution in this area of the site was very low (0 to 2 artifacts per 4- by 4-m square); but then, this area was covered by a heavy growth of scrub oak prior to surface collection. Building stone was not as heavily concentrated in this area as in other excavated squares in Area 1. Although a vertical slab alignment was evident on the surface 3 m north of this square, no features, surfaces, or structures, were encountered in excavation.

Stratigraphy. The stratigraphy in Area 1 was relatively uniform from probability square to probability square. Two units could generally be recognized, although they were occasionally subdivided in the field. The upper of the two units was a brown (10YR 5/3) sandy loam that was poorly sorted and massive. This stratum ranged from 20 to 25 cm in thickness. The upper 10 to 20 cm of the deposit was usually unconsolidated, whereas the lower portions were hard packed. Numerous rock inclusions (wall fall) and charcoal flakes were noted in the stratum. The other major stratum was a massive silt loam, which is the uppermost culturally sterile stratum at the site (details of the noncultural stratigraphy were not recorded in this area). This unit was light brown (7.5YR 6/4) and was devoid of cultural material. In the area of 20S/40E a light brown (no Munsell color recorded) sandy stratum was noted overlying the sterile stratum. Since this was in the area of Room 2, this may represent sediments derived from the melting of jacal or mortar. This was the only area in which such a stratum was observed.

Area 1 synthesis. Area 1 at Hanging Rock Hamlet provides another example of a phenomenon noted at Prince Hamlet (Sebastian 1983:38). Slope wash and the accompanying downslope movement of building rubble and artifacts has tended to distort the surface evidence of the roomblock. The southeastern limit of surficial building stone concentrations seems to be 2 to 3 m southeast of the actual limit of the roomblock.

Description of Sampling Units - Area 2

Probability square 26S/42E. Probability square 26S/42E is located near the base of the slope in a relatively flat portion of the site. The northwest corner of the square touches the boundary between Areas 1 and 2. A high concentration of angular pieces of sandstone was noted on

the surface of the square, and the concentration of surface artifacts was high. No surfaces or structures were encountered, but one feature (Feature 1) was recorded. The stratigraphy in this square was very similar to that described for the probability units in Area 1.

Posthole (Feature 1): When sterile sediments were encountered in the excavation of probability square 26S/42E, a round patch of charcoal-rich sediments was noted in the southeast corner of the square and was labeled Feature 1. The top of the stain was approximately 87 cm below modern ground surface.

The feature was bisected and half of the fill was removed. The resulting profile was examined for evidence of stratigraphy; because none was observed the second half of the feature was removed full cut. Feature fill consisted of sandy loam; charcoal stains and flecks of charcoal were observed. One rock and one jar sherd (Dolores Early Pueblo Gray) were recovered from the upper 5 cm of fill. The feature was round to oval in shape, 14 cm long, 13 cm wide, and 19 cm deep. This feature may have been a posthole, based primarily on its shape, but this functional assignment is uncertain.

Probability squares 28S/48E and 26S/48E. These two probability squares occurred in a shallow depression at the eastern edge of Area 2 and are adjacent to one another. This area was not within the boundaries of the site surface collection, but no artifacts were noted on the surface of either square prior to excavation. In addition, very little surface rock was evident in these two squares. Probability square 26S/48E was excavated in 20-cm levels. Once it became apparent that this unit was in the fill of a pitstructure (Pitstructure 2), excavation was initiated in adjoining probability square 24S/48E. Based on information

gained in the excavation of probability square 26S/48E, excavation of square 24S/48E was conducted in more or less natural strata. In addition to Pitstructure 2, a small, rock-lined pit (Feature 18) and a trash layer were encountered in the pitstructure fill. The trash layer will be discussed as part of the description of Pitstructure 2.

Slab-lined pit (Feature 18): Feature 18 was a slab-lined pit in the fill of Pitstructure 2 at a depth of about 50 cm below modern ground surface. The feature consisted of sandstone slabs that had been set into the pitstructure fill to form a small pit (fig. 6). Only about half of the feature was exposed in the excavation of the probability squares.

The pit appeared to be a round basin; the portion exposed measured 64.5 cm long, 40.0 cm wide, and 39.0 cm deep. The rocks that formed the feature did not show signs of intense heating, but a small amount of charcoal was noted in the fill of the feature. The remainder of the fill was sandy loam.

The feature had obviously been built after the abandoned pitstructure had filled to within about 50 cm of the surface. If very rapid deposition rates are assumed (not an outlandish assumption when the location of Pitstructure 2 in relation to the slope of the site is taken into account), it is possible that the feature might have served as an outside hearth area for the last inhabitants of Hanging Rock Hamlet (that is, those inhabitants associated with Pitstructure 1). However, it is more likely that the feature served as a temporary hearth for people from another site who used the area as a limited activity locus. In support of this possibility is the fact that three Late Pueblo sherds were found in the fill of these two probability squares, in approximately the same stratigraphic position as the top of the feature. These were tempered

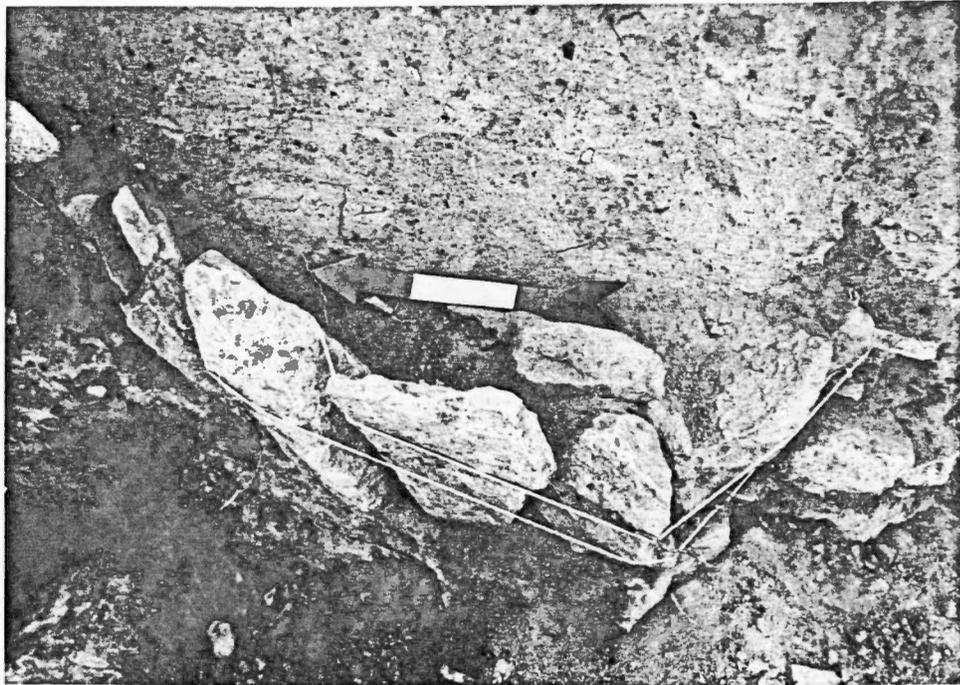


Figure 6. View of slab-lined pit (Feature 18), Hanging Rock Hamlet, looking east. The string is holding loose rock in place for photograph (DAP 051136).

with crushed sherds, a trait that appears in the Dolores area after A.D. 880. The fact that sherds of this type were recovered from no other proveniences on the site suggests that they are not part of the assemblage of types in use during the occupation of the site, and that the pit is a later feature.

Description of Sampling Units - Area 3

Probability square 32S/40E. This is the only probability square selected from Area 3, Subarea 1; the square falls outside the limits of the 1979 surface collection. This square is located in the southwestern part of Subarea 1, and the western edge of the square falls along the boundary between Area 1 and Area 3, Subarea 1. This square is located on the eastern rim of a depression in Area 2 and is in one of the most level areas of the site. This unit was excavated in 20-cm levels. The lush growth of scrub oak in this portion of the site made excavation difficult at times, and leaf litter concealed any surface artifacts that might have been present.

A portion of Pitstructure 1 was encountered in the excavation of this square. An additional 2- by 2-m square was opened to the west to explore this pitstructure. Pitstructure 1 will be described in detail in a later section, as will the stratigraphy of the pitstructure fill.

Probability square 8S/42E. Located at the northern edge of Subarea 2 of Area 3, probability square 8S/42E is the northernmost unit excavated on the site. The square is within a relatively level area between a group of large sandstone boulders on the south and an exposure of Junction Creek Sandstone on the north. A recent rock-ringed fire pit was located in the north half of the square and constituted the only evidence of historic disturbance in this area of the site. Surface

artifacts were sparse. No surfaces, structures, or features were encountered in this probability square, and no significant stratigraphy was observed.

Probability square 14S/32E. Probability square 14S/32E is located in Subarea 2 of Area 3, in a relatively flat area just above the steeper slopes in Area 2. The shallow deposits in this square were excavated without vertical subdivision. This square is also located in an area of very low surface artifact density. No features, surfaces, structures, or significant stratigraphy were encountered during excavation.

Probability square 14S/40E. This probability square is located along the southern boundary of Area 3, Subarea 2, in a portion of the site characterized by sloping terrain. Surface artifact density in this area of the site was heavy. The northwest wall of Room 2 was encountered in this excavation, as was a nonstructural use area (Nonstructural Unit 1) and a portion of a burned pit (Feature 11). A 1- by 2-m excavation unit was opened immediately to the north of probability square 14S/40E in Nonstructural Unit 1 to further explore this feature. The stratigraphy of this unit was similar to that already described for Area 1.

Cultural Units Defined at Hanging Rock Hamlet

Despite the fact that time constraints allowed only completion of the probability sample and little expansion of excavation beyond the probability squares, several cultural units were identified at Hanging Rock Hamlet. Remnants of a midden were located in the southwestern portion of the site. A roomblock was defined and two rooms were partially explored. As indicated earlier, two pitstructures were

discovered during excavation of the probability squares. A nonstructural use area (Nonstructural Unit 1) that was centered on a burned pit was defined in the area northwest of the roomblock, and a retaining wall was encountered on the eastern edge of the site. Details of all of these units will be presented in the following sections.

Midden

The construction of County Road 28 appears to have removed most of the area where the site midden was located. Examination of the cut bank that forms the present southeastern boundary of the site indicated that there were still some small patches of midden left along the top of this cut bank. To obtain a sample of material from the remaining midden, a 1- by 2-m unit (excavation unit 3) was placed southeast of probability square 32S/40E, near the edge of the road cut. The long axis of the unit was oriented northeast-southwest and the northwestern corner of the unit was located at 38S/44E.

Because the excavation was without vertical subdivision and because of the slope of the area, the base of excavation unit 3 was 45 cm below ground surface to the north and only 15 cm below ground surface to the south. All of the sediments from this unit were passed through one-quarter-inch mesh screens. As in other areas of the site (except, of course, for the fill of pitstructures), only two strata were recognized in excavation unit 3. The upper of the two strata was dark grayish brown and contained a large number of sherds, as well as flaked lithic debitage and animal bone. Nine flaked lithic tools, one cobble hammerstone, and a fragment of petrified wood were also recovered. The underlying stratum was brown and was culturally sterile.

Nonstructural Unit 1

Nonstructural Unit 1 is the area just to the northwest of Room 2. It was defined on the basis of the occurrence of a burned pit (Feature 11) that was encountered in the course of excavating probability square 14S/40E. The limits of this use area are unknown, as excavation was confined to the probability square and to an adjacent 1- by 2-m unit to the north.

Burned pit (Feature 11). Feature 11 is oval in plan; the walls are irregular. The long dimension of the pit was not completely exposed in excavation and only 44 cm of the feature length were excavated. It is estimated that the feature was over 160 cm long. The width of the feature was 120 cm, and the depth in the area excavated was 50 cm.

The fill of the feature was a dark charcoal-rich sediment mixed with clean sand. Artifacts encountered in the excavation of Feature 11 included sherds, flaked lithic debitage, and animal bone. The presence of charred corn in this feature is notable.

Roomblock

Sections of roomblock wall that were visible on modern ground surface were traced and a search for additional sections that were not immediately visible on the surface was initiated. The portions of wall that were located were in varying states of preservation. The effects of slope wash and of the slope of the site obscured walls in some areas and made locating walls difficult. No room floors were encountered when tracing the walls. The general configuration of the roomblock can be seen, albeit roughly, in figure 7. The traceable walls indicate an arc-shaped roomblock composed of a double row of rooms. The back (north) row seems to have been narrower than the front, and the back rooms

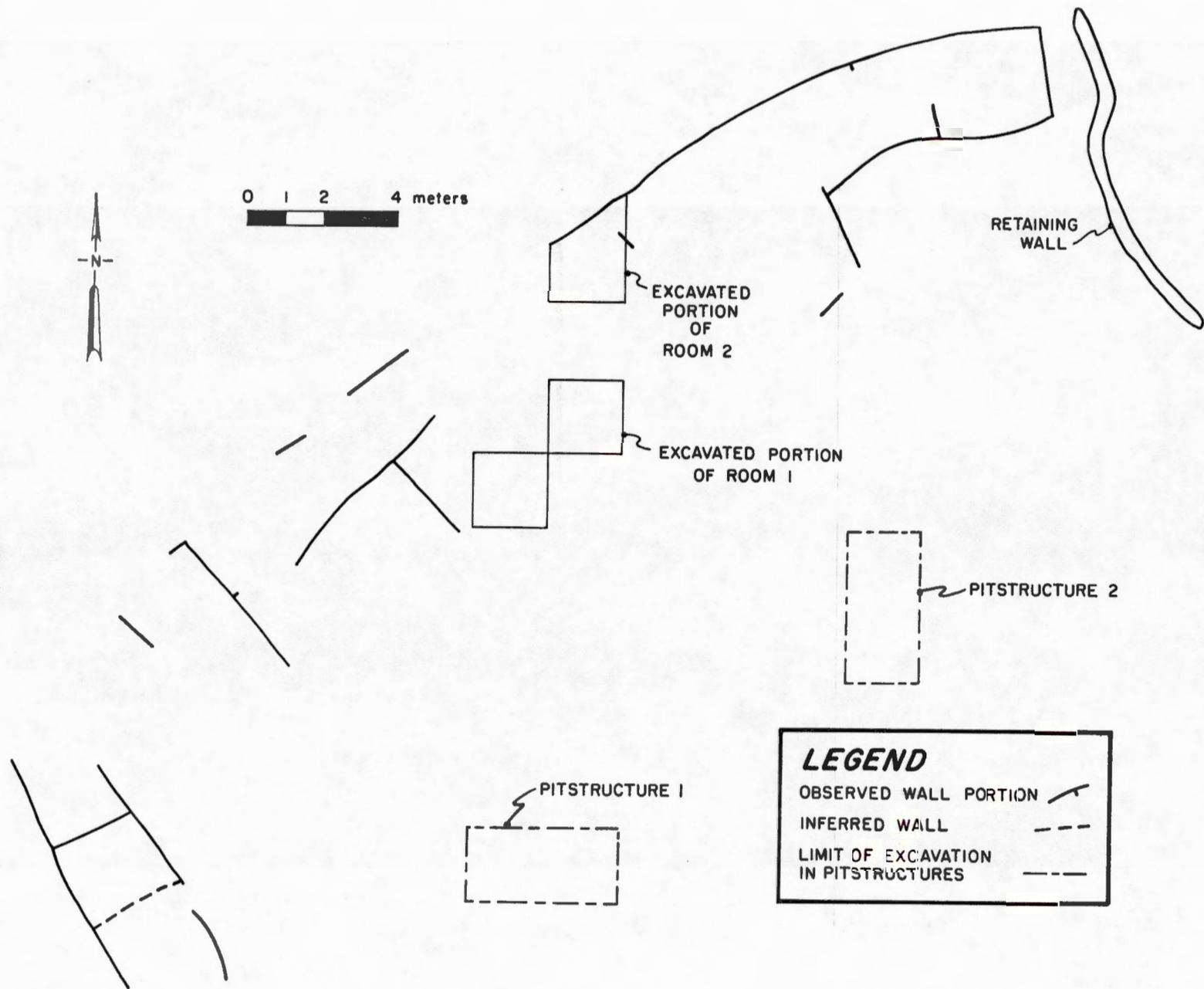


Figure 7. Extent of surface walls exposed at Hanging Rock Hamlet. Limit of excavation in surface rooms and pitstructures is also indicated.

apparently were smaller. The back wall of the roomblock consisted of coursed masonry (fig. 8), but most of the rest of the walls were of vertical-slab construction.

To the southwest of the main roomblock is a detached set of what appear to be three masonry rooms. The middle room is the best defined (indeed, the only one for which four walls are indicated) and is the "lone room" indicated on the original survey form. This set of three rooms is separated from the main roomblock by a small, ephemeral drainage channel.

During the course of clearing for construction, portions of wall were exposed in the general area of the roomblock, and one area of charcoal-stained sediment was observed (King 1983:1).

Room 1. During excavation of probability squares 20S/40E and 22S/38E, a use-compacted surface was discovered. The presence of this surface and the vertical slab alignments forms the basis for defining Room 1. Excavation was limited to the probability squares and one small judgmental trench (excavation unit 1). The west wall was indicated by the presence of vertical slabs, and the north wall was suggested by the presence of displaced building stones and some additional vertical slabs. No evidence of the locations of the east or south walls was found. No features or floor artifacts were encountered in the excavation of this room.

Room 2. A section of the northwest wall and the floor of this room were encountered in the excavation of probability square 16S/40E. Because excavation was limited to the probability square, room dimensions cannot be provided. The floor of Room 2 consisted of a layer of clean adobe. The one wall encountered consisted of three courses of sand-



Figure 8. View of coursed masonry wall exposed during wall tracing, Hanging Rock Hamlet, looking north (DAP 054606). The section shown is part of the back wall of the roomblock located northeast of Room 2.

stone. On the basis of the presence of a number of pieces of sandstone in the fill of the room, it is be inferred that the entire wall, or at least a major portion of it, was masonry. The only feature encountered on the exposed portion of Room 2 was a hearth (fig. 9).

Hearth (Feature 15): The hearth is an oval basin, 45 cm long, 38 cm wide, and 10 cm deep. No internal stratigraphy was observed, and no artifacts were recovered from fill.

No floor artifacts were recovered from the portion of Room 2 that was excavated. Fifteen sherds from a Bluff Black-on-red bowl were found in the fill of the structure. The fill also contained additional sherds, debitage, flaked lithic tools, and a bone.

Retaining Wall

An alinement of large boulders was noted along the northeast edge of the site, following the bank of the intermittent drainage that formed the boundary of the site in that area; in some places, the alinement consists of two to three courses of stone. This alinement appears to be a retaining wall that extends from a point near the northeast corner of probability square 18S/56E. Since only that portion of the structure that fell within the probability square was excavated, no height was recorded. Based on the excavation of probability square 18S/56E, it is suggested that the wall did not extend much, if any, above the prehistoric ground surface and served only to keep the side of the roomblock and the associated areas in front of the rooms from being eroded by the intermittent drainage.

Pitstructure 1

A portion of the east wall of Pitstructure 1 was encountered during the excavation of probability square 32S/42E. Excavation was expanded to



Figure 9. View of hearth (Feature 15), Room 2, Hanging Rock Hamlet (DAP 054604).

the west so that a greater portion of the structure could be explored. This adjacent 2- by 2-m square (32S/38E) was excavated according to natural strata (rather than in 20-cm levels), but most of the fill from this square was not screened. Floor contact materials (0 to 5 cm above the floor) and feature fills were screened, however, following standard DAP procedures (Kane, Hewitt et al. 1981). Excavation was limited to the two squares, but additional data on the shape, size, and arrangement of the pitstructure was gathered when the site was destroyed (King 1983).

Stratigraphy. The stratigraphy of the fill at Pitstructure 1 is depicted in figure 10 and is summarized in table 5. The stratigraphic profile indicates primarily natural infilling processes. The laminated sediments indicate that water collected in the pit after the structure was abandoned. It is important to note, however, that roof fall was not visible in the stratigraphic profile, and that no evidence of intentional trash disposal in this structure was observed.

Table 5. Summary of the stratigraphy of Pitstructure 1, Hanging Rock Hamlet

Stratum	Color	Texture	Structure
1	10YR 4/2	Loamy sand	Moderate subangular blocky
2	10YR 5/3	Loamy sand to sandy	Massive, with some weak subangular blocky
3	10YR 3/4	Sand to sandy loam	Massive to weak, fine to medium subangular blocky
4	10YR 5/3	Loamy sand	Massive
6	10YR 4/2	Sands, clays, gravels	Alternating beds
	10YR 4/1		
	7.5YR 5/4		
	7.5YR 7/4		
	7.5YR 5/6		
	7.5YR 4/4		
	10YR 7/2		
	10YR 6/3		
	10YR 4/4		

Architecture. The one portion of the wall of the pitstructure that was observed during excavation had been dug into pre-occupation sediments. No sign of plaster was observed on the wall, but the wall was so severely disturbed by root growth and by rodents that its original condition is uncertain. The floor of the structure consisted of adobe over a sandy subbase.

Characteristics of the 12 features encountered in the excavated portion of the structure are summarized in table 6; the locations of these features are shown in figure 11. The excavated portion of the structure included approximately half of a hearth (Feature 2), five unburned pits, four postholes, one slab-lined pit and a bench. The features classified as postholes are so designated by shape and depth. It was thought that Feature 12 was a posthole because it had a slab in the bottom that would have helped to carry weight. It is by no means certain that any of the features held posts. Further, the placement of these features relative to the hearth (see fig. 11) is not what would be expected based on posthole patterns from other structures in the DAP area (Kane 1981:95-98).

A low platform believed to be a bench (Feature 17) occurred along the east wall. The platform was irregular and poorly defined and was only 10 cm higher than the pitstructure floor. Although this feature is designated as a bench, it is possible that the platform is the result of wall slumping after abandonment of the structure. The irregular surface and outline of the platform, as well as its height above the pitstructure floor, suggest that it is not a constructed bench.

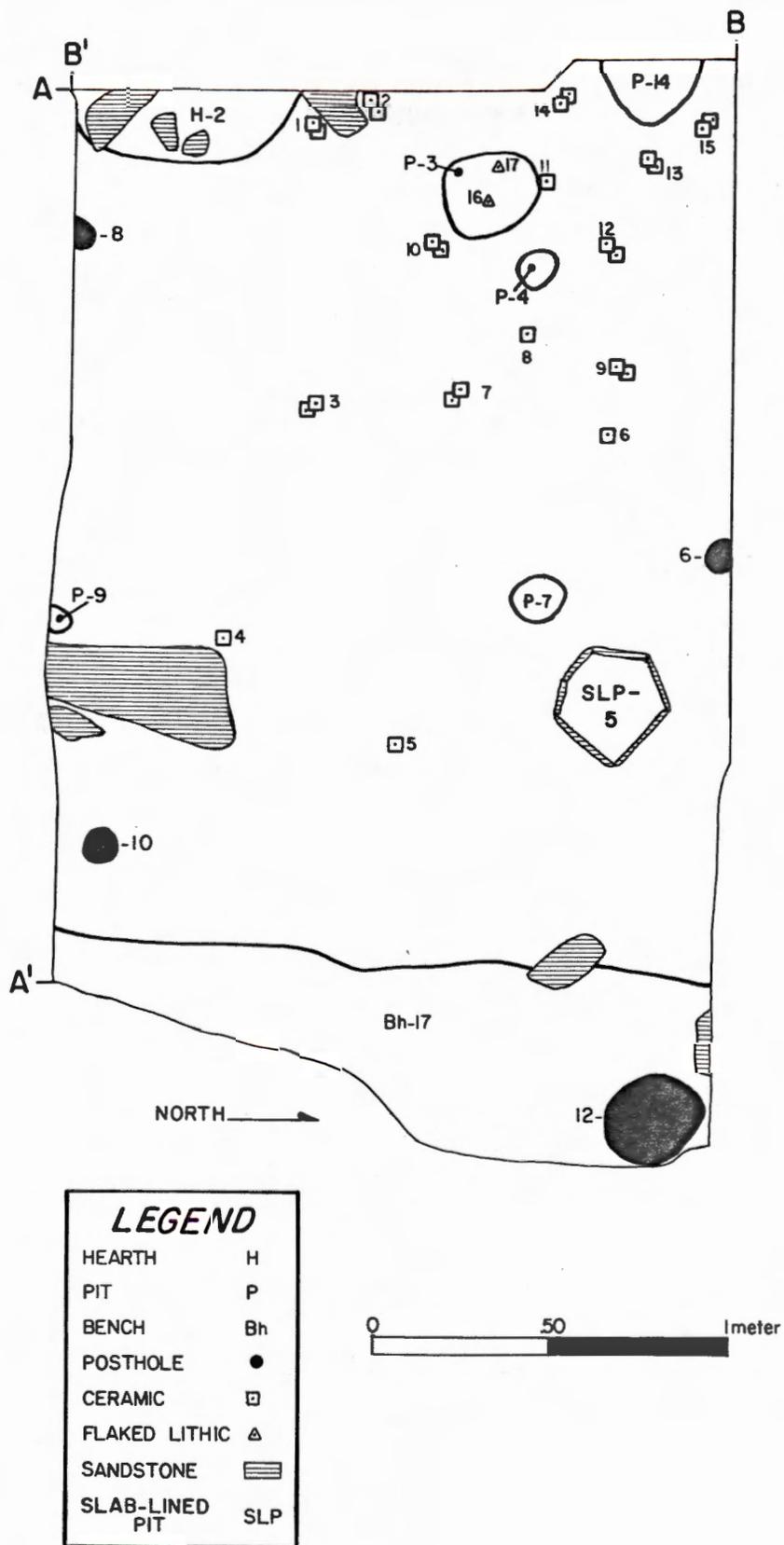


Figure 11. Plan map of the excavated portion of Pitstructure 1, Hanging Rock Hamlet. Refer to tables 6 and 7 for feature and artifact descriptions, respectively.

Table 6. Feature summary, Surface 1, Pitstructure 1, Hanging Rock Hamlet

Feature No.	Type	Plan	Profile	Length (cm)	Width (cm)	Depth/height (cm)
2	Hearth	Round	Basin	65.0	*60.0	14.0
3	Unburned pit	Oval	Basin	22.0	22.0	10.0
4	Unburned pit	Oval	Basin	12.0	10.0	4.0
5	Slab-lined pit	Other	Other	30.0	26.0	19.0
6	Posthole	Round	Cylindrical	9.0	8.0	12.0
7	Unburned pit	Oval	Basin	15.0	12.0	6.0
8	Posthole	Round	Cylindrical	...	...	18.0
9	Unburned pit	Round	Cylindrical	*10.0	*10.0	8.0
10	Posthole	Round	Cylindrical	8.5	9.0	20.0
12	Posthole	Round	Basin	30.0	24.0	10.5
14	Unburned pit	Round	Cylindrical	29.0	30.0	20.0
17	Bench	...	...	...	50.0	10.0

* Inferred dimension.

NOTE: Refer to figure 11 for location of artifacts.

... - Information not available.

Several additional bits of information about the architecture of this pitstructure were revealed when the site was bladed (King 1983). The stain representing the fill of the structure was dark and quite apparent after topsoil had been removed. A round stain representing the ventilator shaft was noted. The vent stain was 1.2 m across and was located approximately 1.2 m south of the southern end of the pitstructure stain. The presence of two alinements of sandstone slabs in the southern end of the pitstructure suggests that it had masonry wingwalls. There was also evidence in the form of three burned post fragments and burned adobe, suggesting that the structure had burned. This is particularly interesting in light of the fact that no evidence of burning was present in the small portion of the pitstructure that was excavated.

Although only a portion of Pitstructure 1 was excavated, it is possible to estimate the area of the structure based on calculations for other pitstructures in the Dolores area. In Fields and Nelson (1983), the relationship between the average distances between support posts and the average lengths of eight pitstructures was examined. Although the pitstructures in Fields data set were earlier in time than Pitstructure 1 at Hanging Rock Hamlet, the results seem to be appropriate. Fields also provided a correction for deriving the actual area from the estimated area by multiplying the length times the width. From the observations made by King (1983) during the destruction of Hanging Rock Hamlet the distance between the southwest corner post and the northwest corner post of Pitstructure 1 was 3.25 m. The distance between the northwest and the northeast corner posts was 3.56 m. Applying the formulae in Fields and Nelson (1983), an area of 23.46 m² is obtained. The estimated floor area is within one standard deviation of the roofed area for pithouses built between A.D. 840 and 880 in the Mesa Verde Region (Hewitt et al. 1983).

Floor artifacts. Floor artifacts (table 7) consist primarily of ceramic sherds, found individually and in clusters. These appear to be the remains of one or more Moccasin Gray and Early Pueblo Gray jars, but of the sherds collected only a few pieces actually fit together. Two pieces of flaked lithic debitage (PL's 16 and 17) were also found on the floor.

Pitstructure 2

Probability squares 24S/48E and 26S/48E are within Pitstructure 2. Since excavation was limited to the probability squares, only 8 m² of the pitstructure was examined (fig. 12). The sediment from both of the probability squares was screened through one-quarter-inch mesh.

024/048
C

Bh-16

HORIZONTAL LOCATION
OF FEATURE 18

C'



LEGEND	
BENCH	Bh



Figure 12. Plan map of the excavated portion of Pitstructure 2, Hanging Rock Hamlet.

Vertical control was maintained in probability square 26S/48E by the use of 20-cm levels. Units that approximated the major breaks in the natural strata comprised the vertical subdivisions of probability square 24S/48E.

Table 7. Point-located artifacts, Pitstructure 1, Hanging Rock Hamlet

PL No.	Material class	Item description
1	Ceramic	DL Early Pueblo Gray jar sherds (15)
2	Ceramic	SJ Early Pueblo Gray jar sherd
3	Ceramic	DL Early Pueblo Gray jar sherds (5)
4	Ceramic	DL Early Pueblo Gray jar sherds (18)
5	Ceramic	DL Moccasin Gray jar sherd
6	Ceramic	DL Early Pueblo Gray jar sherd
7	Ceramic	DL Early Pueblo Gray jar sherds (3)
8	Ceramic	DL Early Pueblo Gray jar sherd
9	Ceramic	DL Early Pueblo Gray jar sherds (13)
		DL Moccasin Gray jar sherd
10	Ceramic	DL Moccasin Gray jar sherd
		DL Early Pueblo Gray jar sherds (22)
11	Ceramic	DL Early Pueblo Gray jar sherds (49)
		DL Chapin Gray jar sherds (3)
		DL Moccasin Gray jar sherds (12)
12	Ceramic	DL Early Pueblo Gray jar sherds (34)
13	Ceramic	DL Moccasin Gray jar sherds (3)
		DL Early Pueblo Gray jar sherds (4)
14	Ceramic	DL Early Pueblo Gray jar sherds (13)
		DL Moccasin Gray jar sherds (4)
15	Ceramic	DL Early Pueblo Gray jar sherds (12)
		DL Moccasin Gray jar sherds (2)
16	Flaked lithic	Debitage
17	Flaked lithic	Debitage

NOTES: Refer to figure 11 for artifact locations.

DL - Dolores Manufacturing Tract.
 SJ - San Juan Manufacturing Tract.

Stratigraphy. Seven strata were recognized in the fill of Pitstructure 2. The characteristics of these units are summarized in table 8, and the stratigraphy is depicted in figure 13.

Table 8. Summary of the stratigraphy of Pitstructure 2, Hanging Rock Hamlet

Stratum	Color	Texture	Structure
1	10YR 5/3	Sandy loam	Massive
2	10YR 6/3	Loamy sand	Slightly laminate
3	10YR 5/3	Sandy loam	Massive
4	10YR 7/2	Very fine silt	Massive
5	7.5YR 5/4	Loamy sand	Massive
6	7.5YR 5/4	Sandy loam	Some areas well laminated
7a	7.5YR 7/4	Find sand in a silt/clay matrix	Massive
7b	7.5YR 5/4	Well-sorted sand	Massive
8	10YR 4/3	Silty clay	Massive
9	10YR 4/4	Sandy loam	Massive

Stratum 7 consists of sediment that had been intentionally placed on the floor. This is suggested by the lack of both sedimentary structure and artifacts, and the fact that the lower part of the stratum is well sorted. Stratum 6, a sandy loam that shows some laminations, is the first washed-in sediment. Strata 2 through 5 represent wall slump and rapid accumulation of sediments that had a source upslope in the roomblock. Stratum 1 represents the final filling of the structure. This stratum is very disturbed, and it is not possible to speculate on its depositional history. The lower part of Stratum 1 contains what appears to be intentional trash fill. There is a poorly defined lens of charcoal-rich sediments near the boundary between Stratum 1 and

NORTH

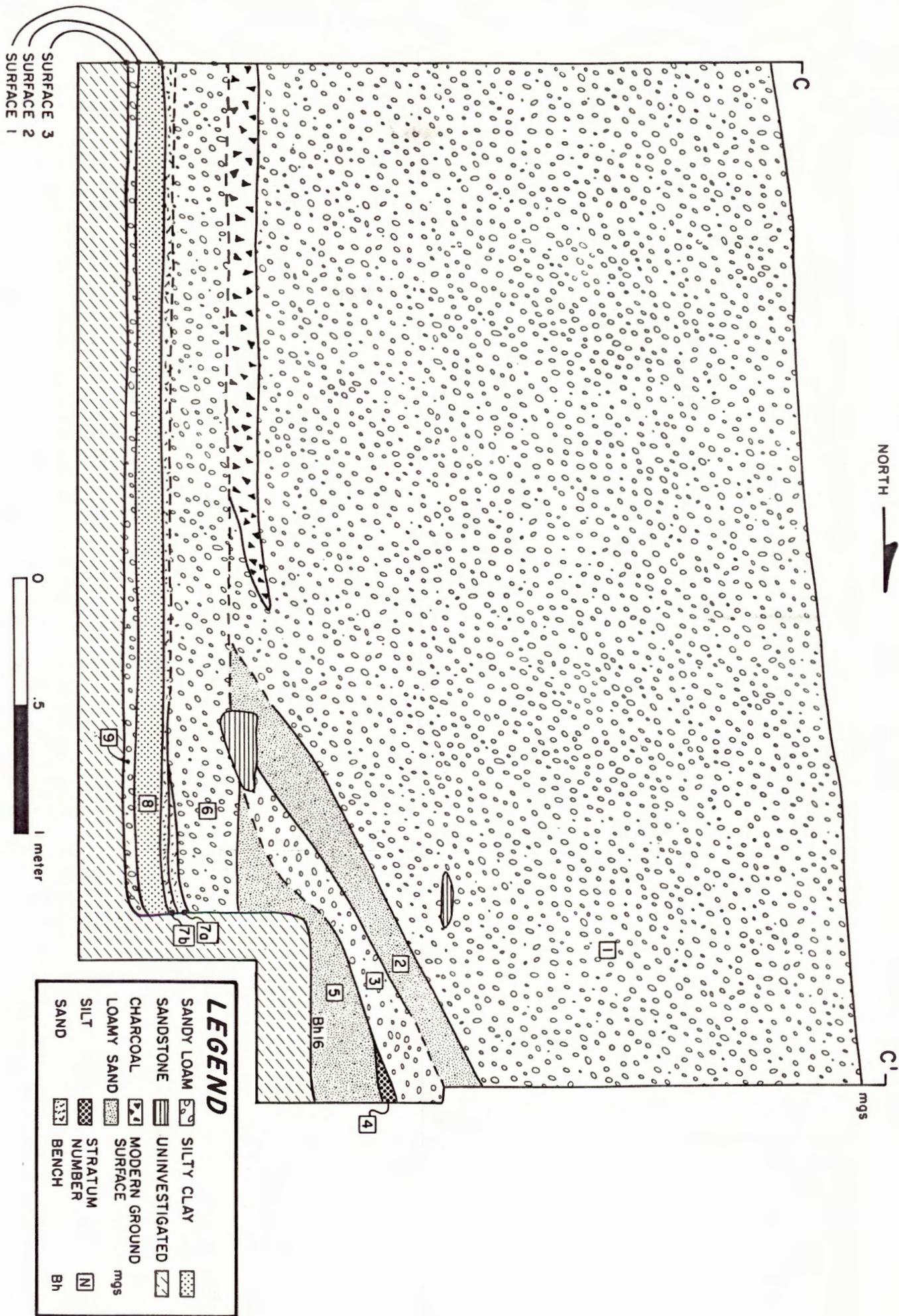


Figure 13. Stratigraphic profile, Pitstructure 2, Hanging Rock Hamlet.

LEGEND			
SANDY LOAM	6/9	SILTY CLAY	7/7
SANDSTONE	8/8	UNINVESTIGATED	9/9
CHARCOAL	9/4	MODERN GROUND SURFACE	mgs
LOAMY SAND	10/10	STRATIGUM NUMBER	Bh
SILT	11/11	BENCH	
SAND	12/12		

Stratum 6, and the area in and around this lens contains a higher proportion of artifacts than the rest of the fill.

Architecture. Because only a portion of Pitstructure 2 was encountered in the excavation of the probability squares, and because there was no time for expansion of excavation beyond the boundaries of those squares, little architectural detail can be reported for this pitstructure. This pitstructure, like Pitstructure 1, appears to have been excavated into terrace sediments. Three superimposed floors, all plastered with adobe, were identified in Pitstructure 2. Approximately 5 cm of clean sand overlay the lowest floor, Floor 3, and separated it from Surface 2. The fill between Surface 2 and and Surface 1 (the uppermost floor) was a silty clay that contained a few charcoal flecks. No artifacts were found in contact with Surfaces 1, 2, or 3 although some artifacts were recovered from the fills between the floors.

Some structural information was gained when the site was bladed as part of the dam construction (King 1983:3-4). Pitstructure 2 did not present as definite a stain as did Pitstructure 1. Evidence of posts was observed in what appeared to have been the northwest, southwest, and southeast corners. Wood approximately 5 cm in diameter was found in the position of the northwest corner post. The other two posts were represented by circular charcoal stains, suggesting that the structure had at least partially burned. Four bone awls were found in the area near the northwest corner post, and the area around the southeast corner post contained a concentration of charcoal fragments. King (1983) was also able to measure distances between support posts in Pitstructure 2. The distance from the southwest corner post to the northeast corner post was 4.04 m, whereas the distance from the northwest to northeast corner

post was 4.70 m. By using the formulae found in Fields and Nelson (1983), an estimated floor area of 38.28 m² is obtained. This figure is more than one standard deviation larger than the mean for pitstructures built in the A.D. 840-860 period, but falls within two standard deviations of that mean (Hewitt et al. 1983).

Bench (Feature 16): The only feature encountered in the pitstructure was a wide bench. The bench is 61.2 cm wide at the point at which it was encountered in excavation, and the top of the bench is 52.5 cm above Surface 1. The sediments that form the bench show undisturbed bedding, which indicates that the bench was cut into the sediments at the time that the original pit was excavated, rather than having been built up after construction of the main pit. The bench was covered with at least two coats of plaster; the earlier coat is associated with Surface 3, whereas the second coating of plaster stops at the level of Surface 1.

Material Culture

The artifacts collected from Hanging Rock Hamlet are summarized in tables 9 through 14. Those probability squares that did not encounter rooms, pitstructures, or the nonstructural use area are presented together in the column headed "other excavation units."

The presentation of ceramic items in table 9 is arranged by the region (culture category) from which the sherds originated. Within the Mesa Verde Culture Category, localized manufacturing tracts are recognized based on attributes of the sherds, such as temper (Blinman 1982b). The tracts for sherds originating within the Mesa Verde region are also presented on table 9. Of the 5885 sherds recovered from Hanging Rock Hamlet, 93 percent are from the Mesa Verde Culture Category.

Table 9. Ceramic data summary, Hanging Rock Hamlet--Continued

Culture Category: Tract Ware Type	Pitstructure 1 fills		Pitstructure 1 total	
	N	%wt	N	%wt
Mesa Verde:				
Dolores Tract				
Gray Ware				
Chapin Gray	37	4.2	47	3.5
Moccasin Gray	34	6.7	81	9.8
Mancos Gray				
Dolores Brown				
Early Pueblo Gray	570	75.1	858	77.1
White Ware				
Chapin Black-on-white	1	0.2	1	0.1
Piedra Black-on-white	3	1.0	3	0.7
Early Pueblo White	16	1.4	17	1.1
Polished White				
Late Pueblo White				
Red Ware				
Early Pueblo Red				
Smudged Ware				
Smudged				
San Juan Tract				
Gray Ware				
Chapin Gray	1	0.2	1	0.1
Mancos Gray				
Early Pueblo Gray	14	1.0	15	0.7
White Ware				
Chapin Black-on-white	1	0.2	1	0.1
Piedra Black-on-white				
Early Pueblo White	7	1.1	7	0.7
Cahone Tract				
Gray Ware				
Early Pueblo Gray	4	0.7	4	0.5
White Ware				
Early Pueblo White	1	0.9	1	0.6
Sandstone Tract				
Gray Ware				
Chapin Gray	1	0.3	1	0.2
Early Pueblo Gray	8	0.6	8	0.5
Blanding Tract				
Red Ware				
Abajo Red-on-orange	11	1.5	11	1.0
Bluff Black-on-red	3	0.4	3	0.3
Early Pueblo Red	35	3.2	35	2.2
Late Pueblo Red				
Cibola:				
White Ware				
Early Pueblo White	4	0.5	4	0.3
Cibola or Kayenta:				
Gray Ware				
Early Pueblo Gray	4	0.5	4	0.3
White Ware				
Early Pueblo White	1	0.2	1	0.2
Mogollon:				
Brown Ware				
Brown Smudge	1	0.1	1	0
Indeterminate:				
Gray Ware				
Unclassifiable Gray				
White Ware				
Unclassifiable White				
Total ceramics	757	100.0	1,104	100.0
Total wt (g)	4,317		6,361.4	
Vessel form:				
Gray Ware				
Bowl				
Jar	667	88.5	1,013	92.1
Other	6	0.9	6	0.6
White Ware				
Bowl	26	3.8	27	2.7
Jar	6	0.5	6	0.3
Other	2	1.2	2	0.8
Red Ware				
Bowl	38	4.0	38	2.7
Jar	9	0.9	9	0.7
Other	2	0.2	2	0.1
Brown Ware				
Bowl	1	0.1	1	0
Smudged Ware				
Bowl				

Table 9. Ceramic data summary, Hanging Rock Hamlet--Continued

Culture Category: Tract Ware Type	Pitstructure 2 noncultural fill		Pitstructure 2 total		Occupation Area 1 Floor 1 and features		Occupation Area 1 noncultural fill	
	N	%wt	N	%wt	N	%wt	N	%wt
Mesa Verde:								
Dolores Tract								
Gray Ware								
Chapin Gray	36	1.7	60	1.7			6	7.6
Moccasin Gray	110	9.2	184	10.6	3	9.4	2	1.0
Mancos Gray	20	1.0	36	1.6				
Dolores Brown			1					
Early Pueblo Gray	1,302	81.6	1,896	78.0	23	60.3	44	69.7
White Ware								
Chapin Black-on-white			1	0.1				
Piedra Black-on-white	1	0.1	5	0.3				
Early Pueblo White	58	3.3	83	2.9				
Polished White			1	0				
Late Pueblo White			1	0.1				
Red Ware								
Early Pueblo Red			1	0				
Smudged Ware								
Smudged	1	0	4	0.2				
San Juan Tract								
Gray Ware								
Chapin Gray								
Mancos Gray	1	0	1	0				
Early Pueblo Gray	9	0.4	19	0.7				
White Ware								
Chapin Black-on-white								
Piedra Black-on-white					2	19.5	2	5.2
Early Pueblo White	4	0.1	6	0.1			2	7.3
Cahone Tract								
Gray Ware								
Early Pueblo Gray	6	0.4	13	0.4				
White Ware								
Early Pueblo White								
Sandstone Tract								
Gray Ware								
Chapin Gray								
Early Pueblo Gray	1	0	1	0				
Blanding Tract								
Red Ware								
Abajo Red-on-orange	15	0.6	18	0.4				
Bluff Black-on-red	8	0.3	24	1.5				
Early Pueblo Red	33	1.0	49	1.0	2	10.8	5	9.1
Late Pueblo Red	2	0.1	3	0.1				
Cibola:								
White Ware								
Early Pueblo White								
Cibola or Kayenta:								
Gray Ware								
Early Pueblo Gray	2	0.1	3	0.1				
White Ware								
Early Pueblo White								
Mogollon:								
Brown Ware								
Brown Smudge								
Indeterminate:								
Gray Ware								
Unclassifiable Gray								
White Ware								
Unclassifiable White								
Total ceramics	1,609	100.0	2,410	100.0	30	100.0	61	100.0
Total wt (g)	10,306.9		18,349.9		329.4		413.8	
Vessel form:								
Gray Ware								
Bowl			2					
Jar	1,473	92.8	2,189	91.5	26	69.7	52	78.4
Other	14	1.6	23	1.7				
White Ware								
Bowl	60	3.4	91	3.3	2	19.5	4	12.5
Jar	2		2					
Other	1		4	0.2				
Red Ware								
Bowl	41	1.5	63	2.3	2	10.8	5	9.1
Jar	17	0.5	29	0.6				
Other			3	0.1				
Brown Ware								
Bowl								
Smudged Ware								
Bowl	1	0	4	0.2				

Table 9. Ceramic data summary, Hanging Rock Hamlet--Continued

Culture Category: Tract Ware Type	Occupation Area 1 total		Other excavated units		Site total	
	N	%wt	N	%wt	N	%wt
Mesa Verde:						
Dolores Tract						
Gray Ware						
Chapin Gray	6	4.3	38	2.6	158	2.3
Moccasin Gray	5	4.7	57	3.8	359	8.4
Mancos Gray			14	0.7	51	1.0
Dolores Brown					1	0
Early Pueblo Gray	67	65.6	1,539	81.9	4,723	78.1
White Ware						
Chapin Black-on-white					2	0.1
Piedra Black-on-white			5	0.5	13	0.4
Early Pueblo White			27	2.4	142	2.5
Polished White						
Late Pueblo White					1	0.1
Red Ware						
Early Pueblo Red					1	0
Smudged Ware						
Smudged					4	0.1
San Juan Tract						
Gray Ware						
Chapin Gray			3	0.3	4	0.1
Mancos Gray					1	0
Early Pueblo Gray			11	0.6	47	0.6
White Ware						
Chapin Black-on-white					1	0
Piedra Black-on-white	4	11.5			4	0.2
Early Pueblo White	2	4.1	11	0.7	27	0.5
Cahone Tract						
Gray Ware						
Early Pueblo Gray			6	0.2	24	0.3
White Ware						
Early Pueblo White			2	0.2	3	0.1
Sandstone Tract						
Gray Ware						
Chapin Gray					1	0
Early Pueblo Gray			8	0.3	18	0.2
Blanding Tract						
Red Ware						
Abajo Red-on-orange			7	1.1	36	0.7
Bluff Black-on-red			3	0.4	57	1.7
Early Pueblo Red	7	9.8	81	4.0	183	2.2
Late Pueblo Red			2	0.1	5	0.1
Cibola:						
White Ware						
Early Pueblo White					4	0
Cibola or Kayenta:						
Gray Ware						
Early Pueblo Gray			3	0.1	10	0.1
White Ware						
Early Pueblo White					1	0
Mogollon:						
Brown Ware						
Brown Smudge			1	0	2	0
Indeterminate:						
Gray Ware						
Unclassifiable Gray					1	0
White Ware						
Unclassifiable White			1	0	1	0
Total ceramics	91	100.0	1,820	100.0	5,885	100.0
Total wt (g)		743.2		9,437.8		37,736.1
Vessel form:						
Gray Ware						
Bowl					2	0
Jar	78	74.6	1,674	90.2	5,357	90.1
Other			6	0.4	39	1.1
White Ware						
Bowl	6	15.6	41	3.4	179	3.6
Jar			5	0.3	14	0.2
Other					6	0.2
Red Ware						
Bowl	7	9.8	69	4.6	212	3.9
Jar			23	0.9	64	0.7
Other			1	0.1	6	0.1
Brown Ware						
Bowl			1	0	2	
Smudged Ware						
Bowl					4	0.1

Table 10. Flaked lithic debitage, Hanging Rock Hamlet

	Modern ground surface			Room 1 Floor 3 and features			Room 1 Floor 1 and features			Room 1 Noncultural fill			Room 1 Total		
	N	%	Mean	N	%	Mean	N	%	Mean	N	%	Mean	N	%	Mean
			wt (g)			wt (g)			wt (g)			wt (g)			
Flakes/flake frags:															
Grain size															
Medium	3	2.5	8	0	0	0	0	0	0	1	7.7	2	1	5.6	2
Fine	2	1.7	10	0	0	0	2	66.7	11	5	38.5	8	7	38.9	9
Very fine	90	74.4	13	2	100.0	5	1	33.3	20	5	38.5	4	8	44.4	6
Microscopic	26	21.5	5	0	0	0	0	0	0	2	15.4	1	2	11.1	1
Total flakes/ Flake frags	121	100.0	11	2	100.0	5	3	100.0	14	13	100.0	5	18	100.0	6
Items with cortex	28	23.1	...	0	0	0	2	66.7	...	5	38.5	...	7	38.9	...
Whole flakes	54	44.6	...	0	0	0	3	100.0	...	11	84.6	...	14	77.8	...
Nonlocal items	0	0	0	0	0	0	0	0	0	0	0	0	0	0	...
Angular debris	3	100.0	9	0	0	0	3	100.0	3	2	100.0	11	5	100.0	6

NOTE: frags - Fragments.

... - Information not available.

Table 10. Flaked lithic debitage, Hanging Rock Hamlet--Continued

	Room 2 Noncultural fill			Room 2 total			Pitstructure 1 Floor 1 and features			Pitstructure 1 fill		
	N	%	Mean	N	%	Mean	N	%	Mean	N	%	Mean
			wt(g)			wt(g)			wt(g)			wt(g)
Flakes/flake frags:												
Grain size												
Medium	0	0	0	0	0	0	1	11.1	9	1	2.1	1
Fine	2	9.1	16	2	9.1	16	1	11.1	1	16	33.3	5
Very fine	18	81.8	8	18	81.8	8	6	66.7	7	30	62.5	11
Microscopic	2	9.1	1	2	9.1	1	1	11.1	4	1	2.1	1
Total flakes/ Flake frags	22	100.0	8	22	100.0	8	9	100.0	6	48	100.0	9
Items with cortex	11	50.0	...	11	50.0	...	3	33.3	...	17	35.40	...
Whole flakes	18	81.8	...	18	81.8	...	9	100.0	...	43	89.6	...
Nonlocal items	1	4.5	...	1	4.5	...	0	0	0	0	0	0
Angular debris	13	100.0	18	13	100.0	18	0	0	0	10	100.0	19

Table 10. Flaked lithic debitage, Hanging Rock Hamlet--Continued

	Pitstructure 1 Noncultural fill			Pitstructure 1 total			Pitstructure 2 Floor 2 and features			Pitstructure 2 Floor 3 and features			Pitstructure 2 cultural fill		
	N	%	Mean	N	%	Mean	N	%	Mean	N	%	Mean	N	%	Mean
			wt(g)			wt(g)			wt(g)			wt(g)			
Flakes/flake frags:															
Grain size															
Medium	3	2.1	11	5	2.5	9	0	0	0	0	0	0	1	1.8	3
Fine	22	15.2	14	39	19.3	10	3	18.8	5	0	0	0	12	21.8	38
Very fine	108	74.5	8	144	71.3	3	10	62.5	5	1	100.0	1	42	76.4	10
Microscopic	12	8.3	1	14	6.9	1	3	18.8	1	0	0	0	0	0	0
Total flakes/ Flake frags	145	100.0	9	202	100.0	9	16	100.0	4	1	100.0	1	55	100.0	16
Items with cortex	58	40.0	...	78	38.6	...	5	31.3	...	0	0	0	29	52.7	...
Whole flakes	122	84.1	...	174	86.1	...	11	68.8	...	1	100.0	...	45	81.8	...
Nonlocal items	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Angular debris	9	100.0	4	19	100.0	12	6	100.0	4	2	100.0	1	12	100.0	9

Table 10. Flaked lithic debitage, Hanging Rock Hamlet--Continued

	Pitstructure 2 mixed fill			Pitstructure 2 noncultural fill			Pitstructure 2 total			Occupation Area 1 Floor 1 and feature			Occupation Area 1 noncultural fill		
	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)
Flakes/flake frags:															
Grain size															
Medium	2	0.9	9	33	4.2	8	36	3.3	8	0	0	0	0	0	0
Fine	52	22.5	31	165	20.9	12	232	21.2	18	4	30.8	6	6	23.1	13
Very fine	166	71.9	14	536	67.8	4	755	69.0	7	6	46.2	9	16	61.5	6
Microscopic	11	4.8	1	57	7.2	1	71	6.5	1	3	23.1	1	4	15.4	2
Total flakes/ Flake frags	231	100.0	17	791	100.0	6	1,094	100.0	9	13	100.0	6	26	100.0	7
Items with cortex	111	48.1	...	252	31.9	...	397	36.3	...	2	15.4	...	12	46.2	...
Whole flakes	160	69.3	...	448	56.6	...	665	60.8	...	9	69.2	...	20	76.9	...
Nonlocal items	0	0	0	6	0.8	...	6	0.5	...	0	0	0	0	0	...
Angular debris	68	100.0	12	376	100.0	6	464	100.0	6	4	100.0	1	16	100.0	3

Table 10. Flaked lithic debitage, Hanging Rock Hamlet--Continued

	Occupation Area 1 total			Other excavated units			Site total		
	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)
Flakes/flake frags:									
Grain size									
Medium	0	0	0	41	3.3	10	86	3.1	9
Fine	10	25.6	10	228	18.2	8	520	18.9	13
Very fine	22	56.4	7	904	72.1	4	1,941	70.6	6
Microscopic	7	17.9	1	81	6.5	1	203	7.4	2
Total flakes/ Flake frags	39	100.0	7	1,254	100.0	5	2,750	100.0	7
Items with cortex	14	35.9	...	279	22.2	...	814	29.6	...
Whole flakes	29	74.4	...	579	46.2	...	1,533	55.7	...
Nonlocal items	0	0	0	0	0	0	7	0.3	...
Angular debris	20	100.0	3	385	100.0	6	909	100.0	6

Table 11. Flaked lithic tools, Hanging Rock Hamlet--Continued

	Pitstructure 2 noncultural fill			Pitstructure 2 total			Other excavated units			Pitstructure 2 total		
	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)
Total tools:	41	100.0	50	92	100.0	105	86	100.0	89	263	100.0	99
Tool morpho-use												
Inapplicable							1	1.2	1	1	.4	1
Indeterminate	2	4.9	12	5	5.4	11	2	2.3	7	8	3.0	9
Utilized flake	15	36.6	22	32	34.8	49	49	57.0	30	130	49.4	33
Core	4	9.8	92	13	14.1	149	10	11.6	163	28	10.6	149
Used core, cobble tool	7	17.1	133	16	17.4	230	7	8.1	360	31	11.8	273
Thick uniface	2	4.9	118	7	7.6	249	6	7.0	73	22	8.4	144
Thin uniface	2	4.9	17	6	6.5	57	2	2.3	159	14	5.3	73
Specialized form							2	2.3	131	3	1.1	575
Thick biface	1	2.4	102	3	3.3	108	3	3.5	129	9	3.4	253
Thin biface				1	1.1	3	1	1.2	615	4	1.5	213
Projectile point	8	19.5	2	9	9.8	2	3	3.5	2	13	4.9	2
Grain size												
Coarse							1	1.2	1,527	1	.4	1,527
Medium				1	1.1	157	3	3.5	43	6	2.3	294
Fine	11	26.8	34	17	18.5	137	4	4.7	78	23	8.7	124
Very fine	21	51.2	78	62	67.4	115	55	64.0	92	182	69.2	104
Microscopic	8	19.5	4	10	10.9	4	16	18.6	8	42	16.0	9
Irregular	1	2.4	1	2	2.2	11	7	8.1	71	9	3.4	58
Item condition												
Indeterminate	1	2.4	149	1	1.1	149	2	2.3	16	4	1.5	46
Broken												
Indeterminate	5	12.2	16	11	12.0	47	5	5.8	69	16	6.1	54
Distal present	2	4.9	2	3	3.3	2				3	1.1	2
Proximal present	1	2.4	1	1	1.1	1				1	.4	1
Medial/lateral present	1	2.4	4	1	1.1	4	1	1.2	1	2	.8	3
Complete/nearly complete	31	75.6	58	75	81.5	120	78	90.7	94	237	90.1	105
Dorsal face evaluation												
Indeterminate	1	2.4	1	1	1.1	1	2	2.3	7	3	1.1	5
Core	10	24.4	109	29	31.5	182	16	18.6	164	55	20.9	176
Unworked with cortex	12	29.3	42	33	35.9	87	34	39.5	51	90	34.2	77
Unworked without cortex	6	14.6	11	10	10.9	23	25	29.1	20	79	30.0	39
Edged with cortex	2	4.9	126	7	7.6	165	4	4.7	700	13	4.9	447
Edged without cortex	2	4.9	55	3	3.3	37	1	1.2	11	8	3.0	53
Primarily thinned							1	1.2	1	1	.4	1
Secondarily thinned	3	7.3	2	4	4.3	2	1	1.2	2	7	2.7	4
Well shaped	3	7.3	3	3	3.3	3	1	1.2	1	4	1.5	3
Highly stylized	2	4.9	3	2	2.2	3	1	1.2	2	3	1.1	2

Table 11. Flaked lithic tools, Hanging Rock Hamlet--Continued

	Pitstructure 2 noncultural fill			Pitstructure 2 total			Other excavated units			Pitstructure 2 total		
	N	Mean		N	Mean		N	Mean		N	Mean	
		%	wt(g)		%	wt(g)		%	wt(g)		%	wt(g)
Total tools:	41	100.0	50	92	100.0	105	86	100.0	89	263	100.0	99
Tool morpho-use												
Inapplicable							1	1.2	1	1	.4	1
Indeterminate	2	4.9	12	5	5.4	11	2	2.3	7	8	3.0	9
Utilized flake	15	36.6	22	32	34.8	49	49	57.0	30	130	49.4	33
Core	4	9.8	92	13	14.1	149	10	11.6	163	28	10.6	149
Used core, cobble tool	7	17.1	133	16	17.4	230	7	8.1	360	31	11.8	273
Thick uniface	2	4.9	118	7	7.6	249	6	7.0	73	22	8.4	144
Thin uniface	2	4.9	17	6	6.5	57	2	2.3	159	14	5.3	73
Specialized form							2	2.3	131	3	1.1	575
Thick biface	1	2.4	102	3	3.3	108	3	3.5	129	9	3.4	253
Thin biface				1	1.1	3	1	1.2	615	4	1.5	213
Projectile point	8	19.5	2	9	9.8	2	3	3.5	2	13	4.9	2
Grain size												
Coarse							1	1.2	1,527	1	.4	1,527
Medium				1	1.1	157	3	3.5	43	6	2.3	294
Fine	11	26.8	34	17	18.5	137	4	4.7	78	23	8.7	124
Very fine	21	51.2	78	62	67.4	115	55	64.0	92	182	69.2	104
Microscopic	8	19.5	4	10	10.9	4	16	18.6	8	42	16.0	9
Irregular	1	2.4	1	2	2.2	11	7	8.1	71	9	3.4	58
Item condition												
Indeterminate	1	2.4	149	1	1.1	149	2	2.3	16	4	1.5	46
Broken												
Indeterminate	5	12.2	16	11	12.0	47	5	5.8	69	16	6.1	54
Distal present	2	4.9	2	3	3.3	2				3	1.1	2
Proximal present	1	2.4	1	1	1.1	1				1	.4	1
Medial/lateral present	1	2.4	4	1	1.1	4	1	1.2	1	2	.8	3
Complete/nearly complete	31	75.6	58	75	81.5	120	78	90.7	94	237	90.1	105
Dorsal face evaluation												
Indeterminate	1	2.4	1	1	1.1	1	2	2.3	7	3	1.1	5
Core	10	24.4	109	29	31.5	182	16	18.6	164	55	20.9	176
Unworked with cortex	12	29.3	42	33	35.9	87	34	39.5	51	90	34.2	77
Unworked without cortex	6	14.6	11	10	10.9	23	25	29.1	20	79	30.0	39
Edged with cortex	2	4.9	126	7	7.6	165	4	4.7	700	13	4.9	447
Edged without cortex	2	4.9	55	3	3.3	37	1	1.2	11	8	3.0	53
Primarily thinned							1	1.2	1	1	.4	1
Secondarily thinned	3	7.3	2	4	4.3	2	1	1.2	2	7	2.7	4
Well shaped	3	7.3	3	3	3.3	3	1	1.2	1	4	1.5	3
Highly stylized	2	4.9	3	2	2.2	3	1	1.2	2	3	1.1	2

Table 12. Nonflaked lithic tools, Hanging Rock Hamlet--Continued

	Pitstructure 2 cultural fill			Pitstructure 2 mixed fill			Pitstructure 2 noncultural fill		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Total tools:	2	100.0	313	8	100.0	1,114	4	100.0	474
Tool morpho-use									
Indeterminate									
Miscellaneous	2	100.0	313	1	12.5	162	2	50.0	400
Hammerstone				2	25.0	333			
Mano fragment				3	37.5	835			
One-hand mano							1	25.0	1,096
Two-hand mano									
Metate fragment									
Trough metate				1	12.5	5,000			
Slab metate									
Hatted item				1	12.5	578			
Ornament							1	25.0	1
Blank type									
Indeterminate									
Rounded cobble				3	37.5	276			
Flattened cobble	2	100.0	313	4	50.0	771	3	75.0	632
Thick slab									
Thin slab				1	12.5	5,000			
Very thin slab									
Completely modified item							1	25.0	1
Data not available									
Item condition									
Broken									
Unidentifiable				3	37.5	2,070	1	25.0	244
Identifiable							1	25.0	555
Complete/nearly complete	2	100.0	313	5	62.5	540	2	50.0	549
Production evaluation									
Indeterminate				1	12.5	632	1	25.0	244
Natural (unmodified)	2	100.0	313	5	62.5	540	1	25.0	555
Minimally modified									
Well shaped				2	25.0	2,789	1	25.0	1,096
Stylized							1	25.0	1

Table 12. Nonflaked lithic tools, Hanging Rock Hamlet--Continued

	Pitstructure 2 total			Other excavated units			Total		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Total tools:	14	100.0	817	18	100.0	9,541	51	100.0	4,688
Tool morpho-use									
Indeterminate				1	5.3	1,479	1	2.0	1,479
Miscellaneous	5	35.7	317	3	15.8	835	10	19.6	441
Hammerstone	2	14.3	333	2	10.5	1,288	8	15.7	574
Mano fragment	3	21.4	835	1	5.3	1,097	4	7.8	901
One-hand mano							3	5.9	1,050
Two-hand mano	1	7.1	1,096	2	10.5	1,389	7	13.7	1,295
Metate fragment							1	2.0	1,004
Trough metate	1	7.1	5,000	8	42.1	15,900	11	21.6	15,436
Slab metate				1	5.3	34,100	1	2.0	34,100
Hafted item	1	7.1	578				3	5.9	596
Ornament	1	7.1	1	1	5.3	6,100	2	3.9	3,051
Blank type									
Indeterminate				1	5.3	446	2	3.9	401
Rounded cobble	3	21.4	276	1	5.3	176	5	9.8	621
Flattened cobble	9	64.3	623	5	26.3	1,551	15	29.4	963
Thick slab				6	31.6	23,870	7	13.7	22,836
Thin slab	1	7.1	5,000	4	21.1	10,488	6	11.8	8,358
Very thin slab				2	10.5	1,030	3	5.9	772
Completely modified item	1	7.1	1				1	2.0	1
Data not available							12	23.5	703
Item condition									
Broken									
Unidentifiable	4	28.6	1,614	6	31.6	3,622	14	27.5	2,302
Identifiable	1	7.1	555	7	36.8	11,670	14	27.5	6,166
Complete/nearly complete	9	64.3	491	6	31.6	12,402	23	45.1	5,241
Production evaluation									
Indeterminate	2	14.3	438	2	10.5	3,790	6	11.8	2,002
Natural (unmodified)	8	57.1	485	2	10.5	1,288	16	31.4	650
Minimally modified				7	36.8	9,905	14	27.5	5,393
Well shaped	3	21.4	2,225	8	42.1	12,293	14	27.5	10,085
Stylized	1	7.1	1				1	2.0	1

Table 13. Taxonomic composition of the faunal assemblage from Harging Rock Hamlet

Taxon	Room 2 fill		Pitstructure 1 fill		Pitstructure 2 fill		Nonstructural Area 1		Other excavated units		Site total	
	N	% total	N	% total	N	% total	N	% total	N	% total	N	% total
Mammalia:												
Mammalia, small	1	0.2	4	0.9	42	9.6	0	0	3	0.7	50	11.0
Mammalia, medium			3	0.7	62	14.2	2	0.5	23	5.3	90	20.0
Mammalia, large			14	3.2	118	27.0	2	0.5	29	6.6	163	37.0
<u>Lepus californicus</u> black-tailed jackrabbit					15	3.4					15	3.0
<u>Sylvilagus spp.</u> cottontails			2	0.5	13	3.0	1	0.2	2	0.5	18	4.0
Rodentia					1	0.2					1	0.0
Sciuridae					2	0.5					2	0.0
<u>Marmota flaviventris</u> yellow-bellied marmot			2	0.5	1	0.2					3	0.0
<u>Cynomys gunnisoni</u> Gunnison's prairie dog					6	1.4					6	1.0
Geomyidae					1	0.2			2	0.2	3	0.0
<u>Thomomys bottae</u> valley pocket gopher					1	0.2			2	0.5	3	0.0
<u>Castor canadensis</u> beaver					6	1.4			1	0.2	7	1.0
<u>Neotoma sp.</u> wood rat					1	0.2					1	0.0
<u>Neotoma mexicana</u> Mexican wood rat					1	0.2					1	0.0
<u>Ondatra zibethicus</u> muskrat					1	0.2					1	0.0
<u>Erethizon dorsatum</u> porcupine			1	0.2	1	0.2			1	0.2	3	0.0
<u>Canis sp.</u>					1	0.2					1	0.0
<u>Canis familiaris</u> domestic dog					11	2.5					11	2.0
<u>Canis latrans</u> coyote								1	0.2		1	0.0
<u>Ursus sp.</u> bear					2	0.5					2	0.0
<u>Artiodactyla</u>			1	0.2	10	2.3					11	2.0
<u>Cervus elaphus</u> American elk			1	0.2	3	0.7					4	0.0
<u>Odocoileus hemionus</u> mule deer			4	0.9	18	4.1			2	0.5	24	5.0
<u>Ovis canadensis</u> bighorn									2	0.5	2	0.0
Total mammalia	1	0.2	32	7.3	317	72.5	6	1.4	67	15.3	423	96.0
Aves:												
Galliformes					3	0.7					3	0.0
<u>Meleagris gallopavo</u> Turkey					2	0.5					2	0.0
					8	1.8	1	0.2			9	2.0
Total aves					13	3.0	1	0.2			14	3.0
Total assemblage	1	0.2	32	7.3	330	75.5	7	1.6	67	15.3	437	100.0

Table 14. Vegetal remains, Hanging Rock Hamlet

Family Genus species Plant part	Room block	Room 1	Pitstructure 1						Pitstr 2 fill	Nons tr 1 Area 1
			Fill	Feat 5	Feat 14	Feat 2 Strat 1	Feat 2 Strat 2	Feat 2 Strat 3		
Amaranthaceae <u>Amaranthus</u> sp. seed									1/N	
Cupressaceae <u>Juniperus</u> sp. scale			6/C		1/C	7/N, 13/C				
wood <u>Juniperus</u> <u>osteosperma</u> scale			<1g/C						1g/N	
5/N, 3/C				1/C				<1g/C		
Fagaceae <u>Quercus gambelii</u> wood	101q/C		<1g/C	<1g/C	<1g/C	<1g/C	<1g/C	<1g/C		
Gramineae leaf <u>Zea mays</u> kernel cob cupule						<1g/C		1/N		
2fq/C 3/C							1/C			1q/C
Loasaceae <u>Mentzella</u> sp. seed				1/N						
Pinaceae <u>Pinus</u> sp. wood <u>Pinus edulis</u> seed needle			<1q/C		<1g/C	<1g/C		<1g/C	3g/C	
wood <u>Pinus ponderosa</u> needle <u>Pseudotsuga</u> <u>menziesii</u> needle			<1g/C 1/C			<1g/C		1/N, 1/C <1g/C		
					2/C	2/C	2/C			
Portulacaceae <u>Portulaca</u> sp. seed						3/C				
Rosaceae wood <u>Cercocarpus</u> sp. wood			<1g/C			<1g/C	<1g/C			
						<1g/C				
Salicaceae wood <u>Populus</u> sp. wood <u>Salix</u> sp. wood			<1g/C		<1g/C	<1g/C	<1g/C	<1g/C	3g/C	
								<1g/C		
Solanaceae <u>Nicotiana</u> <u>attenuata</u> seed			28/N	1/N				2/N		
Dicotyledoneae leaf bark seed			3/N, 2/C 1/C	1/C	3/N	2/N <1g/C	2/N, 2/C	3/N		
Gymnospermae wood			<1g/C	<1g/C	<1g/C	<1g/C	<1g/C	<1g/C		
Indeterminate fruit seed			2/C 1/N, 1/C	1/N, 1/C		1/N	1?C	1/C		
bark wood leaf resin gall			<1g/C <1g/C 1/C <1g/C	<1g/C	<1g/C	<1g/C	<1g/C	<1g/C		
Lower plants fruit		1/N								

NOTES: In the body of the table, numerals to the left of the bar indicate the number of items present, except in those cases where the items have been reported as a weight. In this latter case, the numeral is followed by the abbreviation "g" indicating the number of grams of material present.

C - Charred.
N - Noncharred.
P - Partially charred.
fg - fragment.

Feat - Feature.
Strat - Stratum.
Nons tr - Nonstructure.
Pitstr - Pitstructure.

The majority of the ceramic items are Early Pueblo Gray sherds. Moccasin Gray is the most common of the sherds that can be placed into a more specific type. Mancos Gray, Chapin Gray, Dolores Brown, Piedra Black-on-white, Chapin Black-on-white, Abajo Red-on-orange, and Bluff Black-on-red are also present at the site.

Sherds from culture categories other than the Mesa Verde are also present in the collection from Hanging Rock Hamlet. These include 4 from the Cibola area and 11 from either the Cibola or Kayenta areas.

Flaked lithic debitage (table 10) was the second largest class of items recovered from the site. Very fine grained materials accounted for 70.6 percent of the total flakes and flake fragments recovered, followed by fine-grained materials (18.9 percent), microscopic-grained materials (7.4 percent) and medium-grained materials (3.1 percent). Only seven nonlocal items were identified in the flaked lithic debitage.

A total of 263 flaked lithic tools (table 11) was collected from the site, with utilized flakes being the most common morpho-use type present. The proportions of materials represented in the total collection of tools are similar to those for the flaked lithic debitage. Very fine grained materials are most common at 69.2 percent, followed by microscopic-grained materials (16.0 percent), fine-grained materials (2.3 percent) and medium-grained materials (2.3 percent). Coarse-grained and irregular materials are also present in the tool collection. Most of the tools (90.1 percent) are complete or nearly complete.

Only 51 nonflaked lithic tools (table 12) were recovered. The trough metate is the most frequent morpho-use type encountered. Two ornaments were found during excavation. One was a trapezoidal turquoise pendant recovered from the upper fill of Pitstructure 2. The other was a

building stone recovered during the wall tracing operation. The building stone was more carefully shaped than others noted on the site, and had what appeared to be intentionally inscribed lines on one face.

Nonhuman bone and vegetal items recovered from the site are summarized in tables 13 and 14, respectively.

Site Synthesis

Chronology

The ceramic assemblage provides the primary evidence for dating the occupation at Hanging Rock Hamlet. The proportions of types and wares recovered from the site fit the patterns described by Blinman (1984) for assemblages dating to the period A.D. 860-880. Style dates (Blinman 1981) were calculated for the neckbanded ceramics (Moccasin Gray and Mancos Gray) collected during excavation at the site. These style dates support the assignment of the site to the A.D. 860-880 period. The five sherds of Late Pueblo Red ceramics from the site are all tempered with crushed sherds. The use of sherd temper in red wares is suggested to range from A.D. 880 to 895 in the project area. All five of these sherds appear to be associated with Feature 18, a slab-lined hearth in the fill of Pitstructure 2. Because no sherds of this type were recovered anywhere else on the site, and because of the position of the feature and the sherds in the fill of Pitstructure 2, it is likely that these sherds represent a brief use of the site after initial abandonment.

An archaeomagnetic dating sample obtained from the central hearth (Feature 2) in Pitstructure 1 yielded three possible dates: A.D. 750-780, A.D. 850-870, and A.D. 910-950. These dates are derived from an interpretation of the intersection of the paleoplot derived for the

sample and the current version of the paleopolar curve presented by Hathaway et al. (1983) and McGuire and Sternberg (1982); the plot position and intersection are given in Hathaway (1983). The A.D. 855-870 dates, although a less likely possibility based on only a partial intersection with the master curve, is probably the correct interpretation based on the other chronological evidence; it is consistent with the dates obtained from the ceramic assemblage and with architectural styles and patterns.

Six samples of charred wood were submitted for tree-ring dating, but none of the samples proved to be datable.

Based on the limited excavation within the pitstructures, it is possible to compare their attributes to the architectural seriation developed for the DAP (Hewitt et al. 1983). Based primarily on the presence of a bench and the inferred shape of the pitstructures, a date between A.D. 760 and 840 is suggested. The surface architecture also provided some evidence as to the date of construction. Vertical slab architecture was commonly used in construction of surface rooms in the project area between A.D. 750 and 900 (Kane 1981a). The construction of the roomblock and the presence of both vertical slab and horizontal masonry suggests placement in the Periman Subphase (A.D. 850-900) of the McPhee Phase (A.D. 850-975).

In summary, the site appears to date to the last half of the ninth century. The ceramic assemblage as a whole fits best in the A.D. 860-880 period, a placement that is supported by the style dates for neckbanded ceramics, and the nature of the surface architecture. The style of the pitstructures points to an earlier period, however, and the possible date ranges for the archaeomagnetic sample fall on either side of the ceramic date range.

Site Formation Processes

A tentative reconstruction of the formation processes at Hanging Rock Hamlet can be offered based on site stratigraphy and architectural details. Pitstructure 2 seems to be the earliest pitstructure constructed at the site. This is suggested by the fact that it was partially filled with trash after it ceased to be used as a structure, and by the fact that it has three superimposed floors. Since Pitstructure 1 has no trash fill, it is assumed that it was abandoned at the same time that people stopped using the rest of the site. The trash fill of Pitstructure 2 indicates that there were still people using Hanging Rock Hamlet, and it is assumed that they were using Pitstructure 1 while this trash was being deposited. The multiple floors in Pitstructure 2 suggests that its use life was longer than that of Pitstructure 1, so that even if the periods of use of the two structures overlapped--a possibility that cannot be readily evaluated with the evidence available--Pitstructure 2 was probably constructed first. Style dates for neckbanded ceramics from near the uppermost floor of Pitstructure 2, the trash fill of Pitstructure 2, and the floor of Pitstructure 1 do not contradict this relative sequence.

Not enough time was allowed at the roomblock to determine building sequences. It does appear, however, that Room 2 is associated with the use of Pitstructure 2. This would be expected on the ground^s of spatial proximity, but it is also suggested by the fact that the neckband style dates for sherds from the floor of the room are closer to those from Pitstructure 2 than to those from Pitstructure 1.

After the abandonment of the site as a habitation, the depression created by the partially filled Pitstructure 2 received some use. A

small slab-lined pit was built into this fill and seems to be associated with the only sherd-tempered red ware sherds recovered from the site.

Applicability of Site Data to the Dolores Archaeological Program Research Design

Excavations at Hanging Rock Hamlet focused on the probability sample, a sampling technique that provides data which has a specified collection history and is strictly comparable to other such collections. This data is most useful for answering project-wide questions. The probability sampling collection techniques do not, however, always provide sufficient information for addressing descriptive questions about sites; nor do these techniques insure the recovery of information useful in addressing the problem domains of the DAP research design at a single-site level. The following discussion is an attempt to point out areas where data from Hanging Rock Hamlet can provide some site-specific answers to such questions. The discussion is organized by the problem domains outlined in Kane (1981b).

Economy and adaptation. Evidence for the use of plant resources at Hanging Rock Hamlet is presented in table 14. The only domesticated plant recovered from the site was maize (Zea mays); maize remains were recovered from several contexts in the site. Wild plant foods are represented by seeds of purslane (Portulaca sp.), pigweed (Amaranthus sp.), pinyon pine (Pinus edulis), and blazing star (Mentzelia sp.). A variety of plants were used for fuel, as indicated by the charred wood from the hearth in Pitstructure 1. The presence of pinyon pine, juniper (Juniperus sp.), and cottonwood (Populus sp.) in this hearth suggests that the vegetation of the canyon wall (the pinyon pine and juniper) and of the riparian areas of the valley (the cottonwood) were being exploited for fuel.

Two types of domestic animals are represented in the collections from Hanging Rock Hamlet: the turkey (Meleagris gallopavo) and the dog (Canis familiaris). The remainder of the bone is from nondomesticated animals (table 13). Bones identified as "large mammal" are the most numerous, followed by bones of medium and small mammals. Of the bones that are identifiable to a finer level, mule deer (Odocoileus hemionus) are the most numerous. Cottontail (Sylvilagus sp.) and black-tailed jackrabbit (Lepus californicus) are also relatively well represented in the collection. Beaver (Castor canadensis) and muskrat (Ondatra zibethicus), both associated with the riparian environment, are represented in the collection as well.

The evidence bearing on subsistence resources provides no surprises. The inhabitants of Hanging Rock Hamlet were making use of both wild and domesticated plants and animals, and were exploiting both the canyon walls and the riparian areas near the site.

Extraregional relationships. Two pieces of evidence for contact with people outside the project area exist at Hanging Rock Hamlet. The first is a turquoise pendant found in the fill of Pitstructure 2. The exact source of the turquoise is unknown, but there is no known source in the project area.

The presence of nonlocal ceramics in the Hanging Rock Hamlet assemblage provides additional evidence for extraregional relationships. Three Early Pueblo Gray sherds have been identified as having come from the Cibola area of northern New Mexico. Eleven sherds originated in either the Cibola area or in the Kayenta area of northeastern Arizona. Ten of these sherds are Early Pueblo Gray and one is Early Pueblo White. The red wares in the collection (Abajo Red-on-orange, Bluff Black-on-red,

and Early Pueblo Red) from Hanging Rock Hamlet appear to have come from southeastern Utah as do most of the red wares found in the project area (Lucius and Wilson 1980).

COUGAR SPRINGS CAVE (SITE 5MT4797)

by G. Timothy Gross and Donald Howes

Introduction

Cougar Springs Cave was recorded by the DAP in September 1979 as a "habitation/rockshelter" of indeterminate cultural and temporal affiliation. The survey crew noted a possible lithic-processing activity area and an alinement of vertical slabs in the cave, as well as the track of a mountain lion (hence the name of the site). The upright slabs were thought to be the remains of a structure.

The shelter is located on the south side of Dry Creek in an area of eroded contact bedding planes in the Junction Creek Sandstone (fig. 14). It is approximately 200 m east of the bed of Dry Creek in the NW 1/4 of the SW 1/4 of sec. 6, T38N, R15W. The UTM grid coordinates are 4,161,690 mN, 716,020 mE, zone 12. The shelter is 24 m long by 7 m wide and is situated approximately 40 m above the floor of the canyon. The shelter faces northwest. The roof of the cave slopes upward at a very steep angle and shades the floor of the shelter most of the day during the summer. The back wall of the cave has a number of shallow alcoves, many of which contain seeps or dripping springs. The heaviest concentration of these seeps is located in the northeast portion of the shelter. During the investigation of the site, the output of one of these seeps was estimated to be 0.7 L per hour. This was not the fastest seep in the shelter, but it was the easiest to measure. The single alcove that contained this seep contained 18 to 24 other drips as well. If flow rate during the field work at the site is not unusual, then there

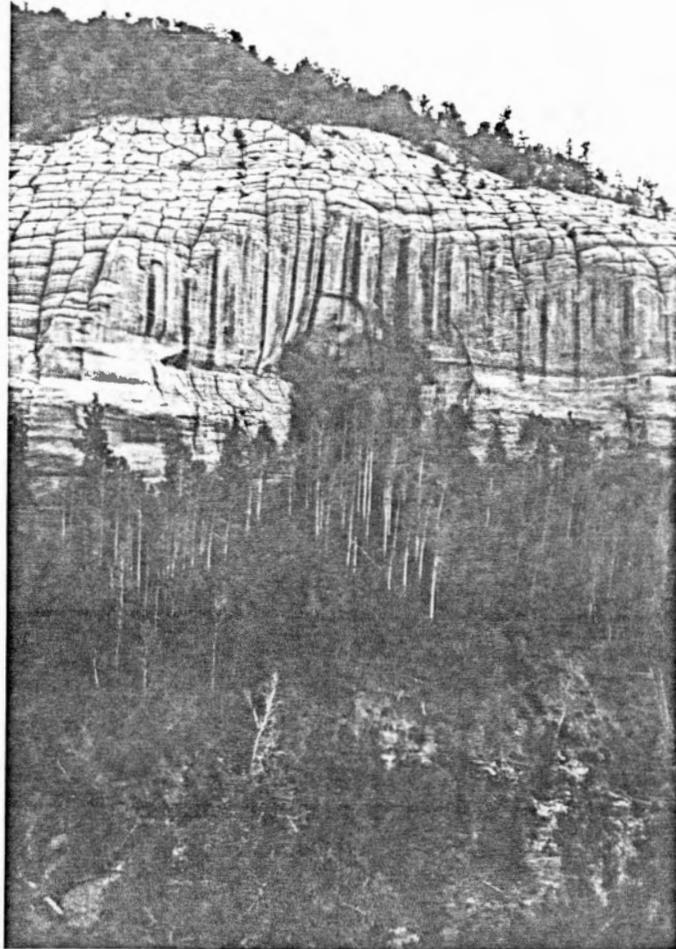


Figure 14. View of Cougar Springs Cave from across Dry Canyon, looking east (DAP 059311).

probably would have been an adequate supply of water at this site to support some sort of human occupation.

The site supported a heavy growth of shrubs along the rear wall (fig. 15), and a thick layer of duff was present on the surface of the site. Fauna observed by the field crew included raptorial birds, rabbits, and what appeared to a long-tailed weasel (Mustela frenata). Evidence of mountain lion (Felis concolor) (noted by the survey crew), mule deer, (Odocoileus hemionus) and woodrat (Neotoma sp.) was also found in and around the cave.

Research Objectives and Investigative Strategy

The major goal of the investigations at Cougar Springs Cave was to gather sufficient data to allow the site to be placed in the DAP temporal-functional scheme. This required collecting a sample of artifacts and ecofacts, including datable materials. Surface artifacts collected by the survey crew provided no temporally or functionally diagnostic artifacts. Because the site yielded no surface ceramics, it is possible that the site was occupied during the Archaic or Basketmaker II periods. A second goal of the work was the examination of the vertical slab alignment reported by the survey crew to determine whether or not it was part of a structure. To realize the goals of the investigations at Cougar Springs Cave, a judgment sample was deemed appropriate.

The first step taken in the excavation of Cougar Springs Cave was clearing the shelter of surface debris. This entailed thinning several small thickets of shrubs from the front of the shelter, clearing dense brush from the rear, and removing several centimeters of duff from the floor.



Figure 15. View of Cougar Springs Cave prior to the removal of vegetation from the shelter (DAP 054610).

Once the shelter had been cleared, a grid was established by use of a transit. Arbitrary horizontal (50S/50E) and vertical (100.0 m) datum points were established on the south wall of the shelter. Both of these points were marked with X's carved into the sandstone. Unlike the other sites in the Dolores Project area, the grid at Cougar Springs Cave was not oriented to magnetic north, but rather was oriented so as to conform to the long axis of the shelter. This orientation placed the north-south axis $24^{\circ} 10'$ east of magnetic north. All references to cardinal directions in this section of the report are to the arbitrary grid directions rather than to magnetic directions.

The locations of excavated units are shown in figure 16. Vertical excavation was either full cut (without vertical subdivision) or by strata, depending on the purpose of the particular excavation and on time constraints. Excavation was accomplished by a combination of trowel excavation and shovel scraping. All excavated sediment was screened through one-quarter-inch mesh. Vertical column sediment samples, by strata, were taken from 36S/50E and 29S/51E. These samples have not yet been processed.

Surface Investigations

Surface Evidence

Surface artifact collections. Only a small portion of Cougar Springs Cave (1- by 2-m unit 44S/48E) yielded any surface materials, and only a small amount of material was recovered from that location. This surface material was located in the south end of the shelter in an area where the site surface had been eroded by water running off the shelter roof. The surface collections are summarized in tables later in this

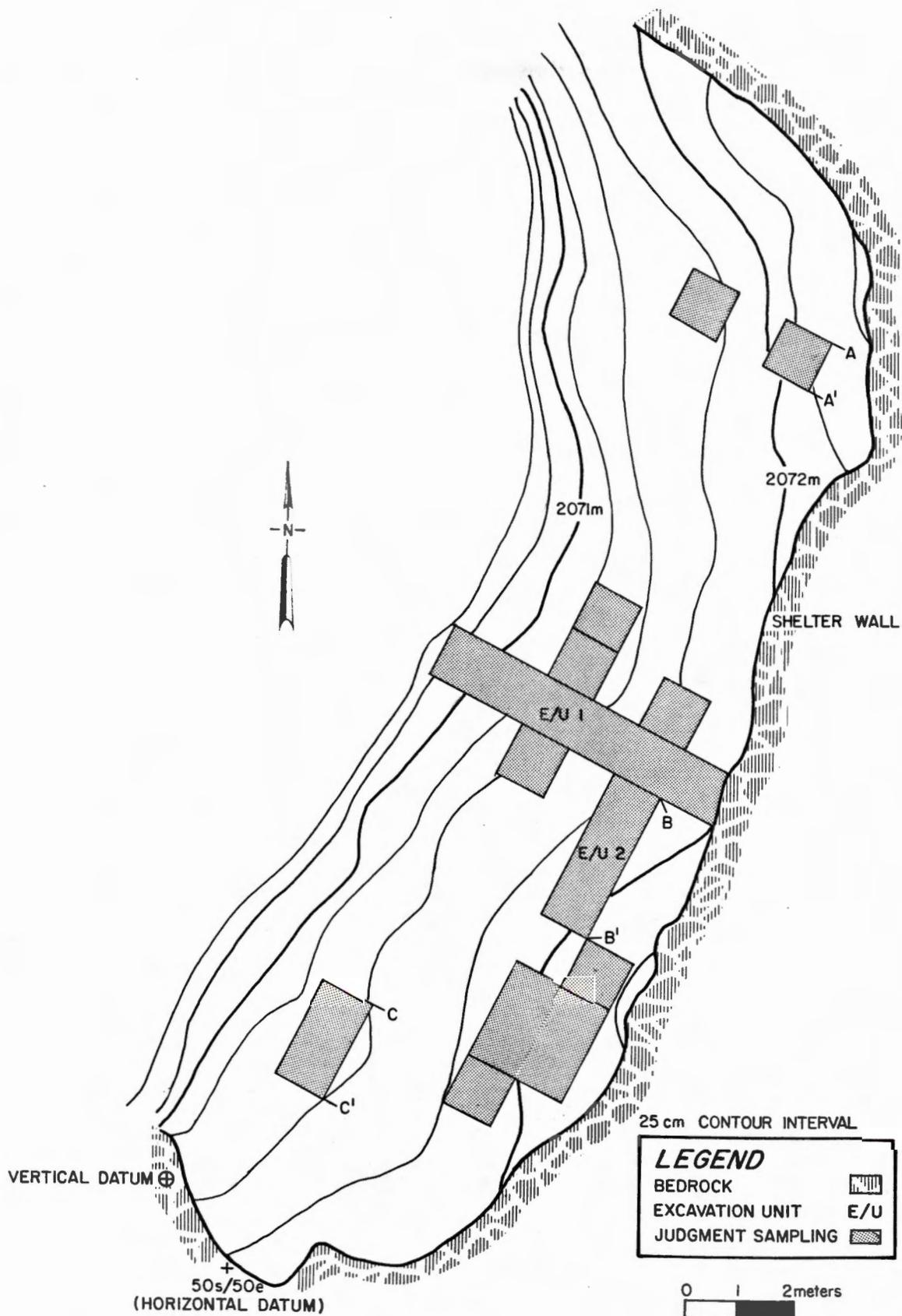


Figure 16. Topographic map of Cougar Springs Cave showing the location of excavated units.

report, and material collected by the survey crew in 1979 is included in that summary. The site form indicates that the survey collections were also made in the vicinity of unit 44S/48E.

A total of 72 surface artifacts was collected: 3 flaked lithic tools and 69 pieces of debitage. Included in the debitage was one piece of obsidian.

Surface evidence of structures. The sandstone slab alinement noted by the survey crew was the only possible evidence of structures noted at the site (fig. 17). This alinement was evident in the southern end of the shelter and consisted of a number of sandstone slabs that protruded above the level of the shelter fill in a rough line resembling the base of a masonry wall. Excavation of the area where this alinement occurred revealed that it was the product of natural rather than cultural forces.

Predictability of Subsurface Cultural Material

Surface materials were not good indicators of the distribution of subsurface remains at Cougar Springs Cave. The one area where surface artifacts were found at the site proved to be an area where such remains were concentrated in the site matrix; however, the remainder of the site also contained subsurface cultural material, even though no surface indications were present. Examination of the site stratigraphy provides insight into the surface distributions of artifacts. The uppermost stratum in the site is composed of unconsolidated sand and is almost completely devoid of artifacts. This stratum seems to be the product of grain-by-grain deposition of materials that originated in the decomposing ceiling of the shelter. The only place in the shelter where surface artifacts were recovered was the area where this stratum had been removed by erosion.



Figure 17. View of natural sandstone slabs that suggested the presence of architecture in the shelter, Cougar Springs Cave, looking northeast (DAP 027416).

Excavations

Excavation Unit 1

The first unit excavated was a trench (excavation unit 1) that ran from the mouth of the shelter to the rear wall. Horizontal control was maintained by excavating this trench as a series of six 1- by 1-m units; this insured that variations in artifact distribution from the front to the back of the shelter could be examined. Vertical control varied from square to square. Initial excavations were full cut. Two of the 1- by 1-m squares (37S/50E and 37S/51E) were excavated by strata.

Excavation Unit 2

Excavation unit 2 was a trench connecting excavation unit 1 with the southwest corner of 1- by 1-m square 41S/53E. The purpose of this trench was to explore the heavy concentrations of artifacts noted in the adjacent portion of excavation unit 1, and to provide a stratigraphic profile perpendicular to the one in excavation unit 1. As with excavation unit 1, this trench was excavated as a series of three connected 1- by 1-m squares. This trench was excavated according to natural strata.

Other Excavation Units

Three 1- by 1-m squares were excavated adjacent to excavation unit 1 to explore a series of features first noted in that trench. These squares were 38S/50E, 36S/50E, and 35S/50E. An additional 1- by 1-m square (36S/52E) was excavated north of excavation unit 1 and opposite excavation unit 2 to further define the northern limit of the concentration of artifacts noted in the first trench.

A 1- by 2-m unit (44S/48E) was excavated in the area where surface artifacts were encountered to explore the suspected lithic processing area. This unit was excavated full cut.

A 2- by 2-m square (42S/52E) was excavated to investigate a vertical slab alinement (fig. 17) in the southern portion of the shelter. Two additional 1- by 1-m squares were excavated to further define this alinement. One square, 41S/53E, was excavated adjacent to the north side of square 42S/52E, while the other square, 44S/52E, was excavated on the south side. All of these excavations were full cut.

Finally, two 1- by 1-m squares were excavated in the northern portion of the shelter at 29S/49E and 29S/51E to examine the deposits in that portion of the site.

Stratigraphy

The accumulated sediment within Cougar Springs Cave is quite shallow, averaging only 50 to 60 cm. Stratigraphic profiles indicate that the sediments lie conformably over the bedrock surface, following the slope of the surface, which dips to the south and west. Although sedimentological studies have not been carried out, the most obvious source of sediment is from within the shelter itself, and derives from grain-by-grain attrition of the roof and walls of the shelter due to chemical and mechanical erosion. Eolian deposition might have contributed to the shelter sediments, but this probably would have been a very minor factor.

In excavation, it was found that bedrock within the shelter is composed of in situ, spalled sandstone slabs (fig. 18), evidently overlying uneroded Junction Creek Sandstone. Spall formation is apparently accomplished by a combination of chemical and biological factors, since dense root mats were found underlying the in situ spalls. The surface of a ledge to the north of the shelter, which lies within the same geologic unit as the floor of the shelter, was found to be covered with small eroded rills that formed a polygonal pattern. This pattern may represent

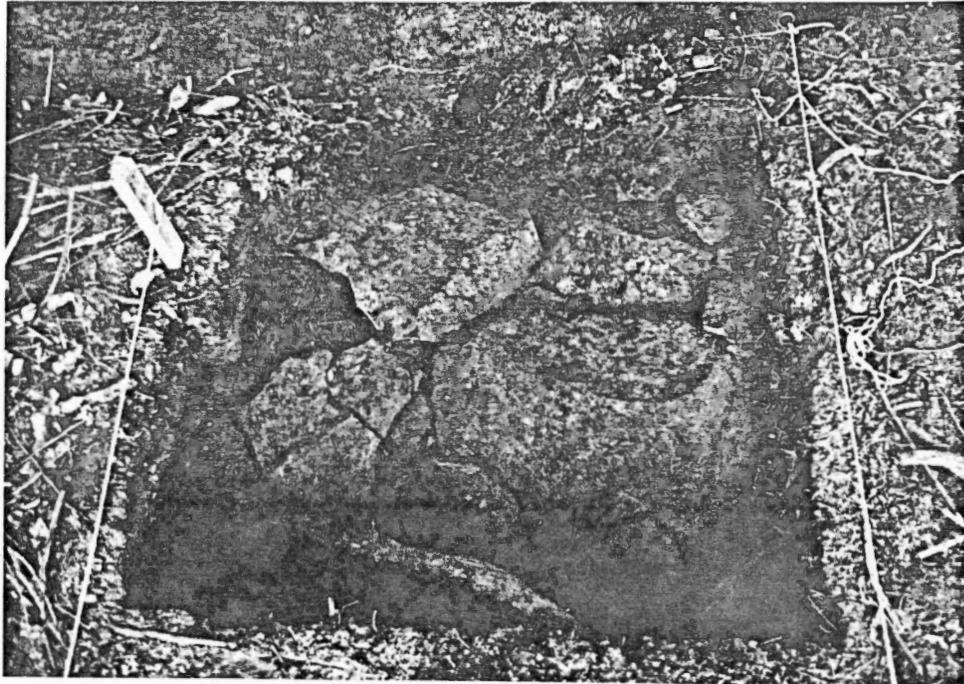
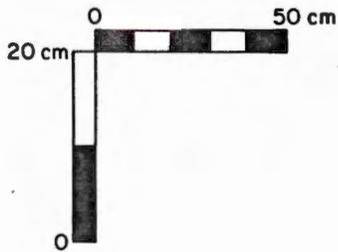
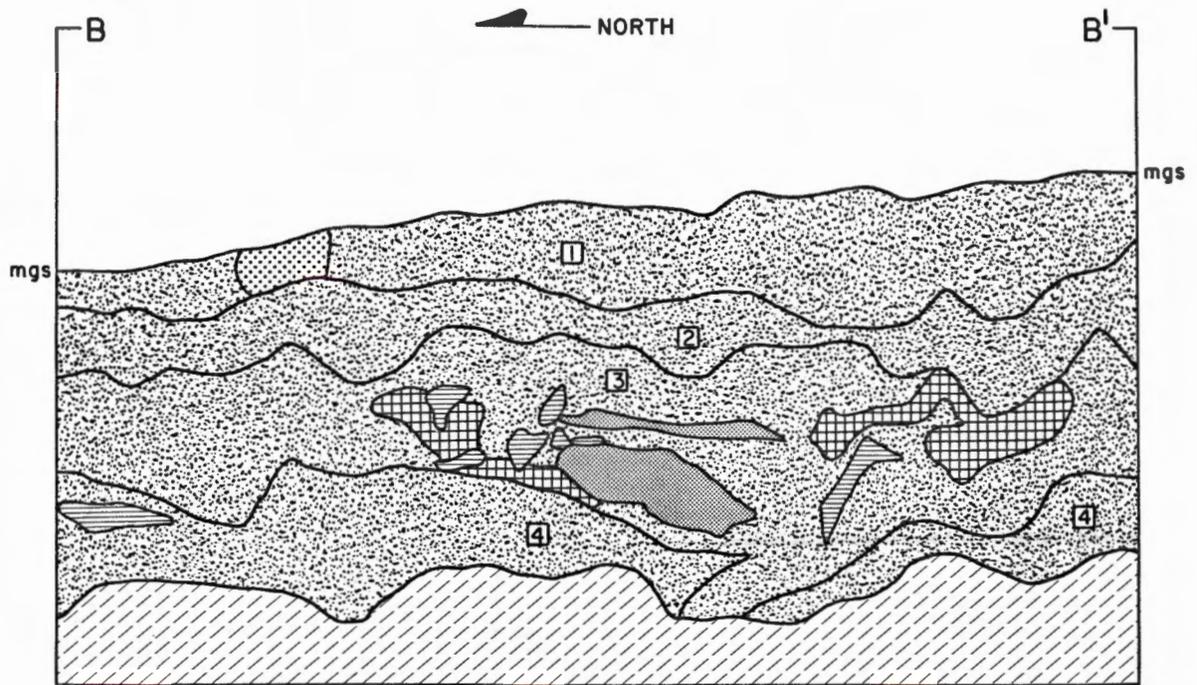


Figure 18. View of the east end of excavation unit 1, Cougar Springs Cave, after excavation. Note the slabs of spalled sandstone that form the bottom of the excavation unit (DAP 037053).



LEGEND			
MODERN GROUND SURFACE	mgs	ROCK	
SAND		DECOMPOSED SANDSTONE	
ROOT DISTURBANCE		UNINVESTIGATED	
RODENT DISTURBANCE		STRATUM NUMBER	

Figure 20. Stratigraphic profile of the east wall of excavation unit 2, Cougar Springs Cave.

infilled polygonal structures within the upper part of this sandstone unit, although the erosional pattern may have been imposed by other forces. However, it is easier to explain the presence of in situ spalling within the shelter if jointing within the otherwise massive sandstone can be posited. Unlike the shelter floor, the walls and roof of the shelter are composed of cross-bedded Junction Creek Sandstone. The contact between these two units is slightly above the modern ground surface, and active seeps within the shelter are located at this contact. Vertical groundwater percolation is apparently stopped at this contact, and water flows along the surface of the underlying unit until the valley wall is reached, and seeps are formed. Cougar Springs Cave probably owes its existence to the presence of these seeps and accelerated erosion of the Junction Creek Sandstone along this limited section of the cliff face.

Three stratigraphic sections that transect the shelter from north to south were chosen for examination (figs. 19, 20 and 21). The sediments within these profiles can be divided into four major strata.

Stratum 1. Stratum 1 is the surface duff zone. It is heavily infiltrated by rootlets and roots that measure up to 6 cm in diameter. Sediments consist of medium to fine sand with some silt admixture. No large inclusions are present, although scattered charcoal flecks and small sandstone spalls are observable. Scattered krotovina were observed. Color is variable, ranging from 5YR 2.5/2 (moist) to 10YR 7/3 (dry). The lower boundary is regular abrupt to wavy.

Stratum 2. This stratum is an orange, medium to fine sand, with dark mottling and some locally observable red to yellow oxide inclusions. Rootlets and roots up to 1 cm in diameter are present, along with the

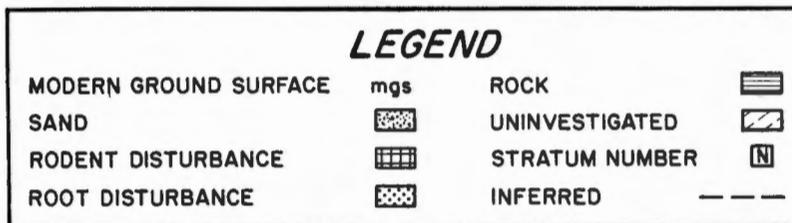
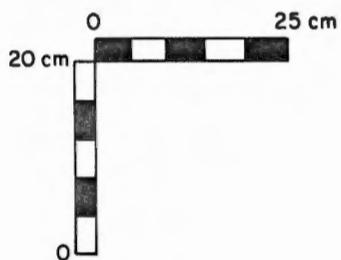
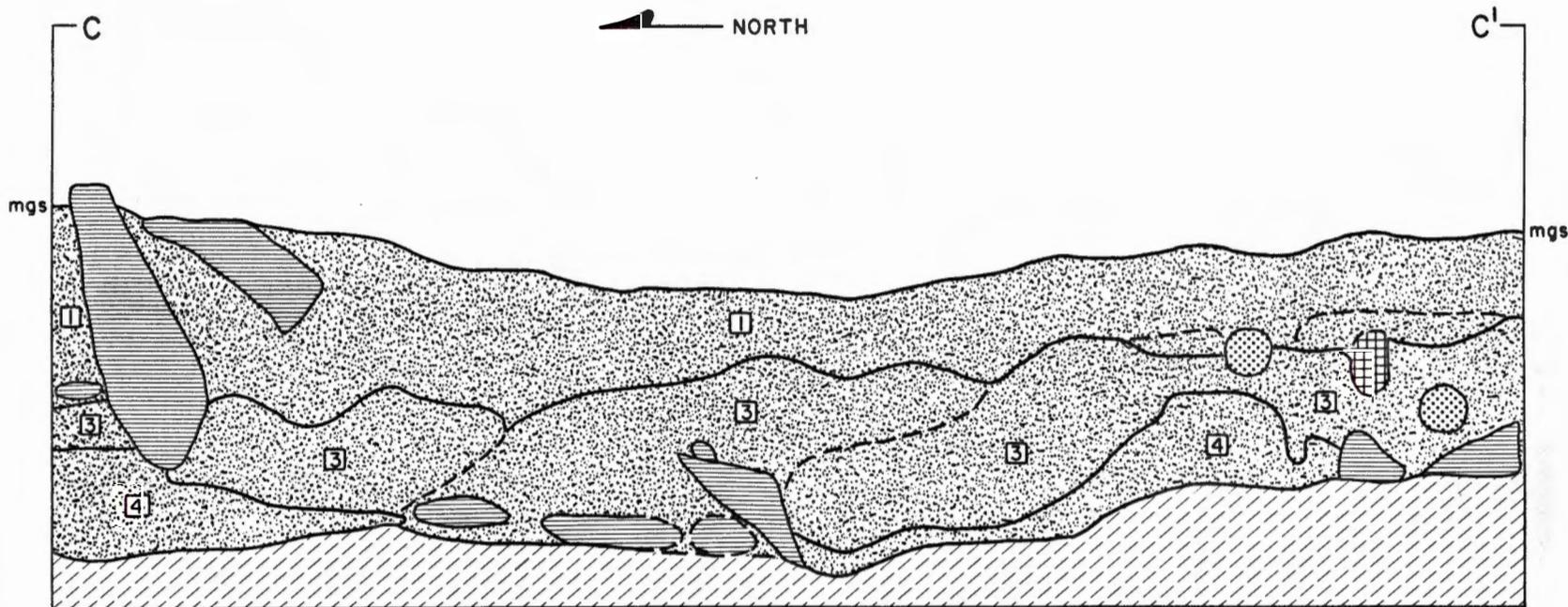
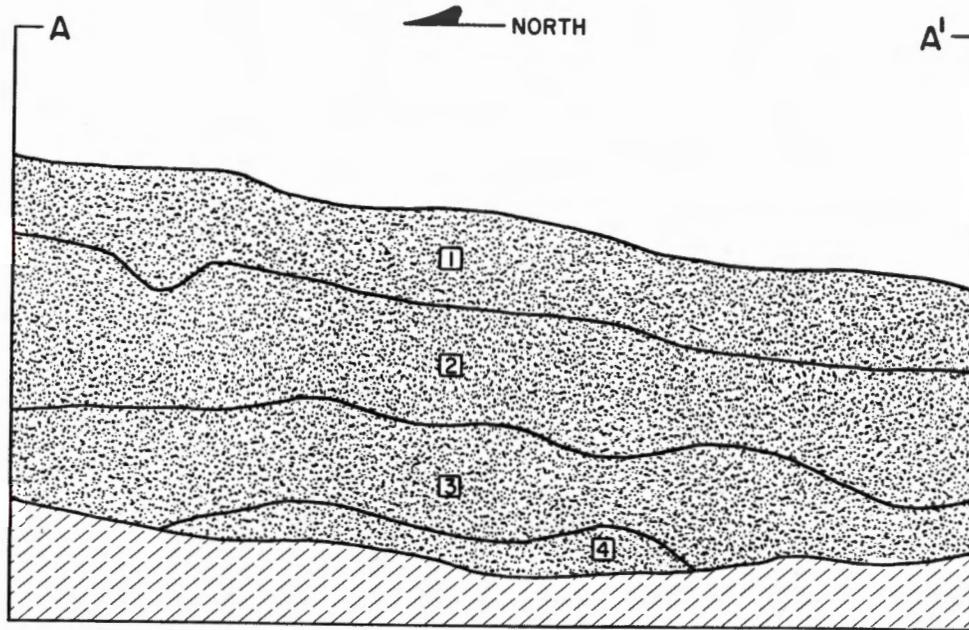


Figure 21. Stratigraphic profile of the east wall of 2- by 2-m square 44S/48E, Cougar Springs Cave.



0 10 20 cm

<i>LEGEND</i>	
SAND	
UNINVESTIGATED	
STRATUM NUMBER	

Figure 19. Stratigraphic profile of the east wall of 1- by 1-m square 29S/51E, Cougar Springs Cave.

occasional pebble inclusions. Sand varies in color from 7.5 YR 3/2 (moist) to 10YR 6/6 (moist) and mottling is 10YR 3/1 (moist). The lower boundary is abrupt and wavy. This stratum is not present in 2- by 2-m unit 44S/48E.

Stratum 3. Stratum 3 is a heavily organic stained, medium to fine sand with charcoal flecks common. Rootlets and roots up to 1 cm in diameter occur. Inclusions vary in size from pebble to boulder, and may represent both floor and roof spall. Rounded river cobbles are also observable as inclusions in this stratum. The color of the sediments is variable, ranging from 5YR 2.5/1 (moist) to 10YR 6/3 (moist). The lower boundary is very abrupt to abrupt and regular to wavy.

Stratum 4. Sterile sand and sandstone spalls immediately overlying bedrock make up Stratum 4. Spalls up to cobble size are common. Some rootlets and roots up to 1 cm in diameter are observable. The sediments are a medium to fine sand, with color varying from 10YR 6/6 (moist) to 10YR 7/2 (moist). The lower boundary is at bedrock.

Stratigraphic excavation. Excavation by stratigraphic unit was conducted in a total of six 1- by 1-m grid squares (two squares in excavation unit 1, all three squares of excavation unit 2, and one 1- by 1-m square 36S/50E). In all but one of these squares, Stratum 2 and Stratum 3 were collected as one unit. Stratum 1 in these five squares yielded 8 artifacts (2.4 percent of the material collected from the five squares) and Strata 2 and 3 combined yielded 331 artifacts (97.6 percent). In the one grid square where Strata 2 and 3 were collected separately, 2 artifacts (0.5 percent) were recovered from Stratum 1, 13 (3.3 percent) from Stratum 2, and 378 (96.2 percent) from Stratum 3. Stratum 3 is clearly the major artifact-bearing stratum in

the shelter. Artifacts are present in very small amounts in the overlying strata, probably as a result of root growth and animal disturbance. Cultural material did not occur in Stratum 4, which appears to be highly decomposed sandstone from which all of the cement has been removed.

Distribution of strata. All but one of the strata present within the shelter are found in all three profiles. A correlation of the three profiles (fig. 22) shows that Stratum 2 thins toward the south, and has disappeared before the profile in 2- by 2-m unit 44S/48E had been reached. Only a single possible cultural horizon was observed in any of the profiles (Stratum 3). This horizon varies from approximately 10 to 15 cm in width and increases slightly in thickness toward the central and southern portions of the shelter. Although minor color variations are observable within the horizon, no observable microstratigraphy indicating multiple occupations can be seen.

Features

Five features were encountered during excavation of Cougar Springs Cave (fig. 23 and table 15). Four of these features (Features 1, 2, 3, and 5) were small cylindrical pits that originated in the cultural level and extended down into bedrock; these four features were filled with sediments from Stratum 3. The fill of Feature 3 contained 10 pieces of debitage. No artifacts were recovered from Features 1, 2, or 5. As can be seen in figure 24, Features 1, 2, 3, and 5 form a rough line across the center of the shelter that parallels the long axis of the shelter. It is possible that this set of features served to hold posts that were supports for a windbreak across the front of the shelter or for a drying or storage rack.

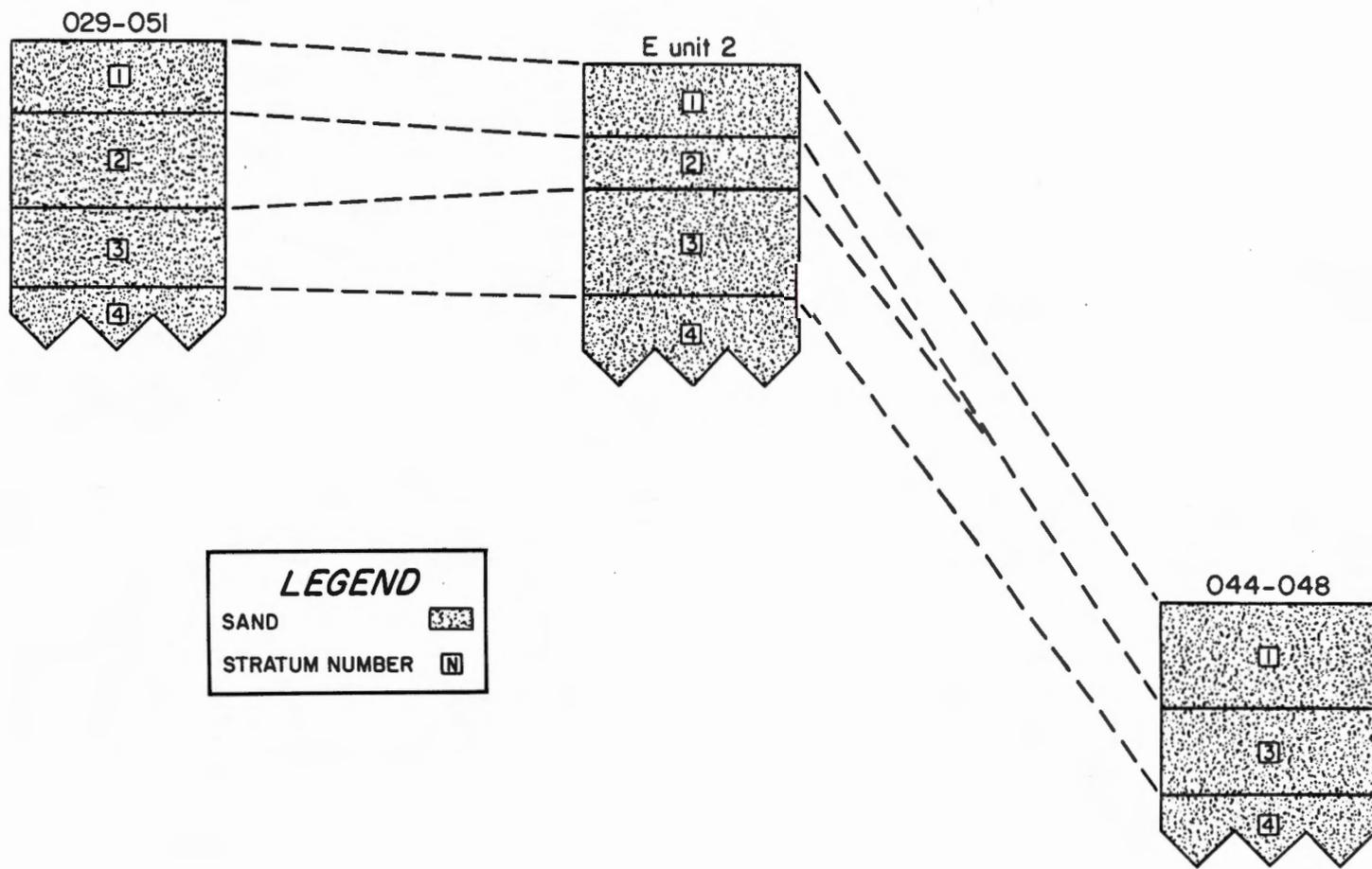


Figure 22. Schematic correlation of stratigraphic units, Cougar Springs Cave.

corner notched. The items identified as indeterminate in table 17 are fragments that could not be identified further. The specialized form indicated in the table is a bifacially flaked drill.

Table 17. Flaked lithic tools, Cougar Springs Cave

	Modern ground surface			Excavated units			Site total		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Total tools:	3	100.0	138	25	100.0	13	28	100.0	26
Tool morpho-use									
Indeterminate				2	8.0	3	2	7.1	3
Utilized flake	1	33.3	2	12	48.0	4	13	46.4	3
Core				2	8.0	115	2	7.1	115
Used core, cobble tool	1	33.3	386				1	3.6	386
Thin uniface	1	33.3	27				1	3.6	27
Specialized form				1	4.0	4	1	3.6	4
Thin biface				3	12.0	6	3	10.7	6
Projectile point				5	20.0	5	5	17.9	5
Grain size									
Fine				1	4.0	179	1	3.6	179
Very fine	3	100.0	138	17	68.0	7	20	71.4	27
Microscopic				7	28.0	2	7	25.0	2
Item condition									
Broken									
Indeterminate				3	12.0	19	3	10.7	19
Distal present				2	8.0	4	2	7.1	4
Proximal present				1	4.0	3	1	3.6	3
Medial present				3	12.0	6	3	10.7	6
Complete/nearly complete	3	100.0	138	16	64.0	15	19	67.9	34
Dorsal face evaluation									
Indeterminate				2	8.0	3	2	7.1	3
Core	1	33.3	386	2	8.0	115	3	10.7	205
Unworked with cortex				2	8.0	6	2	7.1	6
Unworked without cortex	2	66.7	15	11	44.0	3	13	46.4	5
Edged with cortex				1	4.0	3	1	3.6	3
Secondarily thinned				5	20.0	6	5	17.9	6
Well shaped				2	8.0	3	2	7.1	3

There is a difference in material types between the tools and the debitage. Very fine grained materials account for 94.8 percent of the debitage, whereas only 71.4 percent of the tools are of materials of that grain size.

Only nine nonflaked lithic tools were collected from Cougar Springs Cave (table 18). Four of the items fall into the miscellaneous category and are abrading/grinding stones. These are items that appear to have been ground on at least one surface but that have had minimal production input. Three of the abrading/grinding stones had been ground on their flat surfaces, and the fourth had a curved surface that was ground.

Four whole or fragmentary manos were recovered. One of these was so fragmentary that no finer identification is possible, but three of the manos are classed as one-hand manos. Two of the one-hand manos are complete enough to determine that each had only a single grinding surface.

One fragment of a metate was also recovered. Although it is classified as a trough metate, it is not typical of Anasazi trough metates. Less effort appears to have been expended in its manufacture than for most trough metates encountered in the Dolores Project area.

Table 19 presents the nonhuman bone data for the shelter by taxa. Most of the bone is fragmentary and is identifiable only as small, medium, or large mammal. Of the bones that could be identified more specifically, cottontail is the most common.

Four of the bones recovered had been worked (fig. 26). Two of these items are what would traditionally be called "gaming pieces." Both are made from the bones of medium mammals, and both are incised with cross-hatching on one face. One is round and has a small pit on the face that is not crosshatched. The other is oval and is plain on the face that is not crosshatched.

Table 18. Nonflaked lithic tools, Cougar Springs Cave

	Site total		
	N	%	wt (g)
Total tools:	9	100.0	1,907
Tool morphouse			
Miscellaneous	4	44.4	570
Mano fragment, not further specified	1	11.1	923
One-hand mano	3	33.3	587
Trough metate	1	11.1	12,200
Blank type			
Rounded Cobble	2	22.2	290
Flattened Cobble	4	44.4	671
Slab; not further specified, fragment	2	22.2	850
Thin slab	1	11.1	12,200
Item condition			
Indeterminate	2	22.2	850
Broken			
Identifiable	3	33.3	4,467
Complete/nearly complete	4	44.4	516
Production evaluation			
Indeterminate	2	22.2	850
Natural (unmodified)	2	22.2	290
Minimally modified	1	11.1	12,200
Well shaped	4	44.4	671

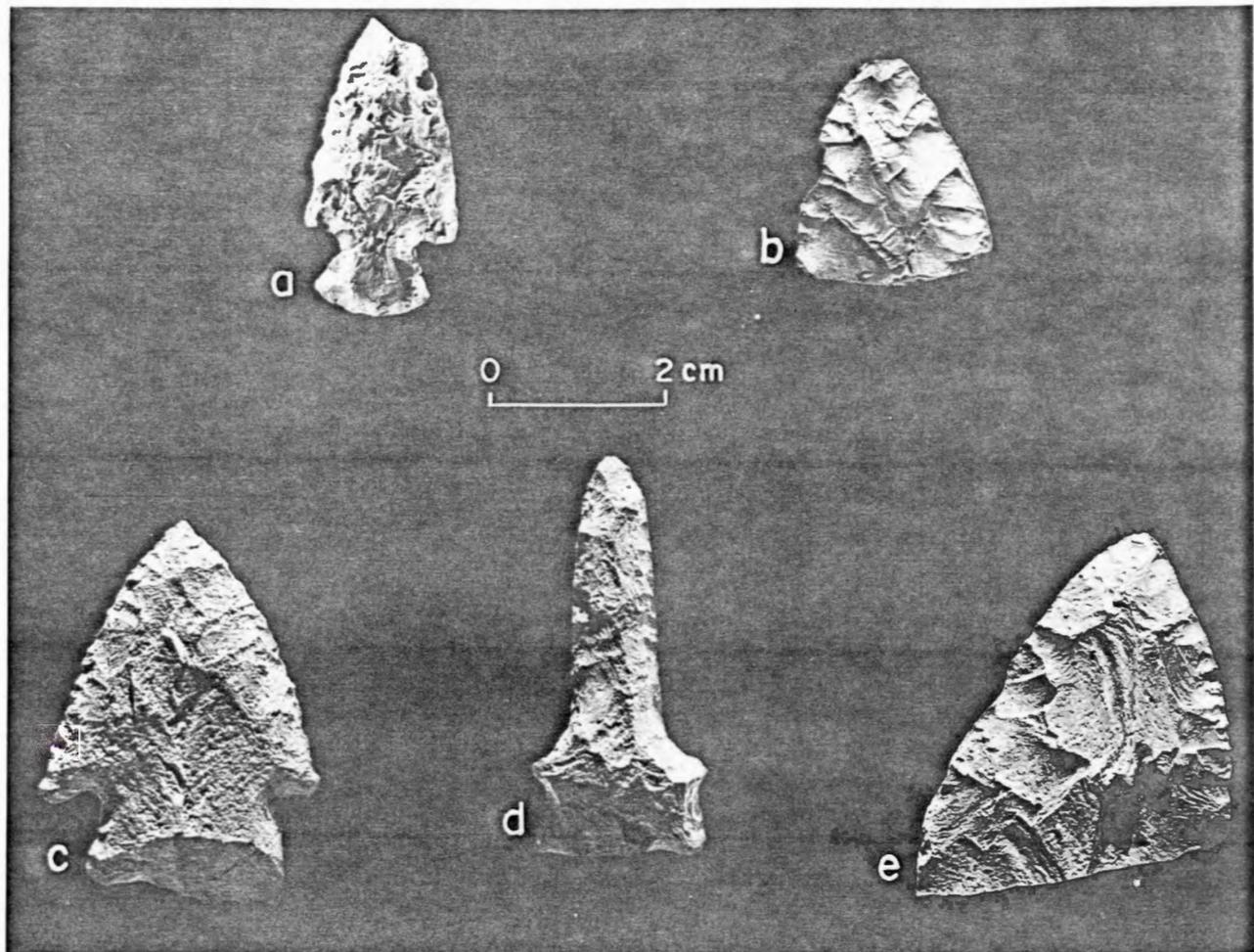
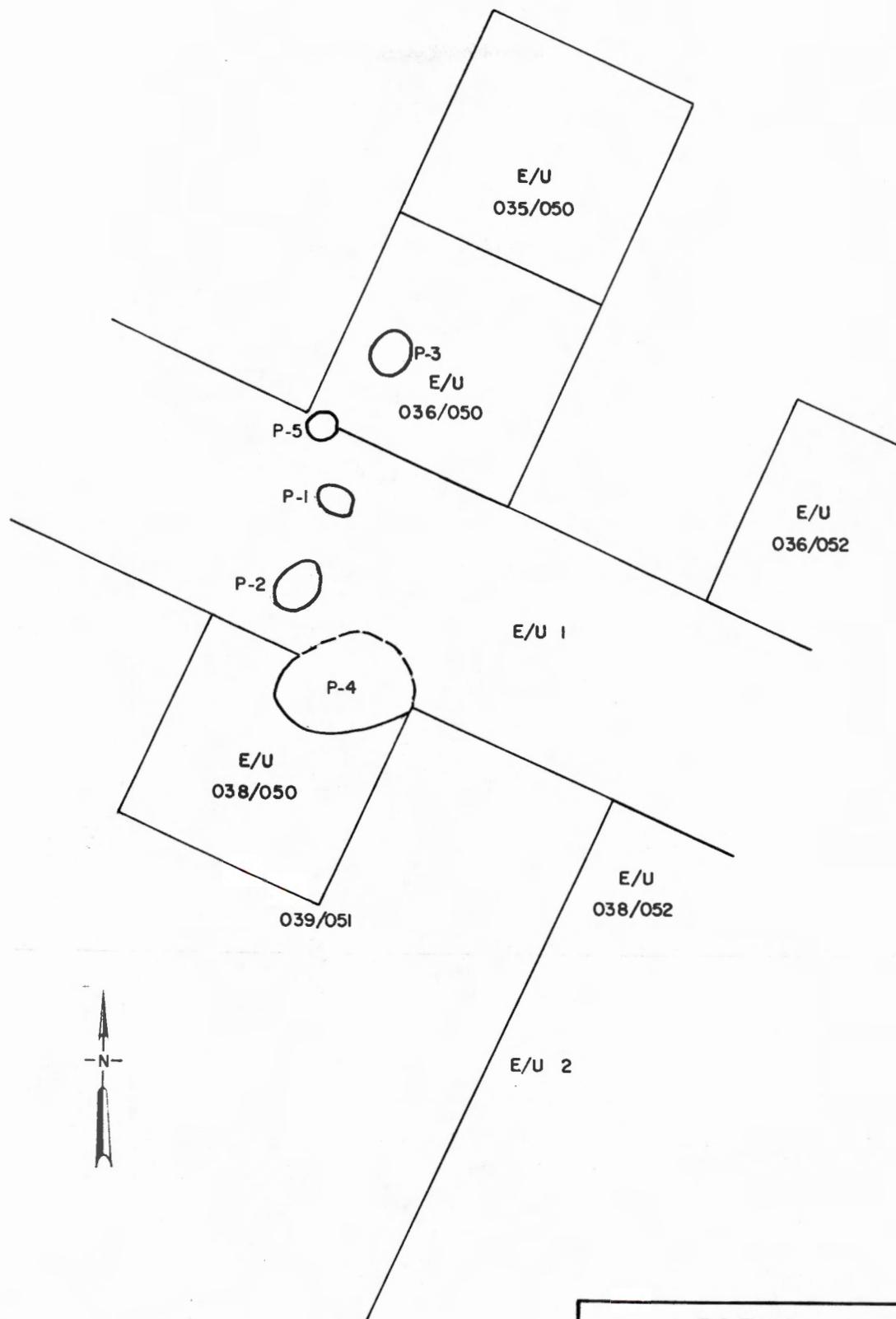


Figure 25. Flaked lithic tools from Cougar Springs Cave: (a) corner-notched projectile point, 2- by 2-m square 44S/48E, east half; (b) projectile point fragment, excavation unit 1; (c) corner-notched projectile point, excavation unit 1; (d) drill, excavation unit 2; (e) projectile point fragment, 2- by 2-m square 44S/48E, east half (DAP 109302).



Figure 23. View of Features 1, 2, 3, and 5, Cougar Springs Cave, after fill had been removed (DAP 059312).



LEGEND	
EXCAVATION UNIT	E/U
PIT	P
EDGE OF EXCAVATION UNIT	—

Figure 24. Map of features recorded at Cougar Springs Cave. Refer to table 15 for artifact descriptions.

Table 15. Feature summary, Cougar Springs Cave

Feature No.	Type	Plan	Profile	Length (cm)	Width (cm)	Depth (cm)
1	Bedrock feature	Oval	Other	19.1	17.0	18.8
2	Bedrock feature	Oval	Cylindrical	25.5	18.0	16.3
3	Bedrock feature	D-shaped	Rectangular	20.0	16.0	16.0
4	Burned pit	Oval	Basin	50.0	25.0	10.0
5	Bedrock feature	Round	Basin	16.5	15.0	11.5

NOTE: Refer to figure 24 for feature locations.

Feature 4 was a burned pit located in Stratum 4, which overlies bedrock. The pit is oval in plan and basin in profile, and it is filled with very dark, charcoal-rich sediments. Two artifacts were recovered from this fill: a bone from a medium-sized mammal, and a flake of very fine grained material. One bulk soil sample (bulk soil sample 1) was collected from the fill of this feature and yielded charred Pinus sp. and Populus sp. wood, a "cheno-am" (family Chenopodiaceae or Amaranthaceae) seed, and three types of seeds that could not be identified. Although the sediments surrounding the feature did not show the reddening so often present in such features, Feature 4 appears to have been a fire pit. Based on the presence of bone and charred seeds, this fire pit might have served in food preparation activities.

Material Culture

The largest class of items found at Cougar Springs Cave was flaked lithic debitage (table 16). The debitage collection is dominated by very fine grained materials, most of which appear to be Burro Canyon quartzite. The mean flake weight is surprisingly low, as are the

proportions of items with cortex and the proportion of whole flakes.

Eight pieces of debitage, all obsidian, could be identified as nonlocal.

Table 16. Flaked lithic debitage, Cougar Springs Cave

	Modern ground surface			Other excavated units			Site total		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Flakes/flake frags:									
Grain size									
Medium	0	0	0	4	0.2	2	4	0.2	2
Fine	1	1.5	1	63	3.6	6	64	3.6	6
Very fine	63	95.5	1	1644	94.8	1	1707	94.8	1
Microscopic	2	3.0	1	24	1.4	1	26	1.4	1
Total flakes/ flake frags	66	100.0	1	1735	100.0	1	1801	100.0	1
Items with cortex	1	1.5	...	89	5.1	...	90	5.0	...
Whole flakes	16	24.2	...	286	16.5	...	302	16.8	...
Nonlocal items	1	1.5	...	7	0.4	...	8	0.4	...
Angular debris	3	100.0	41	11	100.0	12	14	100.0	18

NOTE: frags - Fragments.

... - Information not available.

The collection of flaked lithic tools from the site is small (table 17). Utilized flakes are the most common tools, followed (in order of decreasing abundance) by projectile points, thin bifaces, and cores. All other morpho-use classes present in the flaked lithic tool collection are represented by single items. A selection of flaked lithic tools is presented in figure 25.

Two projectile points and three projectile point fragments were collected from excavations at Cougar Springs Cave. Two of the fragments retain no evidence of their general form. Of the three remaining items, one point is side notched; the other point and one proximal fragment are

Table 19. Taxonomic composition of the faunal assemblage from Cougar Springs Cave

Taxon	Total site	
	N	%
Mammalia:		
Mammalia, small	17	24.3
Mammalia, medium	15	21.4
Mammalia, large	25	35.7
<u>Sylvilagus</u> spp. cottontails	10	14.3
Rodentia	1	1.4
Sciuridae	1	1.4
Artiodactyla	1	1.4
Total	70	100.0

A fragment of long bone (large mammal) that had been ground to a point at one end was recovered. The tool appears to be an awl, but it is different from most awls recovered in the DAP area in that it is a splinter of bone that has had little modification other than the creation of the point. This pointed bone and the two gaming pieces all came from the southernmost 1- by 1-m section of excavation unit 2.

The fourth worked nonhuman bone is an irregular bone that has been ground on both faces and on its edges, as evidenced by striations on these surfaces; this bone is of a large mammal. The item was recovered from 1- by 1-m square 35S/50E.

No ceramic items were recovered from the site. A lump of untempered, unfired clay was found in the east end of excavation unit 1. This clay weighed 15.5 g and was found just above the bedrock floor of the shelter.

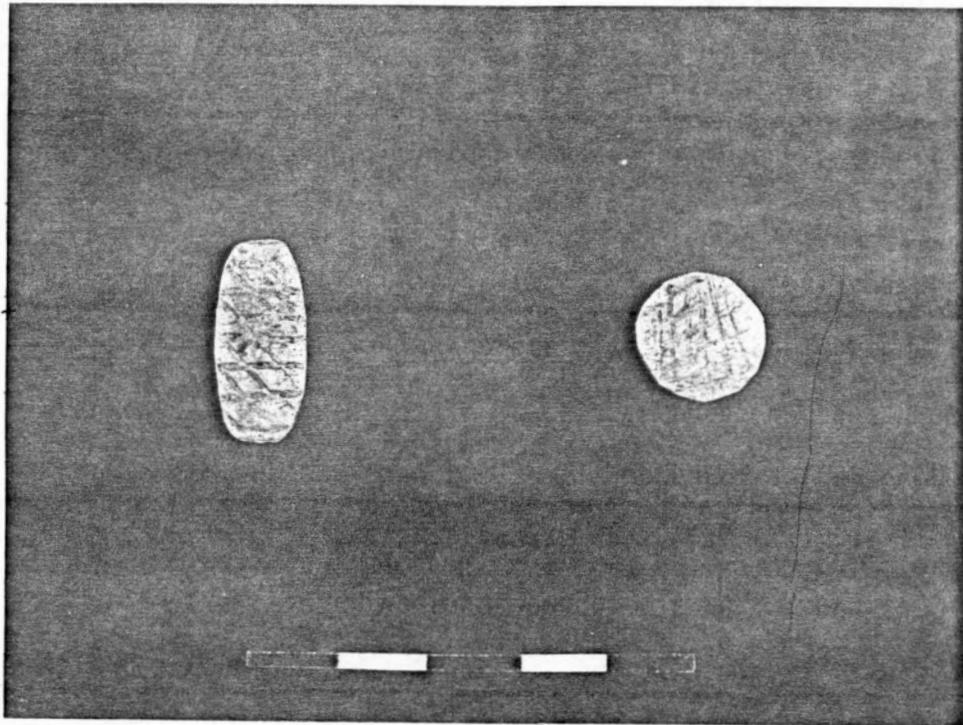


Figure 26. Worked nonhuman bone from Cougar Springs Cave (DAP 150606).

Site Synthesis

Chronology

Two radiocarbon dates were obtained from samples taken from Cougar Springs Cave. Radiocarbon sample 1 consisted of scattered charcoal collected from 1- by 1-m square 37S/49E in excavation unit 1. This square was immediately northwest of feature 4. The sample was collected from approximately 12.5 cm below modern ground surface. Radiocarbon sample 3 was collected from approximately 22.5 cm below modern ground surface, in 2- by 2-m square 44S/48E. This sample consisted of small, scattered pieces of charcoal that were found in the same stratum (Stratum 3) as high concentrations of flaked lithic debitage. Both the excavator who collected the sample and the laboratory that processed it noted that there were small rootlets mixed with the charcoal. The radiocarbon laboratory notes indicate that these rootlets were picked out during pretreatment and that the sample appeared to be free of contamination when it was processed. Analysis of sample 1 was provided by Beta Analytic, Inc. The reported date is 1400 ± 60 B.P. The tree-ring corrected date using the conversion method by Damon et al. (1974) is 1378 ± 136 B.P. (A.D. 436-708). Analysis of sample 3 was provided by Dicarb Radioisotope, Co. The reported date for this sample is 910 ± 70 B.P.; the tree-ring corrected date is 904 ± 142 (A.D. 904-1188).

The corrected tree-ring radiocarbon dates do not agree either with each other or with dates assigned to the site based on the artifact assemblage. The artifact assemblage suggests that the site is probably Archaic or Basketmaker II, and that both of the radiocarbon dates are too recent. The date for sample 3 seems particularly out of line with the artifact evidence.

There is substantial evidence that suggests that the site is either Archaic or Basketmaker II. The first major line of evidence is that the site does not appear to be Basketmaker III or later Anasazi. No ceramics were recovered from the site, and it seems unlikely that a camp that was the site of cooking and milling activities would lack ceramics if it were a ceramic-period site. The metate collected from the site is not typical of ground/stone found at Pueblo sites in the DAP project area, even though it fits the basic definition of a trough metate as employed by the DAP. The size and morphology of the projectile points from the site are not consistent with the types usually recovered from Anasazi contexts in the DAP area. Finally, the orientation of the shelter to the northwest is not consistent with general trends in Pueblo site orientation. Rockshelters with a definite Anasazi occupation in the Grass Mesa Locality tend to be oriented to the south (cf. Sites 5MT2211, 5MT2216, 5MT2381, 5MT4789 [all discussed in this report], 5MT2151 [Hogan 1983], and 5MT4651 [Kohler 1983]).

With the Basketmaker III/Pueblo period ruled out, two possible periods of occupation are left: Archaic/Basketmaker II and Ute. Very few Ute sites have been identified in the project area; therefore, little comparative data on what is to be expected in a Dolores area Ute assemblage is available. Buckles (1968:61-62), however, describes historic Ute material from the Montrose area and the artifacts from Cougar Springs Cave do not fit this description. Further, the position of the cultural material in the fill of the shelter does not appear to be consistent with a relatively recent Ute occupation. Although there is not adequate control on the rate of sediment accumulation in rockshelters in the Dolores area, the stratigraphic location of the majority of the

cultural material near bedrock suggests that the material in the shelter is older than that of the Ute occupation of the Dolores River valley.

The flaked lithic assemblage from the site resembles material assigned by Irwin-Williams (1973:11-13:figs. 6, 7) to the En Medio Complex and material of the Los Pinos Phase (Eddy 1961) in the Navajo Reservoir area. Both of these phases are dated to the late Archaic or Basketmaker II periods. The Durango Basketmaker II sites reported by Morris and Burgh (1954) also contained flaked lithic items very similar to those recovered at Cougar Springs Cave. Included in the Durango collections, as well, are a number of bone gaming pieces which resemble those from Cougar Springs Cave. The lithic profile (Phagan 1981) for Cougar Springs Cave is more consistent with Archaic sites than it is with Anasazi materials from the Dolores River valley, but this may be due, in part, to the nature of the site and the activities carried out there.

In summary, the lines of evidence for chronologic placement of the site are contradictory. There is relatively good evidence that the site was not occupied during the Anasazi period. It seems, then, that the radiocarbon date for sample 3 of 910 ± 142 is not applicable to the use of the site. The Ute period can be tentatively, but not definitely, ruled out as well. The artifacts resemble material ascribed to the late Archaic or Basketmaker II periods; if the site does indeed date to these periods, the radiocarbon date for sample 1 of 1372 ± 136 also seems too recent.

Site Formation Processes

The process of site formation at Cougar Springs Cave is relatively simple. When prehistoric people first visited the shelter, a small amount of sediment had accumulated on the bedrock surface that forms the

floor of the shelter. During what were probably relatively short stays at Cougar Springs Cave (based on the small amounts of food refuse and the limited cooking and food preparation materials noted), debris, primarily from the manufacture of lithic tools, accumulated on the surface of the shelter. Along with this primary refuse, some worn out tools seem to have been purposefully discarded. Some bone and charcoal became incorporated into the deposits as a result of cooking and food consumption at the site.

Following the use of the shelter as a campsite and manufacturing station, the cultural material became buried under sandy sediments. The most likely agent in this burial process is the steady grain-by-grain decomposition of the roof and walls of the shelter. There also may have been some small accumulation of wind-borne sediments that originated on the Dolores River flood plain and in the bed of Dry Creek. These processes account for the sandy sediment overlying the cultural material at the site.

The major natural transformation process at the site is floralurbation. Dense brush was removed from the site before excavation, and roots had penetrated the cultural stratum in many areas of the site. The roots of a Douglas-fir (Pseudotsuga menziesii) growing outside the shelter on the south end could be followed well into the shelter sediments. Indeed, the most likely explanation for the vertical slabs noted by the survey crew in the south end of the shelter is the activity of tree roots, which probably acted to pull spalled slabs that occur just above bedrock into a vertical position.

Applicability of Site Data to the Dolores
Archaeological Program Research Design

Many of the conclusions to be presented here have already been discussed earlier in the report. The data obtained from the testing operations at Cougar Springs Cave have the greatest bearing on the problem domains Economy and Adaptation and Extraregional Relationships. In addition, some minimal conclusions may be drawn about Paleodemography. The data are not currently relevant to discussions of Social Organization or Cultural Process, but when taken in the context of the Dolores Archaeological Program data base as a whole, they will help to answer a number of questions in these areas as well.

Economy and adaptation. The primary activity carried out at Cougar Springs Cave was the reduction of very fine grained lithic raw materials into generalized tool forms, as evidenced by the high proportions of flaked lithic debitage and the small average size of the debitage. The generally low proportion of cortex in the lithic assemblage indicates that the quarry was not located relatively near the site. Outcrops of Burro Canyon quartzite, the primary lithic raw material at the site, are known to occur up the Beaver Creek drainage from Cougar Springs Cave, and it is possible that such outcrops also occur in the unsurveyed upper reaches of Dry Creek drainage. It is also possible that cobbles of this material could have been obtained from the bed of Dry Creek, but a higher diversity of materials would be expected if the source of the material was cobbles rather than an outcrop.¹

¹Carl J. Phagan, DAP, personal communication

Direct evidence of the plant foods used by the occupants of Cougar Springs Cave is lacking, but the use of such foods is indicated by the presence of milling equipment. Animal foods are represented by bone (table 19). The composition of the faunal assemblage suggests that specialized hunting was not practiced by the occupants of Cougar Springs Cave, but instead, a pattern of adventitious hunting was practiced where such animals as were encountered were procured.

Paleodemography. The restricted size of the rockshelter and the sparse nature of the artifact assemblage in items other than flaked lithic debitage suggest that a small group was involved in the use of the site. The size of the shelter would certainly have limited the number of people who could have used it at any one time. Furthermore, the amount of food refuse is so small as to suggest that only a small population was on hand in the shelter at any one time. However, this second piece of evidence is not particularly strong, since much of the food refuse could have been tossed out of the shelter and would not have been recovered during testing.

A series of repeated occupations of the site, based on the distributional patterning of debitage, was suggested earlier. That these occupations were short term is also suggested by the fact that no effort had been made to remove flaked lithic debitage from the shelter. Debitage would have been uncomfortable to live on, and if there was any long-term use of the site, attempts to keep the space inside the shelter usable for activities other than tool manufacture would be expected.

Given the evidence for a series of short occupations of the shelter by small groups of people, it is suggested that the site was probably a temporary camp employed by a task group from a larger Archaic or

surface collection; based on the results of this examination, it was decided that further, more intensive work was required at the site. A small crew under the direction of E. Huber conducted Track 2 investigations at Dos Cuartos House from 18 August to 22 August 1980.

The Track 2 investigations conducted at the site included surface collection, removal of vegetation, shovel scraping, and excavation. Two contiguous surface rooms were uncovered and excavated, as was an area immediately to the southeast of the two rooms. A 1- by 2-m excavation unit was also excavated to examine the site stratigraphy outside of the rooms and to explore for midden deposits or pitstructures. None of the material from the excavations was screened.

Surface Investigations

Surface Artifact Collections

Three different surface artifact collections exist from Dos Cuartos House: the 1972 DRP survey collection, the collection made by the WSU survey crew in 1980, and the collection made as part of the Track 2 investigations at the site. These collections are summarized in tables 23 through 27. A total of 85 artifacts, including 17 sherds (Early Pueblo Gray and Mancos Gray), 8 flaked lithic tools, 56 pieces of debitage, and 4 nonflaked lithic tools, have been collected from the site surface. Utilized flakes are the most common flaked lithic tool.

Surficial Evidence of Structures

After the initial clearing of brush from the site, several rock alignments were noted. Upon excavation, it became clear that there were two contiguous surface rooms. These will be described in detail in the following section. No other evidence of structures or features was present at the site.

Table 23. Flaked lithic debitage, Dos Cuartos House

	Modern ground surface			Room 1			Room 2		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Flakes/flake frags:									
Grain size									
Medium	0	0	0	0	0	0	0	0	0
Fine	5	11.1	18	3	12.0	14	6	6.9	78
Very fine	40	88.9	9	22	88.0	16	81	93.1	9
Microscopic	0	0	0	0	0	0	0	0	0
Total flakes/ flake frags	45	100.0	10	25	100.0	16	87	100.0	14
Items with cortex	8	17.8	...	2	8.0	...	20	23.0	...
Whole flakes	20	49.4	...	16	64.0	...	49	56.0	...
Angular debris	11	100.0	33	23	100.0	9	91	100.0	22

NOTE: frags - Fragments.
 ... - Information not available.

Table 23. Flaked lithic debitage, Dos Cuartos House--Continued

	Nonstructural unit 1			Excavation unit 1			Site total		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Flakes/flake frags:									
Grain size									
Medium	0	0	0	0	0	0	0	0	0
Fine	5	17.9	8	0	0	0	19	9.5	34
Very fine	23	82.1	27	14	100.0	19	180	90.5	13
Microscopic	0	0	0	0	0	0	0	0	0
Total flakes/ flake frags	28	100.0	22	14	100.0	19	199	100.0	15
Items with cortex	9	32.1	...	2	14.3	...	41	20.6	...
Whole flakes	11	39.3	...	8	57.1	...	104	52.3	...
Angular debris	69	100.0	6	24	100.0	38	218	100.0	18

Table 24. Flaked lithic tools, Dos Cuartos House

	Modern ground surface			Room 1		
	N	%	Mean wt(g)	N	%	Mean wt(g)
Total tools:	9	100.0	34	12	100.0	285
Tool morpho-use						
Utilized flake	6	66.7	15	3	25.0	214
Core	2	22.2	62	5	41.7	480
Used core, cobble tool	1	11.1	95	1	8.3	127
Thick uniface						
Thick biface				2	16.7	122
Projectile point				1	4.3	8
Grain size						
Fine	7	77.8	27	1	8.3	577
Very fine	2	22.2	62	11	91.7	258
Microscopic						
Item condition						
Broken	1	11.1	28	2	16.7	90
Indeterminate	8	88.9	32	10	83.3	324
Complete/nearly complete						
Dorsal face evaluation						
Core	3	33.3	3	6	50.0	421
Unworked with cortex	1	11.1	4			
Unworked without cortex	5	55.4	18	3	25.0	214
Edged with cortex				2	16.7	122
Well shaped				1	8.3	8

Table 24. Flaked lithic tools, Dos Cuartos House--Continued

	Nonstructural Unit 1			Excavation unit 1			Site total		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Total tools:	1	100.0	90	4	100.0	66	26	100.0	157
Tool morpho-use									
Utilized flake				3	75.0	86	12	46.2	83
Core							7	26.9	360
Used core, cobble tool	1	100.0	90				3	11.5	104
Thick uniface				1	25.0	8	1	3.8	8
Thick biface							2	7.7	122
Projectile point							1	3.8	8
Grain size									
Fine				1	25.0	172	2	7.7	375
Very fine	1	100.0	90	3	75.0	31	22	84.6	146
Microscopic							2	7.7	62
Item condition									
Broken									
Indeterminate	1	100.0	90				4	15.4	75
Complete/nearly complete				4	100.0	66	22	84.6	172
Dorsal face evaluation									
Core	1	100.0	90				10	38.5	283
Unworked with cortex				1	25.0	8	2	7.7	6
Unworked without cortex				3	75.0	86	11	42.3	90
Edged with cortex							2	7.7	122
Well shaped							1	3.8	8

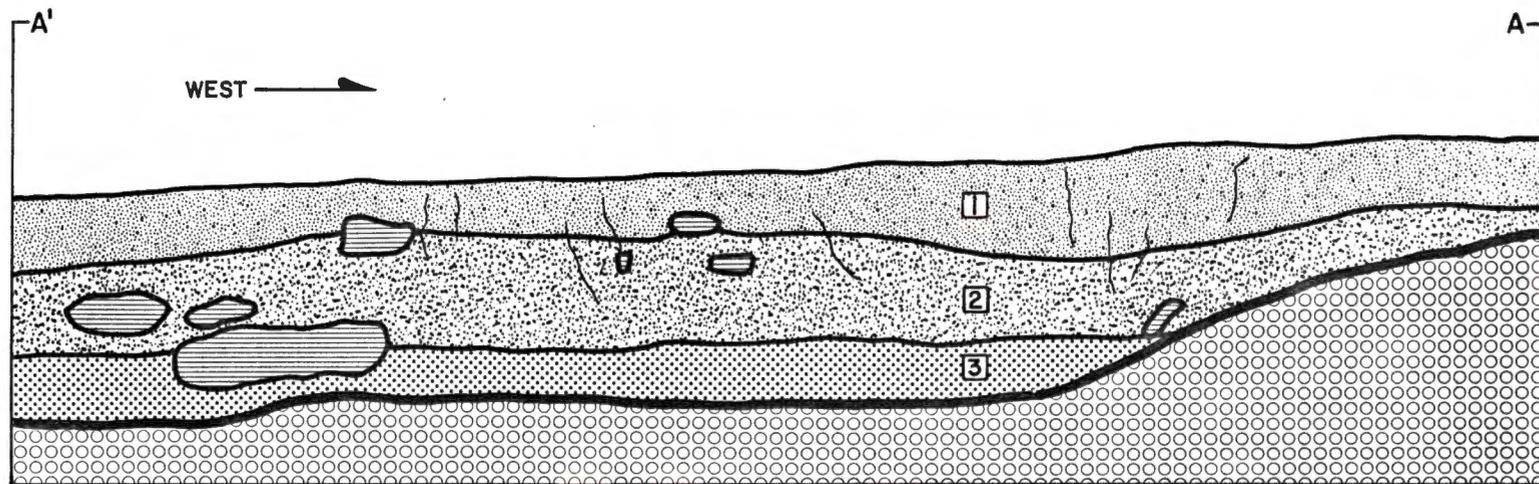
A 4-m section along the mouth of the shelter was chosen for stratigraphic description (fig. 33). The profile described is composed of the south walls of probability square 44S/52E, and the adjacent 2- by 2-m unit, square 44S/54E. The stratigraphic profile is representative of the stratigraphy found throughout the excavation units, except for those that were too shallow to include Stratum 3.

Three stratigraphic units were recognized at Quasimodo Cave.

Stratum 1. This surface duff zone, is a loose, medium-grained, pale brown sand (10YR 6/3). Sandstone rocks and roots were observed in this stratum; the former varied in size from large sandstone roof spalls, which littered the modern ground surface, to small pebbles. This stratum contained little cultural material. Cottontail bones on the surface provided evidence of recent animal activity.

Stratum 2. This is a loose, medium-grained, dark grayish sand (10YR 4/2); it is organically stained and contained small roots (less than 5 cm in diameter), sandstone rocks, and small pieces of charcoal. The majority of artifacts from excavation were derived from this stratum.

Stratum 3. This is a very dark grayish brown (10YR 3/2), medium sand. Stratum 3 overlay bedrock, and was present only near the mouth of the shelter where deposits were very deep. This stratum contained sandstone rocks, a few small rootlets, and bits of charcoal. Strata 2 and 3 were very similar, distinguishable from one another only on the basis of color. The darker color of Stratum 3 was probably the result of organic leaching from the overlying strata. Few artifacts were recovered from this stratum.



LEGEND

-  10 YR 6/3 PALE BROWN LOOSE MEDIUM GRAINED SAND
-  10 YR 4/2 DARK GRAYISH-BROWN LOOSE MEDIUM GRAINED SAND
-  10 YR 3/1 VERY DARK GRAYISH-BROWN LOOSE MEDIUM GRAINED SAND
-  ROOTLETS
-  SANDSTONE
-  BEDROCK
-  STRATUM NUMBER

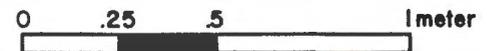


Figure 33. Stratigraphic profile, Quasimodo Cave. Location of profile is shown in figure 31.

Material Culture

Twelve sherds, all corrugated, were collected from this site. These include three Mancos Corrugated rim sherds and nine corrugated body sherds. Only 1 sherd was found on the surface; the other 11 were recovered from excavation. Since all the rim sherds from the site are identified as Mancos Corrugated, the body sherds are probably from Mancos Corrugated vessels. However, because Mancos Corrugated is differentiated from other corrugated types by the degree of rim eversion, the body sherds remain in the more general category Corrugated Body Sherds.

The nonflaked lithic assemblage contains four tools. One basin metate and one polishing stone were recovered from subsurface proveniences. One metate fragment and one abrading/grinding stone were collected from ground surface.

The flaked lithic assemblage includes a total of 28 tools and 346 pieces of debitage. The flaked lithic tools from surface and subsurface contexts are listed in table 20. A small, corner-notched projectile point made of ignimbrite is the only item of nonlocal material in the site assemblage.

The flaked lithic debitage consists of 130 whole flakes, 169 flake fragments, and 47 pieces of angular debris. A variety of grain sizes are represented in the debitage assemblage; 4.4 percent of the items are medium grained, 28.1 percent are fine grained, 61.9 percent are very fine grained, and 5.7 percent are microscopic grained.

No bone tools were found at Quasimodo Cave. Forty-one of the 50 nonhuman bones were collected from the surface and appear to have been recently deposited. The nine nonhuman bones from excavated units include

one ground squirrel (Spermophilus sp.) three large mammal, three medium mammal, and two small mammal bones.

Vegetal remains were found in three of the excavation units.

Level 1 of probability square 44S/56E contained two charred fragments of pinyon pine (Pinus edulis) and ponderosa pine (Pinus ponderosa) wood, one charred fragment of Gymnosperm wood, and one fragment of indeterminate plant material with bark. Also within this level was an unburned pinyon pine seed. The burned wood recovered from this probability unit was located at the bottom of Level 1 in a concentration of small pieces of charcoal. One charred yucca (Yucca sp.) seed was recovered from Stratum 1 of 2- by 2-m square 44S/54E. Another charred seed of the same type was recovered from Level 1 of 46S/54W.

Site Synthesis

Chronology

Dating of Quasimodo Cave is based primarily on ceramics. The only diagnostic ceramic type found at the site is Mancos Corrugated. This type was common in the Dolores area between A.D. 900 and 1050.

This dry-laid masonry wall in Quasimodo Cave represents a simple, low-energy-input manner of construction. Other dry-laid masonry walls within shallow rock overhangs have been located within the Dolores Project area. Some of these sites are also associated with corrugated wares.

Site Function

Quasimodo Cave may have been a limited activity locus, a wild plant collection and processing station, and/or perhaps a hunting camp. That plant processing may have been conducted is suggested by the presence of

metates and the charred remains of two yucca seeds from subsurface proveniences. Hunting-related activities are suggested by the presence of two projectile points and the recovery of nonhuman bone from pre-historic strata. The location of the rockshelter in a major drainage leading from the uplands to the Dolores River valley would have provided good access to migrating game, as it does today.

Fires were built in or near Quasimodo Cave, but probably do not imply use as a long-term habitation or camp. There was no central hearth, nor was smoke blackening present on the shelter ceiling or on sandstone spalls found during excavation. Bits of charcoal were recovered from Strata 2 and 3 of the shelter fill. A few bits of oxidized sediment were dispersed throughout the stratigraphic profile, but no hearth was recognized during excavation.

The walls of Room 1 show no evidence of having been sealed with adobe, as would be expected had this shelter been used for long-term storage. If dry-laid masonry walls had been erected to the ceiling of the rock overhang, there was a conspicuous lack of rock rubble from the excavated portion of the shelter to document such construction. Had Room 1 been used extensively for the storage of plant materials, one would expect to find more evidence of plant macrofossils and ceramic storage vessels than was recovered from the excavations.

After approximately A.D. 900, the Grass Mesa Locality was probably not used for habitation. "Continued usage of Grass Mesa Locality until the abandonment of the sector around A.D. 1200 seems to be limited to occasional camping, probably in the course of hunting or foraging activities, and perhaps storage" (Kohler 1983:57). Quasimodo Cave

appears to have functioned as such a limited activity locus, sometime between A.D. 900 and 1050, based on diagnostic ceramic types.

The most recent occupations of LeMoc Shelter (5MT2151) and Calmate' Shelter (5MT4651), located approximately 2 km to the southwest on the Dolores River, might also represent use of the area for plant processing and/or hunting activities during the period between A.D. 900 and 1200 (Hogan 1983). The latest element at LeMoc Shelter has been assigned to the Marshview Subphase (A.D. 1050-1125) of the Sundial Phase. The Marshview Subphase "has been defined to reflect use of most of the sector for specialized purposes and a short-term attempt to resettle a portion of the area in the late 11th century. Most sites assigned to the period are categorized as seasonal or limited activity loci . . . and site locations were chosen with a specific purpose in mind" (Kane 1981:74). Quasimodo Cave may represent a Marshview Subphase occupation, although the presence of Mancos Corrugated sherds suggests that the occupation of the site occurred earlier than this subphase.

DOS CUARTOS HOUSE (Site 5MT2174)

Introduction

Dos Cuartos House (fig. 34) is one of only three sites in the southern portion of Grass Mesa Locality that are located on the west side of the Dolores River. The site is located on a small terrace above the flood plain and is northwest of a deep arroyo in the SE 1/4 of the NW 1/4 of sec. 18, T38N, R15W. The UTM grid coordinates for this location are 4,159,120 mN, 716,540 mE, zone 12.

The two other sites recorded on the west side of the river are the two sites that are nearest to Dos Cuartos House. Approximately 0.5 km to the northwest of Dos Cuartos House is Site 5MT2163, and Site 5MT2175 (this report) is approximately 0.5 km to the southeast. Both of these sites are recorded as lithic scatters of indeterminate temporal affiliation.

Dos Cuartos House was recorded by the DRP (Dolores River Project) survey on 28 September 1972 as a "sherd and lithic area." A total of 8 sherds and 12 flaked lithic items were collected; based on this collection and field observations, the site was assigned to the Basketmaker III-Pueblo I periods. A portion of the 1972 collections has been reanalyzed. The results of that reanalysis are reported later in this section.

Research Objectives and Investigative Strategy

In an attempt to clarify both the temporal associations and the function of Dos Cuartos House, the site was visited on 16 July 1980 by a WSU survey crew. The crew examined the site and conducted a selective

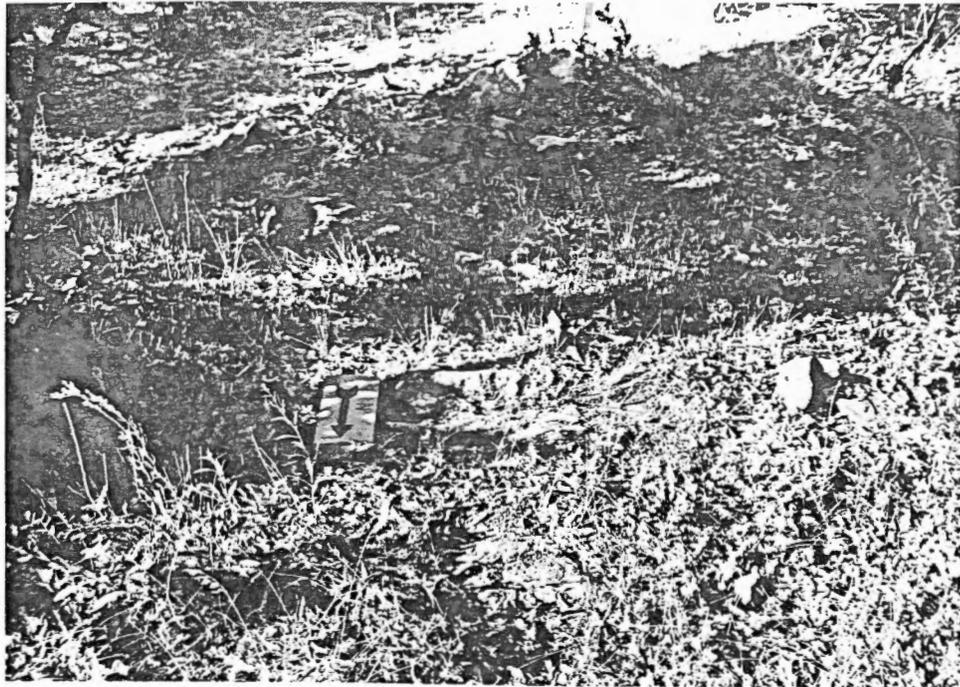


Figure 34. View of Dos Cuartos House, looking south (DAP 055322).

Basketmaker II band, the base camp of which was probably located some distance from the Dry Creek area. The major suggested loci of Archaic activity in the DAP area is the area surrounding the present-day marsh in the Sagehen Flats (Kane 1983c). This area is approximately 6 km from Cougar Springs Cave and may have been the site of the base camp for the inhabitants of the shelter. Additional work in this area, and reanalysis of the existing collections attributed to the Archaic in the Sagehen Flats Locality, could help confirm or deny this possibility. It is also quite possible that the base camp for the Cougar Springs Cave inhabitants is located outside the project area.

Extraregional relationships. The only possible evidence for trade found at Cougar Springs Cave is the presence of a few flakes of obsidian. Obsidian is not a locally available raw material and would have to have been obtained from outside the project area. The presence of obsidian at the site may reflect trade with other peoples, resource procurement expeditions, or it may be a reflection of a mobile band subsistence pattern that took the band into territories where obsidian could be obtained. The nearest documented sources of obsidian are the Jemez Mountains in New Mexico and the San Francisco Peaks in northern Arizona.

QUASIMODO CAVE (SITE 5MT4789)

by G. Timothy Gross and Melissa Gould

Introduction

Quasimodo Cave is a small rockshelter formed in the Junction Creek Sandstone on the north side of Dry Creek Canyon (fig. 27). The site is located in the SW 1/4 of the SW 1/4 of sec. 6, T38N, R15W. The UTM grid coordinates for this location are 4,162,100 mN, 716,220 mE, zone 12. Site 5MT4789 was recorded by the DAP survey on 17 September 1979 and was classified as a "habitation/base camp."

The shelter is an eroded pocket in the sloping bedrock (fig. 28) and measures 10 m long by 2.5 m wide; the greatest height of the shelter roof is 1.5 m. The shelter has a southern exposure. To the south of the shelter, the topography slopes to the southeast (fig. 29) at about 20° for 20 to 28 m and terminates in a small sandstone cliff. Below the cliff, the terrain slopes again toward Dry Creek.

The Dolores River is the permanent water closest to Quasimodo Cave, but there are also seeps along the exposure of the Junction Creek Sandstone. The seeps in the immediate vicinity of the shelter are slow flowing and, at their current rate of flow, probably do not provide an adequate water supply to support people. Other seeps with greater flow occur down the canyon both on the north side, and at Cougar Springs Cave (Site 5MT4797) on the south side. There is, however, no evidence that the springs in Cougar Springs Cave were used during the time of occupation of Quasimodo Cave.

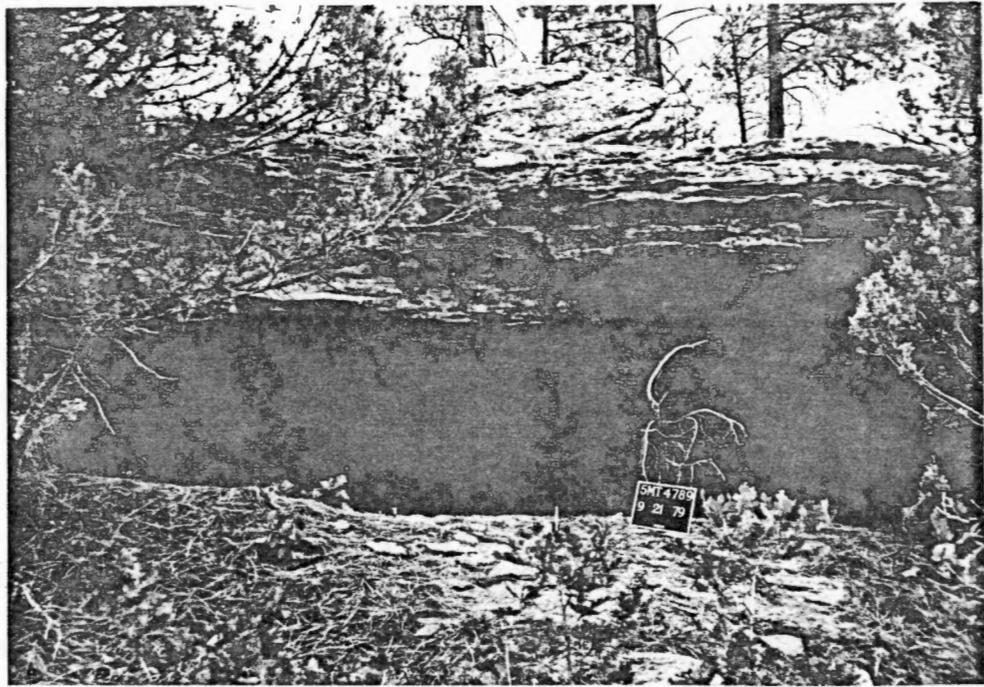


Figure 27. View of Quasimodo Cave, looking northwest (DAP 023011).



Figure 28. Close up view of Quasimodo Cave, looking west (DAP 062304).



Figure 29. View of the area downslope from Quasimodo Cave, looking south (DAP 062305).

Research Objectives and Investigative Strategy

Quasimodo Cave was selected for Track 2 investigation because it could not be accurately placed in the DAP temporal-functional framework. The major goals at this site were to collect datable materials and to explore site function. The presence of rock alignments suggestive of masonry walls indicated the possible existence of structures. Because scheduled construction activities would have made access to the site questionable after 1980, it was necessary to include the site in the 1980 testing program.

The area around the shelter was mapped, and a baseline for the grid system was laid out by the WSU field school under the supervision of T. Kohler and E. Blinman. The map was field checked and the grid system was completed prior to excavation. Surface artifacts were collected from the shelter and from the slope to the south; horizontal control was provided by a grid system (4- by 4-m grid squares were the basic unit of collection). Data obtained from the surface collection and from surface examination were used to determine the site boundaries.

The site was divided into three areas (fig. 30) and a random cluster sample consisting of four 2- by 2-m grid squares was selected from Area 1 for excavation. Area 1 consisted of all of the area between the back wall of the shelter and the dripline. Time did not allow for sampling of Areas 2 and 3. All of the probability squares were excavated using trowels and shovels and all of the sediments from these excavations were screened using one-quarter-inch mesh. Two additional 2- by 2-m units and one 1- by 1-m square were excavated to further explore portions of Area 1.

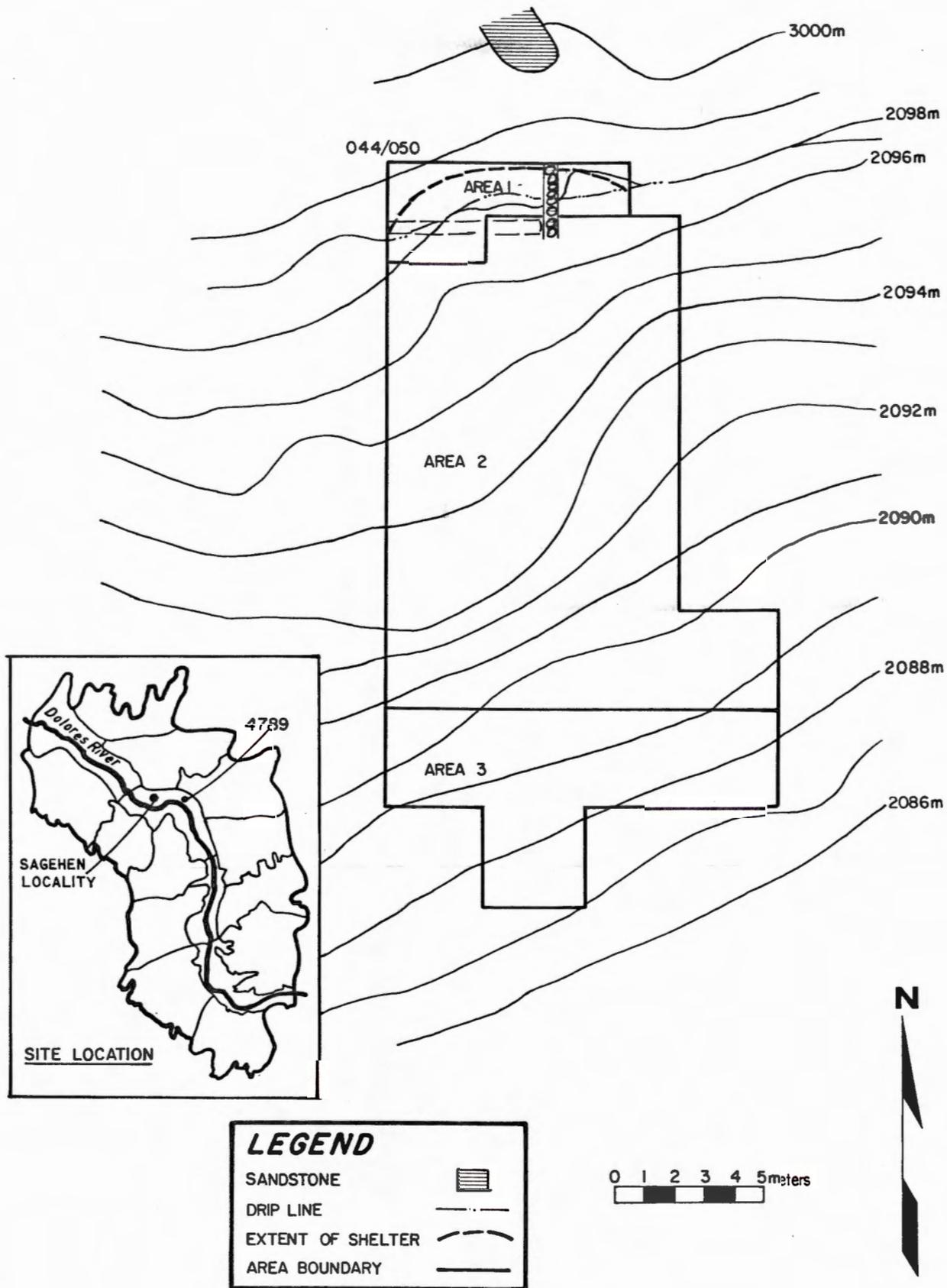


Figure 30. Topographic map of Quasimodo Cave showing the site areas.

Surface Investigations

Surface Artifact Collections

Seventy-eight items were recovered from the surface of the site; artifact data are summarized in tables 20 through 22. Only 9 of the 24 surface-collected units yielded artifacts, and all of the squares from which artifacts were recovered, with the exception of those units within the shelter, were located in areas cut by minor drainages. The highest density of flaked lithic artifacts occurred in square 66S/62E, where a small rill emptied onto exposed sandstone. Artifacts at this spot were mixed with lag gravels. Forty cottontail bones were recovered from square 46S/50E; these bones were part of a hairy pellet suspected to be an owl cast and are evidence of the recent use of the shelter by predators.

Surficial Evidence of Structures

Two rock alignments were noted within the shelter by the survey crew. One of these was a short alignment that ran from the back wall to just beyond the dripline at the east end of the shelter. The second alignment was noted running parallel to the long axis of the shelter and was slightly outside the dripline. These were the only indications of structures at the site.

Predictability of Subsurface Cultural Material

Surface artifacts, occurring as they did in areas of erosion and drainage, were not good indicators of the locations of subsurface materials. Very little surface material occurred in the areas excavated, but this is to be expected based on the evidence from other shelters in the area. In shelters in the Junction Creek Sandstone, sediment resulting from slow disintegration of the shelter roof tends to result in

Table 20. Flaked lithic tools, Quasimodo Cave

	Modern ground surface			Total rooms			Other excavated units			Site total		
	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)
Total tools:	10	100.0	373	8	100.0	47	10	100.0	39	28	100.0	161
Tool morpho-use												
Indeterminate							1	10.0	1	1	3.6	1
Utilized flake	3	30.0	544	1	12.5	10	3	30.0	12	7	25.0	240
Core	3	30.0	239				1	10.0	145	4	14.3	216
Thick uniface							2	20.0	89	2	7.1	89
Thin uniface	4	40.0	347	2	25.0	58	1	10.0	32	7	25.0	219
Thick biface				2	25.0	120				2	7.1	120
Thin biface				1	12.5	1				1	3.6	1
Projectile point				2	25.0	3	2	20.0	1	4	14.3	2
Grain size												
Fine				1	12.5	1				1	3.6	1
Very fine	10	100.0	373	3	37.5	93	8	80.0	31	21	75.0	203
Microscopic				4	50.0	23	2	20.0	73	6	21.4	40
Item condition												
Indeterminate	2	20.0	412							2	7.1	412
Broken												
Indeterminate	1	10.0	144							1	3.6	144
Distal present							1	10.0	1	1	3.6	1
Medial present							2	20.0	1	2	7.1	1
Complete/nearly complete	7	70.0	395	8	100.0	47	7	70.0	56	22	78.6	161
Dorsal face evaluation												
Core	3	30.0	239				1	10.0	145	4	14.3	216
Unworked with cortex	2	20.0	282				2	20.0	28	4	14.3	155
Unworked without cortex	5	50.0	491	3	37.5	42	4	40.0	48	12	42.9	231
Edged with cortex				2	25.0	120				2	7.1	120
Edged without cortex							1	10.0	1	1	3.6	1
Primarily thinned							1	10.0	1	1	3.6	1
Secondarily thinned				2	25.0	1				2	7.1	1
Well shaped				1	12.5	5				1	3.6	15
Indeterminate							1	10.0	1	1	3.6	1

Table 21. Flaked lithic debitage, Quasimodo Cave

	Modern ground surface			Total rooms			Other excavated units			Site total		
	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)
Flakes/flake frags:												
Grain size												
Medium	0	0	0	3	2.9	79	10	5.9	26	13	4.3	38
Fine	10	38.5	14	24	23.3	20	50	29.4	8	84	28.1	12
Very fine	14	53.8	9	68	66.0	5	103	60.6	9	185	61.9	8
Microscopic	2	7.7	4	8	7.8	1	7	4.1	1	17	5.7	1
Total flakes/ flake frags	26	100.0	11	103	100.0	10	170	100.0	9	299	100.0	10
Items with cortex	4	15.4	...	8	7.8	...	22	12.9	...	34	11.4	...
Whole flakes	10	38.5	...	43	41.7	...	77	45.3	...	130	43.5	...
Angular debris	6	100.0	92	14	100.0	4	27	100.0	7	47	100.0	17

NOTE: frags - Fragments.
 ... - Information not available.

Table 22. Ceramic data summary, Quasimodo Cave

Culture category: Tract Ware Type	Modern ground surface		Room total		Other excavated units		Site total	
	N	%wt	N	%wt	N	%wt	N	%wt
Mesa Verde: Dolores Tract Gray Ware								
Mancos Corrugated Corrugated Body Sherds	1	100.0	6	86.6	2	67.4	9	79.2
Total ceramics	1	100.0	7	100.0	4	100.0	12	100.0
Total wt (g)	1.0		55.8		36.8		93.6	
Vessel form: Jar	1	100.0	7	100.0			8	60.7
Other					4	100.0	4	39.3

a culturally sterile stratum overlying the occupational zone. However, the rock alignments present on the surface did reveal the presence of a structure that was later found during excavation.

Excavations

Area 1 includes all of the area between the back wall of the shelter and the dripline. All excavation units are located in Area 1 (fig. 31). Due to lack of culturally significant stratification within the sand filling the rockshelter, all probability units were excavated in arbitrary 20-cm levels. Excavation of these units proceeded until bedrock was reached. Bedrock slopes gently down from the back wall to the mouth of the shelter.

Probability Sampling

Probability square 44S/50E. This square is located in the extreme northwest corner of the shelter. Only one-third of this unit could be excavated; the remaining two-thirds consisted of the back wall of the shelter. The southeast corner of the unit contained a shallow, 37-cm deposit of pale brown (10YR 6/3) sand, which overlies bedrock. This sand is equivalent to Stratum 1 from the stratigraphic description that follows. Probability square 44S/50E is culturally sterile.

Probability square 44S/52E. The back wall of the shelter forms the northwest corner of this unit. Sandstone spalls from the roof and walls litter the surface. This square was excavated in five levels. Levels 1 and 5 are culturally sterile. Levels 2 and 3 contained the vast majority of artifacts. One piece of flaked lithic debitage was recovered from Level 4.

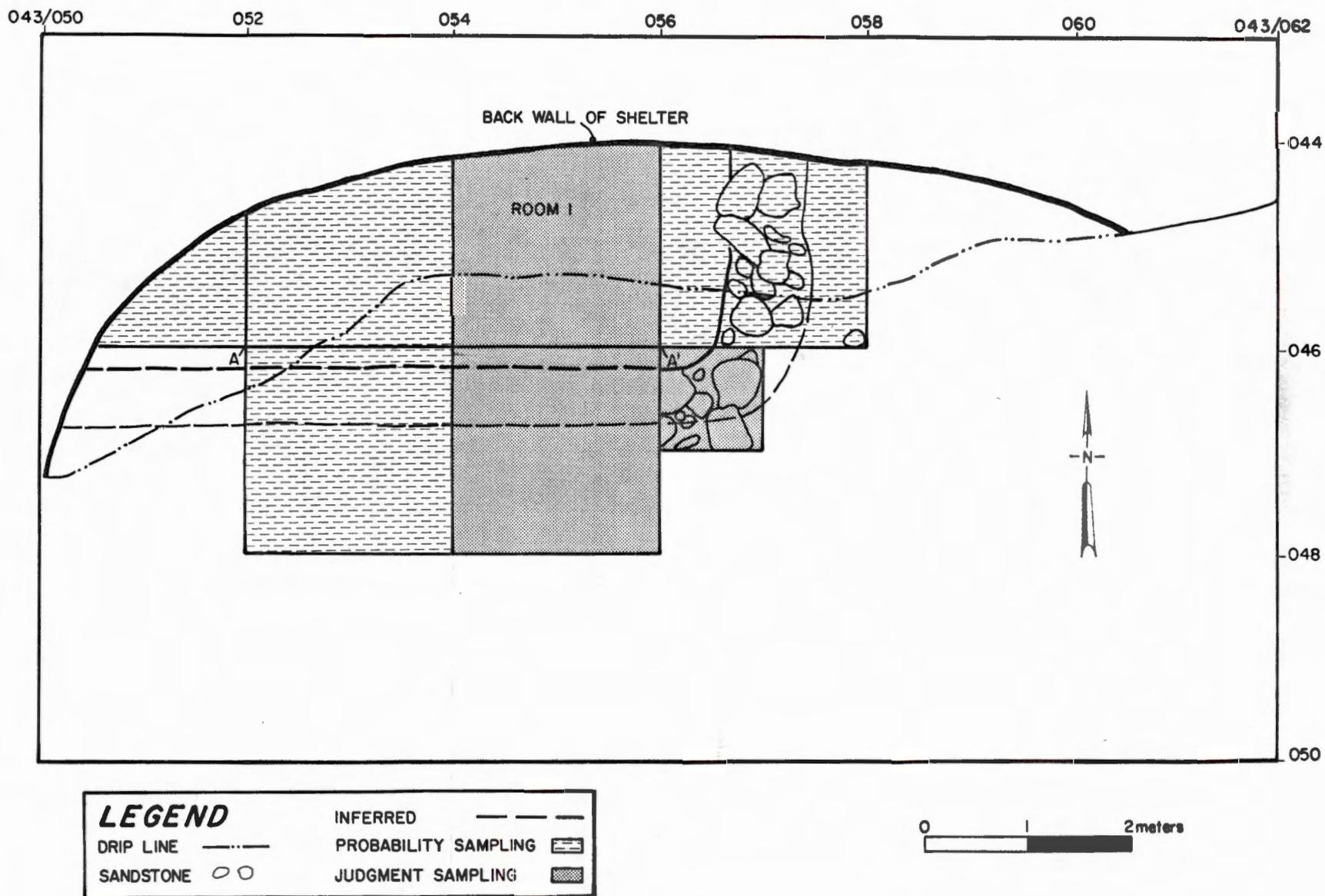


Figure 31. Map of excavation units and Room 1 at Quasimodo Cave.

The stratigraphic profile and a description of this probability unit are presented in the stratigraphic discussion for the site. All three strata were present within this unit.

Probability square 46S/52E. The dripline of Quasimodo Cave cuts across the northwest corner of this unit. Five levels were excavated. Levels 1, 2, and 5, were culturally sterile. Level 3 contained 91.2 percent of the flaked lithic artifacts in this square, and the remaining artifacts were recovered from Level 4. No sherds were recovered from this unit.

Tabular sandstone slabs were present in the northwest corner of the probability square at the bottom of Level 2. These rocks may have been part of a front wall to Room 1, and are further described in the Room 1 discussion.

Probability square 44S/56E. This is the easternmost square in the shelter. A dry-laid masonry wall, situated in the middle of this excavation unit and oriented north to south, was visible on modern ground surface. This alinement was the east wall of Room 1, and is further described in the discussion of that room.

Square 44S/56E was excavated in four levels. Levels 1 and 4 were devoid of artifacts, but Levels 2 and 3 contained a relatively large number of artifacts. These latter two levels yielded 21.4 percent of the flaked lithic tools, 25.0 percent of the nonflaked lithic tools, 58.3 percent of the ceramics, and 31.1 percent of the flaked lithic debitage from Quasimodo Cave.

Other Excavated Units

Square 44S/54E. This 2- by 2-m square is located in the center of the shelter, between probability squares 44S/52E and 44S/56E. This

square was excavated according to natural strata rather than in arbitrary levels, in an effort to control for artifact variation within the observed strata. Unfortunately, it was not until the unit had been excavated down to bedrock, that the excavators were able to recognize the subtle color distinction that permitted separation of Stratum 2 and Stratum 3 (refer to the stratigraphic description for this site). Therefore, Strata 2 and 3 were excavated as one stratum.

No artifacts were collected from modern ground surface. Stratum 1 contained 12.7 percent of the flaked lithic debitage from the entire site, one flaked lithic tool, and one corrugated body sherd. This stratum was, at most, 20 cm deep. Stratum 2 contained the highest percentage of flaked lithic tools and debitage of any 2- by 2-m square at the site. Of the total site artifact assemblage, 21.4 percent of the flaked lithic tools, including two projectile points, and 15.9 percent of the flaked lithic debitage were recovered from Stratum 2 of this unit. In addition, two sherds were recovered from Stratum 2 and one large basin metate was found in contact with bedrock.

Sqaure 46S/56E. This unit, a 1- by 1-m square, was opened in order to determine the southern extent of the masonry wall located in probability square 44S/56E. Large, tabular sandstone rocks, in line with the slab wall to the north, were found in this unit. The largest slab in this square, from the southeast corner of the unit, appears to have been the southernmost slab of the wall. This slab may have functioned as a cornerstone. Directly south of this slab the topography becomes much steeper.

Only two 20-cm levels from this unit were excavated. Modern ground surface and Level 1 were devoid of artifacts. Level 2 contained seven flakes and one unifacial tool.

Square 46S/56E. This 2- by 2-m square is located between probability square 46S/52E to the west, and 1- by 1-m square 46S/56E to the east. One level was removed in hopes of locating the south wall of Room 1. The rocks exposed in this unit did not form a distinct wall line. One rim sherd from a Mancos Corrugated jar sherd and 13 pieces of flaked lithic debitage were recovered from this unit.

Room 1

Dimensions:

South wall		
length (inferred):		5.50 m
East wall		
length:		3.00 m
width:		1.00 m
height:		0.36 m
Floor area (inferred):		16.50 m ²

The east wall of Room 1 (fig. 31) was uncovered in probability square 44S/56E and in 1- by 1-m unit 46S/56E to the south. This dry-laid masonry wall (fig. 32) was constructed with unshaped, tabular sandstone rocks. These superimposed rocks were resting on sand fill, the same sand fill found throughout the shelter. The east wall of the room abutted the back wall of the overhang and extended 3 m to the south. A large sandstone slab that measured 56 cm by 50 cm was located at the southernmost extent of the wall rubble. This slab may have functioned as a cornerstone at the juncture of the east and south walls of Room 1.

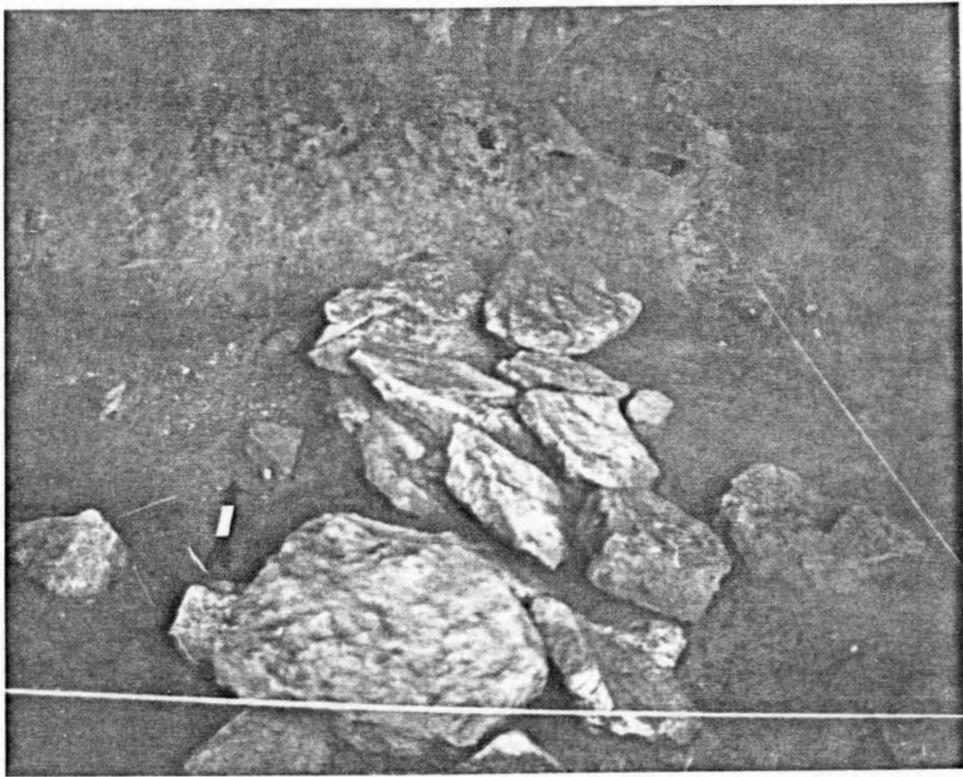


Figure 32. View of the east wall of Room 1, Quasimodo Cave (DAP 062315).

The approximate location of the south wall of Room 1 was indicated by the presence of scattered rocks along the surface of 1- by 1-m square 46S/56E and by the subsurface rock concentration in the northwest corner of probability square 46S/52E. However, most of the wall fall probably had been transported downslope. Poor preservation of this wall may have been due to its location just outside the dripline of the shelter and along the periphery of a steep slope to the southeast.

Evidence for north and west walls was lacking. These walls might have been formed by the natural wall of the rock shelter.

The area within the inferred boundaries of the room includes all of the excavation units west of the east wall of Room 1 and north of the 47S line. The total inferred floor area is 16.5 m².

A cultural surface was not distinguishable within the loose sand fill of the shelter. Most of the artifacts were concentrated within the organically stained sand, Stratum 2. A large basin metate was resting on the sloping bedrock floor of the shelter, in the approximate center of Room 1.

Stratigraphy

As described in the introduction, Quasimodo Cave is located within the Junction Creek Sandstone. Water percolating through this formation appears to have been the major agent in the formation of the shelter. Excavation in Area 1 exposed the bedrock floor of the shelter, which slopes from the back wall down to the mouth of the overhang. A shallow, uniform accumulation of sand, at most 63 cm deep, directly overlies the bedrock floor of the shelter. This sand deposit resulted primarily from mechanical and chemical weathering of the roof and walls of the shelter, and perhaps from some eolian deposition as well.

Table 25. Nonflaked lithic tools, Dos Cuartos House

	Modern ground surface			Surface Structure 1 Floor 1			Site total		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Total tools:	4	100.0	464	1	100.0	1283	5	100.0	628
Tool morpho-use									
Miscellaneous	1	25.0	540				1	20.0	540
Mano fragment	1	25.0	45				1	20.0	45
One-hand mano	1	25.0	698				1	20.0	698
Two-hand mano	1	25.0	572	1	100.0	1283	2	40.0	905
Blank type									
Flattened cobble	4	100.0	464	1	100.0	1283	5	100.0	628
Item condition									
Broken									
Identifiable	1	25.0	572				1	20.0	572
Unidentifiable	1	25.0	45				1	20.0	45
Complete/nearly complete	2	50.0	619	1	100.0	1283	3	60.0	840
Production evaluation									
Indeterminate	1	25.0	45				1	20.0	572
Natural (unmodified)	1	25.0	540	1	100.0	1283	2	40.0	912
Well shaped	2	50.0	635				2	40.0	635

Table 26. Ceramic data summary, Dos Cuartos House

Cultural category: Tract Ware	Modern ground surface		Room 1		Room 2		Nonstr 1		Excavation unit 1		Site total	
	N	%wt	N	%wt	N	%wt	N	%wt	N	%wt	N	%wt
Mesa Verde:												
Dolores Tract Gray Ware												
Moccasin Gray	2	8.9										
Early Pueblo Gray	15	91.1	6	91.4	2	44.5	5	92.9	1	100.0	29	83.2
White Ware												
Early Pueblo White					2	12.9					2	2.7
San Juan Tract White Ware												
Early Pueblo White Red Ware			1	8.6							1	1.7
Early Pueblo Red					2	3.9	1	7.1			3	1.4
Cahone Tract Red Ware												
Early Pueblo Red					1	3.3					1	0.7
Cibola:												
Gray Ware												
Early Pueblo Gray					3	35.5					3	7.5
Total ceramics	17	100.0	7	100.	10	100.0	6	100.0	1	100.0	41	100.0
Total weight (g)		74.2		45.4		49.0		18.4		2.2		232.2
Vessel form:												
Gray Ware												
Jar	17	100.0	6	91.4	5	79.9	5	91.4			33	92.6
Other									1	100.0	1	0.9
White Ware												
Bowl			1	8.6	2	12.9	1	7.1			3	4.4
Red Ware												
Bowl					3	7.2					4	2.1

NOTE: Nonstr - Nonstructural Unit.

Table 27. Taxonomic composition of the faunal assemblage from
Dos Cuartos House

Taxon	Room 1		Room 2		Nonstructural Unit 1		Site total	
	N	%	N	%	N	%	N	%
Mammals:								
Small	3	60.0	1	20.0	0	0	4	80.0
Medium	0	0	0	0	1	20.0	1	20.0
Total	3	60.0	1	20.0	1	20.0	5	100.0

Excavations

Rooms 1 and 2

Room 1 dimension:

North wall	
length:	2.00 m
height:	0.30 m
South wall	
length:	1.80 m
height:	0.30 m
East wall	
length:	1.90 m
height:	0.30 m
West wall	
length:	1.90 m
height:	0.30 m
Floor area (estimates):	3.61 m ²

Room 2 dimensions:

North wall	
length:	2.18 m
height:	0.30 m
South wall	
length:	2.24 m
height:	0.30 m
East wall	
length:	2.02 m
height:	0.30 m
West wall	
length:	2.10 m
height:	0.30 m
Floor area (estimates):	4.55 m ²

Rooms 1 and 2 are adjoining surface rooms and appear to be the only two structures present at the site (fig. 35). Room 1 is the southwesternmost of the two. The long axis of both rooms is oriented northeast-southwest, and the apparent front of the rooms faces a large arroyo to the southeast of the site. The rooms, which share a wall, are marked by alinements of small vertical slabs (fig. 36). At present the slabs stand from 30 to 40 cm in height and measure 30 to 50 cm in length; they are not of uniform size. Because so little in the way of rubble was encountered within and around the surface structures, it is inferred that the superstructure of these rooms was of jacal construction. No burned adobe was recovered, however, to support this inference. That no definable surfaces were discovered in either of the rooms is attributed to the high degree of sediment disturbance caused by vegetation growth at the site. Rooms 1 and 2 are illustrated in figure 35. No stratigraphy within the fill of these structures was discerned. Again, this is attributed to bioturbation of the sediments. No features were found in either room.

Artifacts. There were differences in the concentration of artifacts in the two rooms. Most of the artifacts recovered from excavation of the structures at this site were recovered from Room 2, which yielded 201 artifacts. Only 58 artifacts were recovered from Room 1. Artifact data are summarized in tables 23 through 27. Of particular interest in the artifact collections from these structures is the presence of the three sherds of Cibola Early Pueblo Gray, and the occurrence of gray wares, white wares, and red wares in the ceramic collection.

Interpretations. The artifact assemblage at the site suggests that a relatively broad range of activities took place at the site. The

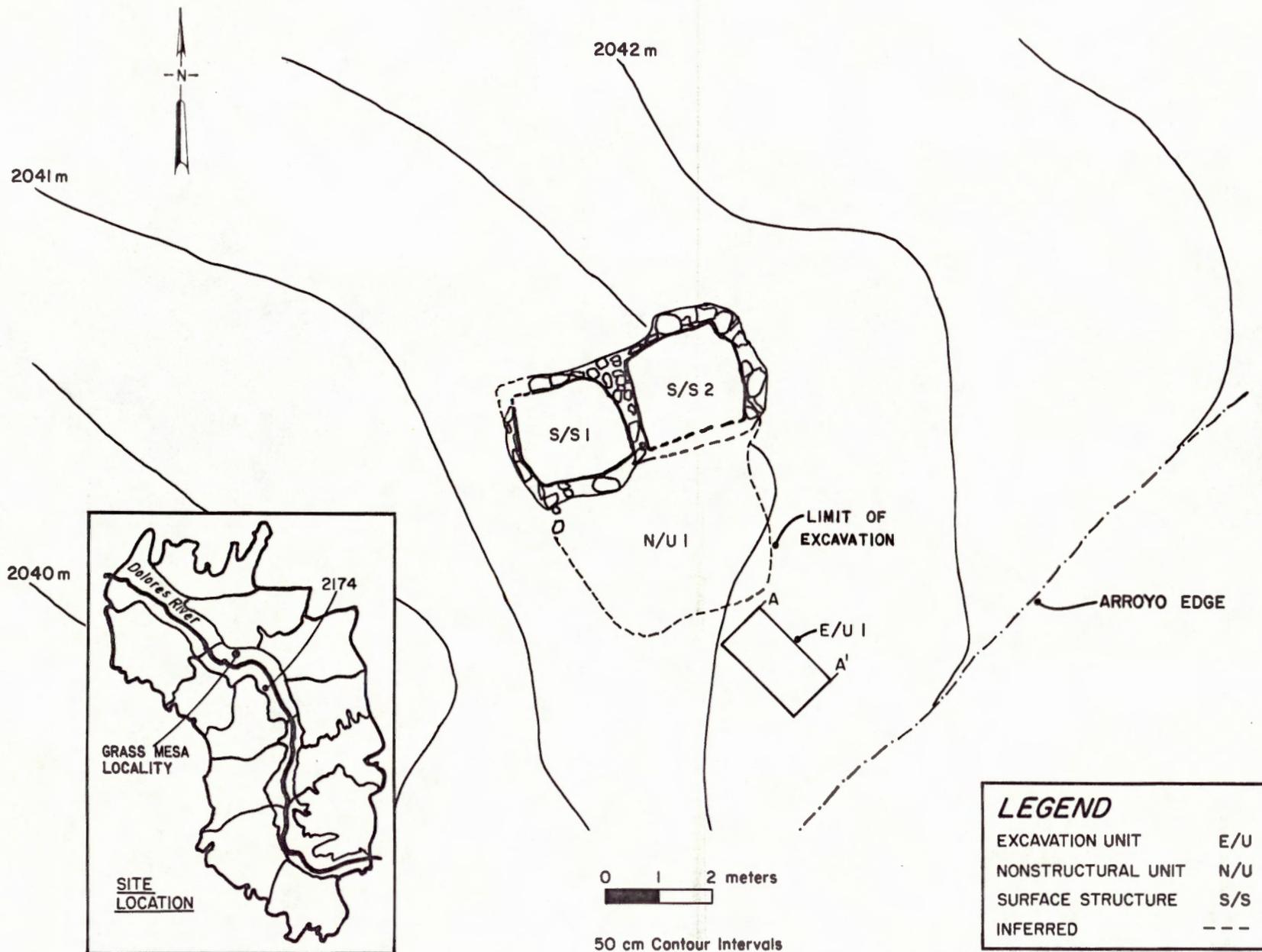


Figure 35. Topographic map of Dos Cuartos House showing the locations of excavated units.

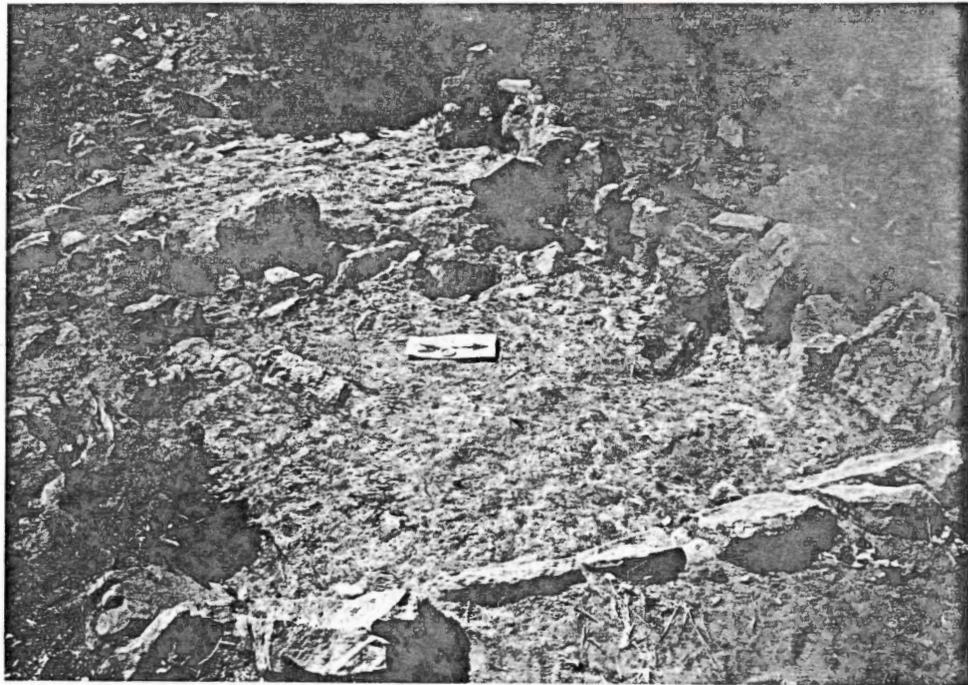


Figure 36. View of Rooms 1 and 2, Dos Cuartos House, looking northwest (DAP 055334).

presence of red ware, white ware, and gray ware ceramics suggests that both cooking/storage and serving/ceremonial activities may have been performed in the structures. Milling activities are represented by the mano recovered. Flaked lithic tool manufacture is suggested by the presence of cores and debitage.

Nonstructural Unit 1

Nonstructural Unit 1 is located immediately southeast of the surface structures (fig. 35). A 3.6- by 3.0-m portion of this area was excavated. No surfaces or features were encountered in this area. The strata in this area did not exhibit clear divisions; they appeared to have been mixed as a result of bioturbation. Artifacts recovered from excavations in Nonstructural Unit 1 are summarized in tables 23 through 27. Flaked lithic debitage was the most common artifact class in the assemblage. Only six sherds and one flaked lithic tool were recovered from Nonstructural Unit 1.

Excavation Unit 1

This excavation unit was a 1- by 2-m trench to the south of Rooms 1 and 2 (fig. 35). The purpose of excavating the trench was to determine whether a midden area or a pitstructure was located in this portion of the site. Neither was found. No surfaces or features were encountered in the excavation of this trench.

Stratigraphy. The stratigraphy of excavation unit 1 was better defined than that in other areas of the site (fig. 37). Three strata were recognized in the field. The uppermost stratum was composed of a loose, organic-rich loam. Artifacts were noted in this stratum. Underlying this stratum was a more compact stratum that also contained some artifacts. The boundary between these upper two strata was relatively

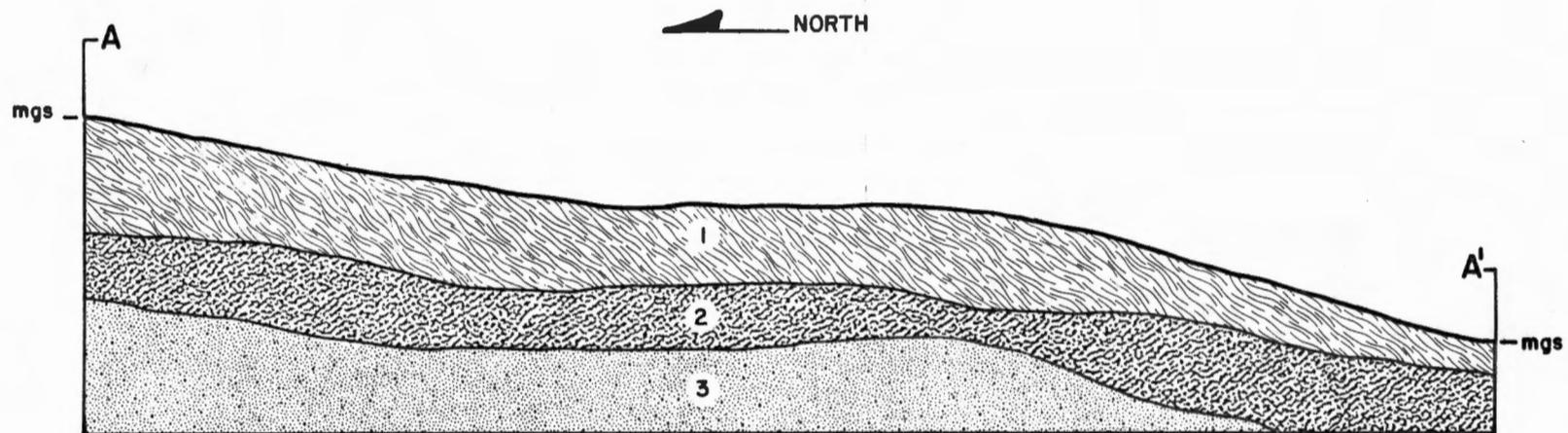


Figure 37. Stratigraphic profile, excavation unit 1, Dos Cuartos House. Location of this profile is shown in figure 35.

distinct. The deepest stratum was culturally sterile. The boundary between Stratum 2 and Stratum 3 was diffuse. Stratum 3 is distinguished from the others on the basis of color, and on the basis of the greater number of angular rocks encountered in the former.

Artifacts. Artifacts recovered from excavation unit 1 are summarized in tables 23 through 27. A total of 43 artifacts, most of which are flaked lithic debitage, was recovered from this unit. Only one sherd was recovered.

Interpretations. It appears that no midden deposits were present in the area of excavation unit 1. The artifact content of the upper two strata is most likely the result of sheet wash from the area of the surface structures. Because of the biotic disturbance at the site, and the nature of the excavations, however, this interpretation is open to question.

Site Synthesis

Chronology

Evidence for temporal placement of Dos Cuartos House comes from the ceramic collection, with some support from the architectural evidence. The ceramic assemblage includes red wares which suggests that the site was in use sometime after A.D. 730. The presence of neckbanded ceramics suggests that the occupation occurred after Moccasin Gray first appeared in the Dolores area (about A.D. 760) and probably after it became the most common gray ware type (A.D. 825). Together this evidence indicates an occupation sometime after A.D. 825 and prior to the introduction of corrugated gray wares (A.D. 910). The presence of vertical slab foundations for the surface structures supports temporal placement. As

noted earlier, this style of architecture was popular during the Sagehill Subphase (A.D. 700-780) and the Dos Casas Subphase (A.D. 760 to 850) of the Sagehen Phase (A.D. 600 to 850) and during the Periman Subphase (A.D. 850 to 900) of the McPhee Phase.

The characteristics of the structures and the small numbers of ceramics suggest that a single occupation occurred at Dos Cuartos House.

Site Function

An examination of the artifact assemblage from Dos Cuartos House indicates that a number of activities were conducted at the site. As mentioned earlier, gray, white and red wares are present on the site, which suggests that cooking/storage and serving/ceremonial activities were carried out there. The other activities that might have taken place at the site are flaked lithic tool manufacture or repair, food processing (or other grinding activities employing manos), and activities requiring the use of bifacial tools. Hunting is another possible activity, although it is not always safe to assume a one-to-one correlation between the presence of projectile points and hunting. Further, only one projectile point was recovered at the site.

The characteristics of the artifact assemblage and the presence of the two surface structures suggests that Dos Cuartos House was a field house. The structures at such a site would have served to shelter a group of people involved in the pursuit of agriculture.

CALMATE SHELTER (SITE 5MT4651)

Introduction

Calmate Shelter, Site 5MT4651, is a small rockshelter formed in the Junction Creek Sandstone (fig. 38). The site occurs in the SE 1/4 of sec. 1, T38N, R16W. The UTM coordinates are 714,480 mE, 4,161,640 mN, zone 12. The shelter will be directly impacted by the construction of McPhee Dam.

The shelter is long and relatively narrow, measuring 22 m east-west, by 10 m north-south. The site is adjacent to a drainage that has eroded a portion of the western edge of the site. The roof of the shelter slopes steeply, and in the area of the drainage is approximately 8 m above the floor of the shelter.

The DAP survey recorded Calmate Shelter on 18 October 1978 as a rockshelter with evidence of habitation. Occupation during the Basketmaker III/Pueblo I, and Pueblo II/Pueblo III periods was suggested based on the surface ceramics. No definite evidence of architecture was present, but a possible retaining wall, a depression which may have represented a filled pitstructure, and a piece of wood thought to be a roof beam were noted. Evidence of vandalism in the rear of the shelter was also recorded by the survey.

Research Objectives and Investigative Strategy

Research objectives at Calmate Shelter were similar to other sites tested in the Grass Mesa Locality, and were directed at refining both the temporal and functional placement of the site. Surface ceramics suggested that the shelter had a long and perhaps complex history of use, and the



Figure 38. View of Calmate Shelter, looking west (DAP 010725).

collection of additional data was necessary to pinpoint when the occupations occurred, and how each occupation used the shelter.

Surface collections were made at Calmate Shelter as part of the recording procedure in 1978. A grab sample of approximately 50 percent of the surface artifacts was collected by the survey crew. No further surface collections were made.

Excavations at Calmate Shelter were conducted between 25 September and 4 October 1979. A grid was established and two 1- by 2-m trenches and a 2- by 2-m square were excavated (fig. 39). Excavation was conducted in arbitrary 30 cm levels and materials were not screened. Test excavations covered approximately 6 percent of the surface area of the shelter (Harper 1979).

Surface Investigations

Surface Artifact Collections

The surface collection from the site consists of 86 items (tables 28, 29, and 30). The largest class of artifacts was ceramics (42) items, most of which were Early Pueblo Gray sherds. One Chapin Gray sherd, one Dolores Corrugated sherd, and two Corrugated Body Sherds were also recovered (table 28).

Flaked lithic debitage (35 items) was the second largest class of items recovered. The debitage was dominated by very fine grained material.

Eight flaked lithic tools were recovered (table 29), four of which were utilized flakes. One core, one used core or cobble tool, one thin biface, and one specialized form make up the remainder of the flaked

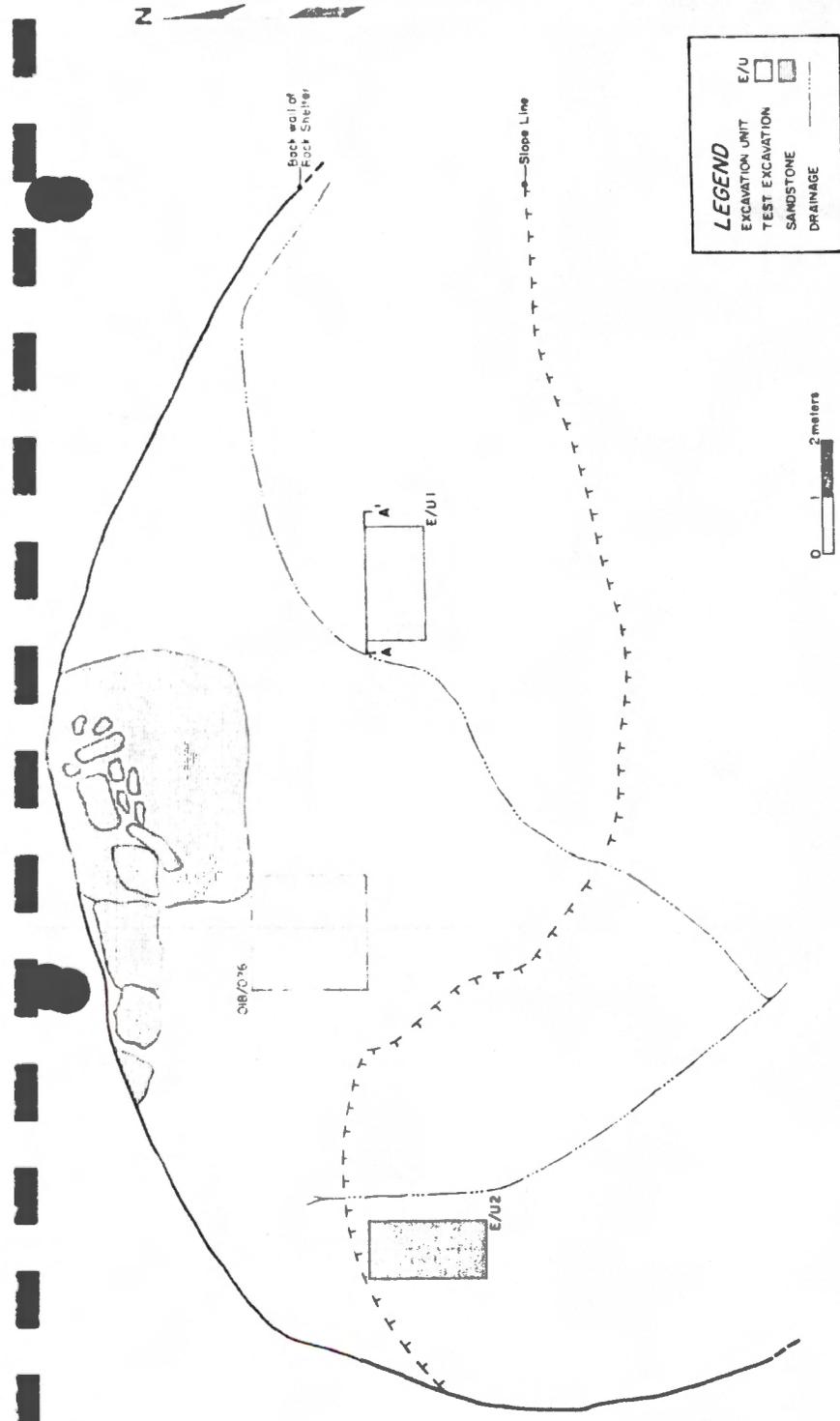


Figure 36. Plan map of Calimete Shelter showing location of excavated units.

Table 28. Ceramic data summary, Calmate Shelter

Culture category: Tract Ware Type	Modern ground surface		Surface Structure 1 total		Pitstr 1 cultural fills and features	
	N	%wt.	N	%wt	N	%wt
Mesa Verde:						
Dolores Tract						
Gray Ware						
Chapin Gray	1	2.6	1	14.1		
Dolores Corrugated	1	9.9				
Corrugated Body Sherds	2	24.9	2	32.9		
Early Pueblo Gray	27	40.4	5	31.1	1	6.1
White Ware						
Polished White			1	15.1		
Cahone Tract						
Gray Ware						
Early Pueblo Gray	11	22.2	1	6.9	1	93.9
Total ceramics	42	100.0	10	100.0	2	100.0
Total weight (g)		253.0		100.7		26.4
Vessel form:						
Gray Ware						
Jar	42	100.0	9	84.9	2	100.0
White Ware						
Bowl			1	15.1		
Jar						

NOTE: Pitstr - Pitstructure.

Table 28. Ceramic data summary, Calmate Shelter --(Continued)

Culture category: Tract Ware Type	Pitstr 1 Noncultural fills and features		Pitstr 1 total		Other excavated units		Site total	
	N	%wt	N	%wt	N	%wt	N	%wt
Mesa Verde:								
Dolores Tract								
Gray Ware							2	4.4
Chapin Gray							1	5.4
Dolores Corrugated							4	20.6
Corrugated Body Sherds							34	30.1
Early Pueblo Gray	1	6.1	2	11.7				
White Ware								
Polished White					2	100.0	3	14.5
Cahone Tract								
Gray Ware								
Early Pueblo Gray	1	93.9	3	88.3			15	25.0
Total ceramics	2	100.0	5	100.0	2	100.0	59	100.0
Total weight (g)		26.4		60.6		52.3		466.6
Vessel form:								
Gray Ware								
Jar	2	100.0	5	100.0			56	85.5
White Ware								
Bowl							1	3.3
Jar					2	100.0	2	11.2

Table 29. Flaked lithic tools, Calmate Shelter

	Modern ground surface			Surface Structure 1 total		
	N	%	Mean wt (g)	N	%	Mean wt (g)
Total tools	8	100.0	81	4	100.0	125
Tool morpho-use						
Utilized flake	4	50.0	37	2	50.0	81
Core	1	12.5	173			
Used core, cobble tool	1	12.5	209			
Thick uniface				1	25.0	164
Thin uniface	1	12.5	19			
Specialized form	1	12.5	95			
Thick biface				1	25.0	173
Grain size						
Fine				1	25.0	164
Very fine	6	75.0	76	3	75.0	111
Microscopic	2	25.0	96			
Item condition						
Broken						
Indeterminate	2	25.0	134			
Distal present	1	12.5	29			
Complete/nearly complete	5	62.5	70	4	100.0	125
Dorsal face evaluation						
Core	1	12.5	173			
Unworked with cortex	6	75.0	63	4	100.0	125
Edged with cortex	1	12.5	95			

Table 29. Flaked lithic tools, Calmate Shelter--continued

	Other excavated units			Site total		
	N	%	Mean wt (g)	N	%	Mean wt (g)
Total tools	2	100.0	267	14	100.0	120
Tool morpho-use						
Utilized flake	2	100.0	267	8	57.1	106
Core				1	7.1	173
Used core, cobble tool				1	7.1	209
Thick uniface				1	7.1	164
Thin uniface				1	7.1	19
Specialized form				1	7.1	95
Thick biface				1	7.1	173
Grain size						
Fine				1	7.1	164
Very fine	2	100.0	267	11	78.6	120
Microscopic				2	14.3	96
Item condition						
Broken						
Indeterminate				2	14.3	134
Distal present				1	7.1	29
Complete/nearly complete	2	100.0	267	11	78.6	125
Dorsal face evaluation						
Core				1	7.1	173
Unworked with cortex	2	100.0	267	12	85.7	117
Edged with cortex				1	7.1	95

Table 30. Flaked lithic debitage, Calmate Shelter

	Modern ground surface			Surface Structure 1 total			Pitstructure 1 cultural fills and features		
	N	%	Mean wt (g)	N	%	Mean wt (g)	N	%	Mean wt (g)
Flakes/flake frags:									
Grain size									
Medium	0	0	0	4	19.0	22	0	0	0
Fine	8	27.6	27	0	0	0	0	0	0
Very fine	16	55.2	40	15	71.4	39	1	100.0	4
Microscopic	5	17.2	26	2	9.5	6	0	0	0
Total flakes/ flake frags	29	100.0	34	21	100.0	32	1	100.0	4
Items with cortex	19	65.5	...	7	33.3	...	0	0	0
Whole flakes	21	72.4	...	10	47.6	...	1	100.0	4
Angular debris	6	100.0	32	0	0	0	0	0	0

NOTE: frags - Fragments.
 ... - Information not available.

Table 30. Flaked lithic debitage, Calmate Shelter--continued

	Pitstructure 1 noncultural fills and features			Pitstructure 1 total			Other excavation units			Site total		
	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)
Flakes/flake frags:												
Grain size												
Medium	0	0	0	0	0	0	0	0	0	4	5.8	22
Fine	2	50.0	2	2	40.0	2	0	0	0	10	14.5	22
Very fine	2	50.0	12	3	60.0	9	11	78.6	11	45	65.2	30
Microscopic	0	0	0	0	0	0	3	21.4	1	10	14.5	15
Total flakes/ flake frags	4	100.0	7	5	100.0	6	14	100.0	9	69	100.0	26
Items with cortex	1	25.0	...	1	20.0	...	2	14.3	...	29	42.0	...
Whole flakes	1	25.0	...	2	40.0	...	8	57.1	...	41	59.4	...
Angular debris	0	0	0	0	0	0	0	0	0	6	100.0	32

lithic tools. Again, very fine grained materials dominate the collection, but sample size is quite small.

The only nonflaked lithic tool recovered at the site was a used core or hammerstone recovered from the site surface.

The ceramic materials from the site indicate tht the shelter was occupied over a wide time span. The presence of both Chapin Gray and Corrugated Body Sherds indicates at least two occupations between A.D. 600 and about A.D. 1200. The fact that the majority of the sherds are of Early Pueblo Gray suggests that occupation before A.D. 910 may have been the most intensive. Kohler (1983:30-31), based on comparisons of the surface collection with excavated material, suggests that selective collection of later sherds from the surface by relic hunters may be a factor in the observed pattern.

Surface Evidence of Structures

The survey form notes that there was no definite evidence of structures having been present in the shelter. A possible retaining wall and a piece of wood thought to have been a roof beam were mentioned, however, as was the possibility that a subsurface structure of some sort was present. The excavation notes make no mention of the beam or the retaining wall, but a surface structure and a pitstructure were encountered in excavation (Harper 1979).

Excavations

Excavation Unit 1

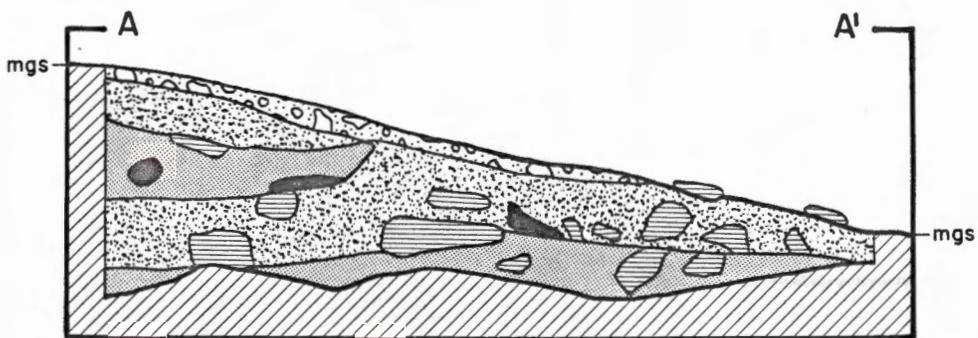
Excavation unit 1 is a 1- by 2-m trench located in the eastern portion of the shelter. The location was selected for excavation because of the likelihood of encountering a pitstructure in that particular area

of the shelter (Harper 1979). Seven strata were encountered in excavation of this trench. The strata are depicted in figure 40. A portion of a hearth (Feature 1) and a pitstructure were contained within excavation unit 1.

Hearth (Feature 1). A portion of a hearth was encountered in the northwest corner of the trench, and the top of the hearth was 4 cm below modern ground surface. Since only a small portion of the hearth was within the boundaries of the trench, it was excavated. For that reason the shape and the dimensions of the feature were not recorded. The hearth had been excavated into loose sand.

Pitstructure 1. A 1 m portion of the wall and 1 m² of the floor of Pitstructure 1 were encountered in excavation unit 1 (fig. 39). The wall, which was of horizontally laid masonry, stood to a height of 70 cm above the floor of the structure. The blocks which made up the wall were approximately 40 by 30 by 10 cm. The wall was covered with a 3 cm-thick coat of adobe plaster. Harper (1979:14) suggests that a pit had been excavated into the sand floor of the shelter and the masonry walls were then constructed. Sand fill was apparently placed behind the walls. He further suggests that a bench may have been present, but the upper portion of the wall was too deteriorated to determine whether one had been part of the pitstructure or not.

The floor of the pitstructure was use compacted and thin. No features were encountered on the 1 m² portion excavated. Some root disturbance was noted which exposed the light colored sand, but excavation was not carried beneath the floor of the structure.



0 .5 1 meter

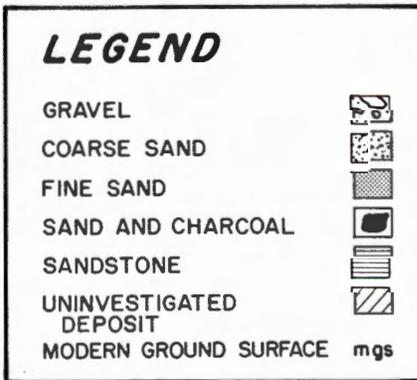


Figure 40. Stratigraphic profile, excavation unit 1, Calmate Shelter.

Excavation Unit 18S/26E

This 2- by 2-m square was excavated in the rear portion of the shelter in an area where surface structures were expected to have occurred. Four shallow burned pits were encountered during the excavation of the square, as was Surface Structure 1.

Burned pits (Features 2, 3, 4, and 5). These four pits were badly disturbed by rodent activity and were poorly defined. All of these features appear to result from the building of fires in shallow basins on the sandy surface of the shelter. No occupation surface was detected in association with these features, however. The dimensions of the features are presented in table 31, but plan and profile shapes could not be determined with any accuracy.

Table 31. Feature summary, Pitstructure 1, Calmate Shelter

Feature No.	Type	Plan	Profile	Length (cm)	Width (cm)	Depth/height (cm)
1	Hearth	...	...	...	...	...
2	Burned pit	...	...	50.0	25.0	4.0
3	Burned pit	...	...	55.0	30.0	4.0
4	Burned pit	...	...	...	...	4.0
5	Burned pit	...	...	22.0	21.0	4.0

NOTE: Features are not mapped.

... - Information not available.

Surface Structure 1. The evidence for Surface Structure 1 consists of a section of vertical slabs encountered near the southeast corner of the grid square, and two discontinuous portions of the floor. The floor appears to have been prepared and consisted of a 2-cm-thick layer of

adobe. No floor artifacts or features were encountered in Surface Structure 1. Excavation of the square was stopped at the level of the floor of this structure, which ranged from 10 to 40 cm below the sloping modern surface. No profile map of this unit was made in the field.

Excavation Unit 2

This 1- by 2-m trench was excavated in the western portion of the shelter (fig. 39). The surface of the site in this area slopes sharply toward the front of the shelter. The slope in this area is probably due to erosion from the shelter dripline and from an intermittent drainage that runs through the shelter.

Excavation of the entire trench was carried out to a depth of 150 cm below modern ground surface. An additional 50 cm of sediments was excavated in a 20- by 20-cm square in the northern end of the trench.

The stratigraphy of this unit was relatively simple. The uppermost stratum consisted of loose sand. Below this stratum were 10 layers of sand of varying thickness, separated by clay layers. These strata were relatively horizontal, and appear to have been truncated by erosion on their southern edges. Underlying these strata are three similar sand strata, each of which contain large sandstone spalls. Beneath the sandstone spalls in the lowest sandy stratum, the sediments have a high clay content. Detailed descriptions of the individual strata were not made in the field.

Material Culture

Relatively few artifacts were recovered from excavation and surface collection at Calmate Shelter. Collections from the site are summarized in tables 28 through 32. Over half of the ceramics and the flaked lithic

Table 32. Bulk soil sample results, Calmate Shelter

Taxon Family Genus species Plant part	Provenience			
	Pitstructure 1 Floor 1 BS 1			
Amaranthaceae <u>Amaranthus</u> sp. seed	4/C			
Cheno-ams fruit	3/C			
Chenopodiaceae <u>Chenopodium</u> sp. fruit	1/N			
Cruciferae seed	1/C			
Cupressaceae <u>Juniperus</u> sp. scale	15/N			
<u>Juniperus osteosperma</u> scale	70/C			
Fagaceae <u>Quercus gambelii</u> wood	<1g/C			
Gramineae <u>Zea mays</u> fruit cob cupule	<1g/C 1fg/C 3/C			
Loasaceae <u>Mentzelia</u> seed	1/N			
Pinaceae <u>Pinus edulis</u> needle	7fg/C			
<u>Pinus ponderosa</u> needle	2fg/C			
<u>Pseudotsuga menziesii</u> needle wood twig	73W/N	12fg/N	27W/C	223fg/C 3g/C 1gm/C
Salicaceae <u>Populus</u> sp. wood	3g/C			
Solanaceae <u>Nicotiana attenuata</u> seed	1/N			
Dicotyledoneae wood	<1g/C			
Gymnospermae bark	<1g/C			

NOTES: In the body of the table, numerals to the left of the bar indicate the number of items present, except in those cases where the items have been reported as a weight. In this later case, the numeral is followed by the abbreviation "g" indicating the number of grams of material present.

C - Charred.
N - Noncharred.
fg - Fragment.
W - Worked.

tools were recovered from the site surface. The ceramics are discussed later when the site chronology is considered.

Of the 14 flaked lithic tools recovered at the site, 8 are utilized flakes. The majority of flaked lithic tools are of very fine grained materials, and are complete or nearly complete. Debitage is also primarily very fine grained.

Only seven bones were collected at the site. Three (two Sylvilagus sp. and one Castor canadensis) were identifiable to genus or species level. One Artiodactyla bone was collected, and the remainder of the bones were one medium mammal and two large mammals.

Botanical materials were recovered from one bulk soil sample (table 32). Noteworthy among the materials identified is the presence of Zea mays. One vegetal specimen was also collected. It contained both a charred Zea mays cob fragments and an uncharred Pinus ponderosa cone fragment.

Site Synthesis

Chronology

No tree-ring or archaeomagnetic samples were recovered from the site. The collection of sherds from the shelter is small, but does provide some evidence for the temporal placement of the structures and features.

As the previous discussion of the surface sherds indicates, the collection includes both late and early sherds. Excavation of the fill of Pitstructure 1 produced 5 Early Pueblo Gray sherds. The late ceramics are five corrugated sherds; three from the surface and two from the fill of Surface Structure 1. Surface Structure 1 fill also yielded early types such as Chapin Gray, Early Pueblo Gray, and Polished White. The corrugated sherds from this fill are probably associated with

the burned pits, and the early sherds are probably associated with the structure.

Based on the probable association of early ceramics with Surface Structure 1, the presence of only Early Pueblo Gray, and the absence of Moccasin Gray and Mancos Gray in the pitstructure fill, these structures can be assigned a date range of A.D. 600 to 860. If the absence of red wares and neckbanded ceramics (Moccasin Gray and Mancos Gray) is not simply a result of the small sample size, a terminal date of A.D. 725 may be appropriate.

The four burned pits in the fill of Surface Structure 1 may be assigned a post-A.D. 900 date, if the association of these features with corrugated sherds is accurate. The Dolores Corrugated sherd can be placed in the period A.D. 1050 to 1200, since this is the period when these sherds were most common in the DAP area.

The architectural characteristics of the exposed portions of the pitstructure and the surface structure provide little help in assigning these structures to DAP phases and subphases. The presence of a vertical slab room (Surface Structure 1) is consistent with placement in the Sagehill Subphase (A.D. 700-780) of the Sagehen Phase. Such an assignment agrees with the rather tenuous date range of A.D. 750-775 discussed above. The burned pits, and possibly the hearth (Feature 1) in the upper fill of Pitstructure 1 may be assigned to the Sundial Phase (A.D. 1050-1200), but a subphase assignment is not possible.

Site Function

Based on the presence of a pitstructure and a surface structure, it appears that the early occupation of the shelter was a habitation. The

later occupation appears to be an ephemeral use, and probably represents either a limited activity locus or some sort of seasonal site.

DTA SITE (SITE 5MT5361)

Introduction

DTA Site was not among the sites that were initially targeted for investigation during the 1980 field season. This site, located in borrow area B, was not discovered until midway through the 1980 field season. The unique setting of the site and the possibility that the artifacts might have dated to the Archaic period led the Bureau of Reclamation to request that the site be investigated before its destruction by planned construction activities. The site (fig. 41) is located on the east side of the Dolores River valley in the southeast portion of the Grass Mesa Locality. It is located in the NW 1/4 of the SE 1/4 of sec. 7, T38N, R15W. The UTM grid coordinates for this location are 4,160,060 mN, 716,600 mE, zone 12. Archaeological materials were noted in the profile of a test trench excavated by power equipment (fig. 42).

Research Objectives and Investigative Strategy

DTA Site was discovered in an area that had previously been cleared with regard to cultural resources. When the site was discovered, it was determined to be a unique resource because deeply buried sites had not been previously recorded in the project area. Preliminary analysis of the initial collections from the site indicated that it was possible that the site belonged to the Archaic Tradition. This increased the potential value of the site, for few archaic sites have been recorded in the project area. Because the site area was scheduled to be impacted by construction activities shortly after it was discovered, it was decided that it should be investigated.



Figure 41. View of DTA Site during the excavation of excavation unit 1, looking northwest. The contractor's trench in which artifacts were originally discovered is visible in the center of the left side of the photograph (DAP 059314).

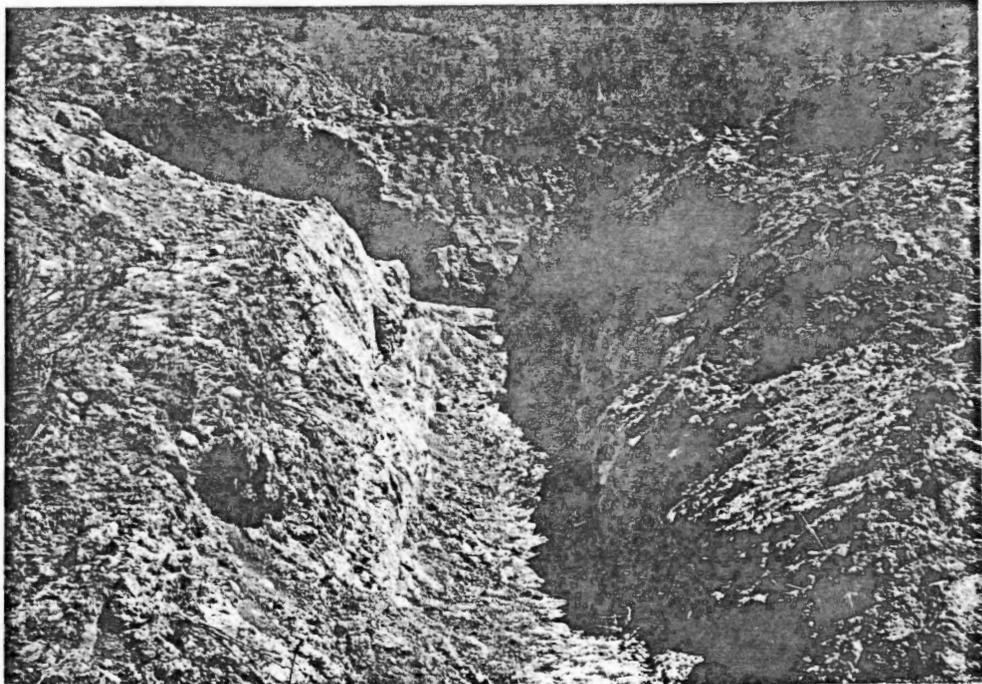


Figure 42. View of excavation unit 2, DTA Site (DAP 062312).

The first goal in investigating DTA Site was to gather information that would allow the site to be dated. A second goal was to gather a representative artifact collection of sufficient size to allow for meaningful comparisons of this site with others in the project area and to allow the construction of a "lithic profile" (Phagan 1981) for the site. Finally, the depositional history of the site needed to be determined so that the context in which the artifacts were found (cultural deposition versus natural redeposition) could be assessed.

In designing the investigations at DTA Site, it was necessary to consider several factors. One factor was the time constraints placed on the excavations by the contractor's schedule. Another was the nature of the site and the fact that the material was buried under approximately 2.5 m of sediment. A final factor was the limited availability of crew members to perform the excavations. Consideration of all of these factors led to the adoption of a strategy that required the use of power equipment to remove the overburden and the use of hand tools to investigate the deposits containing the cultural material of interest.

During the first period of excavation at DTA Site (8 to 12 September 1980) a backhoe was used to remove overburden from a trench that was cut perpendicular to the original contractor's trench and parallel to the slope (fig. 43). This trench (excavation unit 1) was excavated to a depth of approximately 2.9 m and to a length of 7.3 m from the southeast wall of excavation unit 2 (the original contractor's trench); the width of excavation unit 1 varied from slightly more than 1 m to just under 80 cm. The trench was divided into 1-m-long segments that were then shovel and trowel excavated in 10-cm levels (figure. 44). All sediments from the hand excavations were screened through

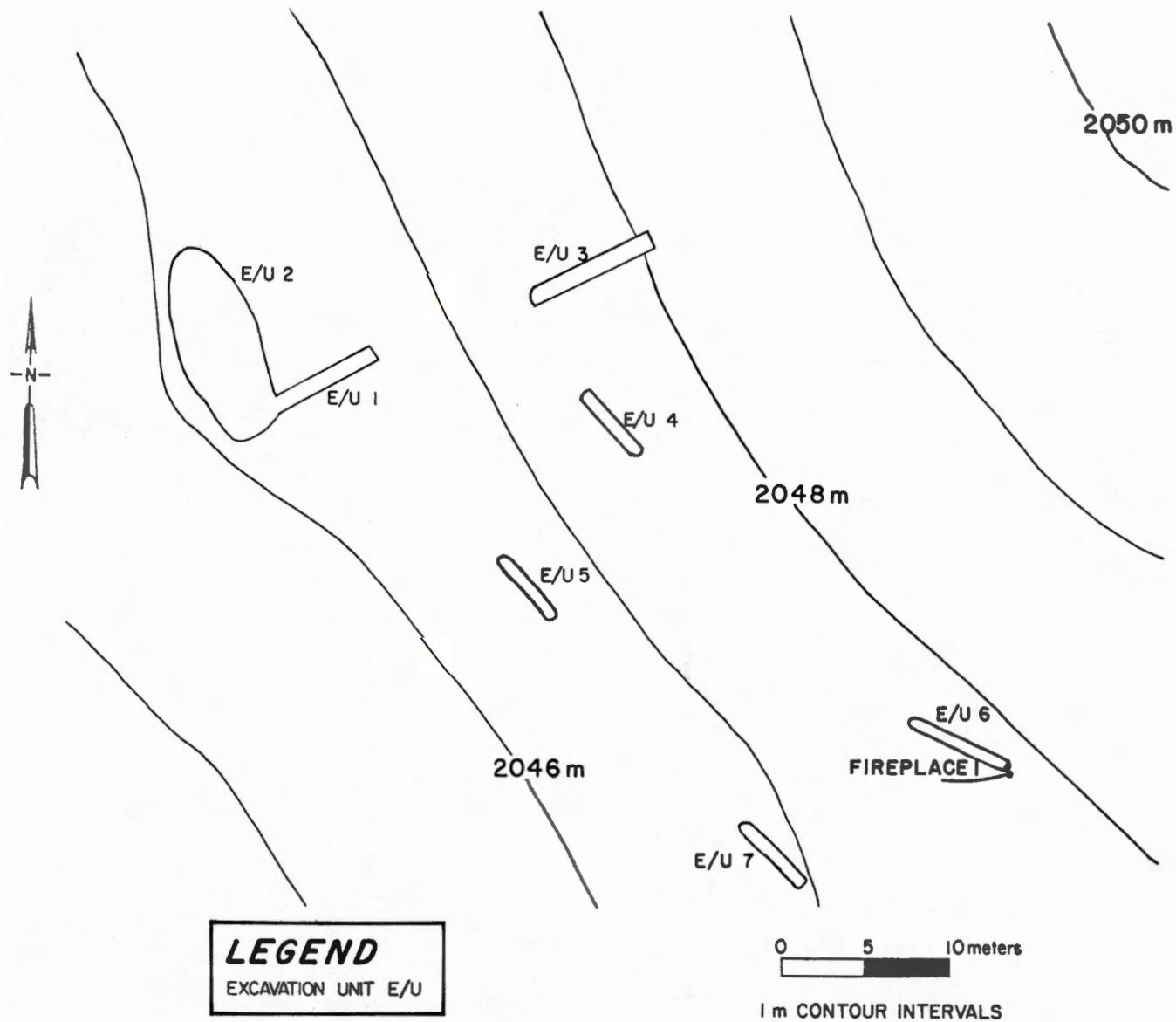


Figure 43. Topographic map of DTA Site showing the location of excavated units.

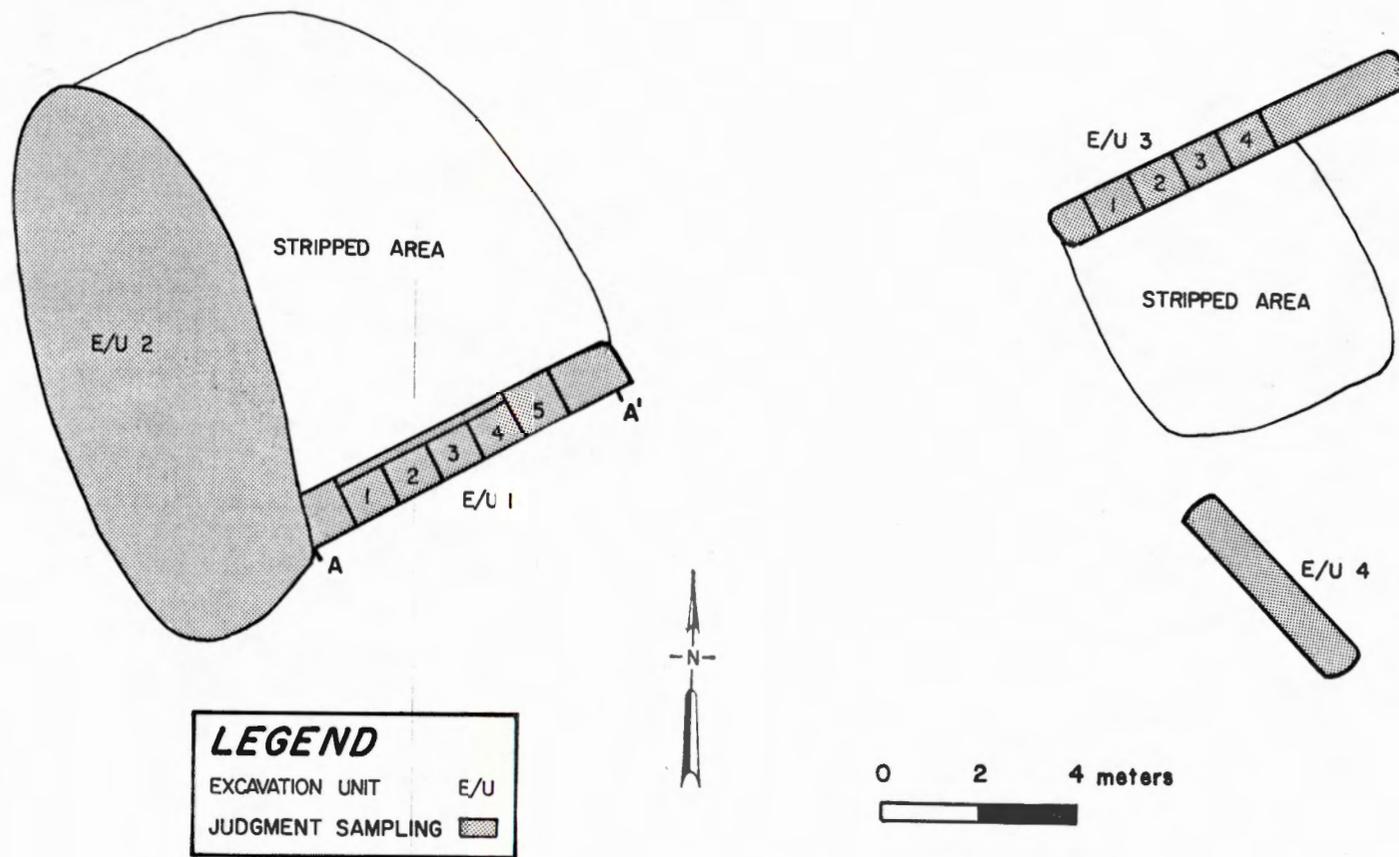
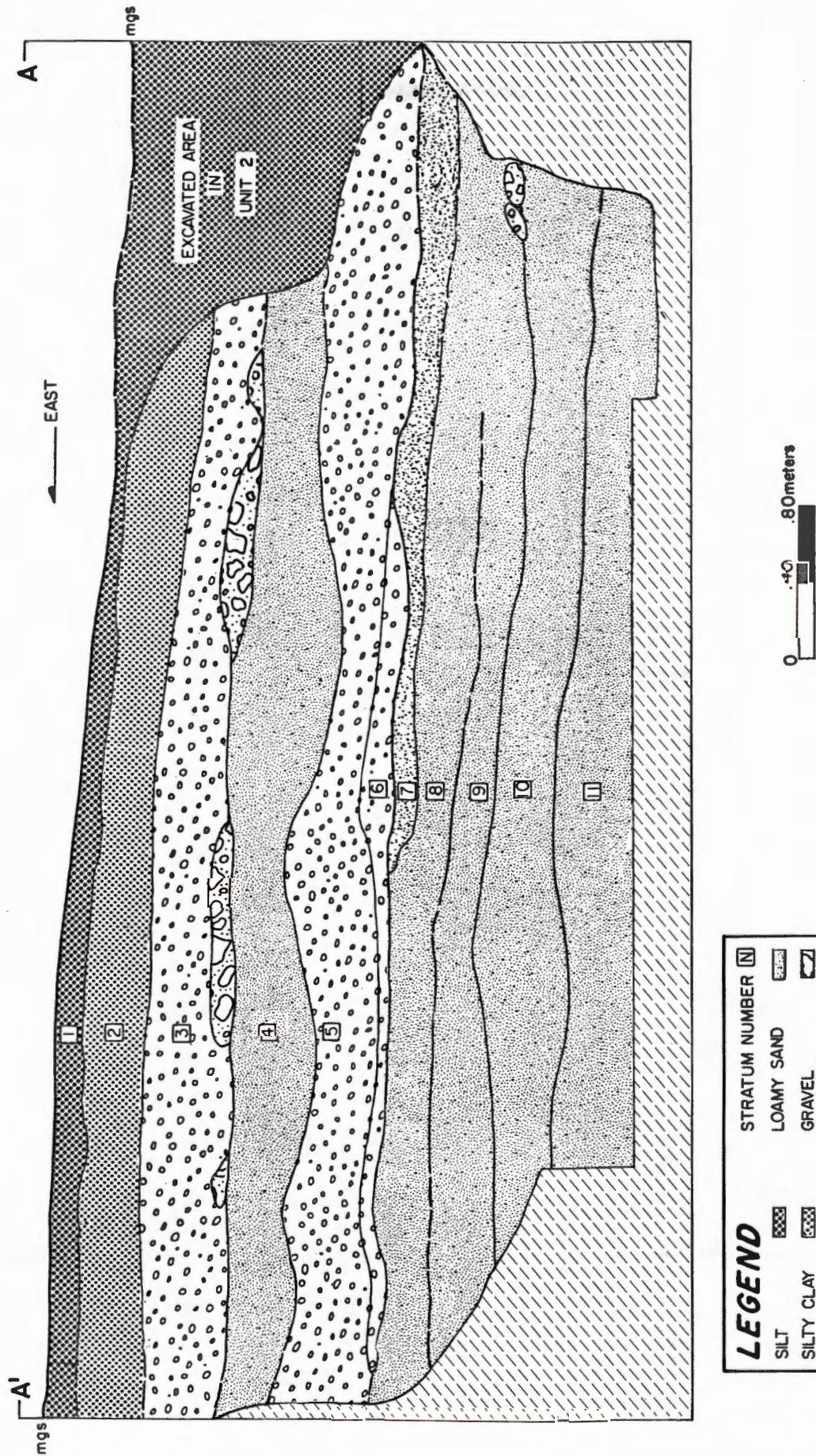


Figure 44. Map of excavation units 1, 2, 3, and 4, DTA Site.

one-quarter-inch mesh. Additional work was performed in excavation unit 2 to increase the size of the artifact sample and to explore the stratigraphy. Included in this work was troweling of the walls to define stratigraphy, excavation of portions of the exposed artifact-bearing stratum (both with and without screening), and collection of carbon from the walls of the unit. During the initial excavation at DTA Site, the stratigraphy in the southeast wall of excavation unit 1 (fig. 45) was described by crew members from the Earth Resources Section and two sediment columns were collected.

After the completion of the initial excavations at DTA Site, the lithic artifacts were examined by the DAP Reductive Technology Group and comments were generated. Based on the small size of the assemblage, and the fact that no temporally diagnostic artifacts were recovered, it was decided that further investigation of the site was required. The second period of investigation began on 30 September 1980 and lasted until 3 October. The first task during this period of fieldwork was to determine the area of greatest artifact concentration. The backhoe was used to excavate five trenches (excavation units 3 through 7) at various points upslope and upvalley from excavation units 1 and 2 (fig. 43). The strata exposed in these trenches were examined to determine where follow-up excavations could be most profitably conducted. Based on the nature of the stratigraphy and the observed concentration of materials, the trench immediately upslope (east) of excavation units 1 and 2 was chosen. This trench, designated excavation unit 3, was expanded and an area to the southeast was scraped down approximately 1.5 m to allow for trench stability. As with excavation unit 1, the trench extension was brought to within 20 cm of the artifact-bearing level. Excavation



LEGEND

STRATUM NUMBER	11	10	9	8	7	6	5	4	3	2	1
SILT	diagonal lines	stippled	horizontal lines	dotted	cross-hatched	diagonal lines	stippled	cross-hatched	diagonal lines	stippled	stippled
LOAMY SAND											
SILTY CLAY											
SANDY LOAM											
UNINVESTIGATED DEPOSIT											
MODERN GROUND SURFACE											

Figure 45. Stratigraphic profile of the southeast wall of excavation unit 1, DTA Site. Location of profile is shown in figure 41.

unit 3 was divided into four segments that were 1 m long and approximately 80 cm wide. Two of these segments (numbered 1 and 3) were excavated in the fashion of the segments in excavation unit 1. Segment 2 was excavated without being divided into levels, but all of the sediments from the excavation of this segment were screened. Segment 4 was not excavated.

Additional investigations during the second period of fieldwork at DTA Site included examination of stratigraphy in the other test trenches (excavation units 4 through 6) and recording the only feature discovered at the site, a fireplace that was located in excavation unit 6, above the level of the artifact-bearing stratum under investigation at the site.

Surface Investigations

Only three artifacts were recovered from the surface of the site: one very fine grained flake, a partially worked thin biface with no haft element, and a completely worked thin biface (tables 33 and 34). The sparse nature of the surface collection is not surprising given that the bulk of the cultural material at the site is buried under more than 2 m of sediment. The surface materials almost certainly are not directly related to the deeply buried materials at the site; the former are probably associated with a less deeply buried cultural stratum such as the one associated with Feature 1 (40 to 70 cm below modern ground surface). No surface evidence of features or structures was noted at this site.

Table 33. Flaked lithic debitage, DTA Site

	Modern ground surface			Excavation unit 1			Excavation unit 2			Excavation unit 3			Other collections			Site total		
	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)
Flakes/flake frags:																		
Grain size																		
Medium	0	0	0	0	0	0	0	0	0	1	1.2	2	1	3.1	3	2	0.7	3
Fine	0	0	0	13	11.9	6	27	42.9	6	56	65.1	4	18	56.3	4	114	39.1	3
Very fine	1	100.0	23	83	76.2	2	34	54.0	2	29	33.7	3	13	40.6	11	160	55.0	3
Microscopic	0	0	0	13	11.9	1	2	3.1	<1	0	0	0	0	0	0	15	5.2	1
Total flakes/ flake frags	1	100.0	23	109	100.0	2	63	100.0	3	86	100.0	3	32	100.0		291	100.0	3
Items with cortex	0	0	0	6	5.5	...	3	4.8	...	1	1.2	...	1	3.1	...	11	3.7	...
Whole flakes	1	100.0	23	63	57.8	...	47	74.6	...	7	8.1	...	10	31.2	...	127	43.6	...
Nonlocal items	0	0	0	2	1.8	...	0	0	0	0	0	0	0	0	0	2	0.7	...
Angular debris	0	0	0	29	100.0	3	24	100.0	7	32	100.0	11	15	100.0	22	100	100.0	9

NOTE: frags - Fragments.

... - Information not available.

Tabel 34. Flaked lithic tools, DTA Site

	Modern ground surface			Excavation unit 1			Excavation unit 2			Excavation unit 3			Other collections			Site total		
	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)	N	%	Mean wt(g)
Total tools:	2	100.0	7	4	100.0	6	10	100.0	34	5	100.0	92	7	100.0	68	28	100.0	47
Tool morpho-use																		
Utilized flake				4	100.0	6	6	60.0	24	1	20.0	5	3	42.9	9	14	50.0	14
Core							2	20.0	89	3	60.0	146				5	17.9	123
Used core, cobble tool													1	14.3	356	1	3.6	356
Thick uniface										1	20.0	16				1	3.6	16
Thin uniface													2	28.5	20	2	7.1	20
Thick biface							1	10.0	20				1	14.3	51	2	7.1	36
Thin biface	2	100.0	7													2	7.1	7
Projectile point							1	10.0	1							1	3.6	1
Grain size																		
Fine							1	10.0	155	2	40.0	182	3	42.9	24	6	21.4	99
Very fine	2	100.0	7	3	75.0	8	8	80.0	23	2	40.0	11	3	42.9	134	18	64.3	36
Microscopic				1	25.0	1	1	10.0	1				1	14.3	1	3	10.7	1
Irregular										1	20.0	73				1	3.6	73
Item condition																		
Broken																		
Indeterminate	1	50.0	10							1	20.0	73				2	7.1	42
Distal present	1	50.0	4										1	14.3	1	2	7.1	3
Proximal present							1	10.0	1							1	3.6	6
Medial present													1	14.3	6	1	3.6	6
Complete/nearly complete				4	100.0	6	9	90.0	38	4	80.0	96	5	71.4	934	22	78.6	55
Dorsal face evaluation																		
Indeterminate							1	10.0	1							1	3.6	1
Core							2	20.0	89	3	60.0	146				5	17.9	123
Unworked with cortex							3	30.0	32				1	14.3	39	4	14.3	34
Unworked without cortex				4	100.0	6	3	30.0	9	2	40.0	11	4	57.1	7	13	46.4	9
Edged with cortex							1	10.0	20				1	14.3	356	2	7.1	188
Edged without cortex													1	14.3	51	1	3.6	51
Primarily thinned	2	100.0	7													2	7.1	7

Excavations

Fireplace (Feature 1)

The only feature encountered at DTA Site was a fireplace. This feature was not associated with the deeply buried material, which was of primary interest at DTA Site, but was encountered in the upper sediments of excavation unit 6. The top of the feature lies between 40 and 70 cm below the modern ground surface in the southeast end of the excavation unit (fig. 46). At least half of the feature was removed by the backhoe in excavating the trench. The fireplace appears to have been rectangular in plan and trapezoidal in cross section. The walls of the fireplace are formed by sandstone slabs. A thick (approximately 10 cm) layer of charcoal-rich sediments was recorded in the bottom of the pit fill and the inner surfaces of the slab lining all showed charring and oxidation from heating. There is a surface apparent in the profile at the top of the fireplace, marked by a band of charcoal-rich sediments. No artifacts were recovered from the fill of the pit, but two sherds (one Early Pueblo Gray and one Chapin Gray) were recovered from the associated surface. These sherds suggest that the feature dates to somewhere between A.D. 600 and 900.

Material Culture

Few artifacts were recovered from investigations at DTA Site. The flaked lithic debitage is summarized in table 33 and the flaked lithic tools are summarized in table 34. The controlled excavations at the site (excavation units 1 and 3) yielded only nine tools. The remainder of the tools were collected from the backdirt and sidewalls of excavation units. The contractor's original trench (excavation unit 2) has been



Figure 46. View of slab-lined pit (Feature 1), DTA Site, looking southwest (DAP 062330).

summarized separately in the two summary tables since it was the place where the site was discovered.

Four ceramic sherds were found at the site. One Early Pueblo Gray sherd was recovered from the backdirt of excavation unit 1. Another Early Pueblo Gray sherd is quite significant because it was found in Level 10 of excavation unit 3, at a depth of approximately 2.7 m below the modern ground surface, and in association with flaked lithic debitage. The sherd was not found in situ, but was recovered from the screen. Nonetheless, the association with the flaked lithic material at the site appears to be genuine. One sherd each of Early Pueblo Gray and Chapin Gray were recovered from excavation unit 6 in sediments associated with Feature 1.

Excavation unit 1 produced three small fragments of bone. Although these bone fragments have not been analyzed, a brief inspection indicates that they are all too small and fragmentary to be identified any more specifically than to mammal.

Stratigraphy

The stratigraphy of the southeast wall of excavation unit 1 is illustrated in figure 45. The sediments at the site appear to be the result of colluvial deposition, with weakly developed soil structure noted in the upper three strata. Artifacts were recovered in the upper and lower portions of Stratum 10 and upper portions of Stratum 11. Sediment samples were taken from the profile and two column samples (sediment monoliths) were collected for laboratory study.

Results of the analysis of sediment samples (analysis performed by Vickie L. Clay of the DAP), indicate that the range of sediments found in the column are consistent with those to be expected in an alluvial fan or

colluvial setting. The artifact-bearing strata are higher in gravel content than the rest of the profile, but do not show unusual pH values. These strata, like most of the rest of the profile, do not react to acid, indicating that they contain little or no carbonates. Strata 4 and 5, on the other hand, reacted violently to acid. This is attributed to concentration of carbonates through soil forming processes in this part of the profile.

The site is situated at the intersection of the canyon wall and the flood plain, in an area where colluvial deposition is currently taking place. The stratigraphy of the site, the sediment analysis, and the lack of observable cultural surfaces combine to suggest that the artifacts were deposited during active colluviation. Colluvial transport, indeed, probably accounts for the presence of the artifacts in Strata 10 and 11.

Site Synthesis

Chronology

The evidence available for dating DTA Site is confusing. The stratigraphic position of the cultural material at a depth of 2.5 m below modern ground surface does not necessarily indicate great antiquity. The situation of the site adjacent to the flood plain, near an intermittent stream, and near the base of the valley wall is such that there could have been very rapid deposition of sediments on the site. Further, there is little evidence of soil formation in the profile of the site. This observation does not necessarily rule out the possibility that the site

is old, but if the site were pre-Anasazi there is a good chance that substantial soil development would have taken place.²

The presence of Feature 1 at a depth of 40 to 70 cm below modern ground surface in excavation unit 6 suggests that deposition of sediments at the site was rapid. The sherd associated with this feature was from a Chapin Gray bowl from the Dolores Manufacturing Tract. Chapin Gray was present in the Dolores area between A.D. 600 and 950 and was common between A.D. 600 and 825.

Two samples of charcoal were submitted to different laboratories for radiocarbon dating. Both radiocarbon samples 17 and 16 were taken from the same level (approximately 2.25 m below modern ground surface) of the same excavation segment of excavation unit 3 and were found in association with flaked lithic materials. Analysis of sample 16 was provided by Dicarb Radioisotope Co. The reported date is 1600 ± 90 B.P. The tree ring corrected date using the conversion method by Dannon et al. (1974) is 1584 ± 152 B.P. (A.D. 214-518). Analysis of sample 17 was provided by Beta Analytic, Inc. The reported date is 2185 ± 100 B.P. The tree-ring corrected date is 2234 ± 183 B.P. (467-101 B.C.). The tree-ring corrected dates are separated by 650 years and the standard deviations do not overlap. This suggests that either the charcoal submitted for dating was quite heterogeneous in terms of age, or that there were significant differences in the analytic methods employed between the two labs. The first proposition seems more likely, especially since the site consists of redeposited artifacts. The

²Robert Sutton, U.S. Geological Survey, personal communication

association of the charcoal with the artifacts may well be only chance and not the result of cultural processes.

Two lines of evidence derived from the artifact assemblage bear on the dating of the site. First, a sherd of Mesa Verde Early Pueblo Gray was recovered during the excavation of segment 3, level 10 (2.7 m below modern ground surface) of excavation unit 3. The sherd was found in the screen, but the excavator was certain that it could not have fallen into the unit from a position higher in the stratigraphic profile. Further, no evidence of rodent disturbance was noted either in the profile or during excavation of the overlying strata. The second line of evidence is derived from the lithic profile (Phagan 1981) of the site. The characteristics of the lithic assemblage do not closely resemble those of Anasazi assemblages in the project area, but they are closer to the Anasazi lithic profiles than they are to profiles generated for sites with evidence of Archaic occupation.

Thus, the dating evidence for DTA site is conflicting and confusing. The presence of a sherd in association with the flaked lithic material from the site, and the nature of the lithic profile suggest that this site belongs to the Anasazi Tradition. The radiocarbon dates indicate a pre-Anasazi date for the site. The stratigraphic position and the site setting do not contradict either position. The author favors the placement of the site in the Anasazi tradition based on the artifact assemblage, but the actual date is still open to question.

Applicability of Site Data to the Dolores Archaeological Program Research Design

The data collected from DTA Site does not contribute much to answering specific questions in the research design because the material

is redeposited and the collection of artifacts is relatively small. The location of the site suggests that there were sites located in the flood plain and that there is indeed a potential for buried sites in the project area. Such sites will have to be taken into account in any modeling of subsistence pattern or settlement location in pursuit of research design goals.

SITE 5MT2160

Introduction

Site 5MT2160 is located on an alluvial fan at the point where an unnamed drainage enters the Dolores River from the south (fig. 1). This is one of only four sites located on the south side of the river. The site is located in the NE 1/4 of the NE 1/4 of sec. 11, T38N, R16W. The UTM coordinates of this location are 4,161,120 mN, 713,970 mE, zone 12.

The surface of the site is covered with dense vegetation, primarily Gambel oak, but there is one area that is relatively clear of vegetation. The greatest concentration of surface artifacts occurred in this clear area.

The site was recorded on 17 September 1972 by the DRP survey, and was described as a "sherd, lithic, and mano" area. The two sherds recovered by the survey crew did not allow the period of occupation to be inferred.

Research Objectives and Investigative Strategy

The primary objective of the work at Site 5MT2160 was the collection of a large enough sample of artifacts to allow better temporal placement of the site, and an examination of the site surface for evidence of architecture. Evidence of the presence or absence of architecture, combined with the nature of the artifacts collected was intended to allow refinement of the functional assignment possible for the site.

The original plan was to remove brush from the site, establish a grid, and collect the surface artifacts by grid square. When the crew arrived on the site on 27 September 1979, it was determined that artifact

densities were so low that it did not warrant the labor necessary to clear brush and survey in a grid. Instead, a stake was placed in a clearing in the west-central portion of the site and a transit was set up over that stake. The site surface was searched for artifacts and when they were encountered, the azimuth and distance from the transit station were recorded. Artifact locations were plotted on a site map on which a grid had been superimposed. All artifacts falling into the same grid square were assigned the same field specimen number. Only 12 of the possible 178 4- by 4-m grid squares contained any artifacts.

Surface Investigations

Surface Artifact Collections

Only 30 artifacts were recovered from the 1979 surface collections at Site 5MT2160 (table 35). The 1972 survey crew collected two sherds and seven flakes, but these collections could not be located for reanalysis and these materials will not be included in this discussion.

The 1979 collection consisted of 11 sherds (7 Early Pueblo Gray and 4 Early Pueblo White, 16 pieces of flaked lithic debitage, 1 flaked lithic tool (an unused core), and 2 nonflaked lithic tools (both classified as metate fragments). The only patterning evident in the distribution of artifacts on the site surface was a concentration of material in the area that was relatively clear of vegetation.

Surface Evidence of Structures

No definite evidence of structures was present on the site surface. A concentration of rock was noted by the survey crew, but they thought that it was a natural concentration. Kohler (1983:30) suggests that the vegetative cover of the site, and the depositional situation (an alluvial fan), may have obscured evidence of architecture at the site.

Table 35. Surface artifacts, Site 5MT2160

Artifact class	No. of items
Ceramics:	
MV Early Pueblo Gray jar sherds	7
MV Early Pueblo White bowl sherds	4
Flaked lithic tools:	
Used core	1
Flaked lithic debitage:	
Flakes and flake fragments	
Very fine grained	12
Microscopic grained	4
Nonflaked lithic tools:	
Metate fragment	2
Total	30

NOTE: MV - Mesa Verde Culture Category.

Site Synthesis

The collection from Site 5MT2160 provides few clues to either the temporal placement of the site, or to its use. The presence of Early Pueblo Gray and Early Pueblo White sherds indicate a period of occupation somewhere between A.D. 600 and 950. The absence of neckbanded ceramics and red ware sherds is not helpful in refining temporal placement because so few sherds are present that sampling error cannot be ruled out,

however, the absence of corrugated sherds in this assemblage suggests a pre-A.D. 910 date.

Inferring the function of the site is also difficult. The very low artifact density suggests that use of the site was not very intensive, and that perhaps it was some sort of limited activity locus. It is possible, however, that vegetation and the depositional situation of the site have combined to obscure evidence of a more intensive use. Kohler (1983:30) suggests that the site be tentatively considered a field house, based on its location, the presence of milling equipment, and on the possibility that a structure may have been present. This suggestion seems reasonable, but receives little support from the limited artifact collection.

SITE 5MT2165

Introduction

Site 5MT2165 is located on the east side of the Dolores River valley, approximately 1 km southeast of Grass Mesa in the NW 1/4 of the SE 1/4 of sec. 7, T38N, R15W. The UTM grid coordinates for this location are 4,160,200 mN, 716,740 mE, zone 12.

The DRP survey recorded Site 5MT2165 on 25 September 1972 as a Basketmaker III sherd and lithic scatter. On the survey form, the site is described as "an area of sheet trash on the talus." Rock rubble was noted on the site, but the survey crew noted that, because identical rock occurred in other areas of the hillside as well, it was impossible to conclude that the rock on the site was, indeed, building stone.

The nearest dependable source of water currently in the area of Site 5MT2165 is the Dolores River. Sandstone basins, which probably held water for periods of time after rains, occur upslope of the site.

The slope in the site area is between 20° and 30°. This contributes to the heavy slope wash, which has probably distorted, to a degree, the distribution of surface artifacts.

Investigative Strategy

Surface collections were made at Site 5MT2165 on 27 August 1980. All artifacts encountered on the surface were collected. Some shovel scraping of the site surface was performed in an attempt to locate remains of structures.

The 1972 surface collections were reanalyzed employing current DAP analytical systems. The results of the analysis of the 1972 and the 1980 collections will be discussed in the following section.

Surface Investigations

Surface Artifact Collections

The combined 1972 and 1980 surface collections from the site consist of 338 items. Ceramic sherds make up 29.9 percent of the collections; flaked lithic tools, 6.8 percent; flaked lithic debitage, 63.0 percent; and nonflaked lithic tools, 0.3 percent. Artifact data are summarized in table 36.

The bulk of the ceramics collected at the site are Early Pueblo Gray. Early Pueblo White is represented by two sherds and Early Pueblo Red by nine sherds. Chapin Gray, Moccasin Gray, and Mancos Gray are present in the collections. One gray ware sherd is particularly interesting in that its temper is quartz sand. This type of temper is rare in sherds found in the Dolores area and raises the possibility that the sherd may be of nonlocal origin.

The flaked lithic tool collection consists of utilized flakes, used and unused cores, various kinds of bifaces and unifaces, a cobble tool, and a corner-notched projectile point. The flaked lithic debitage assemblage is dominated by very fine grained materials (53.8 percent). No nonlocal lithic materials were noted in the flaked lithic debitage assemblage. Burro Canyon and Morrison quartzites and Burro Canyon cherts were the predominant material types.

Five nonhuman bones were collected at Site 5MT2165. One mule deer and four cottontail bones made up the collection.

Table 36. Surface artifacts, Site 5MT2165

Artifact class	No. of items		
	1972	1980	total
Ceramics:			
MV Early Pueblo Gray, jar sherds	27	52	79
MV Early Pueblo White, bowl sherds	1	1	2
MV Early Pueblo Red, bowl sherds	7	2	9
MV Chapin Gray, jar sherds	2	6	8
MV Moccasin Gray, jar sherds	0	1	1
MV Mancos Gray, jar sherds	0	1	1
Indeterminate Gray, jar sherds	0	1	1
Flaked lithic tools:			
Utilized flake	0	3	3
Unused core	0	4	4
Used core	0	1	1
Cobble tool	0	1	1
Thick side-worked uniface	0	1	1
Thick multiple-edge-worked uniface	1	1	2
Thin multiple-edge-worked uniface	0	2	2
Thick biface, too fragmentary to determine	2	0	2
Thick biface, partially worked	4	1	5
Thin biface, no haft	0	1	1
Projectile point, corner-notched	1	0	1
Flaked lithic debitage:			
Angular debris	5	52	57
Flakes and flake fragments			
Medium grained	0	0	0
Fine grained	8	43	51
Very fine grained	0	84	84
Microscopic grained	3	18	21
Nonflaked lithic tools:			
Abrading stone, one flat surface	0	1	1
Total	61	277	338

NOTE: MV - Mesa Verde Culture Category.

Surfacial Evidence of Structures

Shovel scraping at Site 5MT2165 revealed the presence of one surface structure. Two vertical slabs that appeared to form the northeast corner of a room were discovered. The remaining portion of the north wall

measures 1.23 m and the east section of the wall measures 1.28 m. No other evidence of walls was present.

Site Synthesis

Chronology

Ceramics provide the principle means for dating Site 5MT2165. The presence of red ware sherds indicates that the site dates to sometime after A.D. 720. The Early Pueblo Gray, Early Pueblo White, and Early Pueblo Red sherds suggests a date before A.D. 950. The presence of both Moccasin Gray and Mancos Gray places the site sometime between A.D. 860 and 910, and a single neckband style date falls within this range.

The surviving architecture at the site supports a late A.D. 800's assignment, in that vertical slab construction in the project area tends to occur during the Sagehill and Dos Casas Subphase of the Sagehen Phase and the Periman Subphase of the McPhee Phase. Rohn (1977:254) indicates a similar time span for vertical slab foundations of jacal structures on Chapin Mesa, and Hayes and Lancaster (1975:182-184) found similar foundations in use in both the Piedra Phase (A.D. 750 to 900) and the Ackman Phase (A.D. 900 to ca. 1000) in the Badger House Community on Wetherill Mesa.

Site Function

The ceramic and lithic artifacts from Site 5MT2165 provide evidence as to site function. The ceramic assemblage at the site, while dominated by gray wares, includes white wares and red wares as well. If there is an association between the ware and function, as has been suggested (Lucius 1982; Freeman and Brown 1964; Longacre 1968:100-101), then it can

be assumed that a greater variety of activities involving ceramics was performed at sites with all three major wares than at sites where only a single ware is represented.

The composition of the lithic artifact collection--utilized flakes, unifaces, bifaces, cores, and a projectile point--suggests that a variety of activities took place at Site 5MT2165. The number of cores and the amount of flaked lithic debitage suggests that the manufacture and/or repair of flaked lithic tools should be numbered among these activities. The artifact assemblage, combined with the evidence of a structure, suggests that the site was probably a habitation.

SITE 5MT2166

Introduction

Site 5MT2166 is located south of and across a small ravine from Site 5MT2165, in the NW 1/4 of the SE 1/4 of sec. 7, T38N, R15W. The UTM grid coordinates for this location are 4,160,500 mN, 716,780 mE, zone 12. The site is located in an area that is relatively clear of vegetation, but like Site 5MT2165, it is surrounded by thick stands of scrub oak.

The site was recorded on 23 September 1972, by the DRP survey as a Basketmaker III-Pueblo I sherd and lithic scatter. Knudson et al. (1984:table 1) described the site as a small habitation and tentatively assigned it to the Tres Bobos Subphase (A.D. 600-700).

Investigative Strategy

Grid-controlled surface collections were made on 28 August 1980, by a WSU crew. Twenty-five 4- by 4-m squares were surface collected. The site surface was shovel-scraped to test for the possible presence of surface structures. Results of the analysis of the 1980 collections and of the reanalysis of the original collections are presented in the discussion of surface investigations at this site.

Surface Investigations

Surface Artifact Collections

Composition of collections. Artifact collections from the site include 960 items, 889 of which were collected by the 1980 crew. The artifact data are summarized in table 37. Flaked lithic debitage makes up 72.6 percent of the entire collection, followed by ceramic items (22.1

Table 37. Surface artifacts, Site 5MT2166

Artifact class	No. of items		
	1972	1980	total
Ceramics:			
MV Early Pueblo Gray jar sherds	50	150	200
MV Early Pueblo White bowl sherds	0	2	2
MV Early Pueblo Red bowl sherds	0	1	1
MV Late Pueblo White bowl sherds	0	1	1
MV Chapin Gray jar sherds	3	2	5
MV Moccasin Gray jar sherds	0	1	1
MV Chapin Black-on-white bowl sherds	1	0	1
Flaked lithic tools:			
Tool fragment	0	1	1
Utilized flake	0	10	10
Unused core	0	17	17
Used core	0	1	1
Cobble tool	0	1	1
Thick, end-worked uniface	0	3	3
Thick, side-worked uniface	0	1	1
Thin, side-worked uniface	0	1	1
Graver, beak	0	1	1
Thick biface fragment	1	0	1
Thick biface, partially worked	1	1	2
Thin biface, completely worked	1	0	1
Flaked lithic debitage:			
Angular debris	2	349	351
Flakes and flake fragments			
Medium grained	0	9	9
Fine grained	7	125	132
Very fine grained	3	185	188
Microscopic grained	2	15	17
Nonflaked lithic tools:			
Questionable or minimally altered	0	1	1
General	0	1	1
Abrading stone, curved surface	0	1	1
Hammerstone, unmodified cobble	0	3	3
Mano fragment	0	1	1
Mano	0	1	1
Metate fragment	0	1	1
Trough metate, one closed end	0	1	1
Axe, notched	0	1	1
Special building stone	0	1	1
Total	71	889	960

NOTE: MV - Mesa Verde Culture Category.

percent), flaked lithic tools (4.2 percent), nonflaked lithic tools (1.1 percent) and nonhuman bone.

The ceramic collections is dominated by gray wares and includes hot Chapin Gray and Moccasin Gray. Early Pueblo Red and Early Pueblo White are both present in very small quantities. One sherd of Chapin Black-on-white was recovered during the 1972 survey.

The flaked lithic tool assemblage is composed primarily of unused cores and utilized flakes. Bifacial and unifacial tools are also present in the assemblage. The nonflaked tools include manos, metates, hammerstones, an abrading/grinding stone, and a notched axe.

One special building stone was also recovered. This object was pecked on one end and flaked on the other.

Three nonhuman bone fragments were recovered from the site surface. One of the bones was from a medium-sized mammal; the other two were from a large mammal. Coming, as these bones do, from the surface of the site, their association with the other materials from the site is questionable.

Distributional patterning. The following discussion considers only the material from the 1980 fieldseason. The 1972 collections from the site were made without reference to a site grid and cannot be associated with the later collection units.

Two concentrations of surface artifacts were noted at the site (fig. 47). The heaviest concentration occurred in the southeast quadrant of the site. The largest amounts of flaked lithic debitage, nonflaked lithic tools, and ceramics occurred in this portion of the site. The nine southeastern collection units contained 65.6 percent of the material collected at the site. The other concentration was located in

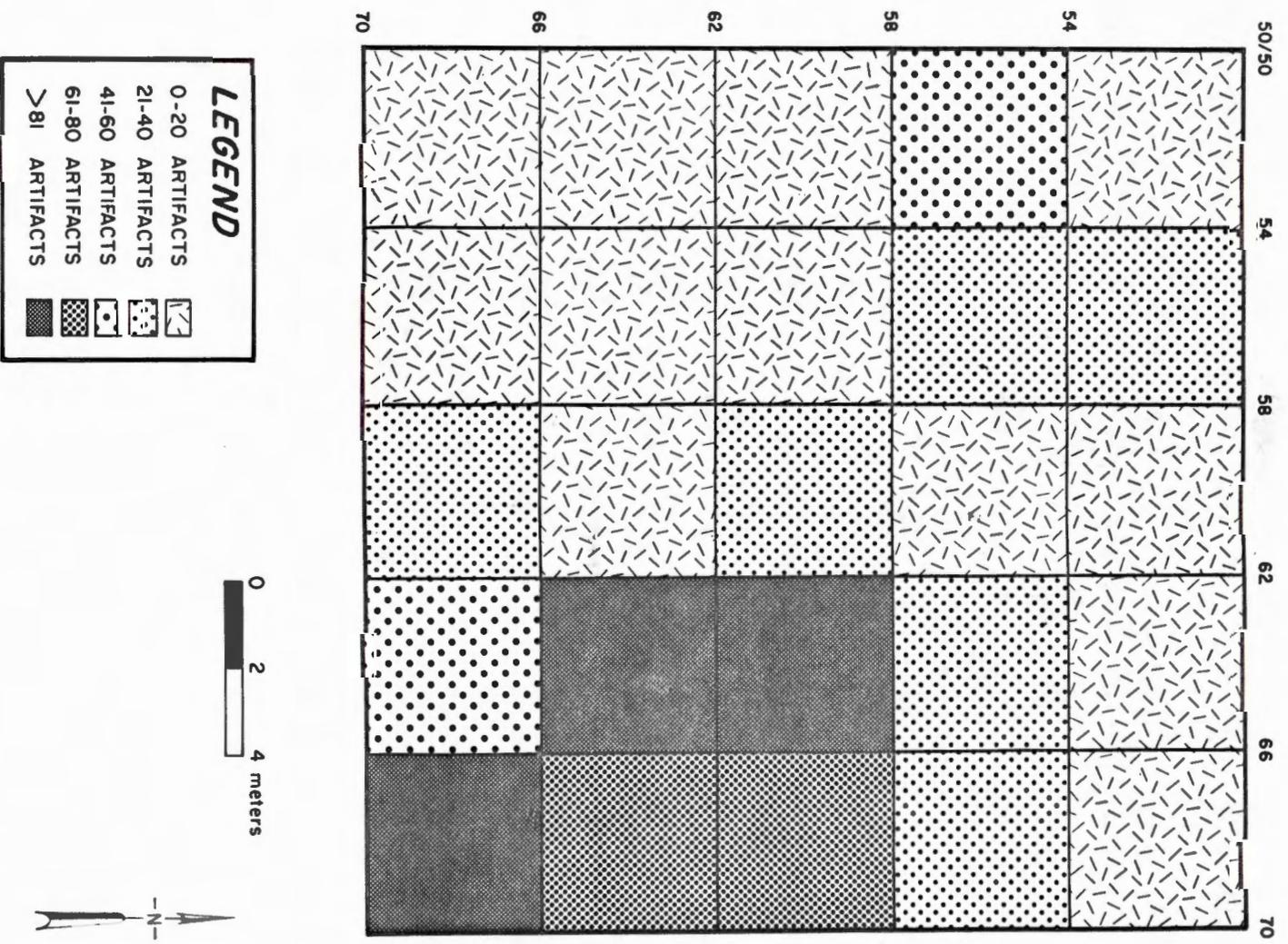


Figure 47. Surface artifact distributions, Site 5MT2166.

the northwest corner of the site, where four grid squares contain 14.7 percent of the entire collection.

The concentration in the southeast corner of the site is notable in that all of the manos and metates recovered from the site were collected from this area. Unused cores were also common in this area.

The concentration noted in the northwest corner of the site is dominated by unused cores and flaked lithic debitage. A notched axe, an abrading/grinding stone, and a generalized nonflaked lithic tool were also collected in this area.

Surface Evidence of Structures

Shovel scraping the site surface yielded no evidence of masonry structures. In square 58S/62E, an area of ash and charcoal that suggested the possibility of a burned jacal structure was uncovered. This ash area was oblong and contained a relatively high concentration of artifacts. This was the only evidence of structures present on the site.

Site Synthesis

Chronology

The only basis for suggesting a date for the use of 5MT2166 is the ceramic collection. The dominance in the collection of Early Pueblo Gray suggests that the principle occupation of the site occurred sometime between A.D. 600 and 950. The presence of red ware in the collection suggests a date of A.D. 730 or later for the occupation. Moccasin Gray dates from A.D. 760 to 950, and Chapin Black-on-white dates to between A.D. 600 and 800. Breternitz et al. (1974:26) indicate a decrease in the popularity of Chapin Black-on-white after A.D. 750 for the Mesa Verde

region in general. Moccasin Gray and Chapin Black-on-white are represented in the collection by a single sherd of each type. The Moccasin Gray sherd provided a neckband date in the middle A.D. 800's.

Based on all of the ceramic evidence, the date of occupation of Site 5MT2166 can be placed somewhere between A.D. 760 and 900. The decrease in popularity of Chapin Black-on-white after A.D. 750 suggests that the occupation of the site occurred toward the beginning of the range. Single neckband style dates are subject to error and therefore, it does not contradict this suggestion.

Site Function

Surface evidence suggests that 5MT2166 functioned as a small habitation. This conclusion is based on the possible jacal surface structure and on the variety of artifacts recovered from the site. In the ceramic collection, cooking/storage (gray ware) vessel sherds are dominant, but white ware and red ware serving/ceremonial vessel sherds are also present. A wide range of flaked and nonflaked lithic tools were recovered from the site. The cores, hammerstones, and the amount of flaked lithic debitage indicate that manufacture of lithic tools was one of the activities that was conducted at the site. Milling equipment provides evidence that processing was also performed there. The axe, bifacial and unifacial flaked lithic tools, and abrading/grinding stone suggest that a number of other activities were conducted at the site. The variety of tools and the presence of white wares and red wares indicates that the site was more than a limited activity locus. The possible structure and the presence of a special building stone suggests that the site was more than a seasonal camp.

Two artifact concentrations were observed on modern ground surface. If the disturbance processes that acted to bring artifacts to the surface were uniform, then it can be concluded that the patterns that are observable on the site reflect, to a degree, past behavior at the site. It is also assumed that vegetative cover on the site did not serve to distort the surface artifact collection in any appreciable way. If the observed artifact distributions are reflective of past behavior, then it can be concluded that there were two major loci of activity at the site. The concentration of artifacts in the northwest corner of the site seems to reflect primarily lithic tool manufacture or repair. The southeastern concentration, based both on the artifacts and on the possible structure, might have been the site of a habitation. Activities performed in this area probably included flaked lithic tool manufacture, food processing, and a variety of tasks requiring cutting/scraping tools.

In summary, then, it appears that 5MT2166 was a small habitation site occupied sometime between A.D. 760 and 900. Indications from the ceramic collection are that the occupation may have been in the earlier years of that time span. This places the site either in the Sagehill or Dos Casas Subphases.

SITE 5MT2169

Introduction

Site 5MT2169 is located on a small terrace on the north bank of the Dolores River in the NW 1/4 of the SE 1/4 of sec. 1, T38N, R16W. The UTM coordinates for the site are 4,161,650 mN, 715,280 mE, zone 12. The nearest site to Site 5MT2169 is Prince Hamlet (Site 5MT2161) which was excavated during the 1979 and 1980 field seasons (Sebastian 1983). Prince Hamlet is located approximately 80 m to the east and is situated on the same terrace of the Dolores River. The Dolores River Road (County Road 28) is only about 3 m from the site on the south, and construction of the road may have removed some of the site matrix.

The DAP survey recorded Site 5MT2169 on 26 September 1972 as a "sherd and lithic area." No heavy artifact concentrations or evidence of structures were noted by the survey crew. They did describe both an area of scattered artifacts and an area of dark soil (possibly midden) separated by approximately 5 m. The period of occupation was recorded as Basketmaker III to Pueblo I.

The site is situated on a gently sloping terrace between two unnamed drainages. The surface of the site was originally covered with a dense growth of Gambel oak that was removed to allow surface collections to be made.

Research Objectives and Investigative Strategy

A grid-controlled surface collection was made at Site 5MT2169. Brush was removed from the site surface and a grid was established. The collection unit was a 4- by 4-m grid square, 51 of which were examined at the site.

The major goal of investigations at Site 5MT2169 was the collection of enough material to allow for a refined placement of the site in the DAP temporal-functional system.

Surface Investigations

Surface Artifact Collections

The surface collections at Site 5MT2169 yielded 65 artifacts (table 38). Ceramic items are the most numerous, followed by flaked lithic debitage, flaked lithic tools, and nonflaked lithic tools. All of the sherds are early types and all but three are from jars.

Table 38. Surface artifacts, Site 5MT2169

Artifact class	No. of items
Ceramics:	
MV Early Pueblo Gray jar sherds	27
MV Early Pueblo White bowl sherds	2
MV Early Pueblo Red bowl sherds	1
Flaked lithic tools:	
Unused core	1
Thin, side-worked uniface	2
Flaked lithic debitage:	
Angular debris	2
Flakes and flake fragments	
Medium grained	0
Fine grained	4
Very fine grained	16
Microscopic grained	8
Nonflaked lithic tools:	
Abrading stone	1
Mano	1
Total	65

NOTE: MV - Mesa Verde Culture Category.

Of the 51 grid squares examined, only 20 yielded artifacts. The low density of artifacts may, as Kohler (1983:28) suggests, be due to the presence of a thick layer of duff that remained on the site surface after brush removal, or it may be a function of a short-term Anasazi use of the site. The only spatial pattern evident is that the majority of the artifacts were collected from the southern half of the site.

Surface Evidence of Structures

Two alignments of vertical slabs were noted at the site after the vegetation had been cleared. These appear to represent one room (Kohler 1983:28), but it is possible that evidence of other rooms was obscured by the thick duff and the abundance of noncultural sandstone slabs on the site. The slab alignments were parallel and about 3 m apart. The longer of the two alignments was approximately 4 m in length.

Site Synthesis

Chronology

Two lines of evidence are available for the temporal placement of Site 5MT2169: the ceramic assemblage, and the vertical slab architecture. The ceramic assemblage, consisting of Early Pueblo Gray, Early Pueblo White, and Early Pueblo Red sherds, allows a date range of A.D. 725 to 860 to be assigned for the site. This ceramic date range agrees with the distribution of vertical slab architecture in the DAP area, as discussed earlier. The site may be placed in the Sagehill (A.D. 700-780) or Dos Casas (A.D. 760-850) Subphase of the Sagehen Phase.

Site Function

The presence of architecture on Site 5MT2169 indicates that the site is a seasonal site or a habitation. The artifact assemblage is small,

but gray, white, and red wares are present. The presence of only five flaked lithic or nonflaked lithic tools in four morpho-use classes indicates that only a limited range of activities was performed at the site. This would favor an interpretation of the site as a field house, or other type of seasonal site. If, on the other hand, the presence of a heavy duff layer has obscured evidence of additional architecture and the presence of additional surface structures, then a tentative interpretation as a small habitation should be considered.

SITE 5MT2170

Introduction

Site 5MT2170 was recorded by the DRP survey on 13 October 1972 and is located on a point of land north of the confluence of Beaver Creek and the Dolores River in the SE 1/4 of the SE 1/4 of sec. 1, T38N, R16W. The UTM grid coordinates for this location are 715,560 mE, 4,161,460 mN, zone 12. The site was assigned to the Basketmaker III to early Pueblo I period by the survey crew based on surface artifacts, whereas Kohler (1983) classifies the site as a McPhee Phase habitation site.

The site is situated on a relatively flat bench at the foot of a slope, and an estimated 50 percent of the site surface is covered by vegetation. Artifacts were present on the surface in an area measuring 56 by 40 m. The site has been disturbed by construction of County Road 28 and by a jeep trail that runs across the site.

Investigative Strategy

The site was mapped, a grid system was established, and surface artifacts were collected from twenty 8- by 8-m squares. No excavations were conducted at the site. Collections from the 1972 DRP survey were reanalyzed by the DAP labs and the results of those analyses, along with data from the current investigations, are presented here.

Surface Investigations

Surface Artifact Collections

Composition of collections. A total of 648 items was collected from the surface of the site. Of these, only 27 are sherds, primarily Mesa Verde Early Pueblo Gray. Most (80 percent) of the material recovered was

flaked lithic debitage; this included angular debris as well as whole and broken flakes. Flaked lithic tools recovered from the site include utilized flakes, cores, cobble tools, unifaces, bifaces, projectile points, and a drill. Few nonflaked lithic items were recovered, but of those recovered, grinding stones were the most numerous. One calcite crystal was also present on the surface of the site. Surface artifact data are summarized in table 39.

Distributional/associational patterning. Two areas of high surface artifact density were noted at the site (fig. 48). Two collection units in the northwest corner of the site contained more than 30 artifacts per collection unit. The greatest artifact concentration was in the eastern portion of the site. The greatest quantities of flaked lithic tools and flaked lithic debitage were recovered from this area. All of the ceramics were found along the southern edge of the site.

Surfacial Evidence of Structures

No definite evidence of structures was noted on the site surface. Rock alignments that might have been the remains of surface structures were noted but not mapped by the survey crew; examination of a road cut suggested that there appeared to be sufficient sediment depth to have allowed for the construction of pit structures.

Site Synthesis

Chronology

There is little evidence for dating the occupation at Site 5MT2170. The ceramic assemblage allows placement between A.D. 600 and 910, based on the presence of Chapin Gray and the absence of corrugated sherds. The assemblage lacks neckbanded types but it is too small to allow any significance to be assigned to this absence.

Table 39. Surface artifacts, Site 5MT2170

Artifact class	No. of items		
	1972	1980	total
Ceramics:			
MV Early Pueblo Gray jar sherds	14	10	24
Indeterminate Gray jar sherds	1	0	1
MV Chapin Gray jar sherds	1	0	1
MV Early Pueblo White bowl sherds	1	0	1
Flaked lithic tools:			
Utilized flake	0	17	17
Unused core	0	12	12
Used core	0	6	6
Cobble tool	0	3	3
Thick, end-worked uniface	0	5	5
Thick, side-worked uniface	2	4	6
Thick, multiple-edge-worked uniface	0	6	6
Thin, end-worked uniface	0	2	2
Thin, side-worked uniface	1	3	4
Thin, multiple-edge-worked uniface	0	2	2
Drill	0	1	1
Biface fragment	1	0	1
Thick biface, partially worked	2	6	8
Thick biface, completely worked	0	2	2
Thin biface, no haft, partially worked	0	3	3
Thin biface, no haft, completely worked	3	7	10
Projectile point, corner-notched	1	2	3
Projectile point, side-notched	0	1	1
Projectile point, triangular without notches	0	2	2
Flaked lithic debitage:			
Angular debris	1	47	48
Flakes and flake fragments			
Medium grained	0	1	1
Fine grained	16	34	50
Very fine grained	4	409	413
Microscopic grained	6	2	8
Nonflaked lithic tools:			
Abrading stone, curved surface	0	2	2
Mano, generalized	0	1	1
One-hand mano	0	1	1
Two-hand mano	0	1	1
Trough metate, one open end	0	1	1
Nonflaked lithic undifferentiated items:			
Calcite crystal	0	1	1
Total artifacts	54	594	648

NOTE: MV - Mesa Verde Culture Category.

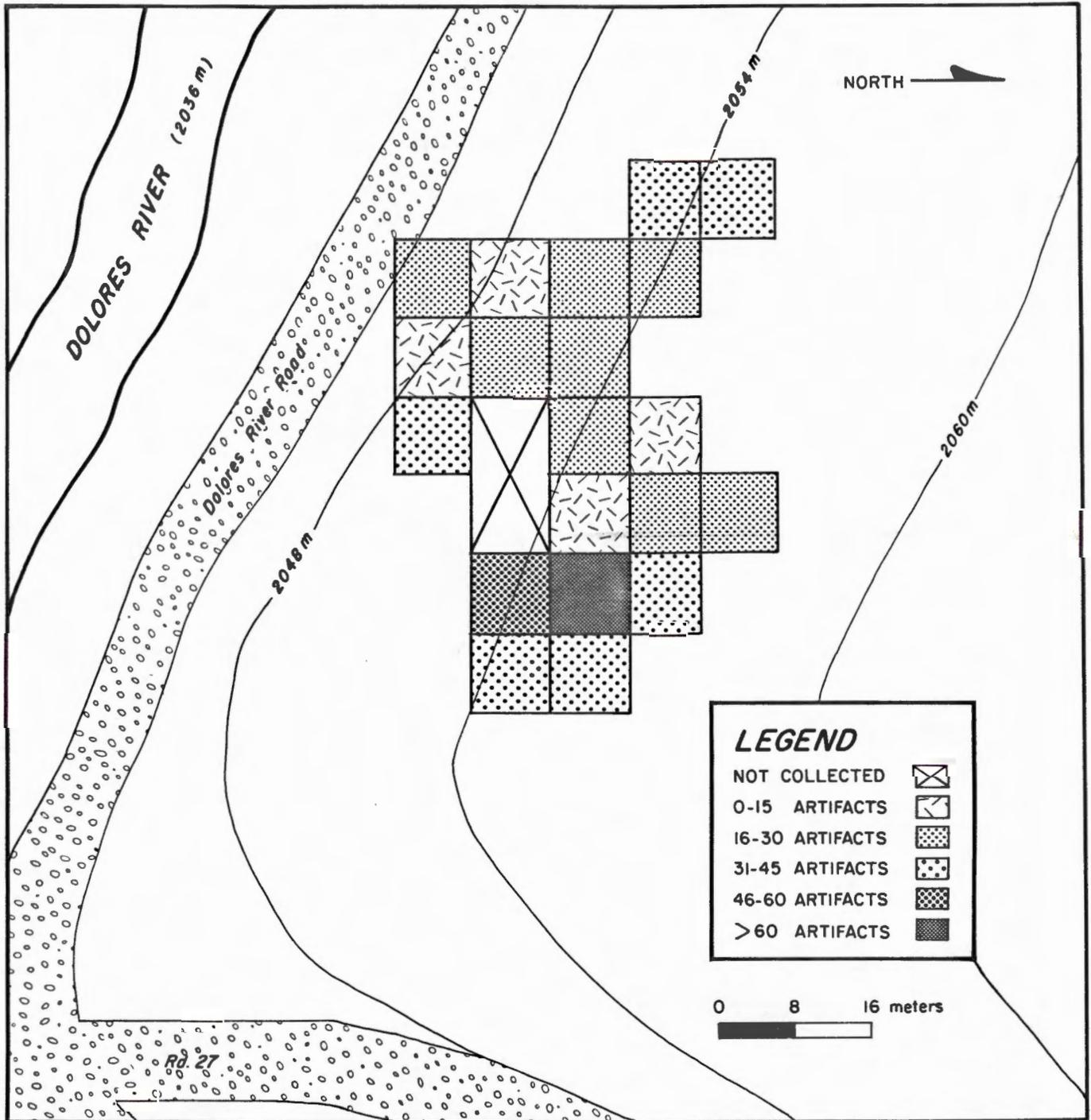


Figure 48. Surface artifact distributions, Site 5MT2170.

Site Function

There is a wide range in the types of flaked lithic tools present at the site. Several kinds of unifaces and bifaces were recovered, as were projectile points, utilized flakes, and cores. Nonflaked lithic tools include manos and a metate. The ceramic assemblage contains primarily gray wares, but one white ware bowl sherd was recovered. These various material collections suggest that a rather wide range of activities occurred at this site. The large amount of debitage recovered, along with the number of cores, suggests that activities included production and maintenance of flaked lithic tools. The manos and the metate also indicate that food was processed at the site. The ceramics suggest that cooking and/or storage activities were performed. Given the combination of activities suggested, and the diversity of tools present, it is suggested that this site was a habitation. While no definite evidence of structures was found at Site 5MT2170, as would normally be expected on a habitation, there were rock alignments present. It is possible that vegetative cover at this site served to obscure other evidence much as it did at Hanging Rock Hamlet prior to brush removal.

SITE 5MT2173

Introduction

Site 5MT2173 is located on the slope on the east side of the Dolores River canyon, in the NW 1/4 of the NE 1/4 of sec. 15, T38N, R15W. The UTM grid coordinates for this location are 4,159,580 mN, 716,900 mE, zone 12. The site is situated on a slight break in slope on the talus and has a slope of about 9°; the surrounding terrain is much steeper. The site faces to the northeast.

The site was recorded originally by the DRP survey on 27 September 1972. It was designated a lithic scatter of indeterminate temporal affiliation.

Investigative Strategy

Because the site could not be placed in the DAP temporal framework, a surface collection of the site was made to gather additional materials with the hope that temporally diagnostic items would be recovered. This collection was made on 29 August 1980. The artifacts from the entire site were collected as one unit.

Surface Investigations

Surface Artiface Collections

A total of 579 artifacts was collected from the surface of the site: 13 in 1972 and 566 in 1980. No ceramics were recovered from the site by either survey team. Most of the artifacts were flaked lithic debitage, followed by flaked lithic tools and nonflaked lithic tools. All of the debitage appears to be of locally available materials,

although a full range of lithic grain size is represented in the collection. Angular debris constitutes 31.3 percent of the debitage collection at this site. Selected attributes of the flaked lithic debitage are summarized in table 40. Flaked lithic tools include used flakes, cores, bifaces, and unifaces. One projectile point fragment and one burin were recovered as well.

Table 40. Surface artifacts, Site 5MT2173

Artifact class	No. of items		
	1972	1980	total
Flaked lithic tools:			
Utilized flake	0	16	16
Unused core	1	8	9
Used core	0	5	5
Cobble tool	0	2	2
Thick, end-worked uniface	0	3	3
Thick, side-worked uniface	0	6	6
Thick, multiple-edge-worked uniface	1	3	4
Thin, end-worked uniface	0	4	4
Thin, side-worked uniface	0	2	2
Thin, multiple-edge-worked uniface	0	1	1
Burin	0	1	1
Biface fragment	1	1	2
Thick biface, partially worked	0	5	5
Thin biface, completely worked	0	3	3
Thin biface, no haft	0	6	6
Thin biface, completely worked	0	4	4
Thin biface, no haft, completely worked	0	1	1
Projectile point fragment	0	1	1
Flaked lithic debitage:			
Angular debris	1	155	156
Flakes and flake fragments			
Medium grained	0	53	53
Fine grined	7	114	121
Very fine grained	1	108	109
Microscopic grained	1	59	60
Nonflaked lithic tools:			
Hammerstone, unmodified cobble	0	1	1
Mano fragment	0	2	2
One-hand mano	0	1	1
Two-hand mano	0	1	1
Total	13	566	579

Nonflaked lithic tools make up less than one percent of the collection and include one hammerstone, two mano fragments, one one-hand mano, and one two-hand mano. No metates were recovered. No evidence of structures or features was noted at the site.

Site Synthesis

Chronology

Good evidence for chronological placement of Site 5MT2173 is lacking. The absence of ceramics suggests that the site may be Archaic or Basketmaker II; however, the lithic profile suggests that the site is not out of line with what would be expected for later sites in the Escalante Sector. Archaic sites would generally tend to have a greater representation of finer grained materials than is evident at Site 5MT2173 (Phagan 1981).

Site Function

The large size of much of the angular debris, and the quantities of lithic debitage, suggests that the site had a role in the procurement and processing of lithic resources. Outcrops of good raw materials occur on the slopes in the general vicinity of the site and could have been easily exploited. However, the variety of tools recovered suggests that activities other than lithic tool production were conducted at Site 5MT2173. The presence of milling equipment in the form of manos and the number of different types of bifaces and unifaces present in the collection suggests that the site might have been used primarily as a camp or a habitation. It seems most likely that the site served as a camp, the primary function of which was the procurement and processing of lithic raw materials; the length of each occupation, however, was probably short.

SITE 5MT2175

Introduction

Like Dos Cuartos House, Site 5MT2175 is located on the west side of the Dolores River valley in the SW 1/4 of the NE 1/4 of of sec. 18, T38N, R15W. The UTM grid coordinates for this location are 4,158,850 mN, 716,940 mE, zone 12. The site is situated on a colluvial slope at the edge of the flood plain. This benchlike feature was formed by a large drainage system that empties into the river valley. The slope in the area of the site is approximately 15°. The site lies in a rocky open area surrounded on all sides by scrub oak; a fair amount of brush covered the site as well. A few large boulders occur on the site surface. The site itself is approximately 4 m above the flood plain and the northern boundary of the site is formed by a steep bank. The eastern and western edges of the site are marked by a large and a small gully, respectively. Farm buildings are present in the area and a fence line cuts across the site, suggesting that some historic disturbance of the deposits has taken place. Site 5MT2175 was recorded on 28 October 1972, by the DRP survey as a lithic area of indeterminate temporal affiliation. A total of 21 lithic artifacts are included in the collection from that survey.

Investigative Strategy

In order to obtain data to allow the site to be placed more precisely in the DAP temporal-functional system, a Track 3 investigation was undertaken at 5MT2175. The site was visited on 16 July 1980 by the WSU survey crew; because the artifact scatter was judged to be light, an

intensive surface collection was made without having established a grid system . The DRP survey collections were also relocated and reanalyzed.

Surface Investigations

The surface artifact collection from the site consists of 137 artifacts, 21 collected in 1972 and 116 collected in 1980. The total surface collections from the site are presented in table 41. The bulk of the material collected is flaked lithic debitage. Most of this material is fine- and very fine grained flakes and flake fragments. Twenty flaked lithic tools and two nonflaked lithic tools were also recovered. No ceramics or bones were recovered from the site. No evidence of structures or features was observed on the surface; however, the 1980 survey crews did note the presence of a possible check dam 25 m southwest of the southwest corner of the site.

Site Synthesis

Chronology

There is little evidence on which to base temporal estimates for this site. Two possible conclusions can be reached based on the the absence of ceramics. The first is that the site was occupied during the pre-Anasazi period and that it is an Archaic or Basketmaker II site. The second possibility is that the site was an Anasazi limited activity site that was the locus of activities that involved little or no use of ceramics. It is assumed that if ceramic items are used with any regularity at a site, at least some of them will break and sherds will be found on the surface.

Table 41. Surface artifacts, Site 5MT2175

Artifact class	No. of items		
	1972	1980	total
Flaked lithic tools:			
Utilized flake	0	2	2
Cobble tool	0	1	1
Thick, side-worked uniface	0	2	2
Thick, multiple-edge-worked uniface	0	2	2
Biface fragment	1	3	4
Thick biface, partially worked	0	2	2
Thin biface, no haft	1	3	4
Thin biface, completely worked	0	2	3
Uniface fragment	0	1	1
Flaked lithic debitage:			
Angular debris	0	5	5
Flakes and flake fragments			
Medium grained	0	4	4
Fine grained	11	36	47
Very fine grained	8	45	53
Microscopic grained	0	6	6
Nonflaked lithic tools:			
Mano or grinding stone fragment	0	1	1
Two-hand mano, single use surface, with finger grip (s)	0	1	1
Total	21	116	137

Site Function

Turning to the artifacts that were found at the site, it is apparent that several different activities were conducted at Site 5MT2175. Milling probably took place, as suggested by the presence of manos. The variety of unifacial and bifacial tools suggests that a number of cutting/scraping tasks were conducted at the site. It seems likely, then, given the range of activities represented in the artifact assemblage, that Site 5MT2175 functioned primarily as a camp or

residence. This favors placement of the site in the Archaic Tradition, since ceramics would almost certainly be expected if the site was an Anasazi camp.

SITE 5MT2211

Introduction

Site 5MT2211 is located on the north side of Beaver Creek canyon, approximately 1.7 km from the confluence of Beaver Creek and the Dolores River. It is located in the SE 1/4 of the SW 1/4 of sec. 6, T38N, R15W. The UTM grid coordinates for this location are 4,161,380 mN, 716,360 mE, zone 12. The site is situated in a large hollow in the canyon wall and is open to the south (fig. 49). The Junction Creek Sandstone in this area has been eroded so as to form a large, open rockshelter above the valley floor. The shelter measured 121.9 m across its mouth and, at the deepest point, 48.8 m from the back wall to the front of the shelter (fig. 50). A fresh water seep is present in the northwest portion of the shelter.

The shelter was recorded by the DRP survey crew on 24 October 1972, as being a "sherd and lithic area." The cultural affiliation of the site was thought to be Basketmaker III to Pueblo I. The survey noted the presence of bedrock features, including hand- and toe-holds, sharpening grooves, and post supports. Two depressions were noted in the sediments on the floor of the shelter.

Research Objectives and Investigative Strategy

The basic aim of the investigation at Site 5MT2211 was to provide data to allow the site to be placed within the DAP temporal-functional scheme. Toward this end, the site was visited on 6 August 1980 by the WSU survey crew; the site was divided in half and surface artifacts from the two halves of the site were collected separately. Additional photographs and notes were made at the site to supplement the survey record.



Figure 49. View of Site 5MT2211, looking northwest (DAP 050618).

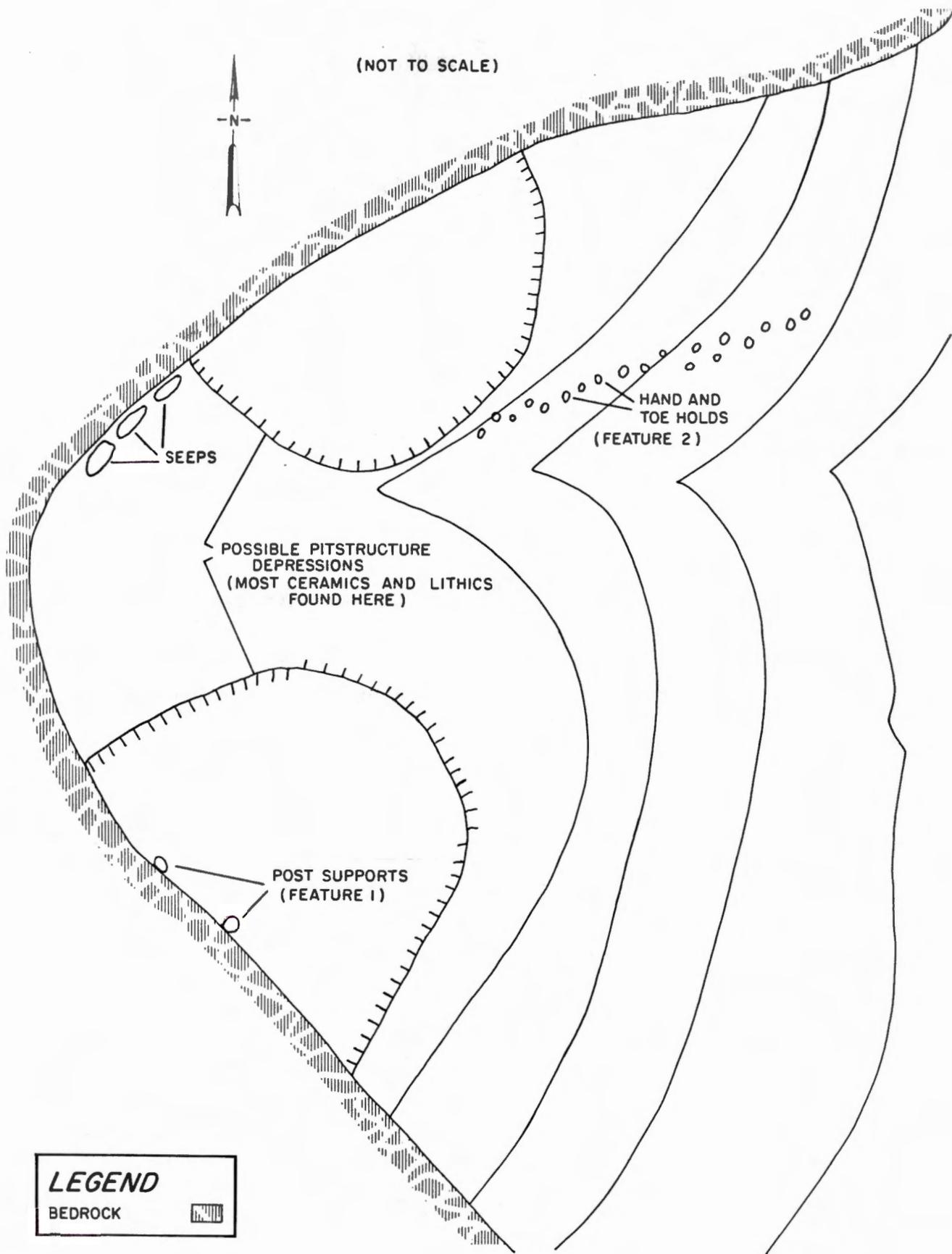


Figure 50. Map of Site 5MT221 showing the location of features. This map is based on the original survey sketch map and is not to scale.

Surface Investigations

Surface Artifact Collections

Composition of collections. A total of 162 items was recovered from the surface of the site (table 42). The majority of this material is flaked lithic debitage. Forty-seven sherds, twelve flaked lithic tools, and eight nonflaked lithic tools comprise the rest of the collection.

Table 42. Surface artifacts, Site 5MT2211

Artifact class	No. of items		
	1972	1980	total
Ceramics:			
MV Early Pueblo Gray jar sherds	35	7	42
MV Moccasin Gray jar sherds	1	0	1
MV Early Pueblo White bowl sherds	1	0	1
BL Early Pueblo Red bowl sherds	1	1	2
SJ Polished White bowl sherds	0	1	1
Flaked lithic tools:			
Utilized flake	2	0	2
Unused core	0	4	4
Thick, side-worked uniface	1	2	3
Thin, side-worked uniface	0	1	1
Thin, multiple-edge-worked uniface	0	1	1
Thick biface, partially worked	1	0	1
Flaked lithic debitage:			
Angular debris	1	7	8
Flakes and flake fragments			
fine grained	12	35	47
very fine grained	12	27	39
Nonflaked lithic tools:			
Minimally altered item	0	1	1
Generalized nonflaked lithic tool	0	1	1
Abrading/grinding stone, flat surfaced	0	1	1
Abrading/grinding stone, curved surface	0	2	2
Lapstone	0	1	1
Mano or grinding stone, fragment	0	1	1
Trough metate, one open end	0	1	1
Total artifacts	68	94	162

NOTE: MV - Mesa Verde Culture Category.
 BL - Blanding Manufacturing Tract.
 SJ - San Juan Manufacturing Tract.

Forty-two of the sherds from the site are Early Pueblo Gray Ware body sherds. Both red ware and white ware sherds are represented in the collection as well. Both bowl and jar sherds occurred at the site.

The flaked lithic debitage numbered 69 items from the 1980 collection and 25 items from the 1972 collection. The debitage is composed entirely of fine-grained and very fine grained materials. No nonlocal materials were noted in the collection.

Nonflaked lithic tools include three abrading/grinding stones and one mano. A trough metate and a lapstone were also recorded. The two other items classed as nonflaked lithic tools are a minimally altered item and a generalized nonflaked lithic tool.

Features. Bedrock features occur at the site in two areas of exposed sandstone (fig. 51). The 1980 WSU crew was unable to relocate the sharpening groove (Feature 3) mentioned in the 1972 survey notes.

Feature 1: On the wall of the shelter, above the western depression, is a series of two holes pecked into the rock. The holes are aligned with one another horizontally and appear to be post or beam sockets.

Feature 2: On the exposed bedrock at the mouth of the shelter is a series of shallow depressions pecked into the sandstone (fig. 51). These depressions run in a rough line from the bottom of the rock to the floor of the shelter. The 1972 survey map of the site shows 19 of these depressions. This feature is a weathered hand- and toe-hold trail.

Distributional/associational patterning. The bulk of the material collected at Site 5MT2211 was located in the west half of the site. All of the ceramics and nonflaked lithic tools were found in this area. Over 86 percent of the flaked lithic debitage and 6 of the 12 flaked lithic



Figure 51. View of hand- and toe-holds leading up to Site 5MT221, looking northwest (DAP 050617).

tools were also found in the west half of the site. The size difference (100 m², 25 percent) between the eastern and western collection units does not account for the difference in artifact density between the two areas. The west half of the site had an artifact density of 0.166 artifacts/m² compared with 0.028 for the east half of the site.

There are two possible explanations for this phenomenon. The first is that the intensity of occupation was greater in the west half of the shelter. The second is that natural processes or selective collection of surface artifacts by site visitors has skewed the surface distributions.

Surface Evidence of Structures

Feature 1 provides the major surface evidence of structures at Site 5MT2211. This feature appears to be a set of support sockets for beams. The suggestion that there were structures in the shelter is further supported by the fact that both the 1972 survey and the 1980 WSU crews found a piece of jacal on the site surface.

The placement of Feature 1 (fig. 50) also suggests that there was at least one structure within the shelter. If the depressions noted in the site sediments are the remains of pitstructures, they are too eroded at the present time to provide much evidence of their original size or characteristics. In summary, it appears that at least one structure had been built in the shelter and that it was probably at least partially of jacal.

Site Synthesis

Chronology

The 47 sherds collected from the surface of Site 5MT2211 provide the basis for assigning an occupation date range of A.D. 825 to 910. The

majority of the sherds collected are Early Pueblo Gray, a type that dates to between A.D. 600 and 950 in the DAP area. However, assemblages that contain Early Pueblo Gray in combination with Moccasin Gray, red ware, and Polished White generally occur between A.D. 825 and 910.

Site Function

The presence of bedrock beam sockets and a piece of jacal suggests that at least one jacal structure was constructed in the shelter. The artifact assemblage contains bowl and jar sherds and all three of the major wares (gray, white, and red). The flaked lithic tools include utilized flakes, a core, several kinds of unifaces, and a biface. A mano and a metate were recovered along with other kinds of nonflaked lithic tools. The nature of the tools collected suggests that a variety of activities was performed at the site. This evidence of a variety of activities combined with the presence of a jacal structure and the possibility that there were pitstructures indicates that the site was probably a habitation. The investment in providing access to the shelter in the form of a hand-and-toe-hold trail supports this inference to a degree.

SITE 5MT2212

Introduction

Site 5MT2212 is located on the north bank of Beaver Creek upstream from the point where this creek joins the Dolores River. This is located in the SW 1/4 of the SW 1/4 of sec. 6, T38N, R15W. The UTM grid coordinates for this location are 4,161,340 mN, 716,050 mE, zone 12. The site consists of surface artifacts that occur in two distinct concentrations. The first is a sherd concentration located immediately adjacent to the bank of the creek. This concentration measures 54.9 m by 11.0 m and its long axis is parallel to Beaver Creek. Upslope 12.2 m to the northwest is a lithic scatter that measures 24.4 m in diameter. The lowest part of the site is only about 4 m above the level of the channel of Beaver Creek.

The site was recorded by the DRP survey on 25 October 1972, and a small surface artifact collection was conducted. On the survey form, the site is classified as a Basketmaker III "sherd and lithic area." No evidence of structures or features was noted at this site.

Research Objectives and Investigative Strategy

Site 5MT2212 was visited on 8 July 1980 by the WSU crew with the intention of collecting additional artifacts to aid in the temporal and functional placement of the site. However, so little material was present that no artifacts were collected. The material collected during the DRP survey was reanalyzed by the DAP, and the results of that reanalysis are presented here.

Surface Investigations

Surface Artifact Collections

A total of 41 artifacts were recovered from the surface of Site 5MT2212. Flaked lithic debitage is the most common item (24 pieces), followed by ceramic sherds (14), flaked lithic tools (2) and nonflaked lithic tools (1). The ceramic sherds are from jars and include a Chapin Gray rim sherd, and corrugated sherds. A drill and a biface are the only flaked lithic tools that were recovered. Flaked lithic debitage is dominated by fine-grained materials, but microscopic- and very fine grained materials are also present. The one nonflaked lithic tool recovered was a fragmentary two-handed mano. Table 43 summarizes the surface artifact collection.

Table 43. Surface artifacts, Site 5MT2212

Artifact class	No. of items 1972
Ceramics:	
DL Early Pueblo Gray jar sherds	7
SJ Corrugated Body Sherds jar sherds	4
DL Corrugated Body Sherds jar sherds	2
DL Chapin Gray jar sherds	1
Flaked lithic tools:	
Drill	1
Thick biface, partially worked	1
Flaked lithic debitage:	
Angular debris	2
Flakes and flake fragments	0
Medium grained	15
Fine grained	3
Very fine grained	4
Microscopic grained	4
Nonflaked lithic tools:	
Two-hand mano	1
Total artifacts	40

NOTE: DL - Dolores Manufacturing Tract.
 SJ - San Juan Manufacturing Tract.

Site Synthesis

Surface materials were too sparse to provide much information on site function or chronology. Based on the relative paucity of surface materials, the characteristics of the artifact assemblage, and the lack of evidence of structures, habitation can probably be ruled out as a site function for Site 5MT2212. The relatively small amount of flaked lithic debitage, the small percentage of cortex present on the debitage, the small amount of angular debris, and the lack of hammerstones all suggest that the site did not function as a lithic procurement or processing site.

If it is assumed that the artifacts collected at the site were used there rather than simply being lost or discarded there, it can be concluded that activities performed at the site included processing of materials requiring milling; limited lithic manufacture and/or rejuvenation; cutting and/or piercing tasks, and cooking, storage, or transportation of materials in ceramic containers. The conclusion is that Site 5MT2212 functioned as a short-term, nonhabitation locus. The location of the site on the Beaver Creek flood plain in an area of quaternary alluvium raises the possibility that the site might have functioned as an activity locus associated with agricultural pursuits.

Chronological placement of the site is difficult. Only 14 sherds were collected from this site, and only three ceramic types are represented. The Chapin Gray sherd and the seven sherds of Dolores Early Pueblo Gray indicate occupation sometime between A.D. 600 and A.D. 950. The six corrugated sherds suggest site use after A.D. 910. It is likely that at least two periods of use are represented at the site,

although given the overlap in dates between the Early Pueblo Gray and the corrugated sherds, a single use is possible.

The low surface yield of artifacts, combined with the evidence for two occupations of the site, suggests that the intensity of use was indeed low. An alternative explanation is that the location of the site on the flood plain has subjected the site to rapid deposition and that surface artifact yield is not an adequate indicator of artifact density. This does not, however, seem likely, since both early and late sherds are represented in the site collections and in nearly equal proportions (table 43). A higher proportion of late materials might be expected if the site were indeed subject to rapid deposition since the earlier material would be more deeply buried and would be less likely to have been moved upward to the site surface.

One additional point must be kept in mind when discussing the collections from this site and when comparing the collections to those from other sites discussed in this report. The only artifacts from this site were collected during 1972 under a set of procedures that differed from those used during the 1980 field seasons. The 1972 survey collections were grab samples; the 1980 collections, on the other hand, were intensive collections designed to recover all surface materials from a site. Collections resulting from the two differing strategies are not, therefore, strictly comparable. An additional factor that affected the 1972 survey was the presence of snow cover.³

³David A. Breternitz, DAP, personal communications.

In summary, then, Site 5MT2212 appears to have been an Anasazi special use site, perhaps associated with agriculture. There were probably two periods of use at the site, one in the Sagehen Phase, and one in the McPhee or Sundial Phases.

SITE 5MT2213

Introduction

Site 5MT2213 is located on a bench on the north side of Beaver Creek, at a point approximately 1 km from the confluence of Beaver Creek and the Dolores River. This is in the NW 1/4 of the NE 1/4 of sec. 7, T38N, R1W. The UTM grid coordinates for this location are 4,161,170 mN, 716,680 mE, zone 12. The bench upon which the site is located is relatively flat and is roughly 24.4 m above low water level of Beaver Creek. The site itself is located about 50 m south of the steep sandstone cliff that forms the valley wall in this part of Beaver Creek Canyon.

The vegetation in this area is dominated by scrub oak, juniper, grasses, and rabbitbrush (Chrysothamnus sp.). Riparian plants can be found in and near the creek.

The DRP survey recorded Site 5MT2213 on 25 October 1972, describing it as a "sherd and lithic area" possibly associated with the Pueblo I period. Survey collections consisted of 36 sherds and 18 flaked lithic items. No evidence of structures was noted by the DRP survey or by the WSU crew that revisited the site.

Investigative Strategy

Fieldwork conducted at Site 5MT2213 consisted of surface collection of nine grid squares, each of which measured 8 by 8 m. Ground cover at this site was estimated to be approximately 20 percent.

Surface Investigations

Surface Artifact Collections

Composition of collections. The 1980 surface collection at Site 5MT2213 yielded 138 artifacts. The data from this collection are summarized in table 44. The artifacts collected in 1980 were 20 ceramic sherds, 2 flaked lithic tools, and 116 pieces of flaked lithic debitage. No bone or nonflaked lithic tools were recovered from the site.

Table 44. Surface artifacts, Site 5MT2213

Artifact class	No. of items		
	1972	1980	total
Ceramics			
DL Early Pueblo Gray jar sherds	30	18	48
DL Chapin Gray jar sherds	1	1	2
BL Early Pueblo Red bowl sherds	1	0	1
BL Bluff Black-on-red bowl sherds	2	0	2
CA Early Pueblo Gray jar sherds	1	1	2
SJ Corrugated Body Sherd jar sherds	1	0	1
Flaked lithic tools:			
Utilized flake	0	2	2
Projectile point	1	0	1
Flaked lithic debitage:			
Angular debris	3	41	44
Flakes and flake fragments			
Medium grained	0	3	3
Fine grained	9	14	23
Very fine grained	5	52	57
Microscopic grained	0	1	1
Total	54	133	187

NOTE: DL - Dolores Manufacturing Tract.
 BL - Blanding Manufacturing Tract.
 SJ - San Juan Manufacturing Tract.
 CA - Cahone Manufacturing Tract.

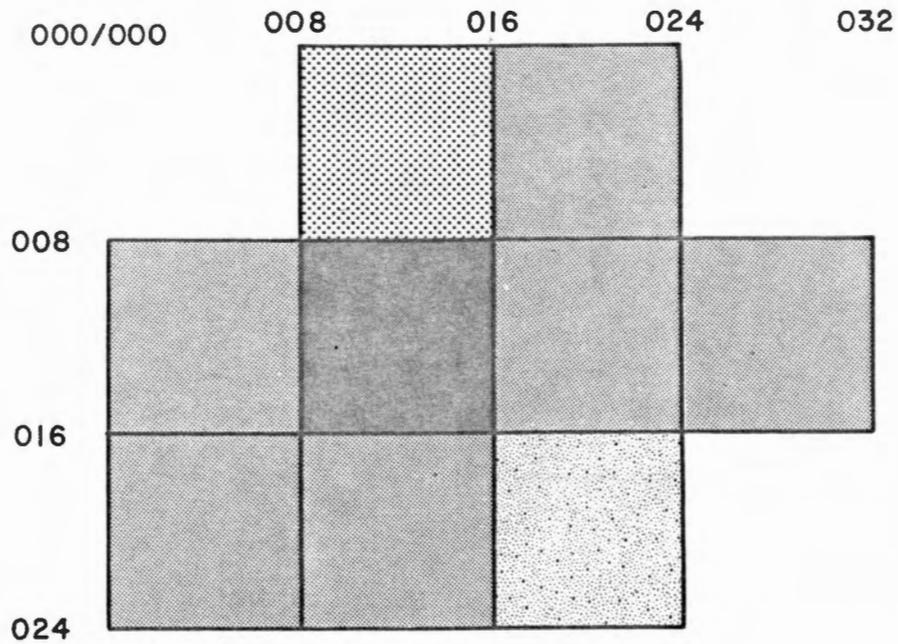
In the total ceramic assemblage, Early Pueblo Gray (48 sherds) is the predominant type; one rim sherd from a Chapin Gray jar is the only other gray ware present. Three red ware bowl sherds (two Bluff Black-on-red sherd and one Early Pueblo red sherd) were also recovered, as well as one sherd from a corrugated jar.

One projectile point and two utilized flakes were the only flaked lithic tools recovered. One of these utilized flakes was Morrison green quartzite, the other was Morrison green chert. Flaked lithic debitage was the most common item at 5MT2213 comprising 84.0 percent of the collection. Nearly 35.3 percent of the flaked lithic debitage was angular debris, the remainder being flakes or flake fragments. Most of the flakes and flake fragments are of very fine grained materials (49.1 percent), although some are of fine-grained (12.0 percent), medium-grained (2.6 percent), and microscopic-grained (0.8 percent) materials. No nonlocal lithic materials were present in the site collection.

Distributional/associational patterning. Figure 52 presents the distribution of surface artifacts at Site 5MT2213. The heaviest concentration of artifacts occurred in square 8S/8E where 54 pieces of flaked lithic debitage and 4 sherds were recovered. Square 0S/8E contained the second largest concentration of artifacts: 11 sherds and 23 pieces of flaked lithic debitage. The only flaked lithic tools in the assemblage were recovered from this square. The heaviest artifact concentrations were located, then, in the north-central portion of the site.

Sherds were recovered in five of the nine collection squares. Squares 0S/16E and 8S/24E each contained a single sherd. Squares 8S/8E and 8S/16E contained four and three sherds, respectively. The largest number of sherds (11) occurred in square 0S/8E. Ceramics were restricted to the north and east portions of the site and were concentrated in the north-central area.

It is suggested on the 1972 survey form for Site 5MT2213 that the presence of material at this location may be the result of artifacts



0 4 8 meters



LEGEND	
0-10 ARTIFACTS	
11-20 ARTIFACTS	
21-40 ARTIFACTS	
>40 ARTIFACTS	

Figure 52. Surface artifact distributions, Site 5MT2213.

on the slope above the site that would have been suitable for occupation. The artifact distribution seems to support the interpretation that downslope movement of artifacts was a factor in that the sherds at the site are concentrated in the upslope areas. To examine this suggestion, the mean weights of the artifacts collected were plotted on the site map (fig. 53). If slope wash had been a major factor in the distribution of artifacts at this site, some sorting of materials might be expected. The data presented in figure 53 suggest a general trend for heavier artifacts to occur at the upslope end of the site and for lighter material to occur at the downslope end. It seems that slope wash may, then, have had a part in the distribution of artifacts at Site 5MT2213. In addition the scrub oak at the upslope end of the site might have obscured greater artifact concentrations than were observed in the areas of the site that were collected. However, it is also possible that the observed patterns reflect prehistoric patterns of site use.

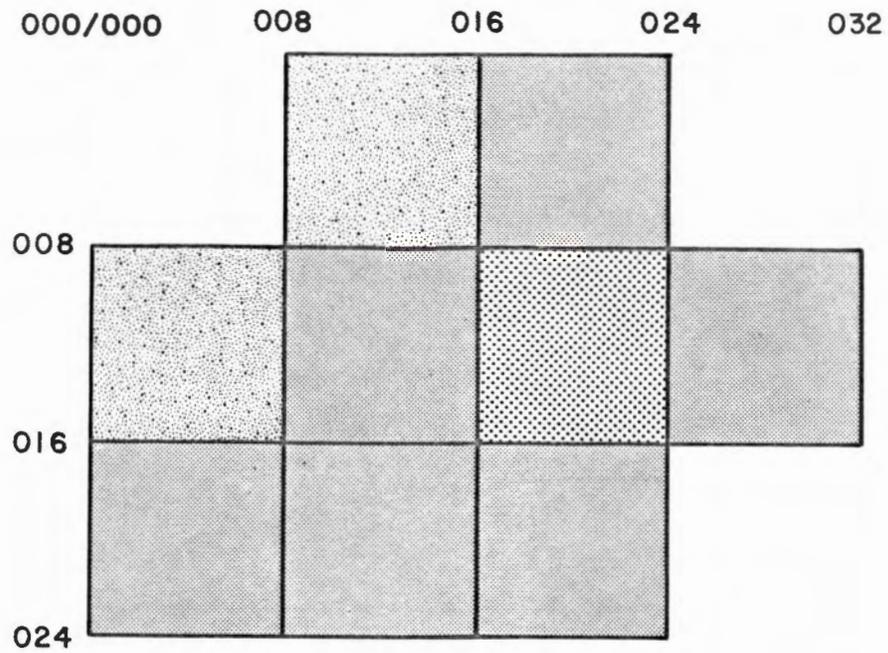
Site Synthesis

Chronology

The ceramic collection, which provides the only basis for a date assignment at the site, is dominated by Early Pueblo Gray sherds. The presence of Chapin Gray and both Bluff Black-on-red and Early Pueblo Red indicate that part of the assemblage belongs in the period between A.D. 725 and 860. The presence of one corrugated sherd suggests that the site was used or at least visited at a later date.

Site Function

The minimal number of flaked lithic tools, the absence of nonflaked lithic tools, and the lack of evidence of architecture indicate that Site



0 4 8 meters

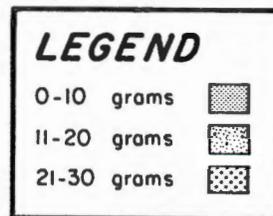


Figure 53. Mean weights of artifacts per collection unit, Site 5MT2213.

5MT2213 was neither a habitation nor a seasonal site. The types of materials recovered and the indication of a relatively long use history based on ceramic evidence would suggest that the site was some sort of limited activity locus. It is possible that brush may have obscured some of the material in the upslope portions of the site, and that more precise information on site function would be available had there been time to clear vegetation from the site.

SITE 5MT2216

Introduction

Site 5MT2216 is a rockshelter located on the north side of Beaver Creek Canyon. The site is located 1 km from the confluence of Beaver Creek and the Dolores River in the SW 1/4 of the SE 1/4 of sec. 6, T38N, R15W. The UTM grid coordinates for this location are 4,161,320 mN, 716,600 mE, zone 12. This site is approximately 76 m east of Site 5MT2211.

The rockshelter is relatively large, measuring 15 m long by 8 m deep (fig. 54). At its highest point, the roof of the shelter is approximately 14 m above the floor.

The sediments in the shelter are primarily fine sand. Runoff from the cliff face has cut a small drainage channel through the shelter. The channel, which is 20 to 30 cm deep, enters the shelter on the east side, roughly bisects the shelter along its long axis, and exits on the west side.

The opening of the shelter faces south and commands a good view of Beaver Creek and the colluvial slope and plateau beyond. The site is about 80 m above the bottom of Beaver Creek Canyon.

The DRP survey recorded Site 5MT2216 on 24 October 1972. Numerous features, including petroglyphs, post supports, axe grinding grooves, and hand- and toe-holds, were noted. Only nine artifacts (including two corrugated sherds) were collected from the site.

Research Objectives and Investigative Strategy

In order to gather sufficient data to determine the placement of the site in the DAP temporal-functional scheme, the site was visited by the

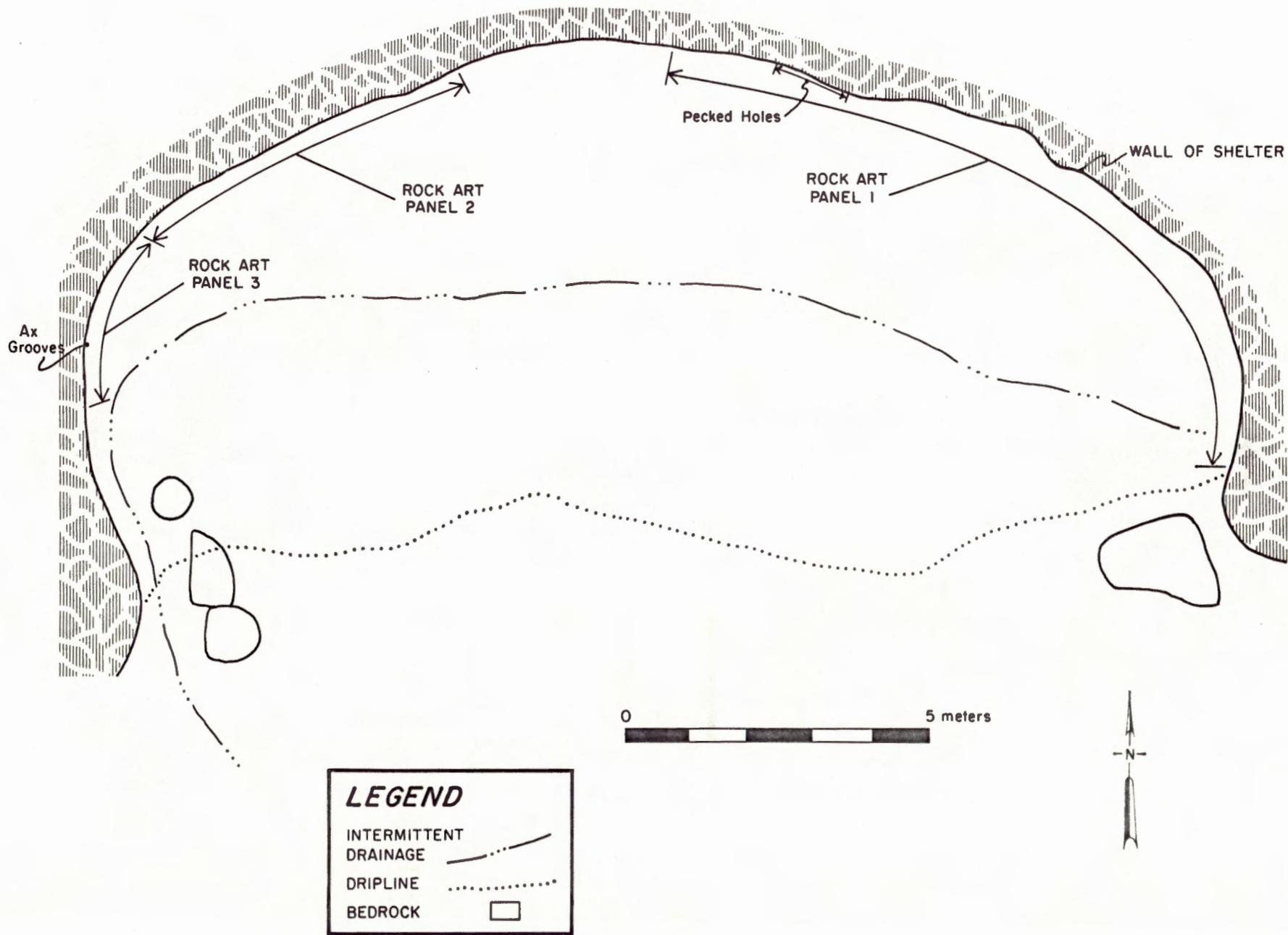


Figure 54. Map of Site 5MT2216 showing the locations of features.

WSU crew on 7 August 1980. A surface collection was made and additional photographs and notes were taken. In addition, the 1972 survey collection was reanalyzed using the current DAP analytical framework to make the survey data comparable to the data from other sites.

Surface Investigations

Surface Artifact Collections

Table 45 summarizes both the 1980 and the 1972 collections from site 5MT2216. The sample of artifacts from this site is quite small, consisting of only 24 items.

Table 45. Surface artifacts, Site 5MT2216

Artifact class	No. of items		
	1972	1980	total
Ceramics:			
DL Early Pueblo Gray jar sherds	2	2	4
DL Corrugated Body Sherds jar sherds	2	0	2
Flaked lithic tools:			
Utilized flake	0	1	1
Thick, side-worked uniface	1	0	1
Thin biface, no haft	0	1	1
Flaked lithic debitage:			
Angular debris	0	3	3
Flakes and flake fragments			
Medium grained	0	0	0
Fine grained	3	8	11
Very fine grained	1	0	1
Microscopic grained	0	0	0
Total	9	15	24

NOTE: DL - Dolores Manufacturing Tract.

Surfacial Evidence of Structures and Features

Several bedrock features are present in the shelter, including pecked holes in the walls of the shelter, axe sharpening grooves, and petroglyphs. The only evidence of structures in the shelter consists of a row of horizontal holes pecked in the bedrock.

Although one of the goals of the work at Site 5MT2216 was to further document the rock art, an intensive study of that topic has since been conducted for the project area. Descriptions and discussions of the rock art at Site 5MT2216 can be found in Ives (1983).

Site Synthesis

The depositional situation inside the shelter at Site 5MT2216 appears to be similar to Cougar Springs Cave in that the sediments derive from decomposition of the walls and roof of the shelter. It seems that sterile sediments have accumulated over the bulk of the cultural deposits and artifacts appear on the surface only in areas of erosion. The artifact collection is small from this site and does not provide much information about the time or nature of occupation in the shelter.

Chronology

The six sherds recovered from the site represent the entire range of Anasazi occupation in the DAP area. Early Pueblo Gray is characteristic to dating prior to A.D. 930 contexts and Corrugated Body Sherds are recovered from contexts dating after A.D. 910. Multiple occupations are probable and can only be dated within the range associated with the Anasazi Tradition in the DAP area.

Site Function

While the artifact collection provides little evidence as to the aboriginal uses of the shelter, the bedrock features do provide some clues. The presence of a horizontal row of holes pecked into the bedrock suggests the presence of a structure. These holes appear to have been beam sockets. The axe grooves also suggest that the use of the site was relatively intensive. Both of these features suggest that the site was probably at least a seasonal locus, if not a habitation. The presence of the large rock art pannels suggests that the site may have had some sort of ceremonial function, although it is not at all certain that the structure and the rock art are of the same time period.

SITE 5MT2381

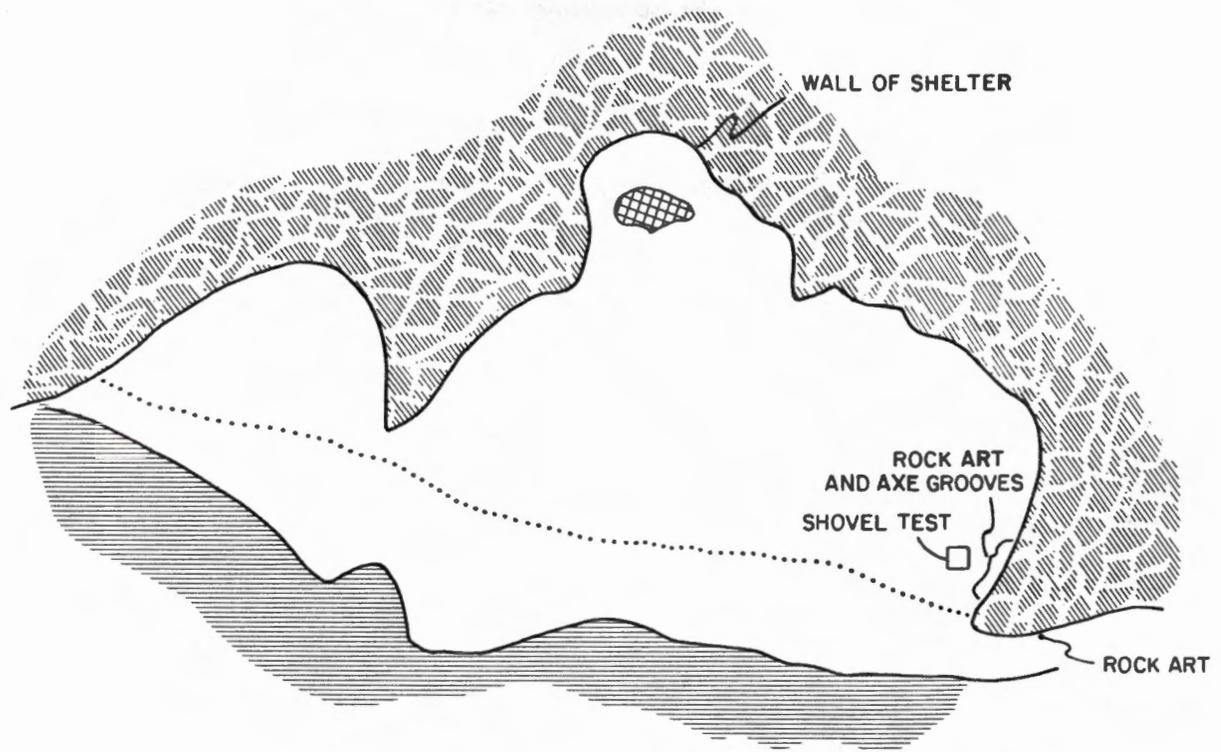
Introduction

Site 5MT2381 is a rockshelter located on the east side of the Dolores River valley in the NW 1/4 of the SE 1/4 of sec. 2, T38N, R16W. The UTM grid coordinates are 1,411,580 mN, 173,510 mE, zone 12. The site is situated 24 m above the flood plain. The Dolores River is the closest source of water and flows approximately 168 m west of the site. The rockshelter is formed by an overhang in the cliff face which measures approximately 13 m across. The interior of the shelter is formed by two alcoves in Junction Creek Sandstone. The western alcove measures 5 m wide by 3 m deep and has a height of 3.5 m. The larger alcove to the east measures 10 m across and is 6 m deep; its height was not recorded.

This site was recorded by the DRP survey on 11 June 1974, as an "overhang with habitation" and was occupied during the Pueblo I through Pueblo III periods. When the site was first recorded, no evidence of excavation at the site was noted. When the site was revisited by T. Kohler on 16 June 1980, a looter's pit was noted in the rear of the eastern alcove.

Investigative Strategy

Testing at 5MT2381 was accomplished by WSU on 6 August 1980. Because the floor of the shelter was covered by a thick layer of cow manure, no surface collections were possible. The looter's pit in the rear of the eastern alcove was profiled and a shovel test was excavated in the southwest corner of the shelter (fig. 55). Sediments from the shovel test were not screened, but artifacts were collected. Surface



LEGEND	
BEDROCK	
DRIPLINE	
EXPOSED SANDSTONE	
LOOTER'S PIT	

0 2.5 5 meters



Figure 55. Map of Site 5MT2381 showing the location of the test pit.

collections were made from an area of sloping terrain outside the shelter.

Surface Investigations

A total of 59 artifacts was recovered from the surface-collected portions of the site (table 46). Most of the recovered artifacts are flakes; angular debris and flaked lithic tools were the next most commonly encountered materials. Only six sherds were recovered from the site surface. No evidence of structures was observed, but the cow manure obscured the floor of the shelter, so that it is unlikely that evidence of structures would have been visible if structures had ever been present. Based solely on the size of the shelter, it is possible that structures were present. The DRP survey crew noted that there was sufficient space for a row of surface rooms and two pitstructures within the shelter. In the area where the 1980 shovel test was made there was not enough sediment for construction of pitstructures, but it was noted that the sediments might have been deeper in the center of the shelter.

Small grooves, inferred to be awl sharpening grooves, were noted on the wall of the shelter in the east end (fig. 55). Since the fieldwork in 1980, rock art has been recorded in conjunction with these grooves and is described by Ives (1983).

Excavations

The shovel test excavations yielded ceramics and flaked lithic debitage (table 46). No structures or features were encountered in the excavations, which were carried to a depth of 64 cm below the modern ground surface.

Table 46. Artifact collections, Site 5MT2381

Artifact class	No. of items		
	Surface	Excavation	total
Ceramics:			
DL Early Pueblo Gray jar sherds	5	2	7
BL Early Pueblo Red bowl sherds	0	1	1
SJ Chapin Gray jar sherds	0	1	1
DL Chapin Gray jar sherds	0	1	1
DL Corrugated Body Sherds jar sherds	1	0	1
Flaked lithic tools:			
Utilized flake	2	0	2
Unused core	2	0	2
Thick, end-worked uniface	1	0	1
Biface fragment	2	0	2
Flaked lithic debitage:			
Angular debris	10	1	11
Flakes and flake fragments			
Medium grained	0	0	0
Fine grained	15	1	16
Very fine grained	20	4	24
Microscopic grained	0	0	0
Nonflaked lithic tools:			
General	1	0	1
Total	59	11	70

NOTE: DL - Dolores Manufacturing Tract.
 BL - Blanding Manufacturing Tract.
 SJ - San Juan Manufacturing Tract.

Material Culture

The surface collections at Site 5MT2381 yielded a larger number of artifacts than did the one shovel test (table 46). All of the flaked lithic tools and nonflaked lithic tools recovered from the site were from the surface. These included used flakes, unused cores, biface fragments, a thick uniface, and a generalized nonflaked lithic tool. The surface collection also produced more flaked lithic debitage than did the

excavation. The shovel test, on the other hand, produced a wider variety of ceramics, with Early Pueblo Gray, Early Pueblo Red, and Chapin Gray all being present. Only Early Pueblo Gray sherds and one corrugated sherd were recovered from the site surface.

Site Synthesis

Chronology

The only evidence for the temporal placement of the site is the ceramic collection. The site appears to have been occupied during the Pueblo I period (A.D. 725-910) as evidenced by the presence of Mesa Verde Early Pueblo Gray and Early Pueblo Red wares, and of Chapin Gray. A corrugated sherd was also found on the site surface outside of the shelter and indicates that the site was probably visited during the Pueblo II period as well, but the major occupation seems to date to before A.D. 910.

Site Function

The minimal artifact collections and the fact that the surface of the shelter was obscured by manure makes assigning site function difficult. The presence of awl grooves and rock art suggest some minimal investment in facilities, but these could have been facilities used as part of short-term tool manufacturing and ceremonial activities. The presence of materials in a shelter, however, does suggest that activities which needed some housing within the protection of the rock overhang may have been performed there. Simply because of the conjunction of shelter and artifacts it is suggested that this site served as more than a limited activity locus and was probably either a seasonal site or a habitation.

SUMMARY AND CONCLUSIONS

This report has presented the results of the Grass Mesa Locality testing program. During the 1979 and 1980 field seasons 18 sites were tested with the main goal of gathering data sufficient to allow for refined placement of these sites in the DAP temporal and functional schemes. Since the DAP research design calls for a regional approach to the understanding of Anasazi adaptations, it is necessary to be able to place sites as accurately as possible in time and in their functional role in the settlement system. The data gathered at these tested sites has not only allowed for the revision of functional and temporal assignments of sites, but will also contribute to project-wide studies of various aspects of the DAP research design.

Of the 18 sites investigated, 6 were examined by Track 2 methods, including the excavation of units selected by probability and judgmental techniques. The remaining 12 sites were examined by Track 3 techniques, which were usually limited to intensive surface collection. In all, the labor expended on the testing program amounted to only about 10 percent of the labor expended in the Grass Mesa Locality between 1978 and 1980 (Lipe 1984:27).

Most of the sites investigated by the testing program did yield sufficient information to allow for refined temporal and functional placement. All of the sites investigated at the Track 2 level, with the exception of the DTA Site (Site 5MT5361), can be placed into time periods that are narrower than was possible from surface evidence alone. The DTA Site has yielded conflicting dating evidence and very small collections. Temporally it is still confusing, but there is good evidence that the

material recovered there is redeposited and should not be considered as a primary cultural context. Functional placement of sites tested by Track 2 methods has also improved over that possible from surface evidence alone.

The Track 3 sites have provided mixed results. At many of them it was possible to improve the temporal placement of the site and to increase the confidence in the functional placement. In a few cases survey assessments were affirmed with little modification. In at least two cases additional evidence was recovered during Track 3 work that expanded, rather than contracted the period of use that was assigned to a site.

All of the Tract 3 sites were recorded by surveys that occurred prior to the 1978 initiation of the DAP and the survey activities conducted under the direction of DAP personnel. The surveys of the project area prior to 1978 collected primarily "grab samples" of artifacts from sites and it was these grab samples, along with field observations, that were used to provide assessments of time of occupation and site function. The Track 3 testing of these sites has simply brought the data available up to the level that would have been available had the site been recorded by the current DAP survey.

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