

DOLORS ARCHAEOLOGICAL PROGRAM TECHNICAL REPORTS

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Dos Casas Hamlet, Site 5MT2193
In-House Report

by

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

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DOLORS ARCHAEOLOGICAL PROGRAM FIELDWORK OPERATIONS - 1978

IN HOUSE REPORT

Dos Casas Hamlet, Site 5MT2193

Chapter 6, Volume I

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ABSTRACT

Dos Casas Hamlet (5MT2193) is a small Anasazi site located approximately 8 km northwest of the small town of Dolores, Montezuma County, Colorado. During the summer of 1978, the University of Colorado excavated the site as part of first-year operations associated with the Dolores Cultural Resources Mitigation Program. These investigations resulted in the discovery and recording of two prehistoric pithouses and an associated arc of surface rooms and outdoor use areas to the north. The pithouses are aligned north-south with the ventilator tunnel of the northern structure dug through the northern wall of the southern house. This indicates that two occupations or elements were present, perhaps both using the same group of surface facilities. Dendrochronological analysis suggests that the northern pithouse was constructed in the year AD 769 or shortly thereafter, therefore indicating that the site was probably inhabited during the early Pueblo I period (AD 750 - AD 900). According to the spatial and temporal control systems employed by project personnel, the site is located in the Sagehen Flats Locality, Escalante Sector, Yellowjacket District, and was occupied during the Sagehen Phase (AD 650 - AD 850). The site is classified as a small hamlet or semi-permanent to permanent habitation, and is inferred to have been the abode of a family unit (perhaps six-nine individuals) practicing small-scale agriculture in the local area. This family is postulated to have been one social unit of the West Sagehen Neighborhood, a local dispersed Anasazi community inhabiting the area in the eighth century AD.

INTRODUCTION

Dos Casas Hamlet (Site 5MT2198) is located in the Sagehen Flats Locality of the Dolores Project Area, Montezuma County, southwestern Colorado (Township 38N, Range 16W, NW 1/4, Section 35 on the U.S.G.S. Trimble Point 7.5' Quad sheet; UTM Zone 12, 714,041 E, 4,154,654 N). The site lies just south of Country Road X on one of a series of low, north-south trending rises which contribute to the rolling uplands topography of the Sagehen area. The rise on which Dos Casas Hamlet is located is close to the center of the Sagehen Flats Locality. The site overlooks an unnamed marsh .8 km to the south; the Dolores River is 3 km to the east of the site.

Archaeological investigations at 5MT2193 began on 2 August 1978 under the supervision of Alice M. Emerson. Joel Brisbin assumed direction of excavations at the site on 9 October 1978 and supervised operations there until 24 November when weather forced suspension of work for the winter. Work at this site is expected to resume in the spring of 1979. To date, a total of 557 person-days have been expended in field work at 5MT2193: 26 of those person-days were provided by Youth Conservation Corps crew members, 128 person-days by Young Adult Conservation Corps crews, and the remainder by Dolores Archaeological Program staff affiliated with Washington State University and the University of Colorado.

Dos Casas Hamlet was selected for excavation because initial survey reports and later field inspections indicated that the site offered an opportunity to study a small Sagehen Phase (Basketmaker III - Pueblo I period) habitation site. Sites of the "hamlet" type such as

5MT2193 are the most numerous site type represented in the Sagehen Flats Locality survey; the increase in information about this site type made possible by excavation should lead to a clearer understanding of the local Sagehen Phase community. Like most of the sites in the Sagehen Flats Locality, Dos Casas Hamlet has been disturbed by agricultural activities and former use of the area as a range for sheep. Jacal rubble distributed over the surface of the site suggested that surface structures as well as pitstructures might have been present at one time. The large quantity of jacal rubble present was unique to 5MT2193. It was expected that preservation of these different types of structures at this site would allow information to be collected on site layout, use areas and houses, activity areas, and the functions of such cultural loci.

ENVIRONMENTAL SETTING

The small Sagehen Phase habitation designated Dos Casas Hamlet (5MT2193) is sited on a low ridgeline that commands a rather extensive view over other ridges and drainages in the vicinity (Fig. 67). The structures at the site are placed so that accumulated precipitation would drain quickly to the east, west and south.

On a larger scale, Dos Casas Hamlet is situated in the undulating terrain north of the Sagehen Flats marsh, a low-lying area perhaps formed by the subsiding of the land north of the House Creek Fault (see discussion by Kane, Chapter 2 of the 1978 Fieldwork Report). This particular location would have allowed the inhabitants of the site ready access to a varied and abundant resource base including good agricultural soils in the immediate site area, diversified wild plant and animal habitat in the flats and Dolores valley to the east and the higher plateau country to the north, and sources of raw lithic manufacturing materials along the House Creek Fault.

Dos Casas Hamlet is located in a local area of apparently high dry-farming potential. The land just north of the site, across Road X, is presently under cultivation and produced a commercial crop of pinto beans in the summer of 1978 using modern dry-farming techniques. The soil cover on the low rises in the center of the Sagehen Flats locality appears to be largely aeolian in origin, possibly related to the Mesa Verde loess deposit described by Arrhenius and Bonatti (1965). Some of the soil cover has been eroded from the crests of the rises; this erosion has probably been hastened recently by modern farming methods.



Figure 67: Dos Casas Hamlet, topographic setting
of site.

5MT2193

TOPOGRAPHIC VIEW OF SITE

50 cm CONTOUR INTERVALS

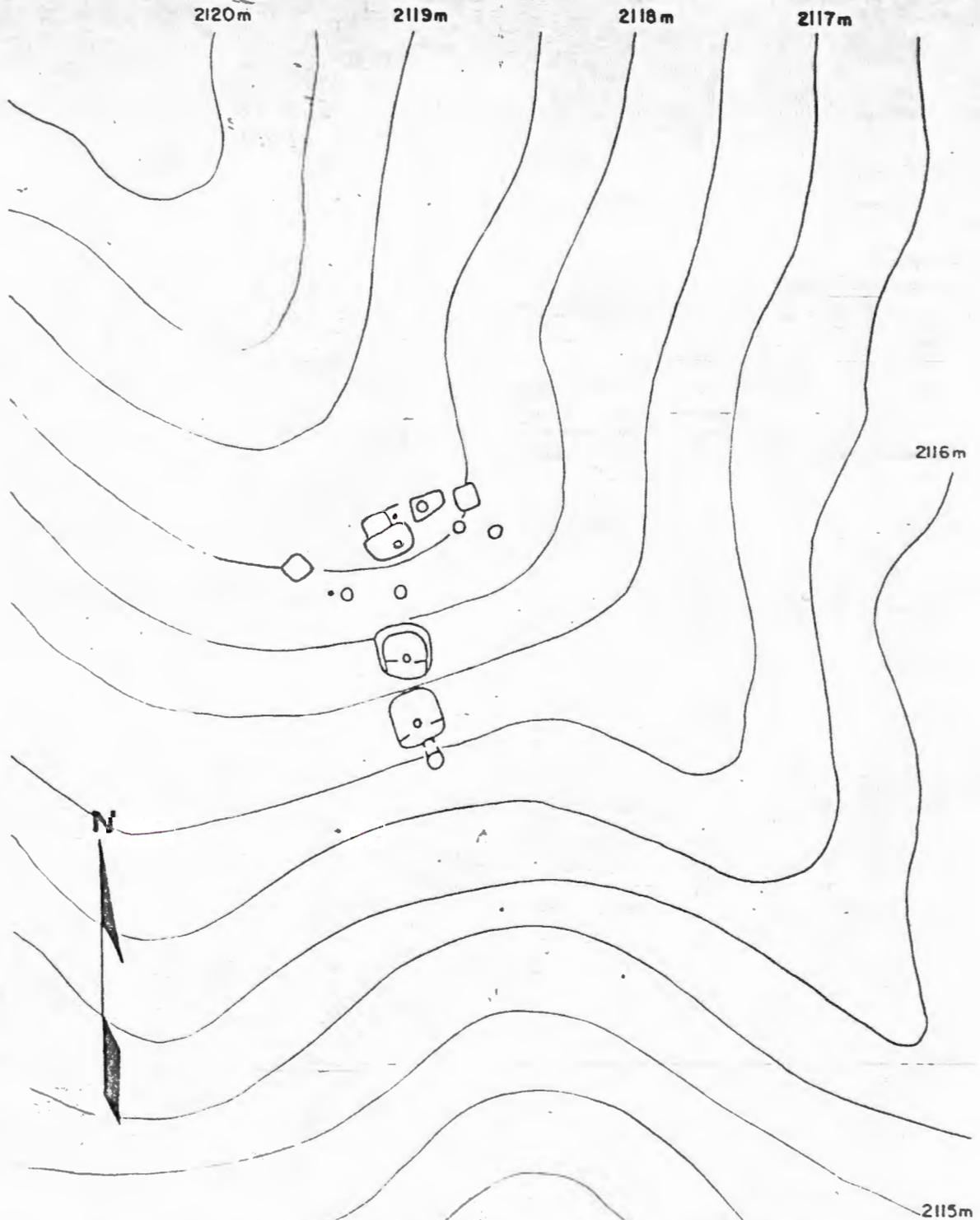


Figure 57: Dos Casas Hanlet, topographic setting of site.

The rise on which 5MT2193 is located was evidently cultivated at least as recently as the 1930s; rabbitbrush (Chrysothamnus nauseosus) and snakeweed (Gutierrezia sarothrae) dominate the vegetation cover at the site, in contrast with the heavy big sage (Artemisia tridentata) growth in adjacent areas. These latter areas were probably never plowed, or if so, were not cultivated as recently as the areas to the west and south of the rise. Although sage occurs at the site, plants are quite small in comparison to those in the surrounding areas. Regeneration of a sage vegetation may have been retarded by recent sheep grazing in this area.

Other plants and grasses present at this site include Utah thistle (Cirsium utahensis), Indian paintbrush (Castilleja chromosa), yelloweye lupine, (Lupinus flavoculatus), Indian rice-grass (Oryzopsis hymenoides), squirrel-tail (Sitanion spp.) and brome (Bromus spp.) grasses. This particular plant association is high in weedy species which favor disturbed soils and is probably a result of agricultural clearing and continued grazing. Left undisturbed, this area would probably support a heavy sage vegetation with open pinyon-juniper forest on slightly higher elevations to the north and on localized outcrops of Mancos shale to the south. A dense, sage-dominated vegetation cover offers relatively little in the way of economic plant resources. Indian rice-grass is the only important aboriginally utilized plant resource available at the present in the immediate site area and the only resource likely to have been present in harvestable quantities in the past. The nearest pinyon occurs some 500 meters to the south, but these particular stands are not very extensive. Much more extensive stands of pinyon can be found .75 km to the north or 1 km to the east and west of 5MT2193 on higher ridges.

Faunal resources probably available locally to inhabitants of Dos Casas Hamlet include mule deer (Odocoileus hemionus), American elk (Cervus canadensis), white-tailed prairie dog (Cynomys leucurus), cottontail (Sylvilagus audobonii), jackrabbit (Lepus spp.), and a variety of small rodents. This area seems to have been named Sagehen Flats in a moment of wishful thinking; no birds corresponding to this description were sighted during field operations in 1978.

Additional resources, both floral and faunal, which may have been available prehistorically in the general site area are associated with the Sagehen Flats marsh (.8 km south of 5MT2193). This marsh, which occupies the lowest-lying land in the area, receives drainage from a large part of the Sagehen Flats uplands. An alluvial fan at the north end of the marsh prevents it from draining into the Dolores River, 3 km to the east and some 40 feet lower in elevation. The present extent of the marsh and the amount of standing water impounded is probably due in large part to intentional diversions of water from Montezuma Valley Irrigation Company Main Canal #2 into this basin to encourage the growth of hay in the western portions of the depression. The low species count in the present marsh suggests a relatively short history for this particular stand. Because the area represents a natural catchment basin, however, a marsh was probably present here intermittently in the past, as well (K.L. Petersen, personal communication).

Resources thought to be important aboriginally which are present in the marsh today include three species of sedge (Carex spp.), American bulrush (Scirpus americanus), and cattail (Typha latifolia). Currant bushes (Ribes spp.), skunkbush (Rhus trilobata), chokecherry,

(Prunus virginia), serviceberry (Amelanchier spp.), squawapple (Peraphyllum ramosissimum), wild onion (Allium spp.), sego lily (Calochortus nuttallii), and foxtail barley (Hordeum jubutum), all used aboriginally for food, occur on the slopes bordering the southern margin of the marsh.

A well-entrenched arroyo .5 km southeast of the site retains some soil moisture even during the hottest months of the year. This moisture supports a good growth of grasses, sedges, and bulrushes, which attracts game. This particular location is apparently an area favored by deer; during the course of investigations at the site, two to three deer were flushed out of the arroyo on several occasions. The present entrenchment may be due in part to stock tank construction at the head of the arroyo, however, and the presence of game here may be a response to present conditions only.

Probably the most important resource available to the inhabitants of 5MT23193 was the good dry-farming soil of the immediate area. Other resources which might have been exploited locally include those of the pinyon-juniper forests, and those associated with the marsh area south of the site.

SOCIAL SETTING

Dos Casas Hamlet is socially classified as a habitation unit of the West Sagehen Neighborhood, a dispersed community that inhabited the area north of the Sagehen Flats marsh. Dendrochronological analysis indicates Dos Casas Hamlet (5MT2193) was occupied in the span AD 750 - AD 790; thus, it falls well within the temporal limits estimated for this community (Sagehen Phase, AD 650 - AD 850). The nearest habitation sites believed to be closely related settlements are 5MT2194, located 100 m west, and 5MT4614, located 100 m southeast. It is assumed for the present that these three habitations represent the same momentary or contemporaneous population; confirmation of true contemporaneity will be based on future scheduled excavations. It is assumed that the inhabitants of Dos Casas Hamlet maintained close face-to-face relationships with these nearest neighbors.

On a larger scale, Dos Casas Hamlet is one of 42 Sagehen Phase (Basketmaker III - Pueblo I; AD 650 - AD 850) sites presently recorded in the Sagehen Flats Locality. Thirty of this total are tentatively identified as habitation loci, 16 of which are located within 1 km of Site 5MT2193, and 14 within .5 km. In other words, habitation sites appear to cluster within 500+ m of Dos Casas Hamlet (Fig. 68). A possible inference is that this clustering effect may represent close social distance and that the sites within the cluster may define the central activity area or home base for the West Sagehen Neighborhood.

Figure 68: Distances to contemporary habitation sites within 1 km of Dos Casas Hamlet (5MT2193).

5MT2193

CONTEMPORARY HABITATION SITES WITHIN 1 KM.

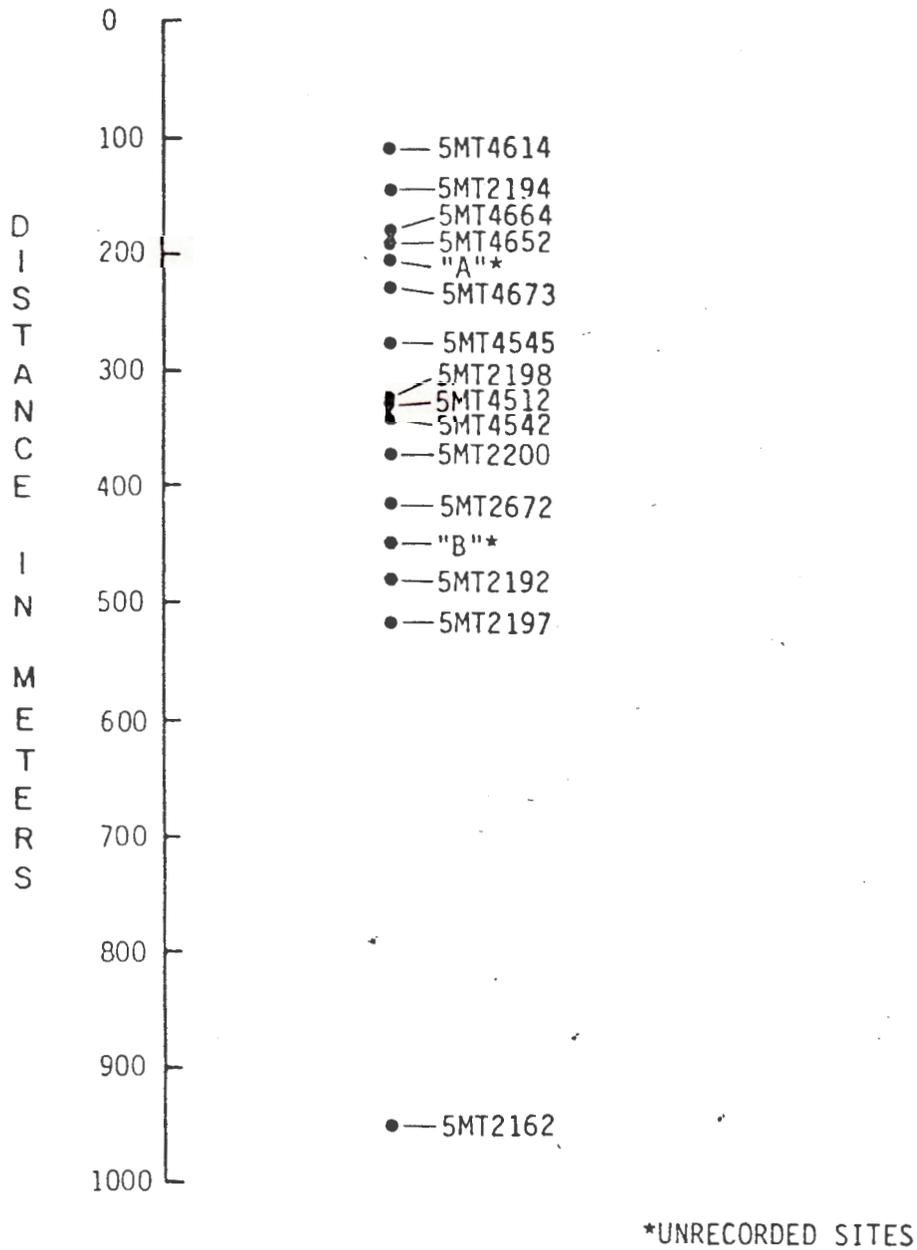


Figure 68: Distances to contemporary habitation sites within 1 km of Dos Casas Hamlet (5MT2193).

Eleven of the sites presently recorded in the Sagehen Flats Locality are tentatively classified as limited activity or seasonal loci with a Sagehen Phase component. The nearest neighbor limited activity site is 5MT4672, a small lithic and sherd area adjacent to a drainage located 400 m northeast of 5MT2193. Six other sites classified as limited activity or seasonal loci are located within a 1 km radius; these sites may contain a Sagehen Phase component and therefore may have been used by the inhabitants of Dos Casas Hamlet. These sites are 5MT2671, 450 m to the north; 5MT2199, 420 m to the south; 5MT2201, 850 m to the southeast; 5MT2843, 730 m to the northeast; 5MT2845, 1 km to the northeast; and 5MT2852, also 1 k to the northeast. Sites 5MT2671, 5MT2843, 5MT2845 and 5MT2852 are located on the northern slopes of Sagehen Flats and may have been associated with hunting or pinyon processing activities. Sites 5MT2199 and 5MT2201 are located close to the marsh south of 5MT2193 and may have been associated with marsh resource collecting and processing activities. Inhabitants of Dos Casas Hamlet would have had easy access to any of these sites.

In summary, Dos Casas Hamlet is regarded as a habitation unit of the West Sagehen Neighborhood, and its inhabitants are assumed to have maintained close social relationships with other hamlets in the vicinity. Limited activity sites are also regarded as forming part of the settlement pattern used by the people of the West Sagehen Neighborhood. Several examples of these types of sites are located within a short walking distance of 5MT2193.

EXCAVATION METHODS AND OBJECTIVES

Objectives

Observations made during surface reconnaissance and subsequent inspections of Dos Casas Hamlet suggested that it probably represents a Basketmaker III or early Pueblo I period site. This was indicated by the virtual lack of ceramics other than plain gray, the lack of any apparent masonry architectural units, the absence of any definite trash mounds, and the absence of any artifacts or features indicative of later periods. The presence of small pieces of burned daub suggested that 5MT2193 was probably a habitation site rather than a special purpose site. It was expected that excavation would produce at least one architectural unit of jacal construction, if plowing had not too severely disturbed the site.

With this knowledge, excavation at 5MT2193 proceeded with the objectives of more clearly establishing the cultural and chronological affiliation of the site, and gathering data to answer questions regarding ecological adaptations, paleodemography, community activities and social organization, inter-regional relationships, and culture change, as set forth in the project research design. Also of interest to the excavators was the comparison and contrast of this site with other Basketmaker III - Pueblo I period sites in other areas of southwestern Colorado, especially with regard to site plan.

Excavation Methods

Complete excavation of the site was neither desirable nor practical due to time and money limitations and to the belief that information

required by the research design could be obtained by sampling. It was necessary, however, to excavate in such a manner that all areas of the site might be represented by the data recovered, and that these data be statistically comparable. These needs suggested the desirability of using a sampling design that would dictate sampling units to be tested, in place of the intuitive methods sometimes used.

Surface Collection and Selection of Sampling Design

Before the selection of any sampling technique could be made, it was necessary to know something about the distribution of surface materials at the site. The necessity of obtaining this information was based upon the apparent correlation of surface and subsurface distributions of cultural materials. For example, Roper (1976), among others, has noted in a study of the effects of lateral displacement of surface artifacts in an area of intensive agriculture, that displacement was minimal, and therefore, that surface distributions could be reliable indicators of subsurface distributions.

In the area of 5MT2193, vegetation characteristics indicated that agriculture had been practiced here in the recent past. Such evidence as was available indicated that cultivation had not been very intense or long-lasting, and that it probably had not severely altered the relationship between surface and subsurface distributions. The decision was made, therefore, to conduct an intensive, controlled surface collection of cultural materials, and to use the distribution of these materials to determine the sampling strata at the site. Specifically, this was carried out by establishing a grid of 4-by-4-meter squares across the site, as indicated by the extent of the distribution of

surface materials. When the grid was established, each square was walked over and searched for ceramics, flaked lithics, non-flaked lithics, fired daub, and sandstone. For each square the artifacts were counted and collected. Daub and sandstone were not collected, but their distribution was determined by recording the total weight (in ounces) and the number of pieces of each of these materials for each 4-m square.

Definition of sampling strata: As data from the controlled surface collection were gathered, they were recorded and then transferred to a single master map. Inspection of this map clearly suggested clusterings of cultural materials in two areas. By focusing on different materials it was possible to establish several sampling strata which were accordingly given subarea designations (see Figure 69 for subarea locations). The desirability of using different materials or groups of materials to establish sampling strata is somewhat intuitive. It was felt that clustering of burned adobe or sandstone would be a good indication of areas with subsurface structures. Concentrations of artifacts, on the other hand, might indicate possible living, working, and/or trash areas. Examination of the master map showed clearly that adobe was distributed in a nonrandom fashion across the site (Fig. 70). Sandstone also appeared to occur at greater frequencies in this same area (Fig. 71).

On the basis of these distributions, Subarea 1 was defined as that area of the site in which daub occurred in relatively high frequencies in most of the squares. Some grid squares which had moderate amounts of fired clay were not included, because they were isolated and separated from the main concentration.

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Figure 69: Dos Casas Hamlet, location of site subareas.

5MT2193

SITE SUBAREA LOCATIONS.

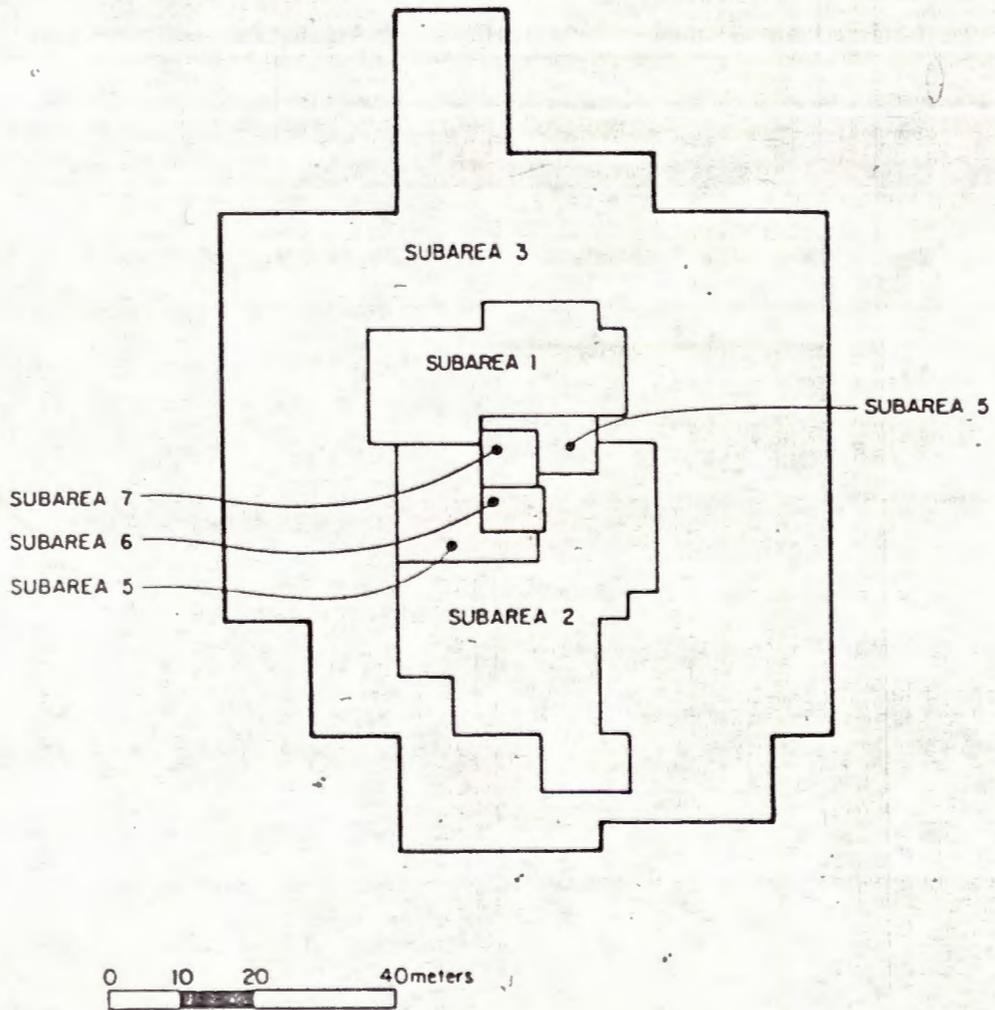


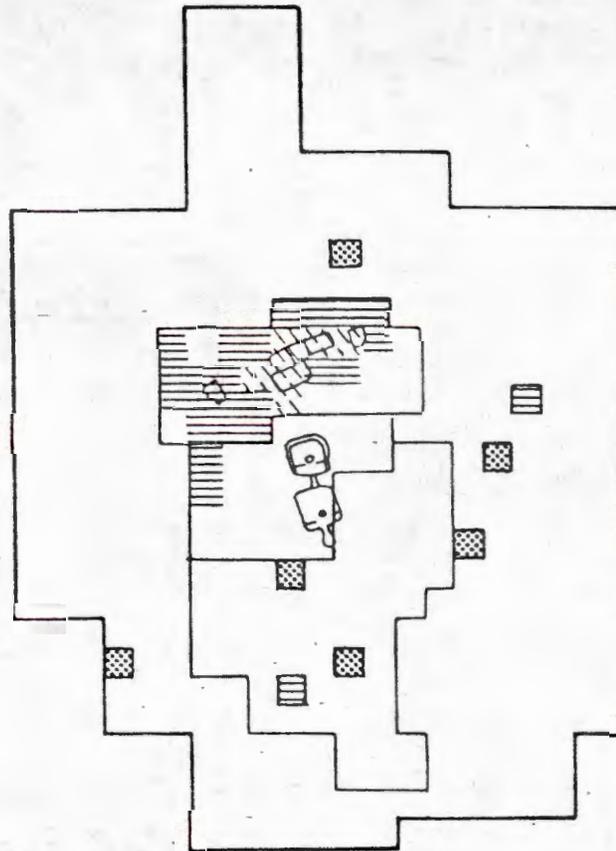
Figure 69: Dos Casas Hamlet, location of site subareas.

Figure 70: Site 5MT2193, surface distribution of
burned adobe by weight.

5MT2193

SURFACE DISTRIBUTION OF BURNED ADOBE BY WEIGHT

N



0 10 20 40 meters



EXPLANATION

NO ADOBE PRESENT	
0 < WT ADOBE < 1	
1 < WT ADOBE < 5	
5 < WT ADOBE	

Figure 70: Site 5MT2193, surface distribution of burned adobe by weight.

Figure 71: Dos Casas Hamlet (5MT2193), surface
distribution of sandstone, by weight.

5MT2193

SURFACE DISTRIBUTION OF SANDSTONE BY WEIGHT

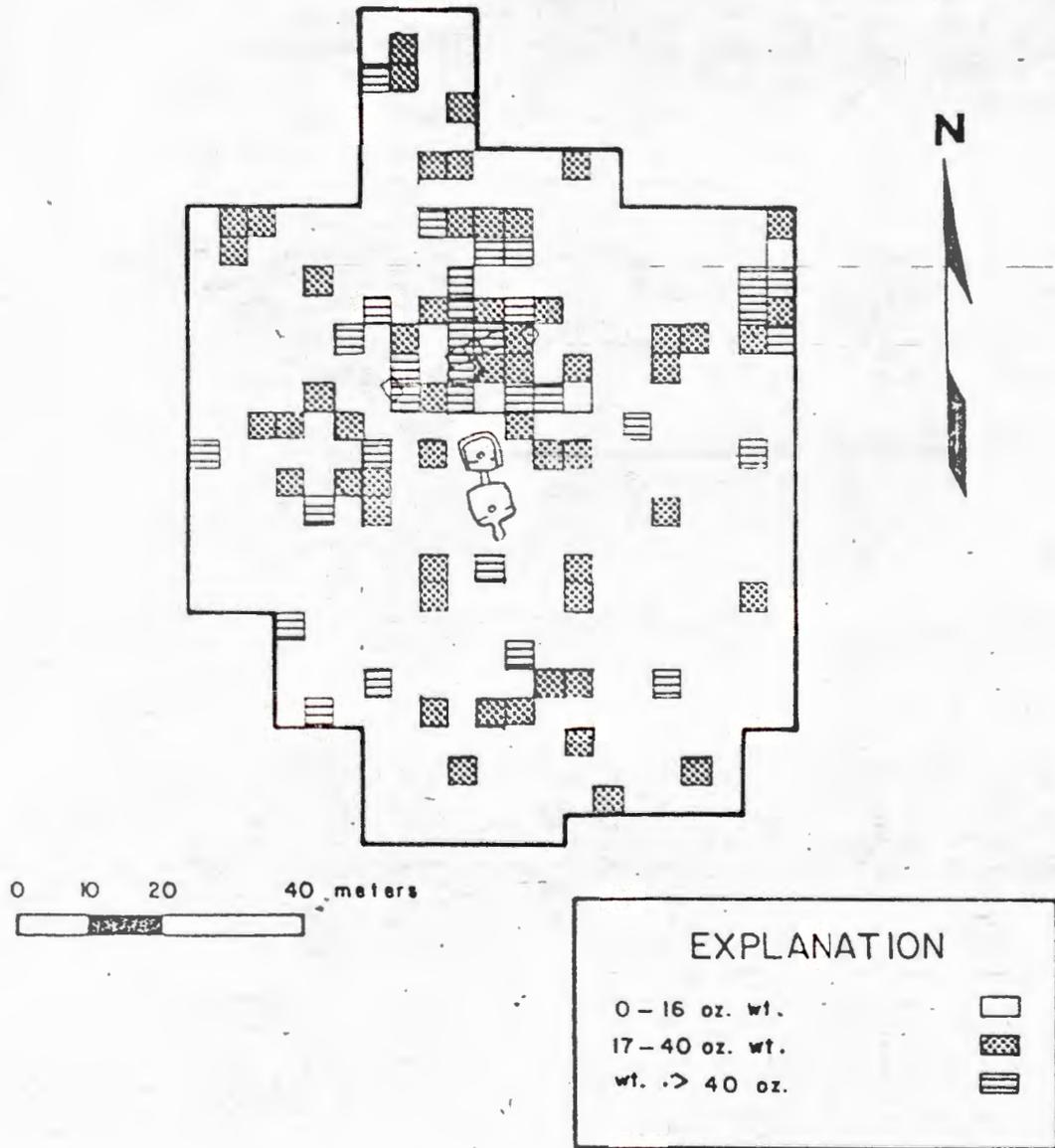


Figure 71: Dos Casas Hamlet (5MT2193), surface distribution of sandstone, by weight.

Subarea 2, the second sampling stratum, was distinguished from the remainder of the site by the apparent concentration of artifacts within the grid squares of this area (Fig.72). It is separated from Subarea 1, also showing high frequencies of artifacts, by an area of relatively low frequencies, which was subsequently designated Subarea 5 (and which has proved to be underlain by Pithouses 1 and 2).

As noted previously, Subarea 1 was expected to produce subsurface architectural units because of the presence of daub in that area and its general absence elsewhere. Subarea 2, having a fairly widespread distribution of artifacts, but lacking significant quantities of concentrations of sandstone and jacal, was suggested as an area of probable trash deposits. It was felt, however, that if architectural features occurred in this area they were probably at sufficient depths below the present ground surface that agricultural activities in the recent past had not disturbed them, and surface indications of their presence would be lacking.

Initially, Subarea 3 was designated as all grid squares outside Subareas 1 and 2. This was further reduced by the designation of Subarea 5, situated between the first two sampling strata. Subarea 5 was established to assure an adequately high rate of sampling in an area felt likely to produce one or more pitstructures, based upon known patterns of settlement organization and knowledge gained about the site during excavation. Consequently, the basic sampling design included four strata - Subareas 1, 2, 3 and 5.

Figure 72: Dos Casas Hamlet, surface distribution
of artifacts by combined count.

5MT2193

SURFACE DISTRIBUTION OF ARTIFACTS
BY COMBINED COUNTS

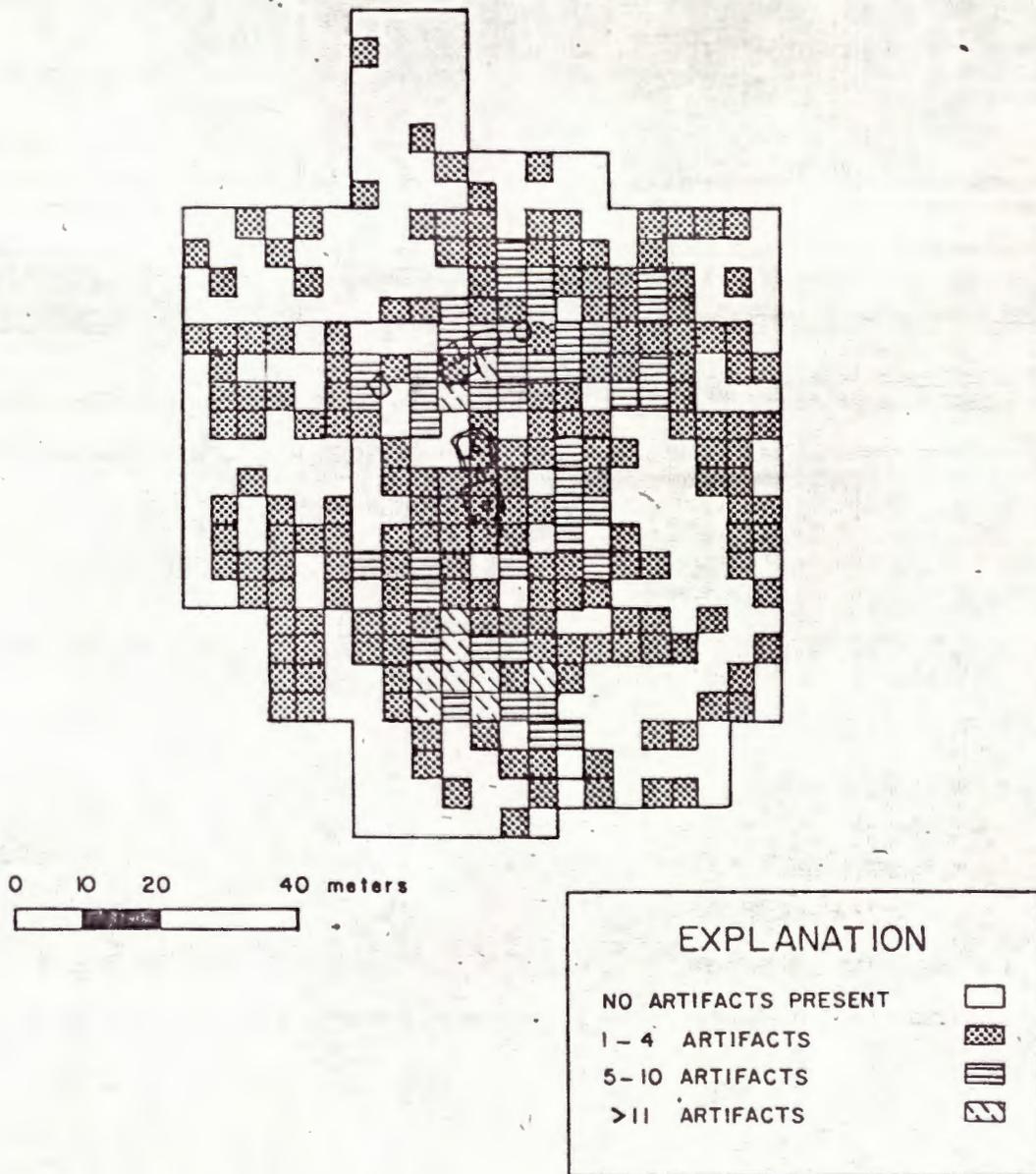


Figure 72: Dos Casas Hamlet, surface distribution of artifacts by combined count.

Three additional subareas - 4, 6 and 7 - were also defined but are contained within the above sampling strata. These were established in areas of probable cultural activity to differentiate materials in these areas from those of the larger, surrounding subareas. Because they were not set up for testing and excavation like the original sampling strata, they will be discussed later within this section of the report.

- Sampling objectives. Because approximately the upper 25 cm of deposits had been disturbed by plowing, and because the systematic surface collection had obtained a large collection of sherds and lithics from the top of the plow zone, it was decided that artifacts would not be collected from the test pits. Instead, the objectives of the testing program would be limited to locating structures, other features, or undisturbed artifact-bearing deposits. Consequently, it was decided that excavations in each test pit would proceed through the plow zone and to sterile soil without collections, unless architectural or other undisturbed remains were found.

- Subarea sample unit selection. With a total of 429 4-m squares in the site, it was apparent that testing at a 25% sampling rate, as proposed in the project research design, would be too time-consuming and costly to be practical. It was necessary, therefore, to decide how, and at what rate, the individual strata would be sampled. Although sampling was anticipated for each of the site subareas, it was not felt that the same rate was required for each. Subareas expected to have subsurface architectural units and features were sampled at higher rates than other, larger subareas, felt to represent probable trash deposits, or peripheral areas of the site. Sampling rates for each subarea were selected to

give a generally similar number of test units for each stratum (Table 23).

Table 23. Sampling rates for site subareas.

<u>Subarea</u>	<u># Units</u>	<u>Total Area</u>	<u># Sample Units</u>	<u>Area</u>	<u>Sample Rate</u>
1	35	560 sq m	35	140	25%
2	61	976 sq m	31	124	12.5%
3	307	4912 sq m	41	164	3.3%
5	26	416 sq m	26	104	25%

To further reduce the amount of earth that had to be removed, only 25% of each 4-m square was actually excavated. At the outset, hand labor was used, and 2-by-2-m quadrats were excavated. These were chosen at random within each 4-m sampling unit.

It soon became apparent that the use of the Hydra-Mac, a small front-end loader, would increase the speed of sampling operations and allow higher sampling rates and better representation. The quadrat type of test pit was undesirable because the equipment is limited in maneuverability. In order to use the front-end loader efficiently, we excavated short transects (1-by-4-m units), hereafter referred to as strips. The previously defined sample of 2-by-2-m quadrats units within the 4-m grid squares was transferred to strips according to the method illustrated in Figure 73. Although this scheme excluded the centers of the 4-m grid squares, it was felt that this would not seriously bias the sample.

Figure 73: Dos Casas Hamlet, sample unit
subsampling patterns.

5MT2193

SAMPLE UNIT SUBSAMPLING PATTERNS

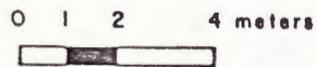
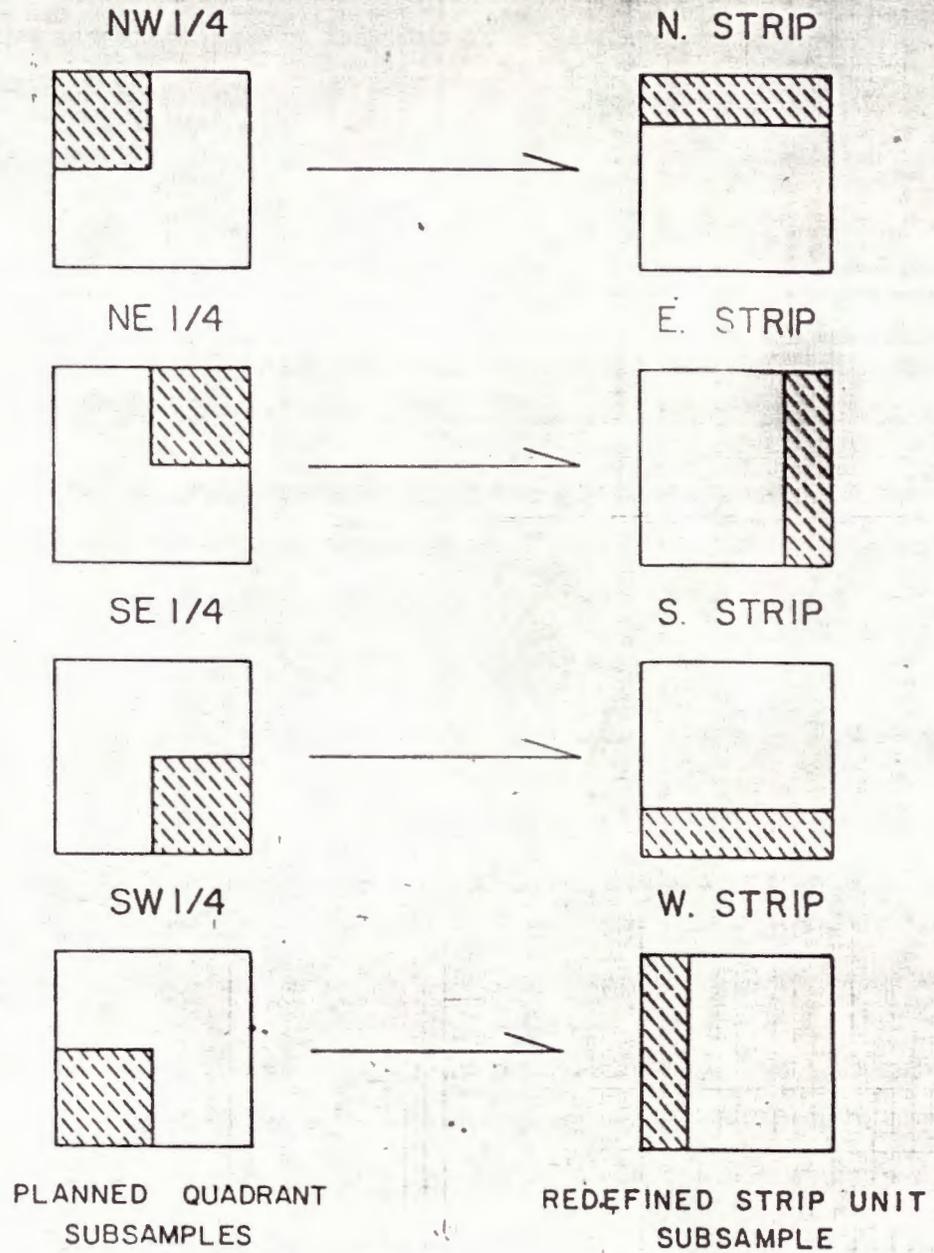


Figure 73: Dos Casas Hamlet, sample unit subsampling patterns.

Additional Subarea Definitions: In addition to the four subareas defined as sampling strata during the testing phase, three other subareas were designated during excavation of the site. These were Subareas 4, 6 and 7. Here initial excavation revealed loci of probable but undefined cultural activity. It was felt that materials from such areas should be maintained under some provenience category separating them from the remainder of the larger sampling strata, or subareas, until a specific functional designation could be applied. For example, excavation in Subarea 1 revealed several dark patches, which indicated probable cultural activity. Rather than giving these "room" or "structure" designations before it was clear whether any walled space could be demonstrated, the locus was treated as a culturally defined subarea of the site (Subarea 4), and the upper fill was excavated by grid unit. As soon as clear outlines or assessment could be made of the nature of these stained areas, they were given the proper room, occupation/activity area, or feature assignments. As excavation proceeded, it became apparent that the rooms, activity areas and features encountered in Subarea 4 extended across most of Subarea 1. Thus, the Subarea 4 designation was a temporary and heuristic device for provenience control during excavation, but was not retained in reporting the findings in Subarea 1.

Similar designations were made within Subarea 5 for the areas above the two pitstructures. These were designated Subareas 6 and 7, before they were determined to be pitstructures. In this report, pitstructure designations will ordinarily be used in place of the subarea assignments, to facilitate description and interpretation.

Magnetometer Test Area: Along with the sampling design described above, an additional test was carried out to help locate subsurface features. Before the sample strips south of the structures were cleared, a 400-sq-m-area was set aside for testing with a proton magnetometer. This test area overlaps Subareas 2 and 5. More detailed description of the results of these tests will be found in a separate chapter (see Huggins and Weymouth, Chapter 7 of the 1978 Analysis Report). It should be noted here, however, that the results of the test were used to alter the sampling strategy for Subarea 5, where it was thought that pitstructures might occur. Rather than continue with the stratified random sampling design, those squares showing anomalies in the isograms of the magnetic field were given priority. Two magnetic anomalies were noted along the west side of the magnetometer test area. Clearance of the overburden showed two patches of underlying dark cultural fill, which were defined as Subareas 6 and 7; subsequently they were designated Pitstructures 1 and 2.

An additional extensive stripping of the plow zone was carried out just west of the magnetometer testing area when it was found that positive correlations between test results and subsurface features were being recorded. It was expected that this test would indicate the west extent of the pithouses and isolate other features as yet undetected. The final site sampling plan reflecting initial stratified random test squares, magnetometer test operations and stripping of locations of intensive prehistoric activity is presented in Figure 74.

Figure 74: Dos Casas Hamlet, final site
sampling plan (1978).

5MT2193

SITE SAMPLING PLAN (1978)

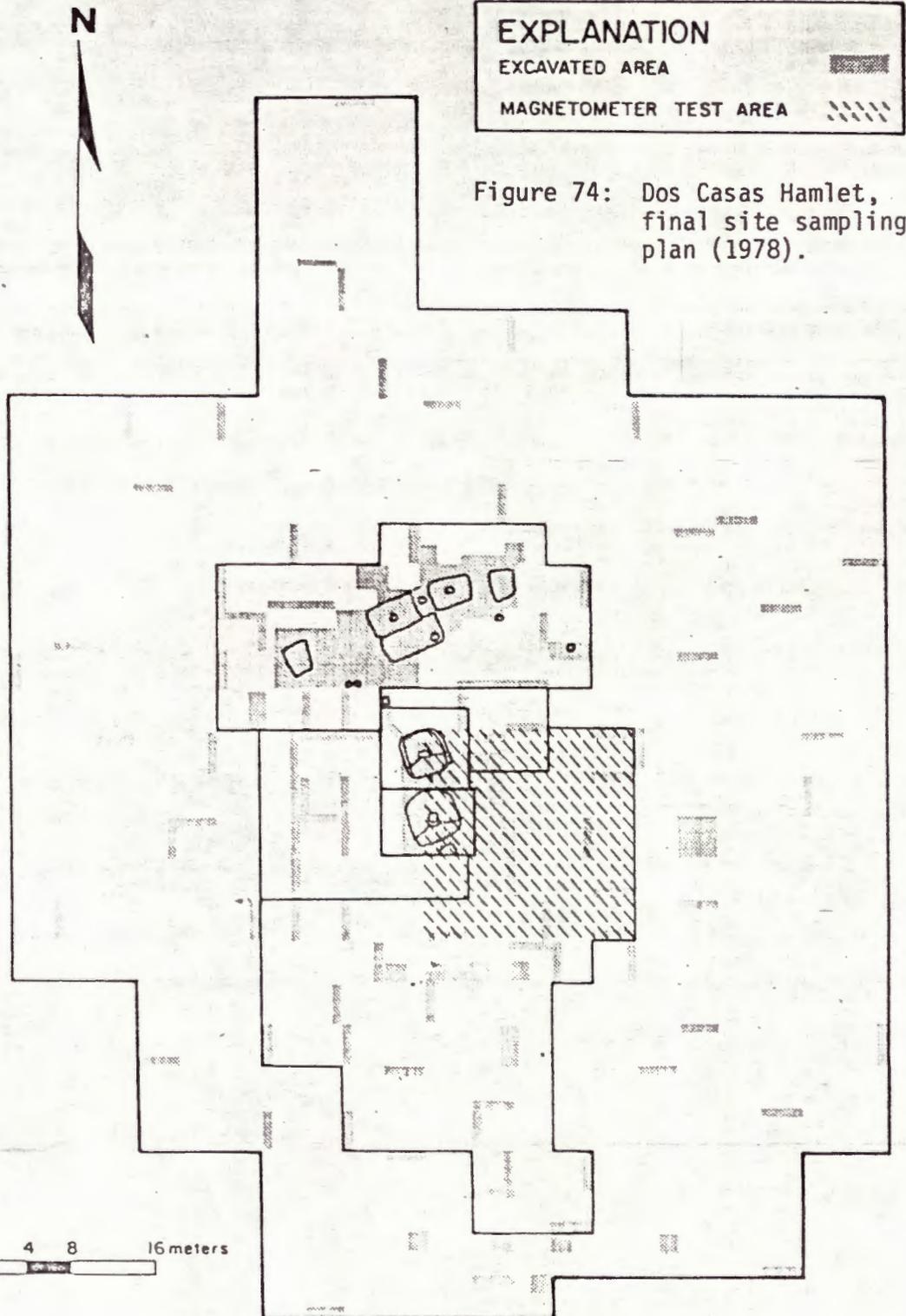


Figure 74: Dos Casas Hamlet, final site sampling plan (1978).

General Excavation Procedures

Excavations at 5MT2193 are not yet complete, but will continue in the spring of 1979. Due to changes in supervisory personnel, there were minor changes in excavation procedures during the 1979 field season. These changes did not affect the basic excavation methods, which are described below.

As described below, excavation began with the clearing of the plow zone in sample units chosen by a stratified random sampling design. Most of this work was done with a small front-end loader. When undisturbed cultural fill or features were exposed, further excavation was done by hand.

The distribution of cultural materials in the plow zone was expected to be strongly correlated with the distribution on the surface. This assumption was tested by screening part of the backdirt removed from a sample of the cleared strips at the site. The excavated sample was similar enough to the surface collections to justify the decision not to screen the plow zone sediments.

When removal of plow zone deposits exposed areas of darker sediments, sometimes containing cultural material, investigations continued. First, the horizontal extent of the "stained" area was defined; this sometimes required additional removal of mixed sediments. Next, tests were made to determine the vertical nature and limits of the deposits. If stratification was evident, subsequent excavations were carried out in a way that preserved the stratigraphic associations of the cultural materials. In many instances these investigations resulted in the definition of prehistoric features such as pitstructures, surface

rooms, fire hearths, small pits, and postholes. In other instances, use and activity areas were defined by the presence of cultural materials in close association with room structures, but in areas lacking structural or other evidence of rooms or pit features. Finally, some investigations revealed evidence of non-human activity at the site, represented by plant and animal krotovina.

During excavation, a variety of samples were taken to provide information concerning many aspects of the aboriginal occupation. Whenever possible, archaeomagnetic, dendrochronological, and carbon-14 samples were collected to help determine when the structures and features were constructed and used. Bulk soil samples were taken for finer treatment (i.e., fine mesh or water screening) of a sample of the sediments excavated in each culturally defined area. These should produce information applicable to many problems; for example, comparison of sample contents from different surface rooms, when considered in association with other data, may help determine room functions. In addition, small items missed in field excavation may be recovered in processing these samples, and may tell us more about the range of variation in the material culture. Pollen samples from room surfaces may provide information regarding room use. Pollen and bulk soil samples from ceramic vessels may indicate how these were used, and by association, how the area they were found in was used.

As noted previously, most plow zone sediments were not screened; screening of other deposits was also limited. Since most excavations in the surface structures were by trowel or by shovel skimming, it was felt that artifact recovery here was relatively complete and systematic. In

the pitstructures, the upper layers were removed by shovel or backhoe, but deposits near the floors were carefully excavated. Screening of sediments was carried out when the excavator felt that the usual excavation techniques were not sufficient to recover the samples required by the research design. Bulk soil samples were often taken to provide a control and should indicate the effectiveness of our excavation methods.

In excavating structures and use areas, natural stratigraphic levels were used whenever they could be distinguished. Excavation continued by natural levels to a depth just above a floor or occupation surface. Floor artifacts were exposed and left in place for mapping and photographic recording except when such treatment threatened pollen samples with contamination, or the specimen itself with deterioration.

Because of time limitations, Subarea 3 was not tested as planned. Additional work to complete this testing, involving the clearance of test strips in 41 4-m sampling units is recommended. Location of additional features, activity areas, and possible additional structures might result from this work and provide a clearer picture of life in this prehistoric Anasazi settlement.

DESCRIPTION OF CULTURAL REMAINS

Depositional History

Understanding the depositional history of 5MT2193 is dependent upon an understanding of the many factors influential in its development. When a stratigraphic profile is exposed, we are not only looking at the present state of soil and sediment conditions, but at the history of its development as well. To properly understand what it is we have excavated, we must try to understand how processes of soil and sediment development, erosion, and deposition produce changes in the cultural deposits left by aboriginal peoples. In addition, it is also important to look at the influence of both prehistoric and recent human activities, and the changes they may have produced.

The Stratigraphic Profile, Subarea 1

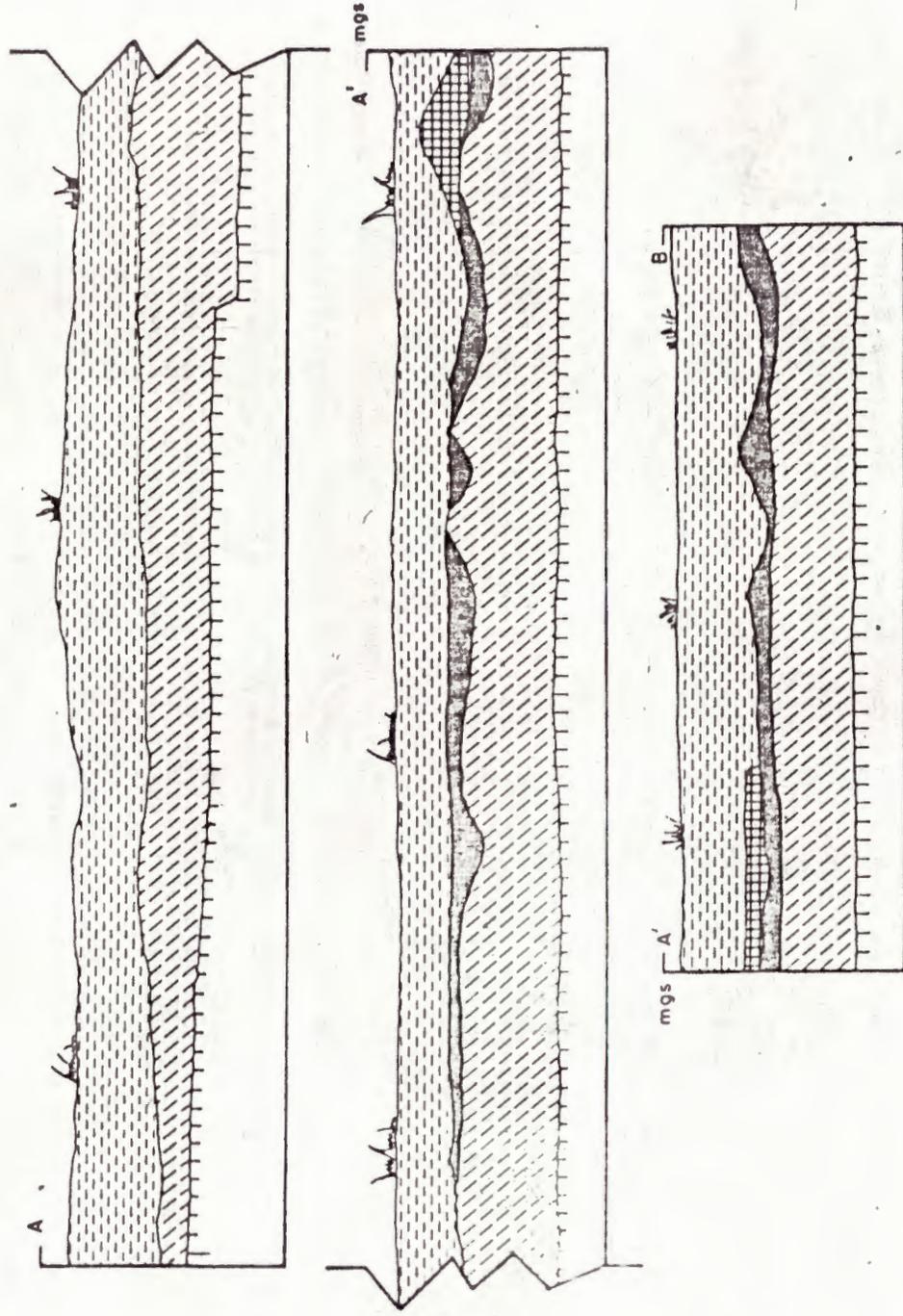
Figures 75 and 76 depict typical profiles of deposits in Subarea 1. Although excavations take us from the ground surface to whatever depth the archaeologist chooses to explore, a proper understanding of the upper strata is dependent upon knowledge of what is below. Discussion of this profile will therefore begin at the base.

Stratum 1, the basal, presumably sterile deposit, is characterized by blocky texture, yellowish, red-brown color, the presence of calcium carbonate deposits, and the absence of cultural materials, except when introduced from higher strata. Its thickness was not determined because the base of the stratum was not reached by excavations. Its importance lies in its role as the parent material from which the overlying soil developed, and as the surface and level onto or into which the

Figure 75: Dos Casas Hamlet, Subarea 1,
deposition profile.

5MT2193

SUBAREA I DEPOSITIONAL PROFILE



0 .25 .5 1 meter
Figure 75: Dos Casas Hamlet, Subarea 1, deposition profile.

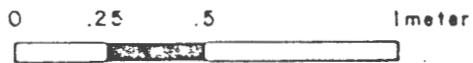
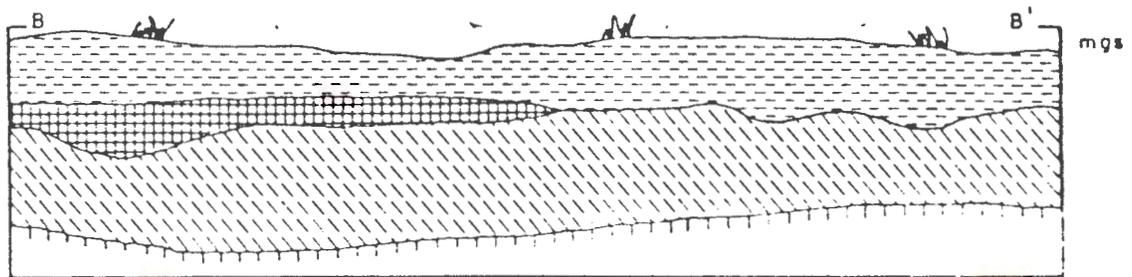
EXPLANATION

MODERN GROUND SURFACE	mgs	STERILE (STRAT-1)
PLOW ZONE (STRAT-3)		BASE OF EXCAVATION
CULTURAL DEPOSITS (STRAT-2)	#####	RODENT BURROW

Figure 76: Dos Casas Hamlet, Subarea 1,
deposition profile.

5MT2193

SUBAREA I DEPOSITIONAL PROFILE



EXPLANATION	
MODERN GROUND SURFACE	mgs
PLOW ZONE (STRAT-3)	
CULTURAL DEPOSITS (STRAT-2)	
NATURAL DEPOSITS (STRAT-1)	
BASE OF EXCAVATIONS	
RODENT BURROW	

Figure 76: Dos Casas Hamlet, Subarea 1,
deposition profile.

aboriginal peoples excavated and constructed their dwellings, and associated structures and features. Its hardness is also responsible for the shallowness of modern agricultural disturbances and the subsequent preservation of the archaeological record.

Above this stratum of blocky sediments, in most of the 2-m units profiled, is Stratum 2, a thin grayish-brown band of compact, clayey sediments containing cultural material. The decision as to what this narrow layer represents is somewhat problematical. Consideration of additional data gained through excavations near the location of the illustrated profile is necessary to the understanding of what it represents.

Inspection of the profile indicated that Stratum 2 is neither continuous, nor extremely even, but the presence of cultural material was noted throughout. Initially, it was suspected that this represented a greater depth of plowing at one time, but this left no point of origin for the cultural materials mixed through this and the stratum above. When moist, this zone was extremely difficult to distinguish from the plow zone, but as it dried, the clay in the sediments gave it a much harder texture and a lighter color.

An alternative to the suggestion noted above, is that the stratum incorporates the results of cultural activities outside of the surface rooms. Although not examined in profile, the sediments characterizing the excavated occupation/activity areas gave the same light, grayish-brown color when allowed to dry, while those of rooms and features were somewhat darker; several fragmented ceramic vessels were also associated with Stratum 2. This deposit was perforated with

numerous rodent burrows, some of which had filled, and others of which were partially open. No definite structure surfaces or boundaries were encountered during excavation in the area of the profile shown, but a single posthole with a post in place was found (Fig. 76). South of the posthole there were no indications of any structures or activity areas. The possibility remains that a room and/or an activity area was located here and that the profusion of rodent burrows masked its presence. Looking at the plan map of the surface rooms area (Fig. 76), it is apparent that there was ample space available for an additional structure and occupation/activity areas of sizes comparable to those in the rest of the subarea. If these were present, Stratum 2 in this profile could easily be a remnant of the structure fill, or possibly the result of wash from the immediate vicinity of the room or activity area. The irregularity and lack of any clear lower surface in this profile argues for the latter.

It is suggested therefore that Stratum 2, a narrow stratum showing cultural inclusions and characterized by grayish-brown, clayey sediments, indicates a cultural zone and corresponds to the level or zone of aboriginal occupation, which correlates with the identified surface structures and use areas.

Stratum 3 is uppermost in the profile and has the horizontal structure characteristic of soils. It is yellowish brown in color and composed of loose, silty sediments, with organic, as well as cultural materials present. The sediments are in part aeolian in origin and arise from the previously mentioned blocky parent material that underlies this stratum, except where cultural activities have produced the intervening stratum. The cultural materials present within Stratum 3 and on its

surface are thought to have originated from Stratum 2, which was probably thicker in most places prior to plowing. Stratum 3, then, represents a mixture of occupational deposits and subsequent aeolian and other depositions. The mixing has been largely due to modern agricultural activity and animal burrowing. These agents are evident in east-west running plow marks, a secondary succession vegetation pattern, and rodent burrows. Other factors may have been influential in bringing cultural materials to the surface and will be considered shortly.

Stratigraphic information was also obtained from architectural superposition. The ventilator shaft of Pithouse 2 was constructed partly in the post-occupational fill of the apparently earlier Pithouse 1. Until the excavation in Pithouse 2 is complete and the artifactual data from the excavations of both the pithouses and the surface rooms are analyzed and compared, the relationship between them will only be conjectural. On the basis of the superposition and field observations of ceramics from these structures, it appears that the later pithouse is probably associated with the surface rooms. In the excavations, early San Juan Red Ware ceramics were observed in some of the surface rooms as well as in Pithouse 2, but not in Pithouse 1.

Sources of Change in Archaeologic Context

The temporal difference in the occupation of Pithouses 1 and 2, and the stratigraphic sequence indicated by the profile in the surface rooms area were described above. Discussion will now focus on how the processes of soil development, erosion and deposition have produced changes in the archaeological context from the time of its original formation until the present.

Prior to Anasazi occupation, soil formation processes must have been in effect at the site. With the construction of dwellings and associated features, and subsequent community traffic, much of the loose topsoil was probably cleared from the immediate area. It is apparent that construction of some of the surface rooms, and both of the pitstructures, required excavations into the underlying blocky sediments (Stratum 1); this would have resulted in quantities of loose soil being brought to the surface of the site. During occupation, Stratum 2 would have been in the process of formation. Depositional processes such as slope wash and aeolian transport would continue to bring materials into the site from elsewhere; the disturbance caused by occupation might also have created localized environments in which the rate of sediment accumulation was increased. No doubt occupation also enhanced the rate of erosion in other areas and led to increased transport and redeposition of sediments within the site and, to some extent, off the site. At the same time, cultural materials such as artifacts, ash, and melted jacal or mortar would be incorporated in the sediments in places where sediments were accumulating. With site abandonment, materials derived from the existing structures would also be incorporated into the developing cultural stratum. Following abandonment, erosion would have reduced this stratum in some areas. In others, sediments would have accumulated over the cultural deposits, arriving through aeolian deposition, and probably by some downslope transport of sediments by water. Vegetation would have become re-established and soil formation processes resumed. It is assumed that these processes continued until man's intervention again disturbed the soil.

This time, men with agricultural machinery were the agents of disturbance. Little resistance would have been met until the hard blocky, culturally sterile Stratum was reached. Materials from Stratum 2 apparently were brought to the surface, and mixed throughout Stratum 3, the plow zone. When the fields were abandoned, the slow process of secondary succession began again.

During each of these periods, the processes of deposition, erosion, and soil development were probably occurring on and off the site area. How these affected the distribution of the existing cultural material was determined by their intensity and duration, which in part was determined by the topographic setting of the archaeological features.

Topographic mapping of the site (Fig. 69) indicates that the excavated structures are located on a low eminence that slopes generally to the south, and that separates, south of the site, into two low ridges. The surface rooms are located just north of the juncture of the ridges, while the pitstructures and the trash area are situated at the upper end of the shallow swale lying between them.

Consequently, the present ground surface at the room block is approximately 1.5 m higher than at Pithouse 2. Within the surface room block, the highest point is near the center; the ground surfaces at the east and west edges are about one-half meter lower. Drainage from the roomblock is to the east, west, and south, but in the pitstructure area it is only to the south. Generally, the surface room boundaries were most difficult to define in the downslope direction. Conversely, northern boundaries were clear except where in a few cases erosion or plowing had penetrated deeply enough to destroy them.

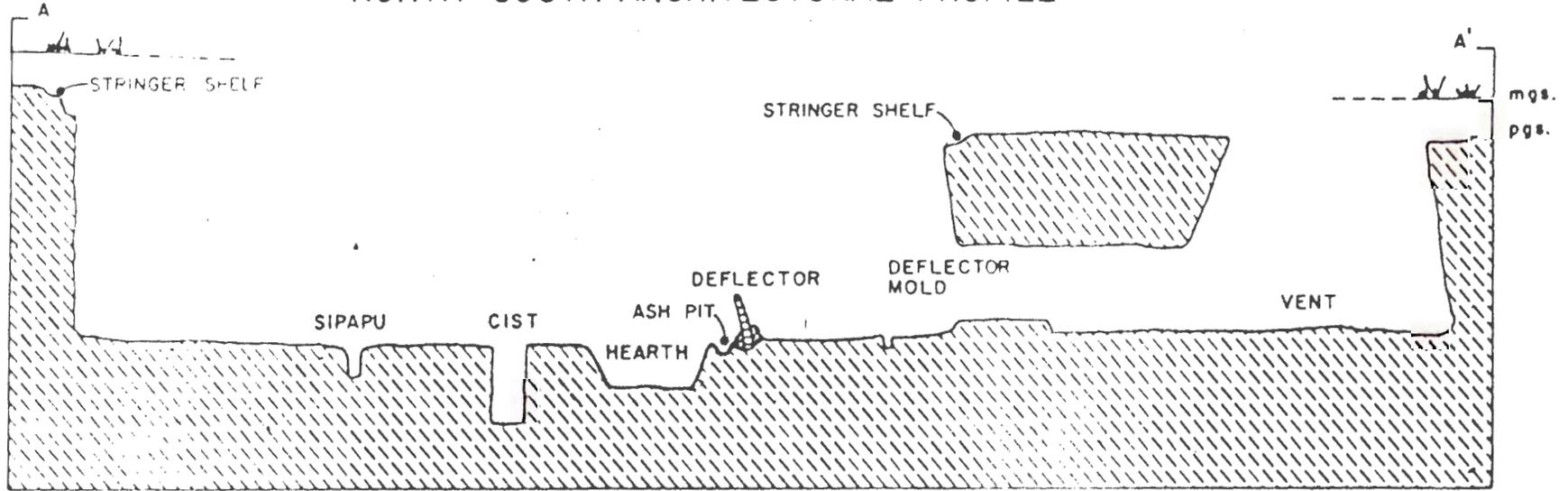
A consideration of the stratigraphic profile, the evidence of structural superposition, and the topographic setting of 5MT2193, indicates that many processes capable of producing changes in the archaeological record have been in force. In some instances, the changes were great enough so the shape and even existence of structures was in doubt. In other instances, disturbances were slight and descriptions are presented with confidence.

Description of Architectural Features

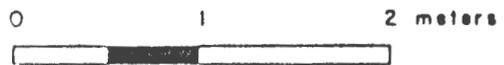
Investigations at Dos Casas Hamlet (5MT2193) resulted in the discovery and subsequent excavation of major architectural units and smaller features in three site subareas; Figure 77 depicts the horizontal relationship of the major structures at the site. These include five or possibly six surface rooms and associated occupational/activity areas, and two pitstructures. The relationship between the surface rooms and the subterranean units cannot be fully evaluated until artifacts and dating samples have been fully analyzed. Additionally, because excavations are incomplete, future work may produce other data regarding temporal parameters. Consequently, it is premature to define temporally separate occupations or complexes of architectural units. Rather, the following descriptive report treats each of the subareas as separate units with acknowledgment that patterns of temporal association are probable.

Figure 72: Dos Casas Hamlet, surface distribution
of artifacts by combined count.

5MT2193
 PITHOUSE I
 NORTH-SOUTH ARCHITECTURAL PROFILE



-19-



EXPLANATION	
NATURAL DEPOSITS	
ADOBIC	
SANDSTONE	
PREHISTORIC GROUND	
SURFACE	pgs.
MODERN GROUND	
SURFACE	mgs.

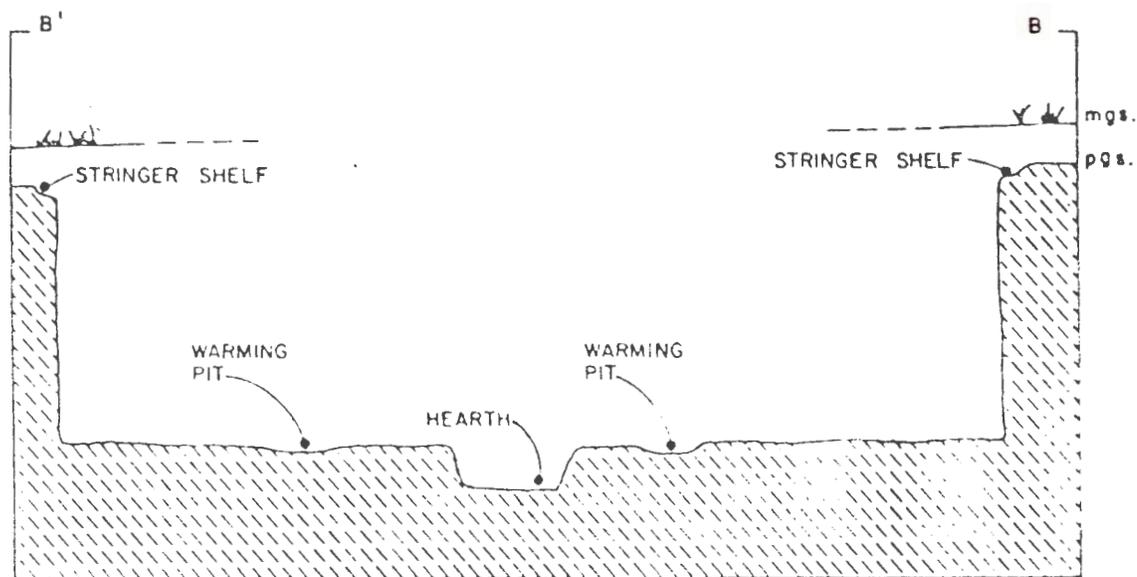
Figure 80: Dos Casas Hamlet, Pithouse 1, north-south architectural profile.

Figure 81: Dos Casas Hamlet, Pithouse 1,
east-west architectural profile.

5MT2193

PITHOUSE 1

EAST-WEST ARCHITECTURAL PROFILE



EXPLANATION	
NATURAL DEPOSITS	
PREHISTORIC GROUND SURFACE	p g s.
MODERN GROUND SURFACE	m g s.

Figure 81: Dos Casas Hamlet, Pithouse 1, east-west architectural profile.

Figure 82: Dos Casas Hamlet, Pithouse 1, looking east; note central hearth and deflector, ventilator system, and metate in situ with collecting pit. Floor tags mark artifact locations.

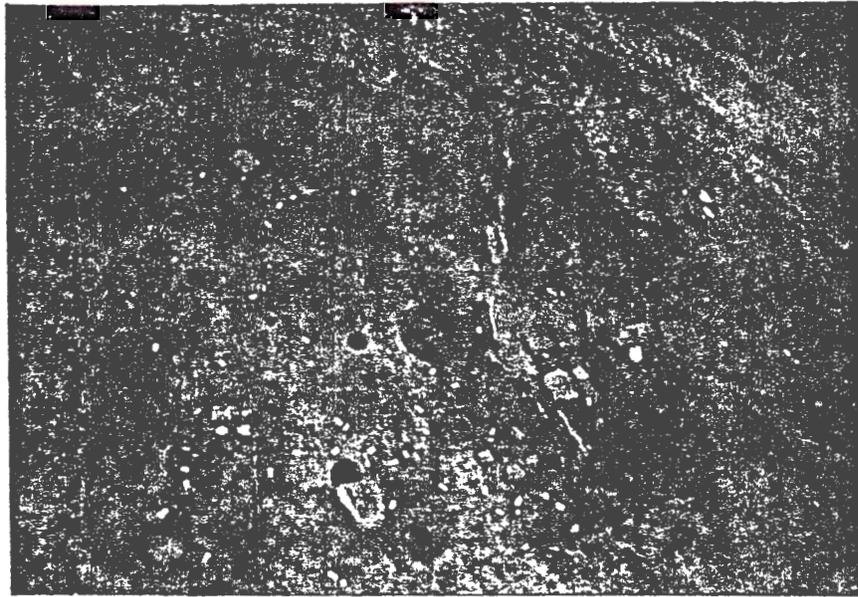


Figure 82: Dos Casas Hamlet, Pithouse 1, looking east; note central hearth and deflector, ventilator system, and metate in situ with collecting pit. Floor tags mark artifact locations.

Figure 83: Dos Casas Hamlet, Pithouse 1,
looking northeast.

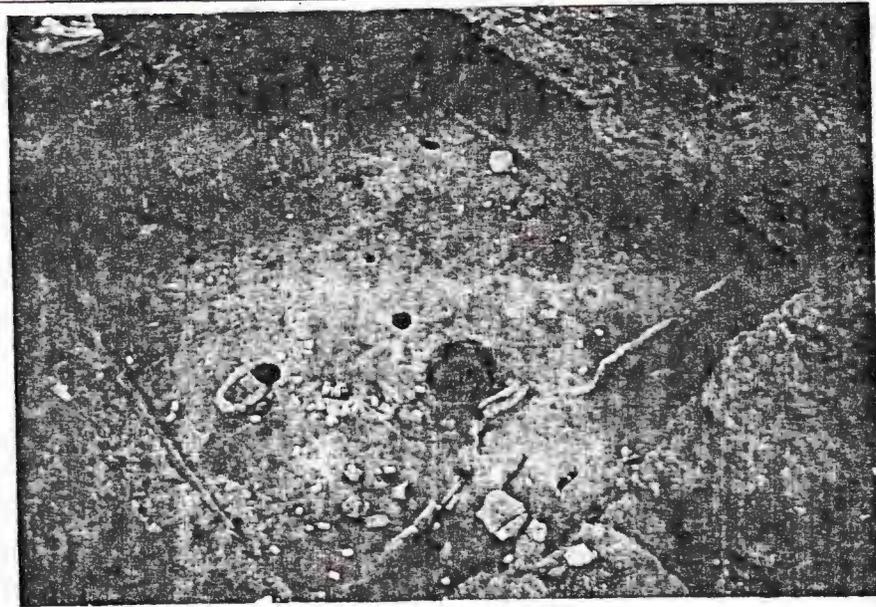


Figure 83: Dos Casas Hamlet, Pithouse 1,
looking northeast.

Figure 84: Dos Casas Hamlet, Pithouse 1,
looking northwest.

Figure 77: Dos Casas Hamlet, spatial relationship
of major cultural units.

5MT2193

SPATIAL RELATIONSHIPS OF MAJOR CULTURAL UNITS

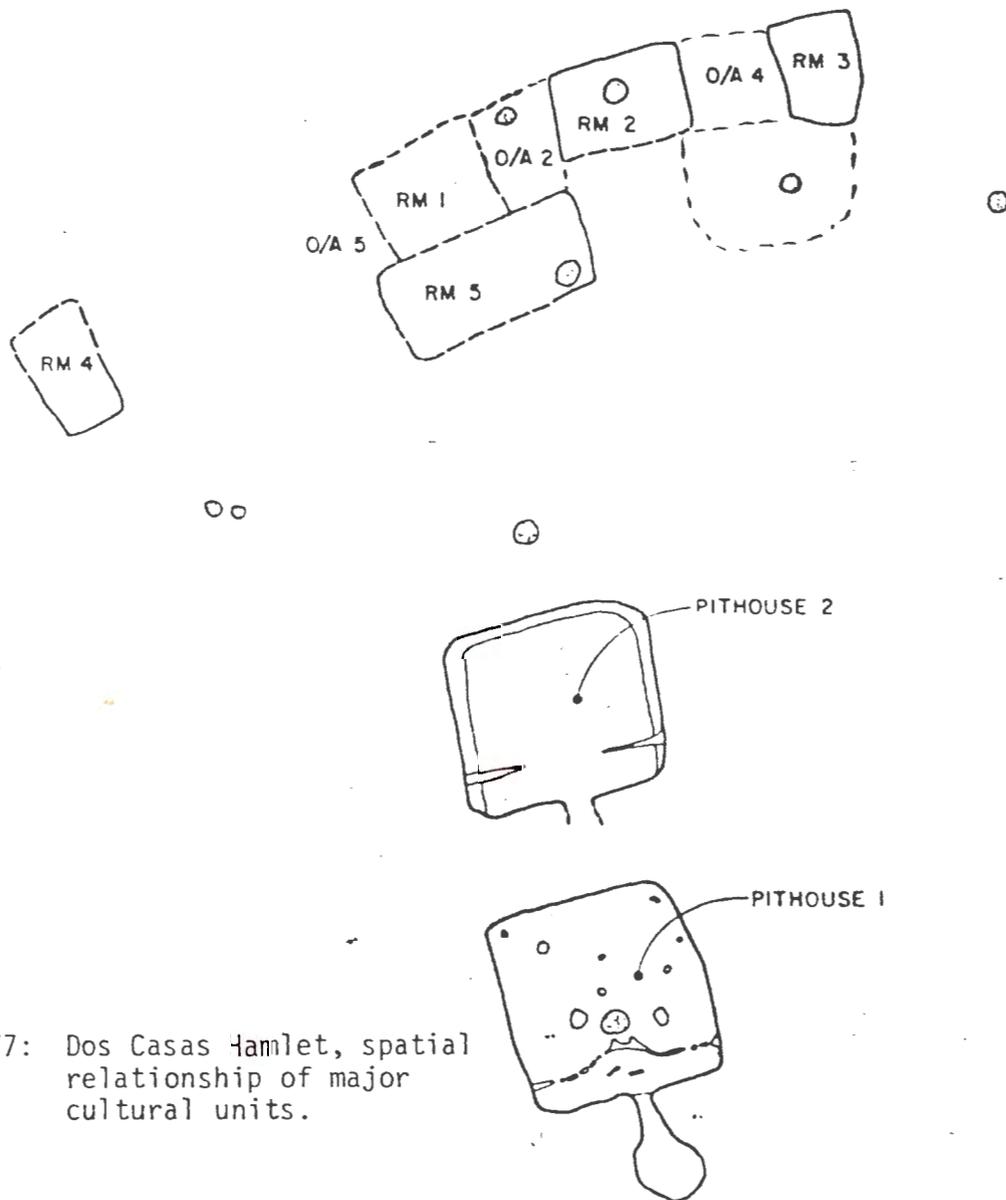


Figure 77: Dos Casas Hamlet, spatial relationship of major cultural units.

EXPLANATION

HEARTH



0 2 4 meters

Subarea 6: Pithouse 1

Dimensions:

N-S Diameter (including south room):	5.40 m
E-W Diameter (including south room):	5.25 m
South Room Length:	4.90 m
South Room Width:	1.09 m
Floor Area (north room):	20.22 m
Floor area (south room):	4.11 sq m
Total Roofed Area:	27.72 sq m
Depth of Structure (Floor MGS):	1.40 m
Reconstructed Roof Height:	ca. 2.30 m
Height of Stringer Shelf/Bench Above Floor:	1.23 m

General structure description: When a large, roughly circular area of dark cultural fill became evident at the base of the plow zone, it was designated Subarea 6. A test trench across the subarea produced evidence supporting the expectation that a pitstructure lay here. The trench was extended across the structural main chamber, a profile was drawn, and the remaining fill was removed.

Pithouse 1 is located directly south of Pithouse 2 and approximately fourteen meters from the south edge of the rooms in Subarea 1 (Fig. 77). In plan view, it is rectangular with rounded corners, with a ventilator shaft and tunnel extending to the south-southeast. The ventilator tunnel and shaft of the pithouse are slightly smaller than those of Pithouse 2, and oriented slightly more to the east. The width of the former's main chamber is similar to that of the other pithouse, but its length exceeds that of the other structure by almost three-fourths of a meter. Pithouse 1 is situated further downslope than Pithouse 2 and was apparently excavated to a greater original depth prior to the erection of the superstructure.

Pithouse 1 conforms to the general pattern of Anasazi pithouse construction in that it possesses a depressed floor, a bench surface from which the secondary supports for the superstructure originate, two wingwalls and a deflector creating distinctive spaces in the main chamber, and a ventilator system extending south from the main chamber. Also present in this pithouse are numerous subfloor features which served a variety of functions.

Structural Fill: Excavation of a trench across the east side of Pithouse 1 provided a vertical face from which the sequence of structural fill was determined. Figure 77 illustrates this stratigraphic sequence and indicates that unlike Pithouse 2, some depositional complexity is evident. The profile, together with other data, indicates that Pithouse 1 was occupied, and then destroyed by a fire occurring either during occupation or following a short period of abandonment. Following the structural collapse of the pitstructure, the hamlet was temporarily abandoned; the period of non-occupation was long enough for a locally derived, clean sandy fill to be deposited over the living surfaces of the first occupation. Subsequently, Dos Casas Hamlet was re-occupied, the habitation area was cleaned up and additional structures were built. Trash, and probably backdirt from the excavation of Pithouse 2 were used to fill the depression left by the collapse and incomplete natural filling of Pithouse 1. The north end of the depression appears to have filled rapidly during this process. Prehistoric construction of the ventilator system of Pithouse 2 into these deposits is indicated by a depression cut into the sediment layers at the north end of Pithouse 1. Subsequent deposition of sediments and additional trash in the southern

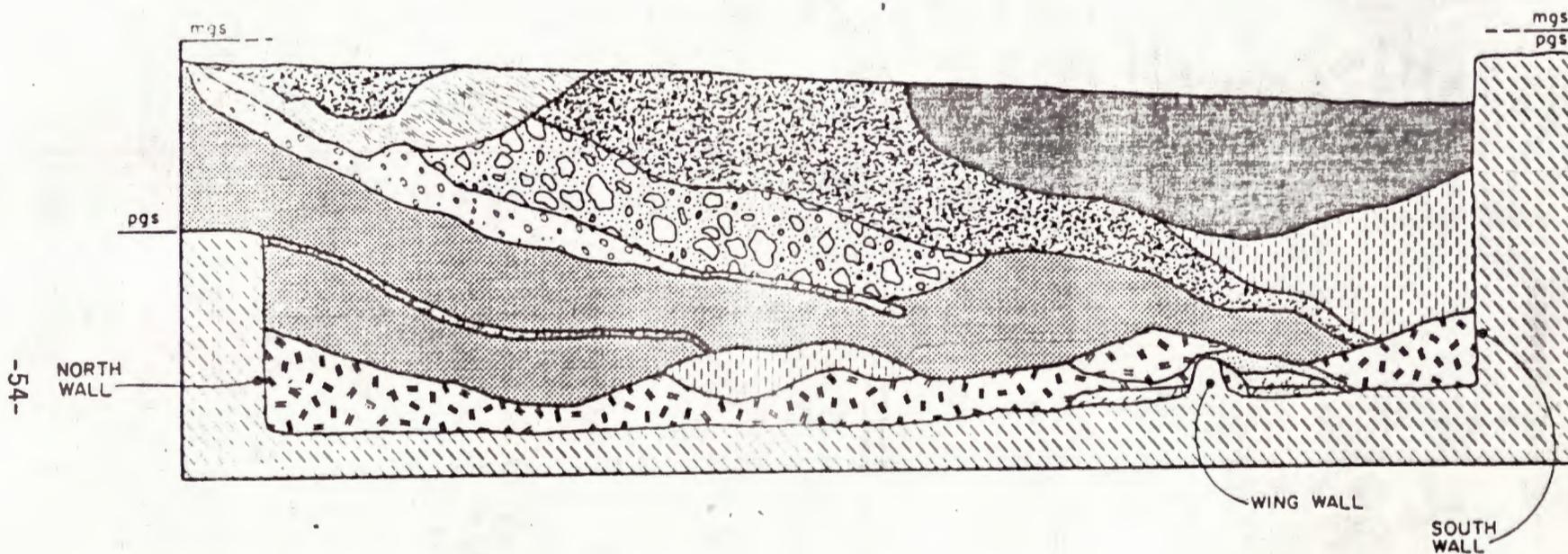
part of the pit depression and in the intruded ventilator shaft at the north, brought the fill up to the level of the surrounding surface. A brief discussion of the evidence which supports the above interpretations follows.

Pithouse 1 apparently burned either during occupation, or shortly following abandonment. Observations suggesting that destruction followed abandonment include the relative sparsity of cultural materials on the floor and in the lower fill, and the fact that most of the subfloor features were filled with clean, light sand or silt. If the structure was occupied when it burned, more cultural material might be expected on the floor and in the roof fall stratum and a more variable fill would have been found in the floor features. If abandonment of the structure prior to burning is accepted, consideration focuses on the length of the abandonment period. If the structure had remained empty for an extended time, one might expect one or more post-occupational, pre-collapse strata on the floor surface, below the roof fall, or within the ventilator shaft area. No such deposits were evident. Stratum 3 (Fig. 78) does lie between the floor and the roof fall, but does not appear to represent a post-abandonment pre-collapse deposition. Irregular collapse of the structure and subsequent filling of pockets created by this collapse may be responsible for the formation of this stratum. The floor surface of the pithouse is overlain by roof fall deposits which conform to the general pattern of collapse and fill. It therefore seems likely that the structure was abandoned prior to burning, but that the intervening period was probably not long.

Figure 78: Dos Casas Hamlet, Pithouse 1,
stratigraphic profile.

5MT2193

STRATIGRAPHIC PROFILE PITHOUSE 1 FILL



EXPLANATION

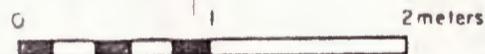
- STRATUM 6
- STRATUM 7
- STRATUM 8
- STRATUM 9
- STRATUM 10
- STRATUM 11



- STRATUM 1
- STRATUM 2
- STRATUM 3
- STRATUM 4
- STRATUM 5



Figure 78: Dos Casas Hamlet, Pithouse 1, stratigraphic profile.



After the pithouse superstructure burned and collapsed, there is no evidence of immediate use. On the contrary, interpretations of Strata 4, 5, 6 and 7 indicate a period of long, relatively uniform deposition, interrupted only by a thin band of sediments containing charcoal. The evenness of the contours and the absence of cultural materials in this layer suggest that Stratum 6 is a natural deposit and not the product of aboriginal dumping.

Above Stratum 7, the sequence of depositional events is not as clear cut. Interpretations of the strata are dependent in part upon the spatial and temporal relationships of Pithouses 1 and 2. Regardless of these problems, however, the remaining strata, with the exception of Stratum 11, can be confidently associated with a period of re-occupation and renewed building at the site (although not at Pithouse 1).

The next three stratigraphic layers, Strata 8, 9 and 10 appear to represent three phases in the construction of Pithouse 2. This interpretation is based upon the truncation of these deposits by the relatively shallow depression (designated Stratum 13, see Figure 78) which appears in the profile. This depression appears to be associated with, and probably represents, the upper part of the ventilator shaft of Pithouse 2. The main part of this shaft lies just west of and therefore adjacent to the illustrated profile. The positions of Strata 8, 9 and 10 and their relationships to Stratum 13 suggest that the former were deposited at a relatively rapid rate and probably represent stages in the construction of Pithouse 2.

Field interpretation of Stratum 9 was that the sediments represent backdirt from the excavation of the main chamber of Pithouse 2. If this

is correct, then Strata 8, 9 and 10 indicate rapid filling of the main Pithouse 1 depression, since prehistoric construction of the Pithouse 2 ventilator shaft would probably not have been delayed for an extensive period, once work on the second pithouse had commenced. The possibility does exist that Stratum 8 is an earlier deposit, but if it is not directly associated with the second building phase at the site, it must have preceded it by only a short period of time; otherwise an additional overlying layer of natural deposition might be expected.

Following the filling of the north half of the depression, and the construction of Pithouse 2, two more depositional events occurred in the south portion of the concavity which eventually brought the contours in line with the surrounding surface topography. A period of natural filling (Stratum 11) is indicated, followed by the dumping of trash deposits into the remaining basin (Stratum 12). This trash is probably the product of the second period of site occupation.

The burnt organic sediments included in Stratum 13 may result from the destruction surrounding the ventilator shaft. The final layer (Stratum 14) contains cultural material, but appears to have been deposited by slope wash after the site was abandoned.

In summary, the stratigraphic profile of Pithouse 1 is interpreted as evidence of two periods of site occupation, separated by a period of site abandonment. The first period of occupation (Element 1) is represented by the remains of the structure's floor, walls, and superstructure; the abandonment interlude by several strata indicative of rapid intentional filling; and the second period of occupation (Element 2) by partial excavation of deposits during construction of another

pithouse to the north and by the deposition of additional trash. The dating of these events is discussed in a later section of this chapter.

Major Structural Features: The structural features of Pithouse 1 include a main chamber with a partial remnant of a narrow bench, two wingwalls incorporating a deflector which divide the chamber into a north and south room, four sockets for the primary support posts, and a ventilator shaft and tunnel. These are similar in construction and form to those portions of the structural features exposed in Pithouse 2 (see Figs. 78-84).

- Wingwalls. In the main chamber, the wingwalls consist of upright sandstone slabs covered with mortar; they incorporate the two southern primary support posts, one to each side. The walls were constructed first by setting the slab into subfloor depressions and packing mortar from the floor up to the base of the vertical slab. This produced a concave-upward juncture between the floor surface and wingwall faces. When the slabs forming the central core of the walls were in place a thick layer of plaster was then applied to the north and south faces of the sandstone slabs. Layers of adobe "turtlebacks" or "ropes" were then applied to the upper surface to produce additional height. These upper sections were not found in situ, but the association between the sections is clear. Some variation in height was noted, with the central portion being lower than the extremities; this variation in height produced a stepped appearance to the wingwalls.

Each wingwall extends out from the side walls of the main chamber aligned with the longitudinal axis of the structure, and terminates at the upright sandstone slab serving as a deflector; the deflector is set slightly north of the wingwall axis. To either side of the deflector

Figure 79: Dos Casas Hamlet, Pithouse 1,
plan view.

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PITHOUSE I, PLAN VIEW

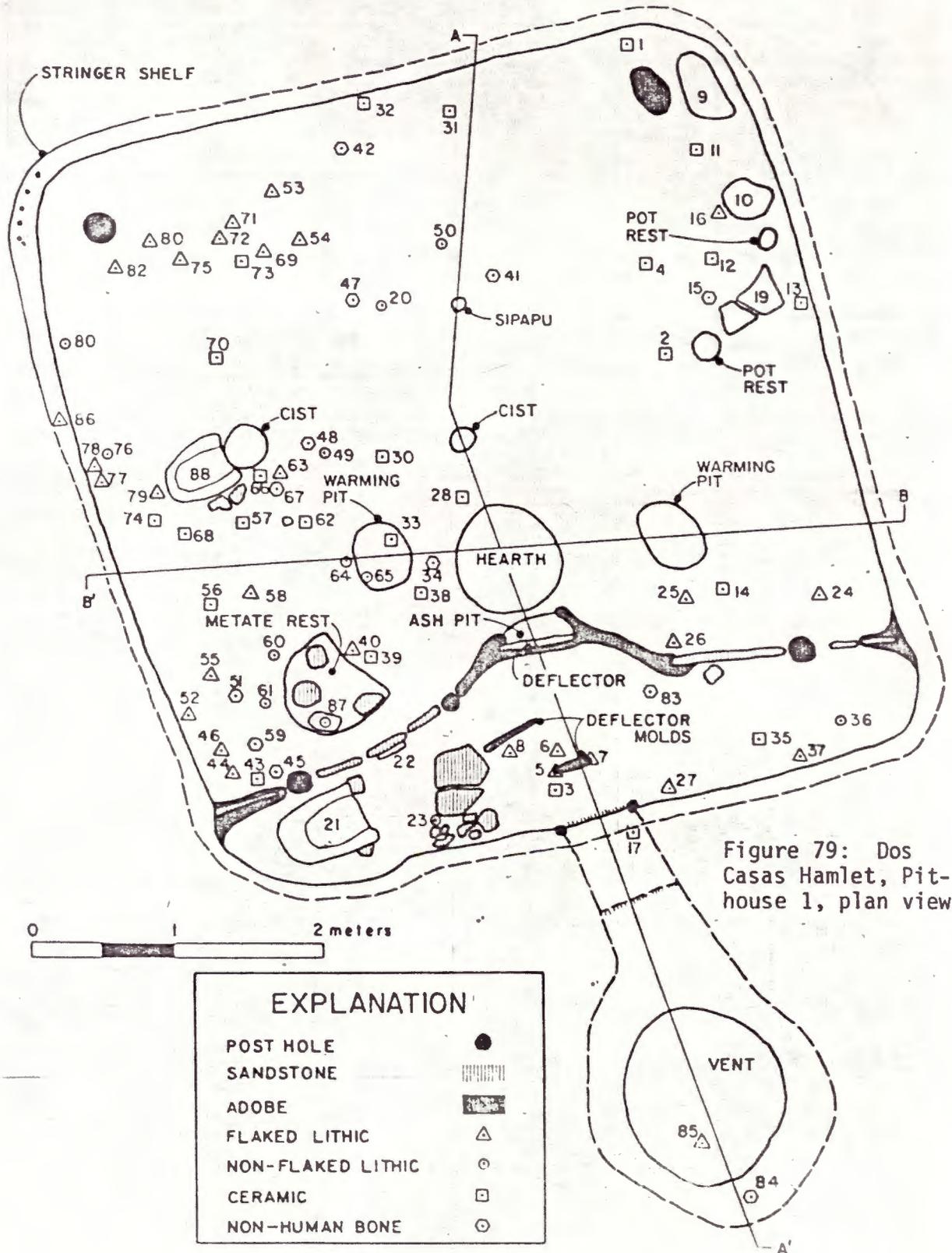
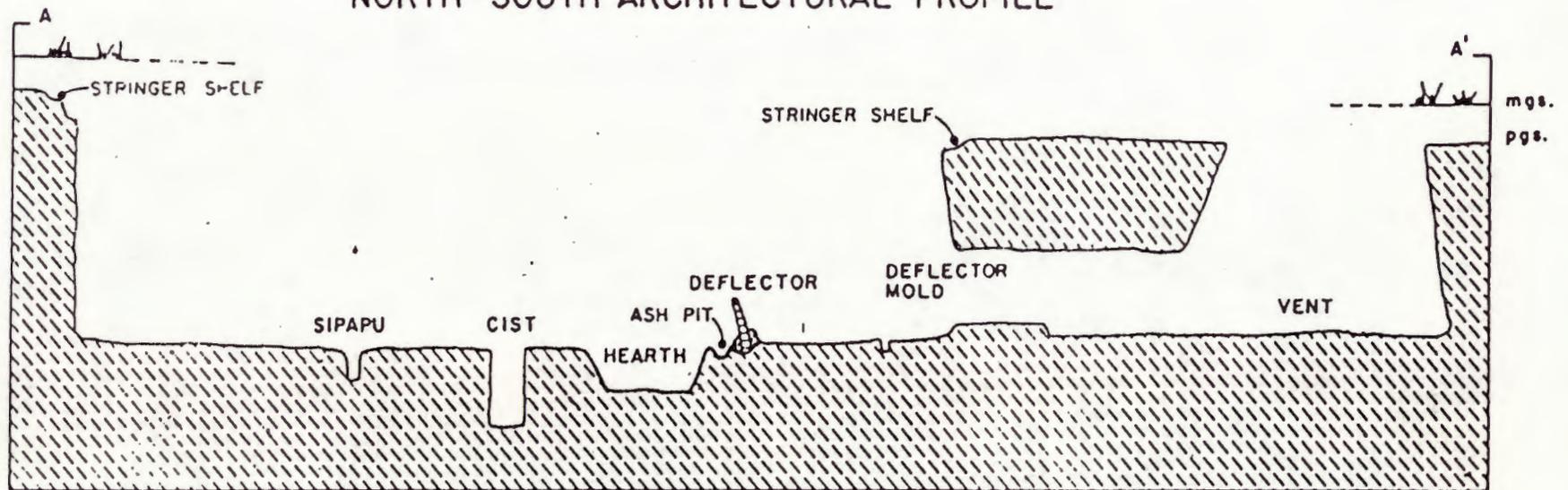


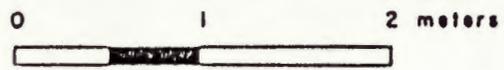
Figure 79: Dos Casas Hamlet, Pit-house 1, plan view.

Figure 80: Dos Casas Hamlet, Pithouse 1,
north-south architectural profile.

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 PITHOUSE I
 NORTH-SOUTH ARCHITECTURAL PROFILE



-61-



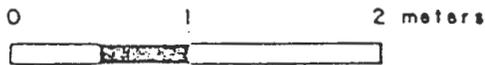
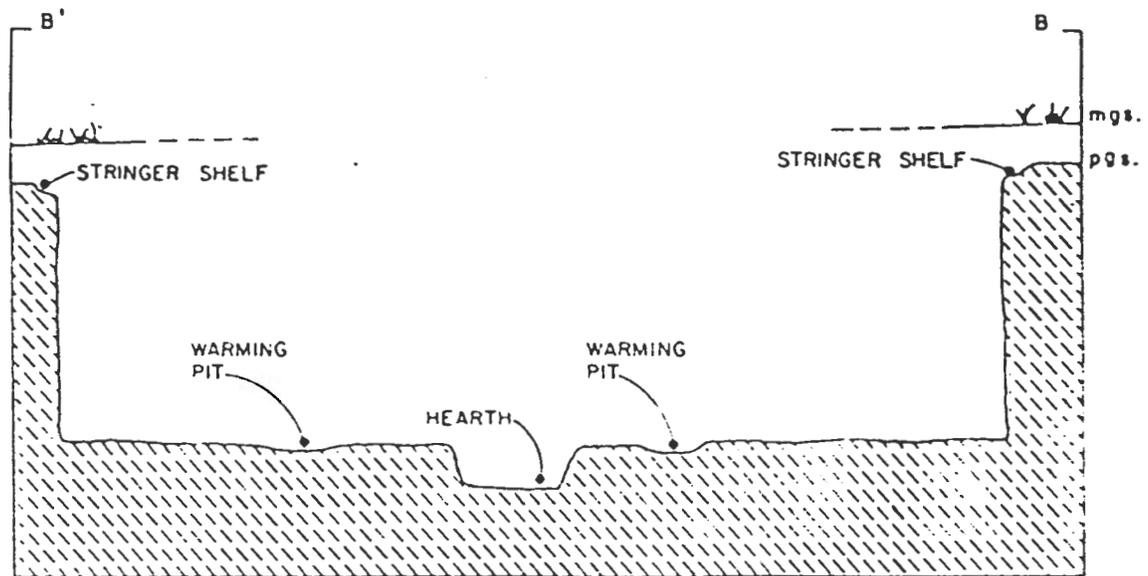
EXPLANATION	
NATURAL DEPOSITS	
ADOBIC	
SANDSTONE	
PREHISTORIC GROUND	
SURFACE	pgs.
MODERN GROUND	
SURFACE	mgs.

Figure 80: Dos Casas Hamlet, Pithouse 1, north-south architectural profile.

Figure 81: Dos Casas Hamlet, Pithouse 1,
east-west architectural profile.

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PITHOUSE 1 EAST-WEST ARCHITECTURAL PROFILE



EXPLANATION	
NATURAL DEPOSITS	
PREHISTORIC GROUND SURFACE	p g s.
MODERN GROUND SURFACE	m g s.

Figure 81: Dos Casas Hamlet, Pithouse 1, east-west architectural profile.



Figure 82: Dos Casas Hamlet, Pithouse 1, looking east; note central hearth and deflector, ventilator system, and metate in situ with collecting pit. Floor tags mark artifact locations.

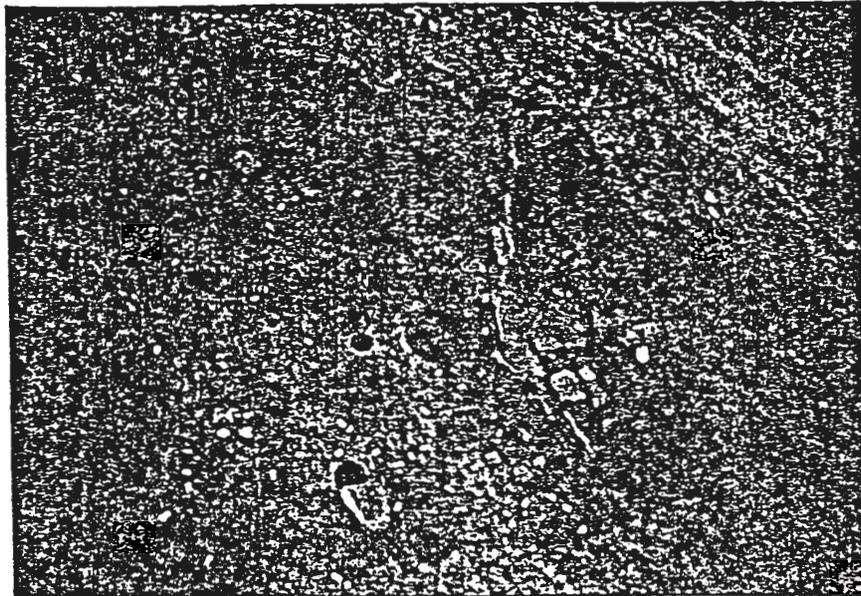


Figure 82: Dos Casas Hamlet, Pithouse 1, looking east; note central hearth and deflector, ventilator system, and metate in situ with collecting pit. Floor tags mark artifact locations.

Figure 83: Dos Casas Hamlet, Pithouse 1,
looking northeast.

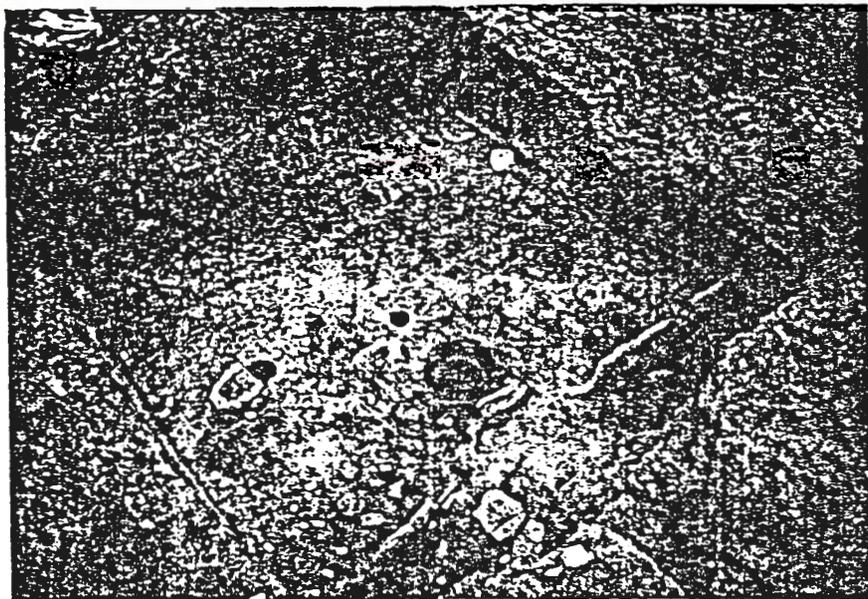


Figure 83: Dos Casas Hamlet, Pithouse 1,
looking northeast.

Figure 84: Dos Casas Hamlet, Pithouse 1,
looking northwest.

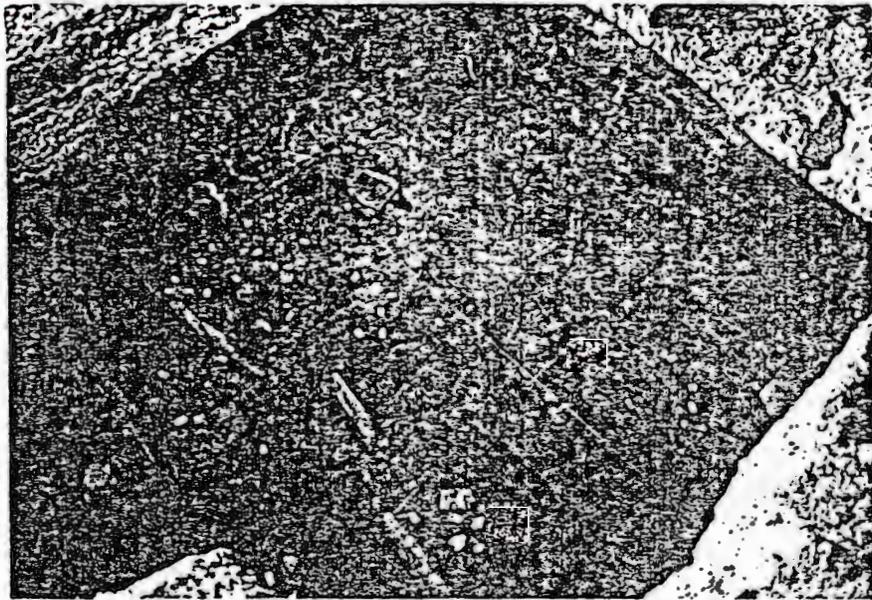


Figure 84: Dos Casas Hamlet, Pithouse 1,
looking northwest.

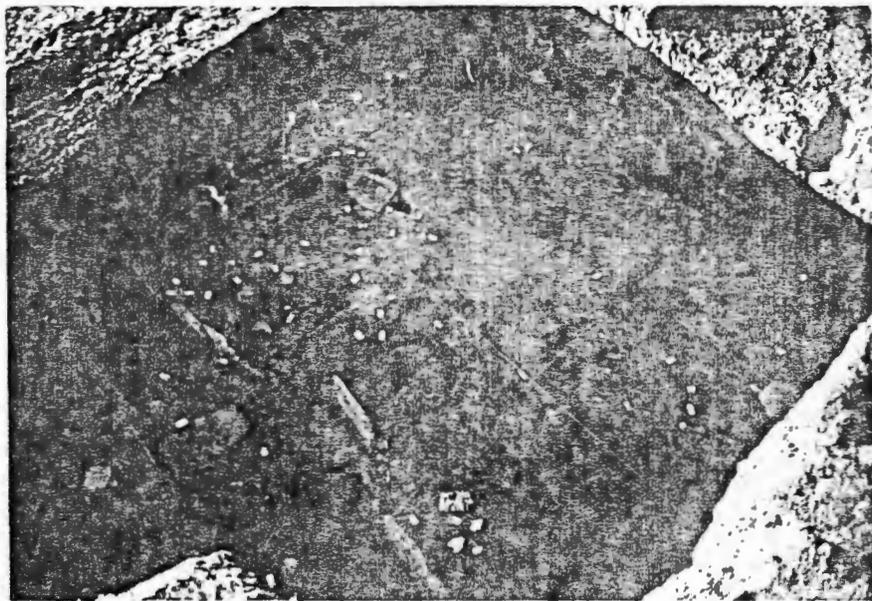


Figure 84: Dos Casas Hamlet, Pithouse 1,
looking northwest.

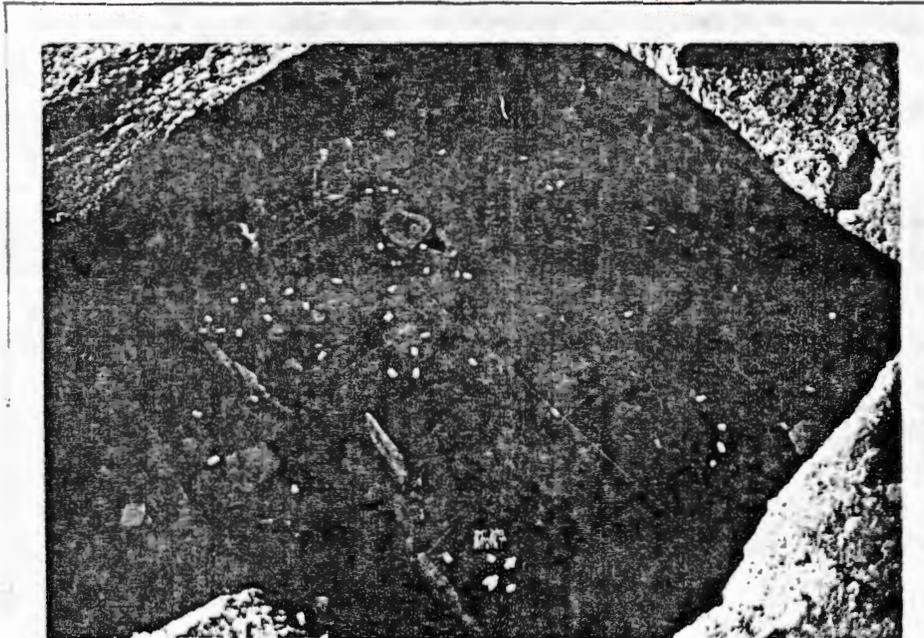


Figure 84: Dos Casas Hamlet, Pithouse 1,
looking northwest.

are gaps in the wingwall (Fig. 84) which serve as east and west passages between the north and south rooms of the main chamber; they are each approximately one-half meter wide, as shown below.

Table 24. Pithouse 1, wingwall and deflector measurements (in meters).

Wingwall Length		Wingwall Height		Deflector Width	Passage Width	
East	West	Minimum	Maximum		East	West
1.60	1.75	0.64	0.76	0.55	0.56	0.42

The wingwalls in Pithouse 1 differ from those of Pithouse 2 in the nature of their contact with the structure side walls. In the latter case, the wingwalls extended above and across the bench surface. The floor of Pithouse 1, however, is substantially deeper than the later dwelling, and the wingwalls do not extend to the total height of the sidewalls.

- Stringer Shelf. The upper walls of Pithouse 1 were only partially preserved; a narrow stringer shelf was recorded running around the northwest corner of the main chamber. Although there is certain evidence that this shelf did provide the base for the secondary support poles, it exhibited no detailed mode of construction and was much narrower than the true bench in Pithouse 2. Its narrow width, the sparsity of artifacts along the short remnant excavated, and the short vertical space indicated by the proposed angle between the bench surface and the stringer poles, suggest that the shelf surface was of restricted utility as a temporary

storage space. The presence of a cluster of lithic materials on the portion of the shelf which remains intact (Point Location, Fig. 79) does indicate, however, that this surface was not completely unused. Poor preservation makes it difficult to make any more definite statements concerning the function.

It is equally difficult to say much more concerning its use as a base for the secondary supports, as excavations in this area remain incomplete. Again, the general conformity to the pattern of pithouse construction demonstrated in other aspects of the structure suggests that poor preservation is probably responsible for the lack of better confirming evidence that secondary support poles were footed on the bench.

- Main Roof Supports. The last of the structural features in the main chamber to be described are directly concerned with the support of the superstructure. Features 32 through 35 are inferred to be postholes for the main structural supports. These are located in each of the four corners of the main chamber, with both of the southern posts incorporated into the construction of the wingwalls. The remnant of the northwest post (Feature 34) in situ is depicted in Figure 85. Dimensions of these postholes may be found in Table 25.

Table 25. Pithouse 1, main support post posthole dimensions (in meters).

Location	Diameter	Depth
SE corner	0.18	0.54
NE corner	0.18 x 0.31	0.57
NW corner	0.22	0.57
SW corner	0.16	0.52

Figure 85: Dos Casas Hamlet, Pithouse 1,
northwest post in situ.



Figure 85: Dos Casas Hamlet, Pithouse 1,
northwest post in situ.

The northeast posthole differs from the other three in its lack of symmetry. Rather than being essentially circular in plan view, the feature is oval, conforming to the general east-west width but being much longer north-south. It was suggested that this may have been because earth was packed into the hole to increase post stability. Comparison with the other features indicates, however, that such measures were not generally necessary.

The fill of three postholes consisted of clean, yellowish sand. In several cases the charred remains of upright posts were still present. The northwest posthole differed, showing evidence of rodent disturbance and a gray, ashy fill with charcoal and caliche inclusions.

Extending out from the center of the south wall of the main chamber is an architectural complex which served as a ventilator system for the pithouse. Table 26 presents the various dimensions of this structural feature.

Table 26. Pithouse 1, ventilator system measurements (in meters).

Total Length	Shaft		Tunnel			Tunnel Platform	
	Length	Width	Length	Width	Height	Length	Height
2.90	1.50	1.60	1.40	0.55	0.42	0.60	0.08

The north/south section profile of Pithouse 1.(Fig. 82) illustrates that the ventilator system consists of a bell-shaped shaft, opening to the

original ground surface, and a tunnel extending from the vertical shaft to the main chamber of the pithouse.

At the north end of the tunnel, on either side of the opening, are the charred remains of two poles that had burned down even with the floor surface. The absence of any similar posts or postholes, either within, or at the opposite end of the tunnel, raises doubts that the posts served as a shoring for the tunnel, except possibly for the opening itself. It may be that the posts served to help fix some type of cover for the portal.

Within the tunnel, at the north end, is a small, artificially raised platform, created by the application of dark-brown sediments to the excavated tunnel surface. The function of this raised platform is not known, but it may have served to keep water which had drained into the ventilator shaft from entering the main chamber of the structure.

Examination of the fill of the tunnel and shaft indicates that this part of the pitstructure did not burn as thoroughly as the main chamber. The shaft portion, in fact, shows no evidence of burning at all and actually yielded an unburned beam. The presence of this beam suggests that the shaft was covered in some manner, although no definite postholes were noted at its orifice.

Features and Artifact Associations: Eighteen features (Table 27), which may be divided into several functional categories, are described for Pithouse 1. Four of the features (32-35) represent the main posts of postholes directly associated with the construction of the pithouse. Features 37 and 38, while not directly concerned with construction, indicate a deflector which functioned to control one aspect of the

Table 27. Pithouse 1 features (in meters).

Feature #	Description	Length	Width	Depth
21	work area	-	-	-
22	mealing area	-	-	-
23	pot rest	0.19	0.19	0.08
25	warming pit	0.43	0.33	0.08
26	central hearth	0.75	0.75	0.23
27	cist	0.20	0.20	0.48
28	warming pit	0.55	0.38	0.05
29	cist (sipapu)	0.10	0.10	0.18
30	cist	0.07	0.07	0.10
31	mealing pit and metate	0.39	0.39	0.20
32	main support posthole	0.18	0.18	0.54
33	main support posthole	0.31	0.18	0.57
34	main support posthole	0.22	0.22	0.57
35	main support posthole	0.16	0.16	0.52
36	pot rest	0.18	0.13	-
37	deflector mold	0.30	0.07	0.05
38	deflector mold	0.40	0.05	0.05
39	mealing area	-	-	-

internal environment. Feature 26, the hearth, serves in this category as well, but is also clearly related to cooking processes. Features 25 and 28 are associated with the hearth, and together with features 21, 30, 31, and 36 are all in close proximity to one another and appear to constitute a work or special activity area. The two remaining features (27 and 29) may serve ritualistic functions. Table 27 provides the dimensional statistics for the subfloor features.

Features serving to control the internal environment of Pithouse 1 include the central hearth (Feature 26) and two deflector molds, Features 37 and 38. The central hearth is located directly north of an upright sandstone slab that deflects air currents entering the main chamber through the ventilator tunnel. The hearth served to heat and light the main chamber, and was undoubtedly used in meal preparations. This feature is circular, with straight-sided walls, and a flat bottom. No sandstone slabs were used to line its edges, but a low adobe coping was placed around the rim, apparently after the hearth had been in use for a while. The fill of the feature consisted of a dark organic ash layer underlying a lighter ash lens, which was further covered with clean sand. The ashy lower fill indicates that the feature was not cleaned when the structure was abandoned. The presence of the clean sand lens overlying this fill suggests, however, that the hearth was not in use at the time of the burning and collapse of the structure.

Associated with the hearth is another architectural feature that is incorporated into the wingwall deflector complex. The adobe coping that extends from the inner edges of the wingwalls to the upright slab, also radiates out and around the north side, enclosing a small depressed area

in front of the deflector. This appears to have functioned as a receptacle for the temporary storage of hearth ashes. Leaning against the deflector and partially covered with ash were the remains of a badly burnt and fragmented basket, possibly of three-bundle construction. Its association with the ashpit and hearth suggests that it may have been used to remove cooled ashes from the pitstructure.

The other two features concerned with controlling the internal environment of the main chamber are Features 37 and 38. These are long, narrow, shallow depressions in the floor, located between the ventilator tunnel opening and in situ deflector. Each is oriented at a different angle to the opening of the tunnel. Their location, appearance, and proximity to two loose sandstone slabs suggests that the slabs, inserted upright into these depressions, either individually or in combination, could be used to control the direction of air movement through the structure. In particular, they may represent an attempt to increase circulation in the close quarters behind the wing walls. Other functions for these long, narrow depressions are not immediately apparent.

Features associated with food preparation and cooking include the hearth already described, two possible warming pits, and three mealing areas. Features 25 and 28 are oblong shallow pits located west and east of the fire hearth, respectively. Each contained a clean yellow or yellowish-brown sand fill. Their close proximity to the hearth suggests they may be warming pits, but they lack the characteristic ash fill of such features. Several other possibilities are suggested: the features did not function in this manner; they were cleaned and had not been used enough subsequently to produce the characteristic fill; or they were

cleaned prior to seasonal abandonment of the structure in preparation for the next year's re-occupation.

The last three features associated with food preparation are all mealing areas characterized by the presence of metates and manos. Feature 22 (Fig. 86) consists of a troughed metate, a mano, a smoothed cobble, and two other stones, located in the south room, behind the west wingwall. The mano was found propped up against the wingwall and the stones and cobble near the metate. The stones probably served to support the metate and change the angle of the pitch. A cluster of Chapin Gray ceramics was found in this area of the structure; it may represent the remains of a pot that had been used to carry or store the products of activities carried out in this work area.

Feature 31 (Fig. 87), located along the west wall of the north room, also has a metate propped up by stones to increase the slope of the trough. Directly below the mouth of the trough is a subfloor cist with a constricted neck that apparently caught the prepared meal. Two manos were found nearby along with several ceramic clusters. Before the pithouse burned, however, the cist had been filled with clean sand and sealed with a thin layer of adobe, another indication of possible seasonal disuse.

Feature 30, located nearby, may be associated with this mealing station. The feature is a small cylindrical hole filled with sand but showing no indication of having been sealed. It is not clear what its relationship is to Feature 31, or what function it may have served.

Feature 39 is another cluster of artifacts probably concerned with food preparation (Fig. 88). It consists of several small rocks, a sherd

Figure 86: Dos Casas Hamlet, Pithouse 1,
view of mealing area in south room.

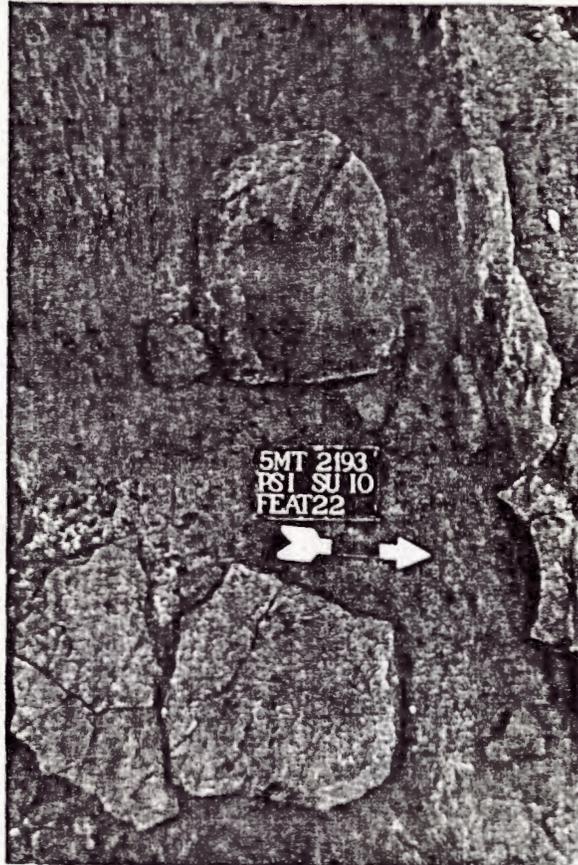


Figure 86: Dos Casas Hamlet, Pithouse 1,
view of mealing area in south room.

Figure 87: Dos Casas Hamlet, Pithouse 1,
view of mealing area in north room.



Figure 87: Dos Casas Hamlet, Pithouse 1,
view of mealing area in north room.

Figure 88: Dos Casas Hamlet, Pithouse 1,
probable food preparation area.



Figure 88: Dos Casas Hamlet, Pithouse 1,
probable food preparation area.

cluster, and a mano. Although no metate is present, the smaller stones may once have functioned as metate supports, as at the two other mealing features. The presence of the mano lends support to this functional interpretation. If this is correct, then at least two and possibly three mealing areas were present in this structure.

Feature 21, located along the east wall in the northeast quadrant of the structure, is a possible activity area composed of an association of subfloor features and artifacts. The two features (23 and 36) are small, shallow basin pits with a sand fill. Similar features are often thought to be pot rests used to support unstable, round-bottomed vessels. Ceramics are often absent, however, as in these particular features from Pithouse 1. Also present are a large river cobble and two sandstone slabs. The pitted surface of the cobble indicates that it may have functioned as an anvil. Other artifacts found within 75 cm include two crushed ceramic jars, three ceramic clusters, a flaked lithic, and a nonhuman bone. Analysis of these artifacts is not complete. What activity is responsible for this assemblage is not readily apparent, but the presence of only a single flaked lithic indicates that a lithic workshop was not located here.

The two remaining subfloor features are located north of the fire hearth along the general line of the major structural axis. Feature 27, closer to the hearth, is the larger of two cylindrical cists. A nonhuman bone, possibly the base of an antler, and showing evidence of modification, lay in the bottom of the cist and was covered with brown sand. There was no adobe seal covering the feature.

Approximately one meter north of Feature 27, and a little east, still on the central axis of the structure, is another cist, Feature 29. A fragment of a projectile point was found near the base of the sterile, light-yellow sand fill of this feature. Like Feature 27, this cist was not sealed. One or both of these features may have served the ritualistic functions of the sipapu. These were the only floor features having artifacts in their otherwise sterile sandy fills, and both conform to the pattern of location for similar features ascribed ritualistic functions.

Concentrations of artifacts, not given feature designations in the field, but demonstrating associations indicating the locations of probable activity areas are present in the main chamber of Pithouse 1. Table 28 provides a listing of these and other floor artifacts. The first cluster considered is a flaked lithic concentration in the northwest corner of the structure. Nearby on the west bench is another group of lithics. Although ceramic clusters are present in this area of the structure, the abundance of lithic materials indicates that this was probably a workshop using or perhaps producing such artifacts. Until the lithic analysis is complete, the nature of these and other artifact concentrations cannot be completely understood.

In the southwest corner of the north room, directly north of the wingwall, was another cluster of artifacts. The proximity of these with the probable meal area (Feature 39) previously described is interesting, but no apparent functional association presents itself. The artifacts include flaked lithics, a river cobble, a possible polishing stone, a few nonhuman bones, and a partial ceramic vessel.

Table 28. Pithouse 1, point locations.

Main Chamber, Floor

- | | |
|----------------------------------|---|
| 1. Ceramic cluster | 45. Non-human scapula, rabbit |
| 2. Ceramic cluster | 46. Flaked lithic |
| 3. Ceramic cluster | 47. Antler |
| 4. Ceramic vessel, jar | 48. Non-human bone cluster |
| 5. Projectile point | 49. Mano |
| 6. Flaked lithic | 50. Polishing stone |
| 7. Pecking stone | 51. Non-human bone |
| 8. Flaked lithic | 52. Flaked lithic |
| 9. Cist cover | 53. Flaked lithic |
| 10. Anvil stone | 54. Flaked lithic |
| 11. Ceramic cluster | 55. Flaked lithic |
| 12. Ceramic cluster | 56. Ceramic cluster |
| 13. Small ceramic vessel, jar | 57. Ceramic cluster |
| 14. Ceramic cluster | 58. Flaked lithic |
| 15. Non-human bone | 59. Non-human bone |
| 16. Flaked lithic | 60. Polishing stone |
| 18. Ceramic cluster | 61. River cobble |
| 19. Sandstone slab | 62. Ceramic cluster |
| 20. Polishing stone | 63. Lithic scatter |
| 21. Metate | 64. Polishing stone |
| 22. Mano | 65. Polishing stone |
| 23. Cobble lithic | 66. Ceramic cluster |
| 24. Hammerstone | 67. Non-human bone |
| 25. Hammerstone | 68. Ceramic cluster |
| 26. Flaked lithic | 69. Flaked lithic |
| 27. Flaked lithic | 70. Ceramic cluster |
| 28. Ceramic cluster | 71. Flaked lithic |
| 29. Basketry fragment | 72. Flaked lithic |
| 30. Partial ceramic vessel, jar | 73. Ceramic cluster |
| 31. Partial ceramic vessel, bowl | 74. Ceramic cluster |
| 32. Ceramic vessel, jar | 75. Flaked lithic |
| 33. Ceramic cluster | 76. Polishing stone |
| 34. Non-human bone | 77. Flaked lithic, retouched |
| 35. Ceramic cluster | 78. Flaked lithic |
| 36. River cobble | 79. Flaked lithic |
| 37. Hammerstone | 80. Flaked lithic |
| 38. Ceramic cluster | 81. Lap stone |
| 39. Ceramic cluster | 82. Flaked lithic cluster |
| 40. Flaked lithic | 83. Non-human bone |
| 41. Antler | 87. Mano |
| 42. Bone tool | 88. Metate with three support
stones |
| 43. Partial ceramic vessel | |
| 44. Flaked lithic | |

Table 28, Pithouse 1, point locations, continued.

Ventilator tunnel or shaft, floor

- 17. Partial ceramic vessel, bowl
- 84. Non-human bone cluster
- 85. Flaked lithic

Bench surface

- 86. Flaked lithic cluster
-

Around the fire hearth the artifacts are almost exclusively ceramic clusters. One non-human bone is present, and all artifacts are probably associated with the cooking activities of the hearth.

The southeast quadrant of the north room and the east portion of the south room produced relatively sparse numbers of floor artifacts.

Tentative field identifications place two hammerstones, a flaked lithic and a ceramic cluster north of the wall, and a ceramic cluster, a river cobble, and another hammerstone south of the wall. The presence of the wingwall indicates a bifid division of space, and suggests there should be differences in the artifact collections associated with each area. In this case, however, there is not much variation. Although the wingwall serves to divide a large area into two discrete units or rooms, the division did not apparently confine or limit the transfer of materials from one area to another.

In summary, the distribution of floor features and artifacts from Pithouse 1 has indicated that several activity areas were present. Activities related to environmental control, food processing and preparation are fairly clearly defined. Other activity areas are apparent from the clustering of features and artifacts, but interpretations of associations remain to be clearly described. The addition of analytical data from continued laboratory work should provide the information needed to eliminate purely fortuitous associations and to make better supported interpretations.

Construction: There is sufficient evidence to suggest a four-post vertical support system holding up a framework of horizontal beams, upon which smaller, lighter stringer poles rested. Charred remains of cedar

bark and sagebrush were abundant across most of the main chamber, showing their importance in construction. The timber framework was apparently covered with a layer of these vegetal materials prior to the addition of an earth cover. The sagebrush and cedar bark provided a strong, light-weight base, while increasing surface area to strengthen the bond with the adobe covering.

During excavation, samples of the numerous charred beams and stringer poles were collected when possible for dendrochronological, radiocarbon and organic material studies. The 82 dendro samples submitted produced only two datable specimens, indicating a probable construction date sometime during or shortly after AD 760 (see Table 29, and Appendix 1 of the Fieldwork Report).

Table 29. Dos Casas Hamlet, Pithouse 1, results of dendrochronological analysis.

Sample No.	Description	Species	Dates	
			Inside	Outside
37	northeast main roof support post	Juniper	0641p	0737*
160	northwest main post	Juniper	0587p	0759*

* neither outside date is cutting date

Although the samples were not extremely productive in providing chronological data, they did yield some interesting information concerning construction materials. Of the 82 samples collected, 40 were from Populus timbers, 39 from ponderosa pine, two from juniper, and one from pinyon. During excavation, whenever it was possible to identify two or more samples as being from the same timber, this information was

recorded. The burning and collapse of the structure, however, had probably caused some loss and mixing of timber fragments. Consequently, the species list above may not represent the true frequencies of wood types in the structure.

Although the sample size is relatively small, there does appear to be a trend in preference among the timbers recovered from the structure. Juniper and pinyon are rare, while ponderosa pine and Populus are much more abundant. Wood preferences for different types of structure members are difficult to determine because the fragmentary nature of the specimens, and the failure to maintain detailed records of specimen location and size, have often made it impossible to determine how wood specimens were used. Nevertheless, there is some evidence of this sort.

Of the two juniper samples taken, one can definitely be identified as a portion of the northeast, primary vertical support post, while the other is from the northwest primary vertical post. This evidence indicates a possible preference for juniper as primary support posts, perhaps because of its resistance to decay. No information is available on either of the southern posts.

Of the remaining samples, nine are from the smaller stringers forming the upper walls of the superstructure. Of these, eight are ponderosa pine, and only one is Populus.

Pithouse 2

Dimensions:

N-S Diameter (including South Room):	5.11 m
E-W Diameter (including South Room):	4.72 m
South Room Length:	4.30 m
South Room Width:	0.96 m
Floor Area (North Room):	16.61 sq m
Floor Area (South Room):	3.92 sq m
Total Roofed Area:	25.61 sq m
Depth of Structure (Floor-MGS):	2.05 m
Reconstructed Roof Height:	2.00 m
Height of Stringer Shelf/Bench Above Floor:	0.43 m

General Description: As excavations at Pithouse 2 were not completed by the end of the 1978 field season, a description of the structure is not included in this report. A complete summary of the findings at Pithouse 2 will be forthcoming when investigations are complete. The dendrochronological analysis performed by the Laboratory of Tree-Ring Research has been completed and the results are tabulated in Table 30 and in Appendix 1 of the Fieldwork Report. The data confirm that this dwelling was constructed in AD 769 or AD 770.

Surface Rooms and Occupation/Activity Areas

General Description: Stripping of sample units in Subarea 1 revealed dark sediments with cultural materials mixed throughout. Continued clearing of the plow zone deposits in these areas resulted in the uncovering of diffuse outlines of burned surface rooms (Fig. 89). Between these rooms are areas also producing cultural materials, but lacking any definite boundaries. Since these showed no evidence of

Table 30. Dos Casas Hamlet, Pithouse 2, dendrochronological data.

Provenience	No.	Species	Structural Mode	Date	
				Inside	Outside
Roof fall stratum, near NW corner, North Room	47	juniper	northwest main support		0759vv
Roof fall stratum, near NW corner, North Room	48	ponderosa pine	crossbeam		0769vv
Roof fall stratum, near NW corner, North Room	49	ponderosa pine	crossbeam		0769v
Fill above roof fall, NW corner, North Room	52	juniper	stringer pole		0764vv
Roof fall stratum, extreme NW corner, North Room	60	juniper	crossbeam (?)		0765vv
Roof fall stratum, near west wall, NW corner of North Room	61	juniper	crossbeam (?)		0765vv
Roof fall stratum, NW quadrant of North Room	76	ponderosa	E-W crossbeam		0769vv
Roof fall stratum, NW quadrant of North Room	78	juniper	stringer pole		0766vv
Roof fall stratum, NW quadrant of North Room	83	ponderosa	crossbeam		0769vv
Roof fall stratum, NW quadrant of North Room	104	juniper	crossbeam (?)		0769vv
On bench, NW corner of North Room	130	juniper	stringer pole		0732vv
Roof fall stratum, next to East Bench, North Room	161	ponderosa	crossbeam		0742vv
Roof fall stratum, west of hearth, North Room	166	ponderosa	crossbeam		0768vv
Roof fall stratum, over hearth, North Room	171	ponderosa	crossbeam		0763vv
Roof fall stratum, SW corner of South Room	119	ponderosa	crossbeam		0768vv
Roof fall stratum, SW corner of South Room	120	ponderosa	crossbeam		0766vv

Figure 89: Dos Casas Hamlet, Subarea 1,
view from east.



Figure 89: Dos Casas Hamlet, Subarea 1,
view from east.

being surface rooms, they were given occupation/activity area designations. Pit features, hearths, and associations of artifacts were found in many of the rooms and activity areas. Other features were outside the boundaries of this complex, but still in Subarea 1. A total of five rooms, three occupation/activity areas, and four external features were located in Subarea 1 (Fig. 90).

Rooms 1-4 form an arc, oriented to the southeast. The fifth room is in front of the others, and possibly shared a wall with Room 1, directly behind it. These are the only two possibly contiguous rooms; all of the remaining surface structures are separated by occupation/activity areas. Rooms 1 and 2, however, are nearly connected by a line of small upright sandstone slabs which runs along the north edge of the intervening O/A 2. These two rooms and the occupation/activity area may have formed a structural unit incorporating Room 5, which also has a couple of upright slabs remaining along its eastern boundary. There are no apparent openings between these rooms and activity area, however. Although modern agricultural activity is responsible for some disturbance of the cultural deposits, there is no indication that the line of slabs that forms the north edge of Room 1 and O/A 2 ever extended to connect the entire arc of structures. In fact, the floors of Rooms 2 and 4 are actually slightly deeper below what appears to be the prehistoric ground surface than are Room 1 and O/A 2.

The absence of the upright slabs at the base of the structures, however, does not necessarily indicate that Rooms 2, 3, and 4 were separated by completely open spaces. It is possible that the structures were connected by other, more perishable materials. A conjecture is

Figure 90: Dos Casas Hamlet, plan of
roomblock area.

5MT2193

ROOMBLOCK, PLAN VIEW



-66-

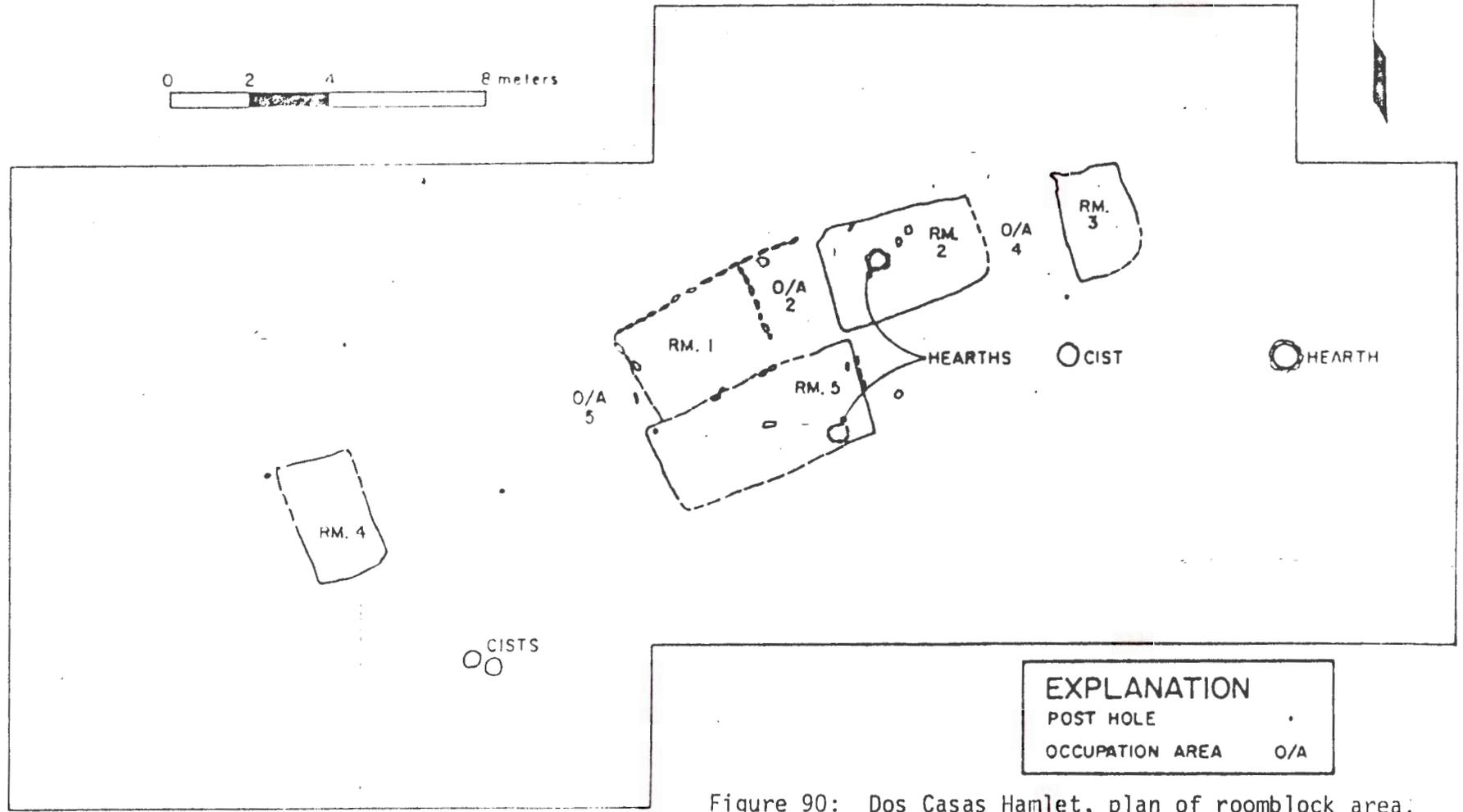


Figure 90: Dos Casas Hamlet, plan of roomblock area.

that there were ramada-like connecting structures, open on the sides, and covered with brush on the top. If so, some charred timbers might be expected in the roof fall zone of the occupation/activity area sediments. Remnants of charred beams were in fact found in O/A 4, but they are so few in number that they may only represent burned timbers from the collapse of the adjacent rooms. Unfortunately, they were so few in number that they may only represent burned timbers from the collapse of the adjacent rooms. Unfortunately, they were too fragmentary to provide dendrochronological comparisons with the rooms.

Southwest of O/A 5 is the remnant of a post that may have been used to support a ramada-like structure over the activity area. Once again, however, little roof fall evidence remains. Before separate rooms are postulated, consideration should be given to how the burning of these structures would compare with that of walled rooms. The absence of much burned roof fall materials suggests that if any structure had existed here, it probably lacked sidewalls, except those formed by the walls of the adjoining rooms. A framework of posts and a covered roof presents itself as a likely structural form. If so, then the fire that destroyed the jacal structures would probably have consumed such open-sided structures without leaving much evidence of their existence. Jacal structures, on the other hand, generally leave fairly extensive remains when burned, because chunks of clay are preserved through firing, and because the clay-covered walls and roof often smother burning pieces of wood before they have turned to ash.

The nature of the roomblock construction, therefore, remains incompletely known. The relative scarcity of jacal fragments and

charred timbers, and the lack of upright sandstone slabs except around Rooms 1 and 5 and O/A 2 suggests that the other O/A areas were not closed spaces. It is uncertain, however, whether they were partially covered or completely open. The presence of occasional charred, highly fragmented timbers, and a single isolated upright post, suggests the former.

Subarea 1 thus included a roomblock composed of five jacal surface rooms, separated by three occupation/activity areas which may have been covered by ramada-like timber and brush structures. There were also at least four "outdoor" pit features in the vicinity.

Rooms and Associated Features: Four of the jacal rooms in Subarea 1 were located along an arc, with the fifth directly south of the west central room, possibly sharing a common wall. Figure 90 shows the relationship of room locations. Table 31 lists subarea features and room associations.

The rooms of Subarea 1 were found by stripping large areas of the plow zone; this exposed small areas of dark cultural fill, sometimes clearly contrasting with the yellow-orange sterile subsoil. Often the room boundaries were clearly defined by sediment changes, but in other instances post-depositional disturbances clouded the picture. In most cases, enough of the room edges were discernible so that boundaries could be projected across areas of uncertain deposition. Subarea 1 rooms are described below in order of occurrence from east to west.

Table 31. Structure and feature associations, 5MT2193, Subarea 1.

Room No.	Occ/Act. No.	Feature No.	Feature Description	Length	Width	Depth
				(in meters)		
1	-	-				
2	-	16	Rock-lined hearth	0.80	0.70	-
3	-	-				
4	-	17	Lithic concentration: sandstone, flaked and non-flaked lithics			
5	-	6	Lithic concentration: possible hearth			
5	-	9	Lithic concentration: large cobble and spalls			
5	-	11	Rock-lined hearth			
5	-	14	Lithic concentration: cobble cores			
-	2	5	Shallow basin-shaped pit	0.50	0.45	0.10
-	4	-				
-	5	10	Ceramic concentration			
-	5	12	Ceramic concentration			
-	5	13	Ceramic concentration			
-	5	15	Ceramic concentration			
-	5	18	Ceramic concentration			
-	-	1	Shallow basin-shaped pit	0.48	0.35	0.09
-	-	2	Shallow basin-shaped pit	0.50	0.40	0.12
-	-	3	Shallow basin-shaped pit	0.56	0.53	0.05
-	-	7	Rock-lined hearth	0.70	0.65	0.17

- Room 3.

Dimensions:

Length (N-S):	2.80 m
Width:	2.00 m
Floor Depth (Modern Ground Surface):	0.40 m
Floor Depth (Prehistoric Ground Surface):	0.10-0.30 m

Room 3, at the east end of the roomblock, is bordered on the west by Occupation/Activity Area 4. The room is rectangular in plan, though slightly curved in its north/south axis, and has its greatest dimension in this same direction (Fig. 91). The dark cultural sediments marking the location of the room were first encountered at approximately 15 cm below present ground surface. Charred corn, burnt timbers, and baked fragments of jacal from this fill, as well as the burnt surface of the floor, all indicate that Room 3 was destroyed by fire.

Examination of the setting indicates that the occupants of the site excavated into subsoil (Stratum 3) sediments, lowering the floor below the existing ground surface. The floor is depressed in the center and slopes up to abut the flaring walls. Neither the floor nor walls show evidence of special surface preparation. The presence of burnt fragments of adobe and support timbers indicate that the superstructure was of jacal construction. The vertical support system apparently relied on the walls, plus one deeply set post of ponderosa pine. If there were other corner supports, their sockets were shallow enough so that traces were not preserved or not recorded. Two other timbers of unknown architectural function were sampled for species identification; they were of ponderosa pine and Populus, respectively.

Figure 91: Dos Casas Hamlet, Subarea 1,
Room 3, view from north.

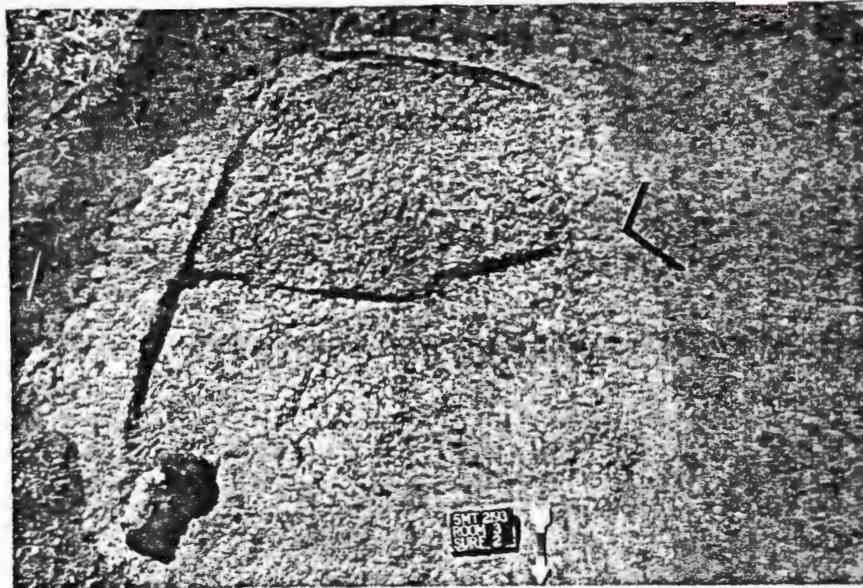


Figure 91: Dos Casas Hamlet, Subarea 1,
Room 3, view from north.

None of the wood samples that were collected proved datable by dendrochronology. Dates may be forthcoming, however, from archaeomagnetic samples collected from the floor surface. Although there was no hearth in Room 3, heat from the burning of the structure may have been intensive enough to permit the application of archaeomagnetic dating techniques.

The absence of a hearth or other features in Room 3 suggests that it was not generally used as a habitation room in which cooking or sleeping took place. The question arises then, as to what function it did serve. Although laboratory analysis of the artifacts is not complete, the field notes indicate that both ceramic and lithic materials were relatively sparse. Charred kernels and cobs of maize were, however, scattered throughout most of the fill, and were also concentrated in pockets. They were not only more abundant than the artifacts, but increased in density near the floor. Consequently, it seems likely that the room was used for the storage of maize.

The method of storage is not clear, but the remains suggest that both cobs and shelled corn were present. The latter implies the use of a storage vessel, but as previously noted, only a few sherds were found in the fill. Perhaps basketry receptacles were used, or possibly the kernels became separated from the cobs during the fire. The presence of kernels and cob fragments throughout the fill, sometimes concentrated in small pockets suggests a mixing of the corn with the roof fall. It may be that containers of maize, or perhaps the ears themselves, were suspended from the ceiling or walls of the room. Such a suspended storage method might have produced the uneven, pocketed distribution of maize that was noted. If storage had been on the floor, there would probably have been fewer concentrations of maize remains, with larger quantities in each, and the

remains would probably have been better associated with the floor level.

Destruction of the room by fire is evident from the burned floor surface, and the charred conditions of the structural timbers and fragments of adobe wall. The mixture of corn throughout the fill also suggests that burning occurred either during the room's use or shortly after abandonment. If the latter was the case, then it suggests the seasonal abandonment of a farming hamlet, and the leaving of a small cache of corn for the next year's planting. Otherwise, abandonment of a valuable food product is indicated implying a hasty retreat. This seems doubtful in view of the lack of such evidence in the pitstructure or elsewhere at the site.

To summarize, the evidence available at this time indicates that Room 3 appears to have been a room used to store maize in both cob and shelled form. If other activities took place here, they did not require a hearth, ceramic vessels, or many lithic implements. Collapse of the structure was apparently caused by fire, which occurred either during occupation, or shortly after a temporary abandonment of the site. If the latter was the case, it is possible that some artifacts could have been removed even though maize was left.

- Room 2.

Dimensions:

Length (E-W):	3.35 m
Width:	2.40 m
Floor Depth (Modern Ground Surface):	0.41 m
Floor Depth (Prehistoric Ground Surface):	0.08-0.20 m

Room 2, bordered on the east by Occupation/Activity 4 and on the west by Occupation/Activity Area 2, is similar to Room 3 in its construction.

The unplastered floor surface is set below the prehistoric ground surface, and the presence of daub and timber fragments indicates the use of a jacal superstructure. One particular daub fragment has a pole impression approximately 7 cm in diameter. No postholes were found either inside or outside the visible boundaries of the structure, implying that vertical posts in the walls were not deeply footed. Structural support may also have been derived from the superstructure of the adjoining O/A 2.

Room 2 differs in some respects from Room 3. Unlike the storage room this structure is oriented with its greatest length running with the major axis of the roomblock. The floor is relatively even and apparently required more extensive excavation at the west side because of its location on the slope (Fig. 92). Internally, it differs primarily in having a rock-lined hearth, located slightly north of room center. The field notes indicate that the hearth fill resembled that of the structure as a whole, but they do not clearly state the hearth had been cleaned before the room burned. The implication is that it had been cleaned. Such information is important in determining whether the structure was in use when it burned; data from other structures on the site may be sufficient to address this question.

As in Room 3, artifacts were not abundant in the structure. At least one partial ceramic vessel was present, however, as well as a lithic implement that had been prepared for hafting. Notably, corn kernels were also in the structure fill as well, but were relatively rare.

At least two interpretations of these data are possible. Room 2 may have been used as a living area where the occupants cooked and possibly slept. Alternatively, the hearth, which would ordinarily suggest that the

Figure 92: Dos Casas Hamlet, Subarea 1,
Room 2, view from east.

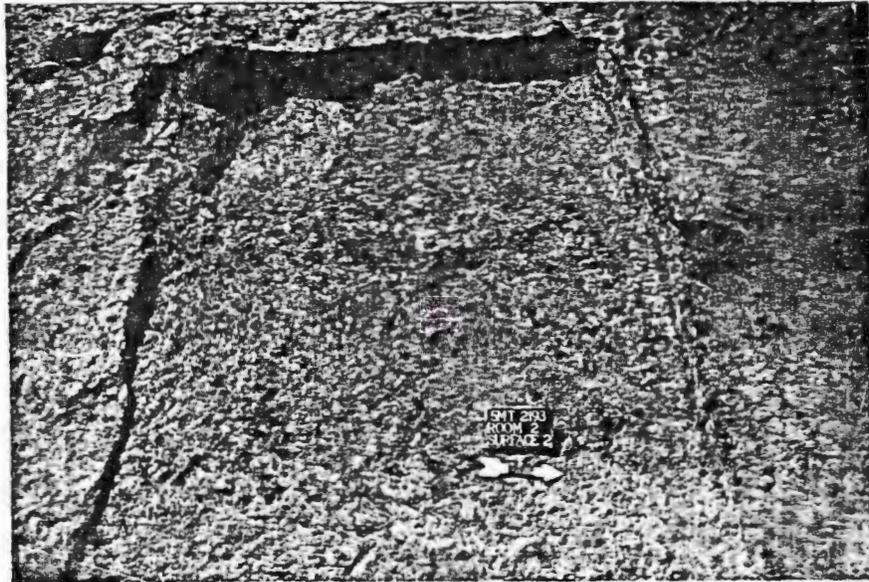


Figure 92: Dos Casas Hamlet, Subarea 1,
Room 2, view from east.

room was used for habitation, could be here for other reasons. Successful storage of corn requires that the corn be dried first to insure against spoilage. Although corn kernels were not abundant, they were present. Some of the corn may have been prepared here, prior to depositing it in a storage room. It is not apparent, however, why a closed room would have been more desirable than a ramada for such work, since daytime temperatures during the corn harvest would still have been relatively warm.

Although it seems likely that Room 2 was used as a habitation space, its function remains somewhat unclear at this time. Perhaps the data from the analyses of the artifacts present in the room will allow a more positive identification of function.

- Room 1.

Dimensions:

Length (E-W):	3.25 m
Width:	2.60 m
Floor Depth (Modern Ground Surface):	0.50 m
Floor Depth (Prehistoric Ground Surface):	0.20-0.05 m

Room 1 is the west central structure in the roomblock and is bordered on the east and west by Occupation/Activity Areas 2 and 5, respectively (Fig. 92). Directly south is Room 5, which shares a common wall with this room and with Occupation/Activity Area 2. The numerous pieces of daub and charred timbers, as well as the posthole in the southeast corner, all show the continued use of jacal construction. The construction of Room 5 and adjoining Occupation/Activity Area 2 differs from the remaining rooms in that an alignment of upright sandstone slabs borders the base of the walls.

Figure 93: Dos Casas Hamlet, Subarea 1,
Room 1, view from north.

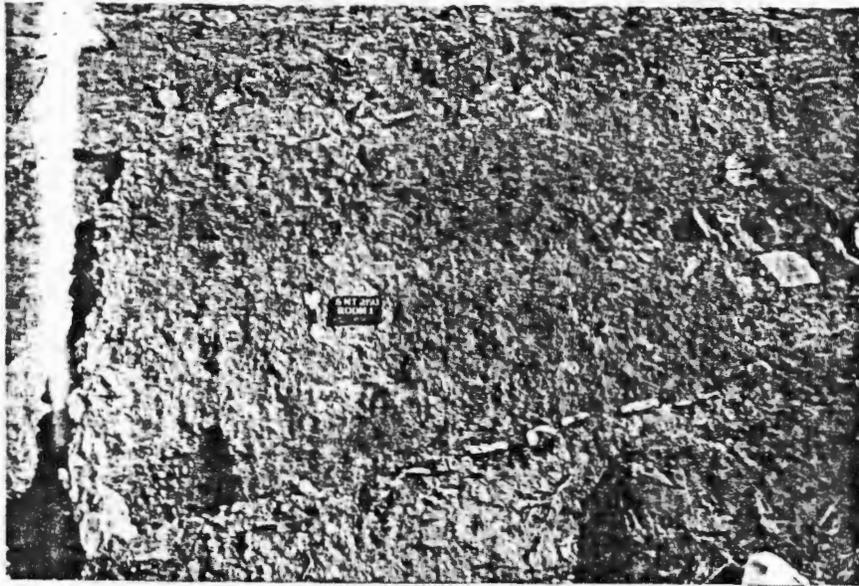


Figure 93: Dos Casas Hamlet, Subarea 1,
Room 1, view from north.

The floors of Rooms 1 and 5 and Occupation/Activity Area 2 also were not excavated as deeply into the matrix sediments as was the case elsewhere in the roomblock. This may account for the use of the upright slabs, which would provide additional support for the walls. As in the other rooms of this subarea, the Room 1 floor had received no special preparation or finishing during construction. Its irregular surface had subsequently burned and baked, allowing the collection of archaeomagnetic samples from the floor.

Excavation of the fill revealed relatively patchy deposits which lacked any obvious stratigraphic breaks. Large quantities of carbonized corn, both shelled and on the cob, were present. This, combined with the absence of internal features other than the previously discussed posthole, indicates a probable storage function. As was the case with the other rooms, artifacts were not numerous. Pollen samples were taken from the sediments trapped in two crushed vessels that were found in the room (Fig. 94). Analysis of these pollen samples may identify other resources which were stored in this room in addition to corn. No evidence was identified which would indicate that Room 1 was used for any purpose other than storage.

- Room 5.

Dimensions:

Length (N-S):	2.80 m
Width:	2.00 m
Floor Depth (Modern Ground Surface):	0.40 m
Floor Depth (Prehistoric Ground Surface):	0.10-0.30 m

Room 5, the largest of the Subarea 1 rooms, is south of the main line of the roomblock. It is much longer than the other rooms, extending across

Figure 94: Dos Casas Hamlet, Subarea 1, Room 1,
crushed ceramic vessels in situ.



Figure 94: Dos Casas Hamlet, Subarea 1, Room 1,
crushed ceramic vessels in situ.

the front of both Room 1 and Occupation/Activity Area 2. Definition of the boundaries of this particular structure was difficult due to the increased disturbance caused by plowing in this area of shallower deposits. Some boundaries were clearly defined, however, and projections for uncertain areas from the locations of these known limits produced the outline of Room 5 illustrated in Figure 95. It is possible that Room 5 extended further south; the deposits south of the illustrated boundary, however, probably result from slopewash of room deposits down this slope.

Both the eastern and western boundaries of the structure were well defined. As in Room 1, a few upright sandstone slabs remain along the east and the north sides; others are likely to have been removed by plowing. These few upright slabs are important in identifying the relationship between Rooms 1 and 5, and Occupation/Activity Area 2, the only structures on the site which have sandstone slab footings. Additionally, references have been made to a wall shared by the three structures. This interpretation is based on the observation that there is not sufficient space to allow for the construction of separate walls for each structure. Sharing a wall would have reduced the work required to build the structures.

Another similarity between the three structures is their relatively shallow floor excavations. Although Rooms 2, 3, and 4 were built by erecting a jacal superstructure over a floor surface excavated into the subsoil, the excavations for Room 5 and Occupation/Activity Area 2 apparently involved only clearing away the loose topsoil. Room 1 also shows evidence of only limited preparatory excavation. Based upon these data, and upon the functional assessments that follow, it appears that

Figure 95: Dos Casas Hamlet, Subarea 1,
Room 5.

5MT2193

SUBAREA 1, ROOM 5, PLAN VIEW

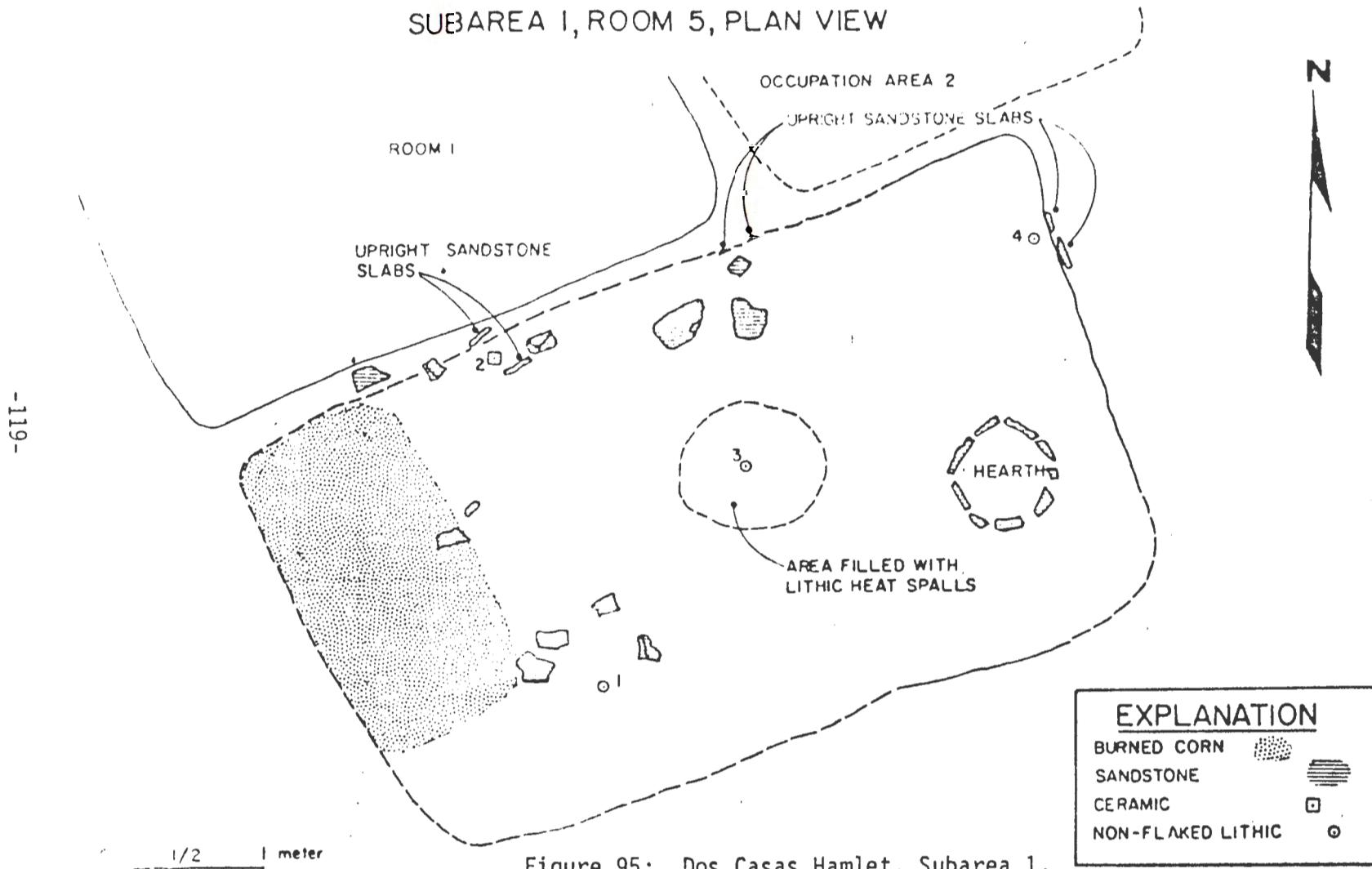


Figure 95: Dos Casas Hamlet, Subarea 1, Room 5.

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Rooms 1 and 5, together with Occupation/Activity Area 2, formed both a structurally and functionally distinct complex of structures.

The presence of a hearth (Fig. 96) and several concentrations of artifacts in Room 5 suggest that it was not limited to storage. The scattered pockets of carbonized corn found in the fill along the structure's west side represent relatively small quantities by contrast with those found in Room 1. Room 5 appears to have been used as a living or work area rather than primarily for storage.

Feature 11 is a roughly circular, rock-lined hearth, located in the southeast corner of the structure (Fig. 96). It has sloping sides and a slightly basin-shaped, fire-reddened bottom. The fill is variable, with occasional patchy lenses of clean sand intermittent between mixed layers of clayey sediments. A dense charcoal lens was present in the central area of the hearth. None of the observed strata, however, had a particularly high ash content. The absence of any definite ash zones suggests that the ash may have leached out, leaving charcoal flecks as the only indication of its presence in the sediments; or that the deposits result from the structure's collapse. The presence of several small pieces of daub in both the bottom and upper levels of the fill lends additional support to the second explanation. This leads directly to the interpretation that the feature was empty when the room burned.

Feature 11 is important to the functional classification of the rooms as well. Its presence suggests probable cooking activities, in addition to its function as a light and heat source.

The remaining features are all concentrations of artifacts found on the floor of Room 5. Feature 9, a large river cobble, was surrounded by

Figure 96: Dos Casas Hamlet, Subarea 1, Room 5
view of slab-lined hearth.

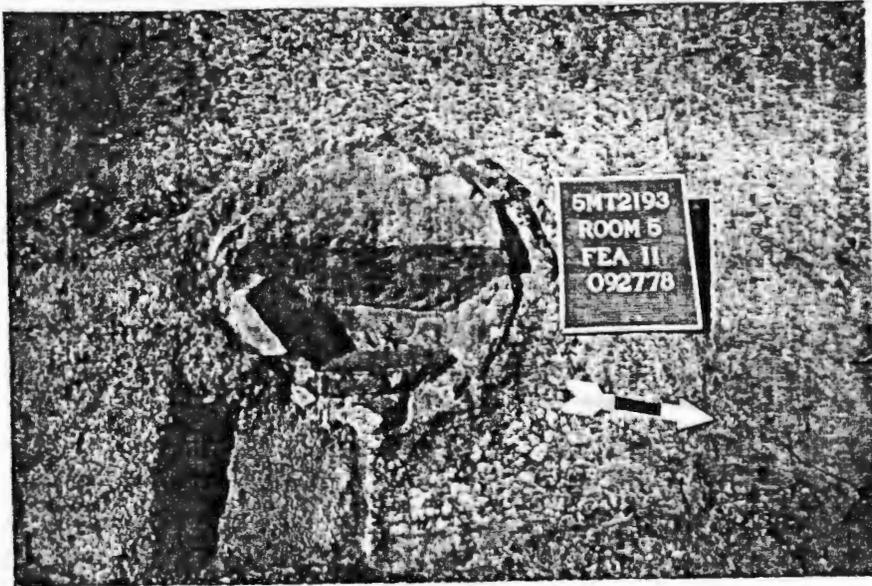


Figure 96: Dos Casas Hamlet, Subarea 1, Room 5
view of slab-lined hearth.

small spalls fragmented from its edges. The presence of the spalls is attributed to heat spalling, probably occurring during the burning of the room, rather than resulting from intentional modification of the coble. It probably was used as a working surface for some activity in this central area of the room.

Feature 14 is a concentration of lithic artifacts located along the north wall of the room. Several of these are tentatively identified as cores, but laboratory analysis will provide more refined interpretations. The concentration appears to be a cache of tools or raw materials rather than a work area, due to the absence of other flaked lithics in the immediate area. Analyses of the worked edges of these artifacts may indicate what they were used for.

The final artifact concentration is Feature 6, a collection of unmodified pieces of sandstone associated with a mano. Initially, the burned surfaces on some of the rocks and the presence of charcoal were taken as evidence of a possible hearth, to correspond with the one in the opposite corner of the room. Examination of the sediments, however, showed none of the fire-reddening that results from prolonged exposure to heat, and is typical of fire hearths. This suggests that the evidence of fire stemmed from the burning of the roomblock.

In the pitstructures, several similar concentrations were noted, varying only in the presence of a metate. It is suggested, therefore, that Feature 6 represents an assemblage similar to that of Feature 39 of Pithouse 1, where the metate had been removed from its rock supports. The presence of the mano in Feature 6 lends further support to this interpretation.

Examination of the features from Room 5 indicates that the structure was probably used as a living area in which several activities were carried out. Cooking and probably sleeping are suggested by the presence of the hearth; food preparation occurred in the southwest corner at a mealing station; Feature 9 may represent a smooth flat rock used as a working surface; and Feature 14 appears to be a cache of lithics - possibly tools, or materials to be worked into tools. This room shows the greatest diversity of activities, as represented by features and artifacts, of all the structures in Subarea 1.

- Room 4.

Dimensions:

Length (N-S):	2.70 m
Width:	1.70 m
Floor Depth (Modern Ground Surface):	0.50 m
Floor Depth (Prehistoric Ground Surface):	0.05-0.20

Room 4, the westernmost of the structures in Subarea 1, is separated from the other rooms by approximately seven meters. Like Room 3, this structure is oriented with its longest axis perpendicular to the major axis of the roomblock (i.e., NW/SE at this end of the subarea (Fig. 97)). Despite the greater distance between this and the other member of the roomblock, its orientation and setting suggests that it was an integral part of the complex. Its construction resembles that of Rooms 2 and 3. The floor was recessed below the surrounding occupation surface by excavation into the subsoil sediments; the surface and lower walls created by this excavation show no indication of having been plastered.



Figure 97: Dos Casas Hamlet, Subarea 1, Room 4,
view from west. Note crushed
ceramic vessels in situ.



Figure 97: Dos Casas Hamlet, Subarea 1, Room 4,
view from west. Note crushed
ceramic vessels in situ.

Construction conforms to the pattern established by the investigation of the other rooms. A single, deeply set juniper post apparently provided the stability for the remaining support timbers. Several shallow possible sockets were found, but it could not be established whether these resulted from rodent activity or from aboriginal construction. Other timbers excavated from the structure's roof fall were all of ponderosa pine. These poles together with numerous pieces of burned daub support the inference of jacal construction.

Room 4 differs significantly from the other rooms in the nature of its fill. There were two stratigraphic levels; the lower of these consisted of silty yellowish-brown sediments with charcoal flecks mixed throughout, and the upper was apparently roof fall materials, characterized by dark sediments with charred timber fragments, burned daub and some cultural material. The fill of the other structures resembled only the upper fill of Room 4. The separation of the roof fall stratum from the floor of the structure indicates that the room was abandoned long enough for approximately five centimeters of deposit to accumulate prior to the burning. It appears that Room 4 was unoccupied during part of the time that the other structures of the roomblock were in use. The presence of bone refuse among the broken ceramics and lithics on the Room 4 floor surface indicates that it may have been used as a trash dump. The relatively small quantity of debris suggests, however, that it was not used in this way for very long. Artifacts were not distributed uniformly through this lower stratum, but were concentrated at floor level.

Although no obvious remains of agricultural products were noted in the lower fill, it appears that the structure was constructed, and probably

used, as a storage room. The lack of floor features is the primary evidence leading to this interpretation. Although all of the other storage rooms in the roomblock had carbonized corn in their fill, its absence here can be attributed to its early abandonment.

In summary, Room 4 appears to have been constructed for use as a storage facility. When it outlived its usefulness in this capacity, either because it had deteriorated, or because it was no longer needed, the site occupants began dumping refuse into the empty structure. This was followed by a period of filling, with cessation of dumping, since artifacts are not distributed throughout the lower depositional unit. At the top of this unit, however, there was a crushed vessel, and Feature 17, a mixed assemblage of artifacts and sandstone rocks. These may represent items from the roof surface that fell into the empty room when it burned or from the additional dumping of trash. The final period of deposition left the upper stratum, which was the result of the burning and collapse of the structure. The distribution of artifacts in the lower stratum suggests that there may have been a brief period of site disuse prior to the final abandonment associated with the burning of the roomblock.

The generally small quantities of artifacts found in the surface rooms, and the presence of burned daub in the lower fill of the hearth in Room 5, suggest that these structures were not occupied at the time they burned. If they had been occupied, one might expect an increased quantity of artifacts in the houses, evidence of the recent use of the hearth, and possibly larger quantities of corn in the storage rooms. It cannot be determined how long a period of abandonment is represented by the lower deposits of the fill in Room 4. It is apparent, however, than any period

of abandonment for the other rooms, prior to burning, was less extensive than in Room 4.

Occupation/Activity Areas and their Associated Features: In addition to the five rooms in Subarea 1, three other areas of relatively widespread cultural deposits were excavated. These are Occupation/Activity Areas 2, 4 and 5, situated between the room structures. O/A 4 is bordered on the east by Room 3, and on the west by Room 2 (Fig. 90). On the west side of the latter is O/A 2, which is surrounded on three sides by rooms. West of O/A 2 is Room 1, and to the south is Room 5. O/A 5, the largest of the activity areas, lies west of Room 1. There appears to be a short break between its western border and Room 4, the last structure of the roomblock.

These areas were labelled occupation/activity areas for several reasons. When the plowzone was removed from over O/A 4 and 5, the exposed sediments were darker in color than the surrounding sterile subsoil, and varying quantities of cultural materials were visible on the surface. It was apparent that these were cultural deposits. These areas were not given room designations, however, because they lacked the darker fill characteristic of the burned rooms, and although some burned daub and charred wood fragments were found, they were represented by comparatively smaller quantities. On the basis of this information, these areas were designated as occupation/activity areas.

O/A 2 was assigned this type designation on the basis of different criteria. Its location within the central area of the roomblock (surrounded on three sides by jacal rooms) resulted in the presence of similar quantities of roof fall debris as that characterizing the rooms.

It apparently had jacal walls on all four sides and, therefore, represents a closed structure, but its size, which is smaller than any of the other structures, suggested that an O/A designation might be more appropriate. This activity area will be considered following the descriptions of O/A 4 and 5, because of the noted differences in structure.

- Occupational/Activity Area 4.

Dimensions:

Area Length:	2.40 m
Area Width:	2.40 m
Depth (Modern Ground Surface):	0.28 m
Approximate Area:	5.76 sq m

Occupation/Activity Area 4 is on the east side of the roomblock. Its shape is roughly square, but it probably extended a little farther south at the east end. Removal of the plow zone overlying this activity area exposed sediments containing cultural deposits. These sediments were light in color, closely resembling the sterile subsoil of the general site area. The inclusion of cultural materials and a slight discoloration suggested there were cultural deposits. During excavation, materials from the burning of the roomblock were found in the sediments. These included small amounts of burned daub, and charred pieces of wood of varying sizes. Among the latter were small pieces, possibly fragments of sticks and branches, which probably covered a framework of horizontal poles, thereby forming a remada-like structure. The absence of any postholes suggests that any covering that may have existed was probably an integral part of the roomblock. Beams extending between structures probably could have supported a lightweight roof.

Other cultural materials excavated include ceramics and flaked lithics. Although lithic artifacts were not recovered in large numbers, they were more abundant in this area than in either of the adjoining rooms. If this unit represents a lithic workshop, the small number of artifacts recovered could be attributed to periodic cleaning and removal of waste material. Perhaps the ceramic fragments also found here are parts of a vessel used for this purpose. Completion of the artifact analyses should provide additional information concerning the nature of the activities performed here.

- Occupation/Activity Area 5.

Dimensions

Area Length:	4.70 m
Area Width:	3.80 m
Depth (Modern Ground Surface):	0.25 m
Approximate Area:	17.86 sq m

Occupation/Activity Area 5, located on the west side of the roomblock, is larger than the other two activity areas combined. This designation was originally given to an association of three crushed ceramic vessels found immediately west of Room 1, approximately twenty-five centimeters below the present ground surface (Fig. 98). Expansion of the excavations to the west uncovered five other clusters of ceramics, two of which are parts of the same vessel (Fig. 99). There were some difficulties, however, in establishing the vertical relationships of all of these ceramic clusters. In addition to the ceramic remains, O/A 5 was also marked by a barely perceptible and discontinuous darkening of the sediments.

An upright juniper post marked the western extent of these deposits, and the western boundary of the activity area. In addition to this post,

Figure 98: Dos Casas Hamlet, Subarea 1,
Occupation/Activity Area 5,
crushed ceramic vessels in situ.



Figure 98: Dos Casas Hamlet, Subarea 1,
Occupation/Activity Area 5,
crushed ceramic vessels in situ.

Figure 99: Dos Casas Hamlet, Subarea 1,
Occupation/Activity Area 5,
additional crushed vessels.

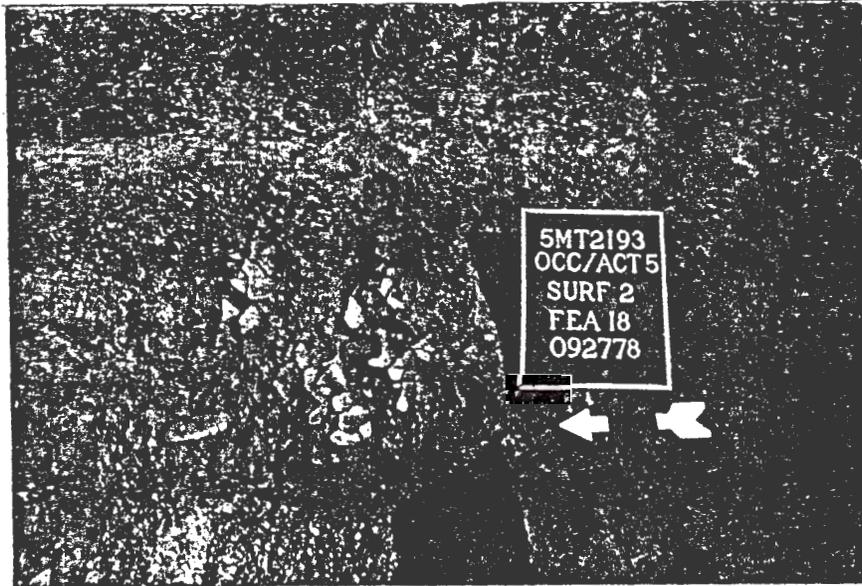


Figure 99: Dos Casas Hamlet, Subarea 1,
Occupation/Activity Area 5,
additional crushed vessels.

a fragment of a Populus spp. timber was found on the east side of the area. Small quantities of burned daub were recovered from the area as well, probably originating from the adjacent rooms, rather than from an overhead structure. These data suggest that O/A 5 was covered by a framework of vertical posts and horizontal timbers, with the top probably covered by brush. It is doubtful that adobe was incorporated into the construction, considering the small quantities recovered.

The stratigraphic context of Occupation/Activity Area 5 is somewhat unclear. Below the plow zone, an apparent surface (ca. 25 cm below modern ground surface) was marked by the presence of several crushed ceramic vessels. This level, designated Surface 1, was thought to represent the habitation surface. Continued expansion of the excavations to the west exposed several additional clusters of ceramic sherds, some at greater depth. Furthermore, another group of ceramics, labelled F 18, was found on an apparent surface 45 cm below ground surface. This was designated Surface 2, and the sediments between this and Surface 1 were designated Stratum 2.

Before concluding that two occupation surfaces existed, however, additional data must be considered. To begin with, the distinction between these was based upon vertical relationships of ceramic clusters, and not upon any visible difference in the sediments. Three clusters of ceramics were originally identified at the eastern end of the area. Further west, some of the sherds from Feature 12, identified as a Surface 1 deposit, belong to the same reconstructed vessel as sherds from Feature 15, a Stratum 2 deposit with a recorded depth of 40 cm below ground surface, but only 8 cm below Feature 12. Another vessel is made up of Feature 18

sherds from Surface 12 (45 cm below ground surface) plus sherds from Stratum 2 in an excavation unit one to two meters south.

In an effort to determine what the relationship was between the deposits, the entire area was excavated to the Surface 2 level. Excavation around Feature 18 was not productive, however. There was no visible evidence that Surface 2 extended beyond the immediate area encompassing the artifact cluster comprising Feature 18, nor were there sediment changes indicative of a pit feature extending down from Surface 1. The area is riddled with rodent burrows and runs, but the clustering and relationships of the sherds indicate in situ breakage rather than redeposition of a broken vessel in disturbed deposits. Until the tabulations and analyses are completed for these deposits, we are reluctant to make any definite statements concerning this area. From the information at hand, it appears that two surfaces may have been present. An increase in the area extent of Surface 2 appears to be indicated by the Stratum 2 sherds matching those from Feature 18. The occurrence of parts of the same vessels in the presumably different stratigraphic proveniences indicates that they represent little, if any, passage of time.

- Occupation/Activity Area 2.

Dimensions:

Area Length:	2.80 m
Area Width:	1.95 m
Depth (Modern Ground Surface):	0.26 m
Approximate Area:	5.46 sq m

The final Occupation/Activity Area to be considered is O/A 2, located in the rear central part of the roomblock. It differs from the others

primarily in its construction. Like O/A 4, jacal structures border the east and west, but additional north and south walls are formed by a separate wall, and by another room. On the north and west the room boundaries are marked by upright sandstone slabs, remnants of the jacal wall bases. The presence of this rock alignment along the north side of the area indicates that, unlike the other activity areas, O/A 2 was probably an enclosed, though perhaps not roofed, structure. Excavation of the fill produced the expected dark sediments with numerous fragments of burned daub and two vertical fragments of a single charred post of ponderosa pine.

The surface of this activity area is 12 cm higher than that of Room 1 and 23 cm above that of Room 2. The surface is characterized by hard packed sediments slightly darker than sterile subsoils of the general site area. No plaster is evident on the surface or on the remnant of the north wall. The floor slopes gently downward to the south so that it conforms to the depth of the Room 5 floor, where the two meet. The construction method used appears to be similar to that of Room 5, where preparation of the floor merely involved the clearing off of loose topsoil rather than excavation into the hard subsoil sediments.

Occupation/Activity Area 2 differs from the other activity areas in having a floor feature. Along the north wall, near the center of its length, is Feature 5, a shallow basin-shaped pit, with a dark fill. Although charcoal bits and flecks are scattered throughout this fill, the absence of any ash or fire-reddening on the bottom indicates that it did not serve as a fire hearth. The sediments in the pit were probably deposited when the structure burned. Features of similar form are generally considered pot rests.

Cultural materials from the fill of the structure include ceramics, flaked and non-flaked lithics, and charred corn. Analyses of these materials may indicate what activities were undertaken within the structure. No concentrations of artifacts were noted in the lower fill, overlying the floor.

Occupation/Activity Area 2 is substantially different from the other designated activity areas. It was an enclosed structure of small size, with a small pit along the north wall. Cultural materials found in the structure include both ceramics and lithics. Only twenty-six sherds were recovered, but these include fragments of three ceramic types: Chapin Gray, an unidentified Basketmaker III - Pueblo I black-on-white type, and an unidentified Basketmaker III - Pueblo I black-on-red type. The presence of corn in the structure is not indicative of large-scale storage; the quantity was relatively small and the kernels were concentrated in a pocket. Based upon the absence of evidence indicating living or food storage functions, Occupation/Activity Area 2 appears to have been a work area. It probably functioned as a unit with Room 5 (a probable living room) and Room 2 (a probable storage structure).

In summary, excavation of Subarea 1 produced three areas thought to have functioned as use areas. Each area was distinctive. O/A 5 is quite large and had several sherd concentrations comprising restorable ceramic vessels. O/A 2 is distinct in its construction and in its possession of a shallow pit feature. O/A 4 had primarily lithic artifacts and probably was covered by an open air structure extending between the bordering rooms. Something similar to this is interpreted for O/A 5, but there is no evidence that it spanned the entire distance between Rooms 1 and 4. These

structures are clearly associated with the rooms of Subarea 1 and probably served as shaded work areas. More specific determination of the activities performed in these areas must await completion of the data analyses.

Other Subarea 1 Features: Excavations in Subarea 1 exposed several other features in addition to the structures comprising the roomblock. Clearing of the plow zone in four of the sample excavation units uncovered circular areas of dark sediments. Three of these were shallow basin-shaped pit features and the fourth was a rock-lined hearth. All are located south and east of the roomblock. Figure 90 shows their locations and relationships to the structures. Table 31 lists their dimensions.

Features 1 and 2 are located approximately three meters southeast of the same corner of Room 4, at the western end of the roomblock. Both are shallow basin-shaped pits with dark fills, containing numerous pieces of burned sagebrush. Despite the presence of charcoal, there was no ash or reddening of the wall of the features; they do not appear to have functioned regularly as hearths. No artifacts were found in Feature 1, but Feature 2 produced several lithic and ceramic artifacts. These were probably part of the general sheet trash, rather than intentional depositions.

Feature 3, like Features 1 and 2, is a shallow basin-shaped pit with numerous pieces of charcoal in the fill. All of the charcoal examined in the field was sagebrush. The fill also contained a few ceramic sherds, and pieces of burned daub. Fire-reddening was evident along the sides of the feature. It is possible that Feature 3 was a hearth, but if so, it differed significantly from all other hearths identified at the site. It is less than one-third as deep as the other identified hearths, and it

lacks the characteristic rock lining of Subarea 1 or the straight-sided walls of the unlined Pithouse 1 hearth. The presence of burned daub in the fill suggests that the deposits are probably the result of the burning and collapse of the roomblock structures. Some of these deposits may have been hot enough to produce the slightly reddened surface observed, which was definitely much less distinctive than in Features 7 or 11. It is possible, however, that Feature 3 was used only briefly and therefore does not demonstrate the characteristics expected of fire hearths at this site.

Feature 7, located southeast of the roomblock, can definitely be identified as a hearth. It is lined with small sandstone slabs inclined away from the center of the pit, which is relatively flat along the bottom. The base is fire-reddened, and several archaeomagnetic samples were collected. The fill of the hearth was homogeneous, and included much charcoal. No artifacts were found in the fill, but both ceramics and flaked lithics were found around the feature at the base of the plow zone.

ANALYTICAL DATA

Ceramics, flaked lithics and non-flaked lithics were the artifacts most commonly found in the controlled surface collection and subsequent excavations at Dos Casas Hamlet. Other artifacts, found in small quantities, include non-human bone and vegetal and inorganic materials. Processing and analysis of all materials are incomplete, but some information is available from the initial classification of the ceramics. Major classes of artifact analyses are summarized below.

Ceramics

Ceramics from the present ground surface, from the Subarea 1 structures, and from the lower fills and floors of Pitstructures 1 and 2 have been classified as to ceramic ware or type. Table 32 lists the distribution of the classified ceramics, and indicates that the majority of the sherds recovered represent early Anasazi graywares. The first two classes (Basketmaker III - Pueblo I Gray Ware and Chapin Gray) listed in the table together make up 92.5% of the total. Table 32 also shows that most of the types represented are from the Basketmaker III - Pueblo I periods of Anasazi culture. Sherds associated with later culture periods are from the upper levels of excavation (i.e., from the surface or the plow zone), and may not be associated with the period of site occupation. Table 32 shows the distribution of the ceramic types found in the structures and use areas of the site. The two later redware sherds appear to be intrusive, considering the earlier trend in the distributions and the small number of sherds involved. No clear temporal differences between

Table 32. Frequences of ceramic fragments
by type or ware (excluding vessels).

Type or Ware	No. of Sherds	Percent of Total	Period
BMIII - PI Gray	2070	84.6	BMIII - PI
Chapin Gray	193	7.8	BMIII - PI
Chapin B/W	25	1.0	BMIII - PI
Moccasin Gray	2	+	PI
Piedra B/W	2	+	PI
BMIII - PI B/W	105	4.3	BMIII - PI
PI - PII B/W	6	+	PI - PII
Mancos B/W	1	+	PII
Unclassified White Ware	5	+	-
Abajo R/O	1	+	BMIII - PI
BMIII - PI B/R	8	+	BMIII - PI
- Unclassified Red Ware	15	0.6	BMIII - PII
Lino Gray	3	+	BMIII - PI
Tusayan Gray BMIII - PI	11	0.5	BMIII - PI

structures are evident from the data presented in Table 33, although the absence of redware in Pithouse 1 is of interest.

In addition to the ceramics listed in Table 32, sherds from sixteen reconstructable vessels were also recovered. Classification of these vessels, by type, is not complete, and they cannot be described at this time. Comparisons of the provenience locations for these vessels is of particular interest in one case, however. Fragments of Vessel #14, a Chapin Gray jar with a fugitive red wash, were found in both Rooms 3 and 4 (Fig. 100). Of the fragments recovered, 3.7% were found in Room 3 and the remainder in Room 4. Their location in both rooms provides additional evidence that Room 4 was used as a trash dump prior to the burning of the surface structures, as suggested earlier.

Flaked and Non-Flaked Lithics

Analysis of flaked and non-flaked lithics had not yet been completed while this report was undergoing preparation. Results of this analysis will be included in the final report. Selected lithic artifacts from Dos Casas Hamlet are depicted in Figures 93, and 101-114.

Human Remains

Although field investigations at Dos Casas Hamlet are presently incomplete, work in the major architectural units has been finished. In these completed portions of the site, no human skeletal remains have been identified.

Table 33. Ceramic from lower fills and floors of structures (excluding vessels).

Provenience	BMIII-PI Chapin		BMIII-PI Abajo		BMIII-PI Unclassified		
	Gray	Gray	B/W	B/W	R/O	B/R	Red Ware
Room 1	13	1	0	0	0	1	1
Room 2	27	2	0	0	0	0	0
Room 3	8	2	0	1	0	1	0
Room 4	33	1	0	3	0	0	0
Room 5	8	2	0	0	0	0	0
O/A Area 2	0	0	0	1	0	0	0
O/A Area 4	10	4	0	0	0	0	0
O/A Area 5	60	2	0	6	0	1	1
Pithouse 1	876	155	12	47	0	0	0
Pithouse 2	49	4	1	0	1	0	0

Figure 100: Dos Casas Hamlet, Chapin Gray jar
recovered from Rooms 3 and 4.



Figure 100: Dos Casas Hamlet, Chapin Gray jar
recovered from Rooms 3 and 4.

Figure 101: Dos Casas Hamlet, Pitstructure 1,
shaped door slab.

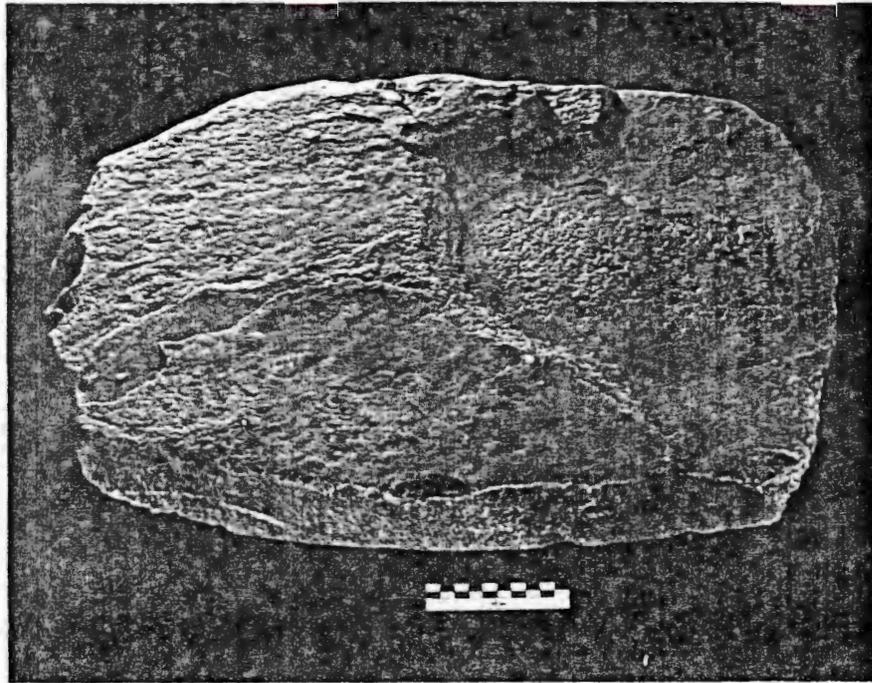


Figure 101: Dos Casas Hamlet, Pitstructure 1,
shaped door slab.

Figure 102: Dos Casas Hamlet, Pitstructure 2,
trough metate.

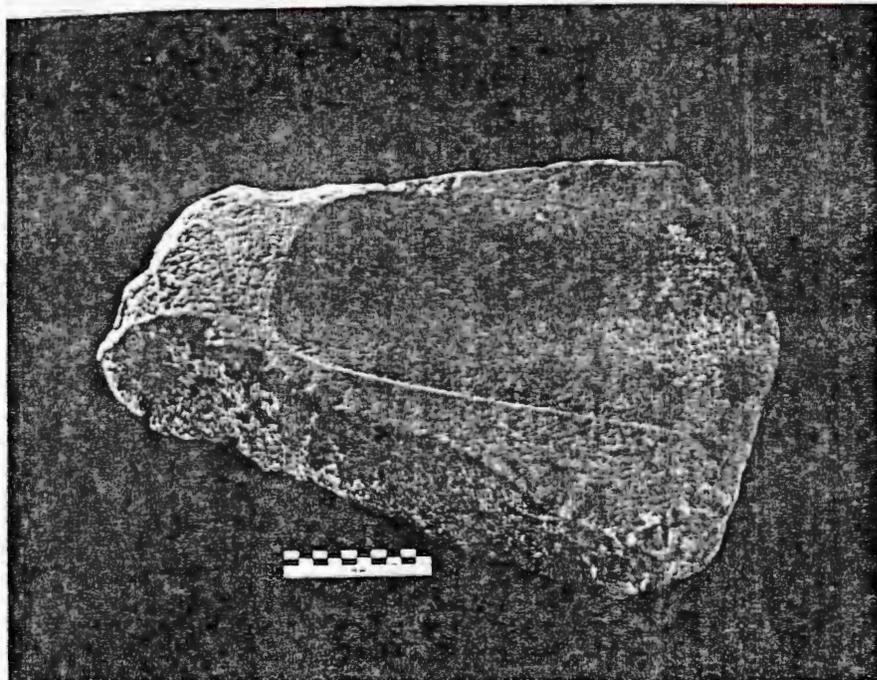


Figure 102: Dos Casas Hamlet, Pitstructure 2,
trough metate.

Figure 103: Dos Casas Hamlet, Pitstructure 1,
trough metate.

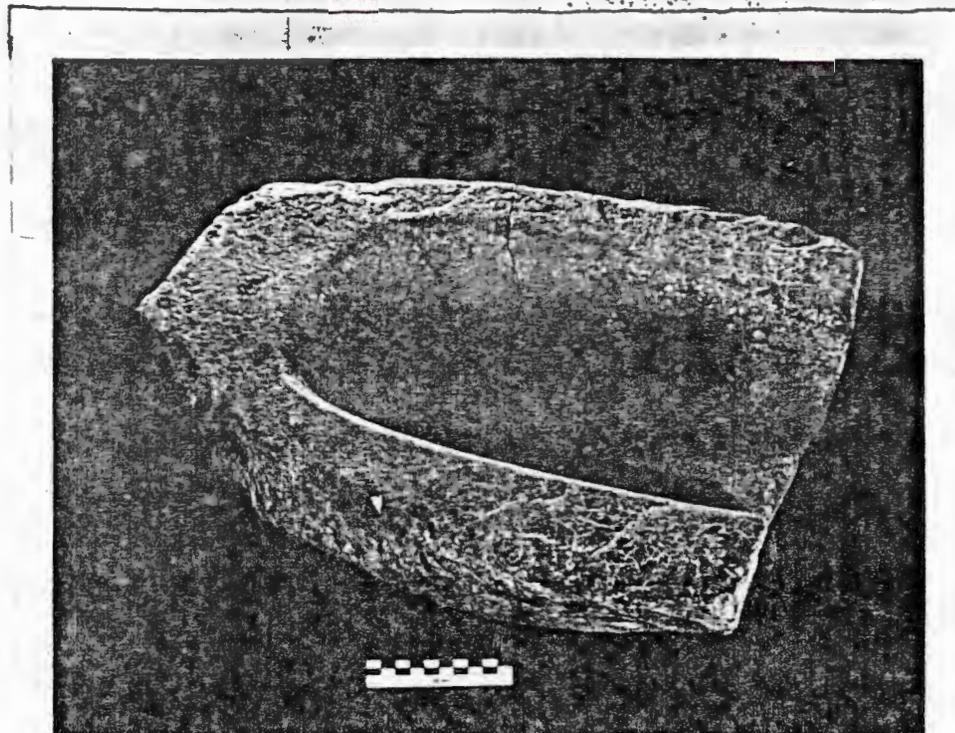


Figure 103: Dos Casas Hamlet, Pitstructure 1,
trough metate.

Figure 104: Dos Casas Hamlet, Pitstructure 1,
mano.

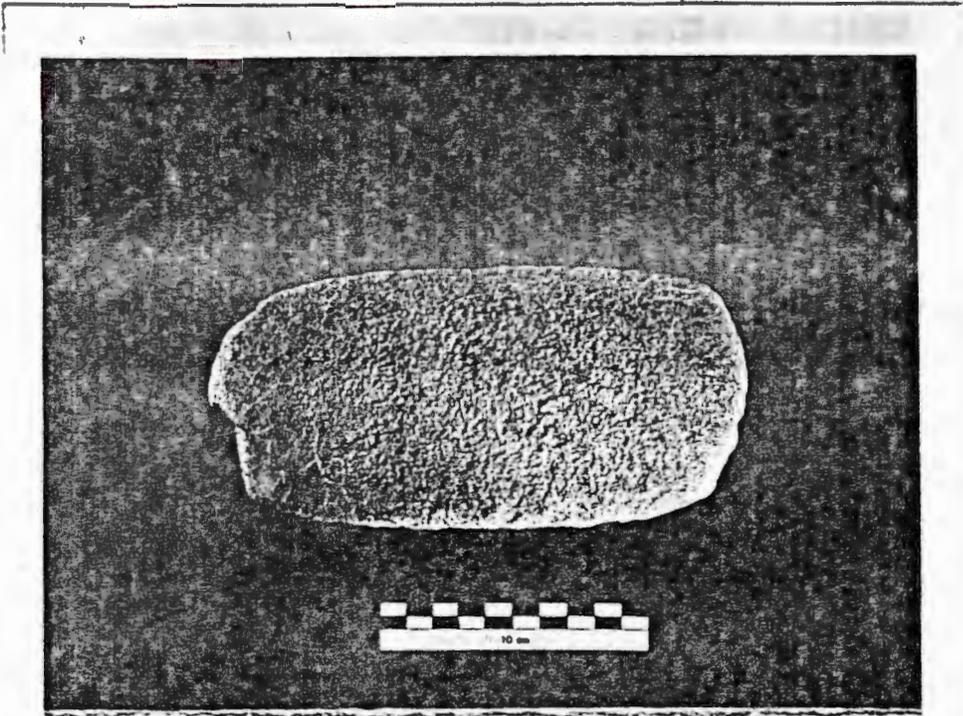


Figure 104: Dos Casas Hamlet, Pitstructure 1,
mano.

Figure 105: Dos Casas Hamlet, Pitstructure 1,
mano from floor of South Room.

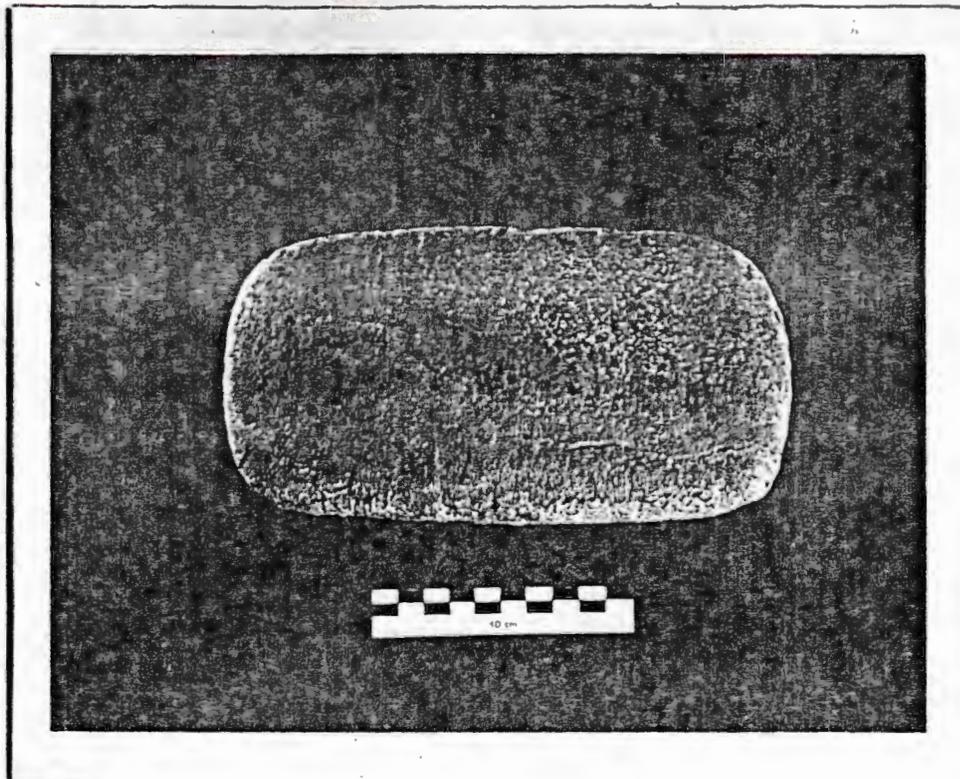


Figure 105: Dos Casas Hamlet, Pitstructure 1,
mano from floor of South Room.

Figure 106: Dos Casas Hamlet, Pithouse 1,
mano.

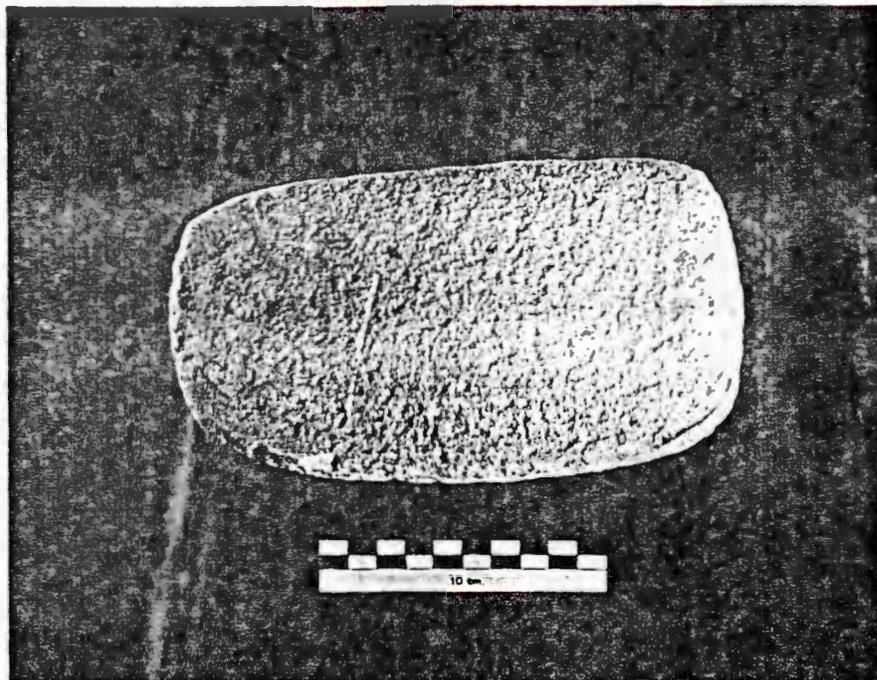


Figure 106: Dos Casas Hamlet, Pithouse 1,
mano.

Figure 107: Dos Casas Hamlet, Pithouse 1,
anvil from floor north of central
hearth.

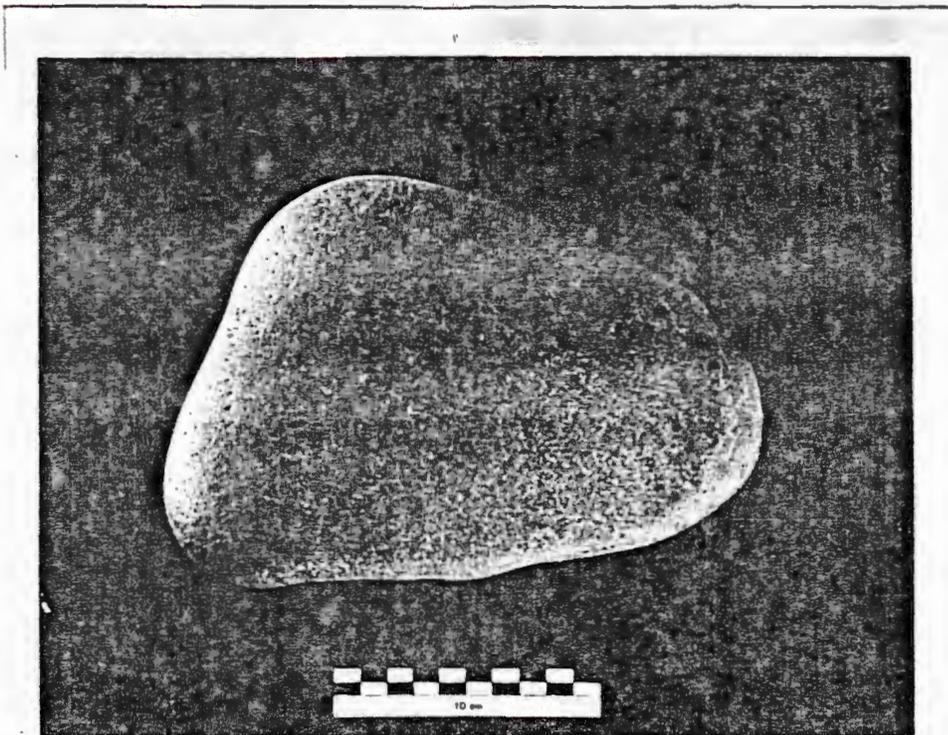


Figure 107: Dos Casas Hamlet, Pithouse 1,
anvil from floor north of central
hearth.

Figure 108: Dos Casas Hamlet, Pithouse 1,
anvil.

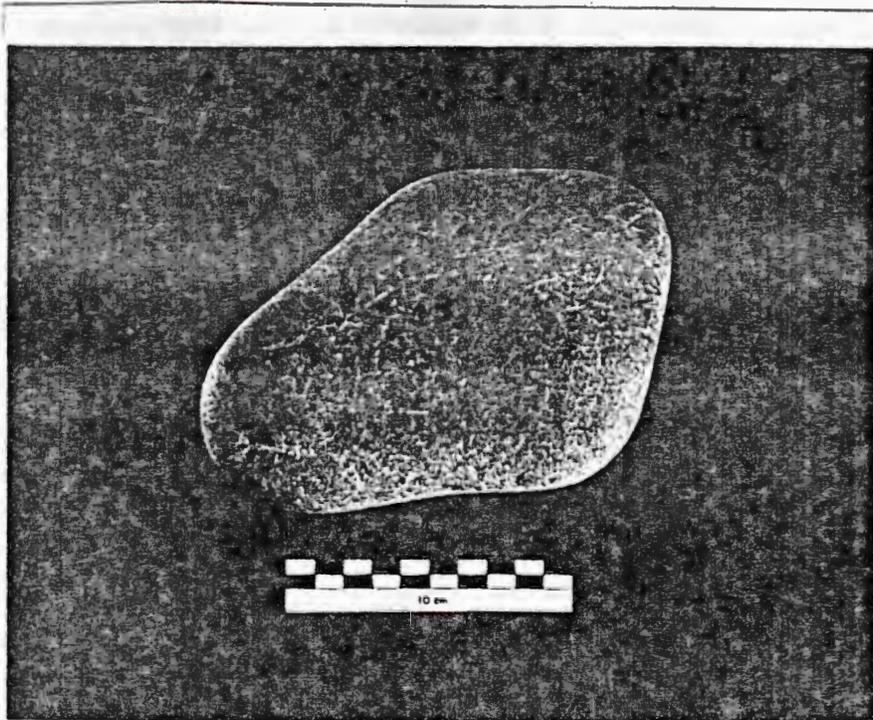


Figure 108: Dos Casas Hamlet, Pithouse 1,
anvil.

Figure 109: Dos Casas Hamlet, Pithouse 1,
anvil from floor.

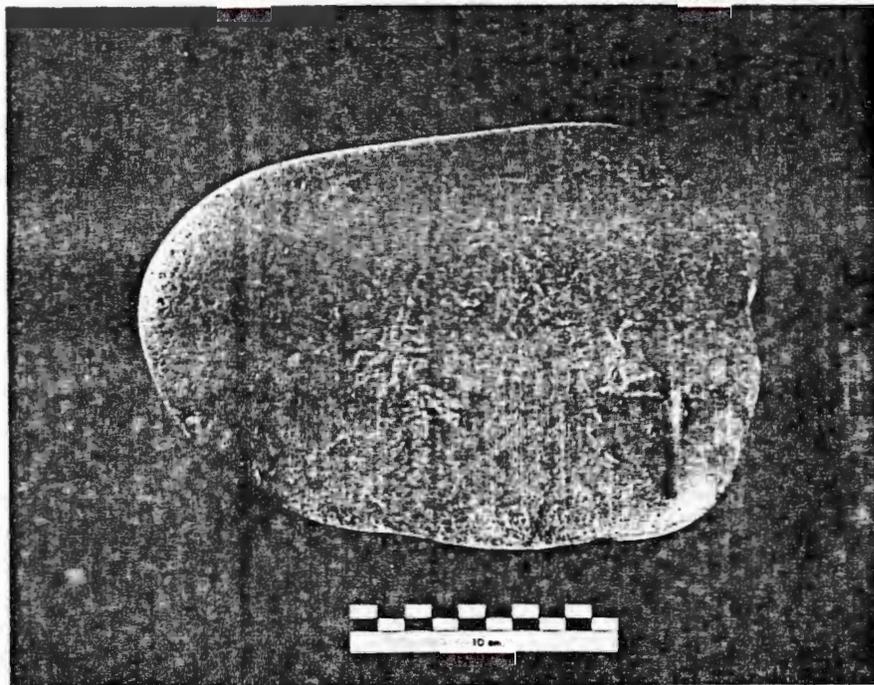


Figure 109: Dos Casas Hamlet, Pithouse 1,
anvil from floor.

Figure 110: Dos Casas Hamlet, polishing stone (U.L.)
hammerstones.



Figure 111: Dos Casas Hamlet, Pithouse 1,
notched mauls from roof fall level.

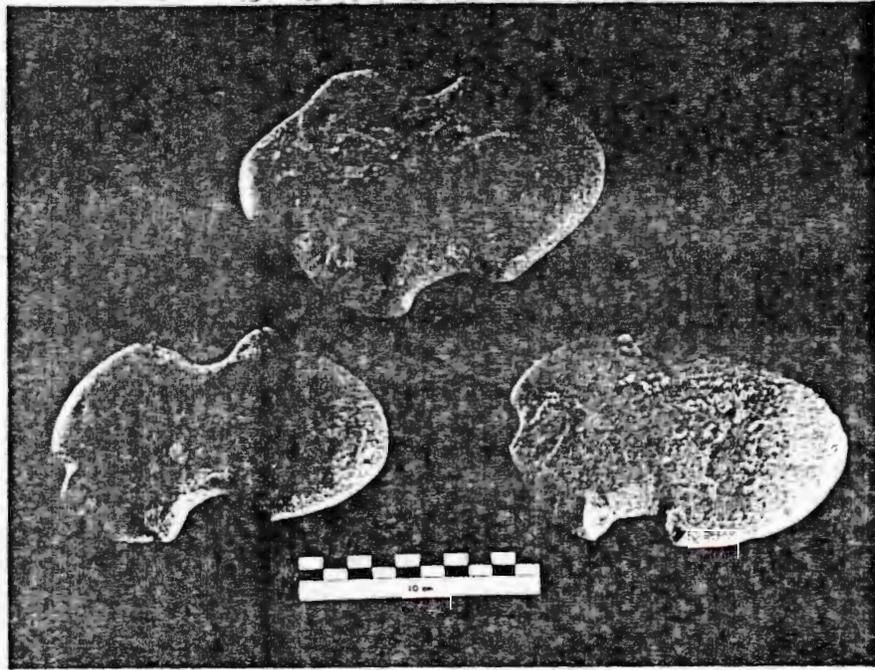


Figure 111: Dos Casas Hamlet, Pithouse 1,
notched mauls from roof fall level.

Figure 112: Dos Casas Hamlet, Room 5,
notched axes from fill.

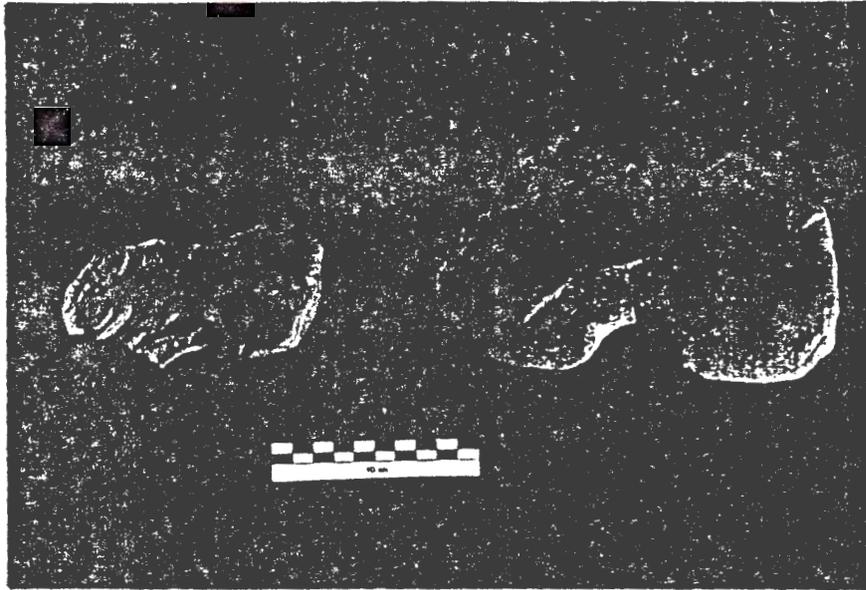
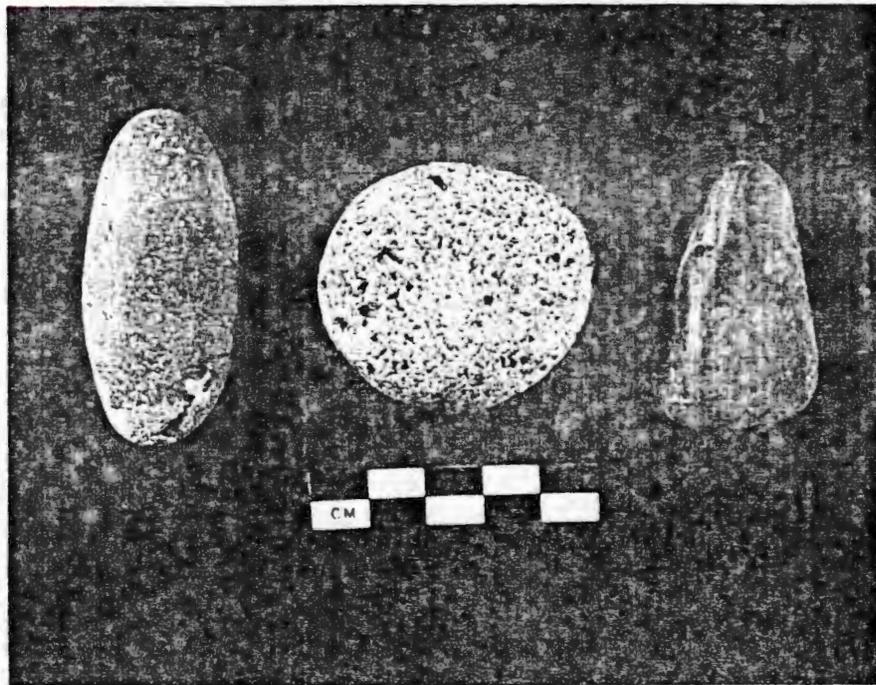


Figure 112: Dos Casas Hamlet, Room 5,
notched axes from fill.

Figure 113: Dos Casas Hamlet, polishing stones:
a) from fill, Pithouse 1; b) from
surface collection; c) from floor
of Pithouse 1.



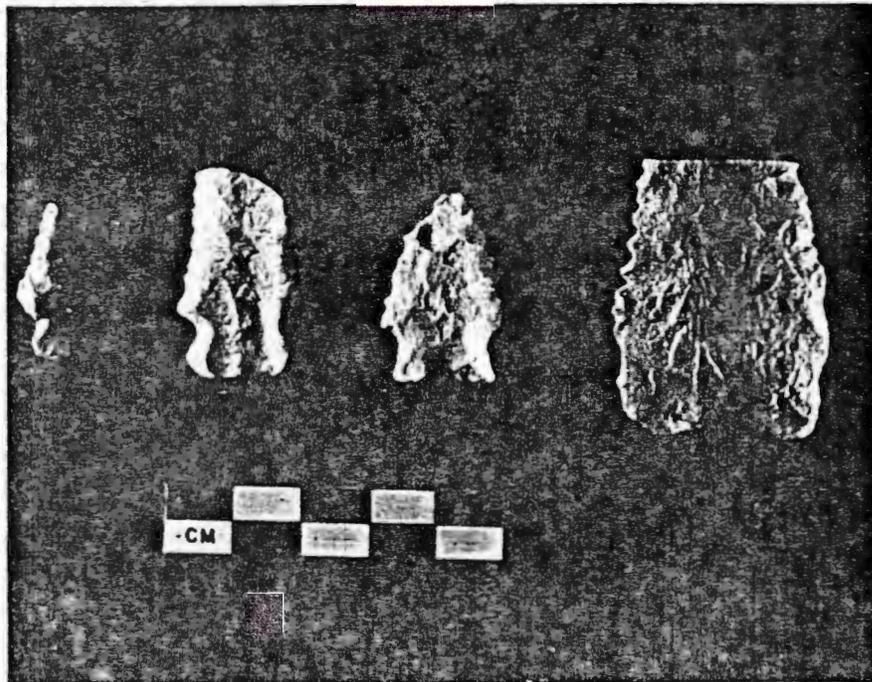
a

b

c

Figure 113: Dos Casas Hamlet, polishing stones:
a) from fill, Pithouse 1; b) from
surface collection; c) from floor
of Pithouse 1.

Figure 114: Dos Casas Hamlet, a), b), c) projectile points and d) knife. Proveniences: a) from floor of Pithouse 1; b) and c) from surface collection; d) from fill of Pithouse 1.



a

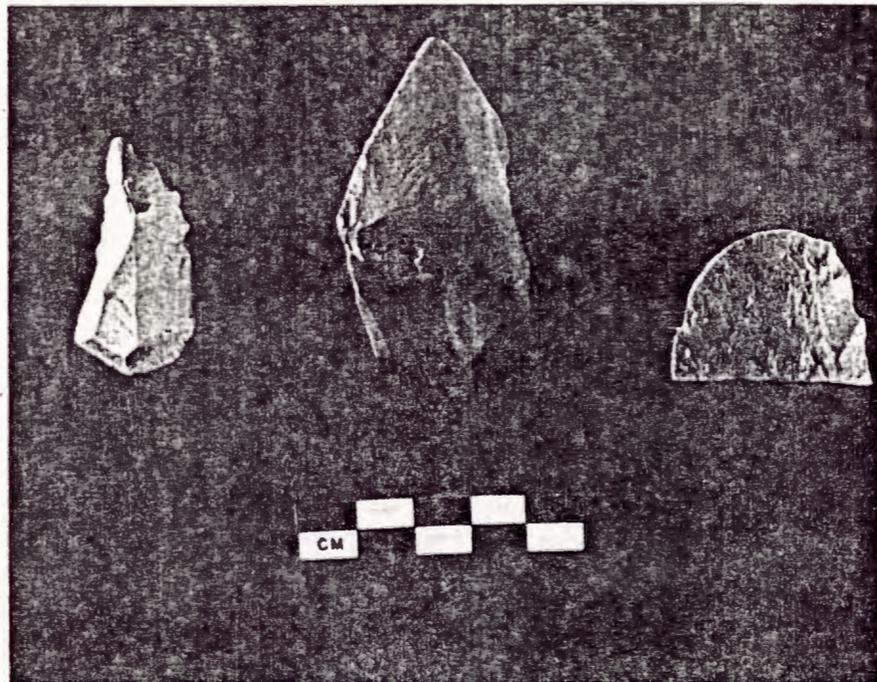
b

c

d

Figure 114: Dos Casas Hamlet, a), b), c) projectile points and d) knife. Proveniences: a) from floor of Pithouse 1; b) and c) from surface collections; d) from fill of Pithouse 1.

Figure 115: Dos Casas Hamlet, miscellaneous flaked
stone artifacts: a) from fill of
Pithouse 1; b) from surface collection;
c) from test pit.



a

b

c

Figure 115: Dos Casas Hamlet, miscellaneous flaked
stone artifacts: a) from fill of
Pithouse 1; b) from surface collection;
c) from test pit.

Faunal Remains

Analysis of the faunal remains recovered from Dos Casas Hamlet was in the preliminary stage at the time of the writing of this report. No interpretation of this preliminary analysis has yet been attempted.

Dating and Environmental Sampling

A variety of data have been collected at 5MT2193 that will provide information on the period of site construction and occupation and, to some degree, on the nature of the surrounding environment. During excavation, dendrochronological, C-14, and archaeomagnetic samples were collected for dating purposes. Pollen and vegetal material samples were also collected, which may provide environmental information. With the exception of the dendrochronological samples, no information is yet available regarding these samples.

Dendrochronological samples were collected from the surface structures and both of the pithouses. These were identified as to plant species, and when possible, dates were assessed; a listing of dendrochronological information presently available from the site is included in Appendix 1, Volume 1 of the Fieldwork Report. Of the numerous samples submitted, nineteen proved datable. Tables 29 and 30 list the dated samples, most of which are from Pithouse 2. None of the samples collected from the surface structures were suitable for dating; samples from Pithouse 1 produced only two dates.

Of the nineteen dated specimens, the analysts felt that only one sample (DD #49) could be given a "v" rating, which indicated a good probability that the outside ring was at or within a few years of a

cutting date. On the basis of the clustering of this and the less reliable "vv" dates, however, it seems very likely that Pitstructure 2 was built in AD 769 or no more than a year or two later (Robinson, personal communication). Pithouse 1 is stratigraphically earlier, but it is not clear by just how much. The two (non-cutting) dendrochronological dates are 0737vv and 0759vv. If the latter is from original construction, and is at or close to a cutting date, then Pitstructure 1 may have been used for less than a decade (ca. AD 760 - AD 770).

Concurrent with analysis of the dendrochronological samples for dating purposes, each sample was also taxonomically identified. Unlike the dated samples, each specimen was identifiable, so information from the surface structures as well as the pithouses is available. Table 34 shows the distribution of species by structure for the site. Inspection of this table shows that more than half of the specimens identified are of ponderosa pine. Next in abundance is Populus, followed by juniper and pinyon. It is interesting that pinyon, the most abundant of these species in the nearby present environment, is represented by only a single specimen. Juniper, another member of the Sagehen Flats vegetation community, is also quite low in its representation. Populus cannot be identified beyond the genus level, so it cannot be determined whether these specimens were from cottonwoods, or from some other species. The former seems highly probable, however. Cottonwoods are presently infrequent in the immediate area, but are plentiful in the lowlands along the Dolores River a short distance away. Ponderosa pines grow at higher elevations, and also on the sloping walls of the Dolores River Canyon a few miles downstream.

Table 34. Dos Casas Hamlet, identification of structural timbers by species.

Subarea	Provenience	Ponderosa Pine	Juniper	Populus	Pinyon	Totals
6	Pithouse 1	39	2	40	1	82
7	Pithouse 2	32	11	4	0	47
1	Room 3	2	0	1	0	3
	Room 4	3	1	0	0	4
	Room 5	1	0	0	0	1
	Occupation/ Activity Area 2	1	1	0	0	2
	Occupation/ Activity Area 5	0	1	1	0	2
Totals, Subarea 1		7	3	2	0	-
SITE TOTALS		78	16	46	1	141
Percentage		55.3%	11.3%	32.6%	0.7%	

Looking at the distribution of species in the surface and pitstructures, some differences in species preferences appear to be evident. The earliest structure, Pitstructure 1, has both ponderosa pine and Populus in about equal amounts. Pitstructure 2, however, shows a much different distribution in the proportions of species used. Ponderosa pine remains important, but Populus sharply decreases in use, while juniper increases. In the surface structures, ponderosa pine is most abundant, with juniper and Populus relatively evenly split. The small number of specimens here makes it difficult to make any comments regarding the significance of these differences. Furthermore, it was not always possible to determine whether multiple samples of a single structural timber were present. Considering the three major species, however, there does appear to be an apparent difference in relative frequencies recovered from each subarea.

There is also some indication that certain species were preferred for use as specific elements in construction. Of the samples identified as portions of primary vertical support posts, four are juniper. Considering its low overall representation at the site, its use in this capacity seems significant. Ponderosa pine was also used, however, indicating that such preferences were not invariant. This is also true for pole remnants recovered from the stringer-shelf of Pitstructure 1. Eight of these were ponderosa pine, and one Populus, which suggests that the former species was preferred. Consideration must be given to the small number of specimens recovered. Trends seen here could be the result of small sample size.

Continued analyses of dendrochronological, dating and vegetal samples will provide more information concerning the dates of site construction

and use, besides increasing sample sizes of materials indicative of timber species selection. Combined with the results of artifact analyses, these may be useful in establishing the nature of the relationship between the surface rooms and pithouses at the site.

PRELIMINARY INTERPRETATIONS

Correlation of Site Structures

Excavation of 5MT2193 produced two pithouses and a roomblock. Stratigraphic and dendrochronological data indicate that Pithouses 1 and 2 were not occupied concurrently; on the contrary, Pithouse 1 was probably constructed approximately AD 760 and occupied for a short time thereafter before it was destroyed by fire. After what may have been a period of abandonment during which natural fill accumulated in Pithouse 1, the site was reoccupied and a large proportion of the remaining depression was rapidly filled with trash and backdirt from the construction of a second pithouse, probably around AD 769 or AD 770.

It is probable that the rooms and activity areas of the Subarea 1 roomblock were also constructed and occupied during the same period of time that Pithouse 2 was built and used. Occupation of these rooms was evidently later than occupation of the earlier pithouse. Otherwise we would expect the deposition of trash washing down from the surface rooms immediately on top of the roof fall, or after a short period of natural filling. The presence of 25-75 centimeters of natural fill prior to any apparent aboriginal deposits into this depression is contrary to such expectations. Additionally, if both were occupied and destroyed by fire, then some evidence of reconstruction should be apparent for the surface rooms. No such evidence exists.

On the basis of these data and interpretations, two elements are identified for 5MT2193. The first appears to have consisted of a single pithouse, Pithouse 1, probably without any associated surface rooms.

The second period of site occupation, probably ten years after the initial occupation of the site, produced another pithouse and probably the roomblock of surface structures. No dates are available from the surface rooms but there appear to be no substantial differences in the materials that have been analyzed from these areas, and from Pithouse 2. Completion of the excavation of the latter structure, and continued analysis of the materials, may provide data altering these interpretations. We suspect, however, that if the surface rooms were occupied much later than the pithouse this would be reflected in the ceramics, by the presence of more abundant Pueblo-I-period ceramic types, especially neck-banded grayware.

Within the roomblock, Room 5 appears to have been associated with Room 1 and Occupation/Activity Area 2. This interpretation is based upon the assessment of different functions for each of these areas and as similarities of construction. A similar association appears to be present among Rooms 2 and 3 and Occupation/Activity Area 4. The individual structures combine to form occupation units comprised of a living room, a storage structure and an occupation/activity area, possibly indicative of individual households. Room 4 and Occupation/Activity area 5 do not conform to this pattern. The presence of trash from Room 3 in Room 4 demonstrates its final use as a refuse dump. The structure may have originally functioned as a storage room. There is no remaining evidence of a living room with which it may have been associated, however, suggesting that it may have been a second storage room for one of the units of the roomblock, or that it was associated with Pithouse 1. No other storage areas have been found that can be clearly associated with the units. Artifactual remains from O/A 5, consisting largely of restorable ceramic vessels, contrast strongly with those from other units in the room block.

Three structures appear to have been used as living spaces during the second element manifest at Dos Casas Hamlet. These are Pithouse 2, Room 2 and Room 5. With the data currently available it is not clear whether the structures in the roomblock were occupied seasonally or concurrently with occupation of the pitstructure. Some interpretations based upon population size are offered but completion of the site excavation may provide pertinent data altering the interpretations.

Chronology

Site 5MT2193 appears to be a two-element site with affinities to the Sagehen Phase. The earliest element consists of a single pitstructure, Pithouse 1, which probably was constructed approximately AD 760. Concurrent with the occupation of this pithouse, a series of surface structures were built to the north. The occupants of the later pithouse (this occupation has been designated Element 2) also used the surface rooms originally built during Element 1, with the possible exception of Room 4 which was not refurbished and served as a rubbish dump. This structure was destroyed by fire and the site was abandoned for a brief period of time. Shortly thereafter, the site was reoccupied, and Pithouse 2 was built. The dendrochronological data suggest that construction was probably close to AD 770. No relative dates as a result of ceramic seriation studies are yet available, but the assemblages do not show any wide temporal variation in the types represented. The site appears to have burned during the latest occupation or sometime shortly following its abandonment. There are no indications that the second occupation was very long, but no precise terminal dates are available. A guess date would be AD 780.

The absence of later Pueblo period materials in direct association with the structures confirms the interpretation that 5MT2193 was occupied for a relatively short period of time. Additional data from analyses of other dating samples and from artifact analyses may provide more refined information concerning the period of site use and possibly the time of its destruction.

Ecological Adaptation

Dos Casas Hamlet is classified as a small habitation of the Sagehen Phase, Anasazi Tradition. The occupants of this settlement were engaged in a variety of activities, many of which required their interaction with the surrounding environment. Many aspects of their lives involved the use of resources that could be found in the immediate vicinity of the site. Others required more extensive trips to obtain preferred materials. Ecological adaptations can be seen in nearly every aspect of the surviving material culture. The site location, construction of its buildings, and activities carried out on a periodic and daily basis, all involved some degree of interaction with the natural environment.

Numerous sources of evidence indicate that the inhabitants of this site were engaged in agricultural activities during their occupation of the settlement. These people grew corn and stored the surplus in surface structures built for this purpose. In addition to this food source, wild game was hunted, providing meat and raw materials for tools and clothing. Wild plants were also collected and were important resources.

The houses they lived in were built of materials from the surrounding area. Timbers used to support the earth coverings were probably cut from

stands along the nearby Dolores River. Juniper bark and reeds were probably found closer to the site, within the Sagehen Flats locality. Sagebrush was a handy resource, found on the site itself. Slabs of sandstone, used to line the lower walls of some surface rooms, to form the core of the wingwalls, and to serve as deflectors in the pitstructures were probably gathered from outcrops that occur within a short distance of the site.

Other resources related to the manufacture of tools, containers, and clothing may have come from resources located within the locality or at a slightly greater distance. Analytical studies now under way promise to define these resources materials and their source locations. Still other materials could have been obtained by trade. There is no information available now, however, to establish the existence of trade relationships.

Food, clothing, housing and tools were all derived from resources extracted from the environment. As such, some reflect the exploitation of materials from relatively close sources, while others indicate that more distantly located resources were preferred over those close at hand. Most items were acquired locally rather than through trade with other groups. Analysis of artifacts and determination of the resource locations will probably confirm these general expectations.

Paleodemography

Estimations of settlement population are extremely varied in method and in the resulting population figures. Ethnographic data have often been used for this purpose with varying success; other workers have attempted to approach the problem by considering ratios of recovered archaeological

material types (Lofgren 1966; Kohler 1978). As relevant data that could be applied to the above approaches was not yet available from Dos Casas Hamlet when this report was being drafted, population estimates for this site were calculated using ratios of living space.

Many social scientist use such ratios to arrive at populations estimates for prehistoric settlements; the method involves calculating population-dwelling area ratios in existing and ethnographically known societies and applying these figures to archaeological data (Naroll 1962; Leblanc 1971; Casselberry 1974; Clarke 1974; Cook 1972; White and Parsons 1977; Rohn 1977). As there is no concensus as to a standard formula for population estimates, a "battery approach" has been employed for this purpose similar to the one used by Birkedal (1976). Momentary populations have been computed for both elements identified at Dos Casas Hamlet and are presented in Table 35. A primary difficulty in calculating the ratios was in deciding what structures should be included as "living space." In this case, it was assumed that this parameter for both elements consisted of a pitstructure plus one or two surface rooms. Determining whether the surface rooms were in use during Element 1 or Element 2 or both remains conjectural; for this study , it is assumed that the rooms designated "living rooms" (Rooms 2 and 5) because of their internal features and associated artifacts were used during both elements.

Another difficulty is in assessing whether seasonal living areas should be included in calculating the ratios or perhaps should be weighed to a lesser degree in the estimates. Because of the nature of the construction of the surface rooms, it has been assumed that they were occupied and used for human-intensive activities during the warm months

Table 35. Dos Casas Hamlet, estimates of population.

Element	Living Structures	Total Roofed Area (sq. m.)	Living Area (sq. m)	Narrol's Method	Leblanc's Method	Casselberry's Method	Clarke's Method	White & Parsons' Method	Rohn's Method
1	Pithouse 1	27.72	c. 24	2.77	2.40	4.62	9.24	10-12	4-5
	Room 2*	8.04	c. 6.5	0.80	.70	1.34	2.68	2	4-5
	Room 5*	13.20	c. 11	1.32	1.10	2.20	4.40	2	4-5
	Total	48.96	41.5	4.89	4.20	8.16	16.52	14-16	12-15
2	Pithouse 2	25.61	c. 19.5	2.56	1.95	4.27	8.54	10-12	4-5
	Room 2*	8.04	c. 6.5	0.80	.65	1.34	1.68	2	4-5
	Room 5*	13.20	c. 11	1.32	1.10	2.20	4.40	2	4-5
	Total	46.85	37	4.69	3.70	7.81	15.61	14-16	12-15

* Seasonal use as living area

and that a major function of pithouses was as winter domiciles. Summers, then, would have been a period of optimum space utilization by Dos Casas inhabitants and populations estimates have been based on a pithouse floor plus living surface room floor area rather than simply the area of the pithouse. Winters are regarded as a time of non-optimal space utilization and the forcing of the habitation population into a small space due to climatic considerations.

The various methods employed and an evaluation of results are summarized below:

1. Naroll's method. Naroll (1962:587-88) conducted a comparative study of population-dwelling area ratios in 18 pre-industrial societies and derived a general formula for estimating population; he suggests the population of a settlement is equivalent to one-tenth the floor area as measured in square meters. Naroll considers the floor area to be the total area under the roof of the dwelling. The figures produced by employing Naroll's method (Table 35) appear to be too low. Estimates of less than five individuals for two surface rooms and a pithouse combined are much lower than suggested by the ethnographic accounts for historic Pueblo towns.

2. LeBlanc's method: LeBlanc (1971:210-211) has modified Naroll's method so that the formula applies to only living area at a habitation and not extra-household or storage space included under roofed areas. The results using his formula, then, are even lower than those using Naroll's calculations, and LeBlanc's methods probably cannot be applied to Dos Casas Hamlet or to the West Sagehen Neighborhood.

3. Casselberry's method. Casselberry's study (1974) of eight ethnographic societies with multi-family dwellings suggested a ratio of one person per six square meters of total floor area. Casselberry restricts use of the method to multi-family dwellings, a scenario that cannot be ruled out for the West Sagehen community and Dos Casas Hamlet. Indeed, a subjective judgment of the results using Casselberry's method (Table 35) suggests that his formula is probably the most accurate for these data.

4. Clarke's method. Clarke (1974:283-87) has developed a formula specifically for estimating the population of prehistoric Pueblo settlements based upon ethnographic work he did at Cochiti Pueblo. The estimates derived for Dos Casas Hamlet by applying Clarke's formula (Table 35) appear to be too large. Use of this formula probably must be applied to actual "pueblo" habitations with contiguous roomblocks (as was Clarke's original intent) rather than to the dispersed hamlets typical of the late Basketmaker III - early Pueblo I periods in the Dolores area.

5. White and Parsons' method and Rohn's method. White and Parsons (Rohn 1977:267) suggest two individuals per surface room and 10-12 individuals per pithouse. Both of these estimations, however, conflict with other archaeologists' assessments of the nature of pithouse households. Lancaster and Hayes (1975:23) and Rohn (1977:269) indicate that pitstructures were probably single family dwellings rather than multiple family units. This is supported by Cook (1972:15) who discusses family size and the minimum space required within for a family to carry on its domestic operations. For a population to maintain itself, average nuclear family size must be at least 4.5 people, but for population to increase, higher averages of five to six individuals per family are

required. Cook indicates that the minimum space required for a family of four-six ranges from 120-350 square feet. He further states that "no house under 350 square feet could have contained a family of more than 6.0 persons..." This suggests that the estimates of 9-12 individuals per pithouse, derived from Clarke's and White's and Parsons' statistics are probably excessive for Pithouse 2, which contains only 300 square feet (25.6 sq m) of floor space.

Average family sizes of four-five individuals have been used to estimate Pueblo settlement populations (Rohn 1971:262). Using this figure for each living structure, and assuming contemporaneous use of the structures, a population of 12-15 individuals is indicated for the later component of this site. As discussed previously, however, some of the living structures at the site (specifically the two surface rooms) probably were used only seasonally. Hence, the total population was probably less than the 12-16 individuals calculated using the concepts of White and Parsons and Rohn.

To summarize, it appears that the estimates calculated using Naroll's and Leblanc's methods (four-five individuals for both elements) are too small for the quantity of space and facilities originally present at Dos Casas Hamlet. Assuming a seasonal use of Rooms 2 and 5 as living areas, the estimates arrived at using Clarke's, White's and Parsons' and Rohn's methods (12-16 individuals) are probably too large. The "best fit" estimate (seven-nine individuals) was gained using Casselberry's method. Birkedal (1976:443) reports that he also obtained the best estimates for prehistoric populations by employing Casselberry's formula (in this case, the formula was used to estimate pithouse populations during the

Basketmaker III period at Wetherill Mesa, Mesa Verde National Park).

Community Activities and Social Organization

Evidence of community activities for small settlements of late Basketmaker, early Pueblo affiliation are more limited than those for later Pueblo sites. It is unlikely, however, that a single small habitation such as Dos Casas Hamlet served as a full "community" in the usual sense of the word. A group of contemporaneously occupied habitations probably functioned in this manner in this part of the Sagehen Flats Locality during the Sagehen Phase. Dos Casas Hamlet has been tentatively classified as a habitation unit of the West Sagehen Neighborhood, a dispersed early farming community in the area. Because data relevant to this inter-site level of analysis is not yet available to the authors of this report, the comments below refer to intra-site observations, and consequently address the "community activities" question only partially.

The best population estimate (seven-nine individuals during both Elements 1 and 2) for the habitation indicates that more than one household unit may have inhabited the site (extrapolating from the average household size as described by Parsons (1973) for Laguna Pueblo and by White (1962) for Zia Pueblo). A conjecture is that two households or possibly one extended family were present at the site during both elements. Each household or extended family sub-unit occupied a room suite (Suite 1 would consist of Rooms 1 and 5 and Occupation/Activity Area 2, and Suite 2 is made up of Rooms 2 and 3 and Occupation/Activity Area 4) and shared the contemporary pithouse with the other inhabitants of the site. During the winter months all social units then used the single pithouse as a

domicile. This hypothesis has some collaborating evidence from interpretation of feature and artifact distributions in Pithouse 1: three potential mealing stations have been tentatively identified on the west portion of the floor (Fig. 79). These facilities would seem to be excessive for one household.

Pitstructures at this time probably still served as dwellings rather than as ritual and community assembly structures. The open air structures of the 5MT2193 roomblock may have served as areas of informal intra-community interaction, but evidence of organized activities is lacking in the available data. The small estimated population size and the proximity of the living rooms suggests that interactions were probably frequent and informal, and that there was little or no need for special measures to integrate community activities at Dos Casas Hamlet as well as for the West Sagehen Neighborhood.

Most activities at the site were probably carried out as routine tasks. Occasional cooperation between members of separate households was probably required in the construction and maintenance of site structures, and possibly in some subsistence activities. Most tasks were probably individual efforts involving the preparation of meals, maintenance of fuel supplies, preparation of clothing, and the manufacture of tools. Many of these were performed within the habitation structures and in occupation/activity areas. The presence of two hearths and three other shallow pit features outside the structures indicates that some activities were carried out in the area between the roomblock and the pithouse. No features have been identified south of this area, but work at the site is incomplete.

One activity carried out within the dwelling units for which there is direct evidence is the grinding of corn for food preparation. Another, involving the use of lithic materials, is suspected due to the occurrence of concentrations of these artifacts. Laboratory analyses of the materials will provide a better understanding of the nature of these activities. Other tasks were probably performed within the structures, but assessment of these must await completion of artifact analyses.

Population size and settlement layout suggest that the basic social unit was the household. Such units may represent nuclear families, but the definition of household does not necessarily entail the existence of biological ties. Later developments in Pueblo settlement patterns, involving the establishment of multiple habitation room and kiva associations, have been cited as indications of the operation of localized lineages. It is not known whether similar methods of organization were operating during the earlier Pueblo I and Basketmaker periods (Sagehen Phase in the Escalante Sector).

Trade

There is no evidence currently available to indicate that the inhabitants of either element of this site were engaging in trade relations with other culture groups, or with members of other Anasazi communities. Continued laboratory analysis may bring to light instances of such activities.

Culture Change

The two occupations at Dos Casas Hamlet were both apparently of relatively short duration. Remodeling of structures or features was not evident. Burning of the earlier pitstructure was followed by a period of site abandonment and subsequent reoccupation. No effort was made to clean out and rebuild the former structure. Instead, the remaining depression was abandoned to the forces of wind and water and another pithouse was built, with the ventilator system extending into the location of the earlier pithouse. A roomblock of wattle and daub construction was built to the north and functioned during both elements. The association of a pithouse with jacal-surface rooms represents the early transition of pithouse to surface room habitation. The possible reasons for this shift have been described elsewhere for Anasazi settlements of similar time periods (Gillespie 1976).

Assesment of changes in technologies at this site, like many other aspects of this report, are dependent upon completion of laboratory analyses. This, and other aspects of the site occupation will be considered further in a final report, following the completion of excavation, and the analysis of the data.