HIGHWAY U-95 ARCHEOLOGY:
COMB WASH TO GRAND FLAT

Assembled and Edited by Gardiner F. Dalley

with Chapters by
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A Special Report
Department of Anthropology
University of Utah

Submitted to the Utah State Department of Highways
in Fulfillment of Agreements:

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Dated Dec. 30, 1970, As Amended

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May be Quoted
Sketch map showing the approximate location of the U-95 sites in relation to existing U-95 and prominent area terrain features.
PREFACE

This report is in fulfillment of contract with the Utah State Department of Highways covering archaeological salvage research on the right-of-way of U-95 between Comb Wash and Grand Flats in San Juan, Utah. It is offered in this form primarily because the backlog of University of Utah Anthropological Papers is so large that publication of this material would be delayed from 18 to 36 months. While long delay would also constitute a breach of contract, the U-95 work happens to have great timeliness, because a number of scholars are now working on important research projects in southeastern Utah. This report will given them access to our findings which will have relevance for the other studies.

It should also be mentioned that the contents of this report are recognized as a minimal descriptive reporting of the raw data. No attempt has been made to achieve a uniformity of style by extensive editing. Except for Chapter 1, little comparative material has been included and no attempt at a discussion of the significance of these important sites against the full backdrop of southwestern prehistory is attempted. It is anticipated that the individual reports included here will be extensively rewritten and incorporated in a final University of Utah Anthropological Paper volume when the U-95 research is finished some time in 1975. Therefore, the report is both a completion of contract, and an interim scientific report.
Because the report has been prepared primarily for the State Department of Highways and intended for distribution by it, it is likely that many potential readers will not have any deep concern with the detailed descriptive material herein. Therefore, a portion of the first chapter labelled "Context and Significance", has been prepared by Gardiner Dalley for lay readers who are interested in learning the value of the research, without getting bogged down in detail. The data have proved to be quite important in the ways he indicates. It is our belief that State Highway personnel and others concerned with environmental impact on archaeological values are entitled to some statement of the scientific contributions made by salvage operations.

These comments would be incomplete without specific mention of the mutual advantages derived from this salvage operation by both the Utah State Department of Highways and the Department of Anthropology. The Highway administration was alert to and interested in what is now called environmental impact long before other agencies showed the slightest concern, and first entered an agreement with the Department of Anthropology nearly 15 years ago. Under a series of contracts with the Highway Department, the Department of Anthropology has "walked out" hundreds of miles of proposed highway construction and realignment in order to determine whether highway construction would jeopardize archaeological values. In most cases the alignments were cleared as not putting archaeological materials in jeopardy. In a few cases there has been threat to worthwhile locations and realignments have been recommended. In certain cases,
however, the Highway Department has deemed the cost of salvage to be less than the cost of realignment and has offered separate contracts covering archaeological excavations of threatened sites. On its part, therefore, the Department of Anthropology has recovered very important new data, particularly in southwest Utah. These data moved us forward toward some of our research goals, particularly with respect to the unique Fremont culture of Utah. As Chapter 1 will show, the Comb Wash salvage program has also resulted in equally expanded knowledge of the Anasazi cultures of San Juan County. As it happens, the U-95 centerline provided a perfect random transect of sites, which upon examination gave a sampling of some 1,000 years of local prehistory. Thus, science on the one hand and conservation of resources on the other hand have been well served by the cooperation between these two departments.

As a final word, I am impelled to mention the uniformly excellent working relationships I have experienced with Messrs. Blaine Kay, David Sargent, and Jerry Fenn of the Highway Department through the years. Their interest in the conservation of archeologic values and what has come to be known as environmental integrity, as well as their great patience with the occasional amendments or modifications of contracts field discoveries have necessitated, have made me value the association with them.

Jesse D. Jennings
May 10, 1973
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CHAPTER 1

THE U-95 SALVAGE PROJECT

by Gardiner F. Dalley

INTRODUCTION

This chapter is intended as an introduction to the descriptive material to follow and as a preliminary synthesis of the salvage work thus far accomplished along U-95. As noted in the preface, the purpose of this report is two-fold; first, to meet contract obligations with the Utah State Department of Highways, and secondly, to make the U-95 data available as expeditiously as possible, even though in preliminary form. There is a good deal of archaeological activity on-going in southeast Utah: That of Brigham Young University on Elk Ridge and in Montezuma Canyon, and Lipe and associates from the Museum of Northern Arizona on Cedar Mesa. Also, the Bureau of Land Management and the Forest Service currently have staff archaeologists stationed in Monticello, both of whom are actively engaged in recording and evaluating archaeological resources of the area. Hopefully, these initial data will be useful to the various individuals working the area.

Following these introductory notes are nine chapters, each dealing with a single site and written by the individual immediately responsible for site excavation. These chapters are primarily descriptions of site-associated phenomena; little interpretive or comparative data are included. The concluding chapter is a short description and resume' of the types,
complexes and affiliation of the ceramics from each site. It will be
noted that in the chapters describing individual sites, non-ceramic
artifacts have been given particularly short shrift. All chapters include
at least a minimal note on finds, but in some cases, these are not full
descriptions and the material is not tabulated in the provenience tables.
This will be corrected in the final report, but for present purposes is
not considered necessary, particularly since non-ceramic artifacts
were rare and generally not in contexts indicating time sensitivity.

As indicated, this report is not meant to be a definitive statement
on the U-95 work. The work is continuing and will result in both new data
and new views of previously accumulated date. The U-95 transect,
moreover, is in an area with virtually no other archaeological data
available. Quite simply, we are not yet in a position to make final pro-
nouncements or undertake a detailed comparative analysis. Most of the
statements in this chapter outline hypotheses for future testing, or as
questions begging answers. No doubt some of the hypotheses and questions
will elicit response from other scholars working the area, while some
may be solved with more research on U-95 itself.

CONTEXT AND SIGNIFICANCE

Southwestern Prehistory

As this report will be distributed to many individuals not involved
in archaeology as a profession, a very brief and simplified outline of
Southwestern Prehistory is in order. Hopefully, this will provide a base
and context for understanding what is involved in the U-95 salvage work.

More than a geographic or physiographic entity, the American Southwest defines an area at one time inhabited by various groups practicing agriculture (mainly maize, beans and squash) and sharing certain other traits, such as pottery manufacture, substantial architecture, etc. Certain of these traits or trait complexes probably ultimately derive from the Valley of Mexico, but were adapted to local conditions, and through time, developed in definably different patterns in various areas.

Prior to the introduction of cultigens, the area known as the Southwest was occupied first by big game hunters (the Clovis, Folsom and a variety of Plano Traditions--ca. 12,000 to 8000 B.P.). Following the extinction of the late Pleistocene megafauna, the primary exploited resources of the big game hunters, the southwest was occupied by peoples of a very widespread tradition known as the Desert or Western Archaic (ca. 8000 B.P. to A.D. 1). The Archaic tradition is marked by a hunting and gathering economy, geared to the exploitation of the varied, but somewhat scattered and nowhere overly abundant resources of the Desert West. By sometime prior to A.D. 1, some of the Desert Archaic groups had become sufficiently regionally differentiated and distinct that later regional traditions may at least in part be accounted for by this factor.

While maize, at least, may have been introduced into the southwest as early as 2500 B.C., the coalescence of Southwestern agriculturally based traditions, as marked by permanent settlements, pottery, and
substantial architecture (the pit house, particularly), is not definable until a much later period. At present, dates of ca. 400 B.C. from the Mogollon area (see below) appear to be the earliest for sites in the Southwestern agricultural tradition. New data from Snaketown, the type site for the Hohokam, also gives dates of 400 B.C., while the Anasazi agricultural tradition is not in evidence until some time during the period A.D. 1 to A.D. 500.

While distinct in many respects from Archaic traditions, the Southwestern agriculture traditions nonetheless represent a continuum rather than a break from the Archaic. New traits were introduced, integrated and elaborated, but many artifacts and certainly the Archaic life-way of hunting and gathering were retained to some extent. Continued exploitation of wild resources was probably of particular importance. At best, much of the American Southwest is marginal agricultural country. Water is nowhere abundant and save along the few major rivers, is available only in the form of rainfall, often erratic from year to year, or coming in the form of torrential cloudbursts, highly erosive unless controlled.

The major agriculturally based traditions known for the American Southwest are the Hohokam, the Mogollon and the Anasazi. The regions defined for the Hohokam is the most areally restricted of the three, consisting at one time of most of the southeastern portion of Arizona. This is generally extremely arid country, and the Hohokam were involved in much more elaborate irrigation systems than found in the Anasazi or Mogollon areas. Miles of large canals are known, and countless miles
have undoubtedly been obliterated by historic activity in the area. Also, the Hohokam shows a much more marked Mexican flavor than either the Anasazi or the Mogollon.

At the time of maximum definable extent, the Mogollon area covered most of southern New Mexico, a small area of southwest Arizona (bordering and at one time overlapping considerably with the Hohokam), as well as substantial lobes into northern old Mexico and Texas. Archaeologically, the Mogollon is best known from southwest New Mexico. Popularly, the Mogollon is best known from later periods when the beautifully decorated and well known Mimbres pottery was manufactured.

Partially bordering the Mogollon area on the north, the Anasazi once occupied most of the northern half of New Mexico, about the northern 1/3 of Arizona, a substantial portion of southwest Colorado, a narrow strip extending totally across southern Utah, as well as a small section of southeast Nevada. Stimulus for Anasazi development appears to have been via the Mogollon, rather than the Hohokam.

Immediately north of the Anasazi area as outlined above, yet another agricultural tradition once existed that covered virtually all of Utah as well as portions of eastern Nevada and western Colorado. Known as the Fremont, this tradition shows many Anasazi traits, generally parallels the Anasazi in time, and no doubt developed under stimulus from the Southwest. Some scholars consider this tradition as Anasazi per se, albeit a somewhat attenuated and backward version. In fact,
it is still postulated that the Fremont area was populated by Anasazi frontiersmen. Extensive and recent research by University of Utah scholars, however, has shown the Fremont to be an in situ development from an Archaic base. The tradition should not be considered Anasazi, as it is as distinct from the Anasazi as the Anasazi is from the Mogollon or Hohokam. However, despite some evidence of Plains influence in the Fremont, it should probably be considered a Southwestern tradition with taxonomic status equivalent to Anasazi, Hohokam and Mogollon.

As indicated above, at maximum extent the Southwestern traditions covered a fairly large area. This fluctuated, however, from period to period. After full development, the major prehistoric event involving area of occupation occurred at about A.D. 1300 when the Fremont and Anasazi abandoned all of Utah, Nevada and Colorado, as well as substantial portions of Arizona and New Mexico. Insofar as can be demonstrated from the archaeological record, the Fremont simply disappeared from the face of the earth, although in fact this can hardly be literally true. There is simply insufficient evidence available to support any specific position as to the "fate of the Fremont". With the Anasazi, it has been demonstrated that they concentrated in well-defined areas of northeastern Arizona, and Central New Mexico (almost border to border from north to south). Also, some small areas of concentration are found between the two major areas. The reasons for Anasazi withdrawal and concentration are not wholly clear. Environmental deterioration and/or pressures from nomadic groups are most often cited as primary reasons. It is
most likely that no one factor was wholly responsible, rather a combination of circumstances probably caused the withdrawal and concentration. Concentration of the Anasazi continued through the prehistoric period, with the major area centered around the Rio Grande Valley of northern New Mexico and some small, restricted concentrations to the west. Historic Anasazi Pueblos are likewise concentrated in the upper Rio Grande Region.

The Hohokam and Mogollon also contracted and consolidated during the prehistoric period, although somewhat later than the Anasazi. By ca. A.D. 1900, however, the Historic Hohokam (Pima-Papago) were restricted to a few discrete locales, mostly in extreme southern Arizona, and the Mogollon no longer existed in their prehistoric area of occupation. Although, there is some evidence that the historic Zuni are of Mogollon descent (Jennings, 1968, 258).

Context for the sites noted in this report is Anasazi, more specifically, the Mesa Verde Branch of the Anasazi. Depending on bias and source of information, there are either two or three major sub-divisions or branches of the Anasazi tradition. These are the Mesa Verde, the Kayenta-Virgin and the Chaco.

The Mesa Verde area may be generally defined as the four-corners area of Utah, Colorado, Arizona and New Mexico. More precisely, Herold (1961) defines the area as "Parts of the Colorado Counties of Mesa, Archuleta (the western third), La Plata, Montezuma, Dolores, San Miguel and Montrose (the western third). . . . The northern third of San Juan
County, New Mexico and the southern three-quarters of San Juan County, Utah complete the area". However, it appears from other data that the Mesa Verde area extends somewhat further south than Herold indicates, and that the northwest corner of Arizona should be included.

The Kayenta-Virgin area is located generally west of the Mesa Verde, in the northern portion of Arizona, the southwest two-thirds and southern Utah, and a section of southeast Nevada. Also, in some areas, the Kayenta borders the Mesa Verde on the south.

The Chaco area, though limited in extent, shows some very distinct traits and probably should be accorded the same taxonomic status as the Mesa Verde and Kayenta-Virgin Branches. The Chaco is best known from, and apparently virtually limited to a portion of Chaco Canyon in northwestern . Among other things, the Chaco area is marked by the presence of distinctive masonry work and an abundance of "Great" (very large and nicely constructed) Kivas.

Also within each major Anasazi branch are certain recognized temporal and spatial divisions that run to nearly encyclopedic proportions (regions, districts, periods, phases, foci, components, etc.). While certainly of concern to Southwestern archaeologists, for the purposes of this section, these need not be pursued in any detail. Some note need be given, however, to a period time scale for the Anasazi in general and the Mesa Verde area in particular. There have been a number of schemes proposed for dividing the span of Anasazi occupation into time periods.
associated with certain developments in cultural traits. The first of any consequence and developed primarily by Kidder in the 1920's is known as the "Pecos Classification" after a 1927 conference at Pecos, New Mexico where the details of the classification were worked out by a group of Southwestern specialists. The Pecos system of classification has been often criticized as being too rigid. The rigidity, however, is not particularly inherent in the system, but rather is a function of uncritical application. The system was meant to be a flexible set of guidelines for sequentially ordering Anasazi Prehistory. If applied in this manner, it is a useful tool. However, if the now dated classification along with associated traits is taken as the hard and fast sequence for the whole of the Anasazi area, it becomes misleading and as much a hindrance as a help. As presently outlined, the generalized Pecos Classification is as follows (after Jennings, 1968, 266).

<table>
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<td>Pueblo IV</td>
<td>Pre-A.D. 1</td>
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<td>Pueblo III</td>
<td>Basketmaker III</td>
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<tr>
<td>Pueblo II</td>
<td>A.D. 800/850-1100</td>
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<tr>
<td>Pueblo I</td>
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<td>(where it exists)</td>
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<tr>
<td>A.D. 1700 to the present</td>
<td>A.D. 450-750</td>
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<td>A.D. 1300-1700</td>
<td>A.D. 1-500</td>
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<td>A.D. 1100-1300</td>
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<td>A.D. 800/850-1100</td>
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<td>A.D. 750-900</td>
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In closing this brief review, it may be of some interest to the reader that certain virtual paradoxes exist that have, and to some extent continue to hamper Southwestern archaeology. First, excavation in the Southwest has been on-going since the late 1800's and hundreds, if not
thousands of sites have been excavated. However, only a fraction of these sites have been reported in readily available form. While more true of the very early period of exploration and non-scientific digging, the practice of not expeditiously publishing data has been self-sustaining and continues to date. This is not to deny, however, that there is a massive and highly informative literature on the Southwest and many scholars get new data into print as rapidly as possible.

Secondly, there is a strong tendency to equate Southwestern prehistory wholly with large ruins or clusters of ruins such as Mesa Verde, Pecos, Canyon de Chelly, Betatekin, Pueblo Bonito, Snaketown, Casa Grande, etc. This is not only evident in the view of the general interested public, but in much professionally generated literature derivative from Southwestern work. While the large sites with monumental architecture are important, they are in fact exceptional, rather than typical of settlements through the span of Southwestern prehistory. Not only that, excavation of a really large site requires massive expenditures of time and money; whereas the same amount of time and money invested in the investigation of a number of smaller sites is much more productive in terms of information.

Somewhat strangely, there have been very few attempts at a detailed synthesis of Southwestern Prehistory. While dated, Kidder's (1924) "Introduction to Southwestern Prehistory" has not yet been surpassed for clarity, lucidity and insightfulness. Numerous site reports, specialized studies and regional summaries are available, but attempts at a
detailed and overall integration are pitifully few.

Significance and Potential of the U-95 Work

Cedar Mesa is an extremely rich archaeological area, but to date is rather poorly known. Some work has been done on the mesa, but most is either on-going, not reported or not readily available. Lipe (cf. Lipe and Matson, 1971) has done an intensive survey of some areas of the mesa and has excavated a few sites. His work, however, is still in progress and has been focused primarily on Basketmaker II and Basket-maker III sites. While full reports of Lipe's work are not yet available, he has published highly insightful and stimulating initial statements (cf. Lipe and Matson, 1971), and it is expected that comparisons and integration of Lipe's work and the U-95 work will be very informative.

Vast collections were taken out of caves in Grand Gulch in the late 1800's and early 1900's. None of this work, however, was ever reported and with a few exceptions, the collections are scattered or lost. Thus, as with many Southwestern areas, an immense amount of data from Cedar Mesa has been irretrievably lost.

A survey of portions of Cedar Mesa was carried out in conjunction with the Glen Canyon salvage project (Weller, 1959). Also as part of the Glen Canyon project, Sharrock (1964) excavated two small sites on Grand Flat, one definitely a Basketmaker III site and the other probably early Pueblo III.

In a sense, therefore, the U-95 work is of an initial exploratory nature. With the exception Lipe's data, which are no doubt considerable,
the U-95 sites represent the largest corpus of archaeological information available for a rather large area.

In large part, the importance of the U-95 data is the result of happenstance. The route of U-95 has apparently crossed sites representing every major occupational period on Cedar Mesa, with the exception of definable Basketmaker II. Thus, U-95 amounts to a random transect that probably could not be bettered save by a very extensive survey specifically oriented to locating sites of different periods. In the case of U-95, this time consuming task was an incidental result of the work by the highway engineer. The significance and importance of having a random sample of sites from different periods is outlined in more detail in later sections of this chapter. Suffice it to note here that we have obtained a beginning grasp of the sequence and cultural history of the area that would be otherwise very difficult to come by.

Located near the western margin of the Mesa Verde area, the U-95 sites provide an excellent opportunity to view the dynamics of interaction between the Mesa Verde and the Kayenta to the west. Also, far removed from the apparent centers of Mesa Verde development, the U-95 sites should provide data relative to regional Mesa Verde variation. As outlined in following sections, some data relevant to both these avenues of study have already been extracted from the U-95 sites. More precision of statement, however, should follow additional field work and more intense analysis.
Also, the Cedar Mesa located U-95 sites are between two areas, each with a fair corpus of available archaeological data (particularly so to the south on the Red Rock Plateau). Comparison between these three western, basically Mesa Verde areas should be quite illuminating. In fact, as initially outlined below, marked differences are already apparent and should come into sharper focus with more detailed comparison.

In sum, then, the U-95 project has not only provided for the recovery of considerable new raw archaeological data, it has opened several avenues for further potentially informative and quite exciting and stimulating research.

LOCATION AND SETTING

The sites reported herein are located along a 7 mile section of Highway U-95 from the west bank of Comb Wash to slightly west of Mule Canyon. Additional sites are known on the section of U-95 west of Mule Canyon to Grand Flats and are programmed for excavation during 1973. Highway U-95 continues west of Grand Flats for approximately 40 miles, terminating at Halls Crossing on the Colorado River. Some portions of this section are scheduled for realignment and it is quite possible that yet more sites will be found that will require salvage excavation.

From Comb Wash to Halls Crossing, U-95 runs very near the northern edge of Cedar Mesa, defined by Lipe and Matson (1971) as: "... bounded by the San Juan Valley on the south, by the valleys of
Comb Wash and Lime Creeks on the east and southeast, by the Elk Ridge highlands and White Canyon on the north and northwest, and by the western edge of the Grand Gulch drainage basin on the west".

Elevations at the north end of Cedar Mesa are in the vicinity of 6500 to 7000 ft. The Mesa is slightly lower to the south, at elevations of 6200+ ft. With the exception of the deeply entrenched water courses such as Mule Canyon, Grand Gulch and Fish Creek, general relief on the mesa is not great; ridges are rather low and gently sloped, while recent erosional gullies and water courses are quite shallow.

Vegetation on the Mesa is dominated by an extensive pinyon/juniper forest, with extremely dense stands in many areas. Interspersed in the forest are open, sage-covered parks, noted by Lipe and Matson (1971) as occupying areas of the deepest soils on the Mesa. Numerous other plant species are found on the Mesa, including a variety of grasses and forbs and abundant cacti along with some yucca and other high-desert associated species. The entrenched watercourses support a variety of shrubs and generally more mesic species than found on the open mesa. At the north end of the mesa, at least, restricted stands of large pine (Pinus ponderosa) are found in some of the deep canyons.

The mesa is capped by Cedar Mesa Sandstone, exposed in the canyons with outcrops on the mesa itself. Generally, however, the mesa sandstone is covered by a thin mantle of sandy soil, mostly derivative from weathering of the underlying sandstone. Cedar Mesa is within the Colorado Plateau physiographic provenience, but is neither as extensively
dissected nor as severe in general environmental considerations as is
typical of many other plateau areas.

SITE CHARACTERISTICS

By general Southwestern standards, the sites excavated along U-95
are small, both in areal extent and in the number of phenomena encount­
ered. Concomitantly, site areas are discrete and sharply delimited.
There is little scatter of cultural material on the periphery of sites, and
there is little general scatter of material between site areas.

Most sites are located on slightly elevated ground, either isolated
knolls or low ridges. The BM III Lizard Ridge and Egg Hamlet sites,
however, while on small ridges, are both situated with higher ground to
the north. Consequently, both were more affected by post-abandonment
erosion (mostly minor gulling) than were the remaining sites dealt with.
In general, post-abandonment erosional/depositional activity appears to
have been minor over the area of investigation. Occupational surfaces
at nearly all sites were found under only a few inches of sand and
very few features had been damaged or exposed by the action of wind
or water.

A particularly striking feature of the U-95 sites is the apparent
short period of occupancy of individual sites or site components. As
previously noted, sites are small, consisting of only a few structures and/
or other kinds of constructed features. Occupational deposits are very
shallow; in particular, middens are shallow, diffuse and poorly developed,
and contain little cultural material of any sort—notably they are almost totally lacking in scrap bone. Pottery sherd collections from the sites are small for Southwestern sites (see Chapter 11), and non-ceramic artifacts were found in very limited quantities. Only two burials were found at the nine sites excavated. Also, on the single component sites and specific components of the other sites, there was no evidence of superposition (stratigraphy) and very little evidence of modification or rebuilding of original structures.

In sum, the evidence rather strongly indicates short periods of occupation at any one locale. Quite probable this relates to economic and possibly social considerations; however, there are no data now available to explore these factors further. A qualified statement can be made, however, about aboriginal population density on Cedar Mesa. The mesa is literally rife with sites, some areas surveyed by Lipe (Lipe and Matson, 1971) contain as many as 30 per square mile. Such site density could be considered to also indicate considerable population density. However, given the occupational span represented on the mesa plus general small site size and the apparent short-term occupation of sites, it is more reasonable to assume a relatively small, scattered and somewhat transient population.

As indicated above, some of the U-95 site areas include more than one component. This has been stratigraphically demonstrated for Zero Plaza and Surprise Village (see Chapters 3 and 5). Also, there appear
to have been markedly earlier occupations at the P III sites of Alternate Village and Gnat Knoll, as well as at the P II Center Beam site. The BM III sites of Lizard Ridge and Egg Hamlet are definitely single component, as is Rattlers' Midden (which could be considered a horizontal component of Gnat Knoll as it is on the same small ridge). The "second" components (whether earlier or later than the main one that defines site occupation) are of very small scale, in some cases consisting of one or two structures, or, more commonly, simply represented by small collections of pottery far out of main site period context (e.g. BM III-P I types on late PI or P III sites).

ECONOMY

Thus far, most data on the economic orientation of the U-95 site inhabitants are of an indirect nature. Neither the remains of cultigens nor of wild plants were recovered from the sites. Flotation and pollen studies soon to be undertaken should yield more precise information. Also, faunal remains from the sites were very limited, so little data is available on the utilization of the potential animal resource.

Inference alone, however, indicates that the mesa was being farmed. Most sites, while thought to have been occupied for relatively short periods, are of a substantial nature and indicate year around villages, rather than seasonal camps. This of course does not mean that the occupants were in residence every day of the year. Rather, it is reasonable to assume that forays, possibly extended, were made to
exploit the natural resources of the mesa and surrounding washes and high country. Lipe and Matson (1971) have noted isolated trash accumulations, sometimes with firepits, as one type of site on Cedar Mesa, but not associated with substantial structures. These seem to span the occupational period for Cedar Mesa and may represent temporary gathering/foraging camps.

Found in the U-95 sites are well-used manos, metates, "mealing bins" and apparent storage facilities. With the Anasazi in general, these items are normally associated with the processing and storage of maize, although they would have served as well for other kinds of food.

Cedar Mesa is suitable for farming. The growing season ranges from ca. 144 days in the south to about 129 days in the northern portion where the U-95 sites are located (Lipe and Matson, 1971). Soils are sandy, shallow and contain quantities of carbonates, but support considerable vegetation. Annual rainfall on the mesa ranges from 10 in. in the south to 12 to 13 in. in the north, with 30-40% falling during the period May-September. While no direct evidences of aboriginal water control have been found, some sort of catchment/diversion/concentration system would have been feasible and probably necessary. Several springs are located on the mesa and sandstone potholes hold rainwater for a surprisingly long time—some in a small, sheltered canyon slightly northwest of Alternate Village contained water practically the whole summer. Of interest is a note in Lipe and Matson (1971) that there is presently a dry farm near the center of Cedar Mesa where beans and other small
crops have been successfully grown.

Wild resources appear to be abundant on the mesa, although as yet no concentrated effort to identify or collect representative floral or faunal species has been made. Evident are grasses and other small-seed bearing plants, yucca and abundant prickly-pear cactus. The sego lily is present and noted as abundant by Lipe and Matson (1971, 128). Small mammals (Legomorphs and rodents) are commonly seen and snakes and lizards are common. The northern portion of Cedar Mesa is prime winter range for deer; in fact, Bureau of Land Management representatives report that a few years back the herds became so large as to endanger the range. In some areas, one can still see juniper stripped of all branches to a height of six or seven feet. Despite the large winter herds of deer, in two summers of work in the area our crews did not sight a single deer.

SEQUENCE AND DATING

Dating of the U-95 sites has been accomplished by using a combination of dated pottery types and a few radiocarbon and tree-ring dates. When the chapters following were written, the absolute dates were not available and all dating was based on pottery types. However, since this report is a preliminary effort, the descriptive chapters have not been changed; considerations of absolute as compared to relative dating and sequence are restricted to this section.
Absolute dates available for the U-95 sites are as follow:

**Tree-Ring** (Laboratory of Tree-Ring Research, Accession Number A-293)

<table>
<thead>
<tr>
<th>Specimen No.</th>
<th>Provenience</th>
<th>Dating</th>
</tr>
</thead>
<tbody>
<tr>
<td>UWM-10 (Juniper)</td>
<td>Surprise Village (42Sa2139) Pit Structure 1 Floor</td>
<td>903±p 1056r</td>
</tr>
<tr>
<td>UWM-11 (Juniper)</td>
<td>Surprise Village (42Sa2139) Pit Structure 1 Floor</td>
<td>897p 1056r</td>
</tr>
<tr>
<td>UWM-9 (Juniper)</td>
<td>Surprise Village (42Sa2139) Pit Structure 2 Floor</td>
<td>931p 1056rB</td>
</tr>
<tr>
<td>UWM-13 (Juniper)</td>
<td>Center Beam Site (42Sa2141) Pit Structure - Fill</td>
<td>903±p 1001vv</td>
</tr>
<tr>
<td>UWM-12 (Juniper)</td>
<td>Center Beam Site (42Sa2141) Pit Structure - Fill</td>
<td>830±p 1017+vv</td>
</tr>
<tr>
<td>UWM-15 (Juniper)</td>
<td>Egg Hamlet (42Sa2142) Pit Structure - Fill</td>
<td>407 597vv</td>
</tr>
<tr>
<td>UWM-14 (Juniper)</td>
<td>Egg Hamlet (42Sa2142) Pit Structure - Fill</td>
<td>376 603vv</td>
</tr>
</tbody>
</table>

**Radiocarbon** (Radiocarbon Ltd., New York)

<table>
<thead>
<tr>
<th>Specimen No.</th>
<th>Provenience</th>
<th>Dating</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL-240</td>
<td>Zero Plaza (42Sa2135) Firepit of Pit Structure</td>
<td>2050±120 or ca. 100 B.C.</td>
</tr>
</tbody>
</table>

Note: p = probable cutting date; B = bark present, definite cutting date; vv = probably many rings lost; + = outer rings crowded, probably some absent in series.
Even with the somewhat limited data available from the U-95 sites, it is patently obvious that the occupational and developmental sequence for Cedar Mesa will have to be worked out from internal evidence. While traits such as pottery types and architecture found on Cedar Mesa are distinctly of Mesa Verde affiliation, they do not occur in exactly the same combinations or within the same time frame as in other Mesa Verde areas to the south and east. Certainly external comparison and extrapolation is necessary and some generalized time scale/developmental sequence is necessary for comparative, as well as communication purposes. With this in view, the Pecos classification has been used for this report along with the generalized period dating as developed since the Pecos Conference.

Still, dating, sequence, and clusters of traits marking certain developments or "periods" of occupation will have to be worked out internally. Only then will there be an adequate base for making specific and/or general comparisons. As an example of the foibles of extrapolating data from other areas to the U-95 sites, it will be noted in the chapters to follow that certain associations of pottery types, or site plan, have lead the excavators to postulate either long-term site occupation, or dates not supported by the tree-ring evidence.

Following are certain apparent factors extracted from the U-95 site data that indicate the requirement for intensive internal analysis prior to any attempt at extensive external contextual comparison:
1. There is evident in the U-95 site sample a marked occupational hiatus, spanning at least the period from ca. A.D. 700 to ca. A.D. 900 and possibly as much as from the early 7th century to the early 11th century. At a minimum, this covers the period elsewhere defined in the Mesa Verde area as Pueblo I and may also involve late Basketmaker III and early Pueblo II. In part, this situation appears to be the norm in the extreme western portion of the Mesa Verde area.

To the north of Cedar Mesa, Rudy (1955) reports nine sites of Mesa Verde affiliation in the Beef Basin area. On the basis of pottery cross dating, Rudy considered the sites to represent a late P II-early P III period of occupation. Tree-ring dates later reported for some of the Beef Basin sites generally bear out Rudy's pottery dating (Bannister, 1964); although, the tree-ring determination all fall near the middle 13th century, or somewhat later than Rudy's estimate. Additionally, in the Red Rock Plateau area south of Cedar Mesa, Lipe (1967) has synthesized and integrated an immense amount of archaeological and environmental data. Of interest in the present context is Lipe's data indicating virtually no Anasazi occupation in the area until the P III period, the exception being somewhat limited evidences for occupation during BM II times.

The Cedar Mesa sequence appears to differ from the Beef Basin and the Red Rock Plateau areas primarily in the presence of an extensive and well-developed BM III occupation. If generally correct, this factor introduces an entirely different set of questions for Cedar Mesa than those raised by the lateness of occupation in Beef Basin and on the Red
Rock Plateau. Quite simply, it appears that the Beef Basin and Red Rock Plateau areas were not occupied until relatively late, while Cedar Mesa seems to show a sequence of (1) intensive occupation (2) virtual abandonment (3) intensive occupation. The occupational hiatus of Cedar Mesa seems to be real rather than apparent, as indicated both by absolute dating and cultural traits relatively dated.

2. Compared to other Mesa Verde areas and to Breternitz' (1966) tree-ring association dates, there appears to be some lag in pottery types vis-a-vis cultural period on Cedar Mesa. The evidence from the U-95 sites indicates that rather than a late introduction of period marker types, some types persist in quantity into later periods. At present, this assertion cannot be fully documented with the U-95 site data; the pottery sample is probably sufficient, but absolute dates are severely limited. The best evidence comes from the Surprise Village and Center Beam sites, both P II settlements dating to the early and middle 11th century A.D. In the pottery collections from both sites are substantial amounts of San Juan Red Ware, including significant numbers of Bluff and La Plata Black-on-red. Red wares of any sort have been noted as very uncommon in P II context from other Mesa Verde areas (Brew, 1946), and Bluff and La Plata Black-on-red are generally considered P I marker types (Colton, 1956) with dates of abundance ending ca. A.D. 900 (Breternitz, 1966).

Additionally, there may also be an unusually high percentage persistence of certain P II associated pottery types in the U-95 P III
sites. Internal dating control on the P III sites, however, is not yet sufficiently firm to back this possibility with hard data.

Lipe (1967) has argued strongly against a lag in pottery types from Red Rock Plateau sites, although the "lag position" is apparently favored by other scholars familiar with the area. Lipe holds that apparent aberrant pottery associations result from long-term site occupation and/or mixing of deposits. Neither of these arguments seem applicable to the U-95 sites. As indicated above, evidence indicates quite short-term occupation of the sites reported herein. Additionally, sites indicating more than one component also show that periods of occupation were widely separated in time (i.e., small BM III-P I components at late PII-early P III sites). The one exception is Surprise Village where a P III component overlay a late P II occupation; this particular situation, however, has no relevance to the issue at hand. As noted, the best evidence for lag is with the San Juan Red Wares. At both Surprise Village (A.D. 1056 - 3 tree-ring dates) and the Center Beam site (ca. A.D. 1000-1020+ - 2 tree-ring dates), the red wares were found in direct association with dated material, or in contexts, such as pit houses fill, suggesting even later deposition.

3. The U-95 sites dating to the middle (and later) P II period indicate that the pit house, as an apparent residential unit, persisted on Cedar Mesa after the typical Mesa Verde kiva had come into vogue in other Mesa Verde areas (cf. Brew, 1946). The pit houses from Surprise
Village and the Center Beam site are advanced forms showing such features as wall-inset and plastered posts, wall plaster, horizontal/vertical tunnel ventilation systems, wall niches, lack of wing walls, and cribbed roofs. A bench, however, is present in only one example (Pit Structure 1, Center Beam site).

Also, pit houses rather than kivas in late P II sites do some violence to dating sites according to layout and architectural features. The prime example in the U-95 sample is Surprise Village, dated at A.D. 1056, where such features as pit houses set south of a curving line of jacal and masonry storage/activity structures would probably be considered typical P I in other areas and in the absence of other dating methods.

4. With the exception of the presence of substantial amounts of Lino Gray in some early (BM III) sites, there is very little evidence of Kayenta influence in the U-95 sites. By ordering the U-95 Basketmaker sites from earliest to latest (see below), it is evident that Lino Gray was rapidly and almost wholly replaced by Chapin Gray prior to the end of the BM III period. Save for a sherd or two of Kayenta affiliated polychromes and a few sherds of Tsegi Orange Ware, there were no Kayenta types recovered from the P II and P III sites in the U-95 sample. This situation seems to differ markedly from the Red Rock Plateau area to the south where Lipe (1967) reports sites yielding an abundance of both Kayenta and Mesa Verde pottery types.

Using the dates and other data previously noted, the following
sequential ordering of the U-95 sites is proposed (earliest to latest):

(1) **Zero Plaza - 42Sa2135** (excepting the upper strata containing materials probably derivative from Alternate Village). The non-ceramic nature of the lower deposits and the radiocarbon date of ca. 100 B.C. from the firepit of the pit structure contained therein, leave little question that this is the earliest site of the U-95 group. Also it is an unusual site with few precedents in the Southwest.

(2) **Lizard Ridge - 42Sa2138**. The predominance of Lino Gray and the total absence of painted wares marks this as the earliest BM III site encountered.

(3) **Egg Hamlet - 42Sa2142**. Large percentages of Chapin Gray as opposed to Lino Gray plus the presence of Chapin Black-on-white indicates this BM III site post-dates Lizard Ridge. Tree-ring dates of ca. A.D. 600+ place the site near the middle of the BM III period.

(4) **Rattlers' Midden - 42Sa2151**. The presence of Abajo Red-on-orange in quantity indicates a late BM III or possibly early P I occupation of this isolated midden site.

(4a) This is the postulated early component of the P III Gnat Knoll site (42Sa2140). The presence of Moccasin Gray in combination with Chapin Gray and Abajo Red-on-orange make this poorly defined, but quite apparent component the only possible candidate for a P I manifestation in the U-95 sample.

(5) **The Center Beam Site - 42Sa2141**. A combination of tree-ring dates (see above), large percentages of San Juan Red Ware, and pit
house features indicate this to be the earliest P II site in the sample.

(6) Surprise Village - 42Sa2139. Tree-ring dates (see above) from this site are slightly later than at Center Beam (42Sa2141); also, percentages of San Juan Red Ware are somewhat less and pit houses are well-advanced forms. However, with the plus factor on the Center Beam site tree-ring determinations, there is probably not much time involved between the occupations of Surprise Village and the Center Beam site. The later component of Surprise Village cannot be adequately placed, except to note it is probably P III, as indicated by Mesa Verde Corrugated pottery.

(7) The Kiln Site - 42Sa2160. Sequential placement of this site is quite tenuous and based wholly on pottery. No definite P III wares were found, and red ware was absent. The numerous sherds identified as Mancos Black-on-white also show traits commonly found on Mesa Verde Black-on-white--rim form, design layout and elements. Probably the site is the latest P II representative in the sample.

(8) Gnat Knoll - 42Sa2141. The main occupation of Gnat Knoll (also see 4a, above) is defined as P III on the presence of Mesa Verde Black-on-white and Mesa Verde Corrugated. However, it is a toss-up whether Gnat Knoll or Alternate Village is the earlier. The Gnat Knoll Kiva is a more typically Mesa Verde form than that found at Alternate Village; however, architecture seems to not be a particularly good period indicator on Cedar Mesa, and P III pottery types are significantly more abundant at Alternate Village.
(9) Alternate Village - 42Sa2134. Definitely dating to the P III period, Alternate Village is considered the latest site in the U-95 sample [see Gnat Knoll (8), above for reasoning].
CHAPTER 2
ALTERNATE VILLAGE
by Gardiner F. Dalley

SETTING

Alternate Village is set near the east end of a small east-west ridge overlooking and about 1/4 mi. west of the channel of Comb Wash (Fig. 1). Rugged slick rock country is encountered about 100 yd. west of the main site concentration. The north side of the ridge slopes off very steeply into a wash originating in a small canyon north and west of the site. To the south, the ground breaks away more gently into small, short washes. The next major ridge to the south is about 400 yd. distant.

The ridge upon which Alternate Village is situated is one of probably several hundred overlooking and running perpendicular to Comb Wash. Virtually all these ridges show some evidence of occupation, many with much more extensive remains than found on the Alternate Village Ridge. As an example, the next ridge south shows evidence of a BM III - P I Village several times larger than Alternate Village. In short, the area at one time appears to have been prime country for Anasazi occupation/utilization.

Vegetation in the vicinity of the site varies widely. On the ridge itself is found a rather sparse cover of sage, grasses, Ephedra, a few junipers and a large variety of cacti. In the sheltered and watered canyons to the west pinyon are encountered along with a variety of shrubs and more
mesic species. Even when dry at surface level, there is water no more than 3 to 4 ft. below the surface in the bed of Comb Wash and a desert stream side community is supported; most conspicuous are numerous large cottonwoods. In the wash to the north of the site is an active spring supporting a very localized community of *Phragmites*, sedges and other species requiring a constant water supply.

**EXCAVATION AND STRATIGRAPHY**

When excavation was initiated, evidences of occupation consisted of a surface scattering of pottery sherds and stone detritus; also in evidence was the rubble marking the location of Dwelling/Storage Unit 1, a few scattered stones marking the location of Dwelling/Storage Unit 2, and a slight depression later found to be associated with a kiva.

Excavation was begun by clearing rubble from the Dwelling/Storage Unit 1 area and by trenching (5 ft. wide, oriented east to west) to the north and south of the rubble area (Fig. 2). The south trench was dug 2 to 3 ft. deep to provide stratigraphic control, while the north trench was placed so as to transect the surface depression. Trenches were later expanded and/or extended to accommodate excavation of features or further explore the site (Fig. 2). Additional trenches were opened as excavation progressed with a view to exposing additional buried features and defining site limits.

Near the toe of the ridge on the south side, small outcrops of bed-rock were exposed. Bedrock was also exposed in an east-west gully separating Dwelling/Storage Units 1 and 2. In excavation, bedrock was
encountered behind the west wall of Dwelling/Storage Unit 2 and toward the bottom of the kiva.

Site stratigraphy was not complex. The top layer (Stratum 1), ranging in thickness from 2 to 10 in. was a relatively loose, stained reddish sand covering the entire site area. Cultural material was contained throughout, but the layer is probably partly an occupational accumulation and partly the result of post-occupation wind and water activity. Underlaying Stratum 1 and extending to bedrock is a very hard, compact deposit of reddish sand, generally cemented by carbonates and containing numerous seams and pockets of white caliche. The surface of Stratum 2 was the surface of occupation. This was very well defined near structures where the surface had picked up a marked stain; in other areas, the contact between Strata 1 and 2 was a matter of differential hardness.

FEATURES

Structures

Dwelling/Storage Unit 1

This structure (Fig. 2) is a two room, partially subterranean unit with above ground, wet-laid masonry walls. Orientation (long axis) is near due north-south (magnetic).

Room 1

Shape and Dimensions. The shape of Room 1 is basically rectangular, modified by an out-curved north wall and a rounded northwest corner (Fig. 3). Inside dimensions are 16 ft. (maximum) north to south and from 6 ft. 6 in.
to 7 ft. 6 in. east to west. Maximum floor depth below the occupation surface is 2 ft. 6 in. Present wall-top thickness ranges from 8 in. to 1 ft. 6 in.

**Walls.** Wall construction is highly variable. Aboriginally excavated faces on the north, south and west sides are lined with large, tabular sandstone slabs (Fig. 3) that are set at floor level along the south wall and footed a few inches below the floor along the north and west walls. One section of the west wall (Fig. 3) is faced with three courses of large, irregular blocks, rather than slabs. These are set with large quantities of mud mortar and are flush with the slabs to either side. The tops of the lining slabs (and the top of the masonry section) are at approximately the level of the occupation surface. Atop the facing slabs and masonry section are large boulders and slabs, two thick in a few places, apparently a base course for above ground masonry walls (Fig. 3).

The south wall fell outward as a unit; present are 9 to 12 courses of single thickness, tabular slabs or irregular blocks as well as evidence of copious mud mortar. Height of the wall when in place is estimated to have been between 4 and 5 ft.

The standing portion of the east wall, apparently a base for coursed masonry above, is composed of a line of large boulders faced to the inside with rocks of widely varying sizes set in abundant mud mortar (Fig. 3). The boulders are not footed and rest at the approximate same level as the occupational surface found to the outside. There is a break at the approximate midpoint of the east wall (Fig. 3) that may represent an entrance.

**Fill.** The fill of Room 1 was Stratum 1 sand contained large numbers
or rocks, apparently wall fall.

Floor. The floor of Room 1 was hard-packed and slightly stained Stratum 2 sand. On a north-south axis, the floor was near level; east to west, however, the floor slopes down slightly from both edges to the middle.

Floor Features. Floor features included a firepit, an ash pit, several apparent storage pits and several small holes of unknown use.

The firepit is located against the east wall, partially in front of the wall break noted above (Fig. 3). The pit is markedly basin shaped, 30 in. north to south by 25 in. east to west and ca. 7 in. deep. Except on the east, a 4 to 6 in. wide rim encircles the pit. This is composed of sand capped and sealed by a 3/4 in. thick layer of clay. The firepit was filled with ash and sand and was burned around the lip.

A 21 in. dia., 3 to 4 in. deep ash pit (Fig. 3) is located 3 ft. west and slightly north of the firepit. The pit has vertical to slightly in-sloped sides; the bottom is irregular, but basically flat. Fill was a mixture of sand and white ash.

Seven pits were encountered that originated from the floor of Room 1 (Fig. 3). With a few exceptions, these are generally similar: pits are circular or slightly oval in outline, walls are vertical or slightly undercut, floors are flat or slightly basin shaped, dia. range is from 12 to 20 in. (with one 7 in. exception), depths range from 16 to 24 in. (with one 10 in. exception), fill was generally clean yellow sand with some stained reddish sand, clay and charcoal in the upper few inches; little cultural debris came
from the pits.

Pits warranting special note are: (1) The pit in the southwest corner which was wholly sealed by a 2 in. thick clay cap; underlying the cap was a 5 in. layer of clean yellow sand which overlay the balance of the fill, consisting of stained reddish sand, clay and some charcoal—just the reverse of the fill sequence in the other pits. (2) The "figure 8" shaped excavation north of the firepit (Fig. 3), which is a case of intrusion, with the south pit later than and cut into the south side of the north pit.

Clustered to the south and east of the ash pit are five small holes of unknown function (Fig. 3). Diameters range from 3 1/2 to 5 in. and depths from 4 to 10 in. The fill of each was clean yellow sand.

Comments. The varied wall construction of Room 1 appears to be a function of the placement of the structure. The structure was built on a slope (down to the east) and it is probable that to obtain a level floor, the aboriginal builders simply made a horizontal cut into the slope, thus leaving standing earth walls of the west, north and south, with the east side at the level of the cut.

Room 2

Room 2 (Fig. 2) is thought to be a storage/work room associated with Room 1. It is smaller than Room 1 and somewhat more regular in shape and precise in construction.

Shape and Dimensions. Room 2 is near rectangular in shape, modified by curving north and south walls and a north wall somewhat longer than
the south (Fig. 2). Interior dimensions are: east and west walls, 7 ft. 6 in.; south wall, 8 ft.; north wall 9 ft. 9 in. Present surface wall thickness ranges from 1 ft. to 1 ft. 6 in.

Walls. The walls of Room 2, while neater, show the same characteristics as in Room 1. The north, south and west walls are slabs covering excavated faces. The slabs are footed 3 to 4 in. into the floor, chinked with rock and mud mortar, and topped with tabular slabs and blocks, one or two thick and set in copious mud mortar. No more than one course is evident about the tops of the slabs. Above floor level, slabs range in height from 1 ft. to 1 ft. 9 in. Greatest floor depth below the occupation surface to the outside is ca. 1 ft. 6 in.

As with Room 1, the east wall is totally free-standing—no footing is evident. However, the standing portion of the Room 2 east wall is composed of three to four rather regular courses of tabular stone, generally only one thick.

The slab-lined north and south walls of Rooms 1 and 2, respectively, are separated by a 15 in. to 2 ft. thick balk of unexcavated native sand. The balk is capped by horizontal slabs and blocks, probably the base layer for an above ground masonry wall separating the two rooms.

Fill. The fill of Room 2 was sand with large amounts of rubble. Rubble was found in direct floor contact.

Floor. The floor was a poorly defined, slightly stained packed surface of Stratum 2 sand. The floor surface was relatively level and was ca. 12 in. higher than the floor of Room 1.
Floor Features. Two sub-floor pits were found in the east half of the room, one in the northeast corner and one located 24 in. from the east wall and 27 in. from the south wall.

The corner pit is 20 in. by 16 in., 12 in. deep with vertical walls and a flat floor. Fill was unstratified, stained, reddish sand.

The other pit is 15 in. in dia., 10 in. deep with near vertical sides and a flat bottom. Fill was a lightly stained sand containing a few sherds and several pieces of sandstone.

In the west portion of the room (Fig. 2) are two virtually identical features, built side-by-side in a shallow pit measuring 4 ft. north to south and 3 ft. east to west. Both appear to be mealing bins built mainly of white caliche. Caliche thickness over the area of both bins ranges from 1/2 to 2 in. The bins are oriented south to north and consist basically of two parts, a sloping (down from south to north) metate platform and a level catch basin. Neither metate was present, but marked impressions were evident in the caliche measuring 17 in. (north-south) by 11 in. (east-west) in both platform areas. The metates must have been well cemented in the caliche, as witnesses by considerable disturbance apparently caused by their removal. Actual metate impressions are surrounded by 6 to 8 in. of continuous caliche on the east, west and south.

Platforms begin ca. 2 in. below floor level and slope to 6 to 8 in. below floor level where a ca. 1 in. high caliche rim separates the platform area from the level and ca. 1 in. lower catch basin.

The catch basin floor in each case is a tabular sandstone slab sealed
in by caliche. Bottom dimensions of the west basin are 15 in. east to west and 11 in. north to south, corresponding measurements at floor level are 23 in. by 15 in. The east basin is slightly smaller, measuring 14 in. east to west and 7 in. north to south at the bottom, corresponding measurements at the top are 20 in. by 12 in. In both cases, the sloping basin sides on the north, east and west are totally caliche lined, with some overlap onto the floor of Room 1.

Dwelling/Storage Unit 2

This unit is located ca. 16 ft. south of Dwelling/Storage Unit 1 (Fig. 2) and was probably generally similar in size and construction technique to Unit 1. However, the structure was so badly damaged by erosion (and probably construction stone robbing) that only minimal information was recovered.

The structure appears to have included two rooms of unequal size, the smaller on the north. One firmly edge-set slab marks the probable partition between rooms.

Shape and Dimensions. Shape was probably rectangular. Size is unknown as the north, south and east walls were not found (excepting two slabs on the east ca. 8 ft. from the west wall; these, however, may not have been part of the structure).

Walls. A 20 ft. long section of the west wall (Fig. 2) was located and it was in very poor condition—slumped and obviously with much stone missing. Apparently the wall was of similar construction as the west wall
of Unit 1, slab facing of a vertical cut capped by coursed masonry. The west wall is 16-20 in. high from floor level to the occupation surface outside; the few remaining slabs are footed 3 to 4 in. below the floor. Evidence of plaster and chinking is lacking, and it is impossible to tell whether slabs are missing along the wall, or if some sections were faced with masonry, as in Unit 1.

Fill. Fill was a stained, reddish sand (Stratum 1 material). Very little stone was found in the fill or about the periphery of this structure. This probably indicates that the structure was robbed and the stone used elsewhere, possibly in Unit 1.

Floor. The floor was generally badly broken up, but patches of a thin, separately laid layer of sandy clay were found. The floor, where defined, was level; the floor to the north of the single partition stone, however, was 3 to 4 in. higher than that to the south.

Floor Features

In the south section, 4 ft. 6 in. east of the west wall is a ca. 24 in. dia. partially stone ringed firepit. The pit was basin-shaped in profile, ca. 6 in. deep and filled with ash and sand. Irregular lining stones were found only on the west and south sides.

In the north portion, very near the northeast limit of the defined section of floor was a small pit. This originated at floor level and was 17 in. in dia. and 7 in. deep. The pit was smoothly basin shaped and capped with an upper 2 in. of stained sand and small lumps of caliche,
possibly a seal. The balance of the fill was lightly stained, yellowish sand.

Kiva

Originating at the top of Stratum 2, the Alternate Village Kiva is a circular structure dug deeply into Stratum 2 material, and in places, on into bedrock. Associated features include a ventilator shaft, six pilasters, a possible bench, a masonry deflector, a firepit and other wall and floor associated features.

Shape and Dimensions. The kiva is circular with a ventilator shaft opening to the south (Fig. 4, 5). Diameter is 16 ft. across the area including the pilasters; dia. of the area enclosed by well-defined walls is 12 ft. 6 in.

Pilasters and Bench (?). Pilasters (Fig. 4, 5) are simply small concentrations of irregularly shaped stone cemented with the same dark red, sandy clay found in Storage Unit 1 (see below). No more than 2 to 4 in. thick, these areas of stone and clay lay on undisturbed sand; no evidence was found to indicate that they capped earthen pillars, or were associated with any other type of construction. As there is no evidence of any other roof support system, it is assumed that the kiva roof was cribbed over the pilasters.

The pilasters were located at the edge of a soil stain encircling the kiva at a fairly constant width (ca. 1 ft. to 1 ft. 9 in.) and widening somewhat at the juncture of the ventilator shaft and the kiva area per se (Fig. 4, 5). Attempts at excavation of this area were highly frustrating and no fully sat-
isfactory definition was arrived at. In a few areas, a poorly defined vertical face (Fig. 4) was followed to about the level that the very well defined, inner wall picked up. However, no wholly convincing horizontal surface could be defined between the two vertical faces.

Possibly, the area between the outer stain and the inner walls was a bench. If so, it appears to represent minimum effort on the part of the builders; although, post-abandonment erosion probably contributed to the difficulty of definition. Where some semblance of definition was made, the vertical "bench" wall ranged in height from 6 in. to 1 ft.

Walls. Excepting an area to both sides of the ventilator shaft, the inner walls were vertical, hard and very well defined (Fig. 4). The walls were not stone lined and no plaster was found. Very noticeable in the walls (Fig. 4) are thin veins of caliche, so numerous and closely spaced that they were originally mistaken for remnant patches of plaster.

For 52 in. immediately east of the ventilator opening as well as 48 in. to the west, the lower portion of the wall is markedly undercut, the deepest undercutting being near the points furthest from the shaft opening. From the interior edge of the bedrock ring around the sand floor of the kiva (see below), maximum undercut is 19 in. on the east and 17 in. on the west. The bedrock "ring" ranges from 6 in. to 12 in. wide in other areas.

As indicated, walls were cut to bedrock and averaged ca. 3 ft. in height. Including the face of the cut made attempting to define a bench, total depth of the kiva pit from pilaster level to floor was about 4 ft.

The only wall associated feature encountered was a small, triangular
shaped niche (Fig. 4) cut into the east wall ca. 23 in. above the floor. Dimensions are 12 in. wide, 14 in. high and up to 7 in. deep. The bottom of the niche follows a caliche seam that dips about 2 in. from horizontal (down from south to north).

**Floor.** The floor of the kiva is composed of two parts—the aforementioned bedrock ring surrounding clean, hard-packed sand (Fig. 4, 5). In some areas, the bedrock ring is slightly above the sand, but nowhere more than 1 or 2 in.

The clean, yellowish floor sand is not native, rather it is fill in a shallow, slightly basin-shaped pit cut into bedrock by the builders. At maximum and near the center of the kiva, the sand is 6 in. deep, feathering slightly toward the edges. The sand did not cover the bedrock ring, pit fill was found in direct contact with both. The surface of the sand fill (the floor proper) is level, very hard-packed (perhaps floated) and well-stained.

**Floor Features.** Floor associated features (Fig. 4, 5) include: a firepit with associated ash pile, a deflector, three sub-floor pits, two holes [sipapu(s)] on the ventilator-deflector-firepit axis, an area of red clay covering the floor, and two similar, partially sealed holes thought to be loom anchors.

**Deflector.** Located ca. 42 in. from the ventilator shaft opening, the deflector is a very nicely made masonry unit 2 ft. long by 9 in. wide and ca. 2 ft. in height (Fig. 4, 5). The deflector consists of at least eight courses of dressed sandstone slabs, two thick where smaller stones were used. The stones are set in copious amounts of mud mortar, with some
small stone and spall chinking evident. All faces of the deflector are quite even. The deflector is wholly free standing as it rests directly on the floor and is not footed.

**Firepit/Ash Pile.** The firepit, located 14 in. directly north of the deflector (Fig. 4, 5) is circular in outline, ca. 2 ft. in dia., a maximum of 7 in. deep and slightly basin shaped in profile. The bottom of the pit is on bedrock, and cut about 3 in. deeper into the rock than the surrounding area. Fill was a light colored ash and sand, with some clean clay, probably roof fall, in the upper portion. The sides and lip were slightly fire-reddened; no rim was found.

Immediately east of the firepit and actually covering a small section of the east side was a 18 in. dia., circular pile of ash, up to 3 in. thick and laying directly on the floor. The ash composing the pile was similar in color and texture to the lower fill of the firepit.

**Pit 1.** Located in the northwest quadrant of the kiva (Fig. 4, 5), this 11 in. dia., 3 1/2 in. deep basin-shaped pit was totally filled with deep red, sandy clay and some caliche. The bottom of the pit was on bedrock.

**Pit 2.** Nine inches in dia. and 2 1/2 in. deep, this rather poorly defined pit in the northeast quadrant of the kiva (Fig. 4, 5) was basin-shaped and filled with stained sand. The bottom did not reach bedrock.

**Pit 3.** This pit was located just east of the ventilator shaft opening (Fig. 4, 5) and immediately adjacent to the bedrock ring encircling the sand floor. Sides were near vertical and depth ranged from 1 1/2 to 3 in. as a function of the sloping bedrock bottom.
Sipapu. Two small dia. holes (Fig. 4, 5) are directly north of the firepit. Both are in the "normal" sipapu position and either (or both) could have functioned as the sipapu. The north-most is 2 ft. 3 in. from the firepit, 3 1/2 in. in dia. and 3 in. deep. Fill was clean sand and the bottom was on bedrock. A slightly larger (6 in. dia.) hole is 12 in. from the firepit, 5 in. deep and filled with clean sand to the bedrock bottom.

Clay Area. Beginning 8 in. west of the firepit was a roughly square (30 in. by 36 in.) area of the same dark red, sandy clay that filled Pit 1. The clay was ca. 1 in. thick and laid directly on the stained sand floor. This feature is not shown on the plan and profile map of the kiva (Fig. 5).

Loom Anchors. Twenty inches east of the firepit two very similar features were found ca. 1 ft. apart (edge to edge) on a north-south axis (Fig. 4, 5). From the surface, both appear as round areas of caliche (ca. 6 in. in dia.) flush with the floor, each with a near centered, 1 1/2 to 2 in. dia. hole (Fig. 4).

Excavation showed both to be 6 in. dia. holes, extended ca. 5-6 in. deep and bottomed on bedrock. Both were sealed with a ca. 1 in. thick layer of caliche. Fill of both was a very loose, light colored sand. The north hole contained a ca. 4 in. by 4 in. chert cobble, while the south hole was lined with three small sandstone slabs, one each on the north, south and east sides.

Fill. The general fill matrix of the kiva was stained, reddish sand. This was undifferentiated from the top to within 3 to 6 in. of the floor where a layer of light-colored, generally lumpy clay was encountered laying
directly on the floor. The south portion of the fill was cluttered with dozens of quite large (up to 3 ft. by 2 ft. by 6 in.) pieces of sandstone. These were generally thick, angular, irregularly shaped and showed no dressing or fall-patterning. The rocks were found from near the top of the fill to the clay layer, none were in direct floor contact. There is no evidence that these stones were derivative from any sort of masonry constructed phenomena in the south end of the kiva; their origin, however, is not known. Interestingly, several of these large rocks were in direct contact with the free-standing deflector, but had not damaged it.

Of note in the sandy fill was a liberal scattering throughout of small, angular chips of sandstone averaging about thumbnail size, ranging to only slightly larger and smaller.

Cultural debris in the fill was scarce, although a complete Mesa Verde Corrugated jar was found ca. 2 ft. above the floor. The jar was located 5 in. from the west wall. It was in an upright position and the mouth was covered with a 6 in. by 8 in. by 2 in. thick sandstone slab.

Some of the fill characteristics noted above indicate that the kiva pit may have been purposefully filled. There were no timber impressions in the clay layer over the floor, indicating that the cribbing logs were removed rather than allowed to rot or carbonize in place. The sandy fill is totally homogeneous from top to bottom, no wash lines or apparent breaks in deposition were evident. Additionally, a reasonable explanation for the sandstone chips throughout the fill is that they are detritus from work on the bedrock bottom of the kiva pit and ventilator shaft. These would have
been mixed with the sand spoil from the original excavations, which in
turn probably picked up a slight stain while the kiva and associated features
were in use. Also, it is highly unlikely that the large stone choking the
south end of the kiva could have fallen in without badly damaging the de-
flector. In sum, it would appear that the kiva superstructure was either
dismantled while standing or salvaged after collapse, and the pit rather
carefully filled with spoil and boulders.

Ventilator

Two things are obvious concerning the ventilator system: (1)
It is far from being typical of Pueblo III Kiva associated systems, (2)
It was almost totally rebuilt sometime after initial construction.

Original Shaft. The original shaft was a globular-shaped pit with
vertical, unplastered walls cut to bedrock (Fig. 5, 6). Length is 5 ft. 6 in.,
maximum width is 4 ft., narrowing to 27 in. at the entrance to the kiva
pit. The bedrock floor is rather irregular, but does show evidence of
some attempts at smoothing. The floor slopes very gently from south to
north and is continuous with the bedrock in the kiva pit.

In both the east and west walls are vertical post molds (Fig. 6) set
c. 12 in. south of the narrow entrance to the kiva. Both are 6 in. wide,
3 to 4 in. deep and footed 7 to 8 in. into bedrock. The molds extend the
full height of both walls, or about 3 ft. above floor level.

Modified Shaft. The ventilator was modified by constructing a
parallel-sided, slab lined trench wholly within the confines of the original
unit (Fig. 5). Additionally, a substantial clay collar (Fig. 6) was added
at the opening into the kiva pit.

The trench is 2 ft. 6 in. wide, ca. 30 in. deep and is set slightly east of the orientation of the original shaft. Thus, the west wall runs from the clay collar to the south end of the original shaft, while the east wall abuts the east original trench wall ca. 1 ft. 6 in. from the end.

The trench walls are composed of slabs 20 to 23 in. high, 12 to 30 in. wide and 2 to 6 in. thick. Two slabs line the east wall and three the west wall. Mud plaster and some small rock filled the spaces between slabs; the slabs were not totally plastered over, however. Atop both lines of slabs are two to three courses of mud-set masonry, composed of one thickness of generally small, similarly sized stones. The space between the slab walls and the walls of the original trench was filled with stained, reddish sand. On the east, the filled space was only 2 to 3 in. wide, on the west, the space was up to 1 ft. wide.

The trench lining slabs were near vertical and set on bedrock. There were 1 to 2 in. of clay overlying the bedrock bottom of the shaft, this may have been laid as a floor and footing for the slabs, but it had a lumpy, irregular surface and appeared to be the same kind of material found in contact with the kiva floor.

Fill of the trench was a stained, reddish sand, very similar to that of the kiva. A great deal of rock was found in the trench fill, particularly toward the south end. As with the rock in the kiva fill, these were large, angular, irregular in shape and showed no evidence of fall-patterning. It is doubtful that the fill stone represented any sort of construction
associated with the ventilator.

**Clay Collar.** At the narrow opening of the ventilator shaft into the kiva pit, a 8 to 10 in. wide, ca. 6 in. thick collar of clay (Fig. 6) was laid across the floor and up both sides. The west side is extant to the top of the vertical wall, the collar on the east runs only about half way up. Both vertical sides of the collar have a centered, vertical slot ca. 1 in. wide and 1 in. deep. Found laying slightly above the bedrock floor and a few inches south of the clay collar was a beautifully dressed, rectangular sandstone slab measuring 18 in. wide, 26 in. long and 3/4 in. thick. The slab fits nicely into the slots in the clay collar, but would have had to have been slid in from the top as the collar (minus slots) reduced the width of the opening to the kiva pit to 17 in.

**Pit.** Located 5 in. east of the original east shaft wall and originating at the ill-defined surface of the expanded "bench" area, was a pit 17 in. in dia. at the top, but expanded to ca. 32 in. inside by undercutting, mostly to the north, south and west (Fig. 4, 5).

The pit was almost wholly filled with large, angular rocks that had to have been purposefully placed in the pit, as several were nearly as large as the pit mouth. No evidence was found to indicate which shaft building this was associated with, it could have been either, or both.

**Storage Unit 1**

This feature (Fig. 2) is a nicely made, two room, slab lined pit originating from the surface of Stratum 2. The unit is rectangular in
shape, excepting a rounded northeast corner, and measures 12 ft. north
to south by 5 ft. 6 in. east to west. Location is 25 ft. west of the kiva.

Slabs extend from 12 to 16 in. above floor level, and where checked,
were footed ca. 10 in. below the floor. Slabs are thin (ca. 3/4 to 2 in.)
and from 5 to 11 in. wide. The slabs are well fitted and any intervening
space was filled with a deep red, sandy clay. Present in some areas was
a 2 to 3 in. wide, ca. 2 in. thick band of the red clay laid along the slab-
floor contact. Apparently this served as a seal, and in combination with
the closely fitted and clay chinked slabs, would have made the unit quite
impervious to seepage.

The floor of the unit was not well marked. It was level and composed
of the hard, carbonate cemented Stratum 2 sand.

Rather than slabs, the rounded northeast corner of the unit was
built of two to three courses of brownish clay "turtlebacks" each about 12
in. long. Whether this corner was rebuilt or originally constructed as
found could not be determined.

The partition separating the unit into two nearly equal sized sections
is composed of very thin, upright slabs totally enclosed in the red, sandy
clay. Width of the partition is about 4 in. Enclosed slabs were not footed
into the floor.

Fill of the unit consisted of: (1) an upper layer ranging from 2 1/2 to
9 in. thick composed almost wholly of the red, sandy clay found sealing
the wall and forming the partition; (2) a 6 to 14 in. layer of red-stained
sand containing some clay and in direct contact with the floor. The upper
layer indicates that the pit may have once been sealed with the red clay, or included a superstructure capped by the clay.

Storage Unit 2

Located 28 ft. east of the kiva (Fig. 2) this unit was probably similar to Storage Unit 1, but had been eroded and/or robbed for stone and only a poorly preserved portion was extant when excavated.

Only seven edge-set lining slabs were found in place. These extended 2 to 3 in. above the surface of Stratum 2, the level of origin for the ca. 1 ft. deep pit. Slabs were footed 1 to 3 in. below the floor surface, which was a thin, badly weathered and broken-up layer of sand and clay laid over clean Stratum 2 sand.

The floor and slabs remaining defined an area ca. 6 ft. southeast to northwest and 6 ft. southwest to northeast. No evidence of a second bin connecting to the northwest was noted, but the area had been eroded below the level of the extant floor, and a second bin could have been part of the original structure (as with Storage Unit 1).

Roasting Pit/Oven

This feature (Fig. 2) consists of a pit 46 in. deep by 42 in. in dia. Walls are near vertical and the bottom is slightly basin-shaped. Set 13 in. from the east edge of the pit is the surface opening of a 6 to 7 in. dia., curving tunnel that opens into the pit 14 in. below the lip.

A few small, edge-set slabs were found on the periphery of the pit, and a good deal of jumbled stone was found on the periphery, over the stain
marking the pit, and in the top of the fill. Also, located 3 ft. south of
the pit was a small concentration of tabular stone that appeared to be
about four courses of masonry wall. Possibly, then, the pit had some
sort of above ground stone wall or covering.

From top to bottom, pit fill consisted of: (1) an upper 6-8 in. of
stained sand containing many rocks, (2) an 8-10 in. layer of relatively
clean sand, (3) a 2 to 4 in. band of bright orange/red sand, possibly burned,
(4) a 12 to 14 in. layer of sand similar to (2) with some rock near the bottom,
(5) a 8 to 10 in. layer of ash, burned earth, quantities of charcoal (including
many large pieces), and some burned rock.

From the bottom to within 6 to 8 in. of the top, the walls of the pit
were burned a bright orangish-red and brick-hard under a heavy black
stain. Where checked, the wall was fired up to 3 in. from the surface,
indicating intense heat and probably repeated fires. The sloping "vent"
tunnel was blackened, but not fired.

Location ca. 50 ft. west and slightly north of Dwelling/Storage Unit 1
(Fig. 2), the pit cannot be firmly associated with the main site concen-
tration. Pottery found through the fill, however, indicates P III affiliation
(Table 1).

Midden

Located 4 ft. southwest of the southwest corner of Dwelling/Storage
Unit 1, this feature consisted of a fairly well delimited area of black-
stained sand ca. 13 to 15 ft. in dia. and up to 10 to 12 in. deep (Fig. 2).
The midden was partly in a shallow, irregular pit or surface depression
originated at the top of Stratum 2. It was overlayen by Stratum 1, or, on the northeast portion, directly overlayen by wall fall from Dwelling Storage Unit 1, which in turn was overlayen by Stratum 1.

Only the southern half of the midden was cleared and very little cultural material was recovered. The pottery types found, however, were all of P III affiliation.

Trash Area

There is no precise definition on the extent or limits of this feature. Rather, it is simply part of the area excavated east, or downslope from Dwelling/Storage Unit 1 where pottery sherds were found to be somewhat more concentrated than in other site areas. Stratum 1 was somewhat deeper and softer in this area than elsewhere, but was not appreciably more darkly stained.

Use Area (?)

An ill-defined area immediately east of Room 2, Dwelling/Storage Unit 1 may have been an outdoor use/activity area. There is a discontinuous line of edge-set slabs and horizontal tabular stone on the north and east outlining an area 14 ft. north to south and 11 ft. east to west (Fig. 2). Also included in the area is a line of stone beginning at the partition between Rooms 1 and 2, running due east for 2 ft. and then curving northward for 6 ft.

In both outlining rock lines, edge-set slabs are footed only a few inches and the horizontal pieces are only one stone in height. Near the wall of Dwelling/Storage Unit 1, a well-marked occupation surface was evident
(surface of Stratum 2), this became very indistinct a few feet east of the wall, however. No pits, postholes or other features were found in the supposed use area.

**Borrow Pit (?)**

Located immediately west of the midden was a very irregular, ill-defined pit. This was only minimally tested and limits and total depth are not known. However, the small portion excavated had been cut through substantial bands and pockets of white caliche, and it is thought that this material was being mined for construction purposes (cf. the mealing bins in Room 2 of Dwelling/Storage Unit 1).

**Isolated Pit**

Located 7 ft. from the west wall of Dwelling/Storage Unit 1, this small pit was not obviously related to other site phenomena. The pit is 19 in. in dia., 6 in. deep and basin shaped. Level of origin is approximately the surface of Stratum 2.

As some cultural debris was encountered west of the west wall of Dwelling/Storage Unit 2, the pit could have been associated with a use/activity area in turn associated with Unit 2. However, this possibility was not demonstrated.

**DATING AND AFFILIATION**

Site dating is by pottery associations, no material suitable for tree-ring analysis was found and radiocarbon dating was not attempted. The presence of Mesa Verde Corrugated and Mesa Verde Black-on-white in
fairly substantial quantities indicates the site dates to the P III period. Considerably earlier types found in small quantities (Chapin and Twin Tree Black-on-white and Abajo Red-on-orange) indicate the possibility of very limited utilization of the site area in BM III-P I times.

With the exception of a few sherds of Tsegi Orange ware, all pottery types are of Mesa Verde affiliation. While the kiva is not a "classic" P III Mesa Verde form, in dimensions and certain features, it is definably Mesa Verde. The other structures and pit are not particularly diagnostic, but generally resemble forms found in other Mesa Verde areas to the east.

ARTIFACTS

Non-ceramic artifacts from Alternate Village were not numerous and a detailed description is not included with this report. Some representative examples of the larger finds are included in Fig. 7, however.

General categories of materials recovered are as follows:

Ground Stone. (a) One complete, open-ended trough metate with an associated small, rectangular, tabular unifacial mano. (b) Two small portions of grinding slabs. (c) Thirteen manos and fragments (Fig. 7e-g) ranging widely in size and shape, but dominated by seven examples showing markedly beveled grinding surfaces (Fig. 7e-f) producing one, or in some cases, two very thin margins. (d) Two small, oval polishing stones (Fig. 7d) (pot polishers?). (e) One rude, but extensively used notched axe (Fig. 7a) and one apparent fragment (notches and butt present).
Three irregularly shaped, but faceted lumps of mineral ore— not identified.

A small, extensively formed cylinder of clear siliceous stone, possibly a highly modified quartz crystal. A small sandstone concretion, accentuated by limited carving so as to resemble an animal, perhaps a dog.

Chipped Stone. (a) Six fragments of rude bifaces, generally small. (b) Three small, irregular cores. (c) Four small to medium size (Fig. 7b) unifacial choppers. (d) Fifteen flake knives or scrapers, minimally worked. (e) One small, nicely made end-scraper with a very steep working face. (f) Twenty-three hammerstones (Fig. 7c) ranging markedly in size and made from several different materials.

Ceramic materials are discussed in Chapter 11 and provenienced in Table 1.
## Table 1

Pottery Provenience - Alternate Village (42Sa2134)

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Fig. 1. View across Alternate Village site area from slick-rock to the west. Comb Ridge in background.
Fig. 2. Alternate village site plan and excavation map.
Fig. 3. Room 1, Dwelling/Storage Unit 1 (Alternate Village).
Fig. 4. General view of Alternate Village Kiva, looking east. Note caliche seams in walls and the ill-defined "bench" area.
Fig. 5. Plan and profile drawing of the Alternate Village Kiva.
Fig. 6. Detail of the original ventilator shaft, Alternate Village Kiva. Note bedrock floor, large flanking post molds and the clay collar.
Fig. 7. Alternate Village Artifacts. a, notched axe; b, chopper; c, hammerstone; d, "polishing" stone; e-f, mano forms.
CHAPTER 3

THE EXCAVATION OF ZERO PLAZA

by H. J. Hall

INTRODUCTION

Zero Plaza (42Sa2135), an interesting non-ceramic site, was excavated during the 1971 summer field season as part of a larger archeological salvage program undertaken by the Department of Anthropology, of the University of Utah, for the Utah State Highway Commission. The site was situated on the western slope of Comb Wash just 300 ft. west of site 42Sa2134 (see Dalley, this volume). It was located at the edge of the slickrock wall of the wash in a sand dune blowout area.

The decision to test this blowout was prompted by the observation of chipped and ground stone which was eroding out of the dune. It was first thought that the dune would contain a cultural continuation of site 42Sa2134; however, although the top two strata contained such evidence, a non-ceramic pit house was discovered which bore no cultural relationship to that site.

A description of the surrounding terrain, climate, flora, and fauna has been provided by Dalley in this volume and will not be discussed in this report.

DATING AND CULTURAL AFFILIATION

Although charcoal samples were recovered from the site a radiocarbon analysis has not yet been undertaken. With regards to cultural
affiliation, the scant artifact assemblage from the pit house does not lend itself to precise definition. Nearly all the artifacts are nondescript lithic specimens which are not particularly diagnostic of any one period of Southwestern prehistory. The total absence of pottery in the pit house is suggestive of pre-Pueblo occupation. The artifacts from those levels above the pit house appear to be contemporaneous with site 42Sa2134.

EXCAVATION AND STRATIGRAPHY

Horizontal control of the site was established by means of a 10 by 10 ft. -square grid system which utilized the same datum established for 42Sa2134, only 300 ft. away to the east.

Vertical control was established by first excavating a 65 ft. (east-west) by 5 ft. exploratory trench which traversed the dune from near the edge of the slickrock wash wall on the west, through the blowout area, to about 12 ft. into the stabilized portion of the dune's crest. The trench, dug to bedrock, exposed six distinct strata which are discussed separately below and are illustrated in Fig. 8, 9).

Stratum 1: An almost sterile yellow sand deposit which lay directly on the sandstone bedrock (a continuation of the western wall of the wash). It extended throughout the site varying in thickness from a few in. where it came in contact with the slickrock to over nine ft. (it presumably got deeper as the wall of Comb Wash sloped downward). This stratum was culturally sterile except where it came into contact with the base of Structure I. Stratum 1 appears to have been deposited by alluvial and
perhaps aeolian agencies.

**Stratum 2:** A pink-colored sand layer directly overlying Stratum 1 in the stabilized area of the dune, but eroded away in the blowout area. It was sterile where it merged with Stratum 1, but contained lithic debris and charcoal near its surface. It is directly associated with Structure 1, which was dug from the surface of Stratum 2. It averaged 2 ft. in depth.

**Stratum 3:** A dark grayish-yellow culturally-associated sand deposit overlying Stratum 2 in the stabilized area of the dune. It contained pottery, chipped stone, and charcoal and its surface was littered with small sandstone rocks. It is this Stratum which predominated in the fill of Structure 1. Stratum 3 had an average depth of about 13 in.

**Stratum 4:** A dark mud-brownish layer of sand deposited over Stratum 3 and culturally associated with lithic artifacts. It occurred only in the stabilized portion of the dune and averages about 8 in. in thickness.

**Stratum 5:** A reddish-brown sand layer covering the site to the north and west of Structure 1, except in the blowout area, and varying in thickness from less than 1 in. to about 7 in. Stratum 5 contained only a few lithic chippings.

**Stratum 6:** A loose reddish-brown sand layer which lay over the entire dune to a depth of about 4 in. Although almost identical in composition to Stratum 5, this modern surface was assigned a separate level on the basis that dune action had mixed sand from Stratum 5 with
that from Strata 4, 3, 2 and 1 (see schematic profile, Fig. 8. Thus, in fact, Stratum 5 is that layer which was deposited most recently, Stratum 6 being no more than the top few in. of this deposition which has become mixed. This loose surface level also contained lithic chippings.

OCCUPATIONS

Actual evidence of human habitation of Zero Plaza is limited to a single pit house, an apparent non-ceramic affiliated structure excavated from the top of Stratum 2 and on down into Stratum 1. Within Stratum 3 was found pottery which corresponds temporally with that found a few hundred ft. to the east at 42Sa2134. Thus, it is presumed that this material is cultural debris originating from that site (see Dalley, this volume). This report will be limited to a discussion of the non-ceramic occupation.

Pit House - Structure I (Figs. 8, 9, 10)

Removal of the strata above Stratum 2 revealed an almost circular feature approximately 15 ft. in dia. Excavation revealed a roughly circular pit which had been dug through Stratum 2 into Stratum 1. The walls slope quite sharply upwards from an oval-shaped floor which measured 12 ft. east-west by 13 ft. 6 in. north-south. The slope of the western wall is less abrupt than the others which are almost vertical. From the lip of the structure to its maximum depth (which is below its floor) measures 3 ft. 2 in.

The floor, although not wet-laid, appears to have been prepared by
compact a pinkish sand (probably that of Stratum 2 taken from spoil of the excavated house) to a depth of about 5 in.

Set into this raised floor to a depth of 3 3/4 in. was an almost triangular-shaped fire basin lined with eight sandstone rocks. It measures 1 ft. 9 in. east-west by 2 ft. north-south and is located in the center of the north-west axis, but is only 5 ft. west of the eastern wall of the house on the east-west axis (Fig. 10). A vertically set sandstone slab deflector is located 2 ft. east of the eastern edge of the fire basin. It measures 1 ft. long by 10 in. wide by 3 in. thick and was sunk 6 in. into the floor. Unfortunately no evidence of a ventilator was discovered along the fire basin-deflector alignment; however, a great deal of rodent action in the eastern wall could have destroyed such a feature if indeed it had ever existed.

Immediately above the floor of the structure was a 3 in. deep deposit of dark-pinkish cultural fill which contained two ovoid hammerstones and a sandstone mano fragment. Another interesting feature was a concentration of 18 various-sized sandstone rocks which lay directly above the fire basin and deflector but nowhere else. It is possible that these originated from a collapsed superstructure but equally feasible is the postulation that they fell from a ventilator constructed within the walls of the pit house. The actual nature of the pit house's superstructure (if indeed it had one) is not known. No post molds were discovered in the floor of the structure but one charred 4 1/2 in. dia. post was found set 3 in. into the sand on the western outside rim of the house. However,
whether or not this truly represents the only surviving remnant of a
roof timber remains speculative.

Into the floor fill of the structure was dug a circular (2 ft. 3 in. dia.,) pit which had a depth of only 4 1/2 in. and contained nothing but yellow sand and a few charcoal fragments. Rodent activity continues in the bottom of the pit, a feature which makes the affiliation of the pit somewhat tenuous.

The room fill of Structure I is almost identical in content to that of Stratum 3 with the exception of some concentrated blackened areas which might lend support to the existence of a wooden superstructure which burned and then collapsed. Because Stratum 3 contained artifacts thought to be contemporaneous with site 42Sa2134 and because it eventually filled the abandoned pit house, the artifacts recovered from the room fill must necessarily be assigned culturally to the same period as 42Sa2134 (P II-P III). The excavator supports this statement by the fact that there was a clear stratigraphical separation between the floor fill and the overlying room fill within the pit house. This leaves Structure I with a cultural inventory of a fire basin, a deflector, two ovoid hammerstones, one sandstone mano fragment, a prepared floor, and possibly one circular pit. The evidence is hardly enough on which to build a cultural reconstruction.

Other Related Features

1) Core cache: A cache of six palm-sized chalcedony cores were recovered from the fill of Stratum 2 a few ft. to the south of Structure I,
but well below the outer rim. It was not located in a pit of any kind; it was merely a small pile of cores. Apparently it was placed there before the pit house was built.

2) Cultural Surface: A thin, but laterally extensive charcoal-blackened surface was discovered in the southern profile of the east-west exploratory trench. It was located between Stratum 2 and Stratum 3. Although time did not permit full exploration of this feature, a preliminary trench revealed a corner-notched point and several chalcedony flakes and chips. This phenomenon may have been the remains of a structure similar in design to Structure I; it was certainly contemporaneous.

ARTIFACTS

As previously mentioned, the artifact inventory for Structure I of Zero Plaza is extremely scant. Certainly nothing of culturally diagnostic value was recovered. The fill of Structure I and that of Stratum 3 contained a comparatively richer though still limited cultural assemblage; however, as such belong more properly in the discussion of 42Sa2134, the material will not be considered as part of this report.

All artifacts recovered from the excavation of Zero Plaza are listed in Table 2 according to type, class, and location.

SUMMARY AND CONCLUSIONS

Although Zero Plaza is an interesting site, this report can offer nothing more than a description because of its dearth of characteristic artifacts. The only important feature of Zero Plaza is its lack of pottery,
a fact which perhaps could be a function of the overall paucity of cultural remains. To date only one other site bears any real resemblance to Zero Plaza. This the Lone Tree Dune site, a non-ceramic locality located in Castle Wash and excavated as part of the Glen Canyon Salvage Project (Sharrock et al., 1963). Lone Tree Dune also contained a circular pit house, similar to Structure I, within which no pottery was found. Until more sites of this type are excavated, their place in the Southwestern archeological scheme must remain unknown and unencumbered by speculative efforts of reconstruction.
Table 2
Artifact Provenience - Zero Plaza (42Sa2135)

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Chipped Stone

| Points     | 2 | 1 | 2 |
| Blades     | 1 | 1 | 5 | 2 |
| Cutting-Scraping Tools | 3 | 1 | 6 |
| Hammerstone-Chopper Tools | 1 | 2 | 2 |
| Cores      | 11 | 6 | 161 | 156 | 674 | 9 | 16 | 77 | 7 |
| Scrap      | 1 | 2 | 2 | 1 |

Ground Stone

Ornaments

Pottery

| San Juan White Ware | 1 | 7 |
| Mancos B/W          | 2 |
| Mesa Verde B/W      | 3 |
| Mancos Corrugated   | 2 |
| Mesa Verde Corrugated | 3 | 1 | 9 |
| Mesa Verde Gray Ware | 5 |
Fig. 8. Composite profile east-west through the Zero Plaza deposits.
Fig. 9. Detailed profile of the Zero Plaza deposits showing the origin, placement and features of the pit structure.
Fig. 10. Plan and profile drawing of the Zero Plaza pit structure.
CHAPTER 4
THE LIZARD RIDGE SITE
by James Zeidler

INTRODUCTION

Setting

The Lizard Ridge site (42Sa2138) is located in the NE 1/4 SE 1/4 Sec. 27, T37S, R20E San Juan County, Utah and lies at an elevation of ca. 5770 ft. It is situated on the southwest slope of a northwest-southeast trending ridge and measures approximately 100 ft. north-south by 70 ft. east-west in areal extent. Vegetation at the site includes moderate stands of juniper and pinon along with sagebrush and various grasses. The site area has been dissected by several small erosional gullies which wind southward from the ridgetop. At the time of discovery, the cultural materials observed on the site surface were found, for the most part, eroding out of these gullies and consisted of concentrations of potsherds and ground stone located on or around charcoal stains in the sand. In addition, a small group of upright slabs was found protruding above the surface at the top of the ridge.

Cultural Affiliation and Dating

The Lizard Ridge site has been ascribed to the Basketmaker III period of the Mesa Verde Anasazi, primarily on the basis of diagnostic pottery types and architectural features. With the exception of one small
Mancos Corrugated sherd and two San Juan White Ware sherds found on the surface, pottery is solely of Lino Gray and Chapin Gray types, both of which are strong indices of the Basketmaker III period—especially when found without painted or otherwise decorated types. Of particular interest is that although the site has been ascribed to the Mesa Verde Anasazi, the predominance of Lino Gray pottery (Table 3) suggests a strong Kayenta influence.

Also, several features of dwelling architecture as evidenced in Structure I are highly diagnostic of BM III: a semi-subterranean pit house, various vertical slab-constructions as internal domestic features, "square-with-rounded-sides" shape, southeast orientation, and so on. Another feature at the site which tends to support its BM III affiliation is an isolated, outdoor roasting pit, a common phenomenon of BM III sites (Bullard, 1962, 102).

As precise dating of the site will have to await later processing of C-14 and dendrochronology samples, the best means of dating at present is pottery. Breternitz (1966, 71, 83), in his recent publication correlating various Southwestern pottery types with dendrochronological dates, has suggested a time span of A.D. 610 to 897 for Chapin Gray. On the basis of the absence of Chapin Black-on-gray (which Breternetz [1966, 71] dates from A.D. 610-847) or any other early painted wares characteristic of late BM III-early P I, the Lizard Ridge site can be grossly placed at pre-A.D. 800 times.
Site Interpretation

As elsewhere in the Anasazi area and the Southwest in general, the Basketmaker III peoples at the Lizard Ridge site probably subsisted primarily on the horticultural triad of maize, beans, and squash. In addition, they undoubtedly exploited numerous wild plants and animals from the immediate vicinity to supplement their diet. Beyond this, however, little can be said about subsistence as no plant remains were found nor was an abundance of faunal bone recovered.

Cultural features uncovered at the site included one semi-subterranean pit house dwelling fully typical of the BM III period, one badly eroded and somewhat questionable surface structure of some kind, and two apparently isolated firepits or hearths, one of which was associated with two postholes (Fig. 11).

In his description of BM III site layout, Bullard (1962, 102) states that: "During Basketmaker III, the pit house was clearly the principal dwelling place. This does not imply that many daily activities were not carried on out of doors, particularly in warm weather. Most sites of any period, if the topsoil around the houses is stripped away, will reveal evidence of outdoor fireplaces, pits, shelters, and the like." Thus, at the Lizard Ridge site, the pit house (Structure I) obviously served as the principal dwelling place, probably sheltering a nuclear family, while Structure II functioned as an outdoor shelter or use area. Of the two isolated firepits uncovered, Firepit II definitely served as an outdoor roasting pit but Firepit I, with its two associated postholes, cannot be
as precisely defined. It was apparently intrusive into Structure II, but due to the extensive erosion in this area of the site, the relationship between these two features is not clear. It should be noted that one trait common to most BM III sites, the slab-lined storage cist, was not found at the site.

Domestic artifacts recovered from the site were neither numerous nor varied. Included are two restorable ceramic vessels, a single projectile point, five bone awls, and manos and metate fragments. In addition, several water-smoothed cobbles were found along with a chunk of calcium carbonate.

EXCAVATION

Excavation Procedure

As there was no cultural stratigraphy in evidence, the site is interpreted as a single component occupation. Excavation procedures consisted of laying out a grid system of 5 ft. squares for horizontal control, horizontal stripping of the sandy topsoil to reveal cultural features, and then full excavation of the features. Because of erosion and washing at the site, the cultural features had varying amounts of overburden covering them. For example, the southeast end of Structure I was covered by only a few in. of loose, sandy surface soil because a small erosion gully cut through the site just to the east of the structure, whereas the northwest end of the same structure was buried under about 1 ft. of soil. Thus, the topography of the site today appears to be considerably different from what
it was during occupation. Presumably it did not slope to the south quite as sharply as today and may have been more or less level. Postoccupation erosion accounts in part for the difficulty encountered in defining Structure II and the intrusive hearth (Firepit I).

Cultural Features

Structure I

Identification: Structure I was a shallow, semi-subterranean pit house structure with a large frontal antechamber. See Fig. 11 for location and relationship to other site features, Fig. 13 for plan and profile view drawings, and Fig. 12 for a general photo of the structure.

Shape and Dimensions: The main room was nearly square with slightly rounded corners and measured 12.9 ft. in length (northwest-southeast) and 12.5 ft. in width (northeast-southwest). The frontal antechamber was also roughly square in shape and measured 7.5 ft. in length (northwest-southeast) and 9.0 ft. in width (northeast-southwest). The 7.5 ft. lengthwise dimension is only an approximation, however, due to the fact that the extreme southeast end of the structure had been partially destroyed by erosion. Thus the overall length of the structure (including the antechamber) was at least 20.4 ft., but probably no more than 21 ft.

Orientation of the structure is to the southeast.

Walls: The walls of the main room were of native earth with no evidence of plastering. They were near vertical around the entire circumference and exhibited no encircling "bench". The peripheral postholes
were located on the floor surface of the structure (see below).

The walls of the antechamber are only present at the northwest end where it joins the main room and gradually peter out to the southeast where they were evidently eroded away. As in the main room, they are of native earth.

**Floor:** The floor of the main room was aboriginally excavated to a maximum depth of 2.5 ft. below the level of origin while the antechamber floor measures a maximum of 0.3 ft. in depth. At the point of juncture, the antechamber floor lies ca. 0.75 ft. above the floor of the main room. Both floors were formed by the "puddling" technique—dampened and then patted hard and smooth. The floor of the main room was somewhat uneven and basin-shaped, being a little deeper in the center to the south and west of the central firepit.

**Floor Features:** A domestic firepit was located in the southeast half of the main room. It was oval in shape and measured 2.2 ft. in maximum dia. and ca. 0.2 ft. in depth. In section, it was basin-shaped and exhibited no adobe rim or collar. Fill was black ash containing small bits of charcoal. Lying immediately to the northwest of the firepit was a small mound of hard-packed sterile soil which was "puddled" over when the entire floor surface was treated. This was apparently spoil dirt from the aboriginal digging of the firepit, but its function, if any, is not known.

As is common with BM III and P I pit houses in the Anasazi area, the main room was divided by a discontinuous partition wall forming a long,
narrow compartment at the southeast end of the room. It was constructed of upright stone slabs set in the floor with adobe chinking and measured ca. 9 ft. in total length, extending from the southeast corner of the main room to the above-floor slab storage bin in the northeast corner. A slab deflector was incorporated into the partition wall. It consisted of three slabs measuring 2.5 ft. in total length and located 0.8 ft. to the southeast of the firepit. There were two openings or gaps in the partition wall on either side of the deflector for entry into the main room, each measuring about 1.5 ft. across. In the opening on the north side a small adobe ridge extends from the partition wall to the firepit, a distance of ca. 2 ft. Presumably, it served as a secondary deflector. Located immediately to the north of this adobe floor ridge were two stone slabs, leaning loosely against the partition wall, which may have been used to cover the opening in the wall.

The compartment formed by the partition wall measured 9.7 ft. in total length and ca. 2 ft. in width. At the south end, a small, thin adobe floor ridge extends from the south gap in the partition wall to the southeast wall of the main room, thus forming a small bin, probably for storage, at the south end of the compartment. In it were found three bone awls.

Other interior storage facilities included a large above-floor slab bin (Fig. 12). The bin was situated in the northeast corner of the main room about 1.5 ft. away from the northeast wall so that it must have been built up against the peripheral postholes. On its south side the bin is connected to the partition. In length (northwest-southeast), it measured
3.8 ft. and in width (northeast-southwest), 2.4 ft. The bottom of the bin corresponds with the floor surface of the room with the maximum depth from the top of the slabs to the bottom being approximately 2 ft. With regard to construction, the bin is similar to the partition wall in that the lower portions of the stone slabs were adobe plastered, both inside and outside the bin. In addition, at the northwest end of the bin, an adobe plastered post was incorporated into the bin wall and on the northeast side a smaller adobe plastered post was placed up against the bin for additional support.

A subfloor storage pit was located in the compartment, directly in front of the south opening of the partition wall. It was triangular in shape and measured 1.6 ft. in length and 1.2 ft. in width. Maximum depth was ca. 0.3 ft. The fill of the pit was a dark gray ashy soil, fine and powdery. It contained no cultural artifacts but was overlain by a metate fragment. This pit may represent what Bullard (1962, 159-162) has termed an "ash-pit". Another subfloor pit was located southwest of the firepit and about 1 ft. away from the wall of the room. It was oblong in shape, measuring 1.2 ft. in length, 0.7 ft. in width, and approximately 0.5 ft. in depth. Its function is undetermined.

Passage between the antechamber and the main room was made through a doorway in the center of the southeast wall, directly in front of the deflector. Entry was made by stepping over an upright stone slab which served as a sill or threshold (Fig. 12). This was set into the floor of the main room at its juncture with the antechamber and measured
2.2 ft. wide and 1.4 ft. in height. It rose 0.65 ft. above the floor of the antechamber. Located on the edge of the antechamber floor, between the sill stone and the outside edge of the structure was a poorly preserved adobe ridge measuring ca. 3 ft. in length. Its exact function cannot be determined.

The posthole pattern consisted of four large interior postholes, set in a quadrangular arrangement and ranging from 0.6 ft. to 0.9 ft. in dia. and from 0.9 ft. to 1.1 ft. in depth. Around the periphery of the main room, on the floor surface, were a total of 36 smaller postholes, all of which were set vertically into the floor. Ten of these peripheral postholes which were located along the southeast wall of the main room (i.e., in the compartment) were set in an adobe footing or collar which extended along the bottom of the wall. In addition, the two posts associated with the above-floor bin may also have been utilized for additional roof support. The antechamber had a total of four postholes, one in each corner and ranging from 0.4 ft. to 7.5 ft. in dia. and from 0.4 ft. to 1.1 ft. in maximum depth. The two on either side of the doorway were quite large in comparison with the other two.

**Fill:** The fill of the pit house consisted of dark gray to black refuse material with much burned adobe and charred timbers throughout, which resulted from the structure's destruction by burning.

**Disturbances:** Erosion of the site had cut small gullies to the southeast and south of the antechamber which partially destroyed the southeast end of that feature, but aside from this no other disturbances
were found.

Comments: The closest architectural affinities of this BM III structure appear to be with "Pit House H" at Alkali Ridge (Brew, 1946: 176-179)--especially with regard to overall shape, size and general roof construction. Although both exhibit the four-post support method (see Bullard, 1962:128-130), the peripheral postholes in "Pit House H" were placed in an encircling bench and were set at an angle, whereas in Structure I they were placed vertically around the periphery of the floor surface of the main room. Thus, the super-structure of "Pit House H" had sloping sides and probably resembled a truncated pyramid, whereas Structure I probably had vertical sides.

Structure (?) II

Identification: Although badly eroded, making identification difficult, this feature is tentatively defined as a surface structure or sheltered use area of some kind. See Fig. for location and relationship to other site features.

Shape and Dimensions: Shape and size noted refer only to an associated charcoal stain, presumably part of the floor surface, and not to a well-defined structure per se. The stain measured ca. 17 ft. in length (north-south) by ca. 7.5 ft. in maximum width. Its shape was ill-defined and somewhat irregular.

Walls: None

Floor: In areal extent, the floor surface corresponds with the
size and shape of the charcoal stain mentioned above. The floor was apparently use-packed with the charcoal stain accumulating through time. This floor layer varied in depth from 0.1 ft. to 0.4 ft.

**Floor Features:** Located just northeast of the center of the stain was a fire basin, vaguely circular in shape, and measuring 1.8 ft. in maximum dia. and ca. 0.3 ft. in maximum depth. The basin has a slab-lined bottom and two upright slabs on the south side which formed a wall or windbreak. Fill was black and contained small chunks of charcoal.

About 2.5 ft. directly south of the firepit was a small, vaguely rectangular slab-lined hole or pit, measuring 0.5 ft. by 0.3 ft. and ca. 0.5 ft. in maximum depth. Fill was dark gray, somewhat sandy and contained no cultural artifacts. It could possibly represent a sipapu, although other uses, such as a stone-reinforced posthole, should not be ruled out.

Three postholes were found situated within the stained area of Structure II and ranged from 0.3 ft. to 0.5 ft. in maximum dia. and from 0.4 ft. to 0.6 ft. in maximum depth. As only three were uncovered and all were located at the extreme south end of the stain, no pattern can be defined.

**Disturbances:** Erosion at the site was particularly damaging to this feature. Two gullies flanked what was left of the stain and runoff from these had washed much cultural debris (mostly potsherds) down the slope.
Comments: It should be emphasized that Structure II must be only loosely defined as a "structure" as its enigmatic nature does not permit a definite conclusion.

Firepits/Hearths

Two apparently isolated firepits (Fig. 11) were uncovered outside the structures.

Firepit I: This firepit, with two associated postholes, was located just east of the Structure II stain. The firepit is circular in shape and measures ca. 2 ft. in dia. and ca. 0.3 ft. in maximum depth. Fill was black and contained small bits of charcoal and small pieces of sandstone rubble. It is situated at the bottom of a small gully and was thus partially eroded. Presumably, it represents the bottom of what was once a much deeper firepit. Both associated postholes are located about 0.5 ft. from the firepit, one to the northwest, the other to the southwest. Size range is from 0.4 ft. to 0.6 ft. in dia. and from 0.3 ft. to 0.4 ft. in depth.

The firepit has been interpreted as being intrusive into, and later than, Structure II. This, however, could not be conclusively proven due to erosional disturbance of the area.

Firepit II: This feature is identified as an isolated outdoor roasting pit (Fig. 11). It was circular in shape and measured 4 ft. in maximum dia. and ca. 1 ft. in maximum depth. Slab-lining and a slab floor were present in the northern half. The pit was first dug to a depth of 1 ft; then the upright slabs were placed along the north side. After that, the
pit was filled to a depth of about 0.3 ft. with a mottled sandy soil in order to support the upright slabs. Then the flat slabs were laid on the northern half of the bottom. Subsequent to this, the remaining 0.7 ft. of the firepit was filled with accumulations of black charcoal and rock rubble.

ARTIFACTS

The artifactual material recovered from the Lizard Ridge site consists solely of non-perishables such as pottery, stone and bone. The artifact provenience is listed in Table

Pottery

See Chapter 11 this report.

Chipped Stone

Chipped stone was limited in both number and variety, consisting of only projectile points, choppers, and detritus. The quantity of lithic artifacts is not sufficient to allow extensive discussion or comparison. Predominant materials utilized were cherts and chalcedonies, with some quartzite present also.

Projectile Points: One whole projectile point and two fragments were recovered (Fig. 14e-f). The whole projectile point was found on the floor surface of Structure I, but, unfortunately it was permanently removed from storage subsequent to processing and so accurate measurements cannot be given. However, notes indicate that it was of jasper, side-notched, and somewhat crudely manufactured. Both of the projectile
point fragments are basal portions. One is corner-notched, somewhat asymmetrical, and manufactured from jasper (Fig. 14e). It measured 2.2 cm. in maximum width. The other fragment has a concave base and is made of quartzite. It measured 1.9 cm. in maximum width.

**Choppers:** Two specimens are small and probably represent fragments of larger artifacts. Both are bifacially worked (crudely) along one edge to form a chopping or cutting surface and both are made of chert/chalcedony. The larger of the two was 7.5 cm. at its widest point while the other measured 5.7 cm.

**Detritus:** A total of 79 pieces of chipped stone debitage was recovered. They consisted primarily of unworked flakes, but three of the larger pieces may have been cores.

**Ground Stone**

Ground stone materials were limited in quantity and include only manos and metate fragments.

**Manos:** A total of five complete manos and two fragments was found. Two manos and one fragment had single flat grinding surfaces shaped primarily by pecking. The larger of the two complete specimens was formed from granite and is rectangular with rounded corners (loaf-shaped). Measurements are 24 cm. long by 11.5 cm. wide by ca. 6 cm. thick. The other whole mano was formed from sandstone and was also rectangular and somewhat loaf-shaped. It is 23 cm. in length by 12.1 cm. in width by ca. 4.7 cm. in thickness. One fragment is also of
sandstone and probably represents one end of a rectangular-shaped mano. It is 9.8 cm. in maximum width and 2.6 cm. in maximum thickness.

Two complete manos and one fragment have two flat grinding surfaces, were all made from quartzite, and all appear to have been shaped by grinding. The larger of the whole specimens (Fig. 14d) is oval in shape and measures 12.5 cm. long by 9.2 cm. in width by ca. 4.1 cm. in maximum thickness. The smaller specimen is circular in shape, measuring 9.8 cm. in maximum dia. and 4.4 cm. in maximum thickness; a light red stain (ochre?) is present on one surface. The fragment represents the semi-circular end of a larger specimen and measures 9.9 cm. in maximum width and 5.5 in maximum thickness. It also is partially stained with red pigment.

The remaining mano specimen is small and rectangular in shape. It was formed from sandstone and was unevenly shaped by grinding. A red pigment stain is evident at one end. Measurements are 10.3 cm. in length by 5.3 cm. in width by 3.3 cm. in thickness. Five of six "sides" appear to have been purposefully smoothed.

Metates: Two metate fragments were recovered. The larger of the two is made of sandstone and represents the center of a shallow, basin-shaped metate. It was found on the floor surface of Structure I lying face down over the subfloor pit in the compartment. Dimensions are 28.5 cm. in maximum dia. by ca. 6.7 cm. in thickness. The other fragment is made of quartzite and represents the edge of a trough metate.
Thickness ranges from 4.2 cm. at the edge to 1.8 cm. towards the center of the trough.

**Unclassified Unworked Stone:** In this category are six complete and two fragmentary specimens of water-smoothed quartzite cobbles, four of which were found in a definite cultural context, the others on the surface. Four are flat and ovoid to circular, while the other two are somewhat egg-shaped. Range in dia. is 9.3 cm. to 17 cm. As these cobbles do not occur naturally at the site, they must have been brought in by the occupants.

**Bone**

The bone material was also quite limited, consisting of bone awls, small polished fragment and unworked fragments, all of which are mammal bone.

**Bone Awls:** A total of five bone awls was found in Structure I and can be divided into three types. Two awls are made on split ungulate bone (tibia), with the head lacking, and both have gradually tapering points. The larger of the 2 (Fig.14a) is 23.3 cm. long with a maximum width of 4.1 cm. At about 8 cm. from the tip on one edge, there is a small, rough nick measuring 2.2 cm. in length. The shorter of the tibia awls measures 18.3 cm. in length and 3 cm. in maximum width. Both of these specimens were recovered on the floor surface of Structure I in the small bin at the south end of the compartment.

Two other awls are made on split metatarsals, with the head intact. The larger has a gradually tapering point while the other has an abruptly
tapering point. The former measures 18.3 cm. in length and a maximum of 2.1 cm. in width and was found with the 2 awls described above. The latter (Fig. 14c) is 7.1 cm. in length and 1.8 cm. in maximum width and was recovered in the fill of Structure I.

The remaining awl (Fig. 14b) is a split metatarsal with a modified head and a gradually tapering point. This specimen was also found in the fill of Structure I.

All five awls described above were fabricated from mule deer bone (Odocoileus hemionus).

**Worked Fragment:** One small fragment of polished bone was recovered from Structure II and measures 1.7 cm. in length and 1.0 cm. in width. It probably represents a bone awl fragment, but is too small to conclusively identify.

**Unworked Bone:** A total of 16 unworked bone fragments was recovered, 11 of which appear to be a fragmented mammalian scapula, but identification as to genus is impossible. The other five are also too fragmentary for identification.

**Miscellaneous**

A single chunk of calcium carbonate was found on the floor surface of Structure I; measuring 12.1 cm. in maximum dia. Its exact function cannot be determined.
Table 3
Artifact Provenience - Lizard Ridge (42Sa2138)

<table>
<thead>
<tr>
<th>Pottery</th>
<th>Chipped Stone</th>
<th>Ground Stone</th>
<th>Bone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lino Gray</td>
<td>41</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td>Chapin Gray</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>San Juan White Ware</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mazon Corrugated Points</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Detritus</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mazon</td>
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<td>2</td>
</tr>
<tr>
<td>Mosaic Fragments</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Unclassified Unworked</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Stone</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Aves</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Worked Fragment</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Worked Bone</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Structure I
Fill 4 | 1  | (2) | | | |
Floor Surface 1 | | 2 | 1  | 1  |
| Surface Provenience Unknown 108 | 2 | 1  | 2  | 2  | 47 | 4  | 1  | 4  |
| Totals 173 | 2 | 2 | 1  | 2  | 79 | 7  | 3  | 8  | 5  | 1  | 16 |

( )* = Restorable vessels
Fig. 11. Lizard Ridge site plan and excavation map.
Fig. 12. Detail photograph of the southeast half of Lizard Ridge Structure 1. Antechamber is in the background.
Fig. 13. Plan and profile drawing of Structure 1, Lizard Ridge.
Fig. 14. Lizard Ridge artifacts. a-c, bone awls; d, mano; e-f, projectile point fragments.
CHAPTER 5

SURPRISE VILLAGE

by Michael S. Berry

INTRODUCTION

Surprise Village (42Sa2139) is located in Sec. 34, T37S, R20E, ca. 200 yd. to the northwest of the Lizard Ridge site (see Zeidler, this report). As the name implies, Surprise Village had considerably greater cultural depth than the surface evidence indicated. Prior to excavation, the only evidence of occupation was a vaguely rectangular cluster of sandstone slabs. However, a total of four pit structures, eight surface rooms, three hearths, and a slab-and-masonry lined (storage?) pit were eventually unearthed.

Setting

The site is located on a low, north-south trending knoll. A shallow erosion channel bisected the knoll from east to west. The predominant vegetation was juniper and sagebrush. In addition, several species of small cacti occurred sporadically in the immediate vicinity of the site. The nearest sources of water (under present conditions) are Dog Tanks Draw (ca. 1.0 mi. to the north) and Comb Wash (ca. 2.3 mi. to the east). The elevation of the site was approximately 5,840 ft. A.S.L.

Excavation and Stratigraphy

Initial horizontal control was established with a ten foot interval grid system aligned to magnetic north. An exploratory trench (Fig. 15
was then initiated from east to west through the approximate center of the site. This trench led to the discovery of Pit Structures 1, 2 and 3 as well as Hearths 1, 2 and 3. Numerous smaller exploratory trenches (not shown in Fig. 15) were utilized to determine the occupational depth in the northern half of the site. These led to the discovery of Rooms 1 through 6 and Pit Structure 4. Rooms 7 and 8 were cleared by the removal of the slumped sandstone masonry noted above. Four strata were defined in the north face of the east-west exploratory trench (Fig. 16).

**Stratum 1**

Stratum 1 was the sterile subsoil and was continuous over the site. It consisted of extremely hard, red-orange clay. The initial occupation occurred on the surface of this stratum.

**Spoil Component**

Large "piles" of spoil dirt, derived from the aboriginal excavation of pit structures were visible in both faces of the east-west exploratory trench, as well as in the faces of the minor trenches through the northern half of the site. The major concentrations occurred between Pit Structures 2 and 3 and near Pit Structure 4. The spoil component(s) consisted of displaced Stratum 1 material and contained charcoal flecks and other cultural remains. These phenomena are not treated as strata since it is obvious that they do not represent a single deposition. Furthermore, there was no way of determining the sequence in which these "piles" were deposited.
Stratum 2

Stratum 2 was a grayish-brown, sandy deposit. It contained a heavy concentration of charcoal flecks and numerous laminations were visible when viewed in profile. Stratum 2 varied from 4 to 9 in. in thickness and was continuous over the site.

Stratum 3

Stratum 3 was a loose, sandy, brown deposition, probably of aeolian derivation. It varied from 2 to 6 in. in thickness and was continuous over the site.

FEATURES

Pit Structures

Pit Structure 1

Pit Structure 1 (Fig. 15) originated from the surface of Stratum 1. It was quadrilateral in shape and measured ca. 11 ft. on a side. The average depth was $5.0 \text{ ft.}$ below the level of origin.

Walls. The walls were vertical and covered with from $1/4$ to $1/2$ in. of adobe plaster. The upper $1.0 \text{ ft.}$ of the walls was destroyed by post-abandonment erosion. The lower portion was well preserved by burning.

Floor. The floor consisted of undisturbed Stratum 1 material. It was fairly level and well preserved by burning.

Floor Features. Floor features included: a centrally located firepit, a rectangular pit to the south of the firepit, two "ladder holes",...
an upright sandstone slab, and two circular floor holes. The firepit was circular in plan and basin-shaped in profile. It had an average dia. of 3.0 ft. and a maximum depth of 0.5 ft. A portion of an adobe collar remained intact along the perimeter of the northwest quadrant. The firepit was filled with dark gray ash. The rectangular pit was oriented from east to west and was tangent to the southern portion of the firepit rim. It measured 2.1 ft. from east to west, 1.2 ft. from north to south and was 0.9 ft. deep. It was filled with a combination of sand and ash. The two "ladder holes" were located to the north of the firepit. They averaged 2.0 in. in dia., 3.0 in. in depth and were set 1.0 ft. apart. The small, upright sandstone slab was imbedded in the floor ca. 2.5 ft. north of the firepit. It was oriented from north to south and protruded ca. 0.25 ft. above the floor surface. It was 3.0 in. in length and 3/4 in. thick. One of the circular floor holes was located to the east of the firepit. It was 0.75 ft. in dia. and 0.9 ft. deep. The other floor hole was of the type usually described as "sipapu". It was located ca. 3.0 ft. to the northwest of the firepit. Maximum dia. was 0.65 ft. and the average depth was 0.5 ft. There was a small hole originating from the base of the larger hole which extended downward for an additional 0.35 ft. The "sipapu" was filled with clean sand.

**Ventilator.** The ventilator system consisted of a horizontal tunnel which eminated from the mid-point of the south wall of the structure and an intersecting vertical shaft which connected the horizontal tunnel to the surface. The tunnel averaged 1.65 ft. in width and had a maximum
height of 1.7 ft. The bottom of the tunnel opening was ca. 0.5 ft. above the floor level of Pit Structure 1. The overall length was 4.3 ft. The vertical shaft was roughly circular in plan with an average dia. of 2.5 ft. and a maximum depth of 5.0 ft. The shaft walls consisted of unplastered native earth. They were fairly vertical and showed no evidence of burning.

**Wall Niche.** There was a horizontally excavated niche in the south wall of the structure. It was located at floor level, ca. 2.5 ft. west of the ventilator opening. It measured 1.0 ft. across the base, 1.3 ft. in height and was 1.65 ft. deep (into the wall).

**Superstructure.** One vertical support post was placed in each of the four corners of the structure. The posts were recessed in vertical channels cut into the pit walls and sealed over with adobe plaster after placement. They were footed in floor holes that averaged 0.5 ft. in dia. and 1.5 ft. in depth.

Roof fall consisted of four sets of eight large (0.6 to 0.9 ft. dia.), charred timbers. Each set of timbers was parallel to one of the pit walls. This probably indicates that Pit Structure 1 was covered with a cribbed roof.

**Fill.** The earliest fill component consisted of charred timbers, ash and burned chunks of adobe. The remainder of the fill consisted of a combination of Stratum 2 material and spoil component soil which washed in after abandonment. Pit Structure 1 was destroyed by fire.

**Associated Artifacts.** Diagnostic pottery types recovered from the
floor of Pit Structure 1 included Mancos Corrugated and Mancos Black-on-white.

**Pit Structure 2**

Pit Structure 2 (Fig. 15) originated from the surface of Stratum 1. It was quadrilateral in shape and measured ca. 10 ft. on a side. The average depth was 5.5 ft. below the level of origin.

**Walls.** The pit walls were vertical and covered with at least two coats of adobe plaster. The upper ca. 1.5 ft. of the walls was badly eroded by post abandonment weathering. The lower portion was well preserved by burning.

**Floor:** The floor consisted of undisturbed Stratum 1 material and was quite level. It was extremely hard and well defined by burning.

**Floor Features:** Floor features included a centrally located, adobe-rimmed firepit and a small circular hole to the northwest of the firepit.

The firepit was an ash-filled, circular depression, circumscribed by a prepared adobe collar. The depression was basin-shaped in profile with a maximum depth of 0.5 ft. and an average dia. of 2.3 ft. The rounded adobe collar had a maximum height of 0.2 ft. and an average width of 0.25 ft. A broken sandstone slab was imbedded vertically in the southeastern portion of the collar and probably served as a deflector. It measured ca. 0.2 ft. in thickness and 1.0 ft. in width and had been broken off about 1/4 in. above the adobe collar. The remainder of the broken deflector was never located. Presumably, an unworked, sandstone slab found leaning against the ventilator tunnel opening (Fig. 17)
had served as its functional replacement prior to abandonment.

The small, sand-filled hole to the northwest of the firepit was 0.25 ft. in dia. and 1.0 ft. deep.

Ventilator. The ventilator system (Fig. 17) consisted of a horizontal tunnel which emanated from the mid-point of the southeastern wall of the structure and an intersecting, vertical shaft which connected the horizontal tunnel to the surface. The tunnel averaged 2.0 ft. in height and 1.5 ft. in width. It was ca. 4.0 ft. in length and had a relatively level floor which showed no signs of use-packing. The vertical shaft was roughly circular in plan with an average dia. of 2.5 ft. Maximum depth was 5.7 ft. The walls of the tunnel and vertical shaft consisted of unplastered native earth and showed no evidence of burning.

Wall Niche. There was a horizontally excavated niche in the south wall of the structure. It was located to the west of the ventilator opening ca. 3.0 ft. above floor level. It measured 1.2 ft. in width, 1.0 ft. in height and was 1.5 ft. deep. The niche was sealed with four courses of crude masonry (Fig. 17) and covered with two coats of adobe plaster. No artifacts were recovered from the interior of the niche.

Superstructure. One vertical support post was placed in each of the four corners of the structure. The posts were recessed in vertical channels cut into the pit walls and sealed over with adobe plaster after placement. They were footed in floor holes that averaged 0.5 ft. in dia. and 1.6 ft. in depth. The log fall consisted of four sets of three or four large (0.5 to 0.8 ft. dia.), charred timbers; each set parallel to one of
of the pit walls. This suggests that some sort of cribbing technique was utilized in roof construction.

**Fill.** There were three distinct fill components. The earliest consisted of charred timbers, adobe rubble and ash derived from the burning of the superstructure. The second component was a ca. 2.0 ft. thick deposit of laminated, charcoal-flecked clay. It was probably derived from the adjacent mound of spoil dirt, a large portion of which had washed into the structure after abandonment. The final fill deposit was a ca. 1.5 ft. layer of Stratum 2 material.

**Associated Artifacts.** Pottery types recovered from the floor of Pit Structure 2 included Mancos Corrugated, La Plata Black-on-red and Bluff Black-on-red.

**Pit Structure 3**

Pit Structure 3 (Fig. 15) consisted of an apparently unroofed, circular pit connected by a short tunnel to a fully subterranean, dome-shaped chamber. The structure originated from the surface of Stratum 1. The circular pit had an average dia. of 6.2 ft. and a maximum depth of 4.7 ft. The subterranean chamber was circular in plan and parabolic in profile. The average dia. was 5.3 ft. while the maximum height was 4.0 ft.

**Walls.** The walls of the circular pit were vertical and consisted of unplastered native earth. The interior of the subterranean chamber was coated with from 1/4 to 1/2 in. of lime. It could not be determined
whether this was a natural deposition (the result of leaching) or intentional plastering.

**Floor.** The floor of the circular pit was a level, use-packed area which contained no postholes or domestic features. The floor of the subterranean pit was irregular and ill-defined. It was ca. 2.8 ft. below the floor level of the circular pit.

**Floor Features.** Four floor holes of unknown function were located at irregular intervals along the perimeter of the subterranean chamber. They averaged 0.6 ft. in dia. and 1.0 ft. in depth.

The only other interior feature was a sandstone slab found leaning against the northeast wall of the chamber just below the tunnel entryway.

**Connecting Tunnel.** The horizontal tunnel which led to the subterranean chamber eminated from the southwestern quadrant of the circular pit. The tunnel opening was an adobe lined orifice with a maximum height of 2.5 ft. and an average width of 1.6 ft. There was a horizontal slab "stepping stone" plastered in position at the base of the opening, ca. 0.3 ft. above floor level. The tunnel was 1.8 ft. in length.

**Superstructure.** There was no evidence to indicate that the circular pit was ever roofed.

**Fill.** The floor of the subterranean chamber was covered with ca. 2 in. of laminated silt. The remainder of the chamber fill consisted of Stratum 2 material. The circular pit was filled with Stratum 2 material and cultural debris.
Associated Artifacts. No diagnostic artifacts were recovered from the floor of the circular pit or the subterranean chamber; although a portion of the skeleton of a child and a partially restorable La Plata Black-on-red effigy vessel were found slightly above the chamber floor.

Pit Structure 4

Pit Structure 4 (Fig. 15) was a quadrilateral, semi-subterranean dwelling. It originated from the surface of the spoil component and was ca. 4.0 ft. deep. It was oriented from southeast to northwest and measured 5.9 ft. in width and 9.3 ft. in length. The northwestern half of the structure was cut away by the intrusion of a large oval-shaped pit.

Walls. The walls were vertical and consisted of unplastered native earth. They contained five vertical post molds which were intentionally excavated to accommodate the major support posts (see Superstructure below).

Floor. The undamaged southeastern section of the floor was a relatively level, use-packed surface.

Floor Features. Floor features included a centrally located firepit and an ashpit in the southwest corner of the structure. The firepit consisted of a simple depression that was circular in shape and basin-shaped in profile. The average dia. was 1.0 ft. and the maximum depth was 0.6 ft. It was slightly fire-reddened and contained undifferentiated, dark gray ash.

The ash pit was an oval-shaped depression which measured 1.5 ft. from east to west and 1.3 ft. from north to south. It was basin-shaped
in profile and had a maximum depth of 0.25 ft. The fill consisted of undifferentiated ash. The pit showed no evidence of burning.

**Ventilator.** The ventilator tunnel was only partially excavated due to time limitations. The opening was a vaguely oval-shaped orifice in the south wall of the structure. It measured 1.9 ft. on the vertical axis and 1.25 ft. across the horizontal axis. The opening led to a horizontal tunnel directed toward the southeast for at least 3.0 ft.

**Superstructure.** Evidence of five major support postholes was found and a sixth may be postulated on the assumption of symmetrical design (Fig. 15). The postholes were located in the southwest, southeast and northwest corners and at the approximate mid-points of the east and west walls of the structure. Each was located directly beneath one of the previously mentioned vertical post molds. Apparently, the vertical supports were only partially recessed into the walls. They would have been visible from the interior of the structure since they were not plastered over as in the case of Pit Structure 2. All five postholes were ca. 0.4 ft. in dia. and 1.0 ft. deep.

**Fill.** The fill consisted primarily of Stratum 2 material, interspersed with "pockets" of the charcoal-flecked spoil component. There were no charred timbers, burned chunks of adobe or any other evidence that would suggest that Pit Structure 4 was destroyed by fire.

**Associated Artifacts.** Diagnostic pottery types recovered from the floor of Pit Structure 4 included Mancos Corrugated, Mancos Black-on-white, San Juan White Ware and Dead Man's Black-on-red.
**Intrusive Pit.** The intrusive pit was roughly oval in plan and slightly "bell-shaped" in profile. It measured 7.1 ft. from southwest to northeast, 5.4 ft. from southeast to northwest and 6.0 ft. in depth. The pit walls consisted of unplastered native earth. The floor of the pit was relatively level but showed no evidence of use-packing. It originated from the surface of the spoil component but was obviously constructed sometime after the abandonment of Pit Structure 4.

**Surface Rooms**

**Room 1**

Room 1 (Fig. 15) was an jacal structure which originated from the surface of Stratum 1. It was roughly rectangular in shape and measured ca. 12 ft. from east to west and 8 ft. from north to south.

**Walls.** All that remained of the jacal walls were 15 irregularly spaced postholes along the north and west sides of the room. The absence of postholes along the south and east sides suggests that Room 1 shared a common wall with each of the two adjacent rooms.

**Floor.** The floor was an irregular use-packed surface which was well defined by burning.

**Floor Features.** Floor features included two groups of upright slabs and a circular firepit. The slab-constructed features were probably mealing bins, though they contained no metates at the time of excavation. The first consisted of a rectangular configuration of six upright slabs which was open on the north side. Overall dimensions were 3.5 ft. from east to west and 2.0 ft. from north to south. The slabs were undressed
and very irregular. They averaged 1.5 in. in thickness and protruded about 0.75 ft. above the floor surface. Four additional slabs were imbedded horizontally in the base of the bin. The second bin was located to the east of the first and consisted of four upright slabs. Three of these were aligned from east to west while the fourth was at right angles to this alignment at the west end of the feature. The slabs averaged 1.5 in. in thickness and protruded about 0.5 ft. above the floor surface. An irregular horizontal slab was imbedded in the base of the bin, immediately to the north of each of the three aligned upright slabs.

The firepit was a simple depression located at the mid-point of the southern limit of Room 1. It was circular in plan and basin-shaped in profile. The average dia. was 2.0 ft. and the maximum depth 0.5 ft. It was filled with undifferentiated dark gray ash.

**Fill.** The fill consisted of burned chunks of the jacal superstructure. Room 1 was apparently destroyed by fire.

**Associated Artifacts.** Diagnostic pottery types recovered from the floor of Room 1 included Mancos Corrugated and Mancos Gray.

**Room 2**

Room 2 (Fig. 15) was an jacal structure which originated from the surface of Stratum 1. It was oval to rectangular in shape and had a maximum east-west dimension of 13 ft. and a maximum north-south dimension of 8 ft. It was badly damaged by erosion and very poorly defined.
Walls. All that remained of the jacal walls were eight irregularly spaced postholes located along the perimeter of the structure. They averaged 0.3 ft. in dia. and 0.75 ft. in depth.

Floor. The floor was an irregular use-packed surface. It was well defined by burning in the northern half of the structure, but the southern portion was badly eroded.

Floor Features. Floor features included three slab mealing bins and a circular firepit. The three bins were contiguous and aligned from east to west. Each consisted of a single east-west oriented upright slab and one or two right-angle partition slabs. The upright slabs were all ca. 1.5 in. thick and protruded above the floor ca. 0.6 ft. There was a horizontal sandstone slab imbedded at the base of each bin.

The firepit was a simple depression located in the northwest corner of the structure. It was circular in plan and basin-shaped in profile. The average dia. was 2.1 ft. and the maximum depth was 0.6 ft.

Fill. The fill consisted of charred timbers and burned chunks of abode. Room 2 was destroyed by fire.

Associated Artifacts. Diagnostic pottery types recovered from the floor of Room 2 included Mancos Corrugated and San Juan Red Ware.

Room 3

Room 3 (Fig. 18) was an jacal structure which originated from the surface of Stratum 1. It was roughly rectangular in shape and measured ca. 13 ft. from east to west and 8 ft. from north to south.

Walls. A total of 15 irregularly spaced postholes lined the west, east
and north sides of the structure. None were discovered along the southern edge of Room 3. The postholes averaged 0.3 ft. in dia. and 1.0 ft. in depth.

**Floor.** The floor was an irregular, use-packed surface and was well preserved by burning.

**Floor Features.** The only floor feature was a circular hole of unknown function located in the northeast quadrant of the structure.

**Fill.** The fill consisted of burned chunks of adobe, charred timbers and ash. Room 3 was apparently destroyed by fire.

**Associated Artifacts.** Four sherds of Mancos Corrugated pottery were recovered from the floor of Room 3.

### Room 4

Room 4 (Fig. 15) was a masonry structure built upon the surface of Stratum 1. It was rectangular in shape and measured ca. 10 ft. from east to west and 8 ft. from north to south.

**Walls.** The basal construction course consisted of a low adobe platform ca. 1.0 ft. in width and 0.2 ft. in height. The masonry was laid directly upon this adobe base and consisted of undressed sandstone slabs. Only a single course of masonry remained intact at the time of excavation. This, combined with the total absence of sandstone rubble in the fill of the structure suggests that the masonry stones were reused after abandonment.

**Floor.** The floor was a very ill-defined, use-packed surface.

**Floor Features.** The only floor feature was a circular depression
in the eastern half of the structure with an average dia. of 1.5 ft. and a maximum depth of 0.5 ft. It contained no ash or charcoal, but two sandstone slabs found within it were fire-reddened.

Fill. The fill consisted entirely of Stratum 2 material. There was no evidence to suggest that Room 4 was destroyed by fire.

Associated Artifacts. Diagnostic pottery types recovered from the floor of the structure included Mancos Corrugated and San Juan White Ware.

Room 5

Room 5 (Fig. 15) was a masonry structure built upon the surface of Stratum 1. Only the north and east walls remained intact at the time of excavation. It was rectangular in shape, measuring ca. 11 ft. from east to west and 7 ft. from north to south.

Walls. The initial construction course consisted of sandstonedebitage packed in a shallow (ca. 0.5 ft. deep) footer trench. The first course of undressed sandstone masonry was laid directly upon this rubble base. Only one course of masonry remained intact at the time of excavation. As in the case of Room 4, the rest of the stones may have been reused after abandonment.

Floor. The floor was an irregular and poorly defined use-packed surface.

Floor Features. The only floor feature was an oval shaped firepit near the eastern wall of the structure that measured 2.5 ft. from north to south and 2.0 ft. from east to west. Maximum depth was 0.6 ft. It
was filled with undifferentiated dark gray ash and the rim was reddened by fire.

Fill. The fill consisted of Stratum 2 material. There was no evidence that the structure had been destroyed by fire.

Associated Artifacts. No artifacts were recovered from the floor of Room 5.

Room 6

All that remained of Room 6 (Fig. 15) was a ca. 4 ft. section of masonry wall at right angles to the eastern wall of Room 5. A circular, ash-filled pit, ca. 4 ft. south of the eastern end of the wall section may have been associated with Room 6. It was 1.5 ft. in dia. and 0.5 ft. deep.

Rooms 7 and 8

Rooms 7 and 8 form a large, rectangular masonry structure (Fig. 15) which originated from the surface of Stratum 2. The southwestern corner of Room 8 was constructed over the north wall of Room 5. The overall dimensions of the masonry structure were ca. 20 ft. from southeast to northwest and 10 ft. from southwest to northeast. Rooms 7 and 8 were separated by a masonry partition wall.

Walls. Wall construction was highly variable. The west wall of Room 7 consisted of five intact courses of well dressed sandstone blocks which averaged 1.5 ft. in length, 0.9 ft. in width and 0.35 ft. in thickness. Alternate courses were laid at right angles to one another. The north wall of Room 7 consisted of two closely spaced, parallel masonry walls
with one to three courses intact. The sandstone building blocks averaged 1.0 ft. in length, 0.65 ft. in width and 0.35 ft. in thickness. The east wall of Room 7 and the east and south walls of Room 8 were constructed of single rowed sandstone masonry. Three to four courses remained intact. The stones averaged 1.6 ft. in length, 0.9 ft. in width and 0.5 ft. in thickness. Only a single course of masonry remained along the west wall of Room 8. The sandstone blocks averaged 1.1 ft. in length by 0.9 ft. in width by 0.35 ft. in thickness. The partition wall consisted of from two to three courses of single rowed, sandstone masonry. The blocks averaged 1.2 ft. in length by 1.0 ft. in width by 0.4 ft. in thickness. The masonry courses in all the above described walls were separated by from 1/2 to 2 in. of adobe mortar.

Floor. No definite floor surfaces were discovered in either Rooms 7 or 8.

Floor Features. An oval-shaped pit located in the center of Room 8 originated from the surface of Stratum 2 and may have been associated with the occupation of the masonry structure. It measured 1.5 ft. from southwest to northeast, 1.0 ft. from southeast to northwest and was 0.5 ft. deep.

Fill. The fill consisted of Stratum 3 material.

Associated Artifacts. Since the floor of the structure was never located, none of the recovered artifacts can definitely be associated with the period of occupation. Pottery types recovered from the fill included Mancos Corrugated, Mesa Verde Corrugated, Mesa Verde Gray
Ware, San Juan White Ware and Mancos Black-on-Gray.

Miscellaneous Features

Slab and Masonry Lined Pit

The slab and masonry lined pit located within the limits of Room 7 (Fig. 15) originated from the surface of Stratum 1 and therefore was not associated with the room. It was constructed, utilized and abandoned prior to the construction of Rooms 7 and 8.

The pit was roughly oval in plan. It measured ca. 4.0 ft. from north to south, 3.0 ft. from east to west and was 5.6 ft. deep. The lower portion of the pit was lined with 13 well-dressed, vertical sandstone slabs (Fig. 19). They averaged 2.0 ft. in height, 0.7 ft. in width, 0.2 ft. in thickness and were smoke-blackened. Between the top of the upright slabs and the aboriginal surface, the pit was lined with horizontal, coursed masonry (Fig. 19). The blocks were fairly uniform in size, averaging 1.0 ft. in length by 0.65 ft. in width by 0.25 ft. thick. Eleven courses remained intact at the time of excavation.

The floor of the pit was a level surface which showed no signs of use-packing. No artifacts were recovered from this surface. Pottery types recovered from the fill included Mancos Corrugated, Mancos Black-on-white, San Juan Red Ware, Dead Man's Black-on-red, Bluff Black-on-red, San Juan White Ware, and Twin Trees Black-on-white.

Hearth 1

Hearth 1 originated from the surface of Stratum 1. It was circular
in plan and basin-shaped in profile. The average dia. was 2.5 ft. and the maximum depth of 0.4 ft. It was filled with light gray ash.

**Hearth 2**

Hearth 2 originated from the surface of the spoil component. It was circular in plan and basin-shaped in profile. The average dia. was 3.0 ft. and the maximum depth was 0.6 ft. It contained dark gray ash and smoke-blackened sandstone slabs.

**Hearth 3**

Hearth 3 originated from the surface of Stratum 1. It was circular in shape and basin-shaped in profile. The average dia. was 3.0 ft. and the maximum depth was 0.4 ft. It was filled with dark gray ash and smoke-blackened pieces of sandstone.

**Midden**

A large stained area immediately south of Pit Structures 1 and 2 (Fig. 15) showed abundant pottery and other debris on the surface, but proved to be only a few inches deep. No stratigraphy, either vertical or horizontal, was evident and the area yielded pottery from both periods of occupation identified for the site.

**DATING AND SEQUENCE**

Figure 16 is a composite section of the site. At least two occupational components are in evidence. The most recent consisted of a single two-room structure (Rooms 7 and 8). No time sensitive artifacts were recovered from the floor of this structure. The fill contained Mancos
Corrugated, Mancos Black-on-white and Mesa Verde Corrugated. The temporal range of Mancos Corrugated is A.D. 900 to 1200; Mancos Black-on-white, A.D. 950 to 1200; Mesa Verde Corrugated, A.D. 1200 to 1300 (see Madsen, this report). The absence of Dead Man's Black-on-red and La Plata Black-on-red suggests that the initial date of this occupation component occurred in the second half of the eleventh century.

The early component consists of structures originating from the surface of Stratum 1 and from the surface of the spoil component (derived from Stratum 1). The co-occurrence of Mancos Corrugated and La Plata Black-on-orange on the floor of Pit Structure 2 indicates that the initial occupation of the site occurred between A.D. 900 and A.D. 1000 (see Madsen, this report).

DISCUSSION

The first occupational component consisted of Pit Structures 1 through 4, Rooms 1 through 6, Hearths 1, 2 and 3 and the slab-and-masonry lined pit. These structures were built and occupied from sometime in the tenth century through (at least) the first quarter of the eleventh century A.D. The site configuration (a row of contiguous surface rooms associated with rectangular pit structures) is generally similar to village plans at Site 13 on Alkali Ridge (Brew, 1946), Sites 1 and 2 in the Ackman-Lowry region (Martin, 1936) and numerous sites in the La Plate district (Morris, 1939). All of these sites were occupied earlier than Surprise Village and were probably ancestral to the general Comb Ridge settlement
Rooms 7 and 8 were probably utilized during the eleventh or twelfth century A.D. Masonry structure of this type are common throughout the Mesa Verde Anasazi area during this period.

ARTIFACTS

Full description of non-ceramic artifacts from Surprise Village are not included in this report. General categories of materials recovered are as follows:

**Ground Stone.** (a) Eleven complete manos, including nine large, rectangular, tabular unifaces (Fig. 20f); one small, rectangular, slightly loaf-shaped uniface (Fig. 20g) one small uniface markedly beveled toward one very thin margin. (b) Two fragments of poorly developed grinding slabs. (c) An apparent Tchamahia fragment (Fig. 20d). (d) An axe "blank" (Fig. 20a), notched, but lacking a bit. An additional fragmentary piece may be part of a notched axe.

**Chipped Stone.** (a) One fragment of a corner-notched projectile point; a rudely made, but complete and deeply side-notched point; two small fragments of bifaces. (b) A graver made on a formed flake. (c) a broken, expanded base drill. (d) Two notched flakes or saws. (e) Twenty-six flake knives or scrapers, none showing extensive retouch. (f) One rude chopper (Fig. 20c). (g) Seven small, irregularly shaped cores. (h) Twenty-four hammerstones (Fig. 20e) ranging widely in size
and material. (i) A notched axe chipped from basalt with no grinding evident (Fig. 20b).

Ceramic materials are treated in Chapter 11 and provenienced in Table 4.
Table 4
Pottery Provenience - Surprise Village (42Sa2139)

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<th>Manos Corrugated</th>
<th>Mesa Verde Corrugated</th>
<th>Mesa Verde Gray Ware</th>
<th>Moccasin Gray</th>
<th>San Juan Red Ware</th>
<th>La Plata B/R</th>
<th>Abajo B/O</th>
<th>Dead Man's B/R</th>
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( *) = Restorable or partially restorable vessels.
Fig. 15.  Surprise Village site plan and excavation map.
Fig. 16. Composite drawing of the Surprise Village sequence, strata and features.
Fig. 17. Photograph of the partially excavated Surprise Village Pit Structure 2. Detailed are the ventilator, wall niche and corner post mold.
Fig. 18. Outlining postholes and slight depression marking the jacal Room 3, Surprise Village.
Fig. 19. Section through the Surprise Village "Slab and Masonry Lined Pit" detailing construction.
Fig. 20. Surprise Village Artifacts. a. notched axe with bit not yet formed; b. notched axe roughly chipped from basalt; c. chopper; d. tchamahia fragment(?); e. hammerstone; f-g. manos.
CHAPTER 6

THE GNAT KNOLL SITE

by Claudia Helm

INTRODUCTION

Setting

Gnat Knoll (42Sa2140) is located in the NW 1/4 NW 1/4 Sec. 34, T37S, R20E at an elevation of 5920 ft. The site occupies the top of a broad ridge running northwest-southeast which marks the divide between Arch and Mule Canyons. Aeolian soils in this kind of divide are some of the deepest on Cedar Mesa. The kiva, dug six ft. into subsoil did not encounter bedrock, although the sand becomes extremely hard and lime-cemented only one ft. under the surface.

The site area is a large clearing ca. 100 to 125 ft. wide. A large area of masonry rubble and wall fall was located at the western end of the clearing. A circular depression ca. 20 to 30 ft. across was directly to the southeast of the masonry. A large midden area was located at the eastern end of the clearing. There was also evidence of a thin midden to the south.

Dominant vegetation in the immediate site area is pinyon-juniper forest. Vegetation on the clearing is primarily sage and prickly pear cactus. One hundred yards west of the site is the edge of a large, flat sage park at approximately the same elevation as the site. Such sage parks evidently occupy only the deepest soils on Cedar Mesa.
The closest source of water today is at Dog Tank Springs, 2 1/2 mi. northwest of the site. The head of Mule Canyon lies ca. 3/4 mi. to the west and formerly may have been a good source of water.

**Cultural Affiliation and Dating**

Cultural affiliation and dating are based primarily on pottery and structural typology. The most common pottery types recovered include Mancos Corrugated, San Juan White Ware, Mancos Black-on-white, Mesa Verde Corrugated, Mesa Verde Gray, and McElmo Black-on-white (Table 5). All are considered diagnostic of the Mesa Verde Anasazi sub-area. The kiva is also typical for this sub region.

In the absence of tree ring specimens and radiocarbon dates, the site can only be dated by extrapolation from tree-ring dated sites in the Mesa Verde area having analogous pottery types or kivas with certain diagnostic traits. This is qualified by the recognition that the local developmental sequence for Cedar Mesa varies considerably from the Mesa Verde sequence in general.

Chapin Gray was the earliest pottery recovered from the site. It has been tree-ring dated to A.D. 600-850 (Breternitz, 1966, 71). Other early pottery types recovered (with associated tree-ring dates) include Abajo Red-on-orange (A.D. 612 to 872, best between 760 and 875), Lino Gray (best between 572 to 872), and Moccasin Gray (A.D. 800 to 900, tree-ring dates 850 to 900). This suggests that the site was first occupied sometime in the 9th century, if not earlier (see Madsen, this report).
Other pottery types recovered cover the time period from the 9th century until sometime in the 13th century. Pottery which has been dated to the 13th century include Mesa Verde Corrugated and Mesa Verde Black-on-white. The large quantity of Mancos Black-on-white and Mancos Corrugated sherds suggest that the most intense occupation of the site began ca. A.D. 900.

Site Interpretation

Gnat Knoll is a small habitation site inhabited intermittently over a fairly long period of time beginning in the 9th century (or as early as the 7th century), until the 13th century. It is probable that the size of the social unit present never ranged above 2 or 3 families.

Two occupation phases are identifiable. The earliest is represented by Room 1 at the eastern end of the site (Fig. 21). It could have involved no more than one family group.

The later phase is represented by structures at the eastern end of the site (Fig. 21) where a general sequence of construction is evident. The earliest structure was that comprised of Rooms 2 and 3. Room 4 was either constructed at the same time or at an unknown later time. These were probably the only structures present for a considerable period of time. This interpretation is based on two observations, (1) the kiva was probably constructed before the rebuilding of Room 4 as well as before Rooms 5, 6 and 7, (2) certain architectural features in the kiva suggest that it was not built before the late 12th century. Rooms 6 (and probably 7) were evidently not in use for a long period of
time. The amount of debris in the fill of Room 6 suggests that it was used as a dump while the site was still occupied. Late pottery types found on the floors indicate that the kiva and Rooms 2 and 3 were occupied until the site was abandoned.

Brew (1946, 190-92) has commented on the extreme variability found in wall construction in Alkali Ridge sites, even within the same room. This is quite obvious for all construction at Gnat Knoll. There are no apparent practical reasons for the use of such various styles. All construction types present at Gant Knoll are common throughout the Mesa Verde subarea. Brew has also considered the problem of attempting to date domestic structures according to construction styles (1946, 215 ff). This is especially problematic on Cedar Mesa.

The location of Gant Knoll is ideal for dry farming, which may help explain the length of time it was occupied. Aeolian soils are especially deep in the immediate vicinity of the site, and cover a large, relatively flat area to the west. This is the area presently occupied by a sage park.

The location also has another advantage in terms of growing season because it is lower than the south end of Cedar Mesa where at elevations of 6240 ft. the growing season is 144 days (Lipe and Matson, 1971, 128). Lipe and Matson (1971, 128) have also suggested that the shallow headwaters on top of Cedar Mesa may have been used for flood water farming or small scale irrigation although there is no archaeological evidence at present for these techniques. Gnat Knoll is located close to the headwater area of Mule Canyon and such techniques could have been practiced in
Prior to excavation a grid system was set up which was tied to a highway station marker and to a USGS Bench Mark located northwest of the site.

Five trenches were used in excavation. All were excavated according to natural stratigraphy where present; otherwise, 6 in. arbitrary levels were utilized. Trench A was a north-south oriented excavation designed to provide a profile through the kiva fill and establish its relation to the surface structures north of the kiva (Fig. 21). The trench also revealed the relation of Strata 1 and 3 to the kiva and to Rooms 4, 5, 8, 6.

Trench B was a 90 ft. long trench which provided an east-west profile through the site from Room 5 to the eastern end of the midden. It showed the relationship of Strata 2 to Room 1, Strata 1 and 3, and to Midden 1. Trench C was excavated to define the northern limits of the masonry structures. It measured 8 ft. wide by 10 ft. long. Strata 3 was revealed in profile Trench D, which was excavated west from Room 2 10 1/2 ft. Its purpose was to test for possible structural features and reveal stratigraphy at the west end of the site. Strata 1 and 3 were revealed, as well as their relationship to Rooms 1 and 2. Trench E was excavated after the discovery of Room 1 to test for possible subterranean structures. Strata 2 was the only layer uncovered.

Three main strata were present at the site. The lowest, Stratum 1, is the very hard, sterile, lime-cemented subsoil found all over this area.
It was found from 1 to 2 ft. under the surface and formed the floors of Rooms 1 and 2, and the lower floor of Room 3. The kiva originated at top of Strata 1 and was cut to a depth of 6 ft. where the excavators hit a natural layer of caliche several inches thick. Rooms 2 and 3 were also excavated into this lime-cemented subsoil.

Stratum 2 is a natural red sand deposit ca. 1 ft. thick which lies under the top 2 to 4 in. of blow sand and over Stratum 1. It is the level of origin for Room 1, and is found east of Room 7 at the site. It also underlies Midden 1.

The other major soil component, Stratum 3, consisted of a mixture of spoil dirt from excavation of the kiva and Rooms 2 and 3 plus some cultural fill material. It was found around the kiva and Rooms 2-7, and it is the level of origin from Rooms 4 (top floor), 5, 6, and 7.

FEATURES

Structures

Room 1

Room 1 is a surface masonry structure at the eastern end of the site, partially covered and filled by Midden 1. It is the earliest structure at the site and originates in Stratum 2.

Shape and Dimensions. Room 1 is rectangular in plan, 22 ft. long and 7 ft. 9 in. wide.

Walls. Walls were made of partially dressed sandstone blocks, fairly uniform in size which were laid in even courses. Red mud mortar 1 to 3 in. thick is still present. The walls are 5 to 7 in. wide; individual
stones vary from 2 to 7 in. thick and 11 to 15 in. long. The lowest course was set in a footer trench ca. 8 in. deep and 10 in. wide. From one to three courses of stone were intact, but very little wall fall was found. The masonry is much better than that found elsewhere at the site.

Floor. No obvious floor was encountered, but it is believed to have been near the top of the bottom course.

Floor Features. None

Fill. The northern half of Room 1 was covered and filled by Midden 1 to a depth of 9 to 15 in. Fill in the rest of the room consisted of Stratum 2 mixed with some midden material. Even the artifacts found in the southern portion of fill material are probably associated with the midden.

Comments. Little can be said about Room 1 since no diagnostic features were associated with it. None of the early pottery from the site is associated with the structure, although it is stratigraphically the earliest at the site. Most of the masonry was probably robbed for later buildings.

Rooms 2 and 3

Rooms 2 and 3 are semisubterranean masonry rooms built together as a unit. They represent the earliest construction phase in the complex of rooms north of the kiva. Room 2 was probably a habitation room, while Room 3 could have been used as storage or for living quarters.

Shape and Dimensions. The rooms are both rectangular in plan. Inside measurements for Room 2 are 10 ft. 6 in. by 6 ft. 2 in., and for
Room 2 are 8 ft. by 5 ft. 8 in.

Walls. The south wall of both rooms and the west wall of Room 2 are constructed of upright stone slabs set against the sides of the pit dug ca. 4 to 5 in. into Stratum 1. Most are broken 1 ft. above the floor and several are missing. Spaces between the slabs were filled with small chinking stones and all were laid in a mud mortar. Beginning behind the tops of the slabs are remnants of a coursed masonry, above ground wall. The masonry from the south wall of Room 2 fell outward as a unit in a 'shingled' pattern (Fig. 22).

The north wall consists of unshaped horizontally laid stones. Mud mortar makes up a considerable portion of the wall, completely covering many stones. This wall was laid directly on the pit floor. In Room 3, much of the masonry has slipped.

The partition between the rooms is made of unshaped sandstone rocks and slabs laid in thick mud mortar. It stands 1 ft. 9 in. high and is ca. 10 in. thick. The east wall of Room 3 contains two upright slabs at its base. The rest of the wall consisted of tightly packed rubble which also filled the area between the walls of Room 3 and 4.

Floor. The floor in Room 2 was originally paved with stones, but only two are still in place. The floor of Room 3 is unprepared and consists of Strata 2 material.

Floor Features. An upright stone slab was found in the southeast corner of Room 2 parallel to the south wall. Between it and the south wall was a small ash pit 10 in. in dia. and 4 in. deep. On the north side
of the slab was a poorly defined, roughly oval, firepit ca. 30 in. by 18 in. and 3 to 4 in. deep. It was surrounded by chunks of caliche. Room 3 also contained an upright slab in the southeast corner parallel to the east wall.

**Fill.** Fill in each room was essentially the same. It was 17 to 25 in. deep, the top foot composed mainly of masonry rubble and wind blown sand. Below this was a compacted mottled material consisting of reddish sand and burned material.

**Comments.** Four manos were recovered from Room 3, one on the floor in the southeast compartment and the others near the floor in the same area. This may have been a milling area.

Mesa Verde Black-on-white, Mesa Verde Corrugated and McElmo Black-on-white sherds found on the floor of Room 2 indicate that this room, at least, was in use through the whole occupation of the complex of rooms north of the kiva.

**Room 4**

Room 4 is a surface room east of Room 3 (Fig. 21). Two floors are present; the lower originating on Stratum 1, and the upper on Stratum 3. It was used as living quarters.

**Shape and Dimensions.** Room 3 measured ca. 6 ft. 10 in. by 8 ft. 6 in.

**Walls.** The west wall consisted of large, unshaped, upright stone slabs up to 30 in. high. The 2 to 3 ft. of space between this wall and the east wall of Room 3 was packed tightly with stone rubble. There is no evidence to indicate the nature of the upper wall, although it is presumed
to have been of masonry.

The south wall is completely missing and only three upright slabs less than 1 ft. high are in place to indicate the east and north walls.

Floor. The lower floor was a stone pavement although only two of the stones were still in place. It is at the same level as the floors in Rooms 2 and 3. The north edge of the floor consisted of thick mud plaster, burned brick hard which curved up to meet the wall. This plaster was present in only one small area, and its full extent is unknown.

The upper floor was constructed ca. 6 in. above the lower one on rubble from the destruction of the earlier structure. It consisted of packed earth and was poorly defined.

Floor Features. Firepits were associated with each floor. Firepit A, on the lower floor, was basin shaped with a thin adobe rim 1 to 2 in. high. It was 15 to 18 in. in dia. and 4 in. deep. Firepit B had 3 to 4 in. high stone slabs on three sides. It was 4 in. deep and 22 to 28 in. in dia.

Fill. Fill varied in depth from 20 in. near the west wall to 3 to 4 in. on the east side of the room. It was mottled in appearance with large quantities of charcoal and chunks of burned adobe. Between the floors were quantities of burned roof and wall material. Chunks of charcoal, ash, and brick hard chunks of adobe were also present. Fill near the west wall, however, did not contain much burned material, suggesting it was not constructed of perishable material.

Comments. The north and east walls were probably constructed of perishable materials with short upright slabs at their base. There is no
evidence for reconstructing the south wall, and it is presumed to resemble those on the east and north.

The original structure was probably associated with a construction phase involving Rooms 2 and 3. The rebuilt structure was either constructed at the same time as Room 5, or earlier.

Room 5

Room 5 is a surface structure probably used for storage. It was built after Rooms 2, 3 and 4.

Size and Dimensions. Room 5 measures ca. 6 ft. by 5 ft.

Walls. The west wall is a continuation of the western wall of Room 4. It was constructed later, however, and originated in Stratum 3 material. Lining slabs are up to 15 in. high. Beginning behind the tops of the slabs are several layers of an above ground masonry wall. The north wall consists of upright slabs, ca. 13 in. high, but there is no evidence of an upper wall. Only one upright slab is in place in the west and south walls, each less than 1 ft. high. All lining slabs were fire blackened.

Floor. The floor consisted of packed Stratum 3 material.

Fill. Fill was 10 to 20 in. deep. The upper component consisted of charcoal, ash, sand and burned adobe with some fire blackened stone rubble present. Beneath this was a 2 in. layer of bright red burned adobe with stick impressions laying on a lower 2 in. thick component of charcoal and burned limbs up to 2 in. in dia.

Comments. Stratum 3 material not only formed the floor, but was
the material behind the upright wall slabs, indicating that the room was dug into this material. The north, west and south walls may have had perishable superstructures.

Potsherds found on the floor included Mancos Corrugated, Mesa Verde Corrugated, McElmo Black-on-white and Mancos Black-on-white, indicating that the room was utilized as long as the site was inhabited.

Room 6

Room 6 was a surface jacal structure originating on Stratum 3 and built on top of an earlier slab lined pit.

Shape and Dimensions. Room 6 measured 9 ft. 10 in. by 6 ft. 2 in.

Walls. Three sides of the structure had small fire blackened cobbles along the edge of the floor, probably used to help support wall poles. Fill material suggested that the walls were of jacal.

Floor. The floor was a shallow basin ca. 4 in. deep excavated into Stratum 3.

Floor Features. Four postholes were found, but the pattern indicated there were six, three along each of the longer walls. A mealing bin was located toward the center of the room, opening to the west. Two thin sandstone slabs, set on edge, formed the end and one side. One stone was set on the bottom, with a mano found resting on it.

Fill. Fill was 7 in. deep and consisted almost entirely of burned roof and wall material. The top 3 in. consisted of burned twigs, charcoal and burnt adobe. This laid on 2 to 3 in. of charcoal, containing burned
limbs 2 to 3 in. in dia. Underneath, directly on the floor, was a thin layer of bright orange burnt adobe mixed with charcoal.

Comments. Three manos were found on the floor and two in the fill. A flat, blackened grinding stone, 10 by 12 in., also rested on the floor. This suggests the room was used primarily for grinding.

The large amount of debitage (205 pieces) throughout the fill material may indicate that the room was used for a dump after it burned.

The eastern side of the room may have had no wall, but instead opened onto Room 7. A posthole found 15 in. south of the southeast corner of the room may indicate that the roof of Room 6 extended over Room 7.

Room 7

Room 7 is a stone pavement to the east of Room 6 constructed on Stratum 3 material. It may have served as a porch or ramada connected to Room 6.

Shape and Dimensions. Original dimensions were probably 5 ft. by 5 ft. 7 in.

Walls. There is no evidence of walls.

Floor. The floor was a pavement consisting of several large, flat stones fitted to each other. Small stones, ca. 1 by 2 in., outlined the pavement as well as filling spaces between the larger slabs.

Fill. Fill was ca. 6 in. deep. It was brownish red in color and contained small pieces of charcoal. It extended several feet beyond the pavement.

Comments. The pavement probably represents the best masonry
construction at the site, showing much more care than usual. This suggests that it was at least protected by an overhang from the roof of Room 6.

**Kiva (Figs. 23, 24, 25)**

*Shape and Dimensions.* The kiva is circular and has six pilasters. There is a banquette between the pilasters and the southern banquette has been enlarged to form the typical 'keyhole' typically found in Mesa Verde kivas.

The kiva is 11 ft. 6 in. wide and 6 ft. 5 in. deep. The banquettes are 42 in. above the floor. The banquettes are ca. 16 in. deep and 50 to 53 in. wide at the front. The southern recess is 36 in. deep and is estimated to be 5 ft. to 5 ft. 6 in. wide at the front. The pilasters vary in width from 20 to 21 1/2 in. wide.

*Walls.* Both the lower and upper walls consisted of native earth covered with adobe plaster, except in the southern recess. The lower wall had at least four thin coats of mud plaster, this was absent on the bottom 1 ft. of the wall, however. The plaster on the banquettes and upper wall had been almost completely eroded away.

Each of the pilasters consisted of several large blocks of uncoursed sandstone, minimally dressed, resting horizontally on the bench. Small spalls were embedded in the mud plaster.

*Southern Recess.* The sides and back walls of the recess were lined with masonry set with mud mortar. The stones appeared to be slightly dressed and were 2 to 6 in. wide and 7 to 17 in. long. Small
spalls were embedded in the mud mortar. The masonry was originally covered with mud plaster, as was the floor of the recess.

The recess was remodeled at one time. A masonry wall was constructed across part of the front of the recess flush with the lower wall and edge of the bench (Fig. 25). An opening 24 in. wide, the height of the pilasters, was left in the wall next to the southeast pilaster. The area of the recess directly behind the wall was then filled with dirt. All that was then left of the original recess was a narrow area, 24 in. wide, whose three walls consisted of the original southeast side of the recess, part of the original back wall and a new wall formed by the fill material. Into this latter side wall of the new recess, a bin was constructed. Its floor consisted of small stone slabs resting on the recess bench. Two of the three walls of the bin consisted of single stone slabs 23 in. high, and the other wall was of dirt.

**Floor.** The floor is a natural layer of very hard caliche and is slightly uneven. It is white to light gray in color with white veining throughout. This caliche layer varies in depth and thickness. The builders had to excavate part of the caliche to form an even floor.

**Floor Features.** There were two floor pits near the southeast wall. The opening for each was ca. 6 in. and cut through 5 to 6 in. of caliche. Inside dimensions were 16 in. by 16 in., and 20 in. by 22 1/2 in. There was also a small, shallow pit of unknown use dug 2 in. into the floor. Two shallow, amorphous and overlapping pits, both ca. 4 in. deep were located near the northeast wall. A loom anchor hole was
located north of the firepit. Three deflectors were present, the largest measuring 21 in. high, 22 in. long and 2 1/2 in. wide. All three were sunk to different levels indicating they were installed at different times.

**Firepit.** Two firepits were present, a small one constructed in the bottom of another. The large firepit was excavated below the caliche layer into bright orange sand. It measured ca. 32 in. in dia. and 5 in. deep. It was filled entirely with homogeneous light gray ash. A small, ovoid, clay-lined firepit was constructed at the bottom of the larger pit, measuring 14 by 15 in. It, too, was filled with light gray ash, but bits of charcoal were also present. The temporal relationship of the two firepits is unclear.

**Ventilator.** The ventilator was of a late Mesa Verde style. (See Lancaster, 1954, for discussion.) It also showed the late feature of having the vertical shaft built directly against the back wall of the southern recess. The ventilator opening measured 15 by 20 1/2 in. A large stone, 3 by 16 in., formed a lower sill. The inside of the shaft was plastered. The back wall of the recess formed one wall of the vertical shaft. The other walls were of native earth except for three courses of masonry at the top.

**Fill.** Fill consisted almost entirely of laminated sands washed into the kiva. Small bits of charcoal were scattered throughout. There was a layer 4 ft. below the surface consisting of burned material and masonry debris which had fallen in from the north.
Comments. The level of origin for the kiva was at or slightly below the present surface. Excavation was begun at the same level as the lower floor in Room 4.

The kiva shares almost all features with typical kivas in the Mesa Verde subarea. However, they occur here in combinations which are indicative of the time lag on Cedar Mesa.

Many kivas excavated north of the San Juan River have upper walls of native earth, with masonry only in the southern recess (Brew, 1946, 112-113), but they are earlier than the Gnat Knoll kiva. There are also Pueblo II and III kivas at Alkali Ridge with lower walls of earth (Brew, 1946, 130, 150). However, these are old fashioned in other respects, lacking both a southern recess and the later type of built-in ventilator system.

There are also a number of kivas in Mesa Verde proper which have both walls of native earth and the keyhole, but they have the older ventilator system and are generally dated ca. A.D. 1000 (Lister, 1965, 1966, 1967).

The most useful feature in the Gnat Knoll kiva for dating purposes is the type of ventilator system, especially the placement of the horizontal shaft. Lancaster (Lancaster, et al., 1954) has established a sequence for kiva development organized into 5 steps. In typical step 5 kivas the vertical ventilator shaft is directly against the back wall of the southern recess. This back wall is also straight instead of curved to accommodate the ventilator. Structures characteristic of this step are dated in the
late 1100's and after.

Thus the Gnat Knoll kiva possesses this step 5 trait as well as one other: six pilasters. Since there is no evidence to indicate that these features were later additions, it is likely that the kiva was built late in the history of the site despite other features which might be considered early.

Outdoor Firepits and Storage Bins

Pit 1

A five-sided slab lined pit north of Room 5. The walls are 26 in. high. Diameter varies from 22 to 24 in. at the bottom, to 29 to 33 in. at the top. All of the slabs are fire blackened. Fill consisted of fire blackened stone rubble and burned organic material.

Pit 2

A five-sided slab lined pit under the floor of Room 6. It is similar in size and shape to Pit 1, but the slabs have been broken off at 11 to 12 in. The floors of both Pits 1 and 2 are 13 in. below the floor level of Room 5. Pit 2 was in use before Rooms 5, 6, or 7 were built.

Pit 3

Pit 3 is located 25 ft. southwest of the southwest corner of Room 1 (not shown in site map). It originated near the present site surface. The pit was 45 in. deep. The bottom 26 in. of the wall consisted of rough, heavily burned adobe at least 1 in. thick. The upper walls were lined with stone slabs, one of which was still in place. Diameter at the bottom
was 18 to 20 in., widening to ca. 3 ft. at the top. Most of the fill consisted of charcoal and burned organic material. It may have been used for roasting.

**Firepit 1**

A small outdoor stone-lined firepit north of Room 5. It was 6 to 7 in. deep with a dia. of 18 to 19 in.

**Burial**

One burial was found in Midden 1, ca. six ft. northeast of Room 1. It had been disturbed considerably by later aboriginal digging, by burrowing animals and by pothunters. The skeleton was disarticulated and only some of the bones, including the crania, were still present. The skeleton had been placed in a shallow pit dug slightly into Stratum 2. The head was oriented towards the southeast.

**Middens**

**Midden 1**

Midden 1 which partially covered and filled Room 1, was located ca. 30 ft. east of Room 7. It covered an area ca. 25 ft. (north-south) by 35 to 40 ft. (east-west). Cross-sections revealed it to be generally lenticular in shape. It varied in depth because several pits which had been dug into the underlying Stratum 2 were also filled with midden material. Average depth was 6 to 8 in. with pits 11 to 15 in. deep. One of these pits contained the burial noted above.
The midden material was homogenous, medium brown in color, and quite soft. Surface artifactual material indicated that earlier pottery was located at the eastern end of the midden. This did not prove to be the case when the midden was excavated as pottery sherds of all periods were found mixed together.

Midden 2

Midden 2 was located ca. 30 ft. south of the kiva and covered an area 20 by 40 ft. It was intermittent and very thin. Since it sets on a slope, much of the material has probably been eroded.

ARTIFACTS

Chipped Stone

The chipped stone material recovered consisted primarily of debitage. Of 409 specimens collected, only 22 could be classified as worked stone. The terminology used below is based primarily on Lipe (1960) and Woodbury (1954).

Projectile Points (Fig. 26f, g, k)

This term has been applied to only those artifacts which are stemmed; only four were recovered.

One is corner-notched with a straight base and rounded shoulders. It measures 2.45 cm. long by .95 cm. wide. One side-notched point with an expanding stem and convex base was also recovered. Its sides are slightly concave. It measures 2.4 cm. long by 1.4 cm. wide. The stem of the third point is broken off, but it appears to be corner-notched.
Edges are crudely serrated and it has a thicker base than the others. It measures 2.4 cm. long by 1.4 cm. wide. A large point similar to the type Pinto Square-shoulder point was also recovered. It is stemmed, with an indented base and convex edges. Measurements are 5.95 cm. long by 3.1 cm. wide (Fig. 26k).

**Blades**

Following Woodbury (1954, 120), artifacts without stems are classified as blades, although it is conceivable that some were used as projectile points. Five specimens are placed in this category (Fig. 26h-i). They range in size from 3.1 cm. long, 2.5 cm. wide and 0.6 cm. thick to 2.1 cm. long, 1.0 cm. wide and 0.3 cm. thick. However, all are broken, so that these measurements are incomplete.

**Graver**

A single graver was recovered (Fig. 26j). It is the only specimen from the site made from obsidian. It is ovoid in shape with bifacial retouching along all edges. The tip, although broken, has been finely retouched. It measured 2.95 cm. long, 2 cm. wide, and 6 cm. thick.

**Reworked Flakes**

Ten artifacts have been placed in this category. They vary considerably in size and shape, but all show modification along one or more edges consisting mainly of secondary flaking. Dimensions range from 2.2 cm. long and 1.1 cm. wide, to 5.3 cm. long and 4 cm. wide. All are made from chert/chalcedony.
Hammerstones

Fourteen artifacts have been placed in this category. All are made of cobbles or large flakes with no apparent effort at shaping visible. Nine are made of chert/chalcedony and one of limestone. These range in size from 5 to 10 cm. Two river cobbles with clear evidence of pecking, and with their ends battered from use for pounding are included in this category. Both are quartzite and range from 11 to 9.5 cm. long by ca. 4.5 cm. thick.

Debitage

This category contains 377 scrap flakes and cases. The majority (356) are chert/chalcedony; other materials are quartzite (10), limestone (6), sandstone (2), and granite (1). None occur geologically at the site itself.

Ground Stone

A total of 36 ground stone artifacts were recovered at Gnat Knoll. The majority (29) are manos. None of these artifacts are unusual for the Mesa Verde Anasazi subarea.

Manos (Fig. 26a-c, e)

Manos are classified as one-handed (7 specimens) or two-handed (22 specimens) following Woodbury (1954). One handed manos are defined as "rectangular to oval stones with one or two flat surfaces used for grinding" (Woodbury, 1954, 78). Maximum length is 16 to 18 cm. All of those recovered are of medium fine or fine grained sandstone. They
vary in length from 15.4 cm. to 9.5 cm., in width from 10.2 cm. to 7.7 cm. and in thickness from 3.6 to 5.4 cm.

Two-handed manos vary considerably in size, shape, material and number of grinding surfaces with no discernable pattern. Nine whole manos were recovered, one of which has finger grips. Several fragments were also present. Dimensions vary between 17 and 24 cm. in length and 8 to 12 cm. in width. Materials range from fine grained, well-cemented sandstones through poorly cemented gravel conglomerates. Two fragments are of quartzite and one is scoriatic basalt. Twelve manos have one grinding surface, two have grinding surfaces on opposite sides, five have grinding surfaces on the same side, and three are unclassified. Several have been worn so thin that a sharp edge formed along one of the long sides (Fig. 26e).

**Metates**

Two metate fragments were recovered, neither of which is large enough for classification. Both are of fine-grained sandstone.

**Grinding Slabs**

Two incomplete specimens are placed in this category. One is a thin rectangular slab of sandstone with one grinding surface. It is 14.2 cm. wide and 1.8 cm. thick. The other is a fragment from a small limestone palette with a single grinding surface covered with red ochre.

**Maul**

One fully grooved sandstone maul was recovered. It is oval in cross-section with flattened faces. Because both ends are broken only
one dimension is known: 5.6 cm. between the faces (Fig. 26d).

Pendant

A small chalcedony pendant was recovered. It is trapezoidal in shape and the edges are serrated. It measures 1.9 cm. long, 1.1 cm. wide, and 1 cm. thick.

Miscellaneous

Two artifacts cannot be classified. One is a large chunk of sandstone, rhombohedral in cross-section. The other is a partially worked flattened cobble, possibly broken while being worked.
Table 5

Pottery Provenience - Gnat Knoll (42Sa2140)

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Fig. 21. Gnat Knoll site plan and excavation map.
Fig. 22. Profile detail of fall from the south wall of Room 2, Gnat Knoll.
Fig. 23. Plan drawing of the Gnat Knoll Kiva.
Fig. 24. General view of the south excavated portion of the Gnat Knoll Kiva.
Fig. 25. Detail of the southern recess of the Gnat Knoll Kiva showing remodeling.
Fig. 26. Gnat Knoll Artifacts. a-c, one and two-handed mano forms; d, fragment of grooved maul; e, side view of a very thin, beveled surface mano form; f-g, small projectile points, h-c, small blades (bifaces); j, obsidian graver; k, large, stemmed projectile point.
CHAPTER 7

THE CENTER BEAM SITE

by Joseph Winter

INTRODUCTION

Setting and Environment

The Center Beam site (42Sa2141) is a Pueblo II site located approximately 3/4 mi. east of the east branch of Mule Canyon, on a gentle, southerly running slope. The vegetation is a dense pygmy conifer stand, with prickly pear, mormon tea, grasses, forbs and an occasional sage and cliffrose interspersed with the dominant pinyon and juniper. A small, 10 ft. deep gully borders the site on the west, while a sage/grass flat opens up to the east and surrounds a large arroyo, which eventually feeds into Comb Wash several miles to the southeast. Arable land occurs nearby, especially in the arroyo drainage to the east, and outcrops of potential construction stone are located several hundred feet to the northeast.

Prior to excavation, scattered sherds and stone debris covered an area of 300 square ft. A small, 10 ft. by 10 ft. midden area was exposed on the edge of the flats, while a slab lined hearth protruded out of the topsoil on the eastern edge of the site (Fig. 27). Erosional damage was minimal, but some disturbance due to the forest growth was encountered.

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Excavation Procedure

Since only two features were evident from the surface (the hearth and midden), excavation was initiated by a series of exploratory trenches and pits. The major trench ran east towards the midden from the hearth, while two series of test pits ran south from the trench. Additional pits were scattered elsewhere to define the limits of the site, and a grid system was superimposed over the trench/pit alignment. When features were exposed in the system, excavations were broadened to account for them, and eventually an area some 40 ft. by 50 ft. was exposed, revealing two Pit Structures, two storage pits, a hearth, the midden, a metate basin and a probable surface work area.

Stratigraphy

Two major cultural strata and two natural strata were defined during excavation (Fig. 28). In addition, the fill of the two Pit Structures were broken down into a number of levels, which are noted in the descriptions of the particular structures. Stratum 1 is the basal subsoil which is the level of origin for the Pit Structures and the hearth; while Stratum 2, the near-sterile layer occurring around the edges of the Pit Structures, is the level of origin for the probable work area, storage pits and metate basin. Stratum 2 appears to be modified Stratum 1 material, with small amounts of cultural fill, and is probably spoil dirt from the aboriginal construction of the Pit Structures. The general cultural layer across the site is Stratum 3, which contains charcoal, sherds,
stone debitage and an occasional bone scrap. Its thickness and extent varies over the area, ranging from lenses and pockets a few inches deep to a 12 in. thick layer over the habitation zone. The uppermost, "topsoil" layer of the site has been designated Stratum 4, and is composed of several inches of fine blowsand or other erosional/aeolian material.

FEATURES

Pit Structure 1

Pit Structure 1 is a semisubterranean unit situated near the eastern limits of the site, adjacent to the midden (Figs. 27, 29, 30). A composite profile (Fig. 28) shows the nature of the fill and its relation to Strata 1-4.

Approximately three-fourths of the fill was excavated, revealing a square pit with slightly bowed walls measuring 14 ft. 1 in. in length north-south and 16 ft. east-west. A well-defined bench varied from 11 in. to 22 in. in width (average 20 in.), while floor dimensions varied from 10 ft. 5 in. from northeast corner to southeast corner and 11 ft. 5 in. from southeast corner to southwest corner. Depth of the structure below level of origin varied from 4 ft. to 4 ft. 10 in.

Walls. The sides and bench of the pit house were dug into sterile Stratum 1 material, and covered with a 1/2 in. to 2 in. thick coating of plaster. All four walls were burned blue-black or orange, evidently as a result of the conflagration which destroyed the superstructure. In places, a bank of Stratum 2 material surrounded the structure, and to the
south the bank separated the masonry vent shaft column from the pit house proper. The walls dropped some 1 ft. 1 in. from their level of origin to the bench, which was flat and lacked any evidence of pilasters, cists, or slab facing. Columnar post molds, indicative of a four corner roof support system, were carved into the inner corners of the bench; no other post molds occurred in the structure. The northeast corner mold was completely open-faced, with a total height of 3 ft. 10 in. (from the top of the bench to 8 in. below floor level), and a dia. of 7 in. at the top, which tapered towards the floor. Excavation indicated that it was constructed by first gouging out a 10 in. dia. column in the corner of the bench, which was then partially covered over by the addition of a plaster which resulted in a 5 in. to 7 in. wide open face. The southeast and southwest molds were partially closed with a natural face of Stratum 1 material covered with plaster. The southeast mold (dia. 7 in.) was 3 ft. 9 in. deep (7 in. below floor level) with a 2 in. thick face which began at bench level and continued 1 ft. 10 in. down the height of the column before opening up. The southwest hole (dia. 6 in.) had a depth of 3 ft. 2 in. (bottom even with the floor, but with a 2 in. high separating sill); the upper 1 ft. 6 in. was closed by a 2.5 in. thick facing. Several small, flat rocks were wedged against the bottom of the hole, probably to position the post.

**Floor.** The bench dropped vertically some 3 ft. 2 in. to the floor, which was level, burned, and plastered in places. Features included a central firepit, an ash pit, a possible metate rest, several probable storage
pits or basins, and a "sipapu". The structure lacked a permanent de­
deflector, but several flat slabs (5 in. x 5 in. x 1 in. and 1 ft. 7 in. x 7 in. x 1 in.) which were located in the fill immediately above the ash pit may have once been associated with a portable unit. The ash pit, firepit and "sipapu", in that order, were directly in line with the ventilator tunnel opening on a north-south alignment. The ash pit, located 1 ft. 5 in. from the ventilator opening, had a square mouth (18 in. x 20 in.) and a bell-shaped interior (1 ft. 3 in. deep), while the basin shaped firepit which lay immediately to the north, had a dia. of 3 ft. 2 in. and a center depth of 4 in. The preserved portion of an eroded adobe rim averaged 3.5 in. thick and 3 in. high. The firepit was dug into the floor, and finished by the addition of the rim and a 1/4 in. to 1/2 in. layer of adobe wash or sand on the bottom and sides. The final feature on the north-south line was the "sipapu", which was located 1 ft. 8 in. from the north edge of the firepit, with a 6 in. dia. and 2 in. depth.

Six other pits occurred in the floor. A possible metate rest, located 16 in. out from the south bench and approximately midway between the southeast corner and ventilator, measured 12 in. x 16 in. wide with 2 in.-3 in. deep, vertical sides and a level, smooth bottom. Three of the five remaining pits occurred in each of the exposed quadrants. All three were shallow (2 in.-4 in. deep) with dia. of 5 in. to 1 ft. 3 in. Two additional holes were located near the west bench. The largest, which was partly covered by unexcavated fill, measured 9 in. in dia. with a 2 in. to 3 in. deep, basin shaped bottom. The other pit along the west
bench was dug into the floor and bench, with bell-shaped sides 9 in.
wide and 3 in. to 4 in. deep.

**Ventilator.** The size and shape of the tunnel and shaft system which originated in the center of the south bench were suggestive of a ventilator, rather than an entrance passage. The basal width of the opening at floor level was 20 in., narrowing to 6 in. towards the arch-shaped top. The height of the horizontal tunnel averaged 26 in. along its 8 ft. length, but at 6 ft. 5 in. from the mouth the tunnel abruptly began to bend upwards and rose 5 ft. 7 in. as a vertical shaft before opening onto the present site surface. The upper 19 in. of the shaft consisted of seven tiers of masonry slabs (each slab averaging 6 in. x 8 in. x 3 in.) arranged in an 18 in. wide column, while the remainder of the shaft and tunnel were dug into Stratum 1 material, with a 1 in. thick coating of plaster over the raw earth. Construction apparently entailed the burrowing of a tunnel and shaft through sterile earth, with the back-dirt being piled up around the shaft opening (Stratum 2). The shaft was then widened around the opening, two to three courses of masonry were set down in the widened area, and the remaining courses were built above the original surface. After abandonment, the vertical shaft was filled with Stratum 3 and portions of the collapsed column, while pit house fill intruded into the horizontal tunnel (Fig. 28).

**Fill.** As demonstrated by Fig. 28 four distinct levels of fill occurred in Structure 1, with three of them intruding into the ventilator tunnel. The lower two levels (A and B) were thin layers of sand and gravel,
apparently deposited by aeolian and erosional activity prior to the burning of the superstructure. Burning was represented by level C, which was composed of a 4 in. to 6 in. thick layer and scattered pockets of burned daub, carbonized bark and twigs, adobe chunks and ash laminae. Six short segments (4 in. to 7 in. long) of roof beams occurred within this level. Their cross-hatch orientation (north-south and east-west) suggests a cribbed roof, which is in accord with the corner post support system. The uppermost fill layer (D) occurred throughout much of the pit house, and graded into Stratum 3 in its upper few inches.

Artifacts in the fill were relatively abundant, as compared with the content of Pit Structure 2 (Table 6). Moreover, ceramic types and frequency of occurrence were also different, which may be significant. Certain early types (Mancos Gray, Chapin Black-on-white and Abajo Red-on-orange) which have a temporal span of A.D. 600-950 (Madsen, this report) were represented in the fill or on the floor of Structure 1, but did not occur in Structure 2. In addition, percentages of occurrence of other early types were higher for Structure 1 than for Structure 2 (e.g., 40% of the La Plata Black-on-red sherds occurred in Structure 1, while only 3% occurred in Structure 2, and 21% of the Bluff Black-on-red occurred in Structure 1 and only 4% in Structure 2). Thus there are certain ceramic indicators that Structure 1 may have been abandoned prior to the abandonment of Structure 2; also, the relative richness of the fill indicates that it may have been used as a dump while Structure 2 continued to be occupied for a short time thereafter. Although the proximity
of the midden could account for some of this material (due to subsequent erosion), the different types and frequencies of sherds demonstrate an earlier abandonment of Structure 1.

Comments. Pit Structure 1 is generally comparable in architectural details to Pueblo II pit houses (and some kivas) in other parts of the Anasazi area. The presence of a well-made bench with inset corner posts is suggestive of slightly later developments, however, since full benches occur only occasionally in Pueblo II (or Development Pueblo) pit houses (Brew, 1946, 210; Bullard, 1962, 146-149). Only three of the 18 Pueblo II pit houses excavated by Roberts (1939) in the White Water district had benches, while none of the other Pueblo II pit houses excavated during the present project (this report) have such features. Lancaster (1954) excavated a similar Pueblo II structure at Site 16 on Mesa Verde which he defined as an early "kiva"; shared features include square shape, full plastered bench, alignment of ventilator--ash pit--firepit--"sipapu", floor basin in the southeast quadrant, inset corner posts and the absence of a permanent deflector. A similar "kiva" at Site 9, Alkali Ridge (Brew, 1946), also shares a number of features with both structures. Thus there is a possibility that Structure 1 served, at least in part, as a ceremonial chamber for the site, with Structure 2 being a habitation pit house. Although Structure 1 may have been abandoned slightly earlier than Structure 2, both structures were apparently utilized contemporaneously, with Structure 2 used a somewhat longer period.
Structure 2

Semisubterranean Structure 2 is situated near the southern limits of the site (Figs. 27, 28, 30) with a northeast-southwest alignment. Square in shape, it measured 8 ft. 3 in. to 8 ft. 8 in. in width, and was surrounded by a bank of Stratum 2 material. Since its walls were near-vertical and lacked a bench, floor dimensions were similar to wall dimensions.

Walls. Structure 2 was aboriginally dug into Stratum 1 material, and its 32 to 41 in. high walls and hard-packed floor were formed from basal subsoil which was rich in caliche. Remnant patches of thin adobe (1/8 to 1/4 in. thick) were found on all four walls. Wall features included numerous small indentations or pits, and two large columnar post molds, one each in the center of the eastern and western walls. Both molds were inset in the solid earth and were 12 in. to 14 in. in dia., with open-faces measuring 7 in. to 10 in. in width. The west mold began at the top of the wall and extended to floor level, while the east mold extended 8 in. below floor level. The bottom of both holes were separated from the floor by a 4 in. to 5 in. thick, 2 in. to 6 in. high carved sill of natural earth.

Some of the small wall pits were apparently the result of rodent/root action, but several may have been cultural, as indicated by firm sides and bottoms. Dimensions ranged from 4 in. x 2 in. to 9 in. x 5 in., and function was unclear.

No evidence of a ventilator shaft, entrance tunnel or antechamber
passageway were discovered in or around the walls.

**Floor.** Although the floor was generally horizontal, it was by no means level, since it contained a number of postholes, basins, pits and raised ridges. Two small postholes, one of which retained longitudinal digging stick grooves along its sides, were located along the centers of the northern and southern walls. Dimensions were 6 in. x 12 in. and 5 in. x 6 in. One additional posthole was located in the northeast corner of the pit house, with dimensions of 5 in. x 3 in.

Two shallow basins occurred on the east-west centerline, near the western post mold. The westernmost basin, which was rectangular in shape (15 in. x 20 in.) with straight sides (2 in. high) and a flat bottom, was located immediately in front of the post mold, 1 in. out from the sill. Fill was near-sterile, and function is unknown. A probable basin shaped firepit began 1 in. to the east, with a dia. varying from 14 in. to 18 in. and a sloping bottom 2 in. deep at center. Fill included ash and charcoal, and the pit lacked a prepared rim or bottom.

One final basin was located along the east-west centerline, some 9 in. out from the sill of the eastern post mold. It was oval and lens shaped, with a dia. of 8 in. and a depth of 1 in. Three other basins were located near the walls, all with solid sides, sloping or irregular bottoms, and dimensions ranging from 7 in. to 12 in. wide and 2 in. to 4 in. deep.

The remaining floor feature was a raised ridge or shelf in the south-west quadrant. Elevated some 3 in. to 4 in. above the rest of the floor,
the ridge covered most of the quadrant, and had two flat, irregularly shaped sandstone slabs set into it.

**Fill.** The fill sequence is indicative of abandonment and initial slow natural filling prior to the burning of the superstructure. The pits and basins were generally clean, floor contact artifacts were at a minimum (Table 6) and the lower fill levels indicate that the structure was left in disuse while erosional and windblown debris began to filter in. The layer of burned roof or wall-fall material was high in the fill and not abundant, which suggests that the superstructure had partially deteriorated before it was burned. All evidence demonstrates that Pit Structure 2 was abandoned at the terminus of the site's occupation, and allowed to fill in by natural processes. The conflagration which eventually destroyed the remaining superstructure could have been caused by subsequent non-cultural factors.

**Comments.** Unlike Structure 1, the Structure 2 lacks most of the architectural features which are "normally" associated with Anasazi pit houses or kivas. Although it most likely served as a habitation dwelling, as demonstrated by its depth, roof, firepit and other floor features, the lack of a ventilator system and the presence of a probable gabled roof support system are relatively unique features for the Anasazi area. Although they are rare, such features are not unknown and architectural precedents exist at a number of sites. For instance, a pit house of a similar temporal span which lacks a vent system has been noted by Lister et al. (1960) at the Coombs site, while a number of southwestern
Utah pit houses (Bullard, 1962, 138; Aikens, 1966, 40) also lack vent systems. The presence of the gabled roof system is quite interesting, but again not unique. The large burned center beam in the fill, the two end post molds, and the auxiliary post molds and pole segments in the fill are reminiscent of a number of outlines and reconstructions from Southwestern sites (Bullard, 1962, 129; Wheat, 1954, Fig. 26B; Haury, 1936, Fig. 26B); however, these are mainly restricted to sites in the Mogollon and Hohokam areas (as at Crooked Ridge Village, where gabled roofs were found in about 1/4 of the pit houses). Still, possible gabled roofs have been noted at a number of Anasazi sites scattered throughout the northern Southwest. Pit House 1 at NA 7498 on Cummings Mesa (Ambler et al., 1964) and structure U at the Coombs site (Lister et al., 1960) have posthole patterns suggestive of a gable system, while Bullard (1962, 26-27) notes that several structures at the Cerro Colorado site may have had pitched or gabled roofs. Structure 2 at the Center Beam site has, however, the clearest expression of a gabled support system in the northern Southwest.

Utility Area

A probable work area or temporary surface structure occurred several feet to the northwest of Pit Structure 2 (Fig. 27). Disturbance was considerable, since several large junipers had distorted the original context, and no definite postholes were present. The limits were defined by a basin shaped unit of burned fill (12 ft. x 15 ft. x 4 in. deep) with sloping sides and a "bottom" set on Strata 1 and 2 material. In addition,
a firepit (3 ft. 6 in. to 4 ft. 5 in. in dia. and 8 in. deep) containing ash and charcoal was located in the center of the area. Other factors suggesting a use area were a line of small stones (averaging 4 in. in dia.) located along the northern edge of the unit, and the high artifact content, especially in contact with the bottom. As noted on Tables 7-9 more contact artifacts were recovered from this unit than from the pit structures, and fill content was also relatively high. The large amount of used flakes and retouched scrapers is especially interesting, and suggestive of a specialized use area.

Storage Pits

Two storage pits with uneven sides and bottoms were located several feet to the north of the work area (Fig. 27) and both were cut down through Stratum 2. The content and sides were heavily burned, and the fill contained numerous cracked rocks and charcoal flakes. Pit No. 1 (4 ft. x 3 ft. wide x 2 in. to 7 in. deep) contained no artifacts, while Pit No. 2 (located 2 ft. to the east of Pit 1 and measuring 3 ft. x 2 ft. x 2 in. to 10 in.) contained scattered sherds and flakes. Both pits probably functioned as storage pits, which were later filled in with debris.

Metate Basin

A circular, 2 ft. dia. pit containing a metate was situated 1 ft. to the east of Storage Pit No. 2. The metate (see ground stone section) occurred near the top of the 6 in. to 8 in. deep pit, resting on fill.

Hearth

The westernmost cultural feature, located some 14 ft. 5 in. north-
west of Storage Pit No. 1, was a disturbed, stone-lined hearth protruding out of the topsoil. The slabs and fill had been displaced, but an undisturbed burned area with a shallow, basin shape extended 1 in. to 2 in. into Stratum 1.

**Midden**

The shallow, localized midden (12 in. deep at most) occurred on the eastern and southeastern edge of the site, at a point when the conifer stand opened onto the sage flat. Ceramic content (Table 6) demonstrates that it was utilized throughout the site's occupation, since early as well as late types occurred throughout.

**CULTURAL AFFILIATION AND INTERPRETATION**

On the basis of ceramic types, certain architectural features and the site's location, 42Sa2141 is defined as a small P II (Developmental Pueblo) village, which was probably inhabited sometime between A.D. 800 and A.D. 950. Only four sherds from earlier and later periods were noted, and all occurred on the surface of the site. Diagnostic ceramic types of the P II period include Mancos Corrugated, Cortez Black-on-white, La Plata Black-on-red and Bluff Black-on-red (Table 6). The site apparently functioned as a habitation unit with two semisubterranean pit structures, a use area and several surface pits. Pit Structure 2 evidently served as a habitation structure while Structure 1 may have been a ceremonial room. Everyday economic activities occurred on the surface, as suggested by the work area, hearth, metate pit and storage
pits. Since the site was relatively small, with a localized use area, a shallow midden and two pit structures, it probably was used by only a few people, e.g., a nuclear or small extended family. Dietary data is limited since the full range of food resources was probably not preserved in the fill. The open condition apparently destroyed most plant remains, and preserved animal bone were limited to six species of mammal (mule deer, antelope, jack rabbit, cottontail, kangaroo rat, and pocket gopher) and unidentified bird remains.

ARTIFACTS

Ceramics. See Madsen this report

Ground Stone

Three complete manos, eight mano fragments, one complete metate, and a battered axe were recovered, as described below. Twenty-eight hammerstones recovered were made of ground stone fragments, pebbles, petrified wood and large chunks and cores of siliceous stone.

Manos (3) (Fig. 31a-c)

a. One grinding surface (1):

Material: Quartzite
Shape: Rectangular
Dimensions: 8 in. x 4 in. x 1.5 in.

b. Two grinding surfaces (2):

Material: Sandstone
Shape: Rectangular
Dimensions: 8 in. x 5 in. x 2 in.; 8 in. x 6 in. x 1.5 in.

Metate (1)

Material: Sandstone

Shape: Rectangular, with shallow (1/4 in. deep) basin on upper surface

Dimensions: 1 ft. x 1 ft. 4 in. x 4 ft.

Axe (1) (Fig. 31f)

Material: Green andesite

Shape: Triangular in cross-section, with two notches (1/2 in. deep) 1 in. from butt end; proximal end ground into a bit

Dimensions: 8.5 in. x 3 in. x 2 in. (butt end) x 1.5 in. (bit end)

Chipped Stone

Two projectile points, four bifaces, four flake knives, eight scrapers, one graver, and five saws or notched blades were recovered. In addition, 381 used flakes and 293 fragments of chipped debitage were also excavated. Most of the tools and debris were fashioned from chert/chalcedony, with jasper predominating. Quartzite and agate are also present.

Projectile Points

a. Lateral notched (1): (Fig. 32h)

Material: Jasper

Shape: Convex rounded stem, with stem as wide as the shoulders

Dimensions: 1 5/16 in. x 9/16 in. x 1/8 in.
b. Straight stem (1): (Fig. 32m)

Material: Jasper

Shape: Broad straight stem, with straight base

Dimensions: 1.5 in. x .75 in. x 5/16 in.

**Bifacial Knives (4)** (Fig. 32e)

Material: Chert/chalcedony

Shape: Convex flakes with chipping on both surfaces and one or more chipped edges

Dimensions: (1 complete) 2 in. x 1 in. x 1/4 in.

**Flake Knives (4)** (Fig. 32f-g)

Material: Chert/chalcedony

Shape: Unnotched flakes with curved edges and secondary chipping on most edges

Dimensions (3 complete): 1) 2.5 in. x 1 1/4 in. x 7/16 in. with triangular cross-section, oval shape and two chipped edges; 2) 2 1/4 in. x 3/4 in. x 1/8 in., a long flake with two chipped edges; 3) 1 1/2 in. x 3/4 in. x 1/16 in.

**Scrapers (8)** (Fig. 32h-i)

Material: Chert/chalcedony

Shape: Flakes with secondary chipping along side(s) or an end

Dimensions: a) Side scrapers (7) vary from 1 in. x 1/2 in. x 1/4 in. to 1 3/4 in. x 1 1/2 in. x 1/2 in.; b) End scraper (1) 2 1/2 in. x 3/4 in. x 1/4 in.
Graver (1) (Fig. 32j)

Material: Jasper

Shape: Bulky flake with short, chipped point

Dimensions: 1 1/4 in. x 5/8 in. (butt) x 1/8 in. (point)

Saws (5) (Fig. 32a-d)

Material: Chert/chalcedony and quartzite

Shape: Thin flakes, plano-convex in cross-section, with edges deeply indented with serrations or notches

Dimensions: Largest is 1 3/4 in. x 3/4 in. x 1/8 in.

Worked Bone

Awls (2) (Fig. 32o-p)

Shape and form: Split *Odocoileus* (mule deer) metacarpal; head intact, end ground and polished to a point

Bead (1) (Fig. 32l)

Shape and form: Small (1/8 in. x 1/8 in.) hollow bone tube

Miscellaneous

One triangular (1 in. x 1 in. x 1 in. x 1/8 in.) etched stone (slate?) with longitudinal and latitudinal etches across the surface; no apparent pattern (Fig. 32k).
Table 6

Pottery Provenience - Center Beam Site (42Sa2141)

<table>
<thead>
<tr>
<th>Pottery</th>
<th>Pit Structure 1 - Floor</th>
<th>Pit Structure 2 - Floor</th>
<th>Midden</th>
<th>Surface Use Area - Bottom</th>
<th>Storage Pit 1 - Fill</th>
<th>Storage Pit 2 - Fill</th>
<th>Metate Basin - Fill</th>
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<th>Stratum 3</th>
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Table 7
Artifact Provenience - Center Beam Site (42Sa2141)

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<th>Storage Pit 1 - Fill</th>
<th>Storage Pit 2 - Fill</th>
<th>Storage Pit Basin - Fill</th>
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Chipped Stone

| Debitage              | 3 97 17 18 40 17        | 7 7 45 42 293            |                           |                      |                      |                           |            |            |            |        |
| Used Flakes           | 2 122 17 29 55 8        | 7 9 69 63 381            |                           |                      |                      |                           |            |            |            |        |
| Bifacial Knives       | 3                       |                         |                           |                      |                      |                           |            |            |            | 4      |
| Scrapers              | 3 1 2                   |                         | 1 1 8                     |                      |                      |                           |            |            |            |        |
| Projectile Points     | 1                       |                         | 1 2                       |                      |                      |                           |            |            |            |        |
| Projectile Points     | 3 1                     |                         | 1 5                       |                      |                      |                           |            |            |            |        |
| Flakes                |                         |                         |                           |                      |                      |                           |            |            |            |        |
| Graver                |                         |                         |                           |                      |                      |                           |            |            |            |        |

Miscellaneous

| Bead                  |                         | 1                         |                           |                      |                      |                           |            |            |            | 1      |
| Etched Stone          |                         | 1                         |                           |                      |                      |                           |            |            |            | 1      |
### Table 8
Bone Provenience - Center Beam Site (42Sa2141)

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<tr>
<td><em>Lepus californicus</em> (jack rabbit)</td>
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<tr>
<td><em>Sylvilagus audubonicus</em> (cottontail)</td>
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<tr>
<td><em>Thomomys sp.</em> (pocket gopher)</td>
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<tr>
<td><em>Dipodomys sp.</em> (kangaroo rat)</td>
<td>1 1 2</td>
</tr>
<tr>
<td>Unidentified bird</td>
<td>1 1</td>
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</table>
Fig. 27. The Center Beam Site plan and excavation map.
Fig. 28. Composite drawing of a portion of the Center Beam site showing major strata, Pit Structures 1 and 2 (and fill features) and one storage pit.
Fig. 29.  General view of the excavated portion of Pit Structure 1 showing major associated features (Center Beam Site).
Fig. 30. General view of the excavated area of the Center Beam Site. Note particularly Pit Structure 2 in the left foreground.
Fig. 31. Center Beam Site Artifacts. a-c, two-handed manos; d-e, hammerstones; f, notched axe.
Fig. 32. Center Beam Site Artifacts. a-d, notched flakes; e, biface; f-g, flake knives; h-i, side-scrapers; j, graver; k, etched stone; l, bead; m-n, projectile points; o-p, bone awls.
CHAPTER 8

EGG HAMLET

by Joseph Winter

INTRODUCTION

Location and Setting

The Egg Hamlet site (42Sa2142) is located several hundred feet south of a sandstone mesa which runs east-west between Picket Fork and the west branch of Mule Canyon. The terrain slopes to the south, and deep gullies (15 ft. wide and deep) on the eastern and western edges of the sites have limited its width to ca. 70 ft. (Fig. 33). Several structures have been damaged by the gullying, and shallow side channels (1-6 in. deep) cross the site and have stratigraphically isolated a number of features. Abundant sherds and debris were scattered along the length (200 ft.) of the site, and several concentrations of loose masonry (Storage Rooms 1 and 2) were visible on the surface. Heavy pygmy conifer growth is dominant in the immediate site area, with buffalo berry and an occasional mormon tea bush interspersed through the pines and junipers.

Excavation

Procedure

Excavation was started by a series of test trenches which linked up obvious features. Trench 1 ran east-west between the storage room outlines, while Trench 2 ran north-south from Trench 1 to a series of depressions (Pit Structures 1 and 2). Eventually, the trench system
established profiles through all of the structures and thus permitted the recognition of stratigraphic relationships. While most of the structures were only partially investigated, Storage Rooms 1 and 2 were fully excavated, due to their small size and unique shape.

**Stratigraphy**

All structures were dug into the sterile subsoil of the site, while the two pit structures, Storage Room 1, a jacal structure, and a use area were covered by the same erosional layer of fill. All such structures were apparently constructed and abandoned at approximately the same time. Storage Rooms 2 and 3 were also probably a part of this sequence, but their stratigraphic isolation as a result of gullying prohibited an exact sequential definition. All features were covered by a topsoil layer of fine windblown sand.

**FEATURES**

**Pit Structure 1** (Figs. 33, 34)

Pit Structure 1 was a shallow, semisubterranean unit located at the southern limit of the excavation (Fig. 33). The eastern excavated portion revealed a rectangular outline measuring 11 ft. 2 in. north-south, 7 ft. 1 in. east-west (from east wall to bisecting profile) and 30-40 in. deep below the present surface. Since the sides were near-vertical or slightly belled in places, the floor dimensions were similar to outline measurements.

**Sides and Floor.** The unplastered walls were heavily burned, and
measured 24 to 28 in. in height below level of origin. No cists, pits or other features occurred in the sides, and no evidence of an antechamber entrance or vent system was discovered. It is unlikely that the structure ever possessed a vent/antechamber system (at least along the exposed walls) since outside testing revealed no additional evidence. Twelve small postholes, two large postholes, a corner storage bin and a possible metate depression occurred on the cleared portion of the burned, unplastered floor; no fire pits, ash pits or other features were noted. The 12 smaller postholes were located in a regular pattern along the sides of the dwelling, some 3 in. out from the base of the wall, with a distance of 7-8 in. between each hole. Diameters averaged 7 in. and depth averaged 4 in. Seven holes occurred in the structure proper, while three were within the corner bin and two were set in the bin's plaster walls. Burned uprights varying from 8 to 17 in. high remained in four of the holes in the structure and in the two holes set in the plaster. One additional upright butted directly on the floor, along the north wall, with no apparent mold. Both of the larger holes (13 and 16 in. in dia.) also contained uprights, as well as small flat rocks which apparently served as wedges. The north hole (18 in. deep) was located within the bin, just inside its west wall and at a distance of 5 in. out from the dwelling's wall, while the south hole (18 in. deep) was located some 12 in. out from the walls, in the southeast corner.

The northeast corner bin was solidly constructed of three upright sandstone slabs, plaster, two upright posts and the natural walls and floor
of the dwelling. The slabs, which measured 10 x 20 x 2 in., 19 x 20 x 3 in. and 21 x 22 x 3 in., were set in 1 in. deep grooves in the floor and the cracks between the slabs and the floor (as well as between each of the slabs) were plastered over. In addition, the northernmost rock was joined to the dwelling's sides by a plaster extension, measuring 8 in. long, 18 in. high and 2 in. thick. At the point of juncture with the wall, the plaster thickened to 6 in. and it was at this point that one of the uprights occurred, which was 4 in. in dia. The eastern slab may also have been connected to the dwelling by plaster, as indicated by the extension linking the rock to the second upright, which was 6 in. in dia. There was no plaster, however, between the post and the dwelling's wall, a distance of 3 in. The fill of the bin was similar to that of the dwelling proper, and there were no indications of a second tier of slabs or special roofing.

**Fill.** The upper of two fill layers, which was composed of sand, charcoal and cultural debris, was 1 ft. thick and graded into the general overburden in its upper few inches. The lower 1 ft. to 1 ft. 6 in. thick level of burned daub, charcoal, ash lenses and horizontal beams rested directly on the floor. All of the uprights were preserved in this layer, which presumably represented the remains of the super structure. The posthole pattern suggests a four corner post system with an outer ring of auxiliary posts supporting a cribbed roof.

**Comments.** Pit Structure 1 is similar in many ways to a large number of Basketmaker III pit houses identified throughout the Anasazi area (Zeidler, this report; Bullard, 1962; Roberts, 1929, 1939; Martin
and Rinaldo, 1939; Lancaster et al., 1954). Common features include shallow depth, rectangular to oval shape, 4 corner post support system, often with a line of additional posts, and corner bins constructed of slabs, plaster and posts. The structure lacked, however, several features which are usually found in such pit houses, including a firepit and antechamber. The absence of a firepit is unusual, but it may have been present in the unexcavated portion. The lack of an antechamber oriented to the east, south or southeast is also uncommon, but not unknown, since a number of similar situations have been noted throughout the region. Pit houses lacking antechambers have been noted at Jeddito 264 (Daifuku, 1961, House F), at site RB1002 in northeast Arizona (Beals et al., 1942), and at Shabik' eschee Village (Roberts, 1929, Houses E, H, I, O, P, Q, X).

Pit Structure 2

Although this structure was only tested (Figs. 33, 35) and its function is unknown, the features which were identified indicate that it was a semi-subterranean pit house. The exposure of the north wall, two rounded corners, portion of the east and west walls, the floor associated with these walls, and a possible section along the top of the south wall suggest a rectangular unit 22 ft. 6 in. east-west and 22 ft. north-south.

Walls and Floor. The walls originated 12-14 in. below the present surface and dropped vertically 26-30 in. to the horizontal floor. The sides were burned, unplastered and lacked any signs of cists, niches or other features.
Floor features included 14 regularly spaced postholes, an adobe collar surrounding half of the holes, an adobe-plaster coating over parts of the floor, and one shallow basin. All of the postholes, which averaged 9 in. in dia. and 10 in. deep, contained burned uprights 6-9 in. in dia. and 12 in. high. Each hole was located some 10 in. from the next, and 6-12 in. out from the wall. A fragmented adobe collar 7 ft. in length surrounded four of the holes in the northwest corner, and a similar collar 5 ft. long surrounded three holes in the northeast corner. Beginning some 6 in. out from the walls, the 1/2 in. thick collar was set 4 in. above the floor on fill which covered the floor between the postholes and walls. The collar then sloped down around the holes and ended flush with the floor in front of the holes. In some areas the adobe continued several feet out onto the floor as isolated patches of a 1/2-1 in. thick wash.

The shallow basin was located immediately in front of one of the holes along the north wall, and measured 12 in. in dia. and 4 in. deep with a sloping bottom. A Lino Gray pot (cf. Madsen report) rested on the floor just to the west of the basin.

Fill. The bottom half of the fill was composed of several burned layers of daub, ash, twigs, etc. The 14 uprights occurred within this layer, as did 16 horizontal beam fragments which averaged 6 in. in dia. and attained a maximum length of 3 ft. Some appear to have been toppled uprights, while the majority presented a cross-hatch or cribbed pattern. In addition, several large, flat slabs (12 in. x 18 in. x 2 in.) were interspersed within the burned layer, but with no apparent pattern. The upper
half of the fill graded into the site overburden.

**Store Room 1**

The easternmost structural feature (Fig. 33) was a small, vertically slab-lined room which presumably served as a storage facility. Its complete outline measured 7 ft. 3 in. east-west and 7 ft. 7 in. north-south, surrounded by 12 upright slabs. Only the west half of the fill was excavated, and the five exposed slabs were found to vary from 10 in. \( \times \) 6 in. \( \times \) 2 in. to 29 in. \( \times \) 14 in. 5 in. Ten rocks laying regularly in the fill indicate that above ground walls were present and constructed of coursed masonry set upon the vertical slabs; unburned daub in the fill is suggestive of wall mortar or roof fall. The floor, which was hard-packed, uneven and pitted, contained four cists or holes which varied from 6 in. in dia. and 2 in. deep to 11 in. \( \times \) 10 in. While some of these pits may have footed roof supports, others seem to have been storage cists.

**Store Rooms 2 and 3**

This contiguous unit was located at the western edge of the site (Figs. 33, 36) and was slightly disturbed by the deep western gully.

**Store Room 2.** Storage room 2 is an 8 ft. 9 in. \( \times \) 8 ft. 4 in. in dia., near circular, slab lined room with a paved shelf and paved floor. The upright rectangular wall slabs (averaging 1 ft. 6 in. \( \times \) 1 ft. 2 in. \( \times \) 2 in.) were set against disturbed subsoil (probably back dirt), and mortared together with a combination of plaster and small chunks of rock. All of the construction stones, including small wedges used to back up the vertical slabs, could have been obtained from the mesa outcrop to the north. The
shelf, which averaged 11 in. wide and high, was carved from natural subsoil and paved and faced with slabs; the horizontal paving stones were irregularly shaped (averaging 7 in. x 10 in. x 1 in.) while the vertical facing stones averaged 8 in. x 10 in. x 2 in. Mortar was used in all cracks along the shelf and outer wall, while the floor stones, which were irregularly shaped and varied from several inches in dia. to 15 in. x 10 in. x 2 in., were dry laid. The paved floor was quite even, with a gentle slope towards the center, and it lacked pits, cists or other features. Fill was composed of ash, burned daub (often with pole impressions) and one fragmentary timber.

**Store Room 3.** This rectangular, slab lined structure was built onto the western end of Store Room 2, with both rooms sharing a common wall. Level of origin was the same for both rooms, and construction methods (upright slabs with mortar and chinking) were similar. Store Room 3 lacked a shelf, however, and its floor was unpaved. North-south length was 6 ft. 3 in., while east-west width was approximately 6 ft. 10 in. (the western wall had eroded into the gully). Slab dimensions varied from 12 in. x 20 in. x 3 in. The hard-packed floor lacked pits or other features, and fill was of the same nature as Store Room 2.

**Comments.** Contiguous, slab-lined store rooms have been noted at a number of late Basketmaker III sites in the northern Anasazi area. Sites W:5:39 and W:5:50 at Natural Bridges Monument (Schroeder, 1965) resemble Store Rooms 2 and 3 in that they are circular, slab lined and
paved rooms which have contiguous rectangular rooms attached. Similar circular, slab lined units were noted by Sharrock (1964) at sites between Natural Bridges and Egg Hamlet. At MT-1 near Yellow Jacket, Wheat (1955) excavated a contiguous unit which was even more similar, since one of the three rooms was circular, slab lined, paved and had a slab lined shelf. Farther afield, nine contiguous slab lined rooms were noted at Jeddito 264 (Daifuku, 1961), and one of the oval rooms was formed from two rings of upright slabs. At Shabik' eschee (Roberts, 1929), round, slab-lined cists were usually not contiguous, but several contiguous units were excavated, one of which included a circular structure with a slab faced shelf. Three of the non-contiguous structures were also constructed with shelves. Thus there is a fairly regular occurrence in Basketmaker III sites of structures, presumably associated with storage, which share some or all of the following features: slab lining, paved floors, paved shelves, circular shape, and contiguous arrangement, often with a rectangular room attached.

**Jacal Structure**

The remains of a probable surface jacal unit were located to the north of Pit Structure 1, between Storage Room 1 and Store Rooms 2 and 3 (Fig. 33). Its exposed edges revealed a circular outline with a dia. of 6 ft. 11 in. and a basin shaped bottom, 12 in. deep in the center and 3 in. deep at the edges. A low, 54 in. long curved "wall" was preserved along the southwestern edge, which was composed of a 7 in. high, 5 in. wide hump of small rocks and mortar. Two postholes (4 in. in dia. and 10 in.
deep) were located immediately beyond the "wall". The holes were 6 in. apart and both retained remnants of burned uprights. Four other postholes (6-7 in. in dia. and 3-9 in. deep) occurred elsewhere around the edges of the structure. In the fill above the "wall" and two postholes was a grouping of flat, overlapping horizontal slabs varying from 6 in. x 6 in. x 1 in. to 1 ft. 7 in. x 12 in. x 2 in. mortared together with adobe. Their position suggest that they represent the remains of a superstructure set upon the wall. Fill was rich in burned daub (often with grooved impressions), ash, charcoal and several remnant timbers. All available evidence indicates that the unit was a surface structure partially enclosed by a pole and wattle wall (and/or possibly a roof) which may have served as a work area.

Use Area and Hearth

This association occurred immediately to the west of the jacal structure in Trench 1 (Fig. 33). They appear to have been related to the jacal structure, and possibly with Storage Rooms 2 and 3, but the latter association is impossible to define, due to the erosional area separating the store rooms from the use area. The exposed portion of the hearth revealed a half-circle of small stones (averaging 5 in. by 3 in.) mortared together and surrounding a shallow, ash-filled basin.

AFFILIATION AND INTERPRETATION

On the basis of ceramics (Madsen, this report) and architectural features, Egg Hamlet is identified as a late Basketmaker III site composed
of two pit structures, three surface store rooms, a jacal surface structure and a use area. Only the approximate limits of the site are known, and surface debris and probable midden material continued several hundred feet south of the excavation area, which suggests a rather sizable site. The ceramics and stratigraphic sequence indicate a relatively short occupation, which terminated at approximately A.D. 650-750. With only one exception (Store Room 1), all of the structures were destroyed by an intensive and apparently rapid fire which probably occurred at the time of abandonment, as indicated by the direct contact of roof-fall with room floors. No evidence of food resource was available, but the population probably depended upon a mixed horticultural/collecting economy.

ARTIFACTS

Ceramics. see Madsen report

Ground Stone

One complete basin metate, and three manos were recovered. Six hammerstones made of quartzite cobbles and rounded chunks of chert/chalcedony were also noted.

Metate (1)

Material: Sandstone

Shape: Oval, with a 1/4 in. deep basin on the upper surface

Dimensions: 10 in. x 10 in. x 2 in.

Manos (3)

a) Two-handed, with one grinding surface (2) (Fig. 37b, c)
Material: Sandstone
Shape: Oval and rectangular
Dimensions: 4.5 in. x 7 in. x 1 in.; 4.5 in. x 9 in. x 1 in.
b) One-handed, two grinding surfaces (1) (Fig. 37a)
Material: Sandstone
Shape: Round
Dimensions: 5 in. x 4.5 in. x 1 in.

Chipped Stone

One projectile point, two bifacial knives, five flake knives, three scrapers and one chopper are described below. In addition, 68 used flakes and 100 pieces of debitage (unused flakes, cores, etc.) were excavated. Chert/chalcedony was the favorite stone (jasper predominating), but other types were also used.

Projectile Point (1) (Fig. 37j)
Material: Jasper
Shape: Lateral notched, with straight stem
Dimensions: .75 in. long (point broken off) x 1 1/4 in. wide x 1/4 in. thick

Bifacial Knives (2) (Fig. 37i)
Material: Chert/chalcedony
Shape: Convex flakes with chipping on both surfaces and chipped edges
Dimensions: Oval, 1 in. dia., 3/16 in. thick; rectangular (incomplete), 1.5 in. x 1 in. x 1/4 in.
Flake Knives (4) (Fig. 37h)

Material: Chert/chalcedony

Shape: Unnotched flakes with curved edges and secondary chipping on most edges

Dimensions: Varied, from 1 in. x 3/4 in. x 1/4 in. to 2 in. x 1 1/4 in. x 1/2 in.

Scrapers (3)

Material: Chert/chalcedony

Shape: Side scrapers, with secondary chipping along one side

Dimensions: Vary from 1 in. x 1/2 in. x 1/4 in. to 2 in. x 1 in. x 1 3/4 in.

Chopper (1) (Fig. 37f)

Material: Chert

Shape: Oval cobble with primary and secondary flakes removed to form a cutting edge

Dimensions: 4 in. x 3.5 in. x 2 in.

Smooth Stones (5)

Material: Quartzite

Shape: Flat water worn cobbles, unworked, function unknown

Dimensions: Vary from 2 in. x 3 in. x 1 in. to 6 in. x 7 in. x 2 in.

Miscellaneous. Circular, thin stone (material unknown), carved and smoothed (Fig. 37g).

Worked Bone

One burned and incomplete awl, fashioned from a split mammal long bone.
Table 9
Artifact Provenience - Egg Hamlet (42Sa2142)

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<th>Store Room 2 - Fill</th>
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Fig. 33. Egg Hamlet site plan and excavation map.
Fig. 34. Detail of excavated portion of Egg Hamlet Pit Structure 1.
Fig. 35. Detail of excavated portion of Egg Hamlet Pit Structure 2.
Fig. 36. View of cleared Store Room 2 at Egg Hamlet. Attached Store Room 3 is barely visible to the rear.
Fig. 37. Egg Hamlet Artifacts.- a, small ("one-handed") biface mano; b-c, large ("two-handed") uniface manos; d-e, hammerstones; f, chopper; g, carved stone; h, flake knife; i, biface knife; j, projectile point.
CHAPTER 9
RATTLES' MIDDEN
by Claudia Helm

INTRODUCTION

Setting

Rattles' Midden (42Sa2151) is located in the NW 1/4, NW 1/4, Sec. 34, T37S, R20E, approximately 90 ft. south of Room 1 at Gnat Knoll (42Sa2140). In contrast to Gnat Knoll, which occupies the top of a ridge, Rattles' Midden is located on the side of the same ridge facing southeast on a slope of ca. 15-20°. The slope continues downhill for another 50 yd. where it is transected by a shallow gully draining eastward. Vegetation cover is the same as described for Gnat Knoll, although the site itself is covered by a locally heavy stand of pinyon and juniper.

The site area, before excavation, consisted of a large, poorly defined dark brown surface stain, ca. 55 ft. in dia. It was covered by stone debitage, Basketmaker III, and Pueblo I pottery. The heaviest concentration of artifacts, as well as the darkest area of stain, was located towards the center of the site covering an area ca. 15 ft. in dia.

Cultural Affiliation and Dating

Cultural affiliation and dating is based solely on pottery. A total of 427 sherds were recovered. This includes 295 Chapin Gray, 83 San Juan White Ware, 2 Chapin Black-on-white, 21 Abajo Red-on-orange, 25
San Juan Red Ware, and 1 Tsegi Orange Ware. The one sherd of Tsegi Orange Ware was found on the surface and is obviously out of context.

Two of the pottery types present, Chapin Black-on-white and Abajo Red-on-range, have been dated well enough elsewhere to be used for relative dating. Following Breternitz (1966), Abajo Red-on-orange is dated from A.D. 700 or earlier to approximately A.D. 900. The dates for Chapin Black-on-white cover approximately the same time span, A.D. 600 to 850. Therefore, the site was probably used on an intermittent or sporadic basis during the 7th and 8th centuries A.D., during Basketmaker III-Pueblo I time. The occupants were affiliated with Mesa Verde Anasazi.

**Excavation**

Excavation began with a 3 ft. wide test trench running 45 ft. from northwest to southeast through the approximate center of the stained area. When removal of the top 4 in. of blow sand failed to further define the nature of the stained area, a second 3 ft. wide trench was excavated perpendicular to the first, running southwest 30 ft. at a depth of 1 ft. This trench clearly indicated that the stained area was a lens-shaped midden, ca. 4 to 6 in. deep in the center, underlain by sterile subsoil. The midden area to the north and south of the second trench was then excavated.

Because of the possibility that the midden had eroded downhill from the northwest, the northwest end of Trench 1 was extended uphill.
Three small 5 ft. square test pits were also dug uphill from the midden. All were unproductive.

The majority of artifacts came from the surface in the area where Trench 1 and Trench 2 intersected. Few were found in excavation.

SITE INTERPRETATION

Lipe and Matson (1971) have commented on the numerous isolated middens with Basketmaker III pottery which are scattered over Cedar Mesa. In most cases, no structural features are found in association, even though the middens have some depth to them. Rattlers' Midden is considered to represent just such a phenomenon.

It is also suggested that these midden areas may represent way stations used seasonally by small groups of people traversing the mesa. These groups may have traveled over the same routes, stopping at the same places, as they moved between specific resource areas which they habitually exploited.

ARTIFACTS

With the exception of unidentifiable bone fragments, the artifactual material of Rattlers' Midden consists entirely of stone and pottery. Since no stratigraphy was present, no attempt has been made to divide the artifacts into surface or fill proveniences. The pottery is reported elsewhere in the report.

Chipped Stone

The chipped stone material consists almost entirelydebitage,
and the few worked pieces are so undiagnostic as to preclude comparison or much discussion.

Biface

A single bifacially worked flake was the only recognizable chipped tool that was found. The specimen is ovoid in shape with a lenticular cross-section. It is 4.2 cm. long and is made of chalcedony.

Worked Flakes

Only seven flakes with retouching along one or more edges were recovered. Six of these appear to have been used as scrapers. The seventh has two notches located opposite each other on the long sides of a flake. Its use is unknown. All of the flakes are chert/chalcedony and range in size from 3.5 cm. to 4.6 cm. long.

Hammerstones

Three small hammerstones were recovered. They are roughly round in shape and show signs of pounding. Diameters range between 4 cm. and 5 cm., and all three are made from chalcedony.

Debitage

One hundred sixty-eight pieces of chipped stone debitage were recovered. Of these 165 are chert/chalcedony, one is limestone and one is sandstone. Sizes range from small, thin flakes only 2-3 cm. long up to chunks 7 cm. in dia.

Ground Stone

Only five ground stone artifacts were recovered, none of which is complete enough to type definitely. Four fragments probably represent
manos, all of which are quartzite. One is subrectangular in form. It is ca. 11 cm. wide and 3.5 cm. thick. The other three fragments are too small to be identified further. A fifth ground stone fragment, also quartzite, may be from some sort of maul. The only surface left is concave, perhaps representing a shallow groove 4 cm. wide. The fragment measures 5 cm. by 8.5 cm.
CHAPTER 10

THE KILN SITE

by Claudia Helm

INTRODUCTION

Setting

The Kiln Site (42Sa2160) is located in Sec. 28, T37S, R20E. It is ca. 500 ft. west of 42Sa2141. The site lies at the base of an east-west trending ridge that crests ca. 150 to 160 ft. to the south, up a moderate slope. An unexcavated site is located on the top of this ridge. To the west of the Kiln site the land rises very gradually, while to the north and east the ground is generally level. Considerable erosion has taken place in the immediate vicinity exposing outcrops of bedrock on the slope of the ridge to the south, and gullies 2 to 6 ft. deep to the north and northwest of the site.

Vegetation consists of pinyon-juniper forest, with locally heavy stands on the north and east sides of the site. Several species of barrel cacti and prickly pear cactus are also present.

Surface indications at the site consisted of a vaguely rectangular area of stone rubble, oriented from east to west, covering an area ca. 28 ft. by 8 ft. Dark organic cultural fill material was visible coextensive with the stone rubble. Sheet erosion had taken place across the eastern part of the site. The western half was protected by a slight ridge covered with trees. Unlike most sites in the area, only a few potsherds were visible.
on the surface and no stone debitage was observed.

**Excavation Procedure**

Excavation began with Trench A, a 5 ft. wide trench running east-west and placed so the southern face cut longitudinally through the area of rubble and stained earth. It was later extended east and west in order to determine the presence of any other cultural features.

Two other trenches were excavated; Trench B was run from the southeast corner of Room 2 (see below), 15 ft. in a southeast direction, and Trench C from the center of the structure 20 ft. to the south. Neither trench encountered cultural features.

**FEATURES**

**Structure I**

Structure I is the only cultural feature at the site. It consists of two semisubterranean, masonry rooms. However, there is evidence that the structure pit was dug and in use for an unknown period of time before stone walls, a floor and partition were added. This original pit was a ca. 28 ft. long trough running east-west. Width varied from ca. 3 1/2 ft. at the eastern end to ca. 5 ft. at the western end. The pit was basin-shaped in profile and the inward sloping walls showed signs of burning.

**Room 1** (Figs. 38, 40)

Room 1 is the smallest of the two rooms constructed in the pit and is located at its western end.

**Shape and Dimensions:** Room 1 is vaguely oval in shape with its
long axis oriented from east to west. Inside dimensions at the top of the upright slabs which form the lower walls are 5 ft. 6 in. by 4 ft. 7 in. At the bottom of the slabs, dimensions are ca. 1 ft. less. The floor was basin-shaped, varying in depth from 2 ft. near the walls to 2 ft. 8 in. in the center of the room.

**Walls.** The outside walls, on the north, south and west, consist of large unshaped sandstone slabs which were laid against the sides of the original pit. They vary widely in shape and dimensions, ranging from 14 to 34 in. wide and 16 to 24 in. high. The slabs were laid in a mud mortar. On top of the upright slabs, on what was probably the original ground surface were found one to two discontinuous layers of horizontally laid sandstone slabs.

The east wall is a partition between Rooms 1 and 2. It consists of four small upright slabs, each ca. 11 in. high by 12 in. wide, topped by unshaped horizontally laid stones set in mud mortar. In Room 1 they were flush with the uprights below, while the side projecting into Room 2 was extremely uneven.

**Floor.** Two floors were present in Room 1, the original pit bottom, and a stone floor on the same level as the bottom of the upright wall slabs. Only two of the floor slabs were in place (Fig. 40).

**Fill.** The top 3 to 4 in. of fill consisted of windblown sand. Under this was 6 to 9 in. of mottled material consisting of reddish brown sand, charcoal, and ash. Throughout this layer, as well as directly underneath it, were a number of stone slabs, possibly from the wall. A layer of
charcoal was found below this which included several burned logs 3 to 4 in. in dia. Under the charcoal was a dark churned layer of charcoal, ash, and sand which lay directly on the stone floor. Fill between the two floors consisted almost entirely of light gray ash with small bits of charcoal. Only 13 potsherds were recovered from Room 1 (Table 10).

**Room 2 (Figs. 38, 39)**

Room 2 is the large eastern room in Structure I. It is believed to have been used as a kiln.

**Shape and Dimensions:** Room 2 measures 21 ft. in length. The width varies because of an abrupt bend in the south wall. The eastern quarter of the room is 3 ft. 2 in. wide; the rest of the room gradually widens to 4 ft. 9 in.

Erosion at the eastern end of the room has taken away much of the walls so that the room appears shallower than it originally was. At the western end the original pit floor is ca. 2 ft. 5 in. deep. It is basin shaped like Room 1, but 3 to 4 in. higher. A stone floor lies 2 to 6 in. above the pit floor.

**Walls.** The walls are essentially the same as described for Room 1. A few of the horizontally laid stones of the upper wall were present near the partition. At the eastern end, most of the wall slabs were broken, some standing only a few inches high. The bottoms of most of them extend below the stone floor. All were fire-blackened and show signs of intense heating.
Floor. The lower floor was the basin-shaped bottom of the original pit. The second floor consisted of dry-laid thin, unshaped sandstone slabs of varying sizes. Many overlap, and in some places a double layer was present. The floor was extremely uneven. All floor slabs were fire-blackened, and showed signs of intense heat that had caused them to break into small, flat pieces or thin spalls.

Fill. Fill varied in depth from ca. 19 in. in the western end to 9 in. in the eastern 9 ft. of the room.

The whole room was covered by ca. 4 in. of soft sand mixed with burned organic material. A second layer, from 8 to 13 in. thick, was present in the western half only. It was churned and mottled in appearance being reddish brown in color with considerably quantities of charcoal and ash. A thin intermittent layer of windblown sand ca. 1 in. thick underlay this layer.

The next layer covered the entire room. It consisted of a number of stone slabs laying flat on the lowest level of fill material. This bottom layer was 5 to 8 in. thick and consisted almost entirely of soft fine, burned organic material mixed with some sand. It ranged in color from dark brownish orange to a dark 'greasy' brown black with pieces of charcoal scattered throughout. The majority of pottery was found laying on top of this layer, or slightly embedded in it.

The stone floor laid on a 1 in. layer of fine charcoal and ash which also filled the spaces between the stones. Below this was a 1 to 4 in. layer of mottled material laying on the lower floor. It consisted of bright
orange sand, charcoal, and ash. It had been burned into brick-hard chunks.

**CULTURAL AFFILIATION AND DATING**

Cultural affiliation and dating are based primarily on pottery typology. Mancos Corrugated, Mancos Black-on-white, San Juan White Ware, and Mesa Verde Gray Ware were present. All of these are diagnostic of the Mesa Verde Anasazi region, and the site is considered to be a part of this area.

San Juan White Ware and Mesa Verde Gray Ware are not useful for dating, since they were manufactured from Basketmaker III times on. Tree-ring dates associated with Mancos Corrugated (Breternitz, 1966, 85) range from A.D. 1066 to 1090, although the total time range is often given as ca. A.D. 900 to 1175 (see Madsen, this report for further details on dating). Tree-ring dates associated with Mancos Black-on-white range from A.D. 911 to 1192, with dates clustering between A.D. 1075 and 1125. This suggests that the site was probably in use during the last quarter of the 11th century and the early part of the 12th century.

However, the collection of Mancos Black-on-white and Mancos Corrugated sherds recovered from the site suggest a 12th century temporal placement, during the Pueblo III period. The Mancos Black-on-white sherds are decorated with mineral paint, but the design elements, rim profiles, and use of rim designs are generally associated with later Mesa Verde forms. The designs also exhibit much more variation than usual. Some are very uncommon for Mancos Black-on-white. The
Mancos Corrugated material recovered is unusual in that vessel shape is more like later (Mesa Verde) corrugated types with neck openings much smaller than the bodies. These features seem to indicate a period of transition with the adoption of many new elements.

SITE INTERPRETATION

On the basis of several unique features it is suggested that the structure may have been used as a kiln for firing pottery.

All evidence indicates that the site represents an area utilized for some special use. Its location at the base of a hill, the lack of a midden, and the lack of surface debris in the form of stone debitage and pottery sherds all indicate this. Excavation also failed to produce any stone debitage, bone or additional cultural features.

Another possibility is that the structure was used as a roasting pit, perhaps by several neighboring communities. However, one would expect to find cutting tools used in the preparation of either vegetable or animal foods. Flotation samples were taken from all levels of fill material, but nothing was found that would support the theory of a roasting pit. This possibility would also fail to explain the presence of such large quantities of pottery.

Anna O. Shepard has discussed the problems of firing pottery, and the amount of control primitive potters had over the firing atmosphere (1939, 1956, 213 ff). Using juniper for fuel she conducted several experiments firing pottery in pit kilns and in the open. The pit was
designed after one found in the La Plata district (Morris, 1939, 263) which had a flue and showed signs of intense burning. Shepard suggests that the possibility of pit kilns cannot be ruled out, especially since it is much more difficult to control drafts and resultant oxidation at the end of firing in the open. It is also more difficult to retain heat in open firing.

There is evidence for the use of pit kilns ethnographically. Rogers (1936) has studied pottery making among the Yumans, who use a pit kiln. One of the critical variables is wind. Firing is done in the evening or at sundown when the wind is lowest. The kiln is dug on the lee side of a hill, "... as it is essential that a vertical draft be created to effect an even distribution of heat and prevent smudging of the vessels" (1936, 14).

On the top of Cedar Mesa the prevailing wind is from the south. It is probably significant that 2160 is located on the north side of a ridge where wind conditions would have been best for controlling firing.

Many of the sherds recovered are warped and vitrified, and have bubbled surfaces (Fig. 44). Shepard notes that, "... the clearest mark of overfiring is deformation from softening of the body by too rapid vitrification. This is not a common defect with open firing because maximum temperatures are generally below the vitrification range" (1956, 91). "Excessive loss of heat by radiation and lack of forced draft limit the temperature that can be obtained in firing without a kiln. The maximum temperature that I have recorded in firing with wood stacked around pottery was 962 C. ... It is safe to say that 1000 C. was rarely attained in direct firing in the open.
It could have been exceeded easily, however, by firing in a pit with a flue" (1956, 83). It is possible that much of the pottery recovered from Room 2 may represent accidents of firing, some of which were a result of too high temperatures.

Other factors, when taken together, are highly significant. It is difficult to believe that the condition of the masonry in the floor and walls could be due to only one fire. They have more the appearance of being subjected to intense heat a number of time.

It is also difficult to explain the nature of the fill material and the location of the majority of the potsherds in any other satisfactory way. (When dwellings or storerooms burn accidently, any vessels on the floor remain there crushed, unless removed, or if hung from the ceiling, they are found beneath the burned roof fall.) In these cases the roof fall can usually be identified easily as it usually contains quantities of burned adobe. In Room 2, on the other hand, there is a homogeneous layer 5 to 8 in. thick consisting almost entirely of very fine burned organic material with most of the potsherds on top of it. There is also considerable amounts of this material between the floor stones and directly beneath them.

The general belief has been that Pueblo potters did not use kilns, but rather fired their pottery in the open. Shepard's experiments indicate that satisfactory results can be obtained in open firing, although with greater difficulty. The possibility that kilns were used by some groups cannot be ruled out. This seems to be the most economic explanation at present for the function of the Kiln Site.
Table 10

Pottery Provenience - The Kiln Site (42Sa2160)

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<th>Mancos B/W</th>
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(Not counting restorable bowls, all of which are from Room 2)
Fig. 38. Plan of the Kiln Site Structure.
Fig. 39. General view of the Kiln Site Structure.
Fig. 40. Detail of Construction, Room 1, The Kiln Site. A portion of Room 2 is in the background.
CHAPTER 11
CERAMICS FROM THE U-95 SITES
by Rex Madsen

GENERAL STATEMENT

The earliest identifiable ceramics from the excavations west of Comb Wash are Chapin Gray, Lino Gray, and Chapin Black-on-white, all of which are dated mainly between A.D. 600-850 (Breternitz, 1966) (see also Table 11). As Colton (1955, 3-4) notes, Lino Gray resembles Chapin Gray in every respect, except temper; Lino Gray contains sand, while Chapin Gray is tempered with crushed rock. As shown by the ceramic material from Lizard Ridge (42Sa2138), sherds from some Cedar Mesa Basketmaker III sites are predominantly Lino Gray. Other Basketmaker III sites in the area, such as Egg Hamlet (42Sa2142), indicate that Lino Gray and Chapin Gray types comprise similar production of the ceramic sample. Still other Basketmaker sites like Rattlers' Midden (42Sa2151) contain no Lino Gray specimens. Taken into consideration with an almost complete lack of Kayenta Anasazi pottery during Pueblo times in the present sample, this indicates that Mesa Verde ceramic influence became dominant in the region sometime around A.D. 700. Lipe and Matson (1971, 131, 2), in discussing the ceramics from the Cedar Mesa area in general, note that:

Pottery styles indicate that the ethnic or extraregional relationships of the Cedar Mesa sites changed through time. The Basketmaker III pottery appears to resemble Kayenta region
types predominantly, but in Pueblo II sites, there is a mixture of Kayenta and Mesa Verde in style. A similar situation was observed by Lipe in the Red Rock Plateau, not far to the west of Cedar Mesa, except that there, the Pueblo II pottery was nearly pure Kayenta in style, and the Mesa Verde influence was not heavily felt until Pueblo III.

These data suggest that Mesa Verde influence, at least in the realm of ceramics, gradually expanded westward in the mesa country to the north of the San Juan River.

That the eastern stimulus from the Mesa Verde area never engulfed the whole of San Juan County has been adequately demonstrated by the Glen Canyon Project (Lister, 1964). Lister (1964, 76-7) notes that a similar Kayenta expansion, probably in the form of a migration, occurred in Pueblo II times. This movement was marked by a northerly expansion along the Colorado River, across the Kaiparowits Plateau, and finally to the Boulder Creek Valley. From Lister's (1964, viii) map, however, it can be seen that most of this activity was confined to the north side of the Colorado River, except near the juncture of the San Juan and Colorado Rivers. Lister's (1964, 25-6) ceramic study from Glen Canyon also suggests that Mesa Verde penetration into San Juan County was generally restricted to the area north of the San Juan River, as well as the Upper Glen Canyon. However, her discussion of Mesa Verde pottery from the Upper Glen Canyon is not placed within a temporal framework. It is therefore assumed that like most of the Glen Canyon ceramic collection, the northern pottery dates to a period of from about A.D. 900-1100.

Other early pottery types from the U-95 site collection include
Abajo Red-on-orange, Twin Trees Black-on-white, Kana-a Black-on-white, Kana-a Gray, Deadman's Black-on-red, Bluff Black-on-red, La Plata Black-on-red, and Mocassin Gray, most of which are primarily associated with the Pueblo I period (Breternitz, 1966). Abajo Red-on-orange, reported by Brew (1946) as the earliest painted ceramics from Alkali Ridge, is only sparsely represented in the U-95 site collections. Most of the sherds in this category are represented by the late Basketmaker III site of Rattlers' Midden and what appears to be a late Basketmaker III or early Pueblo I component at Gnat Knoll. Abajo Red-on-range is generally characterized by: broad, roughly parallel wavy lines, extending across bowl interiors or from the center to the outer edge; terrace or half terrace elements; straight lines dividing the bowl into quadrants; and solid elements consisting largely of triangles (see Brew, 1946). In general, designs resemble those of Basketmaker and early Pueblo baskets.

Twin Trees Black-on-white differs from Chapin Black-on-white only on the basis of a polished and/or a slipped surface. Both types are generally easily distinguished from the later Mancos and Cortez Black-on-white ceramics since their designs frequently consist of numerous small dots arranged in either closed or open areas and comb-like projections from solid lines. Design elements are usually sparse, leaving large undecorated areas.

Mocassin Gray is a plain gray, neck-banded pottery type, representing the earliest attempts in the Mesa Verde area to manipulate the
vessel surface. It is distinguished from Kana-a Gray on the basis of crushed rock temper, in contrast to sand (Colton, 1955, 3-4). Neck bands on both types are wide and flat, in contrast to the later grooves or deep, narrow neck bands found on Mancos Gray.

In the present analysis, the distinction between San Juan Red Ware and Kayenta Tsegi Orange Ware is based largely on attributes of slip and temper, since the color in both wares varies considerably. Except for La Plata Black-on-red, San Juan Red Ware lacks a slipped surface, whereas Tsegi Orange Ware is frequently slipped. In addition, it is generally accepted that Tsegi Orange Ware is characterized by the use of ground sherd temper, while San Juan Red Ware contains crushed rock (Colton, 1956; Abel, 1955).

Brew's (1946) excavations at Alkali Ridge indicated that Abajo Red-on-orange was manufactured during Basketmaker III times. However, Colton (1955, 1) notes that it is not found in the Mesa Verde proper until Pueblo I, and even then, it only represents a small portion of the ceramic material. Its unpopularity at Mesa Verde is further suggested by the fact that by Pueblo II times, only a few La Plata Black-on-red vessels were manufactured. In the present sample, on the other hand, San Juan Red Ware appears to be popular in both Pueblo I and early Pueblo II times, and constitutes nearly the entirety of the red pottery in the ceramic collections from the area (see the provenience tables, this report). However, as shown by the pottery from Alkali Ridge (Brew, 1946), Montezuma Canyon (personal examination), and Cedar Mesa, there
appears to be a marked decrease in San Juan Red Ware towards the middle of Pueblo II, followed by the introduction of a few trade vessels of Kayenta Tsegi Orange in these areas. The occurrence of these two red wares in southeastern Utah can therefore be viewed as part of the overall temporal ceramic sequence.

Pueblo II pottery from U-95 sites consists of Mancos Corrugated, Cortez Black-on-white, Morfield Black-on-gray, Mancos Black-on-white, San Juan Red Ware, and a few sherds of intrusive Tsegi Orange Ware (Table 11). As Brew (1946, 249) notes, experimentation with decorative techniques on plain pottery was most active during the early part of Pueblo II in the San Juan drainage. Thus, Mancos Corrugated is characterized by a considerable variety of surface treatment, including designs made by incised lines and punctate dots, alternating patterns of corrugated and unobliterated bands, and in general, rougher and deeper corrugation. Shapes also vary considerably. Eventually, however, corrugation became more uniform over the entire exterior surface, and continued in this form through the Pueblo III period (Mesa Verde Corrugated). Cortez Black-on-white marks a different trend in design and is distinguished from other painted sherds primarily on the basis of its fine-lined geometric designs with solid black elements. According to Colton (1955), Mancos Black-on-white constitutes another important change in ceramic technology—the appearance of crushed sherd temper in San Juan painted pottery. The use of crushed sherds, however, never entirely replaced the old crushed rock tempering method, as shown by
the black-on-white ceramics from the San Juan drainage, including Cedar Mesa. On Mancos Black-on-white, design elements remained essentially the same, but patterns were rearranged, often with heavy and regularly spaced lines or fine hatching. In general, designs seem to be characterized by almost every imaginable geometric pattern used prior to this time, even anthropomorphic or zoomorphic figures.

Sometime around A.D. 1100, carbon or vegetal paint gained popularity throughout the Mesa Verde area. Colton (1955, 3) notes that at Mesa Verde, there was an almost complete change to the use of carbon paint, while in much of southeastern Utah, mineral pigment continued to be used through the Pueblo III period. Although Colton (1955, 3) suggests that these ceramics be defined as another type, sherds in this category from U-95 sites have continued to be designated as Mancos Black-on-white for present purposes.

CERAMIC COMPLEXES BY SITE

The following ceramic descriptions are based on Colton's (1955, 1956) classification of Anasazi pottery. Time clusters for each ceramic type are primarily taken from Breternitz' list of tree-ring dates obtained from sites where these ceramic types are thought to have been manufactured locally. In the case of such pottery types as Mancos Corrugated (or Mancos Black-on-white, where Breternitz' time span is clearly inadequate, ancillary information taken from the Fifth Southwestern Ceramic Conference (as noted by Breternitz) and from Colton (1955, 1956) has been
added to the temporal scheme in Table 11.

**Alternate Village (42Sa2134)**

A total of 1362 sherds, one complete Mesa Verde Corrugated jar, and the side of a Morfield Black-on-gray bowl were recovered from Alternate Village (Table 1). Of this total, Mesa Verde Corrugated sherds number 373 (22%), while Mancos Corrugated totals 183 (13%). Taken into consideration with the occurrence of Mancos Black-on-white (10%), McElmo Black-on-white (9%), and Mesa Verde Black-on-white (5%), this indicates that the site was occupied sometime during the latter part of the 12th century, or middle Pueblo III. The small numbers of sherds classified as Twin Trees Black-on-white (3 sherds) and Chapin Black-on-white (9 sherds) suggest that the site may have been briefly occupied during Pueblo I times as well.

The Mesa Verde Corrugated jar measured 18 cm. in height and 15 cm. in dia. (Fig. 41g). If complete, the Morfield Black-on-gray bowl would measure 19 cm. in dia. and 11 cm. in depth. The design consists of a rim band with a series of single-stepped elements (Fig. 42h).

**Zero Plaza (42Sa2135)**

All 33 sherds from Zero Plaza are readily assignable to the 12th century A.D.; or early Pueblo III (Table 2). It should be noted that these sherds were found in the upper strata or surface; none were recovered in the circular pit structure that apparently antedates later Pueblo III occupation at the site.
Lizard Ridge (42Sa2138)

Of the 178 sherds recovered from Lizard Ridge, 173 are Lino Gray (Table 3). The remainder of the collection consists of two Chapin Gray restorable vessels, two Chapin Gray sherds, two San Juan white sherds and one Mancos Corrugated sherd. All, with the exception of the probably extraneous Mancos Corrugated sherd, places the occupation in early Basketmaker III times. The first vessel is a gourd-shaped, nearly complete small pot measuring 15 cm. in height and 10 cm. in dia. (Fig. 42i). The second vessel is an extremely crude bowl, which if complete, would measure approximately 36 cm. in dia. and 9 cm. in depth. Both vessels are poorly fired and contain few tempering particles.

Surprise Village (42Sa2139)

A total of 2906 sherds and 9 restorable or partially restorable vessels were found at Surprise Village (Table 4). The large percentage of Mancos Corrugated sherds (68.7%) indicates that the bulk of site occupation occurred sometime around the 10th and 11th centuries A.D. However, when the variation in corrugation techniques is considered, it appears that the site may have been occupied intermittently for nearly two centuries (c. 950-1150 A.D.). This is further suggested by the relatively high percentages of San Juan Red Ware, which is most numerous in the San Juan area during the 900's and ten Mesa Verde Corrugated sherds, which date to the late 12th century.
Restorable vessels include six Mancos Corrugated jars; one La Plata Black-on-red olla, one La Plata Black-on-red effigy vessel, and one Mancos Black-on-white ladle (Fig. 41, 42). The measurement of the corrugated jars are as follows: 50 cm. in height by 41 cm. in dia. (Fig. 41e); 30 cm. in height by 27 cm. in dia. (Fig. 41a); approximately 24 cm. in height by 18 cm. in dia. (Fig. 41f); approximately 20 cm. in height by 16 cm. in dia. (Fig. 41d); approximately 20 cm. in height by 16 cm. in dia. (Fig. 41c); and 21 cm. in height by 17 cm. in dia. (Fig. 41b). The La Plata Black-on-red olla measures 26 cm. in height and 19 cm. in dia. (Fig. 42l). Streaked marks in the deep red slip are clearly visible. The La Plata Black-on-red effigy vessel may represent a stylized duck (Fig. 42k). Only the posterior section remains. A small, nearly complete Mancos Black-on-white ladle measures 9 cm. in bowl dia. and 6 cm. in depth (Fig. 42h).

Five complete and twelve fragmentary scoops were also found (Fig. 42). With the exception of four San Juan White Ware scoop fragments, all are made from sherds classified as San Juan Red Ware (Middleton Black-on-Red, 5; Deadman's Black-on-red, 1; Bluff Black-on-red, 2; plain, 5).

Gnat Knoll (42Sa2140)

A total of 2560 sherds was recovered from Gnat Knoll (Table 5). Large percentages of Mancos Corrugated (27%), Mancos Black-on-white (13%), and Mesa Verde Corrugated (13%) indicate that the main occupation
of the site occurred sometime between about A.D. 1050-1250. Since few Mancos Corrugated sherds have unindented coils (which is diagnostic of early Pueblo II occupation), the main habitation period may be closer to A.D. 1100-1250. That the site was occupied intermittently from about A.D. 700-1250 is suggested by the presence of Chapin Gray (76 sherds), Abajo Red-on-Orange (16 sherds), Lino Gray (2 sherds), and Mocassin Gray (11 sherds).

One restorable Mesa Verde Black-on-white bowl was also found (Fig. 42m). It measures 23 cm. in dia. and 11 cm. in depth. Diagnostic stylistic attributes include a decorated square rim and painted designs of carbon pigment consisting of hatched panels and broad lines. Nine drilled mending holes are also present.

Center Beam Site (42Sa2141)

A total of 1795 sherds was recovered from the Center Beam site (Table 6). Mancos Corrugated sherds constitute the largest percentage of the collection (65%), while other Mesa Verde types are only meagerly represented. San Juan Red Ware, on the other hand, is more abundant than at the other of the U-95 sites comprising 22% of the total. This suggests that there was a fairly pronounced late Pueblo I-early Pueblo II component at the site, dating from about A.D. 800-950. A few sherds classified as Mocassin Gray (5), Chapin Black-on-white (3), and Abajo Red-on-orange (1), indicate an ephemeral period of occupation during Pueblo I times.
Worked sherds in the ceramic collection include one complete and five fragmentary scoops and one pipe fragment (Fig. 42). The complete scoop measures 13 cm. in length and 8 cm. in width and was manufactured from a sherd of San Juan Red Ware (Fig. 42g). The fragmentary specimens include: Mancos Black-on-white (1); La Plata Black-on-red, (2); Bluff Black-on-red, (1); and one San Juan white scoop with a series of parallel hematite lines. The fragmentary pipe resembles San Juan Red Ware, and measures 4.5 cm. in length and 2.5 cm. in dia. at the widest point (Fig. 42a).

**Egg Hamlet (42Sa2142)**

The ceramic collections from Egg Hamlet consists of a total of 519 sherds and one Chapin Gray miniature bowl (Table 9). Temporally diagnostic sherds include Chapin Gray (261), Lino Gray (140), and Chapin Black-on-white (21), all of which indicate that the site was inhabited during late Basketmaker III times, or during the late 7th century A.D.

The small Chapin Gray bowl was manufactured by forming a shallow cavity in a ball of clay (Fig. 42j). The surfaces and wall thickness are highly irregular, and finger marks from manufacture can be seen on both surfaces. It measures 9 cm. in dia. and 4.5 cm. in depth.

**Rattlers' Midden (42Sa2151)**

A total of 437 sherds was recovered from Rattlers' Midden (see Helm, this report). While no Lino Gray sherds were found at the site, the majority of the sherds consisted of Chapin Gray (295 sherds) and
Abajo Red-on-orange (21 sherds), which places the probable date of occupation somewhere near A.D. 700, during late Basketmaker III or early Pueblo I.

The Kiln Site (42Sa2160)

A total of 432 sherds and six Mancos Black-on-white partially restorable bowls were recovered from the Kiln site (Table 10). Temporally diagnostic sherds include Mancos Black-on-white (120 sherds), and Mancos Corrugated (163 sherds), both of which indicate that the site was probably occupied somewhere around the 12th century A.D. As noted above, the presence of Mesa Verde design attributes on some of the Mancos Black-on-white bowls (i.e. square rim profile, rim ticking, stepped painted elements, etc.) suggests that utilization of the Kiln site may have been during the last half of the 12th century.

All six partially restorable bowls are characterized by careful workmanship, considerable depths, and a variety of painted design elements within encircling bands (Fig. 43). The first specimen measures 34 cm. in dia. and 15 cm. in depth (Fig. 43a). The design is typical of Mesa Verde Black-on-white. The second bowl is 26 cm. in dia. by approximately 20 cm. in depth, and consists of Sosi-like design elements (Fig. 43b). The third bowl fragment measures 22 cm. in dia. and 12 cm. in depth. As will be noted in Fig. 43c, the design consists of a variety of elements including broad lines, dots and hour glass-shaped figures. The fourth specimen has a Mesa Verde design, and measures 30 cm. in
dia. and approximately 16 cm. in depth (Fig. 43d). The fifth fragmentary bowl has an unusual combination of several modified design elements found on the other bowls, including broad lines and hour glass figures. It measures approximately 44 cm. in dia. by 20-25 cm. in depth (Fig. 43e). The last bowl measures 32 cm. in dia. by approximately 18 cm. in depth (Fig. 43f). The design consists of two concentric panels composed of stepped elements. All of these bowls have a square rim profile.

Several unusual sherds were also found (Fig. 44). As noted (Helm, this report), many of these sherds are vitrified and were recovered in what may have been a kiln. The sintered surface, as well as frequent warping is clearly visible on the sherds (Fig. 44e-i). Samples of unvitrified specimens from the site were refired at 1100° C. and none were observed to undergo any surface change. Since the kiln used in this test could only be heated to 1100° C., it can only be inferred that the original firing temperature exceeded this point. As shown in Fig. 44 a number of sherds with unusual design elements, as well as a ladle handle with four punched holes, were also found.
Table 11
Generalized Temporal Span of the Period of Greatest Abundance of Certain Southwestern Pottery Types Found on Cedar Mesa, as Indicated by Clusters of Tree-Ring Dates (Extracted from Breternitz, 1966)
Fig. 41. Restored/complete corrugated vessels from the U-95 sites.
a-f, Mancos Corrugated (all from Surprise Village); g, Mesa Verde Corrugated (Alternate Village).
Fig. 42. Vessels and various ceramic artifacts from the U-95 sites. a, pipe fragment; b-g, worked sherds; h, Mancos Black-on-white ladle; i-j, Chapin Gray vessels; k, fragment of a La Plata Black-on-red effigy vessel; l, La Plata Black-on-red olla; m, Mesa Verde Black-on-white bowl; n, Morfield Black-on-gray bowl fragment.
Fig. 43. Partial Mancos Black-on-white bowls from the Kiln Site.
Fig. 44. Mancos Black-on-white sherds from the Kiln Site. a-d, unusual design elements (b is also severely warped); e-i, vitrified bowl exteriors showing sintered effect; j, hollow ladle handle.
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