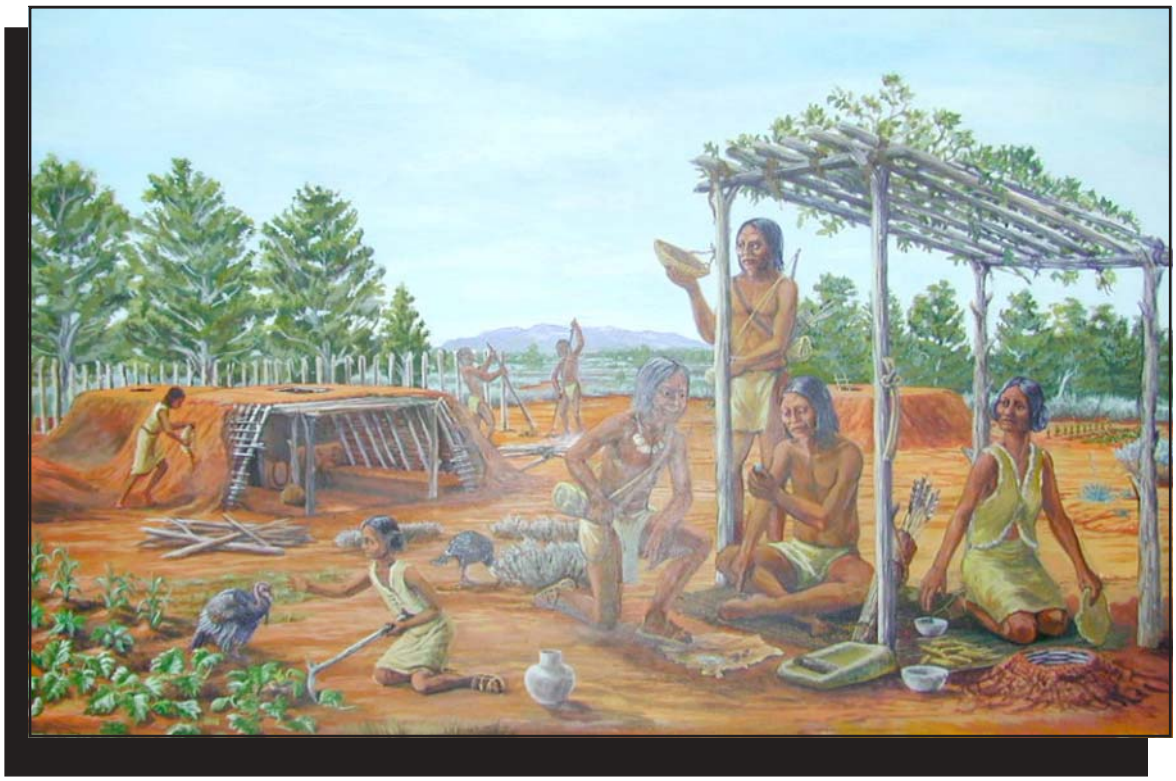
BASKETMAKER III



Artist's conception of 5DL310 at the time of occupation during the Basketmaker III period (by Cory Dangerfield 2000).

BASKETMAKER III SYNTHESIS

Table of Contents

INTRODUCTION 3-1
Culture History 3-2
Chronology 3-2
Ceramic Chronometry 3-3
PALEOENVIRONMENT 3-3
SITE STRUCTURE AND FUNCTION 3-4
Stockades 3-6
ECONOMY 3-7
Lithic Technology 3-7
Seasonality 3-8
Extra-Regional Relationships-Ceramic Evidence 3-9
Extra-Regional Relationships-Other Evidence 3-10
SETTLEMENT PATTERNS 3-11
SOCIAL ORGANIZATION 3-12
SUMMARY 3-13

List of Figures

Figure 3-1. Map showing the location of the eight Basketmaker III sites in relation to the project corridor. 3-1
Figure 3-2. Tree-ring cutting dates from the greater Yellow Jacket area. 3-2
Figure 3-3. Basketmaker III Palmer Drought Severity Index for Mesa Verde area. 3-3
Figure 3-4. Photograph of Structure 2 at 5DL310, typical of Basketmaker III pithouses in the Mesa Verde region. 3-4
Figure 3-5. Plan map of Structure 2 at 5DL310 illustrating architectural elements of typical Basketmaker III pithouses in the Mesa Verde region. 3-4
Figure 3-7. Plan map of site 5DL310 illustrating a non-conforming Basketmaker III site layout. 3-5
Figure 3-6. Plan map of site 5MT5458 illustrating the typical Basketmaker III habitation layout in the Mesa Verde region. 3-5
Figure 3-8. Distribution of paste colors for oxidized sherd from MAPL Basketmaker III contexts. 3-7
Figure 3-9. Distribution of color groups for oxidized sherds from three MAPL Basketmaker III sites. 3-10
Figure 3-10. Photograph of selected pieces of unworked malachite recovered from the antechamber of Structure 2, 5DL310. 3-11

List of Tables

Table 3-1. Summary of MAPL/MAPCO Basketmaker III sites 3-1
Table 3-2. Well-Documented Basketmaker III Stockades in the Greater Mesa Verde Region 3-6
Table 3-3. Macrobotanical Remains Recovered from MAPL Excavations at 5DL310 3-9
Table 3-4. Macrobotanical Remains Recovered from MAPL Excavations at 5MT5458 3-9

BASKETMAKER III SYNTHESIS

by Paul F. Reed

Contributions by Lori S. Reed and Peter Rohman

INTRODUCTION

Woods Canyon's work on the MAPL project included excavations at seven Basketmaker III sites or components (see Figure 3-1). Table 3-1 summarizes these sites and the larger MAPCO Basketmaker III sites excavated in the early 1980s. These sites are fully described in preceding chapters (and in the 1982 MAPCO report [Fetterman and Honeycutt 1982]). My intent here is not to review those data. Rather, I want to focus on the central issues of the research design with data from the MAPL Basketmaker III sites, as well as other sites in the greater Yellow Jacket area.

Table 3-1. Summary of MAPL/MAPCO Basketmaker III sites

Site No.	Site Type	Date/Method	Excavated Portion
5MT5476	Pit house habitation	AD 500-750/ Ceramics	Surface room (1); stockade (partial)
5MT13470	Structural habitation	AD 700-900/ Ceramics	Roasting pit (1) in activity area
5MT13679	Limited activity	AD 645-1000/ Radiocarbon	Roasting pit (1)
5MT4454	Seasonal habitation?	AD 500-750/ Ceramics	Pit room (1)
5MT5458	Pit house habitation	AD 665/ Tree-rings	Pit house (1), pit rooms (3); stockade (partial)
5DL297	Pit house habitation	AD 695/ Tree-rings	Large pit house (1); surface room (1); activity areas (2)
5DL309	Pit house habitation	AD 676/ Tree-rings	Pit house (1), surface rooms (2); stockade (partial)
5DL310	Pit house habitation	AD 675-690/ Tree-rings	Pit houses (2), activity areas (3); cists (2); stockade (partial)

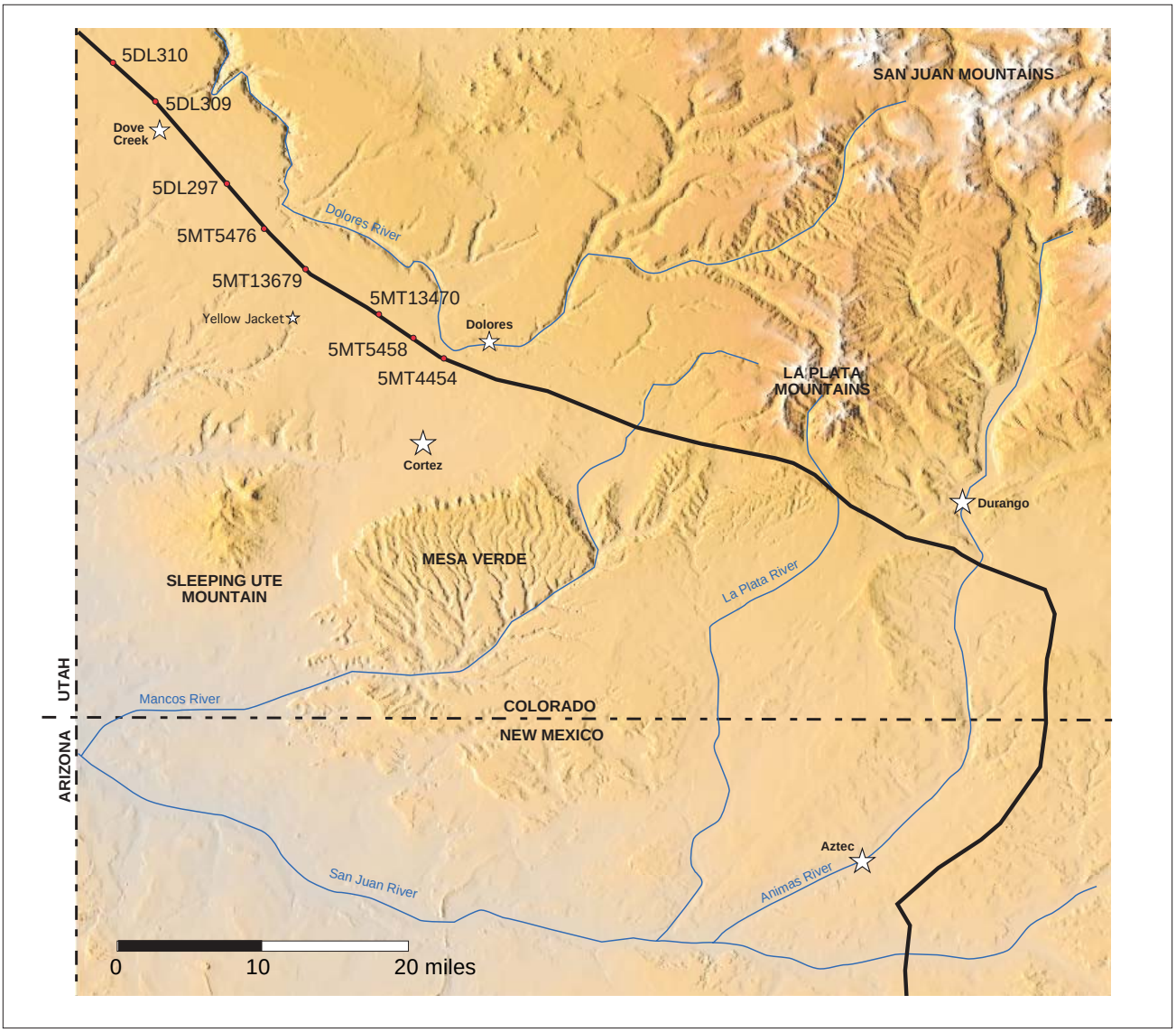


Figure 3-1. Map showing the location of the eight Basketmaker III sites in relation to the project corridor.

CULTURE HISTORY

Basketmaker III remains (generally dated from AD 450 to 750) in many areas of the northern Southwest represent in situ continuity from Basketmaker II. Important characteristics of this period across the Southwest include use of larger, more elaborate pit houses, upright-slab storage cists and rooms, introduction of the bow and arrow, two-hand manos and trough metates, gray ware and early red and unslipped white ware ceramics, and an increasing dependence on agriculture (Cordell 1984). In the San Juan Basin, Basketmaker III sites are relatively common and are scattered throughout the area (Judge 1989; Wait 1982).

The Basketmaker III occupation of the greater Yellow Jacket area can be described as normative. Architecture, ceramic, lithic, and other material culture classes from this period are consistent across the area. Patterns in these classes also conform with those of the larger Mesa Verde Anasazi that encompasses Yellow Jacket. Further, work in the Mesa Verde area over the years has shown that it exhibits greater internal, normative consistency than adjacent areas during the Basketmaker III period (Chenault and Motsinger 2000; Kane 1986; Reed 2000; [see Reed and Wilcox 2000 for a discussion of the highly variable Basketmaker III adaptation in Cove-Red Valley]). What this finding suggests (both for Yellow Jacket-Dolores and greater Mesa Verde) is initial colonization of the area by closely related groups, perhaps even a few related families.

Chronology

Figure 3-2 shows Basketmaker III tree-ring cutting dates from sites in the greater Yellow Jacket area and beyond, to encompass other, nearby areas of the Mesa Verde region (Robinson and Harrill 1974; Robinson and Cameron 1991). While not all-encompassing (because sites dated with means other than tree-rings are not shown), the graph nevertheless reveals some interesting patterns. First, few sites have been tree-ring dated before AD 600 and only one before 575. The Payne site (Rohn 1974) has a very early cutting date at AD 455, but this date is isolated and the structures at the site appear quite similar to others in the area that date to the 600s. Thus, we can probably conclude from looking at these dates that little settlement in the area occurred before AD 575 or even 600. The 50-year period from AD 600 to 650 showed some activity, but it was after 650 that most of the structures were built, particularly between about AD 660 and 690. The MAPL and MAPCO sites fit this pattern—all with tree-ring cutting dates range between AD 663 and 694.

The early and middle AD 500s are missing from this picture. Expanding our view to include all of Colorado quadrangle V from the Laboratory of Tree-Ring Research's series, we see that only two sites have cutting dates in the late AD 400s or 500s (Robinson and Cameron 1991). Wilshusen (1999:167) notes the same pattern for a larger portion of southwest Colorado and describes the period from AD 375-575 as one of significant decline in population levels. Other, adjacent areas also seem to lack the early part of the Basketmaker III interval. On Cedar Mesa, Utah, most habitation sites date between AD 650 and 725 (Matson et al. 1988); east of Cedar Mesa, Basketmaker III occupation in the White Mesa and Recapture Creek locales cluster between AD 625 and 700 (Davis 1985; Firor et al. 1998). Clearly, while a few early sites exist here and there, Basketmaker III in the Mesa Verde region, and particularly in the great Yellow Jacket–Dolores province, was a late AD 500s to early 700s phenomenon.

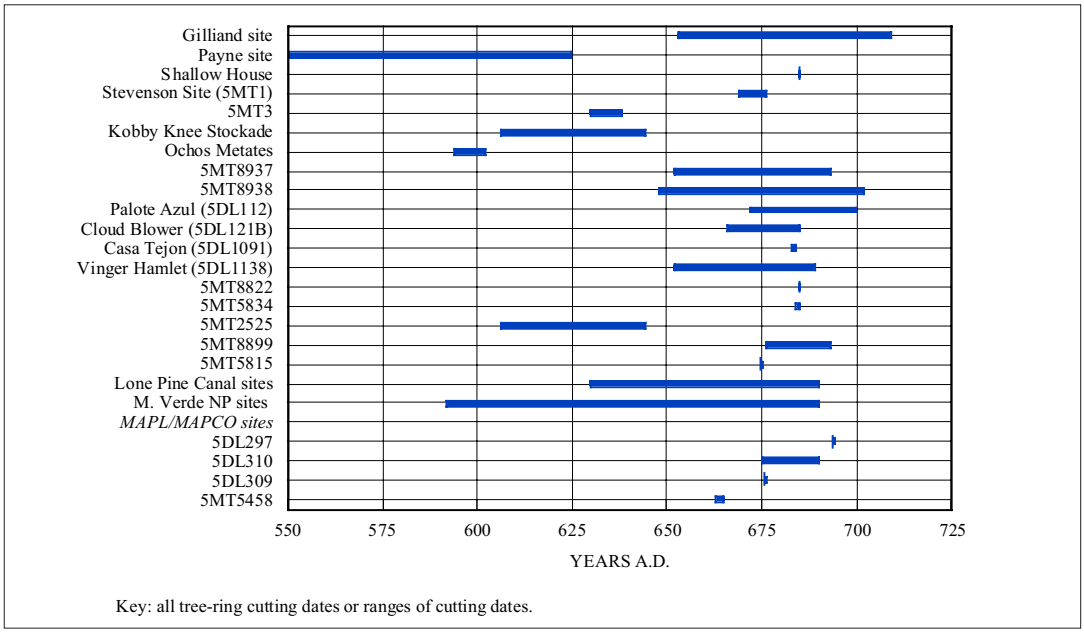


Figure 3-2. Tree-ring cutting dates from the greater Yellow Jacket area.

Ceramic Chronometry

Basketmaker III ceramics from 5DL310 and 5MT5458 comprise a relatively homogenous assemblage, producing ceramic mean date ranges in the late AD 600s. The absence of San Juan Red Ware at both sites correlates well with the tree-ring cutting dates and ceramic mean dates. With a beginning date of AD 700 for San Juan Red Ware in the westernmost areas of the Northern San Juan (see Blinman and Wilson 1989; Breternitz et al. 1974) and a beginning date of AD 750 for the ware in the 5DL310 and 5MT5458 areas (Lucius 1982), the absence of San Juan Red Ware is a clear temporal marker.

White ware design styles from the Basketmaker III sites also serve as temporal markers and indicate occupations dating earlier than AD 700. All of the white ware from 5DL310 and 5MT5458 recovered during MAPL consist of Chapin style designs. The absence of Piedra style designs along with an absence of San Juan Red Ware clearly supports a pre-AD 700 occupation. As documented by Blinman and Wilson (1989) and Breternitz et al. (1974), Piedra Black-on-white does not appear in assemblages dating prior to AD 750.

PALEOENVIRONMENT

We can use Palmer Drought Severity Index (PDSI) values to reconstruct the paleoclimate during the Basketmaker interval of interest here (PDSI data provided by Jeff Dean, Southwest Paleoclimate Project 1996). The PDSI measures overall available moisture and is cumulative, meaning that the effects of a number of preceding bad years, or good years, will be reflected in the value for any given year. A departure from the 0 index value of 2 in either direction is considered significant enough to impact human response to the climatic conditions (Dean 1988). According to Dean, however, the positive index values are not as reliable an indication of favorable conditions as negative ones are of poor conditions. Few values beyond 2 (either positive or negative) are apparent in the curve for the greater Mesa Verde area. For the purposes of this study, then, and to focus on the impact of drought conditions on the Basketmaker III inhabitants, a drought is considered to be a negative value of 1 or more that lasts for at least 10 years.

Figure 3-3 shows PDSI values from AD 645 to 755, plotted at both yearly and decadal scales. The yearly interval shows extreme variation from year to year; for example, one year with a value of -7, followed by a very wet year at 8. To smooth this variation and make the data interpretable, the decadal graph shows a 10-year running average. Looking at the decadal curve, it is apparent that during most of the period shown on the graph, good climatic conditions existed. Drought events are apparent during two intervals: 1) a minor drought (maximum departure of -1) from approximately AD 662 to 672; and 2) a more significant drought (maximum departure of -2) from about AD 700 to 718. According to Dean's criteria, the first event hardly qualifies as a drought and probably did not affect Anasazi settlement in the greater Yellow Jacket area. Indeed, we see no indication of a break in settlement at this time and Structure 1 at 5MT5458 was built during this same interval. Interestingly, two MAPL/MAPCO sites show considerable construction activity at about AD 676, when drought conditions were ending and a 20-year period (from AD 676 to 696) of above average climatic conditions ensued.

The second drought was of greater magnitude and duration and was likely to have negatively affected Anasazi settlement in the area. So, looking at the MAPL data for the period from AD 699 to 715, what do we see? One thing we find is that no new construction, as measured by tree-ring cutting dates, occurred after AD 690.

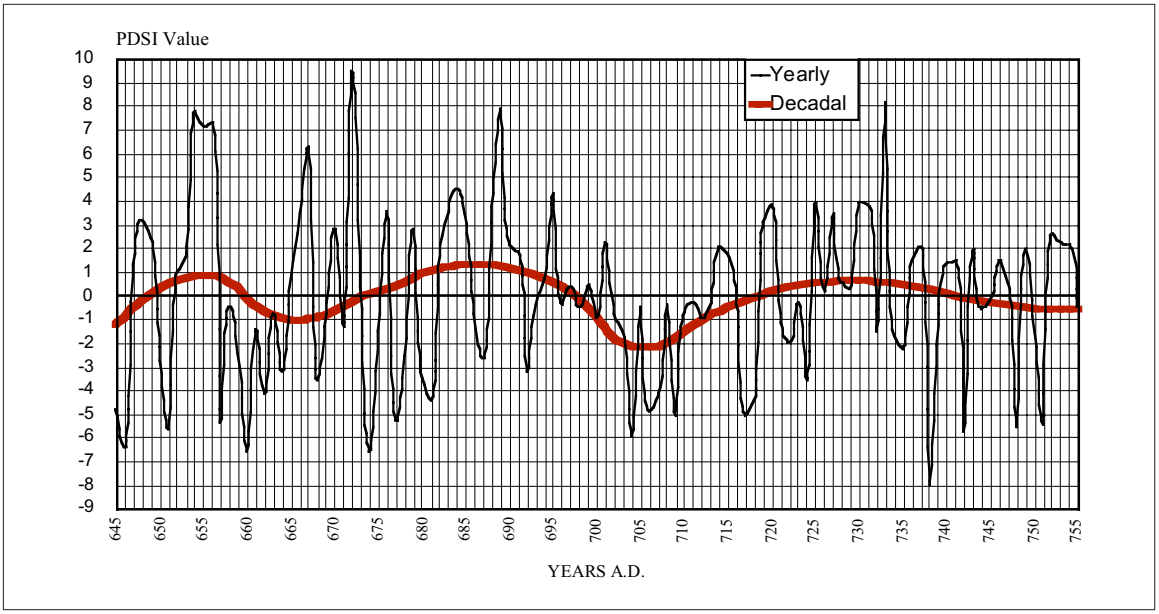


Figure 3-3. Basketmaker III Palmer Drought Severity Index for Mesa Verde area.

Regarding conditions for Basketmaker III agriculture, the PDSI values indicate good potential throughout most of the sequence. During the second drought period identified, from AD 700 to 718, the decrease in effective moisture would have made dry farming very difficult in the area. Does the lack of construction in this period indicate that the area was abandoned? Probably not, but given the coverage we have across the greater Yellow Jacket area, north to Dove Creek, east to Dolores, and southeast to Mesa Verde, and the lack of dates region-wide from this period, it is safe to say that settlement declined significantly in the early AD 700s.

SITE STRUCTURE AND FUNCTION

Previous work has revealed regularity in Basketmaker III site layout and structure, and presumably function in the Mesa Verde region (Chenault and Motsinger 2000; Hayes and Lancaster 1968; Kane 1986; Rohn 1975). The MAPL sites conform to the basic pattern seen in the region. Houses are typically square and large, with large, square or subrectangular antechambers on the south (see Figures 3-4 and 3-5). Antechambers typically cover less than half the area of main chambers, although occasional variation is seen. Benches are found around most of the primary chambers and most of the antechambers. Main chambers usually have wing-walls along the portion of the wall closest to the antechamber. Storage bins are typically built into the area partitioned by the wing-walls. Central hearths are present in all structures and adjacent ash pits are found in most. Often, bell-shaped storage cists were built around the main chamber perimeter.

Exceptions to all of these patterns were found at the MAPL/MAPCO sites. Structure 1 at 5DL310 was a single-chamber house, with an unusually large hearth and no ash pit (Fetterman and Honeycutt 1982). Structure 1 at 5DL297 lacked the eastern portion of the typical wing-wall found in these structures. The latter structure was also extremely large: a 7 x 8 meter main chamber with an area of 54 square meters. I return to discussion of this oversized pit house below under *Social Organization*. The

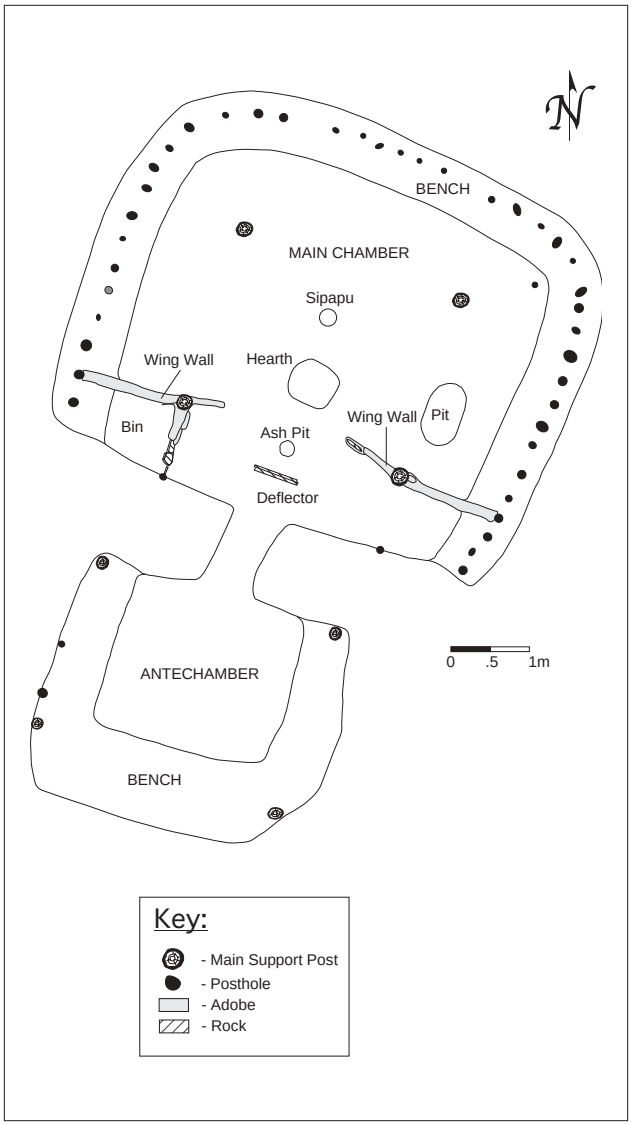


Figure 3-5. Plan map of Structure 2 at 5DL310 illustrating architectural elements of typical Basketmaker III pithouses in the Mesa Verde region.

Figure 3-4. Photograph of Structure 2 at 5DL310, typical of Basketmaker III pithouses in the Mesa Verde region.

exceptions notwithstanding, the basic pattern in pit house architecture is clear and the MAPL/MAPCO structures largely conform to the pattern.

Site layout is another area of interest for Basketmaker III studies in the Mesa Verde region. Drawing on their excavations for Lone Pine Canal and earlier work, Chenault and Motsinger (2000:46-47; see also Wilshusen 1999) describe a typical Mesa Verde Basketmaker III hamlet with a main pit house, a smaller secondary house, several pit rooms to the north, and a midden south of the houses. In general, sites in the area conform to this pattern, although the rooms often lie on the surface and are not subterranean. Further, the secondary pit houses (sometimes called "pocket" pit houses [Kane 1986]) are missing, often as not; none of the MAPL/MAPCO sites seem to have secondary houses. Lastly, the pattern seems most common in later Basketmaker III sites (post-AD 650). Earlier sites often lack discrete rooms, relying instead on large, slab-lined extramural cists for storage (Wilshusen 1999; see Reed and Wilcox 2000; Wills and Windes 1989, for examples beyond the Mesa Verde region).

Of the four Basketmaker III habitations excavated during the MAPL/MAPCO work, three largely (5DL297, 5DL309, and 5MT5458) conform to the "typical" layout. These sites have large, deep pit houses and associated surface rooms to the north (see Figure 3-6). 5MT5458 also has a midden to the south. Interestingly, none of the sites have identified, secondary pit houses associated with the primary houses. As noted above, the pit house at 5DL297 is very large and not typical.

The site that conforms least to the pattern is 5DL310 (see Figure 3-7). Although it has a large pit house (Pithouse 2), no surface or pit rooms were found at the site. Instead,

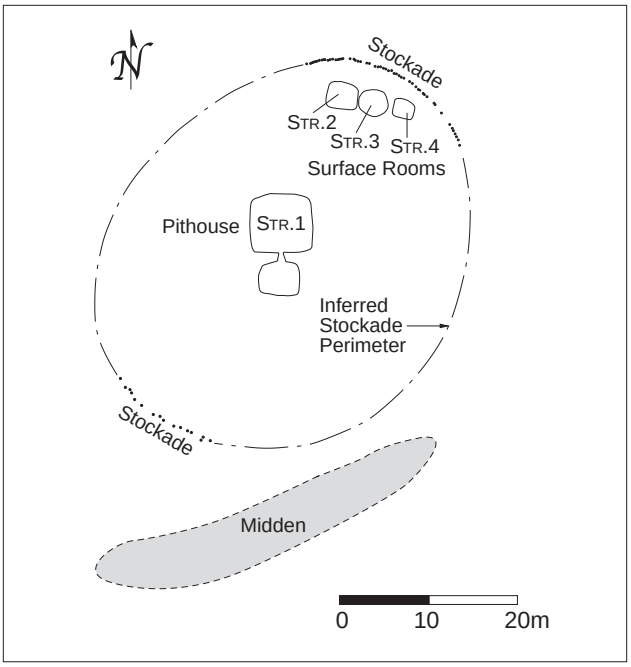


Figure 3-6. Plan map of site 5MT5458 illustrating the typical Basketmaker III habitation layout in the Mesa Verde region.

two cists and another feature were identified to the northeast. This site also has the only Basketmaker III pit house (Pithouse 1) excavated during the MAPL/MAPCO projects that lacks an antechamber. Pithouse 1 is dated to the same period as Pithouse 2, but lies more than 20 meter north and is an unlikely candidate for a secondary house. The site appears to fit the earlier, pre-surface room pattern but it is securely tree-ring dated to the last quarter of the AD 600s.

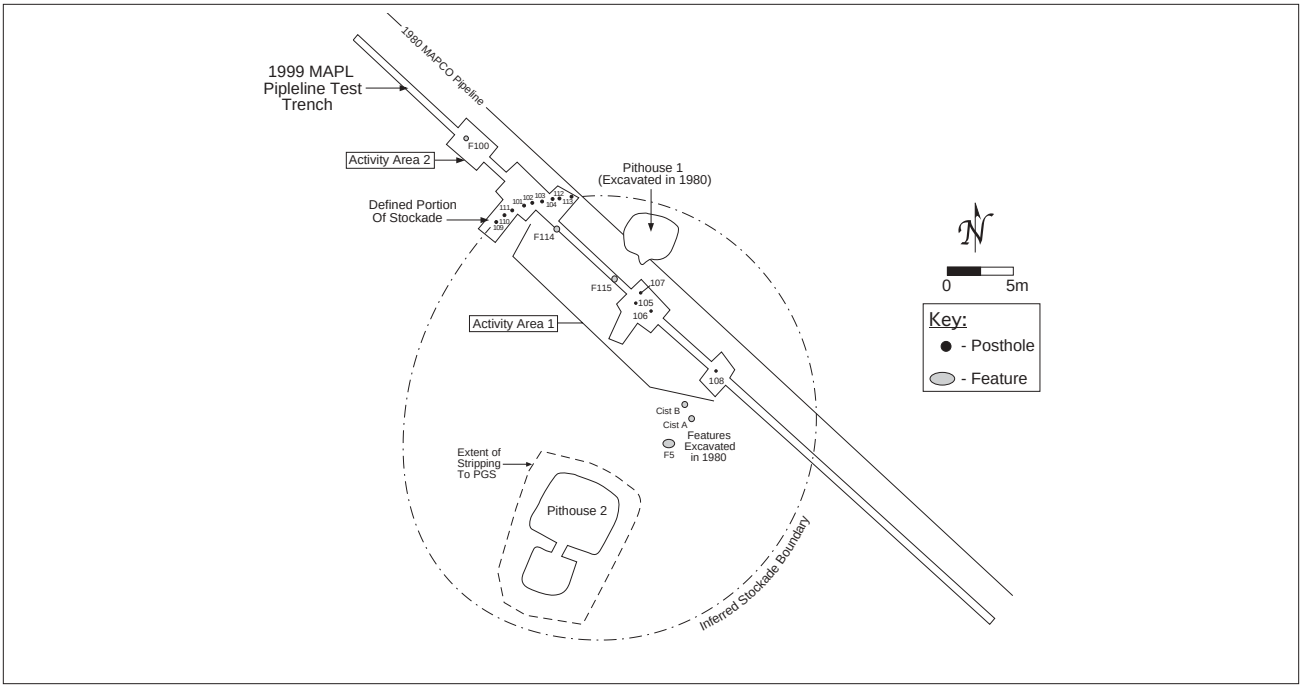


Figure 3-7. Plan map of site 5DL310 illustrating a non-conforming Basketmaker III site layout.

Stockades

Stockades have been identified on many Basketmaker III sites in the Mesa Verde region (Carlson 1963; Hall 1944), and particularly in the greater Yellow Jacket area (e.g., Errickson 1995; Fuller and Morris 1991; Rohn 1974, 1975). Table 3-2 provides a summary of well-documented Basketmaker III stockades in the greater Mesa Verde region. Stockades are known or suspected at other sites in the area (e.g., Chenault and Motsinger 2000:), but they are not well documented or have not been fully reported. We can briefly assess the characteristics shown in the table. First, more than half the stockades listed enclose more than a single structure. Eight of the stockades enclose two houses, and two enclose three or four houses. Clearly, most of the known stockades were built or at least used around more than a single residence. Although there is some variation, most of the stockades are between 20 and 35 meters in diameter and enclose areas between 600 and 1200 square meters. Dates for sites with stockades largely mirror the overall Basketmaker III occupation; most are between AD 650 and 700.

A variety of explanations have been offered over the years for the presence of stockades, including 1) delineation of the boundary around a social unit (Damp and Kotyk 2000; Rohn 1975); 2) defense of a settlement in the face of warfare or conflict (Chenault and Motsinger 2000; Hall 1944; Rohn 1975; Wilcox and Haas 1994; Wilshusen 1999); 3) use as fences, to keep children confined and animals out (Damp and Kotyk 2000; Wilshusen 1999); and 4) use as windbreaks. Few authors have suggested a single function for stockades, preferring to invoke multiple possibilities. Many of the stockades in the greater Yellow Jacket area are substantially constructed and would have required considerable labor. Thus, it is clear that stockades were not afterthoughts, nor were they casual construction endeavors.

Given the labor investment and the high frequency of occurrence on sites in the area, I would invoke the first explanation listed above (and two of the others, secondarily), and offer greater elaboration. Clearly, the Basketmakers had a template for building pit houses, laying out surface/subsurface storage cists and rooms, and defining outside work areas. The discussion above, under Site Structure, details the regularity with which the MAPL/MAPCO inhabitants followed a basic site layout. With this idea of standard site plans in mind, we can surmise that building stockades around a settlement was part of the mental template for building a home, and defining the surrounding space. As Rohn (1975) noted, stockades probably were built and came to be used primarily to mark the boundary of a family's territory. Likely secondary functions for the greater Yellow Jacket area stockades include shelter from the nearly constant winds and use as defensive mechanisms in times of conflict.

Table 3-2. Well-Documented Basketmaker III Stockades in the Greater Mesa Verde Region

Site No.	Site Name	Date	Diameter (m)	Area (m^2)	Enclosed Structures	Burned	Reference
5DL112	Palote Azul Stockade	696 & 700	40 - 42	1300 est.	2 pithouses, 6 surface rooms	partial	McNamee et al. 1992a
5DL1138	Vinger Hamlet	689	21 - 25 est.	400 est.	2 pithouses, 3 rooms	partial	McNamee et al. 1992c
5DL121B	Cloud Blower Stockade	680 & 690	37 – 41 est.	1150est.	2 pithouses, 2 surface rooms	partial	McNamee et al. 1992b
5DL310	none	675 & 676	34 est.	900 est.	at least 2 pithouses	partial	Fetterman and Honeycutt 1982; this volume
5MT12516	Payne Site	early 600's	30	700	2 pithouses, 7 storage rooms	unknown	Rohn 1974
5MT12517	Gilliland Site (original stockade)	600's	27 - 29	610 est.	1 pithouse, surface rooms	unknown	Rohn 1975
5MT12517	Gilliland Site (enlarged stockade)	late 600's	36 – 40	1130	3 pithouses, surface rooms	unknown	Rohn 1975
5MT2525	Knobby Knee Stockade	608 – 665	30 - 32	750	4 pithouses, 6 habitation rooms, 5 storage rooms	partial	Fuller and Morris 1991
5MT5458	none	Basketmaker III	36 - 44	1200 est.	at least 1 pithouse, 3 storage rooms	partial	this volume
5MT5476	none	Basketmaker III	30 est.	700 est.	at least 1 pithouse	partial	this volume
5MT8937	Basurero Estacada	652 - 671	28 - 32	700	1 pithouse, 5 rooms	partial?	Errickson 1995
5MT8938	none	645 &702	18 - 22	310	2 pithouses, 12 rooms	unknown	Errickson 1995
5MT9072	none	700 - 775	28 est.	600 est.	2 pithouses, 5 rooms	partial	Errickson 1995
LA61956	(Area A)	669 - 689	36 est.	1000 est.	1 pithouse	possibly on west side	Kotyk 1999
LA61956	(Area C)	685	36 est.	1000 est.	1 pithouse, 4 storage rooms	unknown	Kotyk 1999
LA61958	(Area A)	671 - 673	Possible stockade	unknown	2 pithouses, 5 large storage pits	unknown	Avallone and Kotyk 1999
LA61958	(Area B)	681	Possible stockade	unknown	1 pithouse	unknown	Avallone and Kotyk 1999
LA61954	none	665	Possible stockade	unknown	1 pithouse	partial	Kotyk and Drollinger 1999

ECONOMY

Ceramic Technology

Consistent with most Basketmaker III assemblages dating in the AD 600s across the Colorado Plateau, the ceramics from 5DL310 and 5MT5458 show a relatively conservative technology. Vessel shapes are consistently bowls, jars, and seed jars, with a few examples of ollas and pinch pots. Seed jars, a common Basketmaker III form, are abundantly represented in the MAPL assemblages. As discussed by Reed et al. (2000) and Skibo and Blinman (1999), seed jars were the most common form produced by the Basketmaker III potters, and were made as early as AD 300. Because the seed jar shape is sturdy, durable, and multipurpose, it was a good choice for potters experimenting with ceramic technology and using silty, alluvial clays between AD 300 and 550. Not only are seed jars common in the Northern San Juan area, their ubiquity has been documented across the Colorado Plateau for early Basketmaker III assemblages (Reed et al. 2000; Skibo and Blinman 1999). By the late AD 500s, potters across most areas of the northern Southwest made a technological shift to less silty, geologic clays that required the addition of temper. This change in ceramic technology resulted in stronger vessels that could withstand greater thermal stress from cooking regardless of the overall vessel shape. The ceramics from 5DL310 and 5MT5458 are good examples of AD 600s assemblages, comprising a variety of vessel shapes produced with higher fired, tempered, geologic clays. With 33 percent of the MAPL gray ware rims and whole vessels consisting of seed jars, it is clear that the globular, restricted orifice shape were the dominant form in the middle and late Basketmaker III period.

Because none of the assemblages recovered from MAPL or MAPCO have occupations earlier than the late 500s, all but a small percentage of the ceramics are classic gray and white wares typical of middle to late Basketmaker III. Less than 5 percent of the ceramics are brown or gray/brown ware (terms used to describe pottery produced with silty, alluvial clays). In contrast to assemblages dating earlier than the AD 590s, which have cooking pots (seed jars) produced with alluvial clays, the MAPL and MAPCO assemblages have only a few examples of pinch pots and pipes produced with alluvial clays.

Oxidation analysis of MAPL ceramics further illustrates the use of high-firing geological clays. Figure 3-8 shows the pattern of oxidized colors for sherds and raw clays from 5DL310 and 5MT5458. Color group designations along the x-axis include buff colors (1 through 3) and yellowish-red colors (4 and 5); none of the Basketmaker III ceramics or raw clays refired to red colors (6 and 7). The raw clay sample collected from an archaeological context at 5MT5458 refired to buff color group 2. These data suggest that potters had at least two sources from which they obtained clay for pottery production. Buff-firing clays were used for the majority of ceramic vessels sampled from both 5DL310 and 5MT5458. The small number of samples refiring to yellowish-red colors include 4 Chapin Gray, 1 Chapin Black-on-white, 1 polished gray, 1 plain gray, and 1 indeterminate sherd, comprising less than 10 percent of the total oxidation sample. These sherds represent vessels that were produced locally using a different clay source or were produced outside of the local area, and thus represent tradeware.

In sum, the oxidation data provide further support for a conservative pottery technology at Basketmaker III sites in the Northern San Juan area. By the AD 600s, potters had established a standard recipe for making pottery, involving consistency in clays, tempers, paints, and firing atmospheres. In contrast to earlier Basketmaker III pottery, which reflects experimentation with many materials, the assemblages from 5DL310 and 5MT5458 are markedly homogenous. This consistency provides further evidence of the normative character of the Basketmaker III occupation in the area.

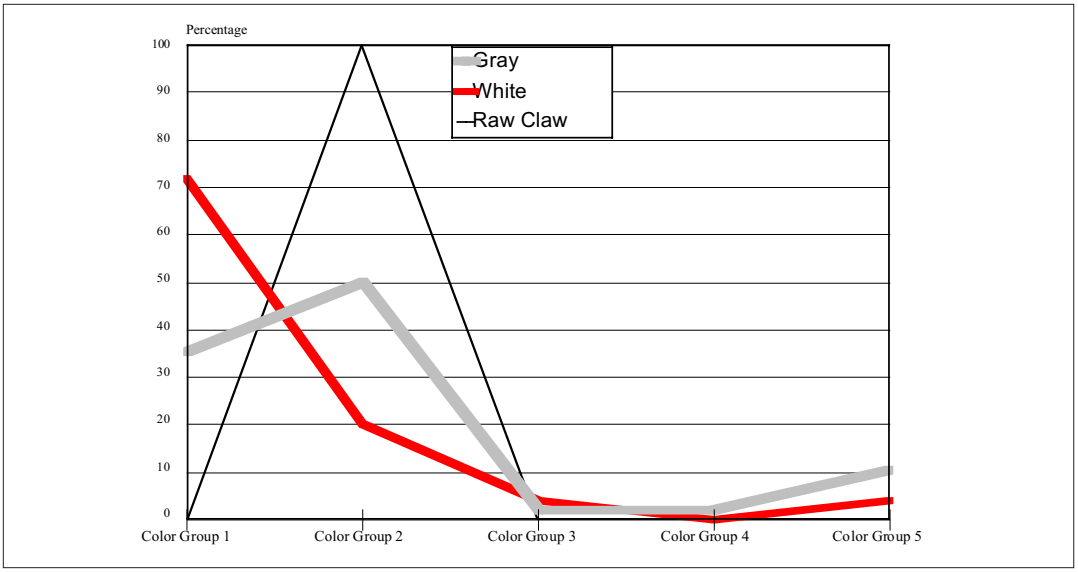


Figure 3-8. Distribution of paste colors for oxidized sherd from MAPL Basketmaker III contexts.

Lithic Technology

The MAPL/MAPCO lithic assemblages are sparse compared to other excavated Basketmaker III sites in the northern Southwest (e.g., site AZ-I-25-47 at Cove, Arizona (Torres 1999). Close to half of the recovered items fall into the category of nonflaked lithics or milling implements (Orth 1982; Torres, this volume). Most of these items consist of two-hand manos and trough metates, reflecting a milling technology oriented toward the processing of maize and other plant products.

Torres (2000:225) observed that:

> "...the lithic landscape common to most of the Colorado Plateau, consisting of patchy lithic resources, is very conducive to raw material prospecting to most efficiently meet the lithic needs of Anasazi communities. Such a strategy of increased lithic resource procurement efficiency developed during the early Basketmaker III period, when flake production from portable bifacial cores (made mostly of imported raw materials) evolved into use of cobble cores of mostly local raw materials. The maximization of the newly reduced exploitable space, as a means of increased efficiency not only shifted the raw material procurement strategy, but also influenced all aspects of stone tool use, including core reduction, flake production, and tool manufacture and use."

These patterns are readily observable in the MAPL Basketmaker III lithic collections, which emphasize predominant use of local materials, production of flake tools, and greater use of unidirectional cores toward the end of the period. Torres (2000) also noted that by Basketmaker III times, the Anasazi had begun to procure lithic materials as part of other tasks related to their increasingly sedentary lifestyle. Thus, potential cores could be tested in the course of scouting new agricultural field locations, while clearing brush from field areas, and while undertaking other resource-specific trips (e.g., gathering herbs or plants at some distance from camp, or while on hunting excursions). In this way, the Basketmaker III Anasazi in the MAPL area became thoroughly familiar with their immediate surroundings and were thus able to easily find and identify workable, local lithic materials.

Subsistence

Across the region and the northern Southwest, data indicate that Basketmaker III subsistence was based on corn agriculture (Reed 2000). A number of recent archaeological studies have identified Basketmaker III populations settled in permanent sites and villages, with subsistence economies focused on maize agriculture. Altschul and Huber (2000) found evidence of a strong commitment to corn agriculture at the large Basketmaker III village site AZ E:12:5 (ASM) in the Lukachukai Valley. At Mexican Springs, New Mexico, Damp and Kotyk (2000) documented an extremely diverse assemblage of macrobotanical remains, including large amounts of corn, beans, and squash. Storage features also were abundant at the Mexican Springs Basketmaker III sites, both inside houses (in the form of pits, cists, and bins) and extramural surface storage facilities.

Reed and Wilcox (2000) described a sedentary, maize-growing adaptation that began in Basketmaker II in the Cove-Redrock Valley area. Both pollen and macrobotanical data from the N33 Project indicate dependence on maize agricultural by the early Basketmaker II period (dated between 350 and 50 BC) at two sites, and continuing into the Basketmaker III period (McVickar 1999; Smith 1999). The N33 pollen data show great similarity in Basketmaker and Puebloan structures and storage features regarding economic taxa richness and average maize percentages. Even comparing small Basketmaker II and III sites to the much larger, multicomponent Cove Community site (AZ-I-26-3 [NN]), the "pollen concentrations and economic taxa richness indicate that the subsistence base, or at least what was stored, did not significantly change between Basketmaker and Pueblo times" (Smith 1999:866).

The quantities of corn recovered and the commitment to processing and storage facilities at the MAPL habitation sites leave little doubt that these Basketmaker folks were dependent on corn agriculture. The basic subsistence pattern for the MAPL sites reflects this and the basic Anasazi standard: corn, beans, and squash, along with a variety of natural plant and animal foods. The Basketmaker III components reveal varying aspects of this subsistence base. Smaller sites (5MT5476, 5MT13470, 5MT13679, and 5MT4454) offer little direct evidence of the foods used. Nevertheless, the two larger sites (5DL310 and 5MT5458) produced considerable subsistence data (see Tables 3-3 and 3-4). Pollen data indicate use of maize, beeweed, parsley family, various weedy taxa, including pigweed/ goosefoot, globemallow, buckwheat, and wild mustard. Use of several tree species (Ponderosa pine, pinyon pine, fir, and spruce) also emerged from the pollen record. Macrobotanical studies provide a more complete picture of subsistence. The triumvirate of corn, beans, and squash is represented in the record, with corn dominant. Wild plants of importance included ricegrass, goosefoot, sagebrush, and stickleaf. Although not a subsistence item, numerous tobacco seeds were recovered. The MAPCO Basketmaker III sites contained many of the same pollen types, with the addition of squash—clearly indicating the cultivation of this plant (Scott 1982). The dominance of trough metates and two-hand manos in the MAPL/MAPCO milling assemblages provides further support of the critical role that maize and other vegetal processing played in the Basketmaker III diet.

Table 3-3. Macrobotanical Remains Recovered from MAPL Excavations at 5DL310

Taxon	Part	Complete	Incomplete
CULTIGENS			
corn	kernels & embryos	±90	±130
	cupules	3	5
	glumes	1	
	stems		9
squash	seeds		1
legume	fruit		1
bean	cotyledon	1	
WILD FOOD PLANTS			
serviceberry	seed	2	
sagebrush	seeds	±3410	±43
goosefoot/pigweed	seeds	7	
juniper	seeds		1
pinyon	nutshell		1
groundcherry/nightshade	seed	1	
stickleaf	seed	1	
skunkbush	seed coat		1
purslane	seed	1	
OTHERS			
tobacco	seeds	2	
grass	stems		±100
juniper	leaflet	2	
unid	leaf	±20	
unid	bark		15
unidentified	unidentified	3	9

Table 3-4. Macrobotanical Remains Recovered from MAPL Excavations at 5MT5458

Taxon	Part	Complete	Incomplete
CULTIGENS			
corn	kernels & embryos	±600	±22,425
	cupules	±365	±235
	glumes	±50	±95
	rachis		49
squash	seeds	4	
bean	seed	1	
WILD FOOD PLANTS			
ricegrass	grains & florets	±1300	±690
	lemmas/paleas	4	±240
sagebrush	seeds	±475	
goosefoot	seeds	7	2
	seed coats		2
goosefoot/pigweed	seeds	±215	1
stickleaf	seeds	±45	
tansy mustard	seeds	6	
pinyon	nutshells		9
purslane	seeds	10	
groundcherry/wild potato/nightshade	seed	1	
dropseed	grain	1	
grass family	grains	±55	
OTHERS			
tobacco	seeds	±365	3
sagebrush	wood		2
giant ragweed	fruit	1	
spurge	seed	1	
nightshade family	seeds	6	1
mallow family	seeds	17	1
sedge family	fruits	23	1
bean family	cotyledons		2
reedgrass	stems & leaves		172
pinyon	needle		1
pine	fascicle	1	
	wood		4
juniper	wood		9
	leaflet	1	
cottonwood/willow	wood		3
saltbush/greasewood	wood		4
unidentified	stems		2
unidentified	pericarp		1
unidentified	embryos	12	
unidentified	unidentified	±195	±275

Faunal remains recovered from the MAPL and MAPCO sites were limited. Identified species included mule deer, elk, apache mice, fox (in the form of paws perhaps used ceremonially), cottontail, jackrabbit, marmot, badger, canid, prairie dog, squirrel, a few birds, beaver, and possibly bighorn sheep or pronghorn antelope. Recovery of faunal materials is, of course, very dependent on the portions of a site excavated (deep middens are more likely to produce faunal remains) and the nature of preservation at the site. Many sites lack the conditions (e.g., proper aridity and soil acidity) to preserve bony remains, particular in an unburned state. Thus, the relative lack of animal remains from the MAPL/MAPCO Basketmaker III sites should not be taken to indicate lack of importance of these items in the diet. Most of the sites with larger samples show the dominance of large game: deer, elk, and antelope, followed by smaller, more locally available fauna such as cottontail, jackrabbit, and a number of rodents. Big game, of course, required lengthy hunting trips away from home, while the smaller mammals and birds could be taken as part of a garden-hunting strategy.

Other Basketmaker III sites in the area, and across the Four Corners area, have produced comparable assemblages, although most do not show the same dominance of large game animals (deer, elk, other cervids) (Chenault and Motsinger 2000:60; Fetterman and Honeycutt 1995; Rippel and Walth 1999; Schniebs 1999). The faunal remains from other areas (e.g., Cove-Red Valley, Mexican Springs, Tohatchi Flats) show greater dominance of small and medium mammals (cottontails, jackrabbits, prairie dogs) and appear to reflect a garden-hunting strategy. Because the MAPL/MAPCO sites are located closer to upland areas, access to big game was easier for the Basketmaker inhabitants, perhaps explaining the greater presence in these assemblages.

Seasonality

Little direct data from MAPL Basketmaker III sites speak to the concept of seasonality, except to suggest year-round occupation of habitation sites. One site, 5DL310, produced a small pollen pattern (from two samples) that may indicate seasonality. The maize and other plants represented in the pollen record indicate, at the least, a late spring through fall occupation. Because of the lack of substantial cheno-am and cacti pollen, the pollen analyst inferred a seasonal (essentially summer) occupation for the site. Although the pollen data are suggestive, other data from the site, including architecture, site layout, ceramics, and lithics, exhibit traits consistent with a year-round habitation. For 5MT5458, the other habitation site at which pit houses were excavated, no data inconsistent with year-round use were identified.

Extra-Regional Relationships-Ceramic Evidence

Evidence for ceramics produced outside of the Northern San Juan area is lacking in the MAPL Basketmaker III assemblages. A single Upper San Juan Pueblo I style black-on-white sherd from 5MT5458 is the only obvious example

of trade ware from the two sites. Given that the most northern extent of Upper San Juan pottery production is just to the east in the Durango area, this sherd may represent a trade ware vessel from the Durango area.

The dominance of buff-firing clays used to produce pottery from 5DL310 and 5MT5458 suggests that the small percentage (less than 10 percent) of the assemblages refiring to yellowish-red could represent nonlocal pottery. In the absence of geochemical analyses such as ICP or NAA, this observation should be considered tentative. Geochemical analyses of the ceramics and local clay resources would assist in identifying the provenance of the yellowish-red-firing samples.

As a comparative data set, the oxidation analysis from the Dolores Archaeological Program (DAP) was utilized. Because the oxidation data from DAP were not computerized (Richard Wilshusen, personal communication 2001), the raw data were obtained from the Anasazi Heritage Center and entered into an Excel spreadsheet. DAP ceramic refiring data having noticeable errors were excluded from the data entry. The subsequent DAP refire database was then merged with the DAP ceramic database to extract ceramic type, ceramic tradition, ceramic ware, and temper for each refired sample. When compared with the Basketmaker III data from Tres Bobos (5MT4545) (see Brisbin and Varien 1986), the patterns described above for MAPL follow through for the DAP data as well. As shown in Figure 3-9, the distribution of refired paste colors for 5DL310 gray ware is roughly the same as that for 5MT4545 from the DAP. Similarity between the two gray ware assemblages suggests that potters were exploiting the same types of clay resources. Although gray ware from 5MT5458 falls within the buff color range of groups 1 and 2, the large percentage of sherds classified as buff color group 2 sets the assemblage apart. Potters at 5MT5458 may have been using clay from the same geologic formation as potters from the other two sites, but iron content of the clay may have been slightly greater producing a minor but noticeable variation in the oxidized colors of ceramic pastes. These data further support the relatively conservative appearance of Basketmaker III pottery and consistency in resource selection by Basketmaker III potters in the Cortez-Dolores area of Colorado.

The paucity of long-distance trade ware ceramics from the MAPL sites is not unusual for the Basketmaker III period in the Northern San Juan region. Local networks of exchange, including commodities such as ceramics, lithic tools or raw materials, and food items probably were traded extensively among households and communities in the Northern San Juan. Tracking local trade items, however, is more difficult than identifying nonlocal ceramics produced in areas having distinctively different raw materials (e.g., trachyte temper from the Chuska Valley). Systematic petrographic and geochemical studies of the Northern San Juan area is an important first step in identifying the variability in ceramic raw materials. As suggested by the petrographic study undertaken for MAPL, there appears to be mineralogical differences between diorite originating from Ute Mountain and La Plata Mountains that could be used to distinguish pottery produced in areas surrounding these source locations. Further study of these findings and implementation of a larger scale sourcing study for the Northern San Juan will contribute to characterization of pottery production and distribution dynamics in the area encompassing the crushed rock temper tradition.

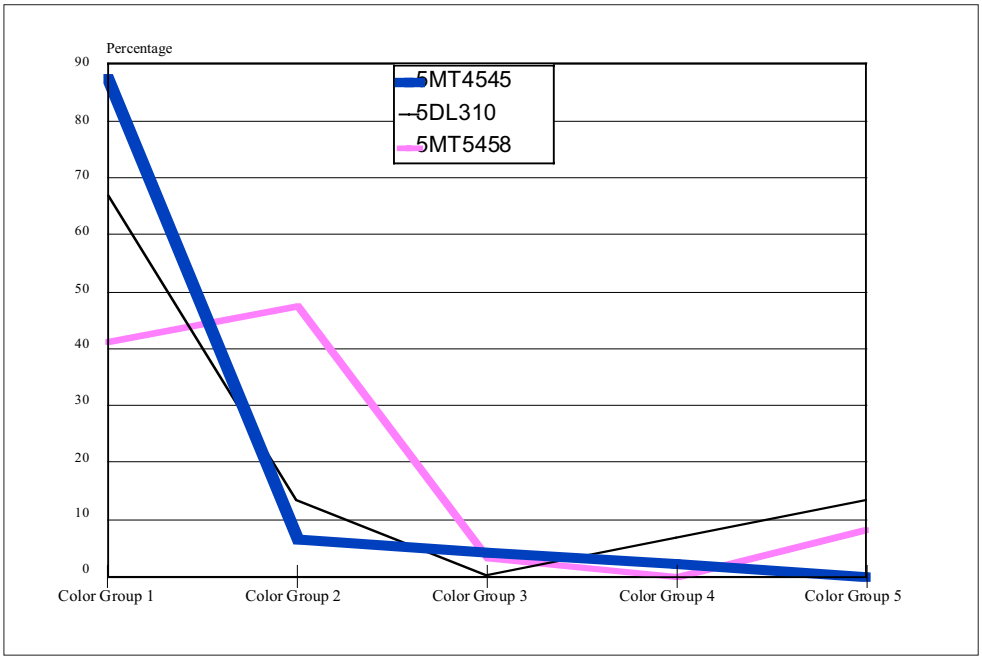


Figure 3-9. Distribution of color groups for oxidized sherds from three MAPL Basketmaker III sites.

Extra-Regional Relationships-Other Evidence

Beyond ceramics, other materials collected during the MAPL/MAPCO work show evidence of contact and exchange with outside groups. The vast majority of lithic raw materials (including quartzite, numerous varieties of chert and chalcedony, orthoquartzite, basalt, and rhyolite) were obtainable locally, but a few exotic materials were found.

Several pieces of malachite came from Structure 2 at 5DL310. One small piece was found in the fill of the main chamber's sipapu. More significantly, several pieces of unworked malachite were recovered from the bench and floor of the Structure 2 antechamber (see Figure 3-10).

Figure 3-10. Photograph of selected pieces of unworked malachite recovered from the antechamber of Structure 2, 5DL310.

The floor pieces were associated with a nearly complete dart point and with sherds from an unidentified black-on-white bowl with fugitive red on both surfaces. These items may have been used ceremonially, given their association and location in situ on the antechamber floor. The malachite probably derives from southeast Utah and was undoubtedly a highly valued material. In the absence of other data, down-the-line exchange between neighboring groups is the mostly mechanism by which the 5DL310 inhabitants acquired the material. It is possible that the residents had direct ties to other groups to the west, through marriage or other family relations, thus obtaining the malachite through kin-based exchange of goods.

Structure 1 at 5MT5458 contained several minerals that may have been traded in. Hematite, azurite, and limonite pieces all came from the fill of Structure 1, while two azurite items were found on the floor of the Structure 1 antechamber. The origin of these items cannot be pin-pointed without detailed sourcing and other analyses, but they are probably not local to the area. We might surmise, then, that the residents of Structure 1 at 5MT5458 obtained the minerals through either kin- or nonkin-based exchange, as described above.

An obsidian arrow point was recovered from the Structure 1 pit room at 5MT4454. The point was sourced to Grants Ridge, New Mexico. Thus, the point represents an item either obtained via trade with groups well to the south in New Mexico, or perhaps via an obsidian-procurement trip directly to the Grants Ridge source. The lack of obsidian in general throughout the MAPL/MAPCO collections is interesting, and suggests that local raw materials were more than sufficient for the tool stone needs of the Basketmaker III residents. The presence of a single Grants Ridge item, as opposed to material from the Jemez Mountains, which are considerably closer, may indicate ties to group in the Grants Ridge area. Of course, such a conclusion is very tentative given that only one obsidian artifact was recovered.

A single piece of *Olivella* shell from 5DL310 is another clearly imported resource. Although not identified to species, this item probably derives from the Gulf of California. Thus, it apparently came to southwest Colorado via down-the-line exchange between neighboring groups. As Vokes (in Hensler et al. 1999) has observed, shell was available to local populations across the northern Southwest. "Shell appears to have had a relatively high value, and was intensively used, with little being consciously discarded" (Hensler et al. 1999:901).

SETTLEMENT PATTERNS

The lack of systematic survey data from the Yellow Jacket area makes an area-specific settlement study difficult. Nevertheless, some data from the surrounding area are available (e.g., Fetterman and Honeycutt 1995). Wilshusen's (1999) recent synthesis also provides useful information. Using site 5MT11431 (near Pleasant View, Colorado) as their focal point, Fetterman and Honeycutt (1995:3-3), identified 150 previously recorded Basketmaker III habitations within about 30 km. As the authors observed, 5MT11431 was clearly part of a much larger, undefined Basketmaker III community. Numerous large Basketmaker III sites (with 10 or more pit houses) are in the area, including many of the sites listed in Figure 3-1 (graph of BMIII dates). In fact, Altschul and Huber's (2000:Table 7.1) literature and database survey revealed that the Mesa Verde area, and specifically the greater Yellow Jacket-Dolores locale, had more documented, large Basketmaker III villages (n=8) than any other region in the Southwest. Interestingly, none of these sites has a great kiva or oversized pit house. I will return to this point below, under *Social Organization*.

Primary settlement issues for the Basketmaker III period addressed here include: 1) basic nature: aggregated, concentrated, or dispersed; and 2) settlement size and organization (i.e., are most or all sites hamlets of varying size or do larger groupings that we might call villages exist?). As with other issues addressed in this chapter, Wilshusen's (1999) ideas on Basketmaker III settlement in the Mesa Verde region are highly relevant and will invoked as appropriate. Regarding the nature of settlement, I have to offer a somewhat equivocal answer—it is both concentrated and yet dispersed, but definitely not aggregated. Concentrations of Basketmaker III hamlets are apparent between Yellow Jacket and Sandstone canyons and in the DAP area to the east (Fetterman and Honeycutt 1995:Figure 3-3). Between these areas, most of the known hamlets are dispersed. Thus, both patterns are present in the area. With the assumption that pit houses were the primary residences of families/households, the dispersed pattern is reasonable,

given the need for each family/household group to have sufficient arable land for agriculture. Clustering of sites, however, is also expected given the number of sites in the area and the limits of arable land. Further, it is reasonable to infer that as families became established in rich, fertile areas like Yellow Jacket Canyon in the mid AD 600s, their success brought other immigrants, both related and nonrelated, to the area. Despite the clustering of sites in several areas, few well-documented Basketmaker III communities are known in the area. Wilshusen (1999), however, suggested the presence of communities at Step House on Mesa Verde (Nichols and Harlan 1967; Nusbaum 1981) and perhaps at Grass Mesa in the Dolores area (Lipe et al. 1988).

The second question listed above, regarding settlement size and organization has partially been addressed above with regards to site layout and will be further explored in the next section.

SOCIAL ORGANIZATION

Largely ignored for years (but see Birkedal 1976; Steward 1937, 1955), social organization during the Basketmaker III period has again become an important focus of research (e.g., Altschul and Huber 2000; Gilpin 2000; Reed 2000; Wilshusen 1999). Important issues addressed here include the nature of organization among Basketmaker III populations—was the household/family the basic and enduring unit, or did larger groupings occur and persist through time? What type of leadership characterized Basketmaker III sites, especially larger sites and villages?

As the first archaeologist to explicitly address Basketmaker III organization, Steward (1937, 1955) reached several conclusions that are important. "Steward did not see any organizational differences between these Basketmaker villages and the early Pueblo ones" (Cordell 1984:241). He suggested, instead, that the later, large villages of the Pueblo periods were a result of amalgamation of lineages and other groups, but that the basic structure remained intact. This view suggests that the basic Anasazi social unit at the village level was present and developed by AD 600 (Reed 2000:13).

As the focal point for Anasazi ceremonialism, great kivas have played important roles throughout the sequence. Some southwestern archaeologists downplay these structures in Basketmaker III contexts and prefer to avoid the great kiva terminology, apparently because of the perceived lack of clear connection between these structures and the later Pueblo I through III great kivas (e.g., Wills and Windes 1989). In contrast, these structures logically must be seen as an earlier form of great kiva (Reed 2000:14). In discussing the four early Anasazi examples (at Broken Flute Cave, Juniper Cove, Blue Mesa, and Shabik'eshchee Village) of great kivas known at the time, Vivian and Reiter (1965:105) suggested that the origin of these large structures probably predated Basketmaker III. Inferring exactly how these large structures may have functioned is difficult but given their association with large villages, there can be little doubt that they served to integrate Basketmaker III communities along social, political, ritual, and economic axes (Reed 2000:14).

In light of the importance of these structures in adjacent areas during Basketmaker III, their absence in the greater Mesa Verde region is perplexing. As noted above, the region seems to have more than its share of what Wilshusen (1999) would call large hamlets and what we could call early villages. Altschul and Huber (2000) identified eight such sites, while Wilshusen (1999:175) discussed two of these sites: Step House on Mesa Verde and Grass Mesa Village, as likely villages. Although Grass Mesa has a great kiva, Wilshusen stated that it postdates the Basketmaker III occupation. While not commonplace in other Anasazi regions, Basketmaker III great kivas have been documented with increasing frequency in recent years. A quick tally identified great kivas at Broken Flute Cave, Juniper Cove, Shabik'eshchee Village, 29SJ423 (in Chaco Canyon), Tohatchi Village, Kiva Mesa (at Cove, Arizona), and AZ E:12:5 (at Lukachukai, Arizona). Clearly, these structures were widespread although not common in Basketmaker III times. There is no obvious reason why early villages in the Mesa Verde region would lack great kivas. One possibility is that these structures are present on one or more sites and simply have not been detected. Given the level of effort expended in excavating many of these sites, this seems very unlikely. The later development of large villages with great kivas in the mid-late Pueblo I period in the Dolores area (Wilshusen and Ortman 1999) indicates that the social structure necessary to accommodate larger groups and their complexities was present later in the region. Perhaps the prevalence of small single family hamlets throughout the Basketmaker III occupation largely precluded the need for the integrative functions of great kivas.

How do the MAPL/MAPCO Basketmaker III habitation sites (5DL297, 5DL309, 5DL310, and 5MT5458) fit into this picture of social organization? The sites fall well within the norm for small hamlets in the Mesa Verde region. All indications suggest they were occupied by one or two family/household units who, while maintaining some extralocal ties (particularly with folks to the west who supplied or allowed access to malachite), were largely self-sufficient and isolated. There is no evidence for direct and significant participation in a larger community. As documented above, the greater Yellow Jacket-Dove Creek area supported a large concentration of Basketmaker III hamlets. But, even the largest sites in the area lack great kivas and there is no visible manifestation of active participation of any sites in a larger community.

SUMMARY

The MAPL/MAPCO Basketmaker III sites have contributed important data to our understanding of this period across the Mesa Verde region. In many ways, these sites reflect the basic pattern seen elsewhere across the region. There is general consistency in site layout and architecture. Pithouses were typically square and large,

with large, square or subrectangular antechambers on the south. Pit rooms or semisubterranean surface rooms were typically built north of pithouses. Stockades were identified on several MAPL/MAPCO sites, and on numerous sites in the greater Yellow Jacket area and across the Mesa Verde region. Although we will never be certain, stockades seemed to have served multiple purposes including defense, as windbreaks, and to demarcate the territory of a Basketmaker III household. Chronologically, the MAPL and MAPCO sites date to mid-to-late AD 600s, with tree-ring cutting dates clustering between AD 663 and 694.

The near absence of nonlocal materials in the lithic and ceramic collections indicate that the MAPL/MAPCO folks were largely self-sufficient and had few outside ties that brought in exotic materials. Nevertheless, the malachite and Olivella shell from 5DL310, the obsidian from 5MT4454, and the minerals at 5MT5458 all indicate some procurement of nonlocal items. It is unclear if these items reflect trade or direct procurement, but given the evidence later in time for increased trade at these sites, we would suggest that exchange was the likely mechanism.

With regards to social organization, the MAPL/MAPCO sites show a local focus, and no evidence of participation in a larger community. Indeed, the greater Yellow Jacket area, and the Mesa Verde region as a whole, seem to stand out in this regard. The apparent absence of great kivas in the area suggests that larger communities did not exist in the area, in contrast to areas to the south and west (see Altschul and Huber 2000; Gilpin 2000).

Given the great number of Basketmaker III sites (more than 150 habitation sites in the greater Yellow Jacket area), it is clear that the Anasazi had made a large commitment to settling the area by A.D. 650. Continued immigration and perhaps increasing fertility (see Kakos 2000) contributed to a large population at AD 750, as the transition to Pueblo I began.