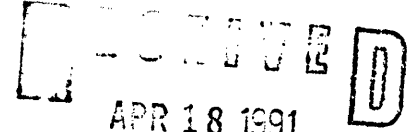


NPS Form 10-900b
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NATIONAL
REGISTER

**NATIONAL REGISTER OF HISTORIC PLACES
MULTIPLE PROPERTY DOCUMENTATION FORM**

This form is for use in documenting multiple property groups relating to one or several historic contexts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. For additional space use continuation sheets (Form 10-900a). Type all entries. Use letter quality printers in 12 pitch. Use only 25% or greater cotton content bond paper.

A. Name of Multiple Property Listing

Archaic Period Architectural Sites in Colorado

B. Associated Historic Contexts

Archaic Period Architecture in Colorado

C. Geographical Data

State of Colorado

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards for Planning and Evaluation.


Signature of certifying official

Jan 11, 1991
Date

State or Federal agency and bureau

I, hereby, certify that this multiple property form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.


Signature of the Keeper of the National Register

July 23, 1991
Date

E. Statement of Historic Contexts

Discuss each historic context listed in Section B.

In recent years Colorado archaeologists have become increasingly vigilant in searching for architectural ruins within sites of the Archaic period (ca. 7000 B.C. - A.D. 1; note, all dates in this section are corrected calendar conversions from C-14 ages, using the computer program of Stuiver and Reimer 1987 for dates younger than 7200 B.C. and using Figure 7 in Stuiver et al. 1986 for older dates). Prior to the late 1970s, there was the common opinion that prehistoric sites of such age did not contain substantial buildings because the perceived highly mobile lifestyle of Archaic hunter-gatherer populations made it unnecessary to invest the time and labor in facilities that would be only briefly occupied (cf. McGuire and Schiffer 1983; also see Abrams 1989:54 for a similar, more recent opinion). It was felt that no Archaic sites were occupied for more than a few weeks at a time and, thus, that any shelters constructed would be temporary, lightweight features with low archaeological visibility; only naturally-occurring rock shelters were thought to have been used for longer periods, as during the winter months (e.g. Haug 1968; Jennings 1968).

This view began to change as a result of two factors: the realization by Colorado archaeologists that selected Archaic period sites in other western states contained evidence of architecture (e.g. O'Connell 1975; Green 1982), and the discovery in 1978 of Archaic period sites with architecture at Curecanti National Recreation Area in Gunnison County, Colorado (Euler and Stiger 1981). Subsequent discoveries have been made throughout the Southern Rocky Mountain region both in upland and lowland settings. These findings have spurred a number of interpretive efforts seeking to explain the presence of these sites within the

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framework of hunter-gatherer studies. Some of these explanatory schemes have utilized existing models of foraging systems, while others have devised new ones. But, given the preliminary nature of such works, and the relatively small sample of architectural sites with which to work, the safest evaluation at present is that Archaic period research is in a time of revitalized interest. Throughout the following discussion, architecture refers to any building providing shelter, including houses, storage rooms, sweat lodges, work huts, etc.

Figure 1 shows the location of the ten localities with reported Archaic period architecture; each of these is discussed in more detail later in this section, and a published summary of several of these is provided in Cassells (1983:77-86). Two general trends are noticeable at this point, either or both of which may vanish as the data base expands. First is a chronological pattern in which architectural sites in the mountains date to the Early and Middle Archaic periods (ca. 7000-1400 B.C.), while those east and west of the mountains on the Colorado plains and Western Slope date to the Late Archaic period (ca. 1400-200 B.C.). A second trend is the noticeable "concentration" of architectural sites within the drainage basins of the Colorado and Gunnison Rivers.

In some respects, the Late Archaic age of architectural sites on the plains and Western Slope might be expected, since the settled village lifestyle characteristic of the Formative stage (Willey and Phillips 1958) ultimately developed in these areas. On the plains, the Woodland cultural development of A.D. 200-1050 included the use of a variety of architectural types, albeit not in great numbers, and later Plains Village Tradition sites exhibit architecture with some frequency (Eighmy 1984). In western Colorado the Formative stage is represented by the Fremont culture to the northwest and the Anasazi culture to the southwest. Both groups utilized habitations and other functional buildings, the Fremont in the period A.D. 500-1450 and the Anasazi between A.D. 50-1300 (Grady 1984; Eddy et al. 1984; Reed 1984a). Thus, the presence of architecture in Late Archaic sites of these regions can be seen as extending the continuity of the cultural sequences there. However, in the Colorado mountains where Formative stage developments never took place, the presence of Archaic architectural sites has been more difficult to explain--particularly since the sites discovered thus far all have predated the Late Archaic period.

In terms of the geographic locations of the known sites, the frequency of occurrence in the Colorado-Gunnison River basin system is probably best explained as a sampling problem. That is, Archaic period architecture has been found in virtually all states north, west and south of Colorado, and there is no reason to

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expect that they will not be found border-to-border in Colorado as research on Archaic sites continues. Certainly one possibility for explaining the present sparse distribution of Archaic period architectural sites relates to preservation: since older sites have been exposed to destructive natural and cultural processes for a longer period of time, fewer of them are preserved. Also, a relatively low number of such preserved Archaic sites will be of types where architectural features were built and subsequently maintained enough physical integrity for archaeologists to discover.

Explaining the presence of substantial architectural features in Archaic period sites clearly requires an understanding of regional settlement systems. No one has yet suggested that any of the Archaic habitations studied thus far was occupied on a year-round basis (a characteristic of Formative stage cultures). Rather, these buildings, in all their diversity of size, materials and style, have been seen as seasonal dwellings utilized for periods ranging from a few weeks to several months at a time. The more substantial buildings also may have been reoccupied on a yearly cycle. None of the sites have evidence of simultaneous occupation of more than one dwelling, albeit several are multiple component sites with dwellings represented in more than one component. This pattern suggests use of these sites by small groups, perhaps no more than an extended family. This evidence does not deviate from previously existing models of Archaic hunter-gatherer organization in Colorado. No sites have yet been found with the multiple households numbering up to 50-100 as reported ethnographically among such local groups as the Ute (e.g. Callaway et al. 1986:352).

Why, then, has the discovery of architectural features come as such a surprise to archaeologists? Certainly in part the surprise is misplaced. Conventional models of Archaic hunter-gatherer lifeways commonly refer to "wintering over" strategies that imply less nomadism than during the warmer months and, by extension, the utilization of shelters sufficient to survive the cold. For example, Grady (1984:25-38) refers to Archaic lifeways in northwestern Colorado as "semi-sedentary" and to a winter settlement strategy of occupation in "sheltered valleys," but makes no mention or prediction about architecture other than an oblique reference to the existence of a few habitation sites. This is not meant to single out Grady, because his summary is merely representative of a common interpretive approach. One can speculate that archaeologists have merely assumed that rockshelters and caves functioned as typical habitations without ever stating it, or that the lack of excavated dwellings led them to simply ignore the issue.

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A common sense approach, but one rarely if ever taken, would be to consider the necessity for substantial shelters during the late Pleistocene epoch (i.e. the Paleo-Indian period) prior to 9000 B.C., and assume that the development of substantial dwelling structures would be a technological advance unlikely to be abandoned by later cultures. In fact, well-defined pit structures dating back more than 20,000 years have been excavated in Russia (e.g. Soffer 1985) and, since the initial peopling of the Americas is conventionally assumed to have been a late Pleistocene event from east Asia, we should expect that these early hunter-gatherers brought that architectural knowledge with them. Yet, archaeologists seldom consider the sheltering strategies of Paleo-Indians, let alone of Archaic groups. We should expect to find seasonal dwellings in at least a few sites of all ages in Colorado; the Archaic hunter-gatherer lifestyle was too successful--lasting a minimum of 5,000 years--to even consider the possibility that these Native Americans didn't know how to put up a decent roof over their heads.

The Culture Historical Setting

No one taxonomic format is in current use statewide that includes chronology as a major organizing feature for the Archaic stage. Among the schemes relied upon are Frison (1978) for the northeast plains, northwest plateaus and northern mountains of Colorado; Anderson (1989) and Campbell (1969) for the southeast plains of Colorado; Irwin-Williams (1973, 1979) for southwestern Colorado; and Buckles (1971) and Schroedl (1976) for western Colorado. Much of the mountain region in the state is described using one or more of these sequences, at the discretion of the investigator. The only overriding framework is the Paleo-Indian--Archaic--Formative stage sequence of Willey and Phillips (1958; cf. Krieger 1964), more a description of lifeways than of chronological developments. However, the "stage" approach is applicable all across Colorado and has at least general temporal significance. The following discussion emphasizes the Archaic stage developments but also summarizes Paleo-Indian and Formative stage events to place the architectural theme in context. The term Archaic period, then, is used to define that block of prehistoric time when Archaic stage lifestyles were prevalent prior to the widespread use of ceramic and bow-and-arrow technologies.

The Paleo-Indian stage in Colorado is in evidence prior to 6400 B.C., and is best represented by sites on the plains and in the mountain parks. It is

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characterized by a nomadic lifestyle of hunting and gathering, commonly thought to have emphasized the pursuit of now-extinct Ice Age fauna such as woolly mammoth, camel, horse and giant forms of bison. This "big-game hunting" strategy, however, undoubtedly included the taking of smaller game and the exploitation of various plant species. Impressions of Paleo-Indian adaptive strategies have largely been gained from studies of kill and butchering sites rather than camps or habitations and, thus, the big-game focus has been hypothesized on the basis of a likely unrepresentative range of site types. Nonetheless, the data at hand for Colorado conform to the general material culture pattern in the prominent chipped stone and bone tool industries with large, unnotched lanceolate projectile points as the chief diagnostic tool class. The Lindenmeier site in Larimer County, Colorado is a famous multiple component camp site with important Folsom occupations (ca. 9850-9550 B.C.) that shows one range of variability in a Paleo-Indian tool kit (Wilmsen and Roberts 1978). Paleo-Indian sites in the mountains and on the Western Slope of this state show a mix of plains and Great Basin-type diagnostics, with a predominance of the plains types like Folsom, Agate Basin, Hell Gap, Cody and Frederick within the open parks and valleys where it is assumed the herbivorous "big game" animals were concentrated (e.g. Guthrie et al. 1984; Black 1986).

Colorado's Paleo-Indian evidence is dominated, as in other areas, by kill and butchering sites like Olsen-Chubbock, Jones-Miller, Frazier and Jurgens on the plains, and Cattle Guard and Linger in the San Luis Valley (see summary in Cassells 1983). Bison of extinct and modern species are most common and, as might be expected, architectural evidence is lacking at these sites. The few known camp sites include the aforementioned Lindenmeier locality and the Claypool and Powars sites on the plains, the Caribou Lake site in the northern mountains and the Christmas rockshelter on the Western Slope (Cassells 1983). Architecture is also lacking at these sites. Little is known of the Great Basin-related material in the mountains and on the Western Slope, since no sites of that affiliation have been excavated. Evidence for Great Basin-related Paleo-Indian occupation in this part of the state is, thus far, limited to scattered surface finds of diagnostic projectile point types such as Lake Mojave, Windust, Silver Lake and similar forms of the Great Basin Stemmed Tradition (Jennings 1978; Bryan 1980; Aikens and Madson 1986; Willig et al. 1988). These artifacts appear most frequently through the southern and western portions of the mountains and Western Slope, e.g., on the Uncompahgre Plateau, San Luis Valley, Gunnison Basin and Sangre de Cristo Mountains (Black 1986).

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But, while Colorado's most ancient sites lack architecture, this absence is not universally true in surrounding states. Irwin-Williams et al. (1973) describe six separate structural features from Paleo-Indian components in the Hell Gap valley of southeast Wyoming. Earliest are two circular arrangements of post holes in a Midland complex component with C-14 dates of 9750-9325 B.C. These represent apparent log wickiup-like structures with diameters of 2-4m. Slightly later in age were three more, very similar arcs and circles of post holes in a component of Agate Basin complex affiliation estimated to date to 9550-9000 B.C. Two of these rings have 2m diameters and the third an estimated 4m diameter. The sixth and youngest Paleo-Indian structure at Hell Gap was found in a component of Frederick complex affiliation, consisting of a stone circle roughly 2m in diameter and dating to ca. 7650 B.C. This feature has been compared to the later Archaic and Late Prehistoric period stone circles on the plains considered to have functioned as weights holding down the edges of hide tipis.

Thus, both the post hole rings and stone circle are evidence of rather temporary Paleo-Indian structures, certainly not unexpected in a nomadic hunting-gathering culture, but rarely preserved archaeologically. In fact, it is not unreasonable to assume that more substantial buildings were constructed in favored areas during seasons when resources were concentrated, as during the winter. Mention already has been made of the late Pleistocene pit structures found in Russia, and it should not surprise future investigators if analogous structures appear in Paleo-Indian habitation sites. The Hanson site in northern Wyoming is a camp of the Folsom complex dated to 9750-9100 B.C., and yielded three hard-packed living surfaces "believed to represent some sort of circular lodge structures" (Frison and Bradley 1980:9). While the duration of occupation of these features could not be determined, the suggestion from the associated artifacts and the nature of the "lodge" floors was that these may have been utilized for more than a few days at a time, perhaps during the late fall-early winter (Frison 1978:115-146). Similar evidence for structural remains was found in the Folsom component at the Agate Basin site in southwest Wyoming, where two bison ribs were uncovered in a position suggesting they held down the edge of a lodge covering (Frison 1988:91-92).

The Archaic stage in Colorado begins at different times depending on the portion of the state one considers. It is defined as a lifestyle based on generalized hunting and gathering of modern species of plants and animals,

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without settled village life. In apparent contrast to the Paleo-Indian stage, the Archaic is seen as more broad-based economically, with the improvement and increased use in grinding tools taken as one bit of evidence for the growing importance of economic plants in the adaptive system. Using this definition, the Archaic stage is seen to appear earliest in the Colorado mountains (and, perhaps, on the Western Slope), by 7800 B.C. and is identifiable in the southwest and on the plains by 6400 B.C.

Where settled village life based on horticulture/agriculture (i.e. the Formative stage) never developed, as on portions of the plains and throughout the mountains, an Archaic stage lifestyle persisted without appreciable change into the Historic period. For example, the Ute culture, prior to the changes of historic times, was essentially Archaic in character. For the purposes of this discussion, however, it is necessary to focus on that portion of the Archaic development which predates the appearance of Formative stage events like the widespread use of ceramic and bow-and-arrow technologies, settled village life, etc. No one calendar date marks these changes; the transitions span the era from 1200 B.C. to A.D. 500 and, in terms of "Archaic architecture," we have chosen the somewhat arbitrary date of A.D. 1 as an ending point for the present discussion.

That an Archaic stage lifestyle did not appear in southwest Colorado or on the plains until 6400 B.C. may be an artificial impression due to preservation factors and/or the level of archaeological investigation. On the plains, for example, relatively few sites more than 2500-2000 years old have been studied, perhaps because widespread erosion has removed older sediments from extensive areas. Thus, older sites may not be preserved except in isolated areas of upland terrain and in fluvial deposits along larger drainages (e.g., see McFaul and Reider 1990). In the southwest, the prevalence and high visibility of Anasazi sites has led to an understandable focus on that culture by archaeologists, to the virtual exclusion of older Archaic sites. Because so few excavations have investigated non-Formative sites in that region, archaeologists have merely guessed that the Archaic stage appears at 6400 B.C. by applying the chronology developed in northwest New Mexico (Irwin-Williams 1973).

Sites representative of an Archaic lifestyle do exist by about 7800 B.C. in the Colorado Rockies, however. The Runberg site in Chaffee County, for example, was repeatedly occupied as a short-term camp by Archaic hunter-gatherers beginning ca. 7800-7550 B.C. (Black 1986). The evidence consists of unlined firepits, cooking slabs, ground stone tools, sparse bone fragments and a generalized chipped stone tool kit that includes notched projectile points

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(Paleo-Indian points are never notched). Slightly younger Archaic camps which date to 7500-6800 B.C. have been studied in the Curecanti Basin (Euler and Stiger 1981), the Front Range (Benedict 1985), Fremont Pass (Arthur 1981), Middle Park (Wheeler and Martin 1982, 1984) and Piedra Pass (Reed 1984b). Two of these localities, Curecanti and Middle Park, contain the earliest architectural remains yet found on Archaic sites in Colorado.

At Curecanti National Recreation Area in Gunnison County, the cultural record begins at least 10,750 years ago at 5GN205 and extends in nearly unbroken fashion to the historic Ute occupation. Of the nearly 20 excavated sites with C-14 dated deposits (Jones 1984), five sites have yielded architectural remains of various types and a sixth undated site is suspected to contain such feature(s) based on limited testing. Four of the five dated sites have radiocarbon ages determined directly from architectural remnants and the fifth is indirectly dated from hearth charcoal near an architectural feature. The six sites with these features are 5GN10, 5GN42, 5GN53, 5GN204/205, 5GN247 and 5GN1729; radiocarbon dates range from 7040 B.C. to 1550 B.C. (Table 1). As important as the number of Archaic sites with architecture at Curecanti is the diversity of architectural types represented at the six sites. Jones (1986:211) provides a concise summary ("this volume" in the following quote refers to Jones 1986):

The several instances of probable structural remains which have now been identified at sites in the park include charcoal-filled basins which inconsistently include large masses of burned, pole-impressed clay (found at 5GN204/205) [Euler and Stiger 1981] and at 5GN247 [Jones this volume]), complexes of radiating charred timbers (found at 5GN10 [Stiger 1981]), isolated concentrations of burned pole-and-grass-impressed clay (5GN53 and 5GN247 [Jones this volume]), and small, scattered pieces of burned clay (found at 5GN42 [Jones this volume; Dial 1984, 1985c]). It seems likely that the several forms of archeological phenomena identified in the park in fact represent a range of constructed feature types, not all of which served as habitations per se. While the features which actually represent enclosed shelters suggest possible occupation of

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Table 1

C-14 Dated Archaic Architectural Sites in Colorado

<u>C-14 Date*</u>	<u>Site #</u>	<u>Site/Project Name</u>	<u>Feature</u>	<u>Reference</u>	<u>Comment</u>
2170 ± 55 (390-100 B.C.)	5BA30	McEndree Ranch	hearth	Shields (1980)	indirectly dates nearby pithouse at lower level
2350 ± 65 (760-257 B.C.)	5BA30	McEndree Ranch	hearth	Shields (1980)	indirectly dates nearby pithouse at lower level
2410 ± 70 (790-380 B.C.)	5GF110	Sisyphus	slab-paved shelter	Gooding & Shields (1985)	direct date on architecture
2650 ± 70 (930-770 B.C.)	5MT2731	Dolores	hearth	Kane et al. (1988)	directly dates feature within shelter
2770 ± 60 (1060-810 B.C.)	5GF126	Kewclaw	pithouse	Conner & Langdon (1987)	direct date on architecture
2900 ± 60 (1300-920 B.C.)	5GF126	Kewclaw	pithouse	Conner & Langdon (1987)	direct date on architecture
3160 ± 160 (1872-1000 B.C.)	5LA2190	Trinidad	hearth	Rood (1990)	directly dates feature next to shelter
3300 ± 90 (1872-1410 B.C.)	5GN247	Curecanti	burned clay concentra- tion	Jones (1986)	direct date on architecture

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<u>C-14 Date*</u>	<u>Site #</u>	<u>Site/Project Name</u>	<u>Feature</u>	<u>Reference</u>	<u>Comment</u>
3340 ± 180 (2133-1225 B.C.)	5MT2731	Dolores	charcoal- stained surface	Kane et al. (1988)	direct date on architecture
3590 ± 60 (2140-1771 B.C.)	5GN247	Curecanti	charcoal- filled basin	Jones (1986)	direct date on architecture
3750 ± 70 (2456-1970 B.C.)	5GA151	Windy Gap	"daub"- filled basin	Wheeler & Martin (1982)	direct date on architecture
3806 ± 130 (2590-1890 B.C.)	5GN10	Curecanti	burned timbers & charcoal stain	Stiger (1981)	direct date on architecture
3936 ± 260 (3100-1740 B.C.)	5GN10	Curecanti	charred, radiating timbers	Stiger (1981)	direct date on architecture
4065 ± 380 (3640-1549 B.C.)	5GN344	Mt. Emmons	charcoal concen- tration	Black (1983)	indirectly dates nearby postholes
4117 ± 90 (2920-2460 B.C.)	5GN10	Curecanti	burned timbers & charcoal stain	Stiger (1981)	direct date on architecture
4160 ± 110 (3029-2470 B.C.)	5GA151	Windy Gap	"daub"- filled basin	Wheeler & Martin (1982)	direct date on architecture

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<u>C-14 Date*</u>	<u>Site #</u>	<u>Site/Project Name</u>	<u>Feature</u>	<u>Reference</u>	<u>Comment</u>
4266 ± 90 (3096-2613 B.C.)	5GN205	Curecanti	adobe & charcoal- filled basin	Euler & Stiger (1981)	direct date on architecture
4426 ± 300 (3900-2290 B.C.)	5GN205	Curecanti	adobe & charcoal- filled basin	Euler & Stiger (1981)	direct date on architecture
4556 ± 80 (3510-2943 B.C.)	5GN205	Curecanti	adobe & charcoal- filled basin	Euler & Stiger (1981)	direct date on architecture
4560 ± 470 (4350-1979 B.C.)	5ME1373	Indian Creek	charcoal concen- tration	Horn et al. (1987)	indirectly dates 3 structural depressions
6080 ± 100 (5240-4780 B.C.)	5EA799	Yarmony	pithouse	Metcalf & Black (1988)	direct date on architecture
6164 ± 210 (5490-4591 B.C.)	5GN10	Curecanti	burned adobe & posthole	Stiger (1981)	direct date on architecture
6290 ± 70 (5380-5066 B.C.)	5EA799	Yarmony	pithouse	Metcalf & Black (1988)	direct date on architecture

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<u>C-14 Date*</u>	<u>Site #</u>	<u>Site/Project Name</u>	<u>Feature</u>	<u>Reference</u>	<u>Comment</u>
6320 ± 90 (5475-5068 B.C.)	5EA799	Yarmony	pithouse	Metcalf & Black (1988)	direct date on architecture
6820 ± 130 (5970-5480 B.C.)	5GN53	Curecanti	hearth	Jones (1986)	indirectly dates nearby grass- impressed clay
6860 ± 100 (5960-5550 B.C.)	5GA680	Windy Gap	daub & charcoal concent- ration	Wheeler & Martin (1984)	direct date on architecture
7450 ± 330 (7070-5640 B.C.)	5GN42	Curecanti	charcoal & burned clay	Dial (1984)	direct date on architecture
7960 ± 140 (>7210-6480 B.C.)	5GA680	Windy Gap	daub & charcoal concent- ration	Wheeler & Martin (1984)	direct date on architecture
8030 ± 210 (>7210-6440 B.C.)	5GN42	Curecanti	charcoal & burned clay	Dial (1984)	direct date on architecture

*all dates with error factors are uncorrected, in years Before Present (BP), and calculated according to a C-14 half-life figure of 5568 years. The parenthetical date ranges which follow are calendar conversions at two standard deviations (i.e. 95% probability that the true age is within the range) from the computer program of Stuiver and Reimer (1987). Note that present data do not allow for corrections older than 7210 B.C.

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the area during the marginal months of the spring and fall, they do not in and of themselves document year-round occupation of the area. Windbreaks, on the other hand, would have been functional and probably desirable even in the middle of summer.

Not mentioned is 5GN1729, the tested site just north of 5GN10 which has not been dated and, like the data from 5GN42, has not yet been described in a final report (Bruce Jones, personal communication 1990). Testing there in 1984 yielded scattered pieces of burned clay from a feature of unknown function. Although the total range of dates on architectural features from Curecanti is about 4750 radiocarbon years, Table 1 shows that eight of the eleven C-14 dates on architecture from Curecanti fall between ca. 3500 B.C. and 1400 B.C. Interestingly, Jones (1984:19, 1986:214) notes that of the more than 60 radiocarbon dates from archaeological features of all types at Curecanti (including non-architectural ones such as firepits and cists), there is a noticeable increase in date frequency at 6700-5200 B.P. (Before Present; 5550-4000 B.C.). He suggests the Altithermal climatic episode of elevated temperatures at 6400-4000 B.C. may be in some way responsible for this date peak (cf. Benedict 1979, 1985), a topic explored in further depth later in this section.

In Middle Park, a sagebrush-covered expanse of rolling hills near the headwaters of the Colorado River in Grand County, testing and large-scale excavations at a number of sites for the Windy Gap project near the town of Granby revealed a series of Archaic and later occupations, some with architectural remnants (Wheeler and Martin 1982, 1984). Interpretation of these features was complicated by the amorphous shape of many of them, and a paucity of associated diagnostic artifacts. Also, the project investigators employed a very liberal definition of the term "daub," which most archaeologists associate with the construction technique of "wattle-and-daub" by which a mud plaster and chinking is applied to a pole and stick framework. Their use of the term, however, expanded the concept to any "fired clay" from any kind of feature, such as the clay lining of a firepit (Wheeler and Martin 1984:309). Nonetheless, possibly architectural daub with or without vegetal impressions was found at two sites, 5GA151 and 5GA680. Radiocarbon dates range from ca. 7000 to 2150 B.C. for these features (Table 1) but, as noted above, details on the configuration(s) of the structures were not well-preserved. Most appear to be small surface features of wattle-and-daub, while others may have been built over shallow saucer-shaped

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depressions; none are true pithouses and associated artifact assemblages suggest occupations were seasonal camps such as summer base camps. Although less well-preserved than the Curecanti evidence, the range in C-14 dates and functional interpretations for the Windy Gap project sites are comparable to the former.

As mentioned previously, other Early Archaic period research has noted the relatively large number of C-14 dates received on sites in some localities which fit within the age range of the Altithermal episode of 6400-4000 B.C. James Benedict (1978, 1979, 1985) has been a very prominent archaeologist on this topic. He sees the dichotomy between a peak in C-14 date frequencies in the Southern Rocky Mountains--specifically in the Front Range--and a dearth of such dates from sites in surrounding lowlands as evidence that lowland drought conditions drove human populations into the wetter uplands during the Early Archaic period. That is, mountain localities such as the Front Range served as Altithermal "refuges" for formerly lowland-based groups. The presence of architectural remains at Curecanti, Middle Park and elsewhere, then, might be explained as evidence of an Altithermal-caused "settling in" strategy.

However, there are many possible interpretations of C-14 date frequencies that do not require population migrations. For example:

(1) Sample size; not enough sites have been excavated and C-14 dated in lowland and upland settings to get a representative cross-section of the number of sites occupied in those regions at a given period of time.

(2) Preservation; Altithermal-age soils, and the archaeological sites within them, may be better preserved (or more extensively preserved) in upland settings compared to lowland areas, giving a skewed picture of population densities.

(3) Mobility; higher frequencies of radiocarbon dated features may simply reflect more mobile human populations making more frequent moves in a given period and, hence, creating more datable sites and features.

(4) Interpretive priorities; in the past, archaeologists often failed to C-14 date the relatively young sites--i.e. those less than 1000-2000 years old--because cultures of that age were perceived to be comparatively better known or of lesser interest.

(5) A combination of the above factors.

In addition to the interpretive difficulties, the "Altithermal refuge" hypothesis entails other assumptions and implications that have yet to be verified. For instance, not only does an upland population increase during the Altithermal need to be demonstrated, but the antecedent population(s) also must be identified. On present evidence it is just as likely if not more so that such antecedents already lived in the mountains as opposed to the surrounding

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lowlands. Also, abandonment of lowland areas during the Altithermal should be expected, yet many Early Archaic sites--some with architecture--have been excavated in recent years in various portions of the Wyoming Basin north of the Colorado Rockies (e.g. McGuire et al. 1984; Harrell and McKern 1986).

Table 1 also shows that architectural sites in upland areas are not limited to the Early Archaic period, but occur throughout the succeeding Middle Archaic period from 4000 to 1400 B.C.; Late Archaic structures thus far have been found only in lowland settings east and west of the mountains. The continuity in Archaic architectural techniques in the mountains thus survives throughout the nearly 6000 year-long era from 7000-1400 B.C., and cannot be taken as evidence for Altithermal-caused migrations, even if such movements actually took place. And, as succinctly summarized by Jones (1986), the diversity of Archaic structural types in the mountains indicates that multiple functional and/or seasonal uses are represented, if not some cultural differences.

In addition to the surface and shallow subsurface dwellings covered with wattle-and-daub and other superstructures utilizing mud plaster as a primary component (as at Windy Gap and Curecanti), other architectural types have been identified in Archaic sites in recent years. At Yarmony in Eagle County, Colorado, one pithouse has been completely excavated and one cross-trenched; these date to the Early Archaic period ca. 5300-5000 B.C. (Metcalf and Black 1988). Each is a two-room dwelling with floor features in a patterned arrangement within both rooms, and with rich and diverse artifact assemblages. A wide body of data indicates these are winter residences occupied for several months at a time; the various activities represented at such sites result in the diverse debris which tells archaeologists as much or more about local Archaic lifeways as the well-preserved architecture itself.

Another Archaic architectural type observed in mountain sites is the log lodge or wickiup, covered by one or more materials such as brush, hides, bark or thatch. These structures were similar in shape and size to the hide-covered tipis of the Historic period, with the exception that stone slabs to brace the base of the structure are mostly absent in the Archaic period mountain sites. Examples are best known from Curecanti at 5GN10 (Stiger 1981), where at least three such features were identified and dated to ca. 2800-2300 B.C. Similar in construction techniques, but much more lightweight and temporary in detail, is a small wickiup-like structure identified at 5GN344 north of Curecanti (Black 1983). Evidenced only by a 1.8m x 1.0m diameter arrangement of five postholes, the feature was located on a subalpine ridge at a multiple component short-term camp. It may have been little more than a windbreak or overnight shelter.

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The Early and Middle Archaic periods in Colorado, then, are best represented in upland areas by sites of a wide range of types indicative of a semi-nomadic hunter-gatherer lifestyle. Archaic culture here was logistically organized in a collecting rather than foraging strategy (Binford 1980), in that economic resources were usually procured by task-specific groups dispatched from long-term (base) or short-term camps, and food storage was necessary during at least a portion of the annual round. Foraging strategies, by contrast, involve high residential mobility, low bulk inputs and regular daily food procurement. In reality, cultural adaptations form a continuum between the two extremes, and it seems likely that Early to Middle Archaic strategies in upland areas of Colorado occasionally varied somewhat from the classic "collector" definition depending on a range of natural and cultural factors.

In lowland settings within the state, on the other hand, the Early-Middle Archaic record is relatively poorly known. Plains sites are almost exclusively found in foothills environments marginal to the open grasslands, with rockshelters and open camps being the most common site types (Butler 1981; Eighmy 1984). Architectural sites are entirely lacking, and the general dearth of excavated components from the open grasslands makes it difficult to characterize adaptive strategies with any confidence. The varied chipped and ground stone tool classes found at such Archaic sites as Dipper Gap (Metcalfe 1974), Draper Cave (Hagar 1976) and Magic Mountain (Irwin-Williams and Irwin 1966) suggest generalized hunting and gathering economies but, again, such assemblages may not be typical on the open plains.

To the west of the mountains, Early-Middle Archaic period components are somewhat more common--especially near the major drainages--with the exception of southwestern Colorado where such sites are very rare (Eddy et al. 1984). In west-central and northwestern Colorado, several Early to Middle Archaic sites have been investigated but associated remains are commonly sparse and non-diagnostic (Reed 1984a; Grady 1984). An example is DeBeque Rockshelter east of Grand Junction (Reed and Nickens 1980). This repeatedly occupied shelter has a radiocarbon date sequence spanning the era from ca. 5150 B.C. to 500 B.C. However, associated cultural remains are surprisingly limited with virtually no data present on cultural affiliations, subsistence strategies, exchange systems, etc. The site's main value, in fact, lies with the C-14 dated control on paleoenvironmental information for this portion of the Western Slope.

Other western Colorado sites of this age with excavated information are documented by open camps for the most part showing functional similarities to the plains-marginal camps and shelters of eastern Colorado. An exception may be the

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Indian Creek site just southwest of Grand Mesa in Mesa County, the only lowland Western Slope site to date that has yielded architectural remains of the Early-Middle Archaic era. There, three shallow depressions averaging 3m in diameter were found in association with scattered postholes and other small features in a cultural level dating to ca. 3340 B.C. (Horn et al. 1987). The lack of interior hearths, storage features or superstructure remnants suggest these dwellings may have been warm season shelters of a long-term/base camp site. Overall, Western Slope sites of the Early-Middle Archaic time frame bespeak of logistically organized cultural systems similar, and perhaps related to, the Archaic sequence in the adjacent mountains. Many of the plains-marginal sites of eastern Colorado, likewise, may be representative of annual rounds by Archaic groups utilizing higher mountain environments.

Recently, Black (1986) attempted to synthesize the data on the Archaic cultural sequence in the Colorado mountains, recognizing the apparently unique upland adaptations represented there as opposed to the traditionally defined Archaic sequences for the Plains, Great Basin and Southwest cultural areas. He defined a general taxonomic framework termed the Mountain Tradition, spanning the time from at least 8000 B.C. to A.D. 1300, and characterized by a logistically organized, generalized hunting and gathering strategy focused on upland environments. Year-round residence of these uplands, albeit not at a single site in a given year, was suggested to be representative of the entire region from the Uncompahgre Plateau on the west to the Front Range on the east, and from southern Wyoming to northern New Mexico within the Southern Rocky Mountains. In effect, a distinction was drawn between lowland-based Archaic groups of the plains and western plateaus using the mountains on a seasonal basis, and indigenous Archaic groups who occupied upland environments throughout their annual rounds. Presently, architectural sites dating to the Early and Middle Archaic periods are best represented in areas where the postulated Mountain Tradition is applied, but there is no logical reason to assume that such Archaic sites do not exist in lowland environments throughout Colorado in favored settings, as the Indian Creek site attests.

The Late Archaic period of ca. 1400 B.C. - A.D. 1 represents a transitional time in the cultural sequences of many portions of Colorado. In lowland areas, the initial changes leading to Formative stage lifestyles appear. For example, in the eastern third of Colorado, the local Archaic groups began to receive influences from the east that eventually gave rise to the Plains Woodland culture. The McEndree Ranch site in far southeastern Colorado (5BA30; Shields 1980) contains a partially excavated pithouse with a ramp entrance believed to

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date to at least 400 B.C. Morphologically, the structure appears similar to early Woodland dwellings found farther east in the Kansas City area. West of Trinidad, investigations at 5LA2190 uncovered a small (2m x 1.5m) saucer-shaped depression partially surrounded by a collapsed masonry wall. An adjacent, associated hearth yielded charcoal dated to ca. 1430 B.C. (Rood 1990). The use of masonry in construction is unusual, but some later Plains Woodland, Apishapa and Upper Purgatoire complex structures in southeastern Colorado also utilized stone masonry in construction (Eighmy 1984).

In the Southwest, Late Archaic subsurface and surface dwellings have been found in recent years that presage the agriculture-based settled village life of the prominent Anasazi culture. While neither ceramic nor bow-and-arrow technology are found in these Archaic camps, continuity in the cultural transition from Archaic to Basketmaker (early Anasazi) seems clear. Most excavated Late Archaic architectural sites in the Southwest occur in New Mexico (e.g. Stiger 1986), but one such site was investigated recently in southwestern Colorado for the Dolores Archaeological Project: Casa de Nada (Kane et al. 1988). The site is an extensive open lithic scatter west of the Dolores River encompassing numerous Archaic and Anasazi activity areas, one of which yielded the remains of a small (2.5-2.8m diameter) surface structure dating to ca. 1600-800 B.C. This dwelling consisted of a shallow, saucer-shaped depression containing a central firepit, another unlined floor feature off-center, and both chipped and ground stone artifacts. No evidence of the shape or materials of the superstructure was found, suggesting lightweight, temporary roofing of brush, hides, bark or the like. Diagnostic artifacts likewise were lacking, and the interpretation is that the area was utilized as a seasonal camp--perhaps in the spring or fall based on the interior hearth (suggesting cool season use) and lack of substantial storage facilities (expected at a winter residence).

In west-central and northwestern Colorado, Late Archaic developments lead to the cultural manifestation termed Fremont, a Formative stage group best represented to the west in Utah (e.g. Jennings 1978). While earlier writers tended to view the Fremont as a northern variant of the Anasazi, recent years have seen a resurgence of the interpretation that the Fremont constitute a unique cultural development with five widely-recognized regional variants (Marwitt 1970; Madsen 1980). Also, it is now largely agreed that Fremont culture grew out of a local, indigenous Late Archaic adaptation as represented at such eastern Utah sites as Pint-Size Shelter (Lindsay and Lund 1976), Cedar Siding Shelter (Martin et al. 1983), Clyde's Cavern (Wylie 1972; Winter and Wylie 1974), Harvest Moon Shelter (Hauck and Weder 1982) and Cocklebur Wash (Tucker 1986).

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The latter site is an open habitation with three shallow house depressions dated to ca. A.D. 420-540. Slightly older architectural remains have been found in nearby Browns Park in the form of a true pithouse dated to A.D. 170-230 (Mike Metcalf, personal communication 1990). Sites with recognizably Fremont remains such as ceramics then appear by A.D. 500-700.

In Colorado, Fremont habitation extends from the northwest corner of the state in the Vermillion Creek-Irish Canyon region southward to the Unaweep Canyon area on the Uncompahgre Plateau, and as far east as the Piceance Basin (Grady 1980, 1984; Reed 1984a; La Point 1987). The sites here are included within the Uinta and San Rafael regional variants, both of which appear to have developed from a similar local Late Archaic ancestry. At least two such Late Archaic sites on the Western Slope exhibit architectural remains, Sisyphus Shelter and the Kewclaw site, both in the Colorado River valley west of Rifle.

Sisyphus Shelter was excavated prior to construction of Interstate 70 just east of DeBeque, and consists of a repeatedly occupied camp in a south-facing rockshelter above the Colorado River (Gooding and Shields 1985). One Late Archaic level dated to 410 B.C. contains low, dry-laid masonry walls enclosing a flagstone-paved occupation surface, apparently an elaboration of the natural heat-retention capabilities of the rockshelter. Thus, a cool/cold season occupation is assumed. This feature contained a diverse array of ground and chipped stone tools, especially scrapers, but diagnostic material was limited to one large corner-notched projectile point and one large stemmed-indent base projectile point of apparently distinct cultural origins.

More definitely tied to ancestral Fremont culture is the Kewclaw site on the south side of the Colorado River at Battlement Mesa (Conner and Langdon 1987; Cassells 1983). This habitation includes an excavated, 4.5m diameter pithouse dated to 1090-915 B.C. Among the floor features were postholes-- including one huge central support--a slightly off-center rock-lined hearth, and amorphous unlined basins. Associated artifacts included a variety of ground and chipped stone tools among the latter of which were, significantly, small side/corner-notched arrow points reminiscent of the Rose Spring style typically found in early Fremont sites. These artifacts constitute the earliest evidence for bow-and-arrow technology in Colorado and, along with the architectural data, are suggestive of the initiation of the developments leading to the Fremont culture west of the Southern Rocky Mountains.

Curiously, the Late Archaic period in mountain portions of Colorado has yet to yield sites with architecture, despite the long history of architectural developments in such places as Windy Gap and Curecanti. The latest of the

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architectural sites in the mountains dates to the Middle Archaic period ca. 1610-1540 B.C. at 5GN247 in the Curecanti locality, yet Late Archaic sites of many other types are quite numerous throughout the mountains. Black (1986:212, 223-224), for example, suggests the apparent absence of Late Archaic architecture in upland areas may be evidence of an increase in residential mobility among local hunter-gatherer groups, to the extent that such populations might be better categorized as foragers rather than collectors. However, this idea remains untested, and the contrast between upland and lowland adaptive strategies, if any, may be more apparent than real for the Late Archaic period.

Formative stage developments in eastern Colorado (Plains Woodland), southwest Colorado (Anasazi), and west-central through northwestern Colorado (Fremont) were not matched by cultural events in the mountains. Instead, a continuation of generalized Archaic style hunting-gathering strategies characterized upland areas of the state throughout the Late Archaic and Late Prehistoric periods (1400 B.C.-A.D. 1600). Although the ethnic relationships of these mountain folk vis-a-vis the various Formative stage groups is one of the more intriguing mysteries in Colorado archaeology, the subject is beyond the scope of this discussion.

In Section F is provided a detailed breakdown of the architectural types mentioned in the foregoing section, as well as the relevant registration requirements for any sites included in this nomination at a future date. At the present time we will only be nominating one site representative of one of the following property types, in anticipation that others associated with this context will be nominated later.

F. Associated Property Types

I. Name of Property Type Pit structures (pithouses)

II. Description

Pithouses are semi-subterranean habitation features for which the earthen walls of the pit constitute the lower walls of the house, and the upper walls and roof then are built over the pit using some form of mud-and-stick construction. Such features encompass a range of variability in shape and exact building materials, some of which has resulted in an informal nomenclature of pithouse subtypes. For example, Gilman (1987) refers to all

III. Significance

Archaic period pithouses in Colorado have been discovered only within the past ten years, with the earliest dated examples found in an upland setting and younger sites found at lower elevations both east and west of the mountains. Seasons of occupation ranging from late fall through early spring are suggested based mostly on indirect data, and cultural affiliations are apparently diverse. The presence of pithouses is indicative of a "settling in" strategy heretofore only suggested to exist at winter habitations in the Archaic period; often implied was the near-exclusive use of rockshelters in foothills settings as the primary wintering site type. Since pithouse sites in the mountains are thus far limited in age to the Early Archaic period, there is the suggestion that later Archaic period settlement systems employed a more mobile residential strategy. However, the data are so sparse at this point that any such statements must be regarded as little more than speculation. By contrast, the earliest

IV. Registration Requirements

Archaeologically, the three Archaic period pithouse sites identified thus far in Colorado exhibit variable states of preservation that are not uncommon in younger pithouse sites occupied by Formative stage groups. While superstructure materials seem to be moderately well-represented, the shapes and methods of construction of those superstructures are open to speculation. The same situation holds true at many pithouse sites of the Anasazi, Fremont and other post-Archaic groups, particularly when those pithouses did not burn intensively.

(X) See continuation sheet

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II. Description, continued

such semi-subterranean features as pit structures while Rapoport (1969) prefers the term pit dwelling. On the plains some, but not all, of the substantial houses called "earth lodges" are built over shallow pits (e.g. Wilson 1934:357). In the Southwest desert, the prehistoric Hohokam dwelling has been referred to as a "house in a pit" since the mud-and-stick superstructure was built entirely within the pit rather than on the perimeter of the pit walls (Cordell 1984:66). Not included in this property type are the very shallow, saucer-shaped house depressions over which relatively lightweight superstructures were built; these are sometimes referred to as "house pits," although the shallow depression likely results from no more activity than simply clearing the ground surface of obstructions and subsequent trampling of the floor area.

Thus, a pithouse is expressed archaeologically as a basin-shaped depression ranging in depth from ca. 25-30cm to nearly 1.5m, and with diameters of 2-8m; they average perhaps 50-75cm deep and 4-6m in diameter. Shapes are usually round or nearly so, although squared and rectangular examples certainly are common in post-Archaic contexts as among the various Formative cultures of the Southwest (e.g. Jennings 1978; Cordell 1984). Colorado's Archaic period pithouses at the Yarmony, Kewclaw and McEndree Ranch sites range in age from 5300 B.C. to older than 400 B.C., with diameters of 2.7-6m and depths of 50-60cm. Pithouses at Yarmony and Kewclaw are circular in plan, while the McEndree Ranch feature has only been minimally excavated and profiled. Further, the Yarmony pithouse that has been completely dug is a two-room feature with a shallow, 3.4m diameter "antechamber" next to the main 6m diameter room basin.

Entrances may have been through a side door or roof hatch, depending on the shape and construction of the superstructure. Roof hatches are known to have been used in the flat-topped pithouses of the Anasazi (e.g. Wilshusen 1988a) but, in the few Archaic period examples dug thus far, the entrance evidence is equivocal. A side door entrance is suspected at McEndree Ranch, where an apparent ramp enters the pit feature on its north side (Shields 1980). Ramped or stepped side entrances also are documented in post-Archaic pithouses of the Mogollon and Fremont cultures beyond Colorado's borders (Jennings 1978; Cordell 1984). Such access methods could have been used in pithouses built with domed or conical superstructures, or even in flat-topped dwellings where a roof hatch would be used solely for ventilation. In fact, more than one opening is

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II. Description, continued

necessary in a pithouse superstructure to permit air circulation, and archaeological examples sometimes suggest a side door entryway doubled as a vent shaft in combination with a roof vent. Vent shafts and/or side entrances can be fully subterranean tunnels (as in the Anasazi kiva ventilators), semi-subterranean features coincident with or ramped into the house pit, or surface features with an abrupt step down into the pithouse.

The materials used in building the superstructure are usually easier to identify archaeologically than are the shape and exact method of construction of the upper walls and roof. "Mud-and-stick" is a generic catch-all phrase that loosely describes the materials composing most pithouse superstructures. Generally, these are used in one of two specific methods of construction: jacal or wattle-and-daub (cf. Wilshusen 1988a:605-611; some authors use these two terms interchangeably). In jacal, vertical wooden posts are set into the ground at uniform intervals, and between each are placed bundles of lighter weight sticks and/or vegetal material. Mud is then packed onto both interior and exterior surfaces of this framework and left to dry naturally. Conceivably this method could be employed in a dome-shaped superstructure, but is more easily accomplished with conical or, especially, flat-roofed and vertical-walled structures. Wattle-and-daub, by contrast, involves the use of a woven lattice of sticks and smaller vegetal material in and around the pole/beam framework, followed by in-filling the interstices with mud "daub" and a final smoothing over with mud plaster.

Historic period earthlodges and Formative era pithouses usually show that exteriors are finished by addition of a substantial cap of sod, loose soil or mud adobe. This cap should be at least 20cm thick to gain the insulating advantage of earthen construction (Wilshusen 1988c:704). While Colorado's Archaic period pithouses are not well enough preserved to determine exact construction methods, again the details from Historic period earthlodges and Formative era pithouses provide analogs (e.g. see Wilson 1934:356-368; Wilshusen 1988a). As many as five sets of materials may be utilized, within a variety of configurations as already described. First are the primary support posts, vertically set to hold the slightly smaller cross-beams for a flat roof, or obliquely placed in a conical superstructure. The second "layer" consists of smaller secondary beams or rafters, and "stringer" posts which rest on the larger framework. This is covered by a stick lattice (in the wattle-and-daub method) which may incorporate, or itself be covered by, lighter vegetal material bundles consisting of strips of

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II. Description, continued

bark, grasses, leaves and/or other fibers. Some earthlodges have been observed to utilize wooden planks in addition to the secondary rafters to support the stick lattice and outer covering. The final layer is, of course, the mud/earth daub and enclosing cap.

Numerous authors have commented on the thermal efficiency of pithouses and other forms utilizing earthen construction (e.g. Rapoport 1969:90; Gilman 1987:542; Oliver 1987; Wilshusen 1988c). In a pithouse, the pit walls themselves are the best insulated portion of the house, absorbing the sun's heat during the day and slowly releasing it at night. The earth-covered walls and roof--assuming a minimum thickness for the mud/sod cap of at least 20cm--are similarly insulating. As might be expected, these features are most advantageous during cool and cold seasons, and both modern and archaeological examples of such dwellings appear to be most commonly occupied in the winter months (Rapoport 1969:87-88; Gilman 1987:541).

Gilman's (1983, 1987) research has identified three common denominators in the world-wide use of pit structures as described ethnographically: occupation in non-tropical climates, use by cultures employing at least a biseasonal settlement system, and use by cultures relying on stored foods for a part of the year regardless of whether those foods are procured in hunting and gathering or agriculturally. Archaeologically, then, we would expect to find evidence at Colorado pithouse sites for cool/cold season occupations rather than year-round use, and for storage facilities of substantial total volume. Of the three Archaic period pithouse sites studied in Colorado thus far, only the Yarmony site has been investigated (and reported) thoroughly enough to adequately test Gilman's (1987:541) model, and it fits all three of her criteria. Although interior storage at Yarmony is well-represented by four deep, slab-lined cists (Metcalf and Black 1988), additional storage may have been utilized in large containers made of perishable materials and/or in exterior facilities as yet undiscovered. Gilman (1987:554), in fact, believes storage facilities are under-represented in prehistoric habitations because archaeologists emphasize interior space in their excavations compared to the area of exterior space investigated.

Given the materials utilized, and evidence from both archaeological and ethnographic research, pithouses had an average lifespan of 10-15 years after which it was just as easy, desirable and necessary to build a new one as to repair the existing dwelling (Wilson 1934:358; Wilshusen 1988b:675). Apart from vermin infestations within the wooden framework and erosion of the earthen cap, the major maintenance problem with pithouses apparently involved structural

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II. Description, continued

weakening of the vertical support posts through rotting of the base of those posts which were anchored into the ground. Both soil moisture and ground-dwelling pests contributed to this problem; Wilshusen (1988b) noted that the lifespan of an Anasazi pithouse might be extended to a maximum of 35 years by using highly resinous juniper logs for the support posts. Although Colorado's three Archaic period pithouse sites vary in the quality of their preservation, not to mention in age, they appear to conform to the range of variability seen in later Formative and Historic dwellings of earthen construction; the suggestion is that pithouse architecture was not the innovation of Formative agriculturalists that archaeologists once thought it to be.

III. Significance, continued

presence of pithouses in lowland areas of Colorado dates to the Late Archaic period when it is easy to imagine continuity in cultural developments into the immediately following Formative stage of settled village life. Again, however, our sample of such sites is much too small to be confident in our interpretations.

Thus, as much because they are so seemingly rare as they are informative, every Archaic period habitation with identifiable pithouse architecture is significant. Certainly their information content is substantial, especially compared with the more briefly occupied (and more typical) camps and special activity sites so prevalent during the Archaic period. Because people are "settling in" for a longer period of time--and probably returning to the same site year after year for up to 10-15 years--there is a much larger accumulation of the debris so valuable to archaeologists. Further, because such sites are longer-term habitations, more diverse activities are carried out in the long run and, hence, more diverse tool classes show up in the archaeological record. An excellent example of this is the Yarmony site where an impressive range of chipped stone, ground stone, bone, antler and vegetal remains was discovered (Metcalf and Black 1988). Part of the reason for this archaeological bounty, to be sure, stemmed from the use of the earliest pithouse depression at Yarmony as a trash dump by later (ca. 300 years later) pithouse occupants at the site. Perhaps the only comparable site type to the pithouse habitation in the Archaic period would be the rockshelter where the confined space concentrates the material remains and the solar gain properties of the rock are attractions for

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III. Significance, continued

long-term winter occupations.

Beyond artifactual remains, pithouse sites typically yield information on such topics as demography, subsistence, seasonality and paleoenvironments. Much ethnographic data exist regarding household size, therefore the physical remains of households allow for estimates of site population given a large enough area of a site is excavated. In terms of subsistence, both food bone scrap and vegetal debris are common elements in trash middens at pithouse sites, and less direct data such as pollen studies on feature fill and ground stone artifacts can supplement that dietary information. Seasonality, apart from the kinds of theoretical approaches of Gilman (1987), can be studied using some of the same kinds of remains applicable to subsistence investigations; tooth eruption patterns in butchered remnants of game animals like bison and deer are most informative given large enough samples. Finally, the range of plants and animals used by a prehistoric group--well-represented in the trash at many pithouse sites--is an indirect measure of the presence of local vegetation communities and associated fauna. Comparing this information with present-day patterns can hint at changes in the local environment. In more arid areas east and west of the mountains, tree-ring records preserved as construction beams in pithouses can provide additional data on prehistoric temperature and precipitation patterns.

In sum, the significance of Archaic period pithouses in Colorado is embodied in their rarity; in the quantity of information generally present in such sites regarding a range of research topics; in the quality of that same information when those sites are well-preserved; and in the relationships these sites show with both earlier and later cultural groups in terms of architectural technology and adaptive strategies. Thus, Archaic period pithouses can be eligible for inclusion in the National Register under one or both criteria c and d depending on the age, cultural affiliation, physical integrity and content of the individual site.

IV. Registration Requirements, continued

Burning to a charred state (but not complete combustion into ash) is the most preservative of the site formation processes affecting pithouse superstructure interpretations but, as Wilshusen (1988a:608) emphasizes, this form of firing is not to be expected from a practical standpoint. Preservation of the architectural components, then, would be most likely within an Archaic period

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IV. Registration Requirements, continued

context in more arid environments in those cases where both extensive burning of the dwelling occurred and subsequent natural and cultural disturbances were minor.

In order to be eligible for the National Register under criterion c-- embodying the distinctive characteristics of a type, period or method of construction--a pithouse site of the Archaic period should have one or more dwellings in such a state of preservation as to be able to discern, at a minimum, the shape and dimensions of the pithouse basin, floor feature patterning, the range of materials used to build the superstructure, and the age and cultural affiliation of the pithouse occupation. Additional preservation qualities allowing archaeological reconstruction of the shape and method of construction of the pithouse roof, and/or identification and description of related exterior features such as storage facilities, would only enhance a site's eligibility under criterion c. However, because the latter characteristics should not be expected to be preserved in Archaic period sites (later Formative era pithouses are another matter), their preservation should not be required for inclusion under criterion c. Thus, the data categories necessary for significance re criterion c are architectural preservation of the pithouse basin and superstructure materials, organic or other materials suitable for dating the occupation(s), and diagnostic artifacts indicating the cultural affiliation (and age, if other methods are not practical).

Other pithouse sites of the Archaic period may be eligible for the National Register under criterion d, even if the preservation qualities outlined above are not met. Pithouse sites should be considered eligible re criterion d if they clearly exhibit pithouse architecture regardless of its state of preservation and: they contain information in the range of artifacts and features present sufficient to address relevant research topics such as site activity patterning, season(s) of occupation, demography, subsistence, position in the local settlement system, paleoenvironments, exchange systems and/or information networking, etc. Research questions typically asked for these topics would include, but certainly not be limited to, the following:

1) What does the arrangement of floor features within the pithouse suggest about interior use of space? For example, it has been mentioned that identical floor feature patterning occurs within both rooms of the excavated pithouse at Yarmony.

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IV. Registration Requirements, continued

2) How does interior use of space compare and/or contrast with use of exterior space? Gilman's (1987) model of pithouse use emphasizes the reliance on stored foods at such sites for at least part of the year, so storage facilities may occur either inside or outside the dwelling or both. Other activities such as flintknapping, vegetal food processing, cooking, hideworking, bone tool use/repair, etc., may show similar spatial patterning.

3) Was the pithouse occupied only within the cool/cold season (late fall through early spring)? Again, Gilman's (1987) model argues for temporary warm season abandonment of most pit structures, and any data on seasonality could be brought to bear on this subject.

4) How many pithouses were occupied simultaneously at the site, and what does that number suggest about local population? Present data has yet to identify any more than a single isolated pithouse occupied at any one time in Colorado's Archaic period sites, suggesting "wintering over" strategies were up to the individual familial unit.

5) What was the range of plants and animals included in the pithouse occupants' diet? Data from the Yarmony site indicated exploitation of a wide range of such resources garnered from local ecozones as diverse as the riparian strip along the Colorado River and the subalpine spruce-fir forest. This topic relates to the efficacy of the classic definition of the Archaic lifeway as one of "broad-based" hunting and gathering.

6) How does the pithouse occupation fit into the local settlement system? Conventional models of Archaic lifeways emphasize the mobility of these hunter-gatherer groups, but pithouse occupations bespeak of seasonal sedentism that must fit into the annual rounds of these groups in some manner. Gilman (1987:Figure 3) thus contrasts between "seminomadic" groups who use fixed settlements during the same season each year (as Colorado's Archaic pithouses are apparently used), vs. "semisedentary" groups who move from one fixed site to another or who use mostly permanent settlements that are only seasonally abandoned.

7) Was the pithouse used only during the Altithermal era in the mountains when winters were presumably warmer? Benedict's (1978, 1979) model of the Front Range as an Altithermal era (ca. 6400-4000 B.C.) refuge for populations abandoning drought-stricken lowlands is commonly invoked to explain the prevalence of Early Archaic period mountain sites vs. the dearth of such sites in

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IV. Registration Requirements, continued

the lowlands. Finding an Early Archaic pithouse in these lower elevation areas outside the Southern Rocky Mountains in Colorado would weaken this model considerably.

8) With what adjoining areas(s)/group(s) did the pithouse occupants interact? Inter-regional trade as well as information sharing are common research topics and the wide range of artifactual materials usually found at pithouse sites allows archaeologists to investigate both the direction and nature of contact, if any.

Certainly many other research questions covering both the above and other topics could be addressed using data from Archaic period pithouse occupations. Any such site which yields information in context with pithouse architecture--regardless of the state of preservation of the pithouse itself--sufficient to address relevant research topics as suggested above should be considered eligible for the National Register under criterion d.

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I. Name of Property Type: Surface Mud-and-Stick Buildings

II. Description

This architectural type includes the same materials in construction of a superstructure as were used over pithouses, but these buildings are built either directly on the cleared ground surface or over a very shallow saucer-shaped depression whose edges were too low to constitute the lower walls of the building. The depression in such a feature is merely the result of clearing and preparing the ground surface without the thought of including the insulating properties of the earth as part of the building. The superstructure over the living surface, then, is of mud-and-stick construction utilizing the jacal or wattle-and-daub methods as already described, or some other minor variation on those methods. For example, Jones (1986:210-211) suggests some of the features at Curecanti may have utilized mud packed only around the base of the wooden frameworks to stabilize them, rather than composing the outer cap of the roofs. Also, small rock spalls were sometimes incorporated into the daub and/or earthen cap for strength and as a filler, and larger slabs might also be used instead of, or in addition to, a mud packing to stabilize the bases of the wooden support posts. Again, the shape of the superstructures may be domed, conical or flat-roofed on vertical walls; gabled roofs on vertical walls are another remote possibility, but this has never been documented archaeologically for the prehistoric era in the Rocky Mountain region.

Remains left behind by the deterioration of these buildings normally might include fragments of the mud daub or earthen cap--particularly if the feature burned--as well as spalls of rock used as chinking, remnants of the wood and lighter vegetal framework, stick lattice/bundles and "closing materials" (i.e. the grass/bark/stalk/fiber layer), and a stone ring if rocks were used to stabilize the foundation. The latter non-lithic remains may be manifest by a range of burned organics from small twigs and sticks to chunks of charcoal from posts and beams, again assuming the structure collapsed in flames. Unburned buildings may be preserved only as extensive organic stains, perhaps including a rock enclosure and/or postmolds, with little evidence of the enclosing mud daub and/or cap. In the case of such unburned facilities, the archaeological evidence may be very difficult to distinguish from temporary shelters built with all-organic superstructures of wood, brush, bark, thatch, hides, etc., since the mud daub and/or earthen cap is only sun-dried and not intentionally fired vis-a-vis Historic period bricks (e.g. Kane et al. 1988).

Since these mud-and-stick buildings are not semi-subterranean and, given

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II. Description, continued

current archaeological evidence, their earthen walls and roofs are not as substantial as those that cover pithouses, they are not likely to be used as winter dwellings. Current data suggest that some of these may have been dwellings used in base camps occupied for somewhat shorter periods than pithouses, within mild/warm weather months of late spring, summer or early fall. Given their shorter period of occupancy and, apparently, the lesser amount of labor and materials involved in their construction, it would be expected that both the volume and range of artifacts found at these sites would be less than at pithouse habitations. However, this general statement should be viewed with caution since our sample size is still quite small. It is entirely possible, for example, that a mud-and-stick surface dwelling might be built sturdy enough to be used as a winter habitation, or might be built within a south-facing rockshelter where cool/cold season use would be quite feasible.

Jacal and/or wattle-and-daub surface architecture is well-known archaeologically mainly from post-Archaic contexts on the Colorado Plateaus west of the mountains in Mogollon, Anasazi, and Fremont sites. For example, stunningly well-preserved jacal construction used both for habitation and, especially, for storage occurs in the dry alcoves of Navajo National Monument in northeastern Arizona at such famous sites as Inscription House and Keet Siel (e.g. Breternitz 1978:Figures 12-14). Such construction techniques are described and illustrated by Wilshusen (1988a:610-613), among others, and provide excellent analogs for the older Archaic period dwellings in Colorado which are never so well preserved. In fact, most of the buildings at Windy Gap in Grand County are so poorly preserved that even the ground plan of the dwellings is difficult to discern (Wheeler and Martin 1982, 1984). At Curecanti, overall preservation appears to be somewhat better, to the extent that ground level shapes are sometimes discernable (circular and, particularly, oval plans are most common), but in neither locale are exact methods of construction and shapes of superstructures easy to interpret.

Thus far, seven sites total at Windy Gap (5GA151 and 5GA680; Wheeler and Martin 1982, 1984) and at Curecanti (5GN10, 5GN42, 5GN53, 5GN205 and 5GN247; Euler and Stiger 1981; Stiger 1981; Dial 1984; Jones 1986) have mud-and-stick construction at the surface level, or built over shallow depressions. These features date within the range of 7040-1540 B.C. and appear to be temporary dwellings occupied at summer base camps (but see Stiger 1981, and Wheeler and Martin 1984). Two other sites west of the mountains, at Indian Creek (Horn et al. 1987) and Casa de Nada (Kane et al. 1988), date to 3340-800 B.C. and also

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II. Description, continued

may fit into this property type except that no evidence of mud daub or an earthen cap is preserved. All four dwellings at these two latter sites are charcoal stains in shallow depressions with no clear evidence of superstructure details.

Interior features associated with these houses may include firepits for cooking and/or warmth, postholes from support posts and/or ancillary facilities like cooking racks, and one or more miscellaneous floor pits for short-term storage, resource processing, etc. Compared with pithouses, both the number and size of interior storage features is less in these surface dwellings, as might be expected if they were occupied for shorter periods other than in the winter. Exterior features certainly should be associated with these dwellings assuming warm season use and, in fact, do occur at the investigated sites at Curecanti and Windy Gap. Firepits, ash pits, postmold arrangements from meat drying racks and the like, and storage pits all have been discovered in outdoor activity areas. Both the range of features and artifacts present with this property type, and the architectural data should be evidence for sheltered ritual or domestic activities (including habitations, storage rooms, sweat lodges, etc.) as at a base camp; mud-and-stick surface facilities used for limited, special activities like mud-stabilized drying racks are not included in this type. Some of the features with associated "daub" at Windy Gap seem to fit this latter category (Wheeler and Martin 1984), and are not a part of this nomination since they are not buildings (also see Jones 1986:211).

III. Significance

Mud-and-stick surface buildings dating to the Archaic period in Colorado appear to be limited to upland areas and, perhaps, the Western Slope of the state. The subtype occupied as habitations apparently were used for shorter periods of time compared with pithouses, such as in base camps, and may have been occupied for different portions of the annual round, such as in late spring, summer or early fall. They appear to be most common in the Early and Middle Archaic periods prior to 1400 B.C., albeit the small number of sites investigated thus far renders all interpretations preliminary. To be sure, these properties compliment the data from pithouse occupations, in that they provide additional information on residential patterning and mobility in regional settlement systems. They also supplement the data base on architectural variability in the prehistoric era, and show that mud-and-stick type construction

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III. Significance, continued

has considerable antiquity in the Archaic period, its inception predating 7000 B.C.

In addition to the information on settlement systems and architecture, sites of this type generally yield substantial functional data from the artifactual remains, albeit not quite as voluminous or diverse as at pithouse sites. Chipped stone tools and debris are very common, if not dominant, in habitation assemblages and have information on lithic technology, source areas exploited, contact with non-local groups, cultural affiliation, non-lithic tool manufacture, resource processing, etc. Ground stone tools are also typically associated with these features, with potential to address subsistence-related topics. Firepit features contain data on subsistence, fuel preferences, and the activities carried out around them, as well as commonly incorporating organic materials suitable for radiocarbon dating. Storage features likewise yield subsistence data that can be compared with similar data from other types of habitations, potentially showing ecozone preferences, seasonality, etc. Paleoenvironmental data, then, are derived from the range of floral and faunal resources exploited and preserved in the sites' assemblages.

In sum, mud-and-stick surface buildings of the Archaic period are significant because they expand the architectural data base for prehistoric hunter-gatherer groups, they compliment the data from pithouses on residential mobility and settlement systems in general, and they usually contain other features and artifacts in sufficient quantity and diversity to address a variety of other research topics like subsistence, seasonality, age of occupation, cultural affiliation(s), paleoenvironments, etc. When exceptionally well preserved, such properties may be eligible for the National Register under criterion c by embodying the distinctive characteristics of a type, period or method of construction. But, more often, they will be eligible under criterion d as discussed below.

IV. Registration Requirements

Archaic period mud-and-stick surface buildings discovered thus far encompass a surprisingly wide range of physical remains considering the relatively few sites identified with these features. Part of this variability stems from the generally poor preservation conditions which offer archaeologists only glimpses of different portions of the buildings. Another part of this

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IV. Registration Requirements, continued

variability can be attributed to somewhat different functional uses in short-term or long-term (base) camp situations, from characteristics as disparate as season of occupation to length or age of occupation, materials availability and cultural preferences. Because of this range in physical appearance, the property type as defined above necessarily emphasizes generalities rather than details of construction. The type includes any shelter built at the surface or over a shallow depression using mud-and-stick materials; these same materials have been used prehistorically for many non-sheltering feature types as well (e.g. Jones 1986) which are not to be considered with this nomination.

Sites with mud-and-stick surface buildings should be evaluated eligible for the National Register under criterion c only if the features are well-enough preserved to determine their outline plan, range of materials used in construction (species of wood, soil characteristics of daub, rock spalls used as chinking, etc.), floor plan, extent of use of earth as a construction material, and clear function as a domestic or other sheltered unit as opposed to some other special activity structure such as an earth-stabilized drying rack. Thus, data categories necessarily preserved at sites eligible under criterion c would include a use or living surface with identifiable shape and associated features, diverse and/or functionally diagnostic artifacts indicative of sheltered activities, burned or unburned wood fragments--or postmolds--and/or organic stains and rock spalls from the superstructure, and daub or other earthen remains distinct enough in color, texture, hardness, the presence of vegetal impressions, etc., to identify as being used in construction. While these conditions are not likely to be met for most sites of this property type, such sites might easily qualify for inclusion on the National Register under criterion d, as follows.

To be eligible for the National Register under criterion d, Archaic period sites with mud-and-stick architecture should be well enough preserved to determine that buildings of these materials are present regardless of their condition, and that have yielded or may be likely to yield other features and artifacts sufficient to address relevant research topics as already outlined above. Among the research questions that might be asked given such sites are:

- 1) What portion of the annual round is represented by these surface dwellings? If the primary forms of Archaic period architecture used as winter residences are pithouses and natural rockshelters, then surface mud-and-stick dwellings might represent shorter-term camping episodes in the spring, summer or

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IV. Registration Requirements, continued

fall months. Data on both seasonality and length of occupation would be needed to address this.

2) Were occupations in such habitations limited to warmer seasons? The amount of earthen materials used in construction, along with other data such as tooth eruption patterns from butchered game, would indicate if these features were in use only in late spring, summer or early fall, or anytime throughout the year.

3) How do subsistence patterns at these sites compare with those at pithouse occupations and shorter-term camps? If mud-and-stick surface dwellings were usually built at base camps where economic resources were processed and stockpiled for later use, the range of resources represented might be fairly similar to those found at pithouses, but more diverse than those found at short-term camps.

4) Were these buildings in use throughout the Archaic period? Thus far, the property type has been found in upland sites predating 1400 B.C., and (perhaps) in lowland settings west of the mountains after 1400 B.C. It is of interest to know whether this pattern is real or simply a temporary impression attributable to a small sample size.

5) Did all of Colorado's Archaic period cultures employ this form of construction? Related to #4 above, it appears certain that Mountain Archaic groups, and perhaps the Late Archaic period ancestors of the Anasazi and Fremont, were familiar with mud-and-stick surface architecture. It remains to be seen whether the Plains Archaic peoples and Early-Middle Archaic groups of the Western Slope had this technology.

6) What environmental variables, if any, correlate with the occupation of mud-and-stick surface buildings? Major river valleys and open mountain parks up to 8,000ft (2438m) in elevation, and dry foothills settings west of the mountains, have yielded sites of this property type thus far. Paleoenvironmental data such as pollen profiles, plant macrofossils, and remains of habitat-specific fauna are needed to assess whether or not present conditions are reflective of past environments at the times the features were occupied.

Again, many other research questions on the above and other topics might be addressed by remains of this property type, depending on the location, age, and physical integrity of the site. Given the rarity of Archaic period architecture in Colorado, most sites of this type should be eligible under criterion d, and the better preserved sites will also be eligible under criterion c.

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I. Name of Property Type: Surface Masonry Buildings

II. Description

Surface masonry buildings of the Archaic period in Colorado would include any shelter constructed on the ground surface or over a shallow saucer-shaped depression using shaped or unshaped rocks as the primary component of the walls. Such walls may be of horizontally coursed slabs or blocks that are either dry laid or set in a mud mortar, or vertically placed slabs set in mud mortar over a (presumably) wooden framework. The property type also may or may not include a flagstone or cobble-paved floor, and may be built either in a natural rockshelter/alcove/cave or out in the open. However, this property type does not include stone circles ("tipi rings"), arcs, or foundations of upright slabs where these rocks merely anchored a superstructure of wood, jacal, brush or some other non-lithic material. Horizontally coursed masonry, either dry laid or mortared, should be far more common than vertically stacked and mortared slabs over a pole framework simply because of the difficulty in construction of the latter subtype.

Masonry dwellings are common, and famous, in sites on the Colorado Plateaus of Fremont and, especially, Anasazi affiliation (e.g. Cassells 1983; Cordell 1984). Most prominent are the mortared "cliff dwellings" of the Anasazi, but their open masonry pueblos are perhaps more common. The eastern variants of the Fremont also built masonry dwellings, albeit not as commonly as is sometimes believed (e.g. Black and Metcalf 1986:13-15, 157); more frequent are their masonry storage units and masonry lookouts built on promontories. Some plains groups of the Formative stage in southeastern Colorado also utilized masonry construction, notably the Apishapa and Upper Purgatoire/Sopris cultures (Eighmy 1984; Cassells 1983). And, on the Western Slope of Colorado, coursed masonry construction of the Late Prehistoric period has been variously ascribed to the Anasazi, Fremont or an unnamed contemporaneous culture (e.g. Reed 1984a:31-41).

Given the widespread use of masonry in the post-Archaic period, it is somewhat surprising that masonry is so (apparently) rare in Colorado's Archaic period sites. The only substantiated sites of the type, in fact, are 5LA2190 and Sisyphus Shelter. The latter site is on the Western Slope, located in a now-destroyed rockshelter near DeBeque and radiocarbon dated to 410 B.C. (Gooding and Shields 1985:54-61). The area is at the eastern edge of the Fremont culture's range and, therefore, it is not surprising that Late Archaic period habitations of this type and of the more common Fremont pithouse occur, respectively, in this locale at Sisyphus Shelter and the already mentioned Kewclaw site. Site 5LA2190

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II. Description, continued

is west of Trinidad on the north side of the Purgatoire River, and dates to 1430 B.C. (Rood 1990). It, too, is in an area where later Formative cultures employed substantial architecture--namely the Apishapa and Upper Purgatoire groups.

The Sisyphus Shelter architecture consists of a flagstone-paved floor in a shallow saucer-shaped depression bounded by the remnants of a dry laid(?), coursed masonry wall on the west side and the uncoursed "foundation" slabs of enclosing walls on the south and east sides. Two firepits and two "adobe puddles" were inside the habitation, the latter suggested to be remnants of a mud-and-stick "lean-to" roof. A diverse collection of ground stone and chipped stone tools, notably a cache of scrapers, was associated with the habitation. Because the masonry construction is within a south-facing rockshelter, there is the suggestion that the occupation(s) took place in winter, taking advantage of the heat-retention qualities of both the natural rock overhang and masonry/flagstone building materials.

Site 5LA2190's architectural remains include a small oval, saucer-shaped depression bounded on the west and northwest sides by the collapsed remnants of a coursed, dry laid masonry wall. Wall stones were of unshaped sandstone slabs 10-30cm in length. A few pieces of unburned clay within the feature, and one possible posthole southeast of it, were taken as evidence that the superstructure included mud-and-stick construction. No evidence of an entry, and no data on the shape of the roof, were found. A hearth located at the east edge of the structure provided charcoal for the lone radiocarbon date associated with its construction. The presence of only a few chipped stone artifacts, none diagnostic, suggests the occupation was not a long one--in fact, the building may have been a sheltered work space or storage unit rather than a habitation.

Because masonry construction tends to be quite visible archaeologically, and because only one open site of the Archaic period has been found for this property type, it will probably be shown that such sites mainly occur in rockshelters as with Sisyphus Shelter. Roofing methods and materials used over masonry walls may include a variety of approaches already known from post-Archaic periods in the archaeological record or from ethnographic data, or may simply be the bedrock overhang in a natural rock shelter. Among the former might be flat roofs of wattle-and-daub or jacal over log rafters, similar flat-laid organic frameworks covered with dry-set or mortared rock slabs, or an all-organic roof using thatch, bark, hides, brush, etc., as the final closing material. Because of potential snow-loading problems, such flat roofs were unlikely to have been used in the mountains or in wetter lowland settings. In fact, it might be

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II. Description, continued

predicted that Archaic period masonry construction will only be found in those lowland areas where later cultural groups employed such architectural techniques. Present data suggest that this property type will be the rarest form of Archaic period architecture encountered in future investigations.

III. Significance

Masonry buildings of the Archaic period in Colorado, being so rare, are quite significant resources simply by virtue of the fact that they expand the range in architectural variability for that portion of the prehistoric era. In addition, they may be evidence of cultural continuity in architectural technology within those areas where later cultures utilized substantial stonework in construction. As with other property types in this nomination, masonry dwellings will generally have a diverse range of associated artifacts and features because they are habitations; 5LA2190 appears to be an exception to this premise. Because the habitation as a site type is relatively uncommon for the Archaic period, well-preserved examples are significant regardless of the form of architecture present given the abundant information yield from those associated artifacts and features.

Older masonry dwellings predating the Late Archaic period (i.e., older than 1450-1400 B.C.), should they even exist in Colorado, would be extremely significant by documenting the successful use of a building technology prior to the era of identifiable ancestors of masonry-using Formative stage cultures. Open masonry sites of any Archaic age, as opposed to those within rockshelters, also would be significant in that there is only one such site presently known to exist in the Archaic period of Colorado. Any masonry building of the Archaic period is likely to incorporate unshaped, or minimally shaped, blocks or slabs and, thus, any site where well-shaped building stones have been utilized would be a very significant investment of labor for a semi-nomadic Archaic culture.

Masonry architectural sites of the Archaic period generally will contain data sufficient to address a variety of research topics beyond those of architectural technology including, but not limited to, settlement systems, seasonality, subsistence, lithic technology, exchange systems, age and cultural affiliation, paleoenvironments, etc. Sites with well-preserved architecture, most likely to be found in natural rockshelters, may be eligible for the National Register under criterion c because they would embody the distinctive characteristics of a type, period or method of construction. These same sites,

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III. Significance, continued

as well as others in this type with less well-preserved architecture, also may be eligible for inclusion on the National Register under criterion d as described in the following section.

IV. Registration Requirements

Masonry buildings of the Archaic period in Colorado should be evaluated eligible for inclusion on the National Register under criterion c if they are well-enough preserved to determine the size, shape and construction technique(s) of the rock portions of the architecture. The details of materials or methods used in roof construction need not be preserved so long as the masonry portions of the building(s) can be described in terms of presence/absence of mortar, degree of shaping of building stones, horizontal vs. vertical coursing, use of rock chinking, use of associated organic materials, etc. Masonry walls need not be still standing, but wall lines should be discernible and associated architectural rubble should have sufficient physical integrity to address the above concerns. In other words, it is not expected that Archaic period masonry buildings will appear in the same condition as the well-known pueblos of the later Anasazi, Fremont and Upper Purgatoire cultures, but they should be definable to allow interpretations on architectural technique in order to be eligible under criterion c.

Thus, data categories which need to be present to make a property significant under criterion c primarily relate to architectural characteristics. These would include, but are not limited to, masonry building stones in condition sufficient to determine the method of coursing/bonding, any amount of mud mortar and rock chinking necessary to determine the degree to which they were utilized in construction, foundation lines to measure the shape and size of the building, an identifiable living surface to interpret associated activity areas via the patterning of floor artifacts and features, remnants of the roofing (assuming the site is not in a natural shelter) to categorize the range of materials utilized, and diagnostic artifacts or other datable materials sufficient to determine the age and/or cultural affiliation of the occupation.

Because masonry buildings of the Archaic period are apparently so rare, it is probably true that those few sites that do exist will not be sufficiently preserved to be eligible under criterion c (both 5LA2190 and Sisyphus Shelter fit such a description). More likely is that the property will have ruined remnants of masonry construction--as with badly scattered rock rubble and one or

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IV. Registration Requirements, continued

more foundation lines--in association with artifacts and features indicative of domestic or other sheltered activities. Given preservation sufficient to clearly associate a range of artifacts and features with a masonry building, regardless of the condition of the latter, the property may be eligible for the National Register under criterion d. In other words, the data categories necessarily present to make such a determination of eligibility would include, but not be limited to, any trace of masonry construction materials in sufficient quantity to determine that they were the primary building constituents, clearly associated artifacts of chipped stone, ground stone, bone or any other materials indicative of any kind of sheltered activities, clearly associated features that also denote the place and kind of activity areas represented, and artifacts and/or other materials diagnostic of age and/or cultural affiliation of the building's occupation.

As with any other type of architectural site, the diverse range of artifacts and features usually associated with them (purely storage facilities are one exception) allow archaeologists to address many relevant research topics as is appropriate for a property eligible under criterion d. Examples of the kinds of research questions which may be asked about sites within this property type are as follows:

- 1) How does the site fit in the local settlement system? The thermal retention qualities of Sisyphus Shelter suggest a winter occupation, and it is important to know whether this property type is limited to a winter residence function, or includes more diverse uses.
- 2) What is the age and cultural affiliation of the occupation(s)? Thus far, the two sites of this type are Late Archaic period camps or habitations located at the edges of the range of occupation of the later Fremont and Upper Purgatoire cultures. It is of interest whether sites of this property type will continue to be found only in those areas where later masonry-utilizing cultures occurred, and whether the Archaic period types will be limited to the end of that time period as are 5LA2190 and Sisyphus Shelter.
- 3) What subsistence regime is represented? If sites of this property type are winter residences, it would be expected that the floral and fauna resources represented will be as diverse as those at pithouse occupations. On the other hand, more briefly occupied sites should show a narrower and/or more selective range of exploited resources, and masonry storage facilities might be quite specialized in their material remains--if any such remains are present at all.

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IV. Registration Requirements, continued

4) How much labor was invested in the facility compared with other property types? It would be expected that building stones would be unhewn blocks or slabs, and that little or no mortar or chinking would be employed in construction given the assumption that hunter-gatherer groups expend less energy in architecture than horticulturalists (cf. Abrams 1989). Also, the same statement should apply to masonry construction used for storage or warm season habitation compared to buildings functioning as winter residences.

5) What is the nature of the activity patterning in the site? Associated features like firepits and storage cists, as well as functionally specific artifact assemblages, should be located within the building in spatially discrete areas. On the other hand, storage facilities would be expected to display a minimum of such remains.

6) Is more than an extended family represented in the occupation? Present evidence from Archaic habitations of all types have yet to show aggregation of population comparable to the winter villages described ethnographically among the Ute and other cultures. The size and number of rooms represented would be evidence to determine site demographics.

7) Was the local environment at the time of occupation similar to today's? If this property type continues to be found only in Late Archaic period contexts, then it would be expected that no more than very minor differences in past vs. present environments would be discernible.

In sum, given even minimal preservation of a masonry building dating to the Archaic period, their rarity and typical association with a range of artifacts and features indicative of domestic activities would make virtually all sites of this type eligible for the National Register under criterion d. Those buildings utilized solely for storage, on the other hand, probably would need relatively better preservation to determine their function and, therefore, may be as likely to be eligible under criterion c as criterion d. All sites of this property type should be eligible under either criterion c or d or both, depending on their function, simply because such sites are so rare.

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Section number F Page 22

I. Name of Property Type: Timbered Lodges

II. Description

Timbered lodges are those buildings with conical log frameworks utilizing only organic materials to enclose them without the use of additional earthen components such as daub or sod/mud caps. In essence, these prehistoric buildings are analogous to the famous historic period tipis of the plains and mountains, and to the less well-known wickiups of the western plateaus and deserts. Timbered lodges are built directly on the ground surface, or over a shallow saucer-shaped depression, and may be additionally stabilized by a ring of rocks used either (presumably) to hold down the edges of a hide covering or to reinforce the butt ends of the log framework. The log framework might be even further braced by rock and/or bone wedges shoved into the postholes around the bases of the logs. Coverings may include, but not be limited to, sticks or planks, thatch, bark, hides, brush, or some combination of the above. Floor areas will usually include a range of artifacts and/or features indicative of domestic activities, unless the building was used for some special activity such as religious ceremonies.

Archaeologically, then, this property type may be manifest by stone circles or arcs, postmold arrangements, extensive organic stains, packed use surfaces perhaps in a shallow depression or level cleared area, charred timbers arranged in a radiating spoke-like pattern, interior and/or exterior ancillary facilities like firepits, drying racks, storage cists, bins or rooms, associated artifacts indicative of domestic or other sheltered activities, remains of economic floral and faunal resources, etc. Thus far in Colorado, five sites of this type have been identified for the Archaic period, three in Gunnison County: 5GN10, 5GN247 and 5GN344 (Stiger 1981; Black 1983; Jones 1986). The features there include a charcoal-filled depression, charred radiating timbers in a shallow depression and postmold arrangements; C-14 dates are in a surprisingly narrow range at 2850-1950 B.C. The other two sites include the charcoal stains in shallow depressions at Casa de Nada and Indian Creek on the Western Slope and dating to 3340-800 B.C. (Horn et al. 1987; Kane et al. 1988). The radiating timbers and postmolds at 5GN10 and 5GN344, respectively, are easily interpreted as timbered shelters--the postmolds enclose a very small area and may have been little more than a sunshade or windbreak. However, the charcoal-filled depressions at 5GN247, Indian Creek (5ME1373) and Casa de Nada (5MT2731) are more

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II. Description, continued

difficult to classify, perhaps because the buildings were constructed entirely of lightweight organic materials like small poles, brush, bark and/or hides.

Non-architectural features associated with these shelters have been almost exclusively limited to interior or exterior firepits with minimal evidence of large-scale storage. Artifact associations include the usual range of chipped stone and ground stone implements, plus scattered bone fragments and perhaps plant macrofossils and/or palynological evidence of exploitation of floral resources. Thus, while the sparse data garnered thus far show these shelters to have functioned mainly as (probably short-term) dwellings, the property type is not meant to be limited to such habitations. Other architectural features using upright timbers in construction also may occur, such as small storage rooms, shelters used in rituals, sunshades (as at 5GN344), and the like.

Those properties utilized as habitations generally contain a wide range of data suitable to address numerous research topics, as with the other property types functioning as dwellings discussed in previous sections. These topics would include, but not be limited to, settlement systems, subsistence, demography, exchange systems, seasonality, paleoenvironments, chronology, cultural affiliation, lithic technology, etc. Other structures used for special purposes apart from domestic activities may provide information regarding these or other topics, depending on the abundance and/or distinctiveness of associated artifacts and features. For instance, storage rooms may contain relatively few artifacts, but might retain some remains from the subsistence items or other materials that were being stored. Sunshades or windbreaks may have sheltered specific activities such as flintknapping, resource processing, bone tool manufacturing, etc. Shelters such as fasting huts, on the other hand, may have virtually no evidence preserved of their use and may be very difficult to distinguish from other special activity structures like storage rooms.

As noted above, the timbered lodges found thus far generally appear to have functioned as dwellings in short-term or base camp situations--probably for briefer periods of time than pithouses or surface mud-and-stick habitations. The lack of daub or earthen cap remnants in the sites also suggests occupation during the warmer months of the year. The same can be said for the postmold arrangement at 5GN344, the possible windbreak or temporary shelter located on a subalpine knoll at an elevation of more than 10,000ft (3158m). This latter feature is

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II. Description, continued

the smallest found thus far, with a diameter of under 2m, while the others are in the range of 2-5m in diameter with an average of about 3m represented. All except the postmold arrangement at 5GN344 are built over shallow, saucer-shaped depressions.

Finally, it has been mentioned that one possible archaeological manifestation of this property type might be a stone circle or arc, from use of such stones to brace the base of the building. However, not all stone circles are evidence of timbered lodges as described above. For instance, similar enclosures involving use of low coursed circles of rock are known to have been used as hunting blinds, sometimes in association with game drives (e.g. Benedict 1990:Figures 37-38). These and other stone enclosures are not included in this property type since they are not remnants of shelters. Stone circles or arcs encountered archaeologically should be included in this type only if there is evidence of the associated building posts (e.g. a postmold arrangement) or organic superstructure materials, or clear evidence of domestic activities within the enclosure in the form of non-architectural features and artifacts.

III. Significance

Timbered lodges are not uncommon in Late Prehistoric and Historic period contexts (e.g. tipi rings, wickiups, etc.), but have not been found with any frequency in earlier Archaic period sites. Yet, archaeologists have known that this property type has been in use for at least the past 11,700 years, as shown by the postmold arrangements and stone circles found in Paleo-Indian contexts in the Hell Gap Valley of southeast Wyoming (Irwin-Williams et al. 1973). Why such sites have not been found more frequently may relate to a variety of factors including their uncommon preservation, subtlety in appearance when not accompanied by stone circles, and a lack of attention or expectations for their appearance in early contexts. Thus, as with all other types of Archaic period architecture, the timbered lodge is a rare commodity and any preserved site containing such evidence is significant.

Also, since most such shelters functioned as habitations, most will contain a variety of associated artifacts and features sufficient to address a range of research topics, as already noted previously. Other shelters of this

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III. Significance, continued

type may have been used for more specific purposes including storage, ritual events, tool manufacture, resource processing, etc. Any site with a building having evidence of such special activities would be very significant, because such evidence is usually very sparse and is seldom clear-cut. Significant sites of this type, then, should be well enough preserved to determine shelter function, size, age and hopefully the cultural affiliation of occupants. Although no Colorado sites of this type have been found in contexts dated earlier than 3340 B.C., they should occur in any Archaic period context extending back into the Paleo-Indian period. Thus, any shelter of this type which dates to the Early Archaic period would be significant because it would extend the known use of this property type in Colorado further back into the prehistoric era.

Timbered lodges, since they may take many forms archaeologically, will contain any number of data categories related to architecture depending on their exact method of construction and state of preservation. Shelters with preserved evidence of both the construction technique of the buildings and the floral species used in construction will be very significant since these remains are least likely to be preserved. Such well-preserved sites certainly would be eligible for the National Register under criterion c (embodying the distinctive characteristics of a type, period or method of construction) but, more often, sites of this type will be less perfectly preserved yet contain sufficient information on local or regional prehistory to be eligible for inclusion on the National Register under criterion d. These considerations are discussed in more detail in the following section.

IV. Registration Requirements

To be eligible for the National Register under criterion c, a site of this property type should exhibit good preservation of the architectural feature(s) sufficient to determine the size, structural plan, construction technique(s) employed, and materials used in the building. This evidence may take the form of postmold arrangements with or without an enclosing circle or arc of rocks, identifiably radiating spoke-like arrangements of timbers, organic stains with identifiable charcoal, wood, pollen, etc., from the superstructure, a prepared and/or trampled use surface in association with construction materials, etc.

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IV. Registration Requirements, continued

The latter use surface--and basal remnants of the superstructure--may be on a cleared, flat area or within a shallow saucer-shaped depression.

In addition to the above architectural evidence, a timbered lodge eligible under criterion c also should yield, in clear association with the shelter(s), the kinds of artifacts, features and/or other evidence necessary to determine the property's function prehistorically. Data categories necessarily preserved, therefore, may include (but not be limited to) interior or exterior firepits, storage facilities, resource processing area(s), one or more tool classes of chipped stone, ground stone, bone, etc., floral and/or faunal remains, and artifacts diagnostic of cultural affiliation. Such sites also should contain datable remains to determine the age of occupation(s). While the above conditions may make it difficult for most sites of this property type to be eligible under criterion c, many of them should contain enough information important in prehistory to be eligible for the National Register under criterion d.

Eligibility for the Register under criterion d could be shown for any site of this property type that has any architectural remnants of timbered lodge shelters regardless of their condition, as well as enough associated material to address one or more research questions important to understanding the local or regional prehistory. In that not all properties of this type functioned as dwellings, the material associated with architectural remnants may be fairly specialized and/or sparse. For instance, a storage room abandoned when empty may have virtually no interior cultural material preserved. However, a site with such a building still could be eligible for the National Register under criterion d if those structural remnants were datable, and there were artifacts and/or features exterior to the building in definable association with it. Other timbered lodge shelters should have sufficient material remains in association to determine the building's function as well as to address relevant research topics. Among the research questions that might be typically asked regarding a site of this property type are the following:

1) What was the function(s) of the architectural feature(s) on the site? Determining whether or not a building was a residential unit or some other special activity room is a basic part of an investigation for this property type, and for the other property types in this nomination as well.

2) How does the site fit into the local settlement system? If the

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IV. Registration Requirements, continued

architecture was residential, determining whether the dwelling was utilized in a summer base camp, a short-term camp or in some other situation would be desirable.

3) What was the age and cultural affiliation of the occupation? This topic is important in order to address the settlement system issue, as well as to establishing contemporaneity with other property types that might represent different portions of the annual movements of hunter-gatherer groups.

4) What is the range in subsistence represented? Exploited floral and faunal resources not only help determine how broad-based the hunter-gatherer economy was, but also provide information on prehistoric environments.

5) What size of population is represented at the site? Knowing the number and floor area of buildings occupied simultaneously can help address this topic; again, no Archaic period architectural sites have been proven to have more than one building occupied at a time.

6) How was the site integrated in the regional economy? The presence of exotic materials such as non-local lithic items (e.g. obsidian, turquoise, shell, etc.) can show the extent of exchange undertaken.

7) Is there evidence of seasonality in the site's occupation? The usual kinds of data--tooth eruption patterns in game animal remains, the amount of labor and materials invested in building, amount of storage space employed, etc.--are needed to determine if a given building was a warm or cool/cold weather shelter which, in turn, helps in comparison with the use of other property types.

8) What kinds of stone tool manufacturing technique(s) are represented? Since chipped stone and ground stone artifacts are the most common material remains found in association with architectural features, describing the lithic technology is not only a typical procedure but also can help address other topics such as cultural affiliation, exchange systems, etc.

9) What kind of activity patterning is present? Spatial separation of domestic activities may be evidenced in the arrangement of features and artifacts within a dwelling, while less discrete patterning of specialized remains may occur in storage rooms or other special use buildings.

The preceding sections demonstrate that similar research questions may be addressed in a site with any architectural remains, regardless of the specific construction technique represented. Topics such as the building's function(s),

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IV. Registration Requirements, continued

age and cultural affiliation need to be investigated before many of the other pertinent research issues can be pursued with any confidence. It should also be obvious that property types with architecture of any kind dating to the Archaic period are uncommon in Colorado and, thus, their thorough description and preservation are important starting points to explaining their presence within existing or new models of hunter-gatherer adaptive strategies.

G. Summary of Identification and Evaluation Methods

Discuss the methods used in developing the multiple property listing.

Archaic period architecture was identified as a significant management and research issue by the Office of the State Archaeologist at the Colorado Historical Society. This determination was made on the basis of several factors including the paucity of National Register nominations for archaeological sites in Colorado outside the southwestern portion of the state, the unique nature of these Archaic period sites both locally and regionally, and the familiarity with both the general literature and with specific sites on the part of the nomination's author. The narrative context was developed after a thorough review of all the known literature on this topic, much of which is available only in unpublished contract reports. Specific property types described as part of this nomination were identified entirely from known examples at excavated sites within Colorado; given the sparse

(X) See continuation sheet

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(X) See continuation sheet

Primary location of additional documentation:

- | | |
|---|---|
| <input type="checkbox"/> State historic preservation office | <input type="checkbox"/> Local government |
| <input type="checkbox"/> Other State agency | <input type="checkbox"/> University |
| <input type="checkbox"/> Federal agency | <input type="checkbox"/> Other |

Specify repository: _____

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nature of these data, it is likely that additional property types will be discovered in the future.

Several examples of Archaic period architecture are found on sites already listed as contributing properties for the Curecanti Archaeological District (5GN1728), a nomination made without the benefit of a detailed historic context as provided here. Other sites, such as Sisyphus Shelter (5GF110), were investigated in advance of land development projects that subsequently physically destroyed those properties, eliminating any opportunities for future reinvestigations to address additional research topics beyond those already reported. Further, the state of preservation of most of the properties mentioned herein does not provide the kind of information on architectural details to render those sites eligible under criterion c. Future discoveries, then, should not only expand the range of variability in Archaic period architecture beyond that described in this nomination, but might also provide archaeological details sufficient to clarify the existing descriptions of specific property types.

Given the above constraints, it has been necessary to evaluate the significance of these properties without knowing--in several cases--much more about the sites' features than that they are architectural remnants of uncertain morphology and function. The fact that virtually all the Archaic period sites with architecture have been multiple component properties adds to these interpretive difficulties. This multiple property nomination has sought to provide a basic context within which to evaluate the significance of Archaic period architectural sites utilizing the kinds of general data sets that are most commonly preserved at these ancient properties. It is recognized, however, that evaluative criteria may change in the future if improved methods of discovery, excavation and/or interpretation result in a more detailed body of data on the construction, use and frequency of these properties.

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