

**DOLORES ARCHAEOLOGICAL PROGRAM
TECHNICAL REPORTS**

Volume V, Chapter 15

Excavations at Horsefly Hamlet (Site 5MT2236)

An Archaic Camp/Anasazi habitation Site

by Allen E. Kane and Mark C. Chenault

Prepared For

Cultural Resources Mitigation Program: Dolores Project

Bureau of Reclamation, Upper Colorado Region

Contract 8-07-40-S0562

Under The Supervision Of

David A. Breternitz, Senior Principal Investigator

Final Submission

5 February 1982

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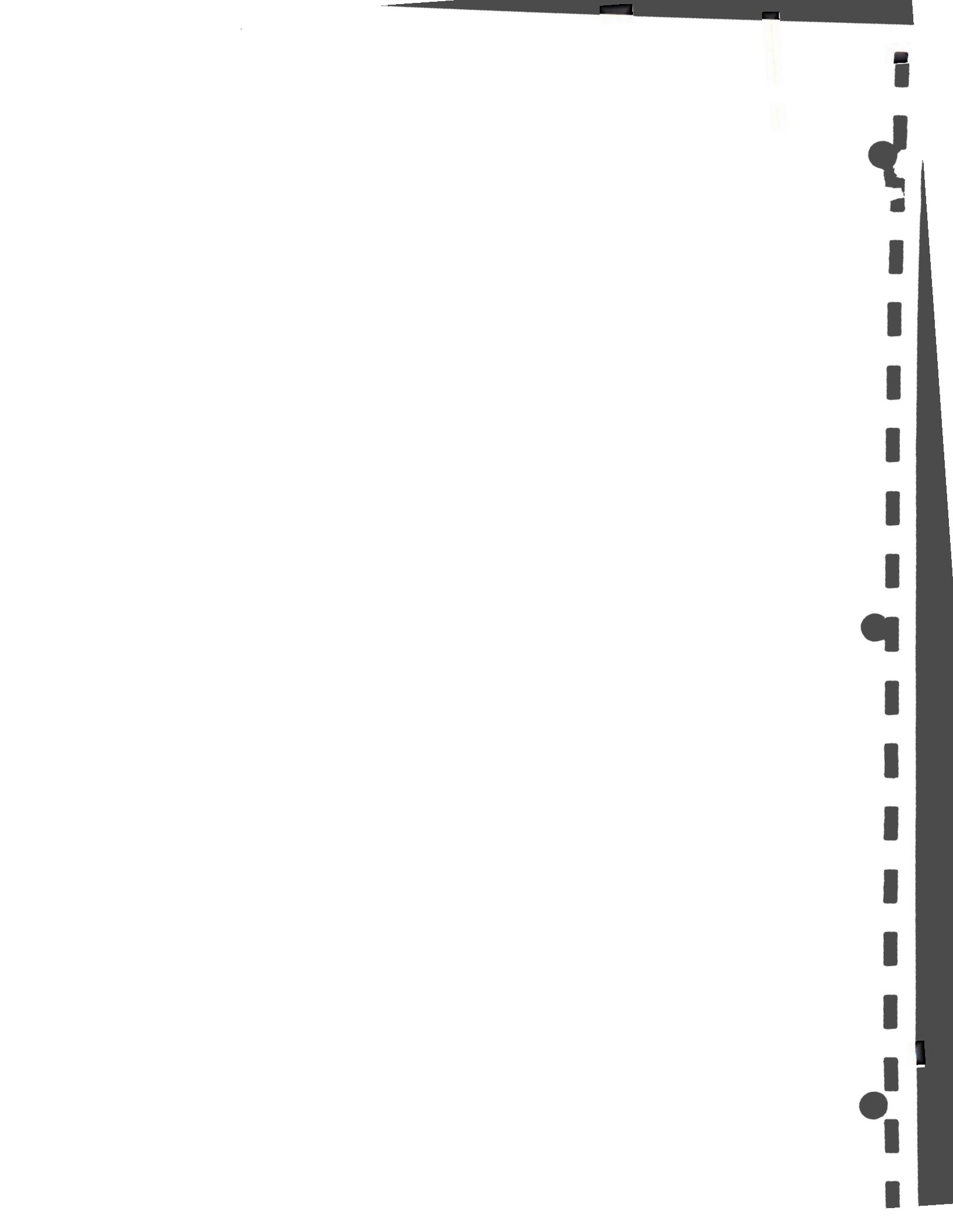
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ABSTRACT

Horsefly Hamlet (Site 5MT2236) is an Archaic camp/Anasazi habitation site in the Sagehen Flats Locality of the Dolores Archaeological Program (D.A.P.) study area. Investigations were initiated during the fall of 1979 as part of the project's standard fall testing program; the goal of the work was to add information to the Sagehen Flats cultural data bases, specifically to the Sagehen Phase West Sagehen Neighborhood and Archaic North Marsh Band categories. The site was reopened in 1981 to resolve interpretational ambiguities concerning the architectural units discovered during the initial season of operations. Two major use components are inferred to have occurred at the site. The first apparently represents seasonal or temporary use of the site area by Archaic peoples, perhaps about 2500 B.C. The second use was by an Anasazi group who built and used a roomblock and pitstructure. Tree-ring analysis suggests the Anasazi component dates to the time span A.D. 760-780. Two burials were also recovered from the site and apparently date to the Anasazi component. There is slight evidence for later Anasazi use or visitation of the site, but lack of evidence precludes definitive descriptions.



INTRODUCTION

Horsefly Hamlet is located 2 km west of the Dolores River and about 9 km northwest of the town of Dolores. The legal location of the site is as follows: Northwest Quarter of the Northeast Quarter of Sec 36, T38N, R16W. The Universal Transverse Mercator grid coordinates for the site are 715,280 mE and 4,154,490 mN in zone 12. The elevation of Site 5MT2236 averages 2110 m above sea level. The reference map for the area is the Trimble Point Quadrangle, Colorado, U.S.G.S. 7.5 Minute Series 1965 Topographic Map. According to project systematics (Kane [1]) the site is located in the Sagehen Flats Locality, a division of the Escalante Sector comprising lowland and mesa areas west of the river valley and centered on the Sagehen Flats marsh. This locality has been one of the primary foci of project studies and exhibits evidence of prehistoric occupation beginning with the Archaic period and continuing intermittently until historic times. The Anasazi Tradition is particularly well represented by habitation and limited activity sites within the locality.

Administrative Work Summary

The site was first recorded during the initial reconnaissance of Dolores River project archaeological resources performed by the University of Colorado in the fall of 1972 (Breternitz and Martin [2]). The site form, completed by H.W. Toll, describes the site as consisting of two 10 by 15 m areas containing scattered rubble and artifactual materials; the areas are about 30 m apart. The materials collected during the recording process suggest a long sequence of Anasazi use beginning with the Basketmaker III period and ending with Pueblo II.

After the initiation of the Dolores Archaeological Program in June of 1978, the site was selected for testing as part of the magnetometer survey during the first field season. The site was magnetically surveyed on 2, 10, and 11 October 1978; six 20 by 20 m grid blocks, including the two material concentrations recorded by Toll, were tested.

The site was again investigated in 1979 as a portion of the 1979 fall testing program. Standard D.A.P. procedures for this type of work are the systematic collection of surface materials, mechanical blading to expose prehistoric structures and extramural surfaces, and limited mechanical trenching and hand tool exploration to determine the characteristics of discovered structures and features (Greenwald and Hewitt [3]). This phase of investigations was begun on 5 September 1979 and was directed by the Sagehen Flats Locality Supervisor, D. Greenwald. The crew consisted (at different times) of S. Bradley, M. Chenault, P. Hancock, D. Harriman, R. Harriman, N. Hewitt, M. Hovezak, T. Hovezak, H. Hoy, J. Kleidon, A. Schwab, G. Snyder, and A. Tucker.

The excavations were reopened for a brief period in 1981; this work was supervised by N. Morris, who was aided by J. Brisbin and K. Kuckelman. A total labor effort of 47 person-days was expended during the four fieldwork periods.

Environmental Setting

The descriptive summaries which follow are based on observations made during the 1979 testing program; the described characteristics will not necessarily reflect prehistoric conditions, of course. The descriptions in this report are only intended to provide background material for the reader, a more detailed discussion of the local environment is available

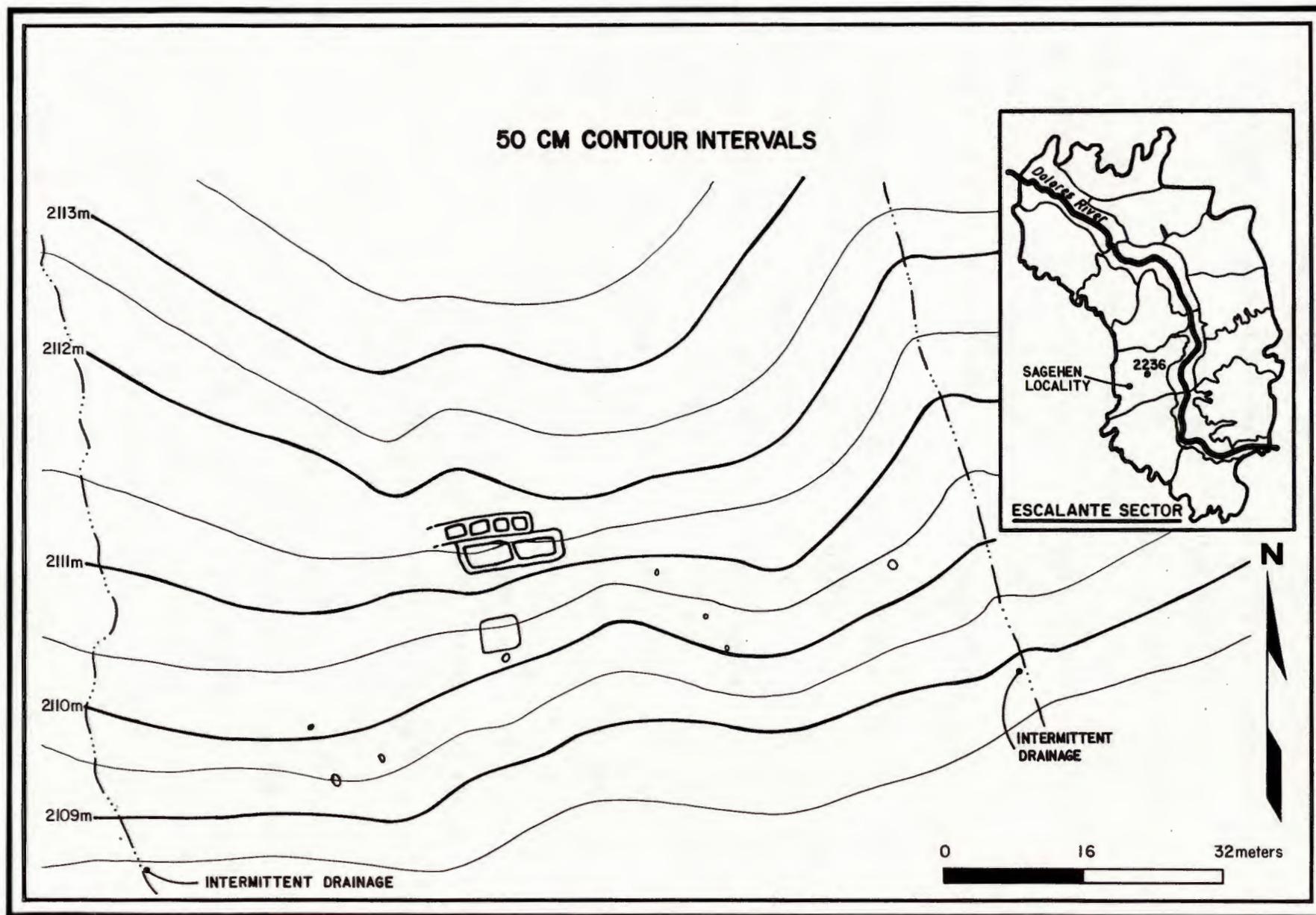
in the 1979 Sagehen Flats Locality Report (Greenwald [4]), which includes a treatment of the relationship between environmental processes and resource availability, both past and present.

Topography and General Setting

Horsefly Hamlet is situated on a moderate south-facing slope between two minor drainages (Figure 15.1). Relief in the vicinity of the site is moderate; the site is open, with comparatively high exposure to solar radiation. Elevation at the site is approximately 2110 m above sea level.

The environment and topography within a 2 km radius of the site are notable for their variability. To the west and north of Horsefly Hamlet are low ridges and small mesas separated by narrow arroyos or canyons. Elevations are generally higher to the north, with elevations over 2300 m being common a few kilometers distant. At present, this area is partially under cultivation, with plowed fields and peripheral areas of undisturbed vegetation. The latter contain pinyon, juniper, oak, and sagebrush as dominant vegetation types. Two kilometers to the east is the Dolores River canyon, a permanent water source; the canyon also provides easy access to potentially valuable plant and animal communities such as the riparian zone along the river and the talus/cliff zones forming the canyon walls. Approximately 300 m south of the site is the Sagehen Flats marsh, which is a potential source of domestic water and aquatic resources. On the far side of the marsh is a north-facing escarpment, with high elevations (approximately 2200 m) to the south. The cliff represents the location of the House Creek Fault; geologic strata containing potential sources of lithic raw materials are exposed along the fault line.

Figure 15.1 Topographic map of Horsefly Hamlet and vicinity.



Climate

The climate characteristic of low elevation (2050-2150 m) areas in the Escalante Sector is noteworthy for low humidity, mild summers, and cold, dry winters. There is typically a wide range of temperatures for each 24-hour period, reflecting the 2100 m plus elevation above sea level. Local U.S. Weather Bureau data indicate that the average precipitation for the area is 450-500 mm, accumulating primarily in winter and midsummer wet seasons. The site vicinity probably has a normal growing season of 120-130 days (this is an extrapolation based on compilations of annual data from the U.S. Weather Bureau station at Yellowjacket, located about 15 km to the west and at about the same elevation). A more detailed discussion of the local climate can be found in the Sagehen Flats Locality reports (Kane [5], Greenwald [4]).

Flora

The present-day dominant vegetation type at the site is big sagebrush (Artemisia tridentata). Thistle (Cirsium sp.), lupine (Lupinus sp.), birdbeak (Cordylanthus sp.), and rabbitbrush (Chrysothamnus nauseosus) are also present. The marsh to the south of the site contains cattail (Typha latifolia), American bulrush (Scirpus americanus), bulrush (Scirpus acutus), common arrowhead (Sagittaria latifolia), and willow (Salix sp.). South of the marshy area are higher knolls with a cover of pinyon (Pinus edulis) and juniper (Juniperus osteosperma), both of which might have been more prevalent before the lower areas were cleared for cultivation in historic times.

Other vegetation in the area of Site 5MT2236 include: broadleaf yucca (Yucca baccata), prickly pear (Opuntia sp.), wild onion (Allium acuminatum), sego lily (Calochortus nuttallii), Indian rice grass

(Oryzopsis hymenoides), serviceberry (Amelanchier utahensis), squawbush (Rhus aromatica spp. trilobata), chokecherry (Prunus virginiana), squaw apple (Peraphyllum ramosissimum), wild buckwheat (Eriogonum sp.), globe mallow (Sphaeralcea coccinea), fleabane (Erigeron coulteri), evening primrose (Oenothera caespitosa), yarrow (Achillea lanulosa), miner's candle (Cryptantha bakerii), buttercup (Ranunculus sp.), sweet clover (Melilotus officinalis), aster (Aster sp.), Indian paintbrush (Castilleja chromosa), tansy mustards (Sisymbrium sp.), stickseed (Lappula sp.), flax (Linum sp.), vetch (Astragalus sp.), foxtail barley (Hordeum jubatum), cheat grass (Bromus tectorum), western wheatgrass (Agropyron smithii), and crested wheatgrass (Agropyron cristatum).

Faunal species which occur near the site today include the following: Nuttall's cottontail (Sylvilagus nuttallii), rock squirrel (Spermophilus variegatus), Gunnison's prairie dog (Cynomys gunnisoni), black-tailed jackrabbit (Lepus californicus), Colorado chipmunk (Eutamias quadrivittatus), badger (Taxidea taxus), striped skunk (Mephitis mephitis), porcupine (Erethizon dorsatum), raccoon (Procyon lotor), mouse (Peromyscus sp.), American elk (Cervus canadensis), mule deer (Odocoileus hemionus), and coyote (Canis latrans).

Avifauna observed near the site include: northern harrier (Circus cyaneus), common raven (Corvus corax), mourning dove (Zenaidura macroura), black-billed magpie (Pica pica), mountain bluebird (Sialia currucoides), steller's jay (Cyanocitta stelleri), bald eagle (Haliaeetus leucocephalus), golden eagle (Aquila chrysaetos), sparrow hawk (Falco sparverius), turkey vulture (Cathartes aura), red-tailed hawk (Buteo jamaicensis), and night hawk (Chordeiles sp.).

Soils

The present-day soil in the vicinity of Site 5MT2236 is termed a Sagehen Paleosol and may be a Mollisol, but it is not further classified at present. Leonhardy [6:81] describes this soil as: a deep soil developed in old alluvium. It has a very strongly developed A-Bt-Btca-Cca horizon sequence. There is evidence of illuvial humus deep in the B horizon.

Modern farmers have used the local soils to support pasturage and dryland crops of wheat and pinto beans. Where additional moisture is available, maize is sometimes cultivated. Soil depth and topographic relief in the site vicinity would not present any limits to potential prehistoric horticultural practices.

Local Raw Materials and Water Supply

The local area contains the potential to provide many of the raw materials needed for prehistoric technologies and household maintenance. Suitable materials for flaked stone tool manufacture and clays for ceramic industries are available from the strata exposed along the House Creek Fault. Igneous and metamorphic cobbles suitable for a variety of purposes are available from terraces associated with the river canyon system or from the riverbed itself. Slabs of Dakota Sandstone for construction or for tools are available from outcrops in nearby arroyos or canyon walls. Slopes and hillocks in the vicinity support modern-day stands of pinyon and juniper which are potential sources of wood for construction and fuel. The marsh (if viable during the periods of prehistoric occupation) is a potential source of reeds that could have been used for architectural construction and artifacts. All tree-ring samples recovered from the site

were identified as ponderosa pine; this suggests that nearby stands of this species were present during the period of Anasazi occupation.

Historic Land Use

Historic land-use practices have significantly affected the natural environment at the site. According to local informants, the site and the immediate vicinity have been prepared for cultivation by using a one-way plow in a north-south direction. The 1979 investigations confirmed the presence of a plow zone constituting a 15 to 25 cm thick upper stratum of disturbed deposits. The plowing apparently destroyed use surfaces of both the Archaic and Anasazi components and probably upper portions, or the entirety, of some structures or features. The rubble and material concentrations noted by Toll (Breternitz and Martin [2]) may be the remnants of plowed features. The plowing also resulted in some mixing of materials from both components, thereby rendering interpretation more difficult. A local ranching/farming operation has used the site vicinity for spring lambing and fall pasturage. This use, plus the plowing, has destroyed the virgin vegetative cover at Horsefly Hamlet and prevented its reestablishment. The modern vegetative community, therefore, is probably not reflective of prehistoric conditions.

Social Setting

The primary temporal interpretation favored in this report is that two major components are present at Site 5MT2236: these represent the Archaic and Anasazi cultural traditions. Descriptions of the social setting for Horsefly Hamlet must therefore reflect the particular contemporaneous social environment. A summary of the social setting for each designated component is presented below. Figure 15.2 indicates the

- ▲ Anasazi Site
- Archaic Site
- Anasazi-Archaic (Mixed)

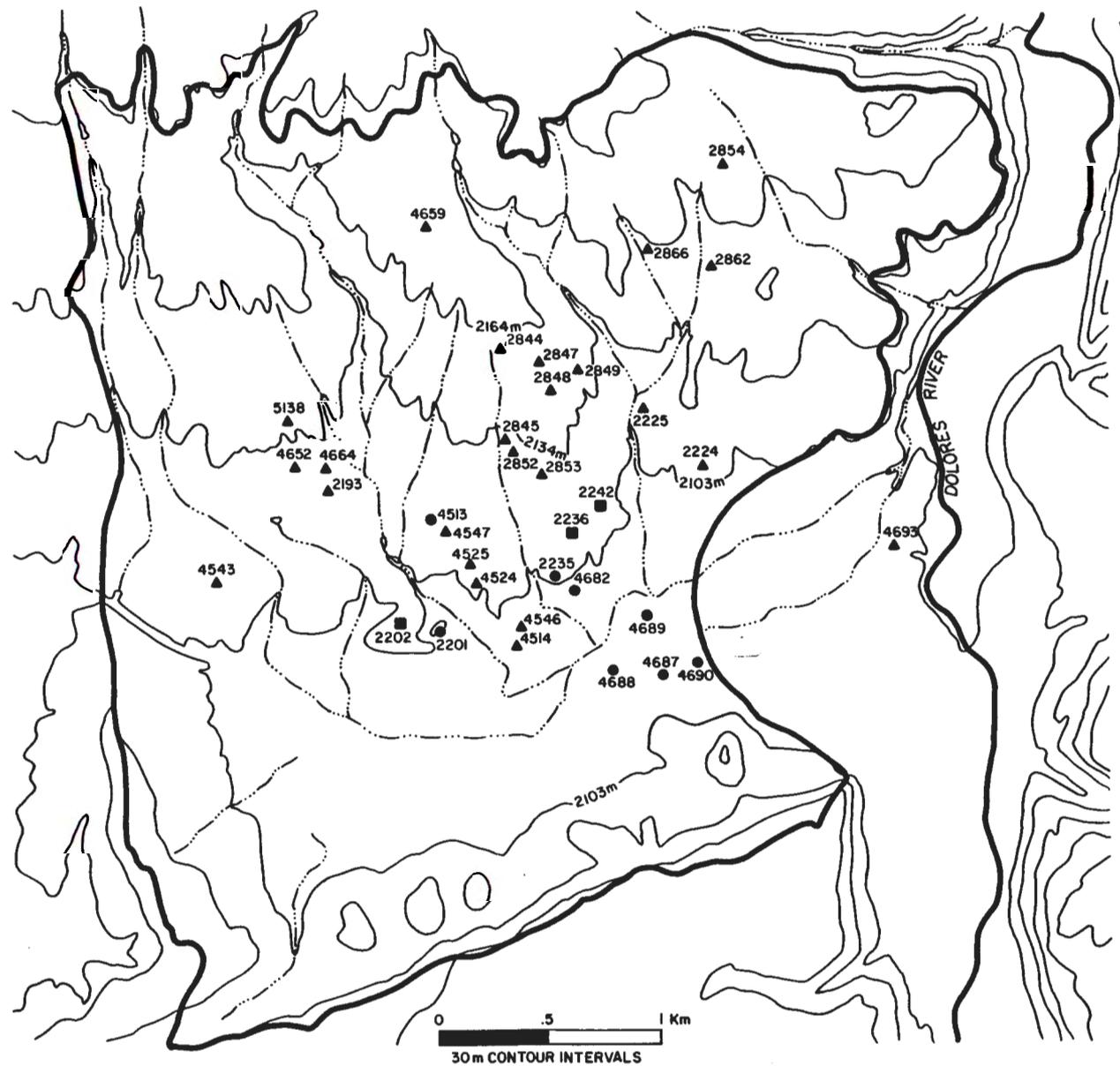
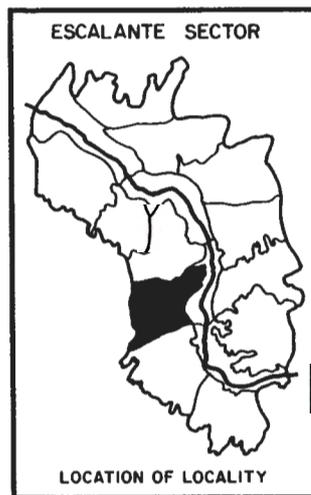


Figure 15.2 Locations of sites contemporaneous with Horsefly Hamlet.

locations of contemporaneous sites discussed below.

Component 1 (Archaic Occupation)

Greenwald [4:Figure 1.7] has identified 10 sites with possible Archaic components within a 1 km radius of Horsefly Hamlet.

Of these 10 sites, 4 have been excavated and hence are represented by both surface and subsurface data, while the other 6 are represented by selective (grab sample) or systematic surface collections. Features assigned to the Archaic component at excavated sites are thus far limited to shallow, basin-shaped hearths and possible "cooking pits" containing cracked cobbles. The total number of these features per site varies between one and five. Lithic assemblages recovered from sites with only Archaic components, or from those thought to contain mixed Archaic and Anasazi deposits, are being analyzed; preliminary findings indicate that these assemblages contain a higher percentage of curated items than assemblages from "pure" Anasazi components (Phagan and D.M. Greenwald [7]). The Archaic and Archaic/Anasazi assemblages also show a higher percentage of fine-versus coarse-grained raw materials, a higher composite manufacturing index (the index is based on amount of facial thinning and area employed as a tool for each item), and lower average item weight. These characteristics suggest that the groups using these assemblages were selecting durable, light-weight tools that could be easily transported; the Anasazi assemblages, on the other hand, are characterized as employing an "expedient" (low production-input) technology. The technological strategy exhibited at the Sagehen Archaic sites would seem to correspond with the general life-style model of Southwestern Archaic peoples (e.g., Irwin-Williams [8]), that is, small groups of people emphasizing mobility as a subsistence technique and moving from place to place to exploit

seasonally available resources. One possible interpretation of the Archaic sites in the vicinity is that they are small seasonal camps used by mobile groups that exploited resources available in and around the marsh. The exact contemporaneity of the components represented cannot be established because of the lack of materials for absolute dating.

Component 2 (Anasazi Occupation)

Based on the analysis of materials and samples recovered from the site, the Anasazi component dates to A.D. 760-780; according to the temporal system developed by Kane, the component is assigned to the Sagehen Phase (A.D. 600-850). Greenwald [4:Figure 1.9] identifies 16 Sagehen Phase sites (9 habitations and 7 limited activity loci) within a 1-km radius of Horsefly Hamlet. If the area of interest is increased to include Sagehen sites within a 2-km radius, then the number of habitation sites increases to 60 and the number of limited activity loci to 29 for a total of 89. Assuming that most Sagehen habitation sites were occupied for 20 to 25 years (a plausible assumption based on interpretations of stratigraphy and dating samples at excavated sites), then probably about 8 to 13 of the 60 habitations were absolutely contemporaneous with Horsefly Hamlet. When considering limited activity sites within 2 km of Horsefly Hamlet, the evidence for well-defined use periods when considering limited activity is thus far nonexistent; the only justified statement is that some of these sites may be contemporaneous with the Anasazi habitation defined at Site 5MT2236.

Excavations in the Sagehen Flats area have confirmed the existence of nearby hamlets that are contemporaneous with Site 5MT2236. A pitstructure and associated roomblock at Dos Casas Hamlet (Site 5MT2193, Brisbin et al. [9]) were constructed about A.D. 770 and were probably occupied into the

A.D. 780s; this habitation is approximately 1200 m west of Horsefly Hamlet. A tree-ring cutting date of A.D. 784r* was obtained from a pit-structure at Rusty Ridge Hamlet, Site 5MT2848 (Greenwald [10:10]), located about 750 m north of Site 5MT2236. This information suggests that construction of house units at Rusty Ridge Hamlet took place in the mid-780s; hence the use of the latter site may be contemporaneous with Horsefly Hamlet. While no absolute dates were recovered from Pheasant View Hamlet (Site 5MT2192, Yarnell [11]), a habitation located 850 m west of Site 5MT2236, the existent architectural and artifact styles indicate probable occupation in the A.D. 750-800 period. The same interpretation can be made for Aldea Sierritas, a habitation site 1900 m northeast of Horsefly Hamlet (Site 5MT2184, Kuckelman [12]). Both sites, therefore, may be contemporaneous with the roomblock-pithouse complex at Site 5MT2236. Examination of site inventory records suggests that the following nearby unexcavated habitation sites might also be truly contemporaneous: Sites 5MT4514 (550 m to the southwest), 5MT4543 (1800 m west), 5MT5138 (1500 m northwest), 5MT4654 (1400 m northwest), 5MT4664 (1200 m northwest), 5MT4659 (1600 m northwest), 5MT2866 (1400 m north), 5MT2864 (1400 m northeast), 5MT2224 (700 m northeast), and 5MT4693 (1300 m east).

The standard interpretation of the local settlement pattern at A.D. 750-800 is that the small settlements and limited activity loci represent a dispersed farming community or "neighborhood." According to Kane [1], a dispersed community is an area "of dispersed habitations with little or no tendency toward centralization."

*r - less than a full section is present, but the outermost ring is continuous around available circumference.

One possible interpretation of dispersed patterning is that the inhabitants of each settlement were independent in many of their activities. This is not to say that the occupants of Horsefly Hamlet had no social contact with other contemporaneous settlements in the neighboring area. There was probably a great deal of contact among the inhabitants and some group effort in undertakings involving considerable labor input, such as hunting and clearing of fields. There might also have been some ceremonial association of peoples, perhaps in extended family groups; however, no evidence has been found in the immediate area to suggest the presence of a communal center during this time.

PRELIMINARY INVESTIGATIONS

Particulars of the investigations at Horsefly Hamlet were developed according to standard procedures for D.A.P. testing programs; such programs are classified as "Track 2" field recovery efforts (Knudson et al. [3]). Track 2 investigations include systematic surface investigations and other preliminary work, and random, probability, or judgmental sampling of subsurface deposits (Knudson et al. [13:42]). Preliminary operations undertaken at Horsefly Hamlet were limited to surface collection and magnetometer survey.

Surface Collection

A systematic collection of modern ground surface materials was completed at Horsefly Hamlet during the first two days of the 1979 operations. To establish controls for the collection, a 60 m north-south by 80 m east-west grid of 4 by 4 m squares was placed over the site area recorded in 1972. The grid was then sampled by collecting materials in every other square in a checkerboard fashion.

The surface distributions of flaked lithic, nonflaked lithic, and ceramic items are illustrated in Figures 15.3, 15.4, and 15.5 respectively.

A visual examination of the flaked lithic distribution map (Figure 15.3) suggests two concentrations of materials; one is centered in the southwest quarter of the site at approximately square 40S, 12E. The main concentration appears to be about 25 m in diameter with a lesser concentration centered 10 m to the northeast and measuring about 35 m east-west by about 20 m north-south. A second concentration of materials

Figure 15.4 Surface distribution of nonflaked stone materials at Horsefly Hamlet.

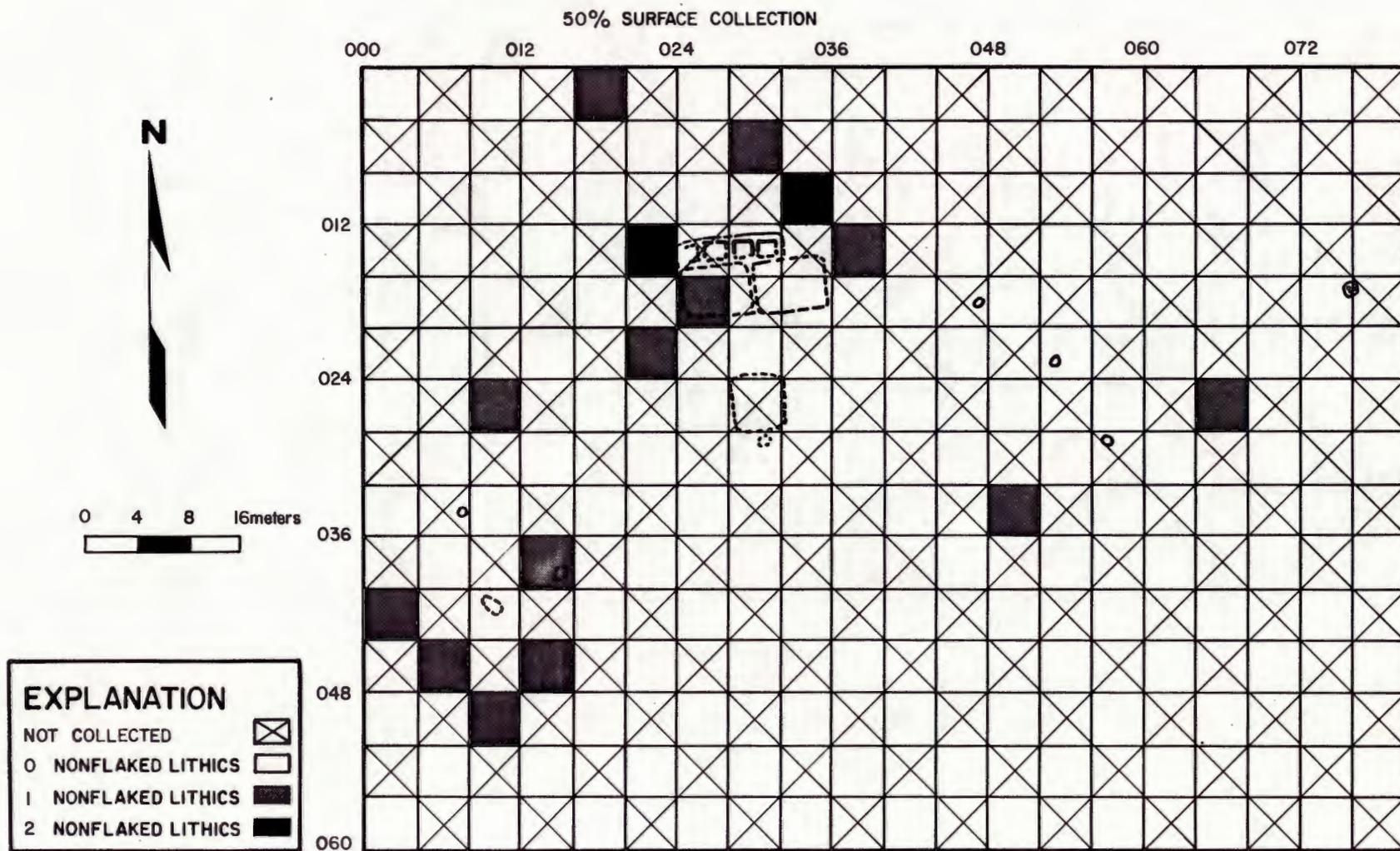
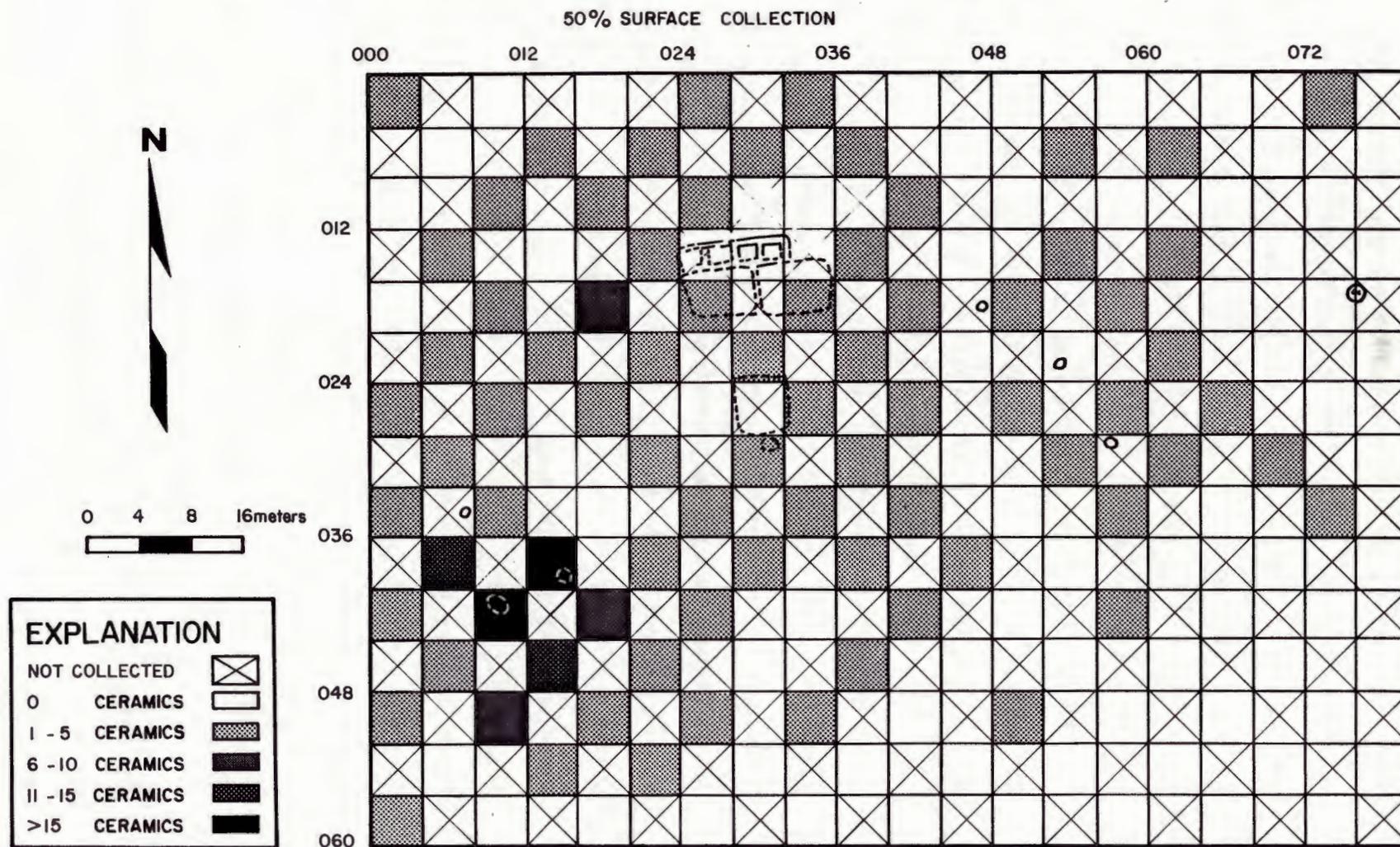


Figure 15.5 Surface distribution of ceramic materials at Horsefly Hamlet.



is evident in the northeastern quarter of the site centered approximately at square 8S, 64E. This concentration exhibits a lesser density than the western one and measures about 25 m east-west by 15 m north-south.

Two material concentrations are also evident when examining the map of nonflaked stone surface materials (Figure 15.4). One is centered at approximately square 40S, 8E and measures about 20 m in diameter, while the second is centered at approximately square 12S, 28E. These concentrations approximate the areas of greater and lesser densities defined for the western concentration of flaked lithic materials.

The map of ceramic surface materials (Figure 15.5) shows a concentration of items in the southwestern quarter of the site centered approximately on square 40S, 8E; the concentration is about 20 m in diameter. Again, this locus corresponds to flaked lithic and nonflaked lithic centers of material concentrations.

To summarize, the surface distribution of materials at Horsefly Hamlet is nonuniform; three areas representing higher material densities have been located. The most distinctive is centered at grid square 40S, 8E and is 20 to 25 m in diameter; all three material classes are represented by higher densities in this area. The second is 10 to 20 m northeast of the first and centered in grid square 12S, 28E. It is about 30-35 m east-west and 15-20 m north-south; only flaked and nonflaked lithic items exhibit noticeably higher densities in this area. The third concentration is located in the northeast quarter of the site, centered at grid square 8S, 64E; only flaked lithic materials exhibit greater density in this area. The southwest and northeast concentrations are probably the same as noted by Toll during the initial reconnaissance and recording of the site (Breternitz and Martin [2]). Also noteworthy when

considering the distribution of materials are the relative scarcity of materials in the southeastern quarter of the site and the overall greater material densities in the western portion of the site when compared to the eastern portion.

The distribution of surface materials at Horsefly Hamlet exhibits similarities to the distributions at other sites. The western portion of the site can be interpreted as exhibiting the surface distribution "fingerprint" common to Anasazi hamlet habitations; that is, a northern concentration representing the roomblock area, a lower middle density of materials representing the location of a pitstructure, and a southern concentration representing a midden or sheet trash area. Such "fingerprints" have been recorded at excavated hamlet sites in the vicinity, including Pheasant View Hamlet (Site 5MT2192, Yarnell [11]), Dos Casas Hamlet (Site 5MT2193, Brisbin et al. [9]), and Rusty Ridge Hamlet (Site 5MT2848, Greenwald [10]). The eastern surface artifact distributions are more ambiguous. It may be that the concentration of surface flaked stone items in the northeast quarter of the grid represents the Archaic component as a mixture of Archaic/Anasazi deposits related to the subsurface features to the south and southwest of the concentration.

Magnetometer Survey

Horsefly Hamlet was visited by the magnetometer testing crew during the fall of 1978; two and one-half days were spent at the site surveying six 20 by 20 m magnetometer blocks (Appendix A). The magnetomer grid closely corresponds to the later surface collection-excavation grid. Two 20 by 20 m blocks in the northwestern and southeastern portions of the site were not magnetometer surveyed, nor was the area south of grid line

40S. The surveyed area thus included the area thought to represent an Anasazi habitation, including roomblock, pitstructure, and midden (except for the southern half of the midden), but did not encompass the eastern concentration of surface materials. As a result of the analysis of the field data done during the fall and winter of 1978-1979, 10 areas of potential archaeological interest were defined, and the locations of 14 test squares were recommended (Figure 15.A.3, Appendix A). Of primary interest was a prominent high located in grid square 20S, 28E which was predicted to represent a pitstructure. All other areas of interest were thought to represent burned areas, hearths, or other small features.

The location of the possible pitstructure anomaly matched up well with the Anasazi habitation "fingerprint" inherent in the distribution of surface materials. No areas of magnetic interest were located in the high density concentrations of surface materials thought to represent roomblock and midden areas. The high magnetic "ridge" trending northwest to southeast through the center of the site (Figure 15.A.1, Appendix A) may have obscured potentially interesting anomalies in the hypothetical roomblock area.

Blading and hand tool investigations during the testing program substantiated that the anomaly in square 20S, 28E was in fact a pitstructure. Less success was encountered with the other predictions; no archaeological features coinciding with magnetic areas of interest were discovered.

SUBSURFACE INVESTIGATIONS

Introduction

Subsurface cultural remains investigated at Site 5MT2236 consisted of one pitstructure, a roomblock with six definable rooms, a midden (?) area containing a hearth and two burials, and several extramural features not associated with a structure. In the site synthesis section of this report, the primary interpretation is that the materials and facilities represent two periods of use (termed elements or episodes). In this section the descriptions of the prehistoric structures and features investigated at the site are organized by period of use to facilitate the synthetic presentation. Figure 15.6 depicts the subsurface cultural units encountered at Site 5MT2236.

Investigative Methods

Subsurface testing operations at Horsefly Hamlet were initiated in 1979 by removing the plow zone through the use of heavy equipment. A motorized grader was employed to remove these upper disturbed deposits in 5 cm levels. This was accomplished by directing the operator to course back and forth in an east and then west direction in 4 m swaths. At the end of each run, the area bladed was visually checked for stains, outlines, rubble, etc., and possible areas of interest were flagged. In this manner, a rectangular area approximately 45 m north-south by 80 m east-west was exposed. This corresponded roughly with the area surveyed with the proton magnetometer (Figure 15.7). Usually, four to five passes with the grader were necessary before undisturbed deposits were encountered; the plow zone was 15 to 25 cm in thickness. Artifacts

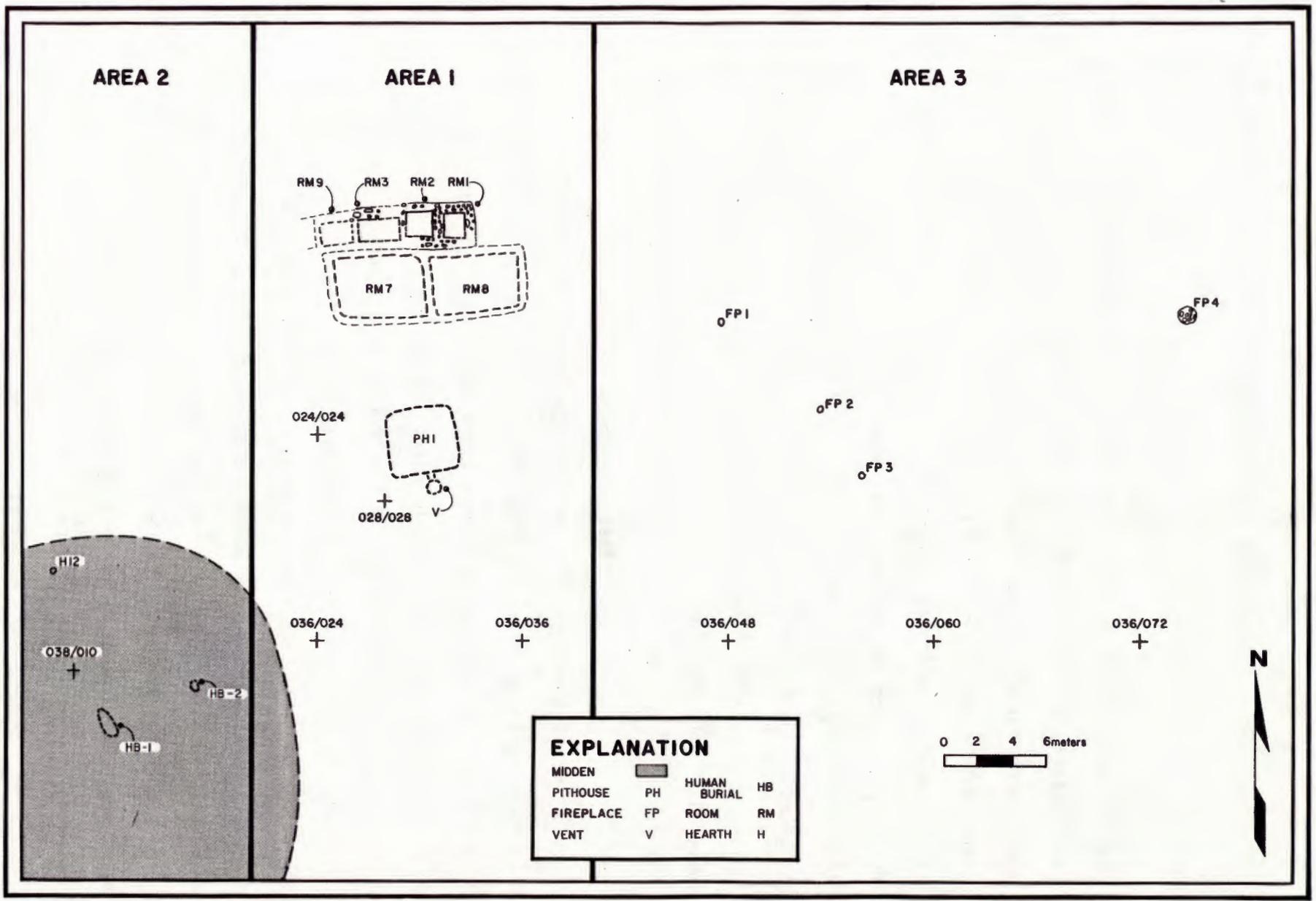
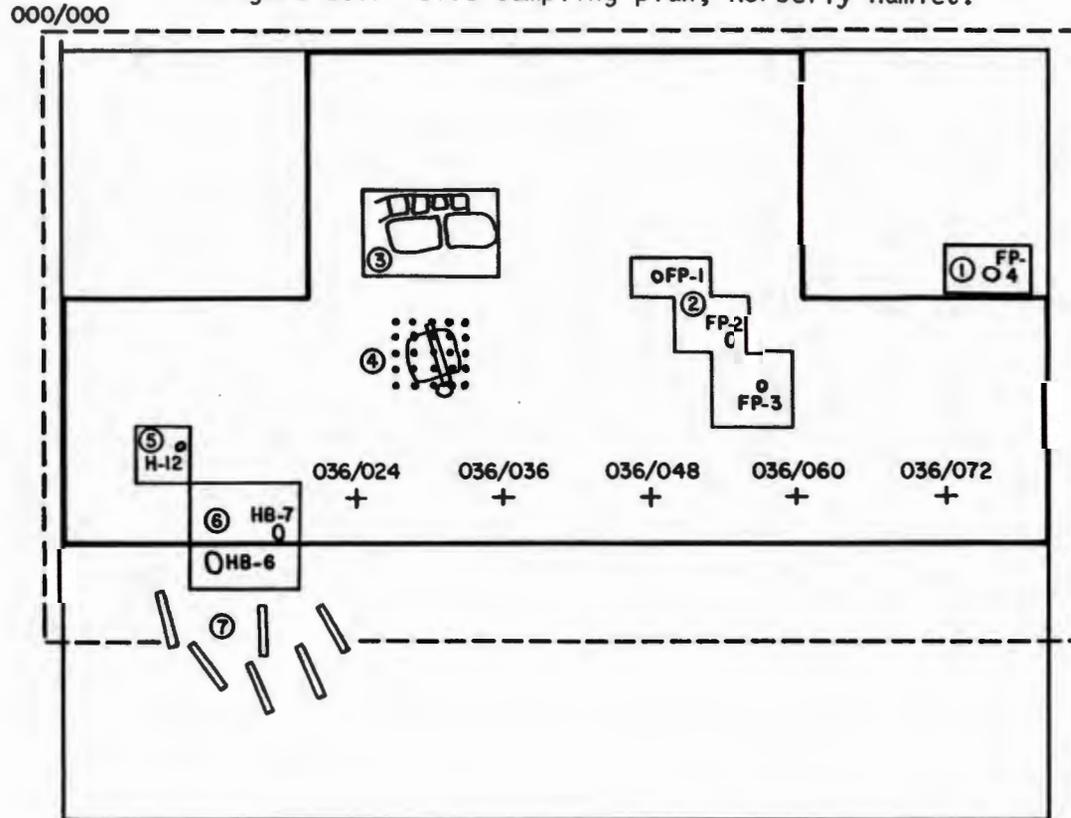
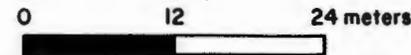


Figure 15.6 Cultural units discovered at Horsefly Hamlet.

Figure 15.7 Site sampling plan, Horsefly Hamlet.



EXPLANATION	
AUGER TEST	...
BACKHOE TRENCH	—
BLADED AREA BOUNDARY	- - -
FIREPLACE	FP
HEARTH	H
HUMAN BURIAL	HB
MAGNETOMETER TEST GRID	—
SITE BOUNDARY	- - -
TESTING AREA	(N)



exposed by the blading process were placed in three general collecting proveniences corresponding to the west, central, and eastern portions of the site (designated Areas 1, 2, and 3).

The 1979 blading operation resulted in the definition of six locations where additional work was to be scheduled (Figure 15.7). These locations are described as follows:

1. Grid squares 16S, 72E and 16S, 76E. A charcoal stain, sandstone fragments, and cobbles were exposed by the grader. It was decided to further investigate the stain and a 2 m area around the potential feature by employing shovels, trowels, and brushes. A large slab-lined pit exhibiting considerable oxidation (designated Feature 4) was outlined and excavated.

2. Grid squares 16S, 44E, 16S, 48E, 20S, 48E, 20S, 52E, 24S, 52E, 24S, 56E, 28S, 52E, and 28S, 56E. The grader exposed three stains on a rough northwest-southeast line in the east-central portion of the bladed area. It was decided to investigate the stains and the surrounding area by shovel and trowel. Three hearths (Features 1, 2, and 3) were outlined and excavated.

3. Grid squares 8S, 24E, 8S 28E, 8S, 32E, 12S, 24E, 12S 28E, and 12S, 32E. The grader exposed sandstone fragments and the tops of vertical slabs in the north-central part of the site grid. It was decided to define the extent of these potential architectural units by shovel-scraping. A linear roomblock containing three rectangular rooms (designated Rooms 1, 2, and 3) was outlined. A fourth oval room (Room 4) was outlined south of Room 3.

4. Grid squares 20S, 24E, 20S, 28E, 20S, 32E, 24S, 24E, 24S, 28E, 24S, 32E, 28S, 24E, 28S, 28E, and 28S, 32E. The grader exposed

a large circular stain near the center of the site grid corresponding with the potential pitstructure magnetic anomaly. A systematic augering effort resulted in the definition of a rectangular pitstructure (Pitstructure 1). The pitstructure was trenched with a backhoe to investigate fill and architectural characteristics. Discovered surfaces and features were further investigated with shovel and trowel.

5. Grid square 32S, 4E. A stain was exposed near the western limit of the site grid. This was investigated with shovel and trowel; Feature 12 (a small hearth) was defined and excavated.

6. Grid squares 36S, 8E, 36S, 12E, 36S, 16E, 40S, 8E, 40S, 12E, 40S, 16E, 44S, 8E, 44S, 12E, and 44S, 16E. Near the southwest corner of the bladed zone, an area containing sandstone and ceramic fragments and bone splinters was encountered; this corresponded with the area of the suspected midden deposits. The area was further investigated with shovel and trowel, and two burials plus two possible rooms (Rooms 5 and 6) were defined. The burials were excavated using standard D.A.P. techniques (Kane [1]).

The areas recommended for testing as a result of the analysis of the magnetometer field results were given close attention during the blading process. However, only the predicted pitstructure location yielded positive results.

The 1981 work was performed in the roomblock area (location 2), in the suspected midden area (location 6), and in an area south of the suspected midden (designated location 7 in Figure 15.7). Additional fill south of Rooms 1-3 was removed with a backhoe and a possible "surface" (probably plow zone-undisturbed deposits contact) was investigated using

shovels and trowels. In addition, the areas to the east and west of Rooms 1-3 were shovel-scraped. This work resulted in the identification and excavation of several features and the designation of two additional rooms (Rooms 7 and 8).

The original Room 4 outlined in 1979 was determined to be only disturbed rubble fragments; a probable architectural unit west of Room 3 was designated as Room 9.

The additional work in the midden was performed with shovel and trowel. The rooms designated in 1979 (Rooms 5 and 6) were determined to represent only midden deposits, and hence these designations were discarded. Six backhoe trenches were excavated south of the midden area to test for the presence of a pitstructure south of the possible rooms; these trenches were positioned to intersect several magnetic anomalies that might have centers south of the magnetometer survey grid and also to intersect any structures with positions corresponding to "normal" north-south orientations of Anasazi habitations. The results of the backhoe tests were negative; no cultural materials were encountered.

First Use Period (Episode 1)

The first period of use has been assigned to the Archaic Tradition and is designated as Episode 1 according to project temporal systematics. An episode is defined as a temporary or seasonal visitation to a particular location for a specific purpose. Structures and features thought to have originated during this use episode are the three small fireplaces in Area 3, the eastern portion of the site (Figure 5.6).

Post-abandonment Processes

Based on the preservational context of the three fireplaces and the

characteristics of the soil matrix covering these features (no formal stratigraphic analysis was undertaken), post-abandonment processes seem to have had relatively minor effects on this portion of the site. The prehistoric surface on which the fireplaces were constructed was probably subsequently covered with wind- or water-deposited materials. The Anasazi reoccupation of the site had no effect on the original features. The area was plowed in historic times to an approximate depth of 15 cm, but the plow zone was not deep enough to destroy these features, although some damage was noted. It is possible that the plowing destroyed other Archaic features in the vicinity; the recording of several amorphous soil discolorations during the removal of the plow zone by blading is possible evidence for the former presence of additional remains.

Material Remains

Three features are assigned to the first use period; these are described as follows.

Material Remains

Three features are assigned to the first use period; these are described as follows:

Fireplace (Feature 1).

Dimensions:

Diameter:	55 cm
Depth from base of plow zone:	10 cm

The feature is a shallow, basin-shaped, sandstone-lined pit, which was dug into the sterile soil of the site. Thirteen stones were used to line the pit. The fill of the fireplace was a dark silty loam; some of this dark soil occurs beneath the stone lining. No artifacts were found

in the fill. The dark nature of the fill is believed to have been due to the presence of charcoal.

Fireplace (Feature 2).

Dimensions:

Diameter:	40 cm
Depth from base of plow zone:	10 cm

This feature is shallow, basin-shaped, and lined with seven sandstone rocks. The feature was constructed by digging into the sterile soil. The fill was a silty loam containing no cultural artifacts. The fireplace had been heavily disturbed by both historic plowing and by the blading of the site. However, that portion of the fireplace which was left intact showed clearly that both the sides and bottom of the feature had been lined with rock.

Fireplace (Feature 3).

Dimensions:

Diameter:	45 cm
Depth from base of plow zone:	17 cm

This feature is sandstone-lined and basin-shaped in profile. It is lined with two layers of stone. The lower layer rests on the bottom of the pit, which was dug 17 cm into the sterile soil below the base of the plow zone; the second layer was placed on top of the bottom layer, raising the bottom of the pit to 12 cm below the plow zone. The charcoal present in the silty loam fill indicated that wood had been burned in the pit. This feature also was disturbed by historic plowing and by the blading of the site. No cultural artifacts were recovered.

Interpretations.

The three features may be associated by virtue of their spatial

proximity and shared physical characteristics. Although plowing has destroyed any prehistoric surfaces in the vicinity of the features, their relatively uniform depths below the modern ground surface might indicate nearness in time, or even true contemporaneity. The fireplaces exhibit several morphological similarities: they are each 40-55 cm in diameter with depths about 10 cm below the plow zone-undisturbed deposits contact, and all are circular in outline, basin-shaped in profile, and incorporate sandstone rubble linings. The fills of the fireplaces are also similar, consisting of reddish local soils (probably wind- and water-deposited materials) with darkening or staining common near the surfaces of the basins.

Second Period of Use (Element 1)

The second use period was the more intensive in terms of total number of structures and features and has been designated as an element, implying greater investment in facilities than an episode. The major units are concentrated in the center portion of the site (Area 1), although other remains are distributed to both the east and west. The investigated phenomena as a whole constitute the remnants of an Anasazi residence unit; the usual physical complements of such a unit, including a roomblock, pitstructure, midden/sheet trash area, and peripheral outdoor features, are present; the layout of the structural units assigned to Element 1 is shown in Figure 15.8.

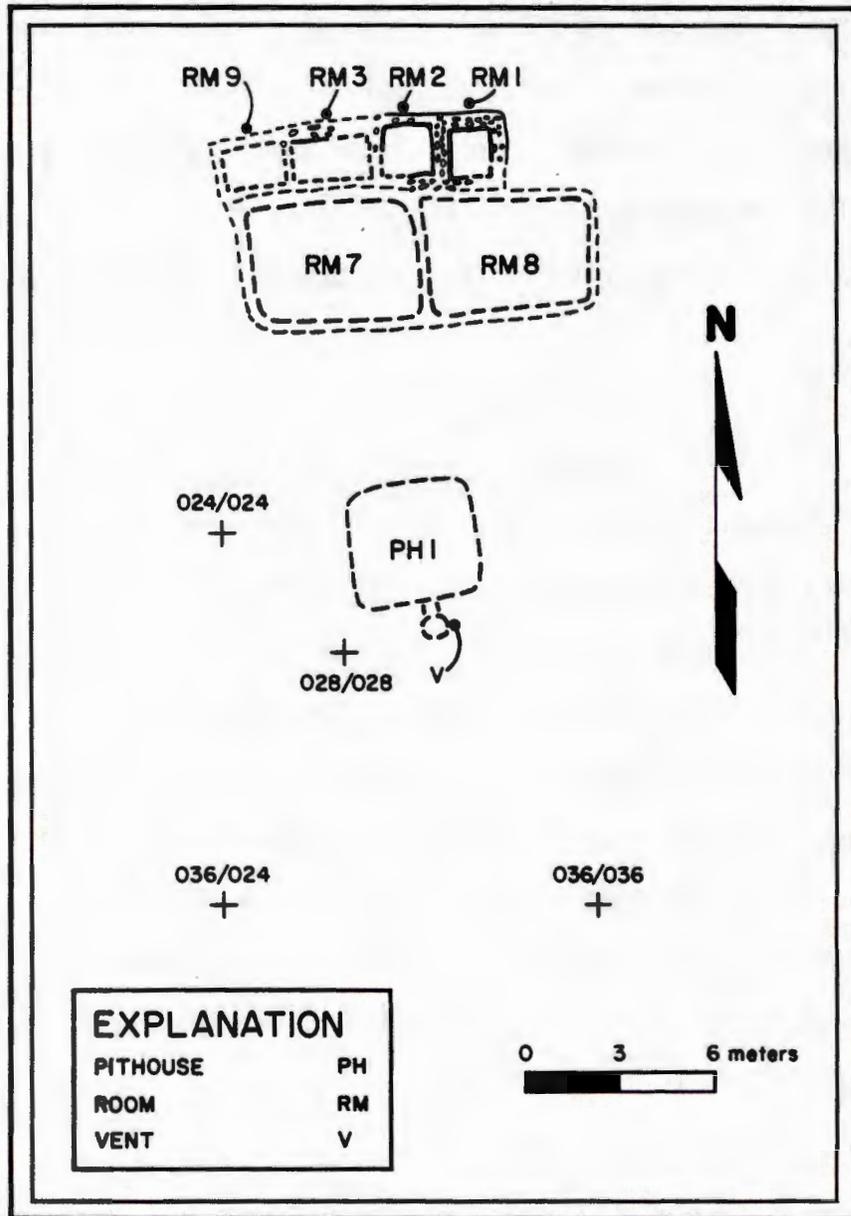


Figure 15:8 Structural units assigned to Element 1 at Horsefly Hamlet.

Pitstructure 1

Dimensions:

North-south diameter:	4.07 m
East-west diameter:	4.52 m
Depth from base of plow zone:	1.68 m
Total floor area:	22.5 m

Main chamber, south of wingwall:

Length (north-south):	ca. 1 m
Width (east-west):	ca. 4.5 m ²
Floor area:	4.5 m ²

Main chamber, north of wingwall:

Floor area:	18.0 m ²
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The testing operations undertaken to investigate this structure confirm that the architectural characteristics correspond to other Pueblo I pitstructures excavated in southwest Colorado (Brisbin et al. [9], Hayes and Lancaster [14], Farmer [15]). The structure is rectangular with rounded corners, incorporates a wingwall, central hearth, and ventilator system, and is 1.5-1.75 m in depth (Figures 15.9 and 15.10).

Fill sequence. The zone of burned roof fall which began at the floor and ranged from 10-55 cm in thickness contained very few artifacts. The area of thickest deposit was over the deflector and hearth area, possibly due to the placement of additional beams and supports in this area for the construction of the roof entryway. Figure 15.10 depicts the depositional sequence of the pitstructure. Above the roof fall zone, the sequence of fill appeared to be the result of natural deposition. This stratum was very similar to the native soil at Site 5MT2236 and originally made definition of the pitstructure very difficult.

Walls. During the testing of the structure, no evidence was found to indicate that the walls had been plastered. The walls were cut into sterile soil, with erosion evident in the upper portions, and were

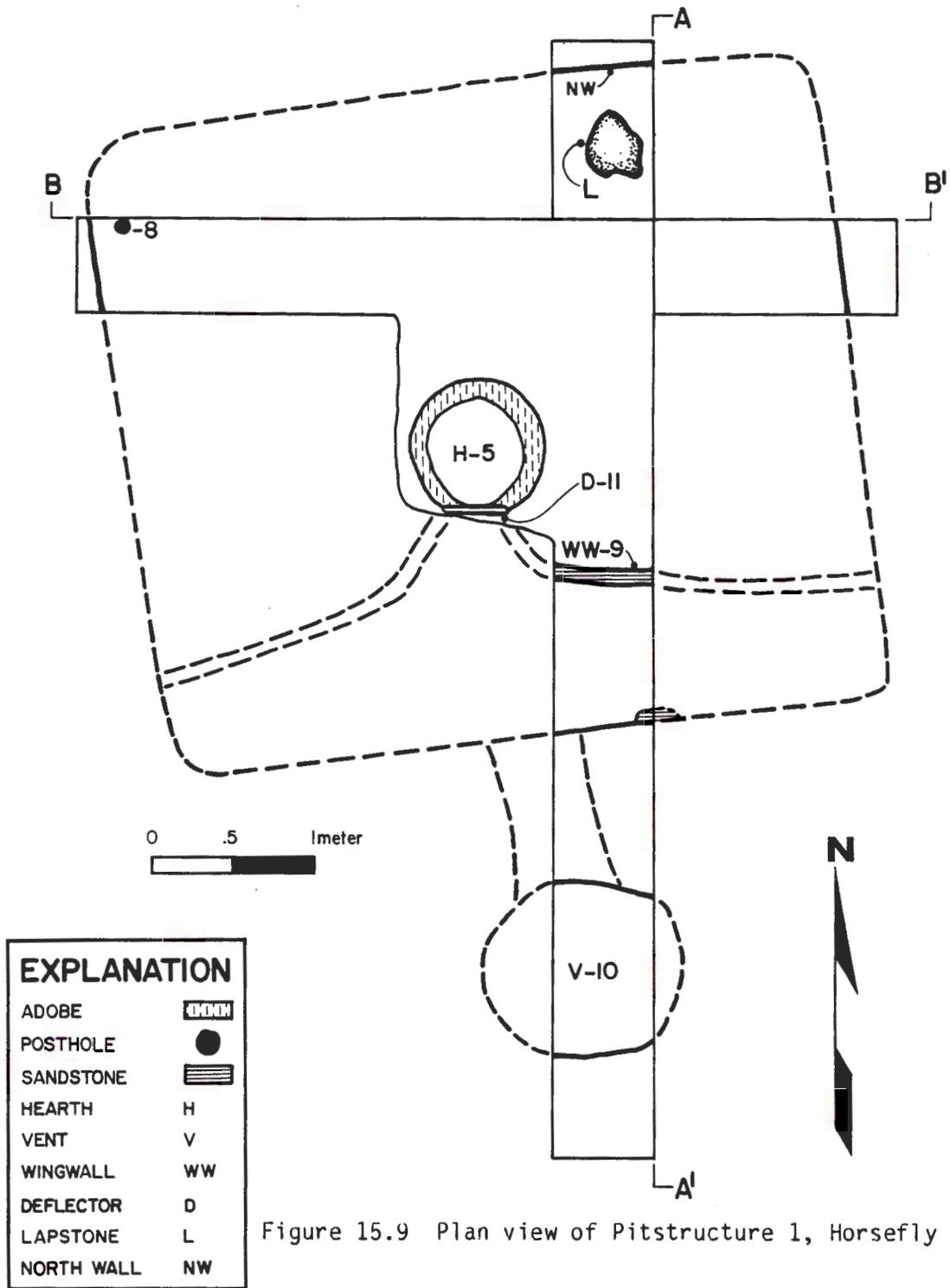
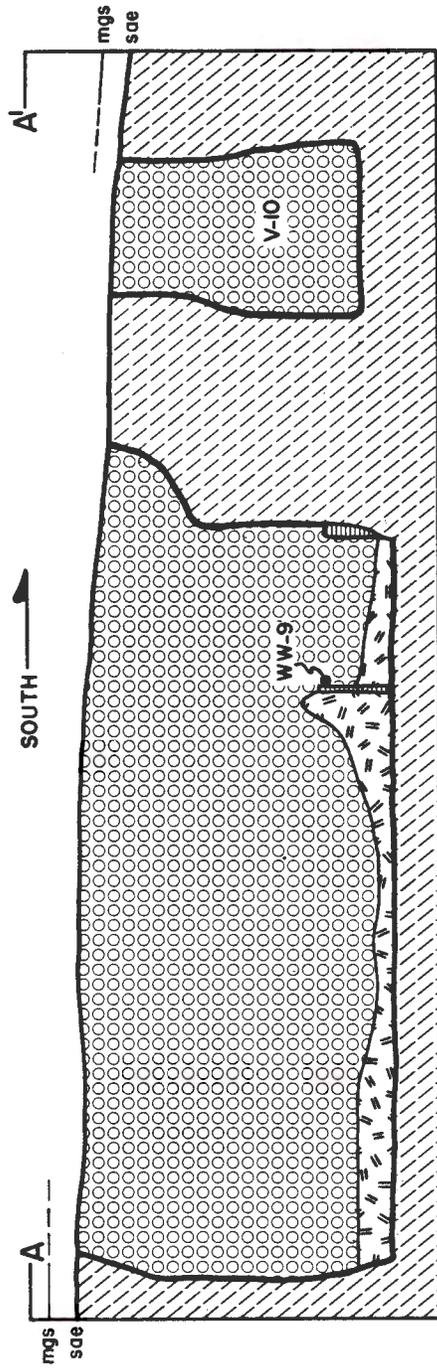
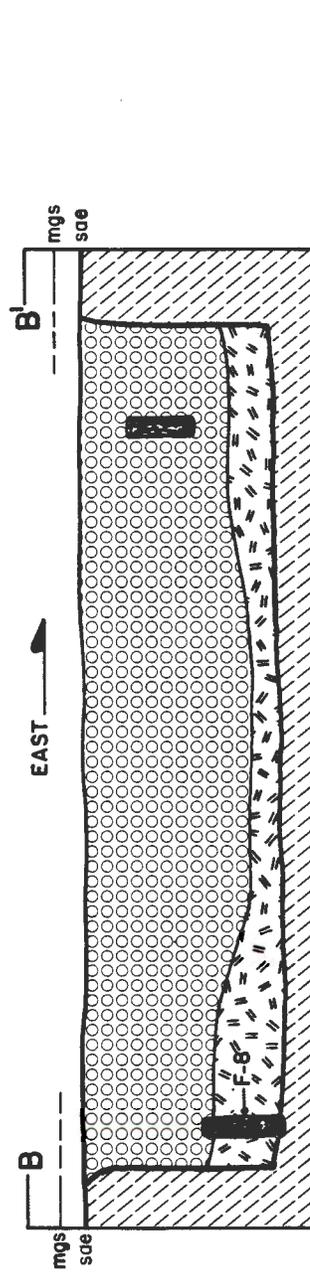


Figure 15.10 Stratigraphic profiles of Pitstructure 1, Horsefly Hamlet.



a. N-S



b. E-W



EXPLANATION	
	POST-ABANDONMENT FILL
	NATURAL DEPOSIT
	SURFACE AS EXCAVATED
	WINGWALL
	FEATURE
	ROOF FALL
	SANDSTONE SLAB
	BURNED STRUCTURAL TIMBER
	MODERN GROUND SURFACE
	VENT

vertical except for a slight curvature at the wall-floor juncture. No bench was evident in the profiles exposed by the backhoe trenches.

Floor. The floor of the pitstructure was a use-compacted surface containing areas which might have been floor-repair patches. The floor was of native soil with dark stains apparently due to continual use. A thin layer of sand that extended across the floor was also dark, suggesting that the lighter colored sand had mixed with soil, ash, and charcoal imported on the feet of the inhabitants. This deposit was thicker near the walls and thinner near the central hearth.

Central Hearth (Feature 4)

Dimensions:

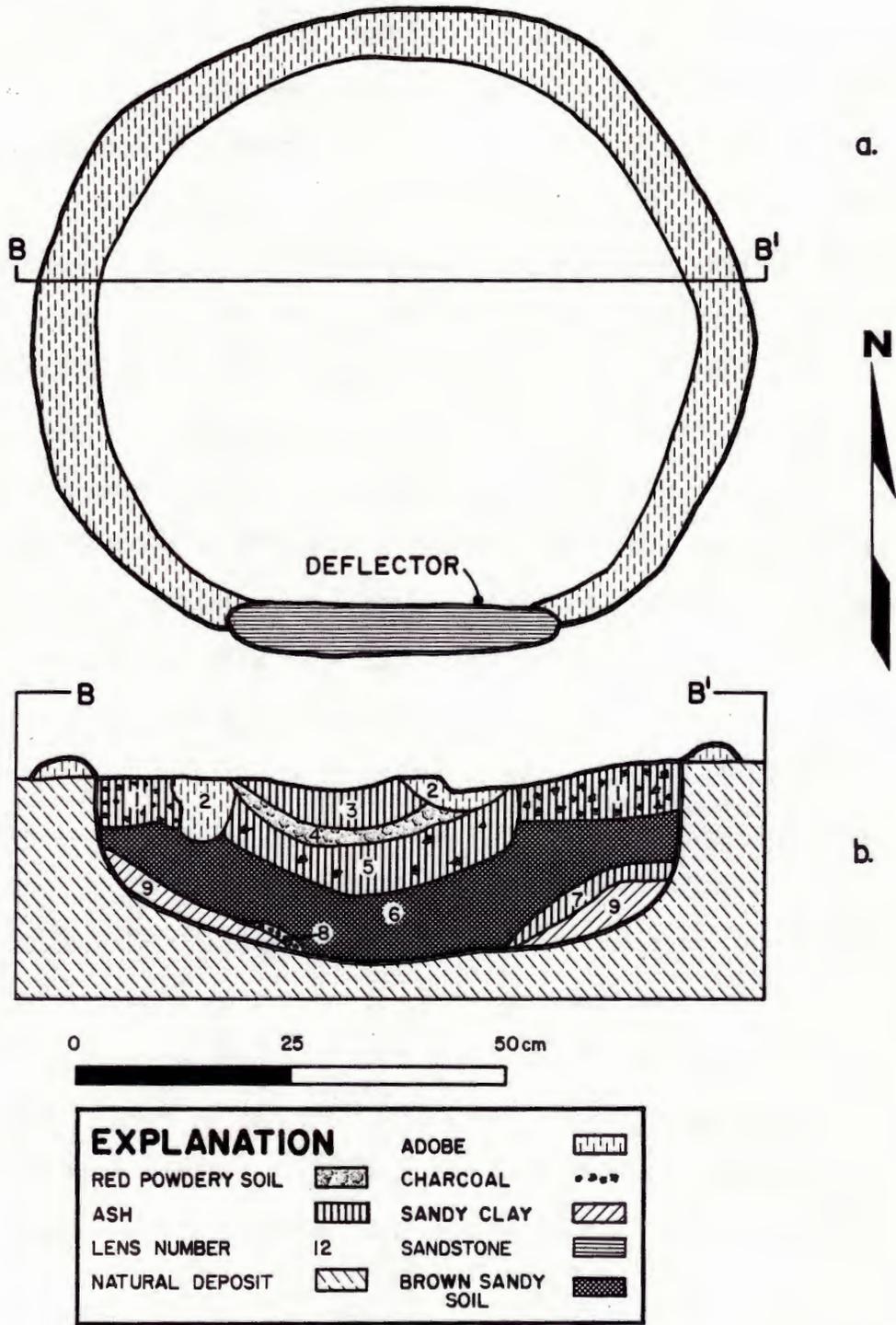
Length:	69 cm
Width:	68 cm
Depth:	25 cm

The hearth was a centrally located circular pit dug into the sterile soil below floor level (Figure 15.11). It was lined with clay which extended above the floor, forming a coped rim. The fill within the hearth was composed of nine strata. These are illustrated in Figure 15.11.

Several interpretations of the fill sequence are possible. Based on the nature of these strata, a gradual build-up of fill in the hearth from prehistoric use does not seem plausible. Strata 7, 8, and 9 might have been deposited during initial use of the hearth, and Stratum 6, a homogeneous sterile material, might have been placed there intentionally. Stratum 6 partially filled the hearth; Stratum 1 was deposited over it, possibly reflecting continued use of the hearth.

Another pit had been dug through Stratum 1 into Stratum 6, and an adobe ring (Stratum 2) placed around the rim of this second pit. This might have been done to retain the ash of Stratum 1. However, Stratum 1

Figure 15.11 Plan and stratigraphic profile of central hearth (Feature 5) from Pitstructure 1 at Horsefly Hamlet.



also represent ash which was scooped out of the remodeled hearth and deposited behind the second coping, rather than a stratigraphic layer that was in place before the construction of the adobe ring (Stratum 2).

Several central hearths in pitstructures in the Sagehen Flats Locality show evidence of remodeling: in Pitstructure 1 at Site 5MT2198 (Hewitt [16]) the hearth was enlarged; in Pitstructure 2 at Site 5MT2854 (Kuckelman [12]) the hearth was relined, making it smaller; in Pitstructure 1 at Site 5MT2854 the size of the hearth was also modified. These changes in size may reflect seasonal use: for example, a larger hearth, providing a greater amount of heat, would have been more desirable in winter than in summer. An alternative explanation is a later occupation of the pitstructure. The hearth might have been partially filled when the structure was abandoned and then reopened during a later occupation by either the same group or a different group, who added coping to prevent the uncompacted fill from eroding into the hearth.

The deflector, a sandstone slab 40 cm wide and 5 cm thick (Figure 5.9), was incorporated into the wingwalls and the coping of the original hearth (Figure 5.11). The same clay as was used to line the hearth was also used to plaster around the base of the deflector. Because the wingwalls and deflector were constructed as one unit, it seemed likely that adobe mortar would be found between the adjoining edges of the upright sandstone slabs; however, no indication of plastering over the deflector slab was found.

Wingwalls. The north-south backhoe trench removed a portion of the east wingwall (Figures 15.9 and 15.10). In the east wall of this trench is an exposed vertical sandstone slab which is part of the east wingwall;

it is 40 cm high and 4 cm wide. No plaster was found on the slab, but mortar was found where the base contacts the floor.

Roof. The pitstructure was tested only by trenching; the height and mode of construction of the roof are therefore unknown. Because the structure burned, many portions of the roof structure were preserved, including parts of roof beams, adobe roof molds, and an upright main support post (Feature 8). These preserved portions suggest that the roof was supported by four primary support posts, two located within the wingwalls, one in the northeast corner of the pitstructure, and one in the northwest corner. The recovered post remains were found in the northwest corner, within 15 cm of the wall (Figure 15.9). They include a charred section of wood which was collected as a dendrochronological sample.

Based on the assumed presence of four support posts, it is probable that roof construction was similar to typical structures of the same time and area. It is likely that, after the main support posts were erected, large beams were strung between them, with smaller beams laid horizontally across these stringer poles, and a thick layer of adobe added to cover the entire framework. Based on the depth of the pitstructure, the height of the superstructure extending above the prehistoric ground surface might have ranged from 20 to 60 cm, or more.

Floor artifacts. Only one artifact, a lapstone, was recovered from the floor of the pitstructure (Figure 15.9). This artifact was located in the northeast quarter of the structure. The general lack of artifacts suggests that the structure was cleared of cultural materials before it burned.

Samples. Good preservation of construction materials from the superstructure permitted the collection of 19 dendrochronological samples. The

lining of the lower hearth was also well preserved, and an archaeomagnetic sample (Sample 2) was collected from this lining (Appendix B).

Interpretations. The pitstructure corresponds to other such structures of the same period (A.D. 750-800) in size, shape, depth, and placement and characteristics of features. Evidence was found of a change in the size of the central hearth, which might have been the result of seasonal use requirements or may reflect permanent remodeling. The structure was cleaned of cultural materials at the time of abandonment; artifactual materials were nearly absent from the floor in the section excavated. The structure was probably also burned at the time of abandonment, since burned roofing materials were found in contact with the floor.

Surface Structures

Investigations in 1979 and 1981 were successful in identifying three certain and three possible surface structures or rooms. The six architectural units probably formed a single prehistoric roomblock of four smaller back rooms and two large front rooms (Figure 15.12). The possible presence of a roomblock north of the suspected pitstructure was not immediately obvious from the results of the magnetometer survey or from analysis of the distribution of surface collection materials (refer to discussion in Surface Investigations section).

Regular alignments of vertical sandstone slabs were noted upon removal of the plow zone stratum by mechanized equipment. Shovel and trowel work in the alignment area resulted in the definition of three contiguous rooms; these small rectangular rooms were designated Rooms 1, 2, and 3. In 1981 mechanical and hand work carried out to the east, south, and west of Rooms 1-3 resulted in the designation of three possible

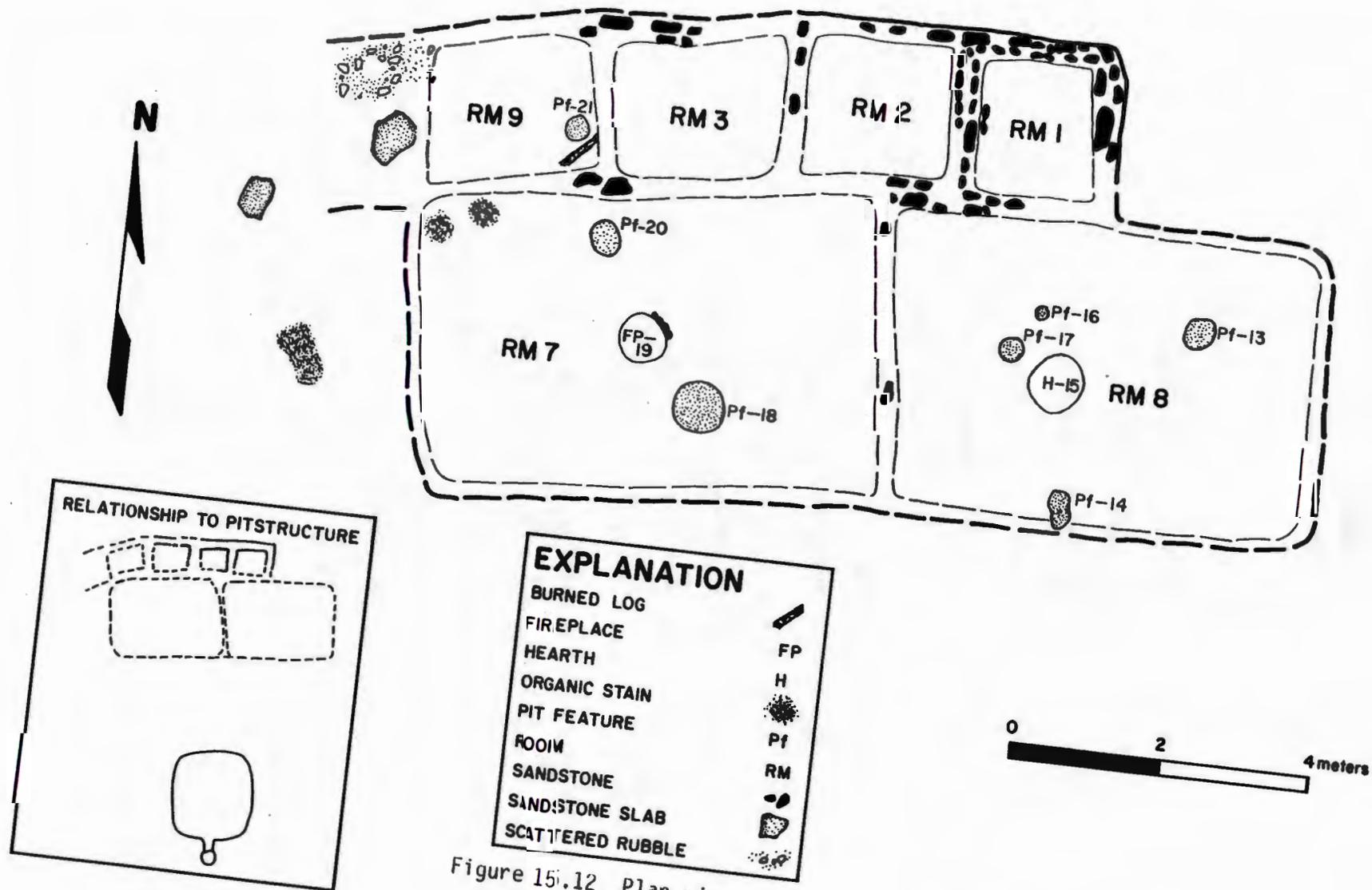


Figure 15.12 Plan view of roomblock, Horsefly Hamlet.

(?) additional architectural units, Room 9(?) to the west of Room 3, and Rooms 7(?) and 8(?) forming a second row to the south of Rooms 1, 2, 3 and 9.*

The evidence used to postulate the original presence of three additional rooms was not conclusive. Scatterings of construction materials (sandstone fragments, burned adobe casts, two sandstone slabs resembling door slabs, and one vertical sandstone slab in line with the back wall of Rooms 1-3) in the area west of Room 3 suggest the possibility of up to three additional rear rooms to the west. As much construction debris was located immediately west of Room 3, a room assignment (Room 9) was given to this area. Rooms 7(?) and 8(?) were assigned on the basis of regularly spaced features and the presence of a possible partition wall to the south of Rooms 1-3. These features (two hearths, several pits containing charcoal-stained soil, and other charcoal stains) appear to approximate the floor patterns observed in other early Pueblo I "living" rooms (e.g., compare Brisbin et al. [9], Brisbin [17]).

The two hearths might represent the central hearths of two front rooms and are positioned in the logical location for such features. They are also in the correct location if the site is symmetrical about a north-south axis corresponding to a line bisecting the pitstructure and generally corresponding to the possible partition wall. The evidence for such a wall consists of one north-south aligned vertical slab and a horizontal slab (possibly fallen) on the same alignment 2 m further south. The most tenable alternative hypothesis is that the features represent outdoor work

*Note: the designations Room 5 and Room 6 were originally assigned to possible units in the midden area. These were later voided based on the 1981 work.

areas or features in ramada-like structures. The lack of lower wall remnants and post foundations supports this alternative.

The six (or possibly seven or eight) rooms may form two "apartments," each consisting of a large front "living" room and two to four rear "storage" rooms; this reconstruction is consistent with descriptions of other Pueblo I roomblock units (e.g., Kane [1], Hayes and Lancaster [14]). All room units at Horsefly Hamlet appear to have been used contemporaneously; they exhibit no obvious remodeling or evidence of different abandonment periods.

Room 1.

Dimensions:

North-south:	ca. 1.8 m
East-west:	ca. 1.4 m
Floor area:	ca. 2.5 m ²

Room 1 (Figure 15.12) was the most substantial of the surface structures in Area 1. The remains of the walls consist of double rows of sandstone set into the sterile soil; these stones probably served as a foundation for a jacal or adobe superstructure. From the existing evidence, it is impossible to determine the height of the roof. The west wall of Room 1 also served as the east wall of Room 2. The entrance to Room 1 was perhaps located in the south wall, as indicated by the absence of vertical stones.

A floor test indicated that the walls and original fill of Room 1, except for the lowest 5 cm, were destroyed or highly disturbed by historic plowing. The lower intact fill appeared to be similar to the red loess B horizon in the immediate area; it is thus thought that the fill deposits represent deposition by natural forces. The lower intact fill stratum and the upper plow zone yielded very few artifacts. The floor test indicated

a use-compacted surface with little artifactual material at the base of the vertical wall slabs; the floor was therefore not further investigated, a decision consistent with standard D.A.P. testing program procedures (Kane et al. [18]).

Room 2.

Dimensions:

North-south:	ca. 1.8 m
East-west:	ca. 2.0 m
Floor area:	ca. 3.6 m ²

Room 2 was similar in construction to Room 1, having a double row of vertical stones serving as basal supports for jacal or adobe walls (Figure 15.12). Many of the stones forming the walls were displaced during historic plowing of the site and removal of the plow zone at the site. The fill in Room 2 contained more artifactual material than did that in Room 1. This may reflect contrasting prehistoric uses of these two structures. No prepared floor surface was found in the room; however, a definable contact zone was encountered at the juncture between the fill deposits and undisturbed native soil, perhaps representing use compaction. As in Room 1, the floor of Room 2 was not investigated except for a small (0.5 by 0.5 m) test square.

Room 3.

Dimensions:

North-south:	ca. 1.8 m
East-west:	ca. 2.2 m
Floor area:	ca. 4.0 m ²

The only material remnant of Room 3 encountered was a line of vertically set stones approximately 1.6 m in length which represents the north wall of the structure (Figure 15.12). The inferred wall lines shown .

the figure were placed so that the size of Room 3 would be similar to the other back rooms.

The fill of the structure was a fine reddish soil with no cultural inclusions; it appeared to be the same as the B horizon soils encountered in other parts of the site. The floor surface of Room 3 was not systematically investigated.

Room 9(?). The 1981 investigations conducted west of Room 3 revealed scattered construction materials, perhaps representing one or more additional rear rooms (Figure 15.12). All former prehistoric use surfaces and lower walls were apparently destroyed by historic plowing. Dimension estimates for these possible structures are unjustified; the room(s) may have been of roughly the same size as Rooms 1, 2, and 3.

Room 7(?).

Dimensions (inferred):

North-south:	ca. 4 m
East-west:	ca. 5 m
Floor area:	ca. 20 m

Room 7 is the possible western front room (Figure 15.12). No wall remnants or post foundations were discovered; hence no description of these construction features is possible.

The original fill of the room had been severely disturbed by plowing, and no artifactual materials were noted during removal of the plow zone stratum. A horizontal soil unconformity was noted at the same level as the features and this may represent a use surface, although a more reasonable inference is that it is the undisturbed native soil-plow zone contact. This interpretation is supported by the lack of artifactual materials on the "surface" and the smeared or truncated appearance of the

features. The latter consist of a hearth, two pits containing charcoal-stained soil, and several dark charcoal smears on the unconformity contact surface.

Fireplace (Feature 19):

Dimensions:

Diameter:	60-65 cm
Depth:	15 cm

In form, the feature is essentially a circular, basin-shaped pit (Figure 15.12). Sandstone slabs line the northern and eastern sides. The sides and bottom exhibit slight oxidation indicating in situ burning. No formally constructed rim was noted; perhaps it was destroyed by plowing. The fill of the fireplace consisted of charcoal and charcoal-stained silt. No laminae were noted.

Pit features (Features 18 and 20):

Dimensions (Feature 18):

Diameter:	60-72 cm
Depth:	15 cm

Dimensions (Feature 20):

Diameter:	50-52 cm
Depth:	not ascertained

Both pits are circular in plan and basin-shaped in profile (Figure 15.12). The rims of both features appear to have been destroyed by plowing. The fill of Feature 18 consisted of charcoal-stained fine silt with no evidence of in situ burning; Feature 20 was not excavated. Because of the scant evidence available, inferences as to the function of these pits were not formulated.

Other findings: Several irregular charcoal smears were discovered on the plow zone-native soil contact near the western boundary of the room. No interpretation of these traces has been attempted.

Room 8(?):

Dimensions (inferred):

North-south:	ca. 4 m
East-west:	ca. 5 m
Floor area:	ca. 20 m ²

Room 8 is the possible eastern front room. The archaeological context of Room 8 is similar to that of Room 7: severe disturbance by plow, few artifacts in the plow zone, no evidence of wall remnants, and the presence of a plow zone-undisturbed soil contact surface. A hearth, a pit feature, and three charcoal stains were associated with the contact surface.

Hearth (Feature 15):

Dimensions:

Diameter:	78-80 cm
Depth:	20 cm

The hearth, located near the center of the possible room, is a circular, basin-shaped pit; the rim appears to have been destroyed by plowing. The fill of the feature consisted of charcoal fragments and blown- or washed-in local soil. It was termed a hearth because of its size, form, and fill characteristics.

Pit feature (Feature 13):

Dimensions:

Diameter:	40-45 cm
Depth:	14 cm

Feature 13 is located east of the hearth in the northeast quarter of the room. The pit is circular in outline and basin shaped in profile. The fill consisted of fine, reddish soil with charcoal stains. No inferences are offered regarding the possible function of this feature.

Other findings: Three other regular charcoal stains were discovered, but not excavated. Feature 14 is located south of the hearth near the hypothetical south wall of the room. Features 16 and 17 are located northwest of the hearth. These features, most likely pits of some type, were not excavated and no hypotheses are presented regarding their function.

Midden or Sheet Refuse Area

The distribution of site surface collection materials suggested the presence of a midden or sheet trash area centered approximately 24 m southwest of the pitstructure. The extent of the midden area appears to be about 35 m east-west by 20 m north-south. The original midden deposits apparently were relatively shallow (less than 30 cm in depth) and have been extremely disturbed by plow cultivation. Three features--two burials and a hearth--were recorded near the center of the midden.

Burial 1 (Feature 6). The first human burial was encountered during stripping by backhoe of the plow zone south and west of the pitstructure. It had been extremely disturbed by historic plowing, rodent activity, and erosion. No burial pit could be defined, and only fragments of bone were recovered. No artifactual materials were found directly associated with the remains. The location of the burial suggests that the remains had simply been placed in the center of the midden deposits; this coincidence suggests the individual was interred when the midden was active; it may therefore be associated with the roomblock-pitstructure residence unit.

Burial 2 (Feature 7). The second burial was also discovered during removal of the plow zone; it is located near the center of the midden area about 6 m northeast of Burial 1.

The archaeological context was similar to that of Burial 1: the feature consisted of a scatter of fragmentary bones without recognizable grave goods or an identifiable burial pit; one Moccasin Gray sherd was found within the limits of the feature. Burial 2 is also believed to be associated with the residential roomblock pitstructure complex to the northeast.

Hearth (Feature 12). This feature was also discovered during removal of the plow zone from the site; it is located in the midden area about 6 m northwest of Burial 1. The location of the feature was mapped, but it was not otherwise investigated because of other scheduling priorities and inclement weather.

Other Remains

Only one other feature was discovered during investigations at Site 5MT2236.

Fireplace 3 (Feature 4).

Dimensions:

Length:	1.10 m
Width:	1.06 m
Depth from base of plow zone:	35 cm

The feature is located approximately 40 m east of the roomblock-pitstructure residential unit. Its architectural characteristics and fill artifacts suggest affiliation with the Anasazi Tradition, although its assignment to the residential occupation (Element 1) is based primarily on spatial association.

This feature is a large, slab-lined, basin-shaped pit which perhaps served as a roasting pit. It was dug into the native undisturbed soil, and its sides and base were lined with sandstone slabs. There are two layers of slabs at the base of the pit. The fill above both layers was a silty loam; a charcoal-filled, clay soil occurred under the upper sandstone lining and also under the second layer of stone. A radiocarbon sample was recovered from the fill, and an archaeomagnetic sample (Sample 1, Appendix A) was taken from the feature. Cultural material found in the fill consisted of two gray ware sherds, one flaked lithic item, and one nonhuman bone.

Summary and Interpretations

The second use period (Element 1) is thought to represent an Anasazi habitation with a pitstructure, roomblock, midden, and peripheral area. This conclusion is based on archaeological analogy and on consistencies among the units in architectural and artifactual styles. The plan of the habitation (roomblock, pitstructure, and midden on a north-south axis) is similar to other project area and southwest Colorado Pueblo I sites (Brisbin et al. [9], Hayes and Lancaster [14]). There are no temporal discrepancies among the three units when considering architecture of rooms versus pitstructures or architecture versus ceramic types, etc.

The pitstructure is subrectangular in plan and exhibits an assumed four-post roof pattern, a central hearth, a wingwall, and a ventilator system. It possesses no unusual characteristics when compared to other Pueblo I pitstructures investigated in southwestern Colorado. No functional interpretations of the structure are possible given the limits of the information available from the testing operations.

Architectural remains in the roomblock area consist of four to six small rear rooms and two possible large front rooms incorporating a central hearth. The spatial plan of the unit can be interpreted as two apartments with integral storage and living units. The roomblock is aligned in a symmetrical fashion with Pitstructure 1, and, together, these units are assumed to represent a prehistoric residence. The architectural pattern exhibited at Horsefly Hamlet is similar to those discovered at other Pueblo I sites in southwestern Colorado (Farmer [15], Hayes and Lancaster [14], Brisbin [17]).

An oval area south and west of the pitstructure is assumed to represent a midden or sheet trash area because of the higher density of surface materials in the area and the discovery of two human burials in the area of highest concentration. An alternative hypothesis is that this area represents surface rooms destroyed by plowing and the burials were placed in the rooms after abandonment. In 1979 two room numbers (5 and 6) were tentatively assigned to ambiguous deposits within this area for consistency with this interpretation. The 1981 investigations did not reveal any features or surfaces representing former rooms in the units assigned in 1979; backhoe tests were conducted in an area, south of the possible rooms, thought to be the most likely location for a possible pitstructure. These tests quickly proved negative; hence the midden hypothesis is judged to be the most likely alternative.

MATERIAL CULTURE

The assemblage of artifacts collected from Horsefly Hamlet was limited by design; 50 percent of modern ground surface was collected (Figures 15.3, 15.4, and 15.5) and only limited test excavations were conducted in architectural units. Blading of the site, which followed surface collection, removed the plow zone and any subsurface patterns of artifactual distribution that might have existed within it. The postblading artifact collection was biased in that only diagnostic artifacts (e.g., rim sherds and projectile points) were collected.

Test excavation included exposure of surface structure walls and excavation of surface features. Very few cultural materials were collected as a result of these efforts. Testing in the pitstructure occurred primarily in the form of north-south and east-west backhoe trenches. The collection of artifacts in the pithouse was sparse, due not only to the limited excavation but also to the relative scarcity of artifacts in the pithouse fill and on the floor of the structure.

Ceramics

A variety of ceramic types was recovered from Site 5MT2236. These ceramics can be separated into two basic time periods of the Anasazi Tradition: Pueblo I (A.D. 750-900) and Pueblo II (A.D. 900-1100).

Most sherds found at the site were nondiagnostic gray wares. The majority of these were placed by analysis in an Early Pueblo Gray (pre-A.D. 900) category. Others were Late Pueblo Gray sherds and corrugated body sherds (post-A.D. 900). The ceramic sample from the site

also included Chapin Gray and some Early Pueblo White and Early Pueblo Red.

The ceramic assemblage associated with the early Pueblo I residence (modern ground surface, plow zone, and fills from the roomblock area, pitstructure area, and midden) is dominated by early types including Chapin Gray, Mocassin Gray, and Early Pueblo Gray, all of the Mesa Verde Gray Ware series; Early Pueblo White of the Mesa Verde White Ware series; Tallahogan Red (a Kayenta trade ware); and Early Pueblo Gray of the Cibola Gray Ware series. Four sherds representative of later periods (two Late Pueblo Gray; one Corrugated, of the Mesa Verde Gray Ware series; and one Mancos Black-on-white, of the Mesa Verde White Ware series) were also recovered from the plow zone stratum over the residence unit. The assemblage, albeit insufficient for statistical manipulation, is consistent with other site data (architecture, tree-rings, archaeomagnetic data) relevant to temporal formulations, and supports an early Pueblo I (A.D. 750-800) occupation. The four late sherds probably represent temporary use or visitation of the site area by later Anasazi individuals or groups after the residence unit was abandoned. The trade ware sherds (Kayenta and Cibola tracts) may represent direct or indirect contact with prehistoric groups in northeastern Arizona and northwestern New Mexico.

The assemblages from the eastern portions of the site and the roomblock-pitstructure area contain only early types. These would seem to represent the broader spatial limits of materials from the early Pueblo I resident unit, and not other prehistoric usages. Two Early Pueblo Gray sherds were recovered from the fill of Feature 4 (the fireplace near the eastern limit of the site), and this presence supports the assignment of

this feature to the early Pueblo I residence. A quantitative summary of the ceramic assemblage is presented in Appendix C.

Lithics

Analysis of the lithic artifact assemblage recovered from the site (see Appendix D) supports the primary interpretation of two site components, the earlier representing the Archaic Tradition and the later representing the Anasazi Tradition. The alternative interpretation of three components including an early (Late Basketmaker III) Anasazi occupation in the southwestern quarter of the site was not supported by the lithic analysis.

Because the modern ground surface at the site was the top of the plow zone, the artifact distribution could not be interpreted in any way that would indicate activity areas within the separate occupation areas. Also, no occupational surfaces were revealed by blading, possibly due to the fact that the plow zone extended below the occupational surfaces; artifact collection from this bladed surface and from the test excavation was so small and biased that few interpretations could be made.

The lithic assemblage recovered from Horsefly Hamlet contains several items which are useful in temporal interpretations of the site. Three projectile points are included in the collection (Figure 15.13). One (b, in Figure 15.13) is fragmentary, but exhibits possible Archaic characteristics, including size, form, and quality of manufacture. It is similar to a type reported by Rohn [19] and by Schlanger [20]. Two others (Figure 15.13, a and c) were collected during the 1972 initial site visit and were not included in the 1979-1980 analysis of materials. Phagan, the D.A.P. lithic specialist, has examined the two items in light of a projectile

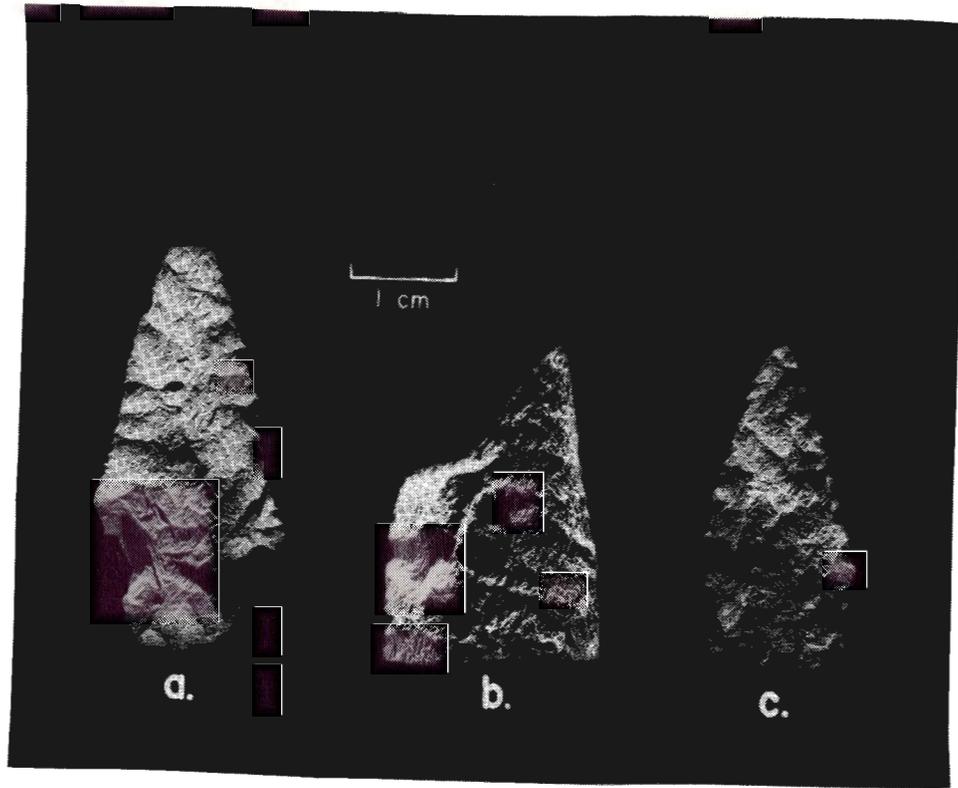


Figure 15.13 Possible Archaic projectile points from Horsefly Hamlet.

point study undertaken by the lithics analysis staff (Phagan and Vierra [21]). His conclusions (C. Phagan, personal communication) are that the two points most closely resemble items assigned to Type 4, a category with no obvious temporal associations that occurs throughout the Anasazi sequence and perhaps the Archaic as well. Subjectively, the points appear to exhibit characteristics similar to those illustrated for the Armijo and En Medio Archaic complexes by Irwin-William [8:Figures 5 and 6].

Two one-hand manos were found in Area 3; another was found in Area 2 during surface collection. There were several other possible one-hand manos discovered at the site, but they were too fragmentary for their type to be determined. One of these indeterminate one-hand manos had apparently been used in the construction of the Anasazi residence roomblock.

The three possible Archaic one-hand manos shared several characteristics: each of them was bifacially ground, and each was unidirectional in its grinding use. Only one of the three one-hand manos showed edge use; its ends had apparently been used for pounding.

Two metate fragments were recovered from the site. Analysis determined one of these to be from a slab metate which was bifacially ground and used in a unidirectional manner. The other fragment was listed as indeterminate as to morphological-use category but was possibly from a trough metate.

The remaining lithic artifacts from the site appear to be from Pueblo I and Pueblo II periods but are not distinctive enough to be given a temporal designation.

The sample of flaked lithic debitage collected from the site was too small and the types of materials too diverse to allow any inferences about

use areas at the site. There was, however, a grain size difference in the debitage from the three areas. It was anticipated that the Archaic component (Area 3) should contain less nongranular debitage, since tools of these material types would more likely be of nonlocal origin, carried into the area in a finished or near-finished state by more nomadic Archaic people. However, this component, along with Area 1, contained more such nongranular debitage, while Area 2 had less nongranular material, along with the greatest proportion of fine-grained debitage. This apparent inconsistency may reflect variation in discard, versus use, contexts, or may be due to sampling error.

Human Remains

The two burials in Area 2 were severely eroded and disturbed and consisted mainly of small fragments. The condition of the burials allowed no inferences to be made concerning the individual or individuals represented except that the long bones represent adults.

Burial 1 contained a right-femur shaft, 2 tibia-shaft fragments, 4 clavicle fragments, 4 long-bone fragments, and about 60 very small unidentifiable fragments. Burial 2 consisted of 3 facial bone fragments (zygomatic), 2 rib fragments, 4 long-bone fragments, and a number of unidentifiable fragments. Analysis of the human remains was performed by L. Flander of the Anthropology Department, University of Colorado.

Faunal Remains

Faunal material at the site was recovered from excavated soil screened through one-quarter-inch mesh. Twenty-six bones were found, one of which is worked. More than half of this material was recovered from

the midden in the area of the human burials. Sixteen of these bones were from a single cottontail (Sylvilagus sp.) which may have been intrusive and not related to prehistoric activity at the site. The worked bone, from an unidentifiable large mammal, was recovered from the fill of the pitstructure. The limited nature of the data precludes any observations or inferences regarding patterns of prehistoric faunal procurement or use.

Dating Samples

Tree-Ring Dating

A total of 19 dendrochronological samples was recovered from the site, all of them from the pitstructure. The samples were recovered from a stratum apparently representing roof materials; the samples themselves almost certainly represent burned roofing timbers. Each of these samples was from ponderosa pine (Pinus ponderosa). Of the 19 samples, 8 were suitable for dating. The analysis was performed and results were tabulated by the Tree-Ring Laboratory, University of Arizona; the results are listed in Table 15.1.

Table 15.1 Tree-Ring Dates for Samples
Recovered from Horsefly Hamlet

Provenience	Date	
	Inside	Outside
Pitstructure 1:		
Roof fall	0728p	0758vv
Roof fall	0725	0760vv
Roof fall	0728p	0761vv
Roof fall	0718	0762vv
Roof fall	0720p	0762v
Roof fall	0727p	0765vv
Roof fall	0729p	0765vv
Roof fall	0722p	0765r

Key:

- p - pith ring present
- v - a subjective judgment that, although there is no direct evidence of the true outside on the specimen, the date is within a very few years of being a cutting date
- vv - there is no way of estimating how far the last ring is from the true outside
- r - less than a full section is present, but the outermost ring is continuous around available circumference

A clustering of dates in the early 760s is exhibited in Table 15.1, including one cutting date of A.D. 765. It can probably be concluded, therefore, that timbers for the pithouse roof were felled and transported to the site around A.D. 765, and that construction and occupation of the structure probably took place in that year, or soon afterward.

Archaeomagnetic Samples

Two archaeomagnetic samples were obtained at the site from in situ features exhibiting burning. The first (Sample 1) was recovered from the isolated fireplace (Feature 4) located near the eastern limit of the site; the second (Sample 2) was obtained from the central hearth of the pitstructure (Feature 5). Both features were assigned to Element 1, the Anasazi habitation, and therefore the use date for both features was thought to be in the range A.D. 760-780. The samples were analyzed at Colorado State University during the winter of 1979-1980 (see Appendix A). The results of the work indicate that Feature 4 was used around A.D. 1150 (\pm 65 years) and Feature 5 either around A.D. 750, 980, or 1475 (\pm 35 years; the ambiguity is the result of overlapping portions of the Southwest paleopole master curve at the plot of Sample 2). The analytical results for Sample 2 are consistent with other dating evidences, while the results for Sample 1 are contradictory.

Radiocarbon Samples

One radiocarbon sample was recovered from the site; the sample was obtained from burned vegetal materials in the fill of Feature 4 (the isolated fireplace on the eastern extremity of the site). The sample has not been analyzed because of the low potential for providing additional or more exact dating information. Unfortunately, none of the fireplaces thought to represent the Archaic occupation yielded enough organic material for collection of a sample.

Interpretation

The tree-ring sample analysis supports a use date range of A.D. 760-780 for the Anasazi pitstructure. The archaeomagnetic date of A.D. 750 \pm 35 years obtained from the central hearth is collaborative evidence for this assessment. The archaeomagnetic date of A.D. 1150 \pm 65 years obtained from Feature 4 is problematic; it may indicate a later (Sundial Phase) occupation of the site, or an error due to unsuitability of the original sample matrix or manipulations during the recovery of the sample. No samples representing the Archaic use of the site were recovered.

CONCLUSIONS

Chronology

The primary chronological interpretation based on the available architectural and artifactual evidence and on the results of the dating sample analyses is that Horsefly Hamlet contains two temporal components. The earlier occupation is thought to represent the Archaic Tradition; hard evidence for this component is mainly in the form of lithic artifacts (three one-hand manos and three projectile points) exhibiting Archaic styles. No dating samples representing this occupation were recovered and relative dating based on artifact styles must remain very general. Unfortunately, because of plowing the materials representing this occupation and the later Anasazi component were mixed and inseparable; hence, relative dating must be based on individual artifacts and not on assemblages. The projectile points thought to reflect Archaic use might be similar to types described for the Archaic Tradition of northwestern New Mexico by Irwin-Williams [8]. Based on the illustrations and diagrams provided in this monograph, the Horsefly Hamlet points might be similar to those described for the Bajada Phase (4800-3200 B.C.) or the San Jose Phase (3200-1800 B.C.). One-hand manos are cited by Irwin-Williams [8:8] as appearing about 3000 B.C. and persisting until after A.D. 500. Assuming that the projectile points and hand stones represent one depositional event, the most logical date range for the Archaic occupation would be about 3000-2000 B.C.

The Anasazi component is more amenable to chronological interpretation. Tree-ring and archaeomagnetic analyses firmly support an occupation in the 760s and 770s for the pitstructure, and, assuming normality in

residence patterning, for the roomblock and midden area as well. As no positive evidence for major architectural remodeling was discovered (realignment of walls, reroofing using different postholes, etc.) and the midden deposits were relatively shallow, it is inferred that the Anasazi occupation was brief, probably 10-20 years.

There is some evidence for later, short-term use of the site area by Anasazi groups. Included in this category are two corrugated Mesa Verde Gray Ware sherds, two Mancos Black-on-white sherd, and a slab metate (all from scattered surface and plow zone proveniences, including initial survey data) and the A.D. 1150 \pm 65 archaeomagnetic date from Feature 4. The last is problematic in that it is not supported by other sources of evidence: the fill of the feature contained plain Mesa Verde Gray Ware sherds which suggest affiliation with the pitstructure and roomblock complex rather than a later occupation. The later sherds and slab metate were recovered from proveniences 10 or more meters away from the feature. Because the evidence for the late Anasazi use or visitation is so slight, a formal project temporal unit was not assigned.

Integration of Spatial and Temporal Units

Formal assignments of units integral to the D.A.P. Spatial and Temporal Series (Kane [1]) were made for both the Archaic and Anasazi components identified at Horsefly Hamlet. The Archaic occupation was assigned an episode number; an episode is defined by the project staff as a temporary or seasonal visitation to a particular location for a specific purpose. The responsible group might construct low-input facilities such as hearths or temporary shelters while pursuing their objectives; the emphasis is on short-term use (Kane and Phagan [22]). The Anasazi compon-

ent was assigned an element number; an element differs from an episode in that permanence, or a major investment in facilities, is implied. The most common representations of an element are architectural construction and use at habitation sites (Kane and Phagan [22]). These temporal units were then assigned spatial units (interhousehold clusters, household clusters, use areas, and activity areas; Kane [5:33-44]) to provide a "snapshot" description of the site at the designated time points. A temporal/spatial interpretation of the site data is outlined as follows.

Episode 1

This unit represents the Archaic occupation and can be assigned a "best guess" date of 2500 B.C. \pm 500 years. The occupation appears to be nonpermanent and perhaps seasonal in nature. The episode was apparently limited spatially to the east-central portion of the site and was centered on the three stone-lined fireplaces in this area.

Use Area 1. This designation was given to the area containing the three fireplaces; the exact dimensions of the area actually used by prehistoric individuals or groups cannot be reconstructed because of historic plowing which destroyed the prehistoric ground surface. Perhaps the occupation was confined to the immediate vicinity of the fireplaces; if so, the dimensions of the area would be approximately 20 m northwest-southeast by 10 m northeast-southwest with a surface area of about 230 m².

Activity areas. Within the use area, the three fireplaces are presumed to be centers of activity. As these features were devoid of artifactual materials, the activities performed at the fireplace loci must remain conjectural. If the use area functioned as a temporary or seasonal camp, then the hearths may have served as centers for activities such as equipment repair, raw material and food preparation, absorbing warmth, etc.

Element 1

This temporal unit represents the Anasazi Pueblo I occupation and can be assigned a fairly certain date of A.D. 760-780. The occupation is a permanent or semipermanent habitation with substantial architectural facilities. Based on artifact and feature distributions, the inhabitants made use of most of the central and western portions of the site (roomblock, pitstructure, and midden) plus the area around Feature 4, the slab-lined fireplace near the eastern limit of the site grid. The element has been assigned three spatial units at the household or interhousehold level (Kane [1]): an interhousehold cluster representing the space used by all groups at the site (probably about 1300-1400 m², including the pitstructure, roomblock, midden, and peripheral space at the site) and two household clusters centered in the roomblock area (probably about 25-30 m² of roofed structural space apiece, plus additional extramural space). This interpretation is based on several assumptions: first, that there are two "apartments" in the roomblock area, each consisting of a front living room and several back storage rooms; second, that the inhabitants of each "apartment" shared the pitstructure and midden areas. That is, one apartment or household cluster would consist of the western front room (Room 7) plus the two western rear rooms (Rooms 3 and 9), while the other consists of Rooms 8, 1, and 2 (the eastern rooms).

Use Area 2. This is the midden or sheet refuse area, which is thought to have been used by both households. The midden area is about 25 m in diameter, with a surface area of about 500 m². The midden has been severely disturbed, but was probably about 25-30 cm in depth at the center and more shallow near the perimeter.

Activity areas. The primary activity associated with the midden is

assumed to be discard of refuse materials; finer estimations of specific functions are impossible given the scope of the field investigations and the disturbance by plowing. Three individual activity areas have been assigned: two burial areas and one processing area. The former are centered on the human remains discovered during the blading and represent primary inhumations. The latter is centered on the hearth in the northwest quarter of the midden (Feature 12); because of the lack of associated artifactual material, no substantial interpretations can be made regarding activities centered at the hearth except that processing by heat was involved.

Use Area 3. Use Area 3 is the pitstructure; total roofed area of the structure is about 22.5 m².

Activities. The pitstructure was only tested to ascertain architectural characteristics; the floor was not systematically investigated. Interpretations regarding activities centered in the structures must therefore be of a cursory nature. The structure is thought to have been used by members of both resident households applying the standard D.A.P. interpretation of pitstructure function (see Kane [18]), and many activities were probably performed around the central hearth (Feature 5).

These activities probably included cooking and other activities requiring heat and/or light. The lapstone encountered near the northern wall is perhaps indicative of additional activities involving use of this implement.

Use Areas 4-7. These represent functional areas in the roomblock. Use Areas 4 and 5 are the living areas for Household Clusters 1 and 2, respectively. Use Area 4 corresponds to Room 7 and Use Area 5 corresponds to Room 8. Each contains about 20-25 m² of roofed space. Use Areas 6

and 7 represent the rear rooms assigned to Household Clusters 1 and 2. Use Area 6 consists of Rooms 3 and 9 and possible additional units to the west; Use Area 7 consists of Rooms 1 and 2; these use areas contain about 4 m² of roofed space.

Activities. Again, comprehensive interpretations are impossible because of the limited nature of the field information. Use Areas 4 and 5 are assumed to represent living spaces because of their size and position, and because they incorporate central hearths. Use Areas 6 and 7 are assumed to be space for storage and miscellaneous household activities, again because of their size, position, and lack of internal features. These interpretations are consistent with those contained in descriptions of such units at other Pueblo I sites (Brew [23], Hayes and Lancaster [14], McKenna [24]).

Use Area 8. Use Area 8 represents the peripheral area around the midden, pitstructure, and roomblock. Its outer boundaries are indistinct but include Feature 4 (near the western limits of the site).

Activities. Again, few interpretations are possible because of the mode of investigation and the destruction by plowing. Feature 4 probably served as the location of a specialized activity employing heat processing.

Adaptation and Economy

Episode 1

From the existing evidence, the Archaic component at Horsefly Hamlet does not appear to have been associated with habitation. However, remains of living structures and other evidence of habitation, such as use-compacted living surfaces, might have been obliterated by the

processes of time or by historical plowing. One plausible idea is that Archaic peoples were seasonally using the site as a base for exploiting local resources. The presence of stone-lined fireplaces suggests at least short-term occupation of the site during the processing of foodstuffs or other materials. If the area were used in this way it might have been inhabited for several weeks at a time. While Site 5MT2236 could have been visited daily from a nearby habitation site, this seems unlikely.

Because the site is in a fairly flat location and exposed to the elements, it was probably used only during temperate times of the year, e.g., early fall, when a large variety of foodstuffs would have been harvestable.

Economic interpretations of the Archaic component are probably most advantageously viewed in light of the local contemporary settlement milieu. Archaic components have been investigated at several sites in the vicinity of Horsefly Camp, e.g., Sheep Skull Camp, Site 5MT2202 (Schlanger [20]); Ridgeline Camp, Site 5MT2242 (Southward [25]); and Lee Side Camp, Site 5MT4513 (Greenwald [26]). The facilities and artifact assemblages representing the Archaic components suggest temporary or seasonal use and procurement/processing activities as primary foci.

If modern natural communities reflect the prehistoric environment, then available economic flora and fauna would include mule deer (Odocoileus hemionus) and cottontail rabbit (Sylvilagus sp.) and such plant species as the broadleaf yucca (Yucca baccata), prickly pear (Opuntia sp.), serviceberry (Amelanchier utanensis), squawbush (Rhus aromatica ssp. trilobata), chokecherry (Prunus virginiana), and squaw apple (Peraphyllum ramosissimum). Indian rice grass (Oryzopsis hymenoides) and various other grasses would have provided grain.

In addition, other types of resources would have been available from the marsh located to the south during wet periods.

Element 1

The small Anasazi hamlet at Site 5MT2236 was probably inhabited year-round by two household units. Cordell and Plog [27:415-416] state: "Sites of this period [A.D. 700-1000] are generally very small, suggesting a very widespread pattern of homestead/farmstead living arrangements with a large nuclear or small extended family at its core."

The occupants could have subsisted on crops grown and wild foods collected in the surrounding area. Few external surface features, such as hearths, were found in close association with the structures. Perhaps such features were originally present but were later destroyed when the site was plowed or bladed. Preparation of food might have taken place primarily in the pitstructure or roomblock and not in the area outside of these structures.

Although Birkedal [28] suggests that social organization, rather than environmental conditions, determines settlement configuration, it seems that the location of Site 5MT2236 was primarily determined by several environmental variables. For example, due to the low porosity of the soil and the low slope angle (which impair runoff), some arable land is not suitable for construction of pithouses (Adams [29]). Therefore, pitstructures might have been constructed in areas near, but not on, arable land and dug into clayey soils of sufficient depth near the tops of high spots such as the small ridge on which Site 5MT2236 is located. Adams [29] gives the following reasons for building a pithouse as close as possible to farmland: to assert ownership; to maintain visual contact with the crops so as to prevent or reduce losses to natural forces; and to

reduce time in maintenance activities. A logical conclusion, therefore, is that the habitation unit at Horsefly Hamlet was located in close proximity to agricultural fields or plots, but that the latter were situated in localized areas with maximum farming potential, such as near the minor drainages to the east and west of the habitation unit.

One interesting facet of the site data set is the tree-ring analysis: all 19 specimens were ponderosa pine (100 percent). This figure can be contrasted with the data available from other nearby habitation sites thought to be contemporaneous (Table 15.2).

Table 15.2 Species Identification of Tree-Ring Samples from D.A.P. Early Pueblo I Sites (All Pitstructure Roofing Materials)

Site	Species							
	Ponderosa Pine (%)		Juniper (%)		Populus (%)		Pinyon (%)	
	N	%	N	%	N	%	N	%
5MT2193	100	(57.8)	20	(11.6)	52	(30.1)	1	(0.6)
5MT2236	19	(100.0)	0	(0)	0	(0)	0	(0)
5MT2848	14	(43.8)	4	(12.5)	14	(43.8)	0	(0)

Site 5MT2193 and Site 5MT2848 each have sizeable percentages of juniper and populus which are not reflected at Horsefly Hamlet. The differences may be related to local environmental differentiation or to group preference. The high percentage of ponderosa at all three sites suggests that substantial stands of this species were locally available in the late 700s, a significant contrast with the modern environment.

Paleodemography

The data set recovered from the Archaic component has no implications for paleodemography. A case, albeit conjectural has been presented for site occupancy by two households during the later Anasazi component. There are applicable models for equating households

and numbers of site inhabitants. Rohn [30] suggests five to seven persons per household suite; this is a moderate estimate and application of this conversion to Horsefly Hamlet suggests a momentary population of 10-14 people. This estimate is similar to that calculated for the contemporaneous occupation at Dos Casas Hamlet, Site 5MT2193 (Brisbin et al. [9]); the data from Dos Casas suggest a similar population level based on space and numbers of facilities.

The burials recovered from the midden did not yield any interpretable data regarding mortuary practices or physical characteristics of the inhabitants other than that both burials are primary inhumations of adult individuals.

Social Organization

From the available evidence, few inferences can be made regarding the social organization of Archaic groups or individuals using the site. As the occupants are assumed to have been hunters and gatherers, they may have been organized by bands, as described by Service [31].

The Anasazi component is thought to represent permanent occupancy by an interhousehold group consisting of two household units. This interpretation includes cooperation and coordination of effort between the two household units and perhaps integrative mechanisms. It is suggested that household space and activities were separated in the roomblock area, but that all or certain members of both households shared the pitstructure. The two households may have cooperated in certain economic ventures such as hunting, land clearing, or harvesting.

Foreign Relationships

Two foreign items are represented in the material collections: two Tallahogan Red sherds originally from the Kayenta area of northeastern Arizona; and 17 Cibola Early Pueblo Gray sherds and a Cibola Early Pueblo White sherd, probably from northwestern New Mexico. What exchange mechanisms these foreign items represent is unknown; both can be assigned to Element 1 (the Anasazi component).

Cultural Process

Neither component in itself is directly interpretable in terms of cultural process because both represent relatively brief periods of use. When considering the Sagehen Phase (A.D. 600-850) in the Sagehen Flats area, the site is significant in that it (and Dos Casas Hamlet, Site 5MT2193) is one of the earliest habitation sites thought to contain two household clusters and a pitstructure shared by two or more household units. It can therefore be considered as a data set exhibiting the change from primarily autonomous household units during the earlier periods to more cooperation and aggregation of economic and habitation groups. This change initiated the process that ultimately resulted in the large villages of the McPhee Phase (A.D. 850-975) which were highly complex in organization and integration.



APPENDIX A
THE MAGNETOMETER REPORT FOR HORSEFLY HAMLET
by
Robert Huggins and John D. Weymouth

Site 5MT2236 was surveyed on 2, 10, and 11 October 1978 and covered the largest individual site examined to date in the D.A.P. area. The site is relatively flat except for a 0.15 m high knoll which covers a 5 to 6 m² area surrounding the point 34N, 49E where there appears to be a re-oriented dipole. The southern and western edges of the site slope gently downwards, but this apparently has no effect on the magnetic field.

The site has a variety of anomalies which includes some apparent geologic trends. These are shown on the SYMAP [32] and line contour maps (Figure 15.A.1, 15.A.2 and 15.A.3) and are described as follows:

1. A wide prominent monopole high located about the point 21N, 31E. All signs suggest the presence of a pithouse.
2. Another less prominent monopole high located at 18N, 40E to the southeast of the previous anomaly. The high is too wide to make accurate depth estimations, but its shape and intensity suggest an associated burned feature such as a hearth. At 14N, 30E a subtle dipole with normal orientation can be seen. This implies a feature which has a near surface contribution, shown by the existence of the low pole to the north. FWHM estimates show a maximum depth to the feature of 1 m.
3. A region in which there are several monopoles within the confines of the rectangle defined by the points 3N, 53E; 16N, 43E; 19N, 53E; and 5N, 53E. It is difficult to pinpoint any individual anomaly which might represent an architectural feature, but the region appears to be an activity area, providing there is no geological contribution. Test squares have been located at three positions and might prove interesting.
4. A similar monopole high situated in the area of 16N, 60E. It is of

the same extended nature as the other highs, which makes depth estimates impractical and suggests a feature which has an extended vertical dimension. This anomaly should be tested.

5. A high monopole which extends off the northern edge of the map at 41N,46E. It has sufficient magnitude to be a burned region, but because the entire shape of the anomaly is not known, it is difficult to estimate the likelihood of the anomaly being attributable to an archaeological source. Although a test pit is indicated, it would be advisable to magnetically survey a small region further to the north before excavating.
6. A region of high magnetic field variance where it is difficult to pinpoint individual anomalies (anomalies which might suggest the location of a feature), but it appears to be a region that might warrant investigation as an activity area. Two test squares have been located in the vicinity of 2N, 40E.
7. A localized monopole high situated around the point 16N, 16E shows promise of having an archaeological source. There is no apparent low pole associated with the anomaly; this suggests a feature of extended vertical geometry.
8. A monopole high at 14N, 23E which has a magnitude of only 3.5 gamma. It is suggestive of a burned region.
9. Two monopole highs, at 2N, 68E and 3N, 75E, which are extremes of a broader plateau. The first anomaly extends off the southern edge of the map but has an angular shape which is indicative of a low-contrast architectural feature. The second anomaly, although possibly a reoriented dipole with a weak low pole (Figure 15.A.2), is also worth investigating as an archaeological feature.

10. The final anomaly of interest is located in the northern portion of the grid at 40N, 37E and is circled in Figure 15.A.3. It has an unusual 'H' shape, atypical of geologic features and more like an architectural form. The region is indicated by a dotted line; test pit locations are left to the discretion of the archaeologist.

If the first two anomalies prove to have archaeological sources, the other smaller monopoles in the immediate vicinity should be investigated in the event that they are also caused by burning.

Location of Test Squares

Fourteen suggested areas for test excavations are indicated, by anomaly number, on Figure 15.A.3.

Areas for Future Surveying

The excavation of anomalies which are on the periphery of the grid will dictate whether it is advisable to continue to survey additional small regions. It is advised in particular that a small section be tacked on north of Test Square 5.

DOLORES ARCHAEOLOGICAL PROJECT
 SITE 5MT2236 (WEST SECTION)

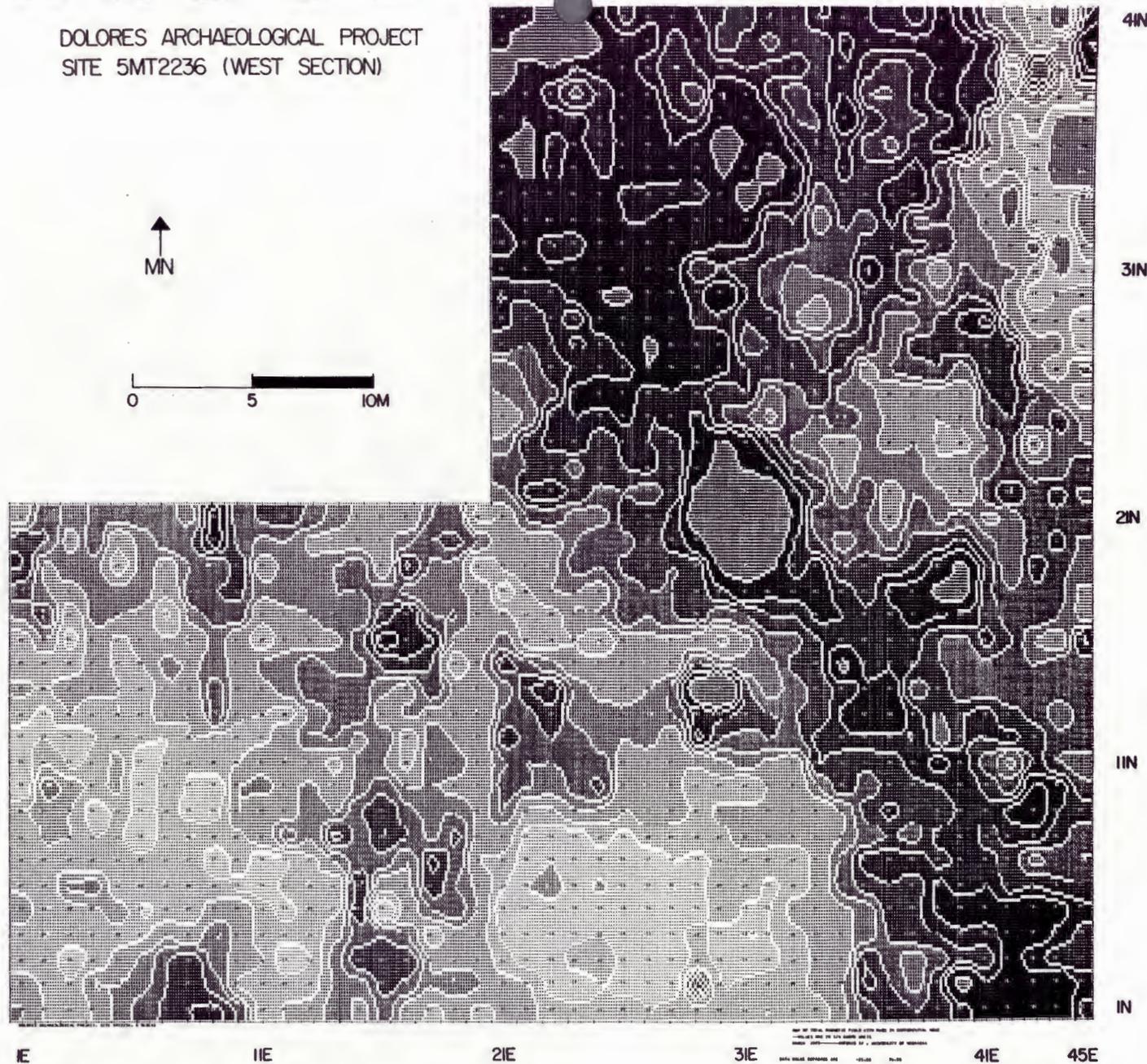


Figure 15.A.1 SYMAP of the eastern magnetometer grids at Horsefly Hamlet.

Map of Total Magnetic Field Data from Magnetometer Grid
 Contours are in 100 GAMMA UNITS
 Data were collected on 11/20/88
 Contour Interval - 8, 6, 6, 4, 4, 4, 4, 8
 QUARTER GAMMAS

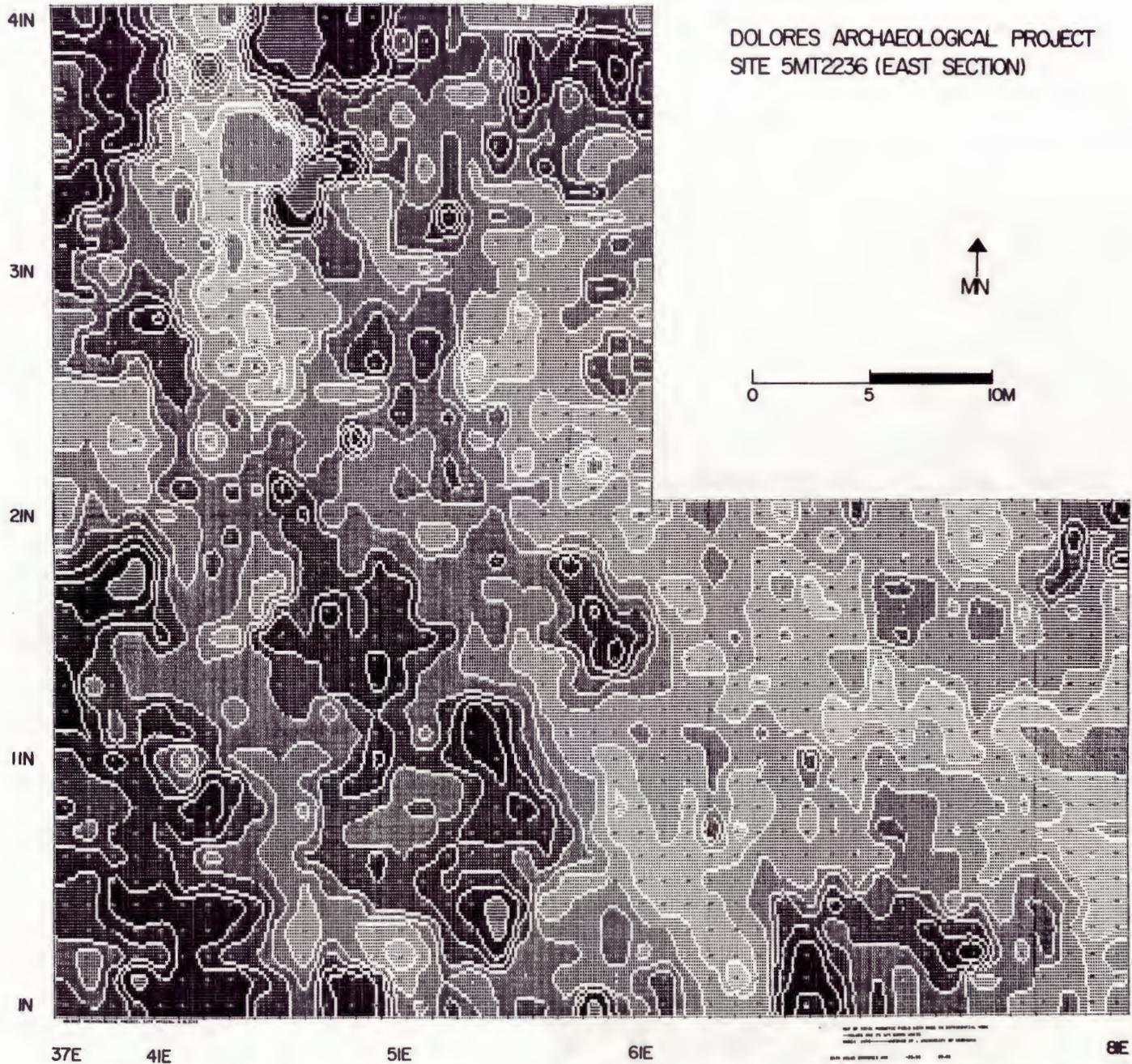


Figure 15.A.2 SYMAP of the eastern magnetometer grids at Horsefly Hamlet.

CONTOUR INTERVAL - 8, 6, 6, 4, 4, 4, 4, 8
QUARTER GAMMAS

COMBINE MAP
DOLONES ARCHAEOLOGICAL PROJECT, SITE 5-NY-2236, 6 BLOCKS
INTERVAL = 8.0

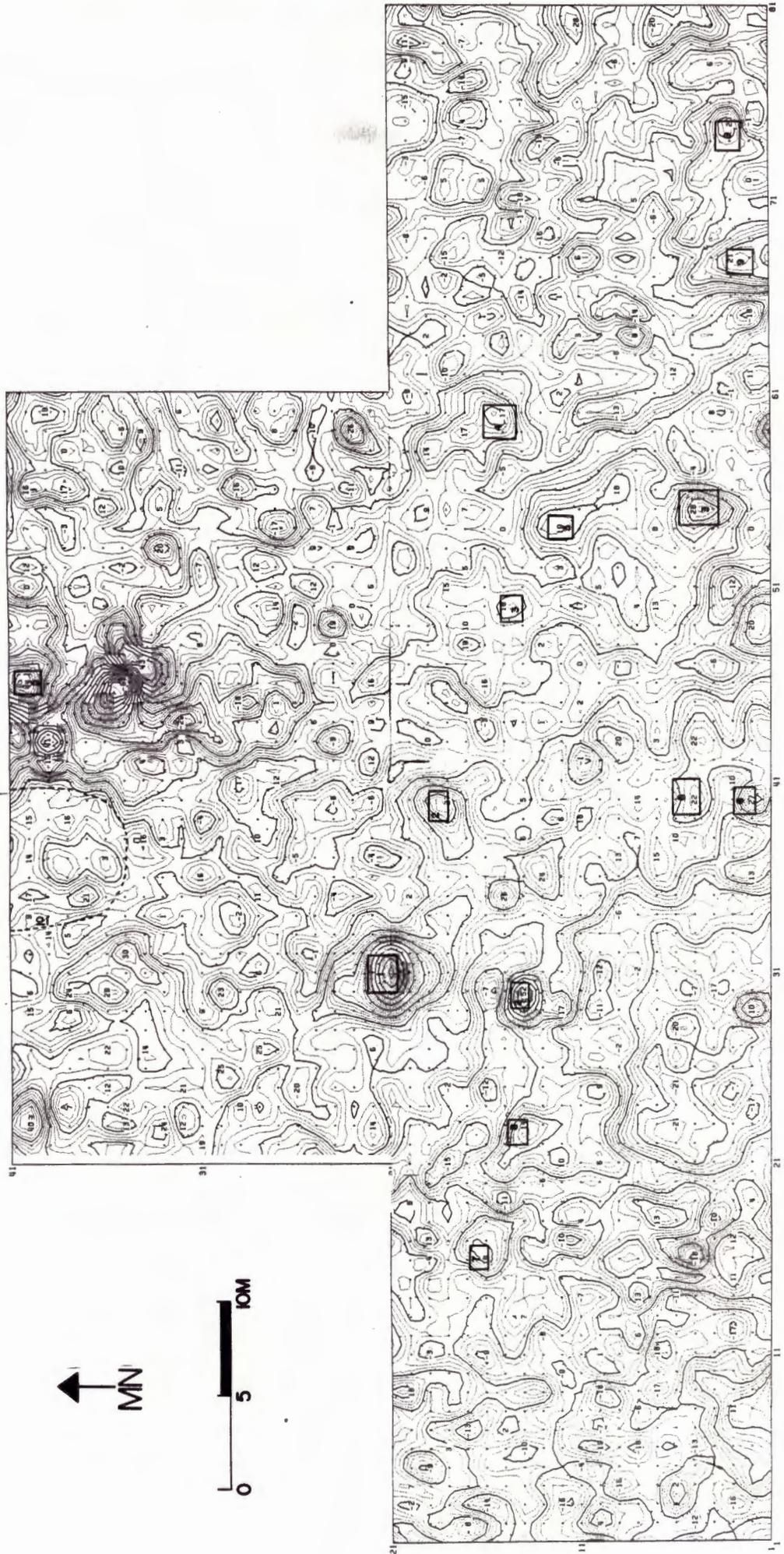


Figure 15.A.3 Line contour map depicting magnetic anomalies at Horsefly Hamlet.



APPENDIX B

ARCHAEOMAGNETIC REPORT FOR HORSEFLY HAMLET

by

J. Holly Hathaway and Jeffrey L. Eighmy

INTRODUCTION

Archaeomagnetic dating is a relatively recent chronometric method employed by archaeologists seeking temporal control for past cultural behavior. Utilization of this method will not only refine ancient chronological estimates but enable temporal assignment in the absence of other dating methods (e.g., dendrochronology and C-14). The accuracy and reliability of dates provided by archaeomagnetism is dependent upon several conditions: (1) precise and conscientious collection in the field; (2) reliable laboratory work, especially with demagnetization and "cleaning" procedures; and (3) an accurate master paleopole curve for the time and area under study. Archaeomagnetic methods are continually being refined in these areas in attempts to increase the variety of datable features, to tighten temporal control, and to further understand the nature of magnetic change. For a complete discussion of laboratory and field methods employed on the D.A.P., as well as an evaluation of the applicability of the current Southwest master curve to the Dolores area, see Hathaway and Eighmy [33].

SAMPLING AND METHODS

Two archaeomagnetic samples were collected from Site 5MT2236 during the 1979 field season. The site is located at 37.52° N latitude and 251.43° E longitude in the Sagehen Flats Locality of the D.A.P. area. The site consists of two components: a permanent small hamlet occupied during the Sagehen Phase (A.D. 600-850) and a camp site occupied during the Great Cut Phase (3000 B.C.-A.D. 500).

Sample 1 was collected from a surface fireplace (Feature 4) located on Surface 1 of grid unit 16S, 74E (Area 3), apparently associated with the Dos Casas Subphase occupation (A.D. 760-850). Sample 2 was collected from the central hearth (Feature 5) of Pitstructure 1, also associated with the Dos Casas Subphase. Dendrochronological estimates indicate Pitstructure 1 was constructed around A.D. 765.

Twelve specimens were collected for each of the samples from Site 5MT2236. Each specimen (an estimated volume of 2.4 cm³) was encased in a 2.5 cm plaster cube (15.6 cm³). The orientation of each specimen was maintained by leveling the cube and measuring the magnetic declination of one cube side. To control for current local magnetic declination, the North Star was sighted on 2 September 1978. The average observed magnetic declination was 13.5°, one-half degree different than the U.S.G.S. 1965 Geological Map and in substantial agreement with expected values calculated from the National Oceanic and Atmospheric Administration Map "Magnetic Declination in the United States - Epoch 1975 D.O."

Laboratory Results

The results from Samples 1 and 2 are recorded in Table 15.B.1.

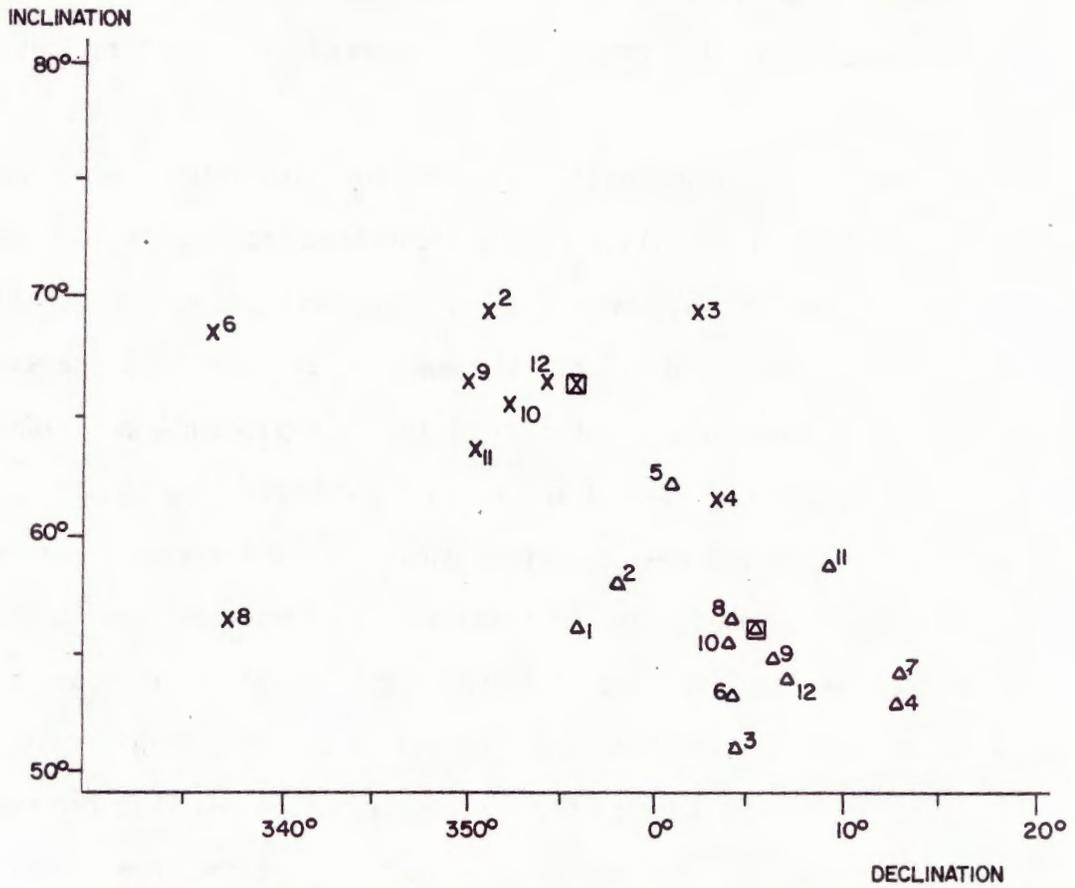
Table 15.B.1 Archaeomagnetic Results from Horsefly Hamlet

Archaeomagnetic Designation	Sample 1	Sample 2
Feature and provenience	Feature 4 Sq 016074 Surface 1	Feature 5 Pitstructure 1 Surface 1
Specimens used in final analysis/ total collected	7/12	12/12
Degauss level	25 oersted	25 oersted
Mean Inclination	66.78	55.68
Mean Declination	354.50	4.93
Mean Intensity	0.454 by 10^{-4}	0.588 by 10^{-4}
Mean Sample Vector	6.99	11.97
Precision Parameter (k)	491.40	373.70
Alpha 95	2.73	2.25
Paleolatitude	77.49	85.85
Paleolongitude	234.69	358.07
Error along great circle (EP)	3.72	2.30
Error perpendicular to great circle (EM)	4.50	3.22

Samples were demagnetized at 25 oersteds. Demagnetization is a laboratory process used to eliminate effects from secondary components in a specimen such as viscous or low temperature thermoremanent magnetizations (Hathaway and Eighmy [33]).

The individual magnetic directions for both samples are plotted in Figure 15.B.1. Five outliers were identified from Sample 1 and none from Sample 2. Samples with more than four outliers (33 percent of the population) are viewed skeptically and results based on these samples may not be an accurate representation of the true paleopole position. Outliers were determined in the following manner. The sample was rerun with a relatively extreme specimen excluded and a new mean and the angular deviation calculated. The excluded specimens were defined as outliers of the new mean (smaller sample) if they fell beyond two standard deviations from the mean. It is felt that there is a strong possibility that these "outliers" are not a part of the same population and that the new ("cleaned") sample is a better representation of the true direction created by the ancient firing.

Three tests were used to determine sample reliability. Alpha 95 is defined as the radius of a circle centered on the observed mean direction within which the true mean will fall 95 percent of the time. Small values indicate tighter clustering about the mean. A good archaeomagnetic sample was defined by alpha 95 values of less than 3.5° . Provided this criterion was met, samples were then plotted and their relative position to the Southwest master curve reported. The precision parameter (k) is estimated by Fisherian statistics and values increase geometrically with internal consistency. The mean sample vector indicates internal consistency as the value approaches the number of specimens used for determination of the



2236-1 Specimens 1, 5, and 7 fall outside plotting surface.
 Specimens 1, 5, 6, 7, and 8 were defined as outliers.
 ☒ indicates sample mean excluding outliers.

2236-2 No outliers defined. ☒ indicates sample mean.

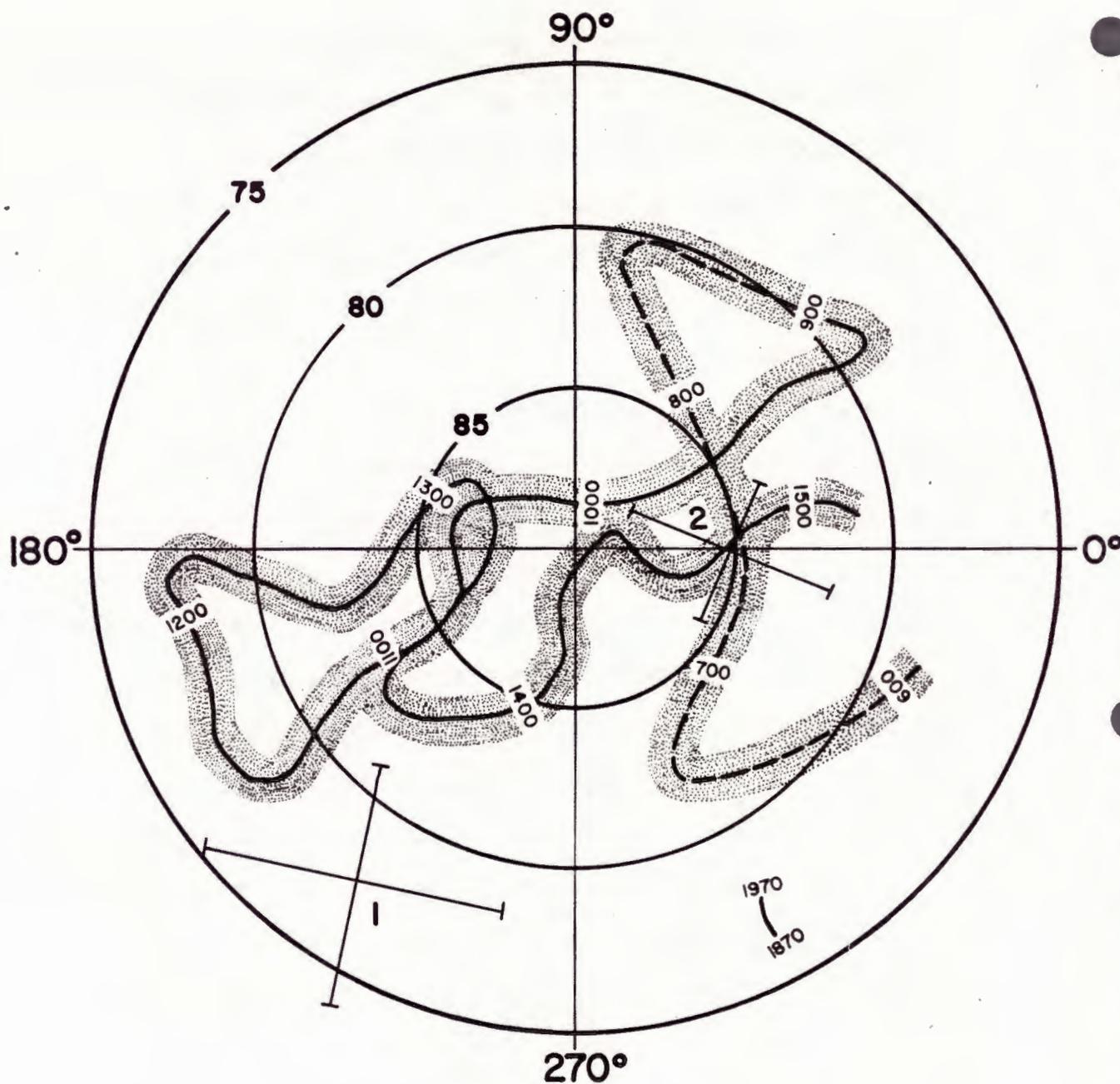
Figure 15.B.1 Individual magnetic directions for Archaeomagnetic Samples 1 and 2 at Horsefly Hamlet.

mean. Error along the great circle (EP) and perpendicular to the great circle (EM) are functions of the alpha 95 value. The alpha 95 value has an oval distribution when plotted with a short axis, which runs along the great circle between the collecting site and paleopole position. The long axis is perpendicular to the short axis; both are centered on the paleopole. The range of error for each sample is determined from the value calculated for EM.

The paleopole positions for the demagnetized and cleaned results of Samples 1 and 2 were calculated and plotted on the virtual geomagnetic pole, as illustrated in Figure 15.B.2. This position was then compared to the current Southwest master curve (DuBois [34]); dates reported reflect correspondence with this curve. Because of the nature of the Southwest curve, several interpretations may be possible given a particular paleopole position. In such instances, it is the responsibility of the archaeologist to determine the most plausible alternative.

The plot of Sample 1 is problematic due to its large range of error (± 65 years) and its position relative to the Southwest curve. The plot falls near the A.D. 1150 portion of the curve. Sample 2 falls near the A.D. 750, 980, and 1475 portions of the curve, with a small error bar of ± 35 years.

A hydrometer test performed on soil collected from Feature 4 (Sample 1) by the Colorado State University (Fort Collins, Colorado) indicates a ratio of 32 percent sand, 39 percent silt, and 29 percent clay; this was texturally categorized as a clay. Clays and clay-based soils are optimum for recording and retaining the ancient magnetic pole positions. Sand is less conducive to good archaeomagnetic results due to the size of the granular particles. The presence of clay is but one characteristic



Solid Portion is based on Dubois [34]

Dashed portion is based primarily on Wolfman [35]

Modern portion is calculated from U.S.G.S. magnetic declination and inclination maps for the United States - Epoch and from Svendsen [36]

Figure 15.B.2 Paleopole plots for Archaeomagnetic Samples 1 and 2, Horsefly Hamlet.

necessary for the production of good archaeomagnetic results. The firing atmosphere, maximum attained temperature, type of affected ferrous mineral, and amount of intrusive material all contribute to the resultant thermoremanent magnetization created by the ancient firing.



APPENDIX C
CERAMIC REPORT FOR HORSEFLY HAMLET

by

William A. Lucius

Preliminary (inventory) analysis of the ceramic artifacts from Site 5MT2236 was carried out by members of the Additive Analysis Laboratory of the D.A.P. Description of the preliminary analysis procedures and structure, and data interpretability is available in Lucius [37]. Familiarity with the inventory analysis program will aid in the understanding of the data and interpretations provided below.

Ceramic data for the site as a whole are presented in Table 15.C.1. These data do not include materials collected at the time the site was recorded in 1972. Sherds are grouped by "culture categories and wares" (Lindsay et al. [38]). Apart from 20 nonlocal sherds and 5 indeterminate wares (4 gray and 1 white), all ceramics could be assigned to wares of the Mesa Verde Culture Category. These reflect a local (Mesa Verde region) manufacturing tradition and exchange system. Pottery types within each ware are listed sequentially from early to late, and grouped types (e.g., Early Pueblo Gray) are listed last and include sherds not assignable to specific types. The five indeterminate sherds have attributes that are not consistent with the expected attributes of either the Mesa Verde or adjacent culture categories. A breakdown of sherd frequencies within smaller spatial units of the site is presented in Table 15.C.2. No reconstructable vessels were recovered from this site.

The ceramic profile presented in Figure 15.C.1 is based on relative weights of the typable sherds of each ware for the entire site. Relative contributions of each ware to the site total are listed in parentheses to the left of the figure. Date ranges for the types are based on those published in Breternitz et al. [39], with some adjustments based on dating results from within the D.A.P. Intensity of occupation as well as temporal span are illustrated by the figure, and it can be compared with

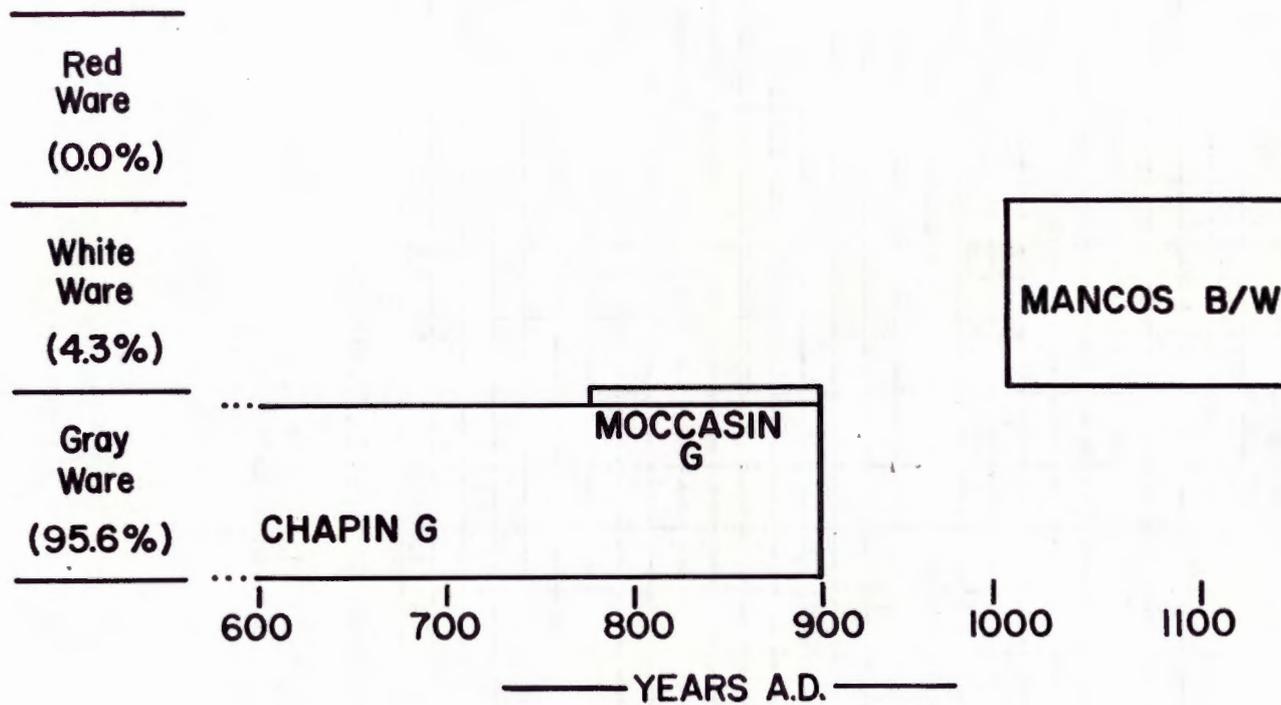


Figure 15.C.1 Diagnostic type occurrence for ceramics at Horsefly Hamlet.

Table 15.C.1 Summary of Descriptive Frequencies
of Ceramics at Site 5MT2236*

WARE TRADITIONAL TYPE**	BY COUNT										WEIGHTS			
	BOWL		JAR		OTHER		TOTAL		RIMS		MOD***		grams	%
	#	%	#	%	#	%	#	%	#	%	#	%		
Mesa Verde Gray														
Chapin Gray			13	3.2	3	100.0	16	3.6	16	64.0			102.6	4.1
Moccasin Gray			1	0.2			1	0.2					6.9	0.3
Early Pueblo			355	87.0			355	80.9					2055.3	81.8
Late Pueblo			8	2.0			8	1.8					40.5	1.6
Corr Body			1	0.2			1	0.2					8.4	0.3
Mesa Verde White														
Mancos B/W			1	0.2			1	0.2					5.4	0.2
Early Pueblo	17	60.7	6	1.5			23	5.2	7	28.0			137.5	5.3
Mesa Verde Red														
Early Pueblo	7	25.0	1	0.2			8	1.8	2	8.0			26.7	1.1
Cibola Gray														
Early Pueblo			17	4.2			17	3.9					102.1	4.1
Cibola White														
Early Pueblo	1	3.6					1	0.2					3.1	0.1
Kayenta Red														
Tallahogan Red	2	7.1					2	0.5					6.3	0.3
Quartz Sand Body														
Unc Gray			1	0.2			1	0.2					5.0	0.2
Indeterminate white	1	3.6					1	0.2					2.4	0.1
Indeterminate Gray			4	1.0			4	0.9					10.0	0.4
TOTALS	28	100.0	408	99.9	3	100.0	439	99.8	25	100.0			2512.2	99.8

* Ceramic items collected during initial 1972 survey are not included here.

* B/W - Black-on-white Corr - corrugated

*** MOD - Modified

Table 15.C.2 Ceramic Assemblage from Selected Provenience
at Horsefly Hamlet (Page 1 of 2)

	PREBLADING SURFACE COLLECTION				
	Area 1 (N = 62)	Area 2 (N = 96)	Area 3 (N = 27)	Total Sur. Collection	
	%	%	%	#	%
<u>MESA VERDE GRAY WARE</u>					
Chapin Gray	3.2	2.1	7.4	6	3.2
Moccasin Gray					
Early Pueblo Gray	88.7	87.5	77.8	160	86.5
Late Pueblo Gray					
Corrugated Body Sherds					
<u>MESA VERDE WHITE WARE</u>					
Mancos B/W					
Early Pueblo White	6.5	3.1	3.7	8	4.3
<u>MESA VERDE RED WARE</u>					
Early Pueblo Red		3.1	7.4	5	2.7
<u>TRADE WARES</u>					
Cibola	1.6	3.1		4	2.2
Kayenta	1.6		3.7	2	1.1
OTHER		1.0		1	0.5
TOTALS				185	99.9
<u>VESSEL FORMS</u>					
Bowl	3.2	3.1	11.1	8	4.3
Jar	96.8	96.9	85.2	176	95.1
Other			3.7	1	0.5

Table 15.C.2 Ceramic Assemblage from Selected Proveniences
at Horsefly Hamlet (Page 2 of 2)

	POSTBLADING SURFACE COLLECTION				Pitstruc- ture Fill (N = 50)		Total* Site	
	Area 1 (N = 6)	Area 2 (N = 28)	Total Sur. Collection					
	%	%	#	%	#	%	#	%
<u>MESA VERDE GRAY WARE</u>								
Chapin Gray	33.3	14.3	6	17.6			16	5.9
Moccasin Gray		3.6	1	2.9	4	8.0	1	0.4
Early Pueblo Gray		46.4	13	38.2			218	81.0
Late Pueblo Gray		7.1	2	5.9	45	90.0	2	0.8
Corrugated Body Sherds		3.6	1	2.9			1	0.4
<u>MESA VERDE WHITE WARE</u>								
Mancos B/W	16.7		1	2.9			1	0.4
Early Pueblo White	33.3	21.4	8	23.5		2.0	17	6.3
<u>MESA VERDE RED WARE</u>								
Early Pueblo Red	16.7	3.6	2	5.9			7	2.6
<u>TRADE WARES</u>								
Cibola							4	1.5
Kayenta							2	0.8
<u>OTHER</u>							1	0.4
<u>TOTALS</u>			34	99.8	50	100.0	269	100.0
<u>VESSEL FORMS</u>								
Bowl	33.3	2.5	9	26.5	1	2.0	29	10.8
Jar	66.7	71.4	24	70.6	48	91.0	237	88.1
Other		3.6	1	2.9	1	2.0	3	1.1

*Total includes only those sherds from the selected proveniences reported in this table.

B/W - Black-on-white

similar figures that have been prepared for other D.A.P. sites.

The ceramics from Site 5MT2236 reflect a date range of 500 years (A.D. 700-1200), with the major occupation apparently occurring within a 75 year span (A.D. 700-775). Chapin Gray and Early Pueblo Red ceramics associated with the pithouse were used to date the major occupation. Early Pueblo Red sherds are red ware sherds that lack diagnostic decoration but that are broken from either Abajo-Red-on orange or Bluff Black-on-red vessels. These types appear in the project area after A.D. 700 and occur in association with Moccasin Gray (in addition to Chapin Gray) after A.D. 775 (Blinman [41]). The presence of Moccasin Gray sherds, corrugated body sherds, and the Mancos Black-on-white sherd in the site surface collections indicate activities occurring after primary site occupation.

Excavations at Site 5MT2236 produced two sherds of Tallahogan Red, a nonlocal ceramic type described by Daifuku [42] for the Jeddito area of the Kayenta Region. Its presence in the site argues for an exchange mechanism which could move ceramic over long distances. The only other site in the D.A.P. sample with Tallahogan Red is Site 5MT0023 (located in the Dolores River canyon about 6 km north of Site 5MT2236). In addition, the presence of quartz-sand-tempered body sherd, which could be either Kayenta or Cibola in affiliation, supports the assertion that the inhabitants of the site were using ceramics manufactured some distance from the Dolores River valley.

The majority of the ceramics from Site 5MT2236 (89.2 percent by lot weight) contains locally available crushed river cobble tempering agents. Sand and sandstone tempers are also represented (4.6 and 5.7 percent, respectively). While accounting for only 0.5 percent of the total

assemblage, a nonlocal tempering agent was found in the site assemblage which appears to indicate a manufacturing area located well south of Chaco Canyon. Wolcott Toll of the Chaco Research Center describes the temper as chalcedonic matrix sandstone which is thought to be derived from the Morrison Formation in the vicinity of Gallup, New Mexico (W. Toll, personal communication). Several other sites in the D.A.P. sample have also yielded ceramics with this distinctive tempering agent. The majority of these sites are the same as those that are considered to be roughly contemporaneous with Site 5MT2236.

Tentative investigation of the association of three nonlocal ceramics with Site 5MT2236 (Tallahogan Red, quartz-sand body sherds, and chalcedonic-tempered sherds) is hampered by the nonintensive excavational strategy used in the investigation of the site. Tallahogan Red ceramics and chalcedonic-tempered sherds are not generally found in the D.A.P. sites. Apparently their presence in the local sites represents a single entry from their source area that occurred at approximately A.D. 750.

APPENDIX D
LITHIC REPORT FOR HORSEFLY HAMLET
by
Thomas H. Hruby and Carl J. Phagan

The data presented in Tables 15.D.1, 15.D.2, and 15.D.3 represent part of the lithic reductive-technology analysis completed for Site 5MT2236. From a 12-attribute Flaked Lithic Tool (FLT) analysis system, 4 attributes were selected to illustrate general technological, functional, and raw-material variability. A traditional morphological-use classification, a ranked estimation of production technology input for dorsal and ventral surfaces, and a grain-size evaluation are included. Six variables are included from the Flaked Lithic Debitage (FLD) analysis system: grain-size ranking, classification of items with cortex, items which retain a striking platform, number of obsidian items, mean weight, and total number of debitage items. The Nonflaked Lithic Tool (NFLT) analysis system is represented by four variables: traditional morphological-use item classification, production-input evaluation, indication of item completeness, and raw-material, grain-size evaluation. The complete lithic-analysis systems are described elsewhere in D.A.P. publications (Phagan [43]).

During 1980 the D.A.P. lithic-laboratory personnel have repeatedly reviewed the utility and reliability of the lithic-analysis systems. In this review, a number of analysis variables have been modified, particularly the item morphological-use variables on both the FLT and NFLT systems. Analytical perspectives change as information accumulates and as models of tool production and use improve. In order to minimize the effects of this analytical modification on interpretation, the observed values of these variables have been regrouped into larger categories within which analytic consistency is reliable.

For comparative purposes, the tables include, in addition to the individual site data, percentage data for all D.A.P. Anasazi sites

Table 15.D.1 Lithic Analysis Data Summary for Horsefly Hamlet,
Flaked Lithic Tools (Page 1 of 2)

	PREBLADING SURFACE COLLECTION						POSTBLADING SURFACE COLLECTION			
	Area 1 (N = 8)		Area 2 (N = 7)		Area 3 (N = 1)		Area 1 (N = 1)		Area 2 (N = 24)	
	#	%	#	%	#	%	#	%	#	%
<u>MORPHO-USE FORM</u>										
Indeterminate	3	37.5	5	71.4					12	50.0
Utilized flakes	1	12.5							4	16.7
Cores			1	14.3					5	20.8
Choppers, scraper planes			1	14.3						
Thick scrapers	2	25.0							3	12.5
Thin scrapers	2	25.0								
Bifaces										
Projectile points					1	100.0	1	100.0		
Specialized forms										
<u>THINNING STAGE: DORSAL</u>										
Indeterminate										
Nonfacial item	1	12.5							5	20.8
Unthin item, w/ cortex	2	25.0	3	42.9					9	37.5
Unthin item, no cortex	3	37.5	4	57.1					9	37.5
Prelim shap, w/ cortex										
Prelim shap, no cortex									1	4.2
Primary thinning							1	100.0		
Secondary thinning	1	12.5								
Well-shaped	1	12.5			1	100.0				
Highly stylized										
<u>THINNING STAGE: VENTRAL</u>										
Indeterminate										
Nonfacial item	1	12.5							5	20.8
Unthin item, w/ cortex	1	12.5							1	4.2
Unthin item, no cortex	4	50.0	7	100.					18	75.0
Prelim shap, w/ cortex										
Prelim shap, no cortex										
Primary thinning										
Secondary thinning							1	100.0		
Well-shaped	2	25.0			1	100.0				
Highly stylized										
<u>GRAIN SIZE</u>										
Medium (coarse)										
Fine	1	12.5								
Very Fine (detrital)	4	50.0	5	71.4					20	83.3
Microscopic (nongranular)	3	37.5	2	28.6	1	100.0	1	100.0	4	16.7

Table 15.D.1 Lithic Analysis Data Summary for Horsefly Hamlet
Flaked Lithic Tools (Page 2 of 2)

	Post-blading Collection Area 3 (N = 4)		SITE 5MT2236				Anasazi Group (N = 7048)
			Other Excavated Units (N = 8)		Total (N = 53)		
	#	%	#	%	#	%	%
<u>MORPHO-USE FORM</u>							
Indeterminate							0.5
Utilized flakes			2	25.0	22	41.5	43.6
Cores			1	12.5	6	11.3	19.0
Choppers, scraper planes	1	25.0	2	25.0	9	17.0	10.4
Thick scrapers					1	2.9	6.4
Thin scrapers					5	9.4	10.1
Bifaces			1	12.5	3	5.7	3.9
Projectile points	3	75.0	2	25.0	7	13.2	3.7
Specialized forms							2.3
<u>THINNING STAGE: DORSAL</u>							
Indeterminate							0.3
Nonfacial item			2	25.0	8	15.1	19.8
Unthinned item, w/cortex			1	12.5	15	28.3	31.7
Unthinned item, no cortex			3	37.5	19	35.8	31.4
Prelim shaping, w/cortex							3.7
Prelim shaping, no cortex					1	1.9	2.6
Primary thinning	2	50.0			3	5.7	1.2
Secondary thinning	2	50.0			3	5.7	1.1
Well-shaped			2	25.0	4	7.5	7.5
Highly stylized							0.7
<u>THINNING STAGE: VENTRAL</u>							
Indeterminate							0.2
Nonfacial item			2	25.0	8	15.1	19.5
Unthinned item, w/cortex					2	3.8	1.9
Unthinned item, no cortex			4	50.0	33	62.3	64.4
Prelim shaping, w/ cortex							1.4
Prelim shaping, no cortex							3.4
Primary thinning	1	25.0			1	1.9	1.2
Secondary thinning	2	50.0	1	12.5	4	7.5	1.0
Well-shaped	1	25.0	1	12.5	5	9.4	6.4
Highly stylized							0.7
<u>GRAIN SIZE</u>							
Medium (coarse)					1	1.9	2.1
Fine					40	75.5	6.2
Very Fine (detrital)	4	100.0	7	87.5	12	22.6	65.3
Microscopic (nongranular)			1	12.5			26.3

Table 15.D.2 Lithic Analysis Data Summary for Horsefly Hamlet,
Flaked Lithic Debitage by Study Unit (Page 1 of 2)

	Surface Collection Area 1 (N = 88)		Surface Collection Area 2 (N = 122)		Surface Collection Area 3 (N = 97)		Postblading Collection Area 2 (N = 55)	
	#	%	#	%	#	%	#	%
<u>GRAIN SIZE</u>								
Medium (coarse)	1	1.1	4	3.3	6	6.2	1	1.8
Fine	20	22.7	55	45.1	11	11.3	4	7.3
Very fine (detrital)	27	30.7	30	24.6	32	33.0	41	74.3
Microscopic (nongranular)	40	45.5	33	27.0	48	49.5	9	16.3
Items with cortex	12	13.6	29	23.8	8	8.2	17	30.9
Items with platform	39	44.3	57	46.7	36	37.1	27	49.1
Number of Obsidian Items								
Mean weight	3.73 g		10.95 g		3.15 g		11.29 g	
Total number of debitage items	88		122		97		55	

Table 15.D.2 Lithic Analysis Data Summary for Horsefly Hamlet,
Flaked Lithic Debitage by Study Unit (Page 2 of 2)

	Other Excavated Units (N = 91)		Site 5MT2236 Total (N = 453)		Anasazi Group (N = 66,095)
	#	%	#	%	%
GRAIN SIZE					
Medium (coarse)	3	4.3	15	3.3	3.2
Fine	21	23.1	111	24.5	21.4
Very fine (detrital)	34	37.4	164	36.2	51.6
Microscopic (nongranular)	33	36.3	163	36.0	23.7
Items with cortex	9	9.9	75	16.6	25.9
Items with platform	32	35.2	191	42.2	38.8
Number of Obsidian items					18
Mean weight	3.08 g		6.34 g		7.93 g
Total number of debitage items	91		453		66,095

Table 15.D.3 Lithic Analysis Data Summary for Horsefly Hamlet,
Nonflaked Lithic Tools (Page 1 of 2)

	Surface Collec- tion Area 1 (N = 7)		Surface Collec- tion Area 2 (N = 4)		Surface Collec- tion Area 3 (N = 2)		Post- blading Collec- tion Area 1 (N = 6)		Post- blading Collec- tion Area 2 (N = 5)	
	#	%	#	%	#	%	#	%	#	%
<u>MORPHO-USE FORM</u>										
Indeterminate					1	50.0				
Generalized, unhafted Hammerstones	2	28.6			1	50.0	1	16.0	3	60.0
Manos	5	71.4	1	25.0			2	33.0	2	40.0
Slab Metates			2	50.0			1	16.0		
Trough Metates										
Unspec & Frag Metates							1	16.0		
Generalized, hafted							1	16.0		
Misc Specialized			1	25.0						
<u>PRODUCTION EVALUATION</u>										
Indeterminate										
Nodule	5	71.4	2	50.0	2	100.0	4	66.0	5	100.0
Minimally Shaped	1	14.3	2	50.0			1	16.0		
Well-shaped	1	14.3					1	16.0		
High Stylized										
<u>ITEM COMPLETENESS</u>										
Indeterminate										
Small Fragment										
Partial Implement	4	57.1	2	50.0	1	50.0	5	83.0	4	80.0
Complete (+ or -) Implement	3	42.9	2	50.0	1	50.0	1	16.0	1	20.0
<u>GRAIN SIZE</u>										
Indeterminate	2	28.6	1	25.0						
Coarse									2	40.0
Medium	4	57.1	2	50.0			6	100.0	3	60.0
Fine	1	14.3	1	25.0	2	100.0				
Nongranular										

Table 15.D.3 Lithic Analysis Data Summary for Horsefly Hamlet,
Nonflaked Lithic Tools (Page 2 of 2)

	Post-blading Collection Area 3 (N = 2)		Other Excavated Units (N = 7)		Site 5MT2236 Total (N = 33)		Anasazi Group (N = 4318)
	#	%	#	%	#	%	%
<u>MORPHO-USE FORM</u>							
Indeterminate					1	3.0	9.2
Generalized, unhafted			2	28.6	9	27.3	24.0
Hammerstones					1	3.0	9.9
Manos	2	100.0	5	71.4	18	54.5	33.5
Slab Metates					1	3.0	2.1
Trough Metates							9.4
Unspecified & Frag Metates					1	3.0	5.2
Generalized, unhafted					1	3.0	2.5
Miscellaneous Specialized					1	3.0	4.0
<u>PRODUCTION EVALUATION</u>							
Indeterminate							8.4
Nodule	2	100.0	5	71.4	25	75.8	53.5
Minimally Shaped			2	28.6	6	18.2	16.7
Well-shaped					2	6.1	21.1
High Stylized							0.1
<u>ITEM COMPLETENESS</u>							
Indeterminate							0.9
Small Fragment							3.3
Partial Implement			3	42.9	19	57.6	45.6
Complete (+ or -) Implement	2	100.0	4	57.9	14	42.4	50.8
<u>GRAIN SIZE</u>							
Indeterminate					3	9.1	8.1
Coarse					2	6.1	16.5
Medium	2	100.0	5	71.4	22	66.7	39.4
Fine			2	28.6	6	18.2	34.5
Nongranular							1.2

analyzed prior to the 1980 field season. These latter "Anasazi group" data have been generated from computer files which have not undergone complete editing, and final figures may differ slightly from those presented. Comparisons and interpretations presented here, particularly those of an intersite nature, are based on a qualitative assessment of lithic profile variation, since significance has not been statistically established.

Site 5MT2236 is a multicomponent site with two components present. The latter is a small hamlet dated to the Dos Casas Subphase (A.D. 760-850) of the Sagehen Phase. An earlier Archaic component is assigned to the Great Cut Phase (3000 B.C.-A.D. 500). The excavations at this site are part of an extensive blading program, the main purpose of which is the rapid recovery of architectural information. Due to the unique collection made at the site, comparisons will only be made with the group of Anasazi sites from the 1978 and 1979 field seasons. Comparisons will be made on a component level rather than a general site level.

The post-blading collections representing the Anasazi component are small, and to make any significant comparisons is difficult. Assuming the total collection from subsurface proveniences and surface units over the habitation approaches a representative sample, the lithics indicate that an expedient technology was used at this locus. An unusual characteristic of the assemblage is the relatively large numbers of flaked lithics. While this suggests a specialized site or a specialized area within a site, the sample size is too small to test the validity of this inference.

The eastern portion of the site is interpreted in the report as a possible Archaic locus. Only six artifacts were recovered in the post-

blading collection. If the surface collection is included, the number of artifacts is larger, but still relatively small. The flaked lithic tool assemblage is dominated by projectile points. The projectile points have an Archaic appearance but could also be from an Anasazi component. It is possible that this assemblage represents a limited activity locus, perhaps associated with the Anasazi component, or mixed deposits. Supporting these possibilities are the similar debitage profiles from the different areas, which are dominated by very fine and microscopic-grained materials, and the low mean weights of the debitage.

Though based on small sample size, some of the lithic data indicate that two assemblages are represented in the lithic materials collection. This interpretation is consistent with the primary two-component interpretation given for the site data set as a whole.

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