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EXCAVATIONS AT TWO WOODLAND SITES
IN ARAPAHOE COUNTY, COLORADO

by

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ABSTRACT

This paper is a report of the excavation of two archaeological sites near Byers, Colorado. The Michaud Site A (5AH2) is a single component occupation and burial site. A date of A.D. 150 ± 110 was obtained from human bone from the Michaud Site A. The Michaud Site B (5AH3), an occupation site, may have two components represented. Both sites are assigned to the Early Ceramic Period.

INTRODUCTION

The following is a report of excavations at two archaeological sites -- Michaud Site A (5AH2) and Michaud Site B (5AH3) -- located on the first terrace above the present stream bed of West Bijou Creek about 10 miles southwest of Byers, Colorado (Fig. 1).

Michaud Site A was first visited by a crew of students from the University of Colorado under the direction of William G. Buckles on March 23, 24, 1963. Erosion had exposed the base of a human skull and an occupation zone in the west bank of West Bijou Creek about one-half mile northeast of the V. J. Michaud ranch house. Investigations indicated that immediate excavation was warranted in order to salvage the archaeological remains. On August 28, 1963, the site was revisited for a more favorable assessment of the cultural and chronological relationships of the burial and occupation zone.

Michaud Site B, about one-eighth mile southeast of the Michaud ranch house and about twenty-five yards from the bank of West Bijou Creek, was reported to be the location of two burials. The “burials” proved to be a cluster of rocks. The rock cluster was exposed on March 23. The site was revisited on September 9, and collections were made from a portion of the site that had been recently plowed. Two test pits were excavated at that time.

West Bijou Creek is one of several north-flowing tributaries of the South Platte River which drain the Colorado Piedmont. In the area of the sites the creek occupies a terraced basin with a wide flood plain to the west of the present stream bed. Cottonwood trees and brush line the banks of the creek; however, short grasses provide the principal vegetation cover. The sites are located in the Colorado Piedmont section of the Great Plains Province at an altitude of 5,400 feet above sea level. Wedel (1963) has cogently discussed the ecological potential of the general area. It should be added that water is locally available in the sandy flats of the creek, and a permanent spring is within one mile of both sites.

MICHAUD SITE A

Excavation and Stratigraphy

A 35 foot baseline, divided into five-foot grid sections, was laid out parallel to the present stream bed. All vertical measurements were taken from the ground surface along the baseline. Excavation of the grid units was begun in six-inch levels to determine the stratigraphy of the site. The immediate purpose was to get a clean stratigraphic profile along the east edge of the baseline to determine the relationship of the burial to the overlying cultural materials (Fig. 2). The grid system was extended one five-foot unit to the west of the baseline at the datum to provide a further test of stratigraphy and cultural materials. An additional five-foot test pit was excavated 30 feet north and 10 feet west of the datum for the same purpose. The burial pit itself was located 31 feet north and 3.5 feet east of the datum. All excavated material was sifted in one-fourth inch mesh screens and bagged by unit and level, and all flakes and chips were saved.

From the ground surface to a depth of 6 to 9
inches there is a dark black to brown humus level of fine grained silts and sands with occasional nodules of hematite and limonite. This zone, designated as Level 1, contained more cultural materials than any other. It appears to have been an occupation zone which, in the area of the site, is eroded away on all sides. Similar soils are present about 50 yards to the west. At one time the site was considerably more extensive. Mr. Michaud reports that a flood in the late 1930's carried away a large portion of the bank.

Level 2, from 9 to about 24 inches, is composed of tan-colored silts and sands that are essentially sterile, although there is evidence of extensive intrusion of the overlying humus deposits in rodent holes. From 24 inches to 6 or 7 feet is a fine silt deposit with gravel lenses. This stratum, Level 3, is sterile with the exception of the burial pit which is intrusive from Level 1.

The burial was tightly flexed on its right side in a straight-walled, irregular pit which was intrusive for a depth of about 1.5 feet into Level 1. The pit was traced as a dark area from the base of Level 1. On stratigraphic grounds, then, the interment is thought to have been a burial of peoples who were living during, or sometime after, the occupation represented by Level 1.

Since there are no discernable differences in materials by unit and level, the Michaud Site A (5AH2) is considered a single component site.

**Artifacts From the Occupation Zone**

**Chipped stone**

The materials used are all locally available. Of 195 flakes recovered, 16% show some evidence of utilization.

**Projectile points:** One complete projectile point with a triangular, asymetrical blade and diagonal notches; maximum dimensions are 2.4 cm. by 1.3 cm. by 0.3 cm. (Fig. 3a). Two projectile point tips.

**Corner-tang knife:** A corner-tang knife of the two tang variety (Patterson 1936) with a broken tip (Fig. 3b). The knife has two stems near the base. One stem is situated perpendicular to the bottom edge of the blade; the other is adjacent and projects at a 45 degree angle. The distance from the bottom of the blade to the perpendicular stem is 3.5 cm., and the width of the blade at the break is 1.6 cm. Material is chalcedony with inclusions of white chert.

**Blades:** The basal portion of a straight-based lanceolate blade with the basal edges slightly ground (Fig. 3c). Maximum width is 1.7 cm.; maximum thickness is 0.6 cm.; material is petrified wood. Two fragments of bifacial, biconvex...
Figure 3. Michaud Site A. Artifacts from the occupation level. Outside of rim sherd cross-sections is left.
blades of petrified wood and two fragments of unifacial blades, one of petrified wood and the other of jasper. A triangular “keeled” blade (Fig. 3d) which had apparently eroded out of the site was found in the slump to the east and below the site exposure. The flaking is primarily on the “keeled” side with some secondary chipping on the flat side. Maximum dimensions are: 3.3 cm. by 2.5 cm. by 0.7 cm.; material is petrified wood.

End scrapers: A fragment of a plano-convex end scraper unifacially worked on the convex side (Fig. 3e); maximum dimensions are 3.3 cm. by 0.9 cm. A complete plano-convex end scraper, irregularly shaped (Fig. 3f); maximum dimensions are 4.0 cm. by 2.9 cm. by 1.1 cm. Both end scrapers are petrified wood.

Flakes with marginal retouch: Two small unifacially-worked flakes of petrified wood. One quartzite lunate, bifacially worked on both edges of two faces (Fig. 3g); maximum length is 6.4 cm.; maximum width is 4.0 cm. One flake with marginal retouch which approximates a right triangle in outline, unifacially worked on one side (Fig. 3h); maximum dimensions are 4.4 cm. by 3.3 cm. by 1.2 cm. The point shows evidence of utilization. The side opposite the chipping has a small concavity formed by the removal of small flakes, presumably in use. Material is translucent chalcedony with inclusions of white chert.

Cores with working edges: Two large quartzite cores with cortex backing, bifacially worked on one end.

Ground stone
Five fragments of bifacial milling stones too small to tell the shape or if one or several milling stones are represented, and one fragment of an unshaped handstone with two opposite grinding surfaces.

Pottery
Of the twenty-four potsherds recovered, twenty are body sherds and four are rim sherds representing four different vessels (Fig. 3i-o). All of the sherds are cord-roughened on the exterior surface. The interior surfaces are scraped. The technique of construction appears to be paddle-and-anvil (numerous small indentations, presumably anvil marks, are evident on the interior surfaces).

Paste varies from gray to tan, and it is crumbly, breaking along irregular lines. A few of the sherds are oxidized to a dull red on the interior. Temper is sand composed of angular to spherical, irregular sized grains of quartz. Similar material is locally available in the sandy flats of West Bijou Creek. Temper varies from moderate to heavy with the largest proportion of sherds being on the moderate side. Grain size is medium (0.2 mm. to 0.5 mm.), although an occasional grain may be larger or smaller.

Rim 1 (Fig. 3i): Vertical rim (maximum thickness is 3.5 mm.). Diagonal cord marks are right to left and extend to about 0.3 cm. from the lip where they are obliterated by pinching over excess clay from the lip. The top of the rim is scraped smooth.

Rim 2 (Fig. 3j): Vertical rim (maximum thickness is 5.0 mm.). Diagonal cord marks are right to left extending to about 0.3 cm. from the lip where the cord marks are obliterated by pinching over excess clay from the lip.

Rim 3 (Fig. 3k): Vertical rim (maximum thickness is 5.9 mm.). Diagonal cord marks are right to left extending to about 0.2 cm. from the lip. In cross-section, the pinched-over lip is slightly beveled to the outside. There is no evidence of scraping on the top of the rim.

Rim 4 (Fig. 3l): Slightly outcurving (maximum thickness is 5.0 mm.). Diagonal cord marks are right to left and extend to the top of the rim where they are partially obliterated by scraping.

Three large sherds give a reasonable representation of one section of a vessel from near the base (Fig. 3m). Again the cord marks are diagonal right to left, but only for about three-fourths of the total length of the sherd. Near the base the cord marks are larger, deeper, and somewhat haphazardly applied. Two other sherds which appear to represent sections from near the base show similar treatment (Fig. 3n-o). Some of the impressions on the basal sherds appear to have been made with a sharp stick or some other tool. Within the 11.4 cm. height of the portion of the vessel represented, the thickness varies from 1.5 cm. to 0.4 cm.

No restorable vessels were recovered, but there is enough evidence to reconstruct vessel shape. Vessels were probably straight-rimmed, conical-bottomed pots with diagonal cord marks applied right to left on the exterior surface. Near the base the cord marks were coarser and applied haphazardly. The base was extremely thick in relation to the rest of the vessel, but only for a small portion of the total height. Any estimate of the size of a typical vessel would be speculative.

Burial Accompaniments
Burial accompaniments included chipped and ground stone and bone (Fig. 4). No pottery was
found with the burial or in the burial pit. A collagen fraction date of A.D. 150 ± 110 (GX-0529) was obtained from the lumbar vertebrae.

Chipped stone
The two chipped stone artifacts are large quartzite chopping tools with cortex backing bifacially worked on one end. One of the specimens was found in the burial pit, but its exact provenience is unknown. The other specimen was found adjacent to the right tibia.

Ground stone
Handstones: Five sub-rectangular handstones ranging from 12 cm. to 15.5 cm. in length and from 8.4 cm. to 10 cm. in width. One was placed behind the base of the skull while the remaining four were placed adjacent to the right leg (Fig. 4). One handstone is unifacial. Two are primarily unifacial with a single, small facet showing limited use on the reverse side. Two specimens are bifacial. All show evidence of battering on both ends. The two bifacial specimens show pecking on both faces. One of the bifacial handstones has traces of red ocher on one surface, and one of the primarily unifacial handstones has traces of limonite on one surface. One handstone is granular porphyry while the remainder are sandstone.

Hammerstones: Two unshaped hammerstones were found adjacent to the right leg. One is sandstone and the other is granular porphyry.

Milling stone: A shaped, unifacial, shallow basin milling stone was recovered lying basin down over the head of the burial (Fig. 4). Traces of red ocher were present on one edge of the slab and a smoothly ground concavity occurred on the other edge. The material is sandstone.

Faunal remains
A large mammal humerus was placed vertically on top of the milling stone (Fig. 4). The only visible modification is cutting at both ends. Not enough of the epiphyses are present to facilitate absolute identification; however, it is probably Family Bovidae, and most likely modern bison.

The cannon bone of an immature deer or antelope which shows evidence of cutting distal to the epiphysis was also found in the burial pit.

MICHAUD SITE B

Excavation
The cluster of fire burned rocks, designated as Feature 1, was exposed after the surface area had been cleared. Subsequently, the surrounding area was excavated to the same depth as the Feature to determine if the suspected hearth (see discussion of Feature 1) was part of a dwelling complex, but no evidence of a floor or postholes was found.

Two 5 by 5 foot test pits were excavated 25 feet west of Feature 1 (Fig. 5). The pits were along an eastward extension of a north-south baseline. A permanent datum was established under a fenceline north of the site. Excavation proceeded in six-inch levels until it was determined that there were natural levels. Excavation was then carried out following this stratigraphy. All excavated material was sifted in one-fourth inch mesh screens and bagged by level.

An extensive area of the site adjacent to the test pits had been plowed to a depth of about 12 inches. Collections were made from this area as well as from the undisturbed surface of the site.

Stratigraphy
Since the excavation of Feature 1 was limited to exposing the rock cluster, the discussion that follows is based on the stratigraphic control of the test pits.

Level 1 (0-5 inches) consists of light brown to tan sands and silts. Level 2 (5-17 inches) is a dark brown to black humus level of sands and silts interspersed with a few charcoal fragments and nodules of hematite and limonite. The latter level contained the greatest concentration of cultural materials. Level 3 is a sterile layer of tan compact sand with no evidence of humus development. The same stratigraphy can be seen in the bank of...
West Bijou Creek where the site is exposed by erosion; however, the depth of the respective levels varies.

On the basis of the control offered by the test pits, Feature 1 is assigned to Level 1. The plowed area exhibited the same stratigraphy, to the depth it was plowed, as did the tests. However, since the area is disturbed the artifacts will be lumped with the collections from the surface and discussed separately.

Artifacts from Level 1

Chipped stone

Of 42 flakes recovered, 36% show some evidence of utilization.

Projectile points: One fragment of a small, lateral notched, straight-based projectile point (Fig. 6m). Material is jasper with a heavy patination layer.

Flakes with marginal retouch: A single flake worked on two faces of one edge made of petrified wood from the area of Feature 1; maximum dimensions are 3.4 cm. by 2.0 cm. by 1.2 cm.

Ground stone

One of the rocks making up Feature 1 is a fragment of a bifacial milling stone of reddish sandstone. No other artifacts of ground stone were found in Level 1.

Pottery

Two potsherds -- one body sherd and one rim sherd -- were found in the area of Feature 1. The interior surfaces are scraped and the exterior surfaces are cord-roughened. The technique of finishing is paddle-and-anvil. Paste is light tan on the exterior and interior surfaces, gray in the middle, and it is crumbly, breaking along irregular lines. The body sherd has a layer of carbon on the exterior surface.

Temper is sand composed of angular to spherical grains of quartz, and it is moderate in amount. Grain size is medium to coarse (0.2 mm. to 1.0 mm.). The maximum thickness of the body sherd is 6 mm.

The rim is incurving (maximum thickness is 5 mm.) and the lip is beveled to the outside. Cord marks are diagonal right to left and extend to about 5 mm. from the lip (Fig. 6d).

Faunal remains

The only bone from Level 1 is the metacarpal of an adult deer.

Feature 1

Feature 1 is a cluster of fire burned rocks, 3 by 4 feet, with no evident orderly arrangement. The depth of the feature below the ground surface does not exceed 3 inches. The matrix between the rocks was black. Some of the 60-odd rocks making up the cluster were underlain with a very fine white sand. The fact that the matrix was black and that the rocks were reddened and cracked suggests that the Feature was a shallow, rock-filled hearth.

Artifacts from Level 2

Chipped stone

Of 154 flakes found, 31% show some evidence of use.

Projectile points: One small diagonal-notched projectile point with a triangular blade and a sub-concave base (Fig. 6l); maximum dimensions are 1.8 cm. by 1.4 cm. by 0.1 cm.; material is translucent chalcedony with inclusions of white chert. One tip fragment.

Blades: A stemmed, concave-based blade or projectile point (Fig. 6n) is asymmetrical along the longitudinal axis and sigmoid in cross-section. Material is petrified wood. The edges of the blade are blunted. Two leaf-shaped, bifacial, biconvex blades (Fig. 6o). They appear to have been roughly blanked out by percussion, perhaps in anticipation of preparing some other artifact. One is petrified wood and one is brown chert.

Scrapers: Two subrectangular, flat scrapers with one convex, bifacial working edge (Fig. 6r), and one unifacially worked combination end and side scraper (Fig. 6q). Both are petrified wood.

Drills: Two drills. One is made on a flake of jasper and has numerous tiny flakes removed on

Figure 5. Michaud Site B, looking west. Note plowed area.
Figure 6. Michaud Site B. Artifacts from Level 1 (m, d), Level 2 (b, c, e, q-s), and Surface and Plowed zone (a, f-k, p, t, u). Outside of rim sherd cross-sections is left.
the working tip. The other drill (Fig. 6s) has an extremely long point; material is petrified wood.

Ground stone

Handstones: Two fragments of bifacial handstones; one is sandstone and one is quartzite. One longitudinal edge of the quartzite handstone is ground so that the two edges meet at an angle. The apex of the angle has been truncated and two facets formed on either side, possibly the result of a back-and-forth motion. The opposite longitudinal edge is ground flat.

Hammerstone: An ovoid cobble of sandstone battered at both ends but otherwise unshaped.

Edge-ground cobble: A single specimen was found which had been manufactured by grinding one longitudinal edge at a 45 degree angle producing a single facet. The rest of the cobble is unmodified.

Pottery
Of a total of nine sherds, seven are body sherds and two are rim fragments. The exterior surfaces are cord-roughened and the interior surfaces are scraped. The technique of finishing is paddle-and-anvil. Thickness varies from 4 mm. to 10 mm. The paste varies from dark gray on the interior to tan on the exterior, and it is crumbly, breaking along irregular lines. Temper is moderate sand composed of angular to spherical grains of quartz. Grain size is moderate to coarse (0.2 mm. to 1.0 mm.).

One of the body sherds (Fig. 6e) is biconically drilled, forming a ridge in the center. It also has what appears to be an incised line extending from one edge of the drilled hole to the broken edge of the sherd. The external surface of a body sherd near the base is roughened by heavy cordage or tooled with a blunt instrument; however, it is too weathered to be completely sure of the technique of surface treatment.

Rim 1 (Fig. 6b): Vertical rim (maximum thickness is 5 mm.). The lip is flat and scraped smooth. Cord marks are diagonal right to left and extend to 2 mm. of the lip.

Rim 2 (Fig. 6c): Vertical rim (maximum thickness is 4 mm.). The lip is rounded in cross-section. Cord marks are diagonal right to left and extend to the lip.

Faunal remains

Faunal remains from Level 2 include representative osteological materials of at least five genera: *Lepus* (jack rabbit), *Cynomys* (prairie dog), *Mustela frenata* (long-tailed weasel), *Cervus* (elk), and *Odocoileus* (deer).

*Lepus* is represented by the scapula of an adult, a long bone shaft fragment, a shaft fragment of a tibia, an ilium, a juvenile radius, and a proximal fragment of an ulna. *Cynomys* is represented by a right mandibular fragment; *Mustela frenata* by the major portion of a cranium; *Cervus* by a long bone shaft fragment; and *Odocoileus* by the distal epiphysis of an adult cannon bone, and two shaft fragments of long bones.

Artifacts from the Surface and the Plowed Zone

Chipped stone

Of the 171 flakes found, 21% show some evidence of utilization.

Projectile points: Two projectile points from the plow zone. One is small and diagonal notched or stemmed (Fig. 6k). The basal portion is too fragmentary to tell the exact shape. The blade is triangular and serrated; the material is petrified wood. The other projectile point is a fragment of a large diagonal notched specimen of chalcedony (Fig. 6i).

Blades: The tip of a large bifacial blade made of petrified wood was found on the surface.

Scrapers: One end scraper and two side scrapers were found on the surface. The end scraper is bifacial and biconvex; the material is petrified wood. One side scraper is unifacially worked on one side of a flake of chalcedony (Fig. 6p); the other is a bifacial side scraper of quartzite that is roughly triangular in outline.

Drills: Three drills were found on the surface. All three appear to be of the same general form, although the tip of one specimen is not complete (Fig. 6r, u, v). The drill point is small, and it appears to have been made on an advantageous flake. All three are petrified wood.

Cores with working edges: Two specimens. One is ovoid and bifacially worked on one end; the other is fragmentary, but bifacially worked. Both are quartzite.

Ground stone

Four fragmentary sandstone handstones, one complete handstone, and two fragments of bifacial sandstone milling stones. Two of the fragmentary handstones are bifacial and two are unifacial. One longitudinal edge of one of the unifacial handstones is around smooth. The complete handstone is unifacially ground and sub-rectangular in outline; one longitudinal edge is ground smooth.
Pottery

Thirteen potsherds were found. Two body sherds came from the surface. Ten body sherds and one rim sherd were found in the plowed zone. The thickness ranges from 10 mm. near the base to 4 mm. near the rim.

Interior surfaces are scraped smooth and the exterior surfaces are cord-roughened. The width, depth, and size of the cord-markings are highly variable (Fig. 6f-i), which suggests that several vessels are represented or that techniques varied with the portion of the vessel being cord-roughened. One basal sherd from the plowed zone exhibits the same surface treatment as a sherd from 5AH2 discussed earlier. The sherd in question has coarse cord markings or tool impressions on the exterior surface (Fig. 6f). The decoration is highly suggestive of basketry impression, but a positive imprint in plasticine did not reveal any recognizable basketry pattern.

The technique of finishing is paddle-and-anvil. Paste is gray and crumbly. A few sherds are oxidized to a dull red on the exterior, and one sherd exhibits this on both surfaces. Temper is sand and moderately abundant. Grain size is medium to coarse.

The rim (Fig. 6a) is vertical (maximum thickness is 4 mm.), and the lip is flat and scraped. Cord marks are diagonal right to left and extend to the lip.

Faunal remains

Only one bone fragment was found on the surface -- the head of a femur identified as *Canis* (dog, coyote, or wolf). *Odocoileus* is represented in the plowed zone by the distal epiphysis of an adult metapodial, a long bone shaft fragment, and an antler fragment smoothed medially. The proximal epiphysis of a metapodial of a juvenile artiodactyl, possibly domestic sheep, also came from the plowed zone.

DISCUSSION

The Michaud Site A appears to represent a single component occupation and burial site. The burial is considered one of peoples who were living at the time occupation occurred in the upper humus level, primarily on the basis of the stratigraphic relationships of the burial to that level, since no diagnostic artifacts were found as burial accompaniments. The site can be assigned to the Early Ceramic Period (Wood 1967) or “Woodland Culture” (Wedel 1961) on the basis of the diagnostic artifacts from the occupation zone, the burial pattern (Breternitz and Wood 1965), and the radiocarbon date of A.D. 150 ± 110 (GX-0529) for the burial itself (Breternitz 1969; Wood 1967:615-6).

The Michaud Site B is assigned to the same period as the Michaud Site A; however, two components may be represented. Level 1 was stratigraphically separated and the artifacts, although few in number, differ typologically from those in Level 2. The projectile point from Level 1 is small and lateral notched, and the rim sherd is incurving. These specimens are mutually exclusive with Level 2 and with the Michaud Site A. The artifacts from Level 2 do not differ appreciably from those from Michaud Site A, except in a wider representation of artifacts from the former. The total assemblage of artifacts from the plowed zone also appear to be from Level 2, but sufficient control was not available to make a definitive statement other than one based on typology. In any case, the evidence available does not warrant a further splitting of Level 2 and the Michaud Site A.

Of the several Early Ceramic Period phases (foci) defined for the Western Plains (See Wood 1967:594-618), the Michaud sites seem to fit most comfortably within the genre of the Parker phase (focus) defined by Withers (1954); however, it is too premature to make a definitive assignment until further work is carried out in the Bijou Creek area.

ACKNOWLEDGEMENTS

Funds for the radiocarbon date were provided by NSF Grant GS-788. The support of the National Science Foundation is gratefully acknowledged. I should also like to thank Mr. and Mrs. V. J. Michaud for their hospitality while excavating on their property.

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