



SOUTHWESTERN LORE

Official Publication, The Colorado Archaeological Society, Vol. 46, No. 3, September 1980

PRELIMINARY INVESTIGATIONS AT THE McENDREE RANCH SITE, 5BA30

by
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ABSTRACT

The McEndree Ranch Site, 5BA30, is situated in the cutbank of a large ephemeral stream in northwest Baca County, Colorado. The site is viewed as a repeatedly occupied, buried, Late Archaic village and has yielded radiocarbon ages from two fire hearths of 2170 ± 55 years BP (Dic. 1258) and 2350 ± 65 years BP (Dic. 1254). Four fire hearths and a semi-subterranean house floor with a ramp entrance constitute the five located features distributed along approximately 140m of cutbank exposure. Large quantities of charcoal and faunal and lithic materials were encountered during the site's initial survey and limited testing. Faunal analysis indicates a probable association with a nearby bison kill.

INTRODUCTION

In October 1978, a Colorado Department of Highways archaeological crew located 5BA30 while surveying to assess the impact of a bridge replacement on Two Butte Creek. It was determined that the site, located just downstream from the structure, would be indirectly impacted by the construction. A second crew was dispatched to conduct one week of test excavations of four features. Two fire hearths were totally excavated, while another fire hearth and Habitation Feature 1, a house floor, were partially excavated. In January 1980, I returned to 5BA30 and located a fifth feature. Fresh exposures in the cutbank also extended the site's defined boundaries upstream.

GEOLOGY

5BA30 is situated in the left bank of a large ephemeral stream (Cotton 1978) which is presently degrading and laterally eroding its course (Figure 1). The site is located in the thalweg and point of this latter process, which has begun in the last 50 years (James T. McEndree, personal communication, 1978). The site also suffered large-block bank erosion due to undercut-

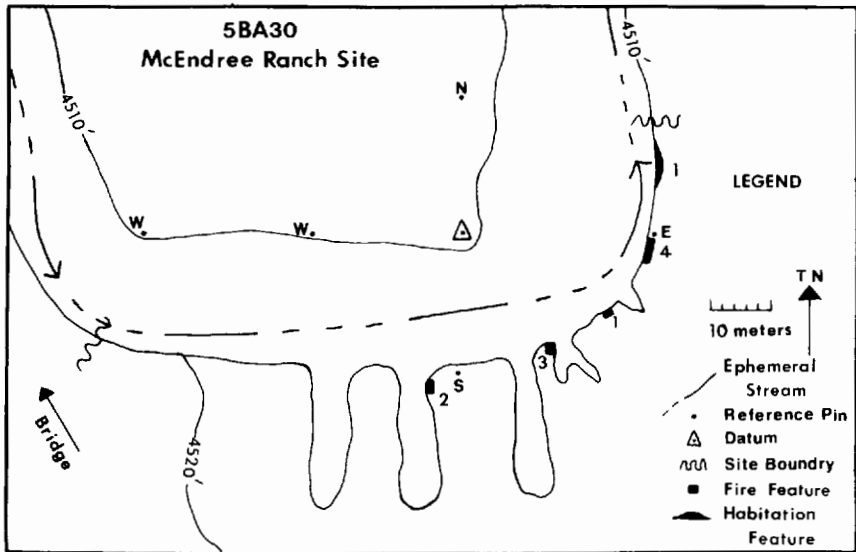


FIGURE 1. Planview map of 5BA30, the McEndree Ranch Site.

ting and slumping. The latest examination of the site disclosed an acceleration of this condition, although the original survey stakes were still in place. The stream's small flood plain is situated on Carlisle and Graneros Shales of the Benton Formation. Deflation of these sedimentary shales results in the characteristic rolling hill topography of the southeastern Colorado Plains.

5BA30 is buried 2.39 to 3.32m (base of excavated features) below the present ground surface, and is approximately 2.25m above the present creek bed. The site visibly extends 40m N/S and 95m E/W and has only quite recently been exposed (James T. McEndree, personal communication, 1978).

EXCAVATION

Test excavations at the McEndree Ranch Site were limited. At least two meters of overburden covered the occupation levels, forcing horizontal excavation into the exposed features in the cutbank. The site was transit mapped. Large pick-mattocks were used to remove the majority of overburden. Trowels and dental picks were used in the feature fill. Fire Feature 2 and Habitation Feature 1 were not totally excavated because the volume of overburden geometrically increased as the work progressed horizontally. Fire Features 1 and 3 were totally excavated. Pollen samples were collected from Fire Features 2 and 3 and from Habitation Feature 2. Results have not yet been returned. Lithic and faunal remains recovered from each feature are tabulated in the Appendices.

FEATURES

Fire Feature 1

Fire Feature 1 consists of three lenses, designated A, B, and C. Lenses A

5BA30
FIRE FEATURE 2

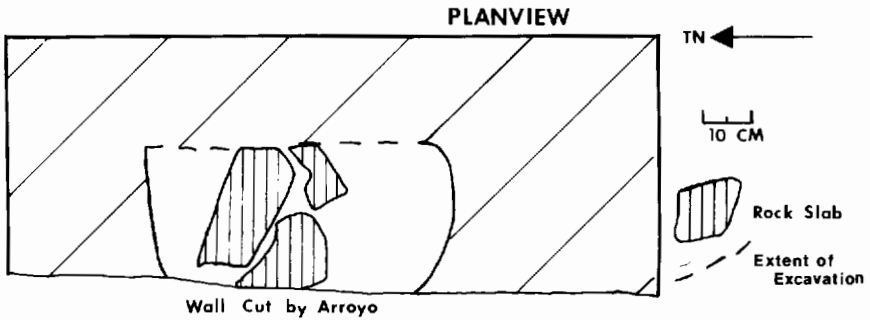


FIGURE 2. Planview map of Fire Feature 2.
Photograph of Fire Feature 2, showing clearly the 14cm-thick fill.

and B are oxidized soil lenses containing some charcoal, lithic materials, and shell and bone fragments. Lens A is $48 \times 20 \times 7$ cm, while Lens B (10cm lower than Lens A) measures $34 \times 10 \times 6$ cm. The base of Lens B is 2.75m below present ground surface. Lens C, located 12cm below Lens B, is a dense, powdered charcoal lens which produced charred bone fragments and larger lithic flakes than Lenses A or B. Lens C was not excavated. The charcoal of Lens C indicates rather intensive occupation.

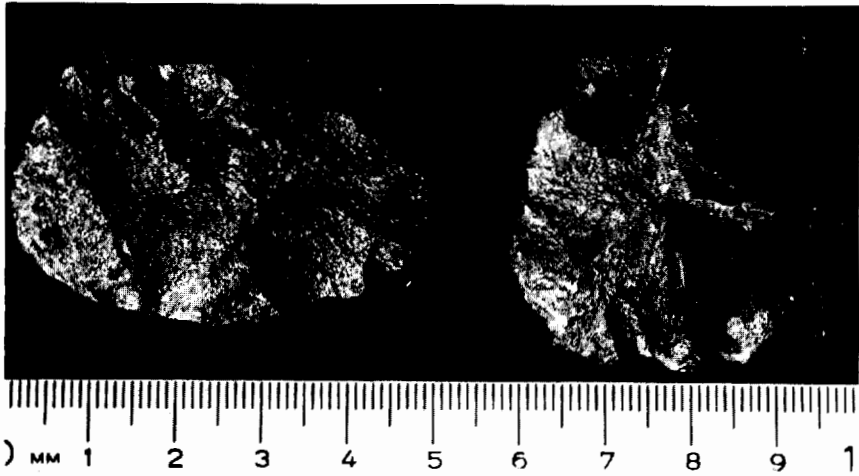


FIGURE 3. Knife bases recovered from Fire Feature 2. The specimen found closest to the surface is to the left.

Fire Feature 2

Fire Feature 2 is a sandstone slab-lined hearth (Figure 2) located in a side arroyo. This feature measures 64×37 (partial dimension) $\times 14$ cm. Three slabs were uncovered in the central portion of the hearth and were left *in situ*. The tops of the slabs were 2.43m below the present ground surface. This hearth contained relatively large amounts of charcoal which were distributed throughout the feature fill, with higher densities in the southern portion. Burned daub was also present but was too small to make collection practical. A large quantity of quartzite flakes, almost all of which were small interior flakes, was recovered from the hearth (this occurs also in Fire Feature 3), revealing the extensive use of heat treatment of materials. Two knife bases, one at the top and the other in the upper portion of the hearth were also recovered (Figure 3). A radiocarbon age of 2170 ± 55 years BP (Dic. 1258) was obtained from the submitted charcoal sample.

Fire Feature 3

Fire Feature 3 is a fire hearth with seven sandstone slabs placed 3cm above the base of the fill (Figure 4), and a partially excavated adjacent area that appears to have been a bone-working location. The base of this feature was 2.39m below the present ground surface and measures $36 \times 30 \times 17$ cm. This feature is located in a side arroyo that serves as the primary cattle path into the main drainage. Charcoal and bone fragments were abundant throughout this feature. A thermally altered bone tool fragment with a highly polished and rounded edge which arcs from a sharp edge toward the much blunter point was recovered. A radiocarbon age of 2350 ± 65 years BP (Dic. 1254) was obtained from the submitted charcoal sample. The feature's physical appearance and recovered material closely match what Wilson



FIGURE 4. Fire Feature 3. The six-inch trowel points north. Feature excavated to base of fill, showing slab's position 3cm above base of 17cm-thick fill. Bone work area is to the left out of picture.

(1976:10-14, 33-34 and Wilson and Davis:331-2) terms a boiling pit for bone grease rendering. A great deal of splintered bone and some charred bone was recovered from the feature and its immediate vicinity.

Fire Feature 4

The most recently located feature extends approximately 4m along the cutbank (see Figure 1), and has not been excavated. Elements noted during the followup survey include: a possible fire hearth; two burned earth/oxidized lenses; charcoal; bone; and lithics (primarily quartzite pressure flakes, as in Fire Features 2 and 3). No collection was made.

Habitation Feature 1

This feature, the deepest observed, is 3.32m below the present ground surface and measures 5m along the cutbank exposure (Figure 5). The feature can be divided into three units (Figure 6). To the north is a ramp entrance measuring 1.4m that has a step or drop onto the actual living surface. The ramp has a rise of 0.5m. The actual house floor, which has a shallow basin profile, measures 2.7m. The last unit is marked by a slight rise but is otherwise similar to the house floor. This portion of the feature measures 0.9m and is probably outside the original structure wall. The definable surface quickly fades at the southern extent of the excavation. Overburden limited full excavation to the ramp entrance and allowed a maximum of

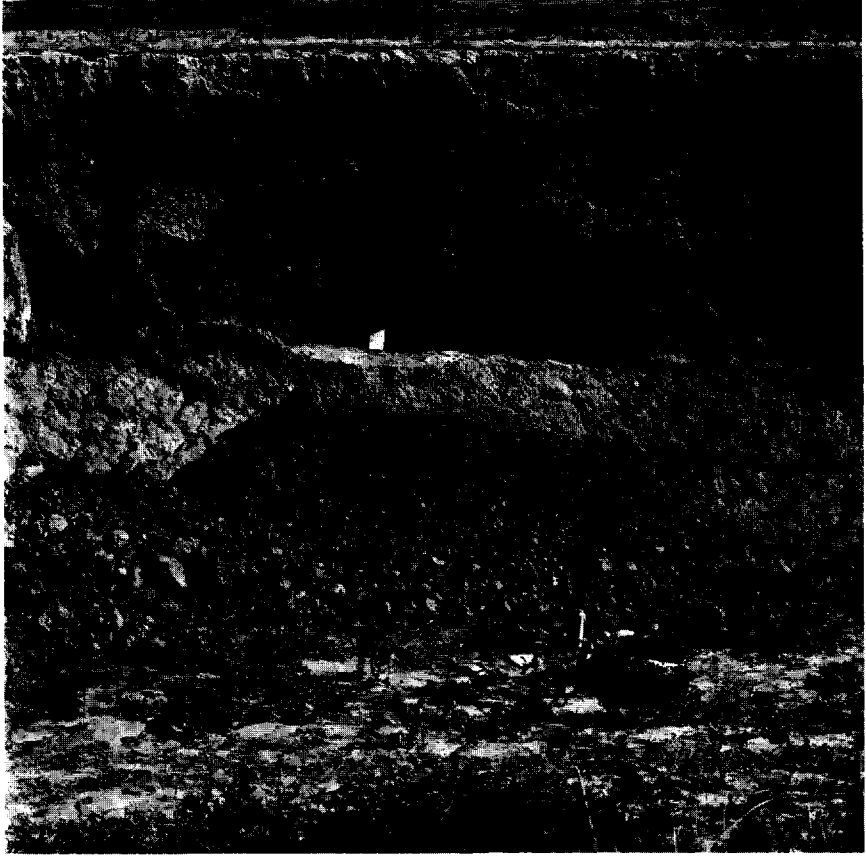


FIGURE 5. View of Habitation Feature 1 from across stream bed, facing east, showing position in cutbank. Box measures 24cm vertically.

80cm penetration into the feature. No post molds or rocks were encountered at the feature's edges. Although both lithic materials and faunal remains were distributed throughout the feature, there were distinct concentrations of each of these categories, suggesting discreet activity areas. Three rib fragments were recovered that exhibited green breaks, scoring, and cut ends. A bone fragment (Figure 7) was located that had green breaks, a flake scar, scoring, smoothed edges, and a blunted and smoothed tip that was an apparent pressure flaking tool.

The latest examination of the site revealed that the site is much larger than was originally estimated. Beginning at Fire Feature 2, the cutbank becomes more gradual, continuing upstream beyond the site's boundaries from the ground surface to just below the approximate level of the feature's exposure. Small willows and grasses are dense along this portion of the cutbank. Fifty-five meters west of the original site boundary, an approximately

5BA30
HABITATION FEATURE 1

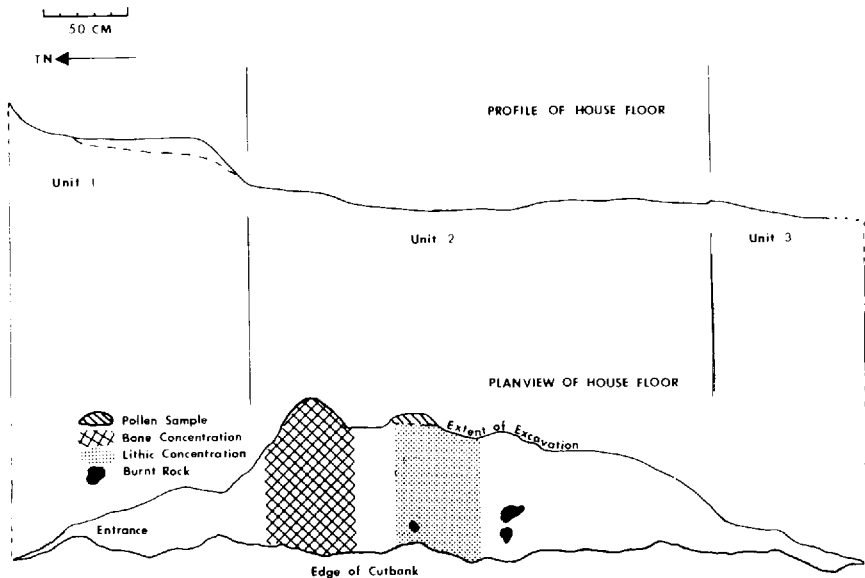


FIGURE 6. Profile and planview of Habitation Feature 1. Note discreet activity areas and three units of Feature.

6m area had recently slumped into the creek bed, revealing probable *Bison bison* teeth.

SUMMARY AND INTERPRETATIONS

The Late Archaic period has been especially poorly defined in the Plains. A literature and extensive telephone search located only one other site which contained features similar to 5BA30. Excavated and surveyed Late Archaic sites situated on an open or in a sheltered location have not revealed any well-defined house floors. Middle Archaic house features have been located (Campbell 1976, Nowak 1979) which had stone slab wall bases. Woodland house features are defined by typical post-mold patterns. Middle Archaic fire hearth features are generally slab-lined bowls while the Woodland are usually unlined or clay-lined shallow basins (Campbell 1976, Nowak 1979). From excavations in the Chataqua Plateau, Campbell (1976) states that the lithic materials of the Late Archaic are primarily local quartzites and some Alibates chert.

The previously mentioned similar site is the Hillsdale Lake Site. Dr. D. J. Blakeslee directed excavations of the multi-component Hillsdale Lake Site, 14MM27, on the Big Bull Creek near Kansas City. The site had two shallow dished Nebo Hill complex house structures over 2m in diameter and had neither post molds nor rock walls. Blakeslee located vaguely discernible, poorly preserved clay foundation walls which probably served as vertical

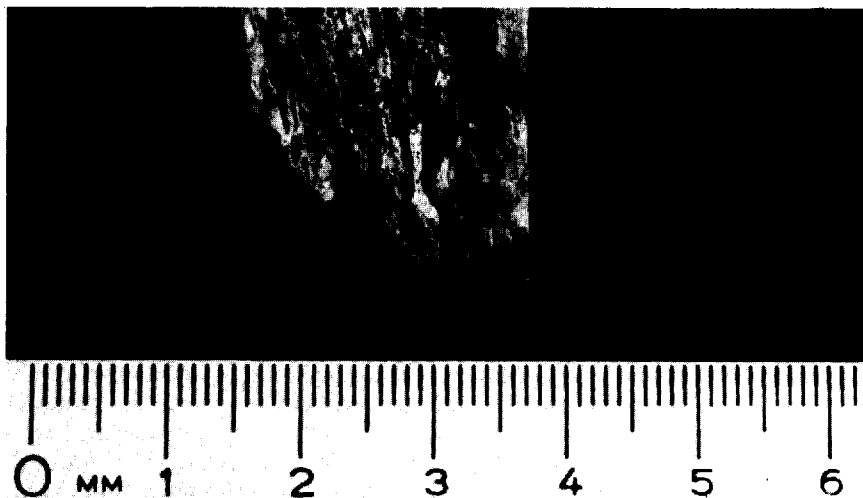
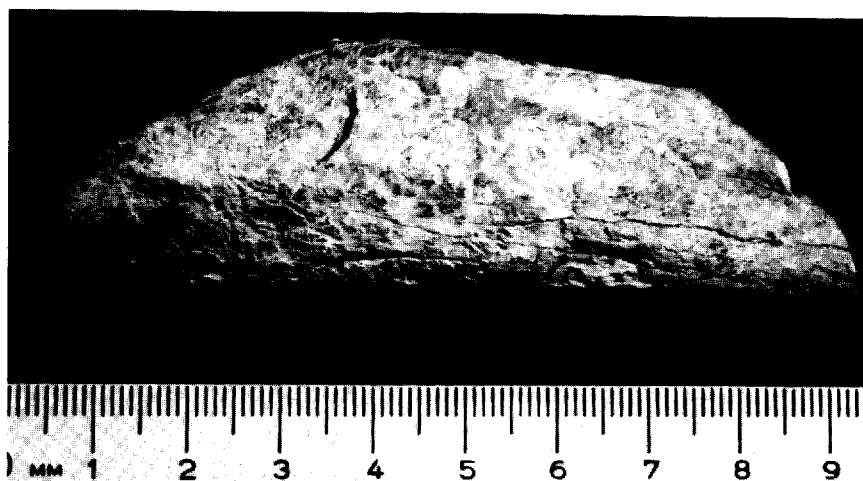


FIGURE 7. Bone pressure flaking tool from Habitation Feature 1.
a. Flake scar toward distal, scoring present but not visible.
b. Obverse view of proximal tip.

post supports. Excavations did not expose enough of the house floor to determine whether or not foundation walls occur at the McEndree Ranch Site. The Hillsdale Lake structures are viewed as a small-group, single season occupation, while 5BA30 is viewed as a larger and much longer occupation. The Hillsdale Lake Site has, however, the only excavated open Late Archaic habitation structures. Both sites had packed earth floors. The floor of Habitation Feature 1 floor was heavily impregnated with powdered

charcoal and was undoubtedly occupied repeatedly to have become so heavily compacted. The two radiocarbon ages support a repeated occupation theory. The dates, separated by over three standard deviations, statistically state that the site was occupied at least twice, both times within the Late Archaic. The two sites are physically and temporally very similar and support the concept of long-distance contact.

The primary lithic material recovered from 5BA30 were local quartzites, which were present in especially large quantities in Fire Features 2, 3, and 4. This heat-treating would improve the structural characteristics of the material. Several pieces of Alibates chert were also present in Habitation Feature 1; this Panhandle area material supports the long distance contact idea.

Another point to consider in examination of this site is the recovered faunal materials. These remains, though fragmentary, are almost entirely probable *Bison bison*. Comparison of these remains with those of bison kill sites and sites that utilized bison lead to one assumption: a bison kill is nearby and the McEndree Ranch Site is the focus of this activity. This assumption is supported by a great deal of data. Examination of the Wardell Buffalo Trap (Frison 1973:42-43) and the Olsen-Chubbuck Site (Wheat 1972:83) reveals that much of the recovered faunal remains from 5BA30 are consistently those elements most common at a kill site. All the identifiable bone from Fire Feature 3, the grease rendering pit, and approximately one-third of the identifiable bone from Habitation Feature 1 fall within this kill site category. The category includes bones with little meat on them, or little marrow within them. Wheat states “. . . much boneless meat was brought into the village . . . the bones found in the village refuse probably represent kills made close by where transport was a relatively minor matter” (1972:163).

It cannot be assumed, however, that 5BA30 represents a kill site, as approximately one-third of the faunal remains from House Feature 1 are elements usually found at sites where only bison is utilized. Another one-third of the identifiable bone elements are not indicative of either situation. It is doubtful that bison procurement, a potentially dangerous activity, would be carried out adjacent to a village.

CONCLUSION

Work reported within both this area of the Plains and this time period is scarce, limiting comparisons of 5BA30 with other sites. The McEndree Ranch Site also combines several unique elements in a complex pattern. 5BA30 apparently combines radically different activities that are usually separated by a great distance. It is a repeatedly occupied village that includes elements of a bison kill. The features and their recovered materials represent a full range of village activities from grease rendering to the heat-treatment of local lithic materials. Wide ranging contact is indicated by the similarity of the Kansas City area Late Archaic habitation features with the McEndree Ranch Habitation feature and the presence of Alibates chert from the Panhandle Region. Features are very well defined and preserved at

5BA30, due in large part to the overburden. Although the habitation feature did not yield a viable radiocarbon age, it is the deepest observed feature associated with radiocarbon dated features of phenomenally low sigma values. The site offers excellent potential for further research.

ACKNOWLEDGEMENTS

This report is the result of some intensive effort expended by several colleagues and thanks are extended to all of them. The survey crew consisted of E. J. Rowen III, C. Colle, and myself. J. D. Gooding directed the test excavations crew. Faunal remains were analyzed by E. J. Rowen III, S. M. Wallace, and A. J. Kihm. Appreciation is extended to the unnamed others who have helped prepare this report. I, however, accept the responsibility for its content.

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APPENDIX A
Lithic Material Recovered from 5BA30
TABLE I. Tools

Feature	Material/Color	Stage of Manufacture	Utilization	Retouch	Use/Other
				unifacial	bifacial
F.F.1	Basalt black	secondary flake interior flake	one facet one facet		
	Sandstone grey (laminated)	interior flake		one edge	scraper
F.F.2	Quartzite brown				2 plano-convex knife bases (see Figure 3)
F.F.3	Quartzite tan	secondary flake		3 edges	Steep angle retouch for end and sides. Scraper ("thumb- nail scraper")
	Chert tan (coarse)	secondary flake interior flake	one facet two facets		
	red, grey, pink banded	interior flake	one facet		
	dark and light grey banded	interior flake		2 facets	scraper
	Chalcedony dark brown	2 interior flakes	one facet		
H.F.1	Quartzite white	interior flake interior flake	one facet one facet	one facet	
	burgundy	2 interior flakes	one edge		

H.F.1	Quartzite grey to tan	secondary flake secondary flake	one platform	plano-convex biface base fragment scraper
	grey to tan (coarse)	primary flake	one facet	
	pinkish white through burgundy to purple	interior flake	micro retouch on facet opposite utilized	
		interior flake	one small portion of 2 facets corner	side scraper
	reddish brown	interior flake		
		interior flake		
		interior flake		
	Chert			
	Alibates	interior flake	micro retouch on 1 facet	scraper
		interior flake		
	grey lavender	interior	steep angle on end	end scraper
			steep angle on 3	2 sides and end
	tan (coarse)	interior	separate facets scraper	heat treated pot lidding
	Sandstone	secondary		
	grey (laminated)			
	Basalt	interior	steep angle on 1 facet adjacent to platform	side scraper
	black	interior	steep angle on opposite side from utilization	side scraper

F.F. = Fire Feature

H.F. = Habitation Feature

TABLE II. Debitage

Feature	Material/Color	Stage of Manufacture	Secondary flake	Interior flake	Retouch flake	Shatter
		Primary flake				
F.F.1	Quartzite tan greyish tan pinkish grey purple to burgundy Chert greyish white Sandstone	1		1 3	1 1 3 1	
F.F.2	Quartzite Sandstone grey (laminated)	556 flakes, the majority of which are purples and browns. Almost all are small interior flakes.	1			3
F.F.3	Quartzite Chert tawny yellow red, grey, pink banded dark brown with black streak inclusions brown/red dark grey tan (coarse) dark and light grey banded Sandstone grey laminated red	115 flakes, primarily interior, were recovered; the majority were purples and browns.			2 2 2 1 1 1 2 3	20
F.F.3	Basalt black Chalcedony dark brown (coarse)	1		2		1 8 2

H.F.1	Quartzite					
	burgundy			1		
	tan	1		1		
	brown			1		
	grey to tan (coarse)			1		
	pinkish white through					
	burgundy to purple			1		
	Chert					1
	dark brown to black					1
	dark to light grey					1 (cobble core frag)
	alabates					1
	Sandstone					3
	grey (laminated)					
	Quartz					
	translucent		1			
	clear					
				1		

F.F. = Fire Feature

H.F. = Habitation feature

APPENDIX B
Faunal and Mineral Remains from 5BA30

TABLE I

Fire Feature 1		
Bone:	unidentifiable fragments	35.1g
Shell:	unidentifiable fragments	00.8g
Fire Feature 2		
Bone:	unidentifiable fragments	under 00.2g
Fire Feature 3		
Bone:	Tools:	
	—small, thermally altered tool fragment with a highly polished and rounded edge which arcs from a sharp edge towards the much blunter point.	
	Unmodified:	
	—probable <u>Bison bison</u>	
	—portions of mandible	
	—left first or second incisor	
	—right lower molar (size of second molar)	
	—right lower third premolar	
	—anterior portion of right lower fourth premolar	
	—lower molar fragment	
	—3 unidentifiable tooth fragments	
	—unidentifiable, shattered fragments	113g
	—unidentifiable, thermally altered, shattered fragments	39g
Shell:	unidentifiable fragment	05.4g
Hematite:		01.0g
Limonite:		00.5g
Habitation Feature 1	<u>Bison bison</u>	
Bone:	Tools:	
	—probable <u>Bison bison</u> ;—left tibia, distal portion, shaft fragment with green spiral fracture. Proximal tip heavily worn (Figure 7). Scored in 2 oblique directions in a flake scar. Scored 90° from flake hinge fracture on surface. Scoring at proximal end, both parallel to shaft and curving. Oblique scoring at distal end. All edges smoothed. Probable function of pressure flaking tool.	
Bone:	Culturally modified:	
	—probable <u>Bison bison</u>	
	—distal portion of rib fragment with green snap break and 3 shallow cut scars	
	—distal portion of rib fragment with 4 shallow cut scars	
	—distal portion of rib fragment with a green break and gouge.	
	One end cut off at a 90° angle (across) and the other end with 2 parallel cut marks	
	Unmodified:	
	—probable <u>Bison bison</u>	
	—right mandible fragment—buccal side with 2nd and 3rd premolars with occlusal surfaces and a portion of 2nd premolar root	
	—thoracic vertebrae: 9, 10, 1, and unidentifiable fragments	

- proximal end, right scapula
- left (?) scapula fragment
- right humerus fragment (possibly of small female)
- proximal end, left metacarpal
- pelvis fragment
- proximal end of femur
- right patella
- right unciform fragment
- metatarsal (?) fragment
- proximal phalanx (large)
- ulna of a bird the size of a Western Evening Grosbeak
- left femur of Sciuridae cf. Spermophilus (Ground squirrel)
- 43.7g of unidentifiable bone fragments, many exhibiting green breaks

Hematite: less than 00.2g
 Daub,
 burned: 14.8g

Westernmost edge of site
 Bone:

- probable Bison bison
- left deciduous 3rd upper premolar
- anterobuccal corner enamel of right 4th upper premolar