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Archives of Archaeology

No. 8

SITE D1-29, A ROCKSHELTER IN NORTHEASTERN OKLAHOMA

Joan E. Freeman

With an Appendix on Skeletal Material

by Aaron Elkins

1960

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Preface

The site under discussion in this report was one of approximately seventy-five which were excavated in the area immediately along the Grand or Neosho River in 1938 - 1940. The excavations were conducted through the Work Projects Administration under the sponsorship of the University of Oklahoma. They were designed to salvage as much archeological material as possible before a dam being constructed on the Grand River backed up water which would inundate the sites. This site and others were excavated by WPA workmen under the supervision of David A. Baerreis.

Since the time of the excavation of these sites, the artifacts have been in storage at the Stovall Museum of the University of Oklahoma. In 1958 a project involving the examination of these sites as part of a study of biological and cultural change in the restricted area of northeastern Oklahoma was undertaken under the direction of David A. Baerreis and William S. Laughlin of the Anthropology Department and William Reeder of the Zoology Department of the University of Wisconsin. The project was financed for a two-year period by a grant from the National Science Foundation with additional aid from the University of Wisconsin Research Committee.

The description and analysis of site D1-29 was originally included in a dissertation, The Neosho Focus, A Late Prehistoric Culture in Northeastern Oklahoma, written to fulfill partial requirements for the Ph.D. degree in Anthropology at the University of Wisconsin. While this dissertation was in preparation, the author was the recipient of the Alice L. Beeman Fellowship for 1958 - 1959 granted by the American Association of University Women. The present version of the analysis of D1-29 is an

elaboration of that presented in the dissertation. The facilities of microcard publication make possible more illustrations and individual description of artifacts. Revisions are to be found in the sections with knives, core knives, core tools, scrapers, drills, and ground stone artifacts. The classification of pottery vessel forms has been revised to conform with that presented in other reports on Delaware County sites (Baerreis and Freeman, 1959) and a summary article on shell-tempered pottery in northeastern Oklahoma (Freeman and Buck, 1960). This latter article is a result of more extensive study of shell-tempered pottery from several sites in the Neosho River drainage.

Thanks are due to Dr. Robert E. Bell of the University of Oklahoma for packing and shipping the archeological specimens, to Frank Iwen of the Zoology Department of the University of Wisconsin for the identification of animal bone used for implements, to Mrs. Patricia Habeck of the same department for identification of shell species, and to Dr. David A. Baerreis for advice during the writing of the dissertation.

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I. Introduction

Site D1-29, a rockshelter, was one of many sites excavated in 1938-1940 under the WPA and University of Oklahoma archeological salvage program in the region near the Grand or Neosho River in northeastern Oklahoma prior to the construction of a dam near Langley. The territory in which these sites were located is now under the Lake of the Cherokees. D1-29 was located in Woodward Hollow, a narrow valley cut by an eastern tributary of the Neosho River, one of the valleys which dissect the southern fringe of the Ozark Highland region in Delaware County, Oklahoma.

Several rockshelters were excavated in Woodward Hollow during the salvage operations. D1-29 was downstream and on the same side of the intermittent stream as D1-47 (Baerreis and Freeman, 1959) and downstream and across the stream from D1-30 (Freeman, 1959a). Site D1-28 (Freeman, 1959b) was only a few hundred feet upstream from D1-29. Immediately below the mouth of the stream in the Hollow, on the east bank of the Neosho River were two other rockshelters, the Smith sites, D1-42 and D1-55 (Wittry, 1952 and Hall, 1951).

In these few sites is revealed the chronology of this area of northeastern Oklahoma. D1-55 and D1-42 have, in the lower levels of the two sites, a representation of Archaic as it is seen in other sites in this area (Baerreis, 1951). In the lower levels of D1-47 is a Woodland component (Hopewellian) as known from the two major village sites of this horizon in Delaware County (Bell and Baerreis, 1951 and Baerreis, 1953). In the upper levels of D1-55, D1-42, D1-47, and D1-30 are components of the Neosho Focus, a late prehistoric culture of this area. Caddoan remains, either Gibson or Fulton Aspect, are represented by only a few sherds at D1-47. Important sites of this culture are the Huffaker site (Baerreis, 1953 and 1955) and the Reed site, both north of Woodward Hollow on the Cowskin River.

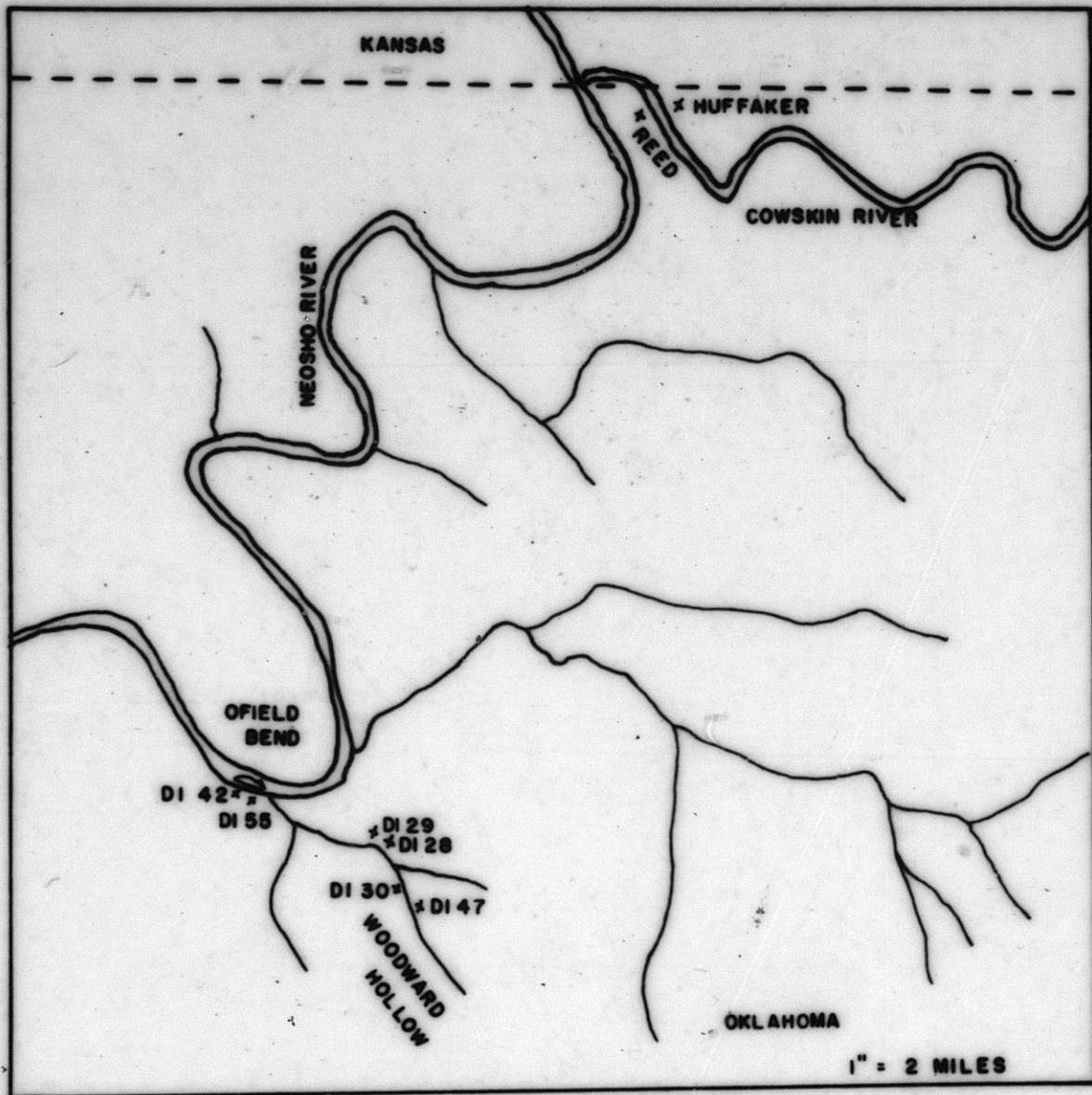


Figure 1
Map of the Neosho River Area, Delaware County, Oklahoma

II. Description and Excavation of D1-29

The rockshelter, D1-29, excavated in the period of April 25 to July 15 in 1938, was located on the north side of Woodward Hollow in Sec. 27, T 24 N, R 23 E, in Delaware County, Oklahoma, a mile and a half from the junction of the narrow stream in the valley and the Neosho River. The shelter was at the base of a thirty-foot high cliff and extended for 200 feet under a 20 foot wide overhang. The cliff is part of the Boone chert formation, the rock structure uniformly found in this section of Oklahoma. The structure consists of alternating beds of limestone, limestone and chert nodules, and chert beds (Snider, 1915: 22 - 25). The rockshelters in this region were apparently formed when the streams cut away the less resistant limestone or limestone-chert layers, leaving overhangs of more consolidated material. The sterile zone at the base of D1-29 was formed of gravel and clay, an old stream bed of the river, which in 1938 ran to the south of the shelter.

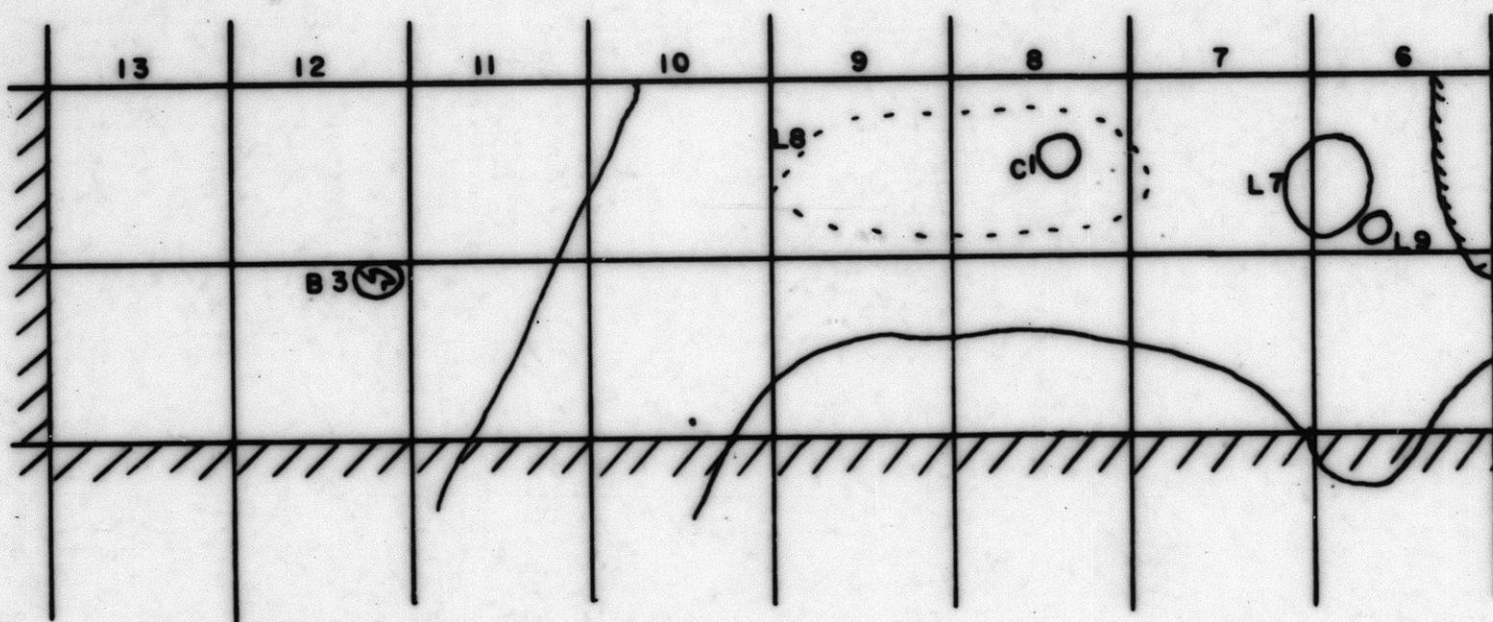
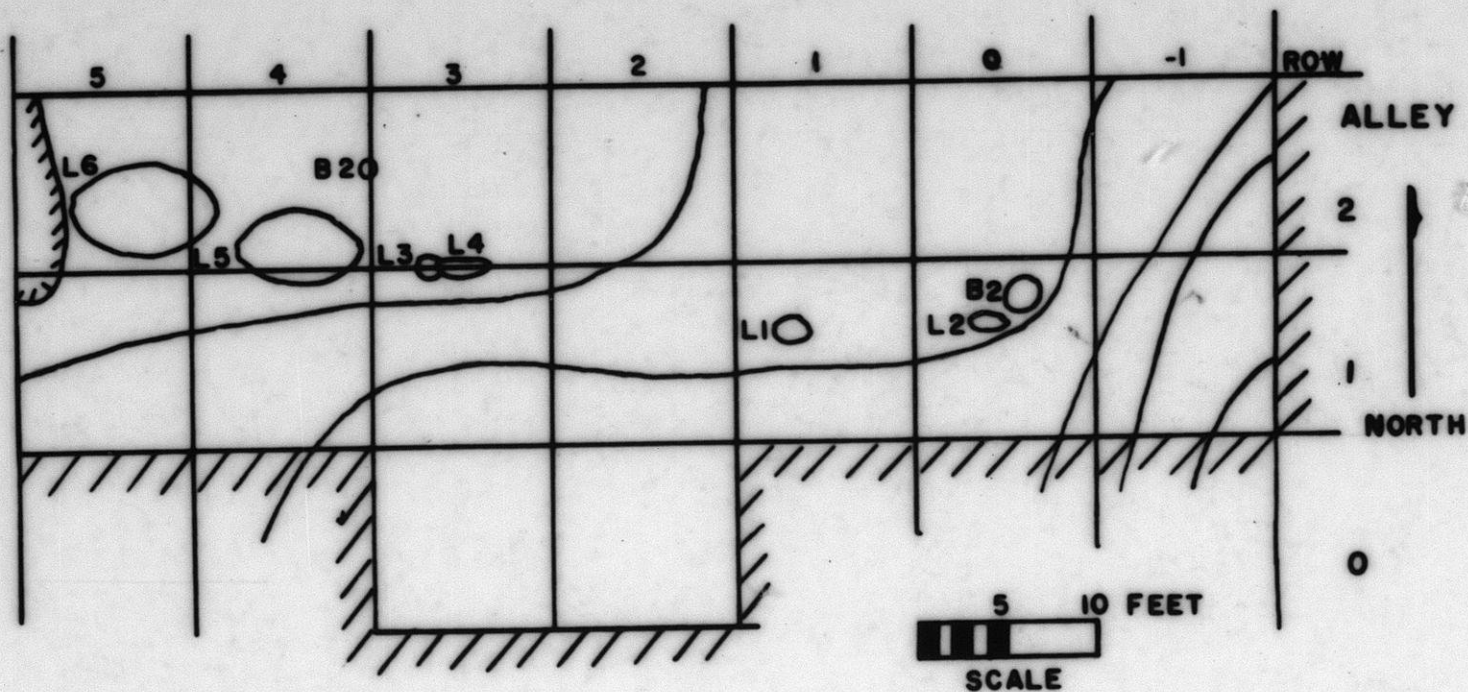
At the time the site was excavated, a road ran in front of the shelter, between it and the narrow meandering stream in the hollow. The surface of the ground was fairly level from the back wall of the shelter to the north bank of the stream, in contrast to the usual talus slope which has accumulated in front of most of the rockshelters in the region. The possibility that part of the cultural deposit has been leveled off in the construction of the road was not substantiated by evidence obtained from local residents.

The western 50 feet of the deposit under the overhang had been excavated prior to WPA operations by Otto Spring for the Oklahoma Historical Society. This area of the shelter had also been used as a stock corral by the owner of the land. While presumably the cattle were confined to this previously excavated area, there is a possibility that they did occupy the remainder of the shelter, and thus could have disturbed the top 6 to 12" of the deposit.

The WPA excavations were started in the eastern end of the shelter, that portion which had not been previously excavated. The deposit was staked off into ten foot squares by the placement of two ten foot wide east-west alleys cross cut by ten foot wide north-south rows. The rows and alleys were so numbered that Alley 2 was at the rear wall of the shelter, Alley 1 to the front, and Row 1 at the east end of the shelter. The squares were designated by the combined Alley and Row number, i.e. 1:1, 1:2, etc., taken from the stake in the southeast corner of the square. As excavation proceeded, two additional rows were added to the eastern end of the deposit and labeled 0 and - 1. In order to determine the limits of cultural occupation two squares were dug in the 0 Alley, twenty to thirty feet from the rear wall. Square 1:13 and 2:13 were the last undisturbed squares excavated, but the remainder of the shelter was leveled so that the owner could continue to use it as a stock corral.

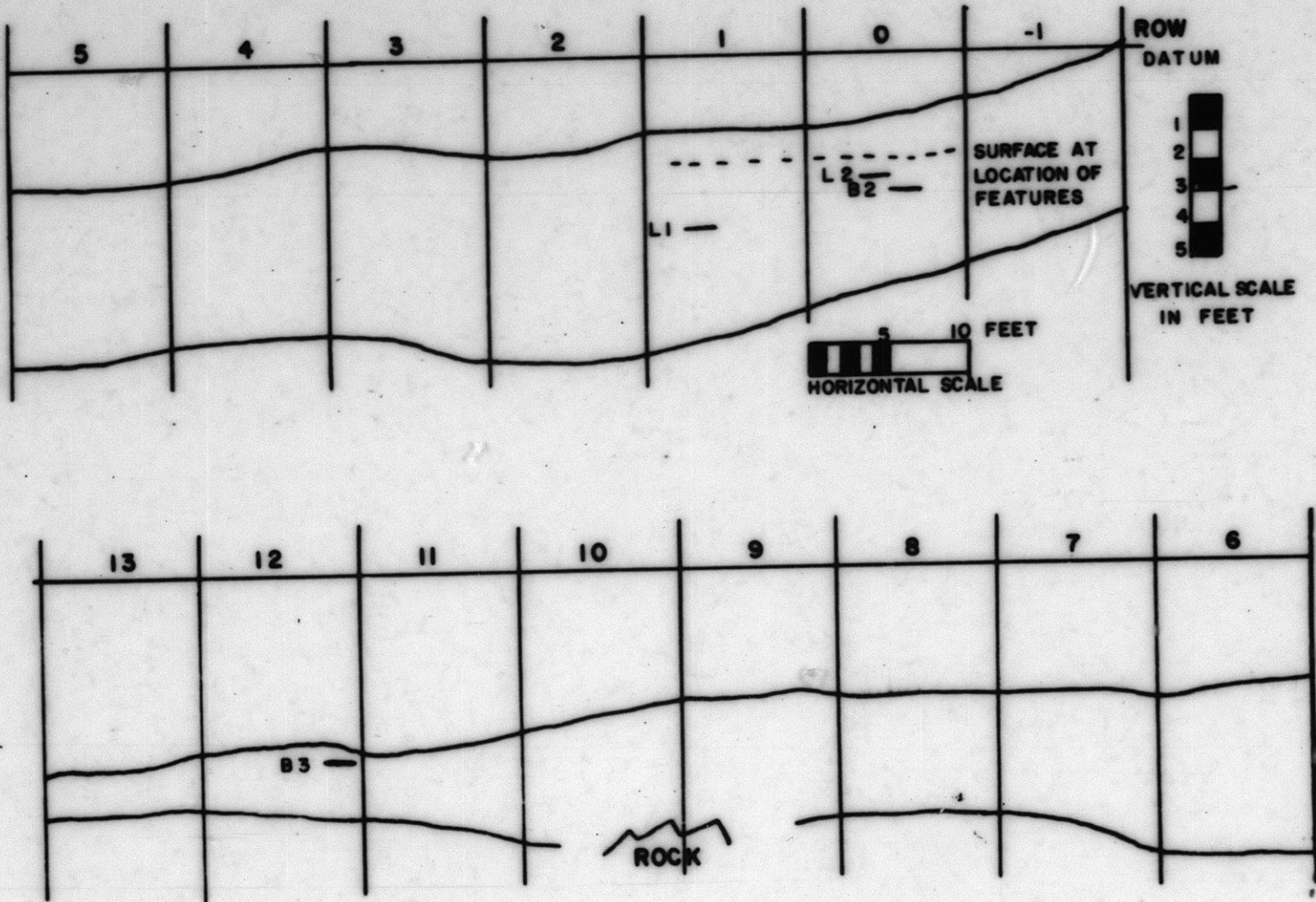
The highest concentration of artifacts appear in squares 1:1 through 1:13 and 2:1 through 2:13. The 0 and - 1 Rows and the 0 Alley contained few artifacts and thus probably were not part of the intensively occupied area of the shelter. In the process of leveling the area which had been previously excavated, a few artifacts were found which obviously were not in their original positions.

The soil which contained the artifacts was a uniformly colored sand in which a few ash beds were interspersed. This deposit rested upon the red clay and gravel base which was the old stream bed. The sterile subsoil rose sharply to the rear wall of the shelter, thus decreasing the depth of the cultural deposit in the 2 Alley. Because no natural stratigraphy in terms of alternating bands of differing colors of soil could be seen in the walls of the original test pits at the site, the deposit was removed in four inch levels.



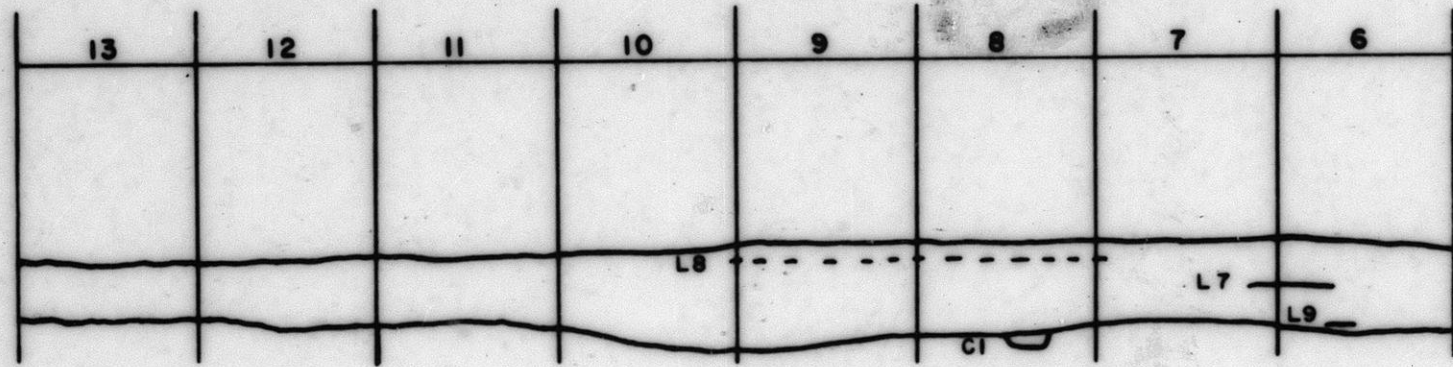
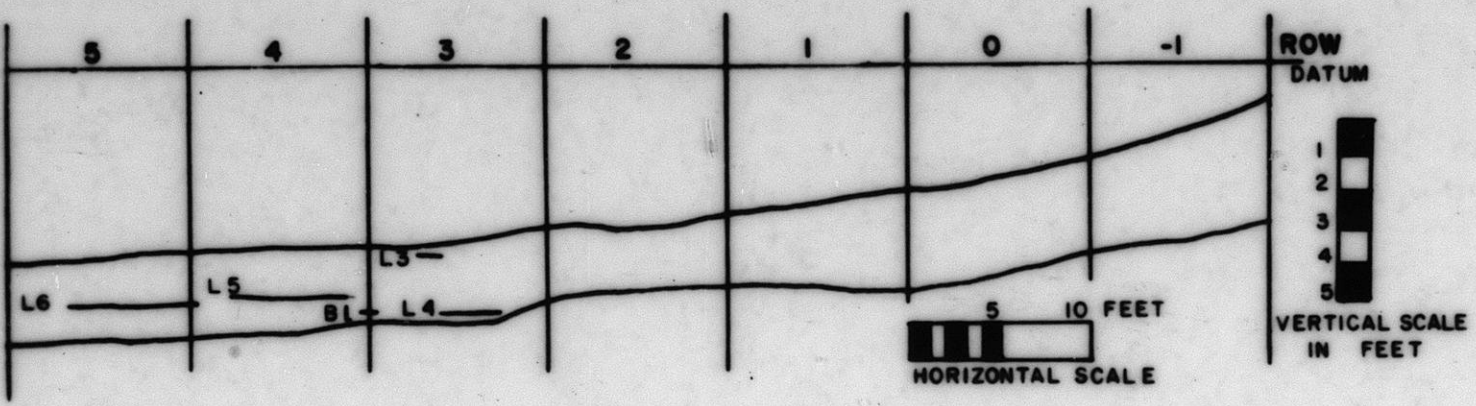
CONTOUR INTERVAL 1 FOOT

Figure 2. Floor Plan of D1-29



PROFILE ALLEY 1

Figure 3



PROFILE ALLEY 2

Figure 4

III. Features

The features within the deposit in the shelter consist of ash beds, charcoal beds, one pit, and burials. The ash beds are most commonly oval areas, lens-shaped in cross section, of compact grey ash. There were no signs of preparation in conjunction with these ash beds, suggesting that cooking fires were built directly on the ground surface without special preparation. Ash lens Number 1 contained small fragments of bone, chert, and gravel as well as grey ash. Lens 9 was an area of finely pulverized charcoal located under a rock slab. Two of the ash beds were irregular in outline, (L7 and L8), and L8 was more an area of intermittent ash than a dense concentration of ash than was found in the other beds.

Table 1. Location and Dimensions of Ash Lenses

Lens #	Outline	Square	Level and Feet from Surface	Dimensions		
				North-South	East-West	Thickness
L 1	Oval	1:1	7 (2.12')	1.7'	2'	.25'
L 2	Oval	1:0	2 (0.49')	1.1'	2.1'	.2'
L 3	Oval	2:3	2&3 (0.56')	1.5'	1.2'	.3'
L 4	Oval	2:3	7 (2.01')	.85'	2.9'	2.5'
L 5	Oval	2:4	5 (1.45')	4.0'	6.66'	.2'
L 6	Oval	2:5	4 (1.17')	4.8'	8.4'	.2'
L 7	Irregular	2:6	4 (1.21')	5.2'	4.6'	.3'
L 8	Irregular	2:7-8	4 (1.3')	21.0'	6.5'	.4'
L 9	Circular	2:6	8 (2.43')	1.65'	1.65'	-

The one pit in the shelter was found at the base of the sand deposit, penetrating into the red clay subsoil. This circular pit, 2.2' in diameter, was in Square 2:8 at Level 8 (2.5' from the surface). The fill of the pit was black sandy soil containing burned acorns, a few mussel shells, and a piece of worked chert.

Burials

Three burials were found at the site, one of which was a multiple burial containing two individuals. At the time of excavation not all the bones from individual burials were located and subsequently bagged with the rest of the remains, for in sorting the bone refuse from the site, fragments of human bone were found which undoubtedly belonged to the burials. While none of the human bones found mixed with the animal bone refuse could actually be fitted to bones from a burial, they can be ascribed to individual burials since they represent missing portions of the skeleton, are of the same age and sex, and were found close to the recorded position of the burial. A detailed discussion of the skeletal remains is presented in Appendix 1 by Aaron Elkins who identified the skeletons.

Burial Number 1, the skull of an infant about a year old, was located in Square 2:4, 5.3' north of stake 2:5 and 9.85' east of that stake at a depth of 1.87' from the surface. The area covered by the burial was .66' east-west, .58' north-south, and .5' thick. The face was inclined downward and to the north. The field notes report that articulated vertebrae were present as well as one long bone aligned east-west. The burial perhaps was flexed.

Burial Number 2. This burial was located in Square 1:0, 8.48' north of stake 1:1 and 6.48' east of that stake at a depth of 1.01' from the surface. The bones covered an area 1.56' in an east-west direction and 1.5' in a north-south direction. The bones appeared to be disturbed, possibly by rodent action. The skull was to the north resting on the left side with the face to the east. From the position of the long bones as observed in the field, it was concluded that the burial was flexed.

This burial actually consists of two individuals, a fact that would account for the confusion as to the position of the long bones when the burial was uncovered. One individual, represented by cranial, facial, innominate,

scapular, clavicular fragments, and teeth, was about nine months old. The second individual, a child 4 to 6 years old, consisted of humeral and tibia fragments.

Associated with these two individuals was a bowl lying 2" east and 3" above the pelvis, a grooved abrader 10" east and 6" above the pelvis, and four shell beads, two of which were below the skull and two below the clavicle. The beads were apparently associated with the infant burial.

In the bone refuse from this same square in Level 6, and thus within the vertical thickness of the burial, were found cranial fragments of an infant which could well belong to the infant in the multiple burial.



Figure 5. Burial 2, D1-29. Arrow points to shell beads.



Figure 6. Burial 2, D1-29

Burial Number 3 was uncovered within Square 1:12. The exact location was 9.2' north of stake 1:13 and 8.2' east of this stake. The burial was 2.1' long northwest-southwest, 1.5' northeast-southwest, and .75' thick. The top of the burial was .85' below the ground surface. The skull of this burial, an adult male about 25 years old, was not found at the time the burial was uncovered. If the skull had been present it would have been to the southeast. The individual was apparently placed on his back with the legs folded back on the abdomen. The position of the arms could not be exactly determined in the field, but would appear from photographs to be extended.

Adult skull fragments as well as teeth and the axis were found in the bone refuse from Square 1:13 from Level 6, about two levels below the burial. Fragments of adult clavicle were found in the bone refuse from this square at Level 3. It is possible that these fragments belong to this burial although they cannot be definitely stated to be so.



Figure 7. Burial 3, D1-29

Burial Number 4. Human bones, cranial, innominate, and long bone fragments of a child four to six years old were found in the bone refuse from Square 2:1, Level 5. These bones are clearly not from the 4 to 6 year-old in Burial 1. The position of the burial is not known.

IV. Artifact Description

Projectile Points

All of the projectile points from this site are made from varieties of chert from unidentified sources, although much of the grey and mottled grey chert could be from the Boone chert formation of the shelter and surrounding area. Instead of attempting to classify the kinds of chert which are present, the color will be noted for each point. The large projectile points, presumably spear or dart points, were made by both percussion and pressure methods of flaking. Usually the faces of the points exhibit large percussion flakes while the edges are retouched by pressure methods. Where modifications of this basic technique are present, such as only percussion flaking, stem grinding, etc., they will be noted for individual points in each type category. All measurements are in millimeters and were taken with sliding calipers.

Gary Projectile Points

Gary projectile points are characterized by a stem which contracts from a blade with a triangular outline to a rounded or pointed base (Suhm, Krieger, and Jelks, 1954:430). The division of the broad grouping of Gary points into three varieties based on shoulder and base form as determined from a large sample of points from Delaware County will be followed in this report (Baerreis, Freeman, and Wright, 1958:67 - 69).

Gary A. The stem of the A variety of Gary points contracts gradually from an indistinct shoulder region. The base may be rounded or pointed, but is usually pointed. Twenty-six of the forty-one Gary A points from D1-29 have rounded bases. The majority of the points have a straight-sided triangular blade outline. Lateral stem grinding is present on three points, #'s 406, 466, and 196.

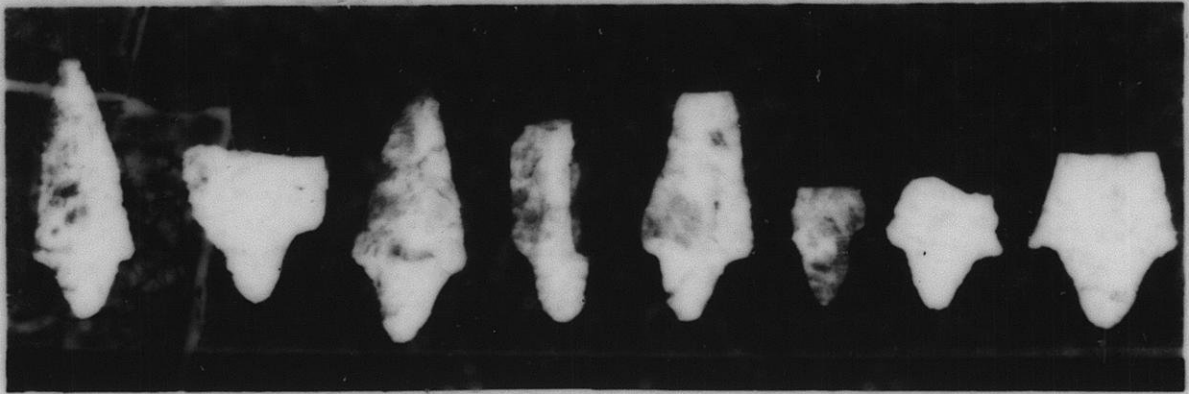
Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	11	57 - 81	64.5 mm.
<u>Maximum Width</u>	36	22 - 46	30.4 mm.
<u>Stem Length</u>	40	10 - 29	18.7 mm.
<u>Thickness</u>	40	5 - 14	8.4 mm.
<u>Weight</u>	11	7.5 - 16.4	12.8 gms.

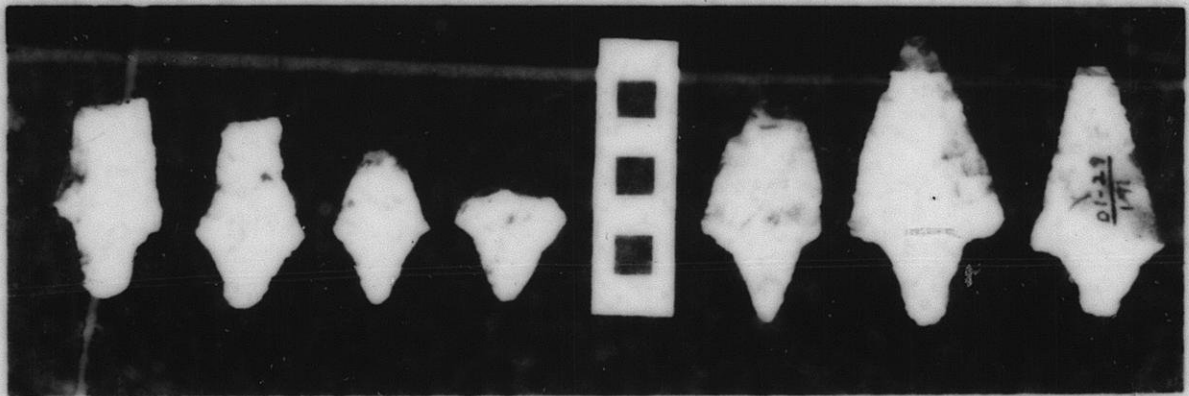
Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Percussion Flaking</u>	<u>Chert Color</u>
455	1:0	10	--	24	--	--	grey
404	1:3	2	--	33	--	--	mottled grey
355	1:3	2	65	29	11.7	--	grey
193	1:3	4	--	--	--	--	mottled grey
477	1:3	6	--	29	--	--	mottled grey
173	1:4	6	--	--	--	--	red-grey
313	1:4	9	--	29	--	--	pink
297	1:4	11	--	32	--	--	mottled grey
171	1:5	6	--	26	--	--	mottled grey
444	1:5	9	--	27	--	--	mottled grey-white
444	1:5	9	--	24	--	--	grey-pink
182	1:6	7	--	--	--	--	mottled grey
266	1:8	8	--	30	--	--	grey
266	1:8	8	--	40	--	yes	pinkish
191	1:8	9	--	32	--	--	grey
380	1:8	12	--	46	--	yes	mottled grey
363	1:9	6	57	29	10.1	--	pink-grey
224	1:10	5	--	38	--	yes	grey

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Percussion Flaking</u>	<u>Chert Color</u>
224	1:10	5	--	25	--	--	grey
111	1:10	9	69	--	--	--	pink
127	1:11	3	69	28	16.4	yes	grey
466	1:11	6	66	25	16.1	yes	tan
466	1:11	6	--	42	--	--	grey
177	1:12	4	57	25	8.6	--	grey
170	1:12	5	--	22	--	--	grey
170	1:12	5	--	--	--	--	tan
184	1:13	4	--	33	--	--	grey
366	2:4	1	--	27	--	--	grey
336	2:4	1	--	30	--	--	pink
244	2:4	7	81	37	14.0	--	grey
244	2:4	7	66	--	--	--	grey
406	2:5	3	64	27	11.4	--	mottled grey
310	2:6	3	--	31	--	--	mottled grey
196	2:7	5	64	33	15.8	--	mottled grey
393	2:9	4	--	32	--	--	mottled grey
188	2:10	2	51	22	7.5	--	grey
197	2:10	6	--	34	--	yes	tan
187	2:11	7	--	41	--	yes	pink-white
334	2:12	1	--	28	--	--	pink
378	2:12	3	--	24	--	--	grey
315	2:13	6	--	28	--	--	mottled grey

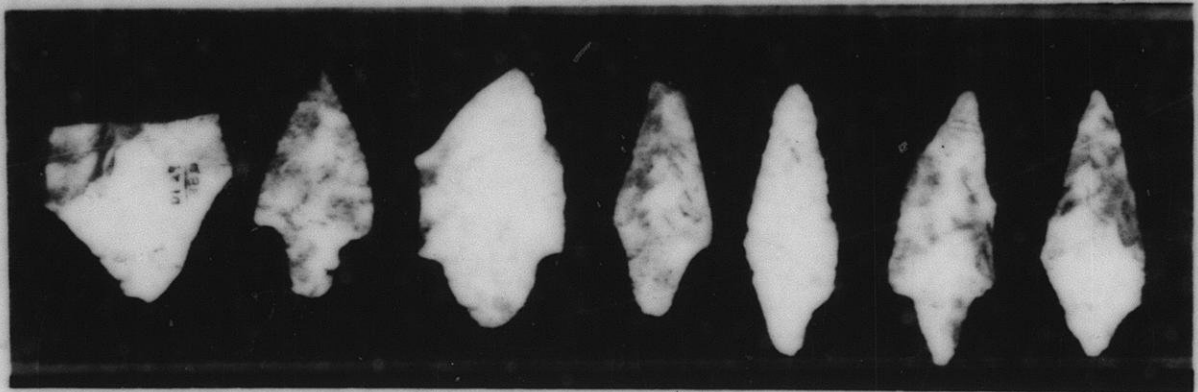


a # 455 b # 404 c # 355 d # 193 e # 477 f # 173 g # 313 h # 297

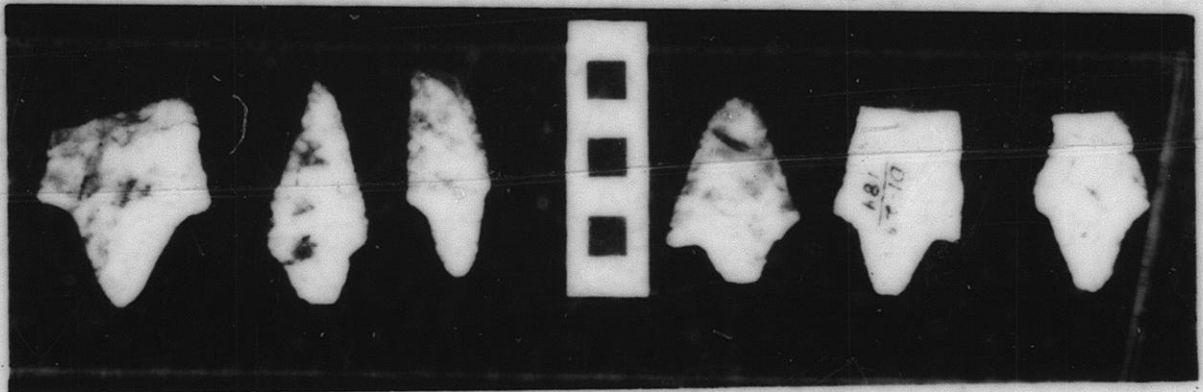


i # 171 j # 444 k # 444 l # 182 m # 266 n # 266 o # 191

Figure 8. Gary A Projectile Points

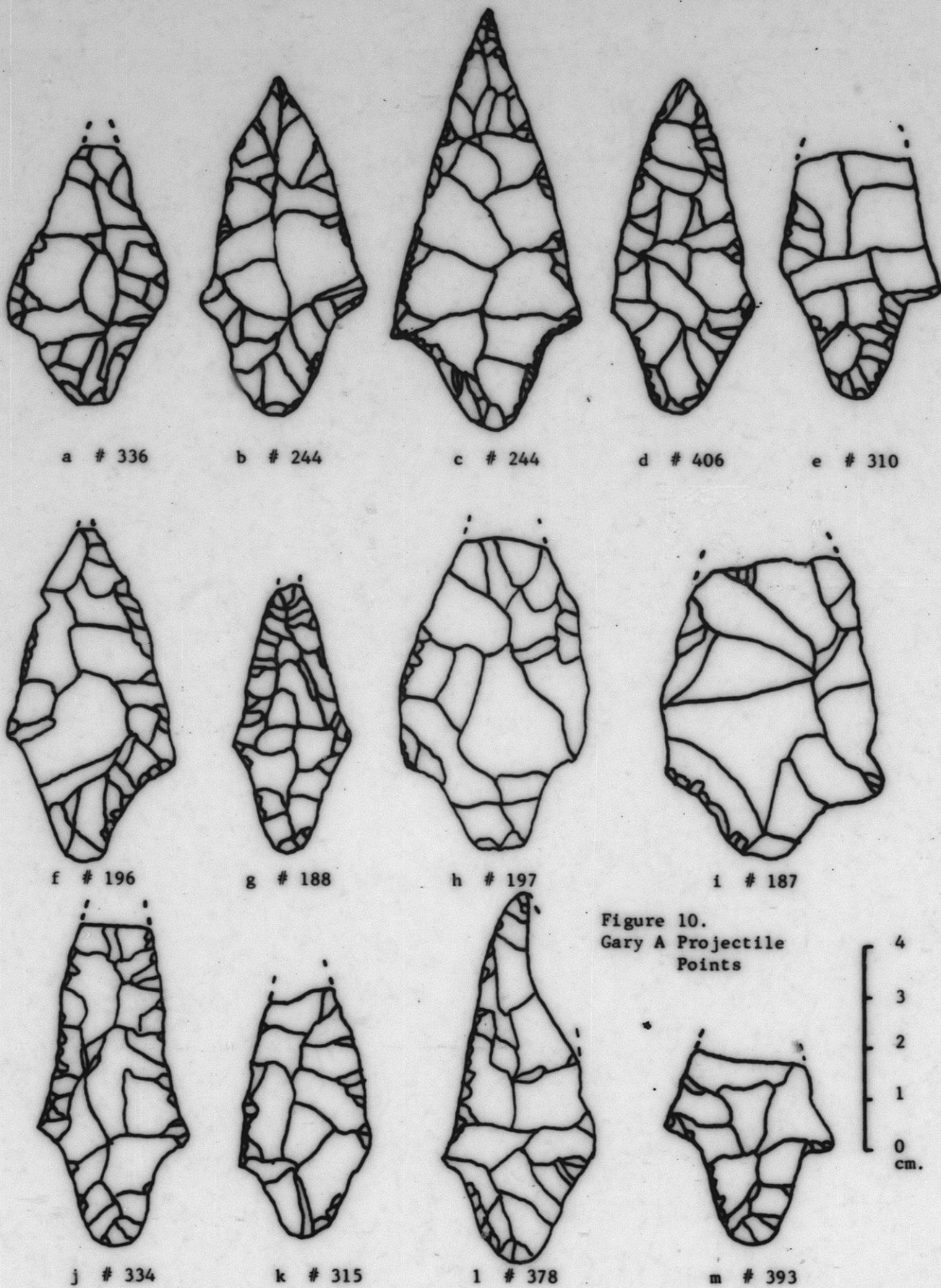


a # 380 b # 363 c # 224 d # 224 e # 111 f # 127 g # 466



h # 466 i # 177 j # 170 k # 170 l # 184 m # 366

Figure 9. Gary A Projectile Points



Gary B projectile points differ from the A variety both in stem form and shape of the shoulder area. The stem of the B variety, while it contracts, is usually broader than the stem of the A variety, and always has a rounded base. The shoulder area is distinct, either horizontal or concave, and has a discernible junction with the stem. One of the ten Gary B points, # 386, is formed entirely by percussion flaking.

Measurements

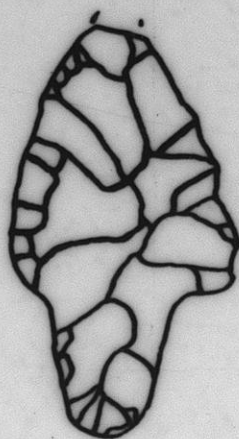
	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	2	67 - 68	67.5
<u>Maximum Width</u>	10	20 - 37	28.5
<u>Stem Length</u>	10	13 - 20	17.5
<u>Stem Width</u>	9	14 - 23	18.2
<u>Thickness</u>	9	5 - 13	7.9

Individual Point Provenience and Associated Traits

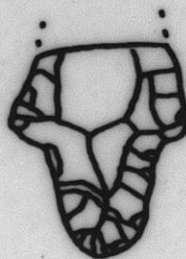
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
193	1:3	4	--	32	white
298	1:3	10	--	29	white
348	1:3	11	--	24	mottled grey
428	1:3	12	--	28	mottled grey
217	1:4	2	67	37	white
386	1:4	4	68	32	white
248	1:8	10	--	25	tan
248	1:8	10	--	33	white
435	1:10	7	--	20	whitish
124	2:13	3	--	25	white-grey



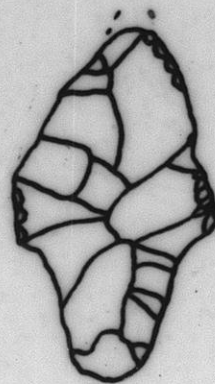
a # 193



b # 298



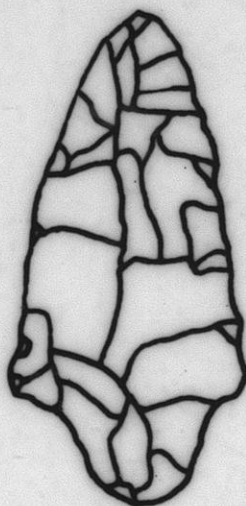
c # 348



d # 428



e # 217



f # 386



g # 248



h # 248



i # 435



j # 124



Figure 11. Gary B Projectile Points

Gary C. There is a single point representing the C variety of Gary, the variety in which there is no distinct shoulder. The stem contraction begins at the shoulder which can be identified as the widest portion of the point. The base is rounded.

The Gary C point from D1-29 is percussion flaked. The only measurements that can be taken are: width, 36 mm., and stem length, 30 mm.



195

Figure 12. Gary C Projectile Point

Langtry Projectile Points

Langtry projectile points (Suhm, Krieger, and Jelks, 1954:438) have also been divided into three varieties on the basis of variations in a sample from Delaware County sites (Baerreis, Freeman, and Wright, 1958:69 - 71). A Langtry point has a triangular blade, contracting stem, and a straight or concave base. The varieties of Langtry are based on variation in the shoulder region.

Langtry A. This variety of Langtry is characterized by a stem which contracts gradually from shoulder to base. The shoulder region is not distinct.

Thirty of the fifty-four Langtry A points from D1-29 have a straight base, the remainder have a concave base. Seven of the points are entirely percussion flaked, numbers 378, 303, 430, 225, 336, and 378. Seven are ground on the stem sides and base, numbers 313, 291, 350, 157, 364, 224, 192; and two, numbers 453 and 174 are ground only on the stem sides.

Measurements

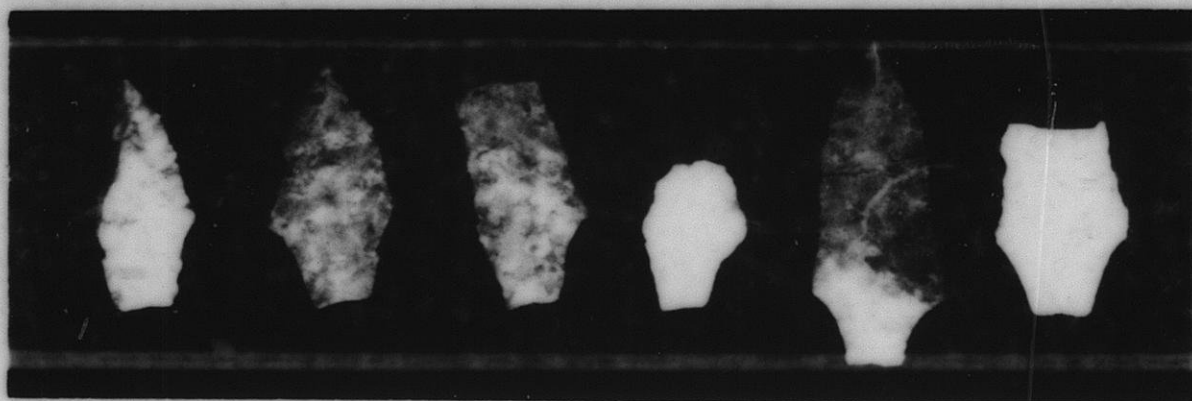
	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	20	41 - 91	59.4 mm.
<u>Maximum Width</u>	45	22 - 48	31.0 mm.
<u>Stem Length</u>	54	13 - 27	20.5 mm.
<u>Base Width</u>	53	9 - 20	15.0 mm.
<u>Thickness</u>	52	6 - 13	8.1 mm.
<u>Weight</u>	14	5.7 - 20.9	11.7 gms.

Individual Point Provenience and Associated Traits

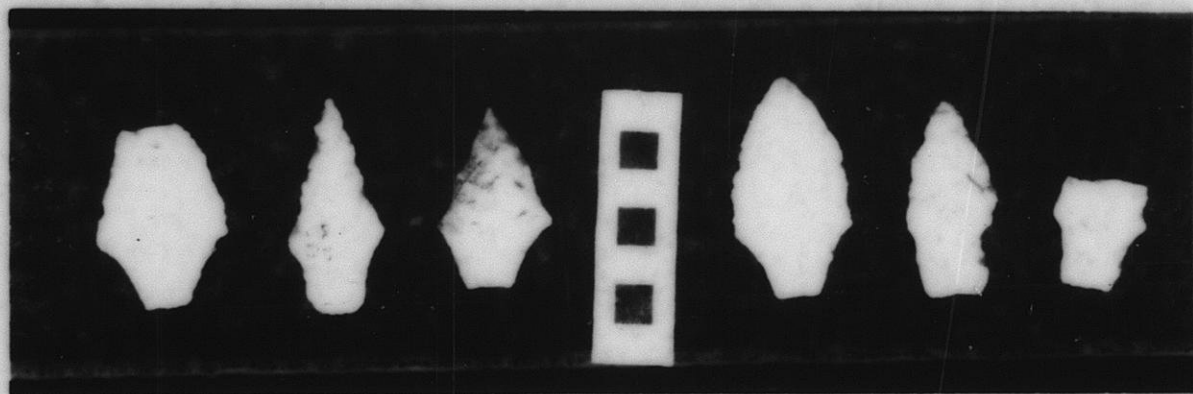
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
379	1:1	13	58	--	--	mottled grey
313	1:4	9	62	--	--	mottled grey
305	1:4	12	--	--	--	mottled grey
291	1:4	14	--	26	--	white
444	1:5	9	82	35	20.1	mottled grey
234	1:6	8	--	33	--	white
370	1:6	10	--	33	--	pink
232	1:6	12	56	24	7.2	pink-white
350	1:6	14	47	30	9.4	mottled grey
157	1:7	10	56	30	10.2	grey
436	1:8	4	51	23	--	grey
233	1:8	6	--	24	--	grey
174	1:8	7	--	26	--	mottled grey

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
248	1:8	10	77	36	18.4	mottled grey
303	1:8	11	--	33	--	mottled grey-pink
309	1:8	13	--	47	--	grey-white
364	1:9	5	53	--	--	mottled grey
224	1:10	5	59	26	10.0	pink
435	1:10	7	--	30	--	white
435	1:10	7	--	--	--	pink
435	1:10	7	--	48	--	grey-tan
438	1:10	8	--	32	--	grey
430	1:10	8	--	39	--	tan
430	1:10	8	--	24	--	mottled grey
430	1:10	8	--	32	--	mottled grey
287	1:10	10	--	26	--	white
287	1:10	10	--	--	--	mottled grey
166	1:11	2	43	22	5.7	white
192	1:11	4	45	26	--	mottled grey
198	1:11	5	49	27	7.1	grey
198	1:11	5	--	36	--	mottled grey
198	1:11	5	--	--	--	grey
170	1:12	5	--	33	--	pink-grey
170	1:12	5	--	40	--	white
453	1:13	3	91	30	20.9	mottled grey
453	1:13	3	65	29	14.1	mottled grey
184	1:13	4	--	36	--	mottled grey
184	1:13	4	--	--	--	tan
336	2:4	1	--	34	--	grey-white
244	2:4	7	58	--	--	grey

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
225	2:4	8	--	43	--	mottled grey
450	2:5	4	--	37	--	white
196	2:7	5	--	30	--	red
196	2:7	5	--	30	--	mottled tan
137	2:9	2	60	26	8.5	tan
137	2:9	2	59	35	13.5	grey-tan
437	2:9	3	45	22	7.1	pink-white
393	2:9	4	--	27	--	mottled grey
361	2:11	4	41	26	--	pink
159	2:11	5	--	29	--	white
187	2:11	7	--	26	--	pink-white
187	2:11	7	64	35	11.4	pink
187	2:11	7	--	38	--	white
378	2:12	3	--	35	--	pink-white

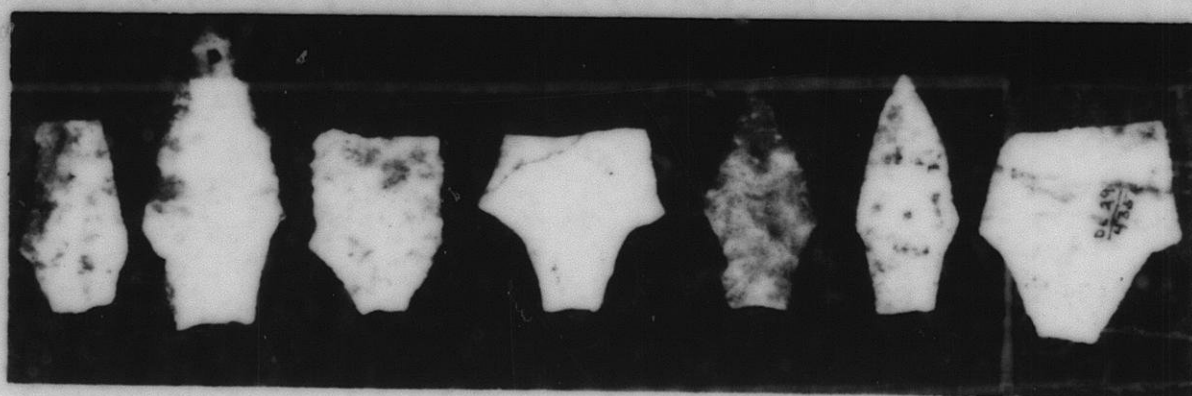


a # 379 b # 313 c # 305 d # 291 e # 444 f # 234

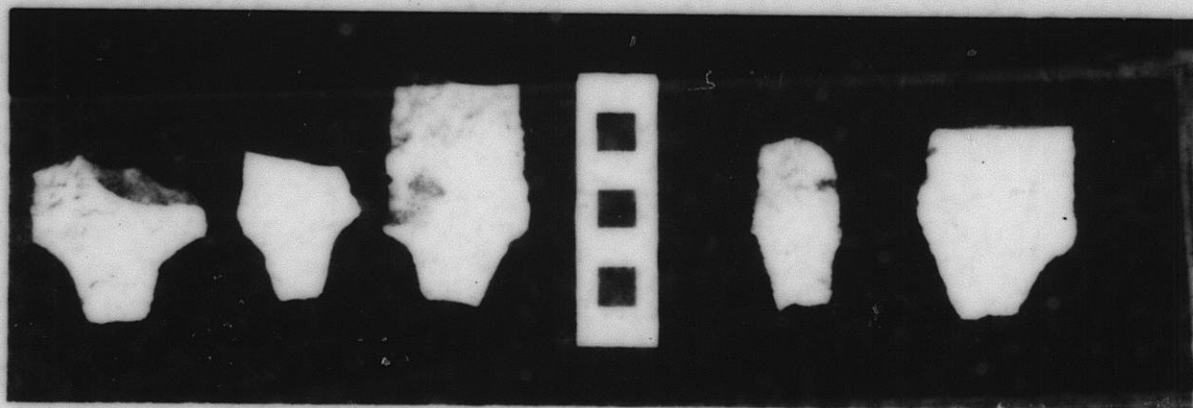


g # 370 h # 232 i # 350 j # 157 k # 436 l # 233

Figure 13. Langtry A Projectile Points

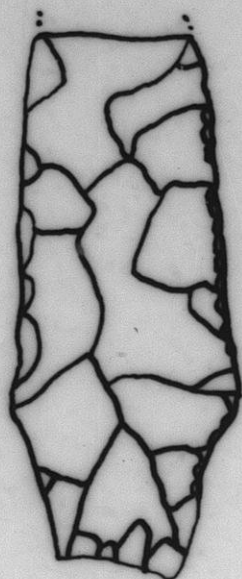


a # 174 b # 248 c # 303 d # 309 e # 364 f # 244 g # 435

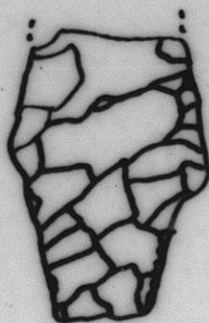


h # 435 i # 335 j # 430 k # 430 l # 430

Figure 14. Langtry A Projectile Points



a # 430



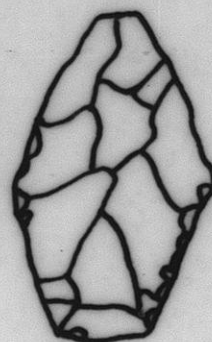
b # 287



c # 287



d # 166



e # 192

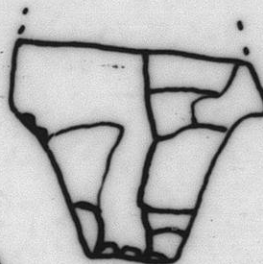
Figure 15. Langtry A Projectile Points



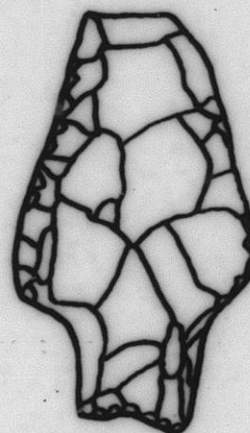
f # 198



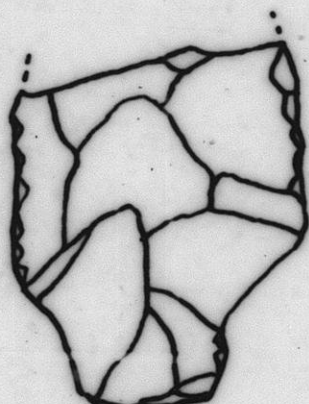
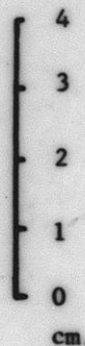
g # 198



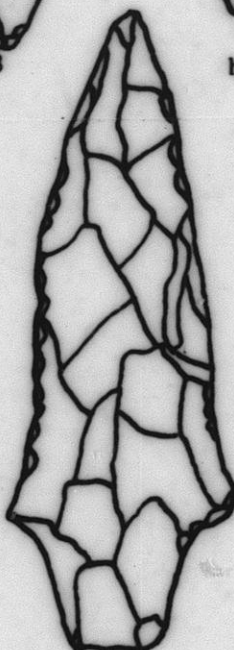
h # 198



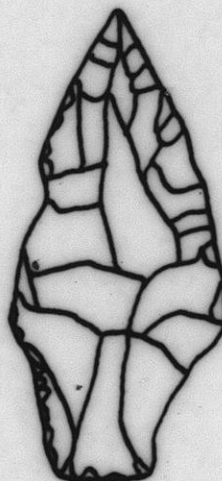
i # 170



j # 170



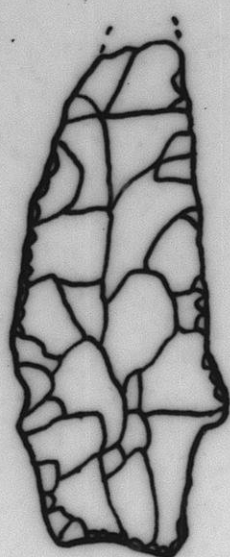
k # 170



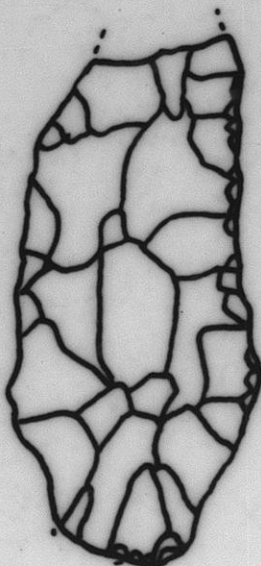
l # 453



m # 184



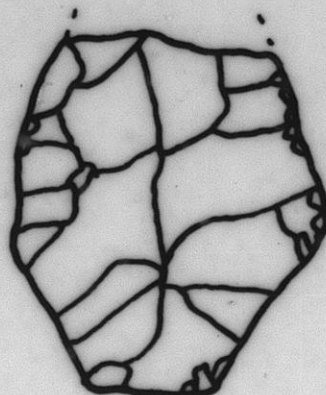
a # 184



b # 336



c # 244

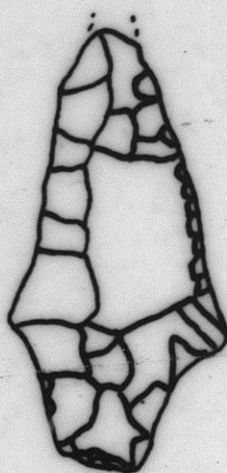


d # 225

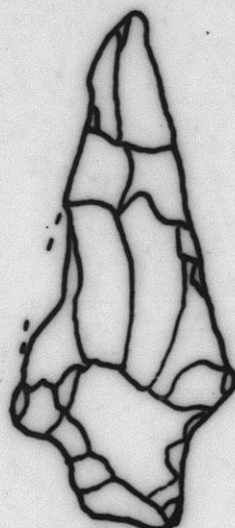
Figure 16. Langtry A Projectile Points



e # 450



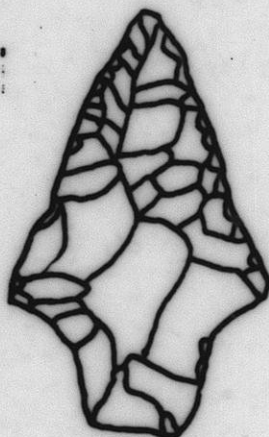
f # 196



g # 196



h # 137



i # 137



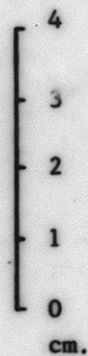
j # 437

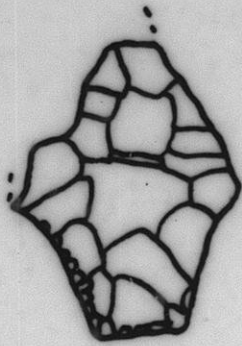


k # 393

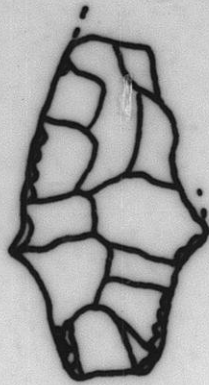


l # 361

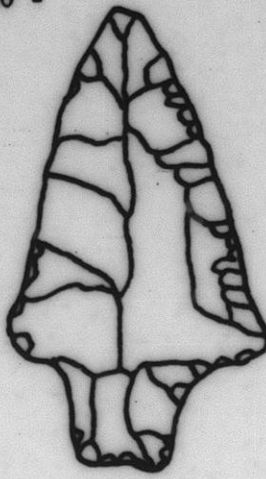




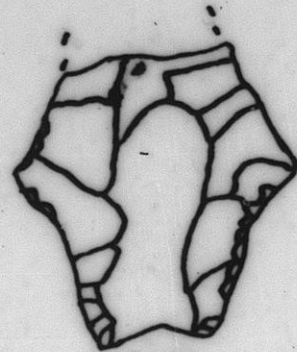
a # 159



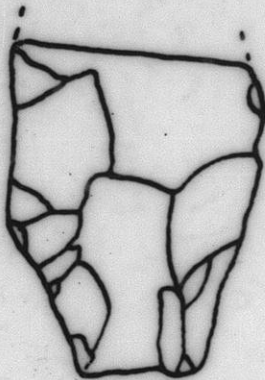
b # 187



c # 187



d # 187



e # 378



Figure 17. Langtry A Projectile Points

Langtry B points have the same basic stem and blade form as Langtry A, but the shoulder area on the former is distinct, either horizontal or obtuse in relation to the stem.

Of the eight points from D1-29, three have a convex base, three a straight base, and two a concave base. The convex base on specimen numbers 426, 430, and 395 meets the stem at a definite angle, thus differentiating these points from Gary. They do appear to be well toward the end of the range of variation for Langtry, and thus must be regarded as borderline forms.

All the points have secondary retouch at the blade edges and one, # 408 has basal and lateral stem grinding. The weight of this point is 9.1 grams.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	2	53 - 57	55.0 mm.
<u>Maximum Width</u>	8	31 - 38	33.5 mm.
<u>Stem Length</u>	8	13 - 21	18.3 mm.
<u>Stem Width</u>	8	16 - 29	21.8 mm.
<u>Base Width</u>	8	10 - 18	14.0 mm.
<u>Thickness</u>	8	5 - 10	7.3 mm.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
346	1:3	12	53	33	white
395	1:8	13	--	38	mottled grey
191	1:8	9	--	31	mottled grey
408	1:10	6	57	32	white
430	1:10	8	--	38	pink
466	1:11	6	--	32	pink
426	1:12	6	--	32	mottled grey
400	1:13	5	--	32	mottled grey

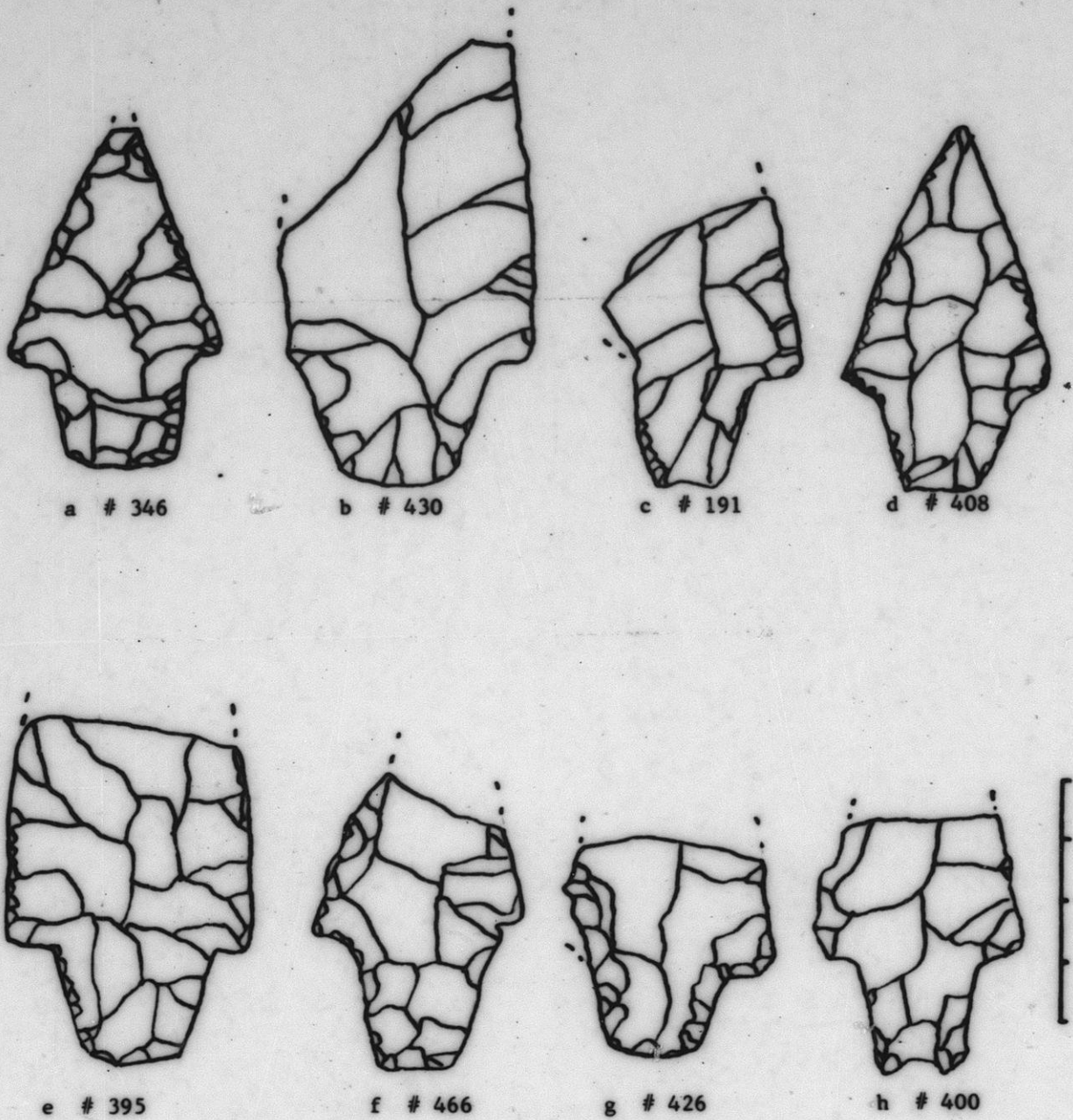


Figure 18. Langtry B Projectile Points

Contracting Stem Projectile Points

Sixteen projectile points can be classified as belonging to the contracting stem point category, nine are fragments of Langtry points and one is a fragment of a Gary point. These are broken at the shoulder and thus cannot be assigned to the varieties of Langtry or Gary. The remaining six points retain part of the stem, but breakage at the base precludes further classification.

<u>Classification</u>	<u>Catalog Number</u>	<u>Square</u>	<u>Level</u>
Langtry	224 (2)	1:10	5
	248	1:8	10
	397	2:10	8
	194	1:13	2
	159	2:11	5
	111	1:10	9
	180	2:4	4
	406	2:5	3
Gary	348	1:3	11
Contracting Stem	406	2:5	3
	444	1:5	9
	426	1:12	6
	361	2:11	4
	195	1:4	10
	305	1:4	12

Cooper Projectile Points

Cooper projectile points (Baerreis and Freeman, 1959:31-41) are corner notched points. The blade edges are usually convex although straight edges are also present. The stem expands to either a convex or straight base which is narrower than the maximum width of the blade. Two varieties of this point have been distinguished on the basis of the shape of the corner notch.

Cooper A points are the variety with a notch made from the corner of the blank in such a manner that the notch is asymmetrical, that is, the two sides of the notch are of unequal length. The shoulder is barbed, slightly overhanging, or horizontal.

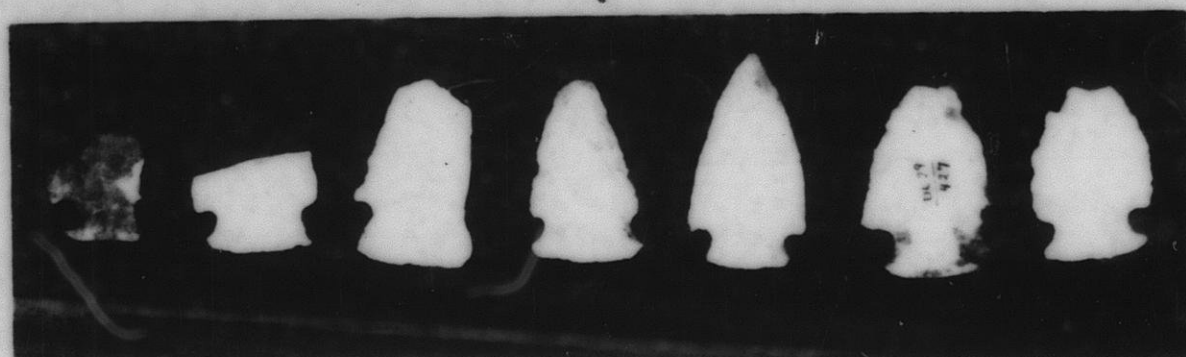
Of the sixty-one Cooper A points from D1-29, forty have a convex base, seventeen a straight base, and four a concave base. Two of the points, # 424 and # 189, are entirely flaked by percussion methods. One point, # 403, has been ground on the base and stem sides.

<u>Measurements</u>			
	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	18	41 - 72	54.2 mm.
<u>Maximum Width</u>	51	27 - 41	31.6 mm.
<u>Stem Length</u>	60	8 - 20	13.0 mm.
<u>Stem Width</u>	57	14 - 29	20.8 mm.
<u>Base Width</u>	57	19 - 34	26.2 mm.
<u>Thickness</u>	61	5 - 11	7.8 mm.
<u>Weight</u>	11	10.8 - 21.3	14.7 gms.

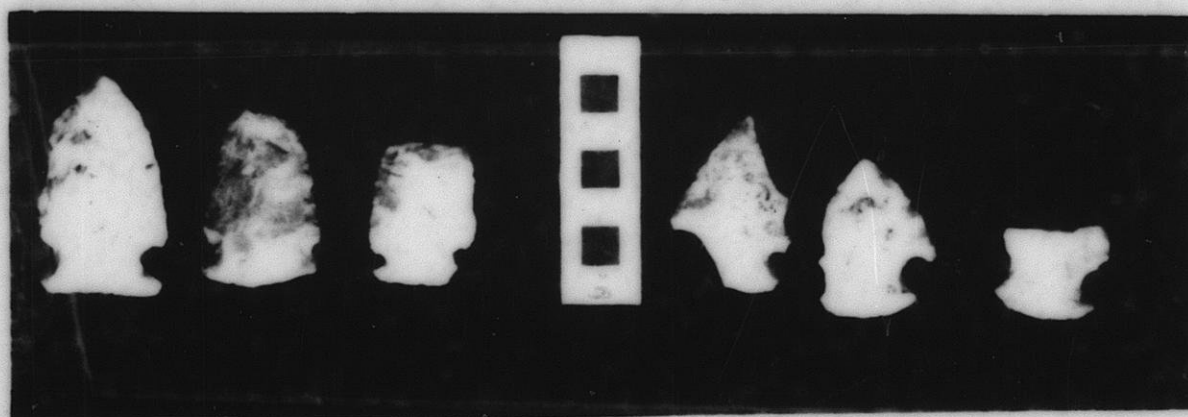
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
230	1:0	8	--	--	--	mottled grey
455	1:0	10	--	31	--	white
379	1:1	13	--	--	--	white
298	1:3	10	--	28	--	pinkish
305	1:4	12	56	30	13.9	pink
427	1:5	6	--	32	--	white
366	1:5	7	--	30	--	white
423	1:5	8	56	32	16.1	mottled grey
444	1:5	9	--	29	--	mottled grey
444	1:5	9	--	27	--	mottled grey
264	1:5	9	--	--	--	mottled grey
381	1:5	14	41	--	--	pink
245	1:6	4	--	27	--	grey-white
182	1:6	7	--	34	--	grey
182	1:6	7	--	31	--	pink
234	1:6	8	--	37	--	grey-tan
234	1:6	8	60	35	--	mottled grey
370	1:6	10	45	34	10.8	mottled grey
370	1:6	10	57	33	14.6	grey
370	1:6	10	--	36	--	white
368	1:6	11	--	35	--	mottled grey
439	1:6	12	--	--	--	pink
441	1:7	2	72	35	--	pink
339	1:7	4	--	31	--	grey
339	1:7	4	--	--	--	white
403	1:7	6	--	37	--	mottled grey-white
254	1:7	7	41	33	--	white

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
185	1:7	8	52	32	13.8	pink-white
169	1:7	9	71	39	21.3	white
301	1:7	12	--	34	--	mottled grey
331	1:8	5	54	36	14.9	tan
233	1:8	6	--	39	--	white
233	1:8	6	--	--	--	grey
174	1:8	7	54	--	--	grey
174	1:8	7	51	40	14.3	pink
266	1:8	8	48	36	--	white
266	1:8	8	--	30	--	mottled grey
191	1:8	9	--	38	--	white
191	1:8	9	--	36	--	grey
248	1:8	10	53	--	--	white
380	1:8	12	--	37	--	grey-tan
363	1:9	6	--	36	--	mottled grey
224	1:10	5	--	--	--	pink
435	1:10	7	55	35	15.7	mottled grey
111	1:10	9	--	31	--	grey
298	1:10	10	--	28	--	pink
333	1:11	1	--	34	--	pink
466	1:11	6	--	32	--	mottled grey
194	1:13	2	--	29	--	white
189	2:4	4	--	34	--	pink
406	2:5	3	--	35	--	white
424	2:6	1	55	33	14.7	mottled grey
448	2:6	3	--	34	--	pink
448	2:6	3	--	32	--	white

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
401	2:6	5	--	34	--	white
243	2:7	1	55	30	12.5	mottled white
196	2:7	5	--	41	--	white
165	2:8	2	--	29	--	white
160	2:12	2	--	32	--	white
378	2:12	3	--	41	--	grey
369	2:12	5	--	40	--	mottled grey

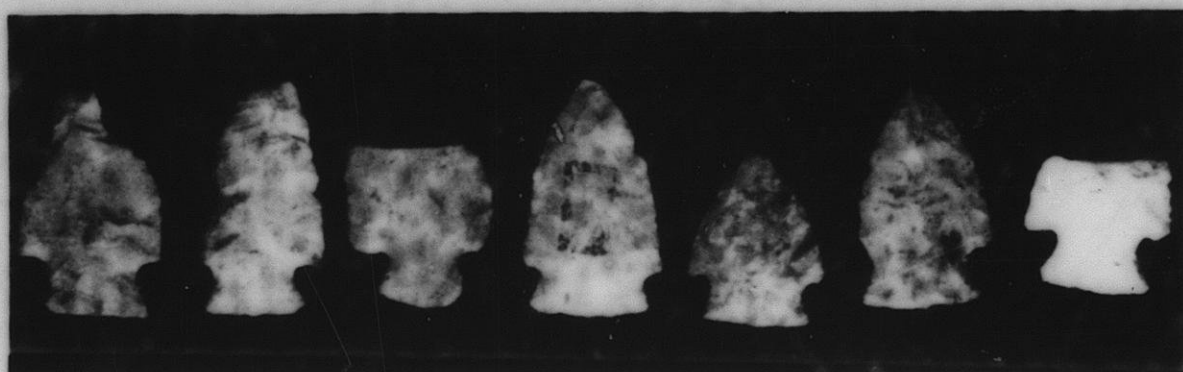


a # 230 b # 455 c # 379 d # 298 e # 305 f # 427 g # 366

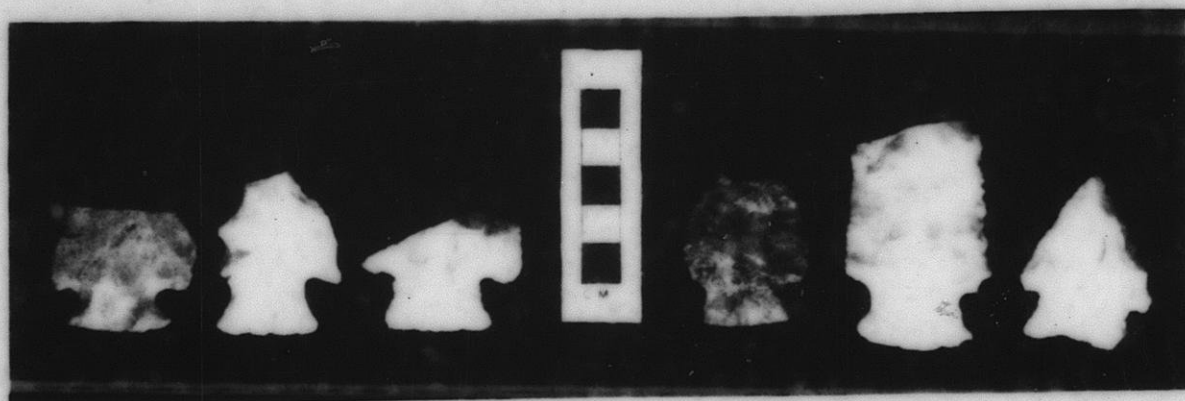


h # 423 i # 444 j # 444 k # 264 l # 381 m # 245

Figure 19. Cooper A Projectile Points

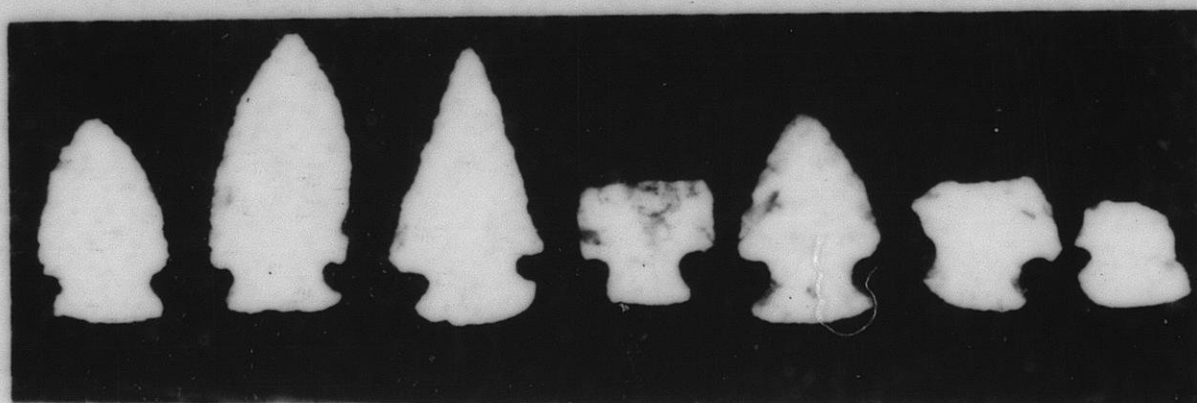


a # 182 b # 182 c # 234 d # 234 e # 370 f # 370 g # 370

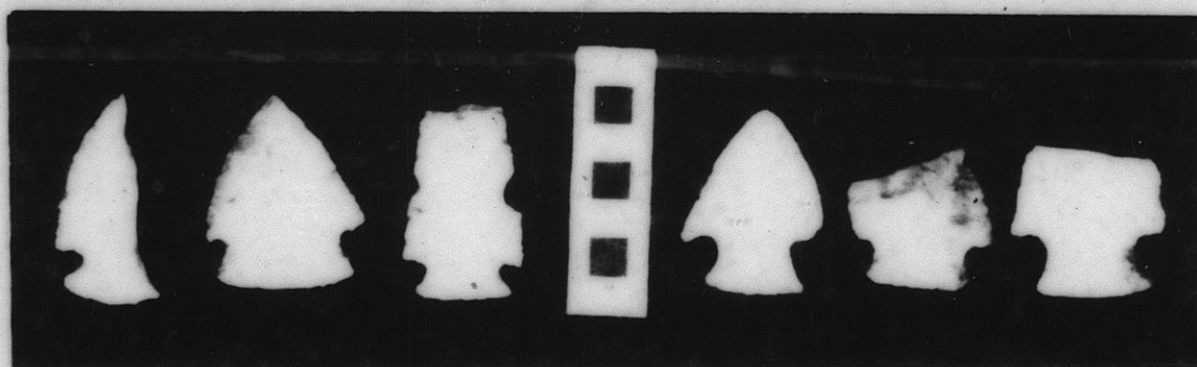


h # 368 i # 439 j # 339 k # 339 l # 403 m # 254

Figure 20. Cooper A Projectile Points



a # 185 b # 441 c # 169 d # 301 e # 331 f # 233 g # 233



h # 266 i # 191 m # 191

Figure 21. Cooper A Projectile Points

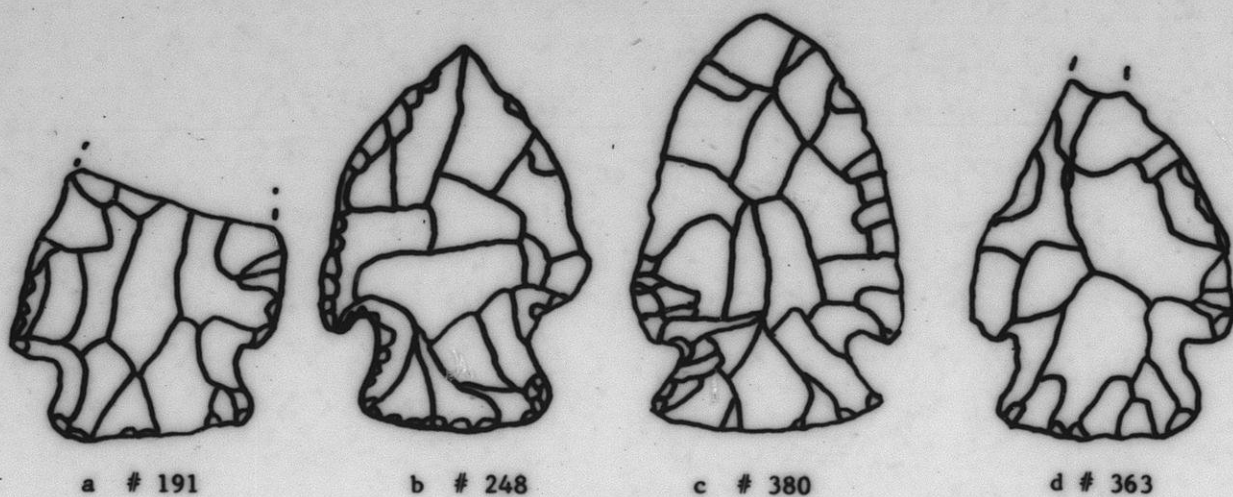
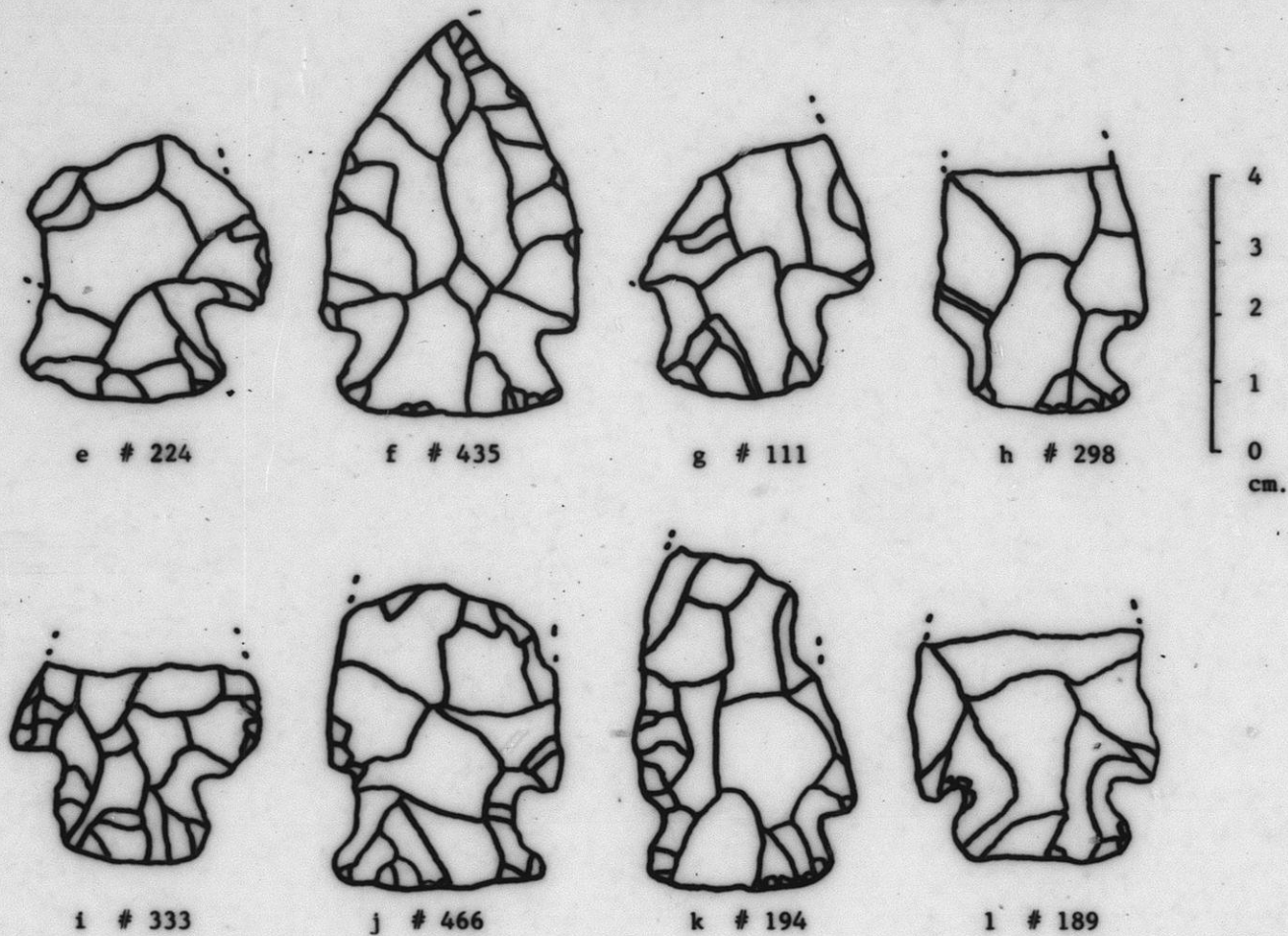


Figure 22. Cooper A Projectile Points



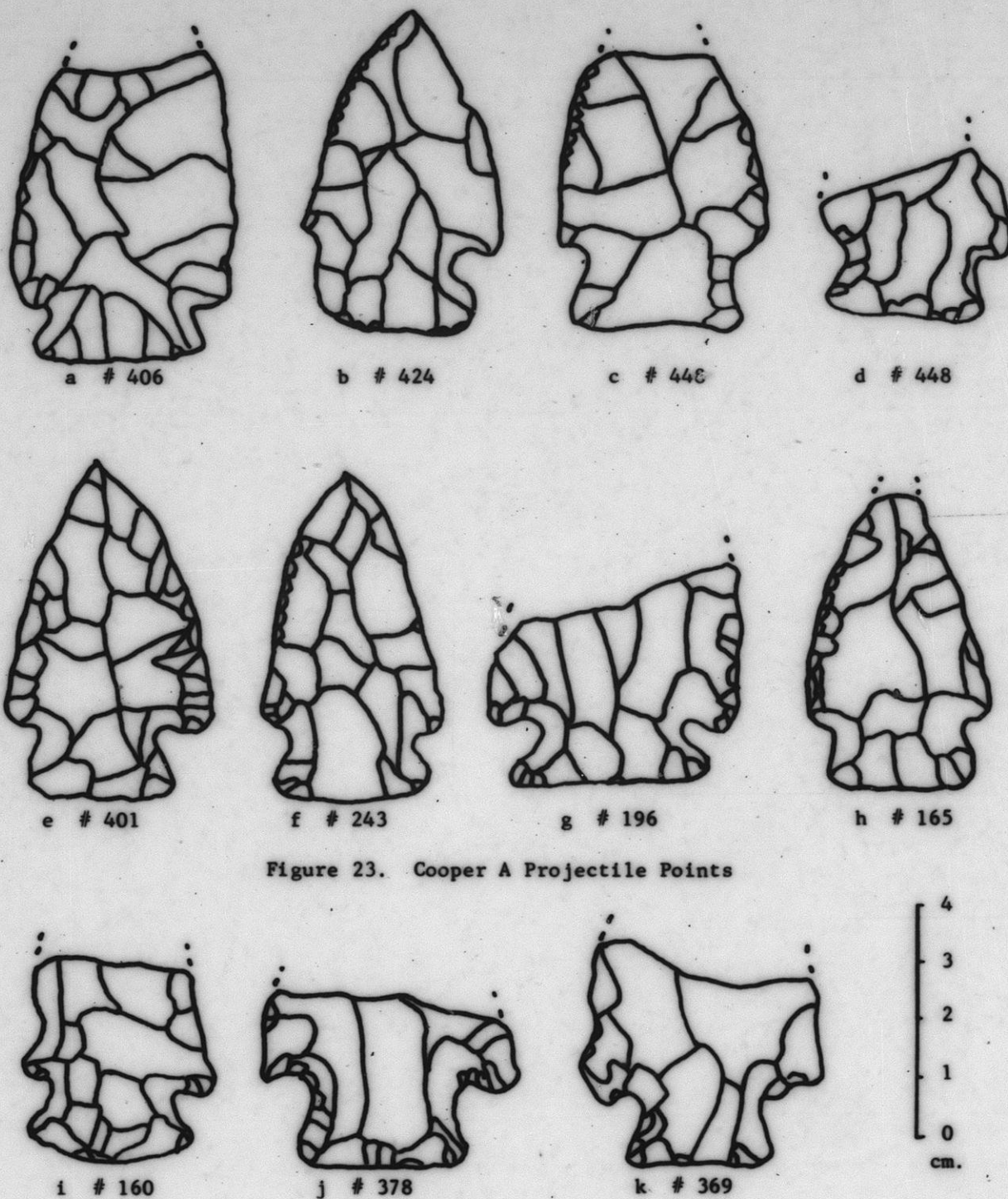


Figure 23. Cooper A Projectile Points

Cooper B. These points, while corner notched as are the A variety points, have wide shallow notches removed from the blank. This method of notching produces indistinct shoulder area in comparison to the horizontal or overhanging shoulder of the Cooper A points. Ten of the eighteen points from this site have a convex base, the rest a straight base. One point, # 234, lacks secondary retouch along the blade edges. Three points, # 313, # 232, and # 234, are ground along the base.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	10	47 - 65	51.9 mm.
<u>Maximum Width</u>	18	25 - 37	30.3 mm.
<u>Stem Length</u>	18	7 - 18	12.8 mm.
<u>Stem Width</u>	17	9 - 27	22.7 mm.
<u>Base Width</u>	17	24 - 32	28.2 mm.
<u>Thickness</u>	18	7 - 10	8.1 mm.
<u>Weight</u>	8	9.5 - 16.0	14.7 gms.

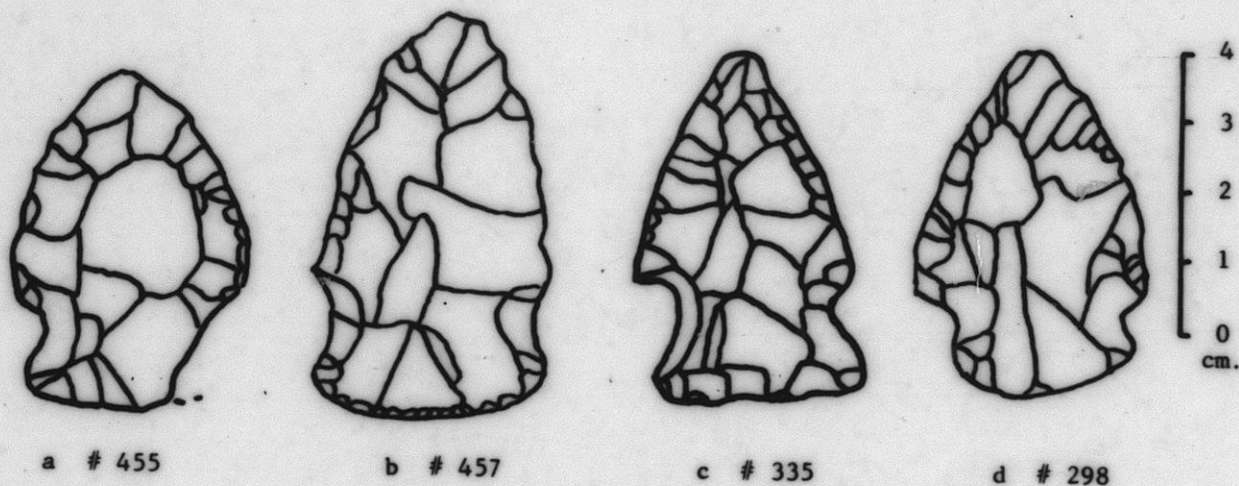
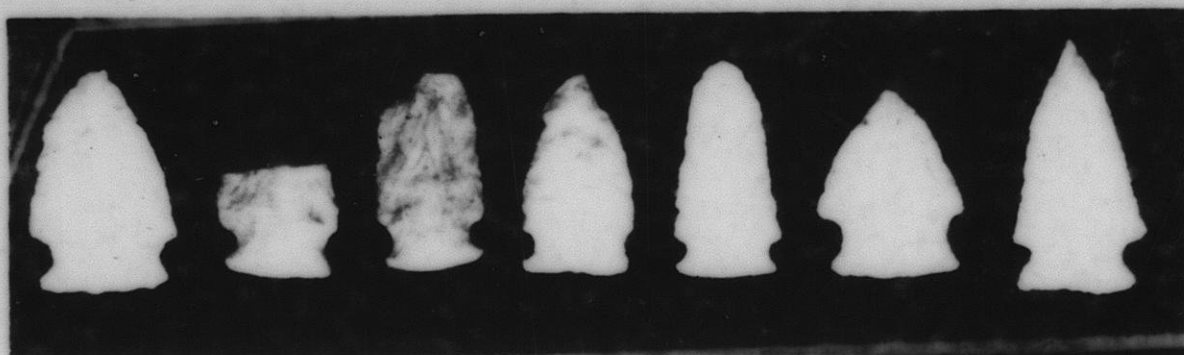


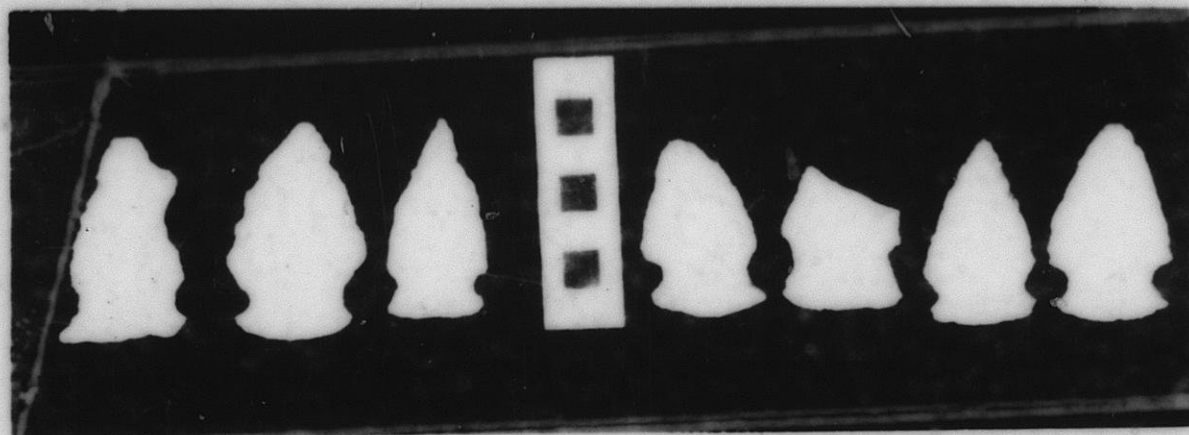
Figure 24. Cooper B Projectile Points

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
455	1:0	10	47	31	--	white
457	1:1	9	--	32	--	pink
335	1:2	8	49	30	9.5	grey
298	1:3	10	48	31	10.7	pink
348	1:3	11	--	35	--	mottled grey
313	1:4	9	--	30	--	mottled grey
444	1:5	9	--	27	--	mottled grey
234	1:6	8	--	28	--	mottled grey
234	1:6	8	56	27	11.6	white
232	1:6	12	48	37	16.0	grey
174	1:8	7	65	33	13.3	white
428	1:10	2	--	28	--	white
408	1:10	6	56	35	--	white
198	1:11	5	51	25	10.1	white
229	1:11	6	--	29	--	pink
406	2:5	3	--	30	--	pink
456	2:9	7	48	28	10.2	pink
397	2:10	8	51	30	10.2	white



a # 348 b # 313 c # 444 d # 234 e # 234 f # 232 g # 174



h # 328 i # 408 j # 198 k # 229 l # 406 m # 456 n # 397

Figure 25. Cooper B Projectile Points

Snyders Projectile Points

Snyders points, defined by Scully (1951:12) and Bell (1958:88 - 89), are large, broad points with a convex sides blade, and wide and deep corner notches. The stem expands to a convex base.

All of the Snyders points from D1-29 are well finished, pressure flaked, with notches made by a single flake removed from the corner of the blank.

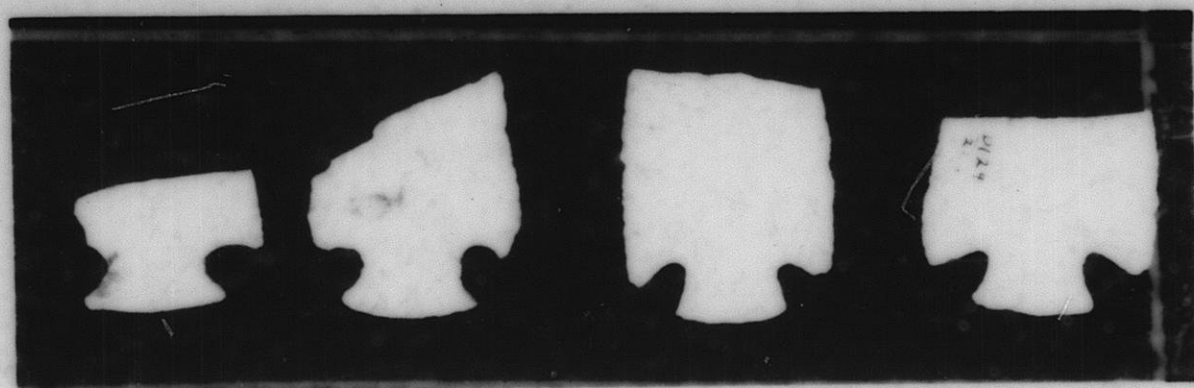
A single point, # 224, has basal and lateral stem grinding.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Width</u>	3	53 - 58	55.0
<u>Stem Length</u>	4	15 - 18	16.7
<u>Stem Width</u>	3	23 - 30	27.0
<u>Base Width</u>	2	34	34.0
<u>Thickness</u>	4	7 - 9	8.0

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Width</u>	<u>Chert Color</u>
370	1:6	10	--	white
248	1:8	10	54	pink
380	1:8	12	53	white
224	1:10	5	58	white



a # 370

b # 248

c # 380

d # 244



Figure 26. Snyder's Projectile Points

"Snyders-like" Projectile Points

"Snyders-like" projectile points form a category originally described by Baerreis and Freeman (1959:46 - 47). The points were originally sorted out on the basis of a corner notch, expanding stem, and large size. In these respects they are like the Snyders points, but unlike Snyders they do not possess a broad ovate blade nor are the corner notches wide, deep, and symmetrical. In general, the Snyders-like point is not as carefully flaked as the Snyders point.

In contrast to the Cooper A points, previously described, "Snyders-like" points are larger and the corner notch is deeper and wider, but still not symmetrical. "Snyders-like" points thus represent a sorting category which is about mid-way between Cooper and Snyders points.

Of the twenty-nine "Snyders-like" points from D1-29, all but five have a convex base. Six are entirely formed by percussion flaking techniques (#'s 335, 191, 364(2), 330, and 111). One point # 248, has basal and lateral stem grinding.

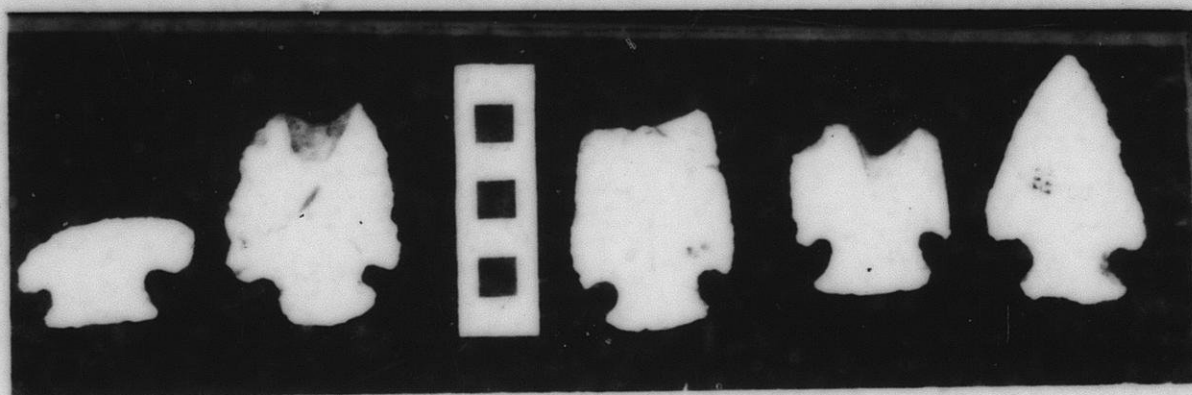
Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	8	50 - 83	63.3 mm.
<u>Maximum Width</u>	23	36 - 47	41.3 mm.
<u>Stem Length</u>	29	10 - 19	14.3 mm.
<u>Stem Width</u>	27	18 - 26.	21.5 mm.
<u>Base Width</u>	27	23 - 33	27.1 mm.
<u>Thickness</u>	28	7 - 12	8.7 mm.
<u>Weight</u>	5	14.6 - 35.5	22.4 gms.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
468	1:2	3	--	42	--	tan
335	1:2	8	--	44	--	pink
348	1:3	11	--	41	--	mottled grey
264	1:5	9	--	39	--	grey
232	1:6	12	64	39	16.6	white
185	1:7	8	71	41	24.7	white
157	1:7	10	--	47	--	white
233	1:8	6	--	--	--	mottled grey
241	1:8	8	83	44	35.5	tan
191	1:8	9	--	36	--	mottled grey
191	1:8	9	66	--	--	white
248	1:8	10	--	--	--	grey
248	1:8	10	61	39	--	white
364	1:9	5	--	44	--	white
364	1:9	5	62	37	--	white
363	1:9	6	--	41	--	white
330	1:10	4	--	--	--	pink
330	1:10	4	50	41	14.6	white
224	1:10	5	63	47	--	white-grey
224	1:10	5	--	38	--	mottled grey
408	1:10	6	--	39	--	white
111	1:10	9	--	40	--	white
192	1:11	4	--	--	--	grey
161	1:12	2	--	42	--	grey
184	1:13	4	--	46	--	white
424	2:6	1	57	40	20.5	white

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
353	2:9	1	--	38	--	grey
456	2:9	7	--	41	--	white
442	2:13	4	--	--	--	pink

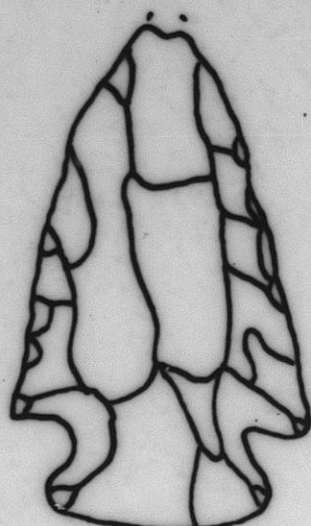


a # 468

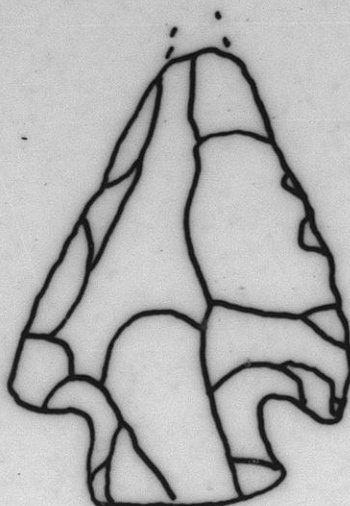
b # 335

c # 340

Figure 27. "Snyders-like" Projectile Points



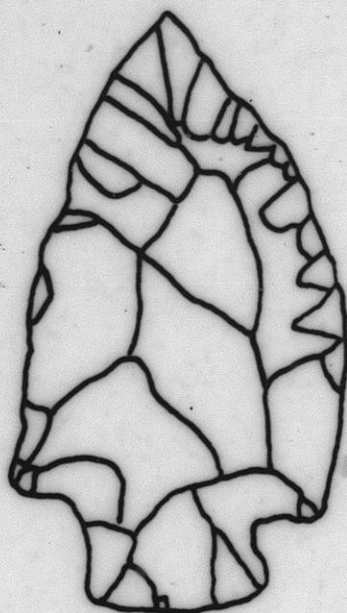
a # 185



b # 157



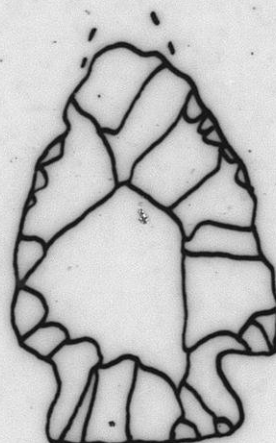
c # 233



d # 241



e # 191



f # 191

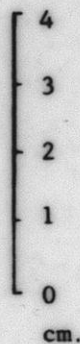
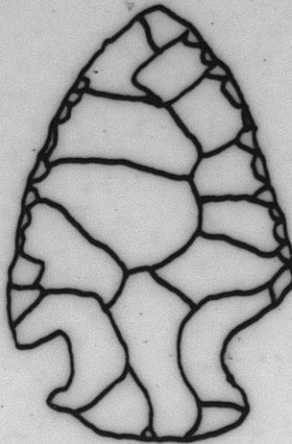


Figure 28. "Snyders-like" Projectile Points



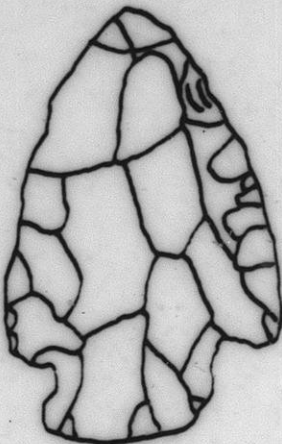
a # 248



b # 248



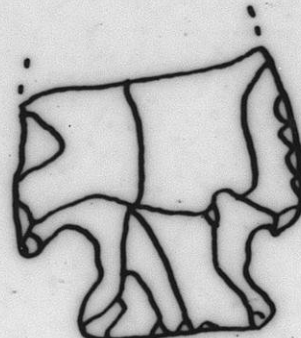
c # 364



d # 364



e # 353



f # 456



g # 442

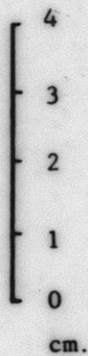
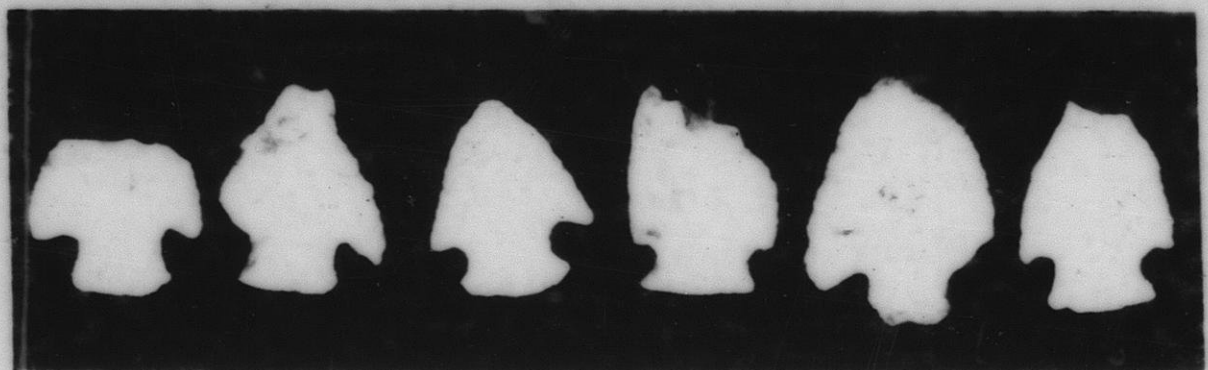
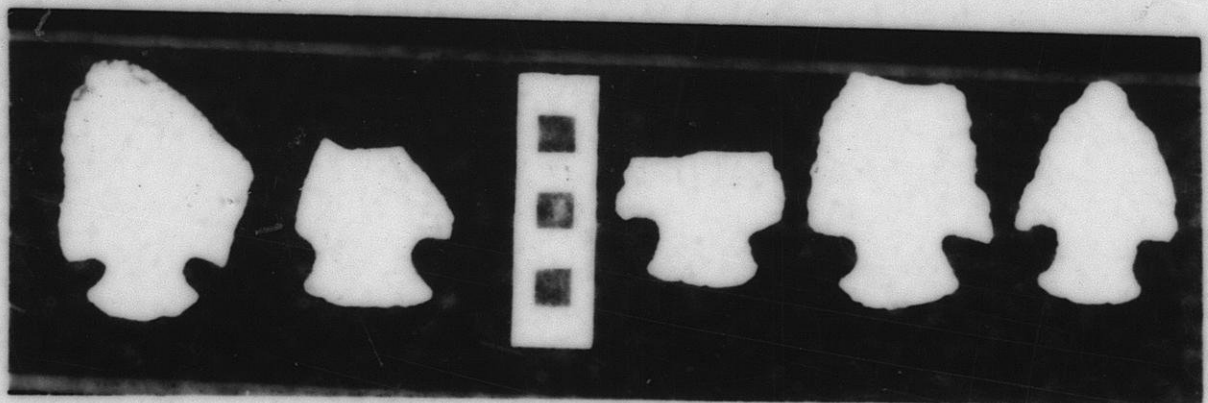


Figure 29. "Snyders-like"
Projectile Points



a # 363 b # 330 c # 330 d # 224 e # 224 f # 408



g # 111 h # 192 i # 161 j # 184

Figure 30. "Snyders-like" Projectile Points

Fairland Projectile Points

Fairland points, originally described by Suhm, Krieger, and Jelks, (1954:424), are characterized by a triangular blade and long shallow corner notches which produce an expanding stem. The width of the stem at the base is greater than the width of the blade of the point. The base is concave.

This form of point is present in small numbers from sites in Delaware County, but there is a variation in base form, some have a concave base, while others have a straight base. Those with a concave base are classified as the A variety of Fairland, while those with a straight base are classified as the B variety (Baerreis and Freeman, 1959:48 - 51).

Fairland A. Three points from D1-29 have the characteristics of the original Fairland type.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Width</u>	2	29 - 31	30.0 mm.
<u>Stem Length</u>	3	8 - 17	12.7 mm.
<u>Stem Width</u>	1	23	23.0 mm.
<u>Base Width</u>	2	30 - 36	33.0 mm.
<u>Thickness</u>	3	7 - 9	7.7 mm.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Width</u>	<u>Chert Color</u>
182	1:6	7	29	white
435	1:10	7	30	mottled grey
164	2:11	1	--	mottled grey

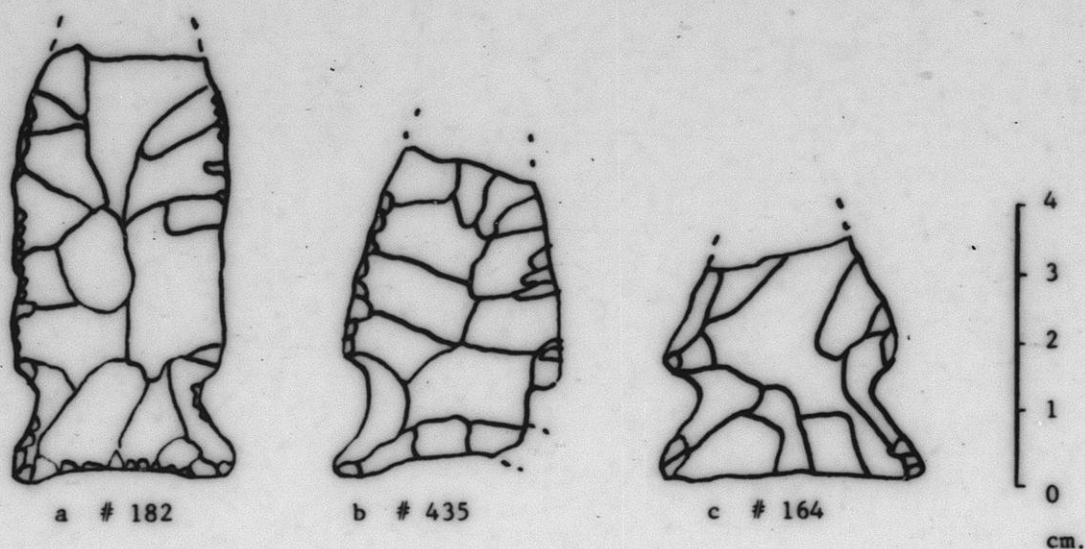


Figure 31. Fairland A Projectile Points

Fairland B. Two of the three points with a straight base are somewhat deviant in that the base width is slightly less than the maximum blade width.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	2	51 - 71	61.0 mm.
<u>Maximum Width</u>	3	30 - 33	31.6 mm.
<u>Stem Length</u>	3	12 - 16	13.6 mm.
<u>Stem Width</u>	3	22 - 23	22.6 mm.
<u>Base Width</u>	2	27 - 28	27.5 mm.
<u>Thickness</u>	3	8 - 10	9.0 mm.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
457	1:1	9	71	32	grey
342	1:5	5	--	--	white
444	1:5	9	--	33	pink

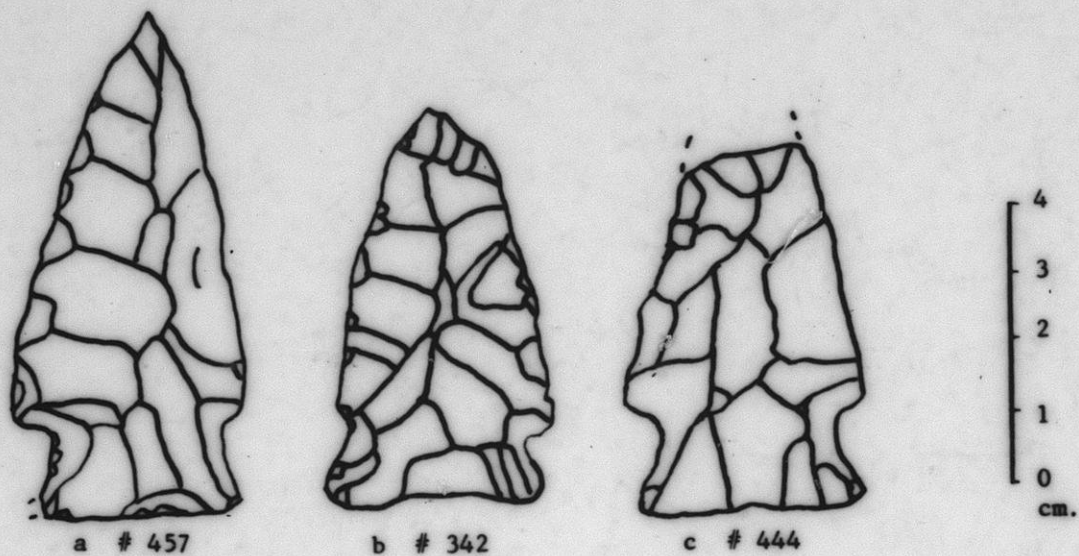


Figure 32. Fairland B Projectile Points

Cupp Projectile Points

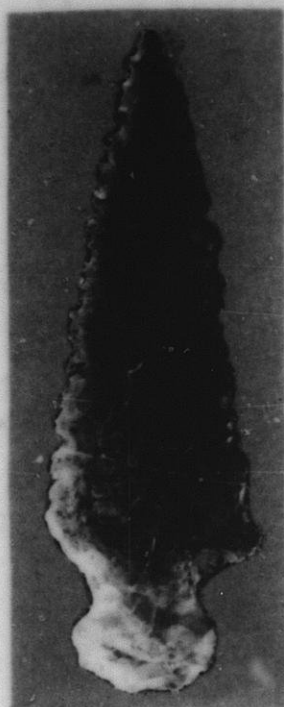
Cupp points (Baerreis and Freeman, 1959:52 - 54) have an elongated, thin, triangular blade and a bulbous stem. The blade edges are often serrated. One point from D1-29, the single complete point, has serrated blade edges.

Measurements

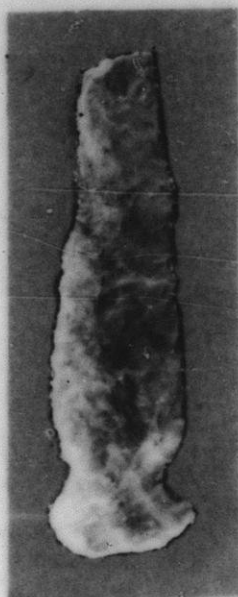
	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	1	94	94.0 mm.
<u>Maximum Width</u>	4	17 - 30	23.5 mm.
<u>Stem Length</u>	4	10 - 15	12.5 mm.
<u>Stem Width</u>	4	13 - 17	14.5 mm.
<u>Thickness</u>	4	6 - 8	7.0 mm.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
174	1:8	7	--	23	white
395	1:8	13	--	24	white
175	1:10	8	94	30	mottled grey
104	2:1	4	--	17	white



a # 175

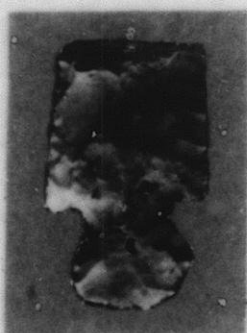


b # 104

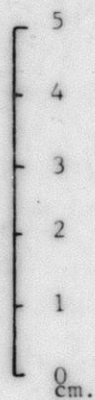


c # 395

Figure 33. Cupp Projectile Points



d # 174



Smith Projectile Points

Smith points, Baerreis' types E 1 and E 2 (1951), have broad parallel sides stems, convex blade edges, and horizontal or barbed shoulders. The points were renamed by Baerreis and Freeman (1959:55).

Both the Smith points from D1-29 have barbed shoulders. In contrast to the single Smith point from D1-47, the D1-29 specimens have a shorter and broader stem. Most of the points of this type illustrated by Baerreis (1951) also have a stem which is long in relation to its width.

	# 232	# 364
<u>Maximum Length</u>	70	--
<u>Maximum Width</u>	--	47
<u>Stem Length</u>	13	17
<u>Stem Width</u>	23	22
<u>Base Width</u>	23	22
<u>Thickness</u>	10	9
<u>Chert Color</u>	white	mottled grey
<u>Location</u>	Sq. 1:6, L. 12	Sq. 1:9, L. 4

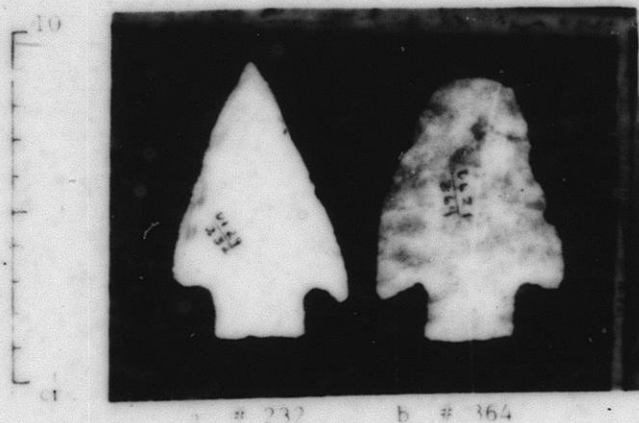


Figure 34. Smith Projectile Points

Lange Projectile Points

Lange points are characterized by a large triangular blade, a slightly expanding stem, and prominent to barbed shoulders. The base is usually straight (Suhm, Krieger, and Jelks; 1954, 436).

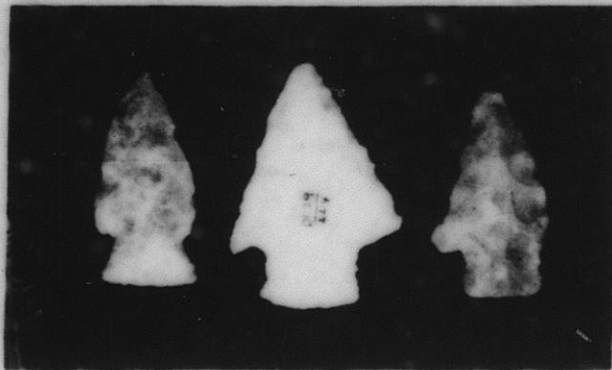
Four of the five Lange points from D1-29 have slightly barbed shoulders. A single point, # 466, is entirely percussion flaked.

Measurements

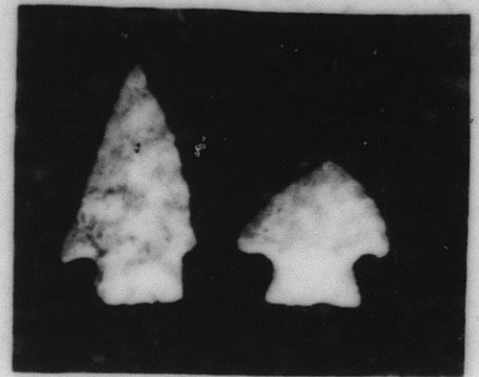
	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	4	53 - 63	58.2 mm.
<u>Maximum Width</u>	3	25 - 38	30.3 mm.
<u>Stem Length</u>	5	11 - 16	12.8 mm.
<u>Stem Width</u>	5	18 - 23	20.6 mm.
<u>Base Width</u>	3	24 - 26	24.6 mm.
<u>Thickness</u>	5	7 - 9	8.0 mm.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
191	1:8	9	55	25	white
224	1:10	5	63	--	white
466	1:11	6	53	28	mottled grey
229	1:11	6	62	--	mottled grey
448	2:6	3	--	38	tan



a # 191 b # 224 c # 466



d # 229 e # 448

Figure 35. Lange Projectile Points

Grand Projectile Points

Grand projectile points, a previously unnamed type, are defined on the basis of a small sample from several sites in Delaware County. These points have a broad, convex sided, triangular blade and are barbed. Unlike the "Barbed" points described below, Grand points have a barb produced by notching from the base. The notches are long and narrow and produce a parallel sided to slightly expanding stem. The barbs extend to the base of the point. These points are most similar to the type B 3 from preceramic sites in Northeastern Oklahoma (Baerreis, 1951:17).

One complete and one broken Grand point were found at D1-29. # 235 was found in Square 1:3, Level 6 and # 402 in Square 2:13, Level 2.

	<u># 234</u>	<u># 402</u>
<u>Maximum Length</u>	51	--
<u>Maximum Width</u>	47	--
<u>Stem Length</u>	12	12
<u>Base Width</u>	26	23
<u>Thickness</u>	8	7
<u>Weight</u>	18.4 gms.	--

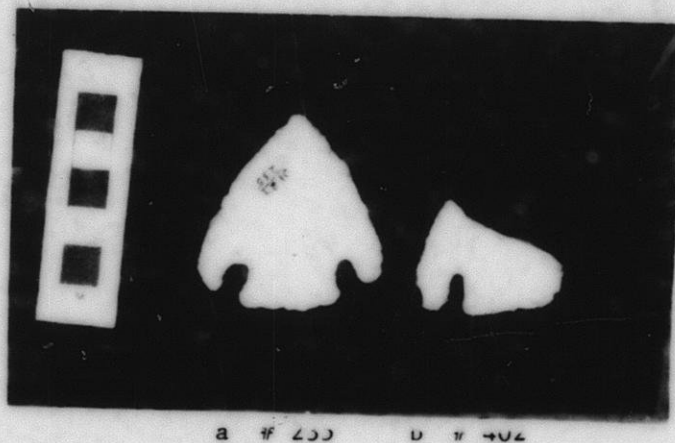


Figure 36. Grand Projectile Points

"Barbed" Projectile Points

The "Barbed" projectile points have a fairly wide range in form and, in general, closely resemble the Baerreis' type B 2 (1951:17). The points have a straight side or slightly convex blade and are notched from the corner of the blank. The notches are usually deep and narrow producing barbs which do not extend to the base of the point. The length of the barb (and depth of the notch) does vary. Some of the points have a short barb (a, b, d, f, g, and l in Figure 36) while the others have a longer barb. This characteristic may help to separate varieties of these points which are now placed in a temporary classification. The stem on the points expands and the base is usually straight.

The "Barbed" points from D1-29 are carefully finished by percussion flaking.

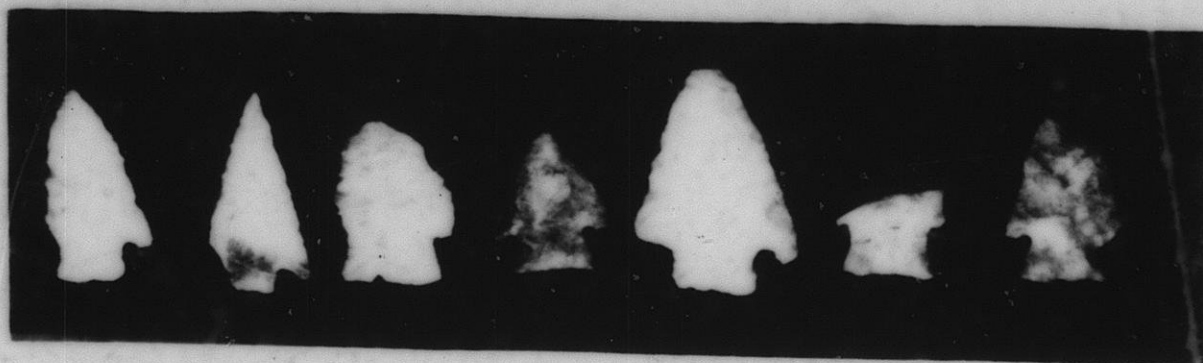
Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	5	37 - 57	49.2 mm.
<u>Maximum Width</u>	9	27 - 42	33.0 mm.
<u>Stem Length</u>	14	9 - 16	11.9 mm.
<u>Stem Width</u>	14	12 - 23	16.5 mm.
<u>Base Width</u>	12	16 - 27	23.2 mm.
<u>Thickness</u>	14	6 - 8	6.6 mm.

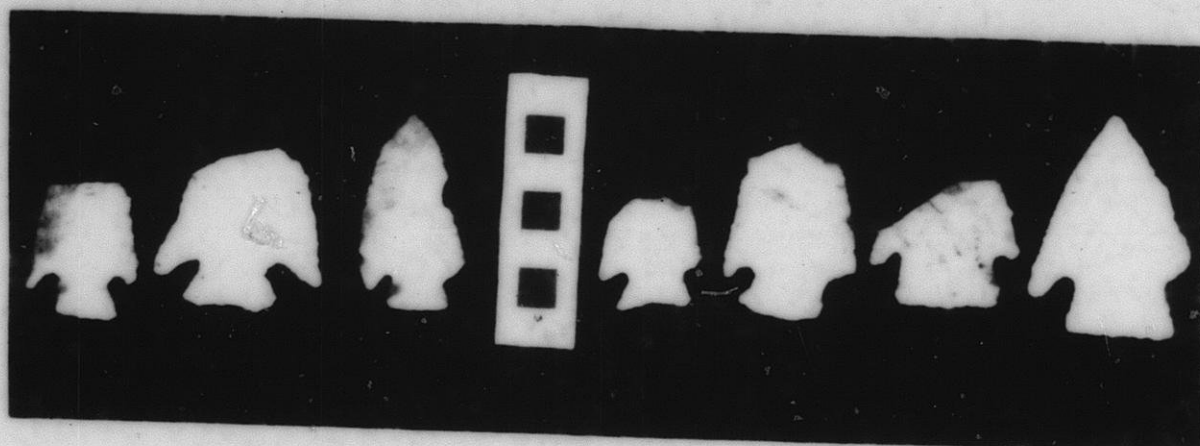
Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
347	0:2	12	50	--	pink
357	1:0	6	51	--	pink
457	1:1	9	--	--	mottled grey
307	1:1	10	37	30	grey-pink
428	1:1	10	--	--	tan
108	1:2	9	--	27	mottled grey

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
355	1:3	2	--	30	grey-pink
319	1:6	6	--	28	mottled grey
234	1:6	8	--	42	grey-white
344	1:7	7	51	28	grey
301	1:7	12	--	--	grey-tan
266	1:8	8	--	38	grey
266	1:8	8	--	34	white
224	1:10	5	57	40	white



a # 347 b # 357 c # 457 d # 307 e # 428 f # 108 g # 333



h # 319 i # 234 j # 344 k # 301 l # 266 m # 266 n # 224

Figure 37. "Barbed" Projectile Points

Unclassified Projectile Points

Twenty-nine projectile points from D1-29 are unclassified. These points will be described individually or in groups when more than one fall into the same shape category. The numbers preceding the catalog number refer to the place of the points in Figures 35 - 37.

(1) # 118. The point, made of white chert, is corner notched with an expanding stem. The shoulders are overhanging to barbed. The point is like those within the Barbed classification except that the base of # 118 expands to a greater width than the base on any of the Barbed points. The stem is 21 mm. wide while the base is 32 mm. wide.

Location: Square 1:6, Level 3.

(2) # 364. This point is 69 mm. long, the stem expands from 23 mm. to 30 mm. at the base. Shoulders are overhanging. The concave base is ground. The point is made of grey chert.

Location: Square 1:9, Level 5.

(3) # 185. This point with a convex blade edges and an expanding stem is made of red-grey chert. The stem is formed by a wedge shaped area removed from the corner of the blank. The shoulders are horizontal. The blade is 32 mm. wide, stem width 17 mm., and stem length 13 mm.

Location: Square 1:7, Level 8.

(4) # 191. The expanding stem of this point has a concave base. Both the sides of the stem and the base are ground. The point has one remaining barbed shoulder and is made of pink chert. The point is 45 mm. long, the stem is 15 mm. long and 17 mm. wide while the base is 20 mm. wide.

Location: Square 1:8, Level 9.

(5) # 170. The stem of this point is slightly flaring, the shoulders horizontal. The base is concave. The point is 47 mm. long and 22 mm. wide at

the shoulders. The stem is 11 mm. long and 12 mm. wide. The base is 16 mm. wide.

Location: Square 1:12, Level 5.

(6) and (7) #'s 192 and 182. Both these points are short and very wide in relation to the length. The stem expands slightly to a concave base. The shoulders are horizontal to slightly barbed.

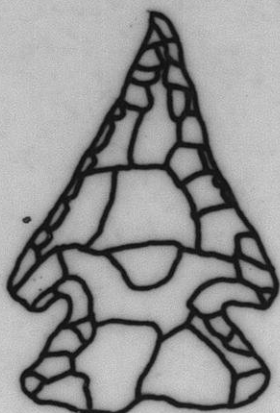
	<u># 192</u>	<u># 182</u>
<u>Maximum Length</u>	35	35
<u>Maximum Width</u>	27	24
<u>Stem Length</u>	10	6
<u>Stem Width</u>	8	10
<u>Base Width</u>	14	--
<u>Color</u>	white	red-grey
<u>Location</u>	Sq. 1:11, Level 4	Sq. 1:6, Level 7

(8) # 105. Long narrow corner notches were removed from the blank to produce a stem which expands to a greater width than the width of the blade. The base is concave. The stem exhibits basal and lateral grinding. Width of the blade is 21 mm. Stem length is 17 mm. Stem width is 18 mm. and base width 24 mm.

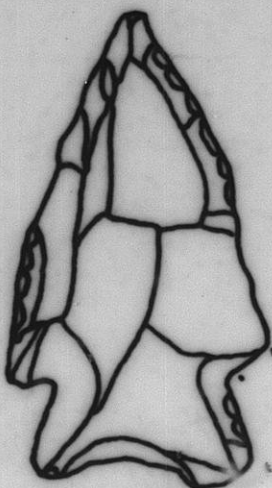
Location: Square 2:4, Level 4.

(9) # 364. This lanceolate shaped point is crudely made and has a concave base. The maximum width of the point is 25 mm. while the base width is 20 mm.

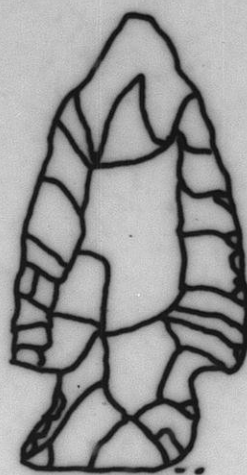
Location: Square 1:9, Level 5.



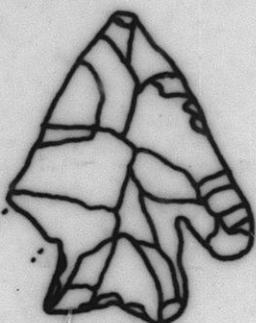
(1.) # 118



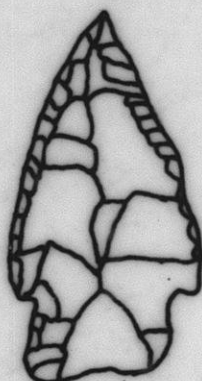
(2.) # 364



(3.) # 185



(4.) # 191



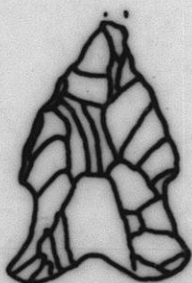
(5.) # 170



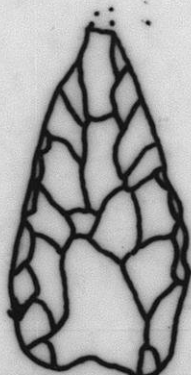
(6.) # 192



(7.) # 182



(8.) # 105



(9.) # 364

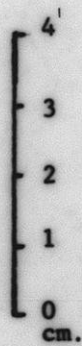


Figure 38. Unclassified
Projectile Points

(10) # 156. The point has a convex-edged blade with the maximum width above the shoulder. It is corner notched and has an expanding stem. Total length is 61 mm., maximum width 37 mm. The stem is 14 mm. long and 18 mm. wide.

Location: Square 2:0, Level 11.

(11) # 166. This is a short stemmed point which has a slightly contracting stem. The point is formed entirely by percussion flaking. The stem is 10 mm. long, 21 mm. wide, and contracts to a base 20 mm. wide.

Location: Square 1:11, Level 2.

(12) # 166. This point is percussion flaked. The stem is short and contracting. It may be a crude Gary point. Blade width is 34 mm. The stem is 10 mm. long and 15 mm. wide. The base is 11 mm. wide.

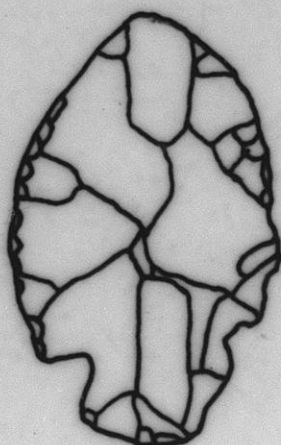
Location: Square 2:12, Level 2.

(13) # 198. Another crude primary flaked point which has a slightly expanding stem. The point is 87 mm. long and 37 mm. wide. The stem is 16 mm. long and 18 mm. wide. The base of the stem is 19 mm. wide.

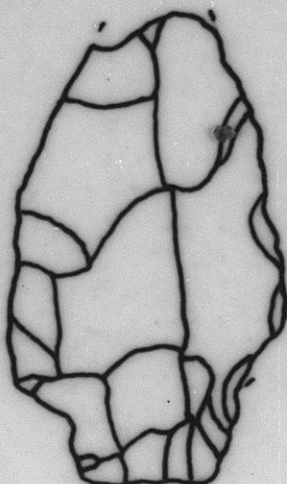
Location: Square 1:11, Level 5.

(14) and (15) #'s 408 and 370. These points have contracting stems and straight bases. They are excluded from Langtry points because of the narrow and short stem. The shoulders are horizontal.

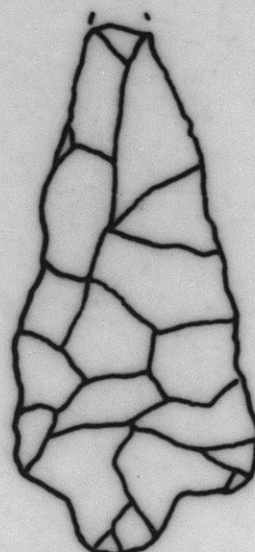
	<u># 408</u>	<u># 370</u>
<u>Maximum Width</u>	23	28
<u>Stem Length</u>	12	13
<u>Stem Width</u>	12	13
<u>Base Width</u>	9	9
<u>Location</u>	Sq. 1:10, Level 6	Sq. 1:6, Level 10



(10.) # 156



(11.) # 166



(12.) # 160



(13.) # 198

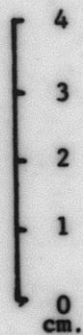


Figure 39. Unclassified Projectile Points

(16) and (17) #'s 337 and 457. These points have long slender blades, are corner notched, and have an expanding stem. Both are finely pressure flaked.

	<u># 337</u>	<u># 457</u>
<u>Maximum Width</u>	20	22
<u>Stem Length</u>	11	9
<u>Stem Width</u>	9	12
<u>Base Width</u>	13	15
<u>Location</u>	Sq. 1:1, Level 3	Sq. 1:1, Level 9

(18) and (19) #'s 109 and 102. Both points have a slightly flaring stem, rounded shoulders, and convex blade edges. # 102 has a convex base while # 109 has a straight base.

	<u># 109</u>	<u># 102</u>
<u>Maximum Length</u>	55	--
<u>Maximum Width</u>	26	28
<u>Stem Length</u>	10	15
<u>Stem Width</u>	15	14
<u>Base Width</u>	16	16
<u>Location</u>	Sq. 1:0, Level 9	Sq. 1:1, Level 4

(20) and (21) #'s 173 and 239. Characteristic of these two points are a long narrow blade, a pronounced horizontal shoulder, and a short and narrow stem with a concave base.

	<u># 173</u>	<u># 239</u>
<u>Maximum Length</u>	48	62
<u>Maximum Width</u>	20	21
<u>Stem Length</u>	6	7
<u>Stem Width</u>	9	10
<u>Base Width</u>	10	11
<u>Location</u>	Sq. 1:4, Level 6	Sq. 0:3, Level 10

(22) # 171. This point has a very short, broad stem which is slightly expanding. The shoulders are horizontal. The width of the blade is 30 mm., stem length is 8 mm., stem width is 23 mm. and base width 24 mm.

Location: Square 1:5, Level 6.

(23) # 169. The short flaring stem on this point is considerably narrower than that of the previously described point, # 171. Shoulders are horizontal. The point is 54 mm. long, 31 mm. wide. The stem is 10 mm. long and 17 mm. wide. Base width is 18 mm.

Location: Square 1:7, Level 9.

(24) # 425. This stemmed point also has a short stem which is slightly contracting. The stem is broad in relation to its length. Blade width is 35 mm. Stem length is 12 mm. and stem width 25 mm. The base is 23 mm. wide.

Location: Square 1:7, Level 13.

(25) # 169. The stem of this point is short and flaring. The blade is straight sided. This point is smaller and more carefully pressure flaked than those previously described which also have short stems. The blade of this point is 23 mm. wide. The stem is 10 mm. long and 15 mm. wide. The base is 16 mm. wide.

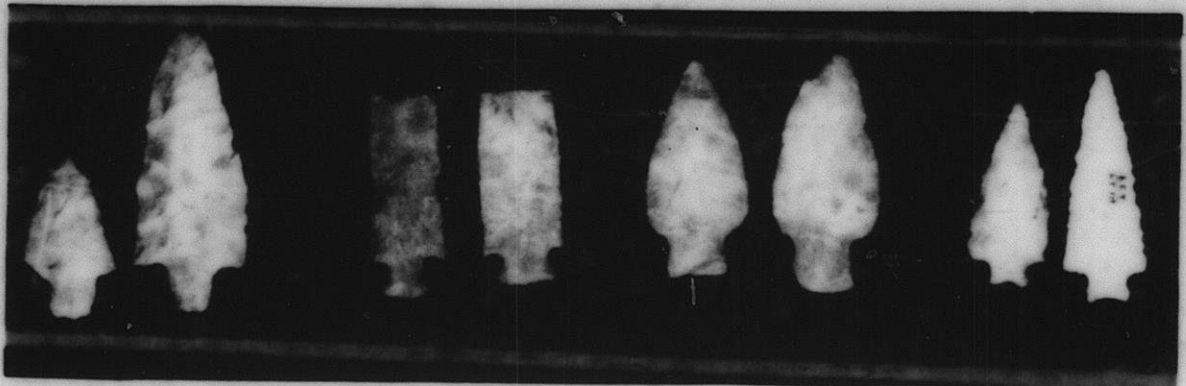
Location: Square 1:7, Level 9.

(26) # 170. This point also has a flaring stem and horizontal shoulders. The point is 47 mm. long and 22 mm. wide. The stem is 11 mm. long, and 12 mm. wide. The base is 16 mm. wide.

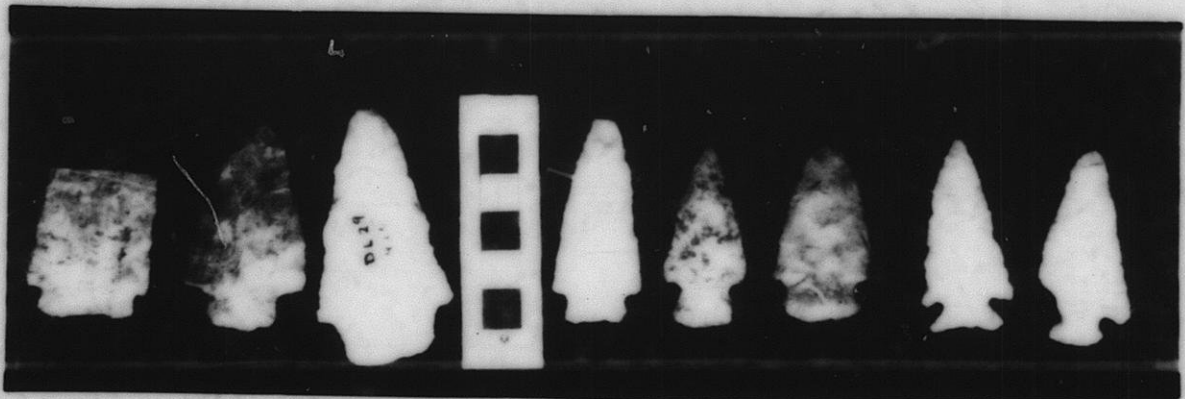
Location: Square 1:12, Level 5.

(27) # 457. The short stem of this point also expands. The shoulders are horizontal. The point is 25 mm. wide and has a stem 12 mm. long and 18 mm. wide. The base is 21 mm. wide.

Location: Square 1:1, Level 9.



(14) #408 (15) #370 (16) #337 (17) #457 (18) #109 (19) #102 (20) #173 (21) #239



(22) #171 (23) #169 (24) #425 (25) #169 (26) #170 (27) #457 (28) #185 (29) # 372

Figure 40. Unclassified Projectile Points

(28) # 185. The blade edges of this point are recurved. The stem expands as a result of long, narrow corner notches which have been removed. The shoulders are overhanging. The base is concave. The point is 50 mm. long and 23 mm. wide. The stem is 8 mm. long and 11 mm. wide. The base is 19 mm. wide.

Location: Square 1:7, Level 8.

(29) # 372. As is true of # 185, this point has long, narrow corner notches and overhanging shoulders. The stem is narrow with rounded corners and a convex base. The stem is 10 mm. long and wide. The base width is 15 mm.

Location Square 2:10, Level 2.

The small projectile points whose type descriptions follow are all made from small chert flakes. Often the points retain part of the original flake surface on one face as well as the original flake curvature. All the points are finely pressure flaked.

Simple Triangular

There are thirteen small triangular points. They are characterized by a straight sided blade edge and either a straight or concave base. The greatest width of these points is at the base.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	10	16 - 39	25.4 mm.
<u>Maximum Width</u>	10	10 - 16	12.2 mm.
<u>Thickness</u>	13	2 - 4	3.2 mm.
<u>Weight</u>	7	.5 - 1.4	.8 gms.

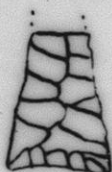
Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
470	1:4	1	19	10	.5	pink
196	1:4	10	--	14	---	grey
167	1:5	2	26	--	---	grey
245	1:6	4	35	12	1.1	white
436	1:8	4	22	11	.5	buff-grey
174	1:8	7	21	11	.5	tan-grey
178	1:10	1	30	--	---	grey
119	2:3	3	--	14	---	white
119	2:3	3	39	12	1.3	mottled grey
469	2:4	3	16	11	---	grey

#	Square	Level	Length	Width	Weight	Chert Color
289	2:7	2	24	11	.6	grey
238	2:10	1	--	--	---	reddish
124	2:13	3	27	16	1.4	grey



a # 470



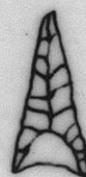
b # 196



c # 167



d # 245



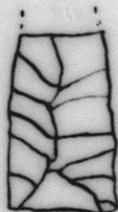
e # 436



f # 174



g # 178



h # 119



i # 119



j # 469



k # 289



l # 238



m # 124

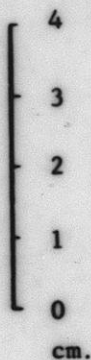


Figure 41. Simple Triangular Projectile Points

Lanceolate Triangular

Lanceolate Triangular points in contrast to the Simple Triangular points have a convex sided blade, thus placing the greatest width of the point above the base. The points have either a straight base or concave base, or rarely a slightly convex base.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	24	19 - 47	28.4 mm.
<u>Maximum Width</u>	32	8 - 18	12.6 mm.
<u>Base Width</u>	31	6 - 17	11.3 mm.
<u>Thickness</u>	33	2 - 6	3.6 mm.
<u>Weight</u>	22	.65 - 3.3	1.5 gms.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
457	1:1	9	--	16	---	white
394	1:2	2	32	16	1.9	white
346	1:3	12	28	17	.65	white
386	1:4	4	22	12	---	mottled grey
386	1:4	4	--	8	---	white-grey
452	1:6	5	22	12	---	grey
176	1:2	2	47	11	2.6	white-grey
387	1:8	4	29	13	1.1	grey
233	1:8	6	34	16	3.0	mottled grey
428	1:10	2	--	17	---	pink
177	1:12	4	26	13	---	pink
119	2:3	3	--	14	---	grey
469	2:4	3	34	16	2.8	grey

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
469	2:4	3	20	11	.6	grey
469	2:4	3	--	12	---	grey
388	2:4	3	23	12	.5	red
180	2:4	4	26	10	.8	white-grey
180	2:4	4	28	10	.8	white
180	2:4	4	--	11	---	grey
180	2:4	4	32	12	.95	white
180	2:4	4	19	12	.4	mottled grey
180	2:4	4	23	10	.75	white
409	2:4	4	23	12	.8	mottled tan
286	2:5	2	28	12	.9	grey
285	2:5	4	35	18	3.1	white
352	2:6	2	36	11	1.9	white
295	2:6	4	22	10	.7	white
396	2:4	7	24	10	.75	pink
437	2:9	3	42	13	2.05	white
353	2:9	1	--	--	---	pink
334	2:12	1	34	16	3.3	pink-white
124	2:13	3	--	11	---	grey-pink
162	unknown		27	9	.7	pink-white

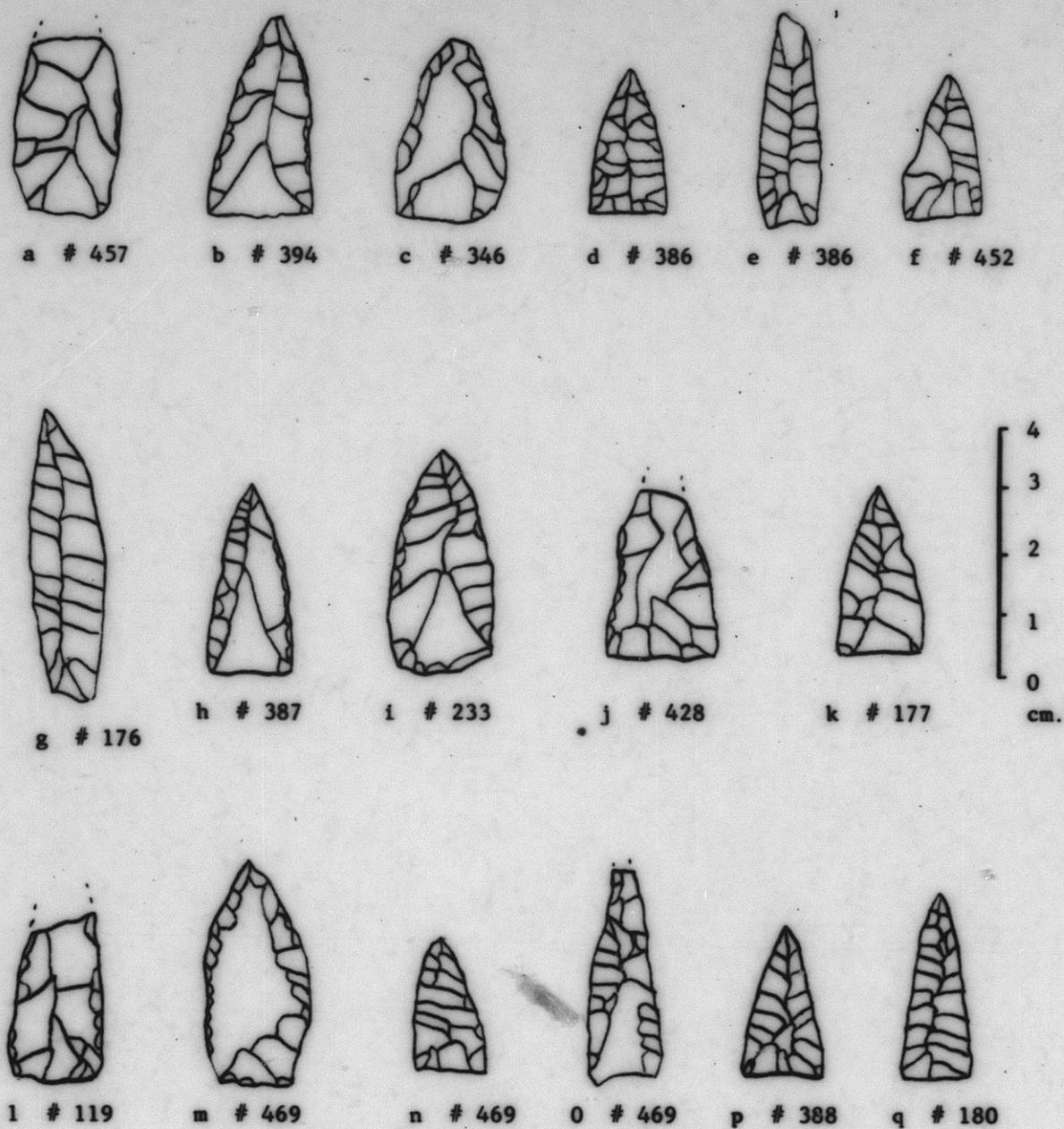


Figure 42. Lanceolate Triangular Projectile Points

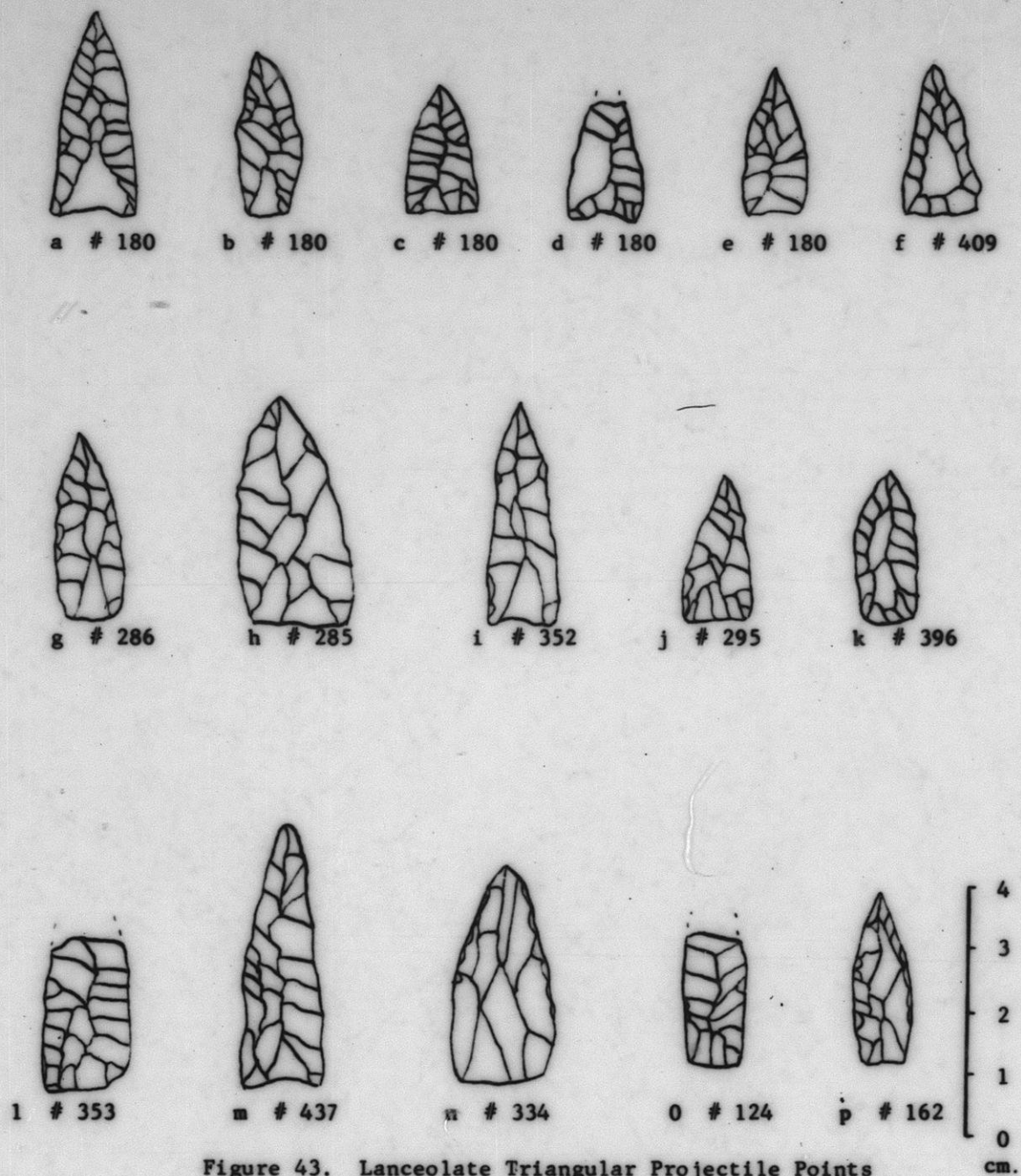


Figure 43. Lanceolate Triangular Projectile Points

Small Lanceolate

Small Lanceolate projectile points have convex blade edges and a convex base which merges gradually with the blade. The junction of blade and base is thus not clearly demarcated.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	5	23 - 42	34.0 mm.
<u>Maximum Width</u>	5	12 - 19	15.2 mm.
<u>Thickness</u>	5	4 - 8	5.2 mm.
<u>Weight</u>	4	1.2 - 4.6	2.9 gms.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
229	1:11	6	39	19	4.1	white
161	1:12	2	42	18	4.6	grey
369	2:12	5	30	13	1.7	white
399	1:6	2	23	12	1.2	white
366	1:5	7	36	14	---	pink

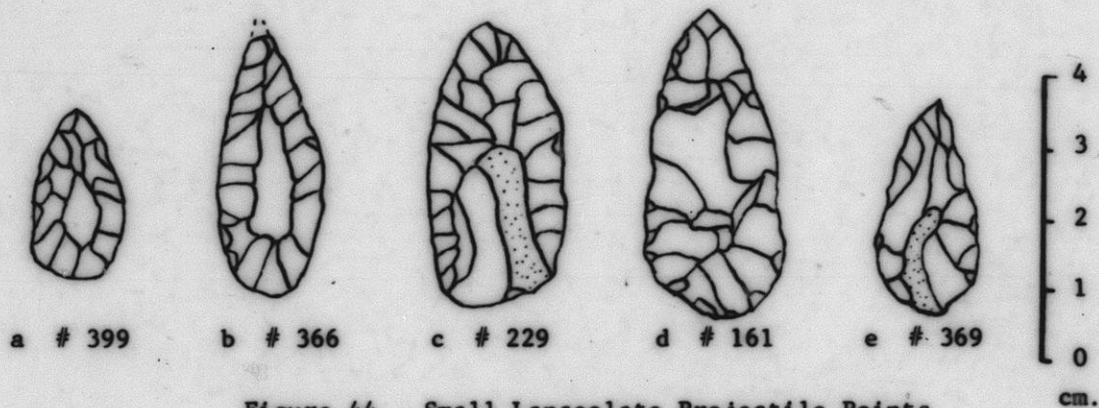


Figure 44. Small Lanceolate Projectile Points

Scallorn Projectile Points

Scallorn points are defined as small corner notched points which have a triangular blade, often with serrated edges, and an expanding stem with rounded or wedge shaped edges (Suhm, Krieger, and Jelks, 1954:506). Two of the Scallorn points from D1-29, #'s 254 and 177, have serrated blade edges.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	3	24 - 36	32.0 mm.
<u>Maximum Width</u>	2	14 - 15	14.5 mm.
<u>Stem Length</u>	5	5 - 7	6.6 mm.
<u>Stem Width</u>	3	4 - 7	6.0 mm.
<u>Base Width</u>	2	12	12.0 mm.
<u>Thickness</u>	5	3 - 5	4.0 mm.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
217	1:4	2	36	--	grey
195	1:4	10	36	15	grey
254	1:7	7	24	--	white
198	1:11	5	--	14	grey
177	1:12	4	--	--	pink

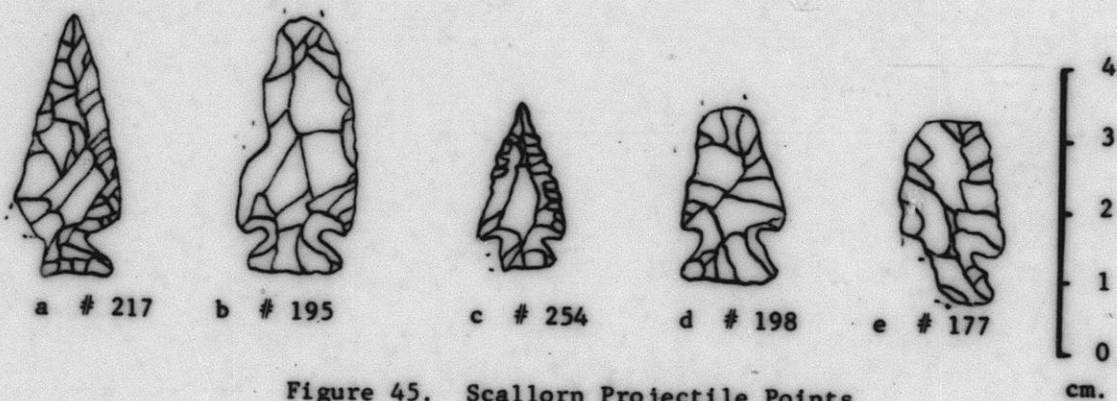


Figure 45. Scallorn Projectile Points

Small Serrated Projectile Points

Small Serrated points are so designated because of the frequent serrations of the edges of the straight sided triangular blades. The points are side or corner notched and have an expanding somewhat bulbous stem (Baerreis and Freeman, 1959:81).

Of the ten points in this category from D1-29, four have serrated blades, #'s 104, 170, 165, and 152. Four of the points, #'s 165, 104, 367, and 441, have not had the striking platform at the base retouched.

Measurements

	<u>f</u>	<u>range</u>	<u>mean</u>
<u>Maximum Length</u>	4	25 - 48	33.0 mm.
<u>Maximum Width</u>	10	10 - 13	11.2 mm.
<u>Stem Length</u>	10	6 - 8	6.2 mm.
<u>Stem Width</u>	10	4 - 6	5.3 mm.
<u>Base Width</u>	10	8 - 10	9.0 mm.
<u>Thickness</u>	10	3 - 4	3.7 mm.
<u>Weight</u>	4	.7 - 2.3	1.2 gms.

Individual Point Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
399	1:6	2	--	10	---	tan
245	1:6	4	--	13	---	grey
441	1:7	2	25	10	.75	white
254	1:7	7	48	14	2.3	grey
152	1:8	3	32	10	.9	tan
170	1:12	5	--	12	---	grey
104	2:1	4	--	10	---	pink
367	2:3	5	--	13	---	grey

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Weight</u>	<u>Chert Color</u>
469	2:4	3	--	10	---	pink
165	2:8	2	27	10	.7	reddish

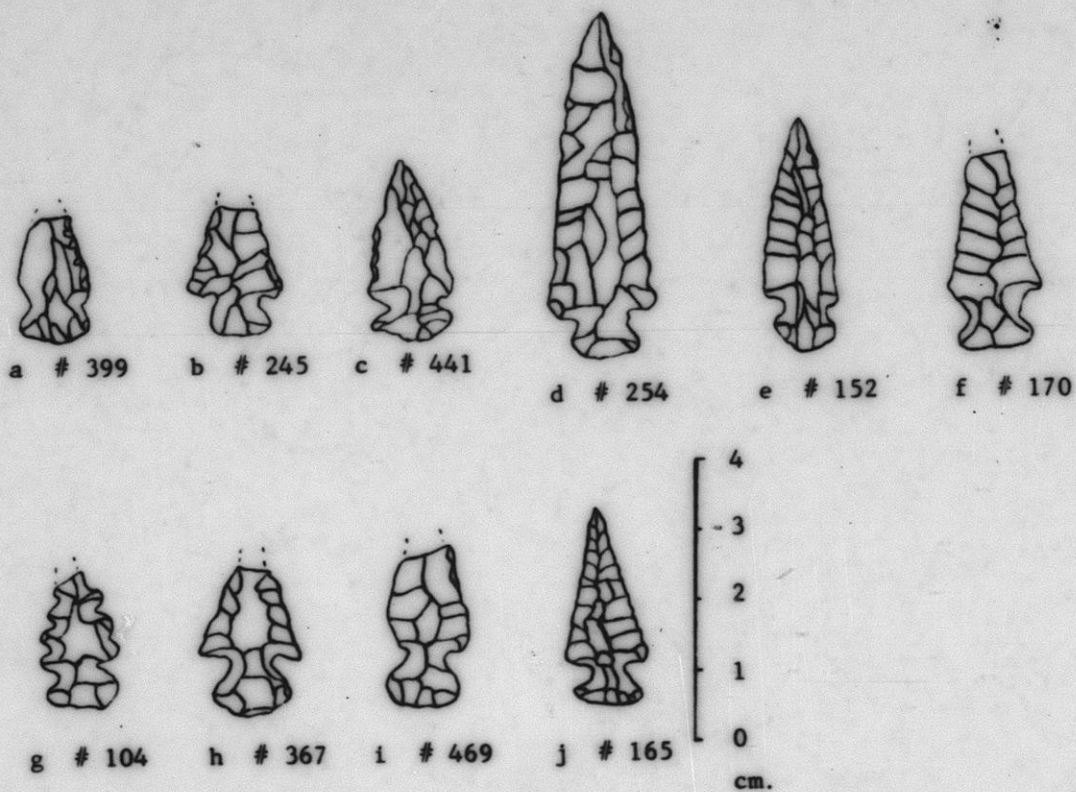


Figure 46. Small Serrated Projectile Points

Small Side Notched Projectile Points

Two points from D1-29 are small triangular points which have been notched from the side of the blade, 4 mm. above the base. The bases are concave. The area below the notches contracts slightly. This last trait is characteristic of points classified as variant 2 of small notched points from the Huffaker site (Baerreis, 1954:44). These points are somewhat like Morris points (Bell, 1958:60 - 61) except that the area below the notch on Morris points is rounded. These notched points from D1-29 seem to be more like Morris and also Reed points (Baerreis, 1954:44) than the triangular side notched points found in late sites on the Plains and also in other Neosho Focus sites.

	<u># 448</u>	<u># 451</u>
<u>Maximum Length</u>	27	--
<u>Maximum Width</u>	10	12
<u>Weight</u>	.8 gms.	--
<u>Location</u>	Sq. 0:4, L. 8	Sq. 2:7, L. 2

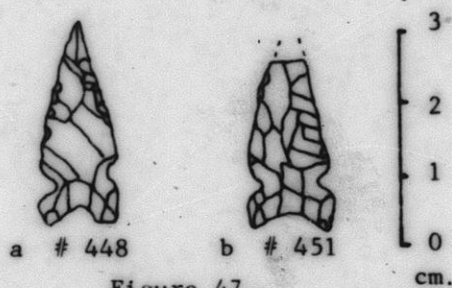


Figure 47.
Small Side Notched Projectile Points

Huffaker Projectile Points

Huffaker points have a triangular blade and are side notched. The distinguishing feature of these points is the multiple notches on the sides of the blade below the deep side notch (Baerreis, 1954:44).

The single Huffaker point from D1-29 has a concave base. It is 12 mm. wide and 4 mm. thick. The blade below the notch is 7 mm. long. This point, made of grey chert, was found in Square 1:6 at Level 4.



Figure 48.
Huffaker Projectile Point

Alba

Alba points have a triangular blade with concave or convex edges. The shoulders are wide and usually barbed. The stem edges are usually parallel and the base is straight or slightly convex (Suhm, Krieger, and Jelks, 1954:494). Bell (1958, 8) points out that Alba points may also have a bulbous stem.

The Alba point from this site is one of the variety with the parallel sided stem. The blade outline is triangular with concave edges. The shoulders are flaring and horizontal, not barbed. The base is straight. The point is 24 mm. long, 14 mm. wide, and 4 mm. thick. The stem is 5 mm. long and 5 mm. wide. The point was made of white chert and was found in Square 1:2 in Level 8.



Figure 49.
Alba Projectile Point

Unclassified Small Projectile Points

The small projectile points which remain unclassified due to the sparse numbers within a shape category are illustrated in Figure 47. They are here described individually or by shape categories.

a. # 361. A long narrow point with an irregular blade outline has wide overhanging shoulders and a stem with rounded edges and a convex base. The stem expands slightly. The stem is 10 mm. long, 7 mm. wide, and the base is 9 mm. wide.

Location: Square 2:11, Level 4.

b and c. #'s 431 and 330. The blade form on the two points differs in that # 431 has an irregular outline while # 330 has convex blade edges. Both have an expanding stem which is almost as wide at the base as at the shoulder. Bases are concave. The points are corner notched.

	<u># 431</u>	<u># 330</u>
<u>Maximum Length</u>	28	35
<u>Maximum Width</u>	12	13
<u>Stem Length</u>	12	8
<u>Stem Width</u>	7	8
<u>Base Width</u>	10	11
<u>Location</u>	Sq. 1:7, Level 6	Sq. 1:10, Level 4

e - i. Stemmed Points. # 173 (e) is a contracting stem point with slight shoulders. #'s 332, 170, and 451 (f - h) have short broad stems, angled shoulders, and convex blade edges. # 406 (i) has an expanding stem and a convex base. # 304 (d) has a short narrow stem and a wide blade with convex edges.

	# 304	# 173	# 332	# 170	# 451	# 406
<u>Maximum Length</u>	24	31	24	31	30	25
<u>Maximum Width</u>	15	13	12	14	14	9
<u>Stem Length</u>	4	8	6	4	6	6
<u>Stem Width</u>	7	7	7	7	10	6
<u>Base Width</u>	7	6	8	8	10	7
<u>Location</u>	1:1 6	1:4 6	2:4 2	1:12 5	2:7 2	2:5 3



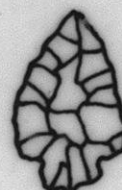
a # 361



b # 431



c # 330



d # 304



e # 173



f # 332



g # 170



h # 451



i # 406

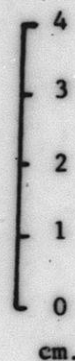


Figure 50. Unclassified Small Projectile Points

Chipped Stone Knives

Knives, chipped stone implements with edges suitable for cutting, are divided into two categories on the basis of the amount of flaking on the implements. Knives are first roughed out by percussion flaking and then finished along the edges, or a portion of the edge, by pressure flaking. Core Knives are characterized by the lack of pressure flaking and tend to be thicker than the Knives. The two categories are further divided into shape and size divisions. The size distinction is an arbitrary one with those knives measuring up to 50 mm. classified as small, those 50 to 80 mm. classified as medium, and those above 80 mm. classified as large. This is the same classification used by Baerreis (1951) and in other reports on Delaware County sites.

Ovate Acuminate Knives

There are eight knives above 80 mm. in length which have a rounded base and a pointed tip. One of these, # 313, approaches a double pointed form. The knives range in length from 81 to 101 mm. with an average of 89 mm.; in width from 27 to 50 mm. with an average of 39.5 mm.; and in thickness from 7 to 15 mm. with an average of 11 mm.

Individual Knife Provenience and Associated Traits

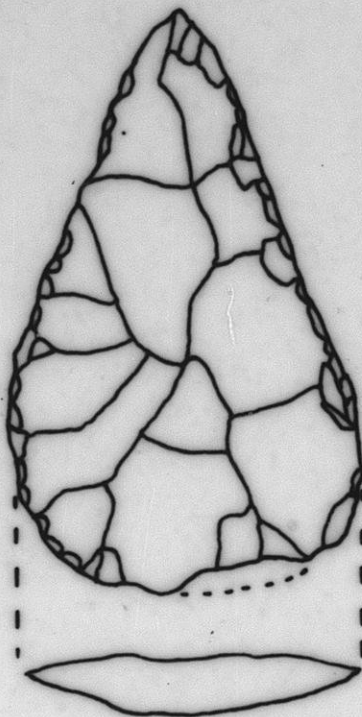
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
313	1:4	9	92	35	mottled grey
179	1:5	7	95	42	mottled grey
182	1:6	7	87	41	mottled grey
380	1:8	12	81	50	whitish
330	1:10	4	101	45	whitish
165	2:8	2	84	27	mottled tan

Knife Provenience and Associated Traits Cont'd.

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
359	2:8	4	86	42	mottled pink
334	2:12	1	87	32	grey



a # 334



b # 380

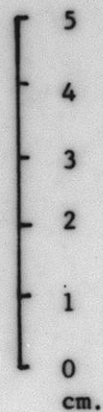
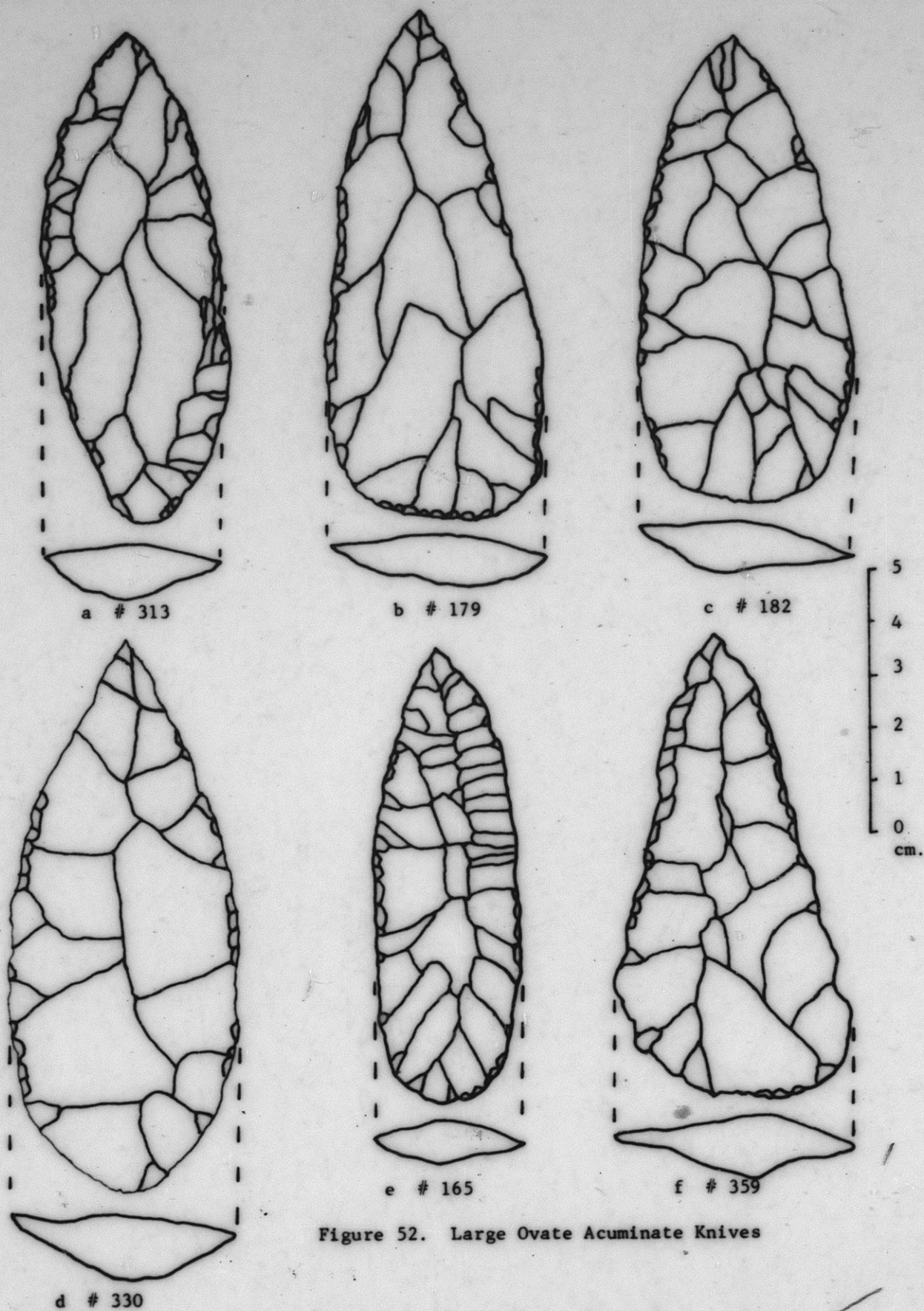


Figure 51. Large Ovate Acuminate Knives



The single Ovate Acuminate knife of medium size is made of white chert. It measures 60 x 38 x 7 mm. and was found in Square 1:11, Level 4.

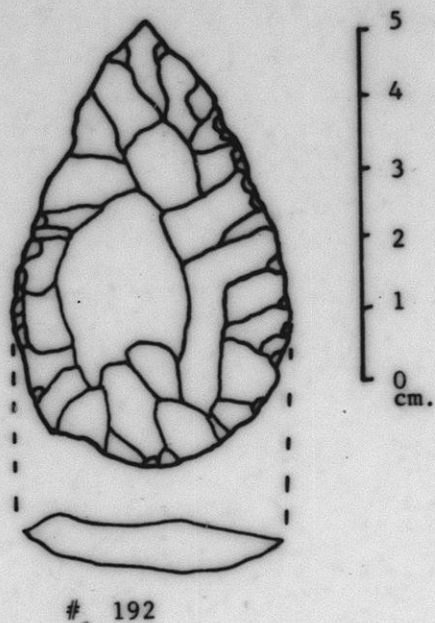


Figure 53. Medium Ovate Acuminate Knife

Ovate Knives

The two large ovate shaped knives have an average length of 96.5 mm. (range 82 to 111 mm.), the width averages 41 mm. (range 39 to 43 mm.), and the thickness averages 11.5 mm. (range 10 to 13 mm.). # 230, the shorter of the two knives was found in Square 1:0, Level 8. Half of the other knife, #'s 469 and 294, was found in Square 2:4, Level 3, while the other half was found in Square 2:5, Level 1.

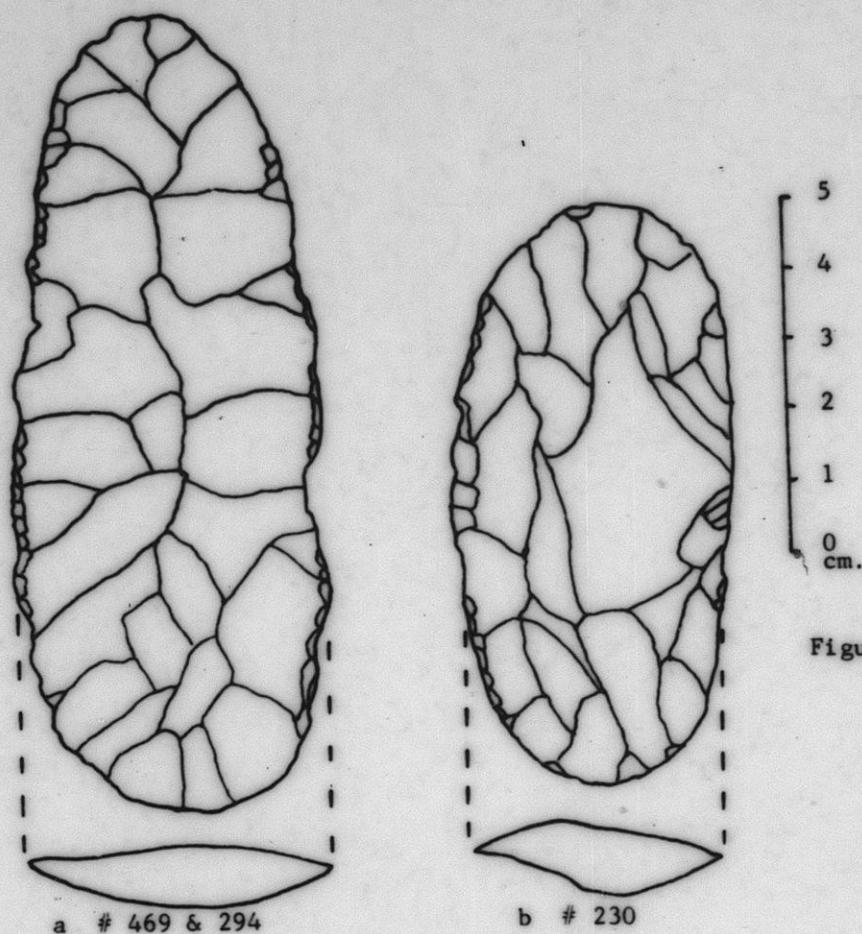
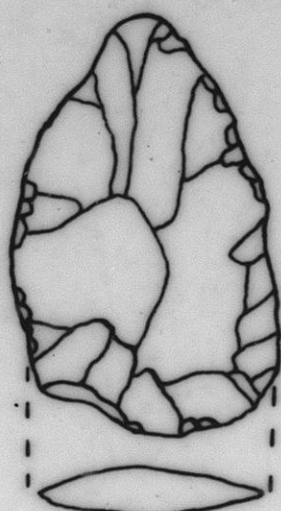


Figure 54. Large Ovate Knives

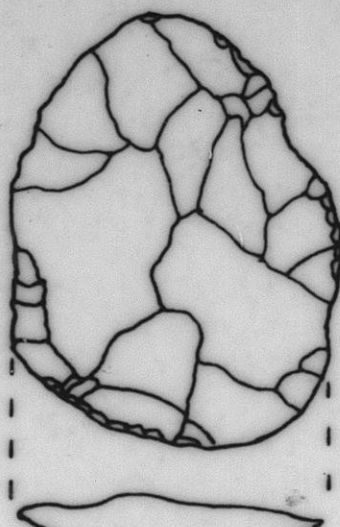
Four knives have an ovate outline, are under 80 mm. in length, and are thus in the medium size category. The length of the four, ranging from 51 to 73 mm., averages 61 mm. The width, ranging from 36 to 47 mm., averages 41.5 mm. The thickness, ranging from 9 to 13 mm., averages 12 mm.

Individual Knife Provenience and Associated Traits

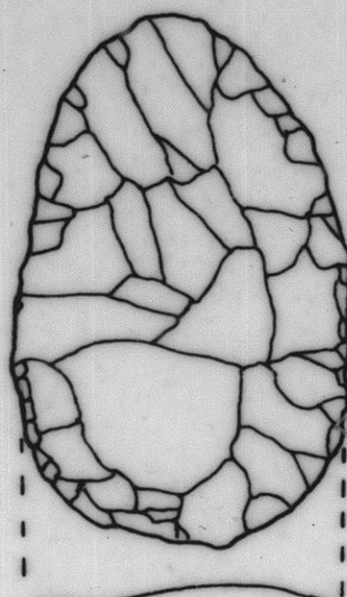
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
109	1:0	9	58	36	mottled grey-tan
379	1:1	13	62	45	mottled grey-tan
266	1:8	8	73	47	grey
453	1:13	3	51	38	white



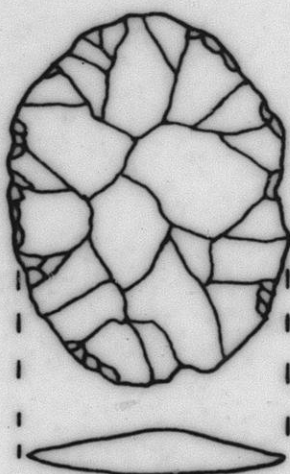
a # 109



b # 379



c # 266



d # 453

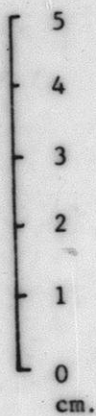


Figure 55. Medium Ovate Knives

Knives with a Distinct Base

Knives which have a base which is clearly demarcated from the edges of the blade are classified as having a "distinct base." There are thirteen of these knives from D1-29, eleven of medium size and two of small size. The length of the medium sized knives ranges from 61 to 74 mm. with a mean length of 68.4 mm. The width ranges from 19 to 42 mm. with a mean width of 31.1 mm. The thickness ranged from 7 to 15 mm. with a mean thickness of 10.4 mm.

The "distinct base" knives have straight or convex blade edges and straight or concave bases.

Individual Knife Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
360	1:2	5	67	19	mottled grey-tan
377	1:3	4	80	40	white
348	1:3	11	74	34	mottled grey
245	1:6	4	72	29	mottled grey
182	1:6	7	67	35	white
331	1:8	5	70	23	mottled white-grey
364	1:9	5	60	34	pink
287	1:10	10	75	38	mottled grey
198	1:11	5	64	29	mottled grey
424	2:6	1	74	42	white
124	2:13	3	61	28	mottled grey

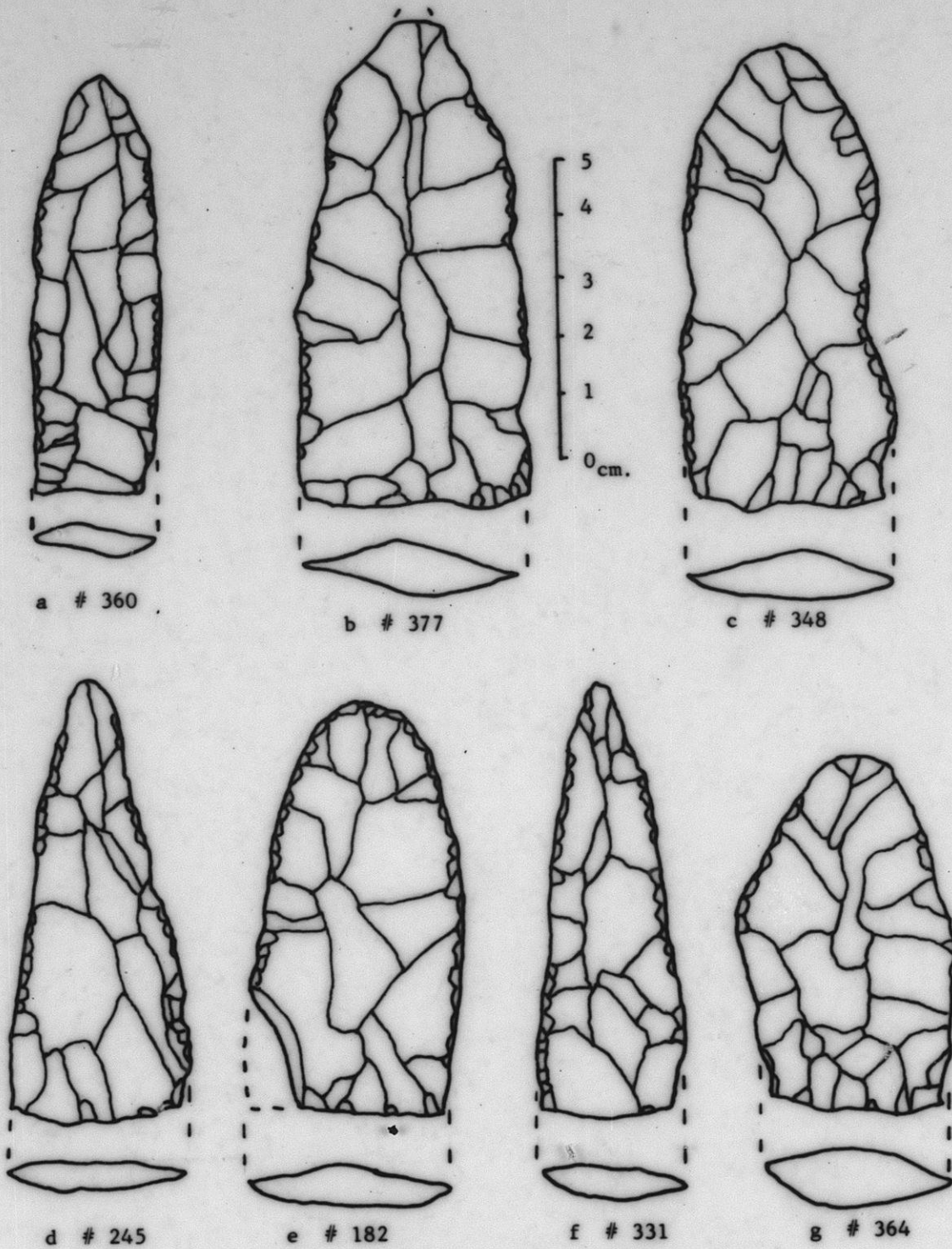


Figure 56. Medium Sized Knives With a Distinct Base

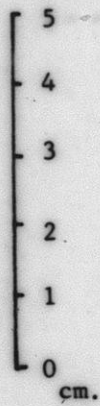
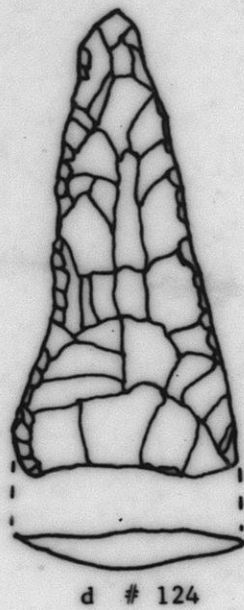
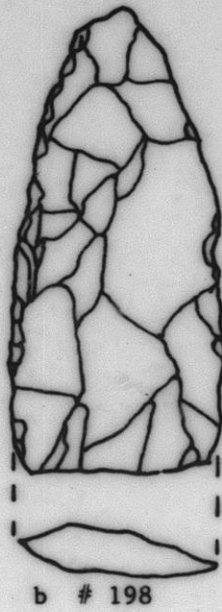
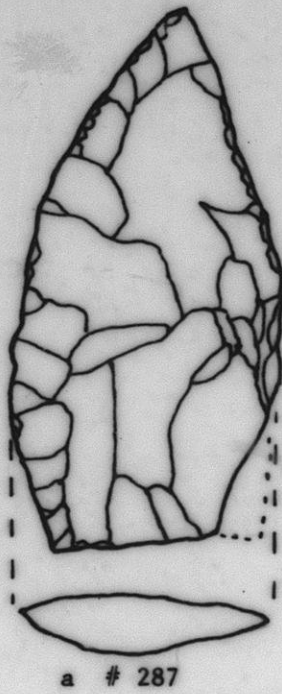


Figure 57. Medium Sized Knives With a Distinct Base

The two small knives with a distinct base have straight bases. # 184 has convex blade edges while # 469 has straight blade edges.

	# 184	# 469
<u>Maximum Length</u>	42	49
<u>Maximum Width</u>	31	32
<u>Thickness</u>	6	7
<u>Chert Color</u>	mottled grey	grey
<u>Location:</u>	Sq. 1:13, Level 4	Sq. 2:4, Level 3

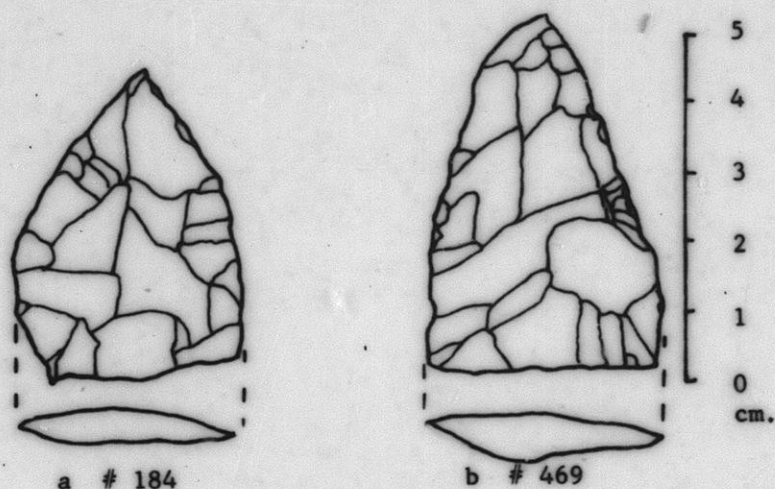


Figure 58. Small Knives With a Distinct Base

Twenty-two knife fragments can be classified with the "distinct base" group of knives although the fragments cannot be placed into size categories. Fourteen of the fragments have a straight base with straight or convex blade edges, seven have a slightly convex base, and one has a pointed base. These fragments are not illustrated.

Knife Fragment Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
109	1:0	9	174	1:8	7
307	1:1	10	111	1:10	9
355	1:3	2	333	1:11	1
316	1:3	10	166	1:11	2
346	1:3	12	170	1:12	5
454	1:3	13	104	2:1	4
423	1:5	8	180	2:4	4
439	1:6	12	448	2:6	3
441	1:7	2	359	2:8	4
344	1:7	7	238	2:10	1
185	1:7	8			
233	1:8	6			

Stemmed Knives

Six knives have a stem form like that of the Langtry A projectile points, that is, the stem contracts gradually from the shoulder to a straight base. These implements fall well outside the size range of the Langtry points and for this reason are classified as knives. The one complete knife is 127 mm. long and 45 mm. wide. The stem is 30 mm. long and the base width is 23 mm. The other knives in this category have maximum blade widths ranging from 36 to 59 mm., averaging 43.6 mm. The thickness of all six knives ranges from 8 to 12 mm., averaging 10 mm.

Individual Knife Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
304	1:1	6	--	42	mottled grey
299	1:5	13	--	38	white
157	1:7	10	--	43	mottled grey
380	1:8	12	127	45	mottled grey
364	1:9	5	--	36	white
287	1:10	10	--	59	white

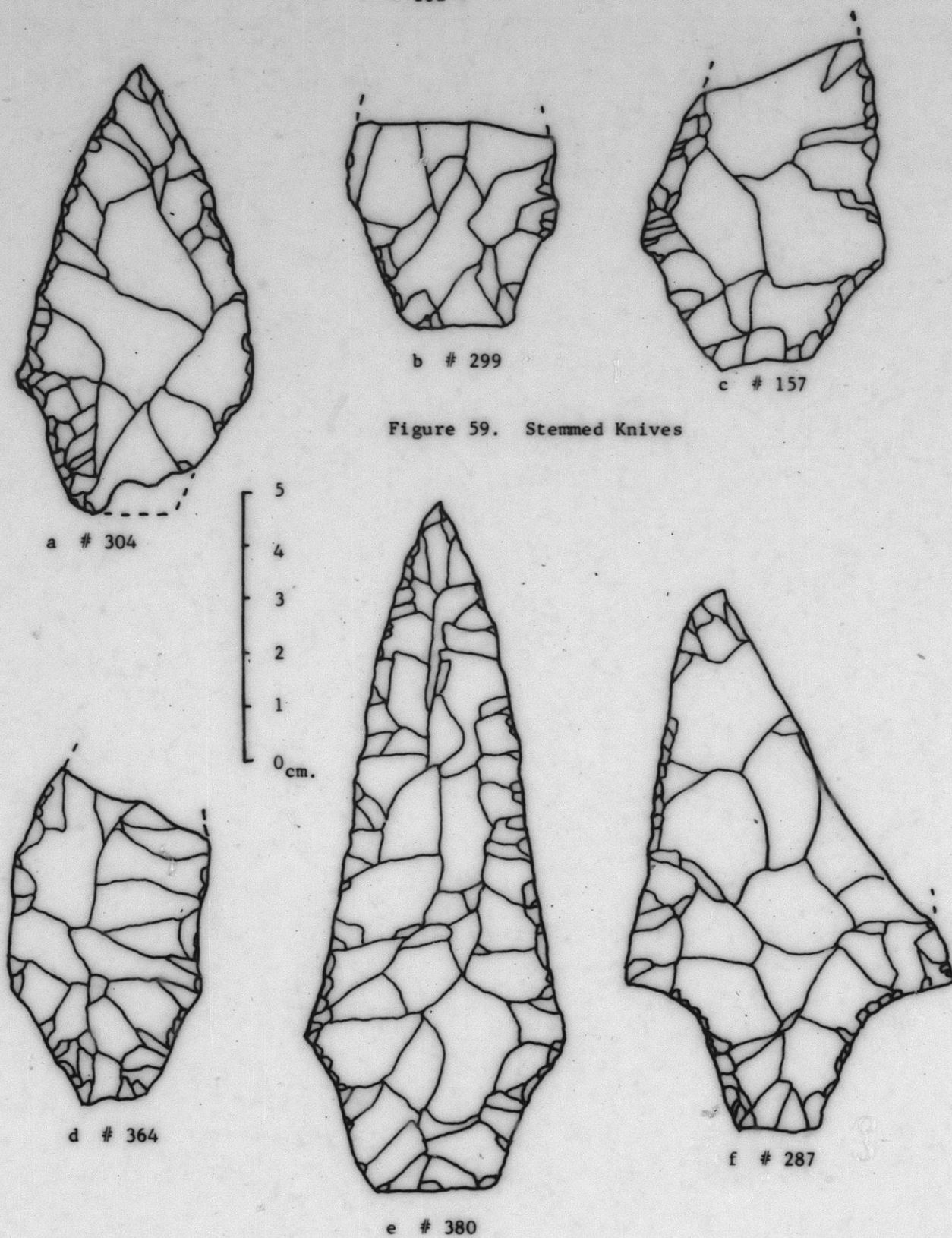


Figure 59. Stemmed Knives

There are two other stemmed knives; one # 306, has a short parallel sided stem. The blade is asymmetrical. The other knife, # 340, has only part of the stem remaining. The blade is slightly asymmetrical.

	<u># 306</u>	<u># 340</u>
<u>Maximum Length</u>	82	--
<u>Maximum Width</u>	34	--
<u>Thickness</u>	9	--
<u>Chert Color</u>	mottled grey	mottled grey
<u>Location</u>	Sq. 1:13, Level 3	Sq. 1:1, Level 14

Notched Knives

A single knife, made of pink chert, has one large notch removed from the corner of the blade. The blade itself is asymmetrical. The knife is 82 mm. long, 34 mm. wide, and 9 mm. thick.

Location: Square 1:3, Level 10.

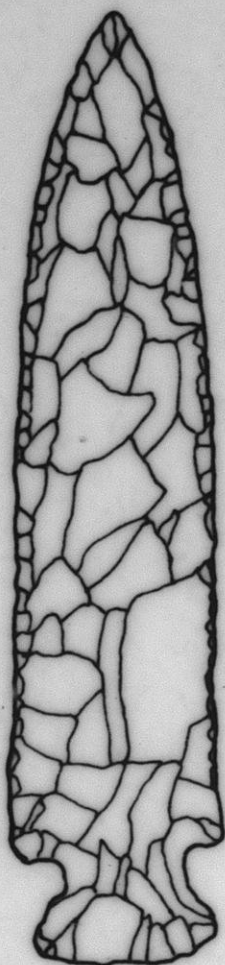
The other notched knife is symmetrically pressure flaked. It is corner notched, has slightly barbed shoulders, an expanding stem, and convex base. The blade is an elongated triangle with recurved edges. The knife is 133 mm. long and 28 mm. wide. The stem is 15 mm. long, 15 mm. wide, and expands to a base which is 24 mm. wide.

Location: Square 1:10, Level 5.

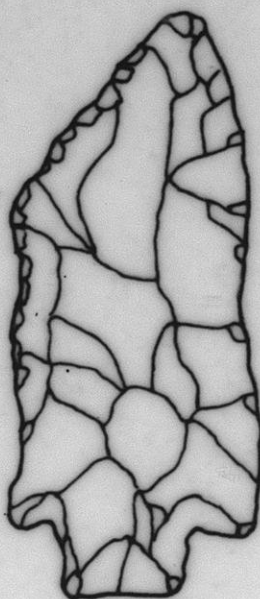
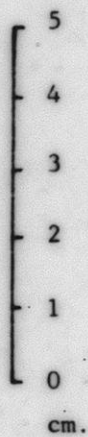
Unclassified Knife

200 has an elongated oval outline with a pointed tip. The base of the knife is not retouched. The knife is 78 mm. long, 25 mm. wide, and 10 mm. thick.

Location: Square 1:10, Level 6.



a # 244

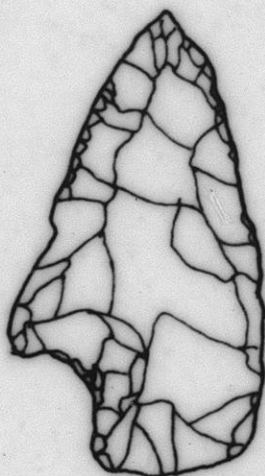


b # 306



c # 340

Figure 60. Knives



d # 298



e # 200

Knife Fragments

There are one hundred-nineteen fragments of knives, either tips or bases. These cannot be classified as to form or size.

Knife Fragment Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
455	1:0	10	384	1:5	8
337	1:1	3	444 (2)	1:5	9
457	1:1	9	467	1:5	12
307	1:1	10	354	1:6	3
340	1:1	14	432 (2)	1:6	5
360	1:2	5	319	1:6	6
108	1:2	9	182 (2)	1:6	7
113	1:2	13	234 (2)	1:6	8
355	1:3	2	288 (4)	1:6	9
377	1:3	4	370 (2)	1:6	10
345	1:3	7	439 (2)	1:6	12
298 (2)	1:3	10	405 (2)	1:7	5
346 (3)	1:3	12	344 (2)	1:7	7
217 (2)	1:4	2	254	1:7	7
362	1:4	3	169	1:7	9
173	1:4	6	157	1:7	10
313	1:4	9	301 (3)	1:7	12
305	1:4	12	425	1:7	13
291 (2)	1:4	13	174	1:8	7
291	1:4	14	266	1:8	8
167 (2)	1:5	2	191 (2)	1:8	9
309 (2)	1:8	13	119	2:3	3

Knife Fragment Provenience cont'd.

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
364 (2)	1:9	5	367	2:3	5
363	1:9	6	332	2:4	2
145	1:9	7	469 (2)	2:4	3
428 (2)	1:10	2	294 (2)	2:5	1
330	1:10	4	406	2:5	3
244 (4)	1:10	5	243	2:7	1
408 (3)	1:10	6	343 (2)	2:8	3
200	1:10	6	349 (3)	2:8	5
383	1:10	7	437	2:9	3
111	1:10	9	372 (2)	2:10	2
455	1:10	10	103	2:10	5
333 (2)	1:11	1	412	2:11	3
166 (2)	1:11	2	361 (2)	2:11	4
127	1:11	3	187	2:11	7
177	1:12	4	160	2:12	2
170 (2)	1:12	5	378	2:12	3
400 (2)	1:13	5	358	unknown	
156	2:0	11	254	unknown	

Core Knives

Among the specimens classed as core knives, knives which exhibit only primary flaking, there are twelve large sized, eighteen medium sized, and one small sized.

The large core knives have ovate, elliptical, or ovate acuminate outlines. The knives range in length from 81 to 110 mm., averaging 88.3 mm. The width ranges from 32 to 67 mm., averaging 51.8 mm. The thickness ranges from 15 to 27 mm., averaging 19.8 mm.

Individual Core Knife Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
420	0:3	12	94	67	white
290	1:1	8	83	32	mottled grey
423	1:5	8	85	35	white
283	1:5	11	97	63	white
467	1:5	12			
157	1:7	10	89	52	grey-pink
266	1:8	8	81	68	white
380	1:8	12	89	60	white
330	1:10	4	94	41	mottled grey
430	1:10	8	90	45	mottled grey
198	1:11	5	92	61	white
156	2:0	11	81	56	mottled grey
378	2:12	3	110	42	mottled grey

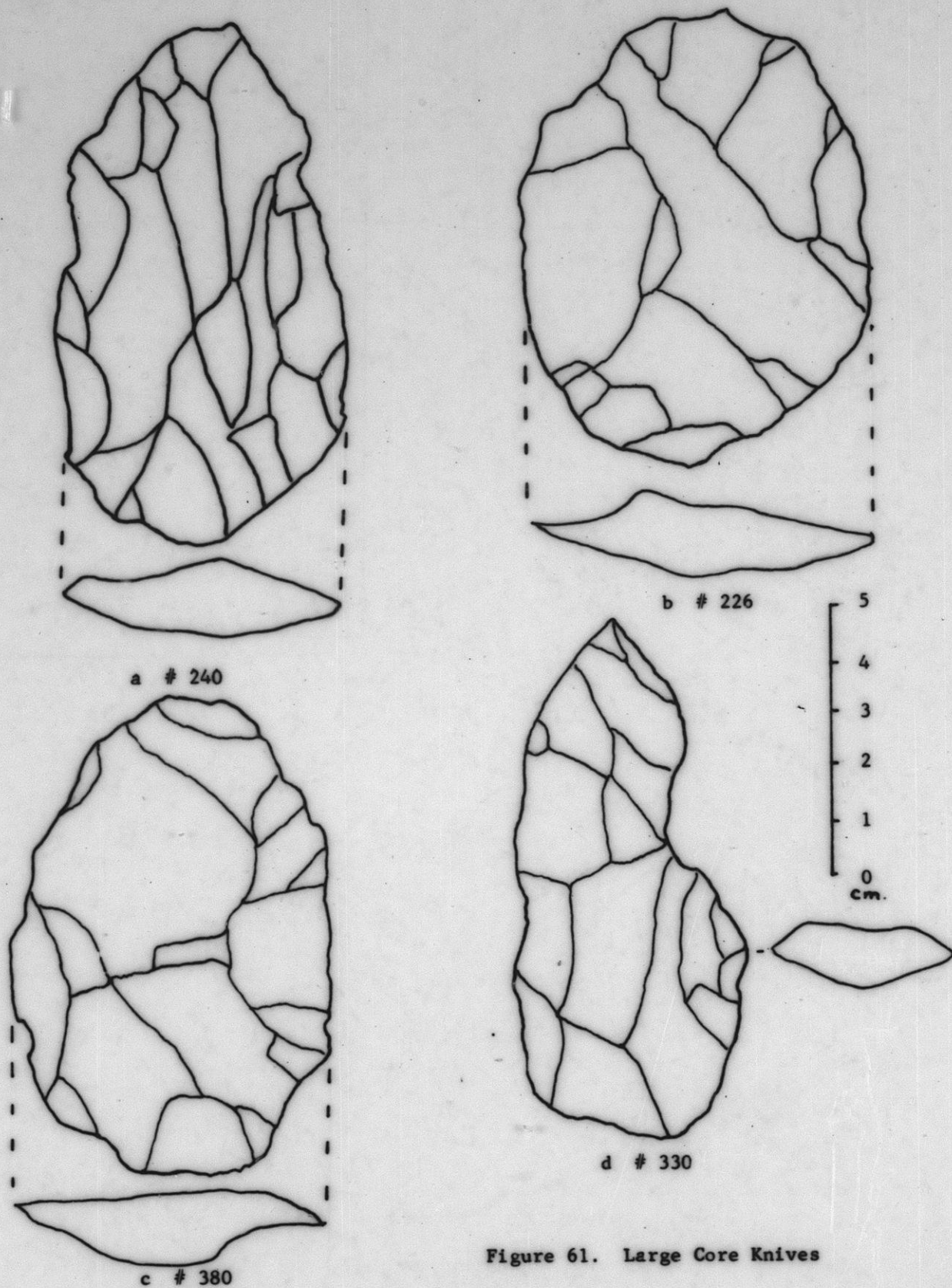
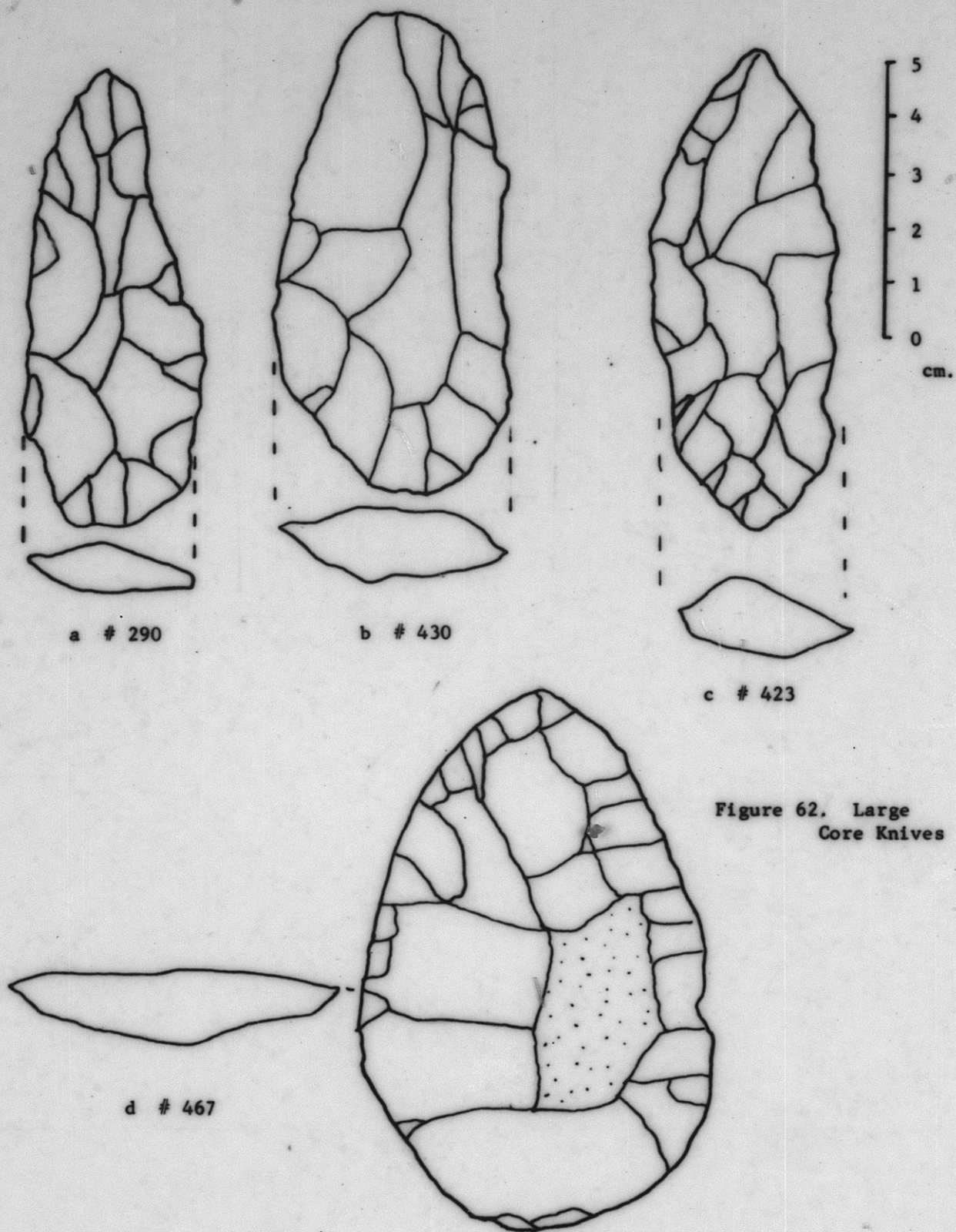
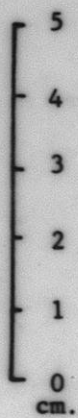


Figure 61. Large Core Knives

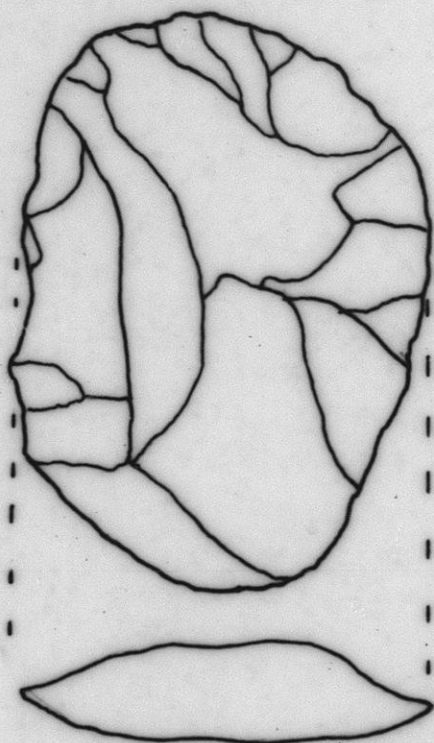




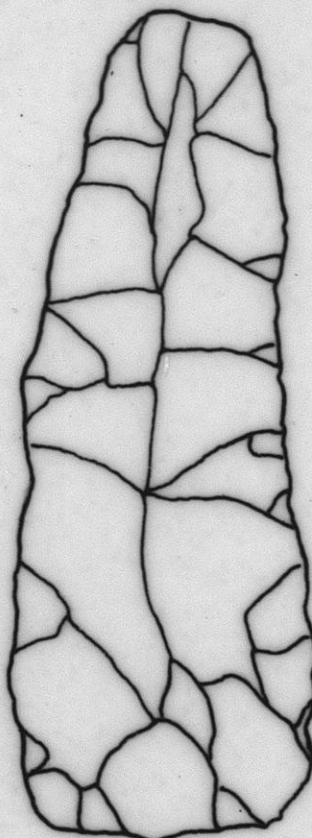
a # 157



b # 198

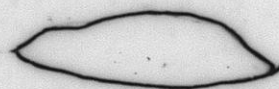


c # 156



d # 378

Figure 63.
Large Core Knives



The medium sized core knives are also ovate although # 330 is more elliptical in outline than the others. These knives range in length from 54 to 80 mm.; averaging 68.6 mm.; in width from 28 to 58 mm., averaging 43.0 mm.; in thickness from 13 to 27 mm., averaging 17.6 mm.

Individual Core Knife Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Chert Color</u>
440	1:3	9	78	55	mottled grey
315	2:13	6	78	45	mottled grey
379	1:1	13	62	34	grey
345	1:3	7	60	34	white
305	1:4	12	68	48	mottled grey
234	1:6	8	70	44	mottled grey
439	1:6	12	62	50	mottled grey
334	1:7	7	74	38	mottled grey
169	1:7	9	57	35	mottled grey
266	1:8	8	71	44	mottled grey
380	1:8	12	80	58	mottled grey
308	1:9	2	59	43	tan
428	1:10	2	56	36	white
330	1:10	4	76	56	mottled grey
330	1:10	4	75	28	mottled grey
127	1:11	3	54	35	mottled grey
447	2:3	6	79	51	white
424	2:6	1	58	40	white

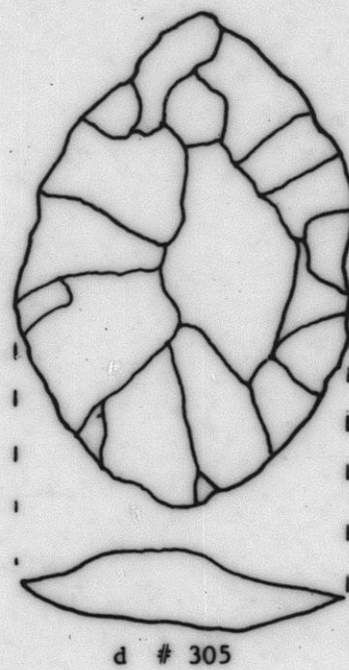
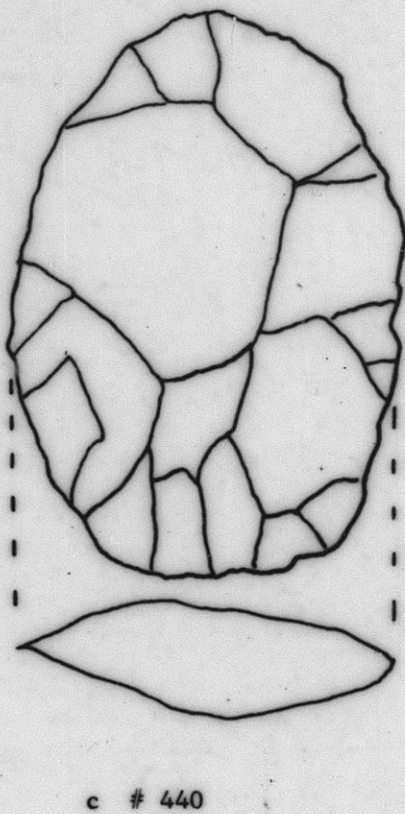
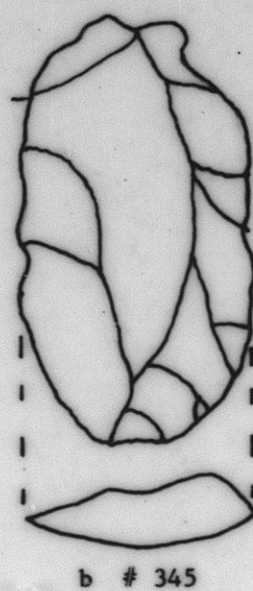
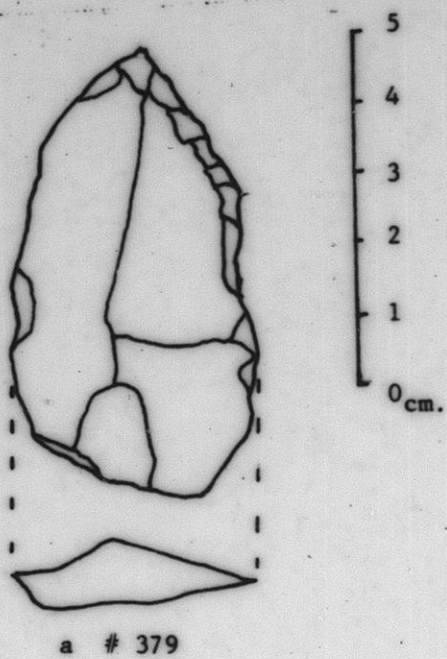


Figure 64. Medium Core Knives

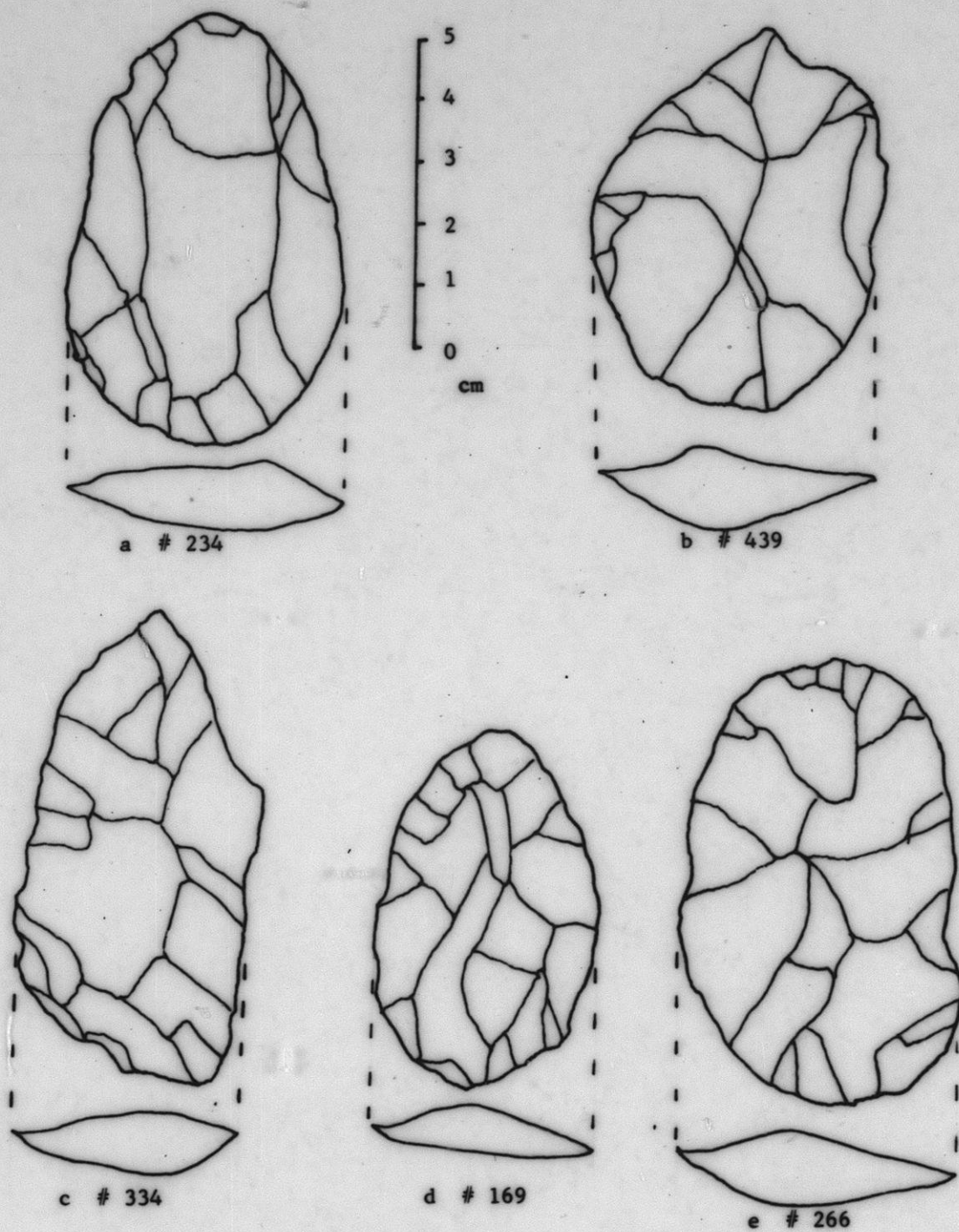
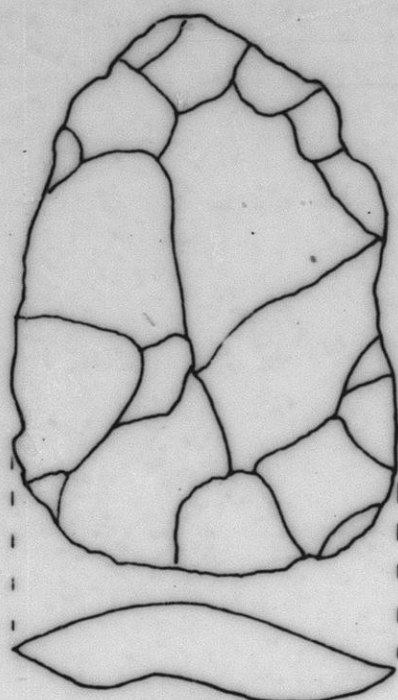
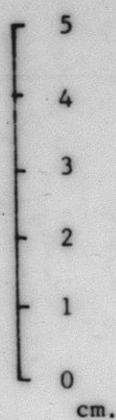


Figure 65. Medium Core Knives

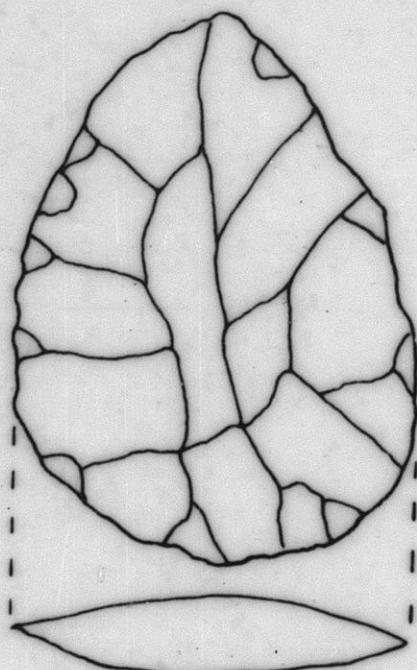


a # 380

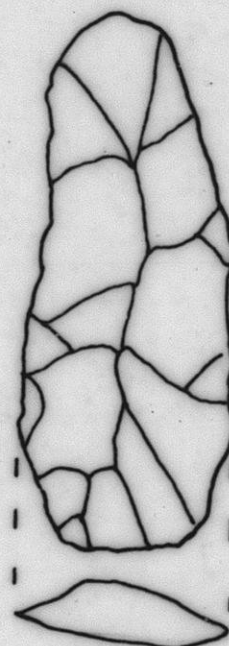


b # 308

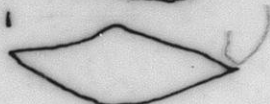
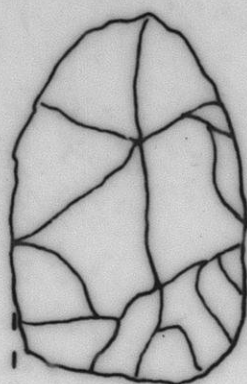
Figure 66. Medium Core Knives



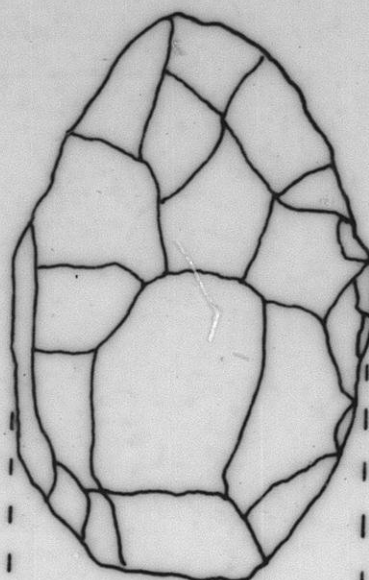
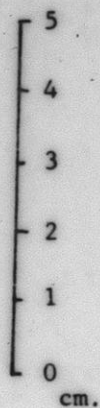
c # 330



d # 330

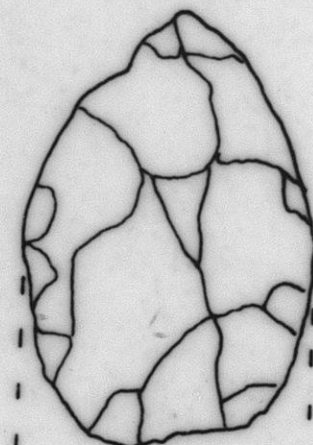


a # 127

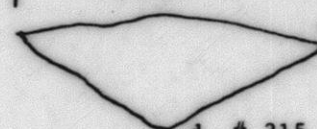
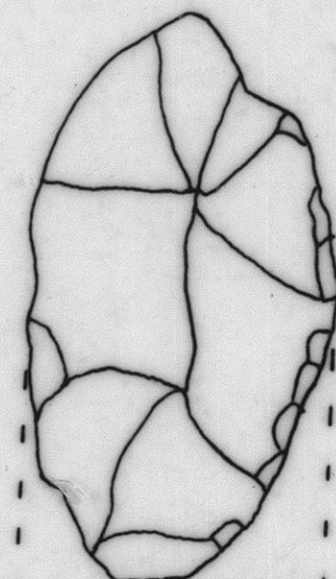


b # 447

Figure 67. Medium Core Knives



c # 424



d # 315

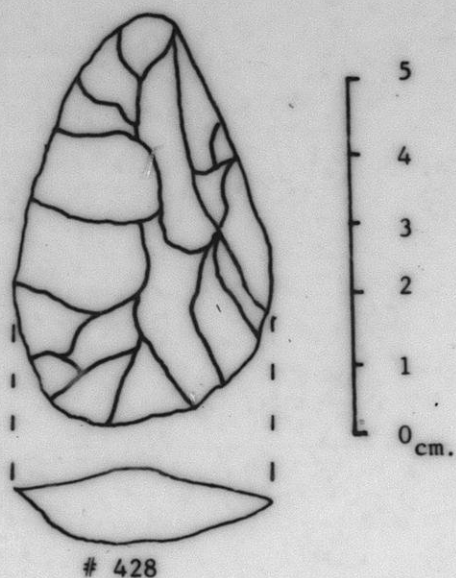


Figure 68. Medium Core Knife

The single small ovate shaped core knife is made of white chert. It measures 49 x 34 x 11 mm. and was found in Square 1:4 at Level 14.

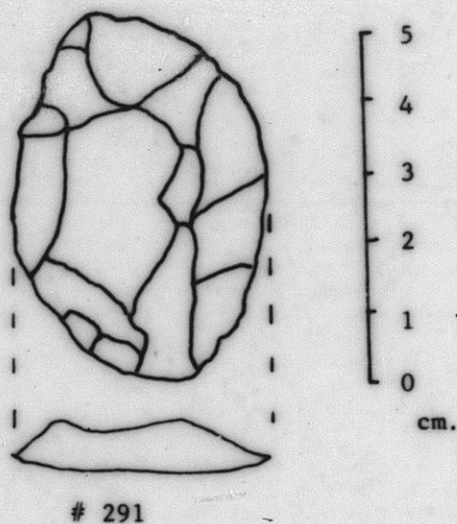


Figure 69. Small Core Knife

Core Knife Fragments. There are fifty-two fragments from core knives including bases and tips. These fragments are listed below but are not illustrated.

Provenience of Core Knife Fragments

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
351	0:2	12	405	1:7	5
155	0:2	16	185	1:7	8
420	0:3	12	157	1:7	10
357	1:0	6	436	1:8	4
455	1:0	10	233	1:8	6
296	1:1	8	266	1:8	8
464 (2)	1:1	10	303	1:8	11
379	1:1	13	363	1:9	6
360	1:2	5	111 (2)	1:10	9
335	1:2	8	287	1:10	10
133	1:2	13	224	1:10	10
193	1:3	4	192	1:11	4
377	1:3	4	198 (2)	1:11	5
345	1:3	7	466	1:11	6
298 (2)	1:3	10	453	1:13	3
454	1:3	10	367	2:3	5
366	1:5	7	471	2:4	5
264 (2)	1:5	9	294	2:5	1
444	1:5	9	286	2:5	2
182	1:6	7	412	2:11	3
234	1:6	8	159	2:11	5
439	1:6	12	421	unknown	
350	1:6	14	162 (2)	unknown	

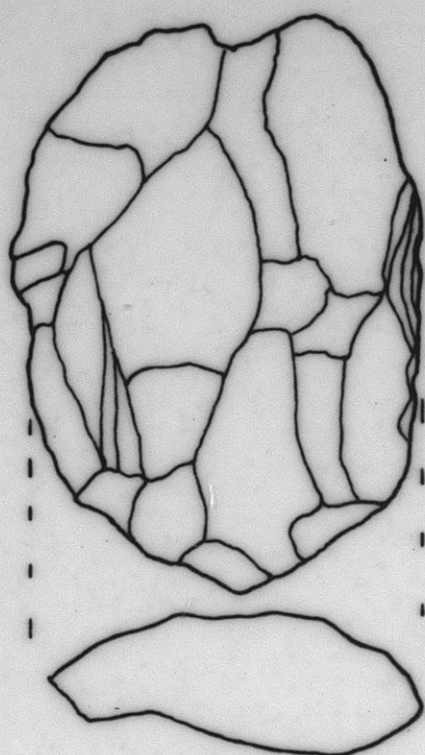
Core Tools

Chipped stone implements classified as "core tools" are in some instances much like core knives. In other words, the implements are roughly percussion flaked, are of irregular shapes, and have sinuous edges. The difference between the two lies in degree. Thus the core tools are the roughest implements and exhibit chopping facets, flakes removed at a 90° angle from the edge on some edges while other edges would be suitable for a cutting function. Since they are heavy and thick implements they would serve as choppers better than knives. There is a gradient between knives, core knives, and choppers with the former the finest finished implements and the latter the roughest implements which also bear signs of a different use.

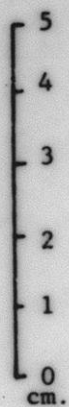
Eleven core tools were recovered from the deposit at D1-29. Most have an ovate outline. Exceptions to this shape are #'s 111 and 217 with subrectangular outline and # 182 which has a "hand axe" shape. Chopping facets are visible on one or more edges of all these implements. In some instances the edges are blunted.

Provenience of Core Tools and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
304	1:1	6	82	62	26
217	1:4	2	112	64	24
182	1:6	7	100	70	31
344	1:7	7	99	63	29
185	1:7	8	65	41	21
429	1:8	2	110	39	24
436	1:8	4	65	45	24
111	1:10	9	97	60	23

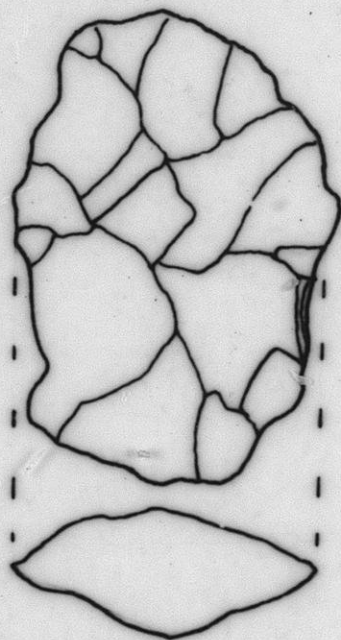


a # 304

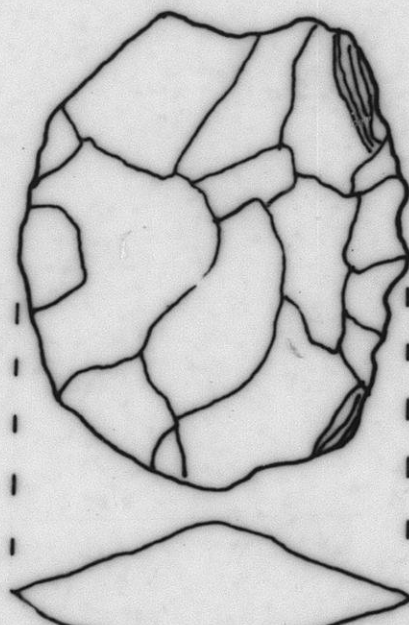


b # 185

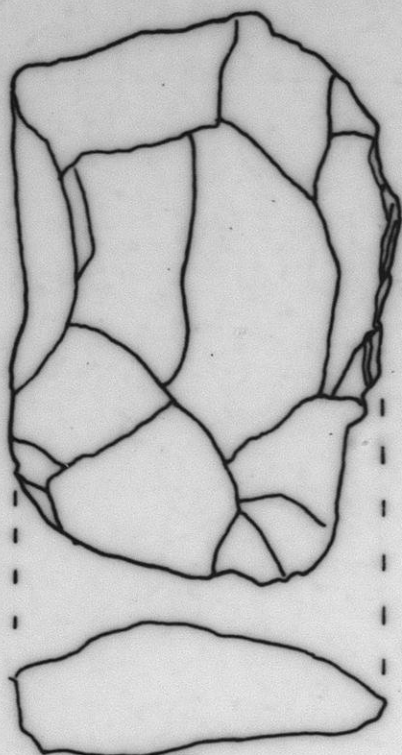
Figure 70. Core Tools



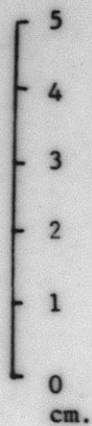
c # 346



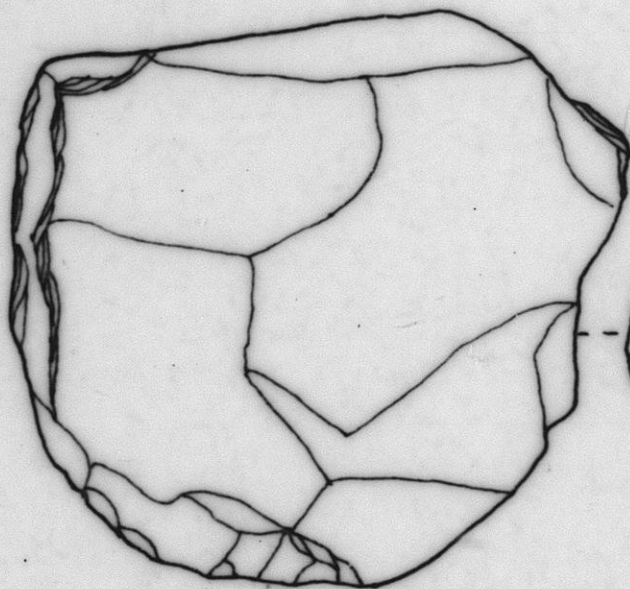
d # 184



a # 406



b # 344



c # 411

Figure 71. Core Tools

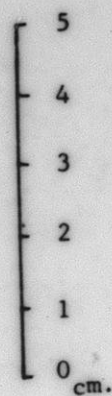
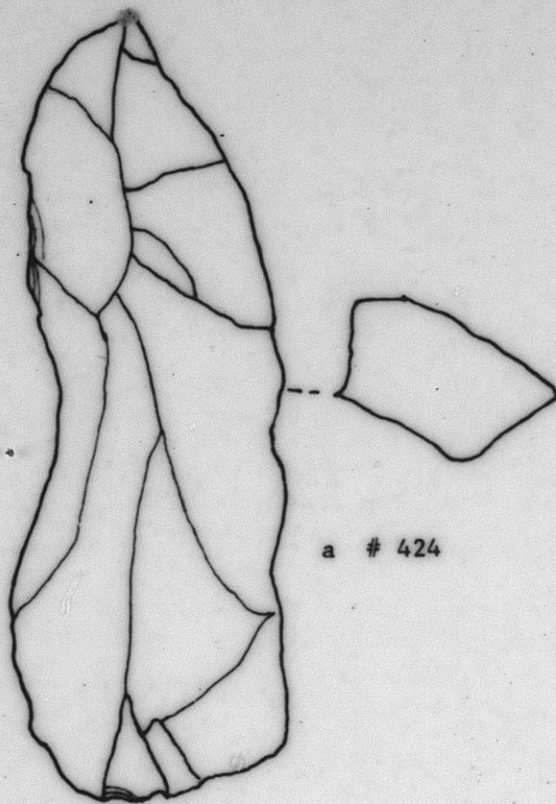
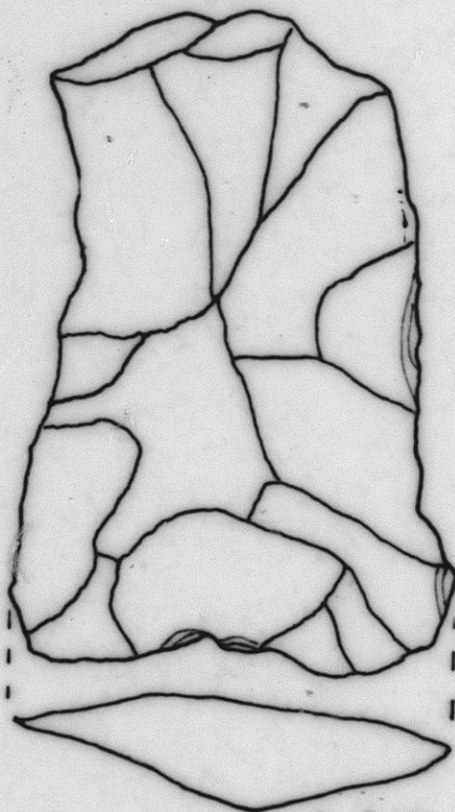


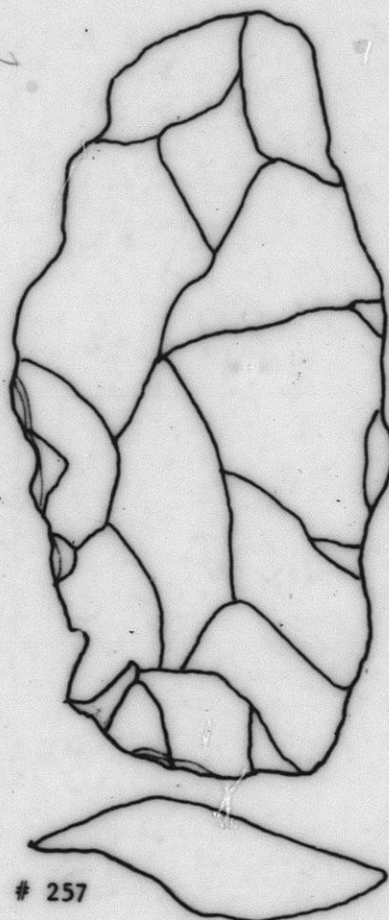
Figure 72. Core Tools



a # 424



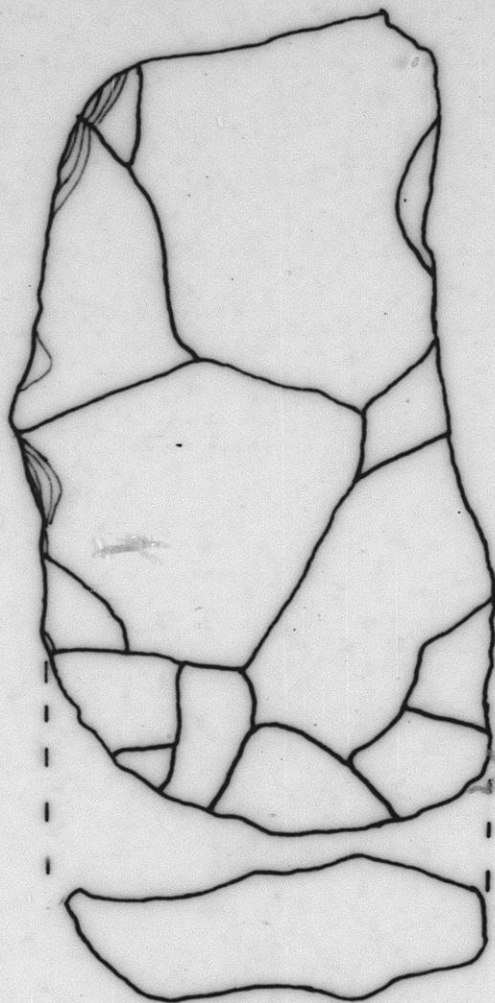
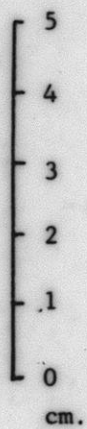
b # 111



c # 257



a # 182



b # 217

Figure 73. Core Tools

Core Tool Provenience cont'd.

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
287	1:10	10	108	53	25
184	1:13	4	70	55	22
406	2:5	3	80	61	21

One chipped stone implement, # 182 from Square 1:6, Level 7, can also be classified as a core tool but perhaps served in a different function from the others. The implement is pick shaped, with a triangular outline and cross section. The base of the pick is unworked and naturally worn. The center of the pick is percussion flaked and exhibits chopping facets. The tip has longitudinal flake scars removed, an indication of use as a pick. The implement is 137 mm. long, 55 mm. wide, and 30 mm. thick.

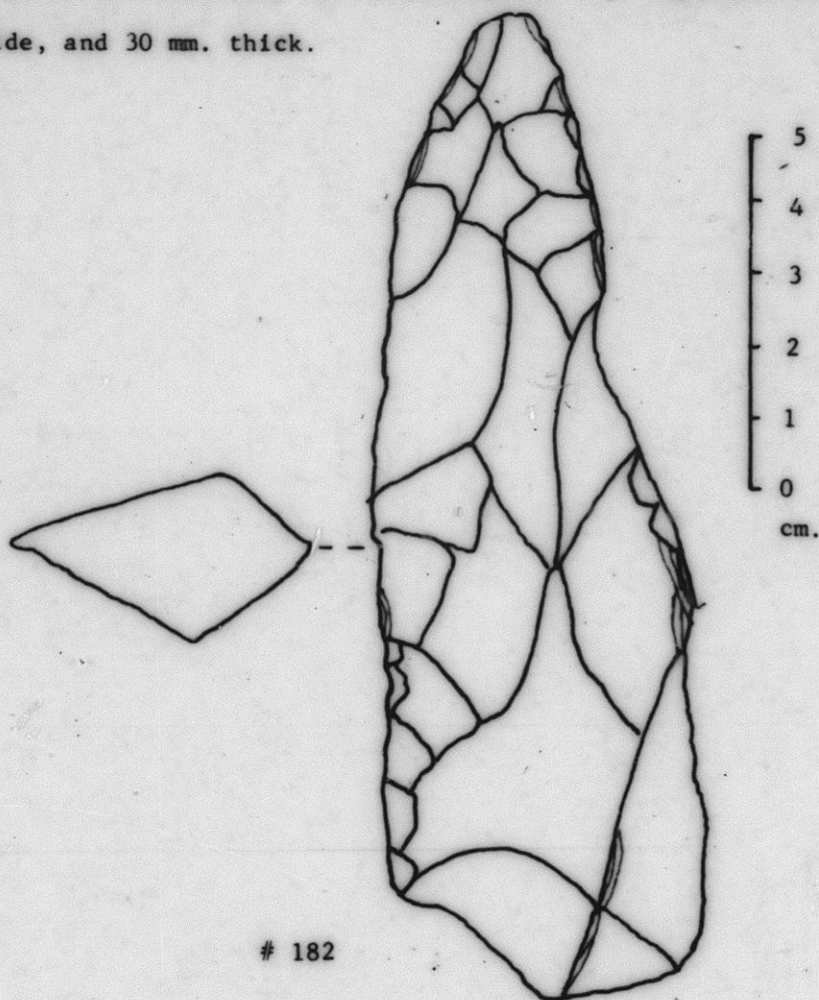


Figure 74. Core Tool

Chipped Stone Drills

Of the thirty-one drills found at the site, twenty-three can be classified in accordance with the varieties established for drills from a number of sites in northeastern Oklahoma. The remaining eight drills are fragments from shafts of drills.

Drills, Variant A. Drills of Variant A have sides which form a continuous concave curve from tip to base, with a decided expansion at the base. Alternatively there is a change in direction of the side so that the expanding shaft becomes convex near the base. In this respect these latter drills are more like Variant C (see below), but are not classified as such because of size differentiation and lack of the distinct blade-like base. All these drills are bifacially flaked. The four drills of Variant A from D1-29 are of the second variety; the edges of the drill change direction toward the base. Three of the four are broken; all have a drill shaft with a diamond shaped cross section.

Individual Drill Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>
394	1:2	2	--	20
275	1:6	5	--	--
190	2:3	1	36	18
334	2:12	1	--	--

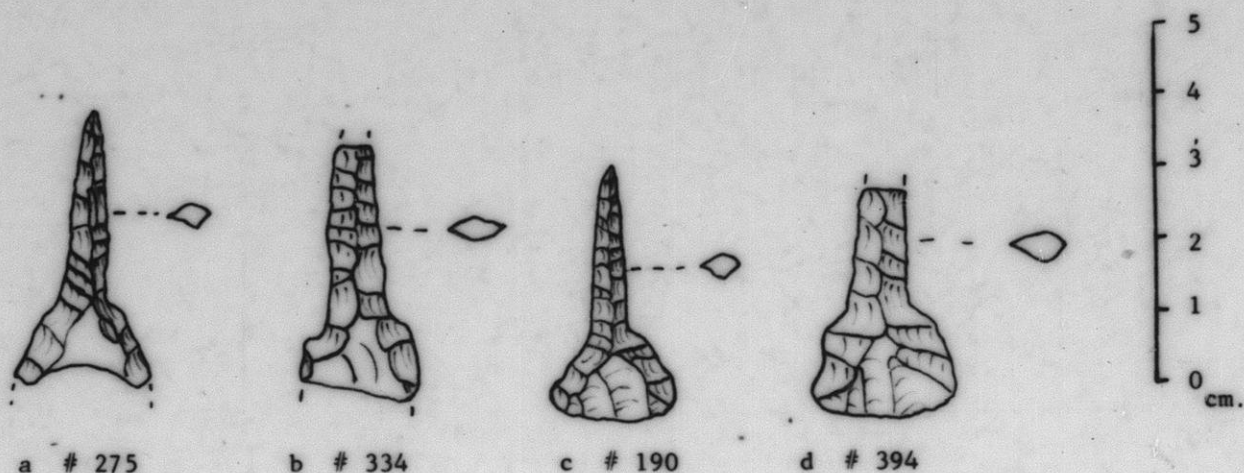


Figure 75. Drills, Variant A

Drills, Variant C. The shaft of the drill is formed on a bifacially flaked blade-like base. The junction of the shaft of the drill and base is distinct, since there is a change in direction from the expanding drill shaft to a base with convex edges. Two of the three drills of this variety from D1-29 have a straight fracture at the base, perhaps a recent break. The other drill has a slightly convex base. All the shafts have a diamond shaped cross section.

Individual Drill Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Width</u>
290	1:1	8	34
384	1:5	8	28
465	2:7	6	22

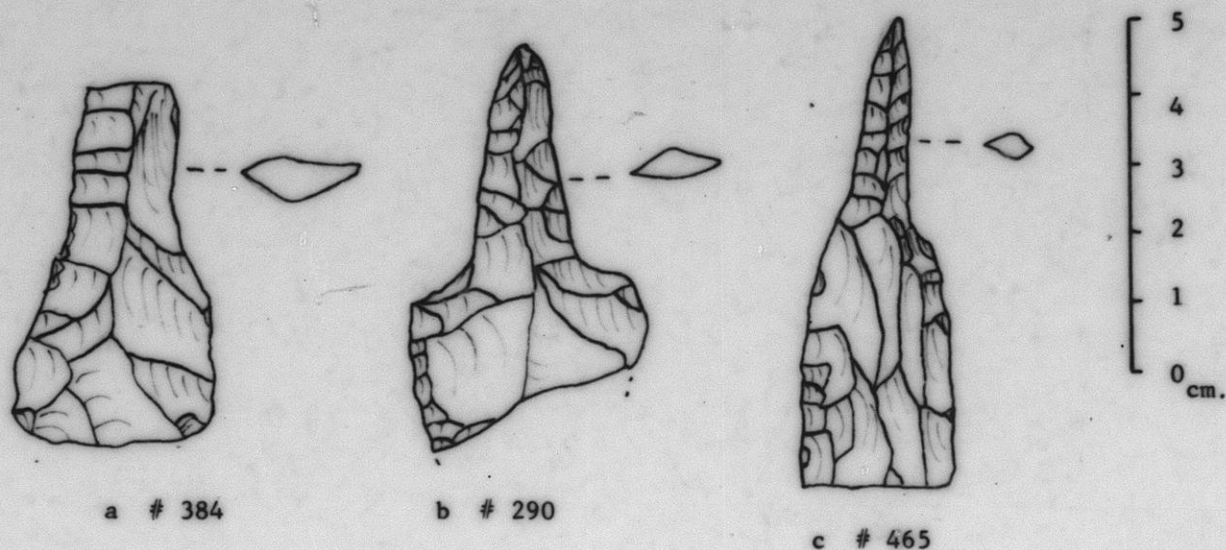


Figure 76. Drills, Variant C

Drills, Variant D. These drills have shafts which taper gradually from a rounded base to the tip. The single specimen of this variety from D1-29, # 173, is bifacially flaked and has a diamond shaped cross section. It was found in Square 1:4, at Level 6. The tip of the shaft is missing. The base has a maximum width of 20 mm. and a thickness of 8 mm.

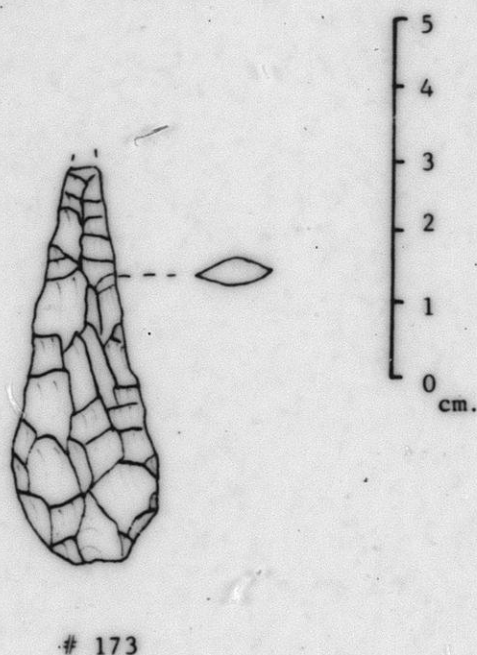


Figure 77. Drill, Variant D

Drills, Variant E. These drills are manufactured on an unmodified flake base. The base may be retouched immediately adjacent to the drill shaft or in rare cases almost to the base of the flake. Five drills of this variety were found at D1-29. #'s 342 and 185 have a bi-convex cross section while the others have a diamond shaped cross section at the drill shaft.

Individual Drill Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
342	1:5	5	--	22	3
319	1:6	6	--	26	6
254	1:7	7	29	22	5
185	1:7	8	33	16	4
331	1:8	5	--	22	6

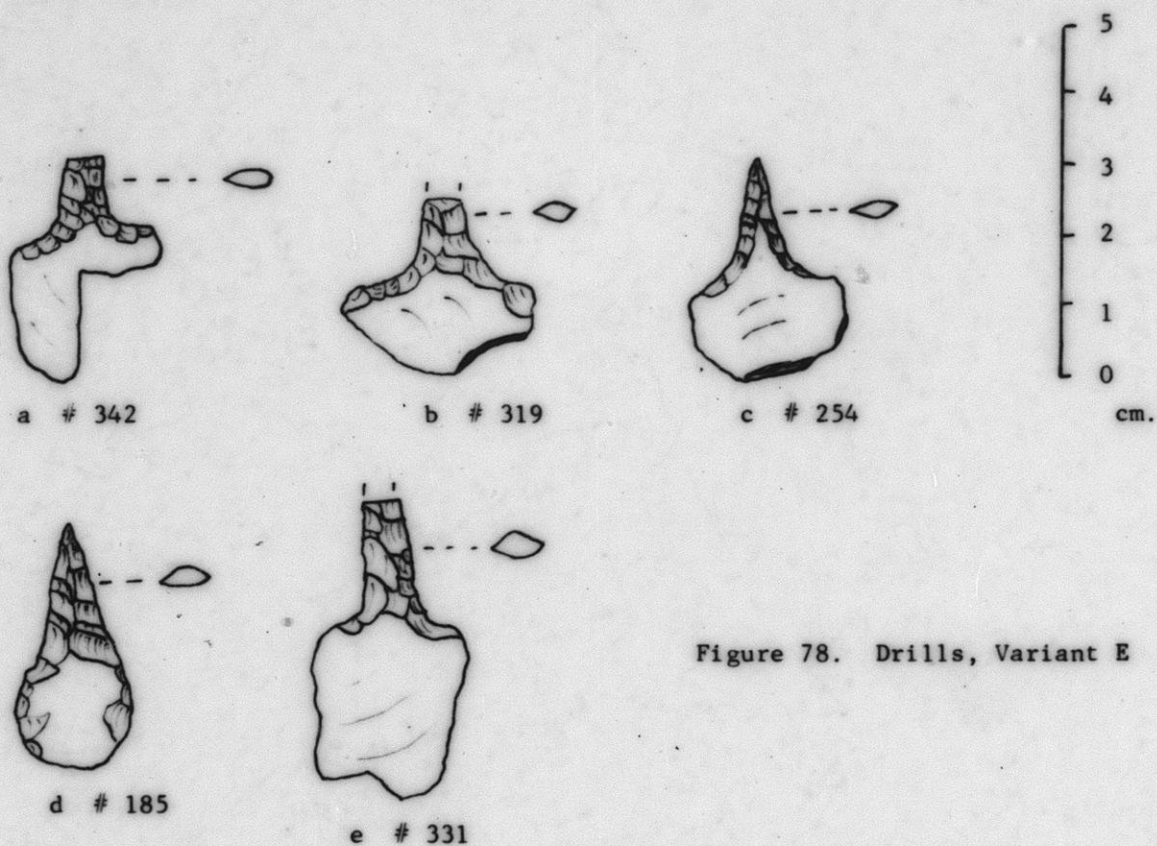


Figure 78. Drills, Variant E

Variants F, G, and H are reserved for projectile points which have had the blade reworked to form a drill shaft. Varieties are recognized by the amount of the blade which has been reworked. Thus in Variant F all the blade except the shoulders of the point has been reworked into the drill shaft. The shoulders remain recognizable. In Variant G the complete blade to the shoulders and often the shoulder area makes up the drill shaft. In Variant H only the tip of the point has been made into a drill shaft.

Variant F. Two projectile points, a Gary A and a Cooper A have a portion of the blade made into a drill shaft. The shoulder areas of the points have not been reworked. The Gary A point has a bi-convex drill shaft cross section while the Cooper A has a diamond shaped shaft. The base of the Cooper A point is slightly ground. # 335 was found in Square 1:2 at Level 8, # 102 is from Square 1:1, Level 4.

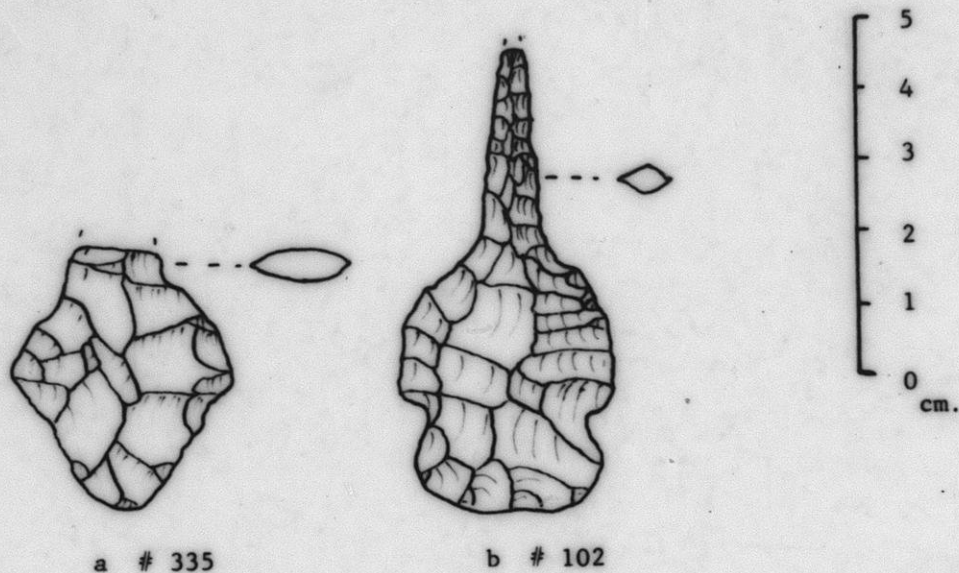


Figure 79. Drills, Variant F

Variant G. Three Langtry A, one Gary A, a Cooper A, a Dalton, and an unidentified point have had the entire blade reworked to form a drill shaft. The drill shafts, diamond shaped in cross section on all but the Dalton point, flare out to the shoulders of the points. The unidentified point, # 444, lacks a shoulder area because of the extensive modification of the blade. The extent of lateral stem grinding on the Dalton point is indicated in the illustration.

Drill Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>
457	1:1	9	58	466	1:11	6	--
386	1:4	4	46	465	2:7	6	--
444	1:5	9	44	369	2:12	5	--
264	1:5	9	--				

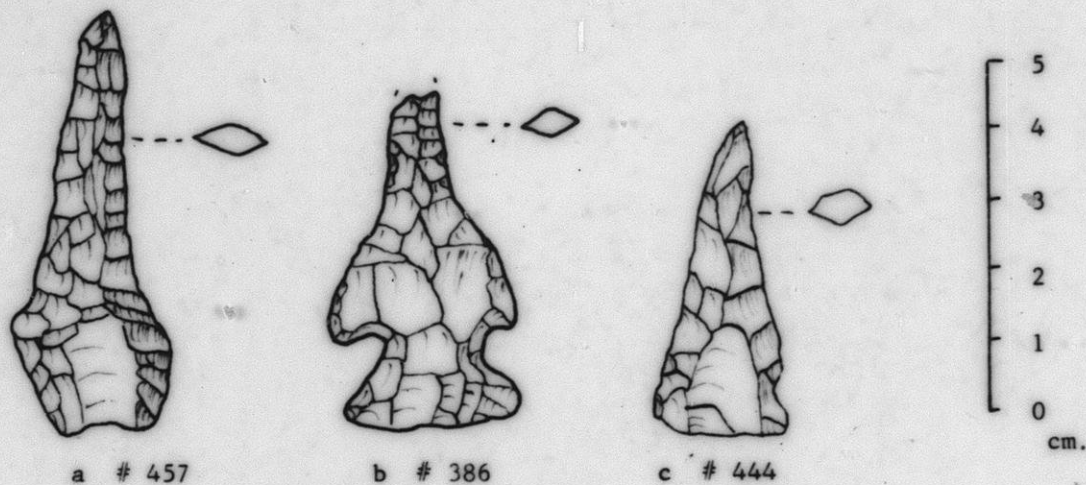


Figure 80. Drills, Variant G

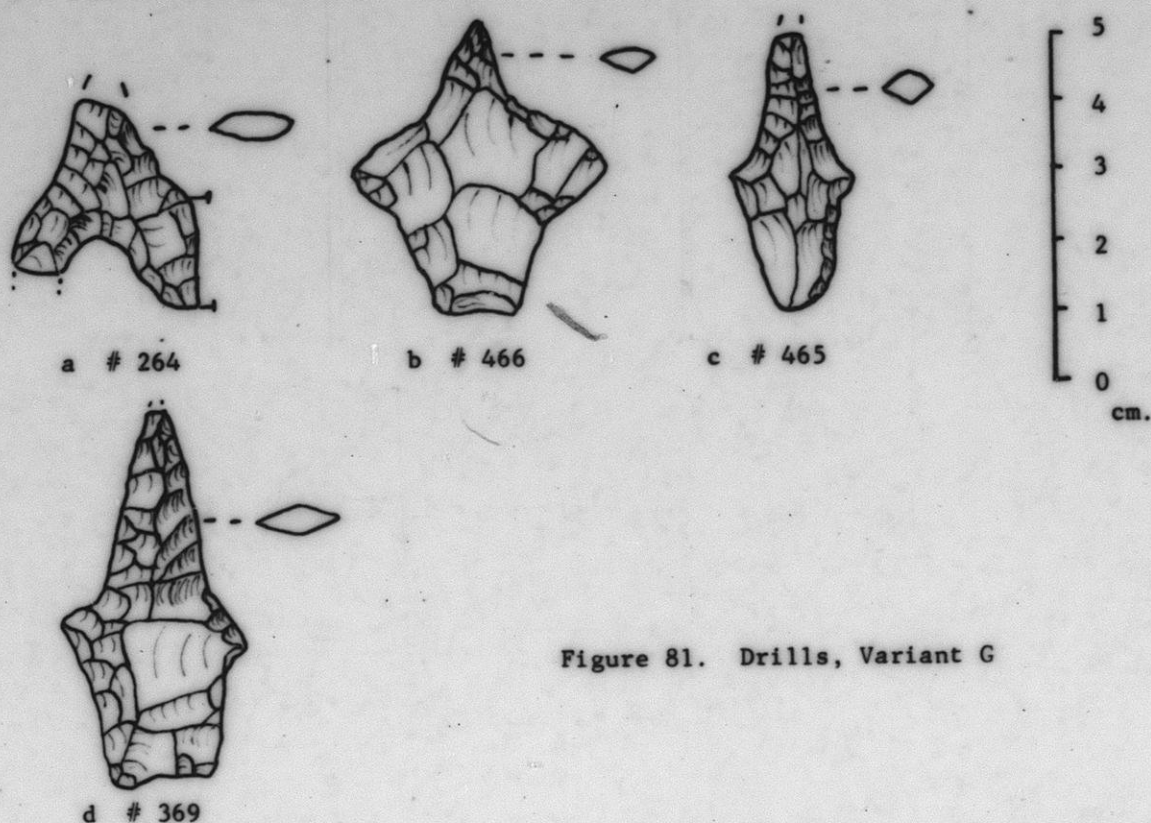


Figure 81. Drills, Variant G

Drills, Variant H. The single point with only the extreme tip of the blade reworked into a drill shaft is of an unidentified type. The point is small, has a slightly barbed shoulder, an expanding stem, and concave base. The drill shaft is diamond shaped in cross section. This drill was found in Square 1:8, at Level 13.

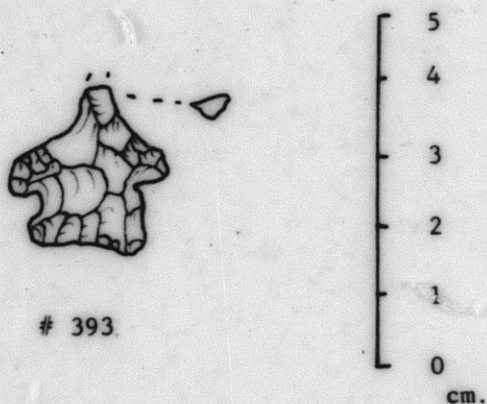
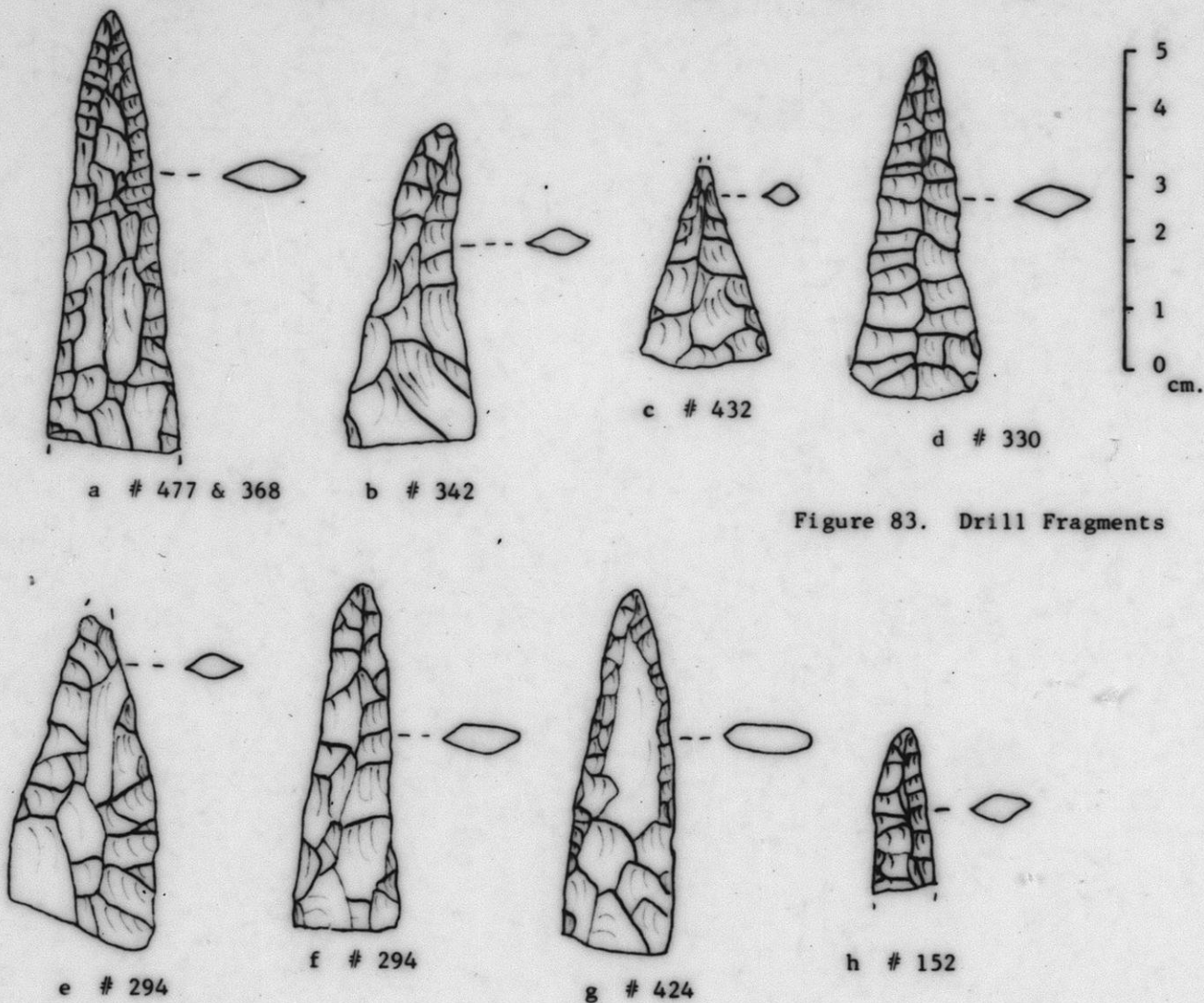


Figure 82. Drill, Variant H

Drill Fragments. There are eight drill shaft fragments which are broken at the base or at the base and tip. One of these # 424, is ground the entire length of both edges of the shaft.

Provenience of Fragments

#	Square	Level	#	Square	Level
477 & 386	1:3 1:4	6 4	294	2:5	1
342	1:5	5	294	2:5	1
432	1:6	5	424	2:6	1
330	1:10	4	153	2:9	6



Chipped Stone Scrapers

The scrapers are divided into end and side scrapers depending on the placement of the scraping edge in relation to the long axis of the implement. The end scrapers are divided into types primarily on the basis of method of manufacture and secondarily on form.

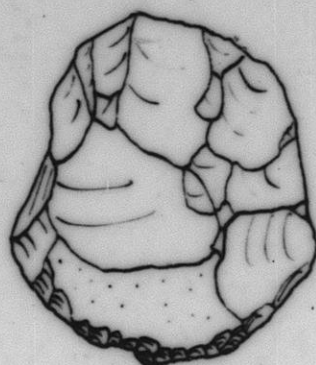
End Scrapers

Type A. The varieties of the Type A scrapers hold in common the fact that they are made on a flake of chert. The ventral surface consists of a single flake scar with a bulb of percussion toward the butt end. The butt end of the scraper is the original striking platform. Subtypes are recognizable on the variation in the form of the dorsal surface.

Type A-1. Fourteen scrapers were formed from a flake struck from a core. The ventral surface of these scrapers remains unretouched and retains the bulb of percussion at the butt end. The butt end itself constitutes the striking platform. In contrast to the plane ventral surface, the dorsal surface is percussion flaked in the center (alternatively areas of cortex remain in the center) and is pressure flaked at the scraping edge and sometimes along the edges. Outlines vary from ovate to elliptical.

Individual Scraper Provenience and Associated Traits

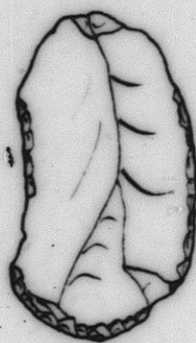
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
230	1:0	8	45	42	5
468	1:2	3	83	35	9
385	1:2	4	45	25	7
354	1:6	3	46	33	9
254	1:7	7	54	55	10
466	1:11	6	44	37	8



a # 230



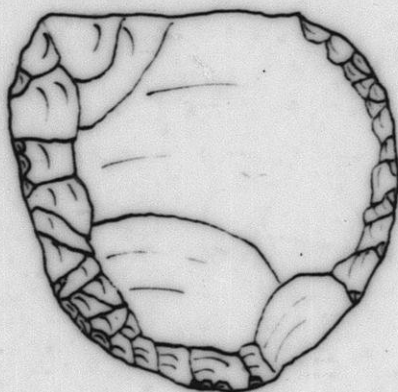
b # 468



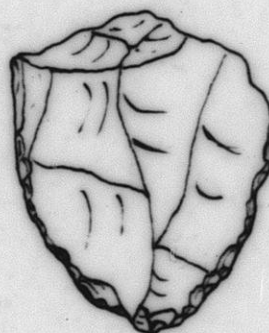
c # 385



d # 354



e # 254



f # 466



Figure 84. Scrapers, Type A - 1

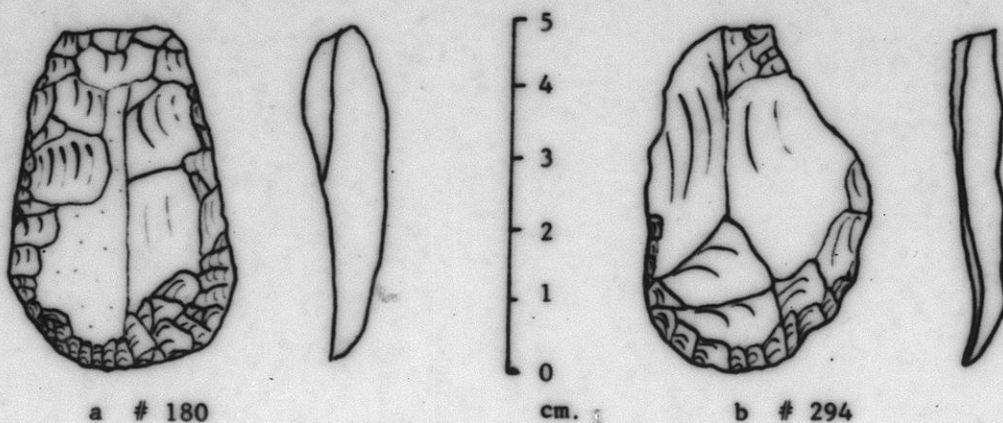
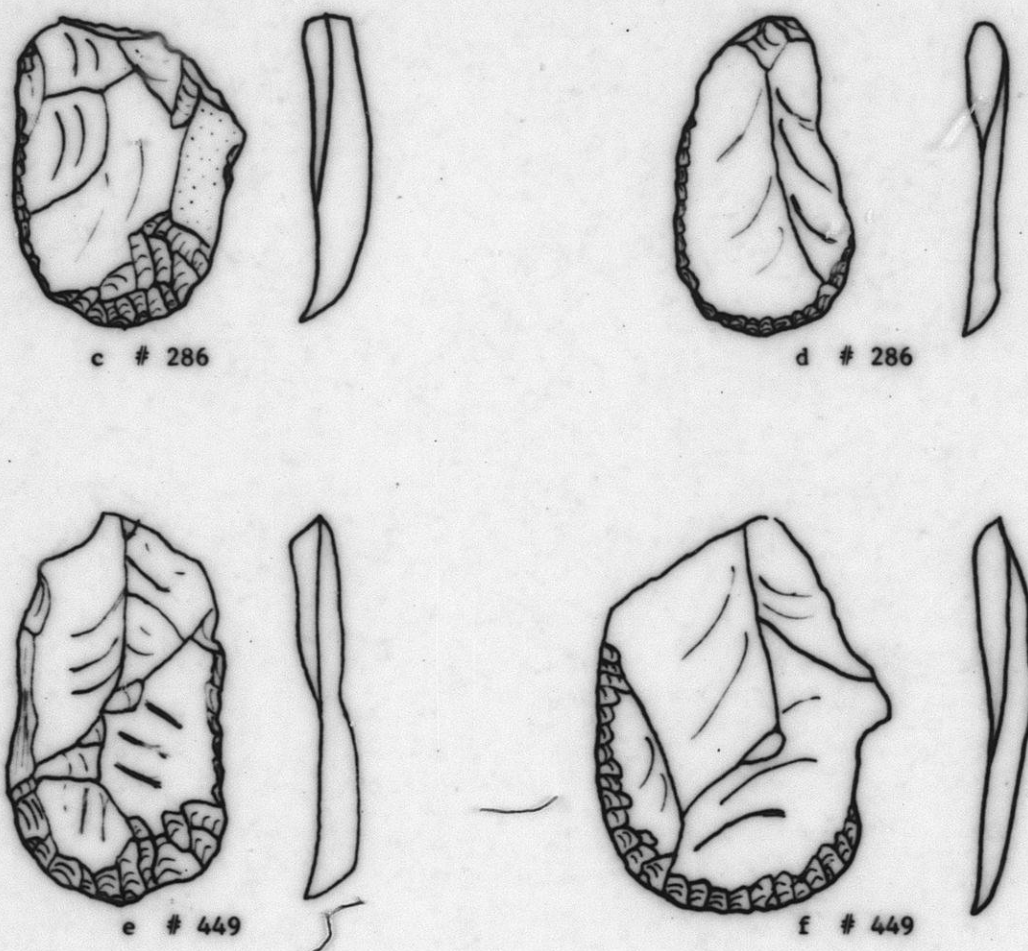
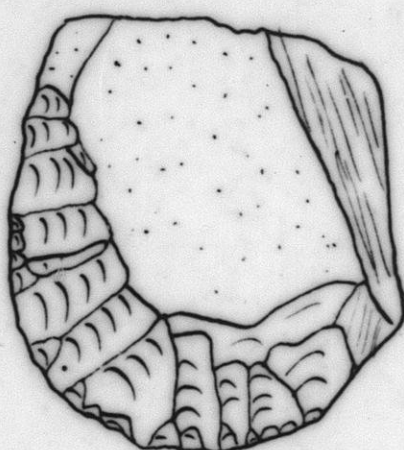


Figure 85. Scrapers, Type A - 1



Individual Scraper Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
180	2:4	4	47	31	10
294	2:5	1	47	31	10
286	2:5	2	41	33	10
286	2:5	2	42	24	6
449	2:6	2	54	30	15
449	2:6	2	55	41	5
187	2:11	7	63	55	18
421	unknown		31	37	5



a # 187

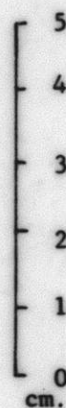
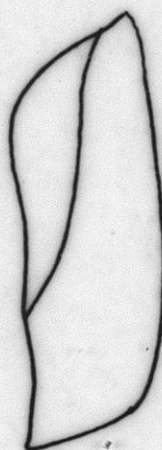
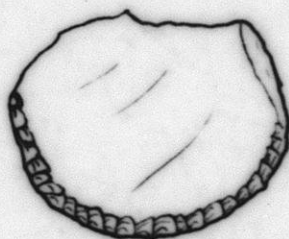


Figure 86.

Scrapers, Type A - 1



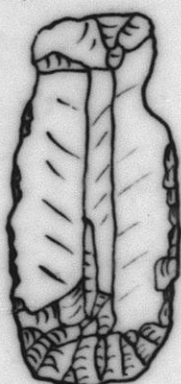
b # 421



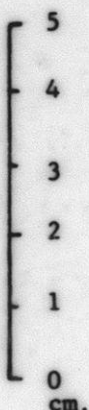
Type A-2. These three scrapers share the characteristics of the ventral surface and butt end with Type A-1. However, it is apparent that the flakes from which Type A-2 scrapers were made were struck from prepared cores since the dorsal surface bears longitudinal flake scars and the scrapers all have an elliptical outline. On all scrapers the scraping edge and both sides bear pressure flake scars.

Individual Scraper Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
184	1:13	4	43	19	8
354	1:6	3	52	22	8
275	1:6	5	50	26	7



a # 354



b # 275



c # 184



Figure 87. Scrapers, Type A - 2

Type A-4. This scraper like the others of Type A has an unretouched ventral surface with the bulb of percussion and striking platform at the butt end. The dorsal surface is retouched at the convex scraping edge and along the sides. The scraper has a subtriangular outline and is virtually the same as those scrapers in Type B-4 (see below) except that the bulb of percussion remains on the ventral surface. This scraper is 34 mm. long, 20 mm. wide, and 6 mm. thick. It was found in Square 2:4 at Level 4.

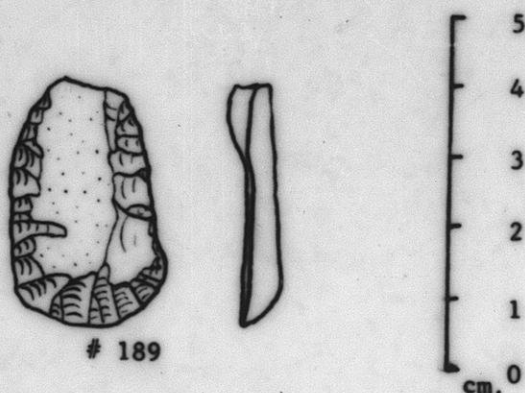
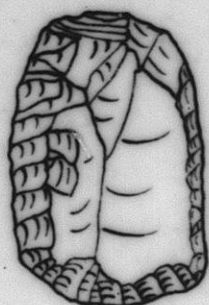


Figure 88. Scraper, Type A - 4

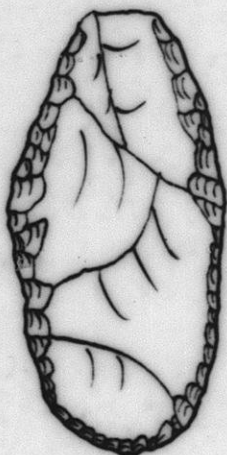
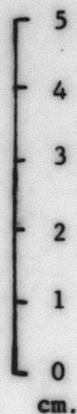
Type B Scrapers. Type B scrapers also have a ventral surface which is a single flake scar. Unlike the Type A scrapers the bulb of percussion is not present nor is the striking platform present at the butt end.

Type B-1. The ventral surface of these four scrapers is a single flake scar. On three of the four, #'s 386, 158, and 382, there apparently was an attempt to remove the bulb of percussion since there are multiple flake scars present at the butt end on the ventral surface. On the other scraper, # 252, where no retouch is present on the ventral surface, the ripple marks indicate that a bulb of percussion was at the butt end but may have been broken off. The dorsal surface of these scrapers is primary flaked in the center and retouched at the scraping edge and along the sides.

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
386	1:4	4	40	26	7
158	1:5	4	61	29	9
382	1:7	13	65	34	11
252	2:9	3	53	31	4



a # 382



b # 158

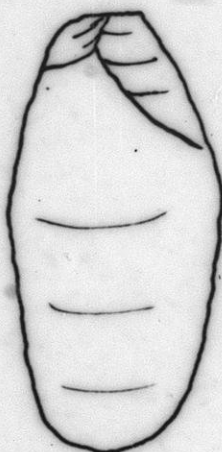
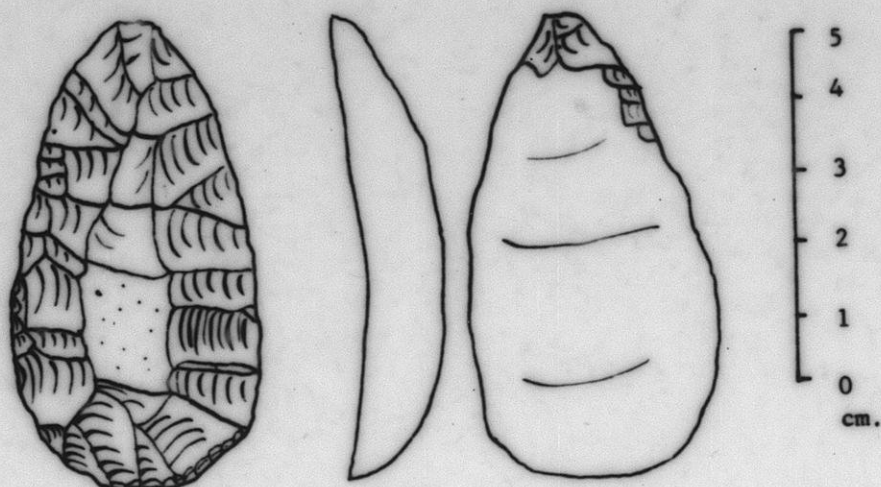
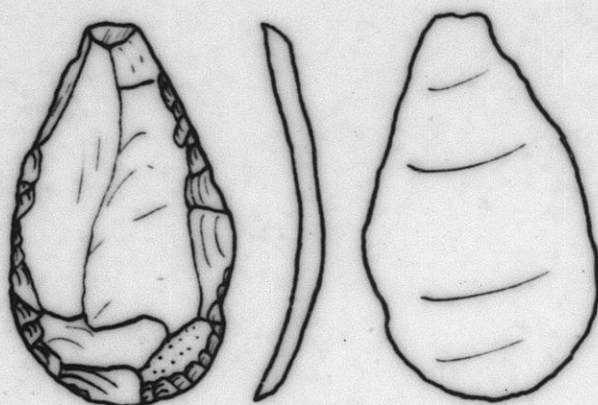


Figure 89. Scrapers, Type B - 1



a # 382



b # 252

Figure 90. Scrapers, Type B - 1

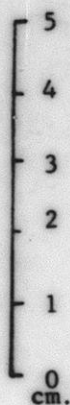
Type B-2. These scrapers were made from irregular flakes or blocks of chert. The ventral surface consists of an unmodified flake scar, but unlike Type B-1 there is no indication that a bulb of percussion was ever present at the butt end. The dorsal surface is irregular and is pressure flaked at the scraping edge and part way along the sides toward the butt end. One scraper, # 164, is steeply retouched along all four edges and could have been used as a side scraper as well as an end scraper.

Individual Scraper Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
180	2:4	4	49	37	12
164	2:11	1	57	33	19
187	2:11	7	50	31	10



a # 180



b # 187



c # 164



Figure 91. Scrapers, Type B - 2

Type B-4. Type B-4 scrapers are characterized by a triangular or sub-triangular outline and a slight or extreme convex scraping edge. The ventral surface is a single flake scar with an area near the butt end retouched, apparently to remove a bulb of percussion. The dorsal surface is entirely retouched or else retouched only at the edges while the center or the surface is a single flake scar. One scraper, # 173, though broken, probably belongs to this type. These scrapers are manufactured much like Type B-1, but because of their distinctive shape and size are grouped into another type.

Individual Scraper Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
173	1:4	6	--	17	5
185	1:7	8	30	19	9
180	2:4	4	31	25	5
352	2:6	2	23	21	7
252	2:9	3	31	19	4
238	2:10	1	29	16	6

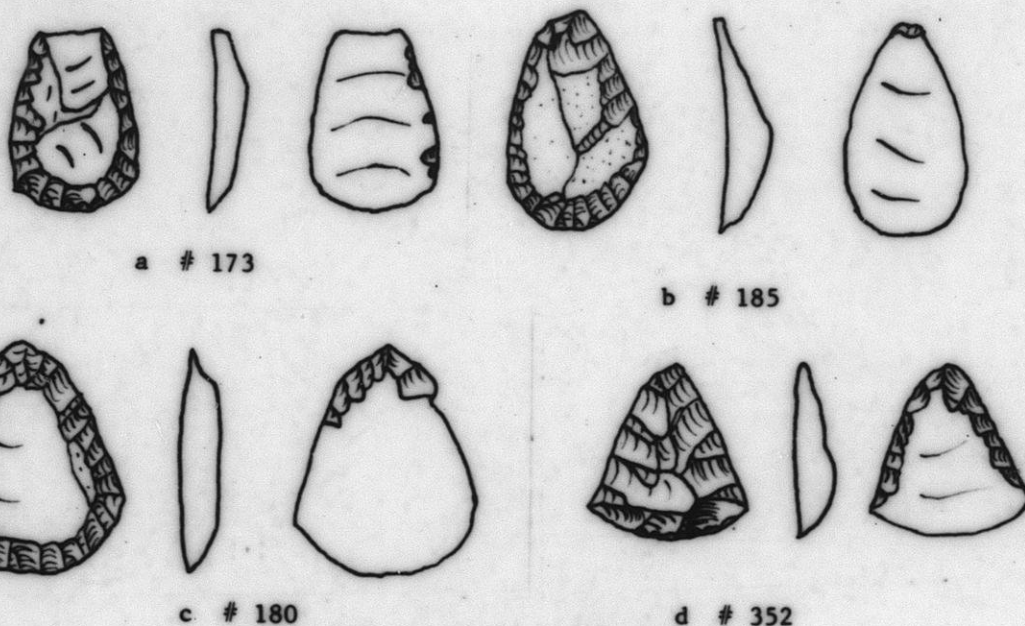
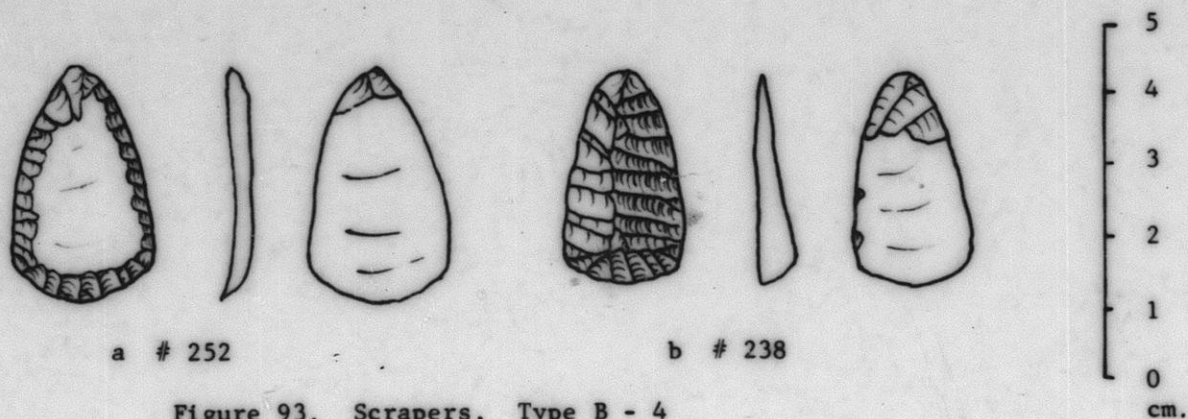


Figure 92. Scrapers, Type B - 4

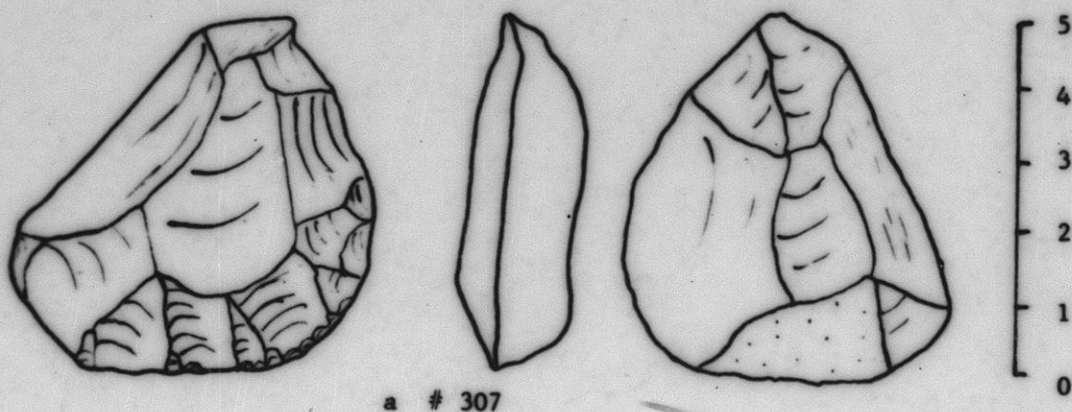


Type C Scrapers. The Type C scrapers have a ventral surface which is percussion flaked. Although both surfaces of these scrapers have been flaked, the scrapers have a plano-convex cross section.

Type C-1. The ventral surface of Type C-1 scrapers is entirely worked by percussion flaking. The dorsal surface is percussion flaked in the center and may be pressure flaked only at the scraping edge or else along the sides. The five scrapers of this type from D1-29 have round, ovate, or irregular outlines.

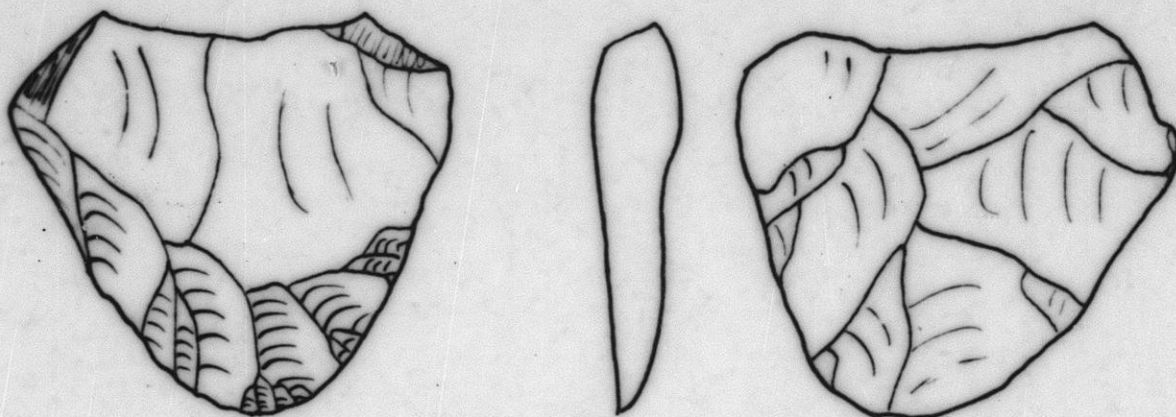
Individual Scraper Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
307	1:1	10	56	45	24
438	1:5	14	62	61	17
405	1:7	5	41	30	8
174	1:8	7	40	50	15
174	1:8	7	47	52	13

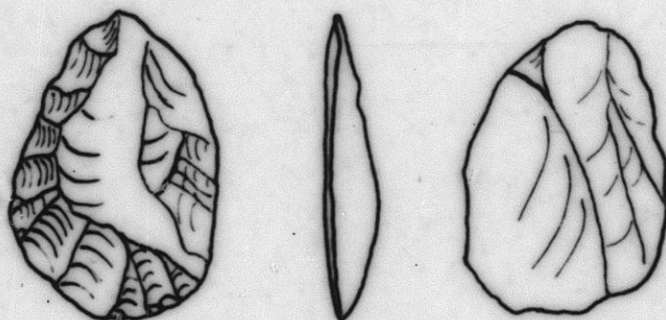


a # 307

Figure 94. Scrapers, Type C - 1



b # 438



c # 405

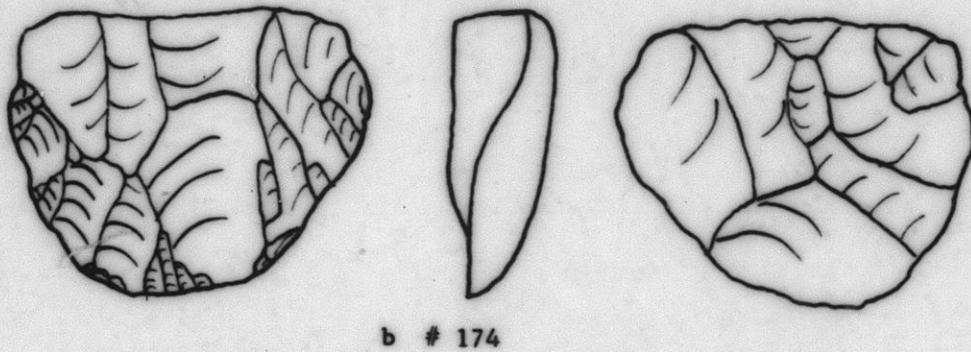
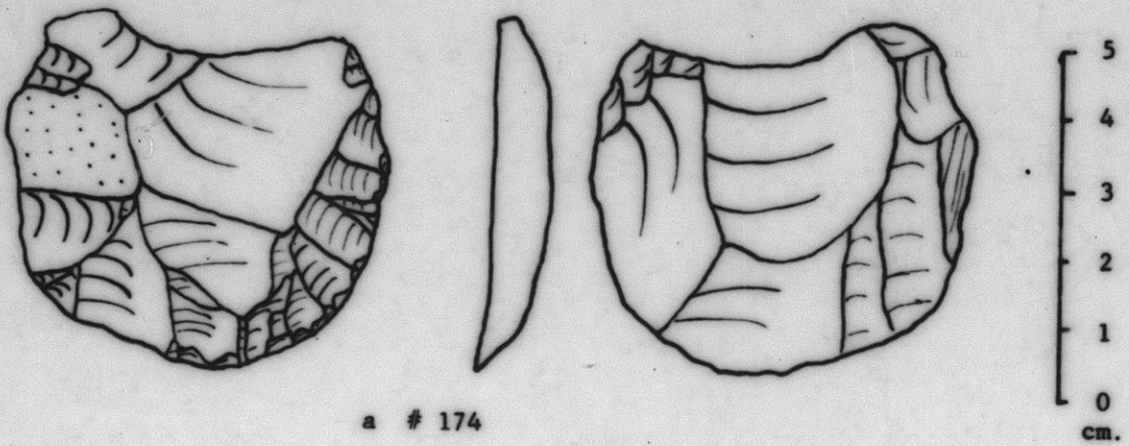


Figure 95. Scrapers, Type C - 1

Type C-3. Type C-3 scrapers are flaked on both dorsal and ventral surface but in contrast to the other varieties have a straight fracture at the butt end. # 379 is pressure flaked on the edges of the ventral surface and at the scraping edge and along one side. It is 40 mm. long, 33 mm. wide, and 9 mm. thick. This scraper was found in Square 1:1 at Level 13.

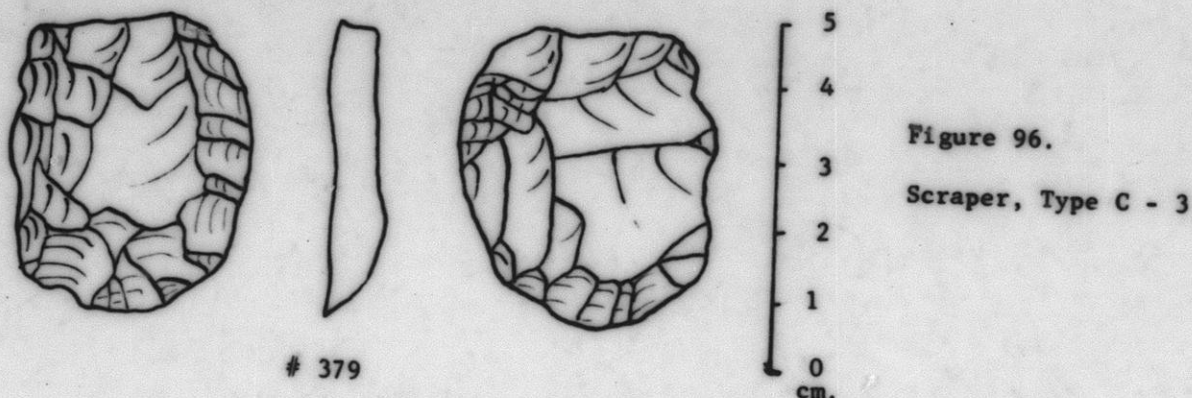


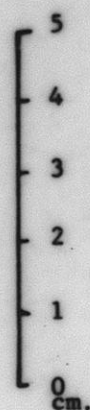
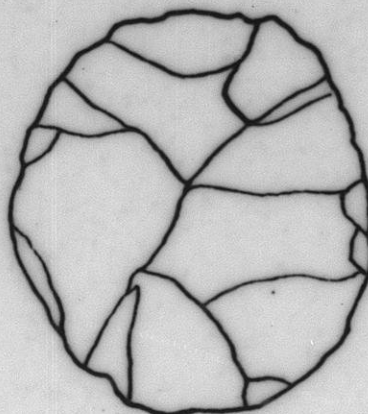
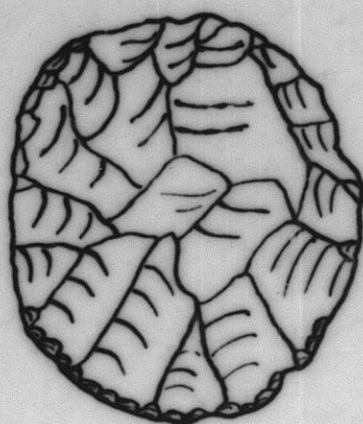
Figure 96.
Scraper, Type C - 3

Type D. Scrapers of Type D can be described as "disc" scrapers or ovate to round scrapers which have been retouched around the entire circumference on the dorsal surface. Three varieties have been set up on the basis of the form of the ventral surface. The ventral surface on Type D-1 is a single flake scar; on Type D-2 it is also a plane surface but bears primary flakes; on Type D-3 it also bears primary flakes but in contrast to Type D-2 the surface is convex.

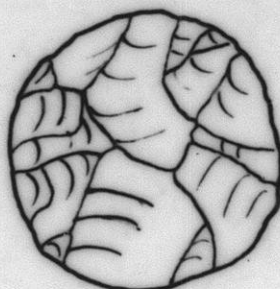
Type D-2. Two scrapers from D1-29 are of Type D-2. One, # 234, is ovate, the other, # 440, is round. Both have primary flakes on the ventral surface and are retouched around almost the entire circumference of the dorsal surface. They are plano-convex in cross section.

Scraper Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
234	1:6	8	56	49	12
440	1:3	9	40	40	13



a # 234

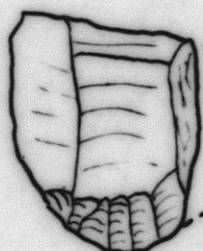


b # 440

Figure 97.

Scrapers, Type D - 2

Scraper Fragment. A single end scraper fragment, # 109, was found in Square 1:0 at Level 9. The ventral surface is unretouched while the dorsal surface bears secondary retouch at the scraping edge.



109

Figure 98. Scraper Fragment

Stemmed Scrapers. The stemmed scrapers from the site are projectile points which have had the tip rounded off and worked to form a scraping edge. The scrapers have a plano-convex cross section at the scraping edge and a bi-convex cross section on the rest of the implement.

Individual Scraper Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>	<u>Point Type</u>
155	0:2	16	53	32	8	Gary B
232	1:6	12	49	43	10	Snyders-like
241	1:8	8	58	43	11	Cooper A
400	1:13	5	58	49	9	Gary B



a # 155



b # 232

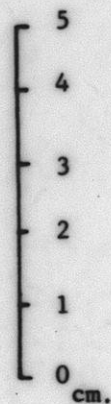
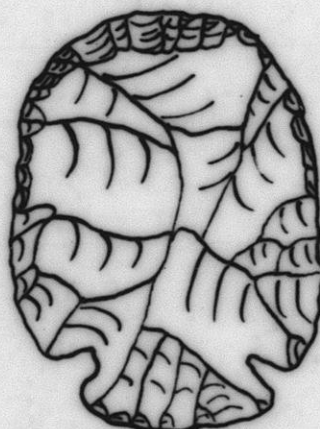


Figure 99. Stemmed Scrapers



c # 400



d # 241

Side Scrapers. The side scrapers are formed on elongated or ovate shaped flakes. The ventral surface is unretouched on all but one, # 238, where there is some retouch along the edges of the ventral surface. The dorsal surface on all is entirely flaked with one edge steeply retouched for a scraping edge. Two of these scrapers, #'s 238 and 164, are steeply retouched on both edges.

Individual Scraper Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
255	1:1	6	38	32	9
240	1:5	4	45	21	5
428	1:10	2	47	23	7
415	1:10	3	61	34	8
180	2:4	4	52	37	10
396	2:4	7	67	33	9
243	2:7	1	65	35	10
238	2:10	1	49	20	7
164	2:11	1	57	24	13
162	unknown		57	33	9

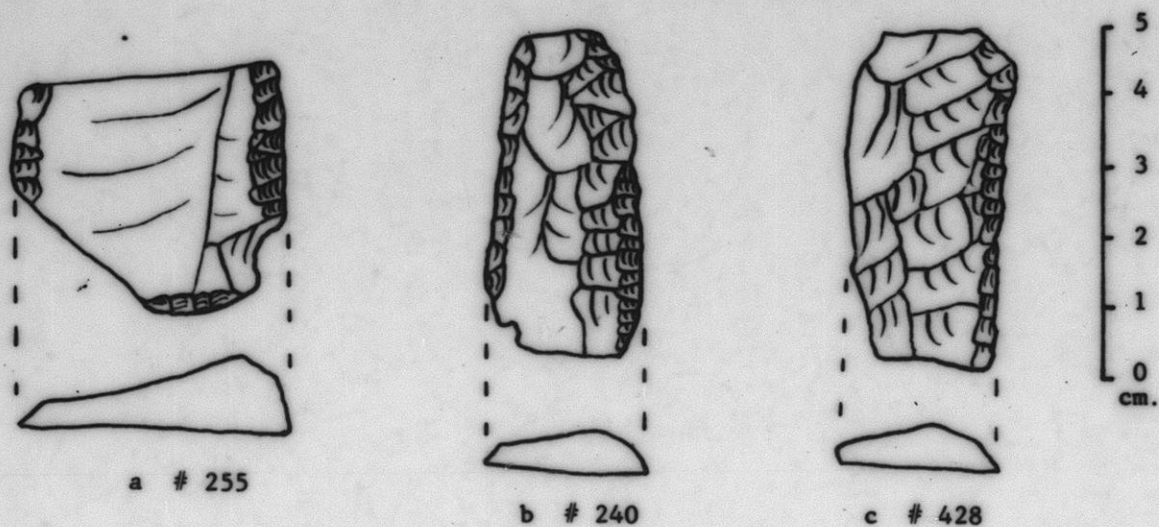
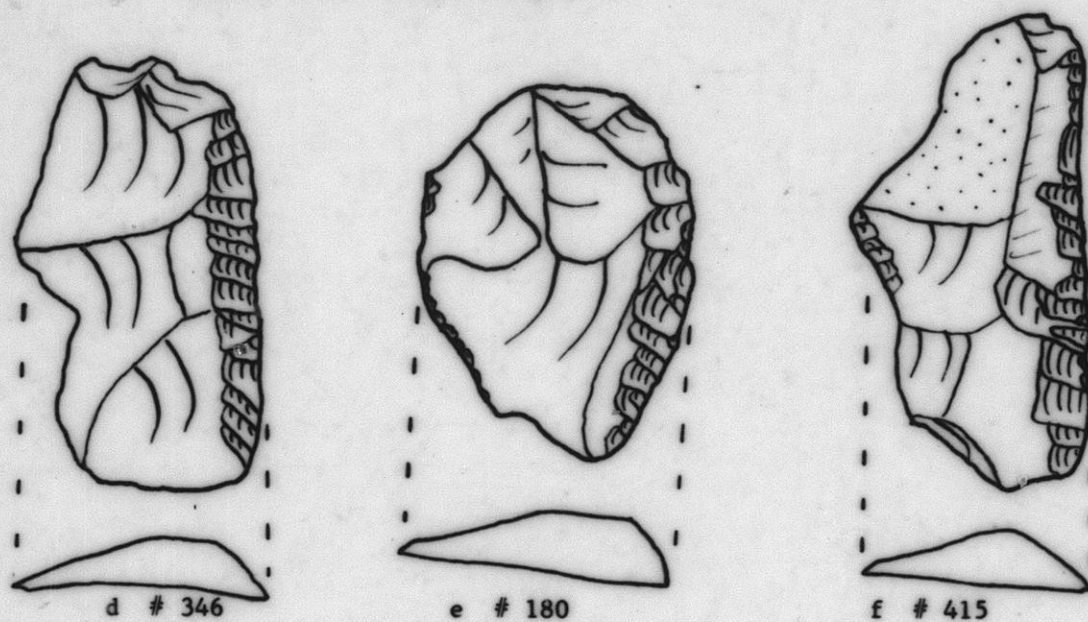


Figure 100. Side Scrapers





a # 243



b # 238



c # 164



d # 162

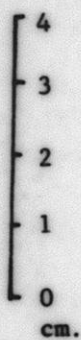


Figure 101. Side Scrapers

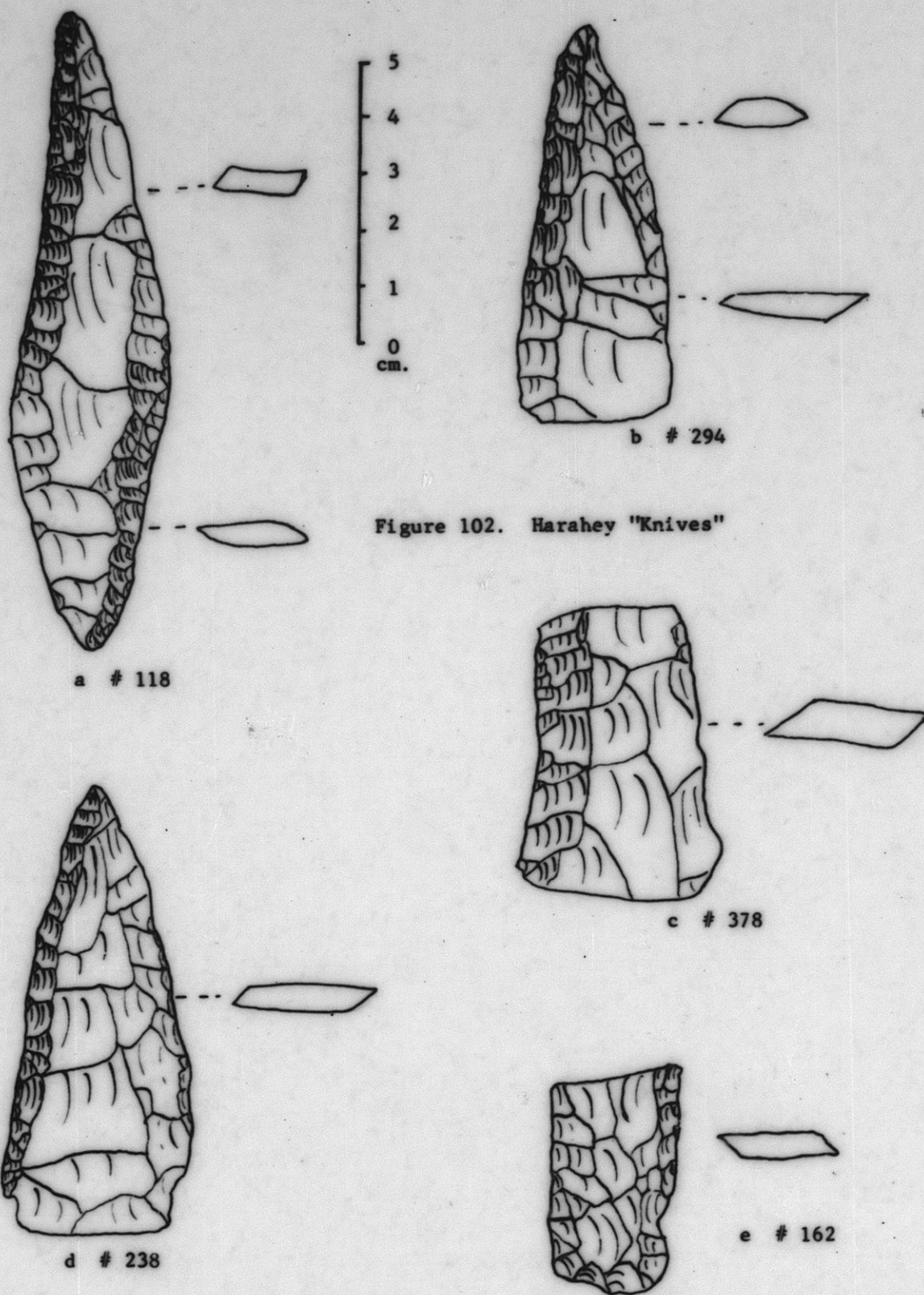
Harahey. There is one complete implement classified as a Harahey "knife" (Brower, 1899:109) with the characteristic diamond shape and alternate beveled blade edges. This artifact, # 118, is 110 mm. long, 26 mm. wide, and 8 mm. thick. It was found in Square 1:6, at Level 3.

There are four other implement fragments which are also alternately beveled. # 294 is apparently half of a diamond shaped Harahey. It is broken at the widest point, leaving a straight edge. Both ends of # 378 are broken off, but the remaining blade does taper toward one end. # 162 is a variation of the usual diamond shape. The base is rounded and the sides taper toward the end which is broken. The blade of # 238 is complete but the base is broken. There is a contraction below the blade, an indication that the implement was stemmed.

These implements are classified as scrapers rather than knives since the beveled edge provides a convenient scraping edge. The complete Harahey is left beveled as are #'s 294, 378, and 238, if the tapering end is held away from the body. # 162 is right beveled.

Provenience and Associated Traits of Fragments

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Width</u>	<u>Thickness</u>
162	unknown		22	6
294	2:5	1	25	9
238	2:10	3		
378	2:12	3	34	9



Utilized Flakes

Twenty-eight flakes of chert were probably used as knives after a minimum amount of pressure flaking was done on one or more edges. Ten of the flakes are unifacially retouched on one edge. Thirteen are retouched along two edges of one face and five are retouched on both faces on alternate or adjacent edges. The implements range in length from 24 to 69 mm., averaging 43.6 mm.

Provenience of Flakes

Unifacial, one-edge retouch

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
445	1:1	1	294	2:5	1
300	1:2	1	406	2:5	3
432	1:6	5	295	2:6	4
185	1:7	8	401	2:6	5
408	1:10	6	462	2:7	4

Unifacial, two-edge retouch

115	1:3	2	170 (2)	1:12	5
476	1:5	17	224	1:10	5
432	1:6	5	294	2:5	1
193	1:3	4	187	2:11	7
317	1:7	2	162	no location	
405	1:7	5			
145	1:9	7			

Bifacial, alternate or adjacent-edge retouch

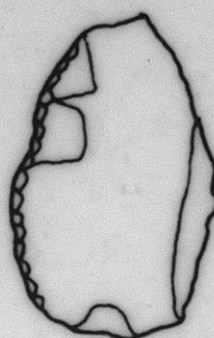
283	1:5	11	428	1:10	2
302	1:8	5	286	2:5	2
			111	1:10	9



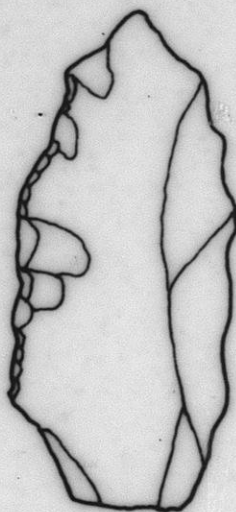
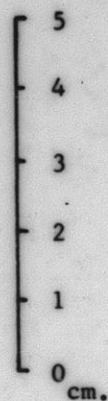
a # 445



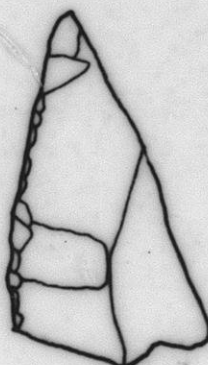
b # 300



c # 342



d # 185

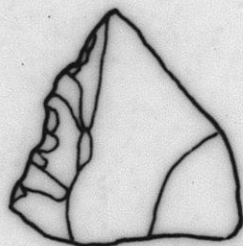


e # 408

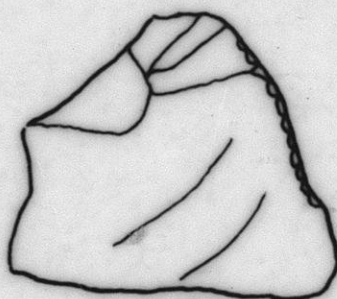


f # 294

Figure 103. Utilized Flakes



g # 408



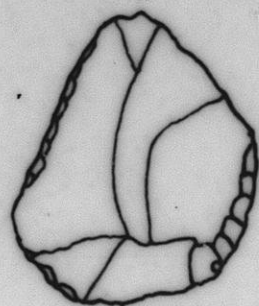
h # 295



i # 401



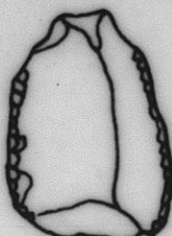
j # 462



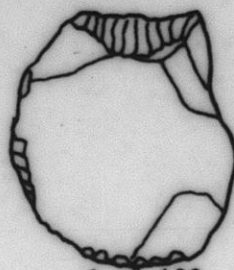
a # 115



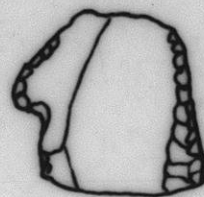
b # 192



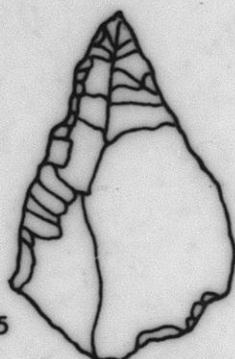
c # 476



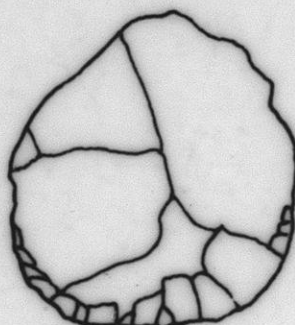
d # 432



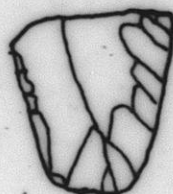
e # 162



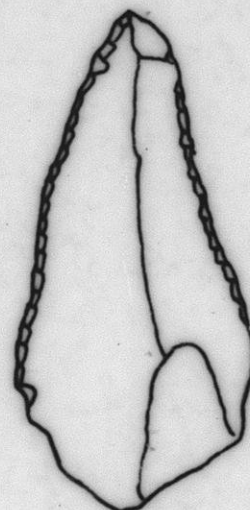
f # 317



g # 405



h # 145



i # 224

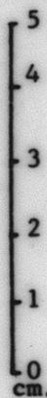


Figure 104. Utilized Flakes



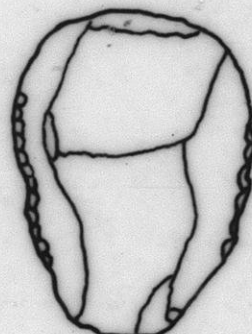
j # 170



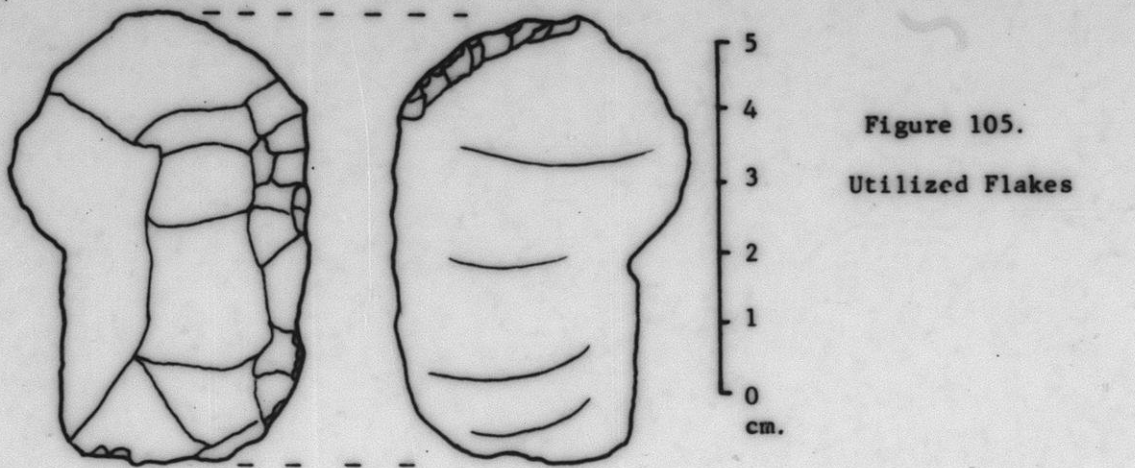
k # 170



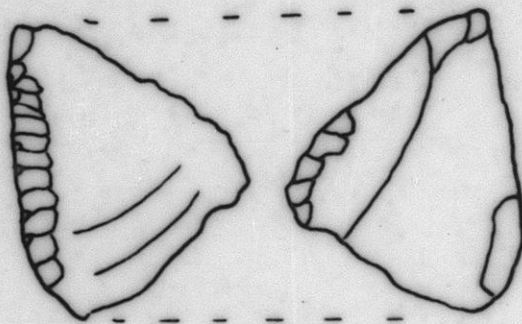
l # 294



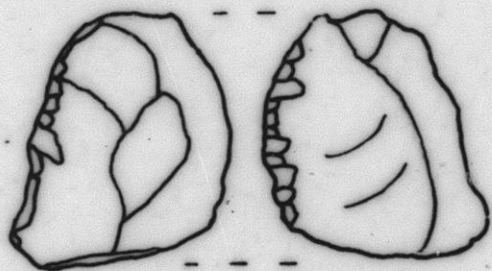
m # 187



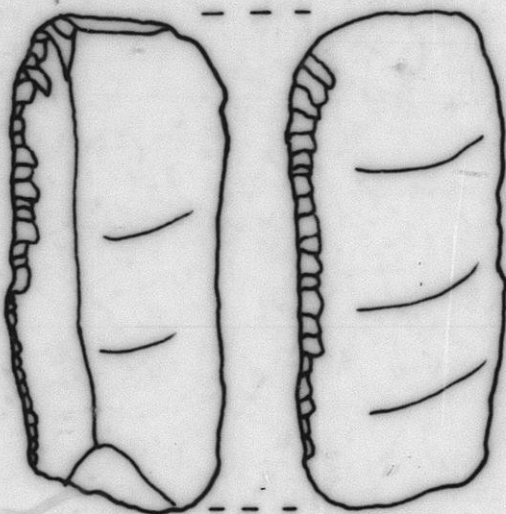
a # 283



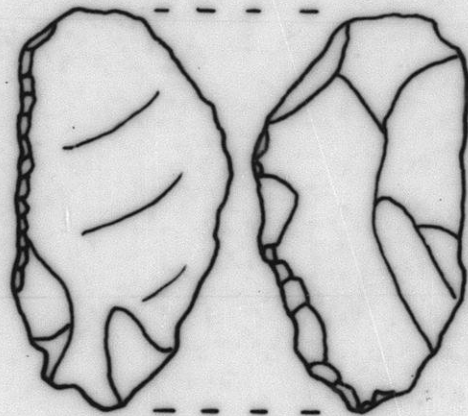
b # 302



c # 428



d # 111



e # 286

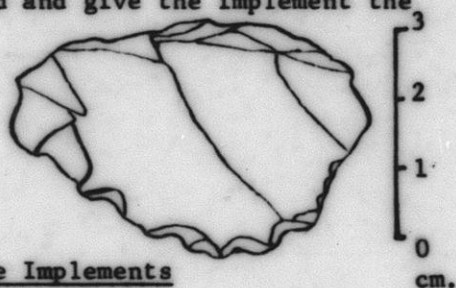
Chipped Stone Implements

Twenty-seven chipped stone artifacts are unidentifiable as to function. On all the chipping is irregular as is the shape of the object. Many are undoubtedly rejects or knives or points in the process of manufacture.

There are also one hundred and twenty-one implement fragments. This category contains portions of artifacts, probably knives or points which cannot be accurately identified.

One chipped stone implement, unifacially flaked, is serrated along one edge. The serrations are rather widely spaced and give the implement the appearance of a saw. The implement was found in Square 1:2 at Level 3.

Figure 106



* Provenience of Chipped Stone Implements

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
227	1:2	6	443	1:10	9
398	1:3	5	408 (3)	1:10	6
346	1:3	12	229	1:11	6
386	1:4	4	295 (3)	2:6	4
342	1:5	5	353	2:9	1
444	1:5	9	231	2:9	5
399	1:6	2	188	2:10	2
317	1:7	2	397	2:10	8
242	1:7	8	378	2:12	3
284	1:8	1	392	C 1	
436	1:8	4	162	unknown	
174	1:8	7			

Provenience of Chipped Stone Implement Fragments

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
357 (2)	1:0	6	228	1:4	13
337	1:1	3	340	1:5	4
318	1:1	4	366	1:5	7
461	1:1	5	444	1:5	9
305	1:1	6	467 (2)	1:5	12
457 (4)	1:1	9	299	1:5	13
307	1:1	10	446 (2)	1:5	16
360 (4)	1:2	5	354 (2)	1:6	3
227	1:2	6	432	1:6	5
335	1:2	8	403 (3)	1:6	7
108	1:2	9	182	1:6	7
113	1:2	13	441	1:7	2
404 (2)	1:3	2	317	1:7	2
115	1:3	2	344	1:7	7
193 (2)	1:3	4	254	1:7	7
377 (2)	1:3	4	157	1:7	10
398	1:3	5	301	1:7	12
348 (2)	1:3	11	436 (2)	1:8	4
346	1:3	12	233	1:8	6
454	1:3	13	174 (3)	1:8	7
217 (2)	1:4	2	266	1:8	8
386	1:4	4	476	1:9	4
313 (2)	1:4	9	502 (2)	1:9	4
195 (2)	1:4	10	364	1:9	5
363	1:9	6	244	2:3	7
428	1:10	2	112	2:4	3

Implement Fragments cont'd.

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
408	1:10	6	151	2:5	4
435	1:10	7	352	2:6	2
443	1:10	9	295 (3)	2:6	4
166	1:11	2	243	2:7	1
127	1:11	3	451	2:7	2
198	1:11	5	343	2:8	3
229 (3)	1:11	6			
161 (3)	1:12	2	353	2:9	1
177	1:12	4	153	2:9	6
306 (2)	1:13	3	238	2:10	1
156	2:0	11	188 (3)	2:10	2
104	2:1	4	397	2:10	8
341	2:1	5	334	2:12	1
119	2:3	3	337	2:12	8
367 (2)	2:3	5	315 (2)	2:13	6
332 (3)	2:4	2	358	unknown	
469	2:4	3	162	unknown	

GROUND STONE IMPLEMENTS

Manos

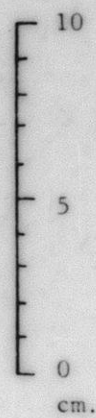
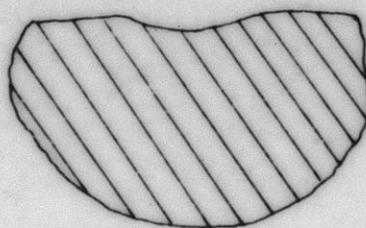
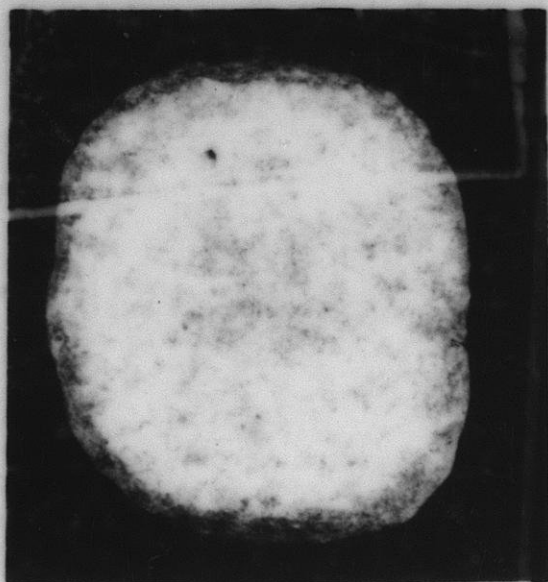
Manos, or one hand grinding stones to judge from the short length of the implements, were probably used in connection with hollowed out slabs of sandstone or limestone in order to grind seeds. The manos are classified according to the number of faces used in the grinding process and the shape of the stone.

Manos with a single grinding face. Seven manos have one flat grinding face while the other face is convex and unused. These manos thus have a plano-convex cross section. All were deliberately shaped by pecking along the ends and edges. Six have an oval outline and one, # 110, has a subrectangular outline. All but one (# 406) of these manos have a small shallow pit or depression in the center of the grinding face.

Mano Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>	<u>Material</u>
245	1:6	4	118	97	56	sandstone
405	1:7	5	112	93	50	limestone
287	1:10	10	---	92	--	sandstone
406	2:5	3	130	93	51	sandstone
110	2:5	5	---	--	--	sandstone
372	2:10	2	---	86	41	sandstone
160	2:12	2	136	95	51	limestone

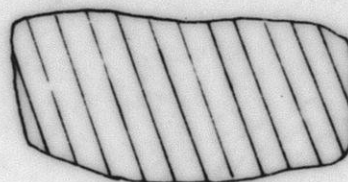
Three manos, also with a single grinding face, have parallel faces. The face not used in grinding is irregular on all three, but they all have a rectangular cross section. # 378 has an irregular outline, the other two have subrectangular outlines. None of these manos exhibit a pit or depression on the grinding face.



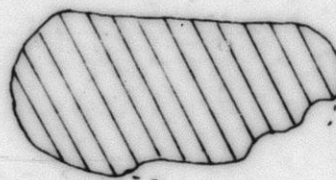
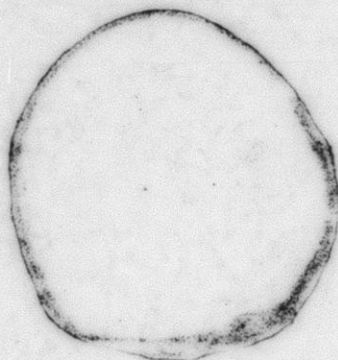
a # 245



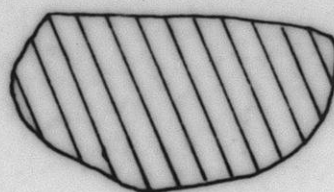
Figure 107. Manos with a single Grinding Face



b # 405



c # 287



a # 406

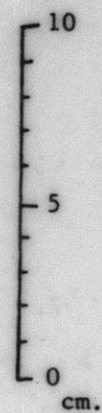
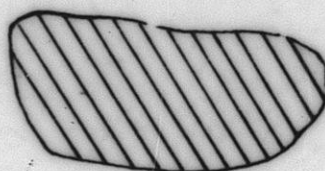
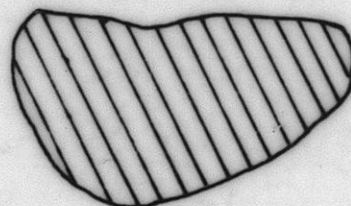


Figure 108. Manos with a single Grinding Face



b # 372



c # 160

Mano Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>	<u>Material</u>
371	1:3	4	134	74	36	limestone
224	1:10	5	124	77	55	limestone
378	2:12	3	111	92	45	limestone

One fragment of a mano with a single grinding face has a convex grinding face while the other face is irregular. The mano was not shaped before use but was a naturally ovate shaped stone. The fragment, # 254, from Square 1:7, Level 7, is 75 mm. wide and 44 mm. thick.

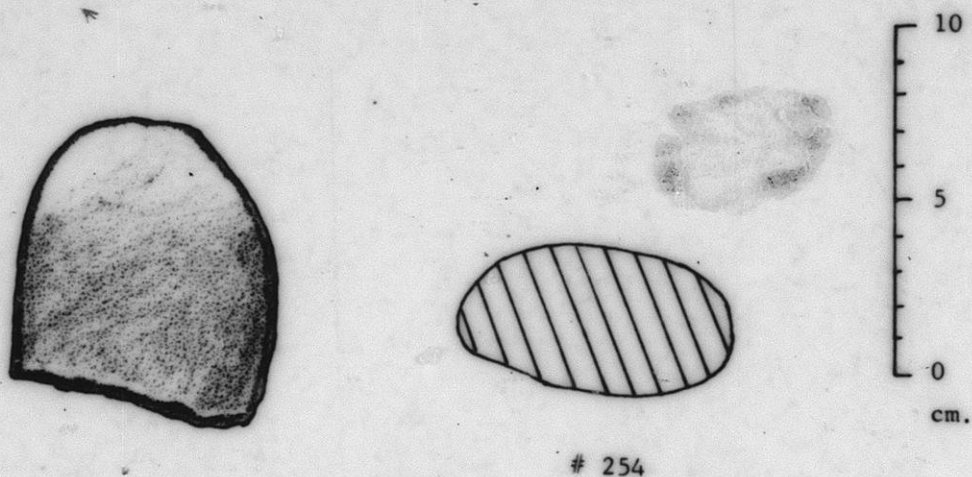
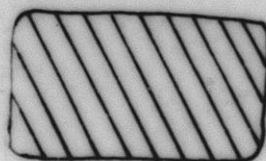
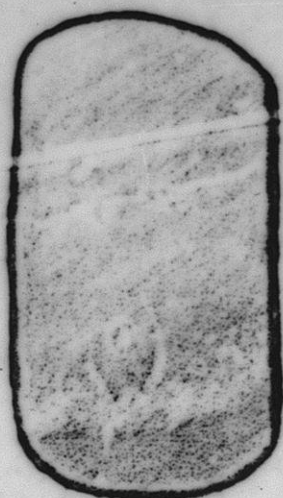


Figure 109. Mano with a single Grinding Face



a # 371

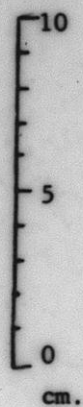
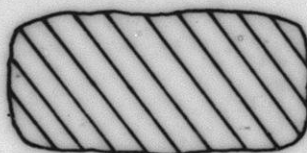
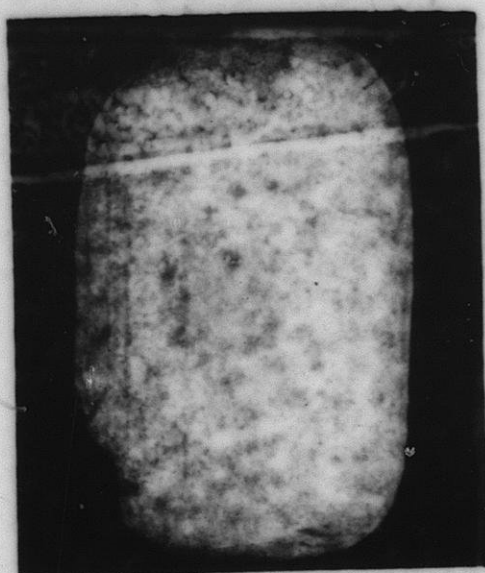
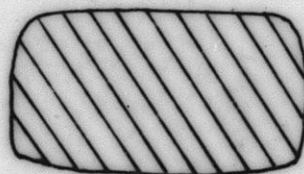
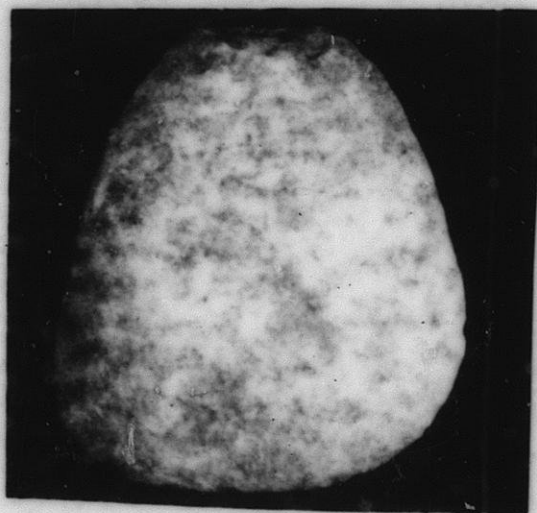


Figure 109a. Manos with a
Single Grinding Face



b # 224



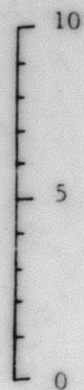
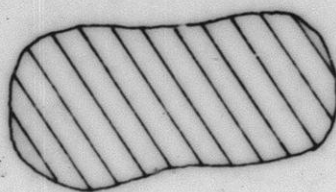
c # 378

Manos with two opposed grinding faces. Twenty-one manos, twenty with an oval outline and one, # 224, with a subrectangular outline, have two parallel opposed grinding faces. Central pits occur on one or both faces of most of these manos, some of which are fragments.

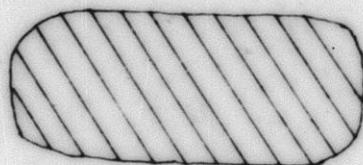
Four of these manos, #'s 440, 356, 254, and 371, have one edge which is thicker than the other. This indicates that in the grinding process one edge of the mano was raised, thus placing greater weight and wear on the other edge.

Mano Provenience and Associated Traits

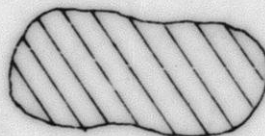
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>	<u>Material</u>	<u>Central Pit</u>
347	0:2	12	---	78	45	sandstone	both faces
312	1:1	7	---	100	45	sandstone	one face
290	1:1	8	87	69	36	sandstone	both faces
360	1:2	5	117	111	56	limestone	absent
371	1:3	4	---	76	48	sandstone	absent
440	1:3	9	131	100	51	limestone	both faces
440	1:3	9	---	--	54	sandstone	--
217	1:4	2	---	80	30	limestone	absent
228	1:4	13	---	--	30	sandstone	--
299	1:5	13	---	65	37	sandstone	absent
254	1:7	7	102	77	36	sandstone	absent
191	1:8	9	---	103	36	limestone	both faces
364	1:9	5	---	72	40	limestone	absent
330	1:10	4	---	--	27	sandstone	both faces
224	1:10	5	104	81	40	sandstone	one face
189	2:4	4	107	63	41	limestone	both faces
293	2:7	7	---	81	41	sandstone	both faces



a # 347

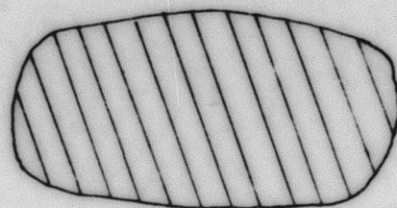


b # 312

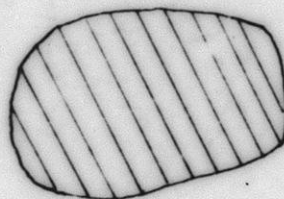
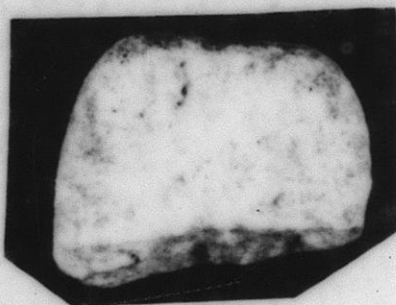
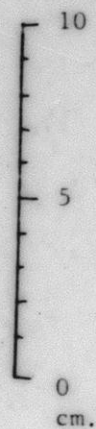


c # 290

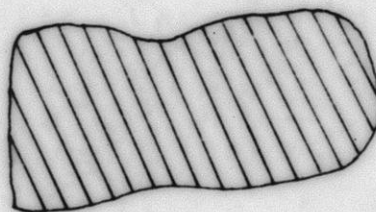
Figure 110. Manos with two Grinding Faces



a # 360

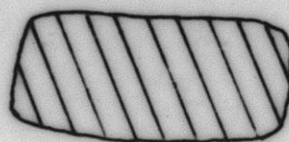


b # 371



c # 440

Figure 111. Manos with two Grinding Faces



a # 254

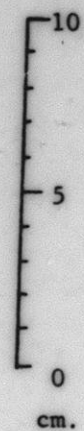
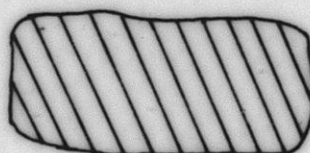
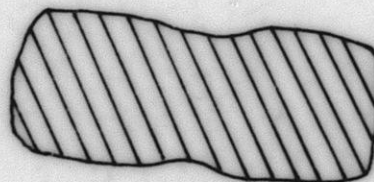


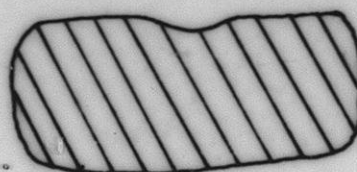
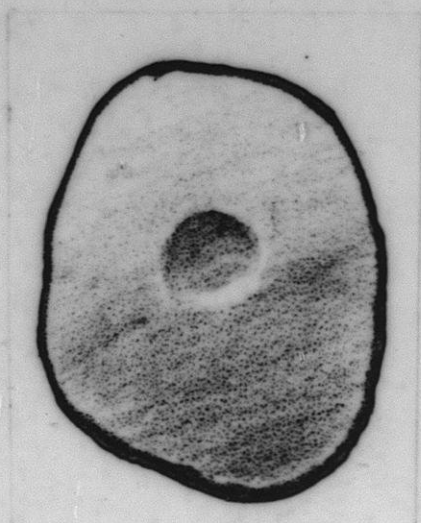
Figure 112. Manos with two Grinding Faces



b # 224



c # 223



a # 359

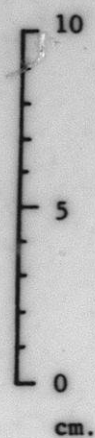
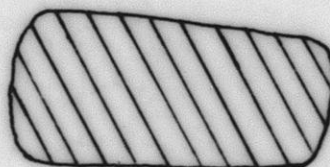
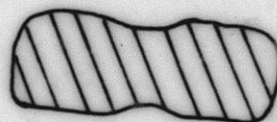
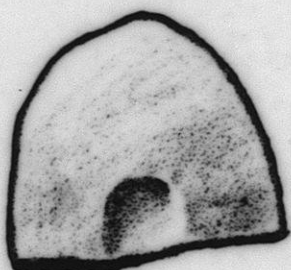


Figure 113. Manos with two Grinding Faces



b # 356

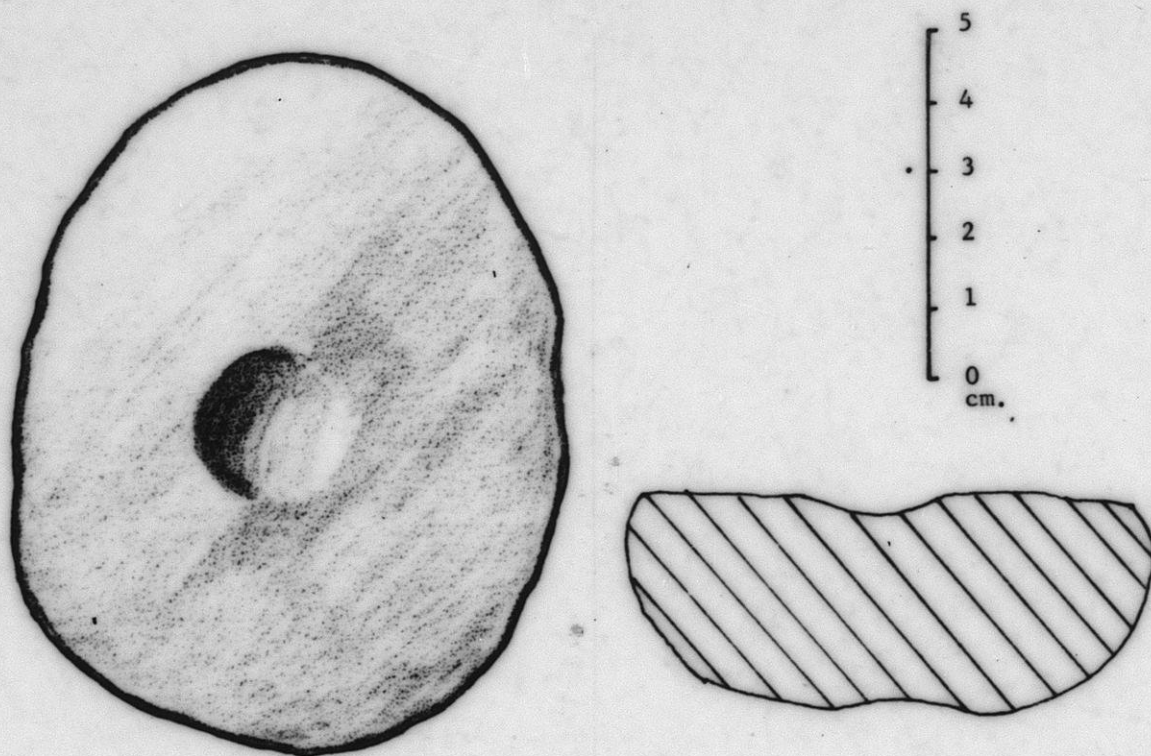


c # 421

Mano Provenience cont'd

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>	<u>Material</u>	<u>Central Pit</u>
223	2:8	3	121	104	42	sandstone	both faces
359	2:8	4	118	92	40	limestone	both faces
356	2:9	3	108+	87	43	limestone	absent
421	unknown	---	73	30		limestone	both faces

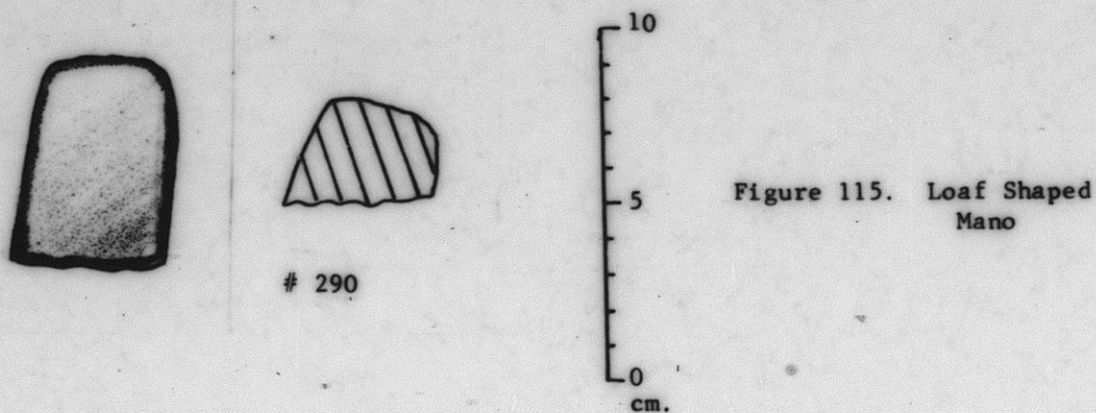
An oval mano has one flat and one convex grinding face. Central pits are present in both faces of the implement. The mano, # 285 from Square 2:5, Level 4, is made of sandstone and measures 97 x 75 x 41 mm.



285

Figure 114. Mano with two grinding faces

Loaf Shaped Mano. A fragment of a loaf shaped mano was found at the site. Apparently it had a square cross section. Three of the four faces were used for grinding. The fragment, # 290, was found in Square 1:1, at Level 8. It is made of sandstone.



Mano Fragments. Five manos are so fragmentary that it is not possible to recognize their original shape nor how many grinding faces were present. These fragments are not illustrated.

Mano Fragment Provenience

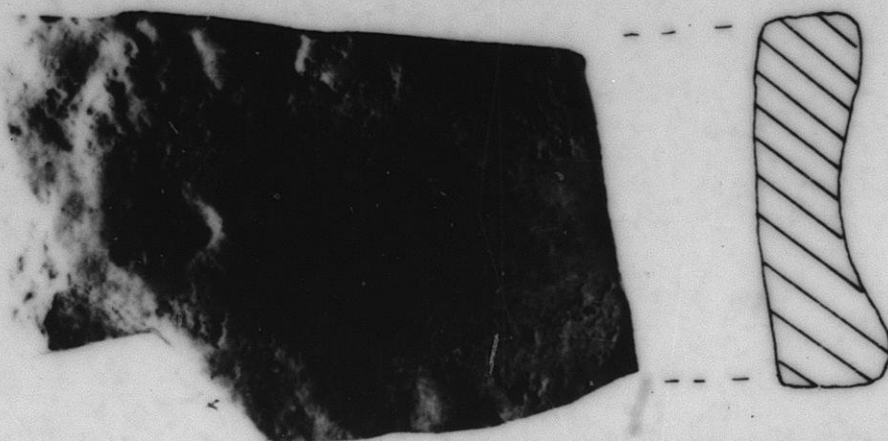
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Material</u>
362	1:4	3	sandstone
429	1:8	2	sandstone
408	1:10	6	limestone
198	1:11	5	sandstone
367	2:3	5	sandstone

Grinding Basins

The grinding basins from D1-29 are all large, apparently unshaped, slabs of limestone or sandstone which are flat on one surface and have an oval, concave depression on the other surface. The concave depression was produced as food was ground on the stone with a mano. All of the grinding basins had been broken on one end through part of the grinding depression so the length of the grinding stone and the grinding depression are not full measurements.

Provenience of Grinding Basins

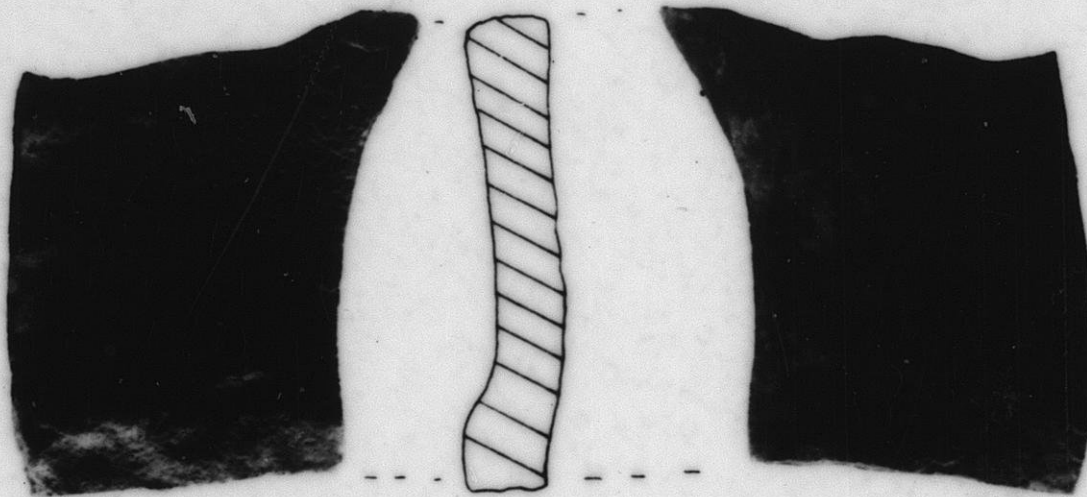
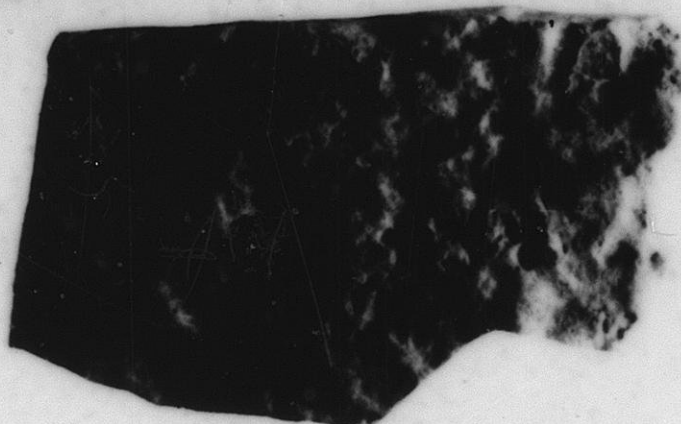
<u>Location</u>		<u>Grinding Basin</u>			<u>Oval Depression</u>			
<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>	<u>Length</u>	<u>Width</u>	<u>Depth</u>	<u>Material</u>
1:5	5	370	240	60	220	160	12	limestone
1:9	8	270	230	40	120	170	10	limestone
1:13	1	310	230	45	240	160	10	sandstone
1:13	3	520	300	130	340	230	30	--



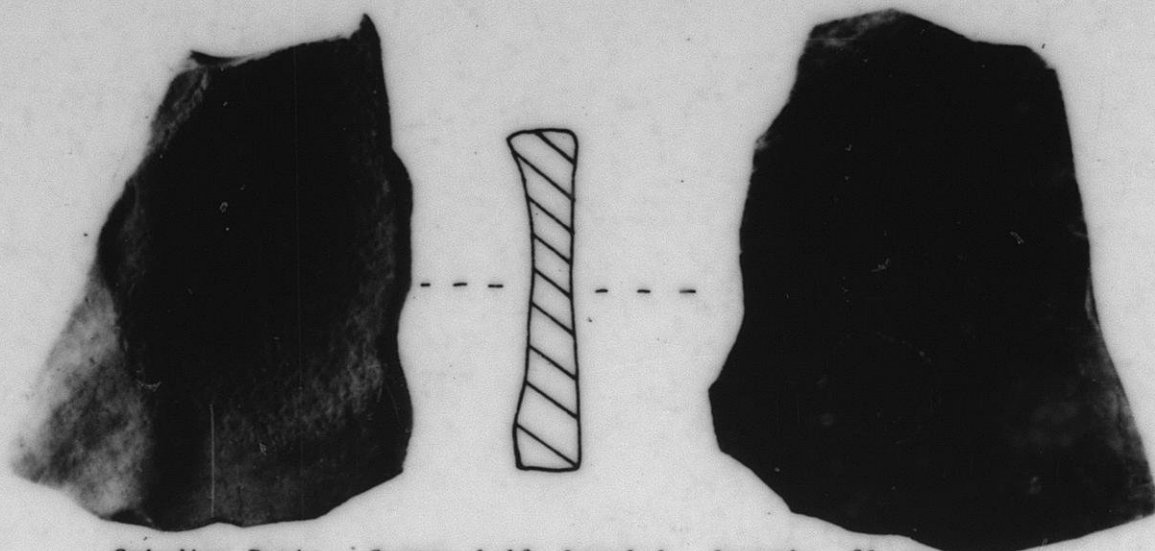
Grinding Basin
Square 1:5, Level 5
Length: 37 cm.

Figure 116.

Grinding Basins

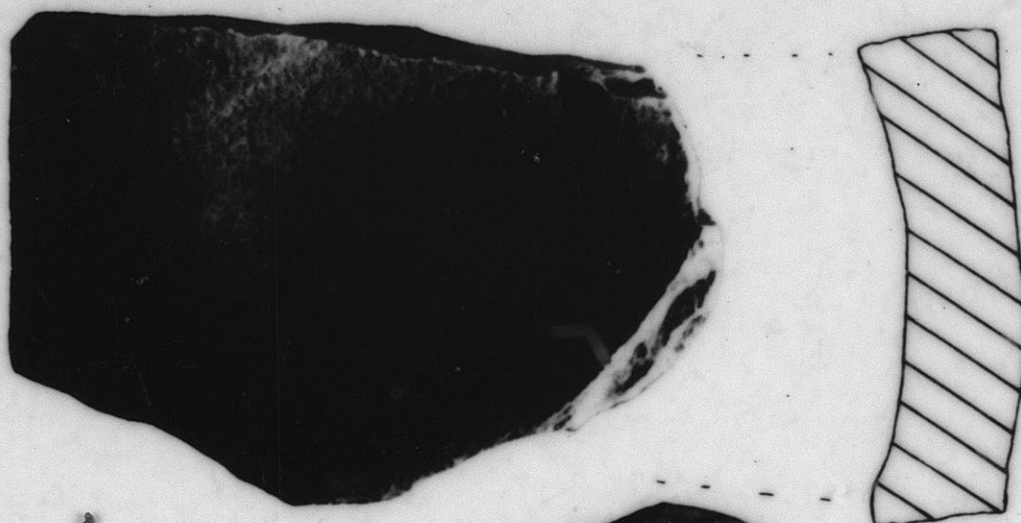


Grinding Basin Square 1:9, Level 8 Length: 27 cm.

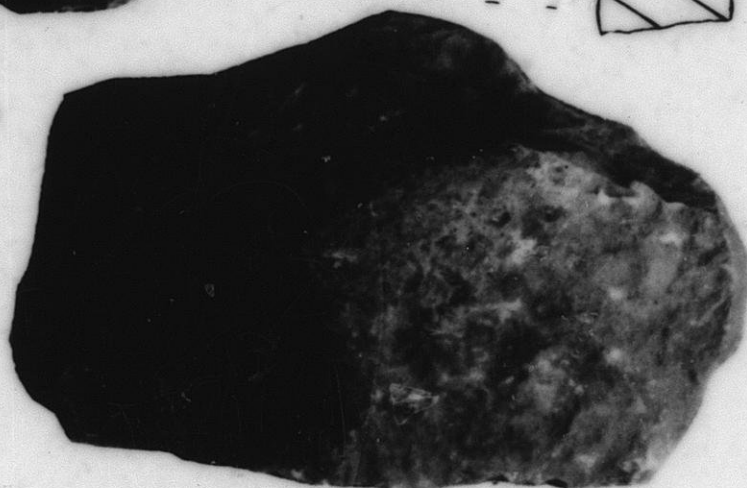


Grinding Basin Square 1:13, Level 1 Length: 31 cm.

Figure 117. Grinding Basins



Grinding Basin
Square 1:13, Level 3
Length: 52 cm.



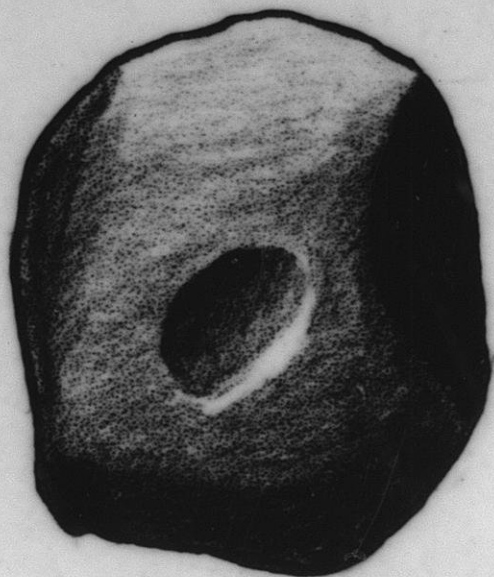
Nutting Stones

Nine irregularly shaped blocks of limestone or sandstone have varying numbers of circular depressions in one or more faces of the stone. These stones are called nutting stones since the depressions would well serve to hold a nut while it was being broken.

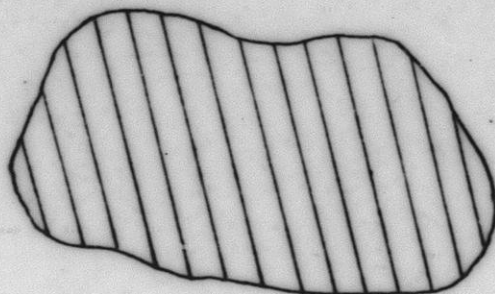
Five of these stones, #'s 358, 217, 377, 308, and 182, have one hole on one face; three stones, #'s 452, 358, and 234, have one hole on each of two faces, and one stone, # 404, has holes on all four faces. # 452 has in addition to holes on two faces, slight "V" shaped grooves on one face as if the stone were also used as an awl sharpener.

Nutting Stone Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Material</u>
404	1:3	2	limestone
377	1:3	4	sandstone
217	1:4	2	limestone
452	1:6	5	sandstone
182	1:6	7	sandstone
234	1:6	8	sandstone
308	1:9	2	limestone
358	unknown		limestone
358	unknown		limestone



a # 358



b # 358

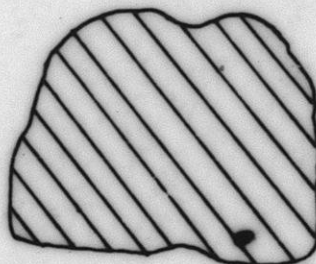
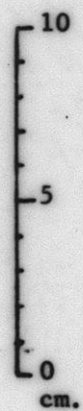
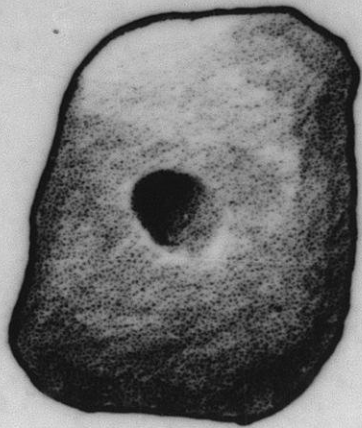
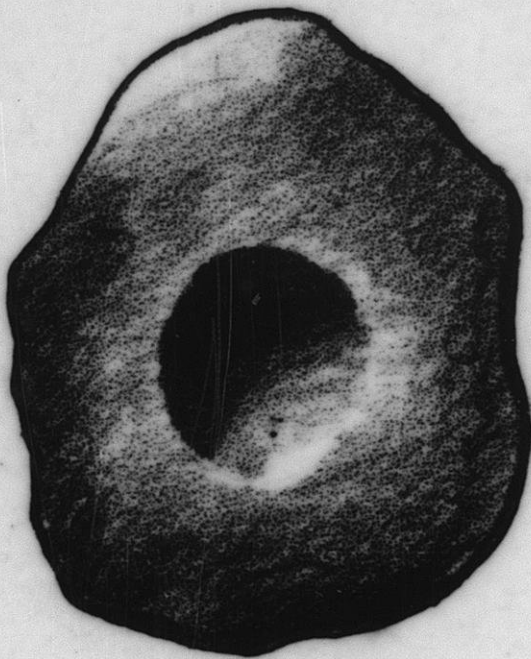
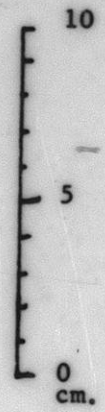
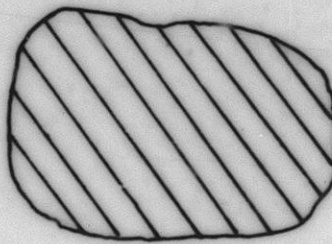


Figure 118. Nutting Stones





a # 234



b # 308

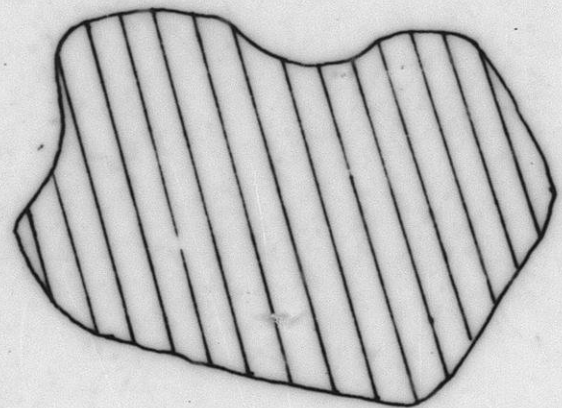
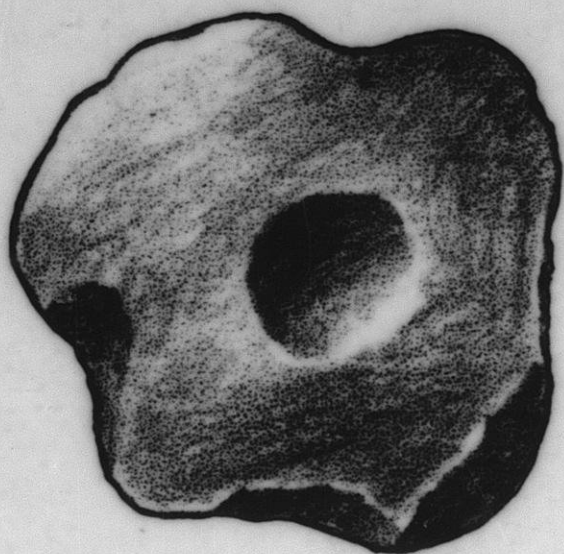
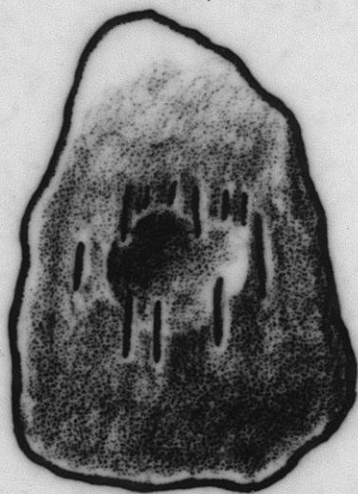
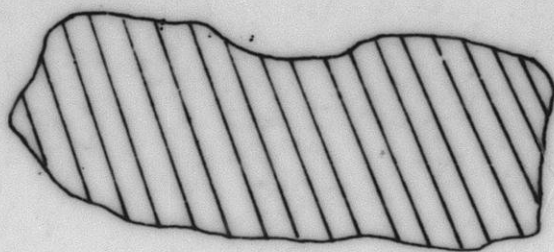


Figure 119. Nutting Stones



a # 217



b # 452

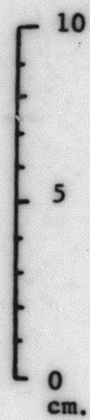
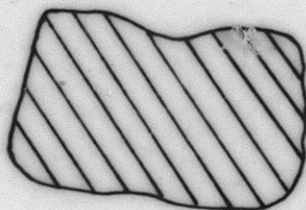
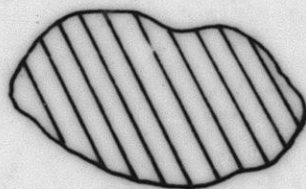
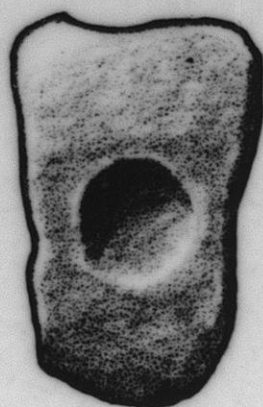


Figure 120. Nutting Stones



c # 182





a # 404

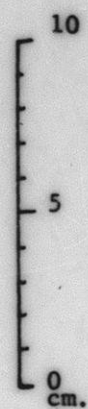
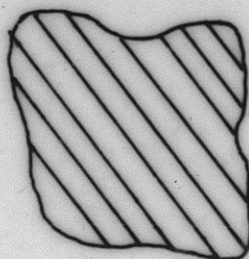
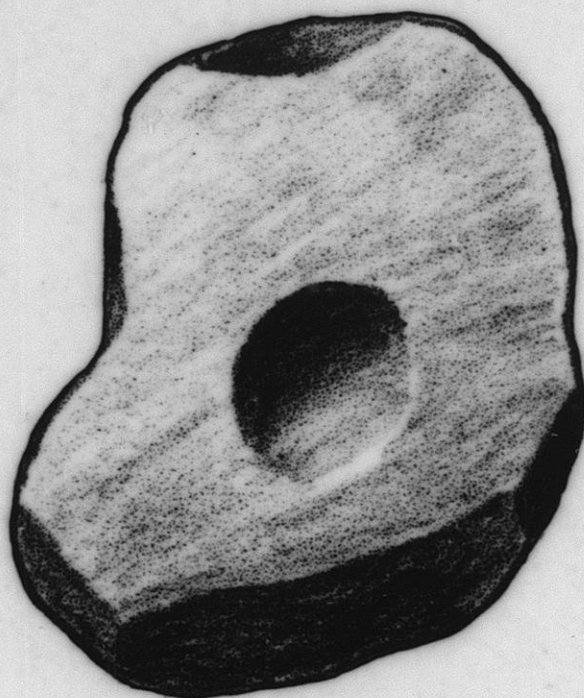
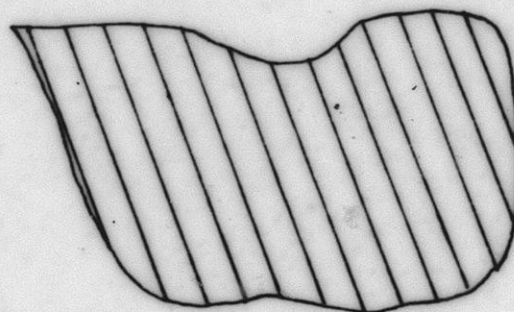


Figure 121. Nutting Stones



b # 377

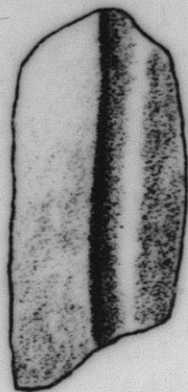


Shaft Smoothers

Four sandstone shaft smoothers were found at the site. These implements bear at least one groove which runs the entire length of the face, a groove made by running a shaft across the stone. The shaft smoothers vary in size and number of grooves. # 377, a fragment, has a plano-convex cross section and a single groove running the length of the plane face. # 196 has a biconvex cross section and bears two grooves on each face. The grooves on one face run the entire length of the face while the two on the other face do not continue the length of the face and are "V" shaped. These latter grooves indicate that the shaft smoother might also have been used as an awl sharpener. # 463 has a rectangular cross section and has a single groove on all four faces. Two were made by sharpening a pointed implement such as an awl and the other two are suitable for smoothing shafts. # 449 also has a rectangular cross section and has a single groove on two opposing faces. One groove is the result of sharpening an awl while the other is from smoothing shafts. All but # 196 are apparently fragments of larger implements.

Shaft Smoother Provenience

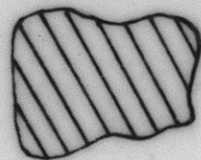
<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
377	1:3	4	55+	25	16
449	2:6	2	49+	26	23
196	2:7	5	46	24	12
463	with Burial 2		46+	39	23



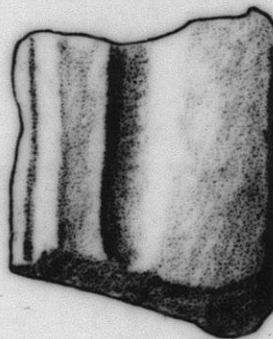
a # 377



b # 449



c # 196



d # 463

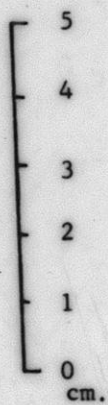
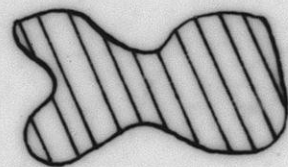


Figure 122. Shaft Smoothers

Grooved Abraders

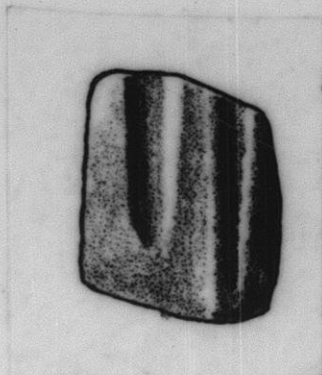
Grooved abraders, like the shaft smoothers, are made of sandstone. The abraders were used to sharpen pointed implements such as bone awls as can be seen from the type of grooves present on one or more faces of these implements. The grooves are "V" shaped, conforming to a pointed implement, and do not run the entire length of the abrader. Often the grooves are deeper in the middle or toward one end, which again could result from running a pointed implement over the sandstone. Seven grooved abraders were found at D1-29, most of which have an irregular shape. The number of grooves present varies. # 240 has two grooves on one face and three on the opposite face; # 389 has a single groove on three faces # 224 has three grooves on each of two opposing faces and one on a side; # 175 three grooves on one face, four on the opposite face, and one on a side; # 333 has two grooves on one face and a single groove on the opposite face and side; # 112 has a single groove on three faces; # 424 has three grooves on one face.

Grooved Abrader Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
240	1:5	4	67	58	24
389	1:7	6	34	26	18
224	1:10	5	71	77	25
175	1:10	8	91	46	23
333	1:11	1	30	24	14
112	2:4	8	51	21	32
424	2:6	1	31	36	18



a # 240



b # 389

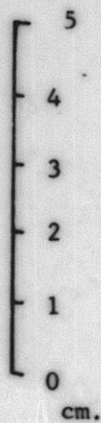
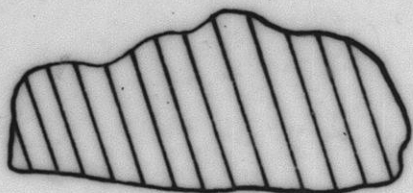
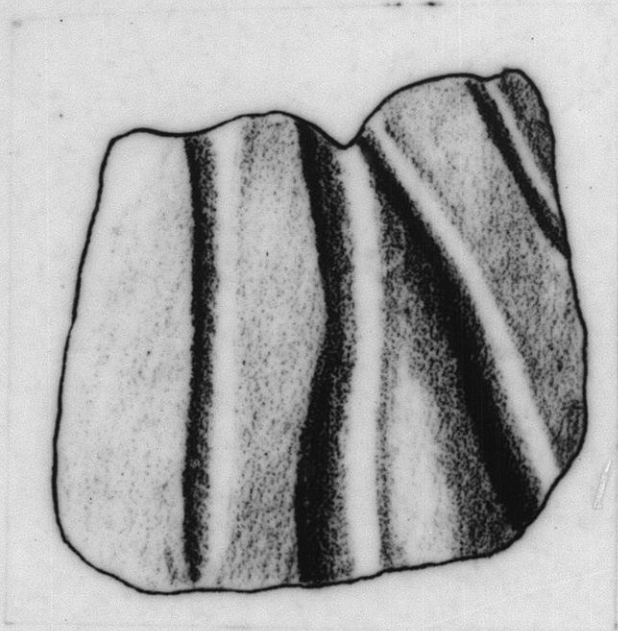
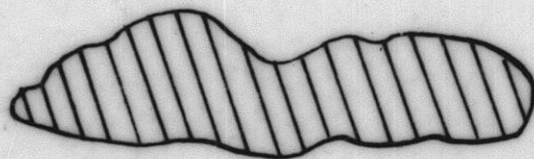
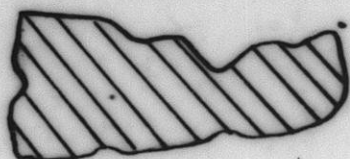
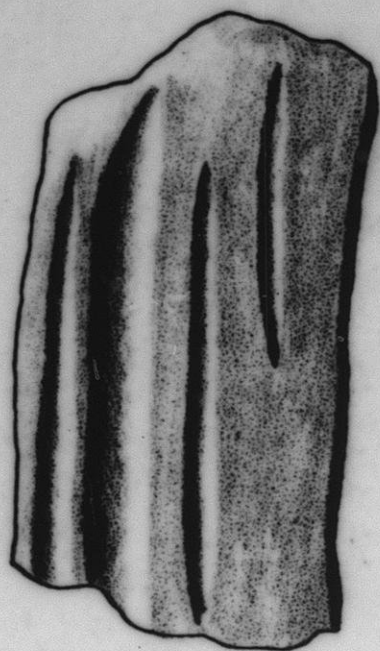


Figure 123.
Grooved Abraders



c # 224

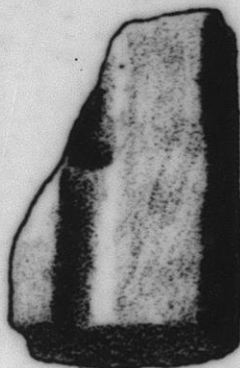
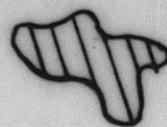




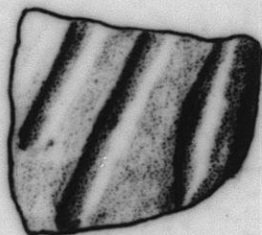
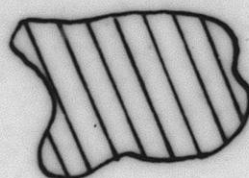
a # 175



b # 333



c # 112



d # 424

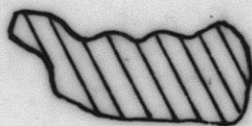


Figure 124.

Grooved Abraders

Hammerstones

Three stones exhibit hammering facets on one or both ends. One, # 289 & 308 has an oval outline, the other two have irregular outlines.

Hammerstone Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>	<u>Material</u>
287	1:10	10	88	73	51	sandstone
289	2:7	2	59	53	30	sandstone
308	1:9	2				
358	unknown		98	78	35	limestone

Celt

The single celt from D1-29 has a rectangular outline and cross section and is polished on one face and at the beveled bit. The celt was found in Square 1:6 at Level 5 and measures 67 x 48 x 21 mm.

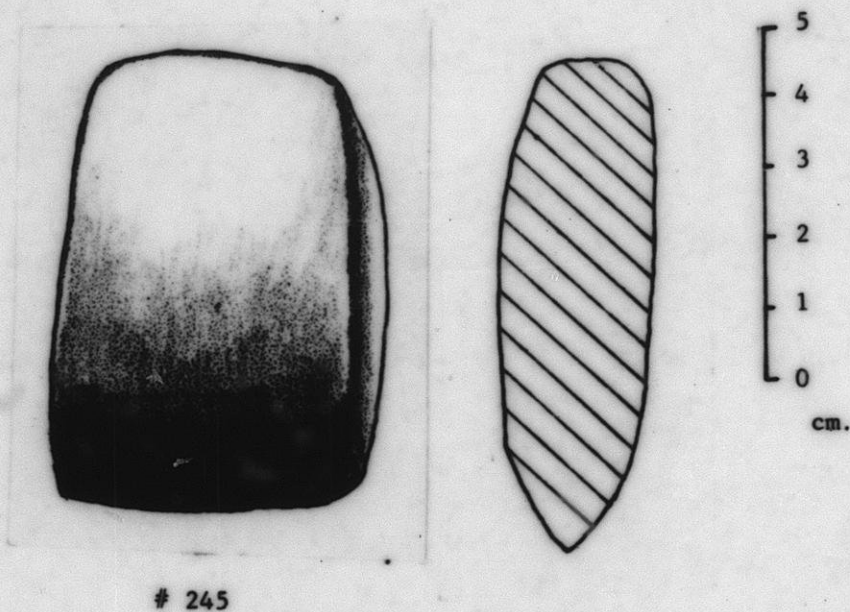


Figure 125. Celt

Hematite

A rectangular piece of hematite, 71 x 27 x 9 mm., is worn smooth on two edges. These edges bear knife marks from scraping the hematite. In addition one face is also knife marked over a smoothed surface. The piece was apparently rubbed and scraped to obtain red pigment. The piece was found in Square 2:4 in Level 7.

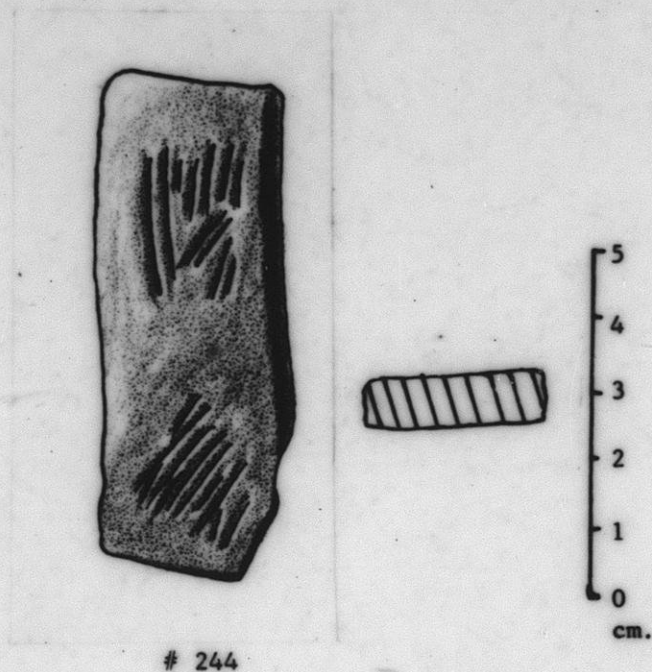
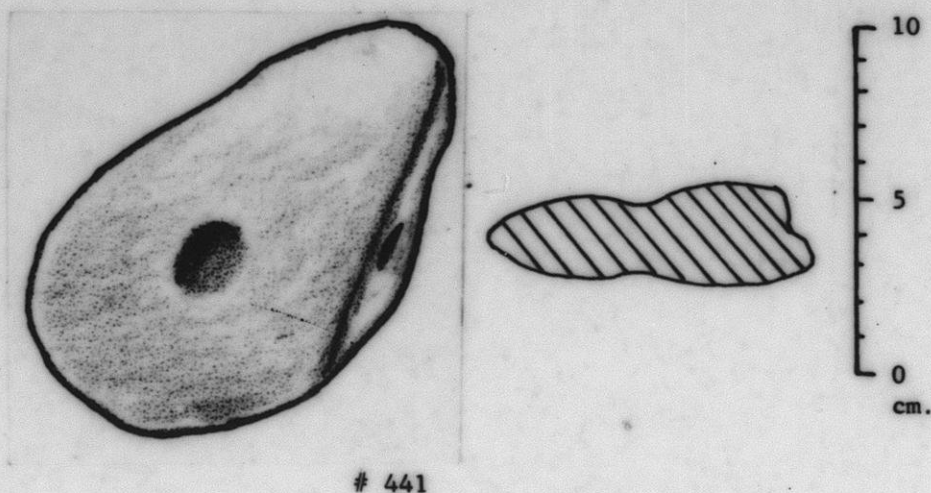


Figure 126. Hematite

Miscellaneous Ground Stone Implements

Four implements of sandstone or limestone probably had multiple functions, serving as manos, flat abraders, and/or anvils.

144 has a triangular outline and two irregular faces which show some evidence of use in grinding. Both faces are pitted. This implement may have served as a mano or flat abrader. The stone measures 136 x 86 x 39 mm. and was found in Square 2:7 at Level 2.



441

Figure 127. Ground Stone Implement

158 is a subrectangular block of sandstone. The faces of the stone are parallel and one face is faceted as if used for an anvil. The shape of the stone suggests that it was a mano blank but was never used as a mano. The stone was found in Square 1:5, Level 4.

127 is an irregular, almost loaf shaped piece of sandstone. Two faces are smoothed as if from a grinding function. One face has an circular depression in the middle. The stone measures 75 x 29 x 32 mm. and was found in Square 1:11, Level 3.

167 is a fragment of sandstone which has two parallel faces which are somewhat smoothed, an indication that the stone was used for grinding. Grooves in one face also indicate that the stone was used for an abrader. The stone was found in Square 1:5, Level 2.

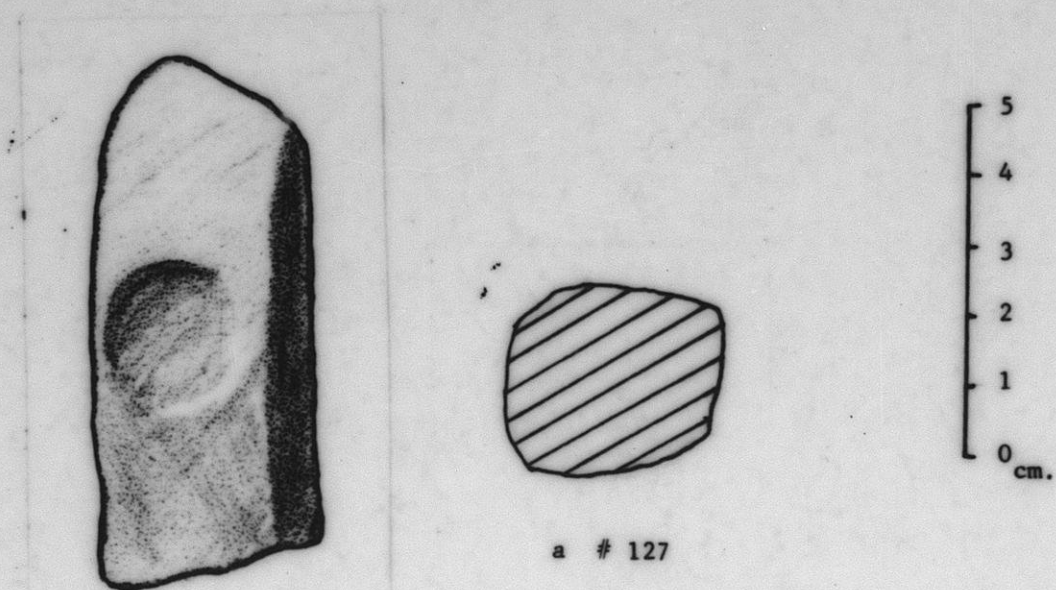
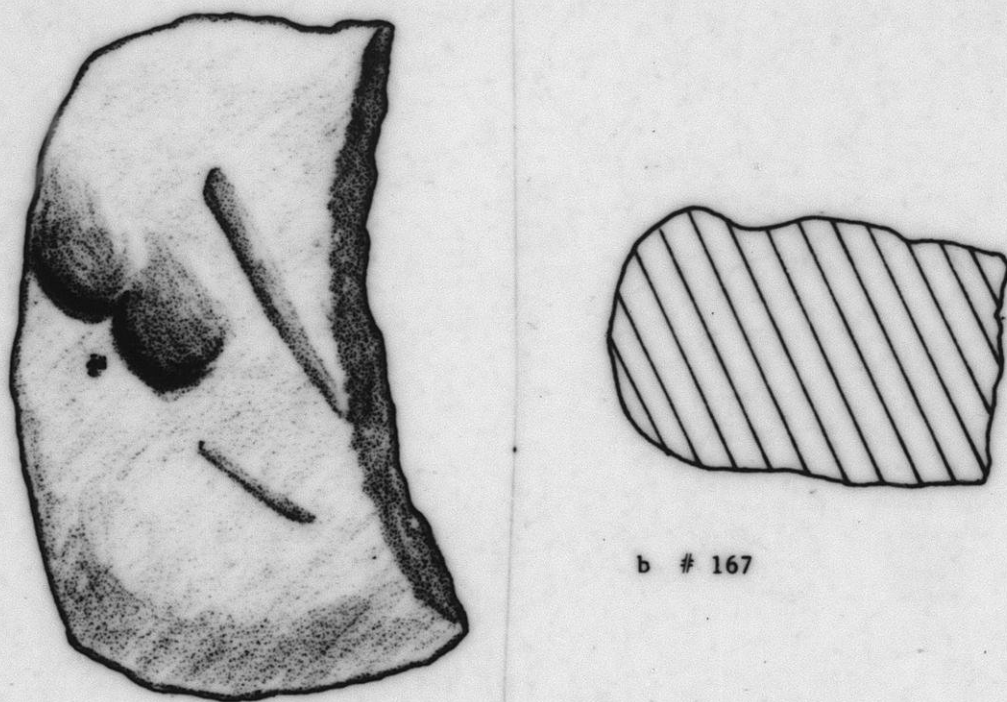


Figure 128. Ground Stone Implements



Bone Implements

Antler Flakers

The deer antler flakers from the site are sections of tines with rounded tips which are often faceted through use. The tip and the portion of the shaft adjacent to the tip are frequently polished. The sections of the tine used as flakers were apparently broken from the complete tine with no special attention made toward finishing the butt end which is irregular on all twenty-three flakers. One flaker, # 214, has had a longitudinal section of the antler removed, exposing the cancellous tissue. Four of the flakers have been burned.

The specimens range from 12 to 190 mm. in length, averaging 78 mm. Several of the shortest flakers have been freshly broken or are rodent gnawed so the length measurements are not especially reliable.

Flaker Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>
386	1:4	4	63+				
476	1:5	17	125	137	2:9	2	42+
245	1:6	4	38	456	2:9	7	146
152	1:8	3	115	214	2:10	3	55+
174	1:8	7	131	183	2:11	3	64
104	2:1	4	80+	334	2:12	1	51
388	2:4	3	12+	402	2:13	2	42+
121	2:5	4	29	145	1:9	7	48+
448	2:6	3	75	330	1:10	4	103
165	2:8	2	42	111	1:10	9	27
359	2:8	4	130	166	1:11	2	149
172	2:8	7	190	229	1:11	6	38

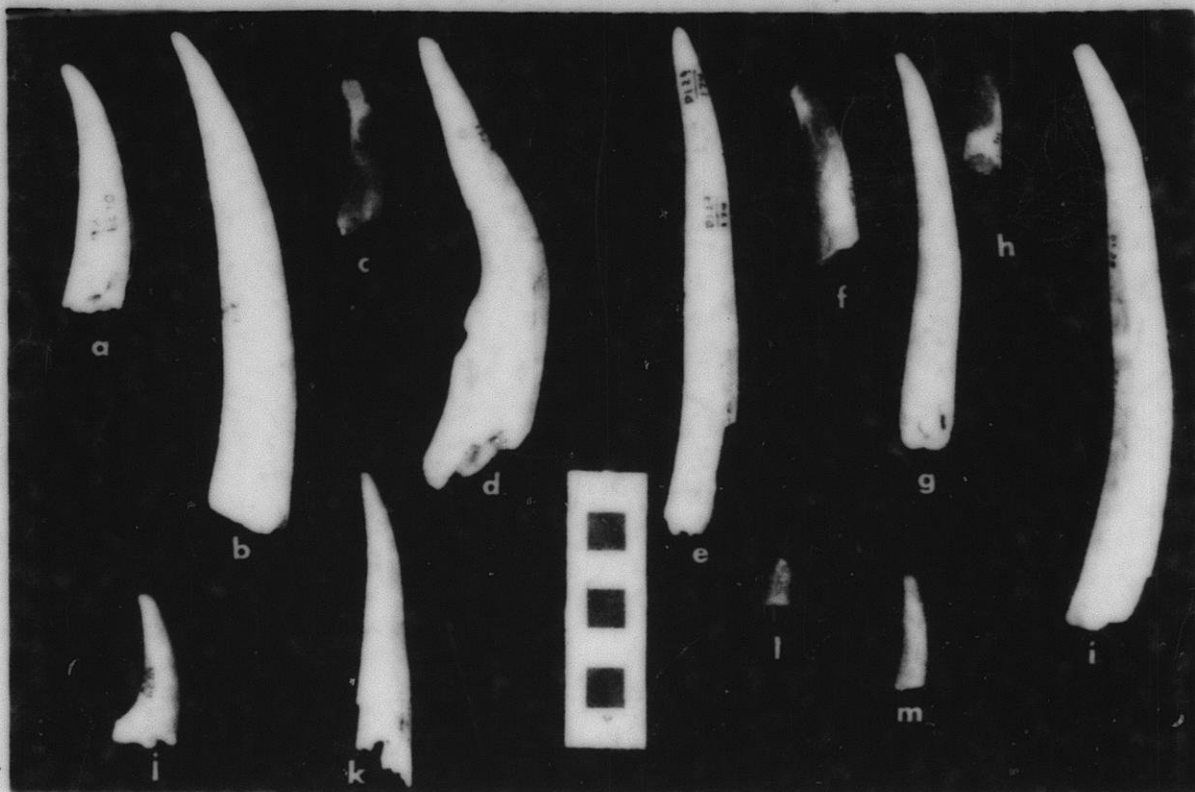


Figure 129. Antler Flakers

a # 386, b # 476, c # 245, d # 152, e # 174, f # 145,
g # 330, h # 111, i # 166, j # 229, k # 104, l # 388,
m # 121

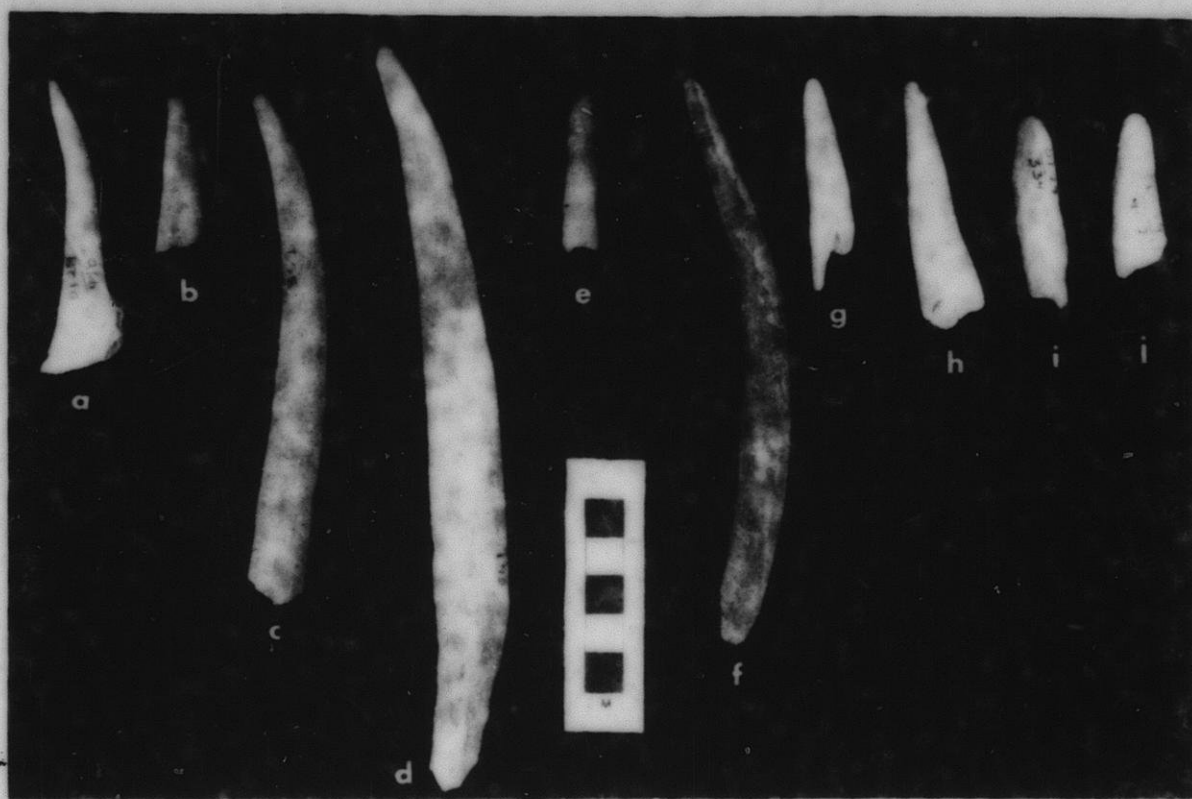


Figure 130. Antler Flakers

a # 448, b # 165, c # 359, d # 172, e # 137, f # 456,
g. # 214, h # 183, i # 334, j # 402

Antler Drifts

Two sections of deer antler shaft have one freshly broken end while the other end is smoothed and rounded off. Although the rounded ends are not faceted, the implements have the appearance of specimens classified as drifts. # 255, from Square 1:1, Level 6, is 34 mm. long. # 236 from Square 1:3, Level 12, is 96 mm. long.



Figure 131.
Antler Drifts

Worked Antler

Four fragments of deer antler, 25 to 80 mm. long, are freshly broken at both ends. The remaining shaft is smoothed to slightly polished, indicating that these specimens were originally portions of implements. Two of the fragments are burned.



<u>Provenience</u>		
<u>#</u>	<u>Square</u>	<u>Level</u>
287	1:10	0
317	1:7	2
434	2:10	7
387	1:8	4

a # 317 b # 287 c # 387 d # 434 Figure 132. Worked Antler

Knife Marked Antler

Five pieces of deer antler, three retaining part of the main shaft, have knife marks encircling the tine. This indicates the method by which the tips were removed to be made into flakers and other implements. These pieces are then waste products and not implements.

Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>
330	1:10	4
287	1:10	10
451	2:7	1
434	2:10	7
338	2:11	2



a # 405 b # 330 c # 338 d # 451



e # 264

Figure 133. Knife Marked Antler

Ulna Flaker

The proximal end of a deer ulna was made into a flaker by thinning the shaft of the ulna below the semi-lunar notch and rounding off the tip. The flaker, # 364, from Square 1:9, Level 5, is 92 mm. long.

Worked Ulnas

Five deer ulnas, proximal end, are either polished through use or have had the shaft thinned below the semi-lunar notch. Since the tips of the implements have been broken off, their function is not known.

Specimen Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>
409	2:4	4
189	2:4	4
334	2:12	1
173	1:4	6
173	1:4	6

Ulna Awls

Of the two ulna awls from the site, only one, # 466, retains the proximal articular surface. This awl, identified as Virginia Deer, has had the shaft thinned below the semi-lunar notch to what was once a sharp tip. The extreme tip of this awl is broken off. The other awl, # 152, from a mule deer, is represented by the thinned shaft, now broken from the articular surface.

466 is from Square 1:11, Level 6; # 152 from Square 1:8, Level 3.

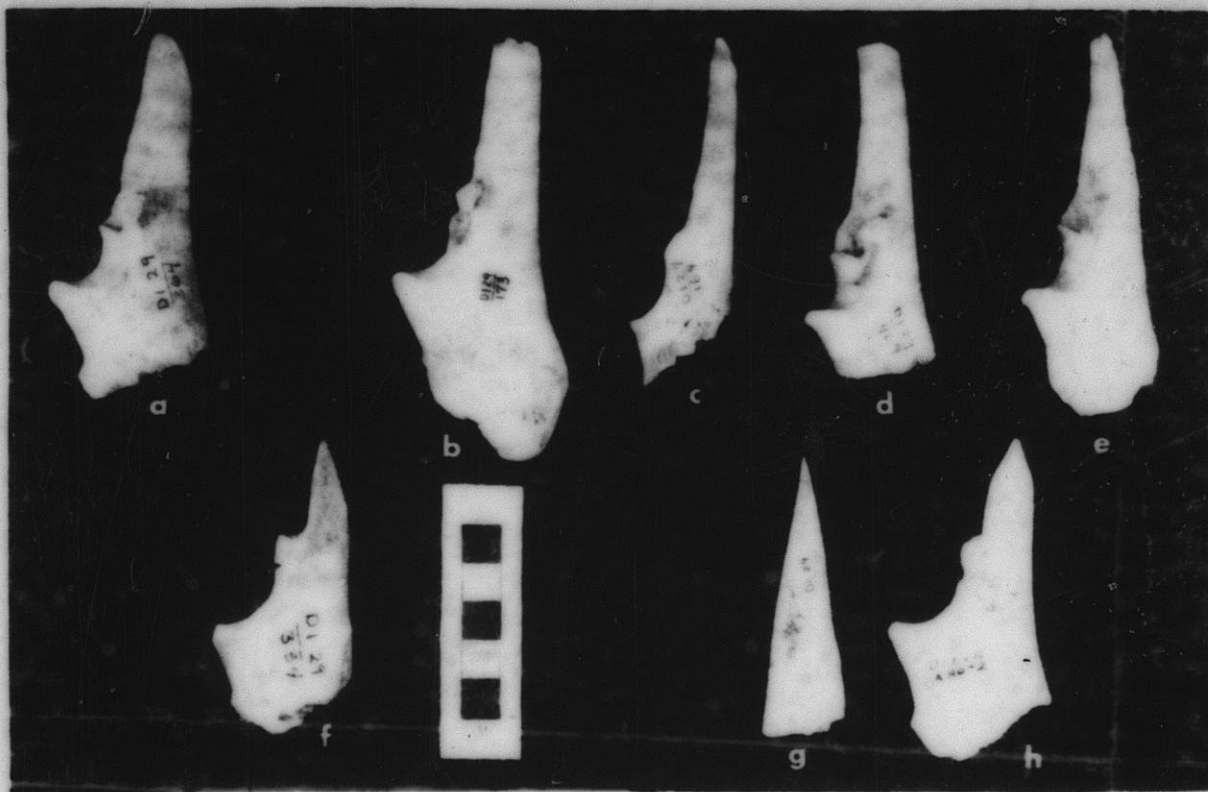


Figure 134. Ulna Implements
Ulna flukes a, Worked ulnas b - f, Ulna awls g - h

a # 364, b # 173, c # 189, d # 409, e # 173, f # 334,
g # 152, h # 466

Cannon Bone Awl

The distal end of a deer cannon bone was probably an awl although most of the shaft and the tip is missing. A section of bone has been cut from the side of the shaft below the articular surface and in addition the shaft is thinned. This is exactly the same manner in which a cannon bone awl from site D1-47 was formed (Baerreis and Freeman, 1959: 158). The cannon bone from D1-29, # 278, was found in Square 1:10, Level 10.

Longitudinally Split Awls

These five awls were made by splitting a bone in half lengthwise and thinning the shaft to a sharp tip. The complete awl or only the tip may be polished.

Two awls, # 177 and 214, are made from deer cannon bone and retain the articular surface. Both have broken tips. The other three awls are broken at the butt end and tip. Two of the awls, #'s 448 and 384 are made of deer long bone, the third, # 229, is of bird long bone.

Specimen Provenience .

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
177	1:12	4	384	1:5	8
214	2:10	3	448	2:6	3
229	1:11	6			

Splinter Rod Awls

Three awls were made of splinters of deer bone. The awls were completely worked and polished to a round rod-like cross section. # 385 is 140 mm. long. It has a triangular cross section at the butt end. #'s 434 and 254 are fragments.

Specimen Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>
385	1:2	4
254	1:7	7
434	2:10	7

Splinter Awls

Four awls were made from splinters of bone worked only at one end to form a sharp tip. # 173 is made from the tibia of a red wolf while the others are made of deer bone.

Awl Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>
371	1:3	4	broken
173	1:4	6	broken
173	1:4	6	101
110	2:5	5	30

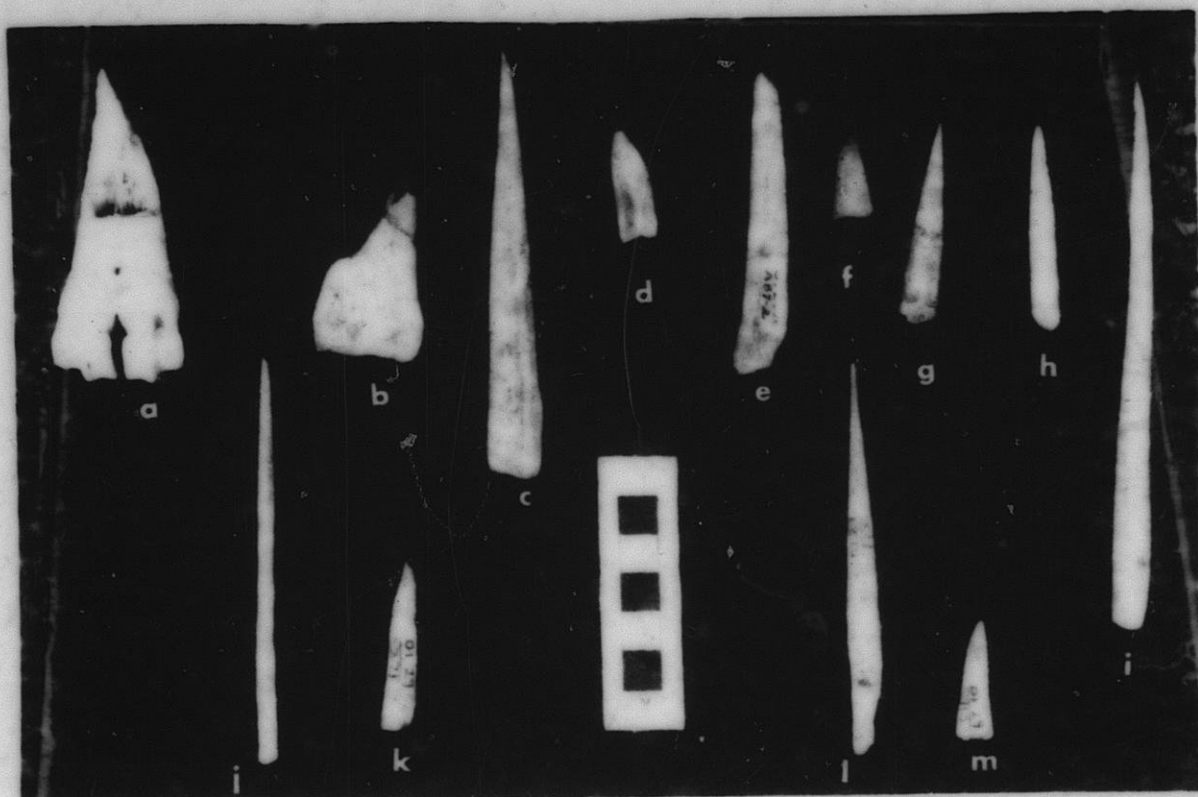


Figure 125 Bone Awls

Cannon bone awl a, Longitudinally split awls b - f,
Splinter rod awls g - i, Splinter awls j - m.

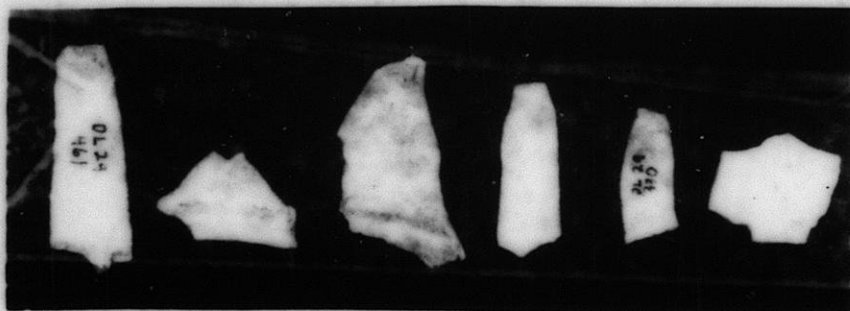
a # 278, b # 177, c # 214, d # 229, e # 384, f # 448,
g # 254, h # 434, i # 385, j # 173, k # 371, l # 173,
m # 110

Turtle Carapace Bowls

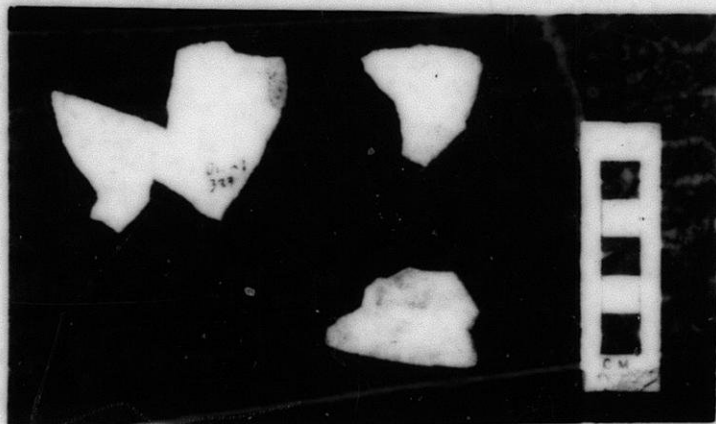
Nine pieces of turtle carapace bowls were found at the site. They probably are portions of bowls since they are all worked on the interior. Either the interior projections are ground off and the interior is knife marked or the interior is polished and knife marked.

Specimen Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
461	1:1	5	177	1:12	4
330	1:10	4	282	1:13	3
333	1:11	1	343	2:8	3
198	1:11	5	402	2:13	2
198	1:11	5			



a # 282 b # 330 c # 177 d # 402 e # 198 f # 461



g # 333 h # 198 i # 343

Figure 136.
Turtle Carapace Bowl
Fragments

Worked Canine

The canine tooth of a wolf (*Canis niger*) has been grooved near the tip of the root. This was either done in the process of cutting off the tip or else to provide a place for a thong or cord in order to suspend the tooth. The tooth was recovered from Square 2:7 in Level 1.



243

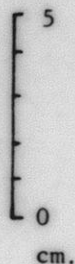
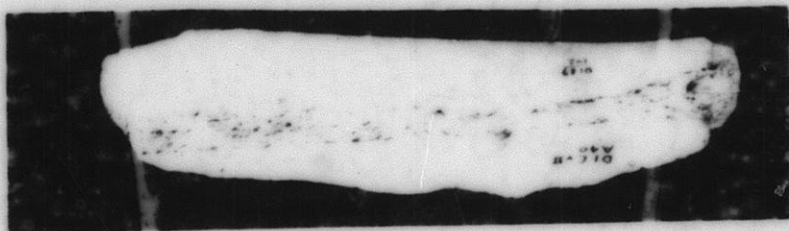


Figure 137. Worked Canine

Bison Scapula Implement

One implement is made of a portion of a bison scapula. The distal end, spine, posterior margin, and a good deal of the proximal end of the scapula has been cut off, leaving an implement 164 mm. long and 37 mm. wide. The bone is slightly polished through use. Unfortunately the cut edges are now rodent gnawed so it is not possible to determine whether the scapula was used for cutting, digging, or scraping. The scapula was found in Square 1:10 at Level 9.



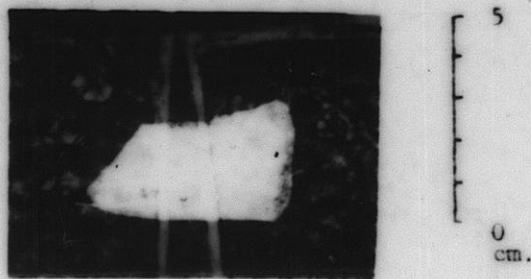
142



Figure 138. Bison scapula implement

Worked Deer Pelvis

A fragment of deer pelvis is ground and smoothed along one end so that the cancellous tissue is exposed. The one remaining edge is smooth and the whole fragment is polished. The implement fragment was found in Square 1:2 at Level 5.



360

Figure 139. Worked Deer Pelvis

Shaft Straighteners

Only fragments of shaft straighteners made either of deer tibia, #'s 337, 387, and 377, or deer radius, #'s 105 and 217, were found at the site. All have portions of the beveled holes on both sides of the bone on the same plane. As far as is known, these are single hole shaft straighteners.

One of the shaft straighteners, # 387, is decorated by engraved lines radiating from the edge of one hole and a criss-cross pattern on the shaft. A section of deer tibia, # 386, was found that has the same criss-cross design engraved on it. Since this fragment and the section of shaft straightener are both made from the left tibia of deer, it is probable that they represent the same implement. A criss-cross design also occurs on a shaft straightener from site D1-47 (Baerreis and Freeman, 1959: 189).

Specimen Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
386	1:4	4	377	1:3	4
387	1:8	4	105	2:4	4
337	1:1	3	217		

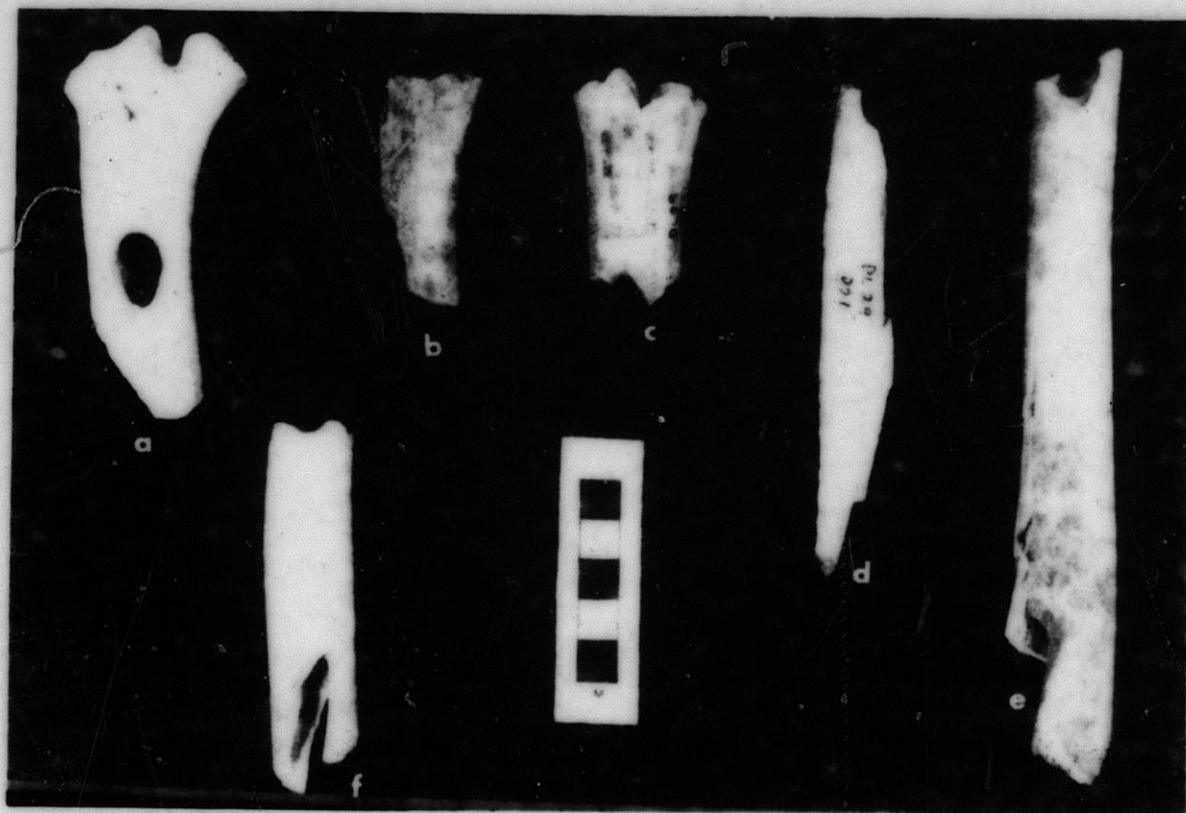


Figure 140. Shaft Straighteners

a # 217, b # 386, d # 387, d # 337, e # 377, f # 105

Worked Bone

Twelve fragments of deer long bone are split and worked. Most of the fragments are polished through use. Unfortunately not enough of these implements remain in order to identify function.

Two bones, #'s 174 and 166, the former a deer toe bone and the latter deer long bone, have knife marks across them. These marks are probably the results of butchering rather than an attempt to form an implement.

Specimen Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
379	1:1	13	429	1:8	2
340	1:1	14	376	1:8	4, 5 or 6
181	1:3	2	112	2:4	8
345	1:3	7	110	2:5	5
305	1:4	12	137	2:9	2
407	1:5	9	174	1:8	7
405	1:7	5	166	1:11	2

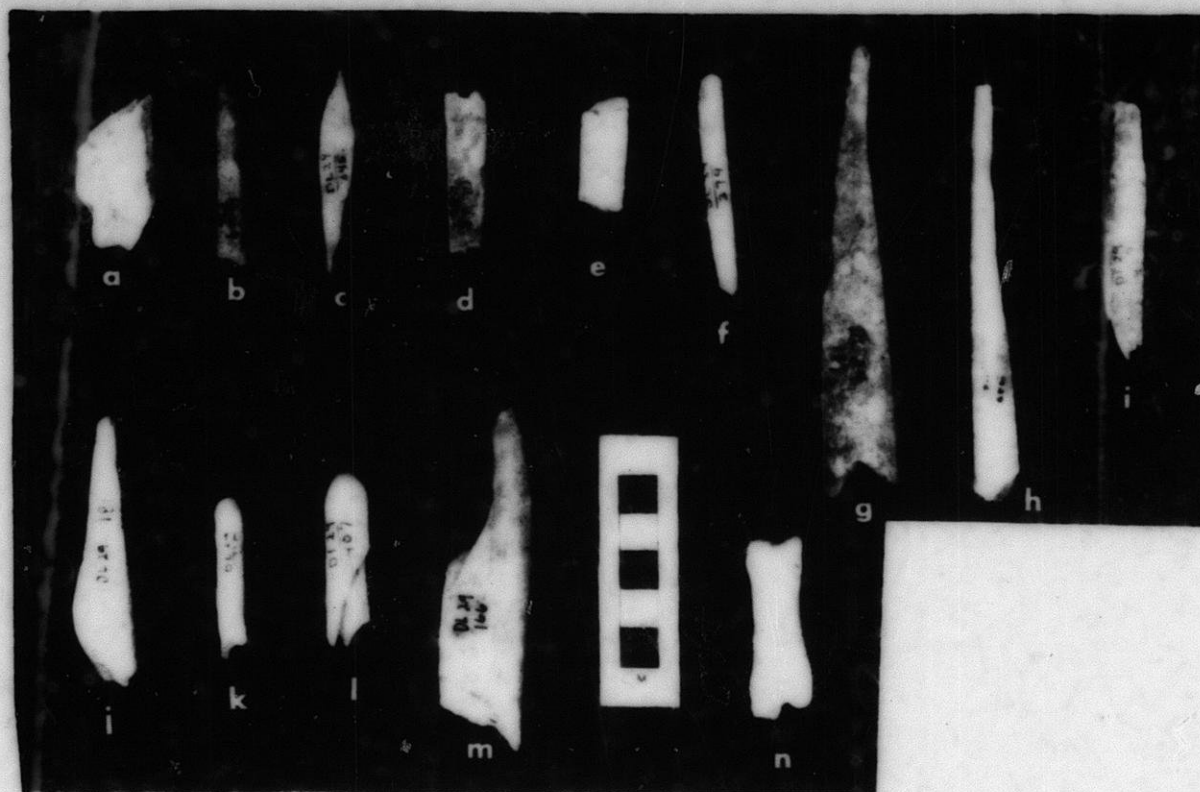


Figure 141. Worked Bone

a # 305, b # 376, c # 345, d # 405, e # 340, f # 379,
 g # 137 h # 112, i # 429, j # 181, k # 110, l # 407,
 m # 166, n # 174

SHELL IMPLEMENTS

Shell Scrapers

The most numerous artifacts of shell are scrapers. There is a total of forty-five scrapers made from valves of fresh water mussel shell. Twenty-one are made from the right valve, twenty-four from the left valve. All are worked on the ventral border near the posterior end in such a manner that the ventral border is worn straight or concave and the posterior end is somewhat pointed. Probably this form was produced through use rather than deliberate shaping. Not all the scrapers are illustrated but those that are give the range of form for the implements.

Specimen Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Height</u>	<u>Species Identification</u>
266	1:8	8	75	36	<i>Elliptio dilatatus</i> (Raf.)
306	1:13	3	74	40	" "
451	2:7	2	65	35	" "
192	1:11	4	101	42	<i>Ligumia recta latissima</i> (Raf.)
200	1:10	6	92	58	<i>Actinonaias carinata</i> (Barnes)
192	1:11	4	60	39	" "
192	1:11	4	77	49	" "
424	2:6	1	71	44	" "
468	1:2	3	--	48	<i>Ptychobranhus fasciolaris</i> (Raf.)
404	1:3	2	67	36	" "
366	1:5	7	85	50	" "
423	1:5	8	89	55	" "
264	1:5	9	78	44	" "
152	1:8	3	80	44	" "
436	1:8	4	88	49	" "

Specimen Provenience cont'd

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Height</u>	<u>Species Identification</u>	
376	1:8	4, 5, or 6	83	45	Ptychobranthus fasciolaris (Raf.)	
364	1:9	5	84	48	"	"
415	1:10	3	76	46	"	"
330	1:10	4	75	43	"	"
330	1:10	4	66	36	"	"
330	1:10	4	87	46	"	"
330	1:10	4	67	31	"	"
192	1:11	4	101	42	"	"
192	1:11	4	76	44	"	"
229	1:11	6	75	45	"	"
161	1:12	2	87	46	"	"
177	1:12	4	86	50	"	"
306	1:13	3	82	45	"	"
104	2:1	4	83	49	"	"
285	2:5	4	60	32	"	"
449	2:6	2	94	59	"	"
243	2:7	1	--	44	"	"
462	2:7	4	66	41	"	"
196	2:7	5	--	45	"	"
137	2:9	2	70	39	"	"
137	2:9	2	83	46	"	"
456	2:9	7	86	50	"	"
456	2:9	7	91	50	"	"
188	2:10	2	81	46	"	"
103	2:10	5	64	36	"	"

Specimen Provenience cont'd

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Length</u>	<u>Height</u>	<u>Species Identification</u>
103	2:10	5	67	39	<i>Ptychobranhus fasciolaris</i> (Raf.)
197	2:10	6	83	46	" "
197	2:10	6	83	53	" "
434	2:10	7	80	46	" "
187	2:11	7	68	39	" "

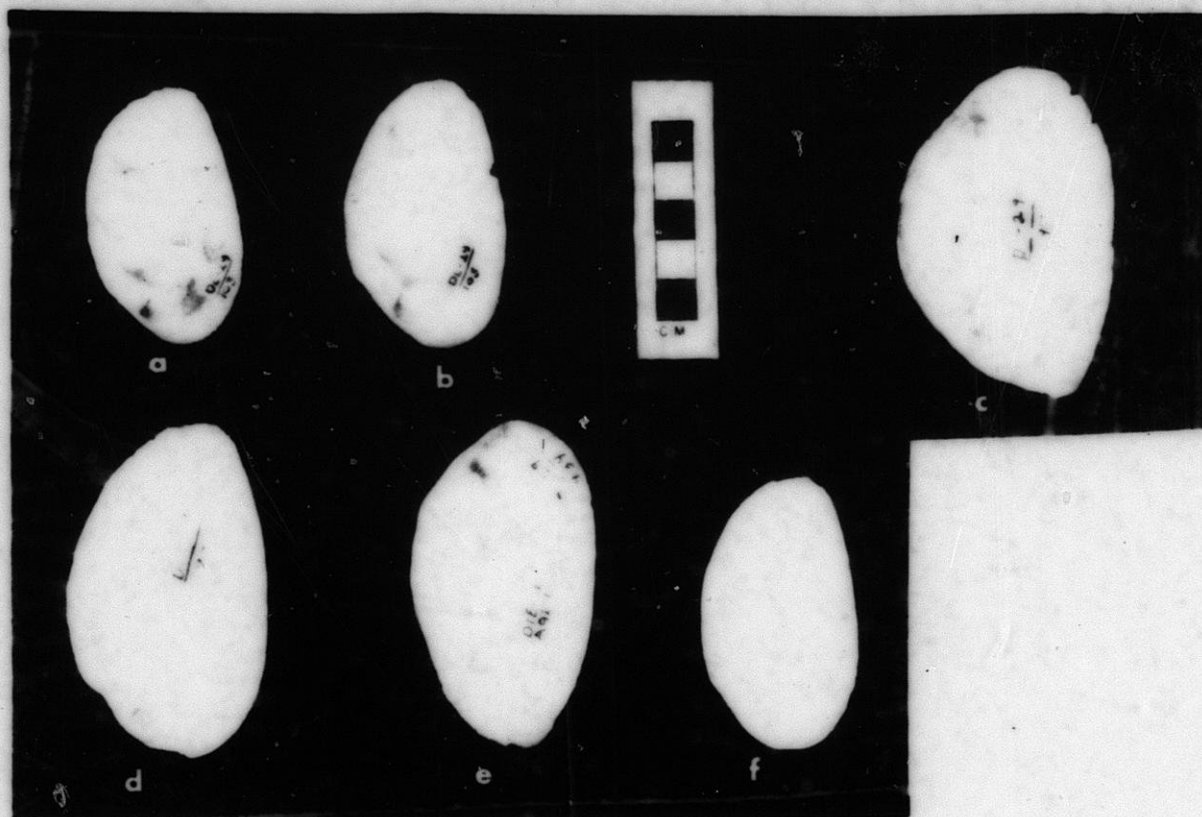


Figure 142. Shell Scrapers

a # 103, b # 103, c # 197, d # 197, e # 434, f # 187



Figure 143. Shell Scrapers

a # 404, b # 468, c # 424, d # 192, e # 192, f # 200,
g # 192, h # 451, i # 306, j # 266

Perforated Shell

One right valve (*Ptychobranthus fasciolaris* (Raf.)) is perforated near the dorsal edge. The perforation was made by cutting or sawing through the shell from the exterior. Other than the perforation, the shell is not worked. The shell, found in Square 1:4, Level 2, is 64 mm. long and 35 mm. high.

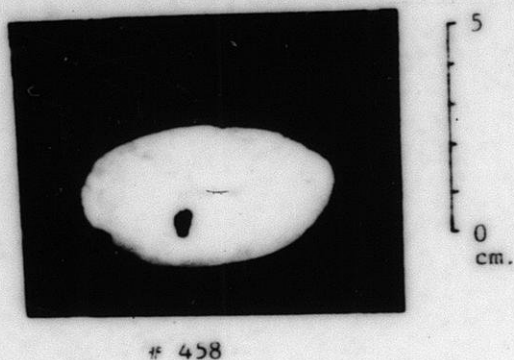


Figure 144. Perforated Shell

Shell Beads

Four cylindrical shell beads, 9 mm. long and ranging from 4 to 6 mm. in diameter, were found in association with Burial 2. Two of the beads were found below the skull and two below the clavicle. This means that the beads were in association with the infant burial.

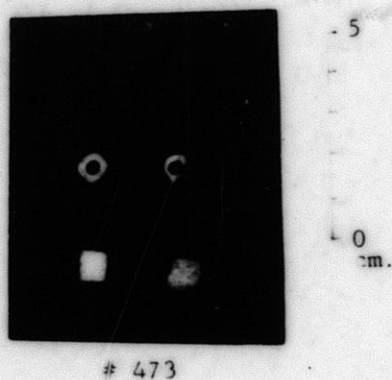


Figure 145. Shell Beads

POTTERY

Most of the fragments of pottery from the site can be classified as types of grit tempered Woodland or shell tempered Neosho Focus pottery; types which have been previously defined for the northeastern Oklahoma area. Some shell tempered sherds are not classified as belonging to the Neosho Focus for reasons which will be discussed below.

Woodland Pottery

Ten rim sherds and ninety-one body sherds conform in decoration and surface treatment to Woodland types defined by Baerreis (1953). The sherds from D1-29 do differ from the majority of the Woodland sherds described from the Cooper sites (the major Woodland sites in Delaware County) in temper. While the sherds from D1-29 are tempered with particles of grit, the majority of them also contain some shell. A mixture of shell and grit temper is present in only a few of the sherds from the Woodland village sites.

At D1-29, sixty-five of the ninety-one body sherds and three of the ten rim sherds have some shell temper present. This shell is usually of small size and is present in sparse amounts in comparison to the grit, the predominant tempering material. The shell does not alter the texture or hardness of the sherds as compared with those from the Woodland village sites in Oklahoma.

Cooper Zoned Stamped. One rim sherd is of the type Cooper Zoned Stamped (Baerreis, 1953). The sherd is tempered entirely with particles of grit. The texture is crumbly and the hardness 2.5. Lip thickness is 6 mm.

This sherd, # 169, has a row of nodes 5 mm. in diameter punched out from the interior 14 mm. below the rounded lip. Between the two remaining nodes is a vertical zone of horizontal rows of dentate stamping. This zone is 17 mm. wide. In contrast to the majority of sherds of Cooper Zoned Stamped from the type sites, this sherd from D1-29 does not have the zone of stamping set off by

incised lines. In this respect the sherd is like the one illustrated in the lower left hand corner of Cooper Zoned Stamped sherds in the type description (Baerreis, 1953:1-5). In addition to the described decoration this sherd also has a drilled hole, 7 mm. wide, in line with the nodes. The sherd was found in Square 1:7, at Level 9.

Cowskin Dentate Stamped. Seven sherds are classified as Cowskin Dentate Stamped (Baerreis, 1953). Two of the seven are tempered with grit, the other five with grit and some shell. The sherds all have a crumbly texture and the hardness ranged from 2 to 2.5. Colors are buff to brown on the exterior while the interior may be the same color or black.

The design on five sherds consists of parallel vertical or diagonal cord wrapped stick impressions on the outer lip and/or upper rim adjacent to the lip. These sherds are similar in decoration to some sherds classified as Weaver Ware in the Illinois area. Sherd # 157 has vertical cord wrapped stick impressions 8 mm. wide on the rim. # 258 has vertical impressions 6 mm. wide on the rim and outer lip. On sherd # 275 the cord wrapped stick impressions are also vertical on the upper rim. The impressions are 6 mm. wide. The cord wrapped stick impressions on sherds #'s 185 and 182 are diagonal on the upper rim and are 6 mm. wide. The cord impressions on all these sherds covers an area of 6 to 8 mm. on the rim just below the lip. The decoration on these sherds is like that illustrated on Plate 6, #'s 14 and 15, in Bell and Baerreis, 1951:35.

One other sherd also has cord impressions on the upper rim but these impressions were made with a single cord. This variety of decoration has not been previously reported for Cowskin Dentate Stamped, but may well be a variant of the decoration of this type. This sherd, #'s 182 and 234, has a rounded lip which is slightly thickened on the exterior, perhaps due to the action of pressing cords on the exterior. These cord impressions are diagonally placed and

cover a 7 mm. area from the lip down. Two drilled holes 10 mm. in diameter are present 39 mm. below the lip. They may have been drilled in order to mend a break in the vessel.

The seventh sherd of this type is decorated with dentate stamping on the upper rim. These diagonal lines of stamping are fine, 3 mm. wide, and cover an area to 18 mm. below the lip. A drilled hole, 6 mm. in diameter is present 37 mm. below the lip.

Sherd Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
258	1:0	10	flat	6 mm.	--
275	1:6	5	round & thinned	5	--
182	1:6	7	round	5	--
182 & 234	1:6	7	round	6	20 cm.
	1:6	8			
185	1:7	8	round	6	--
157	1:7	10	beveled	7	--
166	1:6	7	beveled	8	22 cm.

Unclassified Woodland. Two sherds cannot be classified as either of the identified Woodland types in Northeastern Oklahoma. Rim sherd # 248 is tempered with grit and some shell, is 2.5 on the hardness scale, and has a flat lip. There is no decoration on the exterior except for embossed nodes, 15 mm. in diameter, which are present in a row 22 mm. below the lip. The lip is 8 mm. wide and orifice diameter is calculated to be 24 cm. The sherd comes from Square 1:8, Level 10.

The other unclassified sherd, # 172 from Square 2:8, Level 7, is tempered with grit and more shell than is present in the other sherds. The sherd is compact and 2.5 on the hardness scale. The design is composed of

single cord impressions 6 mm. long placed vertically in a horizontal row 8 mm. below the beveled lip. The sherd may have been smoothed to lightly polished after the cord impressions were made.

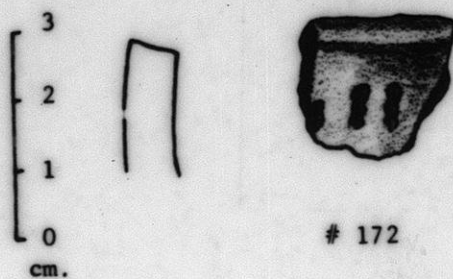


Figure 146. Unclassified Woodland Rim Sherd

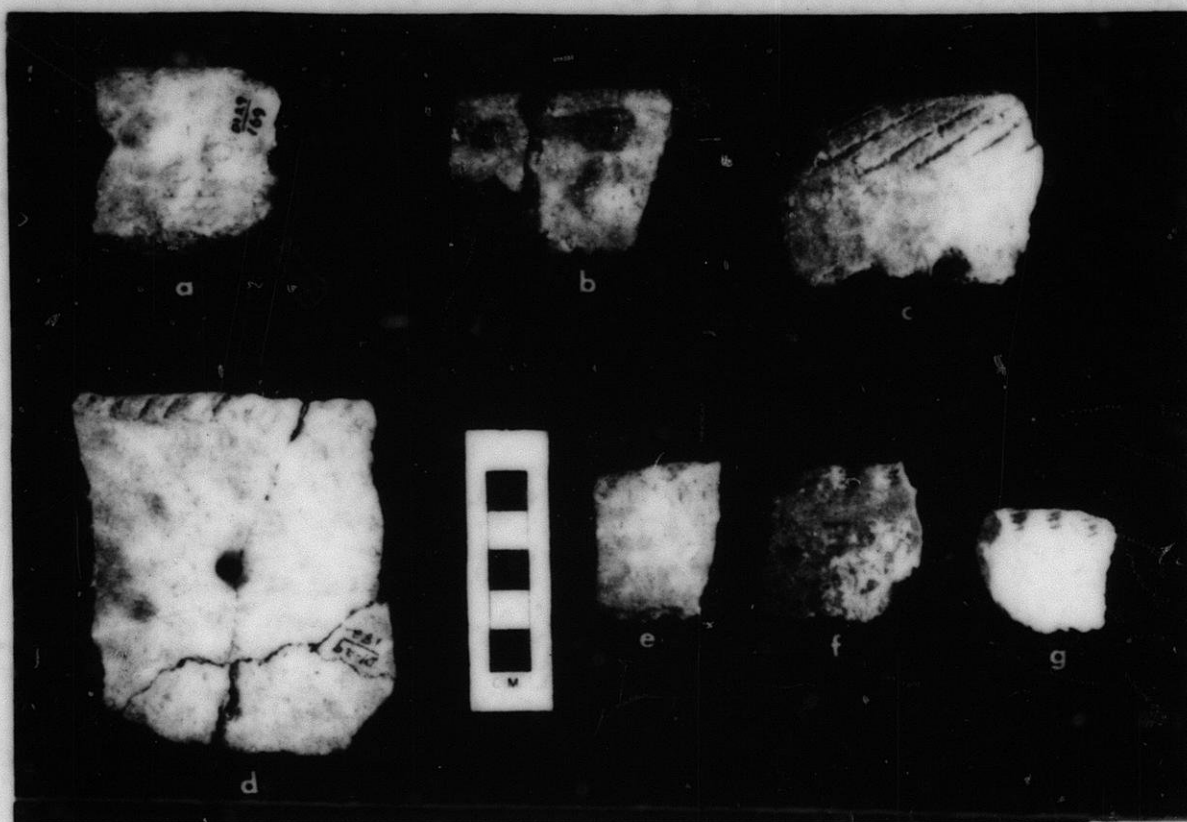


Figure 147. Woodland Rim Sherds

a # 169, b # 248, c # 166, d # 182 & 234, e # 182,
f # 258, g # 275

Cooper Zoned Stamped a, Unclassified b, Cowskin Dentate Stamped e - g

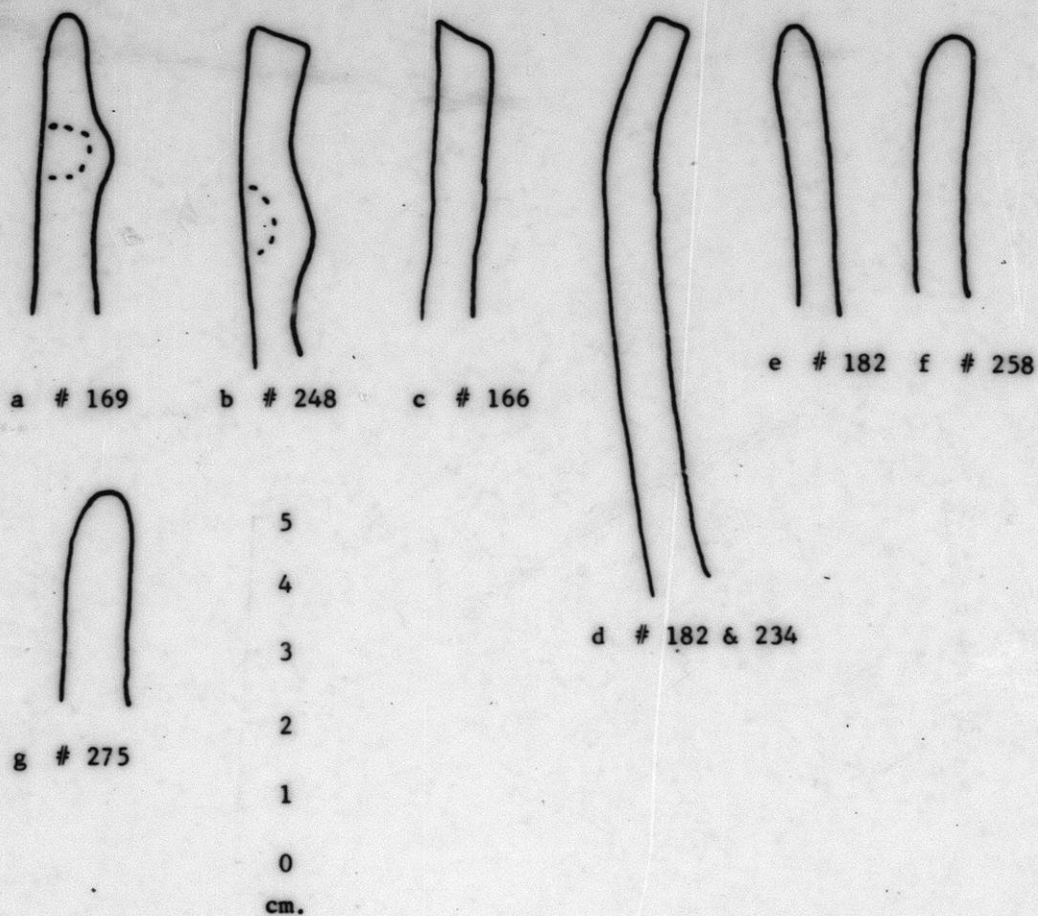


Figure 148. Profiles of Woodland Rim Sherds Illustrated in
Figure 147. Interior to Left.

Body Sherds. The ninety-one grit or grit and shell tempered body sherds are 2 to 2.5 in hardness and compact or crumbly in texture. Colors range from buff to reddish brown on the surface of the sherds. The core is always black or grey and the interior may be these colors or the color of the exterior wall. All of the sherds have a smooth surface and bear no decoration. They range in thickness from 6 to 12 mm. averaging 7.25 mm.

Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>f</u>	<u>#</u>	<u>Square</u>	<u>Level</u>	<u>f</u>
270	0:3	8	1	211	1:4	12	2
154	0:3	10	1	107	1:4	13	1
259	1:0	5	1	148	1:5	5	1
268	1:1	7	2	171	1:5	6	2
250	1:1	7	1	407	1:5	9	1
290	1:1	8	1	264	1:5	9	3
422	1:1	10	2	265	1:5	12	1
209	1:2	6	1	245	1:6	4	1
207	1:2	7	4	275	1:6	5	1
413	1:3	10	1	182	1:6	7	14
279	1:3	12	2	234	1:6	8	1
475	1:4	4	1	219	1:6	9	1
173	1:4	6	1	403	1:7	6	1
414	1:4	9	2	254	1:7	7	10
242	1:7	8	2	151	2:5	4	1
425	1:7	13	2	375	2:6	3	1
152	1:8	3	1	256	2:12	1	1
266	1:8	8	3	261&	1:5	10	1
168	1:8	9	1	265	1:5	12	1
				477&	1:3	6	1
				234	1:6	8	

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>f</u>	<u>#</u>	<u>Square</u>	<u>Level</u>	<u>f</u>
329	1:9	2	1	107& 211	1:4 1:4	13 12	1
250	1:9	5	1	254& 261& 234	1:7 1:5 1:6	7 10 8	1
271	1:10	2	2				
147	1:10	3	2				
224	1:10	5	4				
106	1:10	9	1				
469	2:4	3	1				
409	2:4	4	1				
328	2:5	3	1				

Where multiple numbers are given in the above table they represent sherds from separate locations which were found to join. Such joins provide a valuable clue to mixture or disturbance in the deposit.

Neosho Focus Pottery

Two types of pottery, Woodward Plain and Neosho Punctate, have been recognized in Neosho Focus sites. The original description of Woodward Plain was prepared by Robert L. Hall (1951:19). Subsequent classification of plain shell tempered pottery from Neosho Focus sites has followed this original description with the exception of a modification in vessel form classification (see Baerreis and Freeman, 1959: 222-256 and Freeman, 1959: 58-72). This latter vessel form classification is utilized in this report.

Woodward Plain has also been used by some authors subsequent to the original description for Neosho Focus pottery, as a type name for undecorated shell tempered pottery from sites of varied cultural affiliation in Oklahoma. From a comparison of Woodward Plain from Neosho Focus sites and plain shell tempered pottery from a site of Caddoan affiliation (the Reed site in Delaware County, Oklahoma), two varieties of Woodward Plain have been distinguished. The Woodward Plain pottery discussed below is now classified as Woodward Plain, Neosho Variety as opposed to Woodward Plain, Reed Variety. In view of the absence of decoration, slight differences in size and amount of shell temper and kinds and percentages of vessel forms were the basis of separating varieties. For a more detailed discussion of the problem of distinguishing between samples of undecorated shell tempered pottery see Freeman and Buck, 1960.

Woodward Plain, Neosho Variety. Ninety-two rim sherds from D1-29 have been identified as Woodward Plain, conforming to the original description by Hall (1951:19).

The shell temper in the rim sherds from D1-29 is fine to medium in size, .3 to 5 mm., and is present in moderate amounts. The temper is

visible on the surfaces of the sherds. The sherds are compact and 3.5 on the hardness scale except when the temper leached the hardness declines to 2.0. The surface colors range considerably; black, brown, reddish-brown, grey or buff are present. The darker colors are the predominant ones.

The rims of Woodward Plain vessels were divided into bowl or jars on the basis of presence or absence of a shoulder and estimation of vessel diameter in comparison to height. The vessel form classifications are discussed below and sherds within each category listed.

Bowl A. The walls of these bowls are vertical near the orifice and then slant inward toward the base or else the walls are convex from lip to base. Fifteen rims from D1-29 are within this shape category. One sherd, #184, is a variant in that horizontal tabs are present on the lip of the vessel.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
213	1:1	4	round	4 mm.	--
181	1:3	2	flat	5	--
470	1:4	1	flat	5	--
173	1:4	6	flat	6	--
179	1:5	7	flat	6	--
176	1:7	2	flat	8	--
129	1:8	2	round	7	16 cm.
224	1:10	5	flat	5	--
249	1:11	6	round	3	--
184	1:13	4	flat	7	--
119	2:3	3	flat	5	--
103	2:10	5	flat	4	--
472	2:12	3	flat	5	--
124	2:13	3	round	3	--
143	2:16	2	flat	6	--

Bowl B1. The maximum diameter of these bowls is at the orifice. The walls of the bowl are straight and contract to the base. Two rim sherds are of this form. Sherd #152 (Square 1:8, Level 3), has a rounded lip which is 6 mm. thick. Sherd #150 (Square 1:9, Level 4) also has a rounded lip and is 6 mm. thick.

Bowl B2. These bowls also have the maximum diameter at the orifice but in contrast to Bowl B1, the walls of Bowl B2 are convex rather than straight. Two sherds in this category, #'s 171 and 135, bear horizontal lip tabs.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>
267	1:0	2	flat	5 mm.
217	1:4	2	flat	5
171	1:5	6	flat	6
469	2:4	3	flat	4
135	2:4	5	round	6

Miniature Bowl. One sherd, #'s 408 & 147, form part of a miniature bowl. The orifice diameter of this bowl is 7 cm., considerably less than that estimated for bowls from various Neosho Focus sites. The lip is round and is 4 mm. thick. The sherds come from Square 1:10, Level 6 and Square 1:10, Level 3.

Unclassified Bowls. Two rim sherds are obviously from bowls but the section of rim present is too small to determine the bowl form. #224, from Square 1:10, Level 5, bears a vertical lip tab. The other bowl rim, #209 from Square 2:13, Level 2, has a flat lip, 7 mm. thick.

Jar A. The rim on Jar category A is either vertical or slightly inslanting. The rim merges gradually with a gently rounded shoulder. Rim height for this category ranges from 18 to 36 mm. for a series from Neosho

Focus sites.

Twelve rim sherds from D1-29 represent jars of this form. A strap handle, 25 mm. wide, is present on rim sherd #252. The handle is riveted into the body of the vessel on the lower rim. A rounded tab is present on the lip where the handle joins it.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
193	1:3	4	flat	4 mm.	--
477	1:3	6	round	5 mm.	--
129	1:8	2	flat	6 mm.	20 cm.
374	1:8	6	flat	5 mm.	--
266	1:8	8	flat	8 mm.	--
248	1:8	10	flat	6 mm.	20 cm.
410	1:11	4	flat	4 mm.	--
112	2:4	8	round	5 mm.	--
146	2:7	2	flat	6 mm.	--
146	2:7	2	flat	6 mm.	18 cm.
252	2:9	3	round	--	--
218	2:9	7	round	5 mm.	--

Jar B. The rim on these jars is usually flaring, sometimes vertical, and varies from 6 to 14 mm. in height. The rim merges gradually with a gently rounded shoulder.

Twenty-three rims from D1-29 are classified as Jar B rims. One rim, #176, has a strap handle 16 mm. wide attached to the lip and riveted into the wall of the vessel at the shoulder. Rim #244 bears lip tabs which form an extension of the flaring rim and approach a horizontal position.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
173	1:4	6	round	3 mm.	--
251	1:6	2	round	4	--
354	1:6	3	round	5	--
418	1:7	2	flat	6	--
176	1:7	2	round	6	20 cm.
169	1:7	9	flat	4	--
329	1:9	2	round	5	--
250	1:9	5	flat	6	--
106	1:10	9	round	4	--
469	2:4	3	round	5	--
139	2:4	8	round	6	22
244	2:4	7	round	5	24
151	2:5	4	round	3	--
146	2:7	2	flat	6	--
146	2:7	2	round	6	--
343	2:8	3	round	3	--
149	2:9	1	round	5	--
149	2:9	1	round	--	--
149	2:9	1	round	4	--
437	2:9	3	flat	5	--
216	2:11	7	round	5	--
100	2:11	5	flat	6	20 cm.
?	--	--	flat	5	16

Jar Cl. These jars have a high flaring rim varying from 16 to 40 mm.

The rim merges gradually with a rounded shoulder. The shoulder forms an angle

with the horizontal greater than 45° . Eight rims from D1-29 are of the category. One rim, #168, has a strap handle 22 mm. wide riveted into the shoulder of the vessel and attached to the lip. Where the handle meets the lip, the lip is slightly raised to form a low and wide tab.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
247	1:2	4	flat	4 mm.	--
468	1:2	8	round	5	--
115	1:3	2	round	5	10 cm.
240	1:5	4	flat	4	--
168	1:8	9	round	6	22
177	1:12	4	round	5	--
101	2:9	4	flat	5	20
209	2:13	2	flat	6	--

Jar C2. Jars of this category also have rims which are 16 to 40 mm. high. The difference between C1 and C2 is to be seen in the way in which the rim is attached to the body of the vessel. The rim in C2 meets the body at an angle, thus there is a distinct juncture of rim and body.

One rim at D1-29 is of Category C2. The rim, #129, has a flat lip 5 mm. thick. The orifice diameter is estimated to be 22 cm. The sherd was found in Square 1:8 at Level 2.

Jar D. The rims of these vessels also are flaring. The rim always meets the body at a decided angle. In contrast to the jars of the C category, the shoulder of Jar D forms less than a 45° angle with the horizontal. Three sherds are within this category.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
148	1:5	5	flat	7 mm.	20 cm.

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
105	2:4	4	flat	4 mm.	--
421	unknown	unknown	flat	6	--

Unclassified Jars. Five rim sherds evidently came from jars for a junction between rim and shoulder can be seen. However, the sherds are too small to permit classification into a jar form category.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>
217	1:4	2	flat	5 mm.
167	1:5	2	round	6
148	1:5	5	round	3
129	1:8	2	round	5
324	1:8	5	round	5

Unclassified Rims. In the group of unclassified rims are thirteen rim sherds too small to be categorized.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>
217	1:4	2	round	6 mm.
167	1:5	2	flat	5
275	1:6	5	flat	8
150	1:9	4	flat	4
273	1:10	1	flat	5
138	1:16	7	round	7
469	2:4	3	flat	5
409	2:4	4	flat	4
180	2:4	4	flat	4
180	2:4	4	flat	6

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>
139	2:4	8	flat	5
465	2:7	6	flat	7
231	2:9	5	round	5

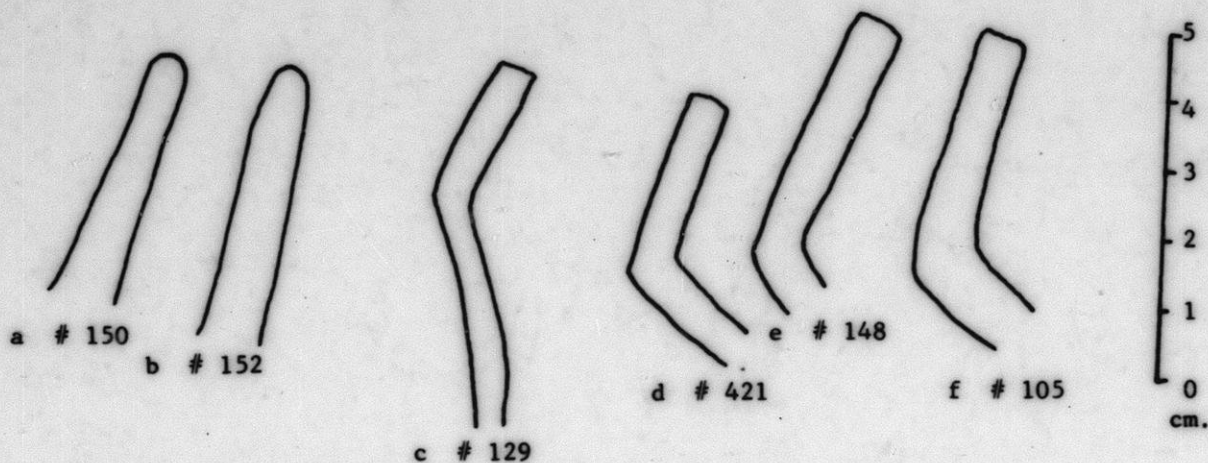


Figure 149. Profiles of Woodward Plain Rim Sherds
Interior to Left

Bowl B - 1 a - b, Jar C - 2 c, Jar D d - f

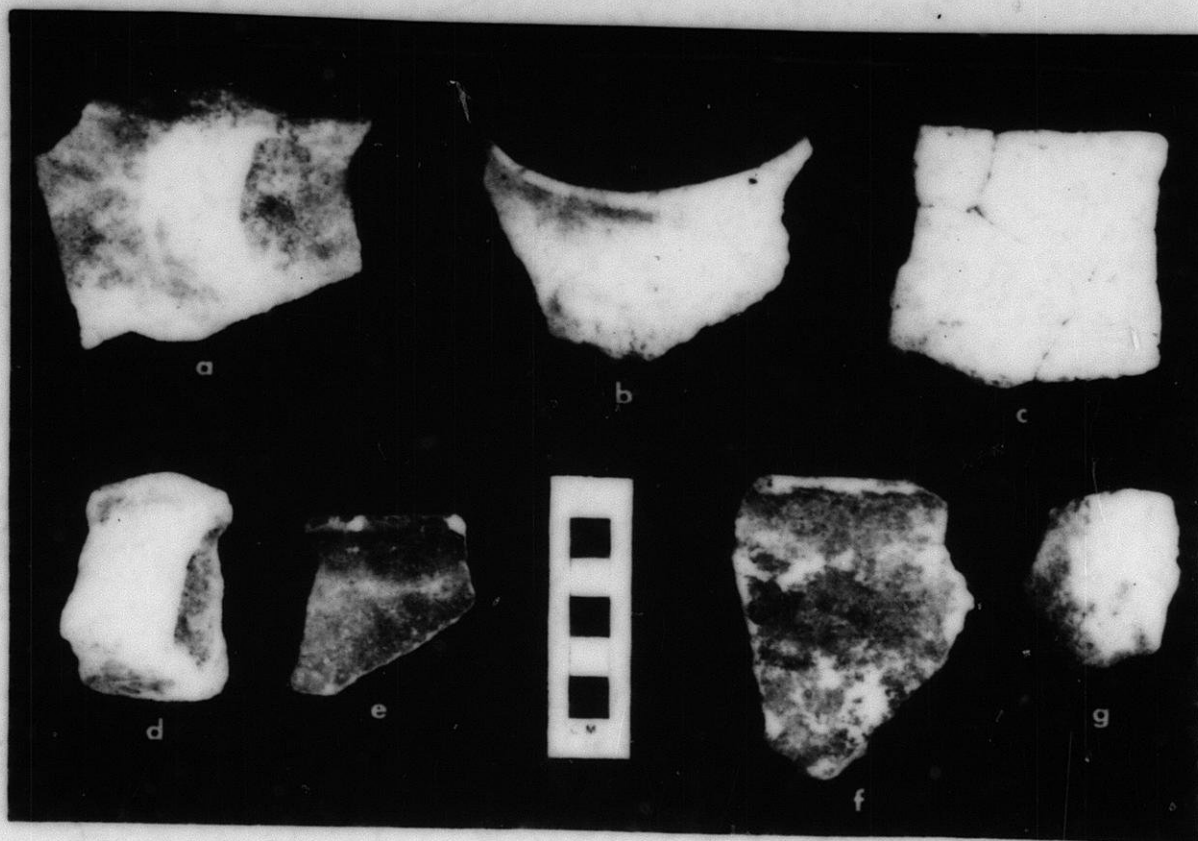


Figure 150. Woodward Plain Rim Sherds

a # 168, b # 115, c # 146, d # 252, e # 146, f # 418,
g # 103

Jar C - 1 a - b, Jar A c - e, Jar B f, Bowl A g

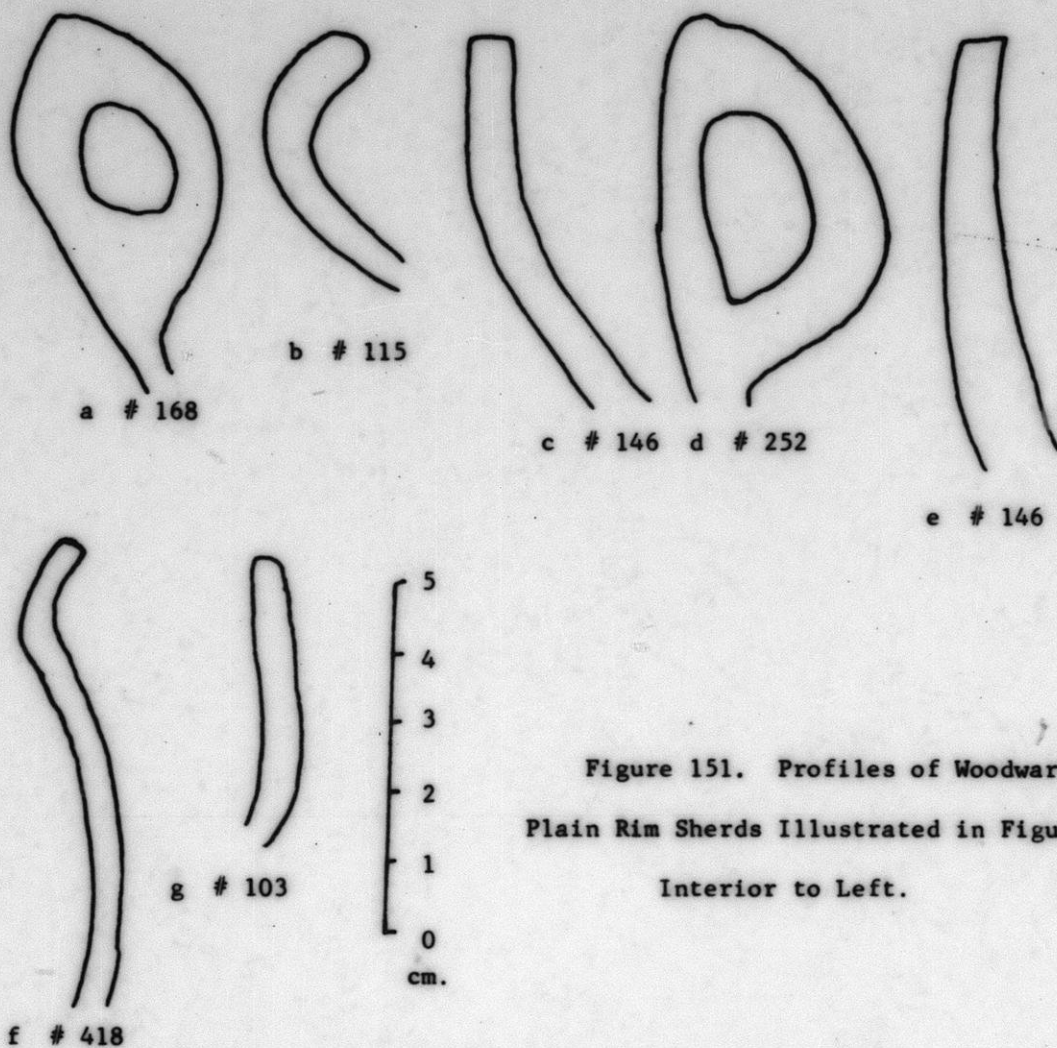


Figure 151. Profiles of Woodward
Plain Rim Sherds Illustrated in Figure 150.
Interior to Left.

Neosho Punctate. The pottery type Neosho Punctate has been defined by Baerreis and Freeman (1959, 243-254), and in Freeman and Buck (1960). The type in the past has been referred to as the decorated variety of Woodward Plain since the sherds of the former differ from the latter only in presence of decoration. Minor variations can be seen in the surface finish of Neosho Punctate; a few sherds show a greater amount of smoothing on the exterior surface.

Thirty-two rim sherds comprising thirty vessels, are decorated on the lip and/or body by means of incised lines and/or punctates. The punctates are always wedge-shaped, pressed more deeply into the clay at one end than at the other. Lip decoration consists of notches, placed diagonally across the lip or at right angles to the walls, or punctates, always placed on the lip so that they are parallel to the walls. Body decoration is confined to the rim and sometimes on the upper shoulder. The body decoration consists of punctates, incised lines, or a combination of both. Punctates occur in horizontal or vertical rows or are diagonally opposed. Incised lines form chevrons or are arranged in diagonal groups. A numerically minor decoration consists of applique nodes.

The vessel forms for Neosho Punctate are the same as defined for Woodward Plain. The decoration on individual rims will be discussed under the various vessel forms.

Bowl A. Three rim sherds and one complete bowl are of Bowl Form A. All the rims have punctate decoration on the lip. One Rim, #149, has horizontal, sub-triangular, tabs attached to the lip. These lip tabs are also present on the complete bowl which was found with Burial 2.

The complete bowl has a flat circular base which is 7 cm. in diameter. The bowl is 7.4 cm. high and 12 cm. in orifice diameter.

Sherd Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
169	1:7	9	flat	5 mm.	--
149	2:9	1	flat	6	--
143	2:16	2	flat	5	--
B2-1	Burial 2		flat	5	12 cm.

Bowl B2. One sherd from a bowl of form B2 was recovered. The lip of the sherd is decorated with punctates placed with the long axis parallel to the walls of the vessel. The sherd is further decorated with horizontal lip tabs. The lip itself is flat and 6 mm. thick. The orifice diameter is estimated to be 20 cm. This sherd was found in Square 1:10 at Level 9.

Jar A. Fourteen rims represent portions of jars of Form A. Seven rims have punctates on the lip (#'s 118, 166, 144, 437, 188, 237, and 132). Six rims (#'s 133, 183, 152, and 252 & 148 & 324) have notches across the lip. The punctates or notches are the only decoration present on six of these rims (#'s 152, 403, 144, 437, 188, and 237). One of these rim sherds with decoration only on the lip, #144, has a strap handle 17 mm. in width attached to the lip. The other end of the handle is broken so it is not known if this end was riveted into the vessel wall.

A single rim sherd, #121, is decorated on the body but not on the lip. Present on the upper rim of this sherd are parallel diagonally opposed incised lines in a chevron pattern.

Three rims are decorated on the body by punctates. #166 bears, on the rim, punctates oriented diagonally to the left while below are punctates oriented diagonally to the right. #132 has vertical punctates in a horizontal row on the lower rim. #183 has a horizontal row of vertical punctates bordered by a row of diagonal punctates.

Three rim sherds are decorated with incised lines. #133 and #118 have parallel diagonal lines on the rim. #148 & 252 & 324 bear, on the lower rim and upper shoulder, a design composed of parallel diagonal lines bordered below by a horizontal line which in turn is bordered by another group of diagonal lines.

Rim sherd #145 has a horizontal row of punctates on the lower rim. The punctates are bordered by parallel diagonal lines.

Sherd Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	<u>Orifice Diameter</u>
133	1:5	3	flat	7 mm.	--
118	1:6	2	flat	6	--
403	1:7	6	flat	5	--
152	1:8	3	flat	6	--
145	1:9	7	flat	5	--
166	1:11	5	flat	4	22 cm.
121	2:5	4	flat	4	--
144	2:7	2	flat	8	--
437	2:9	3	flat	6	--
188	2:10	2	flat	5	--
132	2:11	1	flat	6	--
183	2:11	3	flat	5	--
237	unknown	unknown	flat	4 mm	--
148	1:5	5			
252	2:9	3	flat	6 m	20 cm.
324	1:8	5			

Jar B. Eight rims, representing six vessels, have a short and flaring rim. Six of the rims are decorated on the lip but not on the body. Three of these rims have notches across the lip, #'s 240, 103, and 103. Three other rims bear punctates on the lip, #'s 136, 324, and 248.

Two of the Jar B rim sherds are decorated both on the lip and body. #175 has punctates on the lip and two horizontal rows of vertically oriented punctates on the rim. #144 has punctates on the lip and diagonal incised lines on the rim.

Sherd Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	
240	1:5	4	flat	7 mm.	
324	1:8	5	--	--	
248	1:8	10	flat	5	same vessel as #324
175	1:10	8	flat	5	
136	1:13	5	flat	5	
144	2:7	2	flat	4	
103	2:10	5	flat	--	
103	2:10	5	flat	7	same vessel as #103 above

Unclassified Jar Rims. Two rims, still retaining part of the shoulder, have a punctate decoration on the lip. #145 was found in Square 1:9 at level 7, #148 in Square 1:5, level 5.

Unclassified Rims. Three rim sherds are unclassified as to form because of their small size. One rim, #408, has two vertical incised lines adjacent to the strap handle which is 13 mm. wide. Rim #127 has notches across the lip. #165 has punctates on the lip.

Sherd Provenience and Associated Traits

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Lip</u>	<u>Lip Thickness</u>	
408	1:10	6	round	4 mm.	
127	1:11	3	flat	7	
165	2:8	2	flat	5	

Neosho Punctate Body Sherds. Thirty-three decorated body sherds

are classified as Neosho Punctate since the technique and style of decoration are the same as that described for Neosho Punctate rim sherds. Of the total number of decorated body sherds, 17 are decorated with punctates, nine with incised lines, five with incised lines and punctates, and two with applique nodes. The location of and description of decoration on the body sherds follows.

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Decoration</u>
181	1:3	2	parallel incised lines
115	1:3	2	applique node
475	1:4	4	horizontal incised line bordered by parallel diagonal lines
475	1:4	4	punctates
173	1:4	6	parallel horizontal rows of horizontal punctates
390	1:4	8	parallel diagonal lines bordered on each side by punctates
158	1:5	4	incised line
158	1:5	4	two horizontal rows of short vertical incisions
240	1:5	4	applique node
148	1:5	5	incised lines in chevron pattern
148	1:5	5	incised lines
118	1:6	3	punctates in chevron pattern
275	1:6	5	horizontal row of vertical punctates
418	1:7	2	horizontal row of punctates
266	1:8	8	chevron pattern of incised lines, bordered by punctates
106	1:10	9	punctates
127	1:11	3	chevron pattern of incised lines, bordered by punctates
127	1:11	3	horizontal row of horizontal punctates

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Decoration</u>
410	1:11	4	punctates
222	1:11	4	punctates
138	1:16	7	incised lines
469	2:4	3	punctate
180	2:4	4	incised lines
409	2:4	4	punctates
128	2:5	2	punctates
128	2:5	2	punctate
121	2:5	4	punctates
243	2:7	1	diagonal parallel incised lines bordered by punctates
125	2:8	6	horizontal row of vertical punctates
127	2:9	2	strap handle, 22 mm. wide, decorated with punctates
472	2:12	3	diagonal parallel incised lines
352	2:6	2	rows of diagonally opposed punctates, same vessel as rim #166
144	2:7	2	
193	1:3	4	diagonal incised lines bordered by punctates
173	1:4	6	

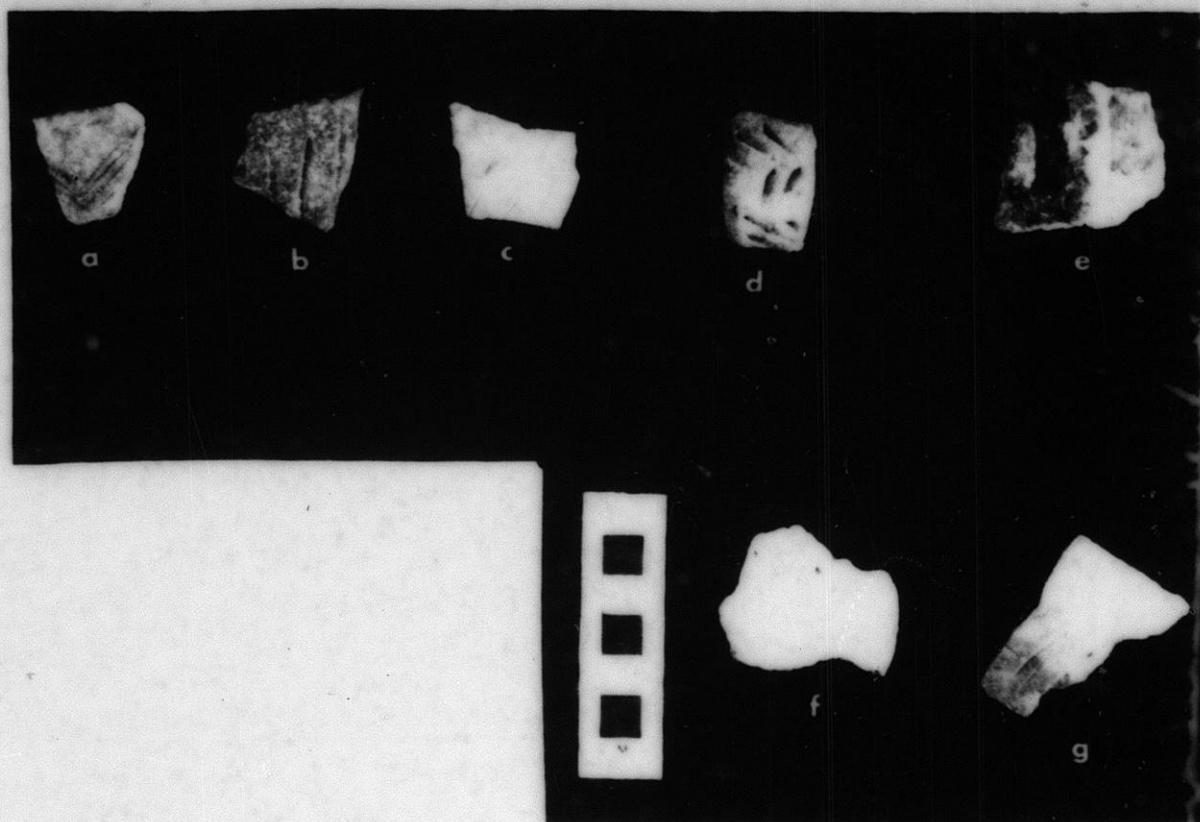
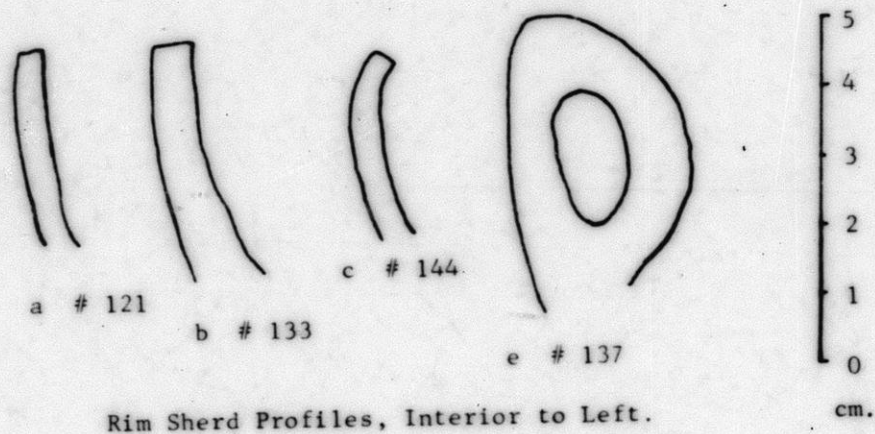


Figure 152. Neosho Punctate Sherds

a # 121, b # 133, c # 144, d # 137, f # 124, g # 148

Jar A a - b, e; Jar B c; Handle d; Body sherds f - g



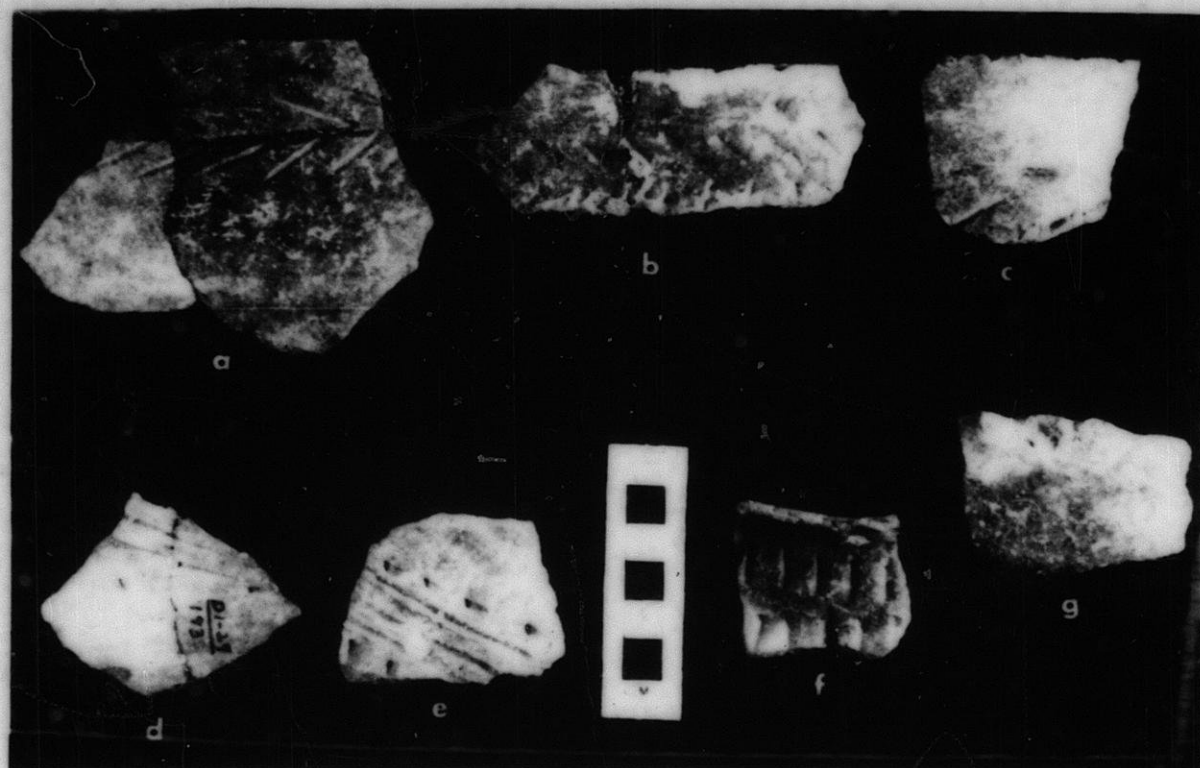
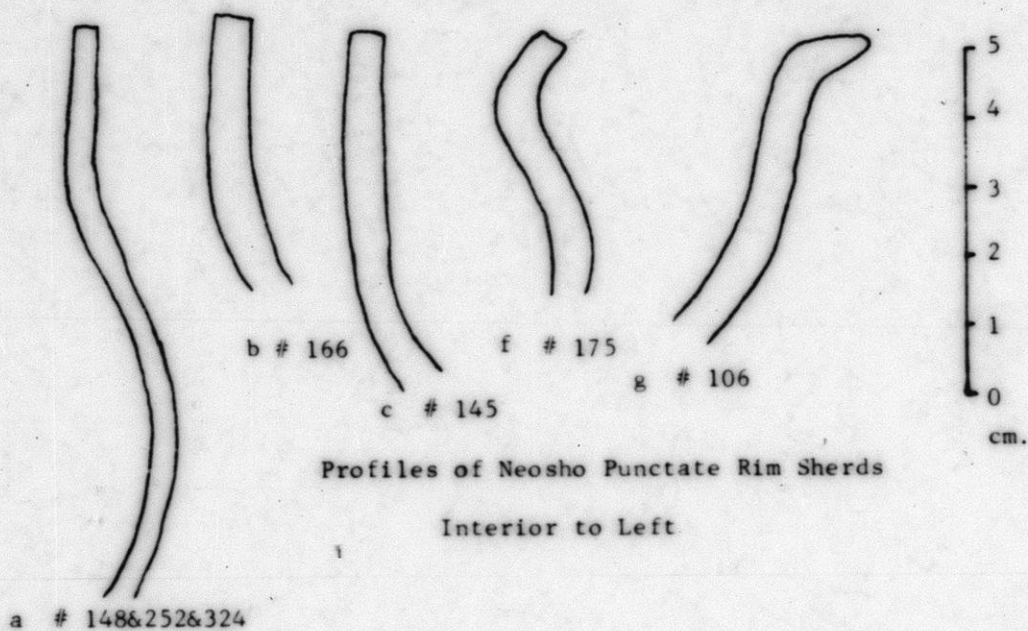


Figure 153. Neosho Punctate Sherds

a # 148&252&324, b # 166, c # 145, d # 193, e # 390, f # 175, g # 106

Jar A a - c, Jar B f, Bowl B - 2 e, Body Sherds d - e.



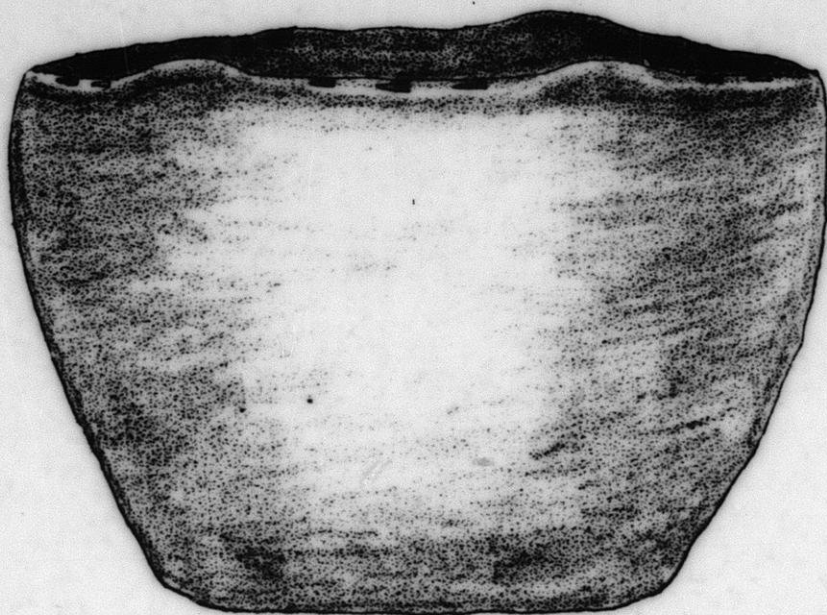
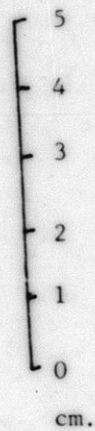
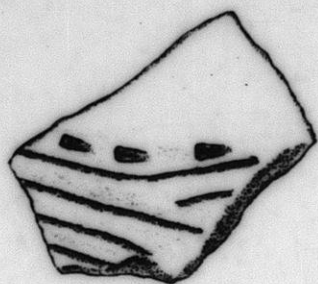
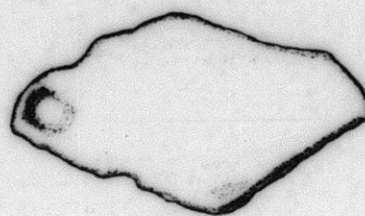


Figure 154. Neosho Punctate Bowl

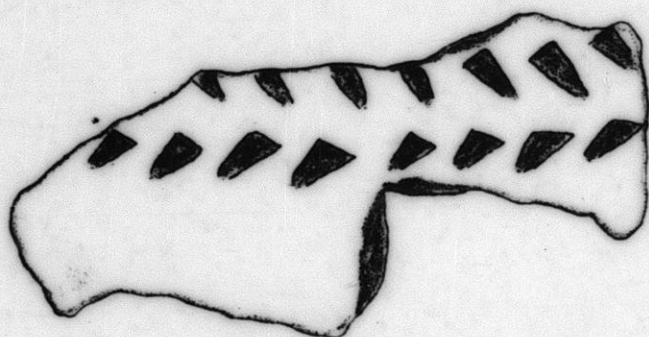




a # 266



b # 115



c # 144

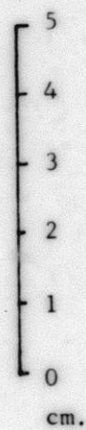
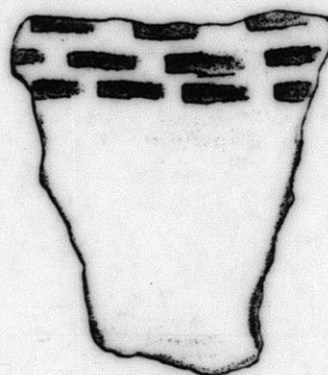


Figure 155. Neosho Punctate
Body Sherds



d # 127

Toy dish. Also classified as a Neosho Punctate vessel is a small bowl, undoubtedly a child's play dish. The bowl is shell tempered, would be classified under Form A, and is decorated on the lip with notches made by fingernail impressions. The bowl is 22 mm. in diameter at the orifice, 17 mm. high, and the wall thickness at the lip is 2 mm.

The bowl was made from a lump of clay and formed by pressing the finger into the center of the lump. Fingernail impressions are present on the interior of the bowl. Since the vessel is so small, it must have been made for a child. The bowls classified as miniature bowls are much larger than this one and better made.

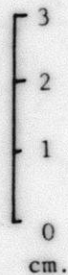


Figure 156. Toy Dish

Undecorated Shell tempered body sherds. Nine hundred-thirty undecorated shell tempered body sherds belong either to vessels of Woodward Plain or Neosho Punctate. The characteristics of paste of the body sherds are the same as for the rim sherds.

The hardness of the body sherds is 3.5 unless the sherds are leached, in which case the hardness is 2. A few of the sherds have been refired, probably from contact with cooking fires in the shelter, and are above 4 in hardness. The color of the sherds is the same as for the rims, reddish brown, black, buff, or grey. The sherds range in thickness from 3 to 10 mm. with an average thickness of 6.2 mm.

Of the total number of body sherds, fifty-six are portions of flat circular bases and twenty-three are sherds which have been broken off immediately at the base. The basal sherds range from 5 to 14 mm. in thickness, (frequency of 25) and average 8.4 mm. The base diameter on twenty-four sherds ranges from 4 to 14 cm, with an average of 9.5 cm. ,

Four of these sherds are fragments of strap handles. All are undecorated.

Provenience of Strap Handles

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>Width</u>
167	1:5	2	19 mm.
158	1:5	4	18.
274	1:8	5	27.
374	1:8	6	27

In the two following Tables the distribution of shell tempered body sherds in the two alleys is presented. The twenty-nine body sherds unaccounted for in this distribution are in The O Alley, in Square 2:16 which was disturbed, and from unknown locations.

Table 2

Distribution of Shell Tempered Bodysherds in Alley 1

[illegible]

"Caddoan" One rim sherd from D1-29 is tempered with fine particles of grit and bone (?) and is a bottle neck. The sherd, #195, is 5 mm. thick at the lip and is 4 cm. high. The sherd comes from Square 1:4 at Level 10. Since grit and bone temper and bottles are found in sites of the Gibson Aspect, it is probable that this sherd is representative of that culture.

Three body sherds, all shell tempered, fall outside the range of characteristics of Neosho Focus sherds at this site. The shell temper is so fine that it can only be seen under a microscope. Because of the fine temper, the particles are not visible on either surface of the sherds. In addition the sherds have a higher degree of polish than that on the finest Neosho Focus sherds. Other characteristics of these fine tempered sherds are a black inner core and a hardness of 3.5. These sherds seem to be more characteristic of Woodward Plain, Reed Variety, than of Woodward Plain, Neosho Variety. Since there is no internal evidence at D1-29 that these sherds are of the Reed Variety, they are tentatively classified as "Caddoan".

Provenience of Body Sherds

<u>#</u>	<u>Square</u>	<u>Level</u>
171	1:5	6
322	1:7	4
151	2:5	4

Bell Plain. Five rim sherds, tempered with fine particles of shell, are much like the type Bell Plain as defined by Phillips, Ford, and Griffin (1951:122-126). The sherds are apparently from two vessels, both probably bowls. The lip is flat and 7 mm. thick on all sherds. On all sherds the exterior lip is slightly extended and is vertically notched. One sherd indicates an orifice diameter of 22 cm. The sherds are light grey to brown and are smoothed to slightly polished on the exterior.

Rim Sherd Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>	<u>#</u>	<u>Square</u>	<u>Level</u>
181	1:3	2	282	1:13	3
468	1:2	3	193	1:3	4
260	1:12	1	133	1:5	3

Unclassified Rim. One shell tempered rim sherd, apparently from a bowl, has a lip decoration like that on Neosho Punctate sherds. Punctates are present on the lip, parallel to the vessel walls. Applique strips are present on the exterior extending diagonally from the lip.

While the punctate decoration is like Neosho Punctate, the applique strips are foreign to this type, as seen at this site. Therefore, the sherd remains unclassified. The sherd, #127, was found in Square 1:13, Level 3.

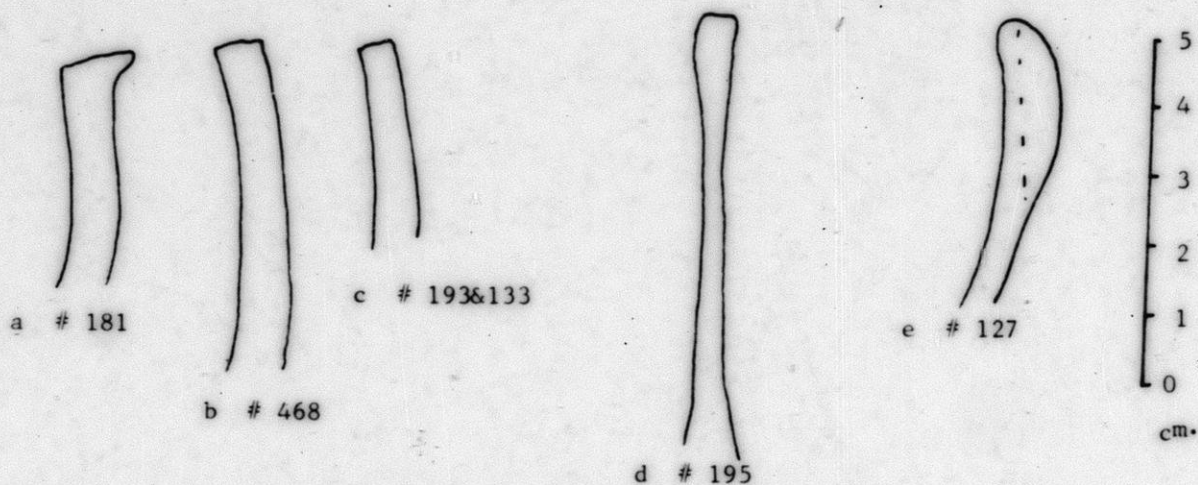
Pottery Pipes. Fragments from bowls of two pottery pipes were recovered from D1-29. Both sherds are shell tempered and have a well smoothed surface. Only small particles of temper are visible on the exterior surface. One of the fragments has burned material on the interior of the bowl. The fragments are too small to estimate diameter of the bowl or overall shape of the pipes.

Provenience

<u>#</u>	<u>Square</u>	<u>Level</u>
433	0:2	4
337	1:1	3



Figure 157. Bell Plain a - c, "Caddoan" d, Unclassified e,
Pipe fragment f
a # 181, b # 468, c # 193&133, d # 195, e # 127, f # 433



Profiles of Rim Sherds, Interior to Left

V, Stratigraphic Interpretation

The pottery found at D1-29 indicates that there were at least two major cultural occupations of the site. The most numerous sherds are those recognized as types of the Neosho Focus and Woodland (Hopewell) in Northeastern Oklahoma. The other varieties of pottery present at the site are the rim sherds of Bell Plain and the "Caddoan" sherds, both rim and body. These sherds represent six vessels at the most, an indication that they may be trade vessels or else are the remains of an occupation of short duration in comparison to that of Woodland or the Neosho Focus.

Since there were at least two major occupations of the shelter, it is necessary to determine which artifacts are associated with the different pottery traditions in order to characterize the occupations and to make comparisons with similar occupations at other sites. The homogeneous deposit at the site makes it impossible to separate cultural zones on the basis of natural stratigraphy. It is also difficult to equate the arbitrary levels between squares in order to determine the sequence of accumulation of the cultural deposit. To reiterate the structure of the shelter: the rock-clay floor slanted upward to the rear wall and also toward the western edge of the shelter. As the shelter was occupied, dirt, sand, cultural debris, and rockfall built up the deposit. At the time of excavation, the deposit was nearly level at the surface except that it slanted down to the west and to the rear wall.

This formation of the original floor of the shelter and the subsequent accumulation of the deposit means that a portion of the 1 Alley

is much deeper than any other part of the deposit. Since there were several occupations at the site, it seems reasonable to assume that the best stratigraphic evidence lies in the deepest portion of the site. Therefore Squares 1:1 through 1:7 have been used for interpretation. In this area the surface of the deposit is fairly level and the deposit is deep. Several of the squares with a deep deposit have been eliminated from this consideration. An additional square (numbered 1:1) was excavated at the eastern end of the shelter but contained no artifacts indicating that the limit of the occupied area had been reached. Square 1:0 contained a burial and is eliminated to avoid any possible disturbance caused by its insertion into a pit. Square 1:8 is excluded because excavation was complicated by the presence of a large rock. The rest of the squares in this Alley are much shallower than Squares 1:1 through 1:7 so various levels cannot be assumed to be at equal depths.

As a check on the stratigraphic position of artifacts in this block of squares from the 1 Alley, a block of squares in the 2 Alley has also been selected for interpretation. Squares 2:2 and 2:5 through 2:10 are level at the surface and are of equal depth, indicating that the levels between squares can be equated. Squares 2:3 and 2:4 are eliminated because Burial 1 is located at the intersection of these squares.

The distribution of potsherds, both rim and body sherds, by level in Squares 1:1 through 1:7 is plotted in Figures 157 and 158 and in Tables 4 and 5. For this distribution, sherds from different locations which are from the same vessel and have been glued together have been considered to be separate again since there is no objective means of deciding which of the several locations for one sherd should be recorded.

The distribution of potsherds indicates that the Woodland types,

Table 4
Frequency and Percent of Rimsherds by Level,
Squares 1:1 - 1:7

Level	Cowskin Dentate Stamped		Cooper Zoned Stamped		"Caddoan"		Bell Plain		Woodward Plain		Neosho Punctate		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1									1	100.0			1	100.0
2							1	7.6	11	84.6	1	7.6	13	99.8
3							2	50.0	1	25.0	1	25.0	4	100.0
4							1	16.6	4	66.6	1	16.6	6	99.8
5	1	16.7							3	50.0	2	33.3	6	100.0
6									4	80.0	1	20.0	5	100.0
7	3	75.0							1	25.0			4	100.0
8	2	66.7							1	33.3			3	100.0
9			1	33.3					1	33.3	1	33.3	3	99.9
10	1	50.0			1	50.0							2	100.0
Total	7		1		1		4		27		7		47	

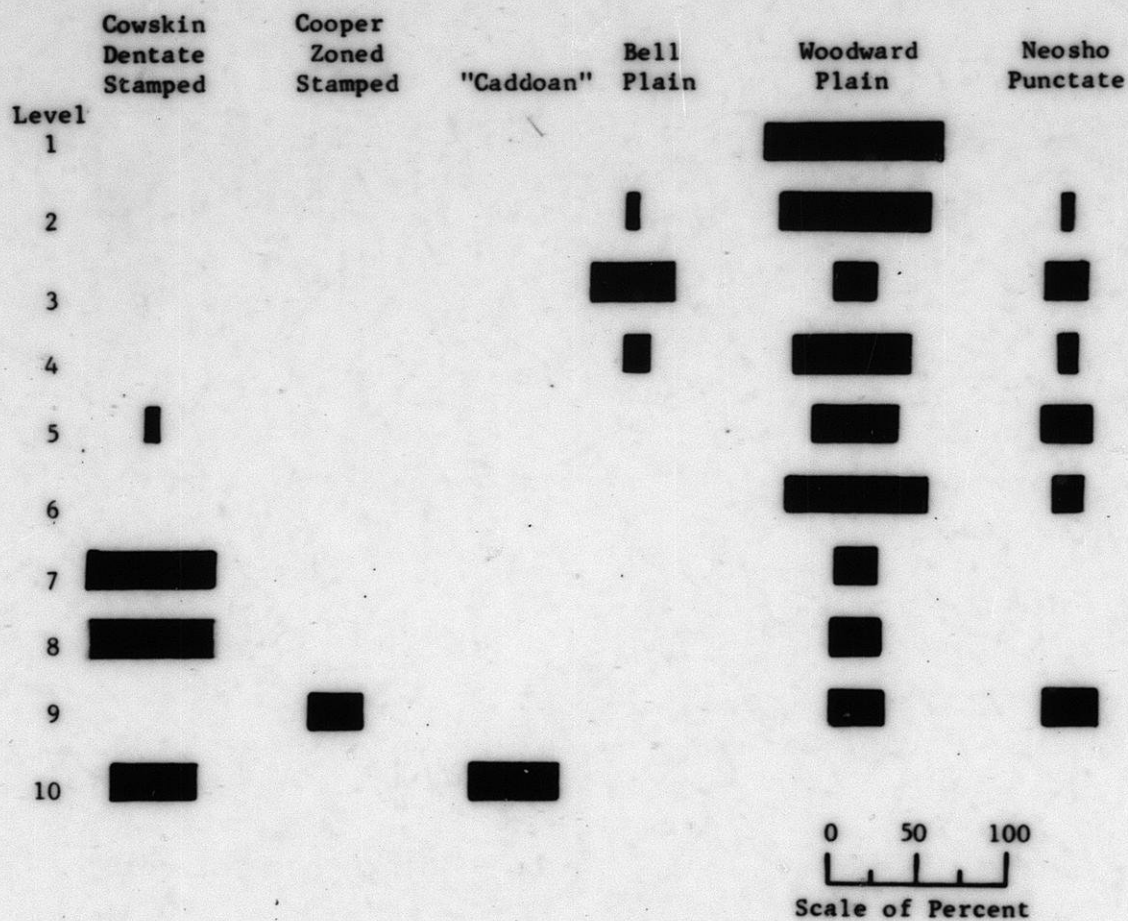


Figure 158
Distribution of Rim Sherds by Level, Squares 1:1 - 1:7

Table 5
Frequency and Percent of Body Sherds by Level,
Squares 1:1 - 1:7

Level	Grit tempered Body Sherds		Shell tempered Body Sherds		Neosho Punctate Body Sherds		"Caddoan"		Total	
	f	%	f	%	f	%	f	%	f	%
1			8	100.0					8	100.0
2			110	97.3	3	2.7			113	100.0
3			40	97.5	1	2.5			41	100.0
4	2	2.6	69	88.5	6	7.6	1	1.2	78	99.9
5	2	6.6	25	83.3	3	10.0			30	99.9
6	6	18.1	24	72.7	2	6.1	1	3.0	33	99.9
7	31	64.6	17	35.4					48	100.0
8	6	75.0	1	12.5	1	12.5			8	100.0
9	7	46.6	8	53.4					15	100.0
10	5	100.0							5	100.0
11			1	100.0					1	100.0
12	7	87.5	1	12.5					8	100.0
13	4	80.0	1	20.0					5	100.0
Total	70		305		16		2		393	

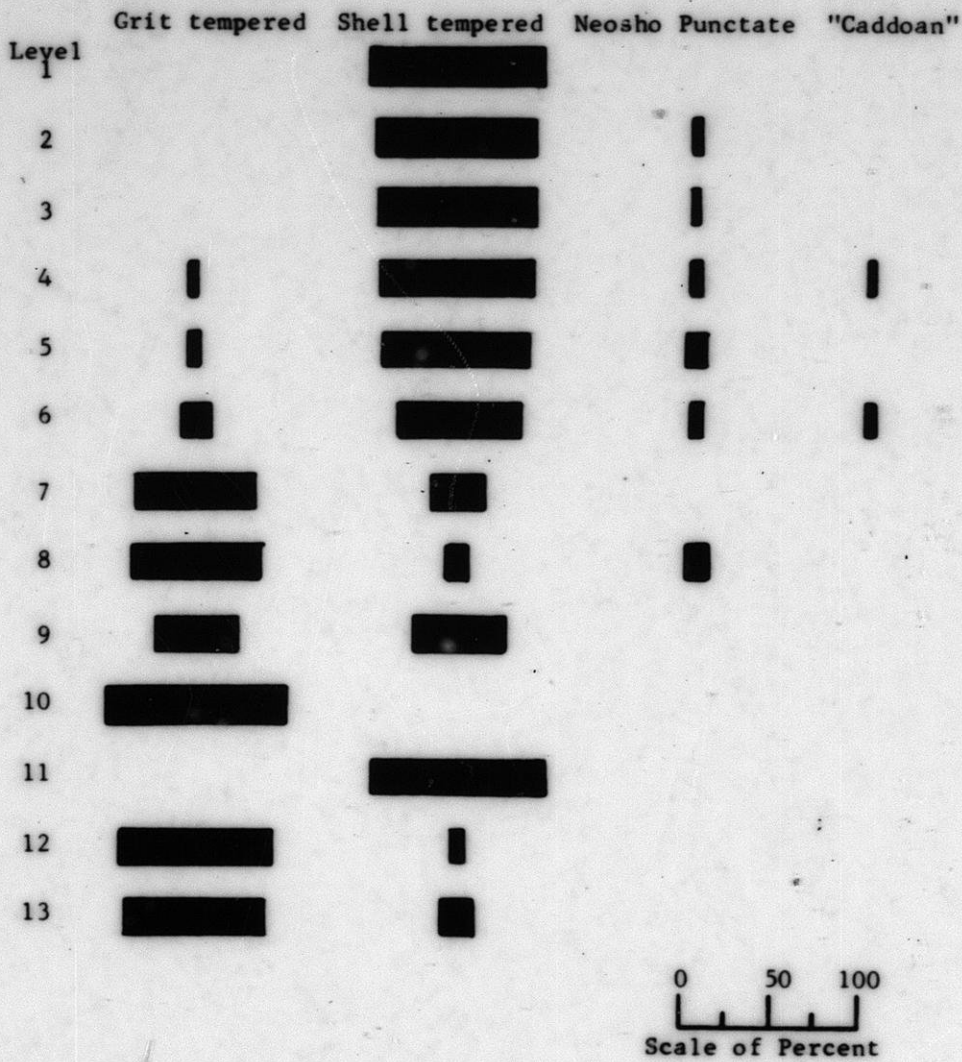


Figure 159
Distribution of Body Sherds by Level, Squares 1:1 - 1:7

Cooper Zoned Stamped and Cowskin Dentate Stamped and the grit tempered body sherds which belong to these rims, occur in highest percentage and frequency in Levels 7 through 13. The Neosho Focus rim and body sherds occur in highest frequency and percentage in Level 1 through 6. Although undecorated shell tempered body sherds continue through Level 13, the numbers are small and the distribution spotty. This is undoubtedly due to disturbance of the deposit which cannot be recognized at this time. The uneven distribution and small numbers of both Woodland and Neosho sherds account for the uneven percentages in the lower levels.

The "Caddoan" bottle neck rim is found in Level 10 while the "Caddoan" shell tempered sherds fall in Levels 4 and 6. The Bell Plain rim sherds occur in the upper levels along with the highest frequency of Neosho Focus sherds.

One would expect projectile points and other artifacts to have a distribution conforming to that of the sherds of the culture with which they are associated. Figure 159 and Table 6 indicate the projectile point distribution for the 1 Alley.

From this distribution, it is apparent that Cooper B, Langtry A, "Snyders-like," and "Barbed" points are all associated with the Woodland pottery. Gary A and Cooper A points seem to be Woodland types which carry over with less popularity into Neosho times. Types with a representation of one point are difficult to definitely associate with the pottery. However, Snyders points are associated with Hopewell culture elsewhere and at this site the single Snyders point is at a level which contains Woodland pottery. Fairland A, Grand, Langtry B, and Smith are not clearly associated with any type of pottery although the latter two points do fall with the majority of the Woodland pottery.

All of the small projectile points and Fairland B occur in highest

percentages in the levels containing the shell tempered pottery.

In the 2 Alley rim and body sherds of the Neosho Focus are of fairly equal percentage through all levels although the frequency of rims diminishes below Level 5. One Woodland rim sherd is in Level 7. Apparently only the lowest level in this back alley contains Woodland artifacts.

Level	Gary A	Gary B	Gary C	Gary	Langtry A	Langtry B	Contracting Stem	Cooper A	Cooper B	Snyders	Snyders-like	Fairland A	Fairland B	Smith	Grand	Barbed	Simple Triangular	Lanceolate Triangular	Small Lanceolate	Serrated Side Notch	Huffaker	Alba	Unclassified Sm. Points	Unclassified Lg. Points	Fragments Sm. Points	Fragments Lg. Points	Scallorn	Total	
1																	1											1	
2	2	1						1								1	1	2	1	2					2		1	14	
3											1													2		1		4	
4	1	1						3									1	2		1	1			1				11	
5																		1								2	2		6
6	3							2					1		1	2							3	2		4		17	
7	1							4				1				1			1	1				1		1	1	12	
8					1			4			2					1						1		2		1		12	
9	3				2			4	3		1		2			2		1						4		2		24	
10		1	1		2		1	4	3	1	1					2	1							1	1	5	1	25	
11	1	1		1				1	2		1															2		9	
12		1			2	1	1	3	1		1			1		1		1										13	
13					1		1	1	1																	1		5	
14					2			1																				3	
15																													
16																										1		1	
17																													
Total	11	5	1	1	10	1	3	28	10	1	7	1	3	1	1	10	4	7	2	4	1	1	3	13	5	20	3	157	

Table 6

Frequency of Projectile Points by Level, Squares 1:1 - 1:7

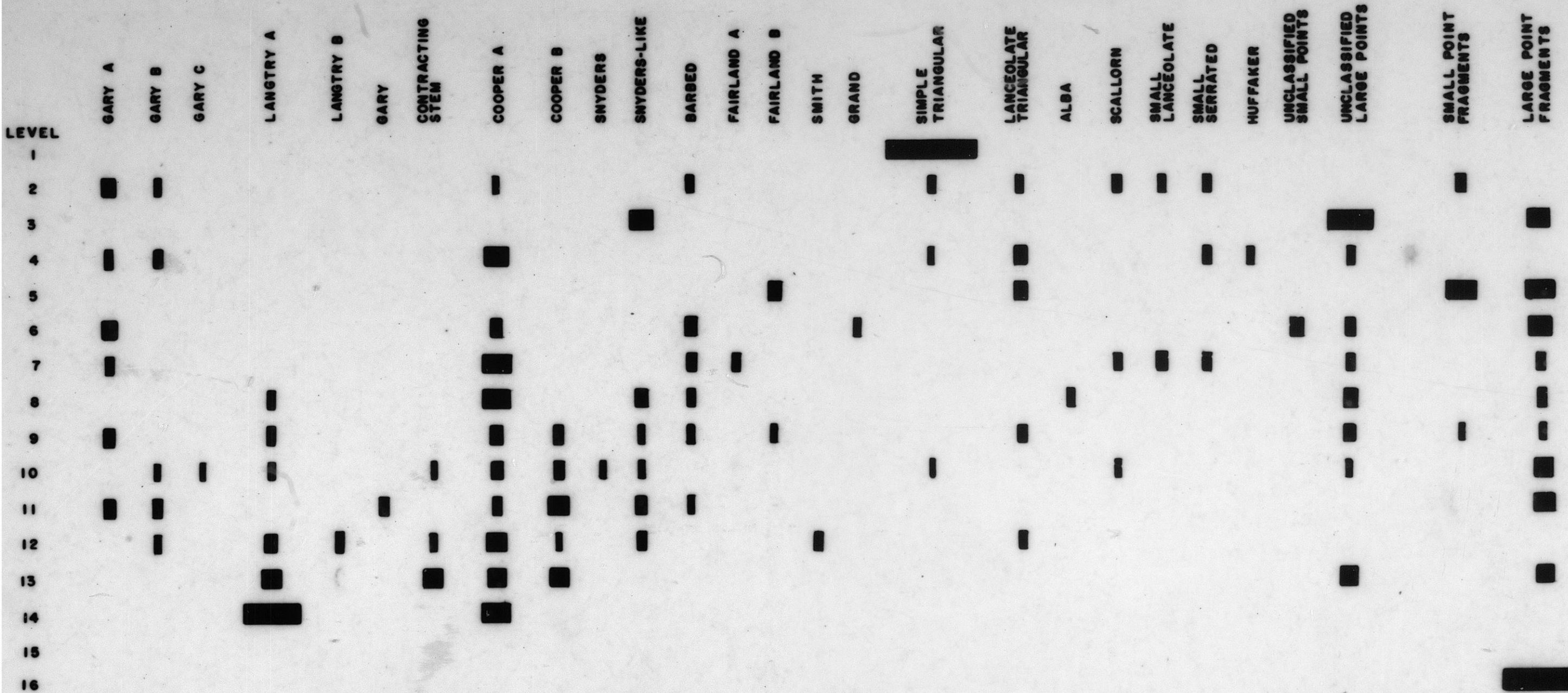


Figure 160

Distribution of Projectile Points by Level, Squares 1:1 - 1:7

0 50 100
SCALE OF PERCENT

Table 7

Frequency and Percent of Body Sherds by Level,
Squares 2:2, 2:5 - 2:10

Level	Grit Tempered Body Sherds		Shell Tempered Body Sherds		Neosho Punctate Body Sherds		"Caddoan" Body Sherds		Total	
	f	%	f	%	f	%	f	%	f	%
1			17	94.5	1	5.5			18	100.0
2			68	93.2	5	6.8			73	100.0
3	2	3.7	50	94.5	1	1.8			53	100.0
4	1	2.6	35	92.1	1	2.6	1	2.6	38	99.9
5			10	100.0					10	100.0
6			12	92.4	1	7.6			13	100.0
7			14	100.0					14	100.0
Total	3		206		9		1		219	

Table 8

Frequency and Percent of Rim Sherds by Level,
Squares 2:2, 2:5 - 2:10

Level	Woodward Plain		Neosho Punctate		Unclassified Woodland		Total	
	f	%	f	%	f	%	f	%
1	3	75.0	1	25.0			4	100.0
2	4	57.1	3	42.9			7	100.0
3	3	60.0	2	30.0			5	100.0
4	2	66.7	1	33.3			3	100.0
5	2	50.0	2	50.0			4	100.0
6	1	100.0					1	100.0
7	1	50.0			1	50.0	2	100.0
Total	16		9		1		26	

In considering the projectile point distribution in conjunction with the pottery distribution in the 2 Alley (Figure 160 and Table 9), we find that Gary A and Cooper A are associated with Neosho Focus pottery. Langtry A occurs in the upper levels of this Alley, indicating that this type too appears in Woodland and Neosho Focus or else there is some disturbance in this area of the shelter. Cooper B and "Snyders-like" again have a higher percentage in the lowest or Woodland levels.

Interesting enough, the "Barbed", Snyders, Langtry B, and Grand points do not occur at all in the back Alley, additional proof that they are not associated with the Neosho Focus which is the predominant cultural remains in this area.

A similar association of projectile points with Woodland and Neosho Focus pottery has occurred at one other site in Delaware County, D1-47. At D1-47 cultural zones were determined by the distribution of pottery and then all other artifacts were assigned to these zones. An inventory of projectile points found in the Neosho Focus and Woodland Zones is presented below (Baerreis and Freeman, 1959:282-283).

Projectile Points - D1-47

	<u>Neosho Focus</u>	<u>Woodland</u>
Gary A	3	0
Langtry A	4	2
Langtry B	0	5
Cooper A	6	3
"Barbed"	1	0
Snyders	0	2
"Snyders-like"	2	1
Fairland A	1	0
Fairland B	3	1

Table 9

Frequency of Projectile Points by Level
Squares 2:2, 2:5 through 2:10

Level	Gary A	Langtry A	Langtry	Contracting Stem	Cooper A	Cooper B	"Snyders-like"	Lange	Simple Triangular	Lanceolate Triangular	Serrated Side Notch	Side Notch	Unclassified Small Points	Fragments Small Points	Fragments Large Points	TOTAL
1					2		2		1	1						6
2	1	2			1				1	1	1	1	2	2	2	14
3	2	1	1	1	3	1		1		1			1	1	1	14
4	1	2													1	4
5	1	2			2										1	6
6	1															1
7						1	1									2
8			1			1										2
Total	6	7	2	1	8	3	3	1	2	3	1	1	3	3	5	49

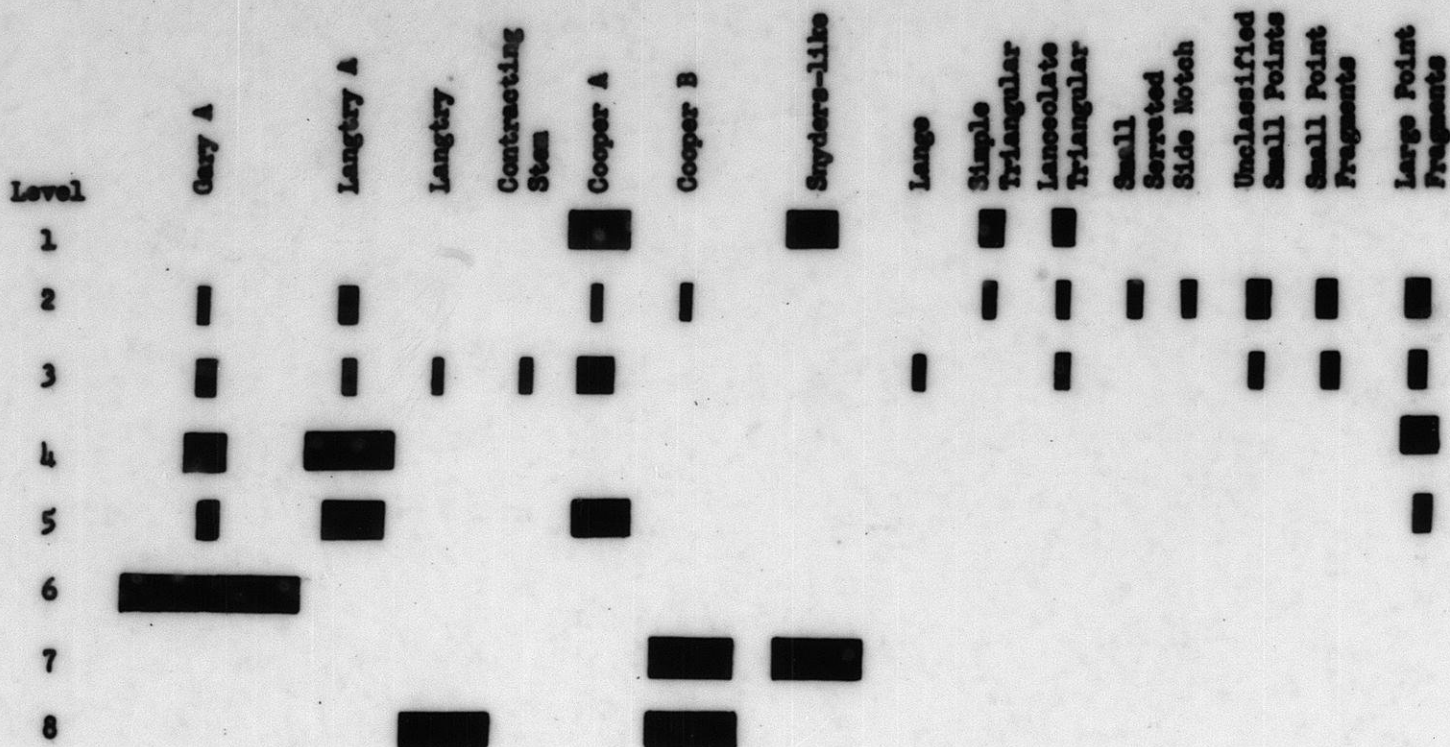


Figure 161 Distribution of Projectile Points by Level, Squares 2:2, 2:5 through 2:10.

0 50 100
Scale of Percent

	<u>Neosho Focus</u>	<u>Woodland</u>
Simple Triangular	7	0
Lanceolate Triangular	7	0
Small Lanceolate	1	0

This inventory of points does not include all projectile points from D1-47 since many of them were in areas of the site which had been disturbed. The association of points with the pottery at D1-47 is almost the same as that for D1-29 with a few exceptions. With a greater number of "Barbed" and "Snyders-like" projectile points at D1-29, it is apparent that they are associated with Woodland.

At site D1-30, one Gary A, one Langtry A, two Cooper A, three Simple Triangular, and a Lanceolate Triangular projectile points were found associated with Neosho Focus pottery (Freeman, 1959:81). These are the same types which were found with Neosho Focus pottery at D1-29.

Some of the small projectile points which are concentrated in the area of Neosho Focus pottery at D1-29 may not be characteristic of this culture. These points are Scallorn, Alba, Huffaker, and Small Side Notched which are most commonly found in sites of the Gibson and Fulton Aspect (Suhm, Krieger, and Jelks, 1954; Bell, 1958; and Baerreis, 1953). The Small Serrated points may belong to this same complex. Since there are a few sherds tentatively classified as "Caddoan" which are in the same levels as the above mentioned point types, they may represent a Gibson or Fulton Aspect occupation of the site. Points of these types were not found to be associated with the Neosho Focus pottery at either D1-47 or D1-30.

Turning to artifacts other than projectile points, we find that many artifact categories are represented by one specimen and are thus

Level	Knives												Core Tools	Drills							Scrapers							Utilized Flakes	Implements	Implement Fragments	TOTAL			
	Large Ovate Acuminate	Medium Ovate	Medium Distinct Base	Distinct Base Fragments	Langtry-like	Stemmed	Notched	Knife Fragments	Medium Core	Large Core	Small Core	Core Fragments		Variant A	Variant C	Variant D	Variant E	Variant F	Variant G	Fragments	Type A-1	Type A-2	Type B-1	Type B-4	Type C-1	Type C-3	Type D-2					Stemmed	Side Scrapers	Harahey
1																														2		2		
2				2				5					1	1																2	2	7	20	
3								3												2	1								1	2	3	12		
4			2					1				2					1	1		1		2						1		1	1	7	20	
5			1		1			5				2		1			1		2		1			1						3	1	2	26	
6					1			2					2			1	1		1				1					1			1	7	13	
7	2		1	2				6	2	2		3	3				1			1			1					1				1	28	
8				1				3	1			4	1		2		1		3				1			1				1	1	8	22	
9	1							10	2	1		3													1						1	4	26	
10				1	1		1	6		1		6												1								2	21	
11			1							1																				1		4	5	
12				1				10	2			1														1					1	4	21	
13		1		1	1			4	1			2									1			1									16	
14						1		2			1	1												1									6	
15																																		
16																																2	2	
17																														1			1	
Total	3	1	5	8	4	1	1	57	8	5	1	24	7	2	2	1	4	1	4	3	4	2	3	2	3	1	2	1	2	1	11	10	59	243

Table 10
Frequency of Chipped Stone Artifacts by Level, Squares 1:1 - 1:7

Level	Knives						Scrapers					Drills			Utilized Flakes	Implements	Implement Fragments	Core Tools	TOTAL
	Large Ovate Acuminate	Large Ovate	Medium Distinct Base	Distinct Base Fragments	Knife Fragments	Medium Core	Core Fragments	Type A-1	Type B-1	Type B-4	Side Scrapers	Harahey	Variant C	Variant G	Fragments				
1		1	1	1	3	1	1	1		1	2	1			3	2	1	3	22
2	1				2		1	4		1						1	1	4	15
3				1	4				1	1						1		1	10
4	1			1												2	3	4	11
5					4											1	1		6
6													1	1	1			1	4
7																			
8																1	1		2
Total	2	1	1	3	13	1	2	5	1	3	2	1	1	1	4	7	7	14	70

Table 11

Frequency of Chipped Stone Artifacts by Level,
Squares 2:2, 2:5 - 2:10

difficult to associate with the pottery. For the chipped stone implements, the majority of core knives, the stemmed and notched knives, and the Medium Ovate knives are in the Woodland zone while the knives with a distinct base and the Large Ovate Acuminate knives are shared by both the Woodland and Neosho Focus. The core tools (choppers) are found in both zones.

The drills are scattered along the levels which separate the two areas of pottery concentration and cannot be definitely assigned to either culture. It appears that drill Variants A and E are Neosho Focus while C and possibly D are Woodland. Scraper Types C - 1, C - 2, and D - 2 are Woodland while A - 1, A - 2, B - 4, Side Scrapers, and Harahey are Neosho Focus. Type B - 1 scrapers appear in both Woodland and Neosho zones.

Again a comparison can be made with site D1-47 where a similar association is found (Baerreis and Freeman, 1959:283-284).

Chipped Stone Implements D1-47

	<u>Neosho Focus</u>	<u>Woodland</u>
Knives		
Large Ovate Acuminate	0	2
Large Ovate	0	1
Medium Ovate Acuminate	1	0
With a Distinct Base	1	4
Stemmed knife, serrated blade	1	0
Core Knives		
Ovate-acuminate	1	1
With a Distinct Base	1	1
Core Tools	2	2
Scrapers		
Type B-2	1	0
Type B-4	1	0

Type F	1	0
Stemmed Scrapers	4	1
Side Scrapers	3	0
Harahey	1	0
Drills		
Variant F	0	1

In the Neosho Focus Zone at D1-30 were one knife with a Distinct Base, two core knives, one core tool, and a Harahey scraper (Freeman, 1959: 82).

Of the ground stone implements found at D1-29, only the mano with two opposing grinding faces have a distribution into the lower levels of the site. All the other mano varieties, the celt, shaft smoothers, grooved abraders, and hammerstones are associated with Neosho Focus pottery. This is apparently true for the nutting stones since most of them appear in the upper levels of the site. One grinding basin falls in the Neosho Focus levels in the area of Alley 1 used for stratigraphic interpretation. All the others are from the shallower squares at the west end of the shelter, but since they are from the upper levels, they are probably Neosho.

The distinctive Neosho Focus ground stone implements (shaft smoothers, grooved abraders, and nutting stones) are also exclusively in the Neosho Focus Zone at D1-47 and at D1-30 (Baerreis and Freeman, 1959:284; Freeman, 1959:82-83). The only discrepancy between D1-29 and D1-47 lies in the fact that none of the manos with two opposed grinding faces were associated with Woodland pottery at D1-47.

Level	One face mano plano-convex	One face mano	One face mano convex face	Two face mano	Two face mano plano-convex	Loaf shaped	Mano fragments	Grinding Basins	Nutting Stones	Shaft Smoothers	Grooved Abraders	Celt	Miscellaneous Ground Stone	TOTAL
1														
2				1					2				1	4
3				1	1		1							3
4	1	1							1	1	1	1	1	7
5	1			1				1	1					4
6											1			1
7			1	2					1					4
8				1		1			1					3
9				2										2
10														
11														
12														
13				2										2
Total	2	1	1	10	1	1	1	1	6	1	2	1	2	30

Table 12
Frequency of Ground Stone Artifacts by Level,
Squares 1:1 - 1:7

Level	One face mano plano-convex	Two face mano	Two face mano plano-convex	Shaft Smoothers	Grooved Abraders	Hammerstones	Miscellaneous Ground Stone	TOTAL
1					1			1
2	1			1		1	1	3
3	1	2						4
4		1	1					2
5	1			1				3
6								
7		1						1
8								
Total	3	4	1	2	1	1	1	14

Table 13

Frequency of Ground Stone Artifacts by Level,
Squares 2:2, 2:5 - 2:10

The distribution of shell and bone artifacts is presented in Tables 14 and 15. In the area of concentration of Woodland sherds we find only an antler drift, an antler flaker, and three awls. All the other identifiable bone artifacts; awls, turtle shell, the worked canine, and the long bone shaft straighteners are in the upper levels with the Neosho Focus pottery. The majority of the shell scrapers are also in the upper levels.

The greater number and variety of bone implements of the Neosho Focus in comparison to Woodland is also characteristic of site D1-47 (Baerreis and Freeman, 1959:83). Many of the bone implements associated with Neosho Focus pottery at D1-29 are also found in the Neosho Zone at D1-30, for example, the worked wolf canine (Freeman, 1959:83).

Level	Antler flakers	Antler drifts	Worked Antler	Worked Ulnas	Split Awls	Splinter Awls	Rod Awls	Turtle Shell	Shaft Straighteners	Deer pelvis	Miscellaneous worked bone	Shell Scrapers	TOTAL
1													
2			1						1		1	1	4
3									1			1	2
4	2					1	1		2				6
5								1		1	1		3
6		1		2		2							6
7	1						1				1	1	4
8					1							1	2
9											1	1	2
10													
11													
12		1									1		2
13											1		1
14											1		1
15													
16													
17	1												1
Total	4	2	1	2	1	3	2	1	4	1	7	5	34

Table 14
Frequency of Bone and Shell Artifacts by Level,
Squares 1:1 - 1:7

Level	Antler Flakers	Worked Antler	Split Awls	Rod Awls	Splinter Awls	Worked Canine	Turtle Shell	Miscellaneous Worked Bone	Shell Scrapers	TOTAL
1						1			2	3
2	2							1	5	8
3	3		2				1			6
4	1								2	3
5					1			1	3	5
6									2	2
7	2	1		1					3	7
8										
Total	8	1	2	1	1	1	1	2	17	34

Table 15

Frequency of Bone and Shell Artifacts by Level,
Squares 2:2, 2:5 - 2:10

Internal comparisons and comparisons with other sites are facilitated if absolute numbers of artifacts in each type or category can be listed. Such a listing can be accomplished for D1-29 if several facts are kept in mind. The site can be divided into three areas, a zone of concentration of Neosho Focus pottery, a zone of concentration of Woodland pottery, and those squares which are disturbed or have been assumed to be disturbed because of shallow depth. The numbers of artifacts can be tabulated according to position in squares and levels in these three areas. The zones of pottery concentration cannot be assumed to be culturally pure since Woodland sherds occur in the levels where Neosho Focus pottery is concentrated and Neosho Focus sherds occur where Woodland pottery is concentrated. It is apparent that there was some kind of disturbance, probably aboriginal pit digging, which would cause upward and downward movement of artifacts. Since the split between zones must be made at one of the levels, Level 6 in Alley 1 and Alley 2, there is a definite possibility that some artifacts in Level 6 actually are part of the Woodland complex. For example, the two Cooper A projectile points in Level 6 in Alley 1 may well have come from the lowest inch in this level and are truly associated with Woodland pottery since the majority of Cooper A points are associated with Woodland at this site.

There is, in addition, the occurrence of "Caddoan" sherds and probably projectile points associated with this pottery. By dividing the site into two cultural zones, the possibility of a third culture is ignored. At this time there is no way of separating Neosho Focus points from Caddoan points except by external evidence. Until more is known of the Fulton and Gibson Aspect occupations of Delaware County, the possibility of such an occupation at D1-29 can only be spoken of in general terms.

Keeping these several limitations in mind, the following tabulation of artifacts can be examined. What this tabulation does show is a trend, a

Table 16

Artifacts by Area, D1-29

	<u>Neosho Focus</u>	<u>Woodland</u>	<u>Disturbed Unassigned</u>
Projectile Points			
Gary A	12	5	24
Gary B	3	3	4
Gary C	0	1	0
Langtry A	7	10	37
Langtry B	0	1	7
Gary	0	1	0
Langtry	1	1	7
Contracting Stem	1	3	2
Cooper A	14	22	25
Cooper B	0	11	7
Snyders	0	1	3
"Snyders-like"	3	7	19
Fairland A	0	1	2
Fairland B	1	2	0
Cupp	0	0	4
Smith	0	1	1
Lange	1	0	4
Grand	1	0	1
"Barbed"	2	7	5
Unclassified large points	5	9	15
Large point fragments	12	13	39
Simple Triangular	5	1	7
Lanceolate Triangular	11	2	20
Small Lanceolate	1	1	3

	<u>Neosho Focus</u>	<u>Woodland</u>	<u>Disturbed Unassigned</u>
Scallorn	1	2	2
Small Serrated	5	1	4
Small Side Notched	1	0	1
Huffaker	1	0	0
Alba	0	1	0
Unclassified small points	5	0	4
Small point fragments	7	1	6
Knives			
Large Ovate Acuminate	2	3	3
Medium Ovate Acuminate	0	0	1
Large Ovate	1	0	2
Medium Ovate	0	1	3
Medium distinct base	4	2	5
Small distinct base	0	0	2
Fragments with distinct base	5	8	9
Langtry - like	1	2	3
Stemmed	0	1	1
Notched	0	1	1
Unclassified	0	0	1
Knife Fragments	29	41	49
Large core knives	0	5	7
Medium core knives	1	8	9
Small core knife	0	1	0
Core knife fragments	6	20	26
Core Tools	3	4	5

	<u>Neosho Focus</u>	<u>Woodland</u>	<u>Disturbed Unassigned</u>
Drills			
Variant A	2	0	2
Variant C	1	2	0
Variant D	1	0	0
Variant E	2	2	1
Variant F	1	1	0
Variant G	1	3	0
Variant H	0	0	1
Drill fragments	6	0	1
Scrapers			
Type A-1	8	1	5
Type A-2	2	0	1
Type A-4	0	0	1
Type B-1	3	1	0
Type B-2	0	0	3
Type B-4	4	1	1
Type C-1	1	2	2
Type C-3	0	1	0
Type D-2	0	2	0
Scraper fragment	0	0	1
Stemmed scrapers	0	1	3
Side scrapers	4	0	6
Harahey	3	0	6
Utilized flakes	15	2	11
Chipped stone implements	13	4	11

	<u>Neosho Focus</u>	<u>Woodland</u>	<u>Disturbed Unassigned</u>
Implement fragments	43	31	48
Ground Stone Implements			
Manos with one grinding face, plano-convex	5	0	2
Mano with one grinding face	1	0	0
Mano with one convex grinding face	0	1	0
Manos with two grinding faces	6	8	7
Manos with two grinding faces, plano-convex	1	0	0
Loaf shaped mano	0	1	0
Mano fragments	1	0	4
Grinding basins	1	0	3
Nutting stones	4	2	3
Shaft smoothers	3	0	1
Grooved abraders	3	0	4
Hammerstones	1	0	3
Hematite	0	0	1
Miscellaneous ground stone	3	0	1
Bone Implements			
Antler flakers	8	3	12
Antler drifts	1	1	0
Worked antler	1	1	2
Knife marked antler	1	1	2
Ulna flaker	0	0	1
Worked ulnas	2	0	2
Ulna awls	0	0	2
Cannon bone awl	0	0	1

	<u>Neosho Focus</u>	<u>Woodland</u>	<u>Disturbed Unassigned</u>
Split awls	2	1	2
Rod awls	1	2	0
Splinter awls	4	0	0
Turtle shell bowl fragments	2	0	7
Worked canine	1	0	0
Bison scapula implement	0	0	1
Worked deer pelvis	1	0	0
Shaft straighteners	4	0	2
Worked bone	4	5	5
Shell implements			
Shell scrapers	16	6	23
Perforated shell	1	0	0
Shell beads	0	0	4
Pottery			
Cooper Zoned Stamped	0	1	0
Cowskin Dentate Stamped	1	6	1
Unclassified Woodland rim sherds	0	1	1
Grit tempered body sherds	13	60	22
Woodward Plain			
Bowl A	6	1	8
Bowl B-1	2	0	3
Miniature Bowl	0	0	1
Unclassified Bowls	0	0	2
Jar A	5	1	6
Jar B	13	1	9

	<u>Neosho Focus</u>	<u>Woodland</u>	<u>Disturbed Unassigned</u>
Jar C 1	4	1	3
Jar C 2	0	0	1
Jar D	1	0	2
Unclassified Jars	3	0	2
Unclassified rims	5	0	8
Neosho Punctate			
Bowl A	1	1	2
Bowl B-2	0	0	1
Jar A	9	0	7
Jar B	4	0	4
Unclassified Jar	1	0	1
Unclassified rims	1	0	2
Neosho Punctate Body sherds	21	1	11
Shell tempered body sherds (undecorated)	457	43	430
"Caddoan" rim sherd	0	1	0
"Caddoan" shell tempered body sherds	3	0	0

suggestion of the relative proportions of artifact types and categories in the two cultural zones which can be established for this site.

This tabulation puts many of the artifacts, especially projectile points, in the disturbed area of the site. Another way of looking at the problem of the numbers of artifacts associated with either Woodland or the Neosho Focus is through the tabulation of the frequency of artifact types at the site. For the projectile points, it can be assumed that points such as Langtry B, Cooper B, Snyders, Fairland A, and Smith which are associated only with Woodland in the area chosen for stratigraphic interpretation are representative of a Woodland culture wherever they are found at the site. The majority of points such as Langtry A, Cooper A, "Snyder-like", and "Barbed" are probably associated with Woodland since the majority are so associated in the area of stratigraphic interpretation. Points such as Simple Triangular and Lanceolate Triangular would appear to be representative of the Neosho Focus wherever they are found at the site.

Table 17

Frequency and Percentage of Projectile Points at D1-29

<u>Projectile Point Type</u>	<u>f</u>	<u>Percent</u>
Gary A	41	8.9
Gary B	10	2.2
Gary C	1	.2
Gary	1	.2
Langtry A	54	11.7
Langtry B	8	1.7
Langtry	9	1.9
Contracting Stem	6	1.3
Cooper A	61	13.2
Cooper B	18	3.9
Snyders	4	.9
Snyders-like	29	6.3
Fairland A	3	.7
Fairland B	3	.7
Smith	2	.4
Lange	5	1.1
Cupp	4	.9
Grand	2	.4
Barbed	14	3.0
Simple Triangular	13	2.8
Lanceolate Triangular	33	7.2
Small Lanceolate	5	1.1
Scallorn	5	1.1
Side Notched	12	2.4

<u>Projectile Point Type</u>	<u>f</u>	<u>Percent</u>
Alba	1	.2
Small Serrated	10	2.2
Huffaker	1	.2
Unclassified	37	8.0
Point Fragments	79	17.1
 TOTAL	 461	 99.9

VI. Summary and Conclusions

On the basis of frequency of pottery by level in the two areas of the site chosen for stratigraphic interpretation, it is assumed that two cultures occupied the site at different times. A Woodland group was responsible for the cultural deposit up to Level 6 in the shelter, and a Neosho Focus group for the deposit from Level 6 to Level 1. There are also a small number of "Caddoan" sherds present in these two major occupation zones, a grit-tempered bottle neck in Level 10 and shell-tempered body sherds in the upper levels. It is suggested that the bottle neck is representative of the Gibson Aspect while the shell-tempered sherds are suggested to be of the Fulton Aspect. In addition to these sherds there are a few projectile points, Alba, Scal-lorn, Huffaker, Small Side Notched, and possibly Small Serrated, which may be associated with these "Caddoan" sherds.

Since the number of "Caddoan" sherds is small, their presence along with certain projectile point types which at other sites are associated with Caddoan culture, could be the result of trade, contact, or actual occupation of the site by Caddoan peoples. Any one of these is possible since there are sites of Gibson and Fulton Aspect in Delaware County.

The presence of the two Bell Plain vessels in the upper levels of the shelter most probably are the result of trade with groups to the south and east rather than actual contact with or occupation by the makers of this pottery.

Turning to the two major occupations of the site, we can see that the site was first occupied by a group with a Woodland culture. The pottery at D1-29 is primarily of the type Cowskin Dentate Stamped, a type of pottery which occurs later in time than Cooper Zoned Stamped, the classic Hopewell pottery of Delaware County. Most of the Cowskin Dentate Stamped

sherds are tempered with some shell as well as grit while the single Cooper Zoned Stamped sherd is tempered only with grit. This shell temper present in the Cowskin Dentate Stamped sherds may indicate that a transition in temper is occurring at the time this shelter was being occupied. This transition could be accounted for by contact with groups making shell-tempered pottery, an acceptance of a later trait.

Artifacts associated with this Woodland pottery are almost exclusively those which would function in only one part of the economy of the people, hunting. These artifacts include projectile points, knives, core knives, choppers, drills, and scrapers. Some preparation of tools (flakers) and perhaps sewing (awls) also took place, as well as some food grinding (manos) and cooking or food storage (pottery vessels). The numbers of manos and pottery vessels in the Woodland zone at the site is very small in comparison to that found in the Neosho Focus, an indication that the Woodland occupation was of a different character from that of the Neosho Focus.

It is known that the two major sites of Woodland occupation in Delaware County are two village sites on Honey Creek (the Cooper sites, D1-49 and D1-33). At these village sites large numbers of potsherds, manos and grinding basins were found along with points, knives, drills, and scrapers. In other words the functions of these implements indicate a variety of activities. Since some of these artifacts represented at the village sites were not found in such quantity at D1-29, it is assumed that not all the activities were carried on with equal intensity. In fact the artifacts recovered from D1-29 indicate that the site was occupied by a group who were hunting as a major activity and not spending much time in preparation of food, cooking, and manufacturing artifacts. The shelter then was a hunting camp during the time of Woodland occupation.

In the Neosho Focus occupation of the upper levels of the site there is a definite shift in many types of artifacts as well as a shift in emphasis of artifacts. It is evident that the Neosho Focus represents a culture with a distinct difference in pottery from Woodland, both in temper, shape, and decorative elements. Several other new artifact types and categories occur in the upper levels. These artifact types include small projectile points of which Simple Triangular and Lanceolate Triangular are the most numerous. New types of scrapers include Type B-4, the small triangular scrapers, side scrapers, and the Harahey "knives". Drill Variant E, the drill with the flake base, is also apparently new.

Grooved abraders, shaft smoothers, nutting stones, and grinding basins are only in the Neosho Focus levels at the site. There is also a higher frequency and greater variety of core implements including the long bone shaft straighteners, in the Neosho Focus levels. Shell scrapers were used for the first time as well as shell beads which were found with a burial which also had a Neosho Punctate vessel present as an offering.

A number of artifact types and varieties are shared by Woodland and the Neosho Focus, especially projectile points. The large points such as Gary A, Gary B, Langtry A, and Cooper A are found with both pottery traditions. Manos with two opposed grinding faces are found in both zones as are bone artifacts such as drifts, flakers, and awls. Probably the most important artifacts in this double association are the projectile points. While there are point types which occur for the first time with the presence of Neosho Focus pottery, there are other types which were also found associated with Woodland pottery. This sharing of types may be due to excessive mixing of the deposit or to culture contact. It seems more reasonable to assume that some of the point types were made and used over a long period of time since they are numerous in both zones. This

continued use indicates either contact or else a constant or nearly constant population in the area.

The artifacts of the Neosho Focus, as mentioned above, are varied in terms of function. Activities such as gathering of mussels and also gathering of wild or domesticated seeds for grinding with manos on the grinding basins are indicated. Bone tools were used for the manufacture and upkeep of implements. Hunting and skin preparation are indicated by the projectile points, knives, and scrapers. The large number of pottery fragments present mean that cooking and food storage took place. The varieties of activities thus indicated by the artifacts are such as would be carried on by a group using the shelter as a permanent or semi-permanent home, not as a temporary refuge during a hunting trip.

This type of occupation, suggested by the artifacts, is the same as that suggested for site D1-47, another rockshelter in Woodward Hollow. At both sites the Woodland zone of occupation would appear to be the refuse from a hunting camp, while the Neosho Focus zone of occupation is a more permanent one. A similar use of a shelter by Neosho Focus peoples is thought to be true for site D1-30, a cave in Woodward Hollow. With the analysis of these three sites, it is apparent that a pattern of occupation is emerging. The rock shelters and caves in the area, if occupied by a Woodland group, were first used as a hunting camp, and later used as a permanent home by those people with a Neosho Focus culture.

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APPENDIX 1. SKELETAL MATERIAL FROM D1-29 (EV II)

by Aaron Elkins

The skeletal remains of D1-29 appear to consist of five individuals. There are three enumerated burials, two of which are single, and one of which, Burial No. 2, contains two persons. Besides these, there are four sets of skeletal fragments which are identified by catalog numbers. One of these, Catalog No. 123, contains remains definitely not attributable to any of the enumerated burials. Other remains identified by catalog numbers may be parts of the skeletons from the enumerated burials. All skeletal materials are listed in Table 1.

SKELETAL REMAINS FROM D1-29

<u>Skeletal Material</u>	<u>Where Found:</u>			<u>Age</u>	<u>Composition</u>
	<u>Square</u>	<u>Level</u>	<u>Sex</u>		
Burial No. 1	2:4	6	Male(?)	About 1 yr.	Cranial, facial fragments, teeth.
Burial No. 2	1:0	4	Unknown	About 9 mos.	Cranial, facial fragments, teeth, innominate, scapular, and clavicular fragments.
Burial No. 2a	1:0	4	Unknown	4-6 yrs.	Humeral, tibial fragments.
Burial No. 3	1:12	3	Male	About 26 yrs.	Good postcranial skeleton.
Catalog No. 123	2:1	5	Unknown	4-6 yrs.	Cranial, innominate, and long bone fragments.
Catalog No. 170	1:12	5	Unknown	Adult	Maxillary, zygomatic, and occipital fragments, teeth, axis.
Catalog No. 357	1:0	6	Unknown	Infant	Cranial fragment.
Catalog No. 373	1:13	3	Unknown	Adult	Clavicular fragment
<u>Total No. of individuals:</u>					
Maximum - 8				Each square is 10 feet.	
Minimum - 5 (this is probable number)				Each level is 4 inches.	

DESCRIPTION OF MATERIAL

GENERAL CONDITION

The skeletal remains of D1-29 are in fair condition. Infant bones are fragmentary, but not decomposed; the adult skeleton(s) is well-preserved, but incomplete.

DESCRIPTION OF INDIVIDUAL REMAINS

Burial No. 1. Infant, about 1 year old. Questionable male, on the basis of a bilateral chin. "4" patterns (as defined in Dahlberg, 1951) are evident on the upper deciduous second molars, "4" patterns on the upper first permanent molars. An interesting anomaly is the absence of a dehiscence (foramen of Huschke) in the left tympanic plate. This foramen usually remains open until at least the fourth or fifth year. It is patent in the right tympanic plate of this individual.

Burial No. 2. Infant, about 9 months old, sex unknown. None of the teeth which are present have erupted, but it is evident that the two second upper deciduous molars have "4" patterns, and each of the second lower deciduous molars has six cusps.

Burial No. 2a. 4-6 year old child, sex unknown.

Burial No. 3. Male, about 26 (pubic age, as derived from McKern and Stewart (1957) formulae, is 26.05). The right fibula is thickened, and almost totally covered with exostoses. The right tibia has similar growths along the distal third of the interosseous crest, and is transversely thickened in its lower half. The shaft of this bone seems to be abruptly "bent" at about its middle, i.e., the upper half of the posterior border meets the lower half at an angle of about 160 degrees, the apex of the angle facing anteriorward. The left tibia appears to have the last-mentioned manifestation to a lesser degree, in that its posterior border seems to be more concave than is usual, but there is no

well-defined angle between upper and lower halves. Stature has been calculated from the Trotter and Gleser (1952) formula for American White males, which, though not specifically intended for usage with American Indians, seems to be the best available method. An estimated stature of 168 cm. has been derived from the right femur, which is the only completely measurable, non-pathological long bone. All of the standard measurements which could be made on this individual are included in Table 2.

Catalog No. 123. 4-6 years old, sex unknown. These bones are a trifle larger than those of Burial No. 2a, also aged at 4-6 years.

Catalog No. 170. These bones probably belong to Burial No. 3, since the two sets of bones were found in the same square, and no other trace of adult material was found anywhere in the site. The enamel on the occlusal surface of the upper left first molar is completely worn through, that of the upper left second molar, mostly worn through. No pathology occurs in any of the three teeth which are present. The left molar is of the sort which could belong equally well to a male or a female. The suborbital fossa is shallow.

Catalog No. 357. This bone may belong to one of the infant burials, but there is no real indication of this.

Catalog No. 373. Since this fragment comes from the square in which Burial No. 3 was found, it is likely that it is a displaced part of this burial.

TABLE 2

MEASUREMENTS, BURIAL NO. 3

<u>FEMUR</u>	<u>R</u>	<u>L</u>
Maximum length.....	446	...
Bicondylar length.....	445	...
Maximum diameter of head.....	<u>41</u>	43
Subtrochanteric diameter, a-p.....	21	21
Subtrochanteric diameter, trans.....	30	31
Midshaft diameter, a-p.....	27	27
Midshaft diameter, trans.....	25	25
<u>TIBIA</u>		
Maximum length.....	390	...
Midshaft diameter, a-p.....	31*	33
Midshaft diameter, trans.....	27*	21
<u>HUMERUS</u>		
Epicondylar diameter.....	59	59

Doubtful measurements are underscored.

* Pathological.

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