THE RUSTLER ROCKSHELTER SITE (SBr-288), A CULTURALLY STRATIFIED SITE IN THE MOHAVE DESERT, CALIFORNIA

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PREFACE

The University of California Archaeological Research Facility wishes to express appreciation to Mr. Fleetwood Southcott and Mr. Nick Sanchez, owners of Gold Valley Ranch, Essex, California, for permission granted to the Archaeological Survey in 1958 to establish camp and conduct excavations on their property; to the staff of Mitchell's Cavern State Park for courtesies extended to the field parties; and to Mr. Michael J. Harner, who was in 1958 attached to the Arizona State University at Tempe, for kindly identifying the pottery remains from the site.

Test excavations were carried out in the spring of 1958 during the course of a survey of the area. On the basis of evidence recovered from the test pits, it was believed that the site was "culturally stratified," that is, pottery was lacking in the lower levels while being present in the upper levels. In November, 1958, a field party from the Archaeological Survey, under the direction of Mr. A. B. Elsasser, returned to the site and expanded the previous excavations. As a result of the latter activity, it was definitely established that the site presented "cultural stratigraphy."

SITE LOCATION AND DESCRIPTION

The Rustler Rockshelter site (SBr-288)[1] lies at an elevation of 4,090 feet on the eastern side of the mouth of Rustler Canyon which is located on the southern side of the northwestern end of Woods Mountain in San Bernardino County, California.

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1. Kelley (1934, Map 1) ascribes the territory in which the Rustler Rockshelter is located to the Las Vegas band of Southern Paiute. However, Kroeber (1959:307) says that the region may possibly have been inhabited for a brief period (sometime between ca. 1780-1810 A.D.) by a group of "Desert Mohaves"; otherwise, since around 1750 A.D. it has been the home of the Chemehuevi (Southern Paiute). The linguistic affiliation of the inhabitants of this region of the Mohave Desert prior to this time is unknown.

The site is favorably situated on a small bench on the northern side of Black Canyon Wash, and has a direct southern exposure which allows reception of maximum sunshine throughout the day. Rising immediately along the rear of the deposit is an overhanging cliff, 54 feet high at the central and highest point above the site. The cliff is composed of a volcanic mudflow of yellowish rhyolitic tuff with inclusions of small, subspherical obsidian pebbles, sometimes referred to as "Apache tears." Excellent shelter from northerly and northwesterly winds is afforded by the cliff.

The deposit is composed of dark gray, loose, ashy, "greasy" midden containing artifacts, stone chippage, and fire fractured rocks. Rockfall from the cliff face occurs throughout.

Underlying the cultural deposit (except in pit S-1) is an unsorted mixture of silt, sand, and gravel ranging from pea-size to quite large angular and subangular cobbles (see Diagrams 1 and 2).

Stream action, possibly coupled to some degree with aeolian erosion, has obviously been responsible for the cutting of the three channels exhibited in the profile of the cliff face (see Diagram 1). In some manner, the stream must have become diverted from its original bed, perhaps by a fortuitous rockfall from the overhanging cliff. Evidence of a fall which may have been sufficient to cause such diversion is present at the western edge of the site (see Map 1). In any case, the original inhabitants of the site were well protected from wind and rain by the overhanging shelter of the rock.

The rockshelter, although situated about 1/4 mile from an aguaje which probably supplied the water needs of the occupants part of the time, is approximately one mile distant from a good spring. Campbell (1931:18) noted that the Indian campsites in the Twenty-Nine Palms desert region of southern California were generally located from 1/4 to 1/2 mile from "open water," and conjectures that the reason for camping such distance from the water supply was to prevent animals which also used the water from being frightened away. Sites in other dry regions of the far west appear to have been situated at even greater distances from water in aboriginal times: Humboldt Cave, Nevada, for example, is about four miles from water (Heizer and Krieger, 1956:5), and although not continuously inhabited, appears to have been lived in for brief periods, perhaps during inclement weather or possibly as a refuge from enemies; and the Coville Rockshelter in the Panamint Mountains, located high above the valley floor, is about 1 1/4 miles from water (Meighan, 1953:172). Wallace (1958:14) notes that recent camps in Death Valley are also usually some distance removed from

the nearest water source, although Wallace and Taylor (1955b:89) state: "generally the camps [in Mesquite Flat] were in close proximity to recent or present-day waterholes." Steward (1938:10, passim) states that habitation sites in the Great Basin were near sources of water but the Indians, when camped near a spring, were careful not to frighten away the game which also made use of the watering place.

GEOGRAPHIC CONSIDERATIONS

The location of the Rustler Rockshelter lies well within what has been termed the "yucca belt" of the Lower Sonoran Life Zone (Johnson et al., 1948, map facing p. 223; p. 228, Table 1; 231-232). Floral genera most conspicuous in this habitat (ibid) are: Yucca mohavensis (Spanish dagger) and Y. baccata (Spanish bayonet); Larrea tridentata (creosote bush); Chilopsis linearis (desert willow); Acacia greggii (catclaw); Ephedra sp. (Mexican tea); Echinocactus cylindraceus (barrel cactus); Opuntia sp. (cholla cactus); Atriplex (saltbush); Chrysothamnus (rabbit brush); Thamnosma montana (turpentine broom); various herbs (esp. Sphaeralca and Gutierrezia) and grasses. Each of the above named genera was probably utilized to some degree by the Indians, either as fuel, in various manufactures, or for food, drink, basketry, or medicine.

Numerous vertebrate animal species are represented in the yucca belt, the largest and perhaps most important of which are (ibid): Gopherus agassizi (desert tortoise); Taxidea taxus (badger); Vulpes macrotis (kit fox); Urocyon cinereoargenteus (gray fox); Canis latrans (coyote); Lynx rufus (bobcat); Lepus californicus (black-tailed jackrabbit); Sylvilagus auduboni (cottontail rabbit); Bassariscus astutus (ring-tailed cat); and Spilogale gracilis (spotted skunk). Numerous small animals and birds are excluded from this list.

The Mohave Desert region is characterized by aridity; precipitation occurs principally during the months between late October and the middle of March and during midsummer thunderstorms (Jaeger, 1955:39).

Diurnal temperatures during the summer range from about 100 degrees during the day to around 70 degrees at night. The winter diurnal range is about twice as great—from around 70 degrees during the day to below freezing at night (ibid., p. 43). Violent windstorms are apt to occur at any time throughout the year.

In spite of aridity and an apparently inhospitable environment, food

resources were reasonably plentiful although scattered over a wide area (cf. Barrows, 1900, passim). Undoubtedly the aboriginal inhabitants were forced into a seminomadic existence, assuming that they dwelt in the region throughout the year; however it is also possible that they returned frequently to a semipermanent village, following a subsistence pattern similar to that described for the Paipai of Baja California by Owen (1959: 56-57). In view of the abundance of yucca in the immediate vicinity and the depth of the cultural deposit at the Rustler Rockshelter, it is suggested that the aboriginal inhabitants returned to the site for some period of time year after year for many generations.

CULTURE REMAINS

Pottery

An interesting series of types and wares of potsherds was recovered from the deposit. Distribution of the various wares and types is presented in Table 1 below. Specimens occurring at the Rustler Rockshelter and their approximate temporal ranges are:

1. Tizon Brown Ware (fig. 3a-f): pre-900 to ca. 1900 A.D. (Harner, personal communication). Originally described by Colton (1939a: 8) and dated by him at ca. 700-1890 A.D. A revised description by Dobyns and Euler appears in Colton (1958). Comments on the "ethnic variations in Tizon Brown Ware" are presented by Euler (1959:41-42).

2. Lower Colorado Buff Ware: ca. 800-1910 A.D. (Harner, 1958:95; Kroeber and Harner, 1955:15). Originally described by Schroeder (1952: 16-17) and dated by him at 800-1900 A.D. A revised description by Schroeder appears in Colton (1958).

a. Parker Buff (fig. 3g, h, l-n): ca. 800 to ca. 1910 A.D. (Harner, personal communication). Described by Schroeder (1952:19-20) and dated by him at -900 to +1900 A.D. See also Kroeber and Harner (1955: 16).

b. Parker Stucco: described by Schroeder (1952:21-22) and dated by him at -200(?) to 1840 A.D. Harner (1958:96) dates this type much later, ca. 1300-1700 A.D.

c. Parker Red, Bouse I-Moon Mountain phases: dated at ca. 800-ca. 1700 A.D. (Harner, 1958:94 ff.).

TABLE 1

Types of potsherds recovered from Site SBr-288

Depth (inches)	Lower Colorado Buff Ware Parker Buff or White	Lower Colorado Buff Ware Parker Buff or Lino Gray Ware(?)	Lower Colorado Buff Ware La Paz Red	Lower Colorado Buff Ware Havasu Buff	Lower Colorado Buff Ware Parker Red-on-Buff Fort Mohave variant	Prescott Gray Ware	Lower Colorado Buff Ware Parker White	Lower Colorado Buff Ware La Paz Buff	Lower Colorado Buff Ware Parker Red	Lower Colorado Buff Ware Parker Stucco	Lower Colorado Buff Ware Parker Buff	Tizon Brown Ware	Prescott Gray Ware Verde Black-on-Gray	Tusayan Gray Ware North Creek Fugitive Red	Lower Colorado Buff Ware La Paz Buff Bouse II-Fort Mohave phases	Lower Colorado Buff Ware Parker Buff Bouse I-II phases	Lower Colorado Buff Ware Parker Buff Bouse II-Moon Mountain phases	Lower Colorado Buff Ware La Paz Red-on-Buff	Tizon Brown Ware or Owens Valley Brown Ware	Totals
No loc.	1	1									2		1							5
Surface			4	2	6	2	2	2	7	7	21	12								65
0- 6							1	1	1	16	12	30	1	1	1	3	1	1	1	70
6-12								1	1	2	8	9						1		22
12-18											1	9								10
18-24											2	5								7
24-30												3								3
30-36												2								2
36-42												1							1	2
42-48												1								1
Totals	1	1	4	2	6	2	3	4	9	25	46	72	2	1	1	3	1	2	2	187
48-60	Finely made, large, leaf-shaped blades, flake, and core tools																			

d. Parker White: same date range as Parker Red (ibid.).

e. La Paz Buff: dated at ca. 800 to ca. 1910 A.D. (ibid.).

f. La Paz Red: same date range as Parker Red (ibid.)

g. La Paz Red-on-Buff (fig. 4g, h): dated at ca. 1000 A.D. to ca. 1910 A.D. (ibid.).

h. Havasu Buff: dated at ca. 800 to ca. 1910 A.D. (ibid.).

i. Parker Red-on-Buff, Fort Mohave variant (figs. 3j, 4a-f): dated at ca. 1700 to ca. 1910 A.D. (ibid.; Kroeber and Harner, 1955:15-16).

3. Prescott Gray Ware: dated by Caywood and Spicer (1935:42) at 1000-1400 A.D. Described by Caywood and Spicer (loc. cit.) and by Colton and Hargrave (1937:184). Revised description by Colton (1939b:15-16; 1958).

a. Verde Black-on-Gray (fig. 4i, j): dated at 1050-1300 A.D. by Colton (1958). Described by Caywood and Spicer (1935) and by Gladwin (1930:140). Revised by Colton and Hargrave (1937:184-185) and by Colton (1958).

4. Tusayan Gray Ware: dated at ca. 500 to 1300 A.D. by Colton (1955). Described by Colton and Hargrave (1937:190). Revised by Colton (1955).

a. North Creek Fugitive Red (Virgin Series), Pueblo II-III(?). Dated by Colton (1952). Described by Spencer (1934:74). Revised by Colton (1952:21-22).

5. Lino Gray (Tsegi Series) (fig. 3k): dated at 500-750 A.D. by Colton (1955). Described by Kidder and Guernsey (1919:153). Revised by Colton and Hargrave (1937:191) and by Colton (1952:16; 1955).

6. Owens Valley Brown Ware: dated at -1550 to +1850 A.D. by H. S. Riddell (1951:23) and described by him (op. cit., pp. 20-21).

Milling and handstones

Fragments of eleven milling stones were collected from the excavations, and a complete specimen was found on the surface of the site.

The complete milling stone is of felsitic porphyry. A shallow grinding surface 14 cm. wide and 24 cm. long is present on one face. The entire stone measures 10 cm. in thickness, 27 cm. in width, and 32.5 cm. in length. No attempt had been made to shape any of the exterior surfaces.

The eleven fragments were distributed evenly throughout the deposit; of these four are felsitic porphyry, four are granite, and three are vesicular basalt. The fragments are so small that only thicknesses may be given. Extreme thicknesses are 13 cm. and 3.2 cm., with a mean average of 5.9 cm. Only two of the vesicular basalt specimens have been shaped on the outside surfaces.

There is no correlation between any two factors considered, that is, between frequency by level, lithic material, thickness, or quality of workmanship.

A fragment of a vesicular basalt handstone was found in pit A-3 at the 0-6 inch level. It is unifacial and appears to have been shaped around the sides. Only its thickness of 40 mm. can be measured.

A small fragment of a granite handstone was recovered from the back-dirt from "A" trench. It is too small to yield descriptive measurements. Evidence of pecking around the sides indicates that it had been shaped. The only face present was a working surface.

The reason only two mano fragments were found at the excavation may be that these objects are small and light enough to be transported from one campsite to another rather than left behind, only to have to fashion a new one at each stop.

Hammerstones

Five small, fist-sized pebbles, exhibiting considerable battering on their surfaces, constitute this group of artifacts. Each of these specimens was recovered above a depth of 30 inches. Four of them are of felsitic porphyry and one is of tough, black chert.

Abrading stones

Pumice stone was utilized in three instances as a material for making abraders. The most finely made of these objects was recovered from the 0-6 inch level in pit A-1. It is a fragment (probably about half of its original size) 52 mm. long by 4 mm. thick and 17 mm. wide. All surfaces are smoothed and carefully shaped. One of the large surfaces is entirely flat, while the other slopes slightly 7 mm. from one edge. One side is bibeveled outward, forming a wide-angled "V" in cross section. The other side is flat, and the end is rounded.

Two other less well-defined abraders are small, irregularly shaped pieces of pumice having a single smoothed, flat face. One of these was obtained in pit A-4 at the 6-12 inch level, and the other was found in pit A-4 at the 12-18 inch level.

Stone pipe

A tubular, biconically drilled pipe of dark gray scoria was recovered from pit A-4 at a depth of 27 inches. Its over-all length is 79 mm., and its original outside diameter was about 53 mm. The bowl is formed by a long, conically drilled hole extending from the distal end 68 mm. toward the base where it joins the stem hole which is conically drilled a distance of 11 mm. up from the base and tapers from a diameter of 11 mm. at the base to a diameter of 9 mm. where it joins the bowl. The walls thicken from 11 mm. at the distal end to 18 mm. near the base in relation to the conically drilled bowl.

No trace of mastic is observable at the stem end, but it is likely that either a bone or wooden stem was at one time inserted into and attached with gum to the stem hole (Pl. 1hh).

Incised stone

A thin fragment of slate bearing shallow random scratches was found on the surface of the site. It is a triangular-shaped fragment, 44 mm. long, 19 mm. wide at the point of fracture, and 3 mm. thick. The edges have been purposely smoothed, and fine scratches of irregular length appear on both broad surfaces.

Another larger but similar fragment of basalt has a smoothed edge and light scratches on both broad surfaces. This piece is 62 mm. long (both ends broken), 42 mm. wide (one side broken), and 7 mm. thick. It was recovered from pit A-2 at the 42-48 inch level.

Incised painted stone

A small fragment of a thin, flat, incised stone painted with a red pigment was found in pit A-2 at the 30-36 inch level. A simple geometric design consisting of crossing horizontal and vertical lines has been worked into both the obverse and reverse faces of the object, apparently after the faces had been painted. The specimen is 3 mm. thick. Other measurements are not possible because each side has been broken.

Incised slate tablets were assigned to the Amargosa I period by Rogers (1939:63-64, Pl. 17). They are frequently encountered in sites in Death Valley (Wallace and Taylor, 1955a:362; 1956:10, figs. 2 and 3), as well as in other regions of the Mohave Desert (Peck and Smith, 1957: 8, 18, 27, Pl. 1), occur also in the Panamint mountains (Lathrap and Meighan, 1951:24, fig. 1c; Meighan, 1953:184, Pl. 26B, C), and at the Stahl site (Harrington, 1957:69, fig. 49d). Examples identical to that recovered from the Rustler Rockshelter, that is, having the design scratched into the stone after being painted with red ocher, are described by Meighan (1953:184, Pl. 26B, C) for the Coville Rockshelter in the Panamint Mountains.

Projectile points

Thirty-four classifiable projectile points were recovered from the excavations at site SBr-288. Unfortunately, most of the types are represented by only a single specimen, and practically all of the points are broken. As will be noted, only one type is statistically meaningful in delineating cultural "strata." However, the following descriptive typology may be useful for comparative purposes with projectile points from other locations.

Type 1. Leaf-shaped (Pl. 1; Fig. 1a, b)

2. Triangular (Pl. 1)
   - a. Straight base (Fig. 1c, d)
   - b. Convex base (Fig. 1e, f)
   - c. Concave base (Fig. 1g, h)

3. Shouldered (Pl. 1)
   - a. Contracting stem (Fig. 1i)
   - b. Parallel stem (Fig. 1j)
   - c. One shoulder, one corner notch (Fig. 1k, l)
   - d. One shoulder, one side-notch (Fig. 1m)

4. Side-notched (Pl. 1)
   - a. Shallow, contracting straight base (Fig. 1n)
   - b. Convex base (Fig. 1o)
   - c. Expanding concave base; width of base equal to or less than width of body ("eared" base) (Fig. 2a)
   - d. Expanding concave base; width of base greater than width of body (Fig. 2b)

Type 5. Corner-notched (Pl. 1)
  a. Shallow, straight base (Fig. 2c)
  b. Rounded base (Fig. 2d)

6. Basally-notched, contracting stem (Pl. 1; Fig. 2e, f)

7. Concave base (Pl. 1)
  a. Contracting base (Fig. 2g)
  b. Expanding base (Fig. 2h)

M. Miscellaneous, serrated edges (Pl. 1, Fig. 2i)

In view of the fact that eighteen different types of points occur in the site, it is significant that type 2a points comprise 21 per cent of the classifiable points in the collection and that none of this type were found below a depth of 30 inches.

The related triangular point types, 2b and 2c together with 2a, make up 39 per cent of the total recovered points.

Frequencies and distribution of the other seventeen types are not statistically significant. (See Table 2 for the vertical frequency distribution of projectile point types.)

Lithic material employed in the manufacture of points ranges from chert through felsitic porphyry, with numerical frequencies as follows:

Chert or jasper	14
Chalcedony or agate	7
Felsitic porphyry	8
Obsidian	3
Other material	2

Generally speaking, the points appear to be chipped by the percussion method, being only slightly retouched by pressure flaking in spots. Type 2a points are an exception to this generality because each of them is predominantly pressure flaked, although quite crudely executed.

In addition to the classifiable points, there are numerous fragments and projectile point "blanks" which are included in Table 2. A representative sample of these unfinished projectile points(?) is illustrated in Plate 1aa, bb.

Little is known about the chronological sequence of projectile point types in the southern California desert region postdating the Lake

TABLE 2

Vertical Frequency Distribution of Projectile Point Types

Depth (in.)	3b	4b	5b	7a	7b	2b	3c	2a	1	3a	4a	M	2c	3d	6	5a	4c	4d	Frag-ments	Totals	"Blanks"
No loc.	1						1													2	
0- 6		1	1	1	1	1	1												3	9	5
6-12								2	1										1	4	1
12-18								1		1	1	1	1						4	9	1
18-24						1								1	1				3	6	2
24-30								4											4	8	
30-36						1							1		1	1			2	6	4
36-42						1											1	1	2	5	2
42-48							1		2										4	7	1
48-54									1										2	3	1
54-60																			1	1	1
Totals	1	1	1	1	1	4	3	7	4	1	1	1	2	1	2	1	1	1	26	60	18

Mohave (ca. 8000-7000 B.C.) and Pinto-Gypsum (ca. 7000-1000 B.C.) complexes. However, some general comparisons of certain distinctive projectile point types occurring at Rustler Rockshelter may be made with those recovered by other investigators in surrounding regions.

Campbell and Campbell (1935:46, Pl. 14m) believe a type of point generally similar to our type 4c (fig. 2a) to be transitional between the simple leaf-shaped point and the typically shouldered, parallel-stemmed, concave-based Pinto point. Type 4c is also generally similar to the Paradise River variety of Pinto point (Campbell et al., 1937: 43-44). Harrington (1937:88) and Schroeder (1952) found a similar type having a narrower blade to be restricted to the prepottery levels at a physically and culturally stratified site near Hoover Dam. At the Little Lake (Stahl) Pinto site, point type 4c occurred at depths of 0-42 inches (Harrington, 1957:86; App. II-E, fig. 39. lower left). Northward on the eastern California border of the Great Basin in Mono County, California, Meighan (1955:19, fig. 2) suggests that point types 4c and 7b are earlier than the remainder of the types found in the region. Rogers (1939:68, Pl. 20a, i) assigns type 4c projectile points to the Amargosa I period (dated by him at 200-700 A.D.). Wallace (1958, fig. 1) illustrates projectile points similar to type 4c which he assigns to his Mesquite Flat complex (dated by him at 3000-1 B.C.). See also Wallace and Taylor (1955b, fig. 6, bottom row).

Type 4c points also occur at Newberry Cave, located about 80 miles southwest of SBr-288, but neither their frequency, depth of occurrence, nor association is presented (Smith et al., 1957:19, Pl. 13b, third row, 5th and 7th points from left). They were also recovered from the Indian Hill Rockshelter in the Anza-Borrego State Park, and were presumably assigned to an earlier large projectile point tradition by Wallace and Taylor (1960:fig. 7, bottom row).

Type 2c points (fig. 1g, h) were found to be restricted to the prepottery levels of the stratified site near Hoover Dam referred to above (Harrington, 1937:88; Schroeder, 1952).

Projectile point types 3b and 3c (fig. 2j, k) are generally similar in form to one of the principal Silver Lake types (Campbell et al., 1937:84, Pl. 42d) and were assigned to the pre-pottery horizon of a stratified camp site near Hoover Dam by Harrington (1937:88) and Schroeder (1952).

Rogers (1939:69, Pl. 20d, e) attributes projectile point type 4d (fig. 2b) to phase I (and presumably also phase II) of the Amargosa complex.

Types 5b and 6 (fig. 2d, e, f) are assigned to phase II of the Amargosa industry by Rogers (1939:65, Pl. 18a, d) and types 2a and 2c are classed as being early Desert Mohave (ibid., Pl. 18l, m).

At the Stahl site near Little Lake, point type 7b (fig. 2h) occurred throughout the deposit (0-56 in.) (Harrington, 1957:86, App. II-E, fig. 40). Riddell and Riddell (1956:29) suggest that type 7b points "have a long and continuous history" in the region of the Owens Valley Paiute.

From a study of Table 2, which presents the vertical frequency distribution of projectile point types occurring at SBr-288, it is difficult to arrive at any meaningful interpretation concerning the temporal affinity of any of the projectile point types, mainly because most types are represented by a single specimen; however, it will be noted that type 2a points are restricted to the pottery yielding levels of the deposit.

Along the eastern California border of the Great Basin, as well as in other regions, there has been noted a general trend for large, coarsely chipped projectile points to be replaced by, or at least emphasis shifted to, smaller, lighter, finely flaked points (Heizer and Elsasser, 1953:12 ff., 19 ff.; Meighan, 1955:13: Riddell and Riddell, 1956:30; Riddell, 1958:46; Wallace and Taylor, 1960:74; Elsasser, 1960:29-30). Such a trend is also observable at the Rustler Rockshelter, where small points, with one exception, do not occur at depths below 30 inches, while nine of the sixteen large points recovered from the controlled excavations were found below a depth of 30 inches.

Blades

Throughout the history of occupation at this site large, crude blades (Pl. 1cc, dd) were utilized, probably serving a variety of functions. Each of them, with one exception (Pl. 1gg), is flaked by the percussion method, and a few exhibit a slight degree of pressure retouching along the edge. Of the series of 54 blades, felsitic porphyry was utilized in making 49 of them; the remaining 5 specimens were made from various kinds of chert.

Two types may be distinguished on the basis of shape, but the types have no apparent diagnostic value at this site for delineating culture change. Type 1 has a rounded base, and type 2 possesses a straight base.

Of the 54 specimens, 11 are type 1, 6 are type 2, 12 are unclassifiable fragments, and 25 are unfinished "blanks." One finely made type 1

specimen was recovered from a depth of 57 inches in test pit 2-S. It is made from felsitic porphyry and is pressure flaked completely around the cutting edge on both faces. Measurements of this specimen are: length, 104 mm.; width, 53 mm.; thickness, 9 mm. (Pl. 1gg).

Drills

No complete drills were recovered during the course of the excavations; however, 4 fragments of probable drills were collected. Each fragment is percussion flaked and made from different material. Three types are distinguishable.

From the surface of the site two simple triangular drill fragments were recovered, one of red agate and the other of black chert.

In pit A-2, at the 6-12 inch level, was found a drill fragment of white chert. The sides expand to distinct shoulders above a deeply concave expanding base.

In pit A-3, at the 6-12 inch level, another fragment was recovered; this has a broad, expanding, concave base.

Discoidal core scrapers

A series of 10 discoidal plano-convex core scrapers of felsitic porphyry was collected from the site. Each is made from a percussion bulb, with the edges chipped back on the convex surface only.

These tools occur from the surface of the site to a depth of 54 inches. Four specimens were concentrated at the 30-36 inch level (Pl. 1ee, ff). Their approximate diameters range from 38 to 55 mm., with a mean average of 47 mm. Thicknesses range from 13 to 18 mm., with a mean average of 15 mm.

Flake scrapers

This class of artifact is made up of a variety of irregularly shaped, nondescript flakes, both large and small, with secondary chipping on one or more edges.

A total of 53 specimens was recovered from all levels of the site. Felsitic porphyry was the lithic material predominantly employed in making these tools. In addition to 35 specimens made of this material, 12

scrapers of various kinds of chert, 3 of obsidian, 2 of agate, and one of basalt were collected.

Lithic cores

This group of artifacts is comprised of 54 stone objects from which large chips have been struck on all surfaces. Many of them show evidence of use on one or more edges, and it seems probable that they served a variety of functions, such as choppers, scrapers, "saws," hammerstones, and the like. Some other specimens show evidence of little or no use and may be merely the remains of material from which flakes were struck to manufacture projectile points or other implements.

No typological segregation is presented here because one type grades imperceptibly into another and each type occurs throughout the deposit.

Fifty of the cores are felsitic porphyry, 2 are chert, and 2 are agate.

Debitage sample

The predominant lithic material utilized in the manufacture of chipped stone artifacts is a reddish-brown felsitic porphyry. In order to determine objectively the relative use of other lithic material, a chippage sample was obtained from pit A-4. The method of taking the sample was by saving all flakes other than felsitic porphyry not passing through the screen, and segregating them by 6 inch depth intervals. The results domonstrate that chalcedony and agate were utilized slightly more than chert and jasper, and each of these was used three times as often as quartz and quartzite, while obsidian (pure black only) was used about one-third as often as quartz. Lithic materials other than these were very rarely employed in making chipped stone artifacts. The individual frequency of occurrence of the three most commonly utilized materials remains consistently relative from the upper to the lower level.

A rather curious finding, for which we have no interpretation, is that the average size and weight of individual flakes decreases steadily from the top to the bottom of the deposit. In some manner change in size of waste flakes may reflect change in technique of manufacture.

Shell bead

A unique bead type was recovered from pit A-3 at the 0-6 inch level. It is a thin section cut from near the tip of an Olivella shell across the transverse axis. A portion of the whorl is retained and all surfaces have been highly polished. The bead is 2 mm. thick and 5 mm. in diameter.

Pointed bone implements

The flat, bluntly pointed tip of a calcined bone tool was found in the 0-6 inch level of pit A-4. It is too blunt to have served as a basketry awl, but could have been used as a matting needle.

A tiny, apparently complete, calcined bone artifact was collected from an unknown depth in test pit S-2. It is 24 mm. long, 6 mm. wide, and 2.5 mm. thick. One end is sharply pointed and the other is blunt. From one flat surface the two sides are roughly beveled to a slightly convex surface. The whole object has been carefully smoothed and polished. It may have served as a barb for a rodent-hook (Mohr, 1951; Harrington, 1932).

Bone bead

From the 36-42 inch level in pit A-1 a small, calcined bird bone bead was recovered. It is fashioned from the ulna of a small bird. The ends are cut irregularly and have been only slightly trimmed. It is 8 mm. long and 5 mm. in diameter.

Faunal remains

Faunal remains are relatively abundant in the midden but are generally such small fragments that accurate generic identification is impossible. A few genera may be definitely identified, however. These are: coyote (Canis latrans probably); rabbit (probably Lepus lepus and Sylvilagus sp.); deer (Odocoileus hemionus hemionus); desert tortoise (Gopherus agassizi); and a variety of other rodents, large mammals, and birds.

Many of the mammal bone fragments are too thick-walled to be deer or antelope, and may be the remains of big horn sheep. Probably also present are antelope and other large mammals.

No attempt is made here to identify rodent species because of the abundance and variety of these desert creatures.

Bird bones are too fragmentary to attempt generic classification.

There is little doubt that practically any animal which could be taken was killed and utilized for food in this rather unfriendly environment.

All bone retained by the quarter-inch mesh screen was tabulated. A total of 496 osseous specimens was recovered from trench A (excluding pit A-9 which yielded none). Analysis by type of bone and frequency of occurrence by level reveals that all species are found throughout the midden in fairly constant ratios and no significant changes occur in these frequencies. Beginning with the 0-6 inch level and continuing in descending order by level for all types of bone, we find frequencies of 51, 68, 53, 67, 67, 78, 45, 57, 10. The last given number is the mixed midden and sterile gravel layer from which it was anticipated fewer bones would be recovered. Of the total of 496 specimens recovered, 51 are tortoise, 27 deer or antelope, 10 rabbit, 1 coyote, 54 bird, 99 rodent, and 254 are unidentifiable large mammal bones, many of which presumably are mountain sheep.

Of interest is the fact that no skull or rib fragments of large mammals are present in the collection, due perhaps to specialized butchering techniques or religious ideas connected with the hunt.

AREAL AND TEMPORAL CONSIDERATIONS

The Rustler Rockshelter is near the northern limit of what has been named the Patayan folk-tradition (Schroeder, 1957:177) which presumably had its beginning about 750 A.D. and lasted until about 1700 A.D. in the Lowland (Colorado River) subarea (Harner, 1958:93 ff.). On the basis of the vertical distribution of pottery types occurring at SBr-288, it presumably had relatively the same time-span in the upland region of the Mohave Desert.

The problems surrounding the concept of the Patayan folk-tradition are numerous in the upland region west of the Colorado River. In fact, Rogers (1945:179) took exception to the extension of the term Patayan to the western periphery of this area. His main point of objection appears to be well taken:

"My principal objection to the word Patayan is that it is presented as a cultural entity when the material evidence indicates that it is made

up of ceramic fragments from diverse cultural complexes, in so far as the western marginal components are concerned."

Perhaps, however, Schroeder's use of the term "folk-tradition," presumably referring to the region as being marginal to and affected by the greater southwestern agricultural complex, would reduce the objections to the term Patayan. If the term as defined by Schroeder (1957: 177) is accepted for the region, the remaining problem is to unravel the various complexes and their chronological relationships. As Colton (1945:121) remarked:

"The prehistoric culture west of the [Colorado] river should be correlated with that east of the river and the culture of the Yuma area must be correlated with that of the Needles area."

Fifteen years later the same tasks remain, for the most part, and as for establishing a chronology west of the Colorado River, Bennyhoff (1958: 102) remarks:

"It is impossible to set up any meaningful chronology for this region from the existent literature. More complete descriptions in terms of rigorous typology, artifact association and frequency, and site locations are needed for most of the cultural periods."

As a step toward defining archaeological subareas, complexes, and phases in the western uplands of the Patayan, it is suggested that the region centering about the Providence Mountains, Mid Hills, and New York Mountains be referred to as the Providence subarea of the Patayan Culture Area. The name Providence is chosen because it once referred to a much larger geographic region than at present, according to Gudde (1949:274) who states:

"Providence Mountains. . . . The name is shown on the maps after 1857 for the entire range of New York Mountains, Mid Hills, and Providence Mountains. . . . When the Geological Survey mapped the Ivanpah Quadrangle in 1909-1910, it limited the name to the southern end of the range."

Perhaps it is premature to suggest the establishment of an archaeological complex of the Patayan on the basis of artifact inventory from a single site. However, considering the following conditions, it is felt

that such establishment is merited: (1) the deposit is culturally stratified from the earliest pottery horizon through the protohistoric period, that is, through the entire time-range of the Patayan; (2) a trait list, although limited, may be tentatively established for the various phases; (3) it is assumed that open sites representing the Patayan folk-tradition excavated in this region in the future will yield a similar artifact inventory; (4) such inventory will be different in several respects, such as relative abundance and variety of projectile points, from the Lowland Patayan phases described by Harner (1958), and will demonstrate a closer relationship to regions to the north and northwest (Panamint Mountains, and Owens and Death valleys) in such traits as incised slate tablets and the use of the metate in grinding foods rather than pounding them.

The tentative dates assigned to the Phases of the Providence Complex are based upon the presence of pottery types occurring in the Lowland Patayan phases as described by Harner (1958). The following trait lists of the Providence Complex may be compared to those described for the Patayan folk-tradition generally (Schroeder, 1957:177) and those enumerated for the Lowland Patayan phases by Harner (1958:94 ff.).

Providence Complex of the Western Upland Patayan

Phase I (ca. 800-1000 A.D.)

Subsistence: Hunting of large and small animals and gathering of wild vegetal foods and insects. Horticulture presumably not practiced until historic times.

Food preparation: One-hand mano used in conjunction with both shaped and unshaped slab metates in a grinding rather than a pounding process. Bones of large animals cracked presumably to extract the marrow.

Ceramic traits: A plain brown pottery (predominantly if not exclusively Tizon Brown Ware), coiled, walls thinned with a paddle and anvil.

Implements: Biconically drilled stone pipe (presumably used in smoking tobacco). Small, cylindrical bone beads. Projectile point types 4c, d, 5a (Pl. 1). Painted incised slate "tablets."

Settlements: Scattered households in rockshelters in the mountains; many small shelters have low, unmortared rock walls constructed partially in front of the opening. Temporary camps in the open; houses presumably circular; brush enclosures braced with rocks around the perimeter.

Supernatural: Assumed cremation of the corpse.

External relationships: Ceramic traits derived predominantly if not exclusively from the northwestern Arizona region of the Eastern Upland Patayan. Subsistence pattern related to that of the Great Basin to the north and northwest rather than to the Lowland Patayan.

Phase II (ca. 1000-1300 A.D.)

Continuation of Phase I traits with the following additions and exceptions:

Ceramic traits: Addition of a plain buff pottery from the Lowland Patayan region.

Implements: Projectile point types 3a, 4a, M (Pl. 1) replace those noted in the preceeding phase. Bone beads, stone pipes, and painted incised slate tablets are absent.

Phase III (ca. 1300-1700 A.D.)

Continuation of Phase II traits with the following additions and exceptions:

Ceramic traits: Appearance of stucco treatment on surface of plain buff pottery, painted red designs on plain buff pottery, and the introduction of numerous pottery types from the Lowland Patayan and Upland Arizona Patayan regions.

Implements: Expanding triangular based and concave based chipped stone drills. Transversely cut Olivella shell beads. Narrow, spatulate, pointed bone tool. Unpainted, incised slate "tablets." Projectile point types 4b, 5b, 7a, b replace those noted in the preceding phase.

At present it is impossible to assign the authorship of the petroglyphs in this region to any one of the described phases or to the peoples inhabiting the region in pre-pottery times.

It is assumed that future work in the vicinity of the Providence Mountains will yield information which will necessitate revision of the presently described complex and its phases.

In a recent report on the excavation of a rockshelter in Anza-Borrego Desert State Park, Wallace and Taylor (1960) reported an artifact inventory very similar to that unearthed at the Rustler Rockshelter. Not only is the list of culture remains closely similar, but so also is the stratigraphic distribution of certain types of implements, such as pottery and small projectile points. On the basis of the stratigraphic segration of artifacts recognized by them, Wallace and Taylor (op. cit., p. 79) state:

"On the basis of these differences, two archaeological complexes can be recognized. The first, represented in the upper 18 inches, is characterized by pottery and small, light points; the other, restricted to deeper levels, by a lack of these kinds of artifacts and by the presence of larger, heavier points."

An examination of Wallace and Taylor's table, "Depth Distribution of Artifacts, Indian Hill Rockshelter" (op. cit., p. 76), does not bear out their verbal conclusions. Specifically, it will be noted that two phases of archaeological culture, representing the Patayan folk-tradition, may be delineated as follows:

Phase I (18-42 in.), in which potsherds, almost exclusively brown in color, are coupled with a tradition nearly exclusive of large projectile points. Possibly nonbasined milling stones are restricted to this phase.

Phase II (0-18 in.), in which an abundance of brown and buff colored pottery is present, as well as a small projectile point tradition.

An earlier, pre-Patayan phase is also present (42-72 in.) in which pottery is apparently absent as well as small projectile points. Artifacts in general are rare.

Thus it may be suggested that relatively the same sequence of occupation is represented at both the Ruster Rockshelter and the Indian Hill Rockshelter. Whether or not these phases may be correlated chronologically with some of the phases of the Providence Complex or the Lowland Patayan phases must await future investigation, particularly a detailed analysis of Tizon Brown Ware pottery types. Tentatively, however, it may be suggested that Phase I at Indian Hill is approximately contemporaneous with Phase I of the Providence Complex (ca. 800-1000 A.D.) and Phase II at Indian Hill possibly overlaps Phases II and III of the Providence Complex (ca. 1000-ca. 1700 A.D.).

APPENDIX

ANIMAL TRAILS AND MOVEMENTS AS RELATED TO THE PRESENCE OF PETROGLYPHS

Until about 1875 small numbers of Rocky Mountain mule deer (Odocoileus hemionus hemionus) inhabited the Upper Sonoran Zone in the general region adjacent to Woods and Providence mountains and Mid Hills (Longhurst, Leopold and Dasmann, 1952:50-51). According to local residents, these animals had become practically extinct by about 1880. Recently the forage range in the vicinity of the Providence Mountains has been restocked with the original species variety of deer, and two other varieties have been introduced (O. h. californicus and O. h. fuliginatus) (op. cit., p. 51). Local informants reported to the author that the introduced varieties of deer, as well as the wild burros and mules, travel through Woods Wash, about three miles east of the site, Wild Horse Canyon, about three miles to the west, and Black Canyon Wash, immediately in front of the site, to reach higher elevations in Mid Hills, Providence Mountains, and Table Mountain.

Other nearby canyons, such as Burro and Grass canyons, and Rustler Canyon, at the mouth of which the site is located, all furnish relatively easy access to the northern elevations of Woods Mountains and are occasionally used by a few of these animals.

Table Mountain supports a small resident band of mountain sheep numbering between six and eight head. Other small bands of mountain sheep reside on the northernmost peak of Woods Mountains and on an eastern outlyer of the Providence Mountains north of Wild Horse Canyon. There is evidence that prior to settlement by Europeans mountain sheep were common in the region (Johnson et al., 1948:372). Movements of these small bands of sheep are rather restricted and they seldom move from one peak to another, although an occasional migration does occur, according to local informants and Johnson (op. cit., p. 371).

The presence of water rather than abundance of forage is probably the most important factor limiting a marked increase in the deer population according to Longhurst (Longhurst et al., 1952:51). In this connection, it might be suggested that the availability of water is also a main factor in restricting game trails to a limited number of specific routes between infrequent springs and aguajes. A spring in nearby Grass Canyon and an aguaje in Rustler Canyon could have attracted both men and game animals to the vicinity of the site. According to local residents, deer, wild burros, and mules, as well as domesticated horses, utilize both of these natural watering places today.

Recently, Heizer and Baumhoff (1959) presented the interesting suggestion that there exists an association between the occurrence of petroglyphs and deer migration trails in portions of the Great Basin. Specifically, they note:

"At certain points, especially at the mouths or along the courses of washes or canyons through which the deer travel, are locations which are ideal for hunting from ambush. . . . It is at such locations that one finds petroglyphs in western and central Nevada.

"In arid valleys petroglyphs may be found in the close vicinity of a water tank or spring. Here the purpose was apparently to aid in the taking of such animals (perhaps antelope) as came to the spot to drink."

On Map 2 of this report is shown the geographic relationship between Indian camp sites, water sources, petroglyph locations, and general topographic features. It will be noted that petroglyph sites 120, 290, 291, and 305 occur in the three specific contexts suggested by Heizer and Baumhoff (op. cit.) as indicative of their association with narrow defiles along game trails, at the mouths of canyons, or near watering places. A search for petroglyphs was made along the bluffs on either side of Black Canyon Wash because local residents stated that animals followed its course as well as Wild Horse Canyon and Woods Wash. No petroglyphs were found, however, and it is possible that their absence is due to the fact that the wash is approximately one mile in width, very open, and with no suitable ambush hunting sites available along its course. Thus it may be suggested that evidence from the vicinity of the Rustler Rockshelter supports the hypothesis set forth by Heizer and Baumhoff.

It is significant to note that the petroglyph locations recorded by Wallace and Taylor (1955a, fig. 104) are situated only in the vicinity of the single hunting blind found during their survey of Wildrose Canyon in Death Valley National Monument.

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ANT	American Antiquity
BAE	Bureau of American Ethnology
-B	Bulletin
MNA	Museum of Northern Arizona
-B	Bulletin
-CS	Ceramic Series
SWJA	Southwestern Journal of Anthropology
SWM	Southwest Museum
-M	Masterkey
-P	Papers
UC	University of California
-AR	Anthropological Records
-AS-R	Archaeological Survey Report
-PAAE	Publications in American Archaeology and Ethnology
-PZ	Publications in Zoology

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ILLUSTRATIONS

[Figure 3]

j. Parker Buff, Fort Mohave variety
k. Parker Buff or Lino Gray
l-n. Parker Buff, Bouse I or II phase

Figure 4. Potsherds (catalogue numbers are those of the Robert H. Lowie Museum of Anthropology, Berkeley)
a-f. Parker Red-on Buff (UCMA 1-143075)
g. La Paz Red-on-Buff
h. La Paz Red-on-Buff
i. Verde Black-on-Gray (UCMA 1-143028)
j. Verde Black-on-Gray

Plate 1. a-c. Projectile point, type 1
d. Projectile point, type 7a
e. Projectile point, type 7b
f-i. Projectile point, type 2a
j-l. Projectile point, type 2b
m. Projectile point, type 2c
n. Projectile point, type 3a
o. Projectile point, type 3b
p. Projectile point, type 3c
q. Projectile point, type 3d
r. Projectile point, type 4b
s. Projectile point, type 4c
t. Projectile point, type 4d
u. Projectile point, type 5a
v. Projectile point, type 4a
w. Projectile point, type 5b
x, y. Projectile point, type 6
z. Projectile point, type M
aa-bb. Projectile point "blanks"
cc-dd. Crude "blades"
ee-ff. Plano-convex "turtle-back" core scrapers
gg. Large pressure retouched blade
hh. Stone pipe

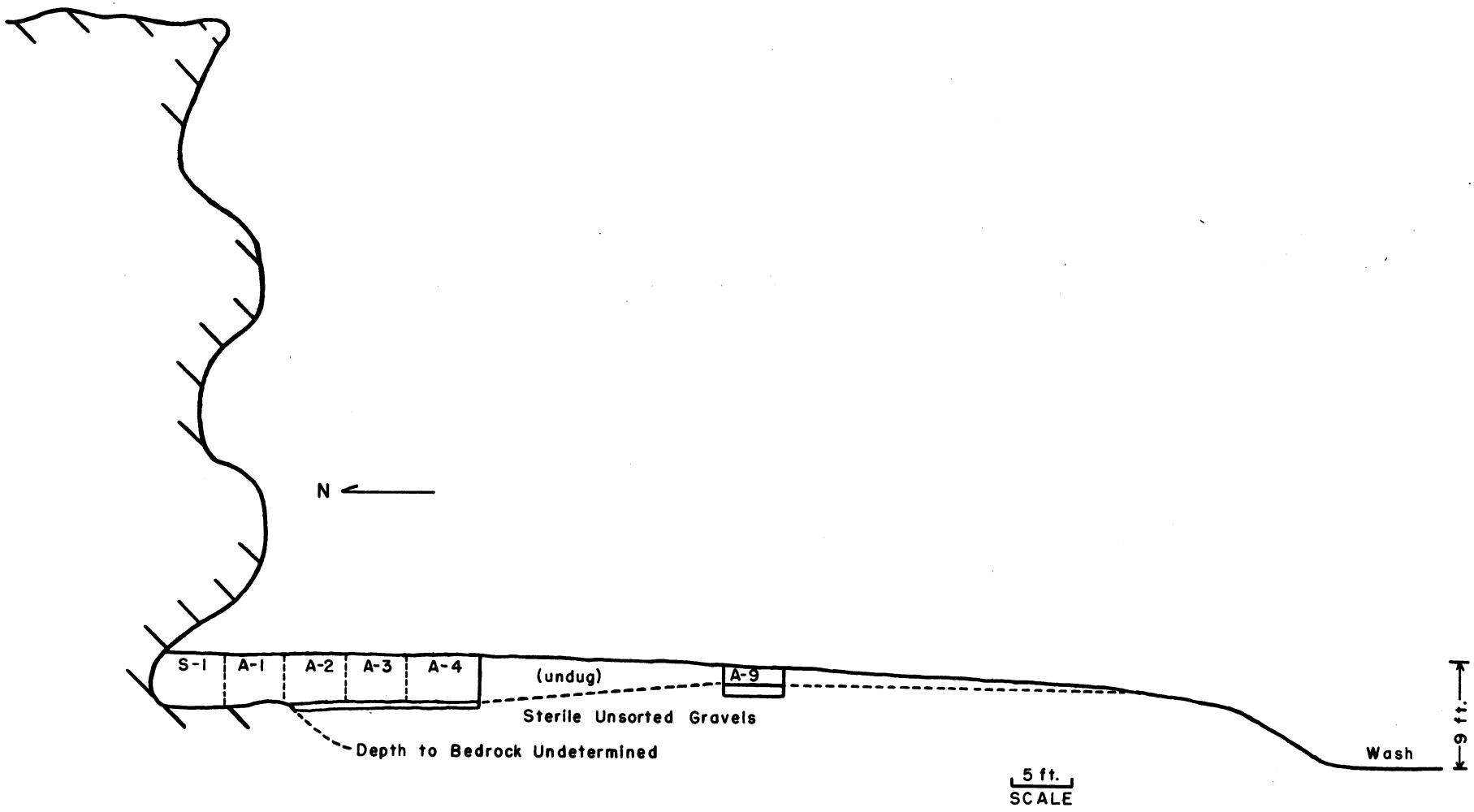


Diagram No. 1

SBr-288 Schematic North-South Transection

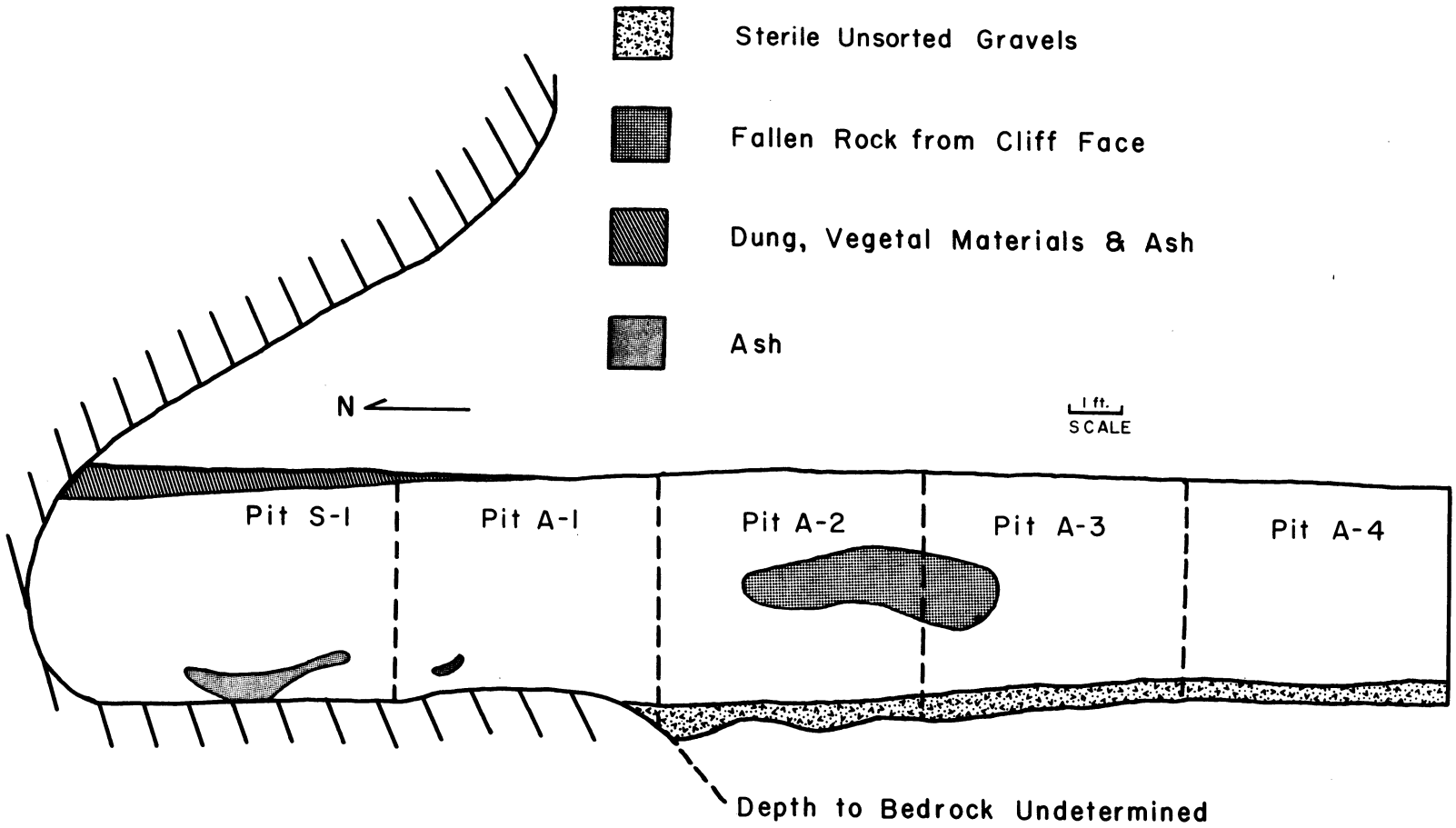
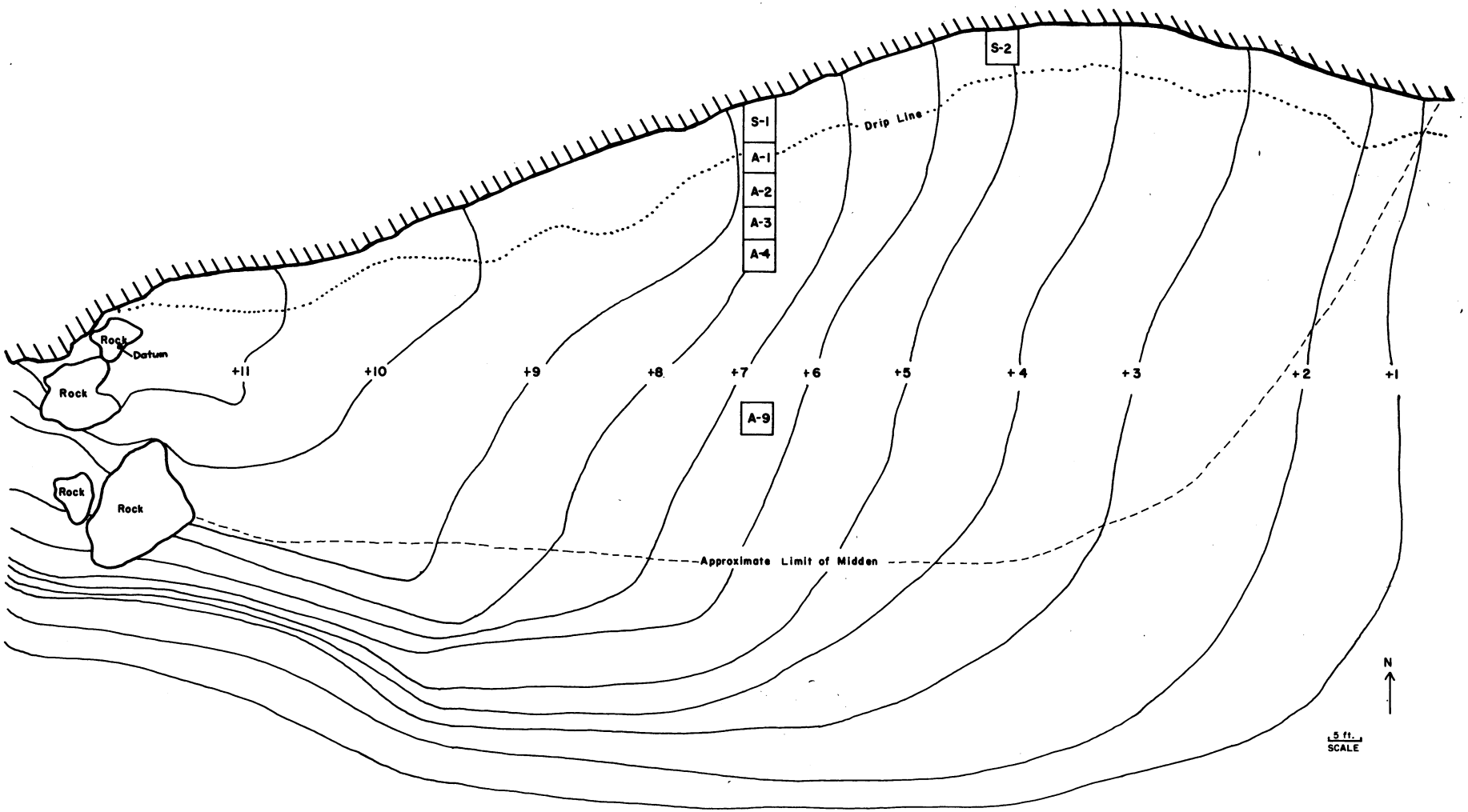
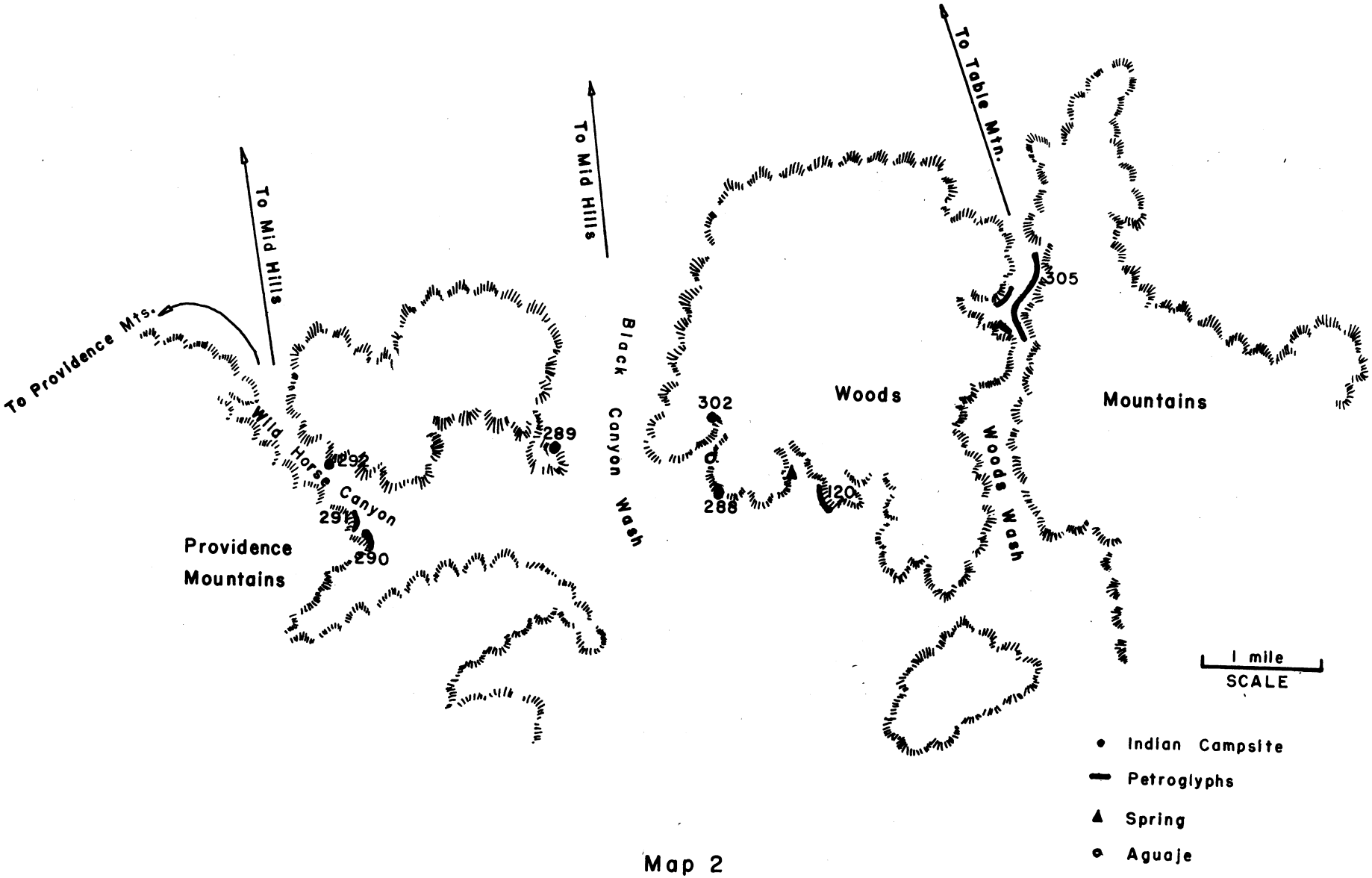


Diagram No. 2

SBr-288 Cross-Section of East Wall of Trench A



Map I. Contour Map of SBr-288 Showing Excavated Units


To Providence Mts.
To Mid Hills
To Mid Hills
To Table Mtn.
Black Canyon Wash
Wild Horse Canyon
Providence Mountains
Woods Mountains
Woods Wash
289
292
291
290
302
288
120
305
1 mile
SCALE
Indian Campsite
Petroglyphs
Spring
Aguaje

Map 2

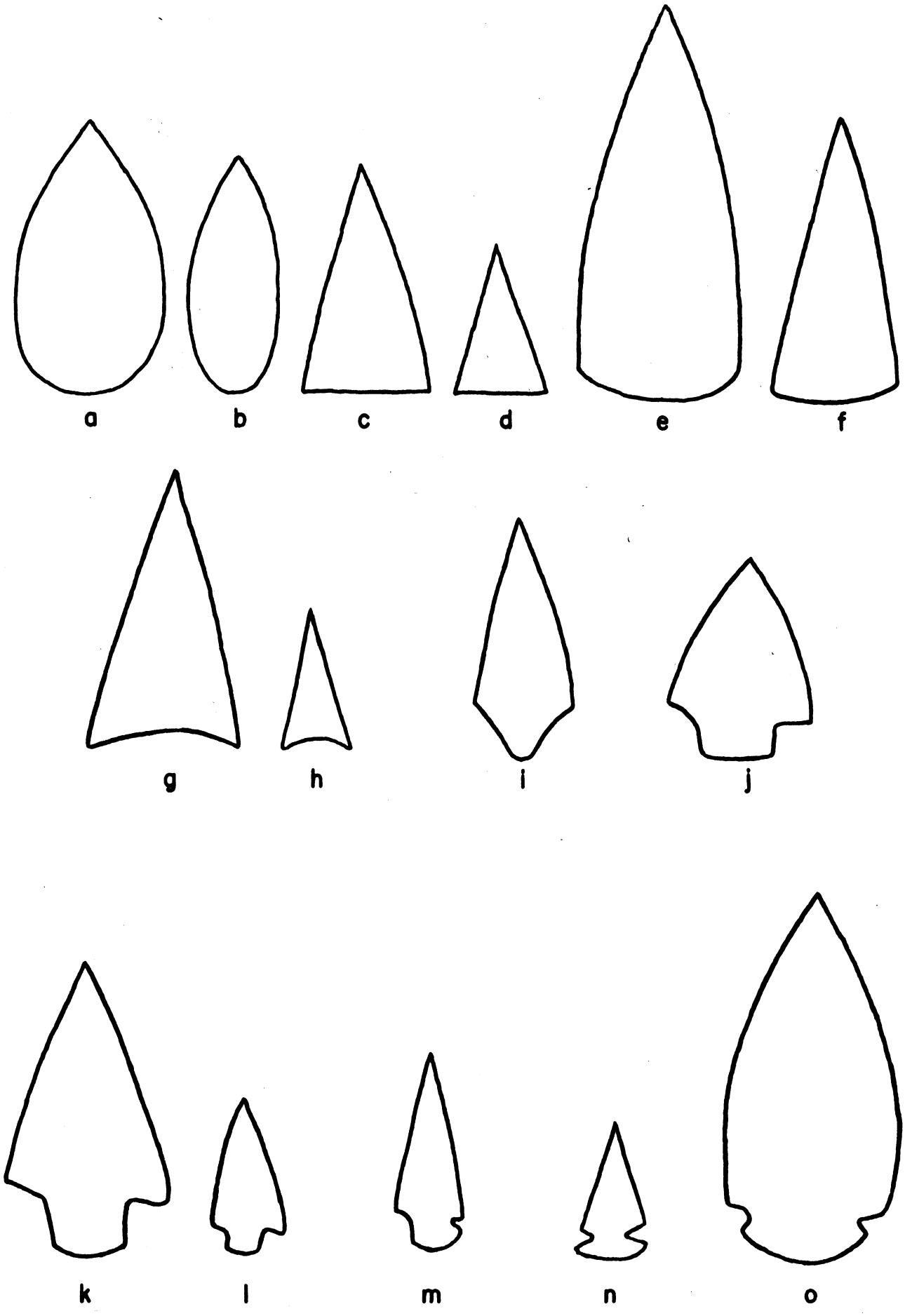


Figure 1

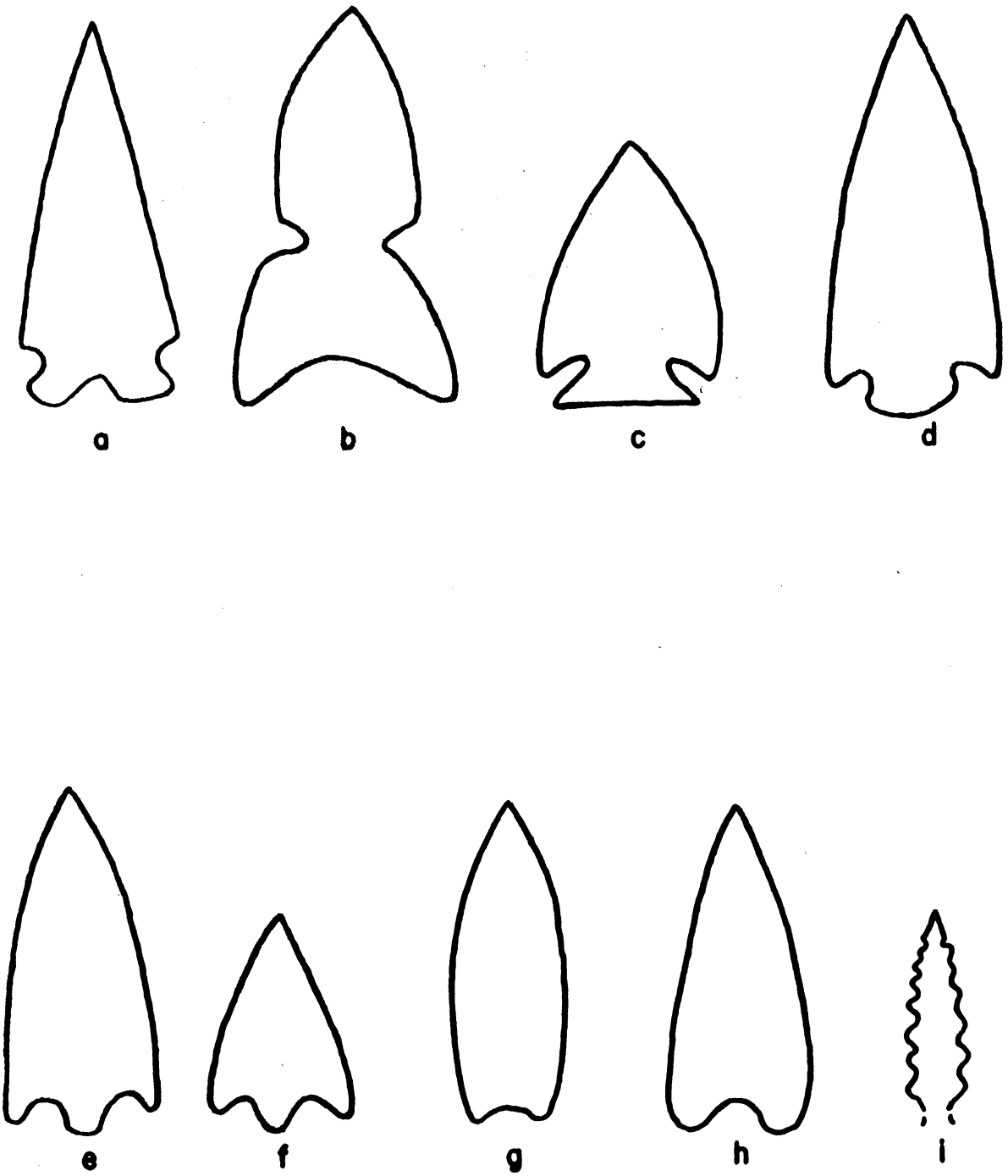


Figure 2

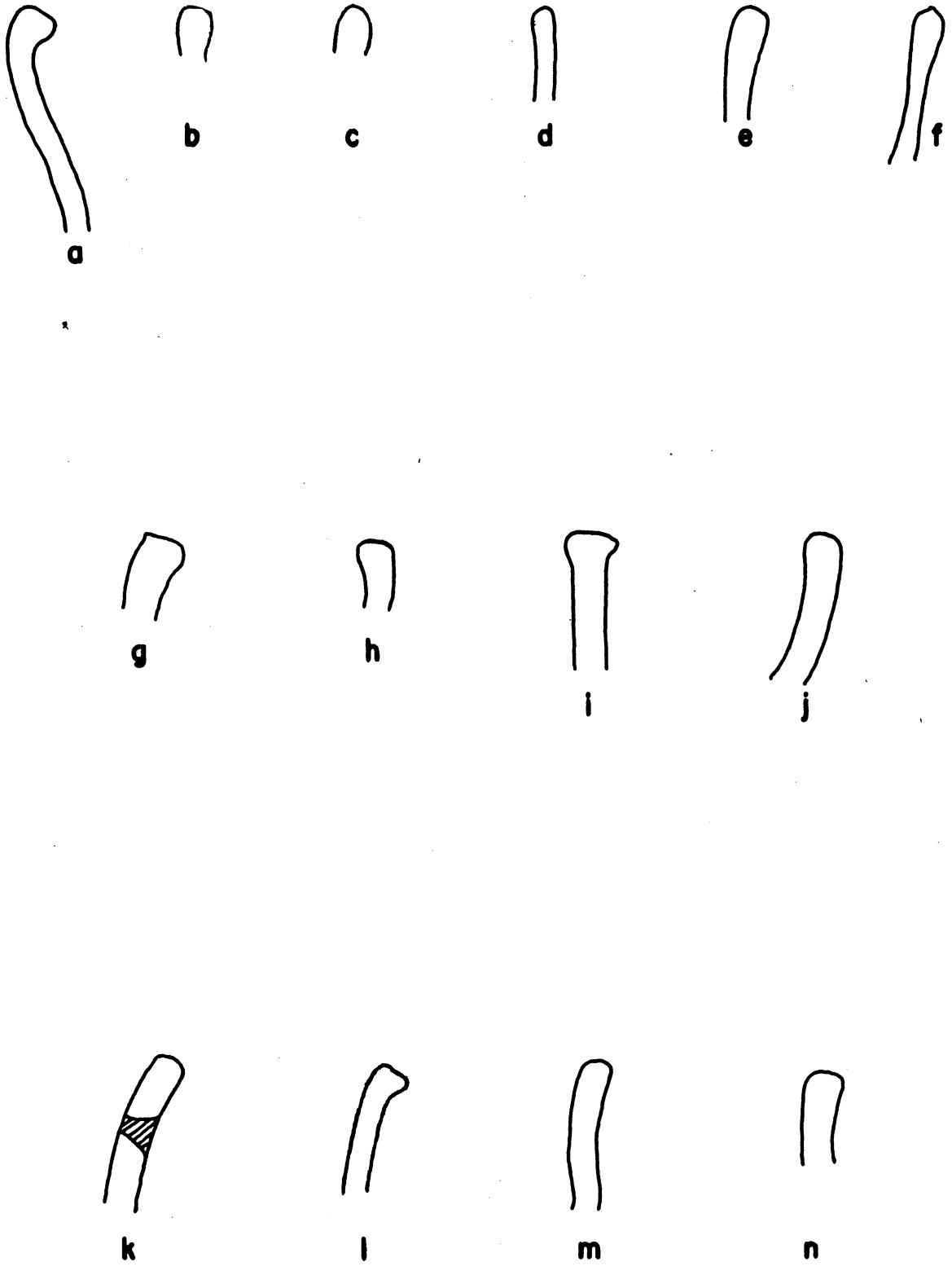


Figure 3

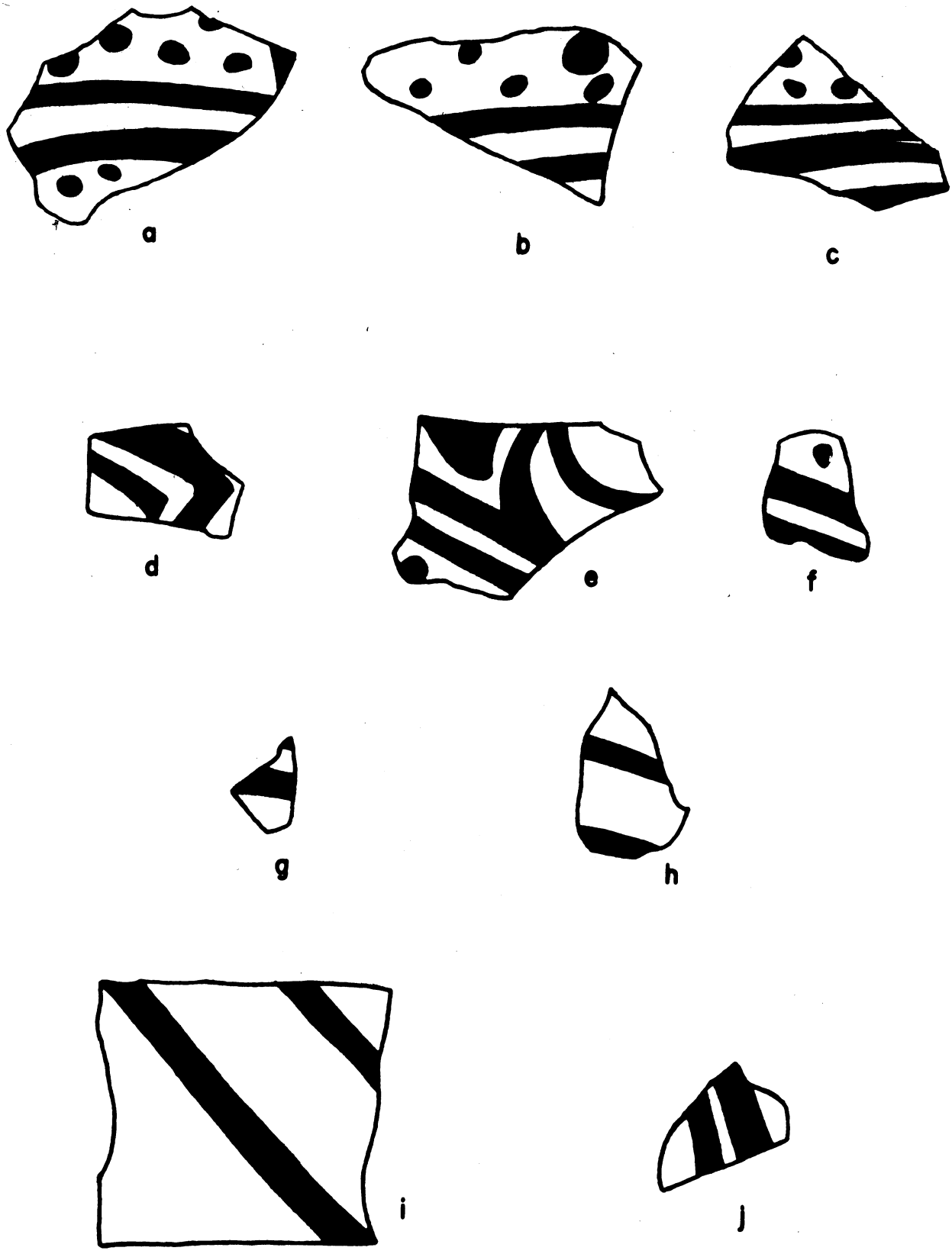
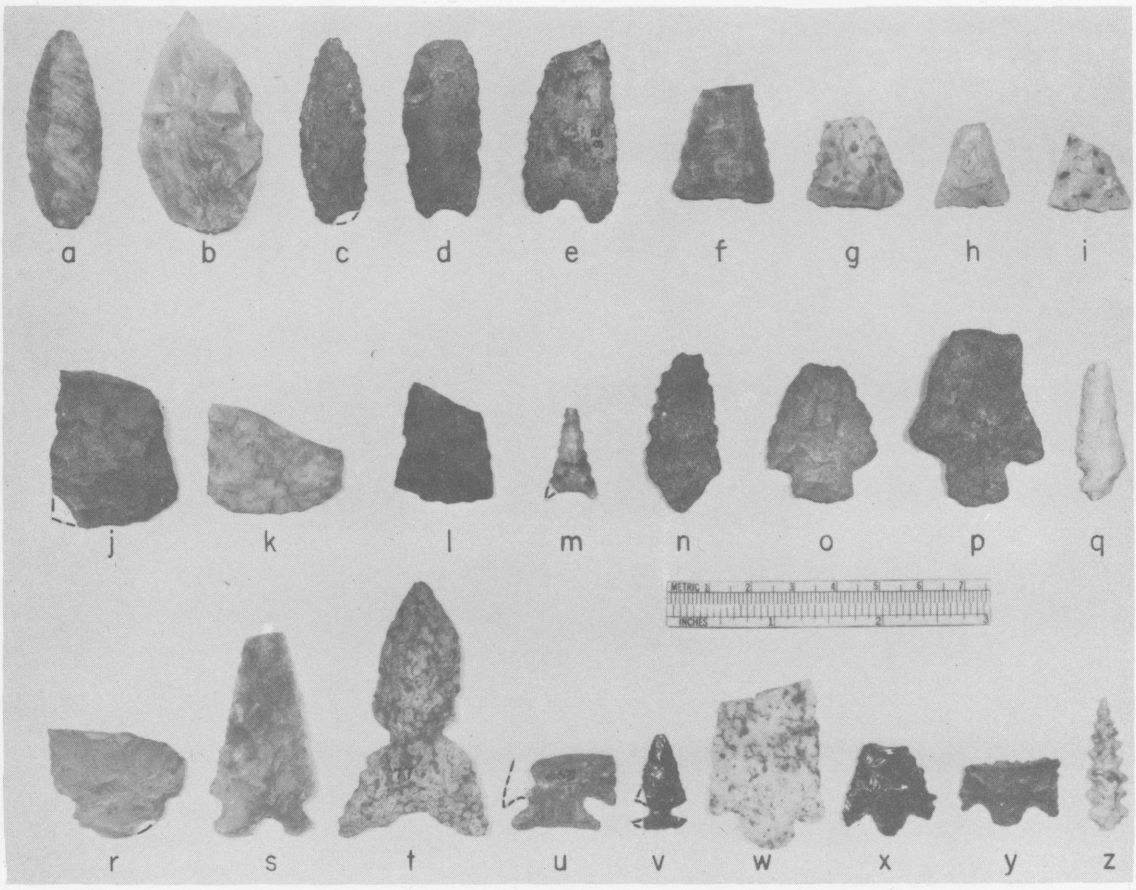
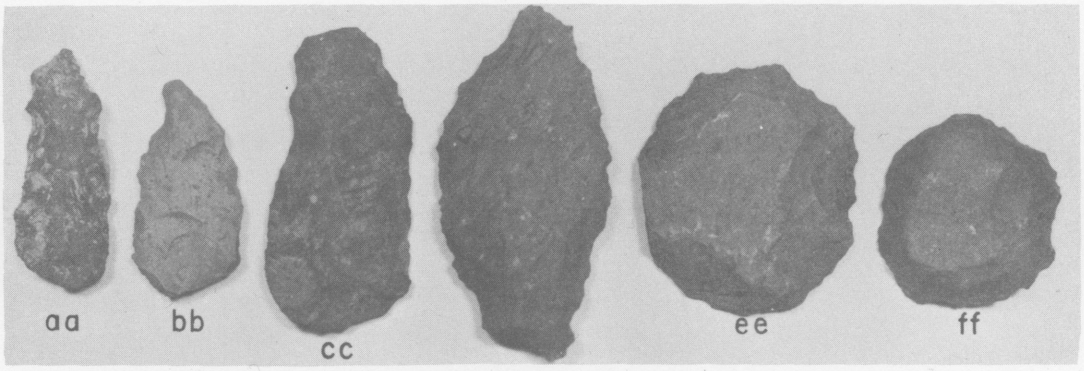


Figure 4





5 cm.
SCALE

Plate I.