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BASKET MAKER III SITES NEAR DURANGO, COLORADO

BY

ROY L. CARLSON

INTRODUCTION TO THE EARL MORRIS PAPERS

BY

JOE BEN WHEAT

UNIVERSITY OF COLORADO STUDIES
BOULDER, COLORADO, JUNE 1963

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PREFACE

The work of a number of persons and institutions has made this report possible. The sites in this study were dug under the direction of Earl H. Morris assisted by Robert F. Burgh for the Carnegie Institution in 1939. The artifacts, field notes, and photographs from this excavation were given to the University of Colorado Museum upon Morris's death in 1956. This study is the first in a series of reports on Morris's unpublished material that are being prepared under a grant from the National Science Foundation. Joe Ben Wheat is the director of this project.

The field notes from this excavation are good, and the artifacts and photographic data are in good condition. The site maps and the drawings showing the structural remains are, with the exception of some labels, the work of Robert F. Burgh. The botanical remains were identified by Hugh Cutler of the Missouri Botanical Garden and Washington University, and by Lawrence Kaplan of Roosevelt University. Peter Robinson, Curator of Geology at the University of Colorado Museum, was assisted by Elaine Anderson in the identification of the faunal remains. Dr. Robinson also assisted in the description of the material from which the stone artifacts had been made. Wilma Kaemlein, Assistant Curator of the Arizona State Museum, located and forwarded a portion of the Durango material that had gone to that institution. Hugo Rodeck, Director of the University of Colorado Museum, extended every possible courtesy, particularly in regard to laboratory space and working conditions. Bryant Bannister and David A. Breternitz of the University of Arizona made available additional data on the Durango tree-ring specimens from the files of the Laboratory of Tree-Ring Research. Joe Ben Wheat is to be credited with organizing and instituting this project on Earl Morris's materials, and he gave freely of his time and advice in preparing this report. Without the active cooperation of these individuals and institutions this report would not have been possible, and I am very grateful for this assistance.

ROY L. CARLSON

Boulder, Colorado
December, 1962

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BASKET MAKER III SITES NEAR DURANGO, COLORADO

I. INTRODUCTION

Excavations were carried out at six sites, Ign. 7:22, 7:23, 7:25, 7:30, 7:31, and 7:36. A pit house and surface rooms were present at each site, with the possible exceptions of Ign. 7:22 and 7:25 where the excavations were superficial. All of these sites are assignable to the Basket Maker III phase for the Durango area. Dendrodates indicate that the pit houses were occupied simultaneously about A.D. 760. In addition notes were made on six other sites, Ign. 7:21, 7:26, 7:27, 7:28, 7:29, and 7:41. The site designations used are those of the Gila Pueblo Survey, whose records are now in the Arizona State Museum at Tucson. Ign. is the abbreviation for Ignacio.

The location of this Basket Maker occupation is Hidden Valley, a narrow shelf formed during the Pleistocene above the west side of the valley of the Animas River (Fig. 1) just to the north of the city of Durango in southwest Colorado. The geography and geology of the area have already been treated by Morris and Burgh (1954) in their analysis of Basket Maker II remains from Hidden Valley. The immediate area of the sites is known as Falls Creek Flats. The sites consist of individual or occasionally paired pit houses in an area of fields and low knolls about one and one-half miles long by one-half mile wide. The predominant vegetation is scrub oak, although pines and other conifers are also present, and farther down the valley are coppices of chokecherries and swampy areas with tules.

II. THE SITES

The six excavated sites all occupy similar positions on low ridges above the valley floor. All were marked by the presence of pot sherds and other habitation debris and of a circular depression which when excavated proved to be the remains of a pit house. The remains of surface structures, an encircling ring of cobblestones, and trash areas with burials were encountered at some sites. The remaining six sites also belong to the Basket Maker III phase for the Durango area on the basis of survey data, with the exception of Ign. 7:41.

Ign. 7:22

Five test trenches were dug at this site, which is located at the end of a low ridge running northeast-southwest. Trash deposits and what may be the re-

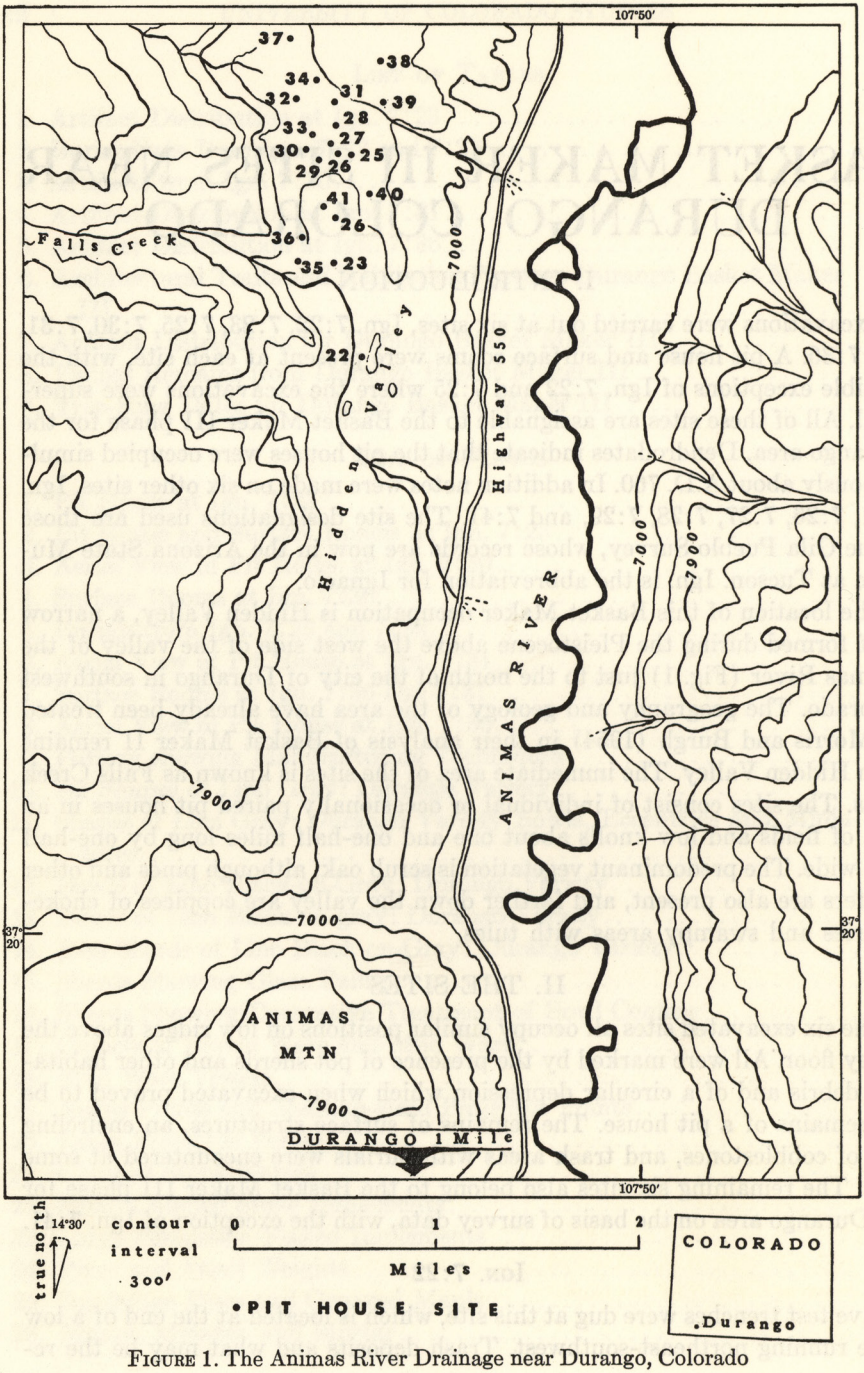


FIGURE 1. The Animas River Drainage near Durango, Colorado

mains of a pit house mark the site, although the latter was not excavated. Three burials were encountered in the trenching.

Burial 1 (Pl. 5 *a*) consisted of an adult male placed breast downward in a shallow irregular pit. The skull was to the northwest and was turned so sharply to the right that the chin rested under the edge of the right scapula. Both legs were flexed; the right leg was tightly folded underneath the trunk, whereas the left one was loosely folded and extended outward from the trunk. The right arm was straight and the left was bent at the elbow with the forearm lying straight across under the abdomen. Artifacts which accompanied the interment consist of the following: a black-on-gray bowl near the right forearm, a core chopper beneath the bowl, and a flaked stone gouging implement at the back of the bowl.

Burial 2 was an adult placed in the grave on his left side with the skull to the north, the arms folded across the chest, and the legs loosely flexed. Burial 3 consisted of a crushed skull found buried in the fill of what is probably a pit house. No artifacts were found with either burial 2 or 3.

The site is assigned to Basket Maker III primarily on the basis of the bowl (Pl. 13 *d*) with burial 1. The bowl itself falls within the range of the Durango variety of Lino Black-on-gray, although its flattened and slightly incurved rim and its medium depth suggest that it is late.

Ign. 7:23

Ign. 7:23 (Fig. 2) is located about 100 meters north of the terminus of a ridge which is due east of the canyon of Falls Creek. The ridge splits into two tongues at the northern margin of the site and rises rather sharply. There were four main features of the site: (1) a semi-subterranean pit house that had been destroyed by fire during occupancy; (2) two joined surface storage rooms; (3) a ring of cobblestones enclosing the foregoing structures; and (4) a refuse mound containing burials located to the northeast of the stone circle. The pit house and surface rooms were completely excavated, and 17 burials were removed from the trash mound. The pit house depression had been trenched previously by I. F. Flora.

PIT HOUSE

Excavation of the pit house (Fig. 3 *b, c*; Pls. 1, 2 *a*) indicated that it had consisted of a main room with a sub-hexagonal floor plan and six main roof supports, a passageway, and a vestibule, and that it had been destroyed by fire so that none of it remained above the bench level.

Construction: The main room had been excavated to a depth of approximately two meters with a maximum diameter of about 8.65 meters, leaving

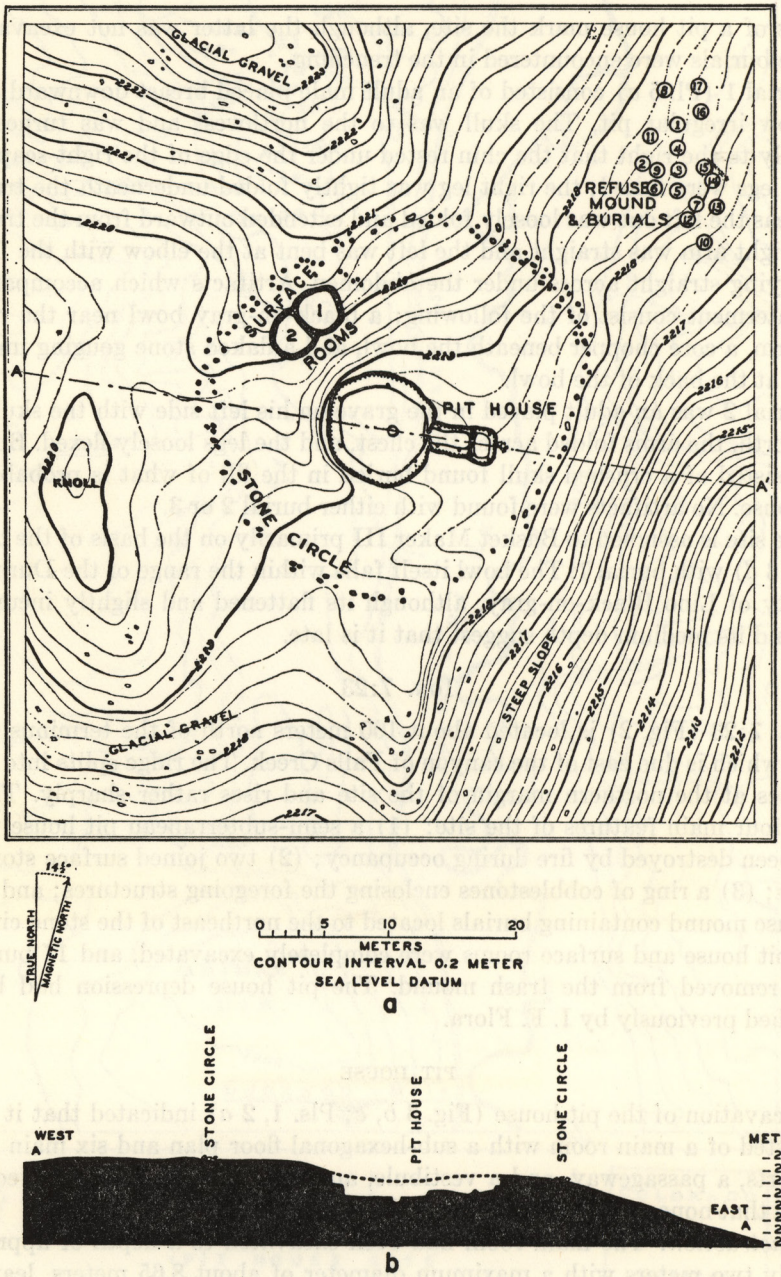


FIGURE 2. Plan and Section of Ign. 7:23

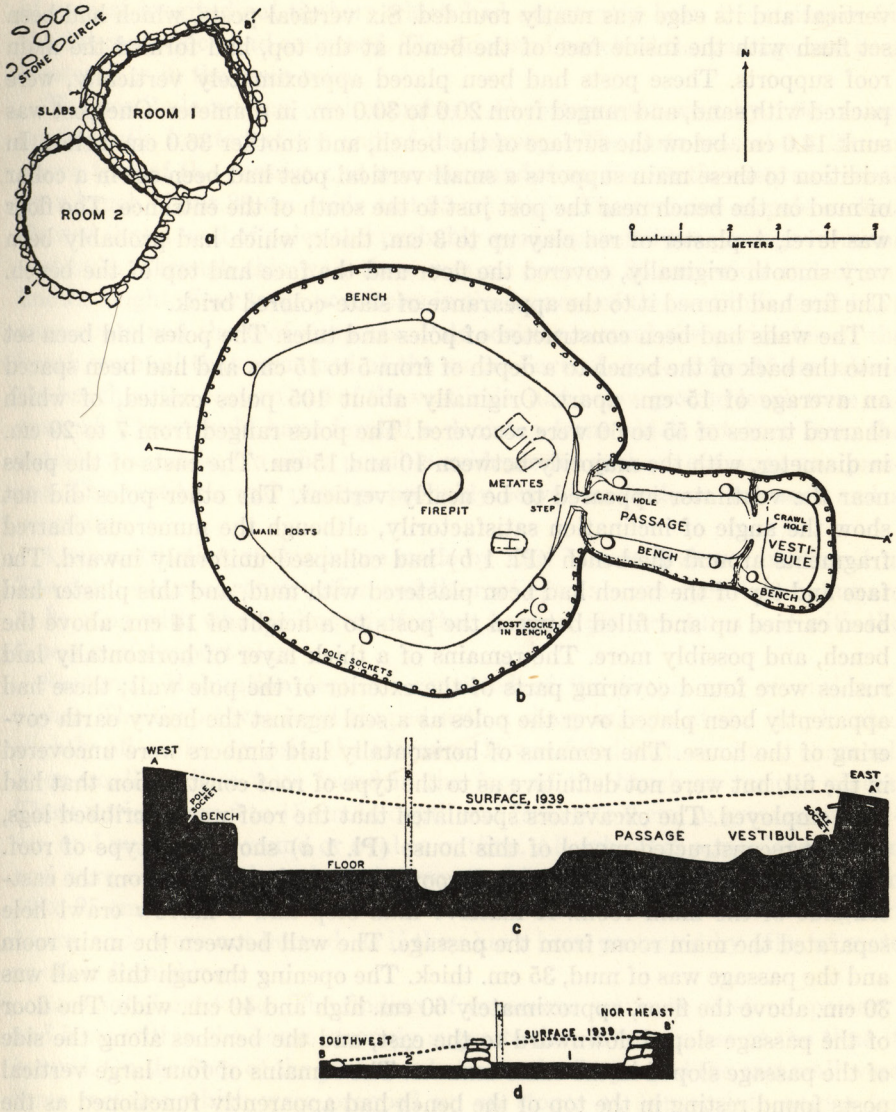


FIGURE 3. Pit House and Surface Rooms at Ign. 7:23. *a*, Surface rooms, plan view; *b*, pit house, plan view; *c*, section of pit house; *d*, section of surface rooms.

a bench excavated to about one meter in depth around the edge. Actually the height of the bench was variable and ranged from 77.0 cm. on the north to 1.01 meters on the south. The bench had an average width of 90.0 cm. and sloped down slightly from back to front. The face of the bench was nearly

vertical and its edge was neatly rounded. Six vertical posts, which had been set flush with the inside face of the bench at the top, had formed the main roof supports. These posts had been placed approximately vertically, were packed with sand, and ranged from 20.0 to 30.0 cm. in diameter. One post was sunk 14.0 cm. below the surface of the bench, and another 36.0 cm. below. In addition to these main supports a small vertical post had been set in a collar of mud on the bench near the post just to the south of the entrance. The floor was level. A plaster of red clay up to 3 cm. thick, which had probably been very smooth originally, covered the floor and the face and top of the bench. The fire had burned it to the appearance of slate-colored brick.

The walls had been constructed of poles and tules. The poles had been set into the back of the bench to a depth of from 5 to 15 cm. and had been spaced an average of 15 cm. apart. Originally about 105 poles existed, of which charred traces of 55 to 60 were recovered. The poles ranged from 7 to 20 cm. in diameter, with the majority between 10 and 15 cm. The casts of the poles near the ventilator appeared to be nearly vertical. The other poles did not show the angle of inclination satisfactorily, although the numerous charred fragments around the bench (Pl. 1 *b*) had collapsed uniformly inward. The face and top of the bench had been plastered with mud, and this plaster had been carried up and filled between the posts to a height of 14 cm. above the bench, and possibly more. The remains of a thick layer of horizontally laid rushes were found covering parts of the exterior of the pole wall; these had apparently been placed over the poles as a seal against the heavy earth covering of the house. The remains of horizontally laid timbers were uncovered in the fill, but were not definitive as to the type of roof construction that had been employed. The excavators speculated that the roof was of cribbed logs, and the reconstructed model of this house (Pl. 1 *a*) shows this type of roof.

A narrow passageway with a small room at the end extended from the eastern side of the main room. A massive mud step and a narrow crawl hole separated the main room from the passage. The wall between the main room and the passage was of mud, 35 cm. thick. The opening through this wall was 30 cm. above the floor, approximately 60 cm. high and 40 cm. wide. The floor of the passage sloped downward to the east, and the benches along the side of the passage sloped in the same manner. The remains of four large vertical posts found resting in the top of the bench had apparently functioned as the roof supports for the passage. Pole sockets were found along the sides of the passage and some of them contained the remains of poles with a tule backing. The width of the passage was about 2 meters including the benches, which were about 45 cm. wide each. Over the bench from end to end lay the remains

of several longitudinal timbers which had apparently been the stringers for the flat roof which had collapsed. The floor and bench of the passage had been plastered as in the main room.

The vestibule was an oval chamber 1.45 meters east-west by 1.90 meters north-south, located at the end of the passage. The floor was about 20 cm. above that of the passage and was surrounded on the north, east, and south by a bench about 30 cm. wide and 25 cm. high. The remains of pole sockets showed that a wall of poles and probably mud separated the passage from the vestibule. Through this wall there was an opening 36 cm. wide and of unknown height. Four large post holes in the corners of the vestibule must have once contained the roof supports. Pole sockets around the perimeter of the bench were all that remained of the walls. Several stone slabs 65 cm. above the bench at the eastern end of the vestibule, just below ground level, were uncovered. These could have formed a doorstep from which entrance from the outside was made. No other possible evidence for such an entrance was present. The vestibule and passage probably served as both an entrance and a ventilator.

A reconstruction of this house made by Earl Morris is shown in Plate 1 *a*. The details of roof construction and the roof entrance are speculative, but are in keeping with what is known of other Anasazi pit structures and with the 6-post roof support plan.

Features: Habitation features consisted of the firepit and several wall niches. The firepit was bowl-shaped with a sharp margin at the rim, located slightly off-center opposite the entrance. It was filled with sand and charcoal. Four small cavities were found in the face of the bench at various places. These varied from 6 to 15 cm. in depth and from 6 to 9 cm. in greatest diameter, and were either round or oval in outline. All exhibited a moulded margin and were either level or slanted downward inside. These niches varied from 40 to 95 cm. above the floor level. Patches of the floor about 1 meter long and 75 cm. wide were not burned, as if they have been protected by piles of mats or other furnishings.

Associated artifacts: The finding of numerous artifacts of stone, pottery, and bone within the house strongly suggests that it was in use at the time it burned. On the floor of the pit house between the firepit and the east wall were three metates which were propped up on stones at appropriate angles for grinding. Two of these metates had manos in place on them. A fourth metate was found leaning against the wall to the north of the entrance. Possibly it had been used as a cover for the passage entrance. At various places on the floor were several additional manos, stone slabs, a number of round to oval

cobblesones, several crushed plain gray pots, some projectile points, and several charred bone awls. Several manos, several thin stone slabs, two flaked hoes or axes, and a number of smooth cobbles were found on the bench of the main room. In addition four plain gray jars and a small jar of brown mud ware were found on the south bench of the pit room. One of these jars contained charred beans and corn. There were also several vessels in the fill in this area, as if they had fallen from the bench. A large sherd of Lino Black-on-gray: Durango variety was found on the west bench. A cluster of pots high in the roof debris in this area suggests that they had been stored there. On the south bench of the passage lay a shattered pot and a notched axe or hoe, and heaped up in the southwest corner were two grooved mauls, a flaked hoe or axe, five manos, three rounded cobbles, and several small irregular stone slabs. A great many more artifacts came from the pit house, but their specific locations were not recorded. These artifacts and the preceding ones are tabulated in Table 1.

SURFACE ROOMS

Two small surface rooms (Fig. 3 *a*; Pl. 2 *b*) approximately 4 meters to the northwest of the pit house were excavated. Vague alignments of stones on the surface suggested that these were part of a more or less continuous chain of rooms. Test-pitting to the northeast of these two rooms indicated a cultural deposit to a depth of 1.5 meters. At this level a smooth floor was found over an oval area. No walls were found associated with this floor. The fill in these areas consisted of broken manos, slab metates, chipped hoes or axes, and many sherds.

Construction: The two rooms had been constructed by leveling the sloping ground to even the floor. Room 1 was nearly circular, whereas room 2 was D-shaped with the flat side against room 1. The masonry footings were rough and clumsy and had been made from good-sized stones which were vaguely coursed with a good deal of mud in between. Sandstone slabs were also used in the wall construction to a limited extent and were used vertically as well as horizontally. The floors sloped downward slightly from the northwest to the southeast. No trace of the superstructure was found.

Features: Neither hearths nor other habitation features were found in these two rooms. This absence plus the small size of the rooms suggests that they were used for storage rather than for habitation.

Associated artifacts: The soil over the floors was compact unstratified clay. In it were manos, sherds, scattered stones, broken slab metates, and other artifacts. Artifacts specifically recorded as coming from the surface rooms are quantified in Table 1.

TABLE 1. *Artifact Distribution at Ign. 7:23*

	Pit House	Surface Rooms	Trash Mound	Burials	Unspecified
Lino Black-on-gray: Durango Variety bowls	3		5	5	2
Lino Black-on-gray: Durango Variety sherds	2	9	65		15
Lino Gray: Durango Variety					
Neckless jars	3				
Necked jars and pitchers	12	4		2	1
Bowls		1	2	1	1
Duck-ring vessel and duck vessel	3			1	
Miniature jars	2			2	
Sherds	155	9	96	1	68
Neck-banded sherd of gray ware					1
Brown ware					
Jar sherd with collar below rim			1		
Sherd of vessel with lateral spout			1		
Neckless jar sherds			1		
Miscellaneous jar sherds			2		
Mud ware					
Parching tray (?) sherds	1		2		
Small jars	7	1			
Jar stoppers	1				
Sherds of vessels	6	3			4
Small arrow points	1		4	6	1
Medium-sized arrow (?) points			2		
Large projectile points and fragments	3		1	3	
Stone knives	8		5	9	
Stone scrapers	1		2	14	
Gouging and engraving tools	1			6	
Axes or hoes	4				
Atlatl weight	1				
Stone tubular pipes	1		1		
Trough metates	4				
Manos	6				
Grooved mauls	3				
Hammerstones	1				
Bone awls	4	1			
Bone whistle			1		
Beans and corn	1				

STONE CIRCLE

A loose alignment of stones (Fig. 2) encircled the area occupied by the pit house and surface rooms. The stones themselves are the same as those found in the glacial gravels on the ridge. The ring averaged about a meter in width. It was most poorly defined on the south.

REFUSE MOUND AND BURIALS

A low refuse deposit was found to the northeast of the stone circle. The mound consisted of black earth full of stones and numerous pot sherds. Seventeen burials were located in the mound. The orientation data for these burials are given in Table 2. The usual method of burial was to place the corpse on its left side with its head uphill to the north, its legs tightly flexed, and its arms in variable positions.

Associated artifacts: Non-perishable grave goods had been placed with eight of the burials. A quantity of unworked stone spalls, 4 small stemmed and corner-notched arrow points, 1 large broken leaf-shaped point, 5 flake knives, 2 shaped knives, 14 scrapers, 3 flake drills, 1 gouge, 5 engraving tools, 1 flake arrow point, 1 large unfinished projectile point, the base of a large leaf-shaped projectile point, and a quartz crystal were found near the left elbow and lower abdomen of burial 1. Just to the north of the skull of burial 3 a black-on-gray bowl and a small gray-ware pitcher were found. East of the skull

TABLE 2. *Burial Data from Ign. 7:22 and 7:23*

Site	Ign. 7:22				Ign. 7:23																
Burial No.	1	2	3		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total
Disturbed, incomplete			x					x				x					x		x			5
Head north		x			x	x	x			x	x				x	x						8
Head northeast									x											x	x	3
Head northwest	x												x									2
Head south																			x			1
Head southeast														x								1
On back											x						x			x	x	4
Breast downward	x																					1
On left side		x				x	x		x	x			x	x	x			x				9
On right side	x																					1
Legs tightly flexed					x	x	x		x	x			x	x	x	x		x		x		11
Legs loosely flexed	x	x																			x	3
Legs extended											x											1
Adult	x	x			x	x			x		x		x	x						x	x	10
Child							x	x		x		x			x	x	x	x	x			9
Corpse covered with stones														x				x				2
Grave goods present	x				x		x	x		x	x	x			x						x	9

of burial 4 was a black-on-gray bowl, and west of the skull was a crude plain gray duck vessel. Burial 6 yielded a black-on-gray bowl containing a miniature Lino Gray jar and a small pitcher from behind the skull. The bottom and side section of a large plain gray jar with the concave side up was found resting on the abdominal area of burial 7. A black-on-gray bowl was found near burial 8. Over the lower part of the body of burial 11 a plain gray bowl and a black-on-gray bowl had been nested with a plain gray jar containing a small arrow head. The skull and some of the bones of an elderly dog accompanied burial 17. A chipped stone artifact was found between the thoracic vertebrae of burial 17, but is missing from the collection.

A number of additional artifacts were found in the trash area, but were not associated with burials. These are tabulated in Table 1.

Ign. 7:25

Ign. 7:25 is located near the western edge of a north-south running ridge in Hidden Valley. The extent of the excavations at this site are uncertain. A topographic map of the site was made, and the field notes describe what was found, but there are neither drawings nor photographs of the features that were discovered. A few artifacts from the site are present. The following description is based entirely on the field notes and the artifacts present.

PIT HOUSE

The topographic map shows a circular depression about seven meters in diameter. The field notes state that the floor plan was sub-rectanguler with four main roof supports placed on the bench. The excavation was apparently quite shallow, with the ground level between 30 and 50 cm. above the top of the bench. The bench on the south of the house had been excavated into the underlying rock formation, a laminated red sandstone. The bench was about 1.4 meters wide on the west side and had been plastered. A slab on edge at the back of the bench may have formed part of a bin as at Ign. 7:36.

ARTIFACTS

Sherd samples from the site show the following types: Lino Gray: Durango variety, 19 sherds; Lino black-on-gray: Durango variety, 14 sherds; and mud ware, 1 small saucer. A mano was found sitting on the bench, and a medium-sized projectile point also came from the site.

Ign. 7:30

Ign. 7:30 (Fig. 4) is located on a narrow glacial ridge running northwest-southeast. The ridge terminates about 40 meters west of the site. Northeast

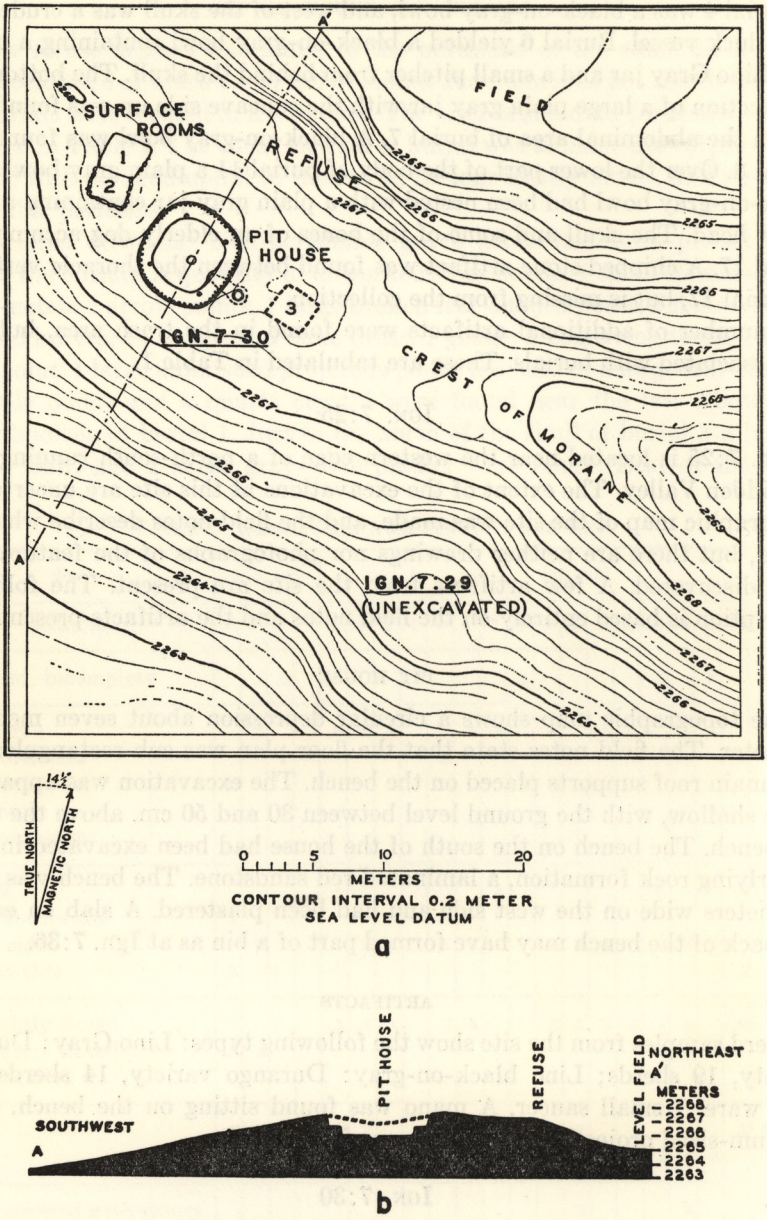


FIGURE 4. Plan and Section of Ign. 7:30

of the site at the base of the ridge is a field that was under cultivation at the time of excavation. Twenty-five meters to the southeast of Ign. 7:30 lies another house pit, which is designated Ign. 7:29. The latter was not excavated. There are three main features of the excavated site: (1) a semi-subterranean pit house with a southeastern entrance; (2) two rectanguloid surface rooms to the northwest of the pit house, and a third surface room to the southeast; and (3) a refuse deposit just to the north of the pit house. No evidence of an encircling ring of stones was present. The pit house and the surface structures were excavated.

PIT HOUSE

Excavation of the pit house (Fig. 5; Pl. 3) indicated that it had consisted of a main room with an encircling bench, subrectangular floor plan and four main roof supports on the bench, walls of poles and probably tule and mud, a central firepit, and an entrance-ventilator tunnel with a bell-shaped opening at the end rising to the surface.

Construction: The pit had been excavated to a depth of slightly over two meters with a maximum diameter of just under seven meters, leaving a bench 90 to 120 cm. wide around the entire excavation. The bench averaged 75 cm. in height above the floor. The holes for the four main roof supports were found at the inside edge of the bench. These averaged about 20 cm. in diameter. Pole sockets were found at the back of the bench along the western half of the room, but these had been obliterated along part of the eastern half, and their presence in Figure 5 *a* is purely inferential. The floor and bench had been plastered, and the plaster carried up to a height of 15 cm. at the back of the bench.

The entrance-ventilator tunnel had been made by cutting a trench into the gravel ridge, roofing it over, and covering the roof with earth. The profile (Fig. 5 *b*) shows a roof constructed of poles laid horizontally. The data from which this pole lintel is inferred are not clear from the field notes. The tunnel was excavated, but whether remains of poles or of pole sockets were found is not stated. The tunnel itself expanded from a small opening approximately 40 by 50 cm. to a width of 90 cm., and then to a bell-shaped shaft which rose to the surface. The reconstructed view of the pit house (Fig. 5 *c*) shows a slab lining to the opening at the top of the bell-shaped shaft. Neither the photographs nor the field notes document any such feature, and this part of the reconstruction seems to me to be highly speculative.

Features: A bowl-shaped firepit was found opposite the entrance-ventilator tunnel. It was filled with sand and contained some ash and charcoal at

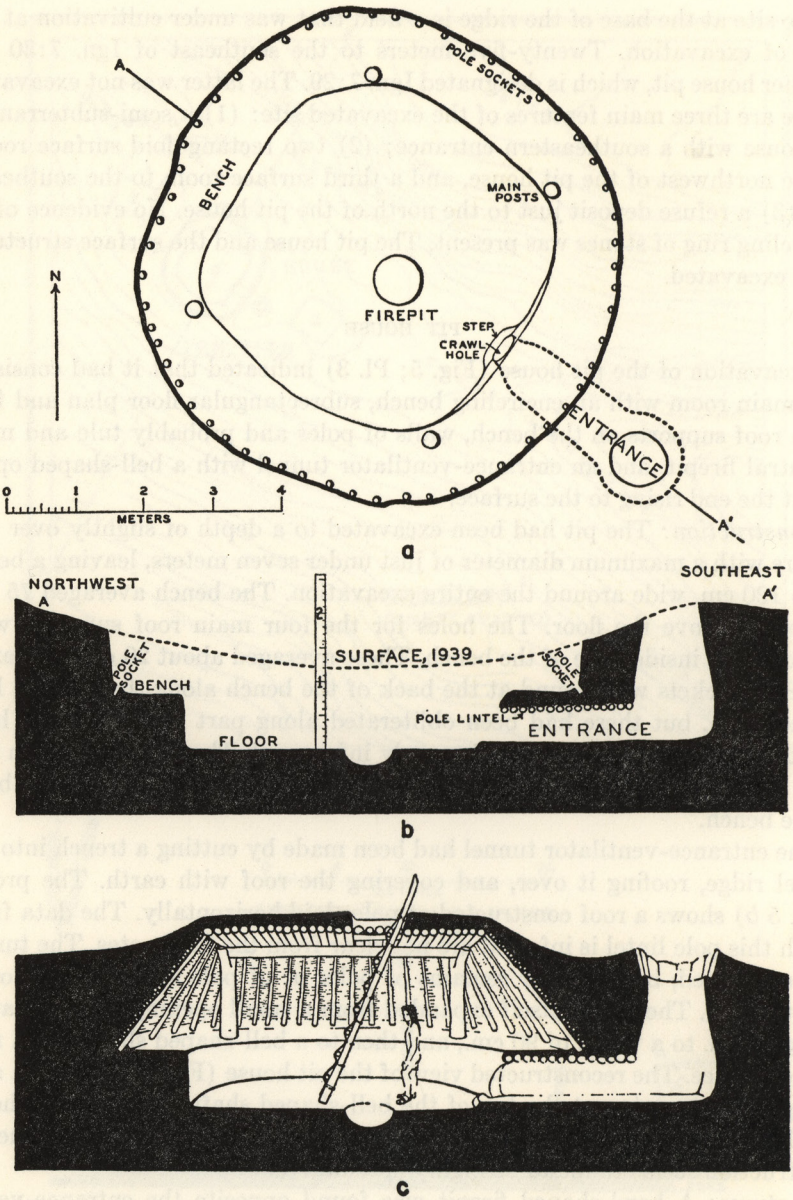


FIGURE 5. Pit House at Ign. 7:30. *a*, Plan. *b*, Section. *c*, Reconstructed view

the top of the sand. As with other firepits in houses in this area, the rim was flush with the floor level. The only other features were four flat rock slabs found resting on the floor. The function of these is uncertain.

Associated artifacts: Three manos were found on the bench; two trough metates were found leaning against the face of the bench, one near the northeast corner and the other near the southeast corner. Three manos were behind one of these. A third trough metate, which unlike the others was open at both ends, was found in the fill about a meter above the floor level. Presumably some of the sherds and chipped stone artifacts listed in Table 3 came from the pit house, although there are no data on their specific locations.

SURFACE ROOMS

Two joined surface rooms, located just to the northwest of the pit house, and a third poorly defined surface room to the southeast of the pit house were excavated (Fig. 4; Pl. 4). There had been at least one other room joined to room 2, but the growth and uprooting of a large pine tree had destroyed whatever evidence the shallow fill had contained. A slab metate was found in the roots of the tree.

Construction: All three rooms were rectangular in shape. The floors were identifiable, but were marked only by the change from fill to native earth. The floor of room 1 averaged about 20 cm. deeper than that of room 2. The east wall of room 2 was composed of large, thick slabs set on edge, whereas the south and west walls were of large rough rocks (Pl. 4 *b*) set on edge with the flattest side inward, and the north wall separating the two rooms had probably been of mud. The fill in these rooms was about 40 cm. in depth, and

TABLE 3. *Artifacts from Ign. 7:30*

Lino Black-on-gray: Durango Variety bowl sherds	5
Lino Gray: Durango Variety	
Restorable jars	3
Jar sherds	83
Miniature mud ware jar	1
Jar stopper with corn impressions	1
Small stemmed and barbed arrow point	1
Fragment of large projectile point	1
Drill with notched grip	1
Large lozenge-shaped knife	1
Antler atlatl weight (?)	1
Grooved mauls	2
Rectanguloid manos	5
Trough metates	3
Sample of charred beans	1

stone slabs and manos were found scattered irregularly over the floor. Room 3 (Pl. 4 *a*) was poorly defined. A massive deposit of clay overlay the cultural refuse on the floor. There was some indication of a bench around the perimeter of the room.

Features: In room 1 a circular firepit was located in the east central portion of the room. It was filled with red sand. A number of stone slabs in the southeast corner of room 2 had probably once formed a bin.

Associated artifacts: A number of artifacts were found in room 3: a plain gray jar with a mud lid showing corn cob impressions; a small, plain, gray bottle containing charred beans; another plain, gray bottle; an antler atlatl weight; a miniature jar of mud ware; and the base of a plain gray jar came from there. Some of the sherds and chipped stone artifacts may have come from the surface rooms also, but their specific locations at the site were not recorded.

Ign. 7:31

Ign. 7:31 (Fig. 6) is located on the southwest slope of a gravel ridge that rises about three meters above the floor of Hidden Valley. The south and west quadrants of the site are bordered by the main Spud Canyon drainage. About 50 meters to the east of the site is the edge of the flat terrain, and beyond that is the abrupt and rugged mountain slope which descends to the Animas River, 275 meters below. The site area itself is more or less level and is outlined by a circle of stones about 30 meters in diameter. The southern arc of the circle forms a shelf slightly above normal ground level. At the center of this area a shallow basin proved upon excavation to be the remains of a pit house which had been destroyed by fire. A five-room surface structure was located about four meters northwest of the pit house. The pit depression, which had previously been trenched by I. F. Flora, was completely excavated. The surface structures were also completely excavated. A trench was dug about three fourths of the way around the stone circle, a test trench was dug within the stone circle just to the northeast of the house depression, and six test trenches were excavated just to the southeast of the stone circle. There was no appreciable refuse deposit, and no burials were encountered.

PIT HOUSE

Excavation revealed the remains of a sub-hexagonal pit house (Fig. 7; Pl. 6) with six main roof supports, pole and tule walls, a central firepit, and an entrance-ventilator tunnel to the southeast. No bench was present.

Construction: Little of the structure was intact above the sockets for the wall poles except adjacent to and on the north side of the entrance-ventilator

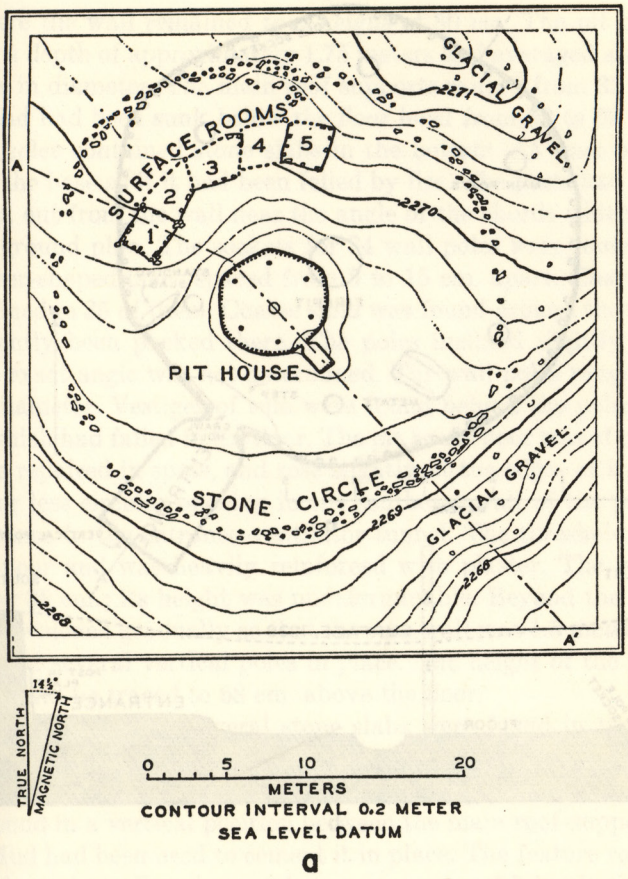


FIGURE 6. Plan and Section of Ign. 7:31

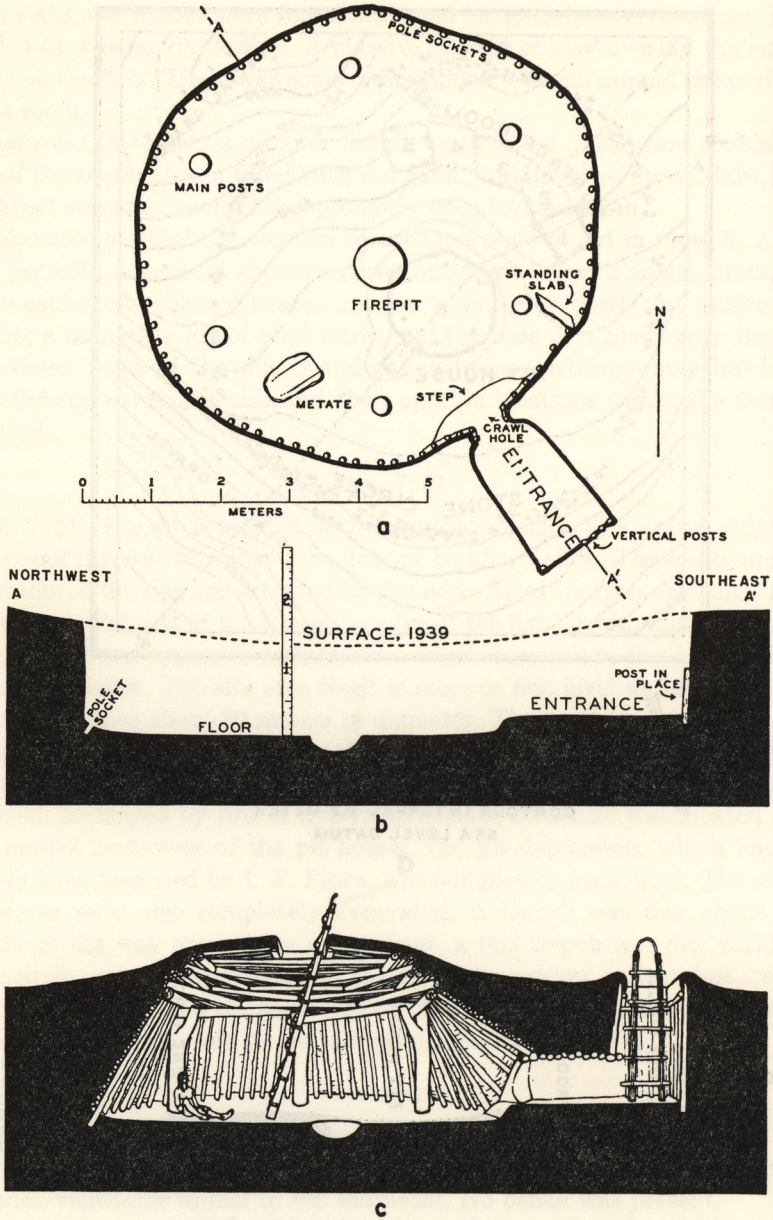


FIGURE 7. Pit House at Ign. 7:31. *a*, Plan. *b*, Section. *c*, Reconstruction

tunnel where the wall remained to a height of 80 cm. The pit had been excavated to a depth of approximately 1.75 meters and averaged approximately 6.20 meters in diameter. The main roof supports ranged from 32 to 42 cm. in diameter and had been sunk below the floor level from 52 to 69 cm. Four of these post holes contained stone slabs in the bottom. At least one post was charred at the base as if it had been felled by fire. The posts had been placed 50 to 75 cm. out from the wall near the angle of the chords which formed the hexagonal ground plan. The sockets for 84 wall poles were found in the rim of the saucer-shaped floor, spaced from 5 to 15 cm. apart. Charred butts of poles remained in 35 of them. Coarse sand was found around these poles, and had apparently been packed there. The poles inclined slightly inward, although the exact angle was not determined. The wall poles ranged from 8 to 12 cm. in diameter. Vestiges of tule were found behind the poles and in the roof mud which had fallen to the floor. The pit house floor was of packed mud. It had been repaired in spots, and rose slightly at the edges of the room.

A more or less circular opening in the southeast wall of the pit proved to be the entrance to the entrance-ventilator tunnel. The threshold was 25 cm. above the floor and was heavily reinforced with plaster. The width of the opening was 35 cm.; its height was undeterminable. Beyond the opening the passageway widened gradually so that the rear wall was 1.3 meters wide. The latter retained several vertical poles in place. The height of the rear wall of the tunnel could be traced to 68 cm. above the floor.

Features: A firepit and several stone slabs were found in the room. The firepit was bowl-shaped without a raised rim and occupied a central location opposite the entrance-ventilator tunnel. To the east of the ventilator a stone slab was found in a vertical position between the main roof-support post and the wall. Mud had been used to cement it in place. The feature rose to 50 cm. above the floor. A similar stone slab was encountered lying horizontally between the wall and the major roof-support post on the opposite side of the ventilator entrance, and may have once formed an identical feature. These slabs may have been incipient partitions related to more elaborate ones of the Chaco (Roberts 1929) and other Basket Maker sites. Four other stone slabs were found on the floor in the southern portion of the room. Their use is uncertain.

Associated artifacts: Three trough metates were found on the pit house floor. One was near the south wall of the pit house, was right side up, and had its mano resting on it. The other two were just to the north of the ventilator entrance. A plain gray jar was between the rear wall and the firepit, as were two manos. A mano, two stone slabs, and some cobblestones were found on the floor of the tunnel. A number of additional artifacts were recorded as

TABLE 4. *Artifact Distribution at Ign. 7:31**

	Pit House	Unspecified
Lino Black-on-gray: Durango Variety sherds	6	3
Lino Gray: Durango Variety		
Necked jars and pitchers	7	
Duck vessel	1	
Sherds	152	90
Miniature mud-ware jars	1	1
Pottery tubular pipes	2	
Large unfinished projectile point	1	
Chipped stone knives	2	
Chipped stone scraper	1	
Chipped stone axe or hoe	1	1
Hammer and polishing stone		1
Trough metates	3	
Rectanguloid unifacial manos	4	

* In addition to these artifacts a mixed sample from this site and Ign. 7:36 includes the following: 2 Lino Black-on-gray: Durango Variety bowls and 5 sherds; 85 Lino Gray: Durango Variety sherds; and 1 stone drill.

coming from the pit house, but their location within the structure was not recorded. All the artifacts from the site are quantified in Table 4.

SURFACE ROOMS

The five surface rooms (Fig. 6; Pl. 7 *b*) were small, rectangular, and contiguous. Of the five, room 1 had burned, and was the best preserved. Burned clay fragments were found just under the sod in fairly regular lines parallel to the wall lines of this room. Almost all the fragments showed impressions of the poles and indicated that horizontally placed poles had been used for the wall construction and had been chinked on the exterior with mud. The greatest wall height indicated by the remains was 30 cm., which seems less than it must have been originally. The four corners of the room were reinforced with a foundation of stones. Just how the walls were constructed on them was not evident. There was no evidence of upright support posts. Rooms 2 through 5 curved eastward from room 1. They had not burned, and their boundaries were indicated by an occasional stone and slight changes in the surface. A stone slab 70 cm. across was found in the center of room 1. No other features or artifacts are specifically recorded as coming from the surface rooms.

STONE CIRCLE

A continuous row of stones encircled the area of the site. The stones themselves were chiefly glacial gravel from 5 to 30 cm. in diameter. The width of

the ring varied from that of a single stone to one meter. No room boundaries were found radiating from the ring, and no post holes were found in the surface area. The shelf-like area which the ring enclosed appeared to be partly artificial. In the northeast part of the area the spur seemed to have been cut down to the level of the terrace. The earth from this cut and the borrow material from the pit house excavation seem to have been used to build up the embankment on the south arc of the stone circle, and thus give the whole area a shelf-like appearance. Morris and Burgh (1954: 10) refer to Ign. 7:31 as "stockaded" and by this probably meant the stone circle. There is no evidence for an encircling stockade of posts such as is reported by Hall (1944) for the somewhat later pit house sites in the Gobernador area.

Ign. 7:36

This site (Fig. 8) is located at the foot of the cliffs on the west side of Hidden Valley just to the north of the intersection of Falls Creek and the road. The surface slopes gently to the southeast with minor drainages on both sides. The cover was grass with small clumps of oak and vines. Rodent burrows riddled both the native earth and the cultural deposit. Unlike most house sites in Hidden Valley, this one was almost free of roots. A pit house and a surface structure consisting of seven contiguous surface rooms were excavated. There was no trace of an encircling stone ring, refuse deposit, or burial area.

PIT HOUSE

The pit house excavation revealed the remains of a structure with a subhexagonal floor plan, bench with six main roof-support posts, central firepit, and entrance-ventilator tunnel to the southeast.

Construction: The pit house (Fig. 9 *b*, *c*; Pl. *8*) had been dug to a depth of slightly over two meters, leaving a bench averaging 70 cm. in height above the floor and 70 cm. in width around the perimeter of the room. The maximum diameter of the pit was about eight meters. The six main support posts were set into the edge of the bench. The hole for one of these posts was 52 cm. deep and contained a flat stone at the bottom. Pole sockets were found along the back of the bench, and were angled inward. The floor and bench had been plastered.

The opening into the entrance-ventilator tunnel was 45 cm. wide and the same distance high, and was rounded at the top. The opening was surrounded by a molded coping. Thirty centimeters south of the ventilator opening, a vertical pole, 5 cm. in diameter, had been set into the face of the bench. Within the tunnel itself a compact floor led eastward and widened at the

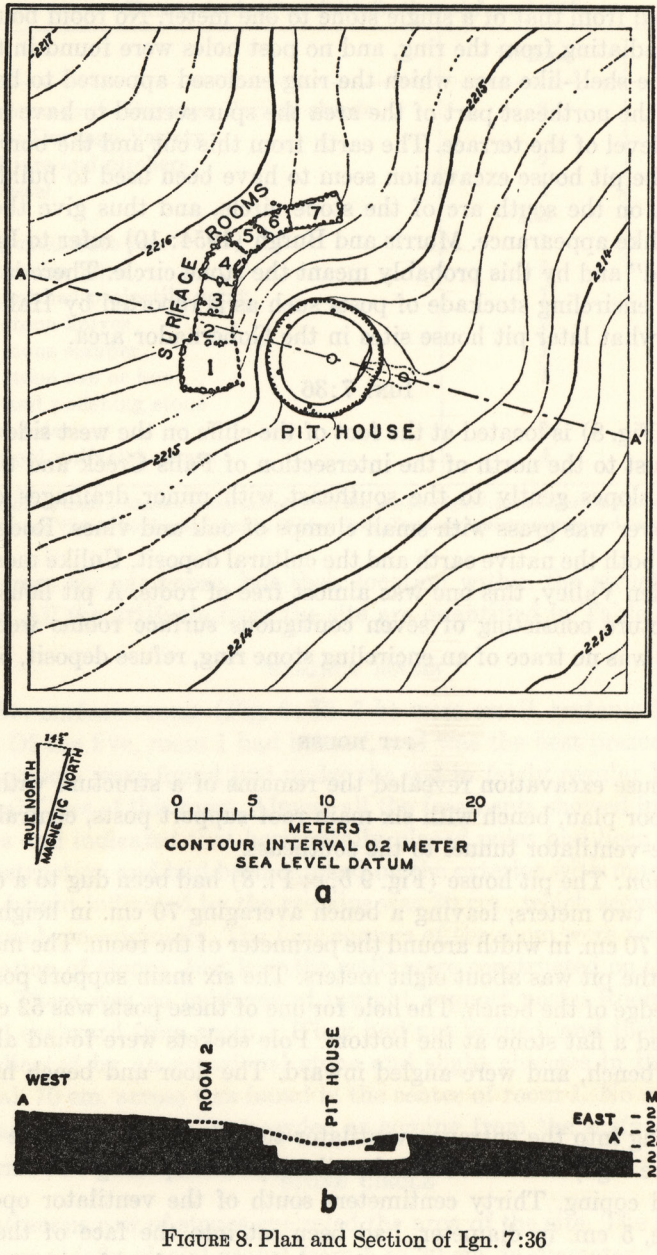


FIGURE 8. Plan and Section of Ign. 7:36

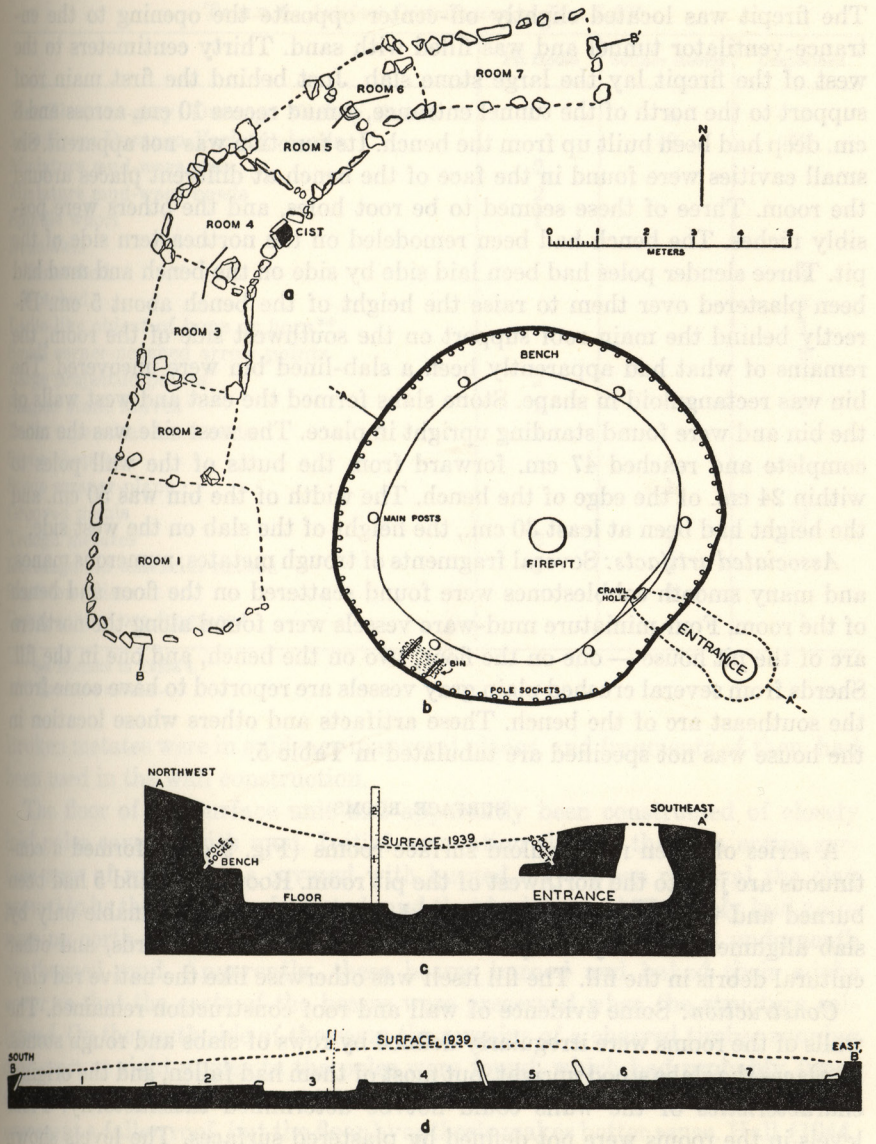


FIGURE 9. Pit House and Surface Rooms at Ign. 7:36

end into a bell-shaped pit which rose vertically to a circular opening at the surface of the ground.

Features: Habitation features consist of a bowl-shaped firepit, several wall niches, a bin made of stone slabs, and one large stone slab on the floor.

The firepit was located slightly off-center opposite the opening to the entrance-ventilator tunnel and was filled with sand. Thirty centimeters to the west of the firepit lay the large stone slab. Just behind the first main roof support to the north of the tunnel entrance, a mud recess 10 cm. across and 8 cm. deep had been built up from the bench. Its function was not apparent. Six small cavities were found in the face of the bench at different places around the room. Three of these seemed to be root holes, and the others were possibly niches. The bench had been remodeled on the northeastern side of the pit. Three slender poles had been laid side by side on the bench and mud had been plastered over them to raise the height of the bench about 5 cm. Directly behind the main roof support on the southwest side of the room, the remains of what had apparently been a slab-lined bin were uncovered. The bin was rectanguloid in shape. Stone slabs formed the east and west walls of the bin and were found standing upright in place. The west side was the most complete and reached 47 cm. forward from the butts of the wall poles to within 24 cm. of the edge of the bench. The width of the bin was 50 cm. and the height had been at least 30 cm., the height of the slab on the west side.

Associated artifacts: Several fragments of trough metates, numerous manos, and many smooth cobblestones were found scattered on the floor and bench of the room. Four miniature mud-ware vessels were found along the northern arc of the pit house — one on the floor, two on the bench, and one in the fill. Sherds from several crushed plain gray vessels are reported to have come from the southeast arc of the bench. These artifacts and others whose location in the house was not specified are tabulated in Table 5.

SURFACE ROOMS

A series of seven rectanguloid surface rooms (Fig. 9 *a*, *d*) formed a continuous arc just to the northwest of the pit room. Rooms 3, 4, and 5 had been burned and were well defined. Rooms 1, 2, 6, and 7 were definable only by slab alignments and by the presence of scattered manos, sherds, and other cultural debris in the fill. The fill itself was otherwise like the native red clay.

Construction: Some evidence of wall and roof construction remained. The walls of the rooms were irregularly defined by rows of slabs and rough stones. In places the slabs stood upright, but most of them had fallen, and the original characteristics of the walls could not be determined satisfactorily. Floor levels in the rooms were not defined by plastered surfaces. The levels shown in Figure 9 *d* represent the contact lines between refuse and native earth at the bases of the standing slabs. It is unlikely that formal plastered floors were ever present as no trace of them appeared in the rooms that had burned.

TABLE 5. *Artifact Distribution at Ign. 7:36**

	Pit House	Surface Rooms	Unspecified
Lino Black-on-gray: Durango Variety sherds		4	3
Lino Gray: Durango Variety sherds		40	72
Miniature mud-ware jars	2		
Miniature mud-ware bowls	2		
Spindle whorl	1		
Bone awls			
Unnotched			4
Notched			2
Ladle-like object of bone or horn**			1
Small corner-notched arrow points			2
Large projectile points	2		
Shaped stone knives	1		1
Drills tapered at both ends	2		
Stone chopper		1	
Stone scraper-plane		1	
Grooved mauls			2
Trough metates	2	8	
Rectanguloid unifacial manos	3	2	
Sandstone discs		2	
Green copper ore fragment			1

* See footnote to Table 4.
** Specimen missing.

Broken metates were in evidence in several places, and fragments of them had been used in the wall construction.

The floor of the surface unit had apparently been constructed of closely laid poles covered with mud. Initial excavation showed that the entire surface area of room 3 was covered with burned clay. Upon removal the clay proved to be the remains of roasted mud that had covered 22 closely laid poles running north-south. Casts of these poles (Pl. 7 *a*) were found underneath the burned mud. Apparently, these beams burned and baked their adobe cover so that the casts of the beams were preserved when the structure collapsed. On the south side of the room the remains of a charred timber running east-west at right angles to the poles were found, which had probably functioned as a cross-piece on which they rested. It is possible that these poles represent a fallen roof, but the floor hyopthesis makes better sense. Hall (1944, Fig. 8) found very similar features in Rosa phase sites which show evidence of having been floors rather than fallen roofs, and this may also have been the case here. The remains of a wooden stick, 3 cm. in diameter, were found

standing vertically in the west wall of room 3. It may have served as a reinforcement to the wall.

Features: The only major habitation feature associated with the surface structures was a rectanguloid cist about 30 by 35 cm. across and 82 cm. deep which had been made of flat stone slabs. It formed part of the west wall of room 4.

Associated artifacts: A number of artifacts which were found in the surface rooms are listed in Table 5. The eight metates were all fragmentary, and most of them had been used as part of the wall construction. The field notes list charred maize in the fill of the burned rooms, but no samples were saved.

Other Sites

Notes were made on six additional sites in Hidden Valley. No maps nor photographs were made of these sites, and few artifacts were collected. The site locations are shown in Figure 1.

Ign. 7:21: This site is located on the second ridge to the east of Ign. 7:36. A shallow depression about 8 meters in diameter had been previously trenched by I. F. Flora. There was no indication of an encircling ring of stones. A sandstone mortar was found here.

Ign. 7:26: This site was found at the east end of the ridge on which Ign. 7:29 and 7:30 are located. A shallow circular depression about 7.5 meters in diameter had been trenched by Flora. Sherds were noted at the site. No encircling ring was present.

Ign. 7:27: The location of this site is at the foot of the hill on which Ign. 7:26 is located. A circular depression at the site measured about 10 meters from rim to rim, and previous excavation at the site revealed the floor at about one meter below the surface at the center of the depression. No stone circle was in evidence.

Ign. 7:28: A circular depression marking this site was found 75 meters southeast of Ign: 7:31. The pit was large and clearly defined with a diameter of about 14 meters. The ventilator opening to the southeast was indicated by a low spot in the ground. No encircling stone ring was present. The size suggests a ceremonial structure.

Ign. 7:29: The circular depression marking this site is located about 20 meters downslope from Ign. 7:30 (Fig. 4). The site had been trenched previously.

Ign. 7:41: Some excavation was done at this site, which is situated on the end of a small ridge about due east of the Falls Creek canyon and about 200 meters northwest of Ign. 7:23. The site was indicated by a circle of stone slabs located at the point where the ridge meets the northern margin of a

modern hayfield. The terrain has a pronounced slope to the south, and the slab alignment follows the slope. The lowermost arc of the circle had been destroyed, but the remaining three fourths was intact. The surface inside the circular slab alignment was sod laced with stones of all sizes. Many of the stones showed use as hammer stones, and several small ones had been flaked into choppers. The upper level of fill within the circle in which these implements were found was 15 cm. thick and consisted of soil blackened by vegetal decay. Underneath this level and conforming to the slope of the ridge was a homogeneous deposit of very hard clay in which a chopper, a fragmentary chipped implement, and a mano were found. This layer was also about 15 cm. thick. Below this was sandstone bed rock. In the northern arc of the circle the slabs outlining the walls rested on bed rock which had been spalled away to lower the surface and make it conform to the level on the south. No post holes, firepit, or traces of burned wood were found except for a 2 cm. piece of charcoal just below the mano, and minute bits of charcoal in the clay level. No sherds whatever were found in the slab circle or adjacent to it, nor were any flint chips observed. No similar ruins were found in the region, although a search was made.

Five meters to the southeast of this slab structure a test excavation at the edge of the hayfield revealed a number of sherds in a level about 20 cm. below the surface, and below this a level with dark earth and charcoal extended for an additional 60 cm.

This site is atypical for Durango Basket Maker III, and its cultural relationships are uncertain.

Architectural Summary

Sufficient data for a detailed comparison of architectural remains were obtained from four sites. Table 6 lists the traits present. In some instances the traits are inferred — e.g., pole walls from the remains of sockets for poles rather than from actual remains of the poles themselves. Other traits could be inferred, such as a cribbed log roof from a six-post support plan and a flat roof from a four-post support plan. Traits such as these are not marked as being present, however, unless some empirical evidence — molds, casts, or actual remains — was found. Similarly, while a tule covering for the pole walls of the pit houses was probably present at all four sites, actual remains were preserved at only two sites.

All four sites show a pit house with a tunnel to the southeast used either as an entrance or as a ventilator or both, and all are backed by a crescentic group of small surface rooms which in all probability were used primarily for storage. Three of the pit houses had a bench. Two of these houses had six

TABLE 6. *Architectural Traits and Habitation Features Durango Basket Maker III*

	Ign. 7:23	Ign. 7:30	Ign. 7:31	Ign. 7:36
SETTLEMENT PLAN				
Site located on small knoll	x	x	x	x
Pit House backed by surface structures	x	x	x	x
Pit House entrance oriented SE	x	x	x	x
Cobblestone ring encircling the settlement	x		x	
Low trash mound present	x			
PIT HOUSE CONSTRUCTION				
Pit diameter between 6 and 9 meters	x	x	x	x
Pit depth between 1.75 and 2.25 meters	x	x	x	x
Sub-hexagonal floor plan with 6 roof supports on bench	x			x
Sub-rectangular floor plan with 4 roof supports on bench		x		
Sub-hexagonal floor plan with 6 roof supports on floor, no bench			x	
Stone slabs at bottom of roof support holes	x		x	
Walls formed of inward-slanting poles	x	x	x	x
Remains of tule backing uncovered	x		x	
Plastered floor and bench	x	x	x	x
Entrance-ventilator tunnel present	x	x	x	x
Bench present in tunnel	x			
Four-post roof support placed on bench	x			
Tunnel roof poles laid horizontally	x	x		
Supported by longitudinal stringers	x			
Mud step at tunnel entrance	x	x	x	
Tunnel walls of inward-slanting poles	x			
Molded rim to tunnel entrance				x
Vestibule at end of tunnel	x			
Four-post roof support on bench	x			
Walls of inward slanting poles	x			
Stone slab step (?) to exterior	x			
Bell-shaped pit with surface opening at end of tunnel		x	x	x
Vertical poles at back of pit			x	
PIT HOUSE FEATURES				
Bowl-shaped firepit without raised rim	x	x	x	x
Small wall niches	x			?
Molded rims	x			
Stone slab bin on bench				x
Stone slab furniture (?) on floor	x	x	x	x
Incipient "wing" partitions of stone slabs			x	
Metates in position of use	x		x	
Stone props under metates	x		x	
SURFACE ROOM CONSTRUCTION				
Contiguous rooms in crescentic pattern	x	x	x	x
Square or rectangular rooms		x	x	x
Circular and D-shaped rooms	x			
Rude wall footings of stones or stones and mud	x	x	x	x
Walls of horizontally laid poles and mud			x	
Flat roof (?) or floor (?) of poles and mud				x
No evidence for plastered floor	x	x	x	x
Isolated rectanguloid room		x		
SURFACE ROOM FEATURES				
Circular unlined firepit		x		
Stone slab cist or bin		?		x

roof supports and one had four roof supports which were placed in the edge of the bench. The remaining pit house, Ign. 7:31, had no bench and had six roof supports resting on the floor. These posts had been placed out from the wall. A correlative feature in this house was the presence of incipient partitions placed between each of the two southeastern posts and the wall which segmented the room into two areas. This feature suggests that Ign. 7:31 is typologically the most recent house of the four. There is a general trend in Basket Maker III toward partitioning of the pit houses, which leads in Pueblo I to expansion and segmentation of the dwelling by building surface dwelling areas of separate rooms rather than to further partitioning of the pit dwelling. Certain socio-cultural factors, such as an increase in size of the primary group through better exploitation of the environment by increased agricultural efficiency, may have been causative in this respect. A correlative architectural trend is the reduction in size of the entrance-ventilator tunnel from that suitable for an entrance as well as a ventilator to that suitable for only a ventilator. Three of the four houses, Ign. 7:30, 7:31, and 7:36, are intermediate in this respect, whereas the remaining house, Ign. 7:23, is typologically early. The tunnel with its vestibule at this house seems clearly to have been an entrance. Excellent proto-types for this style of house exist in late Basket Maker II contexts in the Los Pinos phase of the Pine River area of northern New Mexico (Eddy, 1961, Fig. 30), which is only about 40 miles distant. These houses are circular with a lateral entryway and a vestibule. Their walls were of cribbed log construction (Eddy 1961: 48). The chief difference between the Los Pinos phase houses and the house at Ign. 7:23 is that the former are not pit houses, but surface dwellings. A radiocarbon date on one of the Los Pinos houses is A.D. 541 ± 80 (Eddy 1961: 103). If the tree-ring dates for the four Durango pit houses are taken as construction dates, all four were constructed at the same time, and the architectural variations among them, though indicative of certain general trends in an ever-changing continuum, were nevertheless acceptable diversifications within the cultural milieu at that particular period. On the other hand, the typologically earlier house at Ign. 7:23 may have been constructed earlier, and the dendro-dates may be indicative only of roof repairs. The latter hyopthesis seems more likely to me.

All evidence indicates that the Durango pit houses were used primarily as dwellings. The presence of metates and of domestic artifacts argues against any correlation of divergent functions — ceremonial as opposed to domestic — with architectural variations. The most elaborate of the pit houses (Ign. 7:23) contained the most complete inventory of household utensils.

The surface units at the four sites appear to have been built of hori-

zontally laid (cribbed?) poles with mud bindings on a footing of rough stones. Actual evidence of horizontally laid poles is present from only one site (Ign. 7:31), however. In outline the rooms at Ign. 7:23 are circular and D-shaped, whereas at the other sites they are rectanguloid. The method of gaining entrance into the rooms may have been through the roof, as at Ign. 7:31 a large roughly circular stone slab suggestive of a cover for a roof entrance was found in the center of a room. At Ign. 7:36 the casts of a series of parallel poles found in one of the rooms could be interpreted either as a floor or as a fallen roof. The excavators of the site interpreted it as a fallen roof, but the "floor" hypothesis makes good sense. If these rooms were used primarily as granaries, a floor of poles placed on rude stone footings would effectively raise the floor level above the ground and help protect the contents from the deleterious effects of ground moisture.

The traditional viewpoint is that the surface units were granaries used for the storage and protection of foodstuffs. The rooms are generally large enough to have served as dwelling or work areas, but the lack of compacted floors suggests that this was not their primary function. Evidence of domestic activity is present, however, in the form of a firepit within one of the rooms at Ign. 7:30. Here again, it is necessary to refer to general trends in Basket Maker culture, in which the storage cists of Basket Maker II seem to have developed into surface granaries in Basket Maker III open sites, which in turn form the proto-types for the double-rowed surface structures of Pueblo I which contained rooms for both storage and habitation. While these structures in Durango Basket Maker III seem largely to have been granaries, there is some evidence of this transition to surface dwelling units. Typologically, the circular and D-shaped rooms at Ign. 7:23 are earlier than those at the other sites.

III. THE ARTIFACTS

Pottery and Clay

Three major groups of pottery appear in Durango Basket Maker III sites. The most abundant pottery from all sites is a plain gray ware which is classifiable as the Durango variety of Lino Gray. Jar forms are by far the most common shapes in this type. Second in abundance are sherds and vessels which exhibit painted decoration on a gray to white surface and which are classifiable as the Durango variety of Lino Black-on-gray. Bowls are the most common forms in this type. The third major category is that of brown ware and mud ware. Artifacts in this category seem to have been

made, at least in part, of the same local surface clay as was used for plaster in construction. A few sherds show the same basic shapes and construction techniques as the gray ware; these are referred to as brown ware. Other artifacts in this group consist of miniature vessels which were occasionally fired — pot lids, a spindle whorl, and sherds of what were probably the clay liners for parching trays; these are grouped as mud ware. In addition to these groups, one small sherd of a gray neck-banded jar came from Ign. 7:23, and one sherd of a bowl with a red slip came from the surveyed area, but not from one of the excavated sites.

Lino Gray and Lino Black-on-gray in association have long been the common type names for Basket Maker III ware, although a number of other names — Chapin Black-on-white and Chapin Gray (Abel 1955), La Plata Black-on-white (Hawley 1936: 23), and Rosa Black-on-white and Rosa Smoothed (Hall 1944) — have come into use as names for what seem to be geographically localized expressions of Lino Black-on-gray and Lino Gray which differ in modal frequencies of various attributes, such as paint and temper. This Durango material appears to constitute another regional variety belonging to the Lino horizon as well as to the Lino tradition and is classified as such according to the type-variety concept proposed by Wheat, Gifford, and Wasley (1958) as modified by Phillips (1958).

LINO GRAY: DURANGO VARIETY

Sample: Forty-six whole or restorable vessels, and 910 sherds from the sites described herein.

Construction: Coiling in a basketry container is the only technique for which there is direct evidence. Several vessels show traces of incompletely obliterated coils on their interiors or exteriors, and on the interior of one narrow-necked bottle (Pl. 9 *c*, *d*) spiral coils are clearly in evidence. It is possible that unit coils were also used in constructing vessels, but there is no direct evidence for this trait. Ten of the whole vessels and a small number of sherds show traces of impressions of the close-coiled basketry bowl in which the lower part of the vessel was formed (Pl. 9 *a*). On the majority of vessels the coils and basketry impressions are not in evidence, and it is inferred that they were obliterated. The outline of several vessels (Pl. 10 *a*, *j*) shows a bulge above the rim of the container in which the vessel was started.

Wall thickness: 4–8 mm.

Paste: The paste color is white (Munsell 10 YR 8/1) to dark gray (10 YR 4/1) to occasionally brownish-yellow (10 YR 6/6) with a carbon streak sometimes present. Inclusions in the paste are abundant, and are either small

rounded particles of quartz or other rock which were probably derived from sand, or angular particles of a black and white granitic rock which were probably obtained by crushing rock, or in some instances both. The ratio is about 3 to 1 of sand to crushed rock.

Surface finish: Surfaces were smoothed, but not polished, and are somewhat rough. They most closely resemble the surface produced experimentally by Shepard (1961, Fig. 13 *d*) through scraping a leather-hard surface with a scraping tool. Three jar sherds and two miniature jars show traces of a fugitive red paint on their exteriors. Slips are absent.

Surface color: The normal surface color is a medium gray (Munsell 10 YR 6/1), but the range is from white (10 YR 8/1), to dark gray (10 YR 4/1). Several vessels from the burned pit house at Ign. 7:23 are part brownish-yellow (10 YR 6/6), probably as a result of the accidental refiring.

Shapes: Bowls, jars with necks, jars without necks, eccentrics in the form of duck and duck-ring vessels, miniatures, and pipes occur in this collection. Many of the jars have either lug or strap handles.

Bowls are much less common than jars, are small, and occur in two shapes: (1) flat-bottomed with flaring sides (Pl. 11 *l*), one example: dia. 17 cm., height 6.7 cm., rim thinned from exterior; and (2) deep with rounded base, and sides that rise nearly vertically to the rim, four examples (Pl. 11 *k*, *m–o*): dia. 12.0–17.5 cm., height 7.0–11.0 cm., rims thinned.

The range of jar shapes is shown in Plate 10. Neckless jars or "squash pots" have globular bodies and either single or double lug handles situated high on the shoulders; there are three examples (Pl. 10 *l*, *m*): dia. 24.8–36.4 cm., height 18.4–30.2 cm. Two of the examples have opposed single lug handles which are perforated vertically, and the other has two opposed pairs of lug handles which are perforated horizontally. Sherds of neckless jars came from all four main sites.

Jars with necks occur in a variety of forms: (1) Jars with a globular body, wide mouth, compressed neck, and rounded base, 11 examples (Pl. 10 *b–d*): dia. 14.0–22.2 cm., height 14.4–21.0 cm. The neck is nearly vertical, but may actually curve slightly inward or outward. (2) Same shape as the preceding, but in addition a strap handle is attached either at or just below the rim and at the shoulder, two examples (Pl. 10 *g*): dia. 16.7–26.2 cm., height 19.5–27.5 cm. (3) Body with high rounded shoulders, compressed near vertical neck, and either a flat or slightly concave base, two examples (Pl. 10 *e*): dia. 20.8–24.0 cm., height 23.5–23.7 cm. (4) Small, medium-sized, and large "bottles" with extended necks, narrow mouths, and a rounded base and body with either medium rounded or somewhat sharp shoulders,

six examples (Pl. 10 *j, k*): dia. 13.3–29.5 cm., height ca. 14.0–34.8 cm. The neck on one specimen and a rim sherd of another bulge slightly at the center. (5) Same shape as the preceding but a vertical strap handle is attached at the rim and shoulder, two examples (Pl. 10 *h*): dia. 21.5 cm., height 23.0 cm. (6) Jar with globular body, long neck, and wide mouth, one example (Pl. 10 *f*): dia 20.0 cm., height 22.4 cm. (7) Jar with rounded base, high rounded shoulders, and flaring neck, one crude example (Pl. 10 *a*): dia. 15.0 cm., height 16.0 cm. (8) Jar with conical body, rounded base, flaring neck, and vertical strap handle attached near rim and to shoulder, one example (Pl. 10 *i*): dia. 13.8 cm., height 20.0 cm. Jar sherds conform to these shapes with the exception of one sherd with a horizontal strap handle and a rim sherd of another jar with a short incurving neck.

Five eccentrics (Pl. 11 *a, g–j*) in the form of duck vessels and a duck-ring vessel were recovered. These range in size from one 9.2 cm. long by 5.5 cm. wide by 6.2 cm. high to another 13.5 cm. long by 10.3 cm. wide by 9.3 cm. high. Characteristic features are an oval body, flattened base, tail, some method of suspension, and the cylindrical neck which opens at the top where the head would be. Two of the examples have lug "ears" on the neck which are perforated, and one example has perforated lug "wings" on the back and a perforated tail. The other two specimens have strap handles attached to the rim and back.

Five miniature vessels (Pl. 11 *b–f*) came from the excavations. Two of them are small necked jars. One is a small pitcher with a flat base, high sharp shoulders, long neck, and a strap handle attached at the shoulder and just below the rim. The other two are miniature "squash pots" with lug handles. Two of the miniatures have fugitive red exteriors.

The two tubular pipes (Pl. 24 *c, f*) are crude. One is 5 cm. long by 3 cm. in maximum diameter; the other is 4.3 by 2.2. One is decorated with three faint encircling lines. Both examples have a 1.5 cm. diameter cavity in the large end which extends about half the length of the pipe. The bore through the remainder of the pipe is only 2 mm. in diameter and was made while the clay was moist probably by perforation with a small reed or stick.

Mending holes: Mending holes were drilled from the exterior of the vessel only.

LINO BLACK-ON-GRAY: DURANGO VARIETY

Sample: Eighteen whole or restorable vessels, and 131 sherds from the sites described herein.

Construction: Coiling in a basketry container is the only method for

which there is direct evidence. Several vessels (Pl. 12 *a*) and sherds show either unobliterated or incompletely obliterated impressions of close-coiled basketry bowls on their exteriors.

Wall thickness: 4–7 mm.

Paste: The paste color is usually white (Munsell 10 YR 8/1) or light gray (10 YR 7/1), but is occasionally dark gray (10 YR 4/1) or brownish-yellow (10 YR 6/6). Paste color and surface color do not contrast except when a carbon streak is present. Inclusions in the paste are abundant and consist of either white sub-angular and rounded specks of quartz, feldspar, and other rock, or angular specks of a crushed black and white granitic rock, or occasionally both. The ratio is approximately 3 to 1 of rounded particles to crushed rock. Shepard (O'Bryan 1950: 90) found 11 rock-tempered and 30 sand-tempered in a sample of 41 sherds from the four main excavated sites in this report.

Surface finish: Bowl interiors are invariably better-smoothed than exteriors. Exteriors seem to have been scraped, and interiors to have received additional smoothing by rubbing. Slips are absent.

Surface color: The surface color is the same as the paste color (See above.). Some vessels exhibit all the shades of coloring. Two bowls and one bowl sherd show evidence of fugitive red paint on their exteriors. Small fire clouds on exteriors are not uncommon.

Paint: Glaze paint is the most common type in this sample. Of the 18 whole vessels, 10 exhibit glaze paint, 5 show organic paint, and 3 show mineral paint. The sherds show a ratio of about 1 organic to 2 mineral to 4 glaze. Shepard (O'Bryan 1950: 90) found 2 iron oxide, 5 organic, and 34 lead glaze in a sample of 41 sherds from these Durango sites. She refers to the glaze as a lead glaze in a vegetal medium. The glaze is usually greenish black (Munsell 5 Y 2/1 or 2/2), but is occasionally either maroon (2.5 YR 2/2) or blue-black somewhat bluer than Munsell 2.5 Y 2/0. The glaze, which usually exhibits a rough surface, was unevenly applied, and is unevenly vitrified. In some instances part of the design is glazed and the remainder is indicated by a negative pattern where the glaze did not stick. The mineral paint is usually gray (7.5 YR 3/0) with a dull metallic sheen, but is occasionally red-brown (5 YR 3/2). The organic paint is thin, gray or brown, and is sunk into the surface of the vessel. In some instances it may simply be the residue left from weathering or wear of the other types of paint.

Shapes: Both bowls and jars occur, but the latter are decidedly rare. Bowls are usually small and appear in four shapes: (1) bowls with flaring sides and flattened bases, seven measurable examples (Pl. 12 *a*, *d*, *e*): dia. 18.5–33.0 cm., height, 7.2–18.0 cm.; the diameter is usually very close to

twice the height, but may be either slightly less or slightly more, producing either a deep or a medium-depth bowl; with one exception the wall is thinned at the rim from the exterior and the edges are rounded; the one exception (Pl. 12 *d*) has a squared rim that is not thinned, and it is aberrant in being considerably larger than the other bowls; (2) small deep bowls with rounded sides and bases, nine examples (Pls. 12 *b*, *c*, *f*; 13 *b*, *c*, *f*): dia. 10.8–21.7 cm., height 6.7–10.5 cm.; the walls may incurve slightly at the rim; rims are thinned from the exterior; (3) medium-depth bowls with rounded sides and base, and walls that incurve gently at the rim (Pl. 13 *d*), one example: dia. 25.0 cm., height 11.5 cm.; rim thinned from the exterior and flattened on top; and (4) bowl with vertically perforated lug handle near rim represented by one sherd (Pl. 14, *c*).

Only one jar sherd (Pl. 15 *h*) is present.

Decoration: Bowl interiors and the shoulder of the one jar sherd are the fields of decoration. The decoration focuses on the bowl walls, although a small painted circle in the bottom of the bowl is common, and occasionally more elaborate devices (Pl. 16 *a*, *b*, *d*) were employed. Rims were frequently painted black.

Motifs occur in four types of layouts: (1) spaced, isolated, unit motifs on bowl walls which are repeated either two or three times (Fig. 10 *a*); (2) motifs pendant from the rim of the vessel which are repeated either two or four times (Fig. 10 *b*); (3) encircling layouts in which the motif or motifs form a continuous encircling band around the wall (Fig. 10 *c*); and (4) radiating layouts in which motifs extend in a diagonal, stepped, or zigzag fashion from the the center of the bowl up the walls to the rim, and are usually repeated two, but sometimes four, times (Fig. 10 *d*). A painted rim and/or a painted circle in the bowl center may or may not accompany any of these layouts.

The following small elements were used to build motifs: straight lines; zigzag lines; parallel dashes; dots; pendant triangles or barbs; single, double, or triple angled hooks; triangles with fringed edges; stepped lines; fringed lines; solid and negative triangles used in a checkerboard fashion; open squares; z-like figures made up of offset dashes; curved lines; circles; and irregular lines used to form crude, tree-like motifs.

These elements were combined in various ways to form motifs, the major repeated combinations of elements in a design. The range of complete motifs found in this sample is illustrated in Figure 10, opposite the type of layout in which the motif appears. Some additional motifs employing the same elements were used, but are not sufficiently complete to either describe or illustrate

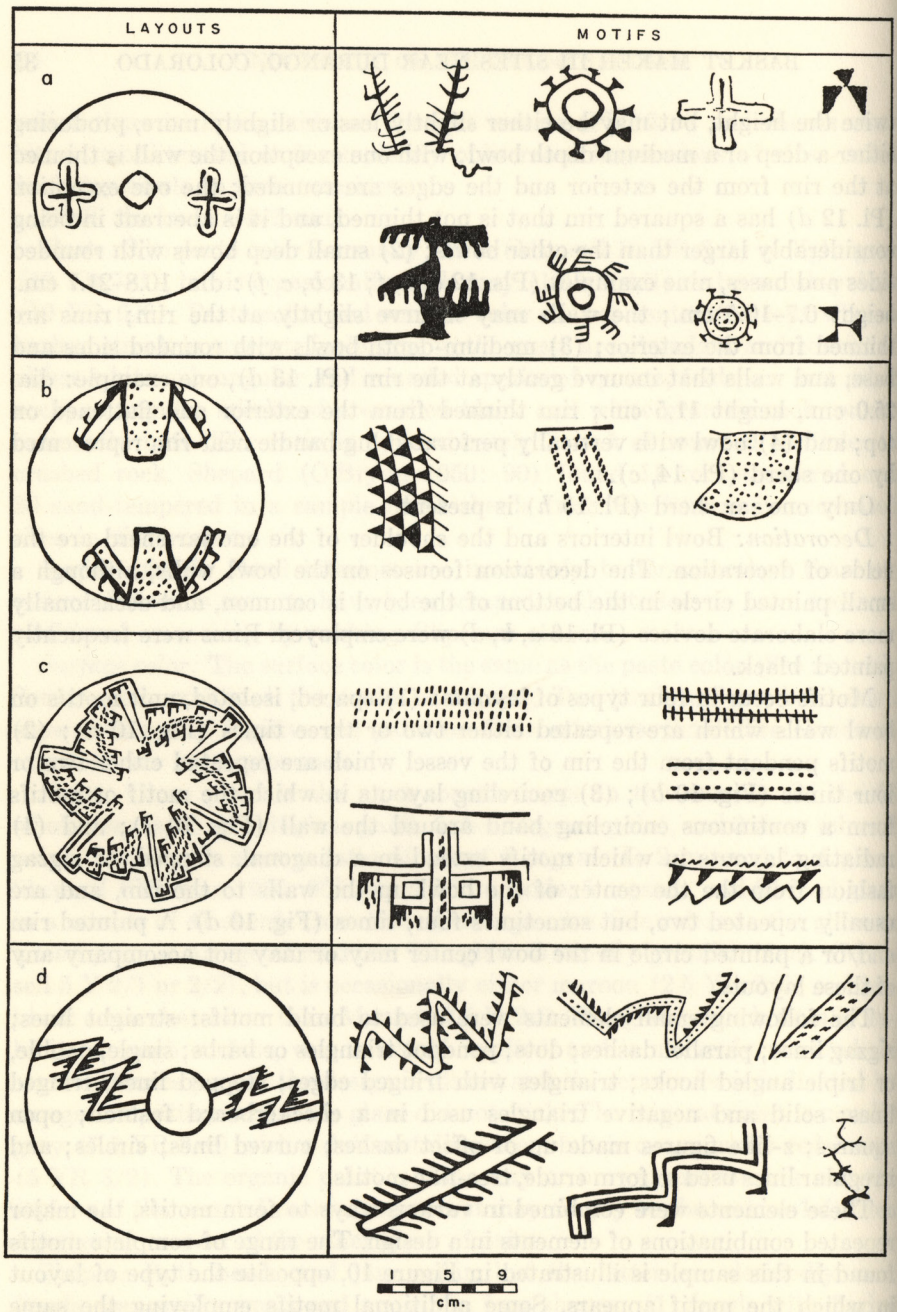


FIGURE 10. Layouts and Motifs on Painted Pottery. *a*, Unit type layout with spaced, isolated motifs; *b*, Rim-pendant layout and associated motifs; *c*, Continuous encircling layout and associated motifs; *d*, Radiating layout and associated motifs. Layouts in *a*, *b*, *d*, from whole vessels; *c*, reconstructed from sherd.

Style: The style of design found on this pottery can be briefly characterized as the following: mediocre artistry; open treatment with comparatively widely spaced units leaving much of the background free of decoration; usually a side wall focus of decoration with an open center on bowl interiors; considerable use of elements, motifs, and layouts borrowed from basketry decoration, particularly radiating layouts and associated motifs; and much use of dots, dashes, angled hooks, fringes, pendant triangles, concentric circles, and crude tree-like forms. Morris and Burgh (1941) illustrate designs from Basket Maker II and III basketry which are comparable in layouts and motifs to some of the designs on this pottery. Other elements and motifs, particularly concentric circles, have proto-types in petroglyphs (cf. Morris and Burgh 1954, Fig. 108). Life forms, which also have proto-types in petroglyphs and pictographs, are expectable as a minor component in most varieties of Lino Black-on-gray, although they did not appear in this particular sample. In general, the style is what has been called Lino Style by Colton (1953: 46).

OTHER POTTERY TYPES

Neck-banded: One very small jar sherd from Ign. 7:23 showing neck banding and crushed-rock temper is possibly classifiable as Moccasin Gray (Abel 1955, Ware 10A — Type 3).

Red ware: One small sherd of a red-slipped bowl came from one of the unexcavated sites, but its exact location was not recorded. The paste is gray with a black carbon streak; the temper is sand; the color is Munsell 10 R 3/6. It is probably La Plata Black-on-red.

Brown ware: Several sherds of a brown-colored pottery were recovered, which do not differ from the plain gray ware except in color, for they are possibly either examples of the gray ware discolored through accidental refiring or some other agency, or are vessels made of the same local clay as used for adobe: the lug handle of a "squash pot", several jar sherds, the spout of a vessel with a lateral spout, and a sherd of a necked jar with a collar below the rim (Pl. 17 *a, c, d, f, g, j*). The color range is from a yellowish red (Munsell 5 YR 5/6) to a dark reddish brown (5 YR 3/4) to a gray brown (10 YR 5/2). In color and paste these specimens are more like the mud ware to be discussed next, whereas in shape and technology they are more like the gray ware. One jar sherd shows dimpling on the interior, but it looks more like finger dimpling than the work of a paddle and anvil. The jar neck sherd with the collar is well polished; the others are not. These specimens are similar to Rosa Brown (Hall 1944).

MUD WARE AND OBJECTS OF UNFIRED CLAY

Objects in this category are characterized by gray-brown (7.5 YR 5/2) or red-brown (5 YR 4/4) color, crudity and rough surface finish, inclusions in the paste of marked amounts of sand or of sand and gravel, and an unfired or poorly fired condition.

Mud ware vessels: Twelve small jars and fragments of three others, two miniature bowls, and one saucer came from the excavations. Some of these have not been fired; others came from the burned pit houses and may have been accidentally fired. Some appear to have been molded from a lump of clay, whereas others were coiled. These vessels are possibly products of the enculturation process wherein small girls learned to make pottery. They may have functioned as toys. The range of shapes and sizes is shown in Plate 18. The jars range in height from 3.7 to 11.0 cm., and in diameter from 4.5 to 9.9 cm. The bowls have diameters of 5.5 to 6.0 cm. and heights of 2.0 cm.

Parching tray: A lug handle (Pl. 17 *e*) from what was probably the clay liner for a basketry parching tray came from the burned pit house at Ign. 7:23. Two large basket-impressed sherds (Pl. 17 *i*) possibly from the same type of artifact came from the trash at the same site.

Spindle whorl: A molded, roughly circular, clay disc (Pl. 17 *b*) which was perforated while the clay was moist came from the pit house at Ign. 7:36. The specimen had probably been fired. Diameter 4.5 cm. Thickness 1.0 cm.

Jar lids: Three jar lids, of which two show impressions of corn cobs, were recovered. Originally they were probably simply lumps of moist mud used to seal jars and preserve their contents hermetically (Euler and Jones 1956).

Chipped Stone

Artifacts manufactured by percussion and pressure flaking techniques consist of projectile points, knives, scrapers, drills, gouging and engraving tools, hoes or axes, choppers, and a large scraper-plane. With the exception of the unfinished specimens, the smaller implements all show retouching by pressure. The larger and cruder tools — hoes, choppers, and the scraper-plane — were made by percussion techniques. Fragmentary specimens are included in the descriptions when their form and class are readily discernable.

Small arrow points: Sixteen small projectile points which were undoubtedly used as tips for arrows were recovered from the excavations. These points are usually triangular in outline with corner notches that form a stem and flaring barbs (Pl. 19 *a–j*); however, one specimen (Pl. 19 *p*) has a stem and no barbs, and three others (Pl. 19 *k*, *l*) have simple bases with neither stems nor barbs. These points range from 2.5 to 3.5 cm. in length, and were made by working a thin flake into a triangular shape and then by

notching the corners to form a stem and barbs. One unnotched blank was also recovered. These arrow points and the other small chipped stone implements were made for the most part from glassy rocks — chalcedony, obsidian, opal, jasper, quartzite, hornfels, and petrified wood.

Medium-sized projectile points: Three points (Pl. 19 *m–o*) made of basalt or hornfels could have been tips for either arrows or darts. They are larger and thicker than the preceding points, are stemmed, and lack flaring barbs. Their length varies from 3.0 cm. to slightly more on the broken point.

Large projectile points: Thirteen artifacts are classified as large projectile points, although they could well have functioned either as knives or as dart points. Four of these (Pl. 20 *b*, *d*) are crude, percussion chipped, roughly leaf-shaped specimens which seem to have been blocked out, but never completed. The remaining points range in length from 4.5 to 5.3 cm. Materials used were obsidian, chalcedony, chert, hornfels, quartzite, and petrified wood. All specimens complete enough to show the shape are illustrated in Plate 20.

Knives: Flaked objects with a bifacially chipped edge or edges more suitable for cutting than for scraping are classified as knives. Twenty-six were recovered. Eleven of these are small flake knives ranging from 4 to 7 cm. in length and from 2.5 to 4 cm. in width (Pl. 21 *e*). They are simply irregular flakes retouched mainly along one edge and lack over-all shaping by retouching. The remaining examples consist of one large lozenge-shaped knife, 14.0 by 3.6 cm. in length and width (Pl. 21 *a*); four with irregular outlines, but over-all flaking (Pl. 21 *b*, *c*) which are all under 4.5 cm. in length; five end fragments of shaped knives (Pl. 21 *d*); and four medial fragments of shaped knives.

Scrapers: Scrapers were made by retouching the edge of a flake unifacially (Pl. 22 *a–c*). The retouched edge is either slightly concave, slightly convex, or straight. All eighteen are small, delicate implements ranging in length from 3.5 to 5 cm. and in width from 2.5 to 3.5 cm., and are unlike scrapers associated with the preparation of hides.

Drills: Eleven drills were found. Two are tapered at both ends (Pl. 22 *f*) and range in length from 3.7 to 5.0 cm. and in width from 1.1 to 1.5 cm. Two others have grips notched for hafting (Pl. 22 *e*, *g*); one is 5.5 cm. long by 2.1 cm. wide and the other is 2.9 cm. by 1.2. Six drills are thin flakes, which range in size from one 4.2 cm. long by 2.1 cm. wide, to another 2.0 cm. long and 2.3 cm. wide, which were not retouched except for the bit (Pl. 22 *d*). The fourth drill shape is represented by one example with a leaf-shaped outline and a thick bulbous grip (Pl. 22 *h*), and is 5.2 cm. long and 2.1 cm. wide. The bits of these artifacts were flaked bifacially to produce either an oval or a diamond-shaped cross-section.

Gouging and engraving tools: Nine artifacts suggest use as gouging and engraving tools possibly used in the manufacture of wood and bone implements. In general, they seem to be a specialized form of scraper. Four of these implements possess gouge-like bits with a rounded cutting edge and plano-convex cross-section (Pl. 22 *i*, *k*). One of these is also an end scraper on the other end. Four others (Pl. 22 *j*, *l*) have narrow pointed bits similar to those of drills except that the cross-section of the bit is plano-convex. The remaining example (Pl. 22 *m*) possesses two small sharp points on the cutting edge. With the exception of the one large gouge (Pl. 22 *i*), which could also have functioned as a knife, these implements are under 4 cm. in length.

Hoes or axes: Six crude percussion-flaked artifacts are classifiable functionally as either digging or chopping implements (Pl. 23 *d*, *e*), but, with the exception of the smallest one of the group (Pl. 23 *e*), they would be extremely unwieldy if hafted as axes. All are notched on both sides, and the notches have in all cases been dulled by abrasion. The bits were flaked bifacially in all instances but one. The smallest is 16 cm. long by 10 cm. wide by 4.6 cm. thick; the largest is 24.1 cm. long by 14 cm. wide by 5.6 cm. thick.

Choppers: Two core choppers (Pl. 23 *b*, *c*) were recovered. One is discoidal, is bifacially flaked, and has a diameter of 7.5 cm. and is 3.7 cm. thick. The other has a convex bifacially flaked cutting edge and is 13.3 cm. long by 10 cm. wide by 6.5 cm. thick.

Scraper-plane: One large scraper-plane (Pl. 23 *a*) with a plano-convex cross-section and a curved irregular cutting edge came from Ign. 7:36. It is 13 cm. long by 11.5 cm. wide by 5.3 cm. thick.

Ground Stone

Stone artifacts manufactured by pecking, polishing, and abrading techniques consist of pipes, an atlatl weight, sandstone discs, grooved mauls, hammerstones, manos, metates, and a mortar.

Tubular pipes: One complete tubular pipe and one fragmentary one (Pl. 24 *a*, *b*) were recovered. Both are made of steatite and are well polished. The complete specimen exhibits concentric striations on the interior, showing that the bore was made by drilling, whereas the fragment shows horizontal marks as if the interior had been gouged out. The complete example is 4.7 cm. long and 2.0 cm. in diameter. The bore is 1.5 cm. in diameter at the large end and 5 mm. in diameter at the small end.

Atlatl weight: One polished shale(?) artifact is classified as an atlatl weight (Pl. 24 *e*). It is oblong and flattened on both ends and on the base. The base also has a shallow incised groove extending half its length. Its length is 5.9 cm.; width 2.4 cm.; and thickness 1.8 cm. Artifacts of this type

have been found hafted to the lower surface of Basket Maker II atlatls (Kidder and Guernsey 1921, Pl. 33 *b*, *d*).

Sandstone discs: Two circular sandstone discs which may have functioned as pot lids were recovered (Pl. 25 *a*, *b*). They appear to have been shaped by percussion and the surfaces then smoothed by abrasion. Both are 2.0 cm. thick. The largest is 15.0 cm. and the smallest 7.0 cm. in diameter.

Mauls: Six grooved mauls (Pl. 25 *c*, *d*) made from granite cobbles were found. All exhibit a complete encircling groove except for one made from a rather flattened stone. It lacks a groove on one face. The largest is 15.7 cm. long by 13.1 wide. The smallest is 13.0 cm. long by 8.8 cm. wide.

Hammerstones: Two cobbles show use as both hammerstones and polishing stones. One quartzite example is fist-sized and pear-shaped and shows wear from battering on the small end, and minimal wear from grinding or polishing on one face. The other is smaller and shows the same type of wear.

Manos: Thirteen of the manos from the excavations were catalogued and brought back from the field. All are sub-rectangular in outline. All are between 15.5 cm. and 24.5 cm. in length and between 9.5 and 13.0 cm. in width. One example (Pl. 26 *b*) was used on both faces, whereas all the others were used only on one face. In all instances the grinding face is slightly convex on the long cross-section, and is either rectanguloid or trianguloid on the narrow cross-section. The trianguloid cross-section is simply a function of the type and amount of wear wherein the grinding face became thinner on its lower section through use. The edges were ground flat and smooth on the bifacial mano, but were only casually smoothed by grinding on the other specimens. Five manos are of arkose (a sandstone with granitic composition), six are of finer textured sandstone, one was made from indurated siltstone, and one from granite. Several show roughened grinding surfaces where they had been sharpened by pecking.

Metates: The data on metates are incomplete. The examples found in the pit houses (Pl. 26 *a*, *b*, *d*, *e*,) are all trough metates, open only on one end. They range in length from 53 to 63 cm.; in width from 37 to 49.5 cm.; and in thickness from 5 to 10 cm. The field notes record a metate open on both ends from the fill of the pit house at Ign. 7:30. Slab metates are referred to in the field notes from various sites, but no examples were brought back from the field. In general, a flat trough metate open on the lower end only seems to be characteristic.

Mortar: The one mortar (Pl. 26 *c*) consists of a shallow bowl-shaped depression in an otherwise unworked block of reddish sandstone. The cavity is 14 cm. in diameter at the top, and 5 cm. deep. This mortar was found on the surface at Ign. 7:21.

Bone and Antler

Bone awls: Fourteen bone awls (Fig. 11) were recovered. The longest complete specimen is 19.0 cm., and the shortest is 11.5 cm. All had been made from long bones split longitudinally through the medullary cavity. The edges of the break had been ground down, and the tip sharpened to a point. Complete tips are needle sharp with a circular cross-section. The epiphysis is intact and unmodified on two examples, is missing from three others possibly because the bones came from young animals, is absent from six others as a result of breakage, and was intentionally removed from three others. Two awls (Fig. 11 *c, e*) were side-notched near the proximal end, and one (Fig.

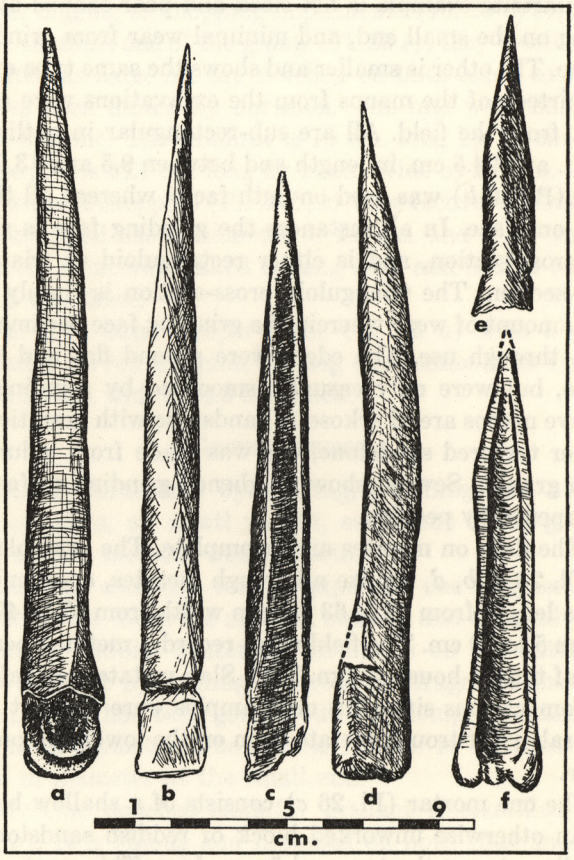


Figure 11. Bone Awls. Provenience: *a, e,* probably Ign. 7:36; *b,* Ign. 7:36; *c, f,* site unknown; *d,* pit house, Ign. 7:23.

11 *b*) exhibits an encircling groove in the same area. These modifications were probably for attaching a thong or wrapping. The bone used for the two specimens with the epiphysis intact is identifiable as the cannon bone from deer.

Atlatl weight: One plug-shaped object of antler (Pl. 24 *d*) resembles the stone atlatl weight previously described. In cross-section it is plano-convex. The surface had been abraded, and the ends slightly beveled. It is 6.5 cm. long and 2.5 cm. wide. Possibly it is unfinished.

Whistle: One fragmentary whistle made from bird bone was recovered.

Basketry

Some data on basketry shapes, sizes, and techniques are present in the form of impressions left on pottery vessels. Five pots showed impressions sufficiently complete for analysis: (1) Sherds of a clay parching-tray (?) liner from trash at Ign. 7:23 indicate a large circular shallow basket with rounded outward-curving sides, approximately 31.0 cm. in diameter and 5.5 cm. high, of close-coiled construction with 5 coils to the inch (2.5 cm.) and 10 stitches to the inch; stitches are close together and nearly vertical with a very slight slant to the right which probably indicates that they were not interlocked; rim is plain. (2) Impressions on small bottle from surface room 3 at Ign. 7:30 indicate a small circular basketry bowl 4.8 cm. high, 13.0 cm. in diameter at the rim, and 11.0 cm. in diameter at the juncture of the walls and base, of close-coiled construction with 8 coils to the inch (2.5 cm.) and 14 stitches to the inch; stitches are very close together, have a very slight slant to the right, and were probably not interlocked. (3) Bowl sherd from pit house at Ign. 7:23 shows impressions indicating a circular bowl-shaped basket approximately 23.0 cm. in diameter and 13.0 cm. high, of close-coiled construction with 4.5 coils to the inch (2.5 cm.) and 8 stitches to the inch; stitches are close together and slant very slightly to the right and were probably not interlocked. (4) Bowl from trash at Ign. 7:23 shows impressions of a shallow circular bowl 15.0 cm. in diameter and 5.0 cm. high, of close-coiled construction with 6 coils to the inch (2.5 cm.) and 8 stitches to the inch; stitches slant slightly to the right and are close together and indicate non-interlocking; rim is plain. (5) Jar sherd from trash at Ign. 7:31 indicates a bowl approximately 29 cm. in diameter and 4.5 cm. high, of close-coiled construction with 6 coils to the inch (2.5 cm.) and 12 stitches to the inch; stitches slant slightly to the right and indicate non-interlocking.

These observations were made by taking the diameter from the place on the pottery vessel which showed the rim of the basket, and by taking the height from there vertically to the base of the vessel. The coil and stitch sizes were

taken from impressions in plasticine. Direct evidence of the type of foundation used is lacking, but with the particular type of un-interlocked stitch used the foundation could have been either two-rod-and-bundle or bundle or three-rod types of foundations frequently found in Basket Maker basketry (Morris and Burgh 1941).

Artifact Summary

The distribution of classes of artifacts by site is given in Table 7. Pottery shapes are based on both whole vessels and sherds. In general, the results show a homogeneity of culture, with Ign. 7:23 standing out as the site with the greatest number of classes of artifacts represented. This high representation is probably the result of a longer occupancy at that site than at the others, coupled with the fact that the pit house there apparently burned while it was still in use.

IV. FAUNAL AND FLORAL REMAINS

Very few botanical and faunal remains was recovered from these open sites. Some maize and beans were preserved by charring. A few bones of the domestic (?) dog, red fox, wapiti, and deer were recovered and are listed in Table 8, as identified by Dr. Peter Robinson, Curator of Geology at the University of Colorado Museum.

Although ten dog bones were recovered, only three individuals are represented, two of them being from Ign. 7:23, as shown in Table 8. Of these two, one is known only from half of the mandible. The other is represented by the complete mandible, the skull, and fragments of the right femur, the left ulna, one of the tibias, the left ischium, the right maxilla, and the atlas. This dog was apparently an aged and decrepit individual and exhibited considerable wear on the few remaining teeth in his mouth. The mandible showed that he had lost six incisors, three premolars, and four molars prior to death. Three incisors and two premolars were also missing from the right maxilla. These remains of this dog had been found with burial 17 at Ign. 7:23. Since the skeleton is incomplete, it is difficult to speculate whether this old dog accompanied his master to the grave, or whether portions of an old dog were placed in the grave possibly as a last meal for the departed.

The bones of all three dogs indicate that they were small and near the same size. The length of the one skull is very close to 12.5 cm.; a completely exact measurement is not possible because of its fragmentary condition.

The reports on the corn and beans follow. The samples of maize and of *Phaseolus vulgaris* were found in the same jar on the bench of the pit house at Ign. 7:23. The remains of the tepary beans came from a jar found in surface room 3 at Ign. 7:30.

TABLE 7. *Artifact Distribution for Durango Basket Maker III*

	Ign. 7:23	Ign. 7:30	Ign. 7:31	Ign. 7:36
POTTERY AND CLAY				
Lino Gray: Durango Variety	x	x	x	x
Neckless jars	x	x	x	x
Necked jars	x	x	x	x
Necked jars with handle	x	x	x	x
Bowls	x	x	x	x
Duck vessels	x		x	
Tubular pipes			x	
Miniatures	x			
Neck-banded jar sherd	x			
Lino Black-on-gray: Durango Variety	x	x	x	x
Bowls	x	x	x	x
Jar sherd	x			
Bowl with lug handle	x			
Brown Ware	x			
Vessel with lateral spout	x			
Necked jar with collar	x			
Neckless jar	x			
Mud Ware	x	x	x	x
Miniature vessels	x	x	x	x
Spindle whorl				x
Jar lids	x	x		
Parching tray (?)	x			
CHIPPED STONE				
Small arrow points	x	x		x
Medium-sized projectile points	x			
Large projectile points	x	x	x	x
Knives	x	x	x	x
Scrapers	x		x	
Gouging and engraving tools	x			
Drills	x	x		x
Hoes or axes	x		x	
Choppers				x
Scraper-plane				x
GROUND STONE				
Tubular pipes	x			
Atlatl weight	x			
Sandstone discs				x
Grooved mauls	x	x		x
Hammerstones	x		x	
Unifacial manos	x	x	x	x
Bifacial mano	x			
Trough metates	x	x	x	x
BONE AND ANTLER				
Side-notched or grooved bone awls				x
Unnotched bone awls	x			x
Antler atlatl weight (?)		x		
Bird bone whistle	x			
IMPRESSIONS OF CLOSE-COILED BASKETRY BOWLS	x	x	x	
CULTIVATED PLANTS				
Maize	x	x		x
Beans	x	x		

TABLE 8. *Faunal Remains from Durango Basket Maker III*

	Ign. 7:23	Ign. 7:36
Cervus sp.		
Wapiti (?)	1	
Vulpes vulpes		
Red Fox	1	
Canis sp.		
Probably Domestic Dog	9	1
Ursus sp.		
Probably Small Grizzly Bear	1	
Odocoileus hemionus		
Mule Deer	1	
Meleagris gallopavo		
Turkey	1	

MAIZE

(*By Hugh Cutler*)

Most of the 39 carbonized corn kernels are medium or small, from eight- or ten-rowed ears of the race known a Pima-Papago. A few of the grains are flatter than most Pima-Papago corn and could be forms of hybrids of the pop corn or hard flint corn known as Chapalote, but more likely represent immature grains from the tips of ears.

Several carbonized fragments may represent parts of two ears, but could also be parts of a single ear. The cob or cobs had eight rows of grains; kernels were about 3.3 mm. thick; and cupule width (a measure of cob size) was about 6.7 mm. on some fragments and between 7.3 and 7.9 mm. on others. These figures are within the range of some collections from a Basket Maker III site near Navajo Mountain, northern Arizona, and those studied by Jones from other caves near Durango which were excavated by Morris and Burgh (1954).

While eight-rowed ears are not as common as 10-, 12-, and 14-rowed ears in Basket Maker sites and the average row-number for collections from these sites is usually around 12, eight-rowed cobs are more resistant to breaking when trampled, and it is likely that a far larger proportion of them are preserved. The cob and lower glumes of the specimens studied are hard, but not as hard as many cob fragments from later sites in Mesa Verde. Specimens similar to those from this Durango Basket Maker site (Ign. 7:23) occur over a wide range of time and are known from Basket Maker II (although not common) to the time Mesa Verde was abandoned in this region. Similar ears are still grown by the Hopi and, less frequently, by the Rio Grande Pueblos.

The sample is too small for any reliable observations on the source and relationships of the corn.

Beans

(By Lawrence Kaplan)

In examining the Basket Maker III materials from near Durango, I find that the sample from Ign. 7:23 consists of charred seeds of the common bean, *Phaseolus vulgaris*. Probably two horticultural varieties are represented. The other sample from Ign. 7:30 consists of charred remains of the cultivated tepary bean, *Phaseolus acutifolius* var. *latifolius*. The form of these teparies suggests the variety, white tepary (T 3 in my classification of Southwest beans). This variety has been collected in the contemporary Rio Grande Pueblos and at Zuni.

V. DATING, CHRONOLOGY, AND CULTURE CHANGE

The pit houses at the four main sites in this report were apparently being occupied about A.D. 760. Douglass (1949: 24) published a short article in the Tree-Ring Bulletin in which he mentions dendro-dates in the 750's for three of the sites, Ign. 7:31, 7:36, and 7:23. Earl Morris's correspondence file indicates that the wood specimens submitted to Douglass were duplicates of specimens sent to Harold S. Gladwin. The Gladwin dates, which are shown below, are in substantial agreement with the general date reported by Douglass.

The bark date of 762 at Ign. 7:36 and one of the dates of 759+ from Ign. 7:31 came from main roof supports. Most, if not all, of the remaining dates came from poles of pine which had formed part of the walls of the pit houses.

The bark dates for Ign. 7:23, 7:30, and 7:36 fall between 760 and 763; this clustering strongly indicates that these three pit houses were occupied contemporaneously and were either undergoing repairs or were all built at about the same time. The most recent outside ring date for Ign. 7:31 is 759. While this is not a bark date, it does indicate construction or repair after 759, and it seems likely that this pit house belongs to the same four-year period as the others. The typological relationships of the various houses were discussed previously in the architectural summary. The pit house at Ign. 7:23 is certainly the earliest style of house, was probably built earlier than the other three, and seems to have been occupied for a longer period of time than the other three. The trash deposit and the burials of at least eight adults and nine children suggest a longer period of occupation there than for the other sites, where these features were not found. An estimated construction date of 700 does not seem out of line for this house.

TABLE 9. *Tree-Ring Dates for Durango Basket Maker III**

Ign. 7:23	Ign. 7:30	Ign. 7:31	Ign. 7:36
763	*761*	759+	*762*
762	*760*	759+	747+
762	755+	758+	745+
761	746+	756+	740+
760+	745+	755+	740+
756+	737+	753+	735+
756+	733+	753+	729+
753+	732+	753+	729+
749+		752+	
749+		752+	
739+		743+	
733+		735+	

* All are A.D. dates on the outside ring present on the specimen. Italicized dates are bark dates and show the year in which the tree from which the specimen came had been cut. These dates were determined by H. S. Gladwin and the Gila Pueblo staff in 1940.

The one neck-banded sherd in the entire collection indicates occupation to only about 800, the time at which the San Juan Anasazi began to take over this trait from their southern neighbors. The absence of red ware from the excavated sites is additional support for this terminal date. None of the structures give evidence of extensive reconstruction during the period of occupation. Surface room 3 at Ign. 7:30 may be part of an earlier occupation than the rest of the site, judging from its isolated location and deeper position in the deposits, but this is highly conjectural. There were also indications of a prepit house occupation at Ign. 7:23. On the basis of the preceding evidence the Durango Basket Maker III phase would date from A.D. 700 to 800.

The time period between this late Basket Maker III occupation and the Basket Maker II occupation in Hidden Valley is poorly known. Morris and Burgh (1954) have reported on an extensive Basket Maker II phase lasting from before A.D. 46 to about 330, and on limited Basket Maker III remains dated at about 550 to 650. The latter material from Area 5 of the Talus Village consists of a shallow, roughly circular structure containing a stone slab bin, a firepit with a raised rim, a clay floor ridge, and the remains of a "teepee-like superstructure." Associated artifacts were two sherds of Basket Maker III plain gray ware, a small side-notched arrow point, and a metate. Bark dates of 605 and 631 were obtained (Morris and Burgh 1954: 22–3). These investigators believe this to have been a temporary structure, however, and not typical for the period. The period of roughly 400 to 700 is important, as it is the time either of a cultural transition from the indigenous Basket Maker II phase to a markedly different late Basket Maker III phase

or of the movement into Hidden Valley of a new group of people represented by the late Basket Maker III sites in this report. In view of the differences between these two temporally distinct sets of cultural remains and of the absence of good data from the period between them, either hypothesis is justifiable.

Cultural traits which are found in both Durango Basket Maker II and late Durango Basket Maker III are the following: the atlatl, terracing of occupational sites and cobblestone rings around houses, coiled basketry, conical stone pipes, un-notched bone awls, drills of the same forms, manos and metates, hammerstones, possibly unfired pottery, bins or cists of stone slabs, gravers, maize, plastered floors, plastered basin-shaped heating pits without collars, large corner-notched projectile points, chipped stone knives and scrapers, horizontal log (probably cribbed) construction, and flexed burials oriented to the north, northwest, or northeast. While many of these traits are of such widespread occurrence in Southwestern prehistory that they are not specifically indicative of a local cultural carry-over from Durango Basket Maker II to late Durango Basket Maker III, some do suggest primary relationships. The terracing of occupational sites appears in Durango Basket Maker II at the Talus Village where houses were built on a slope that was leveled and then filled at the front and rimmed with a row of stones (Morris and Burgh 1954: 10). The pit houses at Ign. 7:23 and 7:31 have similarly prepared platforms surrounded by a row of stones. Dittert, Hester, and Eddy (1961: 213–20) and Eddy (1961) have recently defined a Los Pinos phase in the Pine River district of north central New Mexico. This phase is almost non-ceramic, and the architectural and artifactual remains relate it closely to Durango Basket Maker II. Sites within this phase are predominantly single-unit surface dwellings with associated surface storage rooms. The houses are of cribbed log construction with minor support posts, have lateral entryways with a vestibule, and are surrounded by a basal apron of cobblestones. These cobble rings are similar to those in Hidden Valley, except that the Los Pinos phase rings surround only the dwelling rather than the house and the surface units. This idea of surrounding the occupied area or the house with a ring of cobblestones seems to be restricted to Durango Basket Maker and the not far distant Los Pinos phase, and is indicative of local cultural continuity. Well-made plastered floors, interior basin-shaped firepits without raised rims, and slab bins also seem to be survivals from Durango Basket Maker II.

New traits which are found in Durango Basket Maker III and not in Durango Basket Maker II are the following: the pit house, the bow and arrow as inferred from the small corner-notched projectile points, beans, pottery, the notched axe or hoe, the grooved maul, trash mound burial, and the one-end-closed trough metate. Most of these traits appear earlier to the south

in Mogollon contexts. Pit houses of variable depths and roof-support plans appear in Mogollon 1 and 2 and largely predate the pit house in the Anasazi area (Wheat 1955, Tables 2 and 3). Some of these Mogollon pit houses have a quadrangular plan and four main roof supports. The ideas of the pit house and of major roof supports, which are absent in Basket Maker II, would seem to have percolated north to the eastern Anasazi and to have become incorporated into their own architectural tradition. The Durango pit houses show a mixture of Mogollon and Basket Maker II architectural traits. The idea of a pit with a four-post roof support seems to be a Mogollon derived trait. The pit house with a six-post support plan from which is inferred a cribbed log roof (See Fig. 7 *c* and Pl. 1 *a*) would seem to be a modification of this house, combining the features of a pit and roof supports with the architectural principles of cribbed log construction already present in the area. The Durango Basket Maker II surface dwellings were made of horizontally laid logs or poles with mud filling the interstices (Morris and Burgh 1954, Frontispiece; p. 50), without vertical supports in what must have been a cribbed construction. The Los Pinos phase houses were of cribbed logs (Eddy 1961: 48). This type of construction then survived in the method of roof construction on pit houses and also probably in the construction of surface granaries, and on into even later times in kivas in other areas of the Southwest.

Small corner-notched projectile points, beans, pottery, grooved stone mauls, and the one-end-closed trough metate all appear earlier in Mogollon (Wheat 1954: 583) in the time period contemporaneous with Durango Basket Maker II. The logical assumption is that the Durango Basket Maker III examples were introduced from that direction. Wheat (1955: 79) notes that the one-end-closed trough metate is the typical Mogollon form and occurs in every branch in every time period. The development of this form from basin metates would seem to have preceded the same trend in the Anasazi area. I do not wish to imply that there was a direct transfer of traits from Mogollon to Durango Basket Maker, but simply that through the usual processes of diffusion (trade, intermarriage, etc.) these traits gradually spread from south to north. Most new traits probably filtered through other Anasazi groups before they reached Durango.

The initial development of Basket Maker pottery in the Lino tradition, probably from Mogollon proto-types, seems to have largely preceded the period of occupation represented by these Durango Basket Maker III sites. These two types with their regional varieties (La Plata Black-on-white, Chapin Black-on-white, Chapin Gray, Rosa Black-on-white, Rosa Smoothed, and the Durango varieties) mark the earliest ceramic horizon of the San Juan Anasazi culture. The earliest known appearance of what is apparently Lino

pottery is in Northeastern Arizona in Basket Maker III contexts with a date of A.D. 475 (Morris 1939: 5). The Lino tradition seems to have reached Mesa Verde by at least 572 (O'Bryan 1950, site 145, pit house I), and Lino Gray is found in the Durango area at least as trade by 605 (Morris and Burgh 1954: 49). Dates are lacking for the LaPlata and the Chaco Basket Maker III sites. In the Gobernador and Pine River sections of north central New Mexico, varieties of Lino Gray and Lino Black-on-gray appear sometime between 541, at which time only unfired gray pottery and intrusive (?) brown ware are present (Eddy 1961), and 700, the beginning of the Rosa phase. In general, the spread is from west to east with Lino Gray and Lino Black-on-gray or their varieties appearing earlier in northeastern Arizona and later in Colorado and northern New Mexico on a gently sloping temporal horizon. Varieties of both types seem to last later in the latter area also, and may have been diffusing eastward even as they were being superseded by later types in the west.

There are a number of traits which are well developed in Durango Basket Maker II but which are not found in late Durango Basket Maker III. These are the following (excluding perishables): notched scapulas and notched ribs, bone gaming pieces, personal ornaments of all kinds, rock shelter habitation, and rock shelter and cist burial. Some of these can be explained in terms of changes in the manner of living. Southwest prehistory shows a gradual trend from hunting and food-collecting to greater and greater dependence on agriculture as a means of subsistence. Concomitant with this change in economy there must have been changes in residence — from temporary rock shelters to fixed abodes in houses located near the cultivated fields. Burials then were still placed near the living area. The absence of ornaments and of notched scapulas and ribs used in preparing yucca for weaving (Morris and Burgh 1954: 61) is less easily explained. No ornaments with 20 burials is surprising. Possibly yucca was replaced by some other fiber for weaving which did not require shredding with a scapula.

While it cannot be determined whether or not a transition from Basket Maker II to Basket Maker III actually took place in Hidden Valley and the possible contemporaneous construction of four pit houses suggests a movement into the valley, there are a sufficient number of relationships between Durango Basket Maker II and III to indicate a generalized continuity between the two phases. If the Basket Maker III remains are those of a people newly arrived in Hidden Valley, their culture appears to have been related to that of the earlier occupants, though modified through acculturative influences stemming originally from the south.

VI. SETTLEMENT PATTERN AND INFERENCES ON SOCIAL ORGANIZATION

While it is impossible to ascertain whether all the pit houses in Hidden Valley (Fig. 1) were occupied simultaneously, the sample that was excavated suggests this as a strong possibility. The settlement pattern is one of single or occasionally paired pit houses with surface granaries located near cultivatable fields and scattered over an area approximately 1.5 miles long by one mile wide. Some clustering of houses toward the center of this area is apparent, but in general the settlement pattern is the rancheria, rather than the village type.

The house size and the scattered locations of houses suggest that each household was independent and consisted of the labor force necessary to maintain the fields and perform the domestic activities. Individual granaries suggest household ownership of crops and probably other foodstuffs. The most likely group to make up such a household is an extended family, and in this particular instance possibly a matrilineal one. The economic base upon which the Southwest developed its distinctive pattern is that of hunting and seed-gathering (Jennings 1956) exemplified prehistorically by the Cochise culture and historically by the the Shoshonean and Paiute groups of the Great Basin. Seed-gathering, which historically was largely regulated by the women, provided the cultural climate necessary for the assimilation of agriculture which in early Anasazi prehistory (Basket Maker II and III) could still have been largely the work of women as a carry-over from seed-gathering practices. While the archaeological record is silent on this account, the western pueblo groups (Hopi and Zuni) and the Keresan pueblos and Jemez, who are descendants at least in part of the prehistoric Anasazi, retain a matrilineal system (Murdock 1955: 93). The eastern pueblos seem either never to have developed a matrilineate or possibly to have reverted to a bilateral system as agriculture became a predominantly male activity. The Keresan pueblos actually seem to be in this process of change from a matrilineal to a bilateral system (Dozier 1958: 27). I do not mean to imply that all Anasazi groups necessarily went through a matrilineal stage or that economy is the only cultural activity affecting social organization, but simply that the matrilineate is likely to have existed on the developmental level of Basket Maker III. An historic analogy wherein a bilateral hunting-gathering group seems to have developed a matrilineal organization, with the female ownership of seed plots upon the emergence of incipient agriculture and comparatively fixed abodes, is shown by the Owens Valley Paiute (Steward 1938: 57). This same process could have gone on in the transition from a Cochise-like culture (Basket

Maker I) to Basket Maker II and become relatively fixed in Basket Maker III.

Some organization above and beyond that of the individual household was probably present in Durango Basket Maker III. It is quite possible that some form of ceremonial center, such as a great kiva, was present in Hidden Valley. One of the unexcavated sites (Ign. 7:28) exhibits a circular depression 14 meters in diameter and as such is a legitimate candidate for a great kiva. This is only slightly less than twice the size of the excavated dwellings.

VII. SUMMARY OF DURANGO BASKET MAKER III CULTURE

Between 700 and 800 A.D. a small group of agriculturalists occupied Hidden Valley, a narrow shelf above the Animas River near Durango, Colorado. Agriculture seems to have been the most important economic activity, although deer and bear were hunted with the bow and arrow, and some conservatives may still have been using the atlatl and dart. Corn and beans were grown, and were stored in surface granaries and in pottery vessels placed on the benches in pit houses. The domestic dog was known.

Group organization was probably one of autonomous households occupying dwellings adjacent to the cultivated fields. The household was possibly composed of a matrilineal extended family who worked the fields, performed the domestic activities, and brought in the kill from hunting activities.

Houses were constructed by digging a pit, walling and roofing it with poles covered with tules and earth, and constructing an entrance-ventilator tunnel to the southeast. Floors were neatly plastered. Surface granaries were constructed of poles and mud on stone footings.

Cooking and food preparation probably went on both inside and outside the dwelling. Small basin-shaped heating pits were used in the houses, but do not appear to have been subjected to an intense fire. Maize was ground on trough metates of variable coarseness with a two-handed mano, possibly in the same manner as was recorded by Casteneda (Hewett and Bandelier 1937: 175) in the 1540's, in which three women work on the maize, one crushing, one grinding, and one grinding it still finer.

Ceremonial life may have centered in a great kiva, although the only evidence for this is an unexcavated pit depression of the proper size. Tubular pipes of stone or pottery suggest that tobacco or some similar plant was smoked, possibly on ceremonial occasions involving sympathetic magic to form rain clouds to water the crops.

Handicrafts consisted of pottery, coiled basketry, the spinning of fibers with spindle and whorl, and work in bone, antler, and stone by use of cutting,

chipping, and abrading techniques. Jars, bowls, and duck vessels were made of gray pottery by coiling in a basketry container. Bowls were usually decorated on the interior with painted designs derived for the most part from basketry decoration. Jars were rarely decorated. Bone awls were probably used in the manufacture of close-coiled basketry bowls. The occurrence of obvious basketry designs on the pottery suggests that these baskets were also decorated. The bow drill or pump drill may have been known, judging from the presence of drill bits and the horizontal striations on the interior of one of the stone pipes. Some crafts may have been the work of specialists within the community. The numerous pottery vessels from the pit house at Ign. 7:23 could indicate that this was the house of one of the community potters. Burial 1 at Ign. 7:23 seems to have been that of a flint knapper with his stock in trade buried with him. Craft specializations would in turn involve a system of barter.

The dead were placed in trash mounds and were usually flexed and oriented with the head to the north. Furnishings in the forms of pottery vessels and sometimes other artifacts frequently accompanied the dead and attest either to religious beliefs or to the private ownership of personal property.

Durango Basket Maker III culture was marginal for the period to which it belonged. More elaborate developments in architecture, pottery, and in the nucleation of settlements were already in progress in the adjacent areas of the Chaco (Roberts 1929), Alkali Ridge (Brew 1946), the La Plata (Morris 1939), and Mesa Verde (O'Bryan 1950). After 800, Hidden Valley and probably the whole Durango area were abandoned for unknown reasons and further aboriginal cultural development did not take place there. The fate of the inhabitants of Hidden Valley is unknown. They may have either become or joined one of the expanding nuclear settlements of Pueblo I, or they may have continued what is essentially a marginal Basket Maker III way of life. The latter stage actually continues in the Rosa phase of the Gobernador to about A.D. 900 (Hall 1944). The settlement pattern of single isolated pit houses with surface granaries is the most common type in that phase (Dittert, Hester, Eddy 1961: 221); and a variety of Lino Black-on-gray continued to be made. Neck-banding of pottery appeared, but in limited quantity (Hall 1944, Appendix A). Resemblances in pottery and architecture also exist between Durango Basket Maker III and "terminal Basket Maker" of the La Plata (Morris 1939), and the Durango Basket Makers could have become part of a consolidated settlement of this type.

BIBLIOGRAPHY

ABEL, LELAND J.

1955 "Wares 5A, 10A, 10B, 12A, San Juan Red Ware, Mesa Verde Gray and White Ware, San Juan Ware." In Pottery Types of the Southwest, H. S. Colton Editor. *Museum of Northern Arizona Ceramic Series*, No. 3. Flagstaff.

BREW, J. O.

1946 "Archaeology of Alkali Ridge, southeastern Utah." *Papers Peabody Museum Harvard University*, Vol. 21. Cambridge.

COLTON, H. S.

1953 "Potsherds." *Museum of Northern Arizona Bulletin*, 25. Flagstaff.

COLTON, H. S. AND L. L. HARGRAVE

1937 "Handbook of Northern Arizona Pottery Wares." *Museum of Northern Arizona Bulletin*, 11. Flagstaff.

DITTERT, A. E., J. J. HESTER AND F. W. EDDY

1961 "An Archaeological Survey of the Navajo Reservoir District, Northwestern New Mexico." *Monographs of the School of American Research and the Museum of New Mexico*, 23. Sante Fe.

DOUGLASS, A. E.

1949 "Note on the Early Durango Collections." *Tree-Ring Bulletin*, 15, No. 4. Tucson.

DOZIER, E. P.

1958 "Ethnological Clues for the Sources of Rio Grande Population." In Migrations in New World Culture History, R. H. Thompson Editor. *University of Arizona Social Science Bulletin*, 27. Tucson.

EDDY, F. W.

1961 "Excavations at Los Pinos Phase Sites in the Navajo Reservoir District." *Museum of New Mexico Papers in Anthropology*, 4. Santa Fe.

EULER, R. C. AND V. H. JONES

1956 "Hermetic Sealing as a Technique of Food Preservation among the Indians of the American Southwest." *Proceedings of the American Philosophical Society*, 100, No. 1. Philadelphia.

HALL, E. T. JR.

1944 "Early Stockaded Settlements in the Governador, New Mexico." *Columbia Studies in Archeology and Ethnology*, 2, part 1. New York.

HAWLEY, F. M.

1936 "Field Manual of Prehistoric Southwestern Pottery Types." *Bulletin, University of New Mexico*, Anthropological Series, 1, No. 4. Albuquerque.

HEWETT, E. L. AND A. F. BANDELIER

1937 *Indians of the Rio Grande Valley*. University of New Mexico Press. Albuquerque.

JENNINGS, J. D. (Ed.)

1956 "The American Southwest: A Problem in Cultural Isolation." In Seminars in Archaeology: 1955, Robert Wauchope Editor. *American Antiquity*, 22, No. 2, part 2. Salt Lake City.

KIDDER, A. V. AND S. J. GUERNSEY

1921 "Basket-Maker Caves of Northeastern Arizona." *Papers Peabody Museum of American Archaeology and Ethnology, Harvard University*, 8, No. 2, Cambridge.

MARTIN, P. S.
1939 "Modified Basket Maker Sites Ackmen-Lowry Area, Southwestern Colorado." *Anthropological Series Field Museum of Natural History*, 23, No. 3. Chicago.

MORRIS, E. H.
1939 "Archaeological Studies in the La Plata District." *Carnegie Institution of Washington, Publication 519*. Washington.

MORRIS, E. H. AND R. F. BURGH
1941 "Anasazi Basketry Basket-Maker II Through Pueblo III." *Carnegie Institution of Washington, Publication 533*. Washington.
1954 "Basket Maker II Sites near Durango, Colorado." *Carnegie Institution of Washington, Publication 604*. Washington.

MUNSELL COLOR COMPANY, INC.
1954 Munsel Soil Color Charts. Baltimore.

MURDOCK, G. P.
1955 "North American Social Organization." *Davidson Journal of Anthropology*, 1, No. 2. Seattle.

O'BRYAN, DERIC
1950 "Excavations in Mesa Verde National Park." *Medallion Papers*, No. XXXIX. Globe.

PHILLIPS, PHILLIP
1958 "Application of the Wheat-Gifford-Wasley Taxonomy to Eastern Ceramics." *American Antiquity*, 24, No. 2. Salt Lake City.

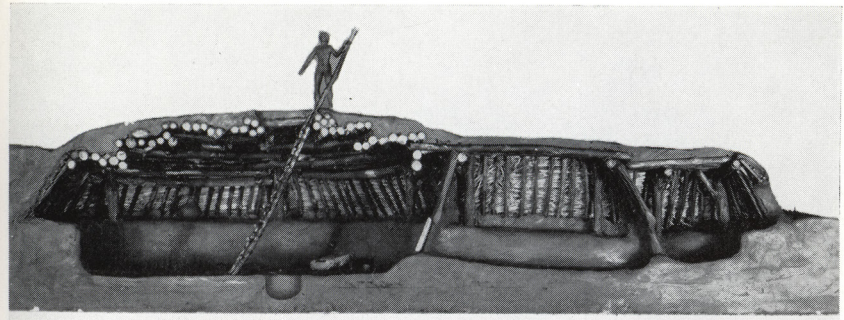
ROBERTS, F. H. H. JR.
1929 "Shabik'eshchee Village." *Bureau of American Ethnology Bulletin 92*. Washington.

SHEPARD, A. O.
1961 "Ceramics for the Archaeologist." *Carnegie Institution of Washington Publication 609*. Washington.

STEWARD, J. H.
1938 "Basin-Plateau Aboriginal Sociopolitical Groups." *Bureau of American Ethnology Bulletin 120*. Washington.

WHEAT, J. B.
1954 "Southwestern Cultural Interrelationships and the Question of Area Co-tradition." *American Anthropologist*, 56, No. 4. Menasha.
1955 "Mogollon Culture Prior to A.D. 1000." *American Antiquity*, 20, No. 4, part 2.

WHEAT, J. B., J. C. GIFFORD AND W. W. WASLEY
1958 "Ceramic Variety, Type Cluster, and Ceramic System in Southwestern Pottery Analysis." *American Antiquity*, 24, No. 1. Salt Lake City.



a

b

PLATE 1. Pit House at Ign. 7:23. *a*, Reconstructed model; cribbed roof, roof entrance, and ladder speculative. *b*, Aerial view of excavated pit house; shovel points north; white outlines indicate location of main roof supports.

PLATE 2. Pit House and Surface Rooms at Ign. 7:23. *a*, Pit House interior looking east. *b*, Surface room 1 showing slabs used in wall construction.

PLATE 3. Pit House at Ign. 7:30

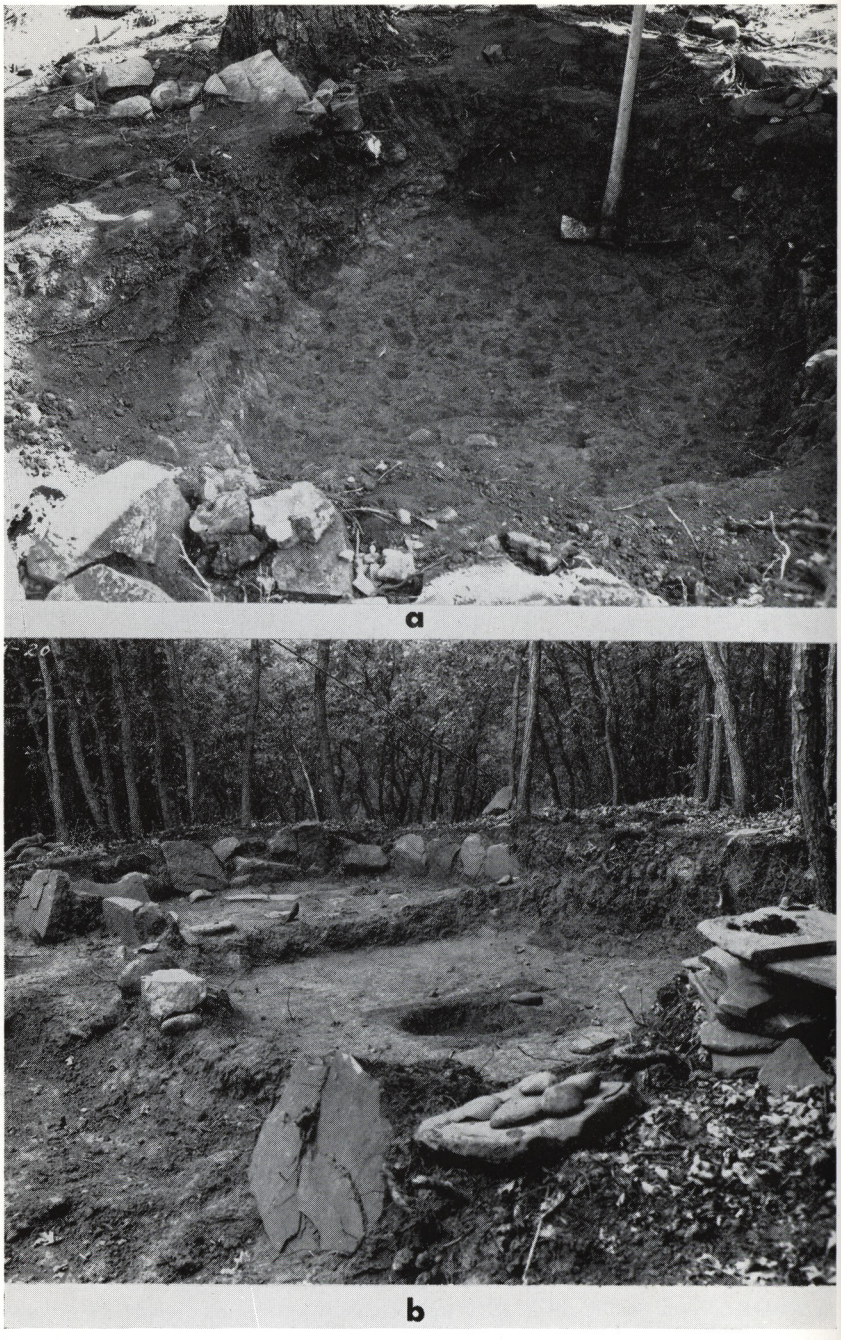


PLATE 4. Surface Rooms at Ign. 7:30. *a*, Room 3. *b*, Rooms 1 and 2; note firepit in room 1.

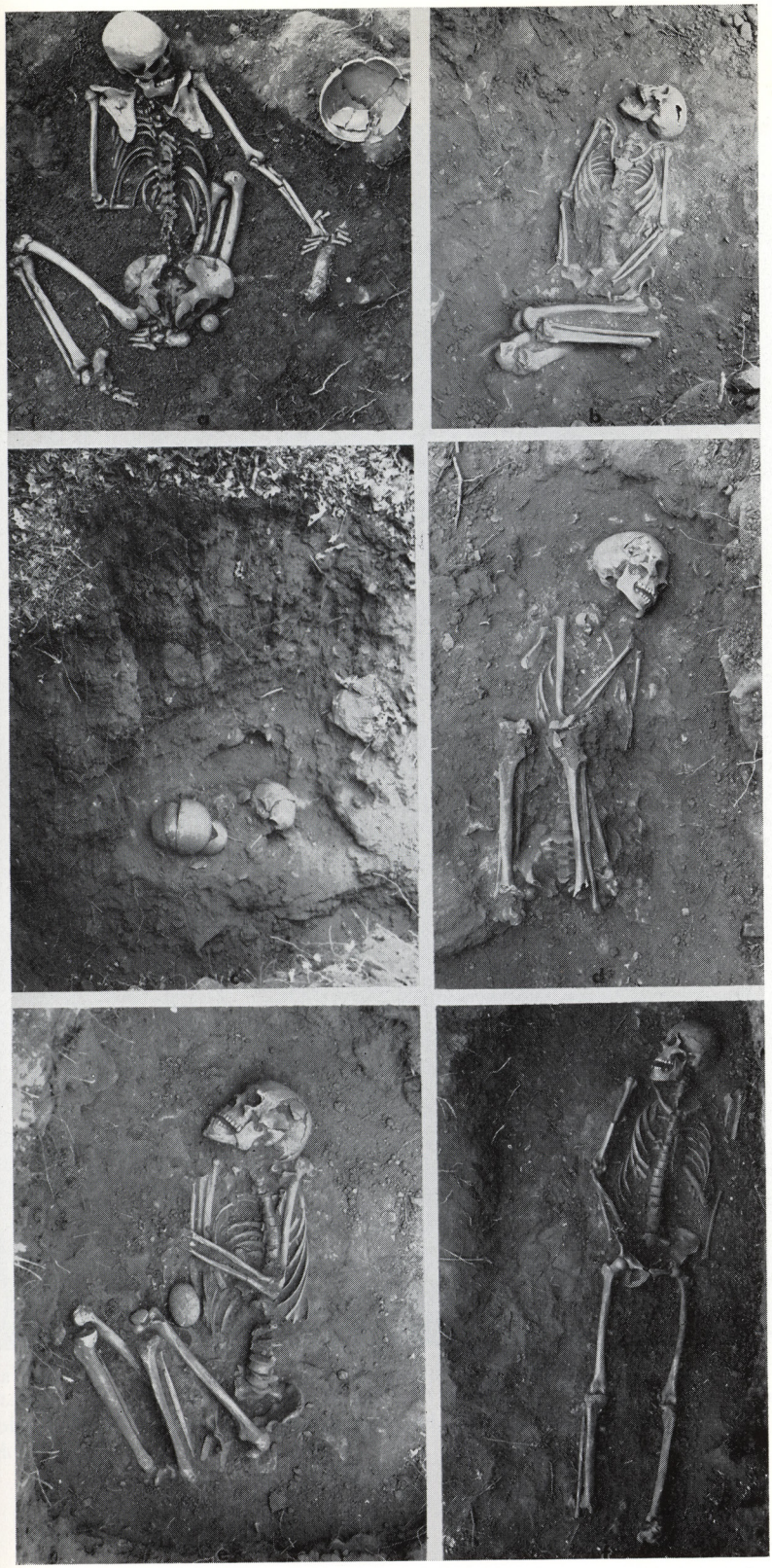


PLATE 5. Burials from Ign. 7:22 and 7:23. *a*, burial 1, Ign. 7:22. *b–f*, Ign. 7:23. *b*, burial 17; *c*, burial 11; *d*, burial 16; *e*, burial 1; *f*, burial 7.

PLATE 6. Aerial View of Pit House at Ign. 7:31. Ventilator shaft is southeast along major axis.

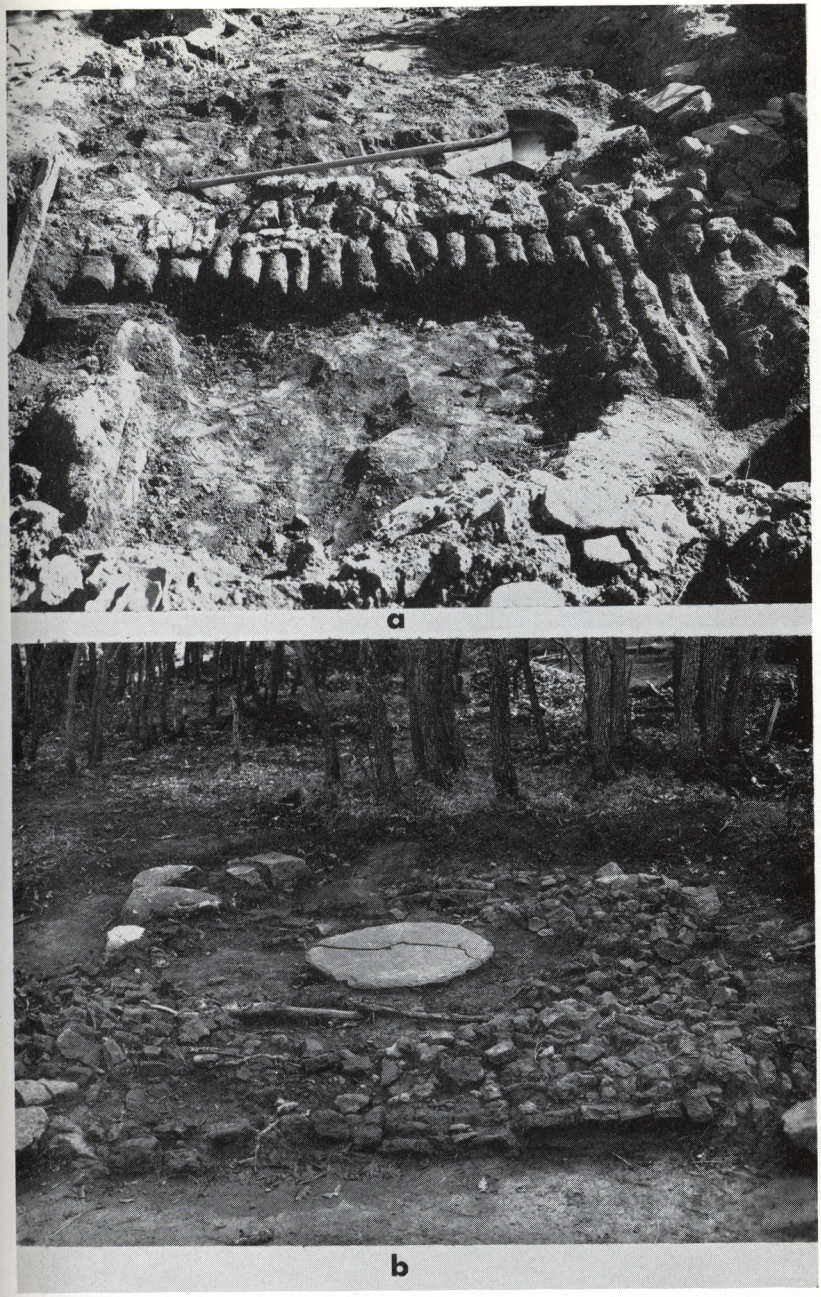


PLATE 7. Surface Rooms at Ign. 7:36 and 7:31. *a*, Room 3 at Ign. 7:36 showing casts of poles. *b*, Room 1 at Ign. 7:31 showing collapsed, burned, pole-and-mud walls, and stone hatch (?) cover.

PLATE 8. Aerial View of Pit House at Ign. 7:36

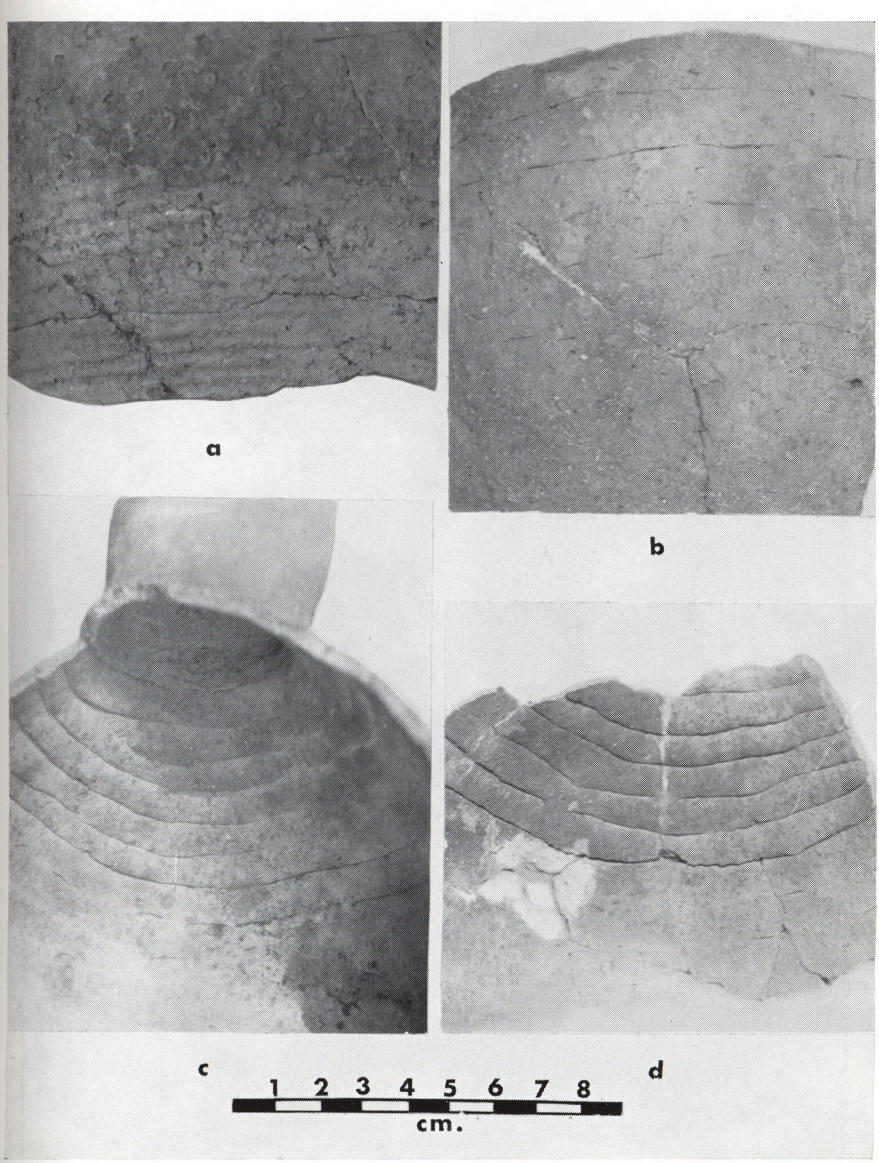


PLATE 9. Pottery Showing Manufacturing Techniques. *a*, Lino Gray jar sherd showing basket impressions; Ign. 7:31. *b*, Lino Black-on-gray bowl sherd showing incompletely obliterated coils; Ign. 7:36, surface rooms. *c*, *d*, Lino Gray bottle showing spiral coiling technique; charred beans found in bottle; Ign. 7:30, surface room 3.

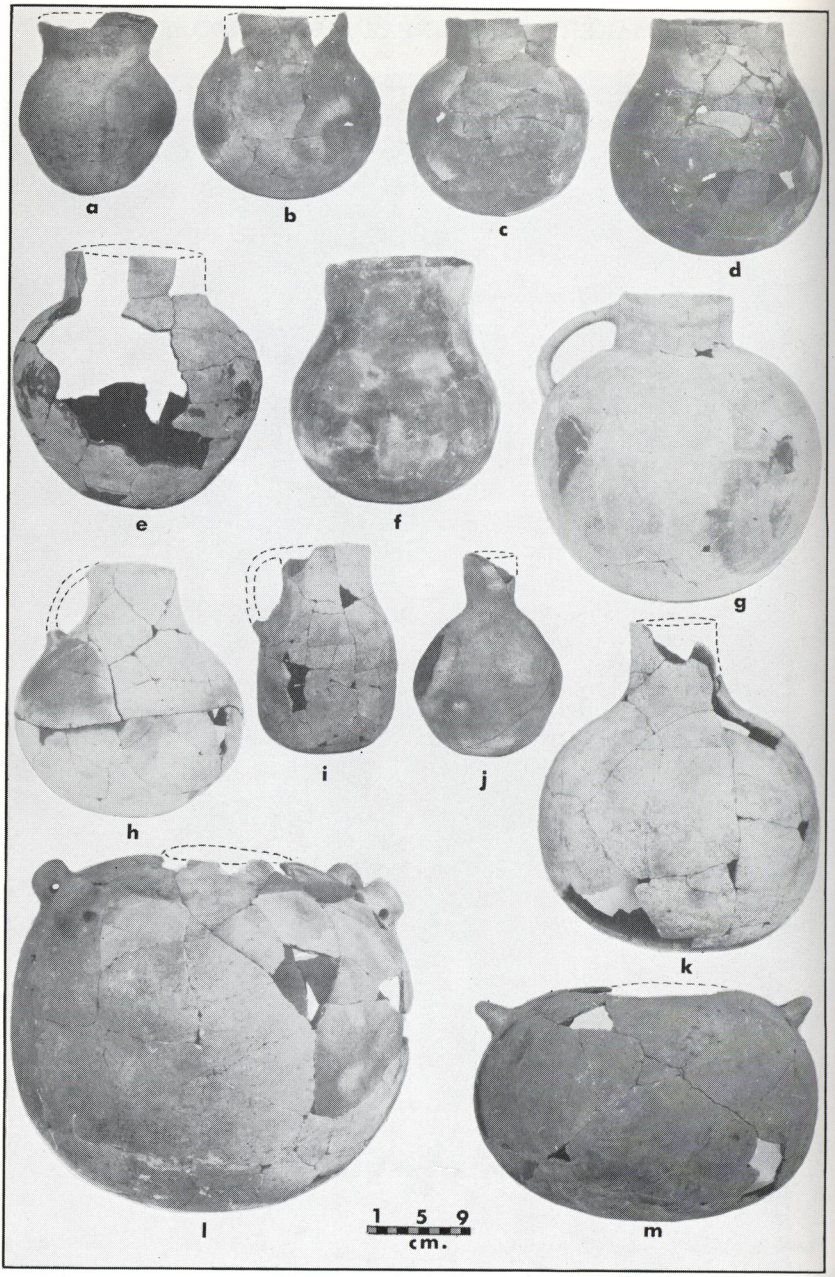


PLATE 10. Jar Shapes of Lino Gray: Durango Variety. Provenience: *a*, burial 11, Ign. 7:23; *b, c, f, g*, pit house, Ign. 7:31; *d, e, h, i, k–m*, pit house, Ign. 7:23; *j*, surface room 3, Ign. 7:30.

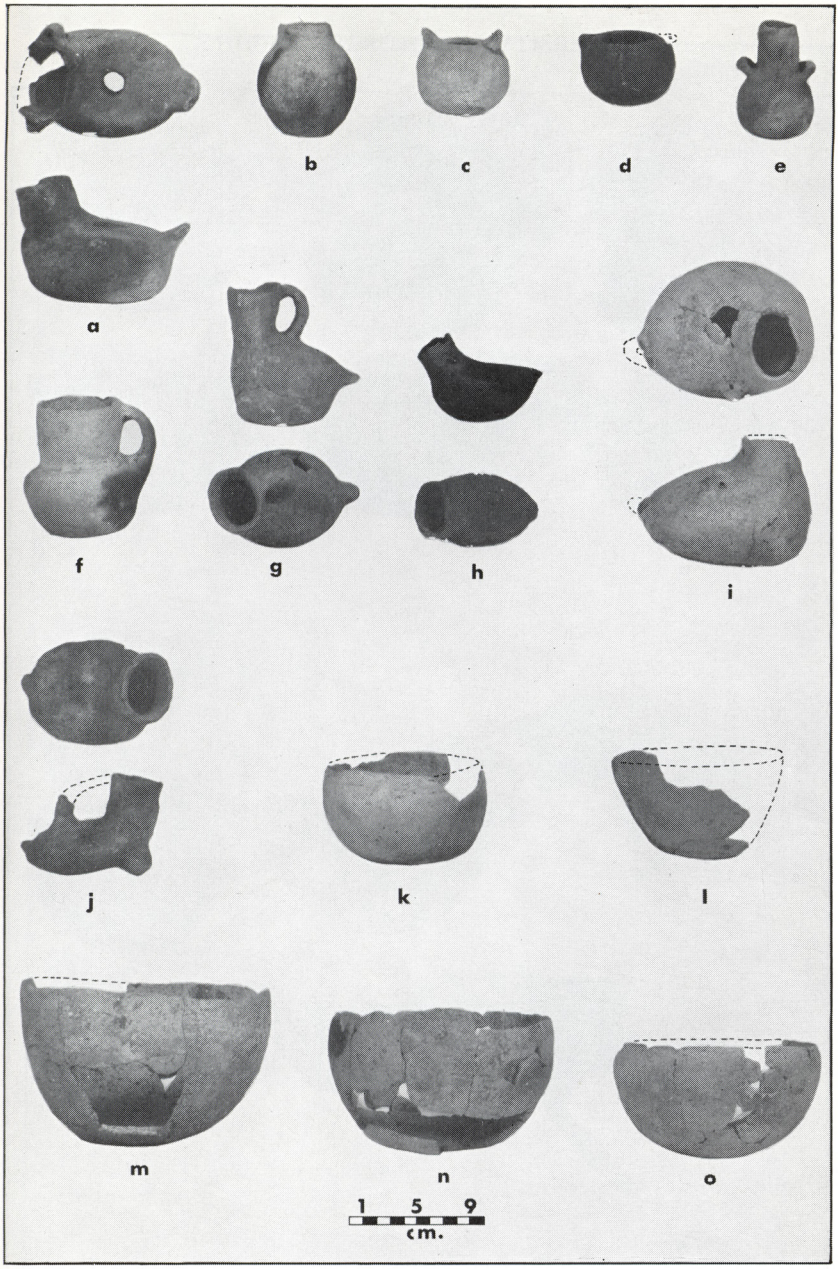


PLATE 11. Shapes of Lino Gray: Durango Variety Bowls, Eccentrics, and Miniatures. Provenience: *a, c, d, h, j,* pit house, Ign. 7:23; *b, f* (fugitive red exterior), burial 6, Ign. 7:23; *e,* (fugitive red exterior), near burial 3, Ign. 7:23; *g,* pit house, Ign. 7:31; *i,* burial 4, Ign. 7:23; *k,* burial 11, Ign. 7:23; *l, m,* trash, Ign. 7:23; *n,* surface rooms, Ign. 7:23; *o,* trash, Ign. 7:23.

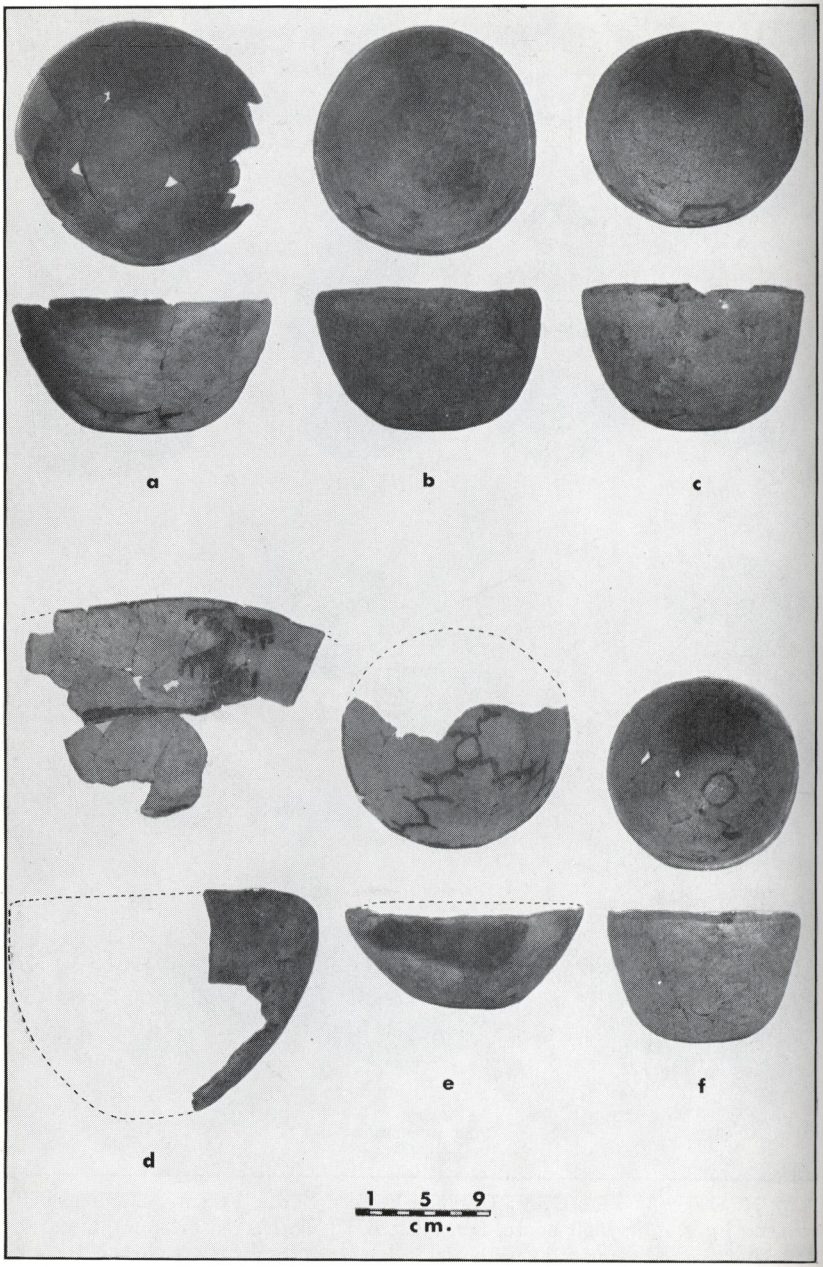


PLATE 12. Bowls of Lino Black-on-gray: Durango Variety. Provenience: all Ign. 7:23; *a, f,* trash; *b,* (fugitive red exterior), near burial 3; *c,* burial 6; *d, e,* pit house.

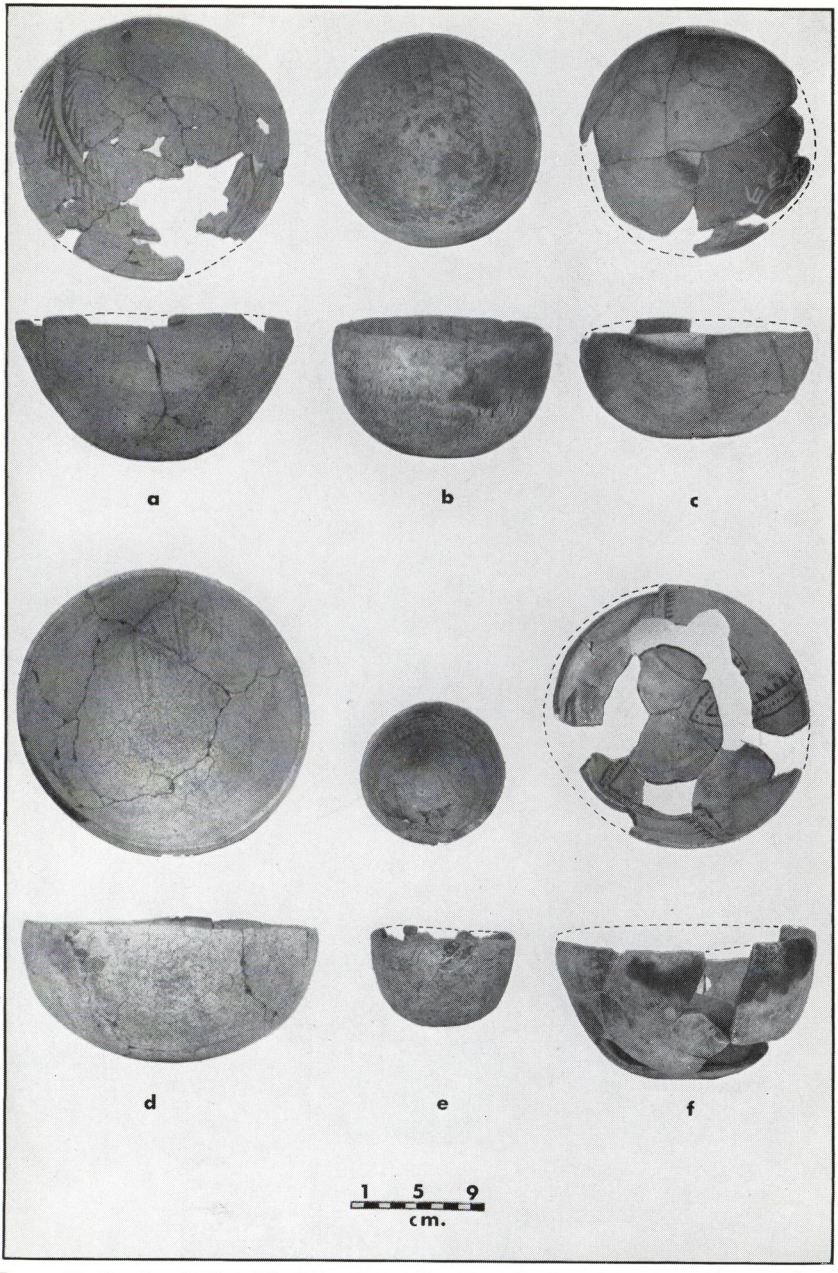


PLATE 13. Bowls of Lino Black-on-gray: Durango Variety. Provenience: *a*, burial 8, Ign. 7:23; *b*, burial 11, Ign. 7:23; *c*, Ign. 7:23; *d*, burial 1, Ign. 7:22; *e*, burial 4, Ign. 7:23; *f*, refuse, Ign. 7:23.

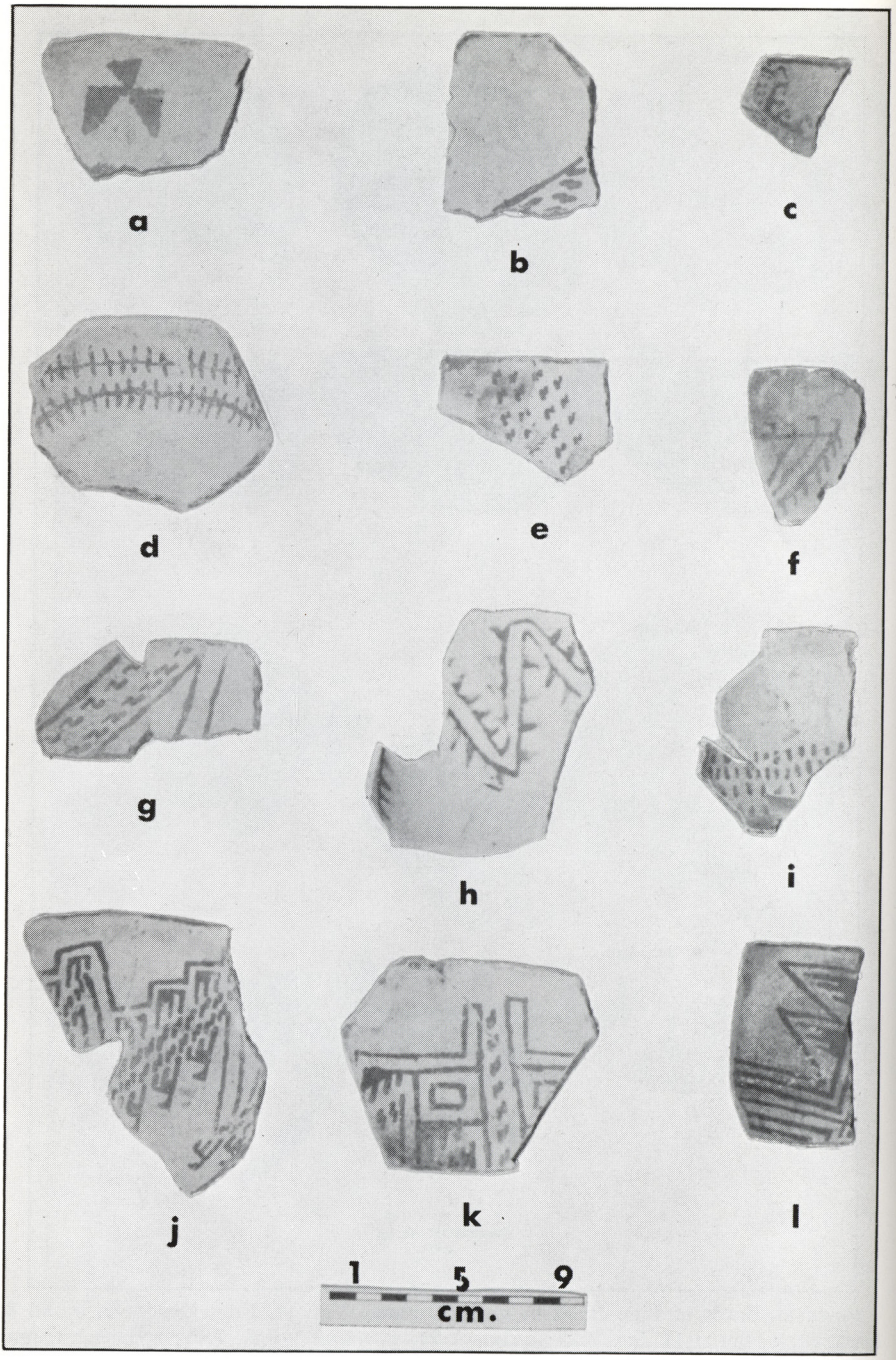


PLATE 14. Rim Sherds of Lino Black-on-gray: Durango Variety. Provenience: *a–g, i–l,* refuse, Ign. 7:23; *h,* pit house, Ign. 7:23.

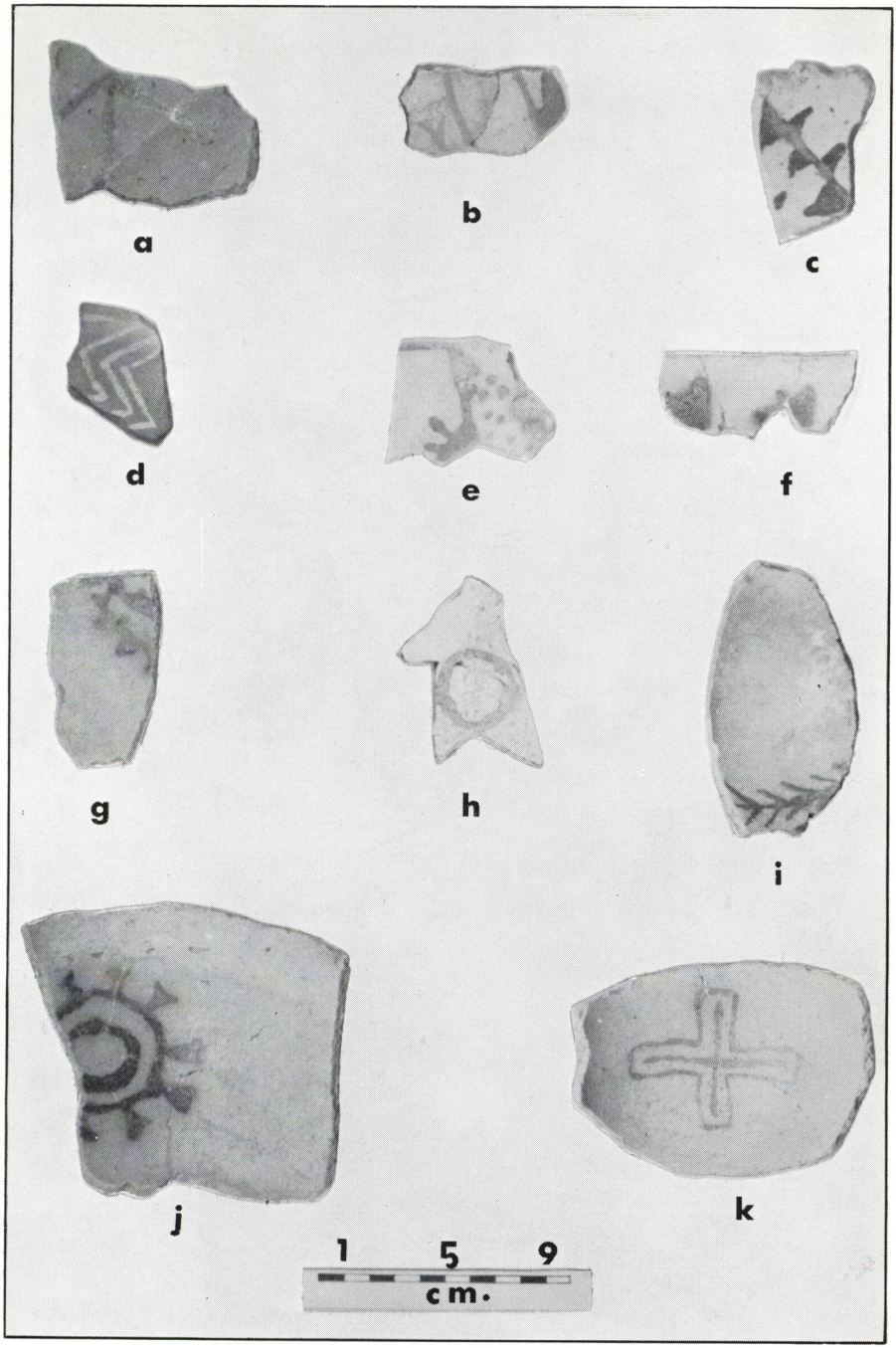


PLATE 15. Sherds Showing Glaze Paint. Provenience: *a, e,* Ign. 7:25; *b, c, d, f, h, i,* Ign. 7:23; *g, j, k,* surface rooms, Ign. 7:36.

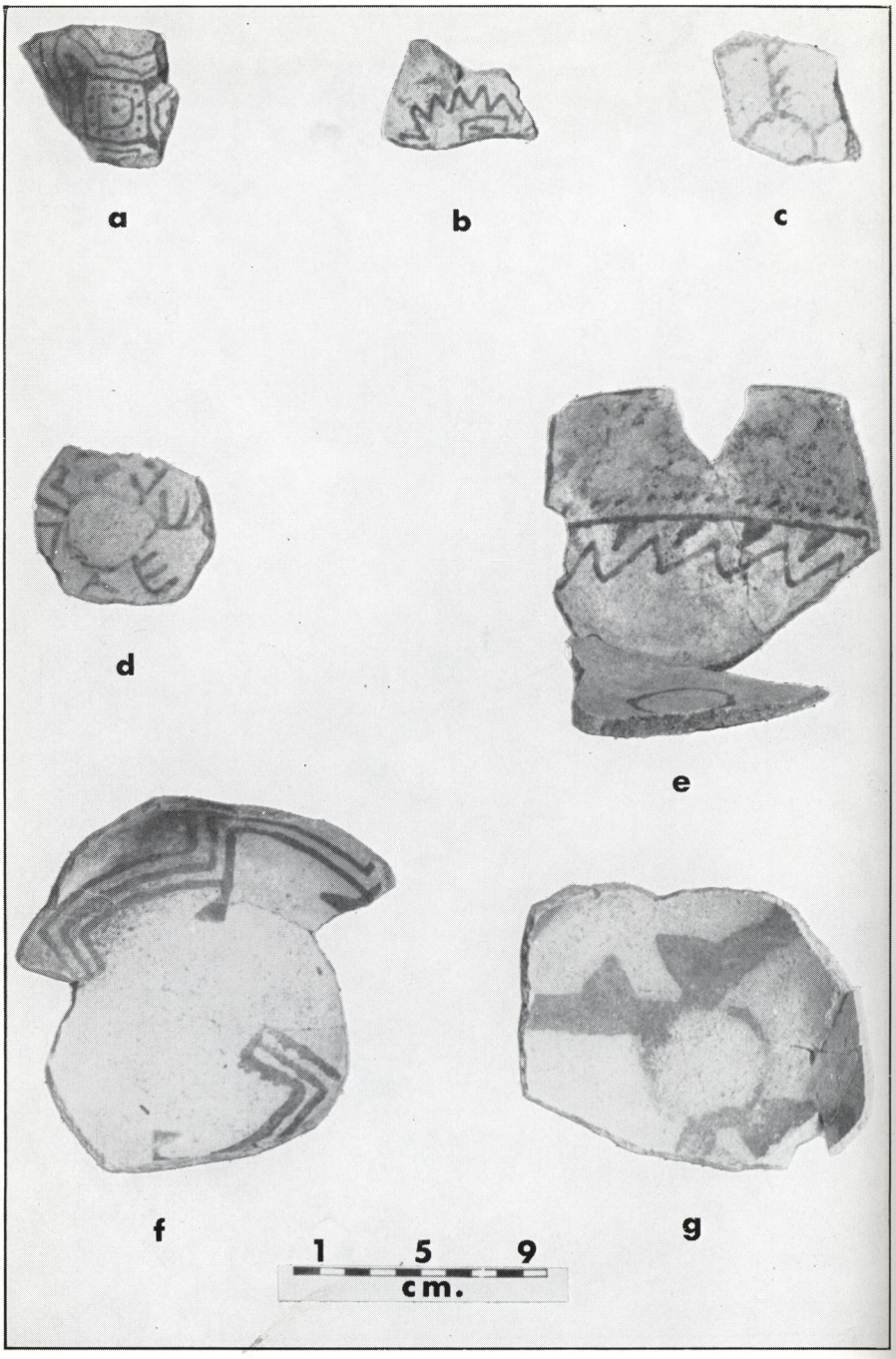


PLATE 16. Sherds Showing Decorative Treatment of Bowl Centers. Provenience: *a, b, e*, trash, Ign. 7:23; *c*, surface rooms, Ign. 7:23; *d*, pit house, Ign. 7:31 or 7:36.

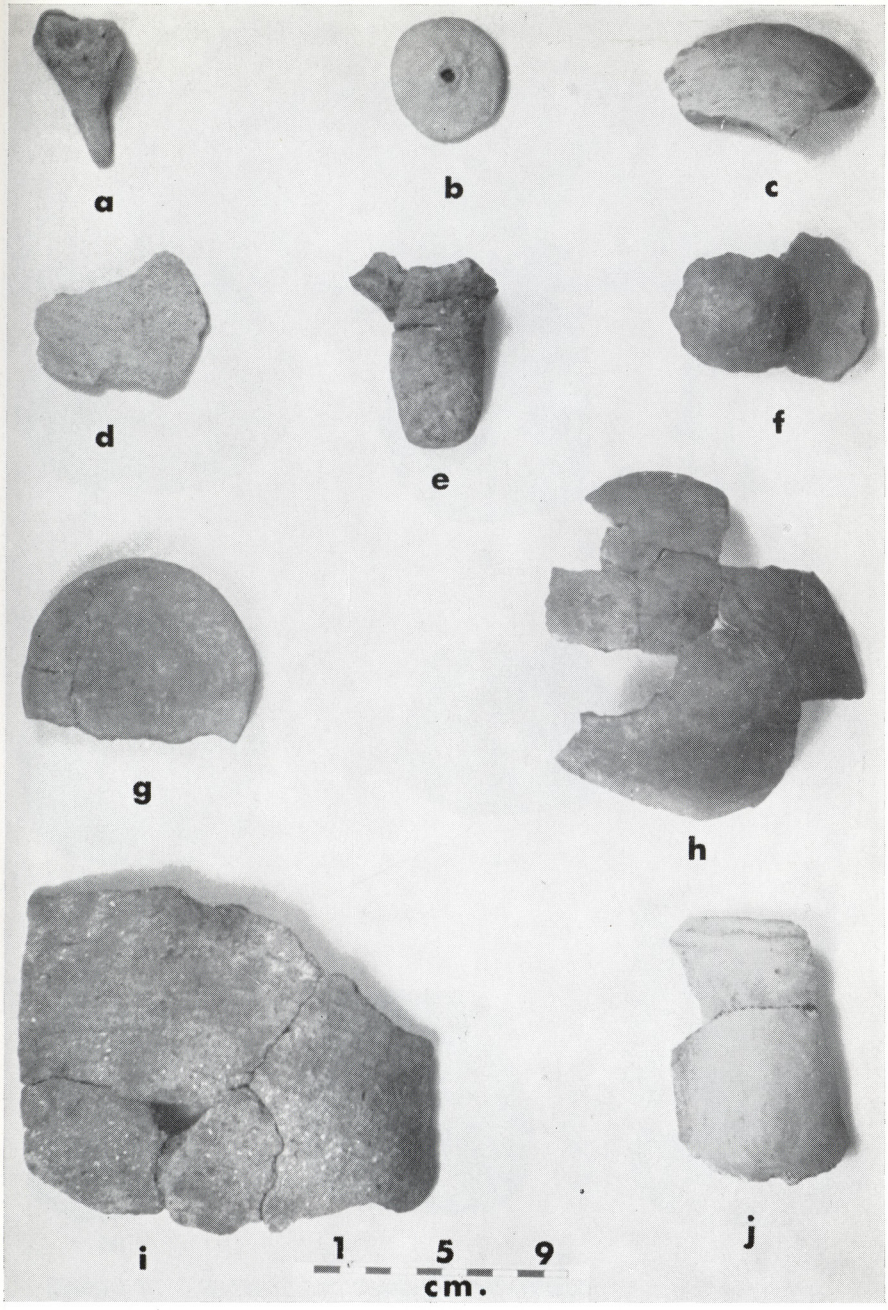


PLATE 17. Objects of Brown Ware and Mud Ware. *a*, spout of vessel with lateral spout, trash, Ign. 7:23; *b*, spindle whorl (?), pit house, Ign. 7:36; *c*, *d*, jar sherds, trash Ign. 7:23; *e*, parching tray handle (?), pit house, Ign. 7:23; *f*, lug handle from neckless jar, trash, Ign. 7:23; *g*, saucer, Ign. 7:25; *h*, jar sherd, Ign. 7:31; *i*, basket-impressed parching tray liner (?), trash, Ign. 7:23; *j*, jar neck with collar, trash, Ign. 7:23.

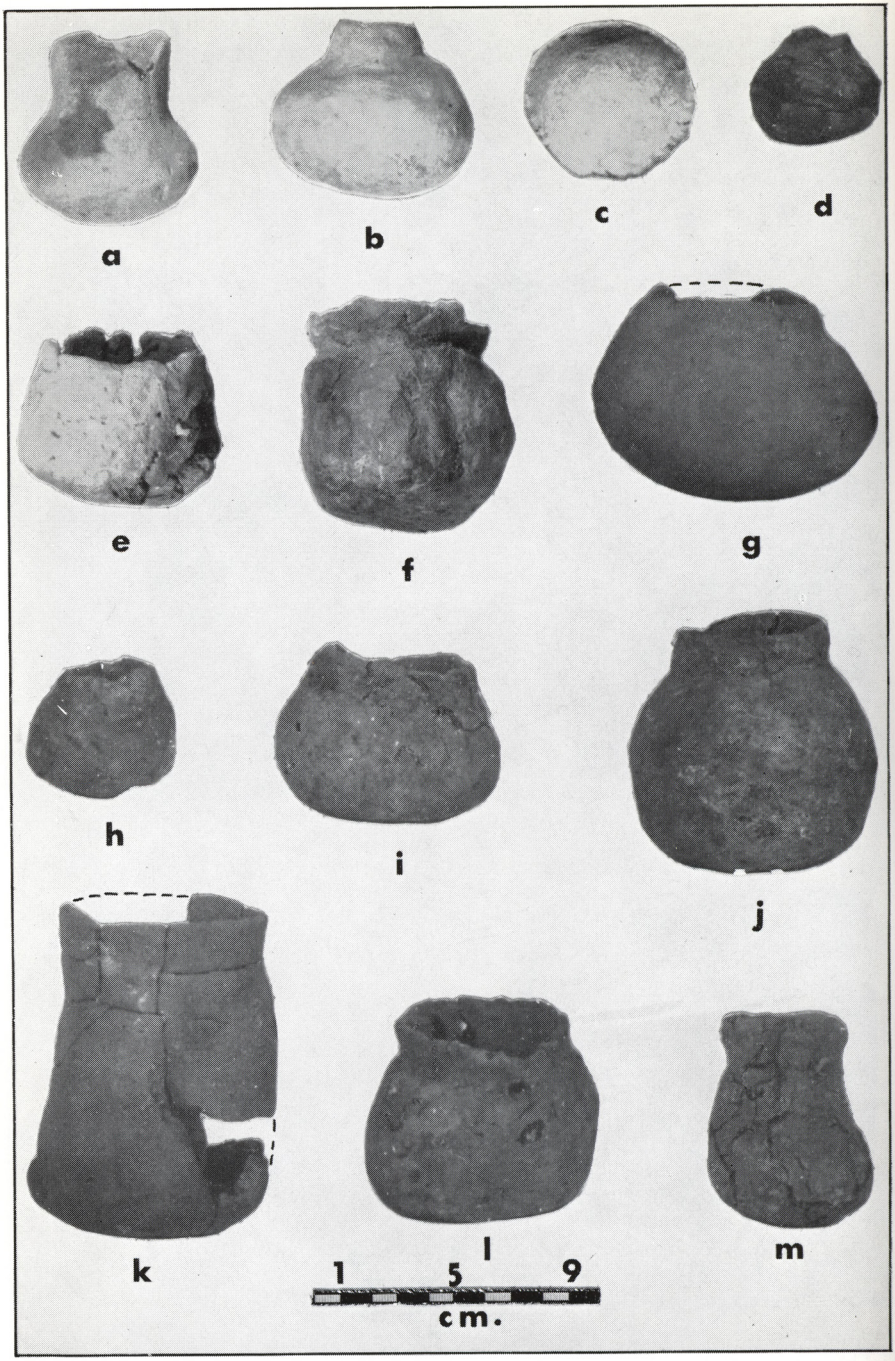


PLATE 18. Mud Ware Vessels. Provenience: *a*, Ign. 7:31; *b–d*, pit house, Ign. 7:36; *e–g*, *i*, *j*, *l*, pit house, Ign. 7:23; *h*, surface room 3, Ign. 7:30; *k*, surface rooms, Ign. 7:23; *m*, pit house, Ign. 7:31.

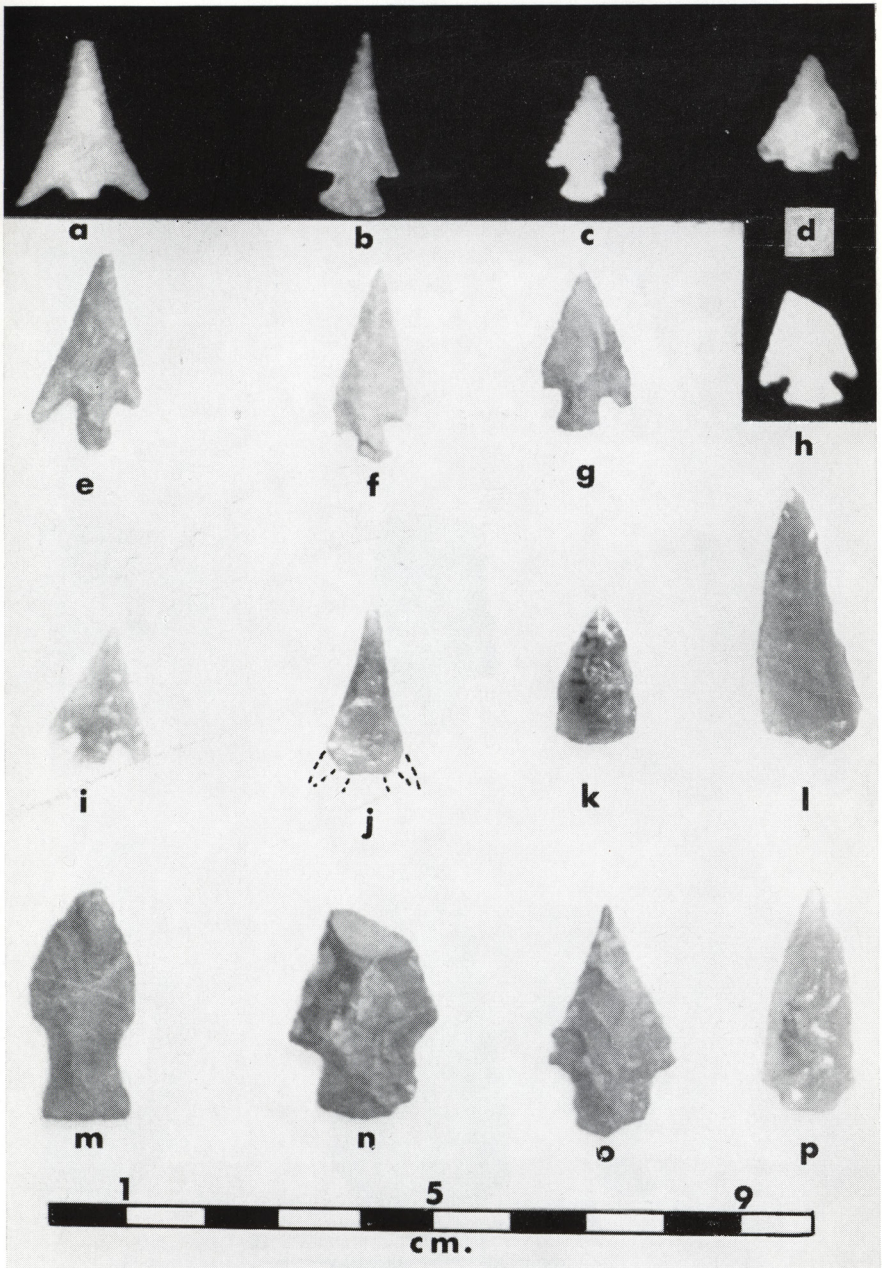


PLATE 19. Arrow Points and Medium-sized Projectile Points. Provenience: *a, e, k, n, o, p,* refuse, Ign. 7:23; *b, f, g, i, j, l,* burial 1, Ign. 7:23; *c,* burial 11, Ign. 7:23; *d,* Ign. 7:30; *h,* site unknown; *m,* Ign. 7:25.

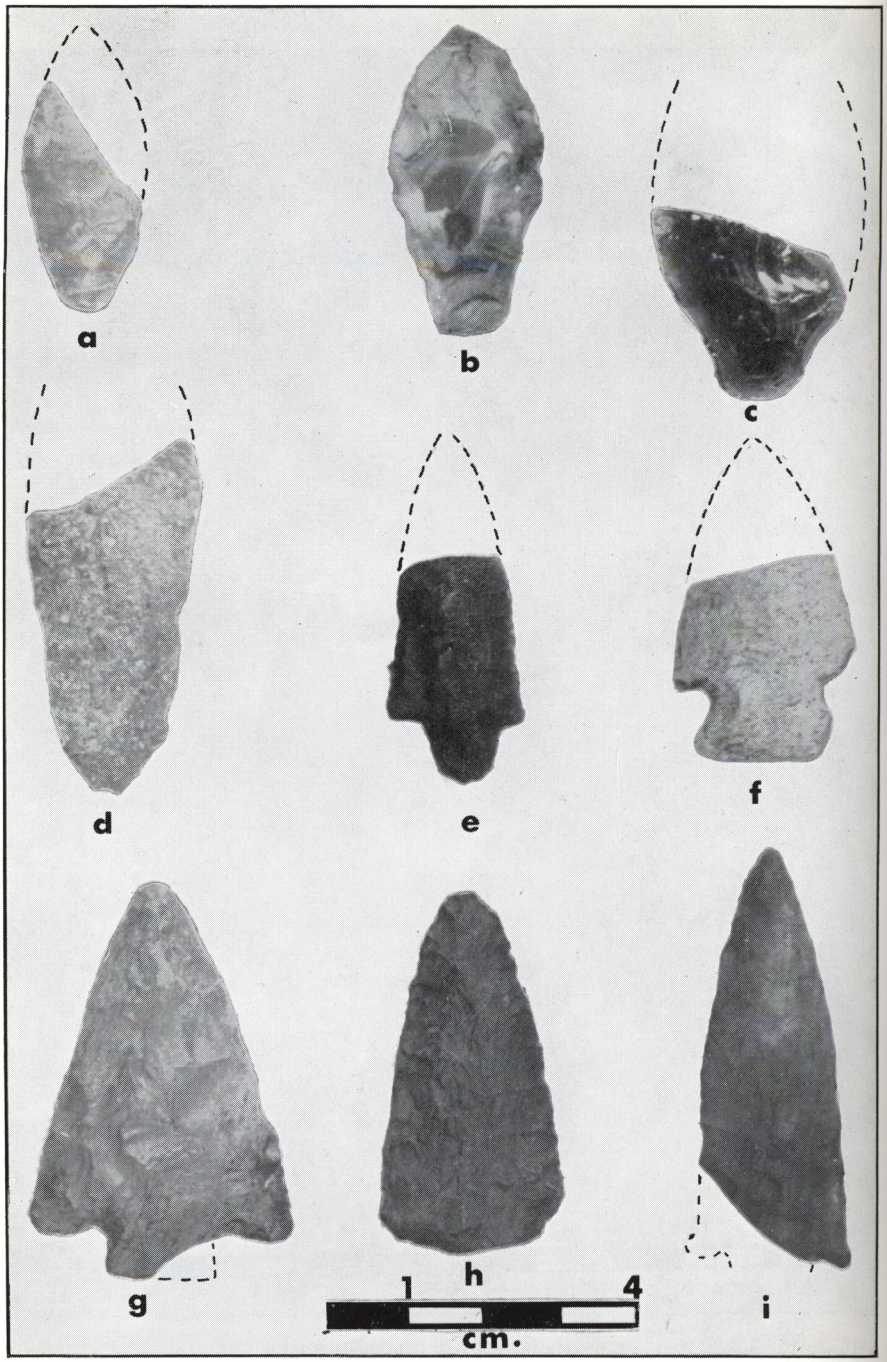


PLATE 20. Large Projectile Points. Provenience: *a, c*, burial 1, Ign. 7:23; *b*, site unknown; *d–f*, pit house, Ign. 7:23; *g*, Ign. 7:25; *h*, trash, Ign. 7:23; *i*, pit house, Ign. 7:36.

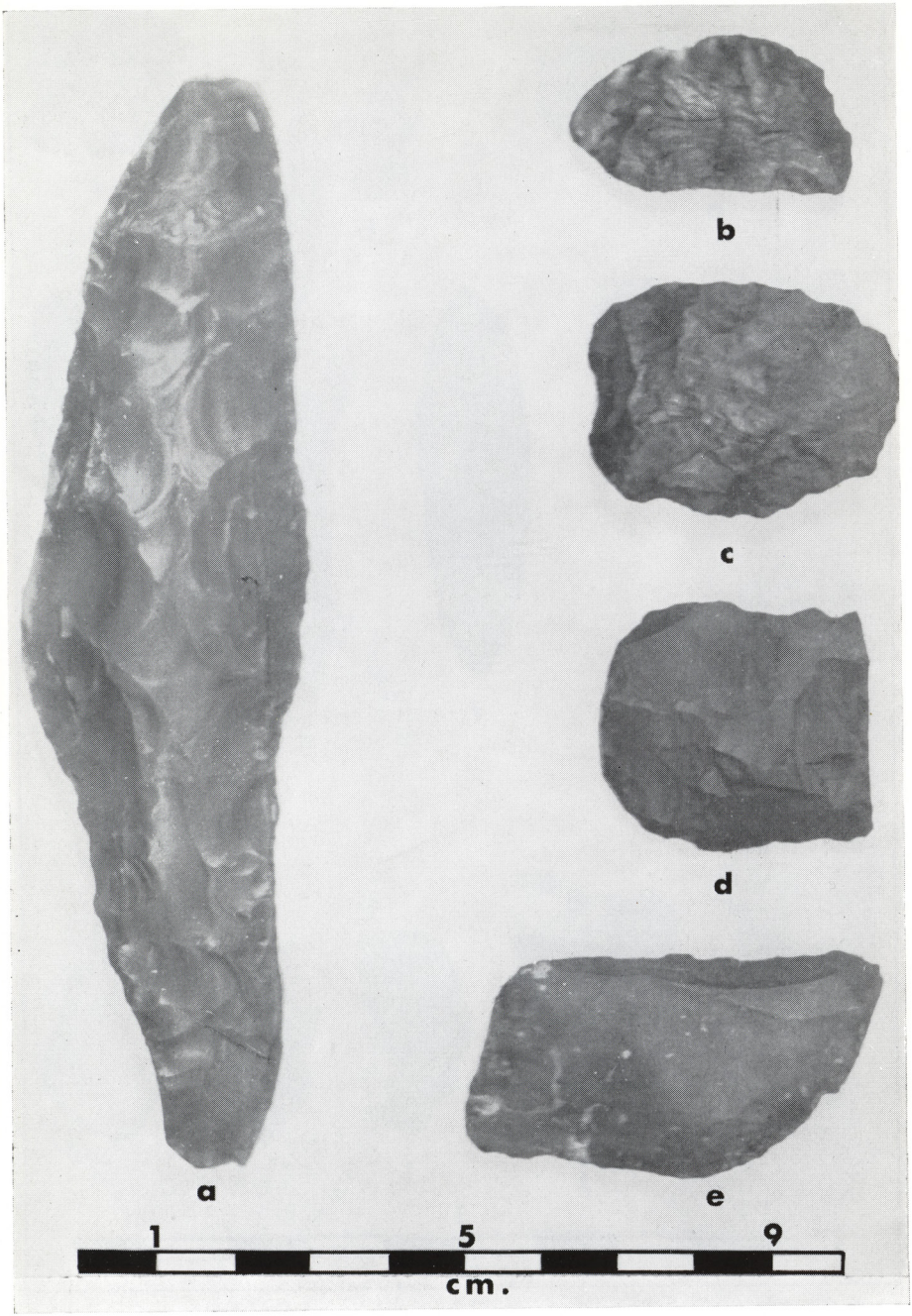


PLATE 21. Chipped Stone Knives. Provenience: *a*, Ign. 7:30; *b*, Ign. 7:36; *c*, *d*, burial 1, Ign. 7:23; *e*, pit house, Ign. 7:31.

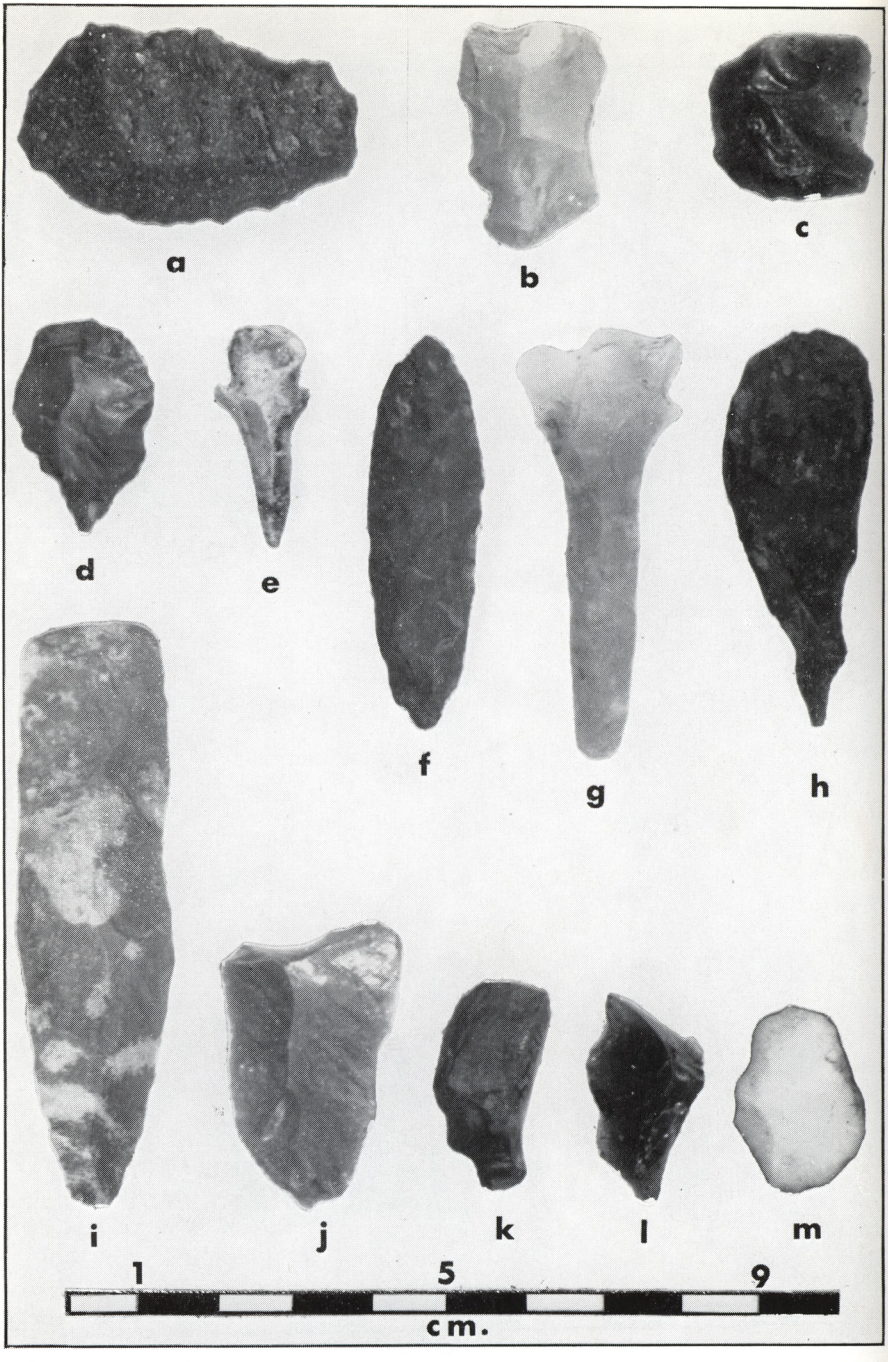


PLATE 22. Small Chipped Stone Implements. *a–c*, scrapers; *d–h*, drills; *i, k, m*, gouges; *j, l*, gravers. Provenience: *a–d, j, l, m*, burial 1, Ign. 7:23; *e*, trash, Ign. 7:23; *f*, pit house, Ign. 7:36; *g*, Ign. 7:30; *h, k*, pit house, Ign. 7:23; *i*, burial 1, Ign. 7:22.

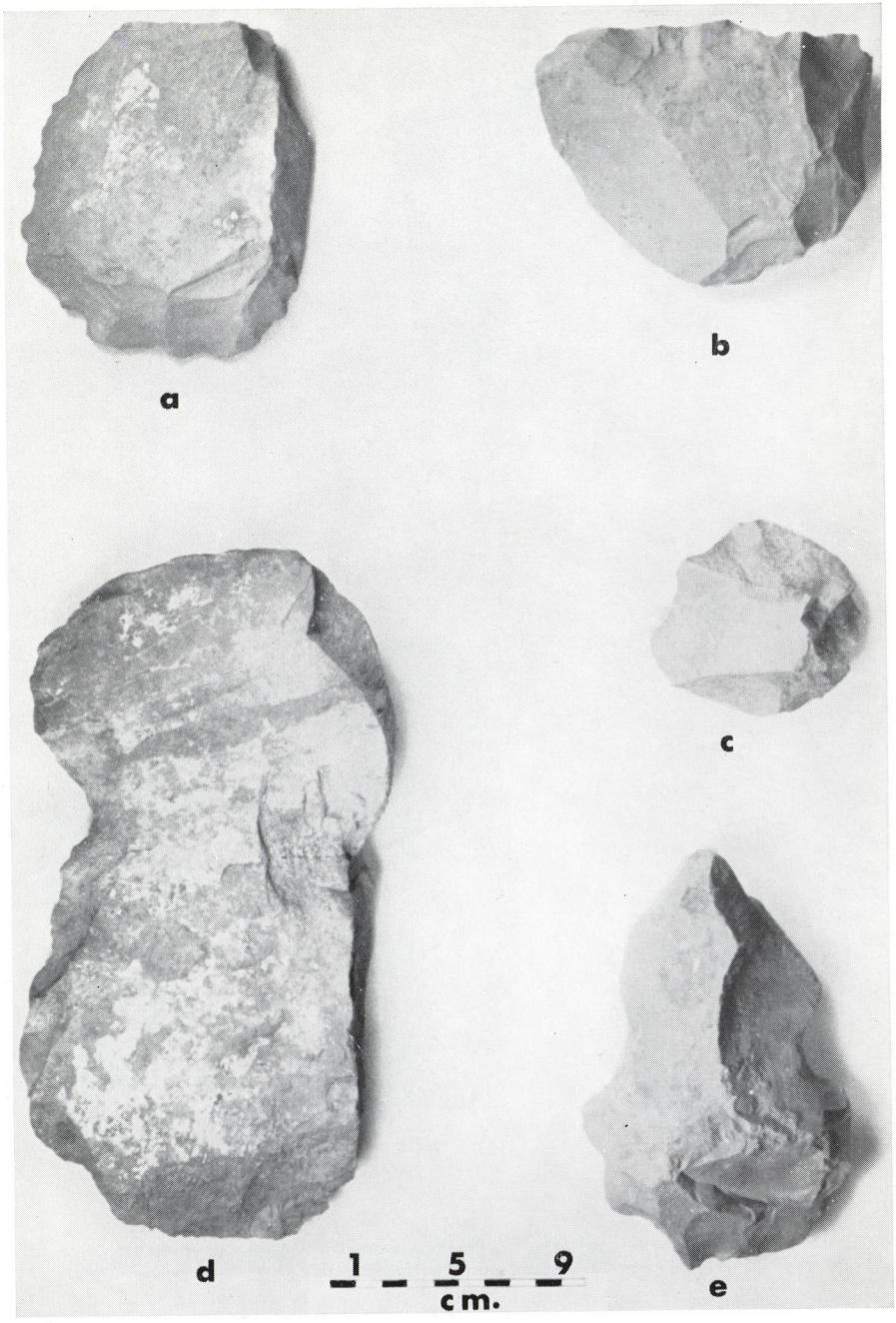


PLATE 23. Large Percussion-Flaked Implements. *a*, scraper-plane, surface room 2, Ign. 7:26; *b*, core chopper, burial 1, Ign. 7:22; *c*, core chopper, surface rooms, Ign. 7:36; *d*, *e*, hoes or axes showing size range; *d*, pit house, Ign. 7:23; *e*, pit house, Ign. 7:31.

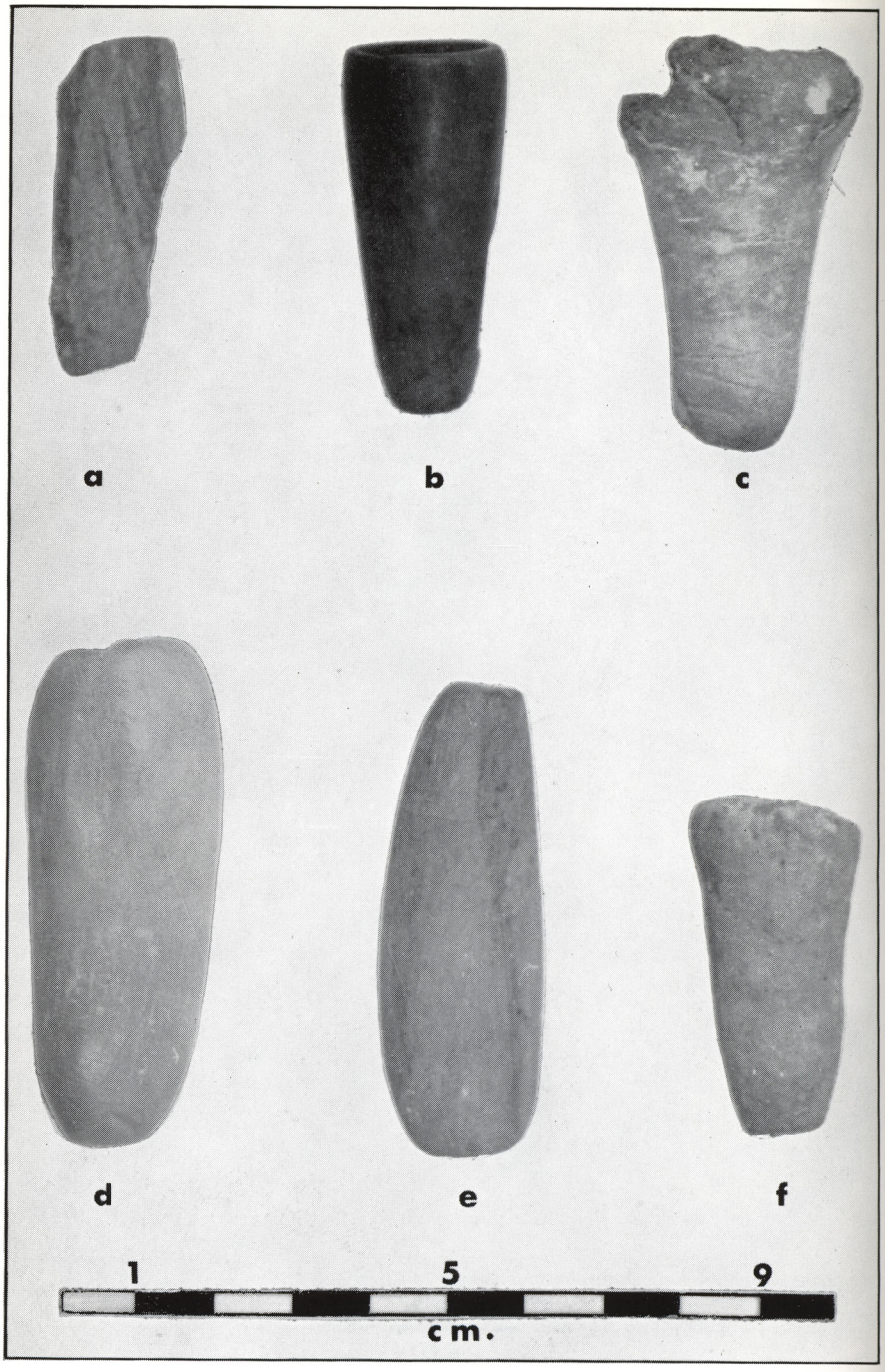


PLATE 24. Pipes and Atlatl Weights. *a*, pipe fragment, steatite, refuse, Ign. 7:23; *b*, pipe, steatite, pit house, Ign. 7:23; *c*, pottery pipe, pit house, Ign. 7:31; *d*, antler atlatl weight (?), surface room 3, Ign. 7:30; *e*, stone atlatl weight, pit house, Ign. 7:23; *f*, pottery pipe, pit house, Ign. 7:31.

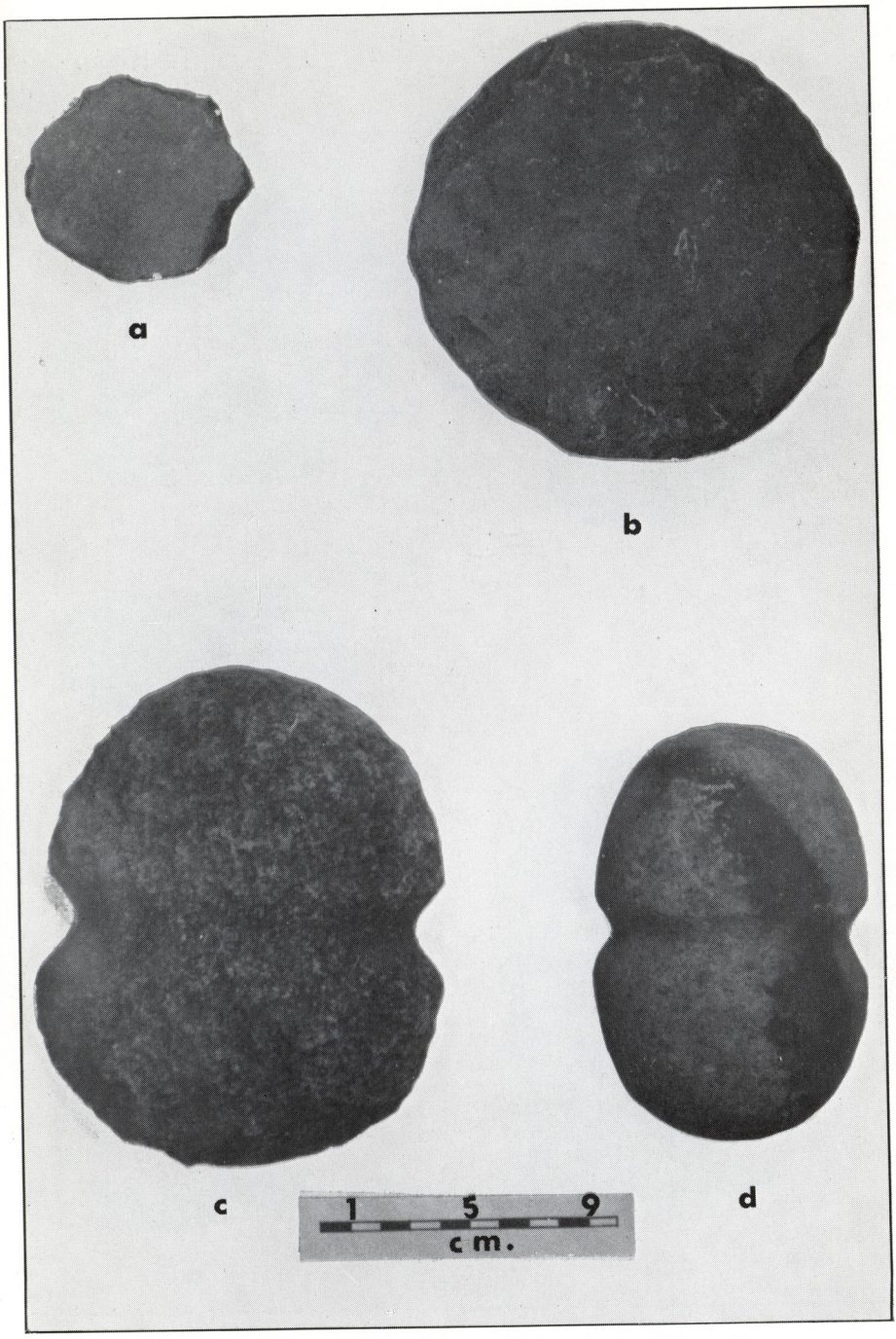


PLATE 25. Sandstone Discs and Grooved Mauls. Provenience: *a*, *b*, surface rooms, Ign. 7:36; *c*, *d*, pit house passage, Ign. 7:23.

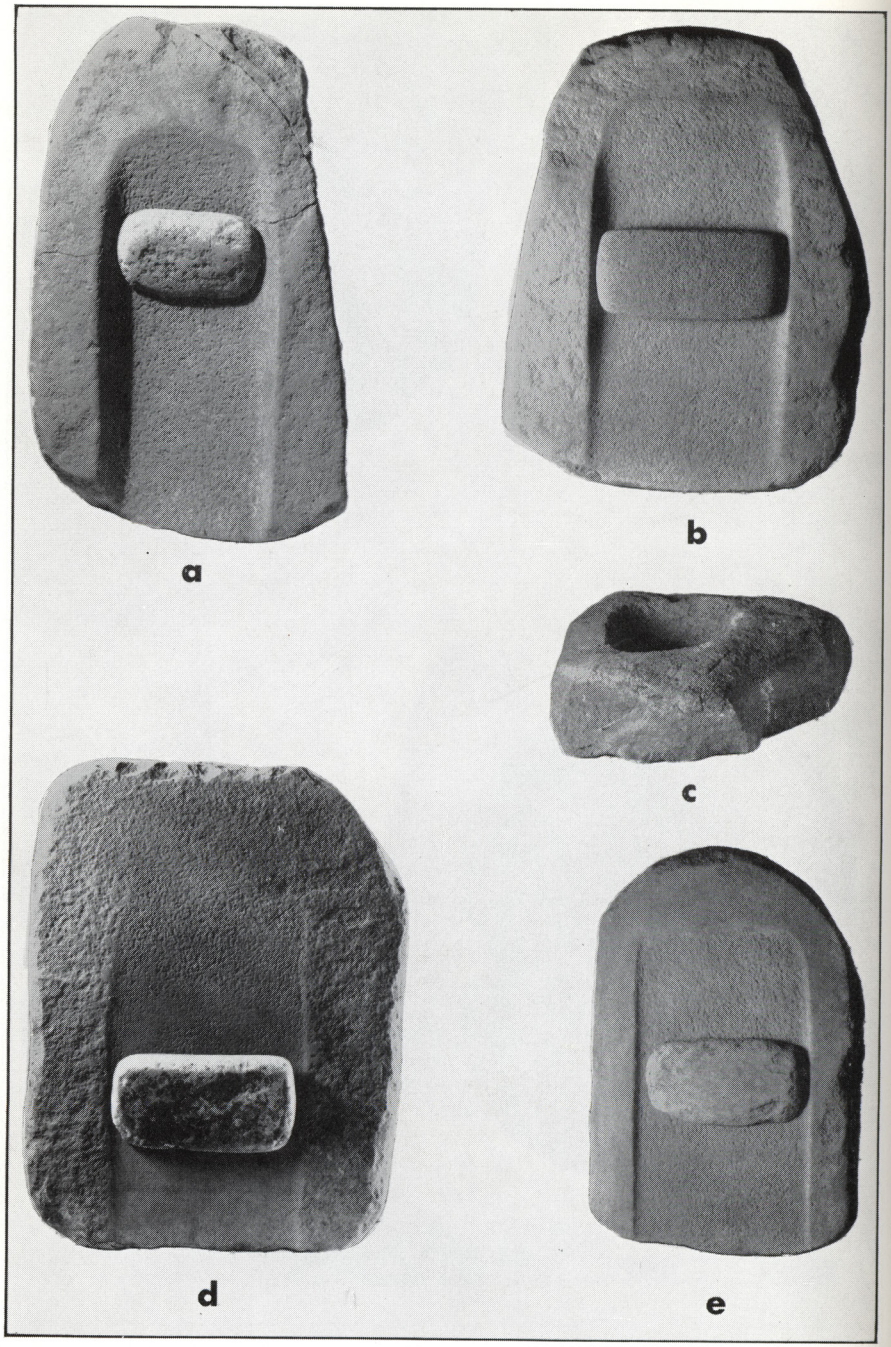


PLATE 26. Manos, Metates, and Mortar, Provenience: *a, d,* pit house, Ign. 7:23; *c,* Ign. 7:21; *b, e,* Ign. 7:30.

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