The Archaeology at Encino, California

Charles E. Rozaire

ANNUAL REPORT,
ARCHAEOLOGICAL SURVEY

DEPARTMENT OF ANTHROPOLOGY-SOCIOLOGY
UNIVERSITY OF CALIFORNIA
LOS ANGELES, 1960

THE ARCHAEOLOGY AT ENCINO, CALIFORNIA

Charles E. Rozaire

SITE LAn-111 AT ENCINO, CALIFORNIA

In the course of doing research on the history of the Los Encinos Rancho, Mr. Clyde Strickler, who in 1952 was Monument Supervisor at the Los Encinos State Historical Monument, made inquiries of the local residents concerning the aboriginal inhabitants of the region. He learned from Mr. Domingo Gless that Indian remains had been picked up in various scattered places in the area immediately around the Monument spring and the end of a low ridge about .7 of a mile north of the spring. Mr. Gless showed him the latter site and also the artifacts he had collected from the Encino area in years past. Mr. Strickler learned later that the territory in the vicinity of the site was soon to be developed into a golf course by the Los Angeles City Recreation Department and so contacted the Southwest Museum about this situation.

The author first visited the site in March, 1952. There were many artifacts scattered over the surface in an area about 1,000 by 300 feet. The materials included manos, metate fragments, hammerstones, and core tools. The presence of the latter, some of which were patinated, and the large number of surface finds indicated that further investigation at the site would be worth-while.

Since the site is on a part of the federally owned Sepulveda Flood Control Basin, the U. S. Army Corps of Engineers which has jurisdiction over the area, and the National Park Service which authorizes that archaeological work may be done, were contacted for permission to excavate. Final permission was granted by the Los Angeles City Department of Recreation and Parks which now has a long term lease from the federal government to develop the area.

A total of about 6 days was spent working at the site intermittently on week ends over a period of several months. Four test pits were dug down to an average depth of 18 inches.

Since 1953 the site has been gradually destroyed by various construction projects - a drainage channel on the south pared away a strip of the site in that section, a housing project eliminated the western third, bulldozing for the golf course club house removed the eastern quarter, and general leveling of the top for fill to the north has now in 1960 almost completely obliterated the remaining central portion.

GEOGRAPHY

The San Fernando Valley in which LAn-111 is located constitutes a part of the South Coastal Basin of California and holds a large section of the widespread corporate territory of the city of Los Angeles. Except for a few upland remnants, all the land surfaces within the Basin have been formed during later Quaternary time. The Valley is essentially a simple synclinal structure about 23 miles long and 12 miles wide. It is bounded on the south by a complexly faulted anticline, the Santa Monica Mountains, and enclosed on the north by a series of high fault blocks, the San Gabriel and Santa Susana Mountains. The valley floor itself is a somewhat triangular alluvial plain which tilts to the south and east from an elevation of 1,500 feet to 500 feet above sea level. At present practically the entire valley is undergoing active alluvial deposition. Most of the filling has been carried on by streams entering from the north; in fact, so much so that the fans in the eastern portion have lengthened until they now reach entirely across the valley.

The Los Angeles River is the principal stream and drains the whole area. It rises in the western end and flows east along most of the southern edge and out through the southeast corner of the valley. Big Tujunga, Little Tujunga and Pacoima creeks, along with the Los Angeles River, make up the principal drainage ways of the area. In addition, there are many small streams, almost one to every mile, which discharge around the edge of the entire valley. Except during short periods of heavy showers when the streams are at flood stage, the waters of both the large and small creeks usually disappear in the sands and gravels of the valley slopes soon after they emerge from their narrow canyons. Consequently, drainage of the valley is largely by subsurface flow. A few springs around the margins of the basin constitute the only year-round, continuous above-ground water supply and the Encino Spring is the principal one in the southern portion of the valley.

THE SITE

Physiographically, the LAn-111 site occupies the eastern end of a mile-long, low ridge situated on the valley floor about one mile north of the base of the Santa Monica Mountains. This elevated feature appears to have been formed by activity along a curving fault line which extends eastward and out 2 miles from the mouth of the canyon at the foot of Reseda Boulevard in Tarzana. The fault is buried and cuts through water-bearing formations. Uplift has caused Upper Modelo (Miocene) shale to be exposed through the valley alluvium at the highest point on the ridge (Hoots 1931: 133).

The soil in the site is a grayish-brown, medium textured loam and grades into a heavier textured more compact, light brownish-cream subsoil. Throughout there are variable quantities of sub-angular gravel derived from dark colored igneous or metamorphic rocks. Induration and gravel content increase with depth. The first day of excavation had been preceded by several days of rain and it was noted that the soil had the texture of a compact, sticky, coarse clay. When operations were resumed in July, a few months later, the deposit had dried out completely and had become a hard, adobe-like soil.

The site lies almost wholly within the soil province designated as Yolo Gravelly Loam (Holmes et al 1917). Due to the small scale of the soil map, however, it is not clear whether it might possibly impinge on 2 other soil types, viz., Yolo Gravelly Sandy Loam and Dublin Clay Loam.

The archaeological site is recognizable only by the presence of artifacts on the surface. There is none of the loose, dark midden which is characteristic of some other sites in the San Fernando Valley and on the coast. The extent of occupation, determined by the surface distribution of artifacts, is approximately 300 by 1,000 feet. Plowing may have spread material over a greater area than the actual habitation limits; however, excavation was carried on where surface indications were abundant. The deposit proved to be shallow, grading into sterile soil at from 12 to 18 inches below ground surface.

Aboriginal occupants of the locality had several potential sources of water. The Los Angeles River, now half a mile to the north and east, meandered close to the site in a wide stream bed. A small wash a few feet from the west end of the site probably did not contribute much water due to its smallness and intermittent nature. The spring at the Los Encinos Monument, about 0.7 miles to the south, provides the most constant and abundant flow of water. In addition, there is a small, slow bubbling, continuous flowing spring adjacent to the southwest side of the site, now covered by the Ventura Freeway. Faulting along the base of the hill which the site occupies probably cut water-bearing strata and produced an effective barrier to force water to the surface along the shear line. No rate of flow test nor chemical analysis has been made of the water at this spring, but local residents observed that it was cool in contrast to the warmer water at the Los Encinos Monument spring.

The land lying to the south of the site is very low and water from the spring maintained a swampy pool some 30 acres in extent. In this marsh as well as in the area around the spring at the Los Encinos Monument grew tules and reeds of various kinds. Willows, watercress, and southern California walnut trees also thrived. Local residents stated that many crayfish and small minnow-like fish lived in the water. At present there are 3 oak trees (Quercus lobata Nee) growing on or in the near vicinity of the site, though there were several more in the immediate area. Clusters of very large mushrooms, viz., Agaricus arvensis and Stropharia semiglovata, were noted several 100 feet east of the site, but only the former would have been edible.

The first plowing of the site was done about 1910 when dry farm crops such as barley and hay were planted. The hill was put under irrigation in 1932 for beans and plowing became deeper with maximum depths reaching to about 12-14 inches. Local residents indicated that the soil on the hill was always its present light color, which contrasts sharply with the very dark swampy soil to the south of the site. They did not remember noticing charcoal, bone or shell fragments. The plow turned up, however, many artifacts. These, along with large natural rocks, were carried to the side of the field and periodically taken to the Rizzo ranch house, which until 1952 was situated near the present corner of Magnolia and Pettit Streets. A few objects were given away, but most of the materials were placed around the house and served as rock borders for gardens. When the large housing project to the south of the site was developed in 1952, the ranch house was torn down. With the exception of 2 metates, the artifacts were left behind and buried under several feet of earth during the leveling operations of the housing developer's bulldozers.

EXCAVATION PROCEDURE

LAn-111 was mapped in one foot contours and laid out in 5 foot squares on a north-south, east-west axis. Artifacts were located within each 5 foot square by measuring the east and then north direction from the edges of the pit. Depths were recorded from the surface and the deepest artifact was found at 17". From the approximately 850 cubic feet of earth that was dug, 99 artifacts were recovered. Of this total only about 10 were found in lowest 6-inch level, viz., 12"-18".

Because of the very hard nature of the soil, excavation was carried on primarily with pick and shovel in 6 inch levels. A few separate levels and areas were troweled in order to determine if there were any features which might go unnoticed by using only the pick. Except for one burial, no features were located in the deposit. About half of the excavated deposit was screened, providing a check on the small material that could have been overlooked when employing the pick and shovel. All bone (only one small sliver) and chips were put into level bags for each 5 foot square.

Chips averaged only 10 to 20 per square down to the base and included chalcedony and light to dark cherts. Four small pieces (about 40 mm. square) of diatomaceous earth were also picked up. There was no charcoal nor other remains of organic material.

ANALYTICAL PROCEDURE

Every broken and whole artifact found at the Encino site was kept and transported to the UCLA archaeological laboratory, washed, numbered, and catalogued. Over 450 specimens, including surface material, have been recorded and the typology presented in this paper is based on the total assemblage. All the artifacts are now stored in the Museum of the Department of Anthropology and Sociology at UCLA under accession number 245.

Since all of the artifacts are made of stone, the first sorting was based on whether they showed evidence of grinding or chipping. Next, all the artifacts were arranged by shape and according to their implied function within the culture. Thus, the stonework was sorted on a form-function basis into manos, metates, scrapers, hammerstones, etc. This procedure was based on past experience, ideas concerning the material derived from ethnological accounts, etc., and acquaintance with what had been collected previously in the Los Angeles area. However, as in any collection, some artifacts appeared to have attributes, in varying degrees, which were present in 2 types and also there were a few examples which seemed to grade from one type to another. These doubtful cases were tentatively grouped under double headings, e.g., "hammerstones or choppers," "uniface or biface manos."

In order to make clearer distinctions between the artifacts and make it easier to place them into typological categories, the empirical attributes, such as form, size, and kind of workmanship, were carefully examined on each artifact within the grouping noted above. As a result, measurements proved to be significant in the classification of metates and scraping tools, while close observation of wear surfaces permitted differentiation of chopping tools from other flaked stone materials and made possible a detailed classification of manos.

THE ARTIFACTS

Problem of Classifying Hammerstones, Choppers and Scraping Tools

These series of objects from the Encino site have a tendency to overlap and shade from one type to another. The gradation of attributes is more apparent when choppers are compared with the other kinds of tools than when the latter are contrasted with each other. However, the distinctions between choppers and scraping tools are more clean-cut than between choppers and hammerstones.

For the Encino artifacts principal considerations in differentiating between choppers and scraping tools are the relative amount of battering along the working edge, the kind of flaking, and the nature of the retouch, i.e., whether uniface or biface. Essentially all artifacts called scraping tools are uniface while most choppers are biface. Hammerstones and choppers as a group are fairly easy to distinguish from the rest of the collection, but making finer discriminations within and between the types is more difficult. For example, some choppers show evidence of also having been used briefly as hammerstones. Some manos also show evidence of having been used for hammering or pounding. Nevertheless, the outstanding feature which characterizes these 2 implement types is a surface which gives evidence of having been pounded. The relative sharpness of the battered edge is a major criterion in separating the hammerstones from the choppers. Such features as the distribution of the battered surfaces and the presence and/or absence of indications of possible modifications before use provide the basis for more detailed classifications.

Hammerstones

Hammerstones have typically battered and very blunt used surfaces. It is inferred from these worn edges that the objects were primarily employed for rough trimming or shaping operations. The materials selected for hammerstones were dense, close-grained rocks, with granite, quartzite, and basalt predominating. Two types of hammerstones are recognized, namely, cobble and core.

Cobble hammerstones: This group is represented by 12 examples (Plate 2, A-C). They are smooth stream cobbles whose natural rounded ends or sides show usage. Pecked areas resulting from use characterize the wear surfaces. Their major function was hammering and secondarily, in some cases, for rubbing. The usual lack of fractured surfaces, the slight to moderate evidence of wear, and the relatively small size (54 to 97 mm.) of the specimens indicate they were used in the performance of only light tasks.

Core hammerstones: These (Plate 2, D-N) have large flakes removed at random from almost the entire nodule. Most of the edges of the flake scars are battered. It is probable that this artifact type was prepared before use, most likely to provide a better working surface; but it is also possible that some were the result of accidental flaking by more violent or more continuous use than the cobble type. A few examples show no original surface and were probably broken off from heavier cores. The numerous evidences of flaking and the tendency toward large size (68 to 118 mm.) are good indications that core hammerstones were put to hard use and employed for heavy duty work.

Choppers

Choppers are implements produced by rough percussion flaking on one or both faces. A few are so battered that the original flaking is obscured by small spallings probably due to use. In some cases it is possible that the sharp edge of an angular rock was used without initial preparation. The margins, though battered, are relatively sharp when compared with hammerstones. It is inferred from these blunt, pointed surfaces that the implement was employed for pounding operations which required a good biting edge. Quartzite and basalt were the favorite materials. Choppers are classified according to whether modification of the working edge is bifacial or unifacial.

Biface choppers: These may be subdivided on the basis of the distribution of wear surfaces and the nature of the unmodified area (Plate 3, A-L). Of the 23 biface choppers, 5 are oval in outline and show use all around the perimeters. The rest have their edges worn from about 1/2 to 3/4 of the way around. Eleven of these are D-shaped flakes with convex cutting edge and a relatively straight side opposite where the flake had been broken away from its core. The remaining 7 are cobbles which have opposite the flaked used portion the rounded original surface of the rock remaining as the hand hold.

Uniface choppers: These have one fairly flat surface away from which large percussion flakes have been struck (Plate 3, M-Q). Flake scars on the underside, when present, were produced by use. Three were used all around the edges and are ovoid in outline. The 8 other uniface choppers are worn about 1/2 to 3/4 of the way around the margins.

Pounders: Included in the chopper category are 3 distinctive tools which for convenience are called pounders here. They are essentially uniface, but the flake scars are located on the large flat bottom portion of the object instead of on the sides away from the flat surface (Plate 4, A-C). They are similar to hammerstones because of their thick, blunt edges, but a chopping action seems to have been the only way they could have maintained their usual uniface characteristic.

Scraping Tools

Scraping tools are characterized by a flat cleavage plane from which percussion flakes have been struck off unifacially along the periphery. All have only a portion of their margins retouched. On the whole, flaking is coarse and irregular; flake scars vary in size on each piece, and when occasionally there is evidence of secondary retouch, it is rough. Cores or very thick flakes of quartzite and basalt are the principal materials used in their manufacture. Scraping tools fall into 3 main types: scraper planes, scrapers, and used flakes.

Scraper planes: These are separated from the rest primarily on the basis of variation in the length-height dimension and secondarily on large size and the angle of flaking. The most distinctive sub-type is the high scraper plane (Plate 4, D-K). The 24 which comprise this group are characterized by a height varying between 1/2 and 2/3 of the length of the artifact and are retouched almost perpendicular to the base. Two have flaking all around the base.

The other sub-type, of which there are 5 examples, consists of low scraper planes so called because their height is less than 1/2 the length (Plate 4, L,M). They are differentiated from scrapers on the basis of their large size. Though flaking is at a lower angle, it is still above 45 degrees.

Scrapers: The next major group comprises the scrapers. They are distinguished from scraper planes on the basis of size and the length-height ratio. Although their heights do not exceed their lengths, many are marked by a high peaked or escarpment-like appearance. As a result flaking tends to be at a steep angle. Outlines are varied and include ovoid, D-shaped and angular examples. Side scrapers include those artifacts which have retouch confined to one side along the length of the specimen (Plate 5, A-E). One of these has a concave worked edge. Examples which have flaking along one or both sides and one end are side and end scrapers (Plate 5, F-H).

Used flakes: There are 5 fragments which show evidence of use around a portion of their margin (Plate 5 K,L). These used flakes are made of chert, quartzite, and chalcedony.

Projectile Points

Two projectile point fragments are bifacially pressure flaked. One is the extreme basal end of an obsidian arrow head (Plate 5J). The point type would be concave base or basal notched.

The second is probably a reject of a small leaf-shaped projectile point or blade (Plate 5I). The poor quality of the material, which is black and white chert, may have prevented its completion.

Manos

Manos are cobbles with at least one convex or flat grinding surface. Each specimen is of a size for use with just one hand. The classification is based on the number and nature of the wear surfaces with further distinctions being made on the basis of the extent of modification of the nonused surfaces. It must be stressed that the distinctions described below are on a continuum with shadings and some overlap from one type to another. This situation is natural when one considers that variations in length of use will be reflected in characteristics of wear.

Uniface manos: These are natural river cobbles which have only one used grinding surface. They grade from unshaped to shaped subtypes and vary from waterworn, irregular, angular forms to symmetrically oval or rounded spheres. Unshaped uniface manos are seen to progress from incipient to shouldered forms. Incipient unshaped uniface manos (Fig. 1) are the simplest examples, exhibiting only slight evidence of wear. As a cobble continues in use a definite line of contrast begins to appear where the flatter grinding surface comes into contact with the more curved features of the upper margins. When this shouldered appearance is evident, a new form has been created, i.e., shouldered unshaped uniface manos. At this point another trait presents itself in the form of greater amounts of pecking both on the worn and unused portions. The occurrence of this technique on the unused portions of the mano is slight and makes for a gradation between unshaped and shaped uniface manos.

Shaped uniface manos are oval to round in outline and show evidence of pecking around the sides and occasionally on the upper surfaces. Modification at the margins is most noticeable and may represent an attempt to achieve a clear-cut shoulder. In addition to the pecking, some ends show varying degrees of battering.

Biface manos: These are shaped around the margins by pecking and occasionally by some grinding (Fig. 2). On a few the latter technique has produced a very flat edge. Many have battered ends. Outlines vary from rectanguloid to oval. The more rectalinear examples have flattened ends and straighter sides. The commonest form is midway between the extremes: the ends are moderately blunted into a broad curved U-shape. Biface manos tend to be longer than the uniface, with a median of 123 mm. for the former and 119 mm. for the latter. As with uniface manos, the preferred material was granite and occasionally sandstone was used.

The 2 wear surfaces on bifacial manos vary from slight to well pronounced on both sides or have one side more developed than the other. Those in the latter category which have one face showing only slight wear are called incipient biface manos. At this stage it is almost impossible to determine whether one is dealing with the shaping operation of a uniface mano or the beginning of a bifacial one. In several instances the grinding area is in a restricted portion or is not in a position parallel to the more well defined area of wear. Nevertheless, evidence of grinding on the upper surface usually implies use no matter how brief or confined it may have been.

A particular characteristic of 9 biface manos is the presence of irregularly shaped pits about 5 to 10 mm. across and 2 to 5 mm. deep (Plate 6 F,G). These are located one to a side, usually on both sides, slightly off center and towards one end. Their roughened, irregular appearance may indicate they were formed as a part of the sharpening process. It is also possible the depressions served as anvils for pounding small food stuffs, but there is not much evidence of wear that would indicate their having been used for such activity.

A special feature of some bifacial manos is a decided difference in thickness between one edge and another producing a decided intersecting slope to the two grinding surfaces. The wedge shaped form that results may be longitudinal or transverse. Though some manos were found to be a few millimeters thicker at one end than at the other, 2 are so extreme that the grinding surfaces slope toward each other along their length. The differences in thickness between the ends of these longitudinal wedge-shaped manos averages 25 mm. and the angle of intersection is about 20 degrees. The transverse wedge-shaped manos have decided differences between thicknesses along the sides and in cross section the 2 grinding faces tend to intersect, forming a sharp edge along one side and a thick portion on the other side. The angle of intersection of the 2 wear surfaces ranges from 25 to 70 degrees. One mano shows slight grinding along the sharp edge, perhaps an attempt to blunt it.

Multiface manos: These are characterized by more than 2 distinct grinding surfaces (Fig. 3). The various areas which show wear represent separate periods of continuous usage. The evidence for noting the different grinding procedures may be (1) unused areas dividing the wear surfaces, or (2) a ridge or sharp break between contiguous grinding surfaces. Multiface manos from LAn-111 are represented by 2 with 3 wear surfaces and one with 4 grinding areas.

Opposite the one flat portion of one triface mano is a strongly rounded and convex area, except for about 1/3 of one side which has a definite flat surface. Apparently a highly convex wear surface was formed after which grinding was confined to just one side forming a third face.

For the second triface mano, in addition to a well-worn bottom side and a highly convex ground area on the upper surface, there is a flat used area on one thick end. When held upright it is reminiscent of a pestle; however, the flatness of the end does not indicate use as such.

The mano with 4 faces has a highly convex wear surface that extends almost to the under surface and on either end there are 2 distinct areas of grinding with definite shouldering separating them from this third, central area of wear. The whole underside forms the fourth grinding surface.

Metates

All metates show use on one side only and most, if not all, were shaped to some degree on the sides and under portions. Some examples show considerable care in their manufacture. In fact, the well executed work on a few fragments makes it rather difficult to decide conclusively whether or not the fragments in question could be part of a bowl or mortar. Shaping was by pecking or grinding; evidence of the latter is more prevalent.

The basis for typing rests on the amount of depression of the used grinding surface. Secondarily considered are the degree and end result of shaping. Though it is true that the depth of the wear area will be influenced by the amount of use to which the metate has been put, to a certain extent this function is one of kind in addition to one of degree. This feature is illustrated in the nature of some of the slight basin metates wherein sharpening (i.e., pecking) and grinding are carried out to the margins in a seeming effort to maintain an over-all flatness on top. Had a shallow or deep basin been desirable, the center could have been pecked down to the desired depth. Evidence of wear on several with shallow basins extends to the very edges leavi no room for a shelf or ledge to form.

In outline metates vary from ovoid to rectanguloid, but the grinding area is always oval rather than straight-sided. The outer sides tend to be smoothly curved and the bottoms are usually flat. Several varieties of plutonic rock were favored, especially granite; a few are made of schist; one is of sandstone and another, of siltstone. The latter has a slight depression, but the slab could not have functioned adequately for grinding food due to the metate's extreme softness. The thickness of the rock used in making metates is most commonly about 100 mm. or less. Those made of schist are the thinnest. There are 9 whole metates and 78 broken pieces. Most of the fragments are rims and none of them fitted together.

There are 3 major types: Slight Basin, Shallow Basin and Deep Basin. The division between the 3 was arrived at by first determining the depth of basin (metate height minus its thickness: height was determined by resting the metate on a flat table and measuring from the table's surface to highest point of the rim) and then plotting these measurements. It was found that the figures separated into 3 distinct clusters.

Slight basin metates: These are blocks or slabs of rock with only a slight curvature on the grinding surface (Fig. 4 D,E). The maximum depth of the concavity varies from 3 to 11 mm. A few are symmetrical, unshaped, flat boulders, but more often they are shaped into oval or roughly rectangular blocks or slabs.

Shallow basin metates: The shallow basin form (Fig. 4 A,B) is the most common. All except 3 are fragmentary. The grinding depressions range from 18 to 68 mm. deep. The shape of the basin usually conforms in outline to the general shape of the metate, but the fragmentary evidence makes this statement uncertain. The concavities give the impression that the end walls more often are thicker, while the sides are thinner and steeper. In addition to the pieces with the usual curved sides, a few fragments have straight, vertical sides. Lengths range from 250 to 310 mm.

Deep basin metates: The deep basin type (Fig. 4 C) is represented by 3 examples. The depression is usually steep sided and away from the edge forming a thick rim. The depths of the 3 concavities are 81, 90 and 100 mm. Only a few of the slight basin and shallow basin types are potentially thick enough to have been formed into deep basins.

Miscellaneous Ground Stone Artifacts

Two charmstones (Plate 5 M,N) were found in the site. The longest is made of chlorite schist and the other is of meteoric iron, having attraction to a magnet. Both are smoothly shaped over the entire surface.

Three disc stones (Plate A-C) were recovered from LAn-111. The great care for symmetry in the manufacture of these objects sets them apart from manos.

The largest, of granite, is smoothly ground over the entire surface with an almost flat top and bottom and slightly curved margins. There is a small circular depression about .5 mm. deep and 17 mm. in diameter at the center of one side. Evidence of pecking is found thinly scattered over the surfaces, but this pitting is more concentrated around the edges.

The second disc is made of vesicular basalt. The margins are flatter with a tendency to slope in toward one face producing about a 5 mm. difference in the diameter of each. The margins form a sharper angle where they intersect the flat faces.

The smallest disc is made of sandstone and is roughly pecked all over. The sides and upper surfaces are flattish and form a distinct, slightly tapered ridge where they intersect.

A rubbed, thin, irregular, small piece of basalt, has been well ground on one side. The wear surface covers the entire upper area except for a small nubbin in one corner. It is not certain whether the smoothed surface was caused by something being rubbed over it or whether the artifact was rubbed against some other flat object.

Only one artifact (Plate 6a) could conceivably have been used as a pestle. It is a broken, cylindrical-shaped piece of schist with a rounded unused end. It is surmised that there was a modified pounding surface beyond the break.

A large granite cobble, pecked into a globular form (Plate 1) has a roughly circular depression (80 by 70 mm. and about 20 mm. deep) on one side. It may have been used as a small mortar or as an anvil stone, or it may represent the beginning of a small bowl.

Two significant artifacts in private collections are reputed to have come from LAn-111. One of these is a cog stone (Plate 7b) in the Gless collection. It is a flat disc of volcanic scoria 134 mm. in diameter and 44 mm. thick. There are 15 depressions around the perimeter which form a scalloped effect around the edges and produce 15 projections or "cogs." The center has a biconically drilled hole beginning with a maximum diameter of about 32 mm. to only 5 mm. where the rock is worn through.

The second artifact was found by William Johnson and consists of a small sandstone, "flower pot"-shaped bowl (Plate 7 A). It has a

DIMENSIONS OF ARTIFACT TYPES FROM LAn-111 (in millimeters)

TABLE 1.

Artifact Type	Length Min.	Length Max.	Width Min.	Width Max.	Thickness Min.	Thickness Max.	Number of Specimens
Hammerstones							
Cobble	54	97	45	81	26	64	13
Core	64	118	49	88	37	75	49
Choppers							
Biface	60	86	52	70	35	47	23
Uniface	66	114	55	80	27	53	12
Pounders	82	95	65	80	42	46	3
Scraping Tools							
Scraping Planes							
High	41	129	35	93	30	93	24
Low	71	124	62	104	29	60	7
Scrapers							
Side	42	92	16	58	24	29	13
Side & End	51	92	43	81	25	47	10
Used Flakes	59	86	46	57	5	22	5
Projectile Points			Fragmentary				2
Manos							
Uniface							
Unshaped	72	147	70	112	42	62	20
Shaped	88	151	78	105	60	86	49
Biface	91	155	78	104	53	67	129
Wedge-shape							
Transverse	118	134	92	87	68	49	10
Longitudinal	102	122	92	86	54	55	2
Multiface							
Triface	94	114	65	86	53	63	3
4-face	120		88		47		1
Metates							
Slight Basin	3 - 11*						12
Shallow Basin	18 - 68*						38
Deep Basin	81 -100*						3
Nonclassifiable							35
Miscellaneous							
Charmstones	90	112	40	29	33	29	2
Disc stones	65	133	61	130	45	51	3
Rubbed stone	70		63		5		1
Pestle	194 (broken)		59		50		1
Globular object	185		160		130		1

* Depths of basin

flat bottom and is flat rimmed, a portion of which has been broken away. It measures 170 mm. across the top and 108 mm. in diameter at the bottom, and stands about 110 mm. high.

THE BURIAL

Skeletal remains were found scattered over an area about 15" by 24" in the center of Test Pit 3 at a depth of 14" (Map 2). They rested on sterile submound soil and no indication of a grave pit could be discerned. The bones are partially mineralized. The ends of all bones are broken off with the exception of the humerus which retained its distal articulation. All identifiable pieces were from the left side of the body except for a right femur. The rest of the burial included a femur, tibia, ulna, radius, and fibula. The few remains, their fragmentary nature, their disarticulated positions, and the small area they occupied are strong indications that the bones make up a reburial. A small granule of red hematite near the intact end of the left humerus was the only material in direct association with the bones. The charmstone of meteoric iron was found in the same test pit but it is doubtful that it was associated with the burial.

OTHER ARCHAEOLOGICAL EVIDENCES IN THE ENCINO AREA

Aboriginal habitation in the Encino area probably was continuous and heavy because of the ready availability of water and the large concentration of oaks. However, the potential evidence of this occupation is now largely obliterated by housing and commercial developments. A cursory survey was made to learn of the archaeological resources of this section of the San Fernando Valley, resulting in the discovery of 2 other sites and the recording of one collection.

LAn-186

One of the sites, LAn-186, lies about 1/2 mile east of LAn-111 on a low hill (Map 1) whose conformation is now completely changed as a result of bulldozing operations which built up the area even higher for Putting Green No. 1. Seventeen artifacts were picked up from the surface and a test pit was put down, but it did not yield any further materials nor any evidence of midden debris.

The artifacts include 2 slight basin metate fragments, one of schist and the other of gabbro; 7 manos of which 5 are biface and 2 are uniface and all are of granite except one of sandstone; 7 core hammerstones, 2 of which are basalt and have patination, and the rest are of quartzite; and one uniface quartzite chopper.

LAn-228

This site is on the east side of a small draw occupying a slight slope that forms the foothills just south of Ventura Boulevard across from the Los Encinos State Historical Monument. Materials collected by Mr. Richard Frey of Reseda, Dr. William Wallace of the University of Southern California and the author include a mano fragment, core hammerstones, chopper, scraper planes, a fragment of a flat rimmed stone bowl, and a small piece of Grimes Canyon fused shale.

Gless Collection

In addition to the artifacts already mentioned, there is a collection of materials gathered in the Encino area by Mr. Domingo Gless when he was a boy during the early 1900's. These items, donated to the Los Encinos State Historical Monument by Mr. Gless, expand our information on the archaeological resources of the region.

Of the 13 metates, 4 are slight basined, 7 are shallow basined, and 2 are deep basined. Except for one of sandstone, all are made of granite. Their outlines vary with most being subrectangular and the others triangular or oval in shape.

Seven manos are biface and 3 are uniface. Granite was used to make all but one which is of sandstone. Lengths range from 107 to 151 mm.

There are 3 rounded roughly made sandstone bowls and one neatly shaped globular basket hopper mortar with some of the asphaltum still adhering to the encircling shallow groove.

Pestles comprise the second most numerous type of artifact in the collection with 11. Only one shows use at both ends. Most are made of granite, but a few are of sandstone.

The final 2 items are a sandstone ball 108 mm. in diameter and a granite stone disc 149 mm. in diameter and 70 mm. thick. The latter has a shallow depression a few millimeters deep and about 52 mm. in diameter pecked in the center of one side.

SUMMARY AND CONCLUSIONS

The archaeological remains from the Encino area point to the importance of this section of the San Fernando Valley for aboriginal habitation and indicate that gathering was the basic economy of the population. The preponderance of grinding implements supports the latter inference, and no doubt the heavy concentration of oaks in the vicinity was the strongest attraction for them to come. However, the harvesting of acorns can only take place once a year and the people would probably have moved elsewhere sometime after the harvest. Thus there must have been seasonal migrations to the area by particular groups, but the determination of the specific patterns of these movements will have to await investigations in other parts with different ecological situations. The possibility of a "semi-sedentary 'nomad'" situation (Owen 1959) is an additional factor that should be considered. Hunting was surely known, but evidence for this, at least in Encino, for the present, is minimal, with only one or 2 projectile points recorded and no evidence of faunal remains in the sites. Perhaps the nearby mountains were best for this activity, though conceivably rabbit drives could have taken place on the level floor of the valley.

The span of occupation is considered to have been a very long one, primarily on the basis of tool types and certain physiographic conditions relating to the nature and occurrence of the artifacts. Regarding the latter, location on an elevated land feature and an indurated deposit are characteristics which the LAn-111 site shares with very early manifestations along the southern California coast and interior valleys, viz., the Oak Grove culture complex of the Santa Barbara area (D.B. Rogers 1929: 342-355), the La Jolla (Moriarty, Shumway and Warren 1959) and Pauma (True 1958) complexes in San Diego county, and the seemingly equally early sites of LAn-1 (Treganza and Malamud 1950; Treganza and Bierman 1958), Zuma Creek Site A (Peck 1955), Little Sycamore Shellmound (Wallace 1954; Wallace and others 1956), and the lower levels at Malaga Cove (Walker 1951).

It must have taken considerable time for the original loose, black, ashy deposit, characteristic of recently occupied middens, to take on its present character of a soil that is hard, compact, and devoid of organic material. The relative shallowness of occupational evidence, with just about a foot and a half marking the occurrence of the deepest artifact, and the tremendous numbers of artifacts (over 80%) from the surface would seem to indicate there has been a long history of erosion at the site. Additional indications of age are found in the presence of heavy patination on some of the core tools and the semi-mineralization of the human bones.

Turning to the cultural aspects of the site, the artifacts, when examined individually and quantitatively and as a complex, are similar to those found at sites already designated as being early.

The most numerous artifacts at Encino are the mano and metate. These 2 grinding implements constitute a dominant artifact type in sites representative of an early Milling Stone Horizon (Wallace 1955). The nearest sites of this period occur at the Porter Ranch in San Fernando (Walker 1951), LAn-1 (Treganza and Bierman 1958), Zuma Creek Site A (Peck 1955), level 2 at Malaga Cove (Walker 1951), and Little Sycamore Shellmound (Wallace and others 1956). The former probably represents a special ceremonial site rather than a village location due to the special concentrations of broken and whole metates in the deposit.

Nevertheless, the nearly 200 milling stones fall easily within the total range of basin depths noted at Encino and are similarly fashioned mostly from granite, some schist, and a few sandstone. The few (7) manos are easily duplicated at LAn-111.

To some extent the same situation of metate clusters occurs at Little Sycamore, but in addition there was abundant habitation refuse. The metates at this coastal site also range from slight to deep in basin depression, but differ from LAn-111 and Porter Ranch sites in being fashioned exclusively from sandstone. With one or 2 exceptions, this material was also used for making manos, contrasting with the prevalence of granite at the 2 San Fernando Valley sites. Little Sycamore Shellmound manos differ in addition by the predominance of an elongate oval form and the approximate ratio of 2 uniface to one biface, which is the reverse at LAn-111. However, it is not felt that these dissimilarities are of sufficient significance to disassociate chronologically this coastal site with those of the interior. The variations may be indicative of a regional variation, if not one of sample.

Zuma Creek Site A shows the same material preference for grinding tools as Little Sycamore, but mano shapes and the uniface-biface ratio at Zuma coincide more with LAn-111. While sizes and shapes are similar, the number of metates is much smaller than at sites of comparable age.

An emphasis in the metate and mano is also a characteristic of LAn-1 site in Topanga Canyon, but again with some local variation in materials and techniques. Sandstone was the chief material used at LAn-1 for the manufacture of these artifacts, reflecting its abundance in the local conglomerates of the canyon. Manos greatly outnumber metates and biface manos are in much greater numbers than those with just one worn surface. The predominance of the deep basin metate at LAn-1 and the greater importance of the shallow basin type at Encino perhaps represents some disparity. However, the difference may be one of definition in drawing the line between a deep or shallow basin; without measurements given for basin depths of LAn-1 metates, this could not be checked.

More distant relationships of this early food grinding complex are seen in the Oak Grove materials of the Santa Barbara region (D. B. Rogers 1929) and the La Jolla culture of the San Diego area (M. Rogers 1929, 1945). To date these manifestations have only been presented in general terms and it will require definitive reports of sites representing these cultural manifestations before one can establish any close connections with and between these 2 large sections of the California coast. A start has been made in San Diego county with test excavations and a preliminary report on sites at Scripps Estates and Del Mar (Moriarty, Shumway and Warren 1959; Warren and Thompson 1959), indicating that manos and metates are an important part of the artifact assemblage there.

The second most numerous materials from LAn-111 are the core and flake stone implements. These same artifacts are found in varying frequency in the Los Angeles-Ventura county sites already mentioned, and provide additional similarities linking the locales together culturally and chronologically. For the sites at Scripps Estates and Del Mar, core and flake tools are of similar type and form an equally significant large part of the total inventory. Flaked implements afford a greater variation of type than the mano-metate association already discussed, and there may be some advantage in establishing relationships with such tool types which have a deliberate shape that is little altered or potentially unrecognizably changed through continued use. Core tools and particularly scraper planes appear to be the more diagnostic in that they appear not to have maintained their importance into late times, being largely replaced by flake implements such as small scrapers. Projectile points are also usually diagnostic of age, but their small representation in the Encino area, plus their fragmented condition, preclude a discussion here.

Drawing on the nearest cultural complex to be defined for the region, resemblances are strongest with the Topanga culture (Treganza and Malamud 1950; Treganza and Bierman 1958). Aside from the grinding implements already discussed, the most striking parallel is found in the core tools, particularly scraper planes (Treganza and Malamud 1950: Plates 17e, 18c,d, 19b,c,e). Of the 11 categories of scrapers and choppers at Topanga, only 5 (i.e., ovate or discoidal scrapers, thumbnail scraper, end scrapers, snub-nosed scrapers, and cobble scrapers) were not found at Encino. A large number of hammerstones was found at both sites and include the major types, viz., core and cobble. Rounding out the similarities in flaked stone materials are concave base and leaf shape projectile points.

Items of unusual shape and without apparent "utilitarian" function, though usually few in number and rare, still imply strongly important connections because of their somewhat unique appearance, not easily duplicated without a model to copy from. Included in this category are disc stones, charmstones and cogstones.

The 3 stone discs from LAn-111 have a similar range in size and proportion as those from LAn-1. Although there are no examples of Tank Site's Type II (i.e., one or 2 concave faces), the largest at both sites has a small pit in the center of one convex side. Disc stones also form a part of the artifact inventories of Little Sycamore, Zuma Creek Site A, level 2 at Malaga Cove, and San Fernando.

The one charmstone recovered from Tank Site is of similar shape as the longest from LAn-111. A charmstone of similar shape plus a more globular form occurs at Little Sycamore.

Though cogstones were not found during the excavation work carried on in Encino, the cogstone picked up by Mr. Gless (described previously) possibly came from LAn-111. If so, there is one more link relating Encino to the Topanga Culture and to Little Sycamore and Zuma Creek Site A which also include them.

Another special item is the globular pecked rock with a shallow depression described previously which has apparent counterparts at Little Sycamore (Wallace and others 1956: 15, pl. 6), Tank Site (Treganza and Bierman 1958: 65), and possibly San Fernando (Walker 1951: 23).

Evidence of reburial marks the only non-artifact trait that is similar to Tank Site, San Fernando, level 2 at Malaga Cove, Zuma Creek Site A and Little Sycamore. No other burials or features such as cairns and hearths were located at LAn-111. This may have resulted from the sampling since only a relatively small part of the site was excavated. Farming activities may also have been a factor by disturbing such remains beyond recognition.

Added to all the evidence given above, there are several factors of a negative character which point to a relatively early age for LAn-111. There are no archaeological indications that this site is historic. The first explorers who came through the area stopped in the vicinity of Encino and recorded that they traded beads and ribbons to the Indians (Bolton 1926: v. 2: 137). The Encino area was on the major routes for early travelers and probably before the aborigines moved to the San Fernando Mission, they acquired more trade goods. However, no objects of European manufacture (except a metal pointed stick of modern date) were found at the site. Well polished and ground stone artifacts, steatite objects, bowls, many mortars and pestles, arrowheads, shell beads and bone work - all of which dominantly characterized the late prehistoric periods - were absent or represented by only one or 2 examples at LAn-111. Associated with both inhumation and cremation burials in late sites is a ceremonial complex represented by concentrations of great quantities of broken artifacts. These ceremonial features are lacking in the Encino sites found to date.

In a more positive frame of reference, the dating of LAn-111 for its maximum period of occupation can be seen in terms of absolute time within the interval of about 7,000 to 5,000 years ago in the light of recent radiocarbon dates from coastal southern California sites. A carbon-14 date from Zuma Creek Site A (Ascher 1959) of almost 5,000 years provides a minimal age for the materials at that site which have already been compared above. The Little Harbor site on Catalina Island has little in common with the mano-metate complex discussed previously in this paper and in fact seems to represent the late end of a following Intermediate culture phase; yet the site has bearing on the present problem in that it appears to Meighan (1959: 386) that the radiocarbon date of about 4,000 years ago from this midden forces back the dating of the preceding assemblage of materials to an age greater than 7,000 years. The Scripps Estates and Del Mar sites in the San Diego area contain many points of similarity with the Los Angeles finds described above, and have been considered representing the La Jolla complex, assigned a time range of between 7,000 and 5,000 years ago on the basis of radiocarbon dates (Moriarty, Shumway and Warren 1959: 212).

In conclusion, it is apparent that there are several striking parallels between the Tank Site and LAn-111 site at Encino. Where specific differences do occur, they are with items unique and/or few in number at either site. Thus the Encino site seems to extend the occurrence of the Topanga Culture out into the San Fernando Valley, a situation already suggested by the finds at LAn-6 (Treganza and Bierman 1958: 49), and expands knowledge of the ecological adaptations of the peoples who produced these materials. Lack of projectile points and an emphasis on grinding tools point to a greater importance of gathering in the economy of a valley camping spot. The location of the site in a low, flat plain contrasts with the hilly and mountainous region in the Topanga Canyon area. The plains would yield plentiful supplies of seeds from wild grasses. As today, this section of the valley was probably abundant in acorns of a different variety (i.e., the Valley Oak instead of the Coast Live Oak) and in walnuts (Juglans californica Wats). The marshy area near the site would provide a good supply of those water-loving plants which could be eaten (e.g., water cress, tule root) or those which could be used in the manufacture of basketry (willow, reeds, tules). Marshland animals and fowl would also be available, if not taken with stone arrowheads, perhaps by wooden points, or snares, nets or other traps. Inferences as to a meat diet and its acquisition are speculative since no animal bones of significance nor any perishable items that would indicate traps were found. In addition to being another source of water, the stream bed would have afforded a limitless supply of material for a lithic industry - all without the need of quarrying. Thus with a steady source of water, plentiful raw materials, an extensive and varied food supply, and incidentally a good climate, it seems likely that the Encino area was a preferred camping spot, visited and lived upon again and again.

ACKNOWLEDGEMENT

Thanks are due the following in the government agencies who assisted in making possible the work that was carried on at the site: Mr. L. W. Helgesen, Superintendent of Administration of the Los Angeles City Department of Recreation and Parks, Mr. Herbert Maier, Assistant Regional Director of the National Park Service, Region Four, and Mr. Harold E. Spickard, Chief of the Real Estate Division of the U. S. Army Corps of Engineers.

Appreciation and thanks are expressed to the following persons who so willingly donated their time and efforts in the ways indicated:

Mr. Clyde Strickler, for his constant interest, cooperation and help in providing data on the history of Encino; for making contacts with the local residents and inquiring about artifact collections or other information that might have bearing on the archaeology of the region.

Mr. Domingo Gless, Mr. Guiseppe Rizzo and Mr. and Mrs. Geno Leonotti, for additional facts and information relating to the history of the area and changing conditions in the vicinity of the site.

Dr. and Mrs. William Wallace, of the University of Southern California, for their help in making the contour map and for doing some of the excavation.

Members of the Archaeological Survey Association of Southern California and the Earth Science Club of Los Angeles City College for their aid in excavation.

The following students from the University of California at Los Angeles and the University of Southern California: Russell Belous, Agnes Bierman Babcock, Robert Hammond, Edmund Kiessling, Peter Kunkel, Gray and Lee Lange and Charles Wing, all of whom were also of great help in obtaining the information which has made this report possible.

BIBLIOGRAPHY

ASCHER, ROBERT

1959. A Prehistoric Population Estimate using Midden Analysis and Two Population Models. Southwestern Journal of Anthropology, vol. 15, no. 2, pp. 168-178.

BOLTON, A. E.

1926. Palou's New California. IV volumes. Berkeley.

HOLMES, L. C., et al

1917. Soil Surveys of the San Fernando Valley, California. U. S. Dept. of Agriculture, Bureau of Soils. Washington, D. C.

HOOTS, H. W.

1931. Geology of the Eastern Part of the Santa Monica Mountains, Los Angeles County, California. U. S. Dept. of the Interior Geological Survey, Professional Paper No. 165C. Washington, D. C.

MEIGHAN, CLEMENT W.

1959. The Little Harbor Site, Catalina Island: An Example of Ecological Interpretation in Archaeology. American Antiquity, vol. 24, No. 4, pp. 383-405.

MORIARITY, J. R., G. SHUMWAY and C. N. WARREN

1959. Scripps Estates Site I (SDi-525): A Preliminary Report on an Early Site on the San Diego Coast. Dept. of Anthropology and Sociology, University of California at Los Angeles, Archaeological Survey, Annual Report 1958-1959, pp. 185-216.

OWEN, ROGER

1959. Semi-Sedentary "Nomads" in Baja California. Dept. of Anthropology and Sociology, University of California at Los Angeles, Archaeological Survey, Annual Report 1958-1959, pp. 56-57.

PECK, STUART

1955. An Archaeological Report on the Excavation of a Prehistoric Site at Zuma Creek, Los Angeles County, California. Archaeological Survey Association of Southern California, Paper No. 2.

ROGERS, DAVID B.

1929. Prehistoric Man of the Santa Barbara Coast. Santa Barbara.

ROGERS, MALCOLM

1929. The Stone Art of the San Dieguito Plateau. American Anthropologist, vol. 31, pp. 454-467.

1945. Outline of Yuman Prehistory. Southwestern Journal of Anthropology, vol. 1, pp. 167-198.

TREGANZA, ADAN AND AGNES BIERMAN

1958. The Topanga Culture, Final Report on Excavations, 1948. University of California, Anthropological Records, vol. 20, no. 2, pp. 45-86.

TREGANZA, ADAN AND C. G. MALAMUD

1950. The Topanga Culture, First Season's Excavation of the Tank Site, 1947. University of California, Anthropological Records, vol. 12, no. 4, pp. 129-170.

TRUE, D. L.

1958. An Early Complex in San Diego County, California. American Antiquity, vol. 23, no. 3, pp. 255-263.

WALKER, EDWIN F.

1951. Five Prehistoric Archaeological Sites in Los Angeles County, California. Publication of the Frederick Webb Hodge Anniversary Publication Fund, vol. 6. Southwest Museum, Los Angeles.

WALLACE, WILLIAM J.

1954. The Little Sycamore Site and the Early Milling Stone Cultures of Southern California. American Antiquity, vol. 20, no. 2, pp. 112-123.

1955. A Suggested Chronology for Southern California Coastal Archaeology. Southwestern Journal of Anthropology, vol. 11, no. 3, pp. 214-230.

WALLACE, WILLIAM J. and others

1956. The Little Sycamore Shellmound, Ventura County. Archaeological Research Associates, Contributions to California Archaeology, No. 2

WARREN, C. N. and H. P. THOMPSON

1959. Test Excavations at the Del Mar Site (SDi-191). Dept. of Anthropology and Sociology, University of California at Los Angeles, Archaeological Survey, Annual Report 1958-1959, pp. 217-223

EXPLANATION OF ILLUSTRATIONS

Map 1. Contour map of the area around sites LAn-111 and LAn-186 at Encino

Map 2. Upper - Contour map of LAn-111 (eastern portion)
Lower - Burial at LAn-111 in situ.

Figure 1. Uniface Manos from LAn-111; A,B, Unshaped; C,D, Shaped.

Figure 2. Biface Manos from LAn-111; A,B, Normal Biface; C, Transverse Wedge-Shaped Manos; D, Longitudinal Wedge-Shaped.

Figure 3. Multiface Manos from LAn-111; A, Four-face Mano; B,C, Triface Manos.

Figure 4. Metates from LAn-111; A,B, Shallow Basin; C, Deep Basin; D,E, Slight Basin.

Plate 1. LAn-111 site at Encino. Upper: Looking east, before any construction, 1952. Lower: Looking west, during bulldozing for club house of golf course, 1956.

Plate 2. Hammerstones from LAn-111 site. A-C, Cobble Hammerstones; D-N, Core Hammerstones.

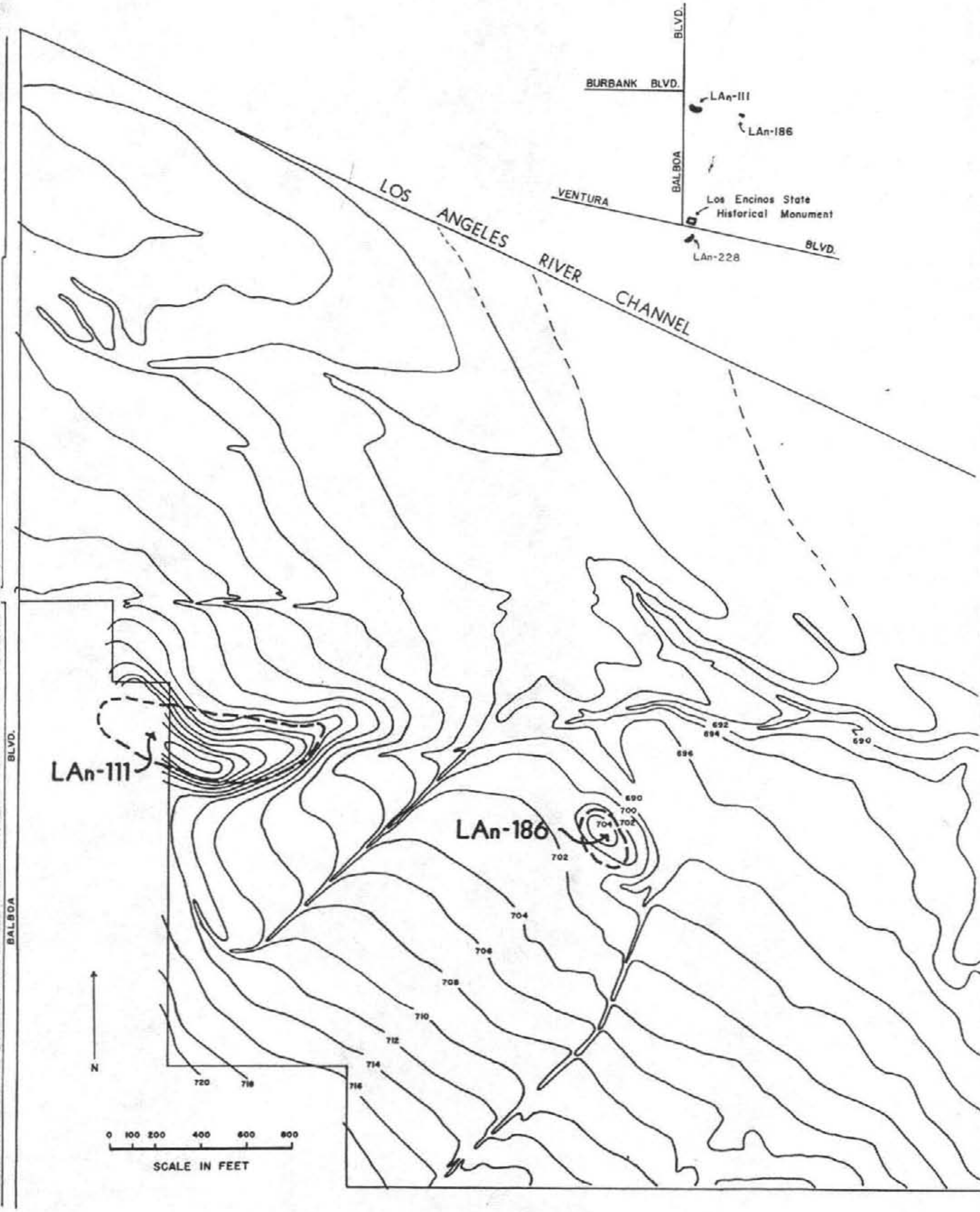
Plate 3. Choppers from LAn-111 site. A-L, Biface; M-Q, Uniface.

Plate 4. Pounders and Scraper Planes from LAn-111 site. A-C, Pounders; D-K, High Scraper Planes; L,M, Low Scraper Planes.

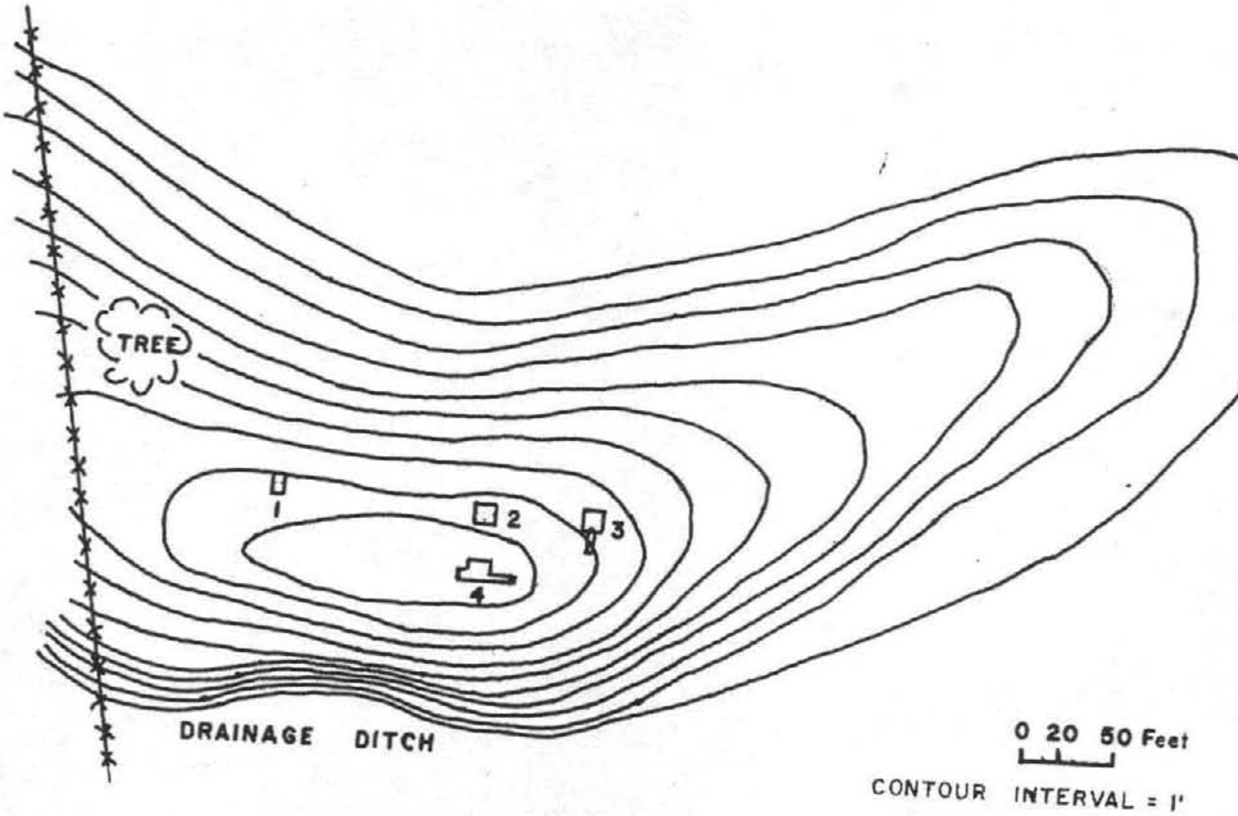
Plate 5. A-E, Side Scrapers, Used Flakes, Projectile Points and Charmstones from LAn-111. A. Scrapers; F-H Side and End scrapers; I,J, Projectile Points; K,L, Used flakes; M,N, Charmstones.

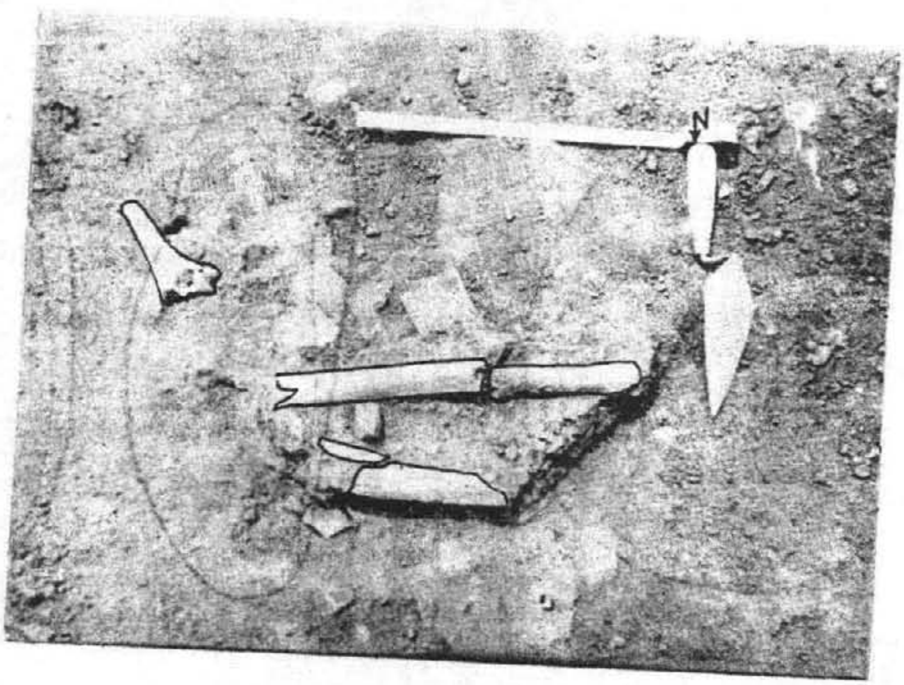
Plate 6. A-C,E, Disc Stones, A-C from LAn-111, E from Gless Collection; D, Pestle; F-H, Pitted Manos from LAn-111; I, Globular object with depression.

Plate 7. Artifacts from the Encino area: A, Bowl in Johnson Collection reputed to have come from LAn-111; B, Cog Stone in Gless Collection that may have come from LAn-111; C, Pestles in the Gless Collection; D, Bowl, Pestle and Hopper Mortar from Gless Collection; E, Deep Basin Metate from Gless Collection; F, Metates and Mano from Gless Collection.



MAP I: CONTOUR MAP OF AREA AROUND LAn-III AND LAn-186





MAP 2: CONTOUR MAP OF LAn-III SITE AND BURIAL IN SITU

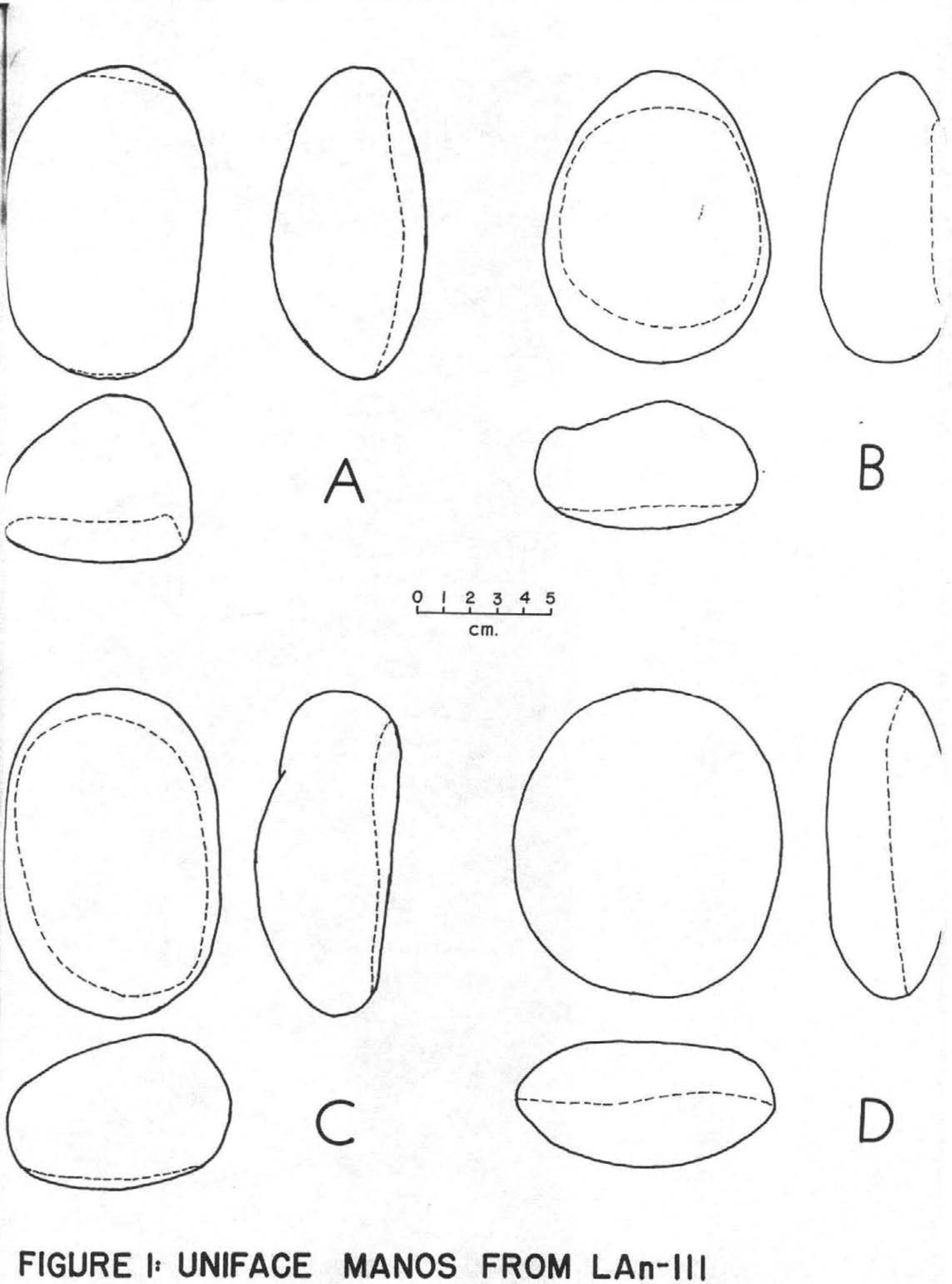


FIGURE I: UNIFACE MANOS FROM LAn-III

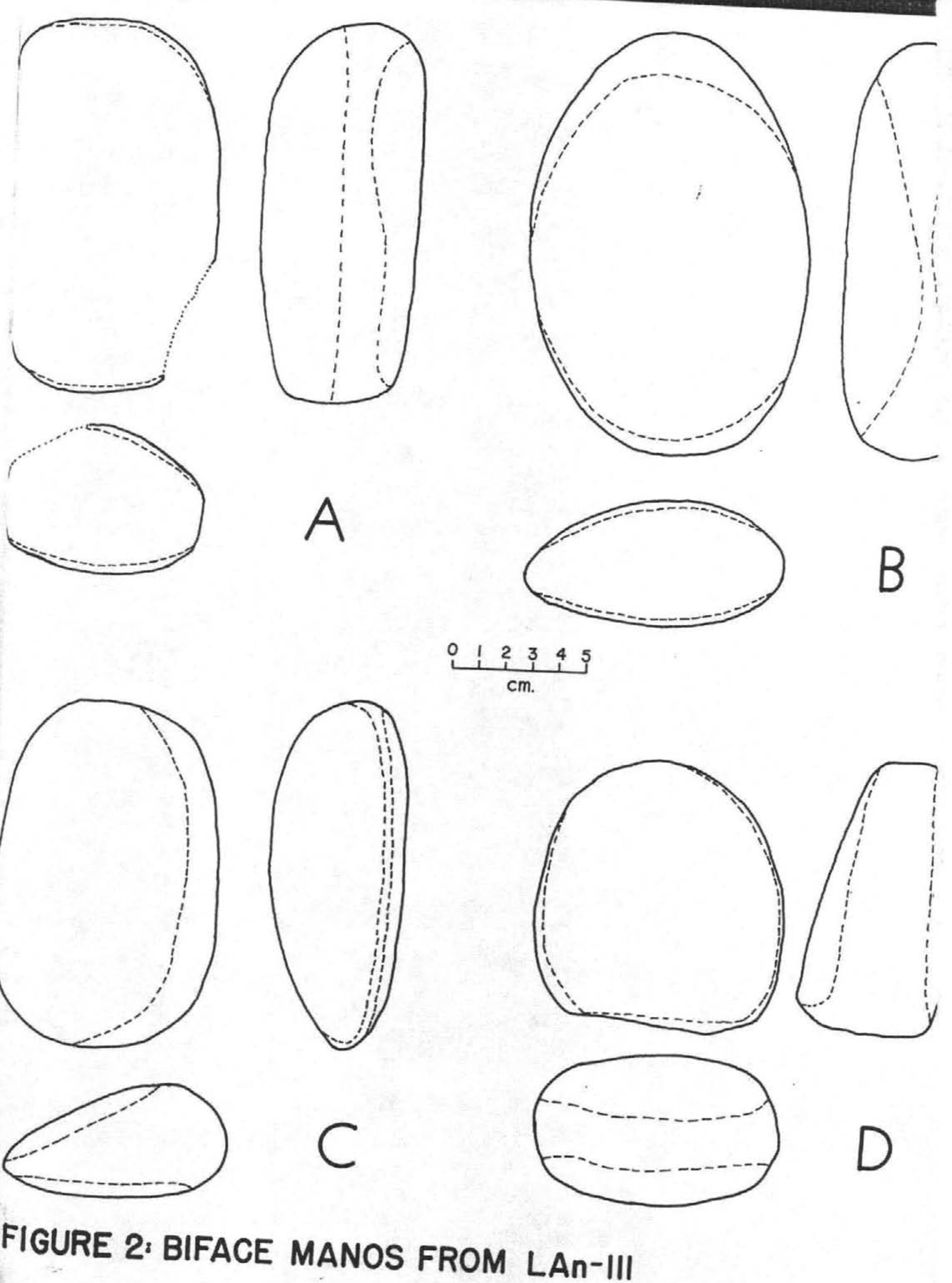


FIGURE 2: BIFACE MANOS FROM LAn-III

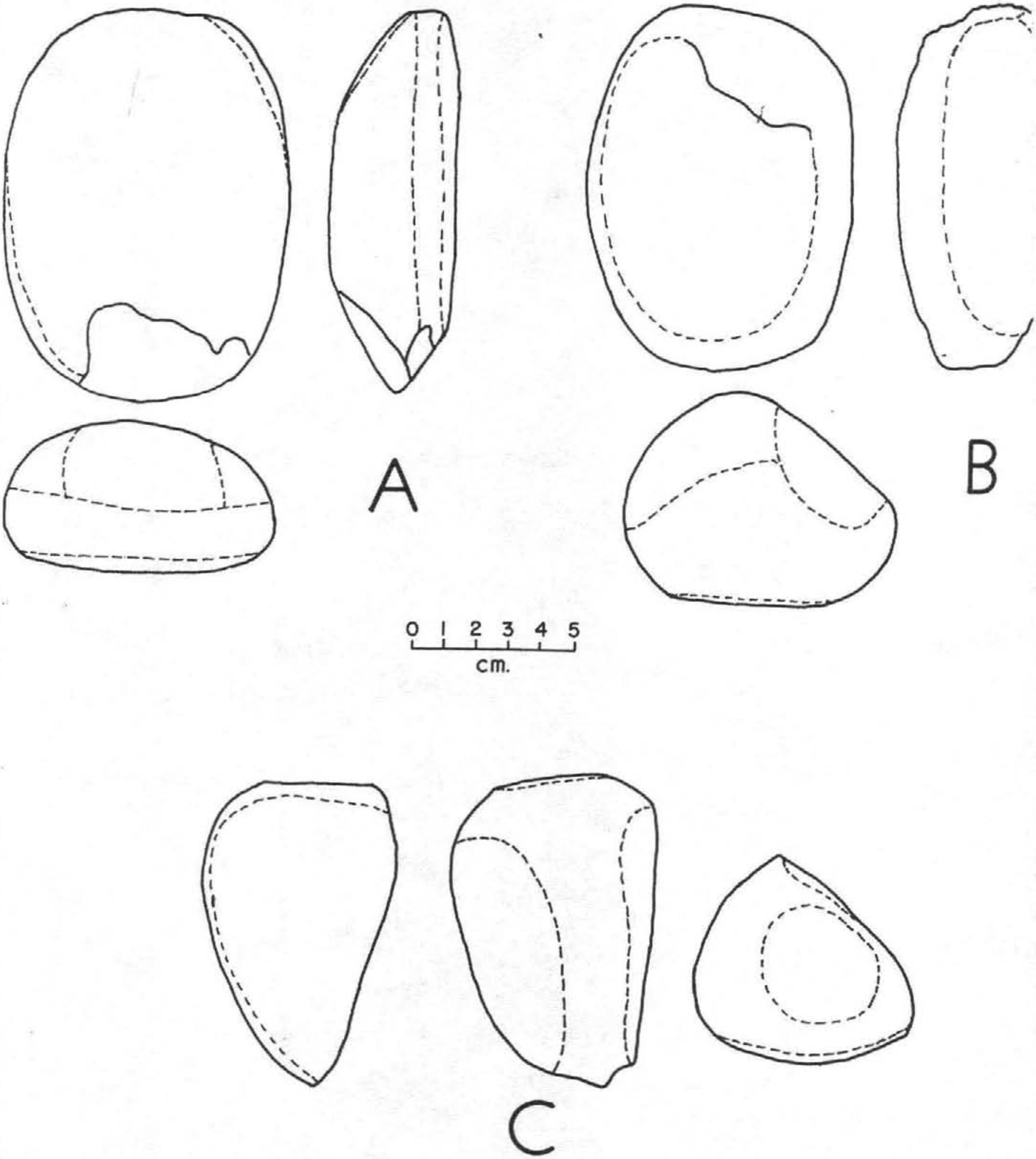


FIGURE 3: MULTIFACE MANOS FROM LAn-III

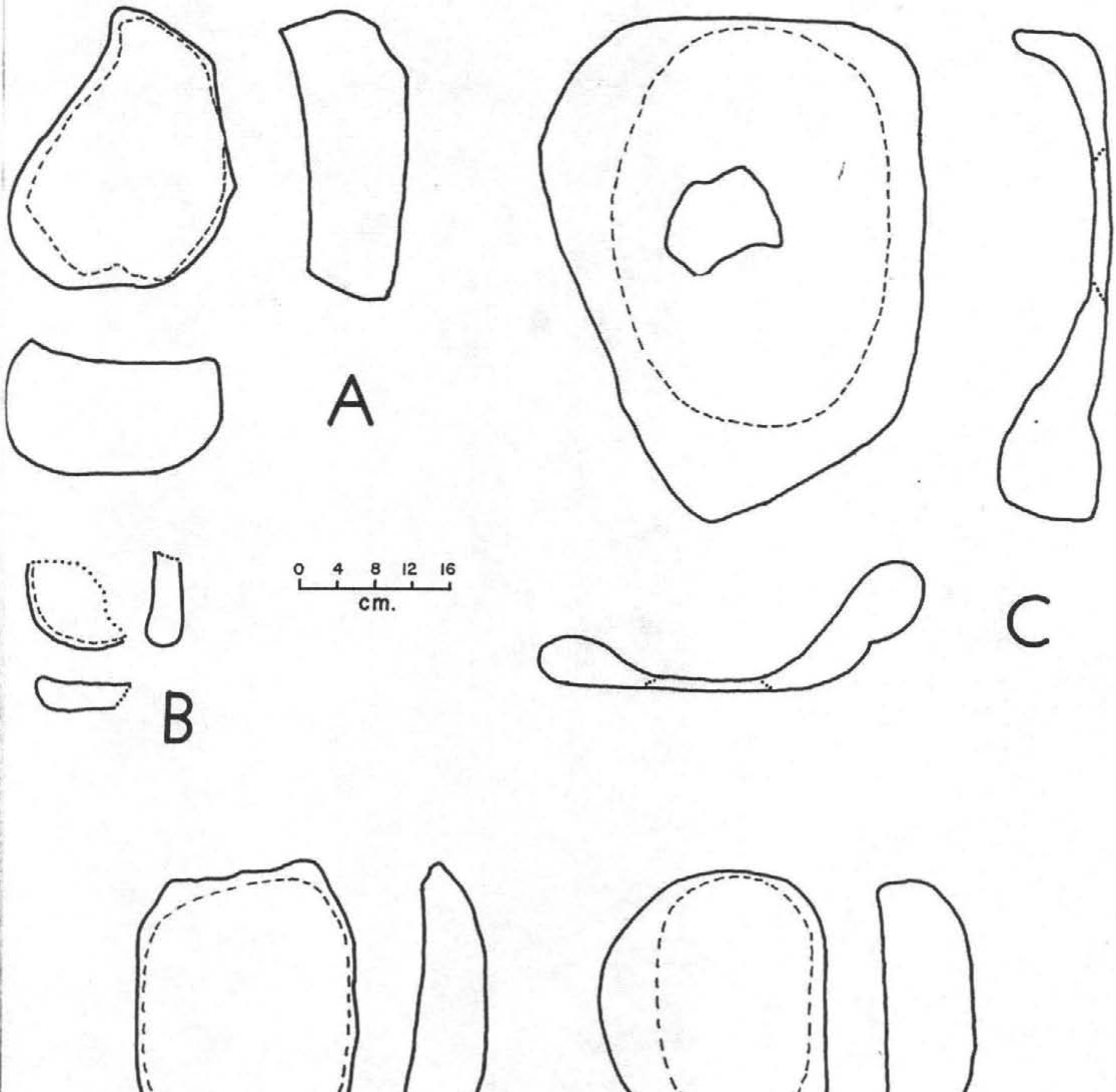


FIGURE 4: METATES FROM LAn-III

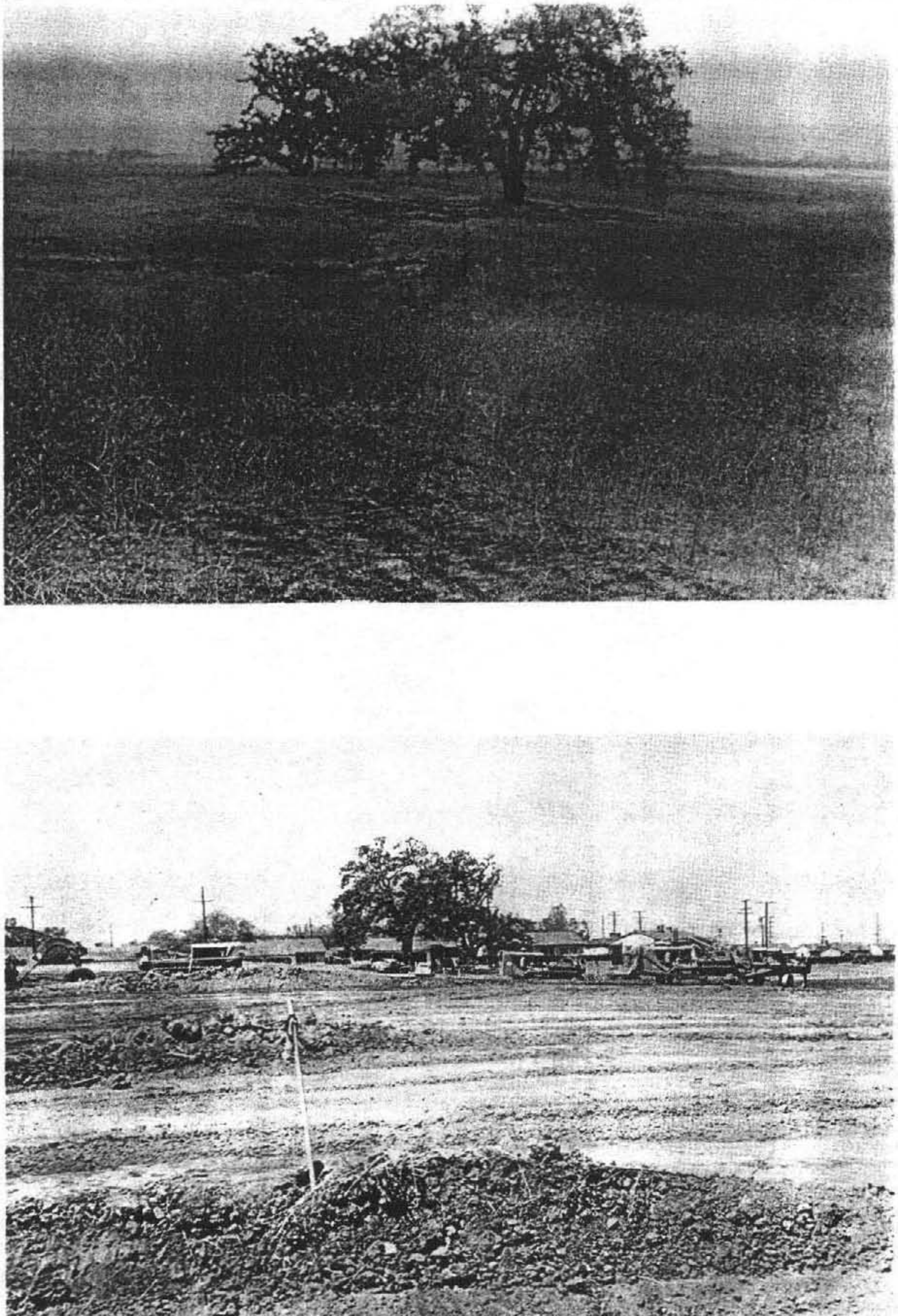


PLATE I: LAn-III SITE AT ENCINO

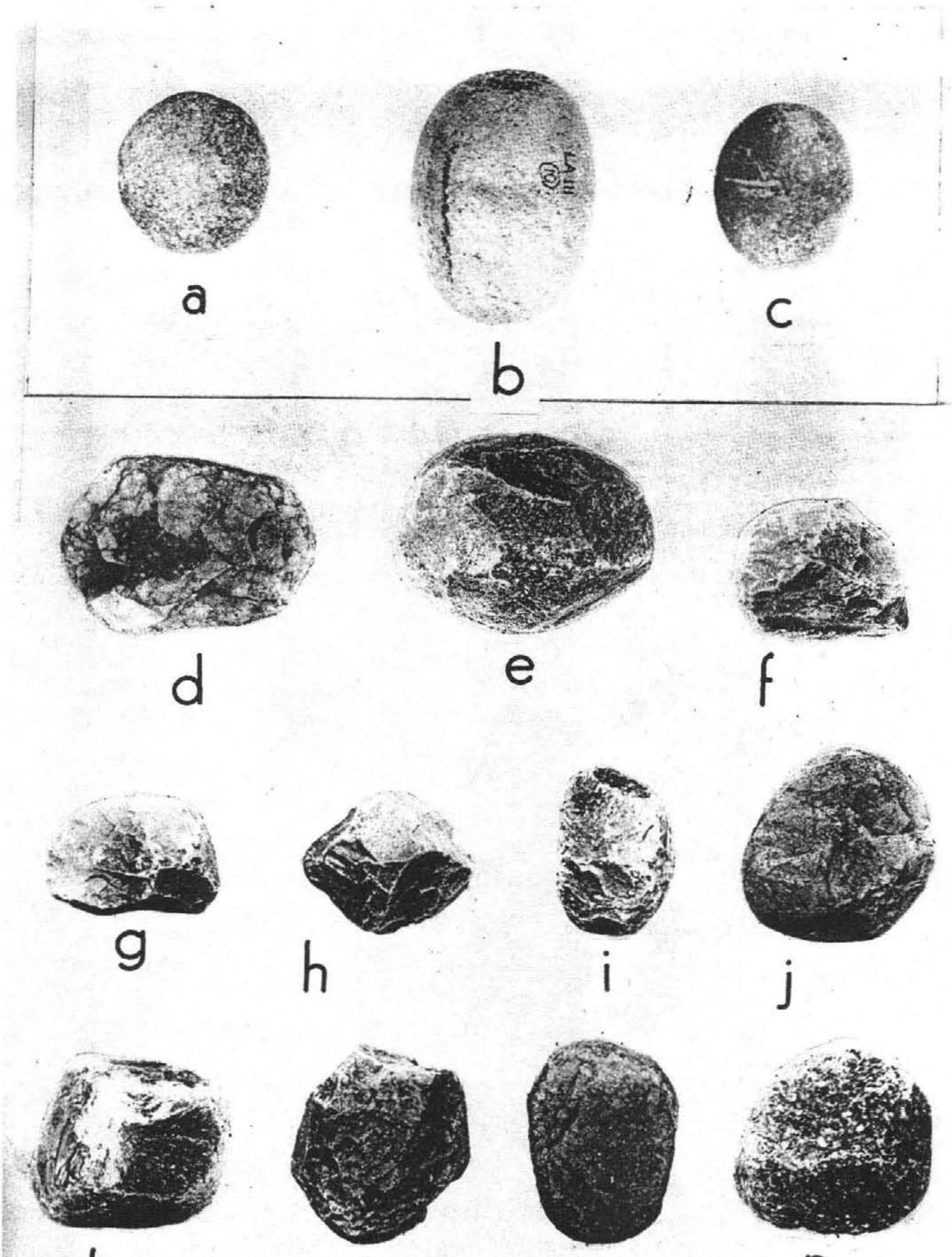


PLATE 2: HAMMERSTONES FROM LAn-III SITE

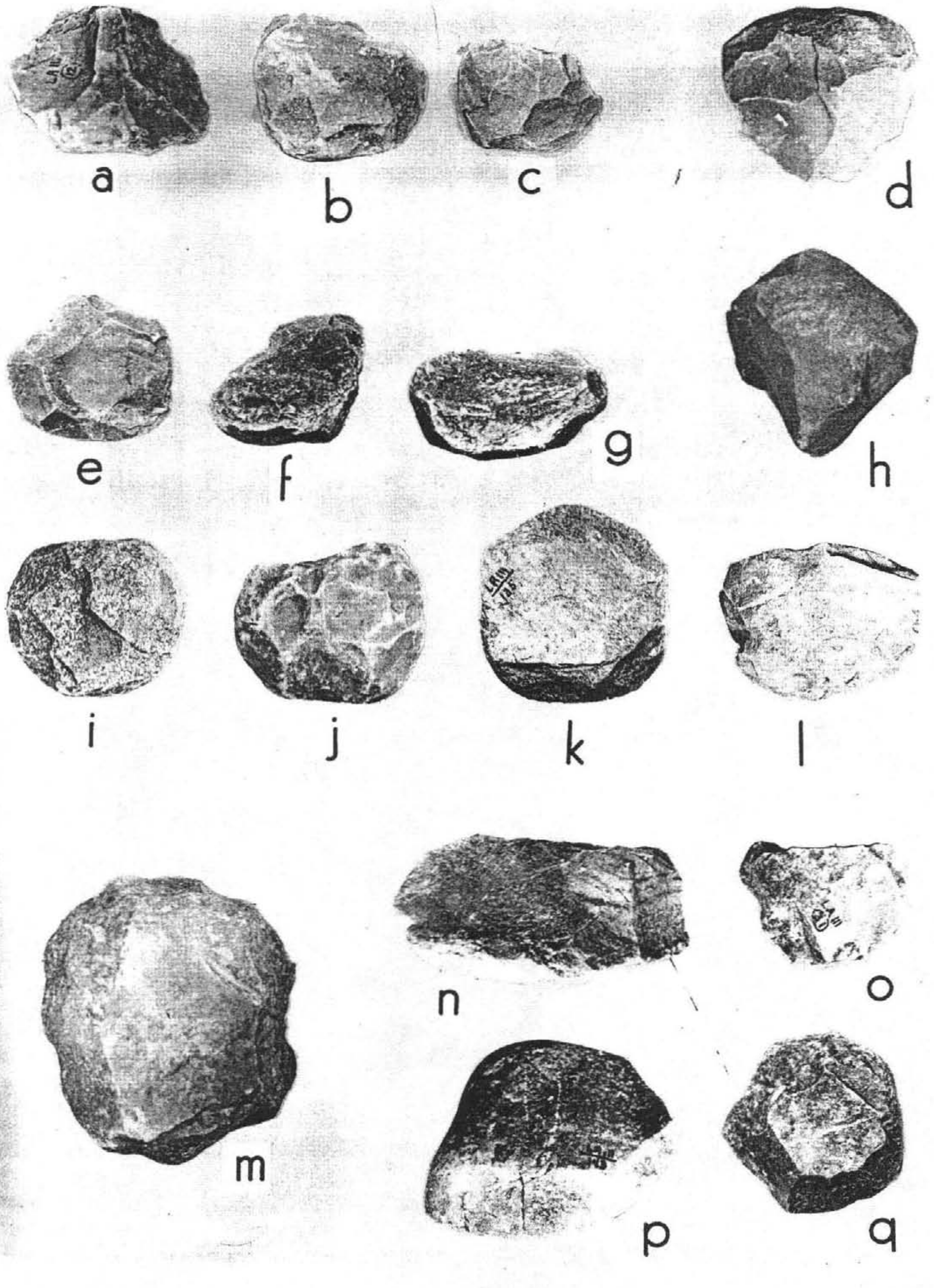


PLATE 3: CHOPPERS FROM LAn-III SITE

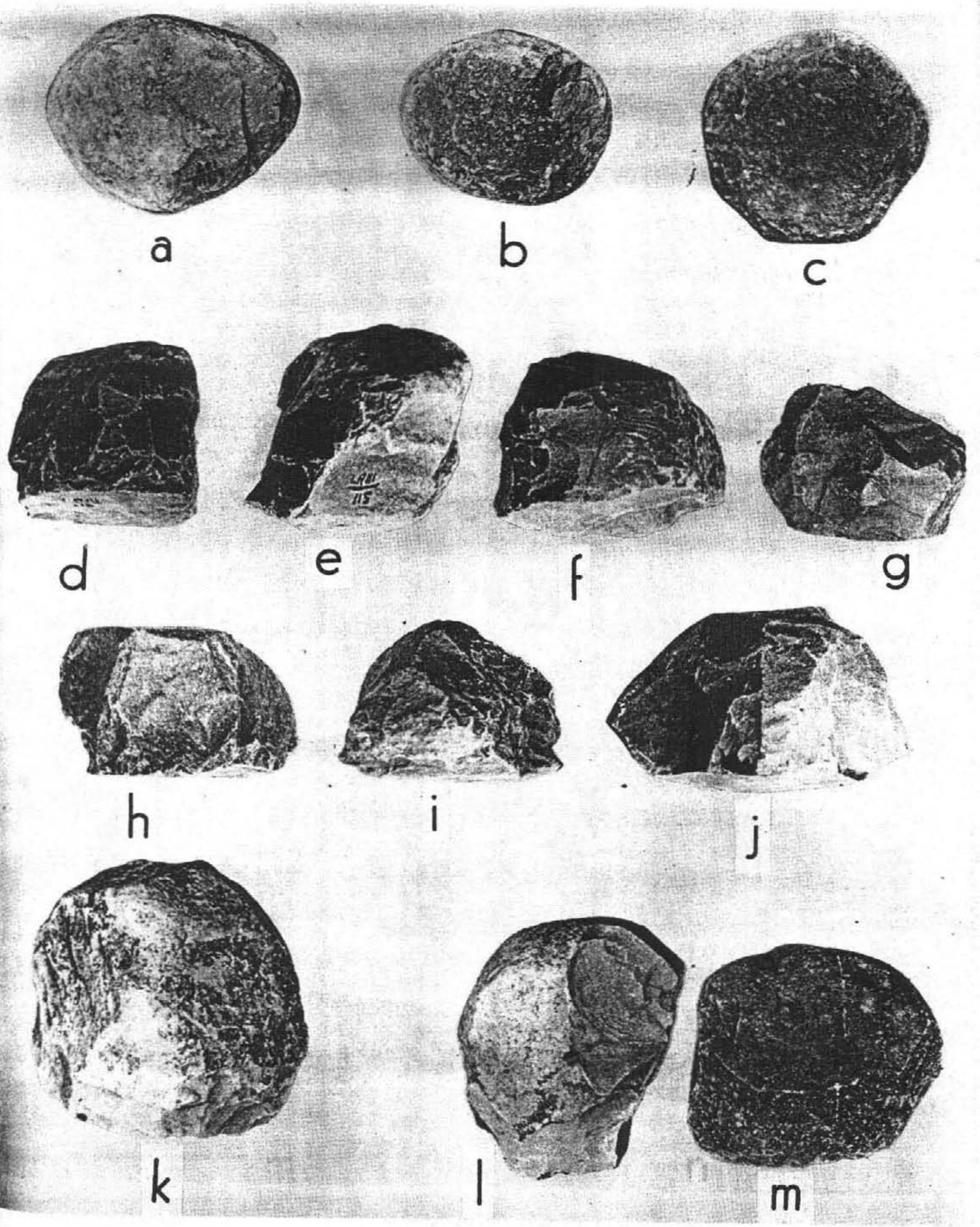


PLATE 4: POUNDERS AND SRAPER PLANES
FROM LAn-III SITE

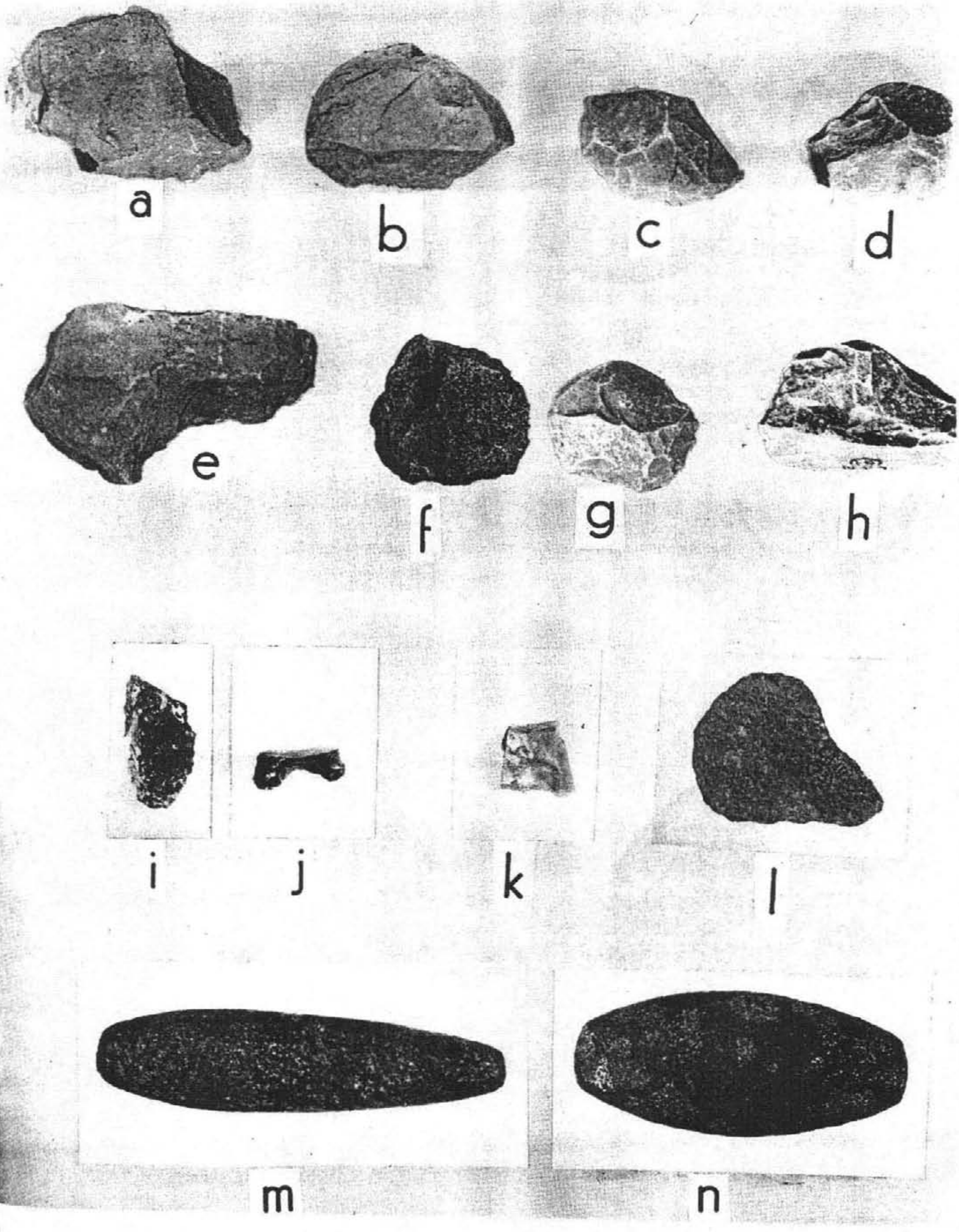


PLATE 5: SCRAPERS, USED FLAKES, PROJECTILE POINTS AND CHARMSTONES FROM LAn-III

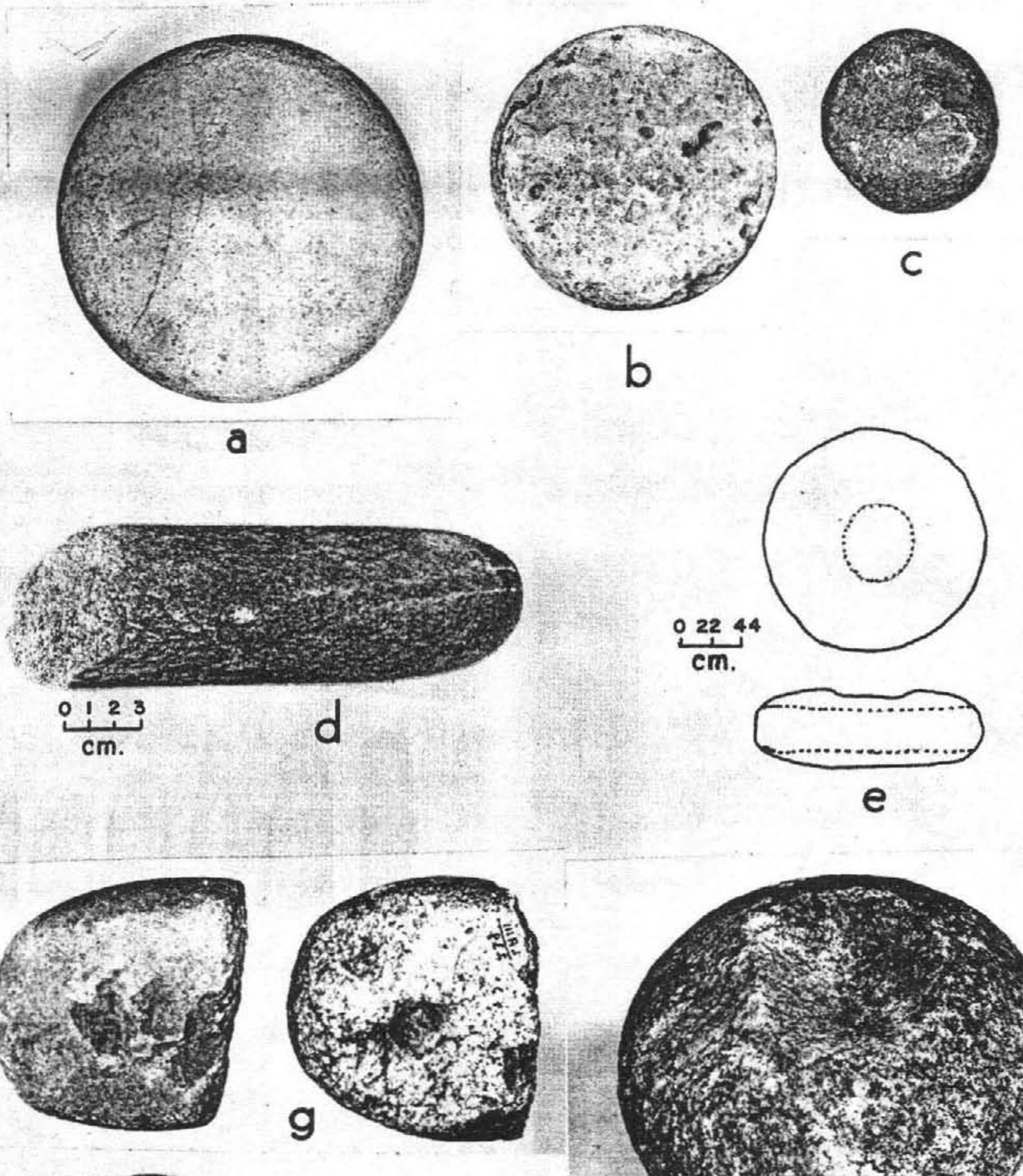


PLATE 6: GROUND STONE ARTIFACTS FROM LAn-III SITE, EXCEPT e.

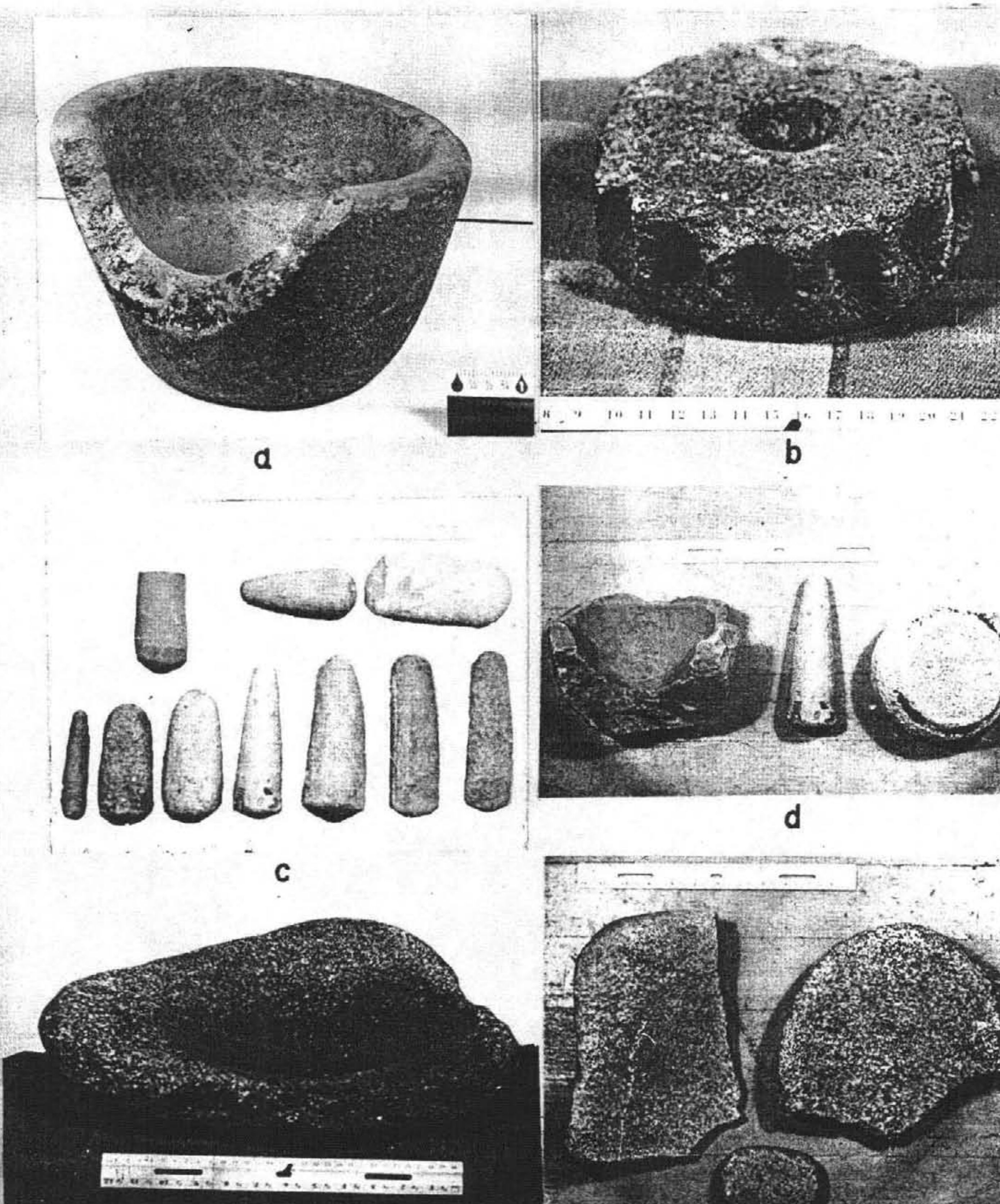


PLATE 7: ARTIFACTS FROM THE ENCINO AREA