

# POTTERY FROM SHNAISHA EXCAVATION 1990-91

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**S**hnaisha,<sup>1</sup> a small hamlet of a Gujar family, is situated a little off to the west across the Saidu *Khwar*<sup>2</sup> about six kilometres to the south of Saidu Sharif, the present headquarters of the Swat District, on the road leading to Marghuzār (see Fig. A). Here a huge Buddhist stūpa, also reported by A. Stein and G. Tucci,<sup>3</sup> was established in about the second and continued till the sixth or seventh century AD when the precinct was seized by the Hindus for their religious activities. This is evident from the presence of the image of the Hindu god Śiva Mahādeva<sup>4</sup> found in a cell<sup>5</sup>, constructed against the main stūpa at the southern end of the western side, blocking the *pradakṣiṇapatha* at the ground level. Ruthlessly damaged by human and natural activities, the stūpa complex and monastic establishment on its west occupy the northern foothill of the Tarkānā peak. In 1989 the Department of Archaeology and Museums, Government of Pakistan, and in 1990 and 1991 the Department of Archaeology, University of Peshawar, excavated it under the ‘Gandhāra Archaeological Project.’<sup>6</sup> Apart from important pieces of sculpture now housed in the Peshawar University Museum of Archaeology and Ethnology, a large number of potsherds were also recovered.

All the potsherds were excavated in the immediate vicinity to the west and south of the main stūpa (see Fig. B). Suggested by the stratification and topography of the site, they along with the debris were washed and accumulated here by rainwater or human activity from the adjacent monastery situated in the west (see Fig. B). Re-deposition making the chronological categorisation difficult, the pottery is classified on the basis of its possible function. Almost the whole collection came from layer 10 (see Fig. C), while that from layer 11 was too fragmentary and shapeless that could be included here.<sup>7</sup>

The entire collection is divided into two categories ‘A’, representing the main bulk or red-ware, and ‘B’, representing the small collection or black-ware. Morphologically, the pottery

forms show similarity to the tradition long in vogue during the historical period in the Indus region.<sup>8</sup>

Manufactured on a fast wheel, the pottery ranges from a thick (1.0 cm and above) gritty texture to a medium (0.5-1.0 cm) and a fine thin-texture (0.5 cm and below). Normally very porous, the thick ware is washed pale to red-brown. As suggested by some specimens, it is also provided with a slip on the outer surface and washed internally with the same or a different colour. Likewise some of the thin as well as medium-texture ware carry a very fine slip either on the outer or both the surfaces. The colour on the outer surface varies from reddish-brown to brown, while on the inner from pinkish to buff.

Aside from a few samples, almost the whole lot of red-ware is well oxidised. Because of partial oxidation, non-uniform firing of some medium and fine-texture potsherds produces on them a dual colour effect, pale-red and light grey.

Generally, a high concentration of mica particles is observed in the fabric of all potsherds. The clay of thick and coarser ware is mixed with pottery-grits and thick grains of sand, that of the medium-texture is less gritty, while that of the fine and thin-texture is well levigated. In all the cases it is normally mixed with some organic tempering matter, probably, chopped or ground husk and straw.

The majority is plain red ware either washed or covered with a slip and painted in colour, varying from pale red to reddish brown. Bichrome pottery, black on reddish brown or black on pale red, also exists. The chromatic decoration is brought in concentric parallel bold lines or thin bands and concentric lines with radiating flames like a sun-disc (Figs. 138-45).

Besides painted ornamentation, appliqué decorative motifs, which may have served the utility purpose of securing the pot firmly while moving it, are also applied. These motifs are either plain or comprise adorned projecting cordons. The plain cordons are either single or double, running usually closely parallel (Fig. 148-50, 154-55). The decorated ones are singularly raised bands with a rope-design, twisted in one or occasionally in both the directions (Figs. 151-53).

Other forms of pot decoration are incision and excision. In most of the cases the surface is provided with a double, triple or multiple close parallel-incised lines wrought out both with sharp and blunt tools (Figs. 146-48) or a floral design (Fig. 2). The only example of excised-

decoration is that resembling an ear of wheat on the surface of a lugged body-sherd (Fig. 156). The spikes of the grains are excised with a sharp tool against a pressed-in band, acting as the stalk of the ear. A few specimens show horizontal incised lines indented vertically or obliquely. Rough appliqué in regular or irregular grooves and bands is found mainly on storage jars/pitchers (Figs. 158-60).

### **Category A: Red-ware**

For the convenience of description, the principal collection of red-ware is further divided into the following three groups:

- (I) Minor Group: It includes some potsherds with distinctive physical features.
- (II) Major Group: This constitutes the main bulk of the red-ware.
- (III) Broken Parts: Mentions notable broken parts such as spouts, handles, etc.

#### **I. Minor Group**

The low frequency of pots under this group offers difficulty at this stage whether they were locally manufactured or imported from another locality. It comprises the following:

- 1. The Perforated red ware.
- 2. The Lustrous ware.
- 3. The Terracotta lion heads.

##### **1. The Perforated Ware**

Three rim and one base sherds represent the perforated ware (Figs. 165-68). Maximum diameter of the pore is 0.5 mm while thickness of the sherds varies from 4.44 to 6.0 mm. The clay is well levigated and mixed with organic and inorganic tempering matter. Firing is not uniform, for, the core of the pot is less oxidised.

##### **2. The Lustrous Ware**

Two shiny body-sherds painted red represent this category.<sup>9</sup> One of them, with the red core having tempering matter of grits of white quartz and some organic stuff, is painted on its outer surface with a red brown band on a lustrous golden background, while its inner surface is washed red. It seems neither burnished nor has a slip and gives a rough feeling. It is well oxidised, uniformly fired and 4.13 mm thick in its texture. The core of the second sherd is

grey, suggesting reduction. The outer surface seems to have been burnished and painted or washed producing a lustrous effect. The intensity of the lustre is partly diminished due to, perhaps, the prolonged use of the pot. Its thickness is not uniform. This can be related to the 'Soapy red ware' from Chārsadda and 'Fine Red Ware' from Damkot reported by M. Wheeler and Abdur Rahman respectively.<sup>10</sup>

### 3. The Terracotta Lion Heads

Two lion-heads of different sizes and execution in red ware were collected from the unstratified deposit, disturbed by illegal diggers<sup>11</sup> (see the Pl. Lion Heads). Apparent from traces at the back of the sherds, the heads were modelled and luted to the surface of pots in the leather-hard condition. Whether they were used as decoration, handles, or even both is not clear. The possibility of their being ceremonial or ritual pots can not be ruled out altogether. The larger head, along with the manes all around, measures vertically and laterally (horizontal) 54.0 mm and 65.0 mm respectively. Although some naturalism can be observed in the pose, the total effect of its execution is stylised. The proper left face being shortened, the head is apparently viewed from its right side. Similar effect is also depicted on its left canine tooth and whiskers, but, contrary to this, the left eye and forehead are shown in full. Having elongated grooves on the upper surface and its tip turned to the right, the tongue is outstretched of the opened mouth. The lower canine teeth are visible at the corners of the mouth. The nostrils of the uplifted nose are cut down to the upper lip. On each face are engraved three lashes of whiskers reaching back almost to the ears, pinnae are partially broken off. The bulging out eyes having protruded pierced-irises are placed under prominent eyebrows. The stylised wrinkles on the forehead are backswept curves on either side of the mid-line. A halo of manes, the upper-half missing, encircles the whole head. It has a striking similarity with a terracotta lion head, attributed to the Kuṣāṇa period, from Mathurā<sup>12</sup> dated to c. 2nd century AD. The eyes, ears, nose and whiskers of the Mathurā lion head are quite similar to those of our specimen, while in expression and other details both are distinctly apart from each other. Contrary to that of the Mathurā described as a worried kitten, the Shnai-sha lion enjoys a relaxed mood. The former shown with the mouth shut, but the latter keeps it open as if exhausting heat of the body. Cheeks of the former type are swollen, while those of the latter are flat. Furrows on the forehead of the former type are down-swept, while those of

the latter are up-swept. The head of the Shnai-sha type is encircled with a halo of manes, which is not seen in the Mathurā example. The clay of our specimen is tempered with tiny grits and some organic matter, the latter indicated by interstices in the texture. It is uniformly and nicely fired.

The second lion-head is represented by a smaller but slightly worn out example, 45.0 mm in height and 42.0 mm in breadth (see the Pl.). The overall effect is that of an angry animal with closed jaws and retracted cheeks with parted lips. The teeth of the maxilla and the mandible are visible on both the right and left sides. The nose along with most of the facial features is highly worn out. The eyes are bulging out with slightly protruded pierced irises. The eyebrows are up-stretched, and the forehead is wrinkled with horizontal parallel lines. Between the small pointed round pinnae are hanging the manes with down-sweep, parting at the middle, turning to the right and left as reaching down to the eye-brows leaving the lower middle part of the forehead clear. The clay is well levigated but firing is not uniform.

## **II. Major Group**

Forming the main bulk of the whole collection, typologically this group can be divided into main types of storage jars, bowls, ewers, troughs and pans, lids and lamps.

### ***Type 1: Storage Jars***

Ranging from large thick fabric to small size thin texture, all the storage jars having articulated rims are classified on the basis of rim stance as following:

#### **i. Everted Rims:**

Storage jars with everted rims have either plain shoulders or carry a slight ridges or grooves or some kind of decoration on them. Treated differently, these rims are horizontally flattened and vertically thickened (Figs. 1 and 2), obliquely everted and externally and/or internally thickened (Figs. 3-5) and plain (Figs. 29 and 30).

#### **ii. Out-curving Rims**

The out-curving rims are observed mostly on medium or small size jars. They have the edge angularly flattened (Figs. 6-9, 12 and 14-15), angularly thickened (Fig. 17-18), horizontally grooved (Fig. 20), turned upright and externally grooved or plain (Figs. 10, 21-25, 27-28, 30,

33 and 45), plain (Fig. 37) and thickened with or without grooves (Figs. 19, 26, 32, 34-36, 38-43 and 47).

### **iii. Vertical Rims**

Vertical rims are plain with the edge angularly flattened (Figs. 11 and 13), angularly grooved (Fig. 16) and thickened and externally grooved (Figs. 44 and 47).

### ***Type 2: Bowls***

A large variety of bowls in red ware of various shapes and sizes are found. The large bowls might have been used for storing or serving food while the small ones, in addition to other utilities may also have been used for drinking liquids as well as lids of pitchers. On the basis of rim stance, a variety of forms can be distinguished (Figs. 48-89).

#### **i. Plain Rims**

Generally plain rims found on small size bowls are either vertical (Figs. 70-73, 78, 81, 77 and 78, the last two slightly grooved externally.), or sloping (Figs. 69 and 79) or incurving (Figs. 74-75).

#### **ii. Articulated Rims**

Articulated rims of the bowls are vertical and sloping, incurving, inverted, everted and flaring.

##### **ii. a: Vertical and Sloping**

Thickened and grooved externally, these rims are either vertical or sloping (Figs 48-49, 57, 76 and 82) and have the edge horizontally or angularly flattened (Figs. 82-83).

##### **ii. b: Incurving**

The incurving rims are also thickened, grooved externally and their edge treated slanting, horizontal or plain (Figs. 52-54, 56, 58 and 59).

##### **ii. c: Inverted**

In one case rim of a bowl is short inverted, thickened externally and its edge horizontally flattened Figs. 55.

## **ii. d: Everted:**

The everted rims have a variety of finish: horizontally flattened and vertically angular (Figs. 50 and 66), horizontally and vertically flattened (Fig. 51), horizontally flattened and vertically pendentive (Figs. 61-62) horizontally flattened and vertically grooved (Figs. 65 and 68) and short everted (60, 63-64, 80 and 84-89).

## **ii. e: Flaring**

Short flaring, internally thickened, or large plain rims are also observed as shown in Figs. 67 and 71.

### ***Type 3: Spouted Pots/Ewers***

Spouted pots (Fig. 90). are either open mouthed short-necked vessels (Figs. 90 and 92) or narrow mouthed high-necked ewers with handles (Fig. 91). They are either plain or decorated with black on red with geometrical patterns, such as concentric bands, straight and horizontal lines. (For the description of different types of spouts see below 'III Broken off Parts').

### ***Type 4: Troughs and Pans***

Troughs and pans are represented by large thick rough and tough potsherds having a gritty fabric. They might have been used for washing, cooking and kneading the dough. The majority have flaring, sometimes internally grooved, sides and thick flate bases (Figs. 93-96). Pans with externally grooved or incised vertical sides are also present (Figs. 97-98).

### ***Type 5: Lids***

The shape and size of lids change according to its function. In the present collection there, on the basis of its external treatment, are two types of lids—convex and concave. The first one has two varieties: their knobs are either hollow or flat. They, most probably designed for dough pots, were normally made internally concave to provide sufficient room for raising. Lids of the second type are concave having solid button-knobs (resembling a large button) in their concavity (Figs. 100-102). Their lower surface or base is flat and one variety of them has a flat rim as well. Some bowls may have been used for dual purpose, drinking as well as lids for pitchers. And obviously, as such, we cannot include them in the category of lids.

All the specimens are in red ware except one in grey. Their highly worn out surfaces indicate that they were either washed or provided with a slip in the colour as of their fabric.

### ***Type 6: Lamps***

Earthen lamps are an essential component of settlement and sacred Buddhist sites. Although they vary in size, their shape is almost the same (Figs. 102-105). Not paid much attention to their refinement, they are plain rather rough in their manufacture. Shaped first like a bowl, their sides and rims are pinched in a pointed channel to hold the wick. All used lamps have soot-marks at their channel-holders. The diameter and height of the lamps vary from 50.0 to 80.0 and 25.0 to 37.0 mm respectively. Manufactured in red ware, all of them bear no sign of wash, slip or paint. They have low disc bases, concave inner sides and plain in-curving rims.

## **III. Broken off Parts**

### **1. Spouts**

Entirely in red fabric, a large number of spouts suggest the use of spouted ware (Figs. 106-116). Although no complete pot was found, some of the spouts having residue of the body indicate the shape as well as the technique of how spouts were welded to the pots (Figs. 107-08, 112-14). Specially designed in each case, spouts were luted to pots in leather-hard condition. They were provided on open-mouthed jugs (Figs. 90 and 92) and narrow-mouthed ewers (Fig. 91). Externally they are either washed or provided with a fine slip in a red colour. Those with the slip have decoration in black concentric or straight lines, bands and dots. An incised decoration of criss-cross lines is also witnessed at the proximal end of some spouts (Fig. 116). Varying from gritty to well levigated, the clay has fine organic tempering matter. Firing is uniform with occasional grey-core texture. Diverse in size and form, they may be grouped as under:

#### **i. Straight Tapering Spouts**

These spouts are straight, round in section and broader at the proximal than at the distal end. The hole of the biggest one has a diameter of 18.0 and 30.0 mm at its distal and proximal ends respectively, while the smallest spout has a uniform hole with a diameter of 5.75 mm (Figs. 109-112). They are either washed pale red or painted in chocolate on a fine buff-slip.



## **ii. Parallel-sided Splayed-mouth Spouts**

These spouts splay or flare out at their mouth, distal end, (Figs. 106-08). The internal diameter of the hole at the proximal end varies from 15.0 to 20.0 mm, while that at the splayed mouth from 27.5 to 32.0 mm. On the basis of treatment of their mouth there can be distinguished two categories: (i) out-curving, in which the rim is curved outward (Figs. 106 and 108); and (ii) carinated, in which the out-curving sides have upright rim, sometimes externally grooved (Fig. 107).

## **iii. Curved Spouts**

These spouts are bent outward (Figs. 113-115) and, on the basis of their mouth treatment, can be categorised as (i) oval and (ii) beak shaped. In the former variety the mouth is turned into an oval by pinching it laterally (Figs 90 and 113-14), while in the second it is finished like an open beak of a bird (Fig. 115). The internal diameter of the hole at the proximal and distal ends measures from 25.0 to 26.5 mm and 25.0 to 20.0 mm respectively.

## **iv. Short Bottle-mouth Spouts**

A fragment with a complete mouth suggests an earthen bottle, locally called *batakay*, normally used by a traveller for carrying water (Fig. 92). Luted to its body in the leather hard condition, it has a narrow neck and a carinated mouth with tapering sides terminating into a plain rim. A fine red fabric, well levigated and uniformly fired, it has three black parallel concentric lines on a thin red slip.

## **2. Handles and Lugs**

Manufactured in red ware, a number of handles and lugs of different sizes and shapes according to the nature of their duty are found in the present collection (Figs. 117-29). Prepared separately, they were luted to pots after their manufacture when both were in leather hard condition.

### **Handles**

Based on their shape, we have the following categories of handles.

### **i. Curved Round-Handles**

Curved in shape, they are round in section and their diameter varies according to their size and function. They are luted to pots in two ways: vertical and horizontal (Figs. 118-21, 123 and 125-27). In a vertical position they are attached to the pot just in the same manner as that of a jug (Fig. 119 and 121), while those horizontal are fixed either to the rim or body of the pot with its both the ends (Figs. 123 and 126-27). A majority are plain, while a few of them possess cordons (Fig. 120 and 125).

### **ii. Curved Flattened-Handles**

Curved and flattened, these handles are broader than their thickness and vary in size (Figs. 117 and 122). On the extra-thickened luted ends are produced rivet like impressions, as if imitated from a metal ware. They are normally luted vertically to the pot surface.

### **iii. Straight Round-handles**

A single specimen of straight-round handles was luted to the pot horizontally just as the handle of a frying pan (Fig. 124). It is round, hollow, mildly segmented and has remnant of the rim at the broader end.

### **Lugs**

Like the handles, lugs are also luted to the pot either horizontally or vertically (Figs. 128-29 and 156). String or rope was passed through the holes of lugs either to secure the lid and/or provide a handle for carrying or hanging the pot.

## **3. Bases**

The excavated pottery yielded four types of bases—curved, disc, ring and flat. Presumably, round bases, as the presence of storage jars/pitchers and cooking pots would suggest, did exist but a few have come across in our collection. Disc, ring and flat bases are found on bowls, other globular pots, jugs, ewers, etc. (Figs. 93-97 and 130-37).

### **Category B: Black-ware**

The following two kinds of the black pottery are distinguished:

1. The Black Glossy, NBP Type, Pottery.
2. The Burnished Grey Pottery.

### **1. The Black Glossy, NBP Type, Pottery**

Showing black polish on a thick slip on the outer surface, three body-sherds of NBP type were found.<sup>13</sup> The inner surface of one of them is also polished. Its 4.2 mm thick texture has dark-grey core suggesting the use of reduction-technique. The clay is well levigated and the tempering material seems to be very fine organic matter. The other two pieces might have been similarly polished on both the surfaces, but, perhaps, due to either the erosive process on the site or long use of the pots the polish is faded. The core is grey and mixed with some ground organic tempering matter. The average thickness of the sherds is 4.25 mm. The firing of all the sherds is uniform.

### **2. The Burnished Grey Pottery**

Including five rims, there recovered from the excavation ten grey burnished potsherds. They are either provided with a thin slip and black paint or just washed with the same grey colour. The thickness of the fabric ranges from 4.0 to 5.5 mm. Except for one thickened internally, all the rims are plain and curving inwardly. The well levigated clay is mixed with organic tempering matter. All the sherds but one show uniform firing (Figs. 161-64).

### Statistical Chart of the Potsherds Recovered in the Excavation, 1990-91

Category	Quantity		Category	Quantity
Perforated ware	4		Handles	36
Lustrous ware	2		Lugs	5
Lion-head sherds	2		Bases	169
Storage jars	237		Body-sherds	1228
Bowls	138		NBP type	3
Spouts pots	2		Burnished grey	10
Ewer neck	4		Curved bases	33
Troughs/Pans	7		Disc bases	47
Lids	11		Ring bases	28
Lamps	37		Flat bases	58
Spouts	52		---	---
<b>Total Potsherds = 496</b>			<b>+</b>	<b>1617</b>
				<b>= 2113</b>

I gratefully acknowledge the help of Mr. M. Naeem and Mr. Asad Ali of the Department of Archaeology, University of Peshawar, for preparing all the drawings and photographs respectively.

## Notes and References

<sup>1</sup> Abdur Rahman, "Shnaisha Gumbat: First Preliminary Excavation Report", *Ancient Pakista*, (Research Bulletin of the Department of Archaeology, University of Peshawar), Vol. III, 1993, pp. 1-124.

<sup>2</sup> This *Khwar* or hill torrent is designated differently after the localities where it passes through. It is referred to as *Īlam Khwar* where it is originated from, *Marghuzār Khwar* at Marghuzār, *Shaghāi Khwar* at Shagai and *Saidu Khwar* at Saidu Sharif. See M.F. Swāti, "Special Features of the Buddhist Art in the Swāt Valley", *Āḥārīyāt* (*Archaeology*), vol. 1, Peshwar, 1997, pp. 1-60, esp. pp. 18-19; M. Taddei, "Some Remarks on the Preliminary Reports Published on the Shnaisha Excavation, Swat", *East and West*, vol. 48, Nos. 1-2, 1998, pp. 171-188, esp. p. 171.

<sup>3</sup> A. Stein, "An Archaeological Tour in the Upper Swāt and Adjacent Hill Tract", 1930, p. 43; G. Tucci, "Preliminary report on an archaeological survey in Swat", *East and West*, Vol. IX, 1958, p. 313.

<sup>4</sup> Abdur Rahman, 1993, Pl. XXVII-b on p. 81; Although the Late M. Taddei differed to this identification, see Taddei, 1998, p. 177, there are certain iconographic problems on the basis of which I do not agree with him. Discussion on this is out of context here.

<sup>5</sup> See Abdur Rahman, "Shnaisha Gumbat: First Preliminary Excavation Report", *Ancient Pakistan*, Vol. III, 1993, Pls. VII-a on P. 61 and XXVII-b on p. 81, Fig: 5 on pp. 123-24 for the plan of the stūpa and other structures.

<sup>6</sup> For further details see Abdur Rahman, 1993, pp. 7 ff.

<sup>7</sup> Abdur Rahman, 1993, p. 15.

<sup>8</sup> Compare relevant pottery produced by different sources from various places in the Indus region where can be seen much resemblance in the forms and decorative scheme of the pottery from the Buddhist (historic) period. See M. Wheeler (Sir), *Chārsada, A Metropolis of the North-West Frontier*, Oxford University Press, London, 1962; A.H. Dani, *Ancient Pakistan*, Vol. IV, 1968-69, p. 69; Abdur Rahman, "Excavation at Damkot", *Ancient Pakistan*, Vol. IV, 1968-69, pp. 193-216; I. Ali, "Settlement History of Charsadda District", *Ancient Pakistan*, vol. 9, 1994, pp. 123-44;

<sup>9</sup> The author is very sorry for failing to produce photographs of the lustrous and the Black Glossy, NBP type, ware (mentioned under Categories A, 1.2 and B, 1 respectively). They are misplaced while shifting our museum to the new building. The script, however, was completed shortly after the excavation in 1992.

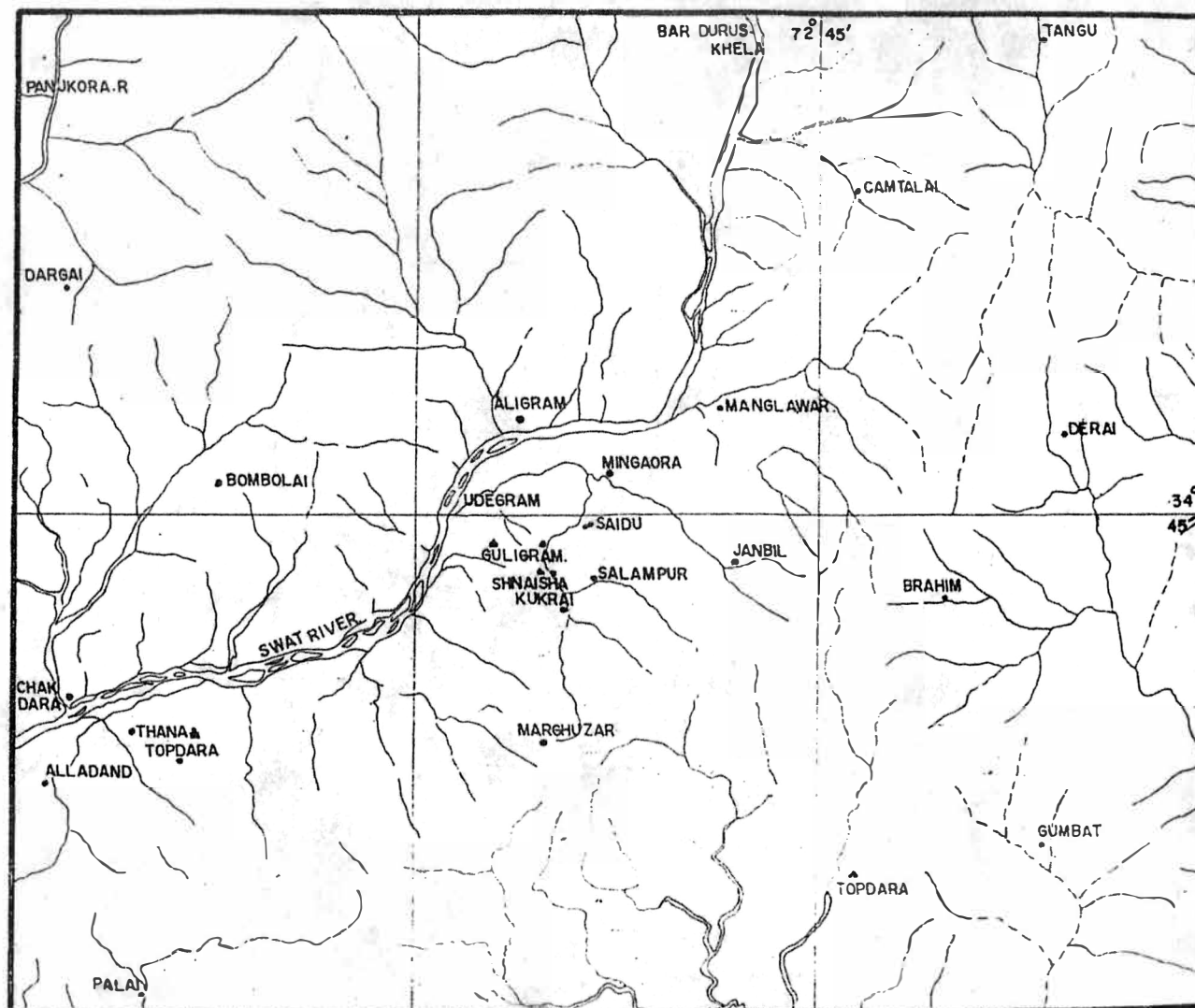
<sup>10</sup> Wheeler, 1962, p. 39; Abdur Rahman, 1968-69, p. 220.

<sup>11</sup> Abdur Rahman, 1993, pp. 12, 13.

<sup>12</sup> S. J. Czuma and R. Morris, *Kushana Sculpture: Images from Early India*, USA, 1985, p. 124.

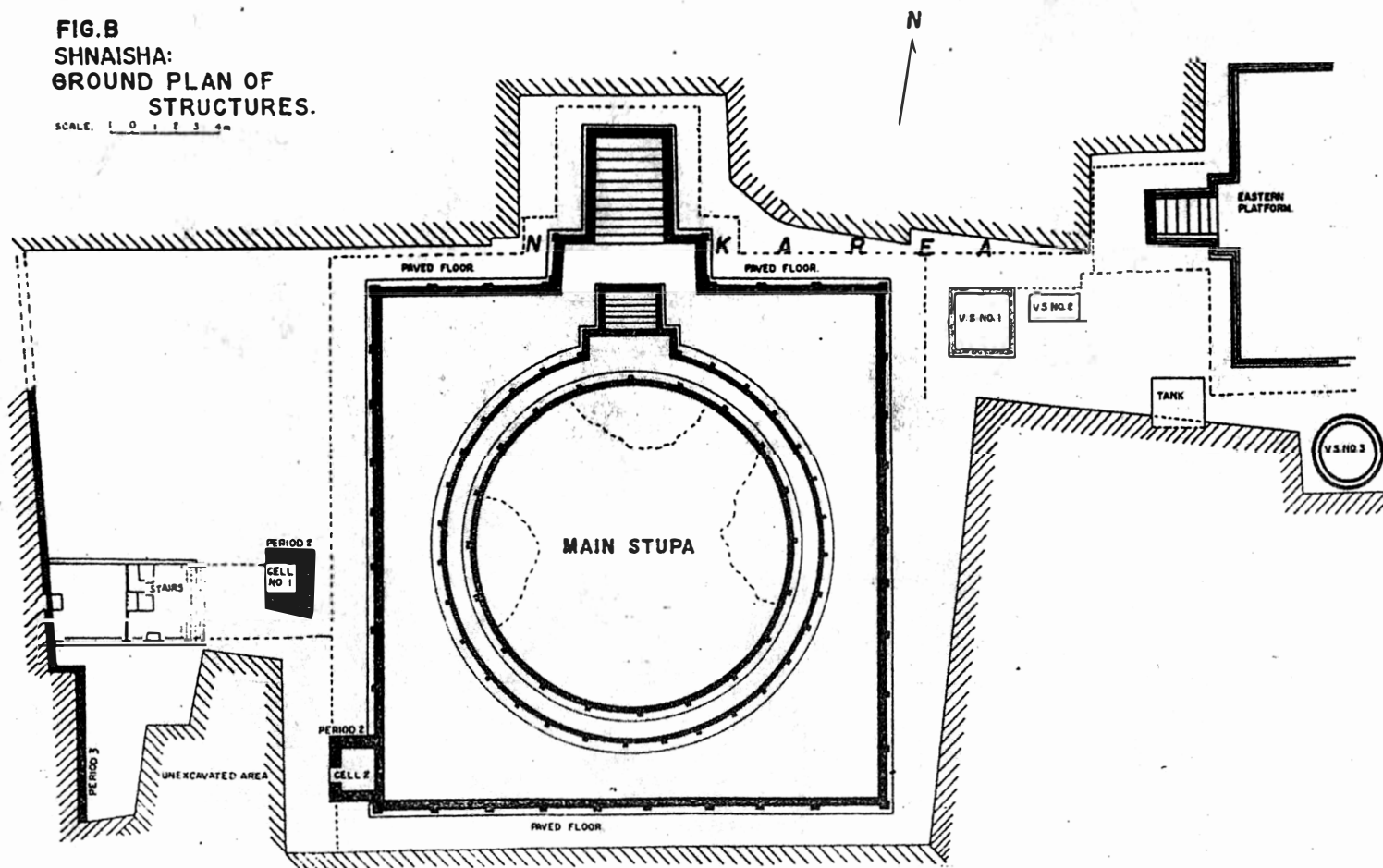
<sup>13</sup> Abdur Rahman, 1993, p. 15; Also see n. 9 above.

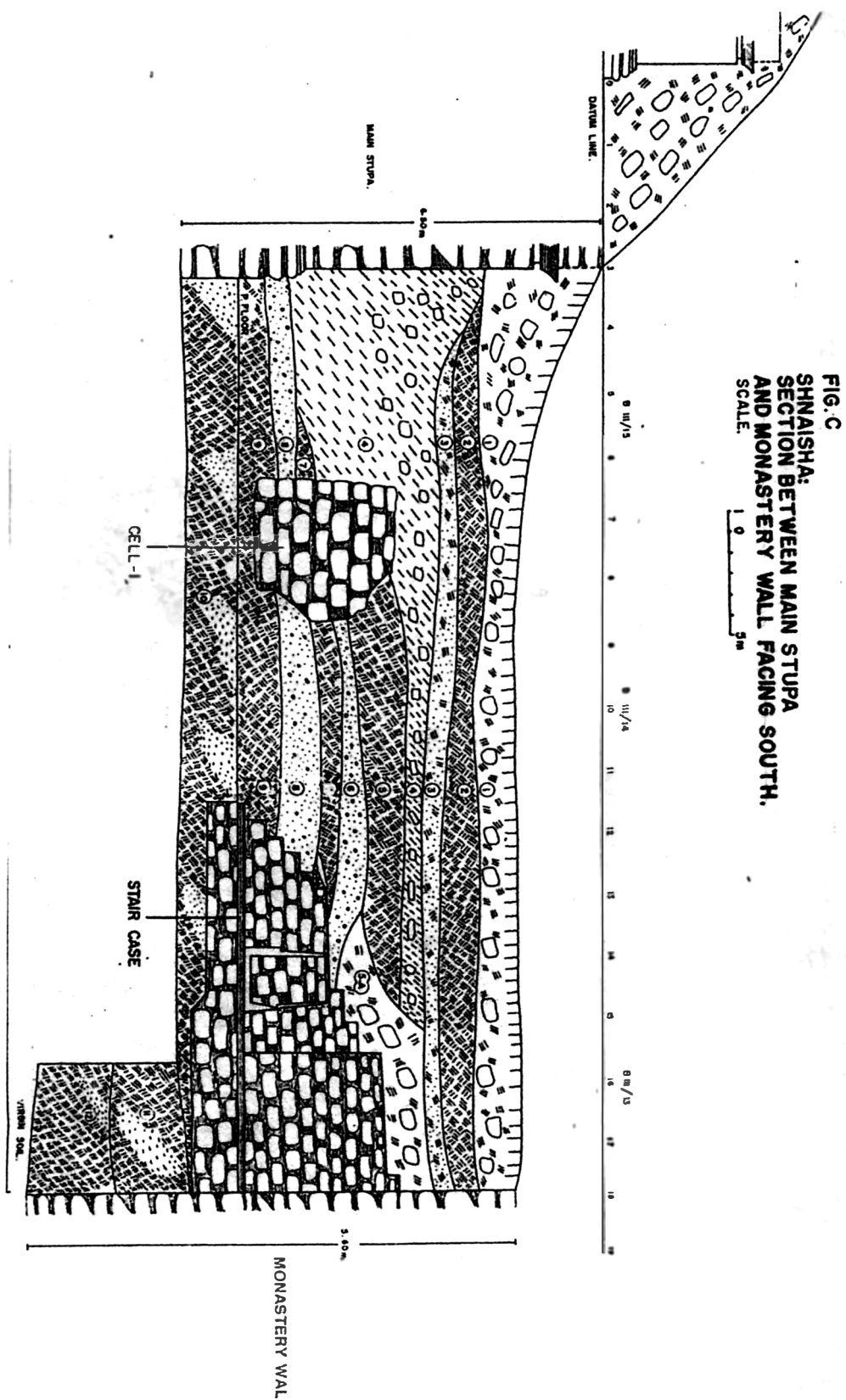
**FIG. A**  
**SHNAISHA:**  
**MAP SHOWING LOCATION.**  
 SCALE. 1 = 250,000 M



**FIG. B**  
**SHNAISHA:**  
**GROUND PLAN OF**  
**STRUCTURES.**  
 SCALE. 1 0 1 2 3 4m

MONASTIC AREA

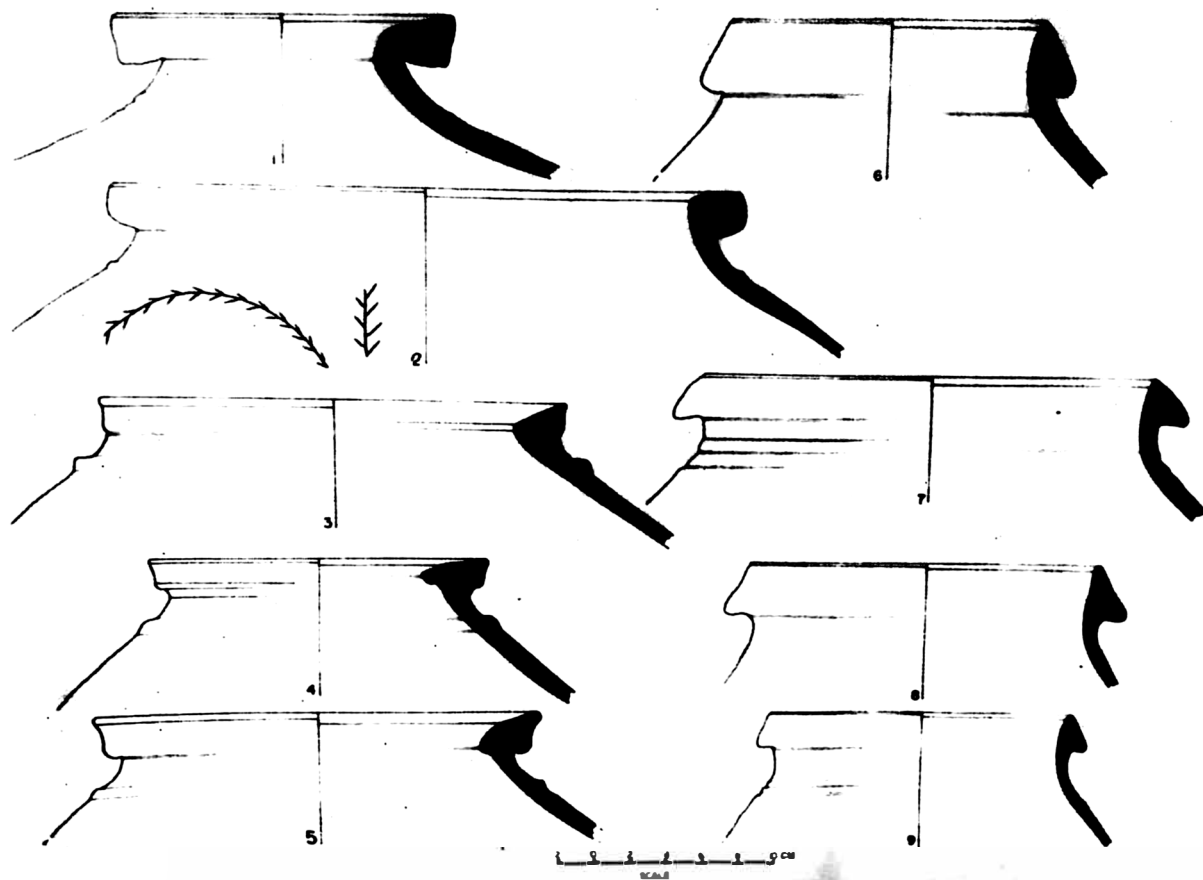


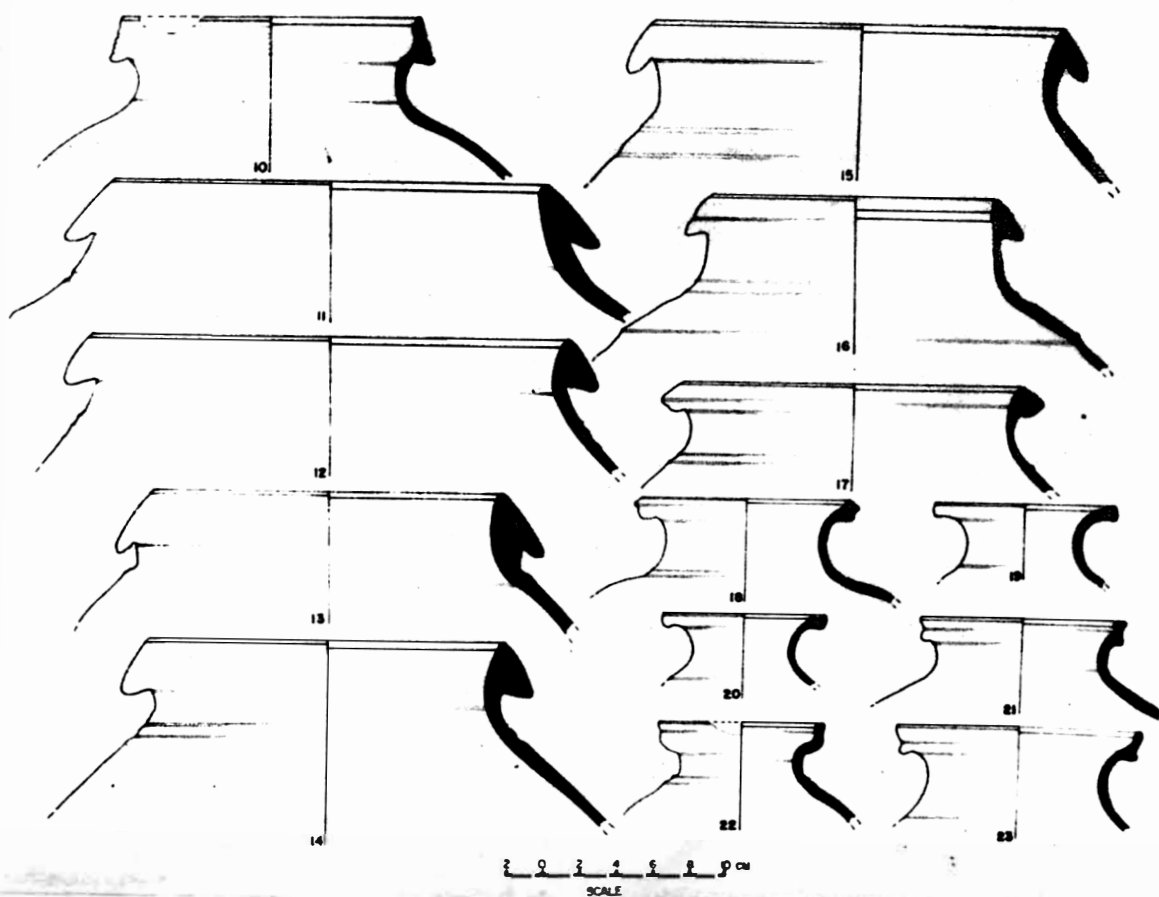


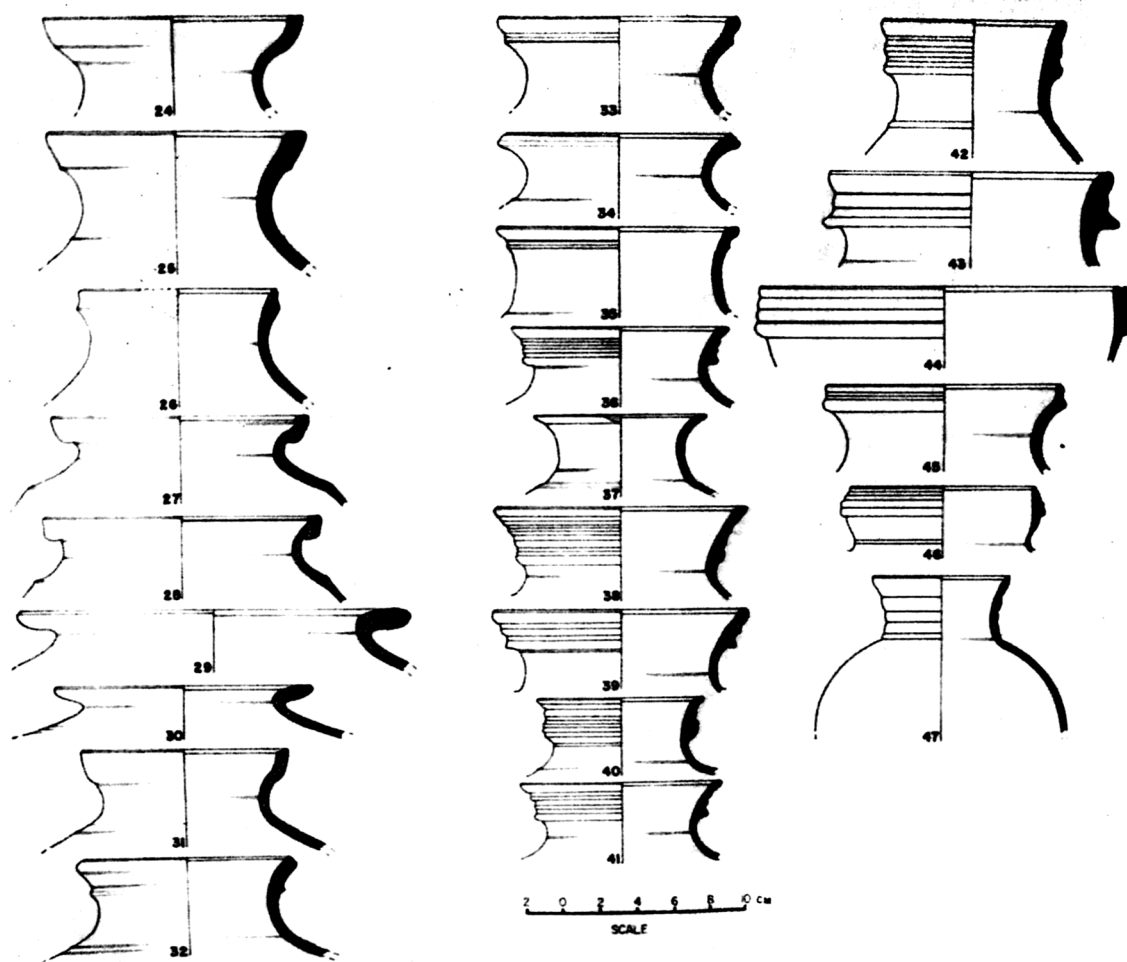


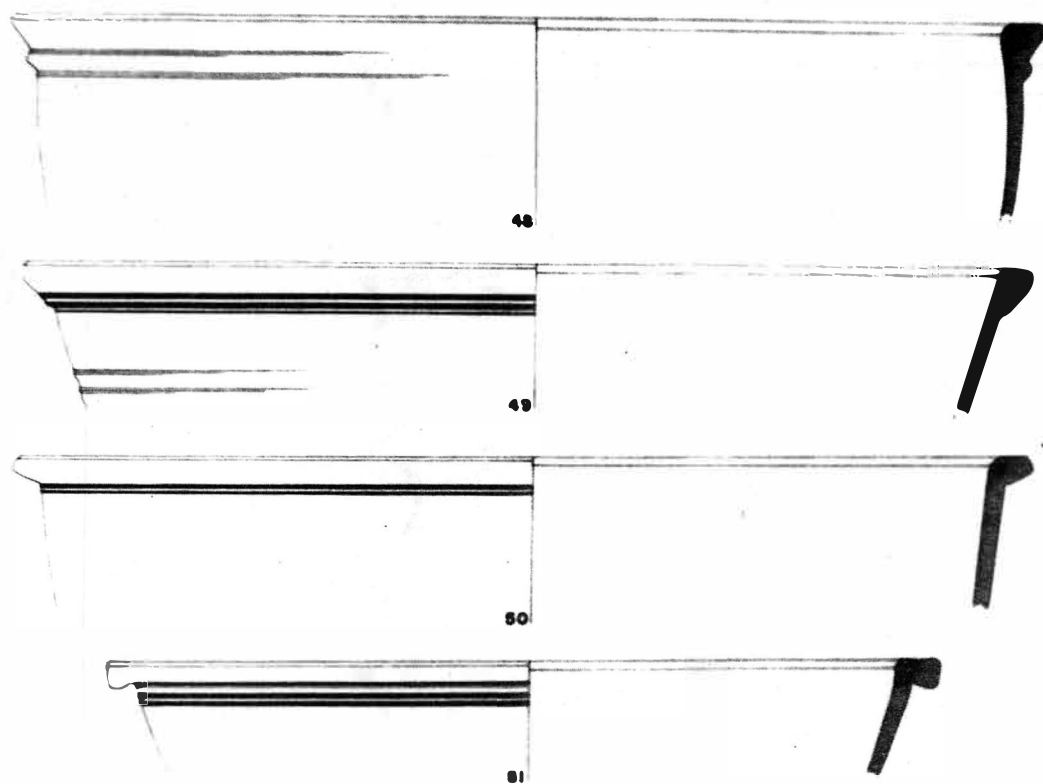


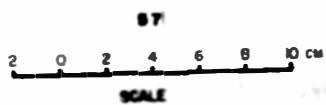
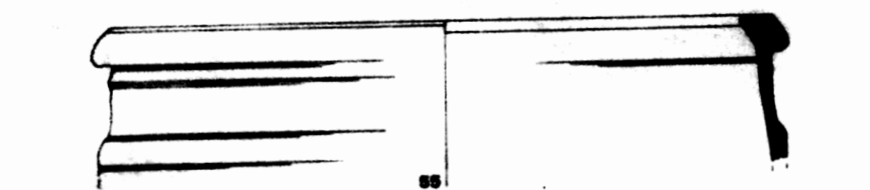
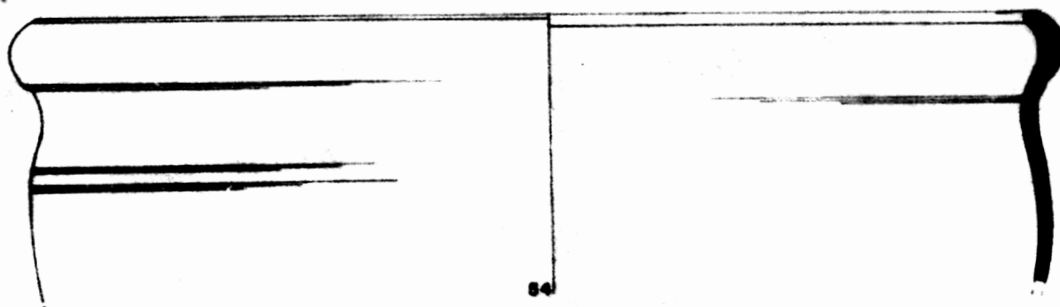
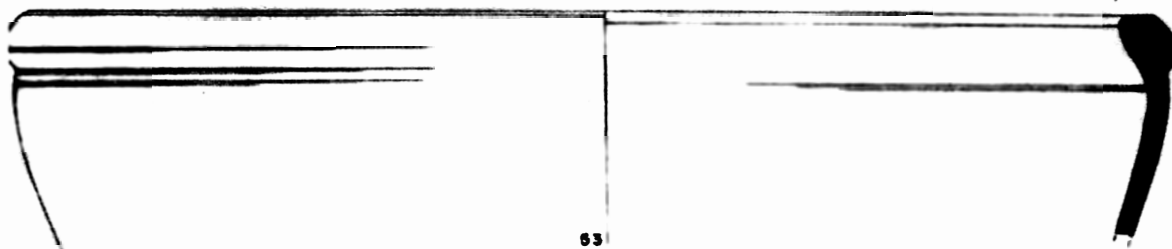
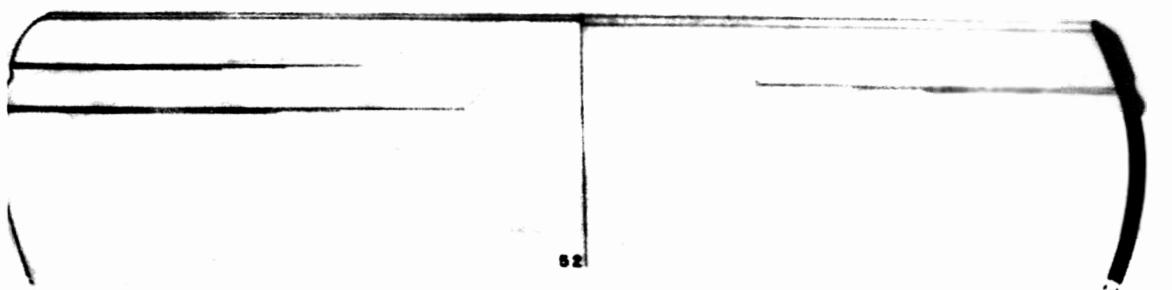
**Plate Showing Lion Heads.**



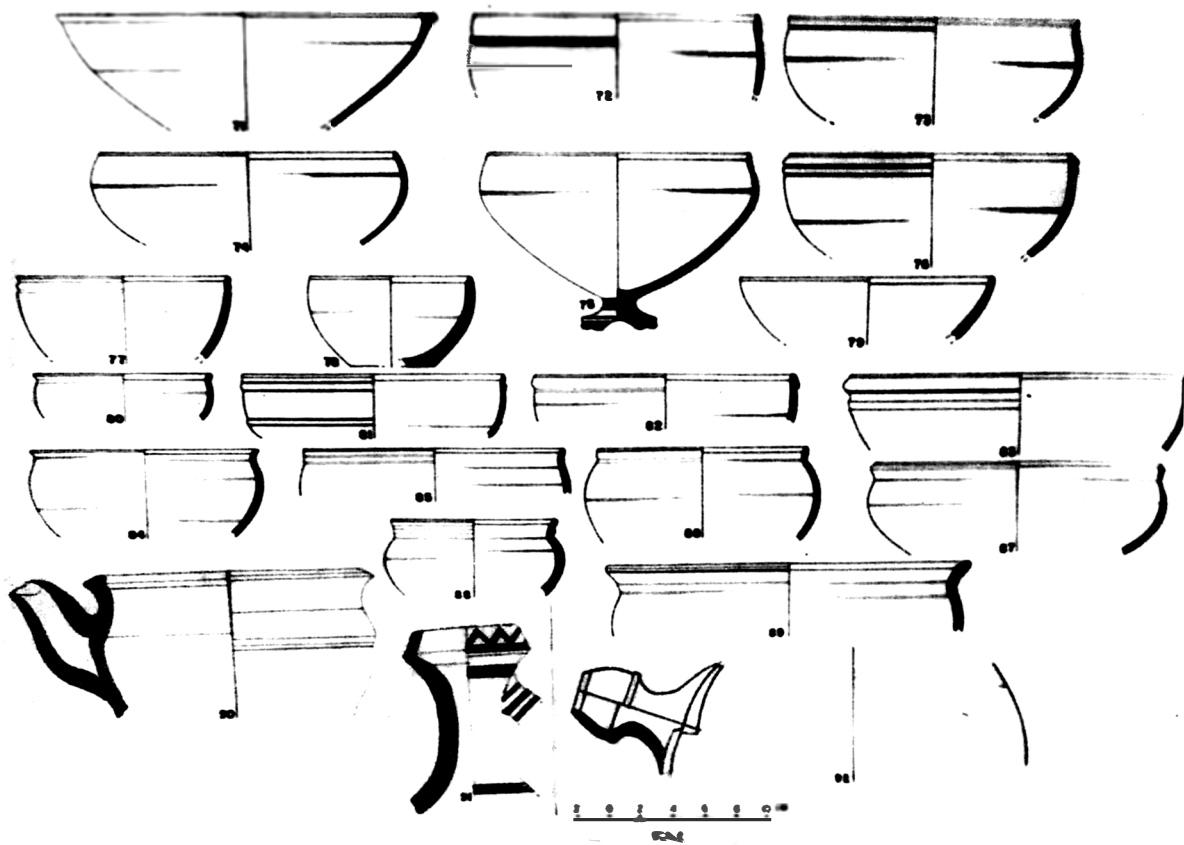




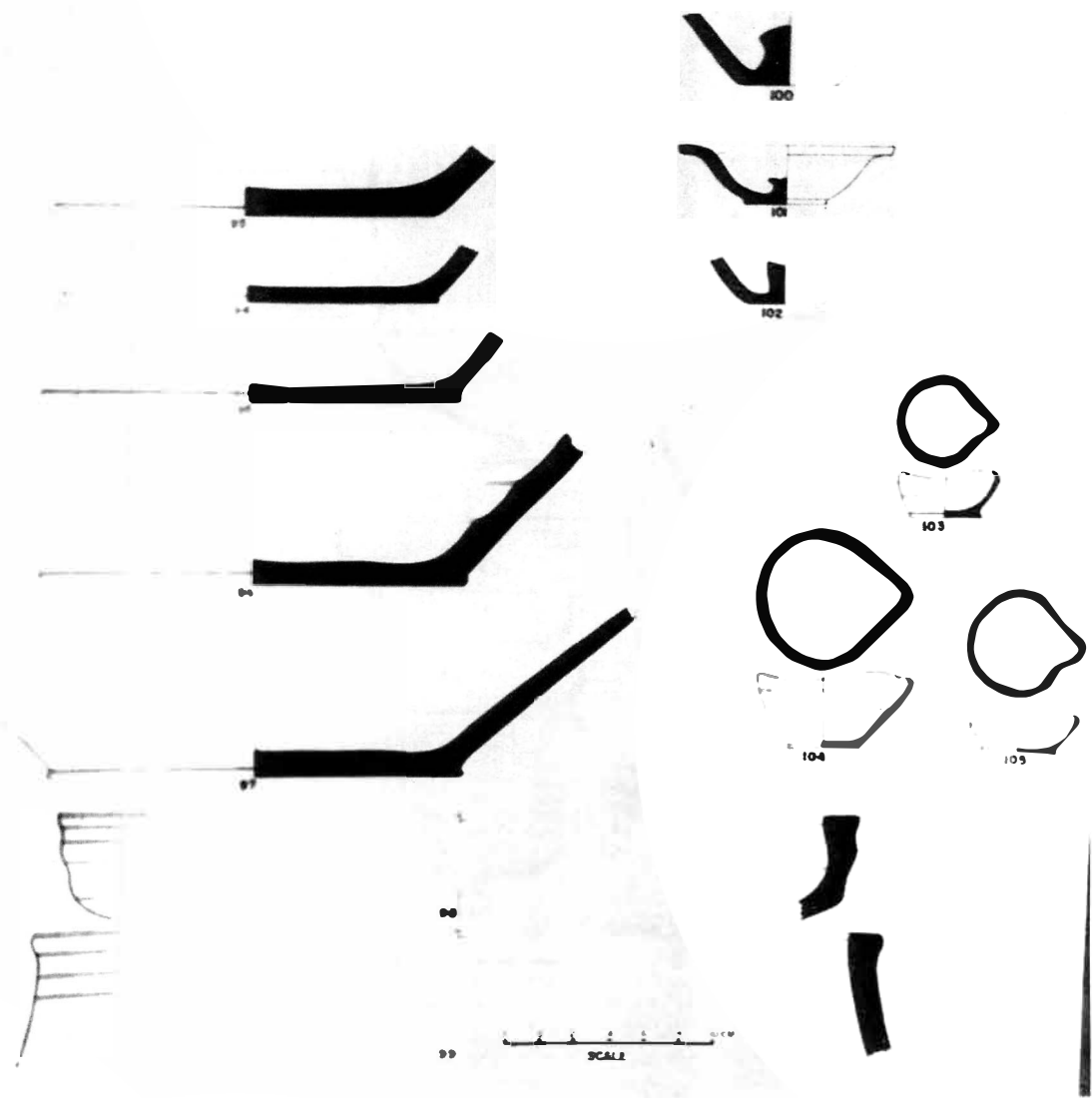


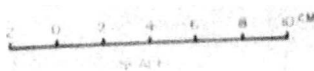
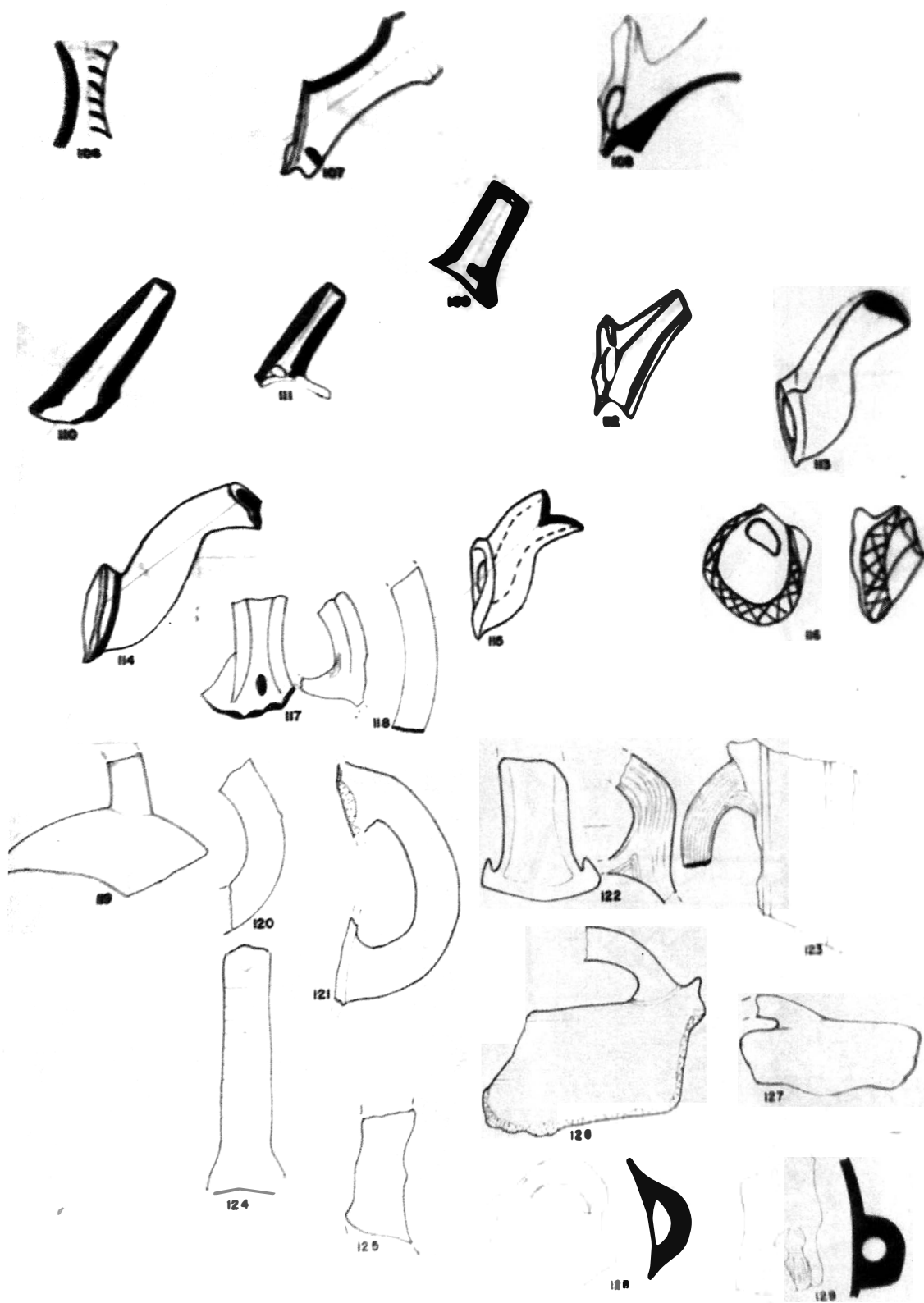


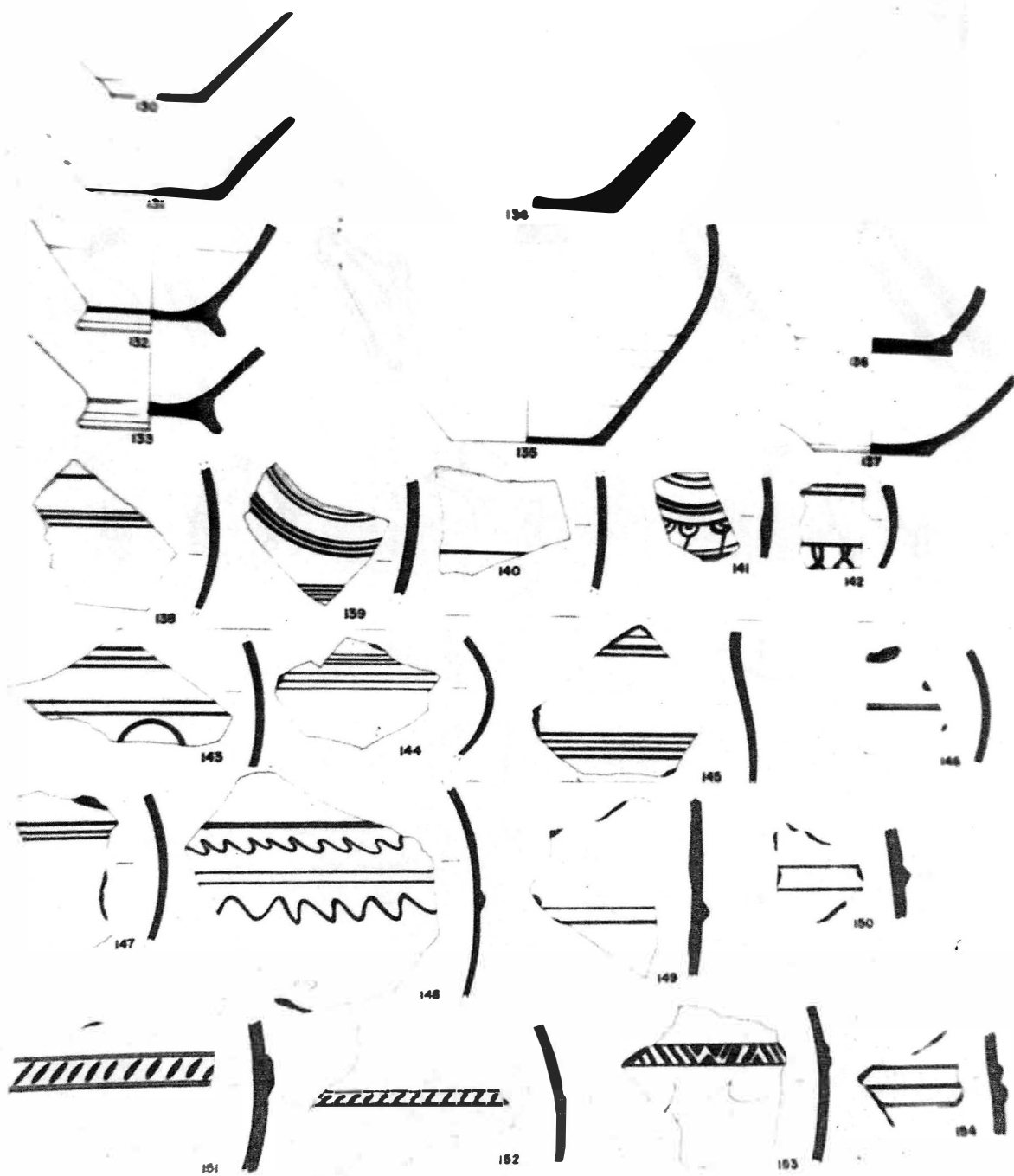




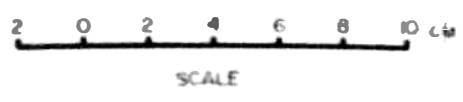
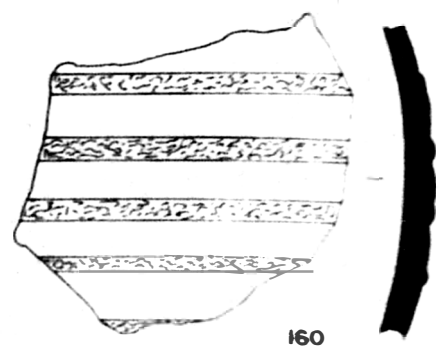
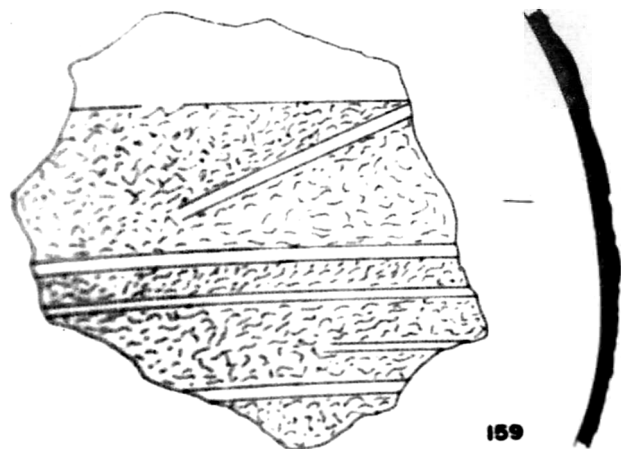
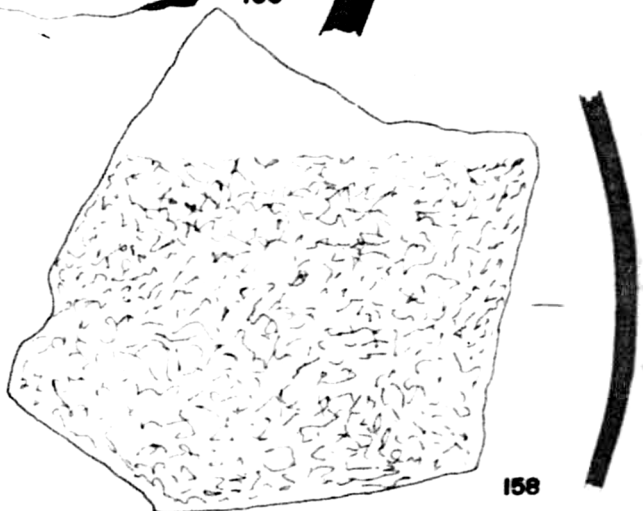
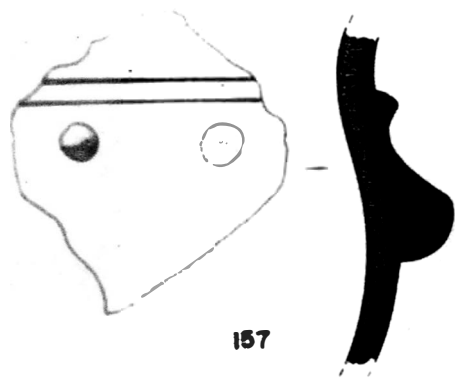
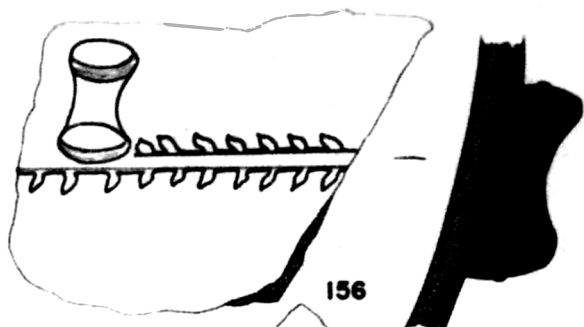
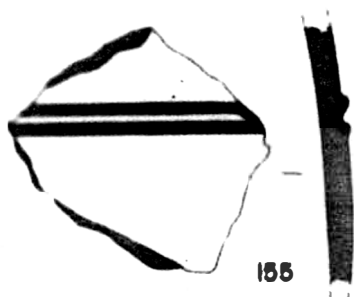


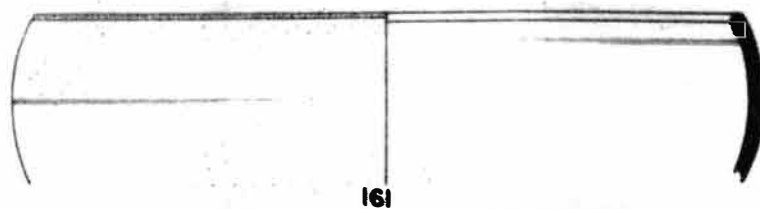




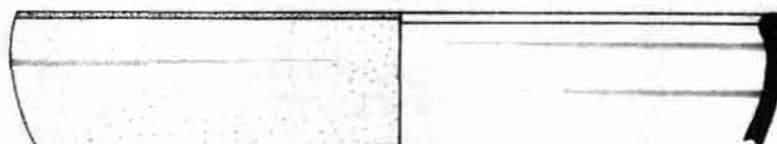


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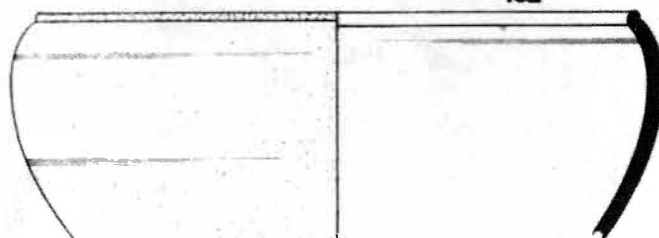




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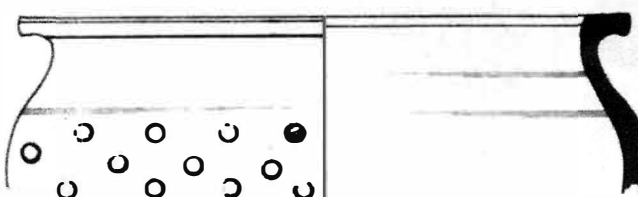
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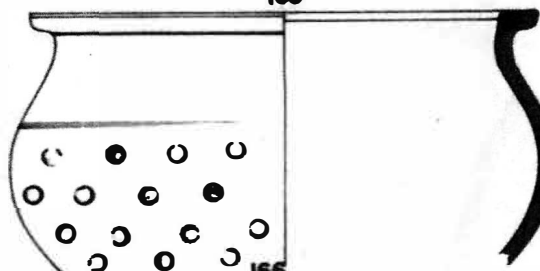
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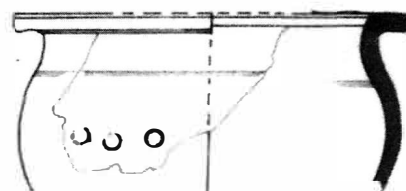
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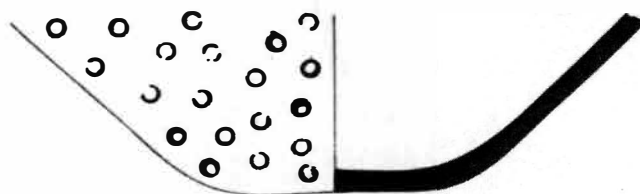
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SCALE