THE PREHISTORY OF AN IRON AGE SITE ON SKUTWATER

BY

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ABSTRACT

THE PREHISTORY OF AN IRON AGE SITE ON SKUTWATER

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After excavations on Mapungubwe by the Department of Archaeology of the University of Pretoria, two definitive research reports emerged in 1979 and 1980. These reports placed the cultural historical framework for Mapungubwe on a firm foundation, superannuating earlier work that had been variously criticised as unsuitable for comparative purposes.

The objectives of this research project were to excavate a related site in order to expand the available comparative data and extend the spatial perspective of the Mapungubwe culture. To this end the site of Skutwater was selected.

The material recovered from Skutwater was subjected to various analyses for defining the internal structure of Skutwater and generating comparative data. As far as possible quantitative data were used for comparisons.

The relationship between Skutwater and Mapungubwe was interpreted within certain social, economic and political models and a definate relationship was found to exist.

OPSOMMING

DIE VOORGESKIEDENIS VAN 'N YSTERTYDPERKTERREIN OP SKUTWATER

deur

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Na opgrawings op Mapungubwe deur die Departement Argeologie van die Universiteit van Pretoria, is twee omskrywende verslae gedurende 1979 en 1980 ingedien. Hierdie verslae het die kultuurhistoriese raamwerk vir Mapungubwe op 'n stewige fondament geplaas, ter vervanging van vroeë werk wat as onvoldoende gekritiseer is.

Die doelstellings met hierdie navorsingsprojek was om 'n verwante terrein op te grawe om sodoende die beskikbare vergelykingsdata uit te brei en om daardeur die ruimtelike perspektief van die Mapungubwe kultuur te verbreed.

Die Skutwater materiaal is aan verskeie analises onderwerp om die interne samestelling van die terrein vas te stel en om vergelykingsdata te genereer. So ver moontlik is daar van kwantitatiewe data gebruik gemaak vir vergelykingsdoeleindes.

Die verwantskap tussen Skutwater en Mapungubwe is binne sekere sosiale, ekonomiese en politieke modelle geïnterpreteer en daar is gevind dat 'n sterk verwantskap tussen die twee bestaan.

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CHAPTER 1

INTRODUCTION

The discovery of the Mapungubwe hilltop site on the farm Greefswald late in 1932 created a focal point for Iron Age research in the far Northern Transvaal. From this time onwards and extending up to the late 1960's, archaeological research on Greefswald and in the surrounding region was carried out on a sporadic basis. For a site of such obvious importance to the prehistory of the area, these efforts were clearly insufficient and consequently prompted Fagan (1970:197-198) to write:

> "The Greefswald sequence is of vital importance to the students of South African history. But until more excavation and laboratory work are carried out, our knowledge of this facinating region must remain tragically incomplete."

During the early 1970's the Department of Archaeology of the University of Pretoria started to concentrate its efforts on unravelling the Greefswald sequence. This resulted in many seasons of excavations over the years up to 1983. These excavations were planned to, as for a possible, study the various elements constituting the Greefswald sequence and to determine their interrelationships as a whole. The results of this research have been compiled into two extremely detailed reports: *Die Kulture van Greefswald* in five volumes by J.F. Eloff (1979); and *'n Interpretasie van die Greefswald Potwerk* by A. Meyer (1980).

At the same time (i.e. early 1970's) the Department of Archaeology of the National Cultural History and Open Air Museum, Pretoria, initiated an extensive field reconnaissance programme in the Limpopo River valley. The aim of this programme was to locate, survey and map all the Iron Age sites discovered in the valley. From the data recovered a series of sites were excavated (Hanisch 1979a, 1979b, 1980) with the objective of extending current perspectives of the cultural historical content of each site as well as its position in the temporal sequence of Iron Age cultures in the region.

During the course of the above programme, a prominent site related to Mapungubwe was discovered on the farm Skutwater. It is situated 18

kilometers to the east of the Greefswald sites sites and approximately 2,5 kilometers to the south of the Limpopo River.

Collections of surface samples of pottery were qualitatively analysed and from this it was immediately apparent that there was a very close resemblance between the pottery from Skutwater and that excavated on Mapungubwe. In most other respects - especially with regard to location and topography - Skutwater did not conform at all to those characteristic of Mapungubwe itself. Skutwater's size, geographic location and possible hierarchic position within the framework of the Greefswald sequence, made it an obvious choice to excavate in order to extend the data on the distribution, content and stratigraphic interrelationships of Mapungubwe type sites.

Excavations were carried out over a period totalling seven months between November 1981 and November 1983, all of which were funded by the National Cultural History and Open Air Museum.

The results of the excavations and subsequent analyses constitute the contents of this thesis, and have been set out as follows. Chapter 2 is a summary of previous research, pertinent to Skutwater, that has already been completed. In chapter 3 the Skutwater research problem is defined and the analytical procedure relevant to its solution outlined. Chapter 4 adresses the Skutwater environmental setting and gives an indication of the current ecological, climatological and geological status of the site. Chapter 5 gives a detailed account of the excavations and is followed by the synthesis and comparison of the data in chapter 6. Finally chapter 7 which, as the concluding chapter, is a review of all the salient points within their context of space, time and culture.

CHAPTER 2

HISTORY OF PREVIOUS RESEARCH

The apparent similarity between the pottery sample recovered from the surface of Skutwater and pottery from the excavations on Greefswald, defined by Meyer (1980) as the K2 and Mapungubwe Series, has led to the assumption that Skutwater may contain pottery representative of both the K2 and Mapungubwe series and that it consequently represents both of these facies of the southern Branch of the Leopard's Kopje Tradition as defined by Huffman (1974). In order to place the research on Skutwater into perspective within this framework, it is necessary to review the history of Iron Age research in both the Northern Transvaal and Zimbabwe.

The prehistory of Southern Africa came into focus through the discovery of Zimbabwe and other ruin sites a little over a century ago. In 1867 or 1868 Adam Render visited the Zimbabwe Ruins, although it is Carl Mauch who claims to have discovered these ruins in 1872. (Cooke 1972). Mauch and other early workers added much to the aura of mystery surrounding the ruins by presuming a very early age for them and variously linking them to the Queen of Sheba, the Sabaean Arabs and the Phoenecians (Bent 1891; Hall and Neal 1902; Hall 1905). These writings fortunately had the effect of arousing a great deal of interest in the prehistory of Zimbabwe amongst international scientists, with the result that a British archaeologist, D. Randall - MacIver, was invited by the British Association for the Advancement of Science to investigate the Zimbabwe Ruins.

Randall - MacIvers findings, published in 1906, were based on a stratigraphic analysis of the cultural material that he had excavated from several ruin sites. His conclusions were that Zimbabwe was not older than the 11th Century; that it had an African origin; and that it had been inhabited by the ancestors of the people still living in the area.

> "The people who inhabited the "Elliptical Temple" when it was built belonged to tribes whose arts and manufactures were indistinguishable from those of the modern Makalanga." (Randall - MacIver 1971:63)

The above findings obviously created an uproar and consequently G. Caton-Thompson was invited at a later stage to further investigate the ruins.

Caton-Thompson's research was also based on stratigraphic analyses, as well as on a qualitative classification of the pottery within stratigraphic context. From the latter she defined six classes of pottery: A, B, B1, B2, C and D. From this classification she concluded, as did RandallMacIver, that the pottery was similar to that produced by tribes still inhabiting the area, specifically associating it with that of the Barozwi. (Caton-Thompson 1931:53-54).

The discovery of Mapungubwe in December 1932, and the subsequent excavation of the Greefswald sites by Jones and Schofield from 1933 to 1934 (Fouché 1937) and Gardner from 1935 to 1940 (Gardner 1962), gave rise to the assumption that these sites were associated with other sites in Zimbabwe. This assumption was based on qualitative pottery classifications which indicated a large degree of similarity between the assemblages identified on both sides of the Limpopo River. (Schofield in Fouché 1937; Schofield 1948).

In his initial classification of the pottery from the Greefswald sites, Schofield (1937:41) defined two classes as typical of the Greefswald sequence. These he designated M1 and M2 respectively. This classification was later revised by Schofield himself as he felt that:

> "To a large extent, the Northern Transvaal, at least as far south as the Soutpansberg Mountains, is a province of the Southern Rhodesian protohistorical field." (1948:131).

This resulted in his combining the M1 class with the R2 of Zimbabwe. There was also a change in terminology wherein class M2 was named NT1. This latter class he separated on the grounds that:

> "This class M2 pottery, for which we now propose to use the term NT1, was, with the exception of a few pieces from Toupye, practically unknown outside the type site in the Limpopo valley. But the recent discovery of similar wares at Hillside, Bulawayo and Thaba ka Mambo, indicate that it had a wide distribution in Southern Rhodesia, where it was influenced by R1 and R2 pottery." (Schofield 1948:132).

All the early work on the Greefswald sites has been variously criticised by Fagan (1970: 197) and Inskeep (1969:33) amongst others, as being based on data unacceptable for interpretive purposes. Apart from the above excavations, very little work was done on Greefswald until the late 1960's, at which time a new series of excavations were initiated. These will be discussed in more detail below.

In 1950, Summers proposed an A, B, C and D cultural classification to order what he termed the "Iron Age" of Zimbabwe. Although this classification was based on other cultural aspects besides an apparent similarity in pottery, it also included a re-evaluation of Schofields' pottery classification. The end result of this process was the definition of Iron Age Cultures A to D each represented by a number of "species", ie Gokomere was species A1, Ziwa A2, etc.

Within the above classifications, he also proposed a linkage between Leopards' Kopje pottery and that from Mapungubwe, based on a number of characteristics occurring in both assemblages. In reviewing Schofields classification of the M2 pottery from Greefswald - renamed NT1 - he stated:

> "In many ways it resembles Leopards' Kopje ware, but it has many local variations and may be the fusion of several traditions of which Leopards' Kopje is only one. It is perhaps significant that at five sites (out of nine) in Southern Rhodesia and at several other sites in the Limpopo valley this ware is associated with fine Mapungubwe ware." (Summers 1950:98)

The term Leopards' Kopje was first applied to material found by Robinson (1959) in 1947, during an investigation of the Khami Ruins. It is a translation of Nthabazingwe, which is the name of the hill forming the south western boundary of the Main Kraal site. From the beginning it was therefore evident that an affinity existed between the Leopards' Kopje material and that recovered from K2 and Mapungubwe.

1. The South African Iron Age has been defined as

> "The period subsequent to the introduction of iron working, but prior to the appearance of European metal artefacts." (Mason 1952:70).

Further investigation of other sites containing Leopards' Kopje assemblages prompted Robinson (1965) to propose a division of this culture into three phases. This division was based on a typological analysis of structures and general village layout, pottery, glass beads and, to a lesser extent, on the distribution of Leopards' Kopje type sites. The three phases were termed Leopards' Kopje Phase 1 or Zhizo; Leopards' Kopje Phase 2 or Mambo; and Leopards' Kopje Phase 3 or Woolandale.

Robinson was of the opinion that the Leopard's Kopje sequence represented an evolutionary cultural continuum - affected from time to time by external influences - spanning the period from the Early Iron Age to the Khami Ruins Period in Zimbabwe. (Robinson 1965).

This sequence was constructed on the basis of relatively tenuous evidence. Most of the data from the type sites were inadequate and the only stratigraphy supporting the sequence was that of Thaba Zikamambo. At this time no radiocarbon dates were available for the Leopard's Kopje sequence. Consequently the order of the sequence was primarily determined by the presence/absence pencentage ratios of comb-stamping as opposed to incision as decoration techniques. (Huffman 1974:7).

Robinson (1966) also included the Northern Transvaal sites in the Leopard's Kopje sequence of Zimbabwe. He was of the opinion that although Phase 1 pottery did not occur in quantity in the early levels of either K2 or Mupungubwe, it could have been ancestral to the early pottery in the Limpopo valley; that the Phase 2 pottery was characterised by a number of beaker-shaped vessels which indicated an affinity to K2 pottery; and lastly that, although Phase 3 and Mupungubwe pottery differed to a certain extent, they still belonged to the same tradidion.

The Leopard's Kopje sequence was questioned by Huffman, who identified certain discrepancies between the proposed Leopard's Kopje chronology and a series of dates that had been obtained for Leopard's Kopje sites (1968;1974). He attributes these discrepancies to the following:

> "A certain amount of vagueness has clouded the concept of a Leopard's Kopje culture virtually since its identification, and this vagueness is partially due to superficial studies of inadequate type sites." (1974:9).

Huffman went on to redescribe the Leopard's Kopje sequence and his findings, based on excavations at Leopard's Kopje Main Kraal and Blue Jay/Hunting Close, reflect the following:

> "The stratigraphy and radiocarbon dates substantiate the original order of the Leopard's Kopje sequence, but Zhizo has been dated from the 7th to the 9th centuries, Mambo from the 10th to the 13th centuries and Woolandale from the 14th to the 16th centuries AD. Zhizo pottery continues a line of development from Gokomere, but Mambo belongs with Woolandale in another tradition. The Leopard's Kopje Tradition, therefore, no longer includes Zhizo as its first phase." (1974:131).

He states further that Leopard's Kopje, as one of the first later Iron Age Traditions in Zimbabwe, ended the Gokomere Tradition in Matabeleland and that it is represented by two Phases - Leopard's Kopje A and B - each of which has a northern and southern Branch. Phases A and B of the northern Branch are represented by the Mambo and Woolandale facies respectively and Phases A and B of the southern Branch by the K2 and Mapungubwe facies. (Ibid:131)

From the above it is evident that, by the early 1970's, much research had been done on the Iron Age of Zimbabwe. Although this work intergrated the Greefswald sites within the wider cultural context of the region, it must be emphasised that all the comparisons were based on data that had been variously criticised as inadequate. Consequently, no systematic comparison of assemblages based on accurate stratigraphic and quantitative data had thus far been possible. (Meyer 1980:24).

This discrepancy in the Greefswald sequence resulted in the initiation of a series of limited excavations on Greefswald from 1968 to 1970 by Eloff. It soon became apparent that a limited effort would not be sufficient to solve the problems and that extensive excavations would be necessary in order to gain an acceptable insight into the internal structure and articulation of the Greefswald sequence. (Eloff 1979 Vol 1: 6-8). This latter phase was carried out by Meyer who excavated on Greefswald over the period 1971 to 1973. This effort was further extended by annual student excavations up to 1979. (Eloff 1979, Vol 1: 8; Meyer 1980).

Excavations were done in three areas, namely K2, the top of Mapungubwe Hill and on the Southern Terrace of Mapungubwe Hill. The following sequence of occupation was derived by Meyer (1980) from an analysis of the recovered pottery.

In the lowest levels of the Hilltop and Southern Terrace excavations Early Iron Age pottery was recovered that was typologically similar to dated assemblages from Zimbabwe, Klein Afrika and Broederstroom. From this it appears that these sites were occupied for a short period around AD 300 or AD 400 by a small Iron Age community. (Meyer 1980:295).

During the period AD 970 to AD 1070 all three sites were occupied by a people possessing a uniform and developed pottery tradition. This group is represented by the pottery defined as the K2 series by Meyer (Ibid 296).

The period AD 1070 to AD 1150 was characterised by a number of cultural changes in the deposit. Although the Hilltop and Southern Terrace were still occupied by the manufacturers of K2 series pottery, it was found that the K2 site had been abandoned at this time. Also, at the beginning of this period, the first evidence of Mapungubwe series pottery occurs and increases in volume until it constitutes the dominant series at the end of this period. (Ibid:296).

The final phase of occupation of the Hilltop and Southern Terrace was from AD 1150 to AD 1200. This phase was characterised by a dominant Mapungubwe pottery series, almost to the total exclusion of the K2 series.

In reviewing earlier research which compares the Greefswald sites to those in Zimbabwe in the light of the latest research results, Eloff (1979, vol III:330-333, 368) was of the opinion that, although a number of similarities were apparent between the facies comprising the northern and southern Branches of the Leopard's Kopje Tradition, a comparison based on the data from only one example of each of the southern Branch facies

was not sufficiently representative. He stated:

> "Omdat daar tot dusver nog geen volledige beskrywings gemaak is van ander Mapungubwe tipe terreine nie, is die enigste terreine waarmee die potwerk van Mapungubwe self vergelyk kan word, dié van die Woolandale "Facies" van die Leopard's Kopje Fase B."

Hanisch consequently initiated research into the Zhizo/K2 relationship in the Limpopo valley area around the confluence of the Shashi and Limpopo Rivers. He summarises the results of his findings from excavations on the sites of Schroda and Pont Drift he summarises as follows:

> "a picture has been given of the research ... with many references to the similarities between the two cultures (Zhizo and K2) under review (but) each culture is clearly representative of a Southern Branch of two seperate Traditions." (1980:254).

It was also evident that the Zhizo pottery assemblages of the Limpopo valley differ from the Zimbabwe Zhizo pottery as defined by Robinson (1965;1966) and Huffman (1973;1974) on the basis of several attribute combinations. Hanisch was of the opinion that:

> "there are ... sufficient grounds to separate the Tradition into a Northern and Southern Branch (and) propose that Schroda be referred to as the type site for the Southern Branch." (1980:356).

Prior to selecting the Pont Drift and Schroda sites as representative for his research problem, Hanisch did extensive field reconnaissance in the Northern Transvaal, primarily in the Limpopo and Sand River valleys and identified a great number of Iron Age sites.

From the above reconnaissance effort the site of Skutwater was selected for excavation. As stated at the beginning of this chapter, a qualitative analysis of the surface material recovered from this site indicated that it contained material representative of both the K2 and Mapungubwe series as defined by Meyer (1980). Its size and geographic location, together with its assumed cultural content and chronological position, made it an obvious choice for intra-site and inter-site comparative modelling. Specific reference to the interrelationships of the K2 and

Mapungubwe facies in a wider cultural context as representing phases A and B of the Southern Branch of the Leopard's Kopje Tradition also could be made, thereby extending our knowledge of the archaeological cultures of this period in the prehistory of the region.

It has been sufficiently demonstrated that the archaeological cultures of the northern Transvaal from the Soutpansberg range northwards form a continuum which extends into Zimbabwe (Huffman 1974; Schofield 1937, 1948; Summers 1950). As the Greefswald sequence and other related sites between the Limpopo River and the Soutpansberg are representative of the southern part of the distribution a brief overview of the Iron Age cultures to the south of the Soutpansberg is given below to centralise Skutwater spatially and to give an indication of its temporal locus relative to these cultures.

The Early Iron Age in the Transvaal south of the Soutpansberg is represented by a widespread distribution from east to west of which Eiland (Evers 1981), Lydenburg (Evers 1982) and Broederstroom (Mason 1981) have been well documented.

Mason (1983) has defined a Middle Iron Age period dating from AD 1350–1500 on the basis of material recovered from Olifantspoort which he relates to the Sotho-Tswana. He (op. cit.) has further defined a Later Iron Age for the central-southern Transvaal which extends from c. 1500–1823 wherin the hut floors and pottery are argued to represent a direct development from Middle Iron Age forms into historic Sotho-Tswana forms.

The above divisions have been grouped by Mason (1981, 1983) into what he calls the Oori Tradition. This grouping is based on the assumption that a stylistic continuum exists that links the Early Iron Age as represented at Broederstroom (AD 350–600) with the ancestral Sotho-Tswana represented at Olifantspoort and contimus to include historic expressions of Sotho-Tswana culture.

Evers (1983) argues that his continuum does not exist and has demonstrated a statistical break in the correlation between the Early Iron Age and the ancestral Sotho-Tswana. This also coincides with a temporal break in continuity between AD 600 and AD 1200 representing the end of the Early Iron Age and the advent of the ancestral Sotho-Tswana respectively.

The argument as to whether a developmental continuum exists or a new tradition appears around AD 1200 in the region is irrelevant within the scope of this thesis. It is sufficient to note that the Greefswald sequence, which has been dated from AD 900-1200 occurs at the later end of the period separating the Early Iron Age from the ancestral Sotho-Tswana and that the commnities north and south of the Soutpansberg are at present assumed to be unrelated.

CHAPTER 3

THE SKUTWATER PROJECT

Two problems were identified relating to the position assumed to be held by K2 and Mapungubwe within the prehistoric framework of the Northern Transvaal and southern Zimbabwe.

Firstly, the relationship between the K2 and Mambo facies and Mapungubwe and Woolandale facies of the Leopard's Kopje Tradition as defined by Huffman (1974) was, with respect to the Northern Transvaal sites, based on data derived from only one site representing each facies. This was, in Eloff's (1979) opinion, insufficient.

Secondly, the inclusion of the Northern Transvaal sites in the Leopard's Kopje Tradition was done by means of a comparative pottery analysis based on early data from the Greefswald sites that have been criticised as inadequate for this purpose by Fagan (1970) and Inskeep (1969). This problem has largely been resolved by the recent extensive excavations carried out by Eloff (1979) and Meyer (1980). Once the results of these excavations which were carried out on both K2 and Mapungubwe became available, the cultural historical framework for these temporal and spatial loci were placed on a much firmer basis. Building on this, further research strategies could be planned in order to expand our knowledge of the Greefswald sequence within a wider spatial perspective.

3.1 Statement of the problem

The objectives of the Skutwater research are twofold: the first of these is to determine the internal cultural and chronological sequence of the site of Skutwater itself and secondly, to determine the degree of affinity that exists between Skutwater and the Greefswald sites through comparative analyses.

3.2 Procedure

In order to obtain the data required for the solution of the problems the following procedures will be applied:

3.2.1 Study of relevant data

An intensive study will be made of the data resulting from the 1971 to 1979 series of excavations carried out on the Greefswald sites by the University of Pretoria.

3.2.2 Excavation

Excavations will be carried out on Skutwater and the resulting assemblages will be subjected to detailed analysis in order to establish their relationship within a cultural and chronological context. These assemblages will, as far as possible, be defined typologically within a quantitative system of classification. The relative sequence of the strata represented in the deposit will, in turn, be correlated with radiocarbon dates thereby defining the temporal locus of the site.

3.2.3 Classification and comparative procedures

It is accepted practice for archaeologists to define cultural identity on the basis of quantifying the stylistic attributes of ceramic assemblages (Huffman 1980; Mason, 1983). This stylistic aspect has been defined as:

> "All of the variations in form and behaviour which are non-functional." (Huffman 1980:124).

The Skutwater ceramic assemblage will be classified on a stylistically oriented statistical basis from which its typology will be derived. This in turn will be utilised for comparison with the types representing the Greefswald sequence.

Quantitative procedures will also be applied for the classification of the Skutwater bead and faunal assemblages and for the subsequent comparison of these with the corresponding assemblages from the Greefswald sequence.

Where the recovered data do not lend themselves to quantification for statistical manipulation through either insufficient representation or lack of stylistic attributes, such as vague floor surfaces, stone features, metal artifacts, stone artifacts, floral remains and ceramic artifacts other than pottery, they will be qualitatively grouped into types within those defined for the Greefswald sequence by Eloff (1979).

The comparative procedures that will be applied are presence/absence scoring; percentage frequency distributions and the determination of the Pearson product-moment correlation co-efficients.

The objective is to determine the degree of cultural affinity that may or may not exist between Skutwater and the Greefswald sequence based on the comparison of as wide a spectrum of assemblage data as possible.

Through the application of the above procedures it should be possible to define the cultural content of Skutwater within its archaeological and temporal contexts and to sufficiently demonstrate the degree of affinity that is apparent between this site and those of the Greefswald sequence. This should, in turn, allow an interpretation of the wider spatial context of the K2 and Mapungubwe cultures of the Northern Transvaal from the perspective of an extended and more acceptable culturally defined spatial and temporal data base.

3.3 Terminology

In this thesis standard terms have been used throughout for the various aspects relating to the excavations and artifact analyses. Where a degree of ambiguity was apparent the necessary explanation was included directly.

As a result of interpretations by a number of researchers various labels have been applied to the sites and cultural sequences representing the field for this research which have to be clarified. The first of these relates to the Greefswald sites.

Greefswald is the name of a farm in the Northern Transvaal on which two discrete though related sites were discovered, namely Bambandyanalo and Mapungubwe. During his excavations on Bambandyanalo, Capt. Gardner was struck by the resemblance of two mounds of occupational debris on the site to the Koms of his Middle-East experience, with the result that he dubbed the smaller of the two Kom 1 and the larger Kom 2 respectively. These were subsequently abbreviated to K1 and K2. His work on Bambandyanalo and that of later researchers was confined to the K2 deposit which consisted of an enormous central midden. This resulted in the interchangeable use of the terms K2 and Bambandyanalo. As the two are used as synonym and the former is easier to articulate, it will be used to refer to this site throughout this work.

Mapungubwe is a flat-topped sandstone hill about 1 km to the north-east of K2 which is characterised by occupation of its crest as well as the low lying areas surrounding it in the form of gradually sloping natural terraces. Two seperate areas were excavated in order to deter-

mine the occupational structure, namely on the top of the hill and on the Southern Terrace.

During the course of the excavation of these three sites, the Greefswald sequence of occupation was established based on the occurrrence of two distinct pottery types, namely the K2-type and Mapungubwe-type. The Greefswald sequence itself comprises four phases:

Phase I: This Phase is the earliest indication of Iron Age settlement on Mapungubwe relating to the Gokomere Tradition. It is not taken as part of the Greefswald sequence.

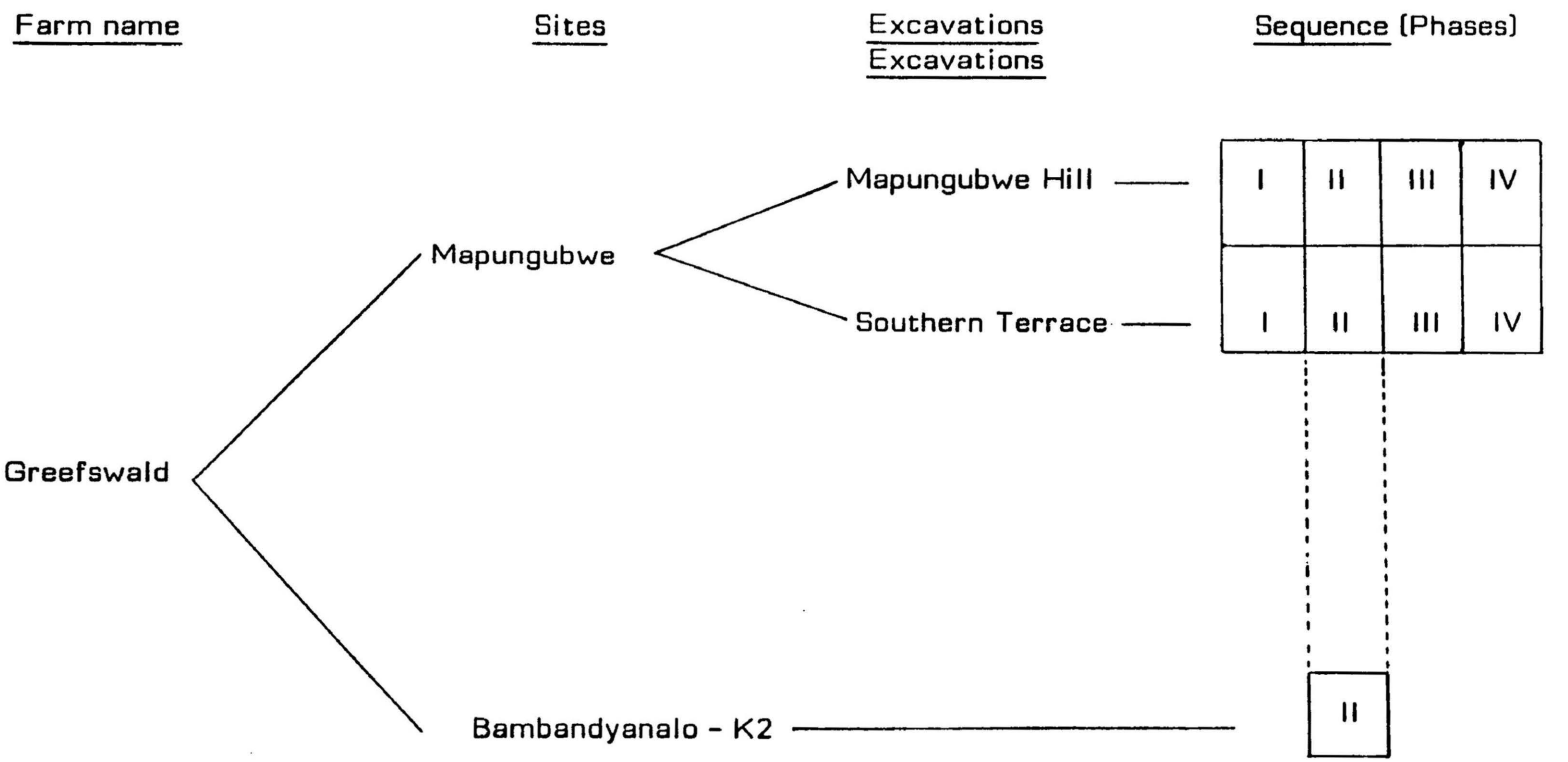
Phase II: This is the earliest phase of the sequence and only K2 pottery is represented. it occurs in K2 and Level IV of the Mapungubwe Hill and Southern Terrace sites.

Phase III - IV: These later Phases only occur on the Mapungubwe Hill and Southern Terrace sites consisting of a combination of K2 and Mapungubwe type pottery: the former was found to predominate in Phase III and the latter in Phase IV. These Phases relate to the Levels of excavation as follows: Phase II = Level III: Phase III = Level II: and Phase IV = Level 1.

The above exposition has been outlined in schematic form in figure 3.1.

In the discussions that follow references to the Greefswald sites will include only the Hill and Southern terrace excavation as representative of the Greefswald sequence as a whole, and the Greefswald sequence will have bearing only on the occupational Phases reflected by the combination of the stratigraphics of these two sites.

Fig. 3.1 Schematic representation of the Greefswald sites and Greefswald sequence.



CHAPTER 4

THE ENVIRONMENT

In general, the Limpopo River Valley is still relatively wild and unspoilt.

The topography varies from gently undulating hills to broken ground characterised by steep-sided sandstone kopjes and narrow, boulder strewn valleys.

Along the banks of the Limpopo River and its larger tributaries thin bands of dense riverine vegetation occur. In the areas of broken ground mixed bushveld and grasslands occur whilst the rest of the region is characterised by Mopanie veld (Acocks 1975). Wild fruit trees are found in abundance and after periods of sufficient rainfall good harvests of the various fruits in season can be made.

Game is also still plentiful in the valley and, except where hampered by game fencing, the animals can still move about with relative ease. Apart from the occurrence of a wide spectrum of grazers and browsers, carnivores such as leopards, jackals, and many of the smaller felines also abound. At the upper end of the scale, lions, elephant and buffalo do occur but are scarce and usually only pass through the valley on a sporadic basis.

Although the area is plagued by frequent periods of drought, one good rainy season is sufficient to allow the grasses and trees to sprout miraculously and, although the period of peak nutritional value is short, the standing forage represented should sustain balanced utilisation over at least two dry years.

On the whole the Limpopo Valley would appear to have been a viable and pleasant region for agropastoralists to have settled in, if their herds were maintained at numbers within the carrying capacity of the veld. The cultivable soils are not very good yet sufficient crops could have been produced on the available soil types given enough water.

A detailed description of the various physical and biological aspects of the site environment is given below.

4.1 Geology and topography

Skutwater is situated on a terrace of Tertiary to Quaternary deposits of sand alluvium, terrace gravels and surface limestone. This deposit is bordered to the north by the Limpopo River, to the south by the Stormberg Series of the Karoo System and to the east by the Ecca and Beaufort Series which are also part of the Karoo System.

Topographically the area surrounding the site is flat sandveld which descends towards the Limpopo River to the north and rises gradually to the south through country broken by sandstone kopjes to a vaguely defined escarpment approximately delimited by the 600 meter contour line. The site itself is situated on a contour height of 506 meters. Although the area is generally flat, it is cut from south to north by numerous dry watercourses which, during the rainy season, drain into the Limpopo River. (Fig. 4.1 & 4.2).

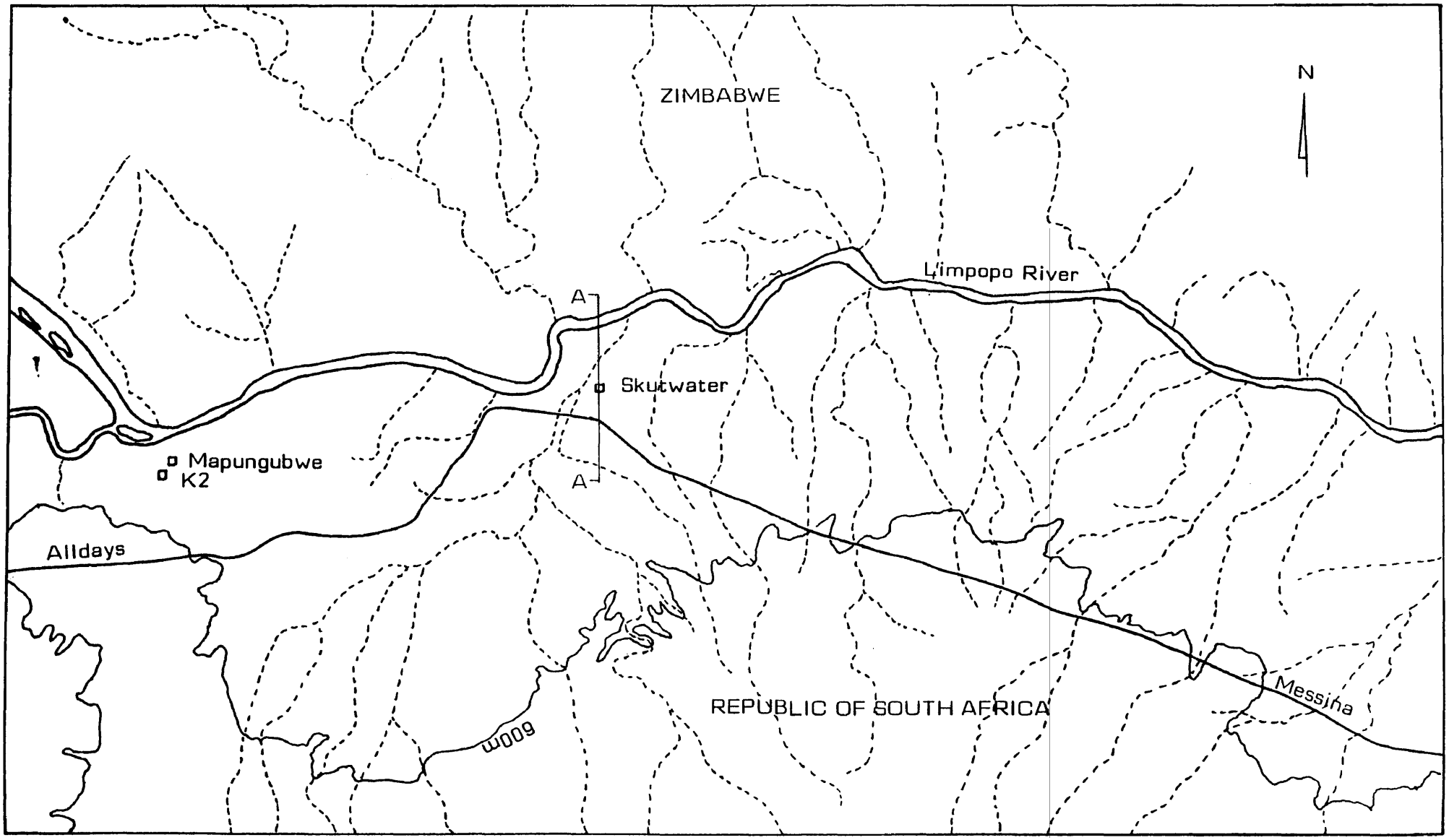
The Limpopo River itself is the only perrenial water supply in the area. During periods of drought it stops running on the surface, but the sub-terranean flow is sufficient to ensure that waterholes in the deeper areas of the riverbed remain viable sources of water throughout the year.

4.2 Climate

The Skutwater area falls within the sub-tropical summer rainfall region. Weather Bureau figures indicate an average annual rainfall of 329.5 millimeters with a slight peak during February. Precipitation is, however, most erratic and subject to relatively high fluctuations from year to year. Periods of drought are also a common phenomenon in the region. When it does rain, thunderstorms of short duration usually occur with the result that a large amount of run-off occurs and absorption is consequently minimal. The sandy nature of the soils in

Fig. 4.1

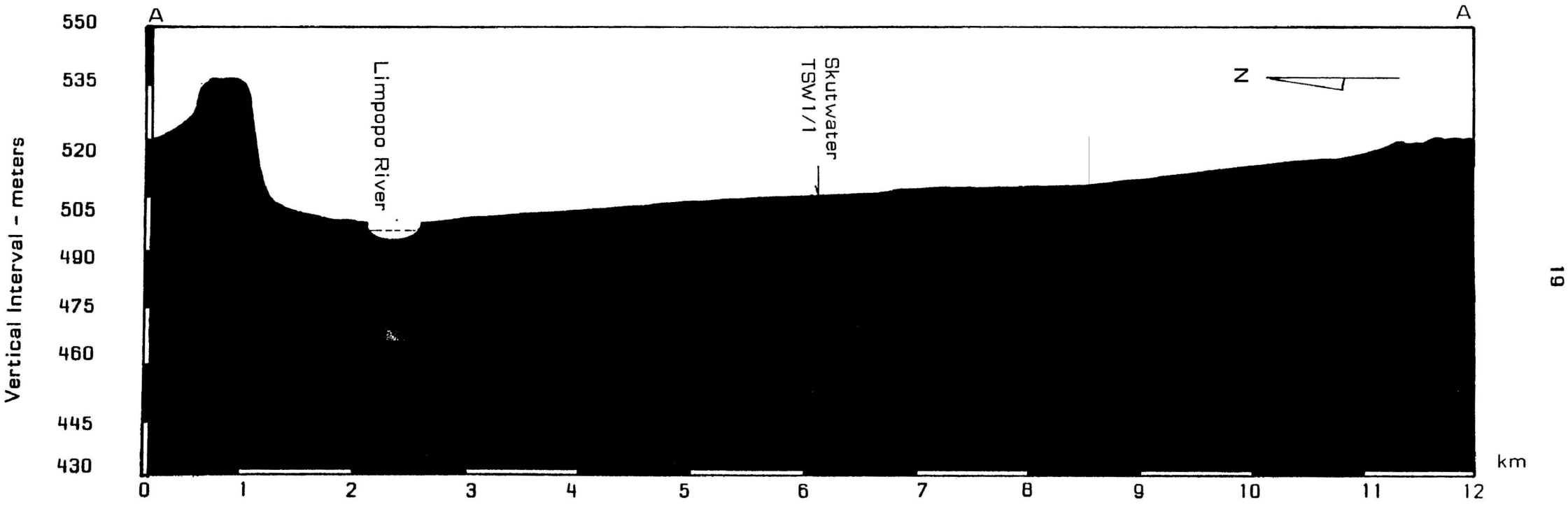
Map Showing Skutwaters' position relative to Mapungubwe and K2.



Scale: 1 : 250 000

Fig. 4.2

Cross-section of the Limpopo Valley through Skutwater from north to south.



the area also contribute to the general aridity as they drain well and leaching is high in areas where the ground-cover is sparse.

Temperatures in the region fluctuate from warm to very hot during the summer months to mild during the winter. The maximum and minimum temperatures vary from an average of 32°C and 18°C during January and 22°C and 4°C during July. Extremes of 42°C in January and 7°C in July have been registered. (Schulz 1965:320).

4.3 Vegetation

Apart from its Limpopo River frontage to the north with its characteristic riverine vegetation, the Skutwater area in general falls into that vegetation zone which Acocks (1970:37-38) describes as Mopane Veld. He defines it as follows:

> "The vegetation is typically a short fairly dense growth of shrubby *Colophosperum mopane*, generally associated with a number of other trees and shrubs in a sparse and somewhat tufted grassveld. In parts the mopane is stunted and completely dominant: while in the main valleys the bush is more mixed and not dominated by mopane. Here is the usual riverside growth of tall *Acacia karroo* and *Panicum maximum*, with more or less *Boscia foetida*, *Boscia albitrunca*, *Acacia tortilis subsp. heterancantha*, *Commiphora pyracanthoides*, *Terminalia prunioides*, *Mundulea sericea* and thickets of *Acacia mellifera subsp detinens*. *Adansonia digitata* occurs scattered all through this veld type."

Tables 4.1 and 4.2 give details of the various trees and grasses that occur in the area.

Table 4.1

TREES

Colophospermum mopane
Acacia tortilis subspc. heteracantha

Table 4.1 Continued

Acacia nigrescens and others
Combretum apiculatum
Sclerocarya caffra
Dichrostachys cinerea subspc. africana
Cadaba termitoria
Schotia capitata
Boscia foetida subsp. rehmanniana
Boscia albitrunca
Cassia abbreviata subsp. beareana
Commiphora spp.
Grewia spp.
Ximenia sp.
Lycium sp.
Terminalia pruinoides
Adansona digitata

(After Acocks 1975 p. 38)

Table 4.2

GRASSES

Anthephora pubescens
Brachiaria nigropedata
Bothriochlora insculpta
Eragrostis superba
Schmidtia pappophoriodes
Heteropogon contortus
Stipagrostis uniplunus
Chloris roxburghiana
Tricholaena monachne
Eragrostis nindensis
Cenchrus ciliaris
Panicum maximum (patches)
Digitaria eriantha (patches)
Neorautanenia sp.

(After Acocks 1975 p. 38)

4.4 Fauna

Prior to being developed as an irrigation unit Skutwater was a game farm. As a result of controlled hunting, the herds of game on the farm may be assumed to be representative of what the faunal population comprized of in earlier times. Although many of the species may have occurred in greater abundance in the general area, it is felt that the faunal lists (Table 4.3 and 4.4) compiled for Greefswald, which include a number of species of animals and birds not observed on Skutwater, are representative of the minimum range of feral food sources available to early inhabitants of the area. (Voigt 1978:11).

Table 4.3

GREEFSWALD MAMMALS

Phylum: CHORDATA

Class: Mammalia

Order: Macroscelidae

Elephantulus myurus (Naked-tail elephant shrew)

Order: Chiroptera

Epomophorus wahlbergi (Wahlberg's epauletted fruit bat)

Epomophorus crypturus (Peter's epauletted fruit bat)

Nycteris thebaica (Egyptian slit-faced bat)

Rhinolopius hildebrandti (Hildebrandt's horseshoe bat)

Rhinolophus darlingi (Darling's horseshoe bat)

Order: Primates

Galago crassicaudatus (Grand galago)

Galago senegalensis (Lesser galago)

Papio ursinus (Baboon)

Cercopithecus aethiops (Vervet monkey)

Order: Carnivora

Otocyon megalotis (Bat eared fox)

Canis mesomelas (Black-backed jackal)

Ichtonyx striatus (Polecat)

Viverra civetta (Civet)

Genetta rubiginosa (Rusty spotted genet)

Herpestes sanguineus (Slender mongoose)

Mungos mungo (Banded mongoose)

Helogale parvula (Dwarf mongoose)

Felis lybica (Cape wild cat)

Felis serval (Serval cat)

Felis caracal (Lynx)

Panthera pardus (Leopard)

Panthera leo (Lion)

Acinonyx jubatus (Cheetah)

Order: Tubulidentata

Orycteropus afer (Aardvark)

Order: Proboscidae

Loxodonta africana (Elephant)

Order: Hyracoidea

Procavia capensis (Rock hyrax)

Heterohyrax brucei (Yellow spotted dassie)

Order: Perissodactyla

Equus burchelli (Zebra)

Order: Artiodactyla

Potamochoerus porcus (Bushpig)

Phacochoerus aethiopicus (Warthog)

Hippopotamus amphibius (Hippopotamus)

Sylvicapra grimmia (Grey duiker)

Raphicerus campestris (Steenbok)

Table 4.3 Continued

Raphicerus melanotis (Grysbok)
Oreotragus oreotragus (Klipspringer)
Redunce fulvorufula (Mountain reedbuck)
Kobus elipsiprymmus (Waterbuck)
Aepyceros melampus (Impala)
Connochaetes taurinus (Blue wildebeest)
Tragelaphus scriptus (Bushbuck)
Tragelaphus strepsiceros (Kudu)
Taurotragus oryx (Eland)

Order: Lagomorpha
Lepus capensis (Cape hare)
Lepus sactilis (Scrub hare)
Pronolagus randensis (Natal red hare)

Order: Rodentia
Hystrix africaeaustralis (Porcupine)
Thryonomus swinderianus (Cane rat)
Paraxerus cepapi (Tree squirrel)
Pedetes capensis (Springhare)
Acomys spinosissimus (Spiny mouse)
Aethomys namaquensis (Rock rat)
Aethomys chrysophilus (African (bush) rat)
Tatera leucogaster (Bushveld gerbil)

(After Rautenbach in Eloff 1979. vol 1: inclusion 1/2(1))

Table 4.4

GREEFSWALD BIRD LIST

African Jacana
African Pied Wagtail

Babblers
Arrow-marked-
Grey Tit-
Banded Gymnogene
Barbets
Black-collared -
Crested -
Pied -

Bataleur
Bee-eaters
- Little -
- White-fronted -

Black Crake
Black-headed Oriole
Black Tit
Bulbuls
- Black-eyed -
- Terrestrial -
- Yellow-breasted -

Buntings
- Golden-breasted -
- Rock -

Brubru

Cape Dikkop
Chats
- Familiar -
- Mocking -

Double-banded Sandgrouse Doves
- Cape Turtle -
- Emerald-spotted -
- Laughing -
- Red-eyed -

Eagles
- Black -
- Tawny -
- Hawk -
- Martial -
- Bataleur -
- Fish -

Egyptian Goose
Eremomela
- Burnt-necked -
- Yellow-bellied -

Firefinch
- Jameson's -
- Red-billed -

Flycatcher
- Blue-grey
- Chin-spot
- Marico

Fork-tailed Drongo
Francolins
- Crested -
- Natal -
- Swainson's -

Goshawk
- African -
- Gabar -

Green-backed Heron
Greenshank
Grey-backed Bush Warbler
Grey Loerie
Groundscraper Thrush

Hadeda
Hammerkop
Helmeted Guineafowl

Honeyguide
- Greater -
- Lesser -

Hoopoe
- African -
- Red-billed -
- Scimitar-billed -

Hornbill
- Grey -
- Red-billed -
- Yellow-billed -

Kingfisher
- Brown-hooded -
- Giant -
- Pied -

Klaas's Cuckoo

Lilac Breasted Roller

Melba finch

Meyers parrot

Mousebird
- Red-faced -
- Speckled -

Owl
- Giant Eagle -
- Pearl-spotted -
- Scops -
- Spotted Eagle -

Pigeon
- Green -
- Rock -

Plover
- Blacksmith -
- Kittlitz's -
- Three-banded -
- White-Crowned -

Prinia
- Black-chested -
- Tawny-flanked -

Rattling Cisticola

Robin
- Heuglins' -
- White-browed -
- White-throated -

Rock Kestrel

Rock Martin

Sabota Lark

Shrike
- Boubou -
- Grey-headed Bush -
- Long-tailed -
- Orange-breasted Bush -
- Puff-back -
- Red-billed Helmet -
- White Helmet -

Sparrow
- Grey-headed -
- Yellow-throated -

Starling
- Cape -
- Long-tailed -
- Red-winged -

Sunbird
- Collared -
- Marico -
- White-bellied -

Swallow
- Lesser -
- Wire-tailed -

Swift
- Little -
- Palm -

Three-streaked Tchagra

Waxbill
- Blue -
- Common -

Weaver
- Buffalo -
- Spectacled -
- Red-Headed-

White-browed Coucal

Woodpecker
- Bearded -
- Cardinal -

Wood Sandpiper

Yellow-eyed Canary

Yellow White-eye

(After AC & MI Kemp in Eloff 1979, vol 1 : inclusion 1/2(2))

CHAPTER 5

THE EXCAVATIONS

5.1 Description of the site

The site known as Skutwater TSW 1/1 (22°21'S - 30°02'E) is situated on the farm Skutwater 115 MS in the Messina district. (Plate 1). The farm itself is approximately 65 kilometers west of the town of Messina. The site occurs on the ecological boundary between the zone of Mopane Sandveld as described by Acocks (1970) and an area of seasonal pans dominated by a mixture of *Acacia sp.* and *Boscia foetida*. (Plate 2). These pans, in turn, verge on the dense riverine vegetation along the southern bank of the Limpopo River. The river itself is approximately 3,5 kilometers to the north of the site.

The site is composed of a mound of cultural debris which rises to a height of 1,75 meters above the relatively flat, natural, sandy plain that surrounds it. (Fig. 5.1). The mound itself is more or less circular in plan and has an average diameter of 115 meters, giving the site an area of approximately 1,04 hectares.

An initial survey of the surface of the mound indicated the existence of two distinct components. These were defined on the basis of variation in soil colour and structure. The soil in the central area of the mound was grey-brown in colour and contained an abundance of fragmented dung nodules visible in the surface matrix. This identified the area as a possible cattle byre. This central area was, in turn, surrounded by light brown to light red-brown soil characterised by a high frequency, in the occurrence of potsherds, bone fragments and other cultural material scattered on the surface, which appeared to indicate an area of domestic activity which has been described as the habitation area in this work.

The flat, sandy area around the mound consisted of the dark, red-brown, sandy soil which is characteristic of the natural soil deposits which occur in the general vicinity of the site.

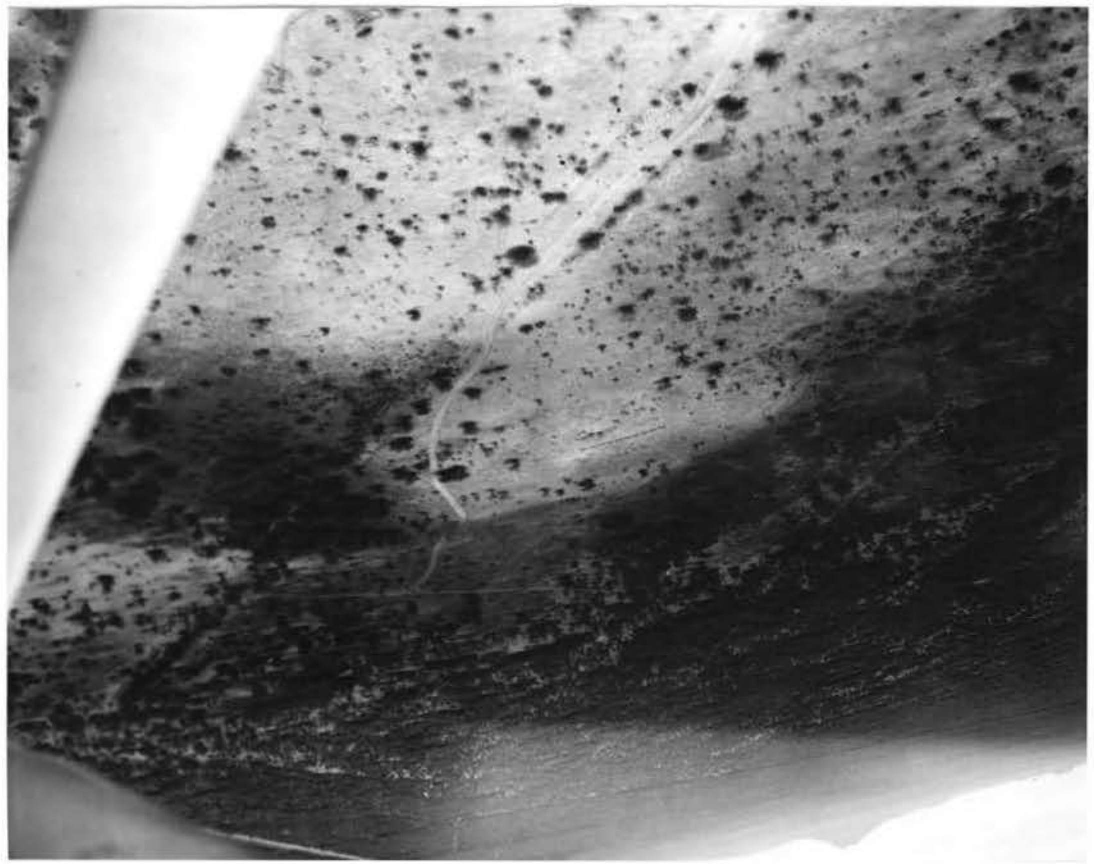


Plate 1 Aerial photograph of Skutwater from the west

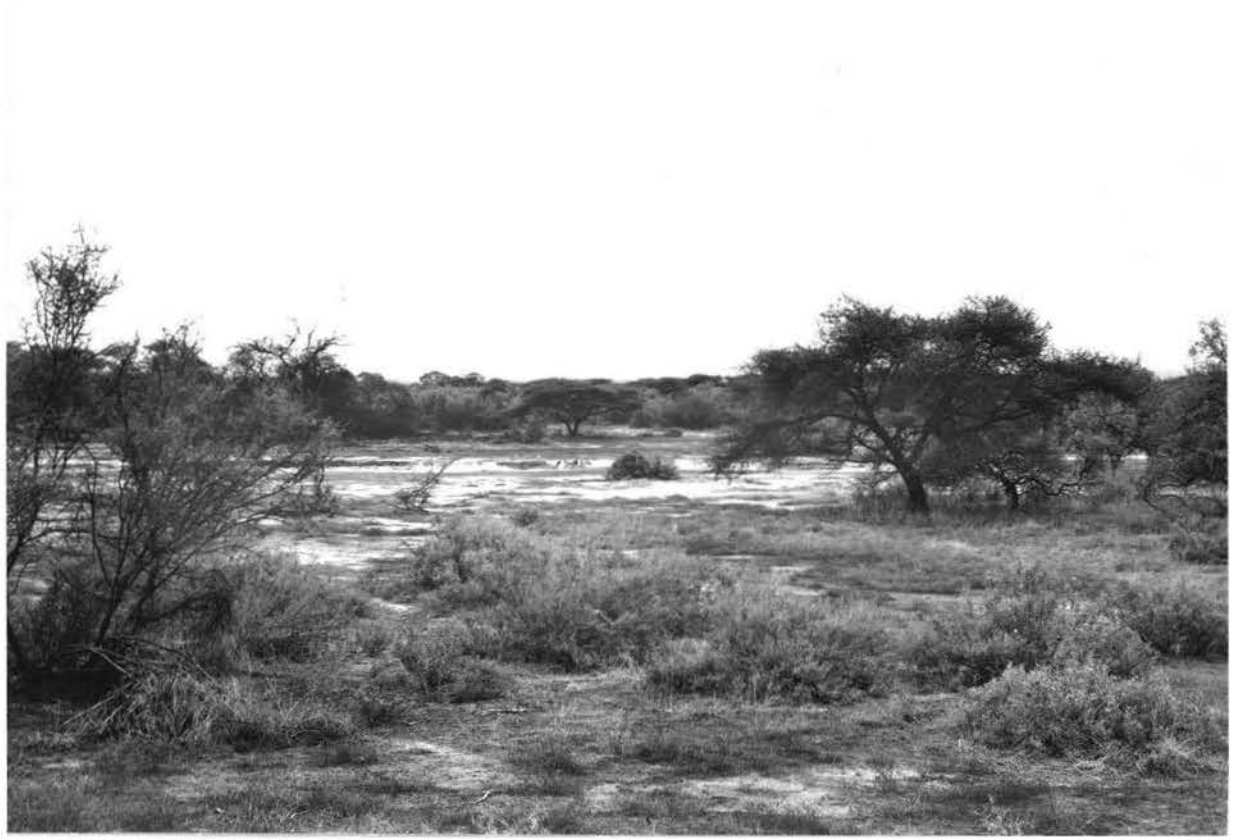


Plate 2 Pan-area to the north of the site after rain

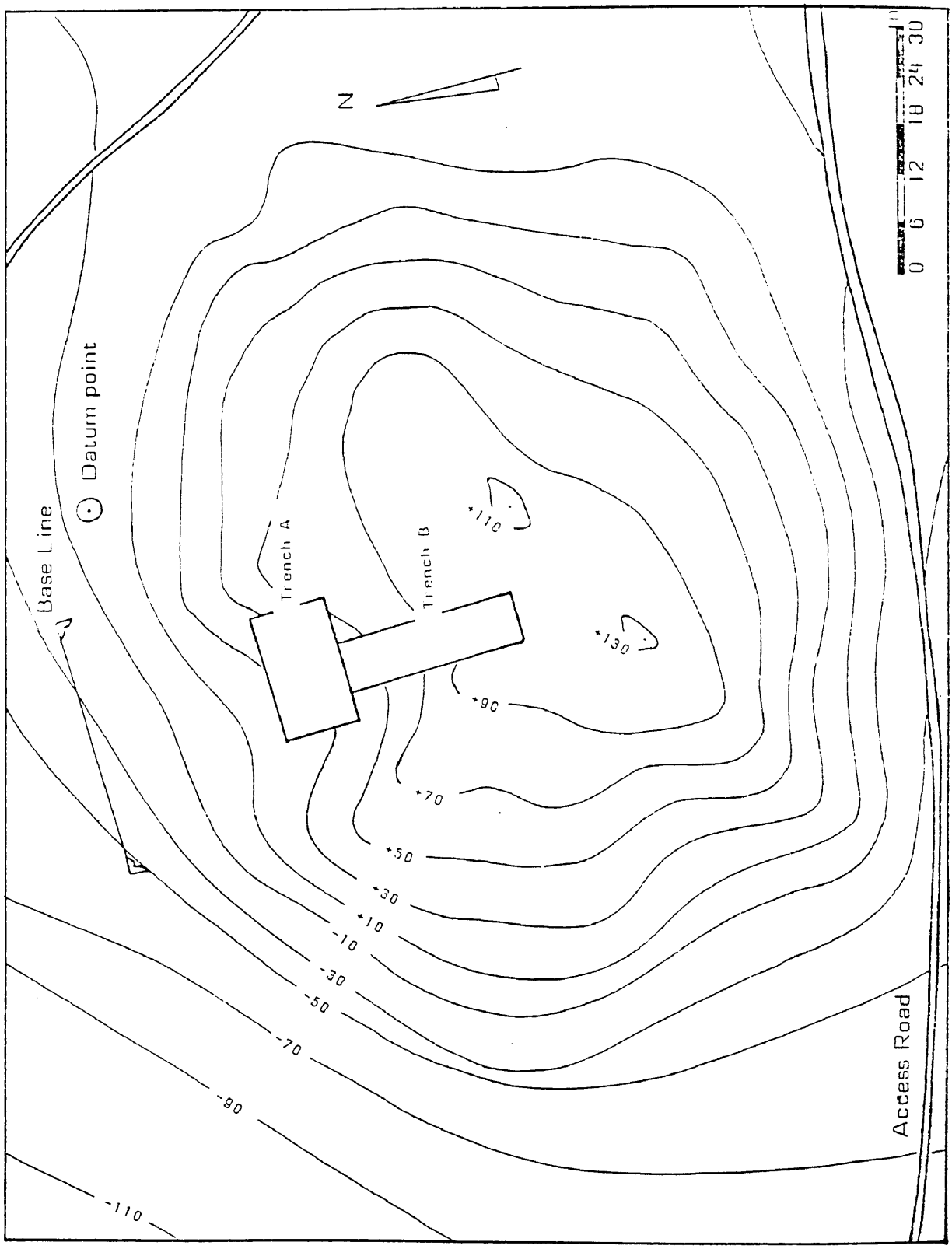


Fig. 5.1 Site Plan.

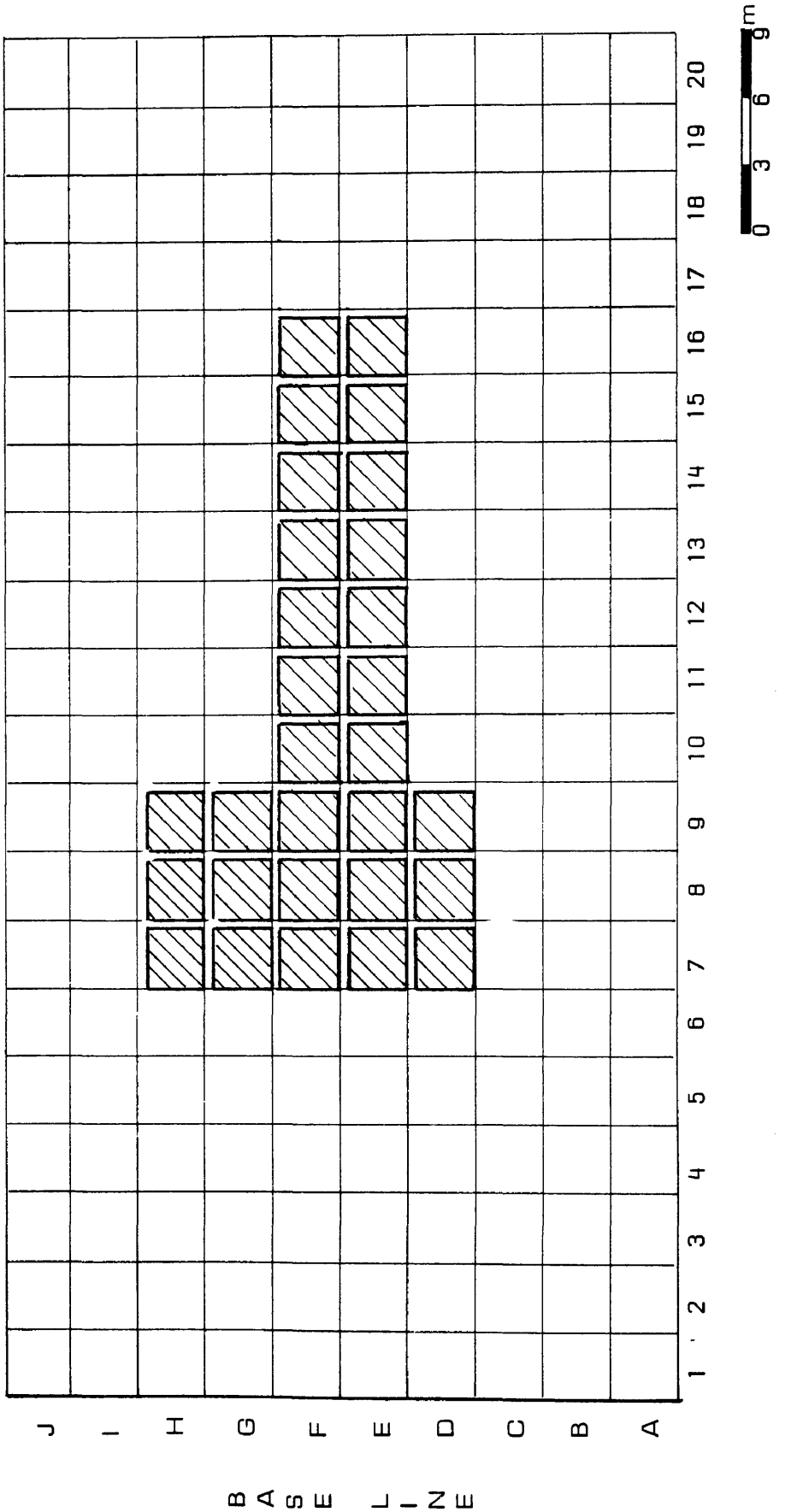


Fig. 5.2 Plan of grid over site from base-line. (Only shaded areas excavated)

5.2 The excavations

An extremely limiting factor in determining a sampling strategy for the excavation was the extensive evidence of disturbance by burrowing animals. Only a limited area on the north western quadrant of the mound appeared to be relatively free of recent disturbance and it was consequently decided to excavate there.

The excavations were planned to sample an east-west section of the habitation area to the north of the cattle byre, and from there to excavate southwards, probing into the cattle byre itself. The reasons for this strategy were twofold: firstly, the stratification of each of the site components had to be determined and secondly the association between the two populations at their interface had to be identified in order to relate them in context. Consequently two rectangular trenches were excavated: one measuring 9 meters by 15 meters of which the 15 meter axis was oriented on an east-west alignment across the habitation area (Trench A, Fig. 5.1). Another trench, measuring 6 meters by 21 meters was excavated abutting the southern section of trench A in the form of a T of which the 21 meter axis extended southwards away from the habitation area into the central cattle byre. (Trench B, Fig. 5.1). Plate 3 gives an orientative view over the excavation whilst in progress.

Both trenches were excavated within a 3 meter by 3 meter-square grid system extending southwards over the site from a fixed baseline on the northern periphery of the mound. (Fig. 5.1). Fifty centimeters of the eastern and southern walls of each square were left as a baulk between the squares, resulting in excavation units of 2,5 meters by 2,5 meters. Each of these squares was excavated in arbitrary 10 centimeter spits until either a colour change or cultural layer could be distinguished. Where such variations were identified they were in turn lowered in 10 centimeter arbitrary spits until further change was noted.

5.3 Stratigraphy

The strata comprising the two components differed entirely from each

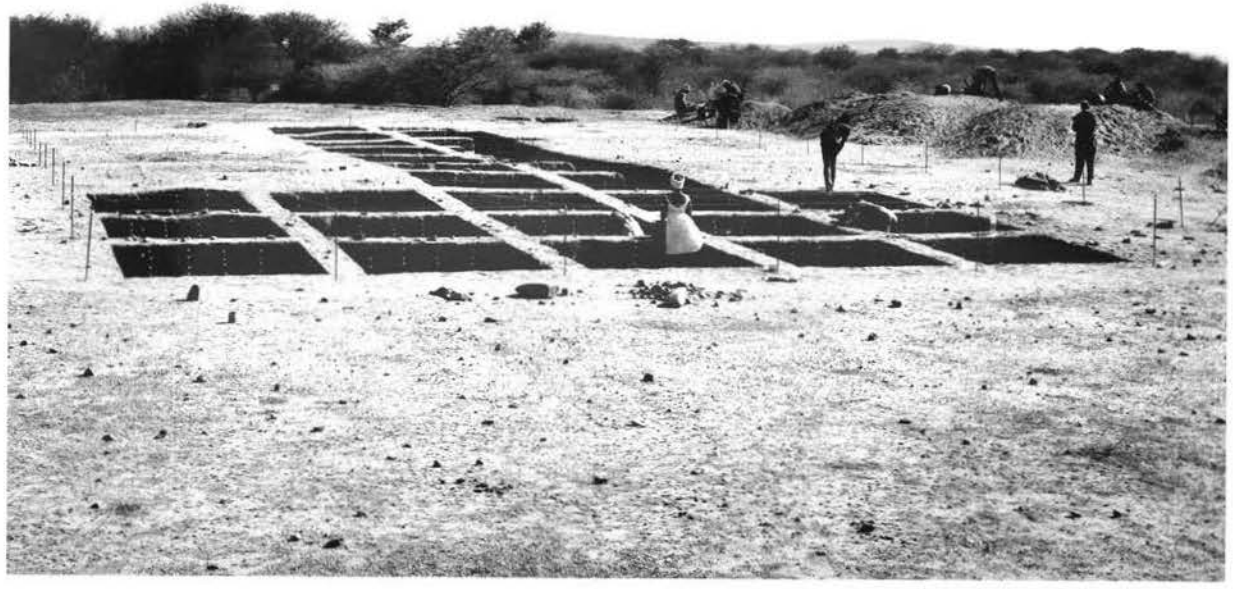


Plate 3 View of excavation from north

other and the stratigraphy given below is a reflection of this dichotomy.

5.3.1 Habitation Area (Fig. 5.3 and 5.4)

Level I: Layers 1 & 2: (0 - 20 cm):

Light brown soil. Artifacts sparse and randomly distributed. Features: mustard-yellow gravel floor: stone grain bin support: midden area: and secondary cattle byre.

Level II: Layers 3, 4, 5 & 6: (20 - 60 cm):

Light red-brown soil containing scatters of charcoal grains. Red soil areas indicating scorching by fire occur in conjunction with black and/or white ash lenses. Artifact frequency higher than that registerd for Level I. Features: pink gravel floors; hut area delimited by decomposed posts: containing a hearth and a burial, stone features; midden area.

Level III: Layer 7, 8 & 9: (60 - 90 cm):

Light red-brown compacted soil containing scatters of charcoal grains and small, soft, white, chalk-like granules. A high frequency of artifacts was noted for this level. Features: compacted brown clay floors: stone features: burnt hut rubble: pits: and two infant burials.

Level IV: Layers 10, 11 & 12: (90 - 120 cm):

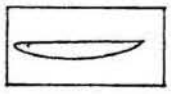
Dark red-brown densely compacted soil containing only a scatter of white granules as identified for the preceding Level. The matrix is culturally sterile.

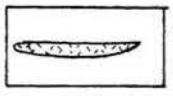
5.3.2 Central cattle byre (Fig. 5.5)

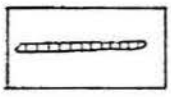
Level I: Layer 1, 2 & 3: (0-30 cm):

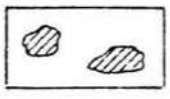
Light grey-brown soft soil with randomly

Key to symbols for sections

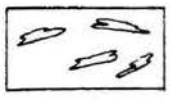
White ash lens 

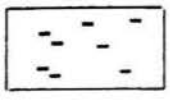
Black ash lens 

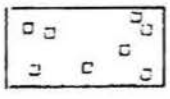
Floor surface 

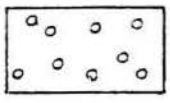
Stones 

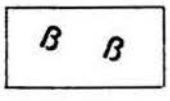
Potsherds 

Bone 

Charcoal fragments 

White granules 

Dung nodules 

Achatina shells 

Key to alphabet code for sections

l	-	light
d	-	dark
r	-	red
b	-	brown
g	-	grey
gn	-	green
y	-	yellow
dn	-	dung nodules
dc	-	dung concentration

Fig. 5.3

Section : Southern face of squares H7 to D7 (east to west)

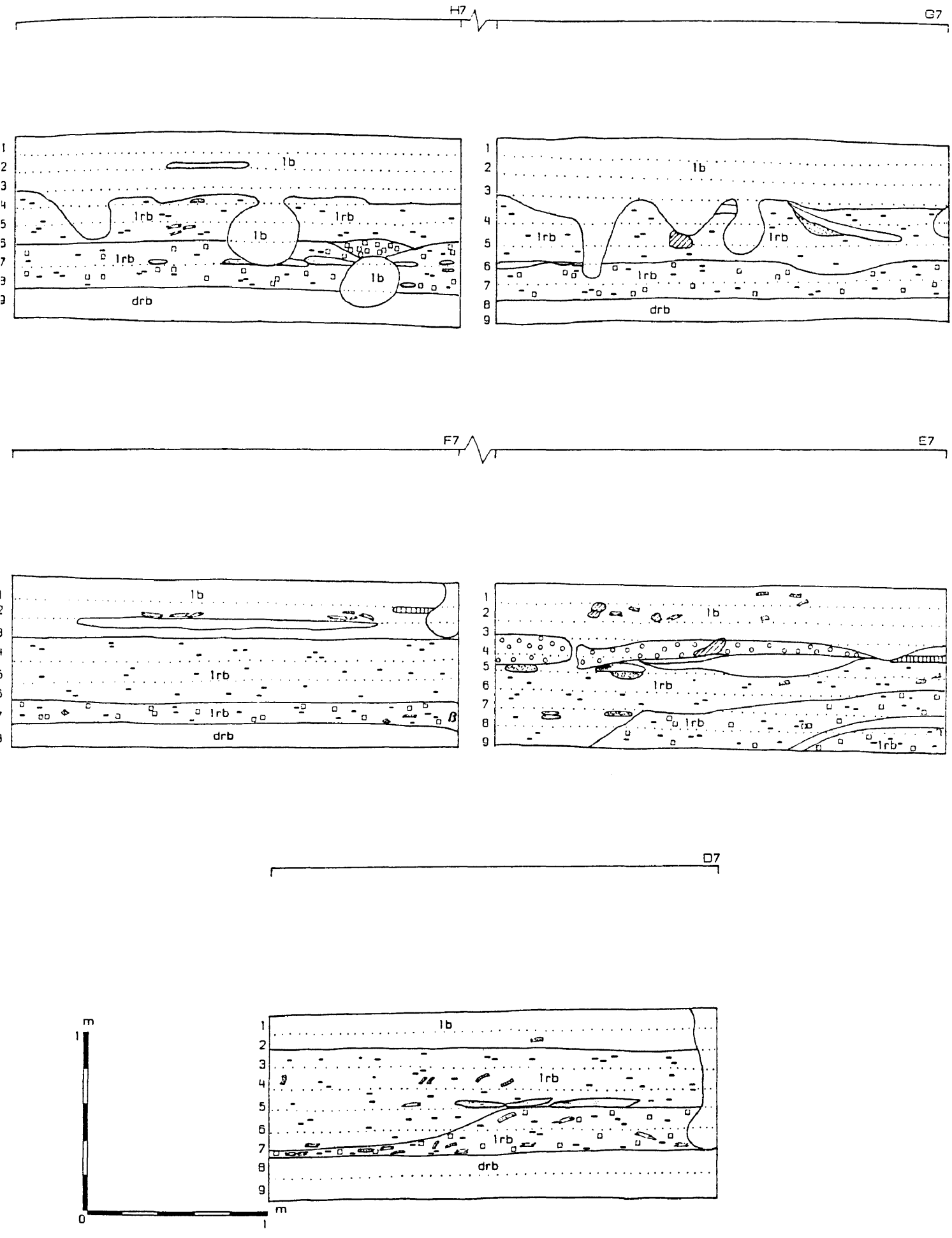


Fig. 5.4

Section : Southern face of squares H9 to D9 (east to west)

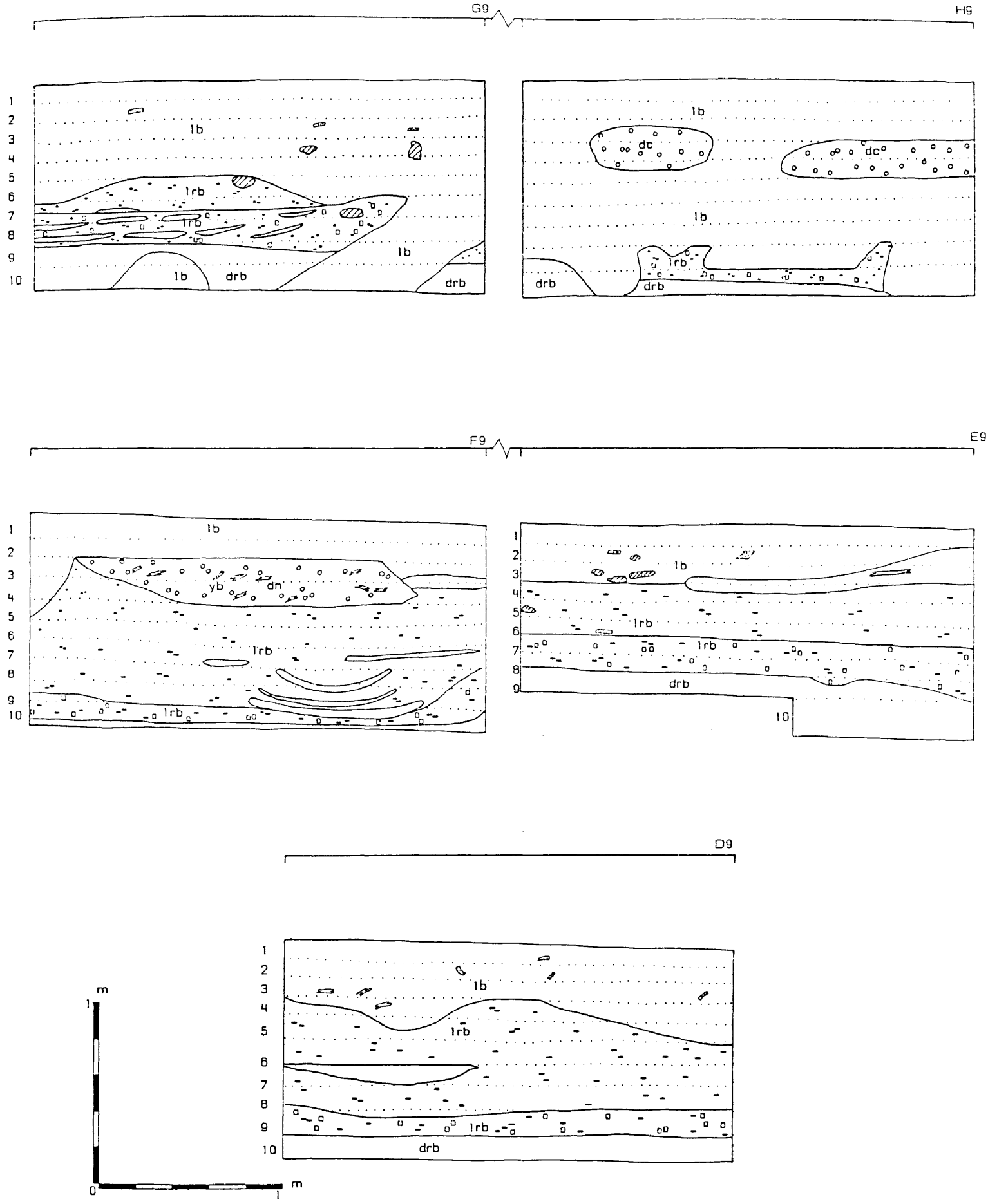


Fig. 5.5 Section of west face of squares F16 to F7 (south to north)

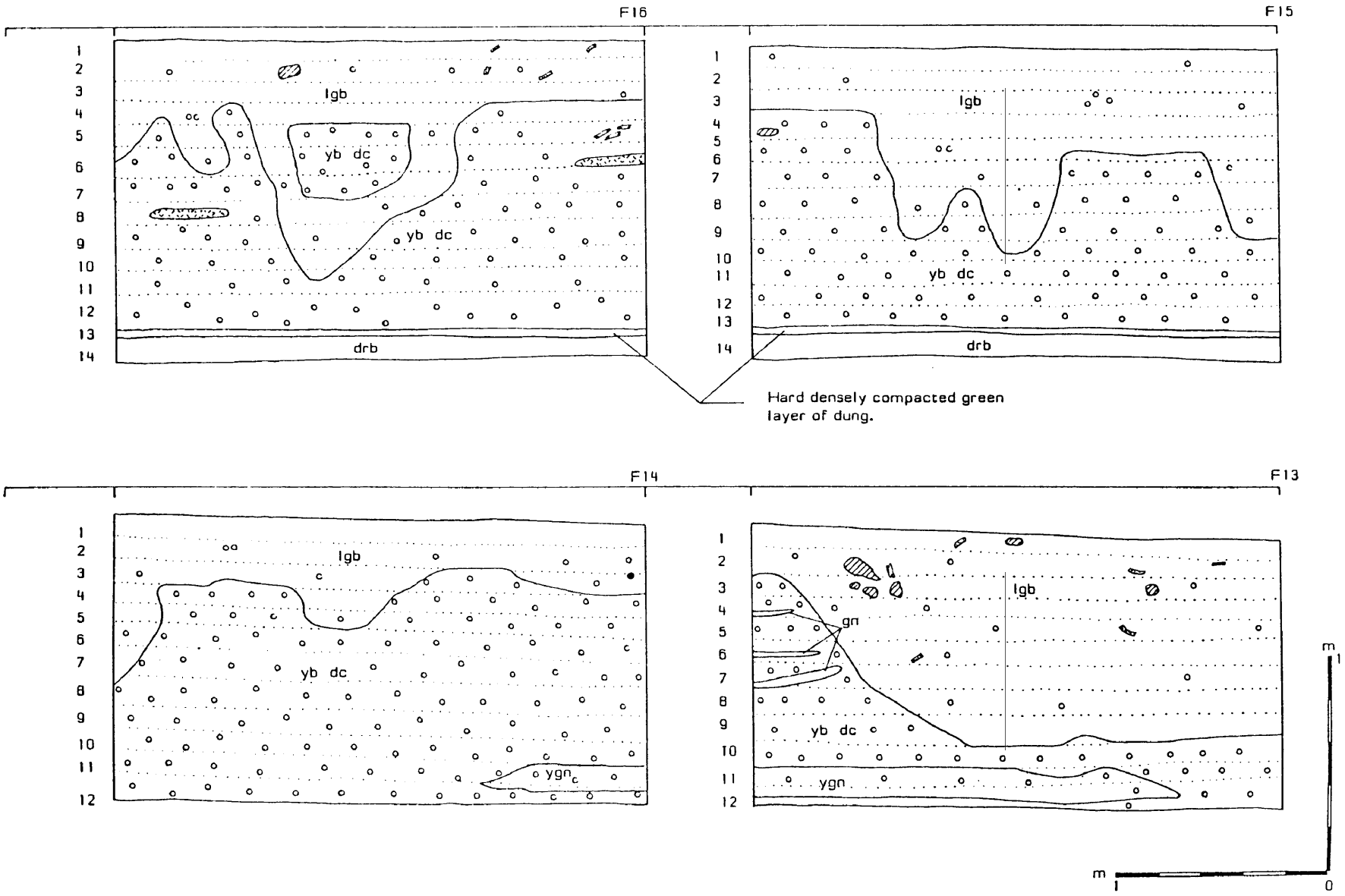
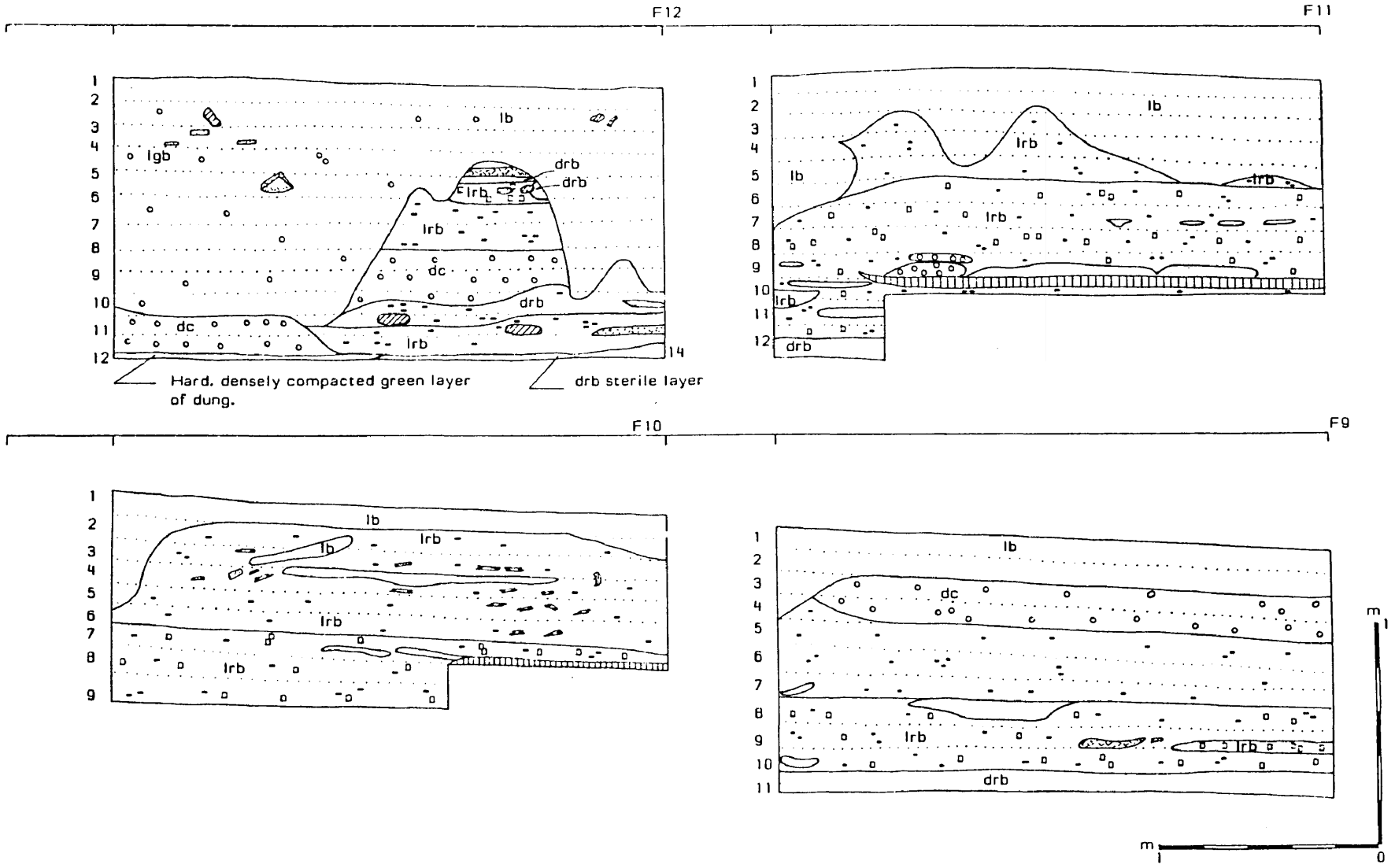


Fig. 5.5 Continued.



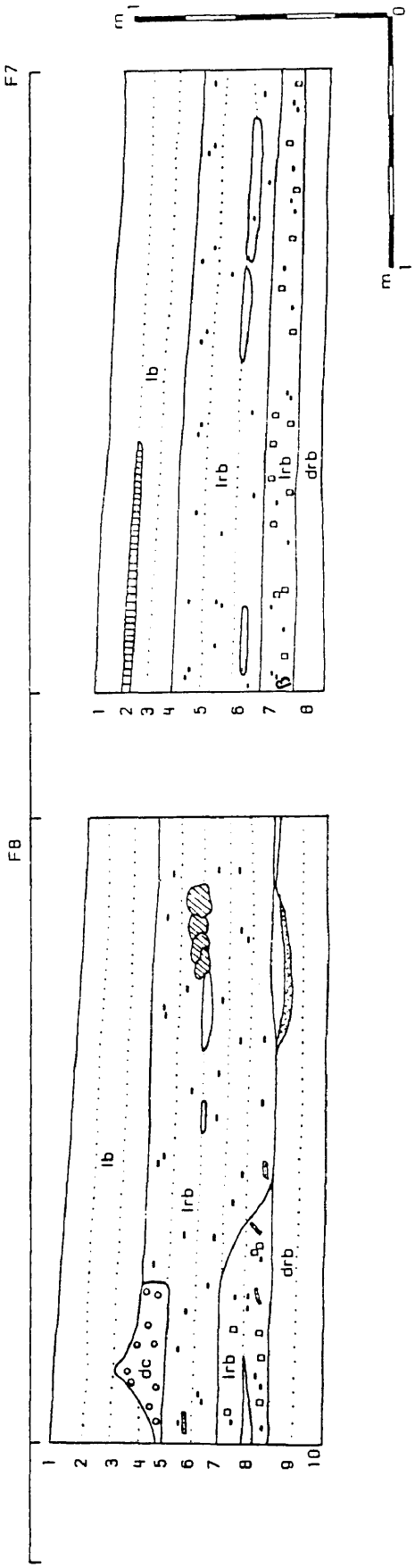


Fig. 5.5 Continued.

distributed dung fragments contained in the matrix. Artifact frequency very low relative to Level I of habitation area.

Level II: Layer 4 to 12: (30 - 120 cm):

This Level consists of a consolidated deposit of yellow-brown dung. No stratification was apparent, presumably because the dung was trampled into a relatively homogeneous mass during deposition. White and black ash lenses occur, apparently randomly distributed through this Level. Artifact frequency found to be very low. It was also discovered that burrowing activity had resulted in extensive intrusions of soil from Level I into this Level. Features: Four adult burials.

Level III: Layer 13: (120-125 cm) :

This level was composed of a densely cemented, hard, green layer of compacted dung. This demarcates the start of the cattle byre and overlies the dark red-brown soil characteristic of the natural soil of the area which is exactly the same as that representing Level IV of the habitation area.

The interface between the two populations was extremely difficult to identify due to severe burrowing activity in this area. It was, however, possible to determine that the initial perimeter of the cattle byre occurred in squares E12 and F12. This perimeter apparently expanded and contracted to a certain degree through time as was evidenced by a certain amount of intrusion by both components into each other on the vertical axis. Apart from the difficulty in determining the interface between the two populations, there was clear evidence that the central cattle byre was only related to Levels II and III of the habitation area as an extensive feature thereof.

5.4 The nature of the evidence

In order to arrive at a solution for the two problems stated for Skutwater, it was initially assumed that an adaptation of the classification framework designed for the Greefswald sequence by Eloff (1979) and Meyer (1979; 1980) could be utilised. A detailed study of the system of classification used to order the Greefswald material revealed that many of the artifact and feature typologies were based on qualitative definitions with relatively wide parameters of association. The types so defined are primarily within assemblages possessing a very limited range of alternative attributes and, when coupled to a very low frequence of occurrence, it is axiomatic that attempts to quantitatively analyse such a paucity of representative material would prove futile. The existing qualitative types, which include prepared floor - surfaces, stone features, metal objects and stone tools, were assumed to be sufficient for valid low-resolution presence/absence comparisons between Skutwater and Greefswald sites. In consequence, the relevant Skutwater material has subsequently been defined and assigned membership to equivalent Greefswald types.

Quantitative data for determination of the internal structure of Skutwater and for comparative analyses between it and the Greefswald sites were primarily derived from three artifact assemblages, namely beads, fanual remains and pottery. The beads and fanual remains were classified within adaptations of the systems designed for Greefswald.

Both Skutwater and the Greefswald sites produced very large pottery assemblages. It is generally accepted that classifications derived from the stylistic attributes that exist in pottery are sensitive indicators of cultural affinities and are consequently both sufficient and relevant for valid inferences in temporal and spatial context. As a result, the classification of the Skutwater pottery assemblage will constitute the primary comparative procedure in the determination of the degree of affinity that exists between Skutwater and the Greefswald sites. Although all the other available data will also be used, they will represent a secondary complementary level of association subordinate to the typological data derived from the pottery classification.

5.4.1 Pottery

The extensive nature of the excavations on Skutwater resulted in the recovery of a large sample of potsherds. After subjecting this sample to a detailed analysis it was found that only 444 sherds carried sufficient attribute definition for further analytic consideration: of these 435 were finally identified as the only sherds suitable for detailed typological analyses (Appendix 1 contains the scale drawings of these sherds.)

The system of classification utilised for ordering the above material is based on classes derived from the intersection of attribute categories within four dimensions, namely: (1) Shape - as indicated by variations in profile inflection; (2) Decoration motif combinations defined on the basis of recurring design elements; (3) Decoration position - derived from the definition of a series of positions relative to a given profile which may or may not be decorated and; (4) Exterior finish - here only two conditions were defined: either matt or burnished.

a. Shape

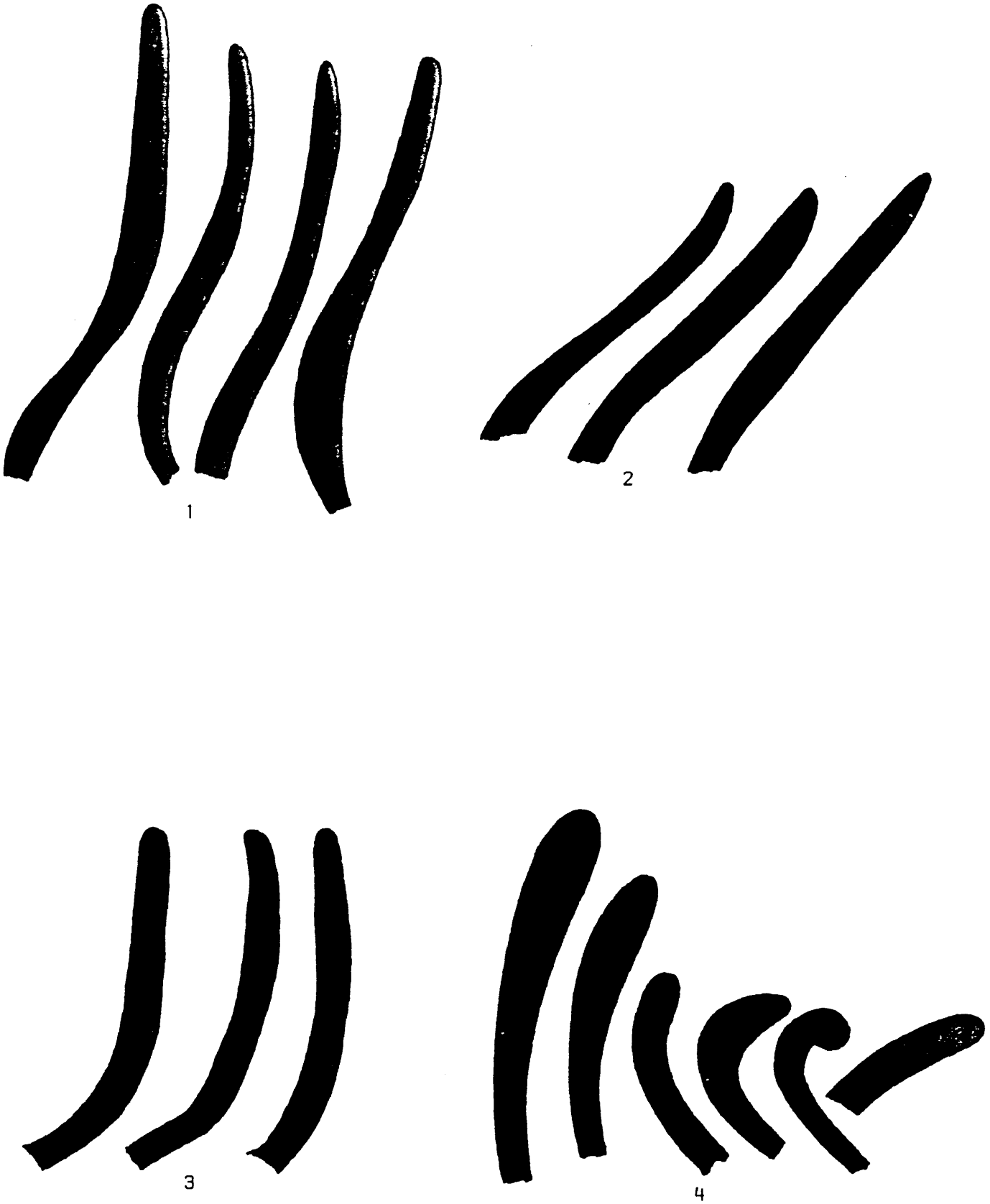
Shape was defined as a condition of the profile, therefore only those profiles in the collection with a rim and/or sufficient substructure from which profile inflections, mouth diameter and profile orientation relative to the vertical axis could be determined were used. On the basis of these attributes seven basic attribute categories with two variants were defined: (Fig. 5.6).

Shape 1: Profile 1: necked vessel with continuous weakly defined body/shoulder/neck inflections. Mouth diameter equal to or less than height.

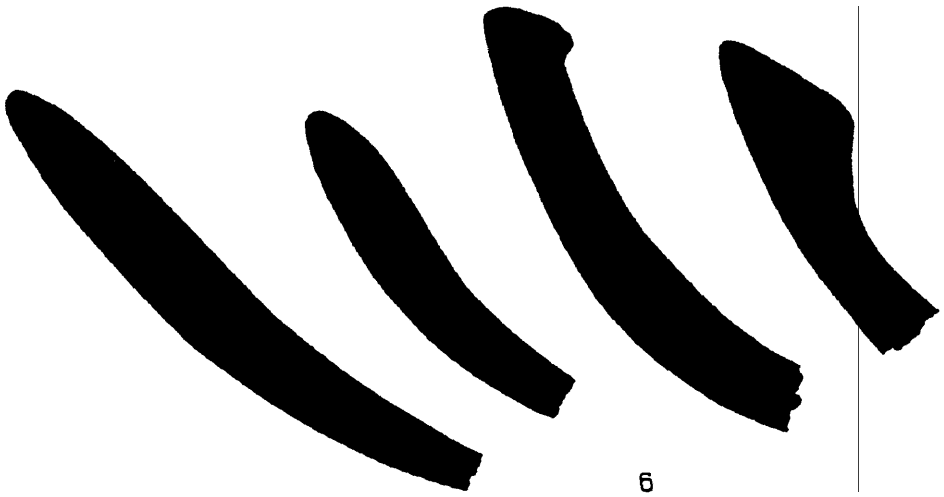
Shape 2: Necked vessels with constricted necks. Mouth diameter less than height.

Shape 3: Profile 3: necked vessels with distinct shoulder/neck inflections. Mouth diameter less than height.

Fig. 5.6 Skutwater pottery profile categories



ig. 5.6 Continued



Shape 4: Variant a: Profile 4: neckless constricted vessels. Mouth diameter less than height.

Shape 5: Profile 5: straight to slightly inflected vessels. Mouth diameter greater than height.

Shape 6: Profile 6: Open bowl-shaped vessels. Mouth diameter greater than height.

Shape 7: Profile 7: Open bowl-shaped vessels with recurved rims. Mouth diameter greater than height.

b. Decoration

Decoration categories were only derived from complete motifs or combinations of motifs. These were initially segregated by technique which was followed by a combination of design elements which recur together. The absence of decoration has been included here as an independent category as it follows that the option of whether to decorate or not is also a stylistic variable. These attribute combinations were ordered taxonomically (Fig. 5.7) and six decoration attribute combinations identified. The motifs observed in the sample are reflected in appendix II recurring identical decorations were only drawn once, although their recurrence is reflected in the classification itself.

c. Position of decoration

Decoration position is, as for shape, a condition of profile. All of the possible areas for decoration placement on the profile categories identified are shown in Fig. 5.8. These were defined by stipulating the position for each profile category as a discrete division indicated by an upper and lower limit for each category.

d. Exterior finish

The exterior finish of the vessel was divided into one of two categories: either matt or burnished. The matt finish was defined as coarse, rough and/or dull with no evidence of burnishing. A burnished vessel was

Fig. 5.7 Decoration taxonomy by technique and design element combinations

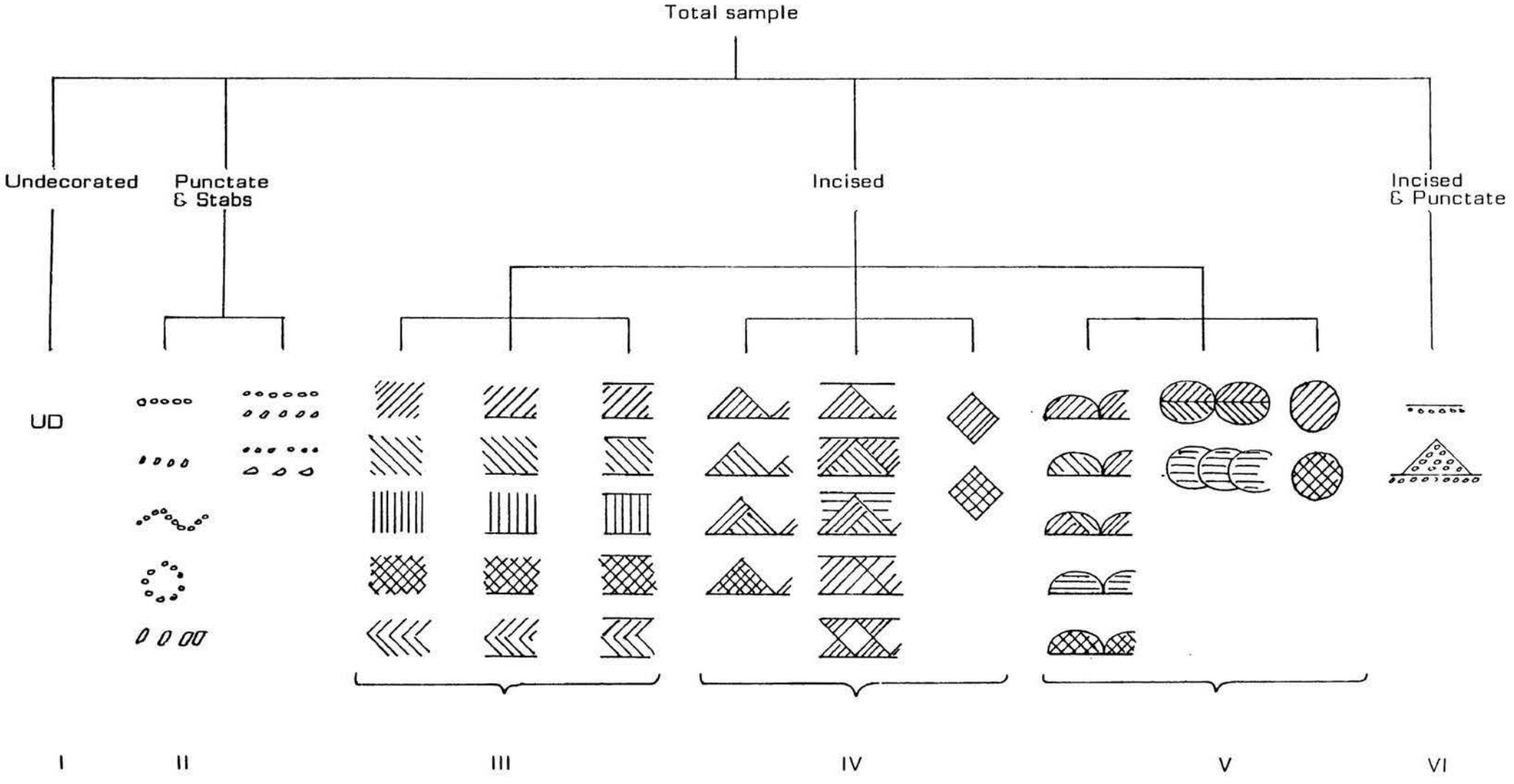
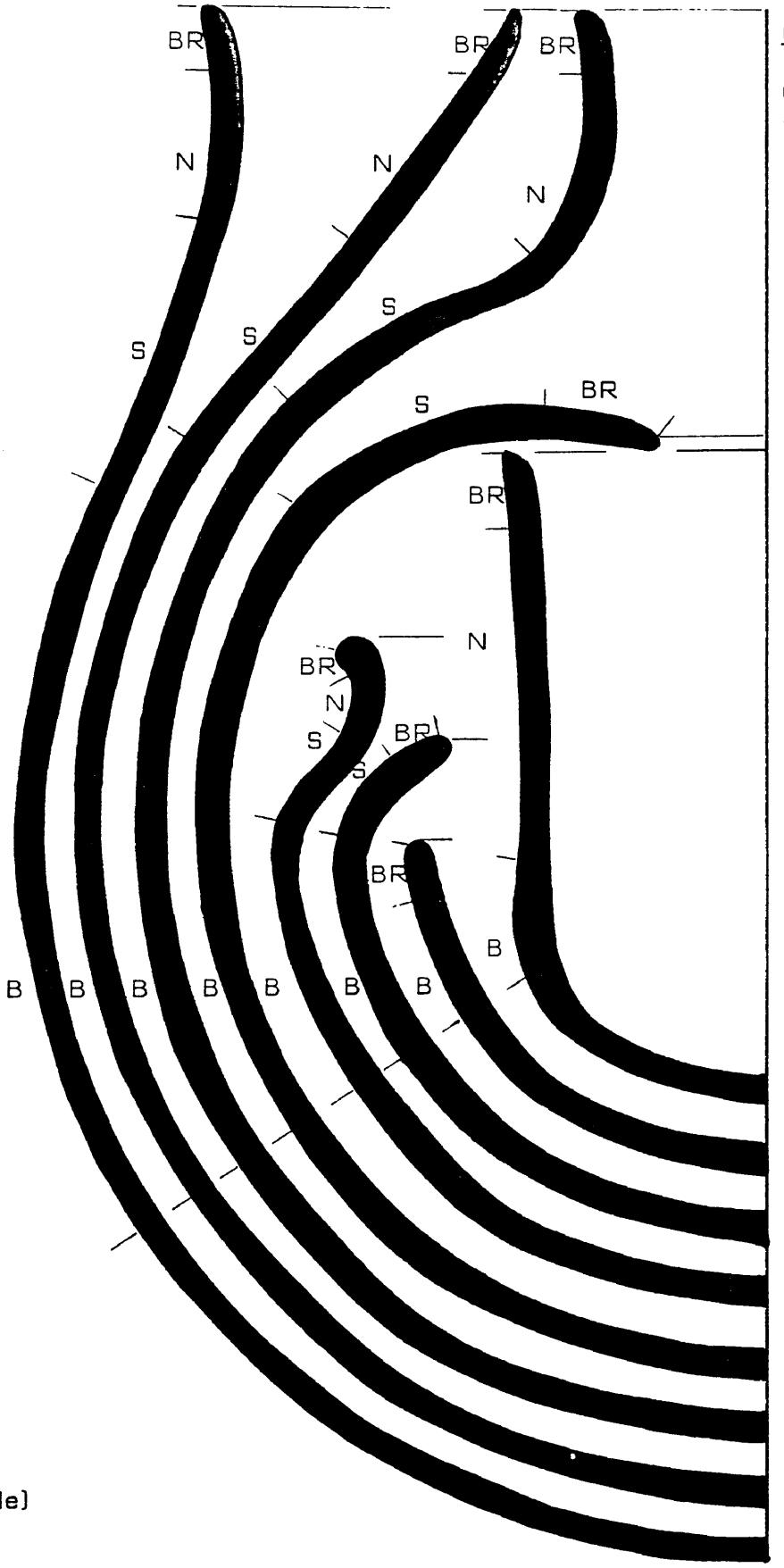


Fig. 5.8 Decoration positions



Key to position code

UD - Undecorated
BR - Below rim
N - Neck
S - Shoulder
B - Body

(Not to scale)

defined by the existence of a sheen or lustre on the exterior surface of the vessel brought about by polishing away the hand-finished surface by means of a smooth instrument.

e. Types

The attribute categories defined within the four dimensions outlined above were tabulated and the observed frequency of occurrence (fo) of intersecting attribute categories were entered. (Table 5.1).

The proportional frequency of occurrence of each of the attribute combinations were noted for each category and their proportions relative to the other attribute combinations in the same category were computed. By applying the theory of compound probability the expected frequency of occurrence (fe) for all the possible intersections in the classification table (Table 5.1) were computed. The fe values were subtracted from the fo values and the difference was used to determine the degree of independence for each intersection by computing the chi-square (x^2) values using the formula

$$x^2 = \frac{(fo-fe)^2}{e}$$

From this data 30 positively represented classes were identified. Fifteen of these classes were combined into 9 types with variants as independent. Although observed frequencies below a sample mean of 10 indicated high x^2 values these were not assigned due to their low observed frequency coupled to very low expected frequencies. The typology itself was based on combinations of attribute categories which occur regularly together (Table 5.2). The types defined constitute 83.4 percent of the observed occurrence and the other combinations not assigned are assumed to be atypical.

Table 5.3 indicates the frequency of occurrence for each type per layer for all the squares excavated. These data were converted into percentage frequency distributions and tabulated (Table 5.4) in order to determine whether any trends in the depositional sequence could be identified. This distribution indicated a relatively high degree of continuity although a number of early types disappear (5a, 8 and 2a) and a number of later types appear (5b, 6b, 4 and 10).

Table 5.1 Classification Table

Finish O/S	Burnish

		decoration											
		I		II		III		IV		V		VI	
Shape	Posn.	fo	fe	fo	fe	fo	fe	fo	fe	fe	fe	fo	fe
1	UD	0	26.69										
	BR			0	.24	0	.22	0	1.80	0	.50	0	.08
	N			0	.03	0	.03	0	.23	0	.06	0	0
	S			0	13.06	9	11.82	103	98.70	29	27.68	5	4.20
	B			0	1.56	0	1.41	1	11.81	0	3.31	0	.50
2	UD	0	1.84										
	BR			0	.02	0	.02	0	.13	0	.04	0	0
	N			0		0	0	0	.02	0	0	0	0
	S			0	.94	1	.85	11	7.08	3	1.93	3	.30
	B			0	.11	0	.10	0	.85	0	.24	0	.04
3	UD	0	.07										
	BR			0	0	0	0	0	.06	0	.02	0	0
	N			0	0	0	0	0	0	0	0	0	0
	S			0	.56	0	.47	10	3.90	0	1.09	0	.17
	B			0	.06	0	.06	0	.47	0	.13	0	.02
4a	UD	10	1.84										
	BR			0	0	0	0	3	.04	1	.01	0	0
	S			0	.36	0	.33	2	2.74	0	.77	0	.12
	B			0	.04	0	.04	0	.33	0	.09	0	.02
4b	UD	13	3.68										
	BR			0	.02	0	.02	0	.14	0	.04	0	0
	S			0	1.13	0	1.02	22	8.52	0	29.39	0	.36
	B			0	.15	0	.12	0	1.02	0	.29	0	.04
5	UD	6	4.14										
	BR			0	.01	0	.01	0	.10	0	.03	0	0
	N			0	0	0	0	0	.01	0	0	0	0
	S			0	.76	0	.74	0	6.21	0	1.74	0	.26
	B			0	.10	1	.09	10	.74	2	.21	0	.03
6	UD	17	4.14										
	BR			0	.02	0	.02	0	.14	0	.04	0	0
	S			0	1.13	0	1.02	0	8.52	0	2.72	0	1.47
	B			0	.13	1	.12	21	1.02	0	.29	0	.04
7	UD	0	2.76										
	BR			0	.02	0	.02	0	.14	0	.04	0	0
	N			0	0	0	0	0	.02	0	0	0	0
	S			0	1.13	1	1.02	20	8.52	1	2.39	0	.36
	B			0	.13	0	.12	0	1.02	0	.29	0	.04
	Total	46	45.16	0	21.71	13	19.67	2.03	164.34	36	26.39	8	8.04

Matt

decoration

I		II		III		IV		V		VI		Totals	
fo	fe	fo	fe	fo	fe	fo	fe	fo	fe	fo	fe	fo	fe
0	11.01											0	37. 7
		0	.10	0	.09	0	.77	0	.22	0	.03	0	4.05
		0	.01	1	.01	0	.10	0	.03	0	0	1	.50
		31	5.60	10	5.07	32	42.32	30	11.87	2	1.80	251	222.18
		0	.67	0	.61	0	5.06	0	1.42	0	.22	1	26.57
0	.76											0	1.84
		0	0	0	0	0	.06	0	.02	0	0	0	.29
		0	0	0	0	0	0	0	0	0	0	0	.02
		0	.40	0	.30	0	3.03	0	.85	0	.13	18	15.86
		0	.05	0	.04	0	.36	0	.10	0	.02	0	1.91
0	.38											0	.45
		0	0	0	0	0	.03	0	0	0	0	0	.11
		0	0	0	0	0	0	0	0	0	0	0	0
		0	.22	0	.20	0	1.67	0	.47	0	.07	10	8.82
		0	.03	0	.02	0	.20	0	.06	0	0	0	1.05
0	.76											10	2.60
		0	0	1	0	0	.02	0	0	0	0	5	.07
		0	.16	0	.14	0	1.18	0	.33	0	.05	2	6.18
		0	.02	0	.02	0	.14	0	.04	0	0	0	.73
0	1.52											13	5.20
		0	0	0	0	0	.06	0	.02	0	0	0	.30
		0	.48	0	.44	0	3.65	0	1.02	0	.16	22	19.17
		0	.06	0	.05	0	.44	0	.12	0	.02	0	2.31
18	1.71											24	5.85
		0	0	0	0	0	.04	0	.01	0	0	0	.20
		0	0	0	0	0	0	0	0	0	0	0	.01
		0	.35	0	.32	0	2.66	0	.85	0	.11	0	14.00
		0	.04	3	.04	0	.32	0	.09	0	.01	16	1.67
1	1.71											19	5.85
		0		0	0	0	.06	0	.02	0	0	0	.30
		0		0	.44	0	4.16	0	1.02	0	.16	0	21.12
		0		0	.05	0	.44	0	.12	0	.02	22	2.29
0	1.14											0	3.90
		0		0	0	0	.06	0	.02	0	0	0	.30
		0		0	0	0	0	0	0	0	0	0	.02
		0		0	.44	0	3.65	0	1.02	0	.16	22	19.19
		0		0	.05	0	.44	0	.12	0	.02	0	2.29
19	18.99	31	9.27	15	8.33	32	70.92	30	19.84	2	2.98	435	435.64

Table 5.2 Skutwater pottery Types showing attribute category combinations

Type	Variant	Shape	Decoration	Dec. Position	Ext finish
1	a	1	IV	S	B
	b	1	V	S	B
2	a	1	II	S	M
	b	1	V	S	M
3		2	VI	S	B
4		3	IV	S	B
5	a	4a	I	-	B
	b	4a	IV	BR	B
6	a	4b	I	-	B
	b	4b	IV	S	B
7		5	I	-	M
8		5	IV	B	B
9	a	6	I	-	B
	b	6	IV	B	B
10		7	IV	S	B

Table 5.3 Distribution of Skutwater pottery types per layer

Pottery Types

Layer	1a	1b	2a	2b	3	4	5a	5b	6a	6b	7	8	9a	9b	10	Total
1	10	2				1			1					2	1	17
2	11	2		2	4	2			3	3	1		2	4	3	37
3	17	12	1	1	4	3			3	4	2	1	3	4	5	60
4	16	3	4	3	2	2	2	2	1	5	2		2	3	7	54
5	15	3	4	4	2	1	2	1	3	4	3	3	2	2	4	53
6	13	2	10	9		2	5	3	3	4	5	1	3	2		62
7	9	1	4	4	2		1				2		2	1		26
8	8	2	3	2	2		2		1		2	3	3	2		30
9	2	1	3	3	3		1		1		1	1		1		16
10	2	1	1													6
11			1													1
12																1
Total	103	29	31	19	19	11	13	6	15	21	18	9	17	21	20	363

Skutwater occupation horizon

Table 5.4 Percentage frequency distribution of Skutwater pottery types.

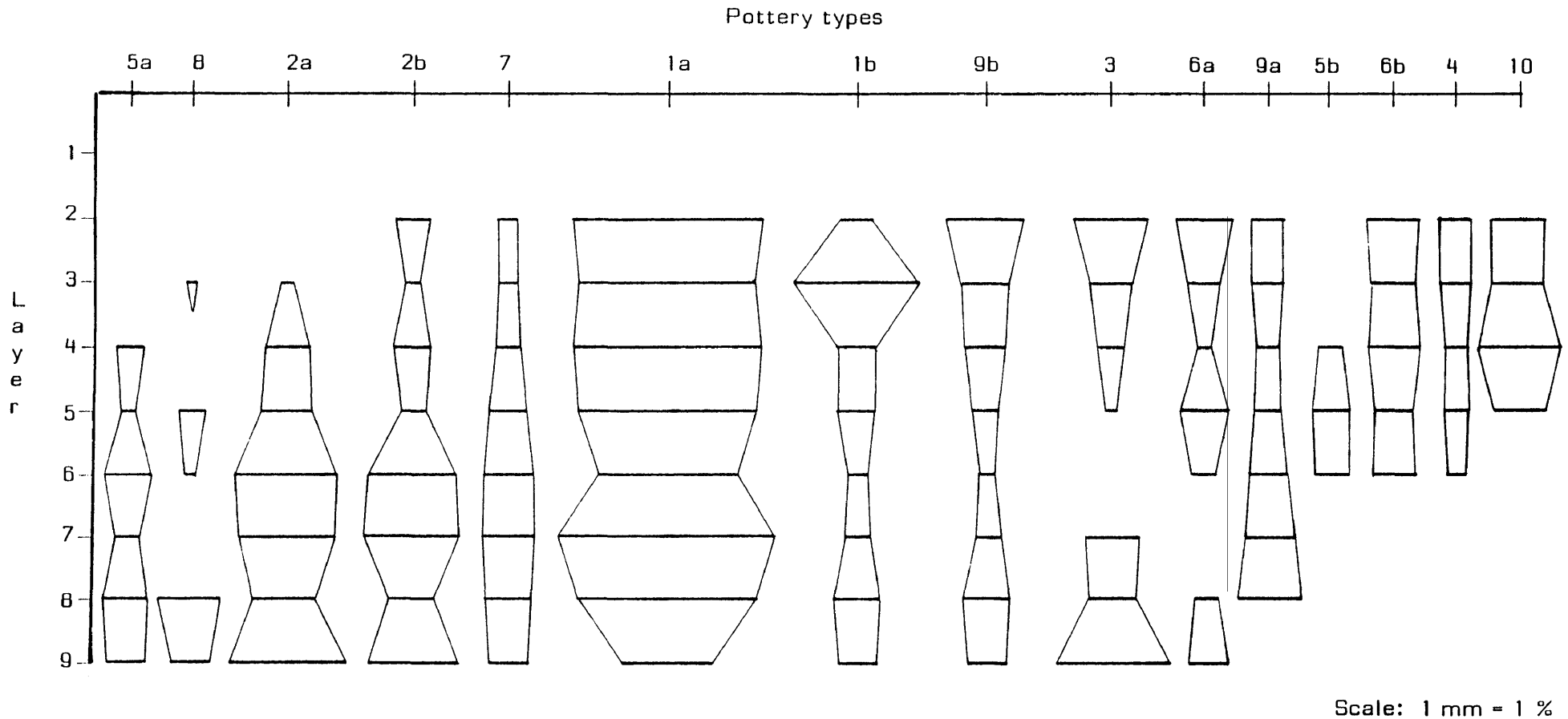
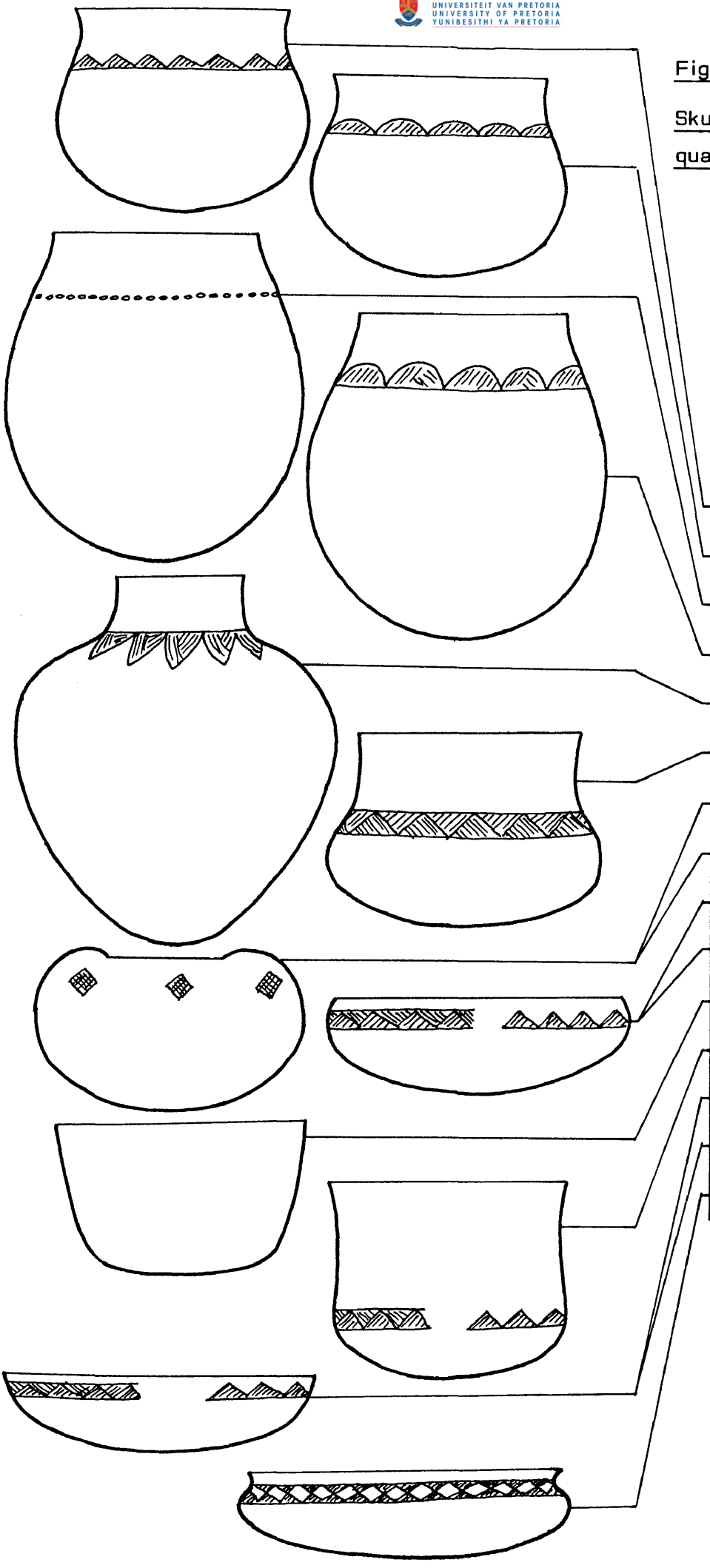


Fig. 5.8a

Skutwater pottery types and quantities



Pottery Type	Number
1a	103
1b	29
2a	31
2b	19
3	19
4	11
5a	13
5b (undecorated)	6
6a	15
6b (undecorated)	21
7	18
8	9
9a	17
9b (undecorated)	21
10	20
	363

5.4.2 Other ceramic artifacts

A small number of ceramic artifacts other than pottery were recovered from the excavation. These include two fragments of animal figurines (Fig. 5.9 a & b); a ladle and a spoonlike artifact (Fig. 5.9 c & d); two spindle whorl fragments (Fig. 5.9 e & f); a whistle (Fig. 5.9 g); an amulet and a ceramic bead (Fig. 5.9 b & i); and a number of other unidentifiable fragments of artifacts.

Table 5.5 shows the stratigraphic distribution of the ceramic artifacts as they were recovered.

5.4.3 Beads

Glass and ostrich-eggshell beads occured in varying frequency throughout the excavation. One ceramic bead was recovered (see Fig. 5.9 i), as well as one copper and three bone beads.

The beads were initially classified into material of manufacture categories, ie. glass, ostrich-eggshell, etc. After this the glass beads were further classified into colour, shape and size categories. This classification was based on that used by Eloff (1979, Vol II:30) in order to facilitate comparative analyses between the Skutwater and Mapungubwe bead assemblages.

a. Ostrich-eggshell beads

As their name suggests, these beads were manufactured from fragments of ostrich-eggshell. Ostrich-eggshell blanks in various stages of production are evidence for the manufacture of these beads on site. A random analysis of the dimensions of these beads indicated a wide variation in bead diameter and threadhole diameter and no patterning or clustering was apparent. For this reason it was decided to only consider the numerical frequency of occurrence as statistically significant.

b. Bone beads

Only three bone beads were recovered. These were manufactured from

Fig. 5.9 Other ceramic artifacts.

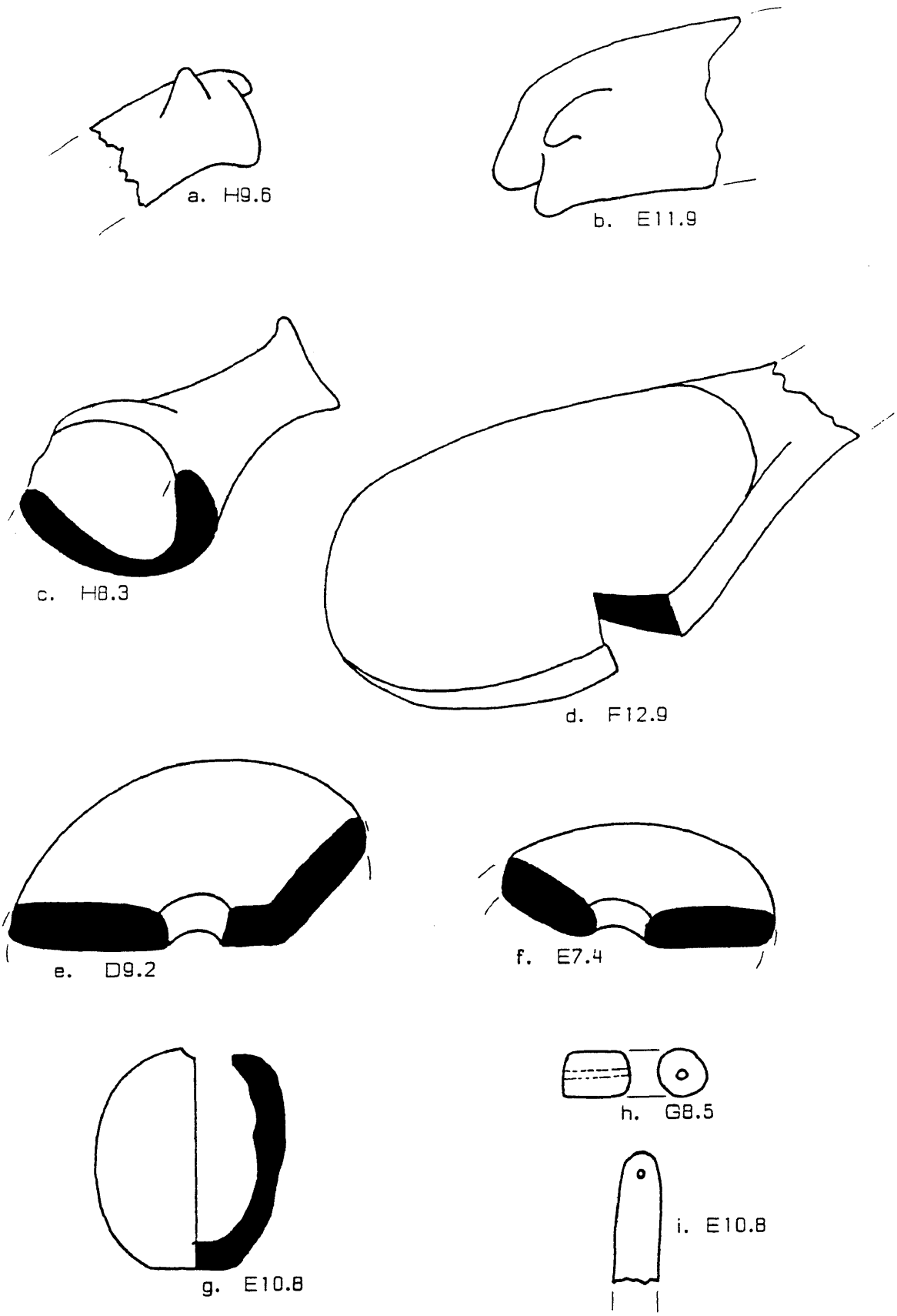
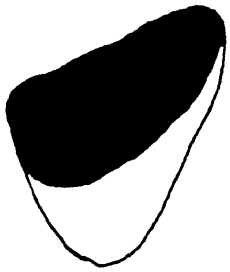
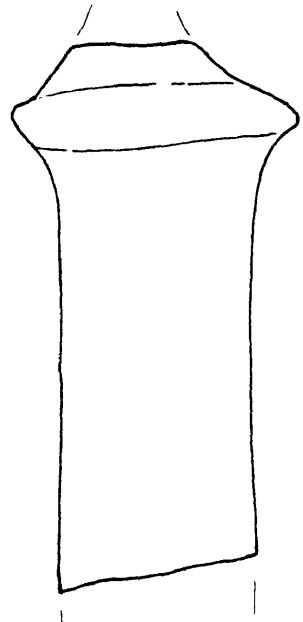


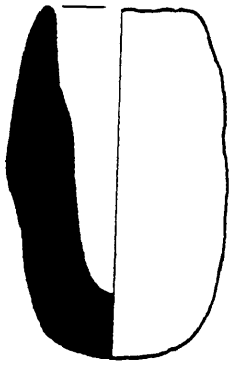
Fig. 5.9 Continued.



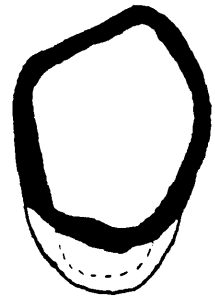
t. F16.4.9



u. E11.3



v. F8.6



w. E8.4

Fig. 5.9 Continued

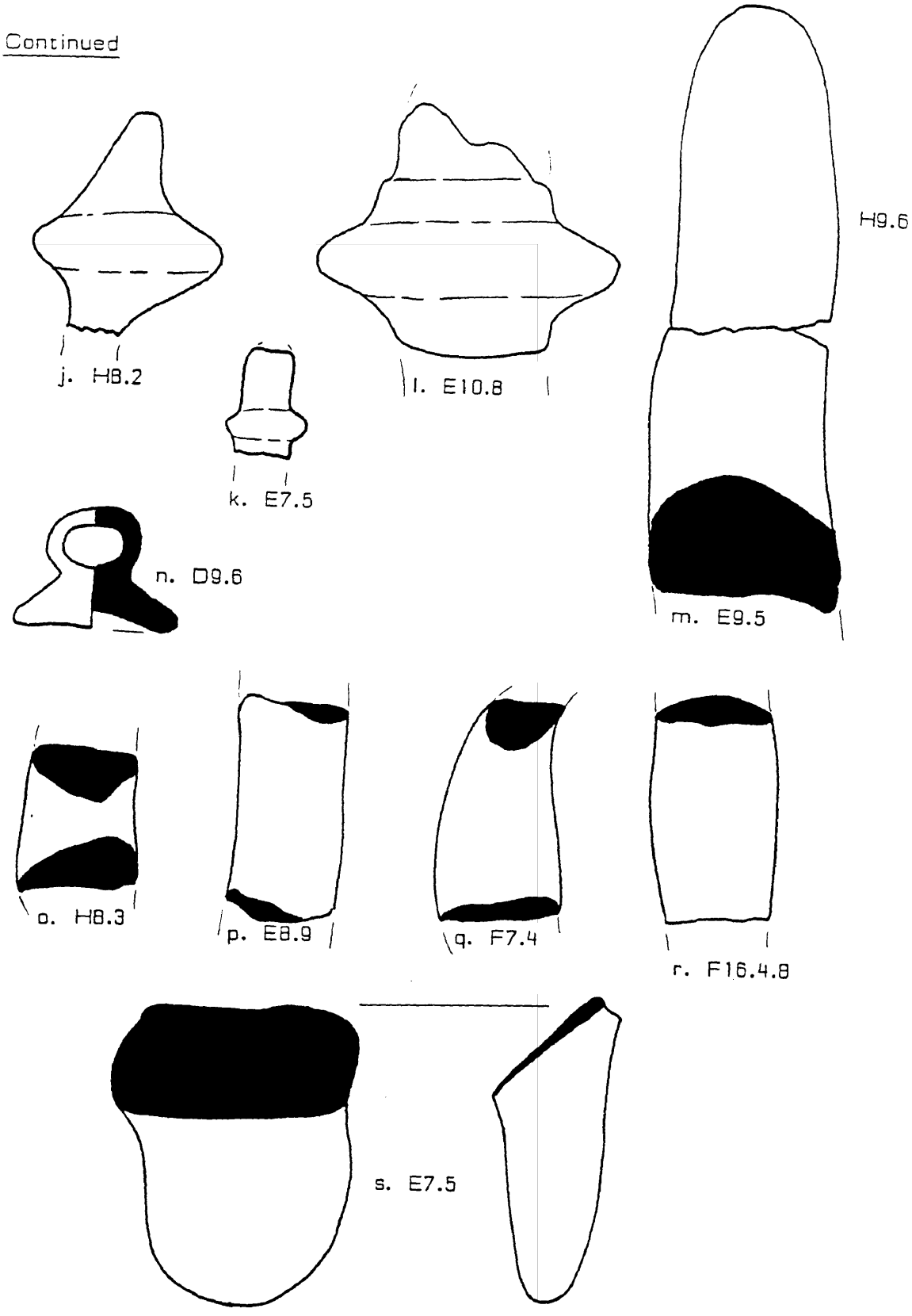
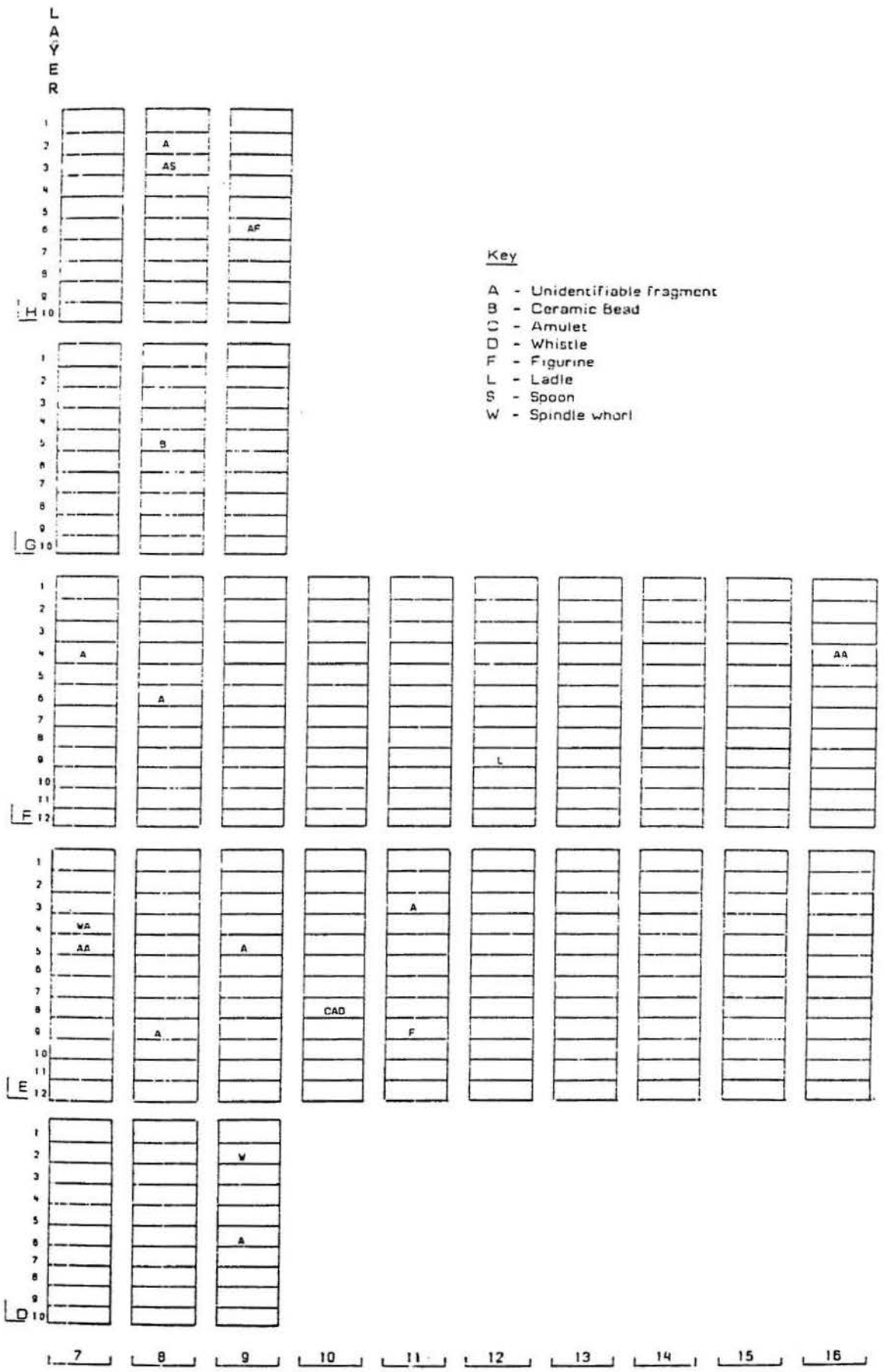


Table 5.5

Distribution of other ceramic artifacts



Key

A - Unidentifiable fragment
B - Ceramic Bead
C - Amulet
D - Whistle
F - Figurine
L - Ladle
S - Spoon
W - Spindle whorl

bone flakes that were ground down to discs having a diameter of approximately eight millimeters. A small hole for threading the bead was drilled through the center of the disc, completing its manufacture. Bone beads are very similar to ostrich-eggshell beads in appearance although twice as thick in section, averaging 2.5 millimeters as opposed to the 1.5 millimeter average for ostrich-eggshell beads.

c. Glass beads

The following bead types have been identified on the basis of shape, size and colour. It was found that shape and size were fairly constant within their categories and that the primary difference in the glass beads was one of colour. The typology listed for Skutwater varies to a slight degree from that of Eloff (1979) in that the green beads are not subdivided into variations of green (Type 3), whilst Eloff's Type 5, which carries both yellow and orange beads, has been subdivided into Type 4 (yellow) and Type 5 (orange) beads respectively.

Type 1 : Small, slightly transluscent, blue, snapped cane beads. (Eloff's Type 1).

Type 2 : Small opaque turquois oblates. (Eloff's Type 2).

Type 3 : Small opaque green oblates (Eloff's Type 3 and 4).

Type 4 : Small opaque yellow oblates (Eloff's Type 5).

Type 5 : Small opaque orange oblates (Eloff's Type 5).

Type 6 : Small indian-red to red-brown oblates (Eloff's Type 6).

Type 7 : Small slightly transluscent dark blue oblates. (Eloff's Type 7).

Type 8 : Small opaque black oblates. (Eloff's Type 8).

A small number of beads were recovered that were patinated to such a degree that the original colour could not be discerned. Although these have been counted and their number reflected as Type 9 in the histograms included in appendix II below, they have not been taken into account in either the numerical distribution table of the beads for (Table 5.6) or the percentage frequency distribution table for each type in all the squares (Table 5.7).

5.4.4 Metal Artifacts

A number of badly preserved copper and iron artifacts were recovered from the excavations (Plate 4). The iron artifacts consisted of a complete spearhead, a section of an axe/adze blade, five arrowheads, a small, flat, oval-plan artifact that appears very similar to ethnographic examples of sweatscrapers and a large number of unidentifiable iron flakes and fragments. Core-rolled iron wire ornaments were also very common and fragments of these were found in virtually every layer.

Copper artifacts were all of an ornamental nature, comprizing of core-rolled copper wire ornaments and a number of fragments of solid copper wire ornamentation. All the ornaments identified were either bracelets or anklets. Table 5.8 gives the stratigraphic distribution of the metal artifacts recovered.

5.4.5 Stone artifacts

Although a large number of stones were excavated and catalogued as stone artifacts, this was only carried out as a precautionary measure against losing stone tools through superficial inspections. The reason for this was that time consuming checks, often requiring the use of a microscope, were required to identify use-related wear on many of the stones found in Iron Age contexts. In this way a number of stone tools were identified from amongst the many stones recovered and their distribution is shown in Table 5.9

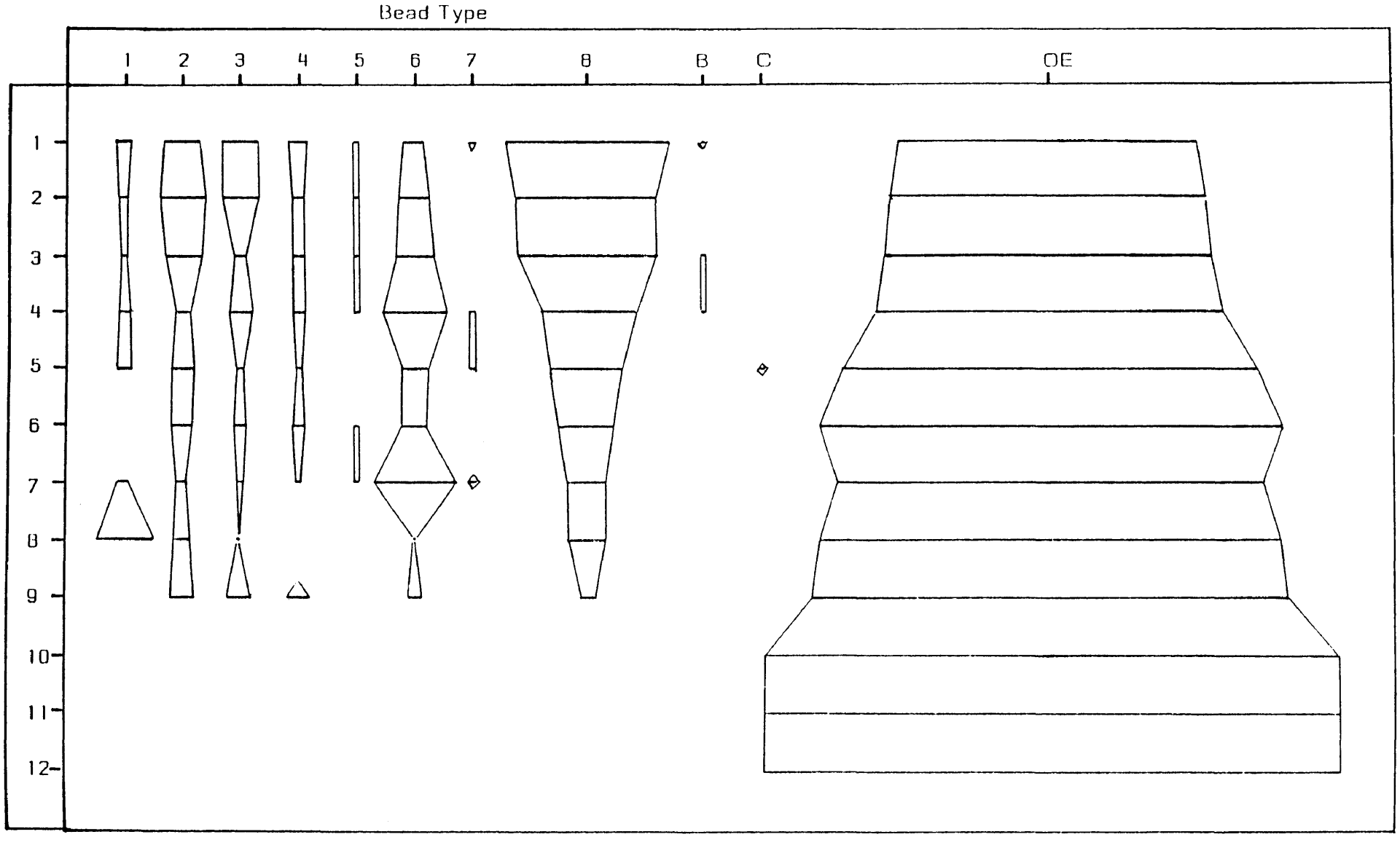
A large number of small river pebbles, approximately 1.5 centimeters in diameter and spheroid to ovaloid in shape were found randomly distributed through the deposit. A small concentration of such pebbles

Table 5.6 Bead distribution per layer for all squares

Bead Type

Layer	1	2	3	4	5	6	7	8	Bone	Ceramics	O.Egg	Total
1	25	63	65	33	2	32	4	294	1		562	1081
2	7	35	30	8	1	23		119			274	497
3	6	33	22	11	1	35		131	1		304	544
4	5	7	12	5	1	35	2	52	1		186	306
5	4	7	2	1		7	2	23		1	123	170
6		4	3	3	1	6		12			113	142
7	2	2	1	1	1	20	1	8			100	136
8	16	4	1			1		10			131	163
9		2	2	2		1		1			40	48
10											32	32
11											3	3
12											5	5

Table 5.7 Percentage frequency distribution of Beads per layer for all squares



B - Bone; C - Ceramic; OE - Ostrich eggshell

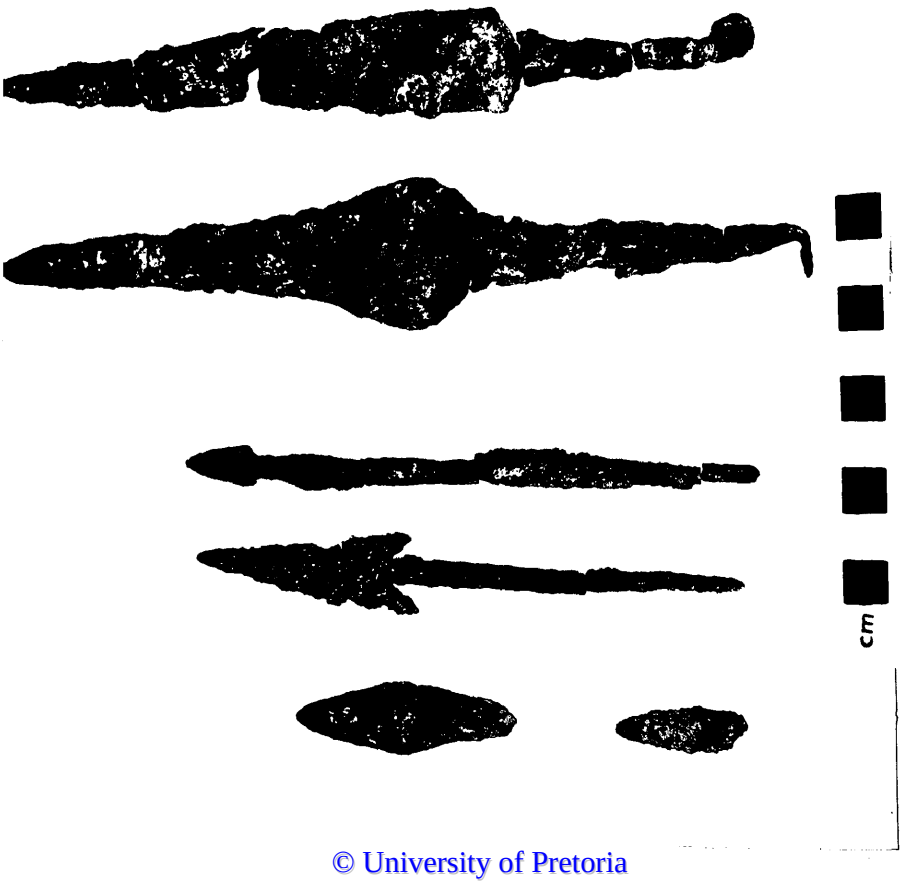
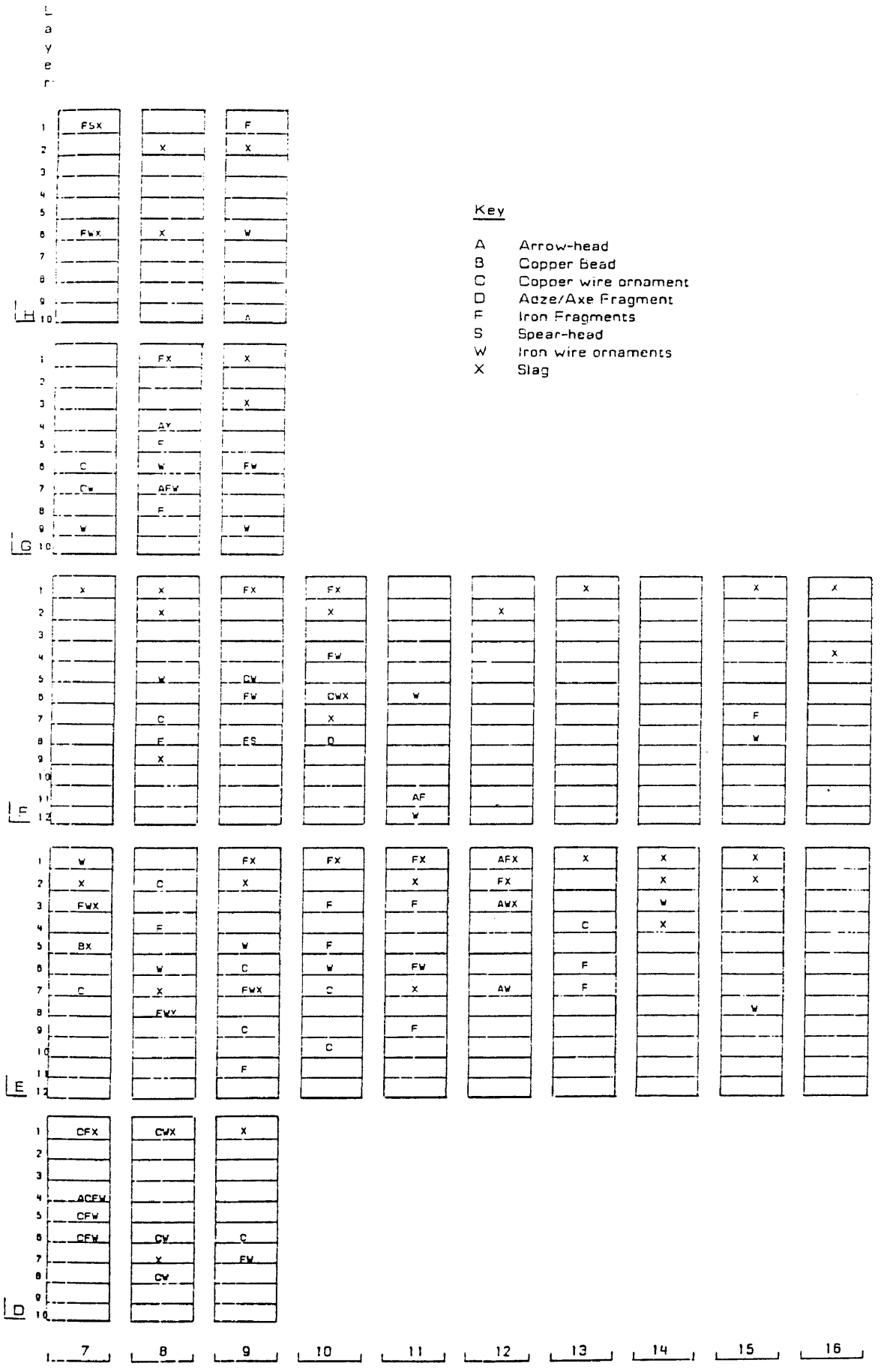


Plate 4 Skutwater metal artifacts

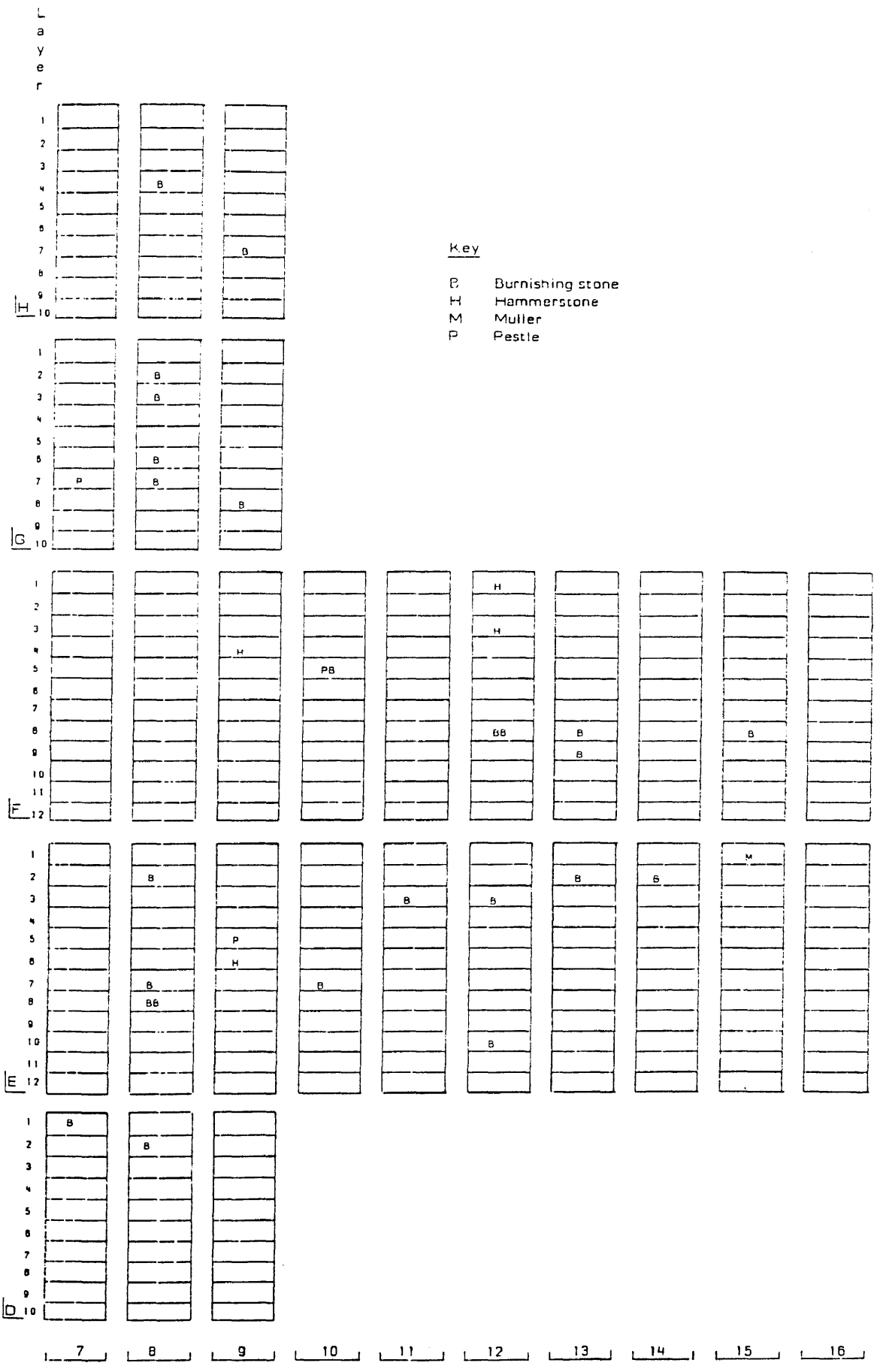
Table 5.9 Distribution of metal artifacts



Key

A Arrow-head
B Copper bead
C Copper wire ornament
D Adze/Axe Fragment
F Iron Fragments
S Spear-head
W Iron wire ornaments
X Slag

Table 5.9 Distribution of stone artifacts



was found in Level I of square E13 (plate 5). Generally, these pebbles show no traces of wear or any other sign of modification, yet their relative abundance in the deposit appears significant, although it must be emphasised that these pebbles are extremely common, occuring in heavy concentrations on the bends of the many dry water - courses in the area. Within the context of the site, however, it has been suggested that they may have been used as game-pieces, (pers. comm: S. Tlou).

5.4.6 Seeds

Carbonized seeds representative of both domesticated and wild species of plants were recovered from the excavation. These were carefully catalogued and packaged and submitted for identification to Mrs E.J. du Plessis of the Division of Plant and Seed Control of the Department of Agriculture in Pretoria. Mrs du Plessis' report has been included as Appendix III. Table 5.10 gives an indication of the stratigraphic distribution of the seeds by species and layer for all squares.

5.4.7 Bone artifacts

Apart from the three bone beads dealt with in the section on beads above, the only other bone artifacts recovered were two bone "needles".

5.4.8 Faunal remains

The Skutwater faunal material was identified by Mrs. R. Engela-Zaaiman of the Department of Archaeology of the National Cultural History and Open-Air Museum, Pretoria, under the supvervision of Mrs. I. Plug of the Department of Archaeozoology of the Transvaal Museum, Pretoria, who very kindly agreed to assist with this analysis.

Table 5.11 reflects the result of this analysis in the form of minimum numbers of individuals (MNI) counts for the various species represented derived from number of identified species (NISP) samples. The table has been divided into domesticated and feral species in order to facilitate later comparative analyses. The meat contributions to the Skutwater diet was computed on a percentage basis derived from an estimate of the dressed meat weight per species contributing to the diet. This data indicated that domesticated species constituted 74.89 percent and non-domesticated species 25.11 percent of the meat diet of the Skutwater people (Table 5.12).

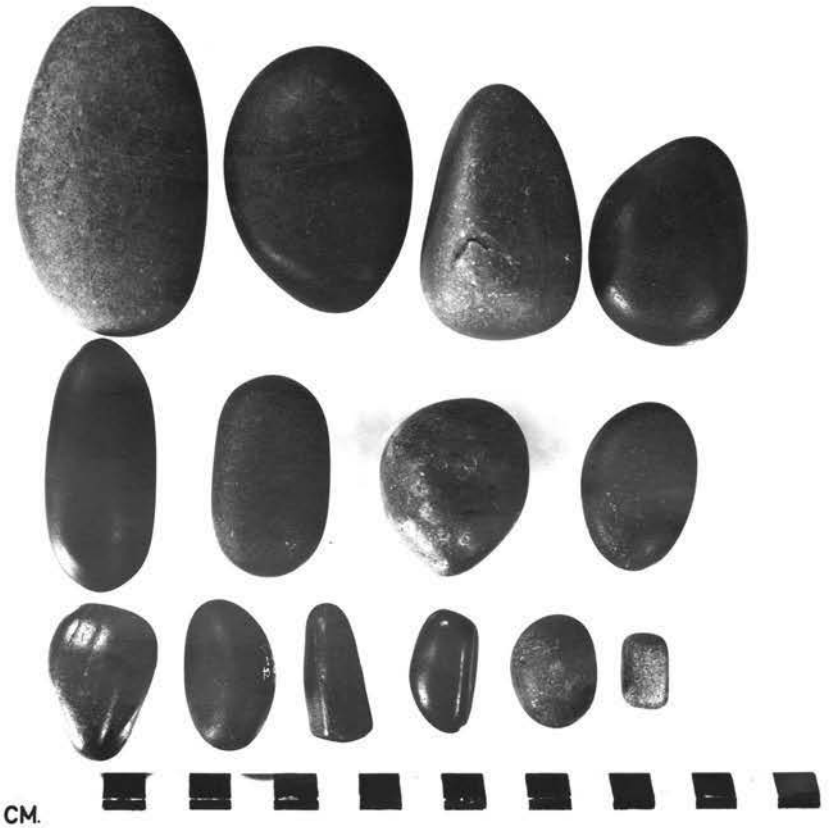


Plate 5 Skutwater stone artifacts

Table 5.10 Distribution of identified seeds

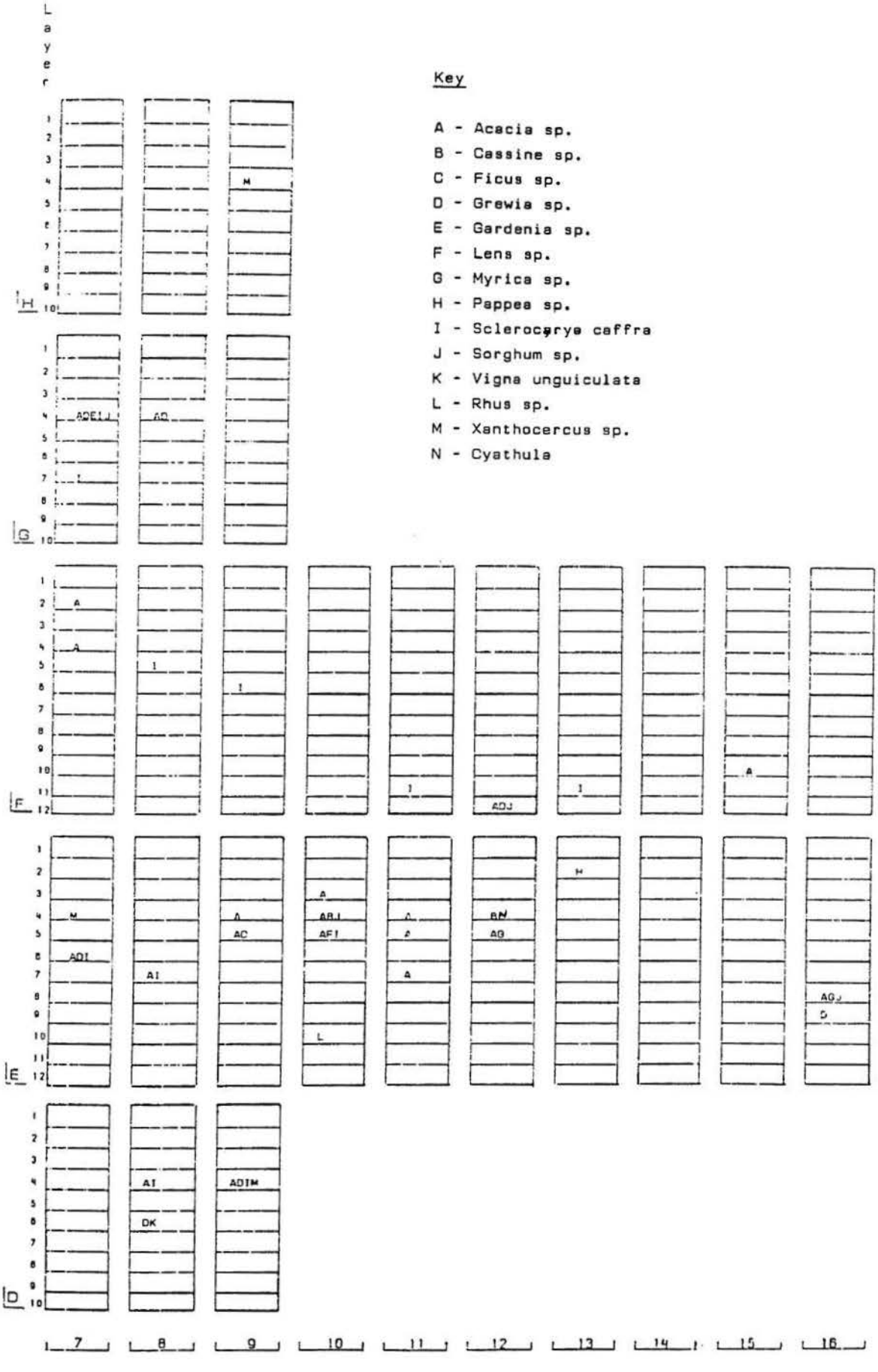


Table 5.11 Identified species present in the Skutwater excavations

Species	MNI
A. DOMESTICATED	
Bos taurus (Cattle)	38
Ovis aries (Sheep)	6
Capra hircus (Goat)	6
Ovicaprine sp.	91
B. NON-DOMESTICATED	
Homo sapiens sapiens (Man)	1
Galago senegalensis (Night ape)	1
Cercopithecus pygerythus (Vervet monkey)	1
Canis mesomalus (Black backed jackal)	1
Cynictus penicillata (Yellow mongoose)	1
Suricata/Mongoose	1
Suricata/Genet	1
Hyaena brunnea (Brown hyaena)	1
Proteles cristatus (Aardwolf)	1
Felis lybica (Wild cat)	1
Felis serval (Serval cat)	1
Panthera leo (Lion)	1
Panthera pardus (Leopard)	2
Felid (small)	1
Carnivore	1
Carnivore (large)	1
Equus burchelli (Zebra)	5
Ceratotherium / Diceros (Rhino)	1
Phacochoerus aethiopicus (Warthog)	1
Suid n.d.	1
Suid	1
Giraffa camelopardalis (Giraffe)	1
Aepyceros melampus (Impala)	3
Connochaetes taurinus (Blue Wildebeest)	1
Acelaphine	1

Table 5.11 Continued

Species	MNI
Cf. Antidorcas marsupialis (Springbuck)	1
Syncerus caffer (Buffalo)	2
Taurotragus oryx	1
Sylvicapra grimmia	5
Bov I	10
Bov II	14
Bov III	5
Bov III n.d.	2
Bovid	1
Insectivore	1
Erinaceus frontalis	1
Crocidura (Shrew family)	1
Shrew	1
Lepus capensis (Cape hare)	2
Lepux saxatilis (Scrub hare)	3
Lepus sp.	3
Lepus/Pronolagus	5
Pedetes capensis (Spring hare)	5
Hystrix africaeaustralis	1
Hystrix sp.	1
Thrynomys swiclerianus	1
Rodent	6
Rodent (big)	1
Rodent (Medium)	1
Rodent (Small)	9
Cf. Rattus rattus	4
Buteo rufofuscus	1
Bird (Vulture size)	1
Bird (Francolin size)	1
Bird (Guinea fowl size)	1
Bird (Laughing dove size)	1
Bird (Hadida size)	1
Bird part (Francolin size)	1

Table 5.11 Continued

Species	MNI
Tortoise	1
Pyxiceprialus adspersus (Bullfrog)	1
Veranus	6
Lizzard	1
Fish	1
Claria sp.	1
Achatina immaculata (Land snail)	42
Total no. of species - 69	Total MNI - 320

Table 5.12 Meat contribution to Skutwater diet

Species	MNI	Ind. Weight (Kg)	Meat Weight	Total meat Weight	% of diet
A. Domesitcated					
Bos taurus (adult)	18	498	249	4482.00	51.23
(juvenile)	8	198	99	792.00	9.05
Ovis aries (adult)	4	32	16	64.00	0.73
(juvenile)	2	24	12	24.00	0.27
Capra hircus (adult)	5	32	16	80.00	0.91
(juvenile)	1	24	12	12.00	0.14
Ovicaprine (adult)	50	32	16	800.00	9.14
(juvenile)	25	24	12	300.00	3.42
B. Non-Domesticated					
Equus burchelli	5	362	181	905.00	10.34
Phacochoerus aethiopicus	1	64	32	32.00	0.37
Giraffa cameleopardalis	1	1178	589	589.00	6.73
Aepyceros melampus	3	40	20	60.00	0.69
Connochaetes taurinus	1	170	85	85.00	0.97
Raphicerus campestris	1	14	7	7.00	0.08
Sycerus caffer	2	60	30	60.00	0.69
Taurotragus oryx	1	674	337	337.00	3.85
Sylvicapra grimmia	5	12	6	30.00	0.34
Bov 1	5	12	6	30.00	0.34
Erinaceus frontalis	1	0.34	0.17	0.17	0.002
Crocidura	1	0.10	0.05	0.05	0.006
Lepus capensis	2	2.26	1.13	2.26	0.03
Lepus saxatilis	3	2.26	1.13	3.39	0.04
Pedetes capensis	5	3. 6	1. 8	9.00	0.10
Hystrix africaeaustralis	1	18	9	9.00	0.10
Thrynomys swiclerianus	1	3	1. 5	1.50	0.02
Rodent	6	0.2	0. 1	0.60	0.007
Rodent (Big)	1	3.6	1. 8	1.80	0.02
Rodent (Medium)	1	0.2	0. 1	0.10	0.001
Rodent (Small)	9	0.1	0.05	0.45	0.001
Bird (*Francolin size*)	1	0.8	0.4	0.40	0.005

Table 5.12 Continued

Species	MNI	Ind. Weight (Kg)	Meat Weight	Total meat Weight	% of diet
Bird (*Guinea fowl size*)	1	1.6	0.8	0.80	0.009
Bird (*Laughing dove size*)	1	0.4	0.2	0.20	0.002
Bird (*Hadida size*)	1	2.0	1.0	1.00	0.01
Bird part (*Francolin size*)	2	0.8	0.4	0.80	0.009
Tortoise	1	1.36	0.68	0.68	0.008
Pyxiceprialus adspersus	1	0.6	0.3	0.30	0.003
Veranus	6	3.2	1.6	9.60	0.11
Fish	1	0.10	0.5	0.50	0.006
Claria sp.	1	1.6	0.8	0.80	0.009
Achatina immaculata	42	0.8	0.4	16.80	0.19
	227			8749.2	100.0

5.4.9 Dating

Three samples were submitted to the National Physical Research Laboratory of the Council for Scientific and Industrial Research for radiocarbon dating and the results obtained were as follows:

1. Pta-3424: AD 1880 ± 40: Wood from decomposed hutpost at 30 centimeter depth, square F7 Layer 4 (D' in Fig. 5.9). Comment from the Laboratory was that the material was unsuitable for dating.

2. Pta-3734: AD 1150 ± 40: Sample consisted of carbonised seeds collected from the periphery of an ash lens at 34 centimeter depth in square D9 layer 4. (D^2 in Fig. 5.9).

3. Pta-3715: AD 1130 ± 45: Sample of charcoal collected from shallow pit feature (F9.8.1) at 78 centimeter depth in square F9 layer 8. (D^3 in Fig. 5.10).

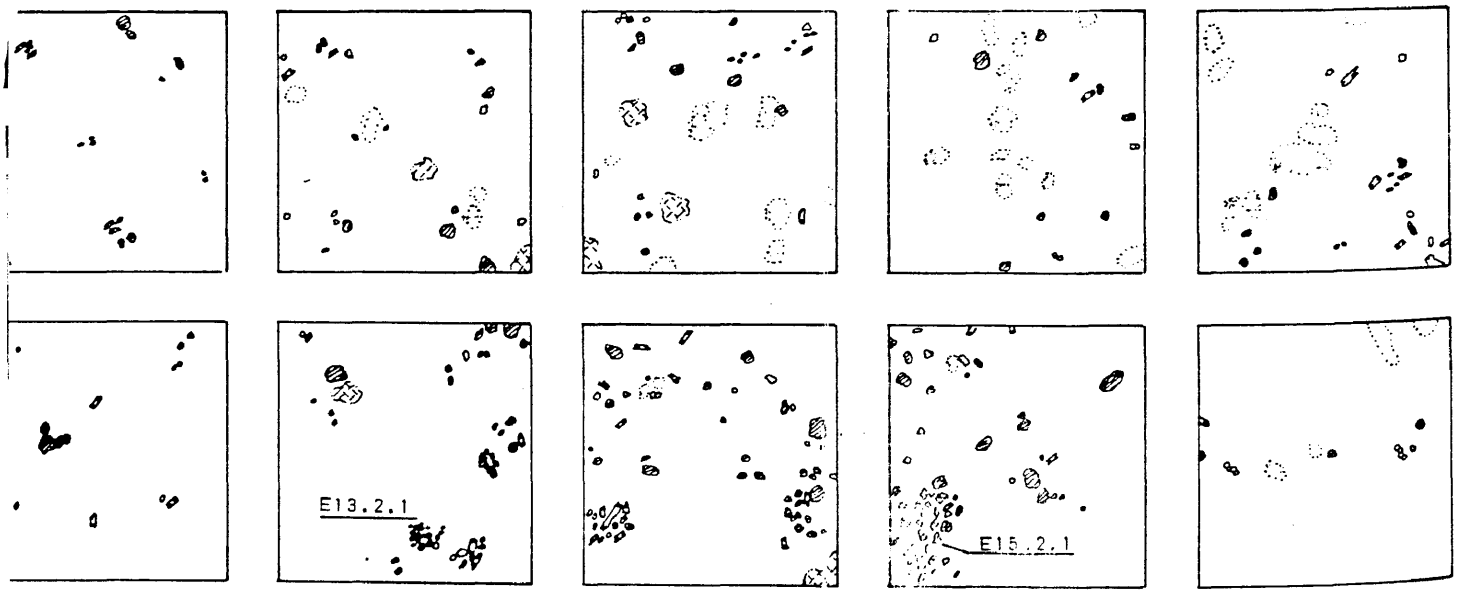
5.4.10 Human skeletal remains

During the course of the excavations seven burials were encountered of which five were those of adults and two of juveniles.

Whilst excavating the burials a number of problems were experienced relating to the preservation and subsequent removal of the skeletal material for analyses. The material appeared to be relatively well preserved in the damp deposit in which it occurred. However, after a very short exposure to the very hot and dry atmosphere of the region, it quickly degenerated into an extremely unstable state reminiscent of spongy talc and the slightest disturbance resulted in fragmentation.

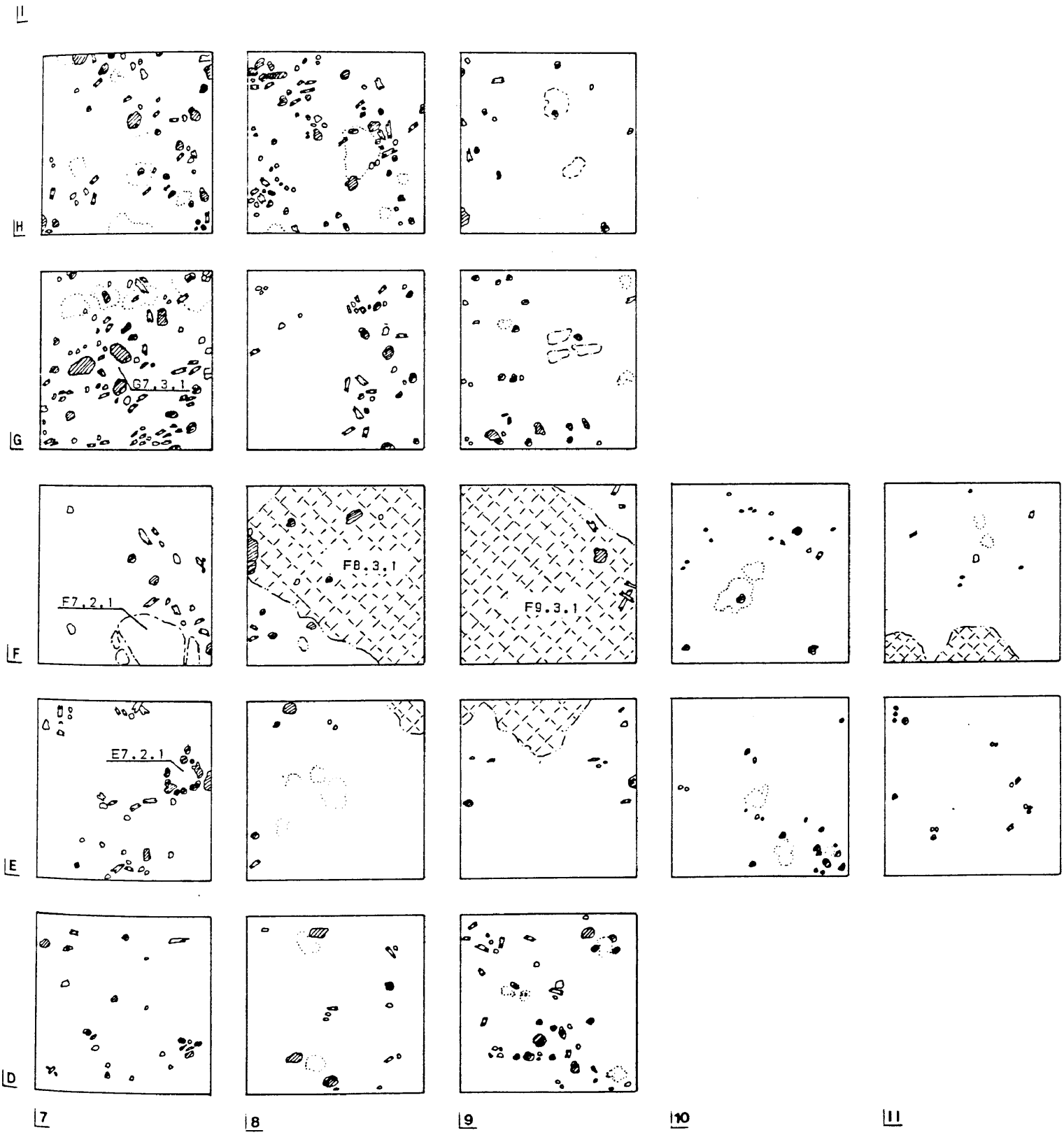
Efforts were made to inhibit the rate of evaporation by covering the skeletons with moist hessian and thus gradually allowing the bone to desiccate sufficiently to apply a preservative of mowelith disolved in ascetone.

The matrix of friable dung in which the burials occurred was also very difficult to excavate in such a way as to ensure the minimum of damage to the skeletal material. It was subsequently decided that, after clea-



13 14 15 16

Fig. 5.10 Plan of Level 1



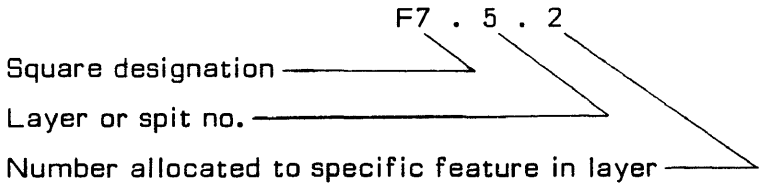
ning and recording *in situ*, the bones would be removed individually and packaged rather than endeavouring to remove the burial as a whole. A further characteristic of all the burials was that the crania had been flattened and fragmented by overlying soil pressures.

The resultant fragmentary nature of the skeletal material has consequently dictated an extremely painstaking process of preservation and reconstruction: a process, though advanced, that will still require many months to complete. For this reason it was decided not to delay this thesis by waiting for the results of the skeletal data but to desseminate them in the form of a complementary publication as soon as they become available.

5.4.11 Description of features

As mentioned previously, the deposit was categorised into two sampling populations on the basis of soil colour, i.e. the light red-brown of the habitation area and the grey-brown of the central cattle byre area. Although these populations were kept separate during excavation, it was subsequently found that the cattle byre is a feature of the habitation area. As a result the two populations have been linked in this synthesis in order to give a complete integration of all the contextually related features within the stratigraphy of the deposit as a whole. The levels defined for the habitation area will be used as references for this integration.

Throughout the following description each feature has, on identification, been allocated a detail number which is unique to it. This detail number is composed of three specific elements and the significance of each is shown below:



The square designation consists of the combination of the alphabetical and numerical divisions on the horisontal axes, whilst the layer number indicates the depth at which the feature occurs to the nearest 50 mm. Finally, the number at the end of the grouping is one of a sequence of numbers allocated to any feature/s identified in any given layer within any given square of the excavation.

Plate 6 Mustard yellow floor: detail F7.2.1

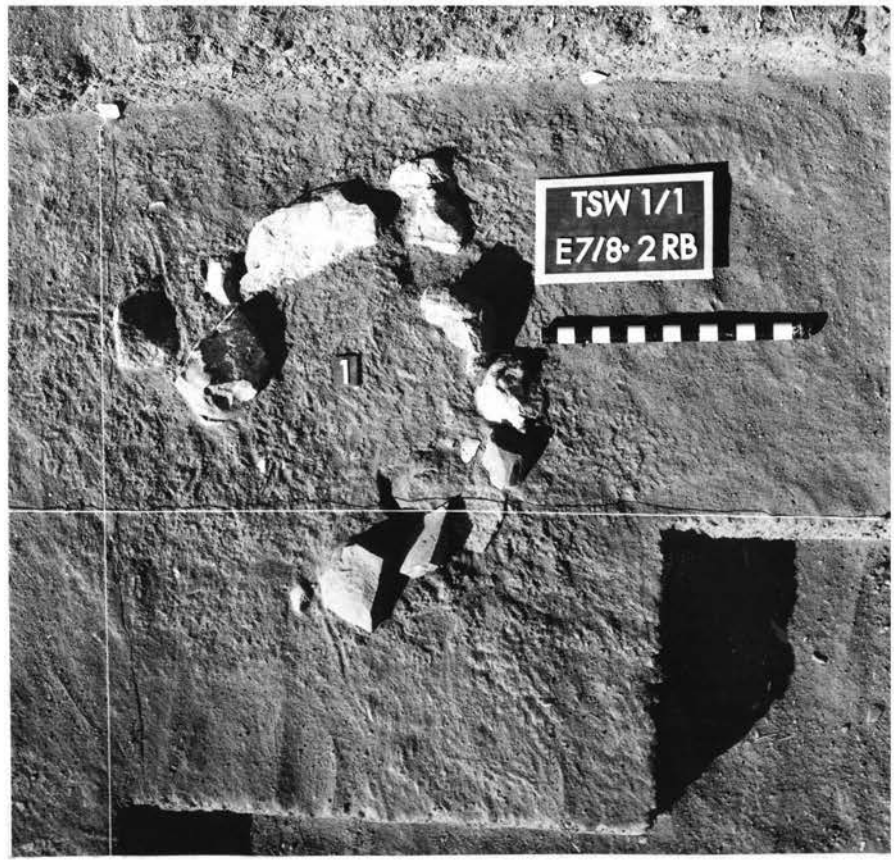


Plate 7 Incomplete stone circle: detail E7.2.1

a. Level I (Fig. 5.10)

The first feature of any significance that was encountered was a compacted concentration of mustard-yellow gravel on the surface of layer 2 in square F7. (Detail no. F7.2.1: plate 6). The concentration had the appearance of a floor surface as it was found to be approximately 3 cm thick throughout. Its perimeter was vague due to destruction by burrowing activity and no other structure-related features such as post-holes or daga concentrations were found with it.

Approximately 2 meters to the west of the above concentration an incomplete circle of stones with a diameter of approximately 50 cm was uncovered. (Detail no. E7.2.1: plate 7). This feature appears to be the base of a grain container and is stratigraphically directly related to detail F7.2.1.

Five meters to the east of floor F7.2.1, a further stone feature (detail no. G7.3.1) (Plate 8) was identified. It consisted of three large stones firmly embedded in the soil. Around this feature and in the two squares immediatly to the east of it, namely H7 and H8, there was a relatively dense concentration of cultural material in the form of potsherds and bone material. Interspersed within this matrix were a number of thin ashey lenses. Apart from the stone feature, the whole appears to be a midden area.

To the south of floor F7.2.1 an area of compacted dung was excavated. This layer, which was initially identified on the surface of layer 3 in square F8 (detail no. F8.3.1), was followed through to square F9 (detail no. F9.3.1) to its southern limit. The eastern periphery of this dung concentration was found in squares E8 and E9. This feature appeared to be a small cattle byre that was temporally related to the other features within this level. The concentration was followed down through layer 3 into layer 4 at which point its lower limit was encountered. Although the outline of the concentration was vaguely defined due to disturbance it appeared to be more or less oval in shape and was found to have a relatively constant average thickness of 20 centimeters.

A random scatter of cultural material, primarily potsherds and bone fragments, was recovered from this Level of the trench in the area extending from the habitation area into the central cattle byre. In squares E12 and F12 to E13 and F13 there is a nuance of a colour change from

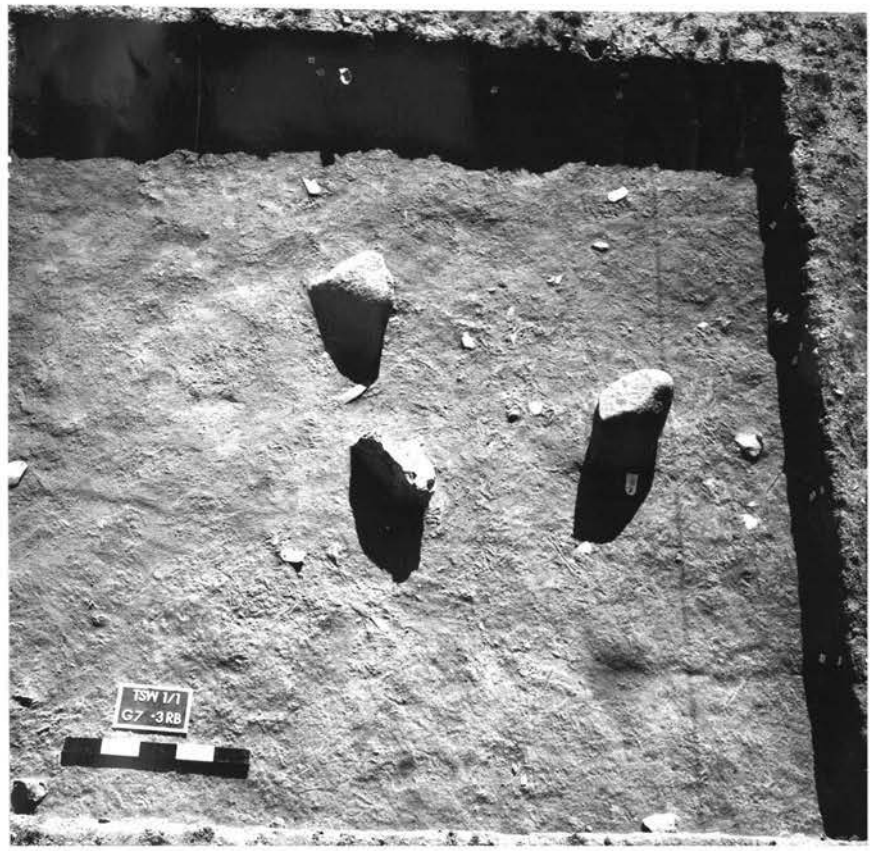


Plate 8 Stone feature. Detail G7.3.1

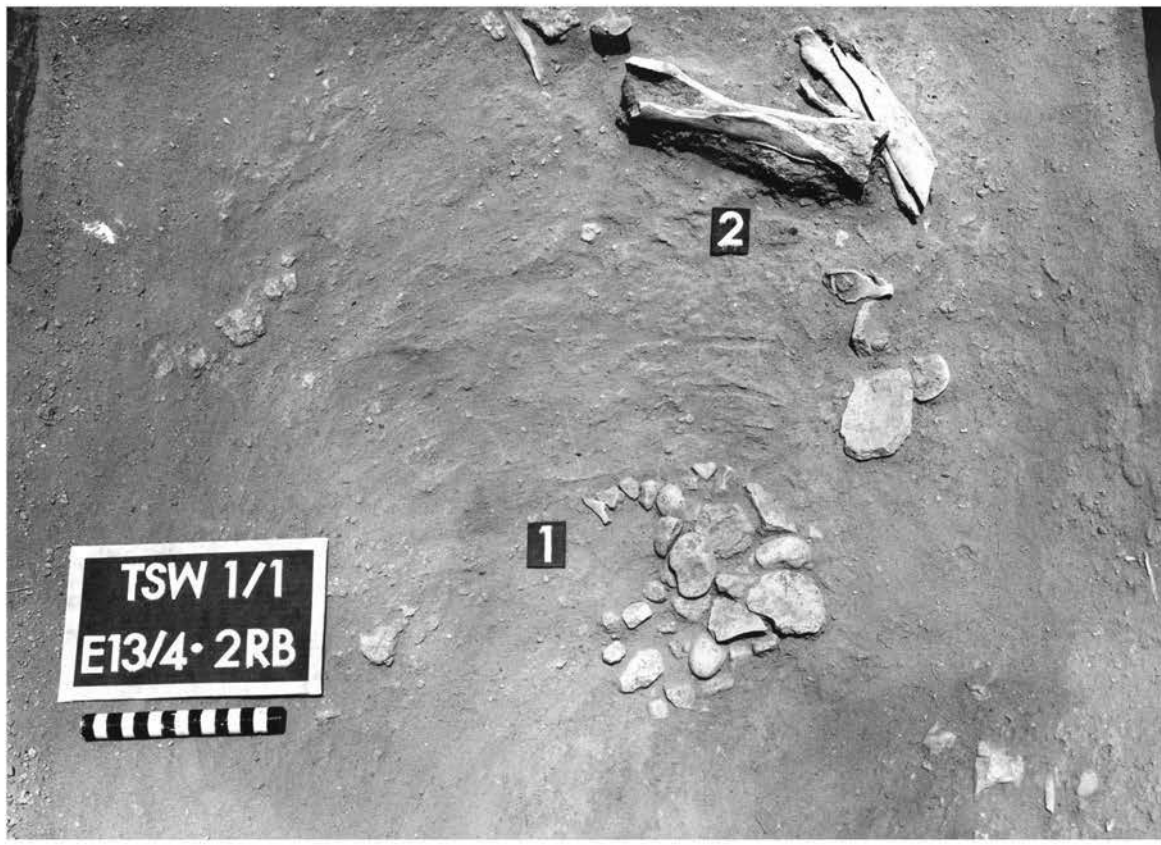


Plate 9 Stone feature. Detail E13.2.1

light brown to grey brown. This indicated that the interface between the two populations occurred in this area. However, the transition from the one colour to the other was so gradual and over such a long distance (± 6 meters), that no definate limits could be defined.

A small concentration of bone fragments and potsherds occurred in squares E13 to E15. Although it appeared isolated, an interesting feature (detail no. E13.2.1), (Plate 9) consisting of a collection of small river pebbles, was identified on the northern edge of the above concentration. As was mentioned earlier in the section dealing with stone artifacts, it was tentatively suggested that the pebbles were game pieces, possibly for a game similar to *isifuba*. (pers comm: S. Tlou.)

Finally, an apparently random occurrence of small (± 25 centimeters in diameter) and thin (± 1 centimeter thick) grey to black ash lens were identified at various points throughout the level in both trenches. Apart from those found linked to the midden area mentioned above, they bear no apparent contextual relationship to each other or to any other features in the level.

b. Level II (Fig. 5.11)

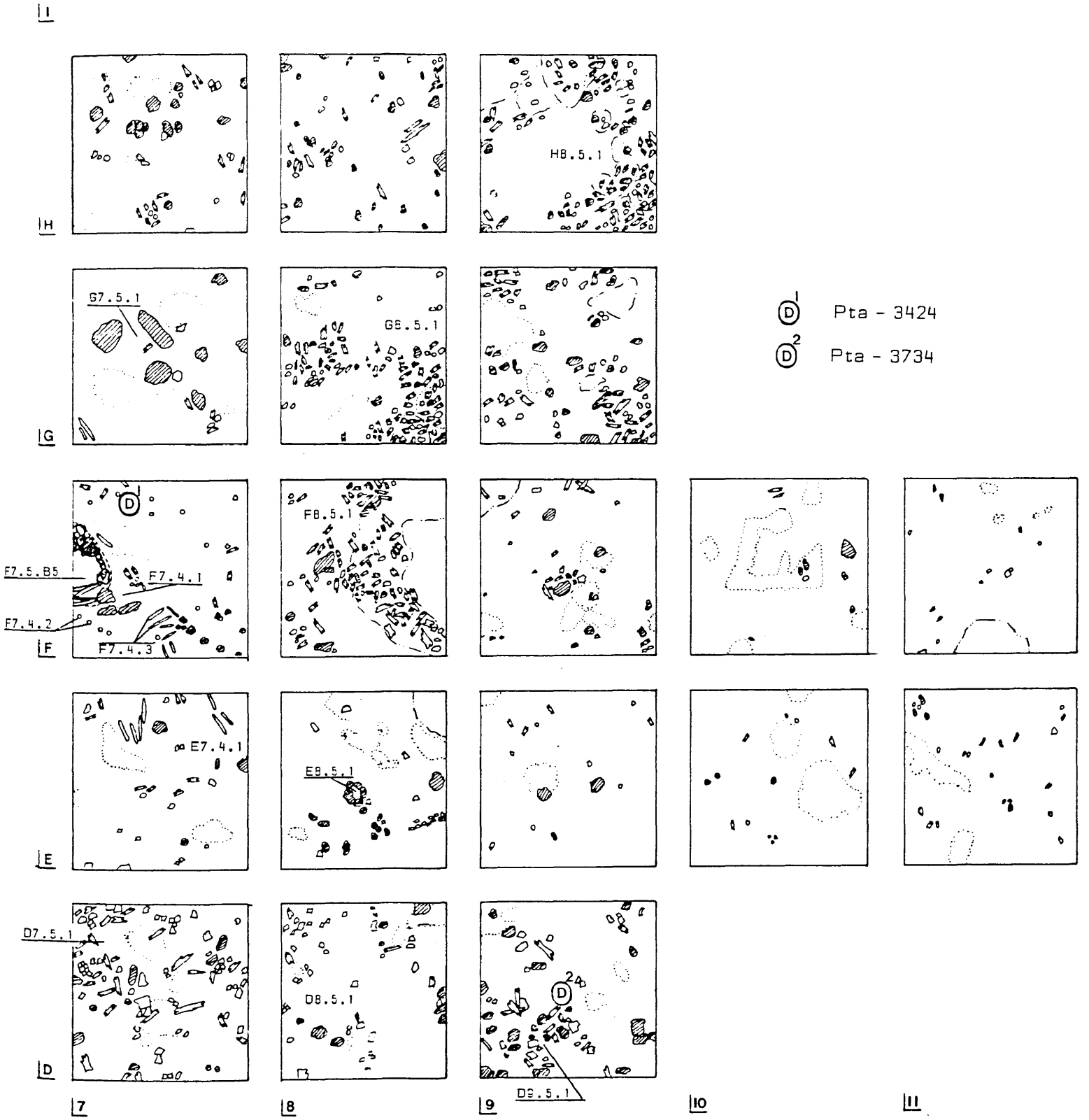
The small cattle byre identified in squares F8 and F9 of the previous level overlay part of a midden area (detail no. F8.5.1) (Plate 10) which extended eastwards from square F8. This midden was identified in squares G8 and G9 as well as H9.

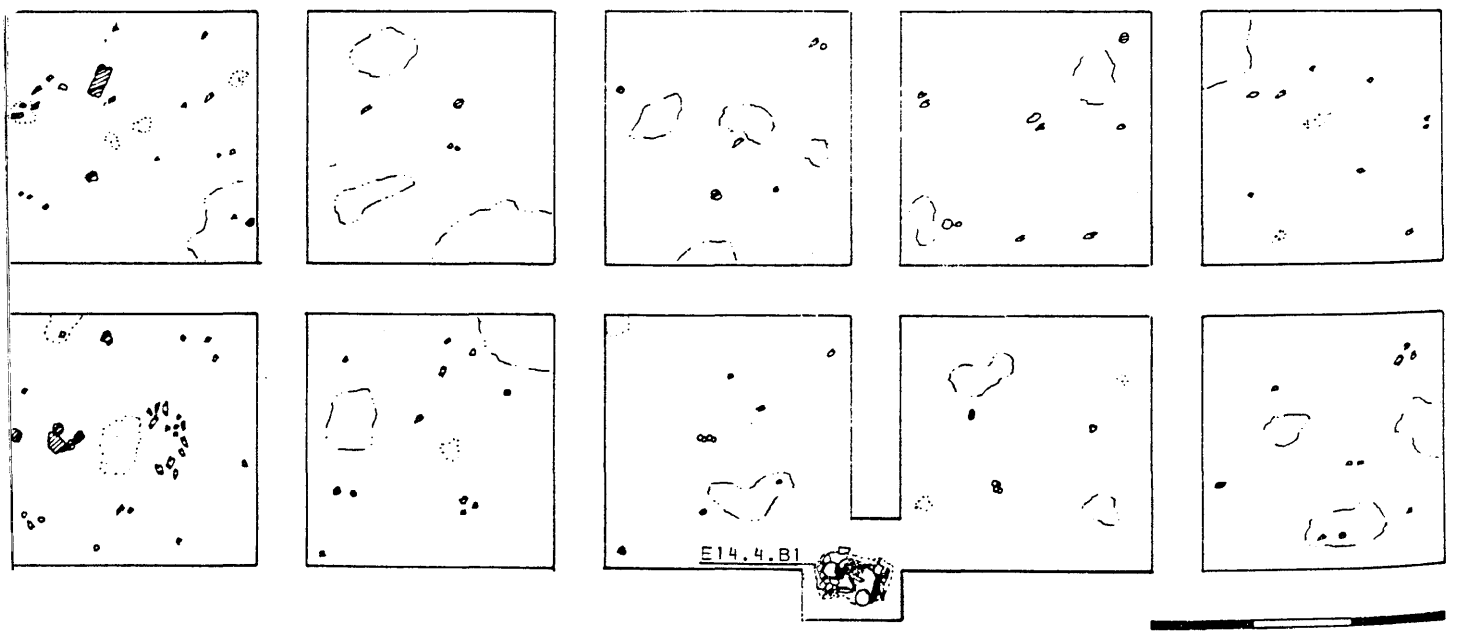
The stone feature (detail no. G7.3.1) that was identified in the previous Level extends down into Level II. Around the base of this feature vague black and grey ashy lenses occurred but there was no clear evidence that stone feature G7.3.1 may have been a hearth area.

To the west of feature G7.3.1, in square F7, three stones definately in hearth context were found (detail no. F7.4.1). (Plate 11). The stones were set in an area of burnt soil that was brick red in colour. This was in turn overlain by a convex lens of ash forming a mound in the center of the hearth area and tapering off towards the outer edges of the hearth. A number of potsherds and burnt bone fragments were recovered from this ash lens.

Whilst extending the excavation away from the abovementioned hearth

Fig. 5.11 Plan of Level II





12 13 14 15 16

Midden area. Detail F8.5.1

Plate 10

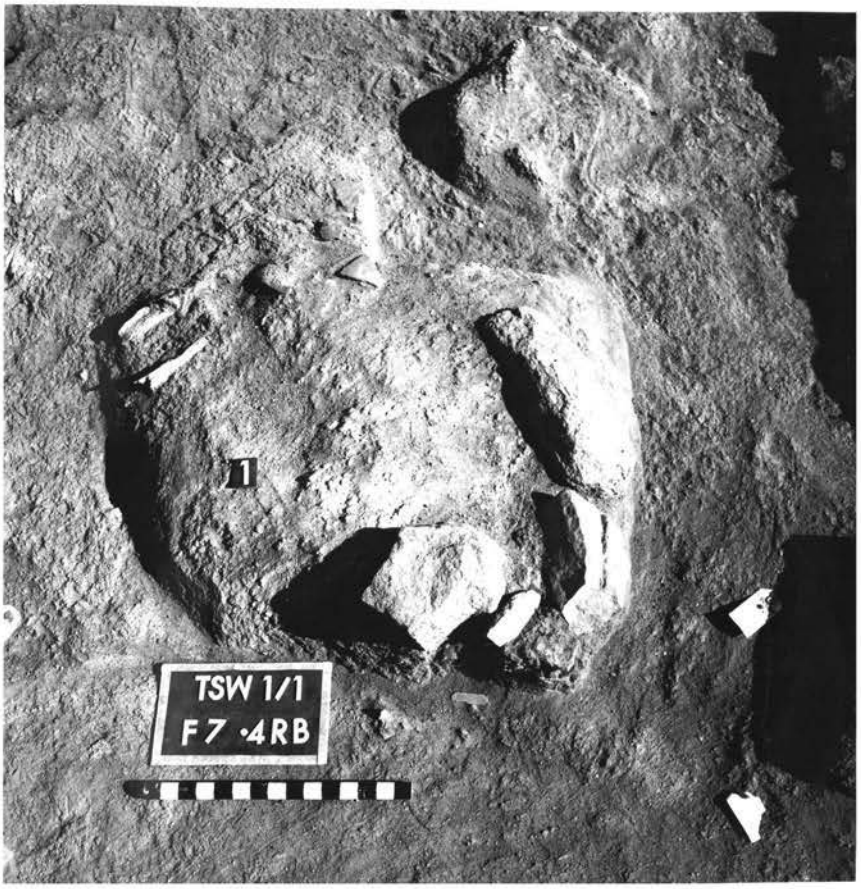


Plate 11 Hearth area. Detail F7.4.1

Plate 12 Decomposed granite matrix. Detail F7.4.3

area, a cluster of decomposed wooden poles approximately 2 centimeters in diameter and set in a daga matrix were observed. These are indicative of collapsed hut walling (detail no. F7.4.3), (Plate 12). Further excavation led to the discovery of two vertical hut posts of decomposed wood (detail no. F7.4.2). Assuming that these vertical posts were not isolated but part of the reïnforcing of a hut wall, more posts were sought which led to the excavation of a series of decomposed posts forming a circle around the hearth area mentioned above. (Plate 13). One of these posts was removed for radiocarbon dating and the date obtained was AD 1880 $\pm$ 40 (Pta-3424). This date is extremely late and the typological uniformity of the excavated pottery emphasises the comment by the National Physical Research Laboratory that the material submitted was unsuitable for dating purposes.

At this point an attempt was made to discover whether or not a floor could be traced between the vertical posts and the hearth area. No floor level could be identified. The inner area consisted of a daga matrix, assumed to be collapsed walling, which was removed with the utmost care. However, the expected horizontal fracturing plane between it and a prepared and compacted floor could not be found. Instead the daga overlay a dark brown soil matrix that was slightly compacted but not hard. An area in the northern quadrant of the hut interior was found to be softer than the rest of the floor area. This was initially assumed to be due to burrowing activity. However, on removal of the soft soil in an attempt to determine the extent of the disturbance, the left ilium and left femur of an adult human skeleton was exposed.

Although this burial (detail F7.5.B5) intrudes into Level III, it has been documented as part of Level II as it is contextually related to this level, the interment having been done from inside the hut identified above. (Fig. 5.12). The skeleton itself was found lying on its right-hand side in a flexed position, the femurs creating an angle of approximately 90° to the vertebral colomn. The tibiae and fibulae were tightly drawn up, placing the toli in close proximity to the pelvic bones. The arms were flexed in front of the thorax with the hands placed in an open position in front of the face. The orientation of the skeleton through the longitudinal axis of the vertebral column was north-east to south west with the top of the cranium to the north east and face to the north west. (Plate 14 & 15).

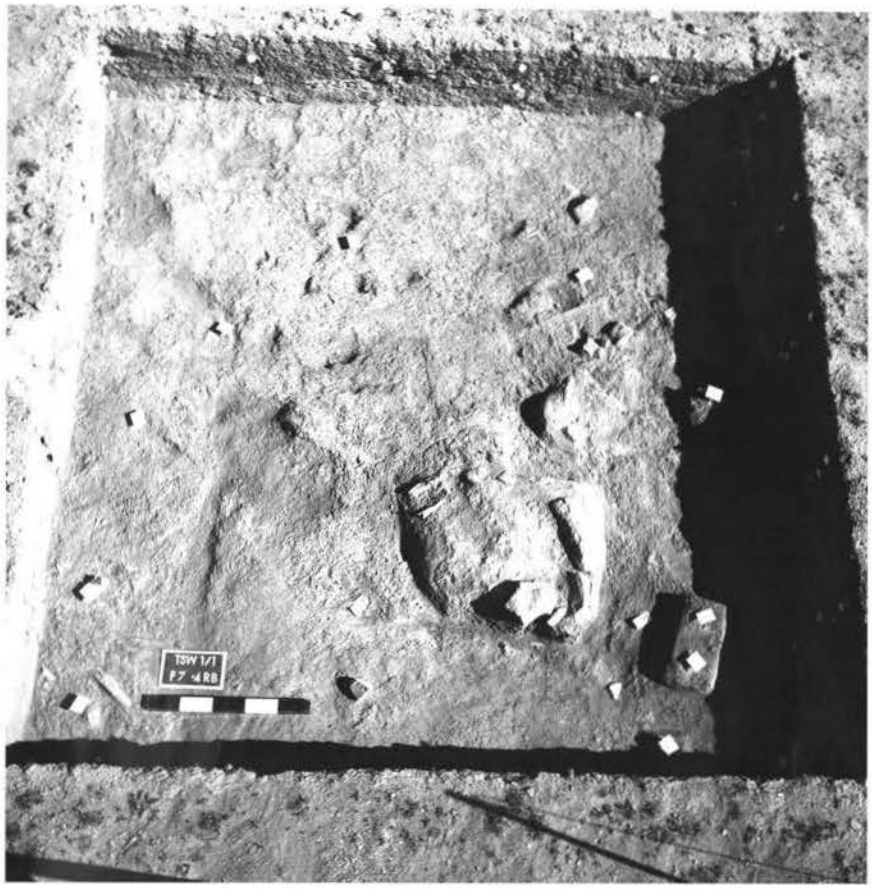


Plate 13 Decomposed hut posts (white squares denote individual posts). Detail F7.4.2

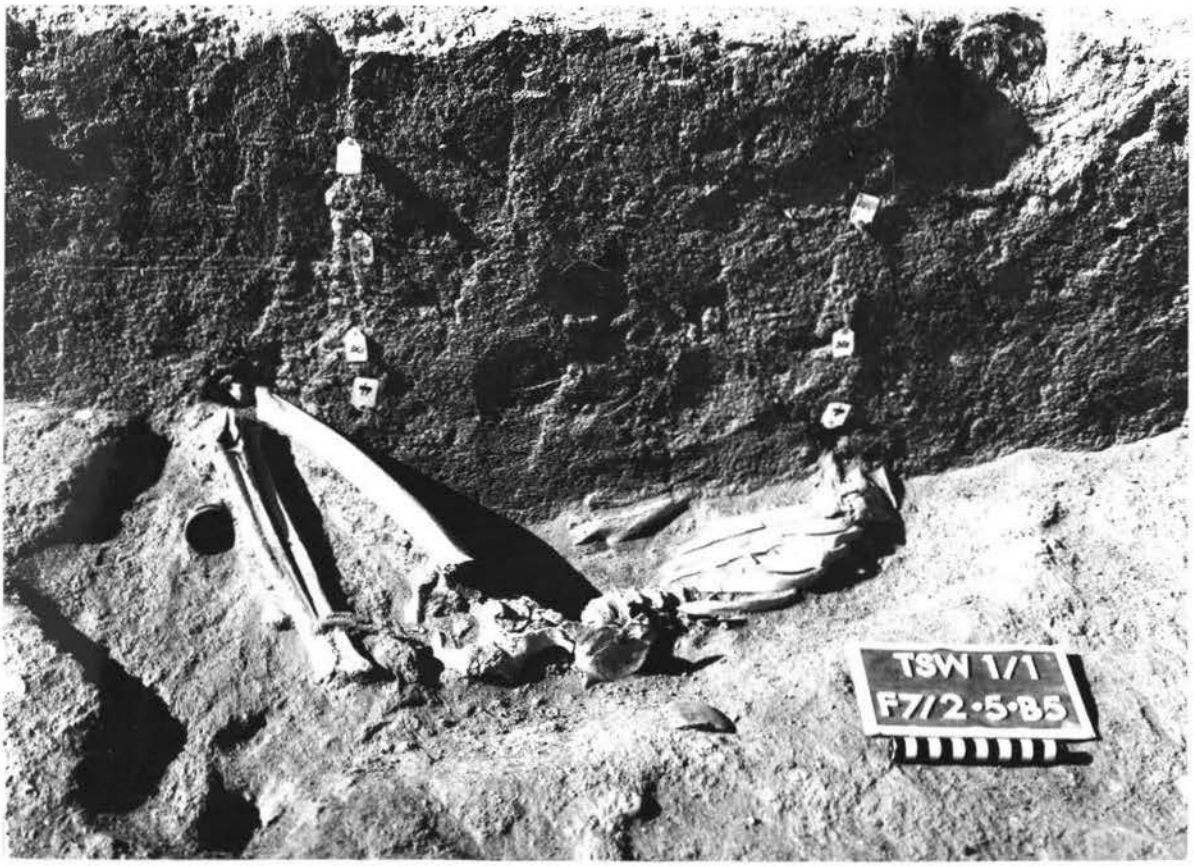
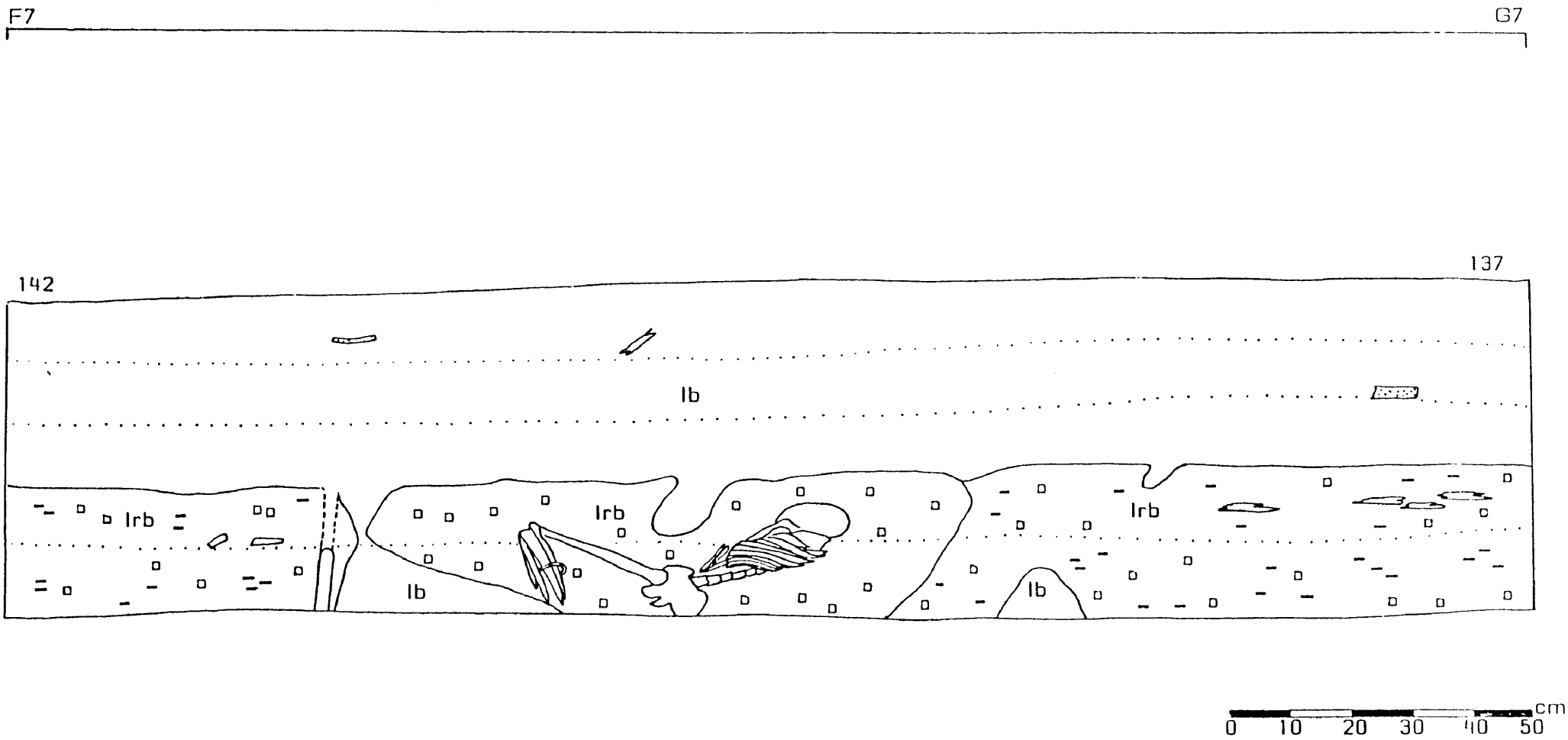


Plate 14 Section of burial F7.5.B5

Fig. 5.12 North section of burial F7.5.B5.



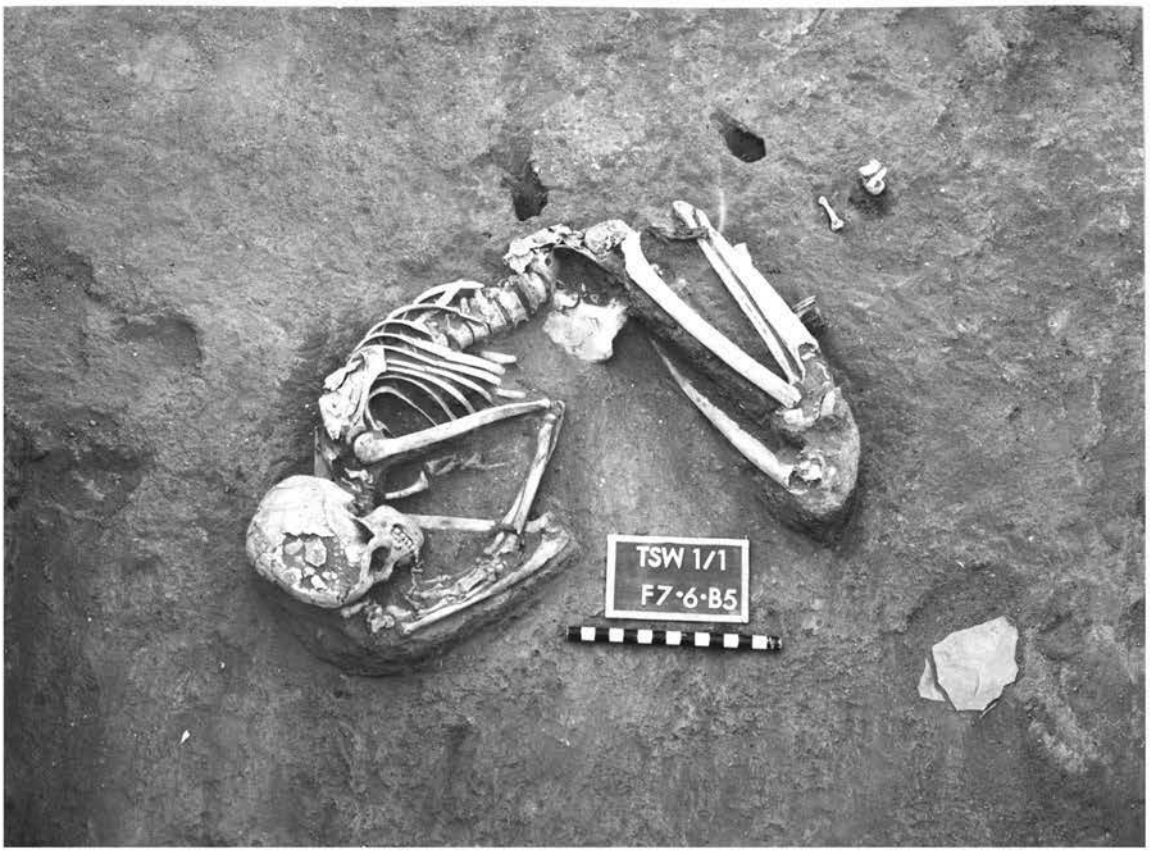


Plate 15 Burial F7.6.B5

Plate 16 Detail of core-rolled copper wire ornament around right Tibia and Fibula

Two strands of core-rolled copper wire leg ornaments were found around the proximal end of the right hand tibia and fibula. (Plate 16). Another ornament, consisting of badly oxidised core-rolled iron wire, was found around the distal end of the left tibia and fibula. At this point it was found that the foot bones were missing due to burrowing distrubance in this area. A further core-rolled iron wire bracelet was found around the distal end of the left hand radius and ulna. (Plate 17).

Apart from three potsherds, each from a different vessel, and a number of small stones that bear no apparent relationship to the burial, no other artifacts were recovered from the grave.

Approximately four meters to the south west of the hut a stone feature was discovered (detail no. E8.5.1) which consisted of a small circle of stones.

In squares D7, D8 and D9 there was a marked increase in the frequency of occurence of artifacts and from the distribution of the material, together with interspersed ashy lenses, this part of the deposit had the appearance of a midden area. (detail no. 5 D7.5.1, D8.5.1 & D9.5.1). On the periphery of an ash lens in square D9 a small concentration of charred Xanthocercis zambesiaca seeds was discovered at a depth of 34 centimeters. A number of these seeds were submitted for radiocarbon dating and the date obtained was AD 1150 ± 40 (Pta-3734). Although this sample occurs 4 centimeters deeper than the hut-post dated above, there is no stratigraphic evidence that this midden area and the hut feature are not contemporaneous. In fact, further horisontally oriented decomposed posts set in a daga matrix were discovered in square E7 (detail no. E7.4.1) which are directly related to the hut feature and occur less than 3 meters east of the midden area in square D7. (detail no D7.5.1). Both D7.5.1 and E7.4.1 occurred within the matrix identifying level II without any apparent break in the depositional continuity between them. This together with the pottery sequence, further invalidates the result obtained from Pta-3424.

To the south, in the area of the central cattle byre, this level was characterised by the presence of yellow-brown compacted dung concentrations, interpersed with evidence of burrowing disturbance in the form

Plate 17 Detail of core-rolled iron wire ornament around left radius and ulna.

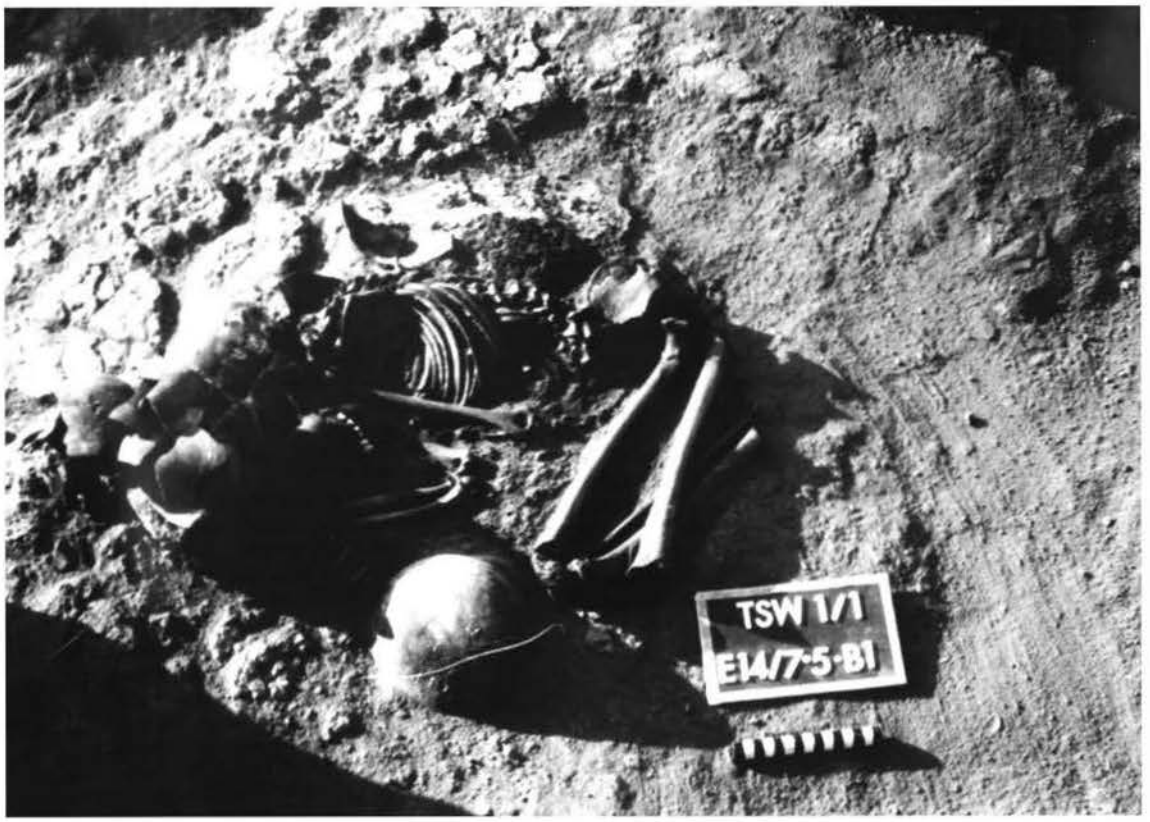


Plate 18 Burial E14.5.B1

of tunnels that have filled with the grey-brown soil from level I. The dung concentrations showed no signs of stratification. This homogeneity was presumed to be indicative of continious mixing by trampling during the process of deposition. What is important to note at this point is that, unlike the gradual colour change from level III to level II in the habitation area, the cattle byre shows no break in its sequence of deposition. It is therefore logical to assume that, although a gradual colour change was discernable between levels III and II of the habitation area, no break in the depositional continuum of the habitation area should be expected and that the slight change noted in the soil colour and texture resulted from a continuous process.

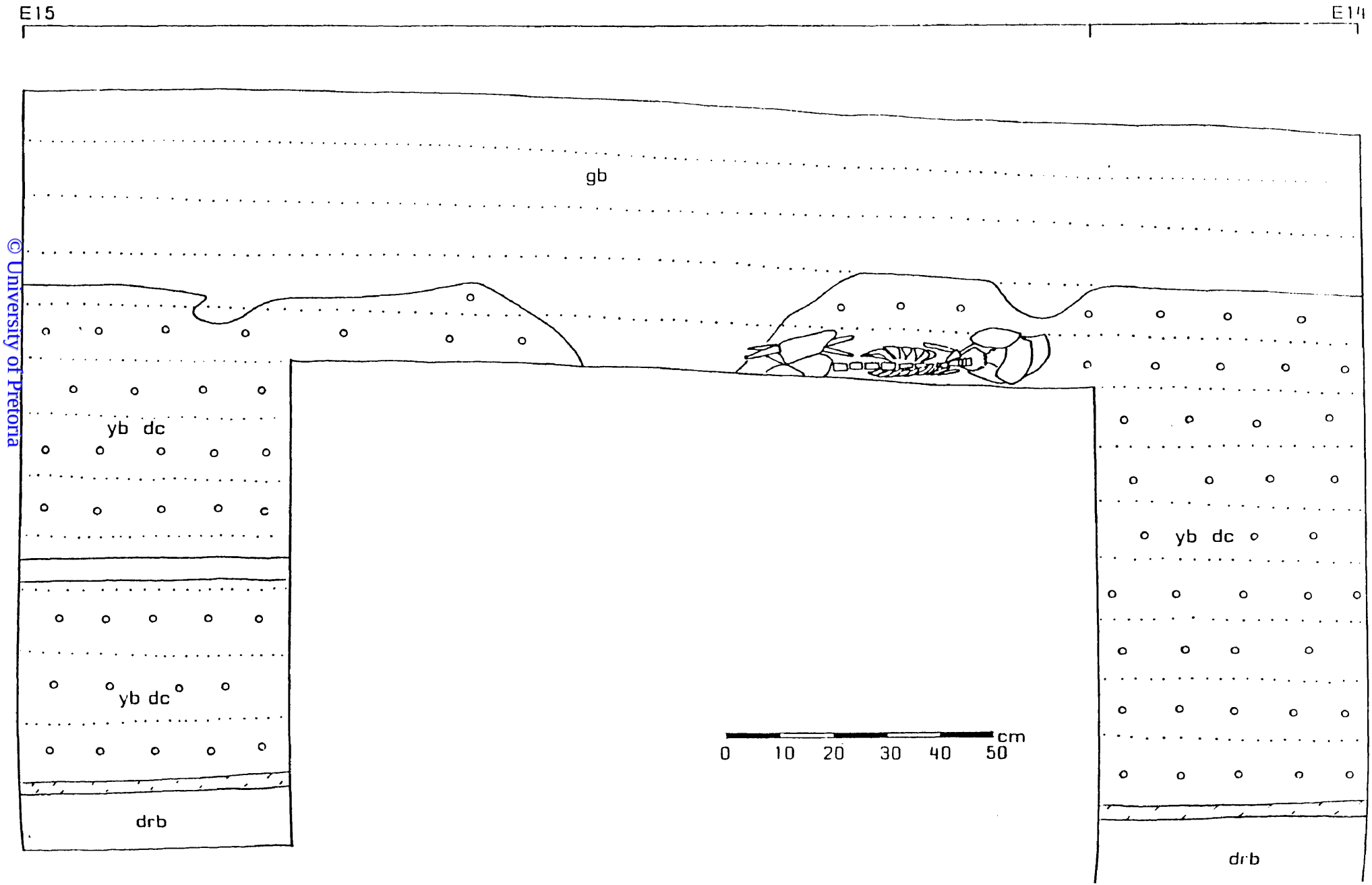
'n square E14 another human adult burial was discovered (detail no. E14.5.B1.) (Plate 18). The skeleton was on its right-hand side in a fully flexed position with its femurs at 90° to the vertebral column. The orientation of the burial with the axis through the vertebral column is north/south with the top of the cramium to the north and face to the west. (Fig. 5.13).

A number of pottery fragments were recovered that had been placed around the head and shoulder area of the body. A virtually complete vessel was found near the abdominal area between the elbows and knees of the skeleton.

In the area of the neck vertebra a large number of glass beads were recovered. Although small black oblates (Type 8) predominated, there were a number of indian red (Type 6), green (Type 3) and yellow (Type 4) oblates present.

On extending the excavation of the burial, a further substantial find of beads was made in the pelvic area of the skeleton. A panel of bead-work, approximately 15 centimeters in length and approximately 10 centimeters in width and extending away from the rear of the sacrum was found sandwiched in the dung matrix. These beads appear to have been worked into a skin or cloth loin-cloth which has completely decayed. They also comprise of predominantly black oblates with indian red oblates interspersed between them. Although the beads were

Fig. 5.13 West section of burial E14.4.B1



disturbed to a certain degree during excavation, it was still possible to photograph the pattern in which they occurred. (Plate 19).

c. Level III (Fig. 5.14)

In the habitation area, level III was distinguished from level II on the basis of a gradual colour and texture change in the soil. This level was further characterised by numerous features and describing them in sequence, working from the central cattle byre in the south towards the habitation area in the north, relates them as follows.

The strata in the central cattle byre relating to level III of the habitation area is exactly the same as for the previous level: a relatively homogeneous concentration of yellow-brown dung. This concentration extends all the way down to a hard, green layer of densely compacted dung which is the earliest layer of the byre itself and, most probably, of the settlement as a whole. Within the excavated byre area, three burials were found. These are described individually below.

i Burial E13.8.B2 (Fig. 5.15; Plates 20 & 21)

This burial of an adult human was found on the periphery of the central byre dung concentration. As a result of its close proximity to the interface between the byre and the habitation area, it was found to be extensively disturbed by burrowing activity and many of the skeletal parts had consequently been displaced.

From the material present it could be determined that the skeleton was originally in a flexed position and placed on its left-hand side, with the right-hand femur forming an acute angle of 45° to the vertebral column. The orientation of the skeleton was basically east/west with the top of the cranium to the west and the face to the north.

A number of potsherds were recovered from the burial in the immediate vicinity of the skeleton, all of which appeared

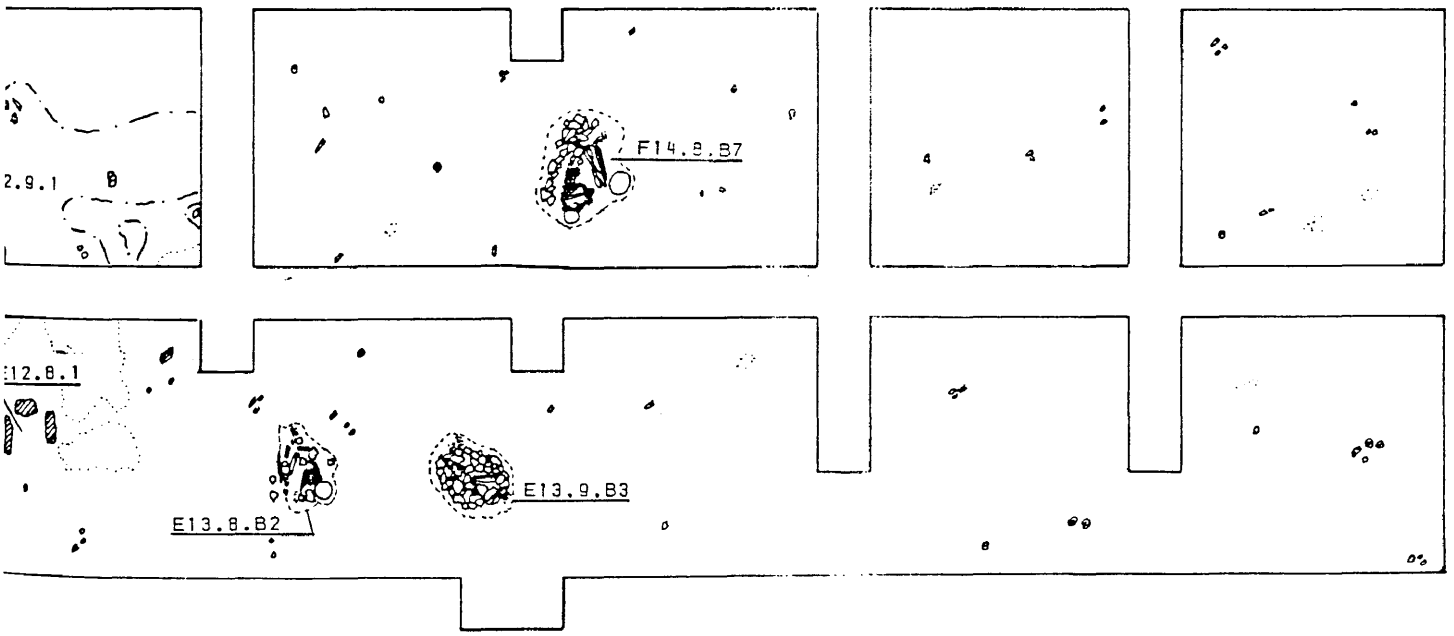
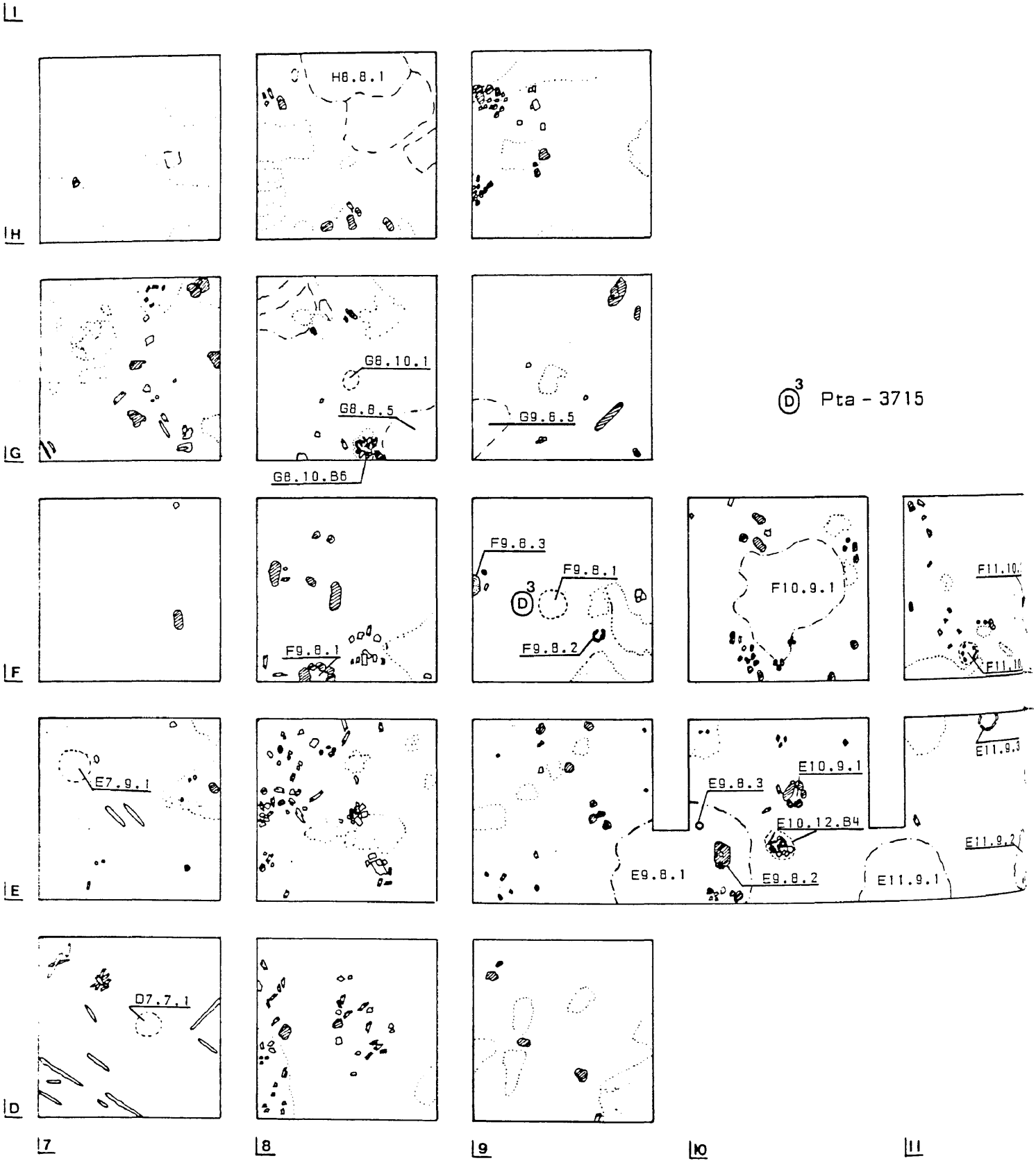


Fig. 5.14 Plan of Level III



(D)3 Pta - 3715

Fig. 5.15 East section of burials E13.8.B2 & E13.9.B3.

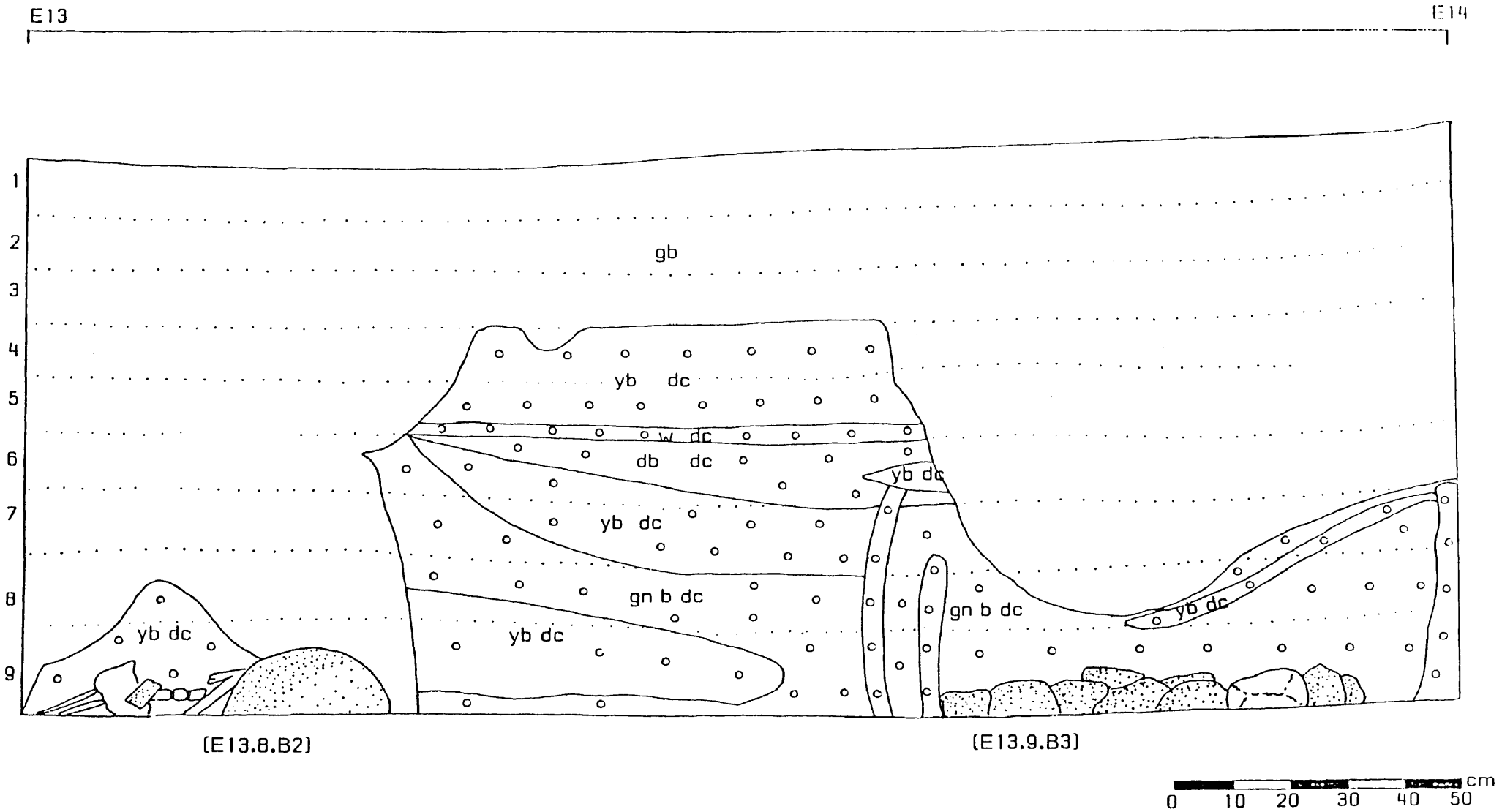


Plate 19 Detail of beads from pelvic area of Burial E14.5.B1

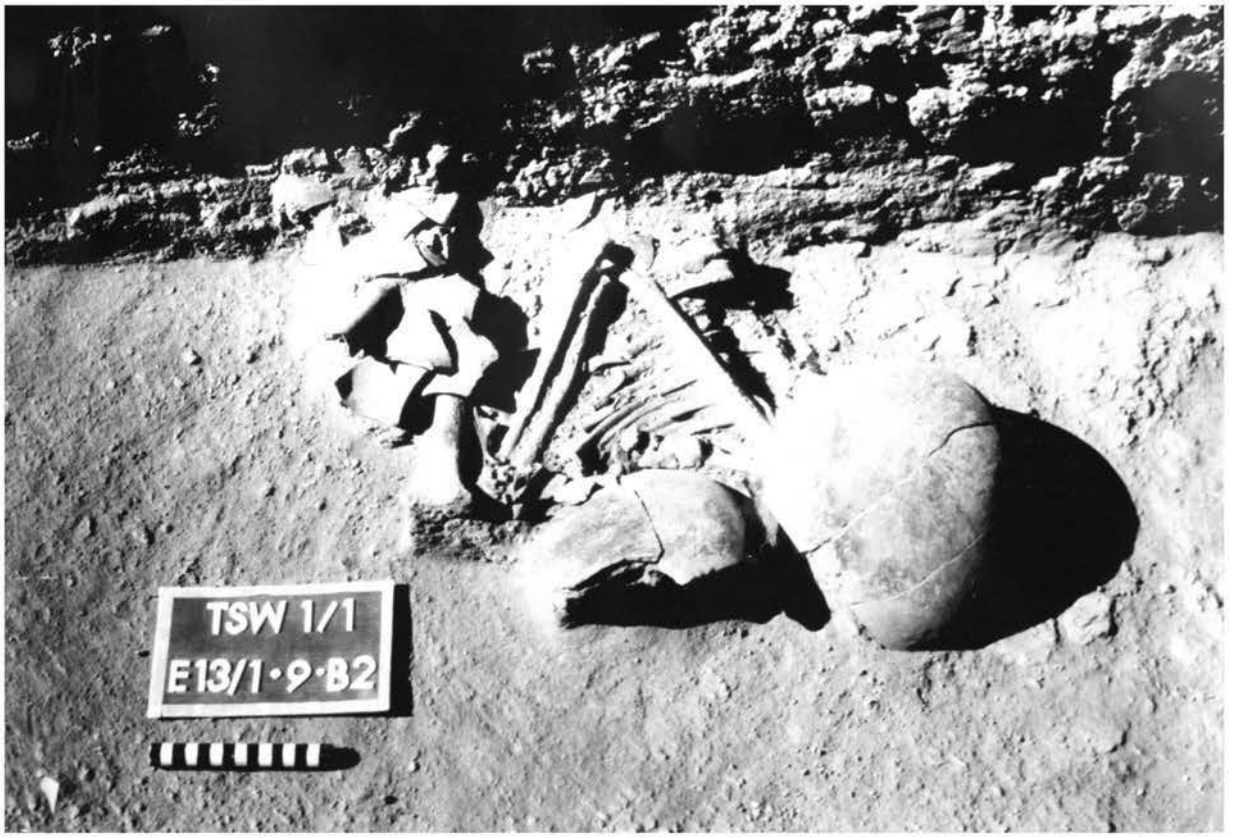


Plate 20 Section of Burial E13.9.B2

Plate 21 Burial E13.9.B2

Plate 22 Section of Burial E13.9.B3

to be from pottery initially interred with the deceased as grave goods. One almost whole vessel, a spheriodal wide-mouthed pot, was found in position over the cranium.

The beads recovered were all from the pelvic area and all of only one type: namely the small transluscent blue snapped cane beads classified as Type 1 in the section on beads.

Due to the extensive nature of the disturbance of the deposit in the area of the burial, no clear indications could be found to identify the level from which the burial took place.

ii Burial E13.9.B3 (Fig. 5.13; Plates 22 & 23)

This human adult burial was found two meters south of burial E13.8. B2. The first indication of a possible interment was noted as a slight change in the composition of the dung matrix over a limited area. This change was initially observed on the surface of layer 7. This change was monitored during the subsequent removal of layers 7 and 8 and the definate indication of a burial was found just below the surface of layer 9. This was in the form of a densely packed concentration of broken pottery which covered the entire skeleton. These potsherds were subsequently removed and reconstructed and eight relatively whole vessels resulted.

After recovering the potsherds from over and around the skeleton, it was found to be lying on its right-hand side, in a very tightly flexed position, with its knees drawn up very close to the body. Its arms were also tightly flexed and the metacarpals and phalanges were observed protruding from under the skull. The skeleton was oriented north east to south west with the top of the skull pointing to the south west and the face south east.

A large number of glass beads were recovered and the small black oblates were again predominant. The beads were all found in the neck area.

Plate 23 Burial E13.9.B3

Plate 24 Section of Burial F14.9.B7

Plate 25 Burial F14.9.B7

Plate 26 Detail of floor and daga. F12.9.1

A copper artifact was found lying on the upper left thoracic area. It was very heavily corroded which made subsequent identification extremely difficult. It consisted of a meander of what appeared to be copper wire rolled around a thick core of some organic material, giving it an internal diameter of approximately 8 millimeters.

iii Burial F14.8.7 (Plate 25)

On excavating down through the dung matrix of square F14 no indications of a possible burial were discerned until a concentration of potsherds were discovered. Working away from these sherds on the assumption that a burial had been found, the pelvic bones of a human adult were uncovered. The skeleton itself was, after further excavation, found to be in a flexed position with the fermurs at approximately 45° to the spinal column. The arms were also tightly drawn towards the thorax and the hand were found to have been placed in front of the face. The alignment of the skeleton was east to west with the top of the cranium to the west and facing south.

Apart from the potsherds very little other material was found with the skeleton. A small number of glass beads were recovered of which the small black oblates (Type 8) were again predominant.

Immediately to the north of the limit of the dung concentration a number of hard, densely compacted, dark brown clay floors together with several other related features were uncovered. These are discussed in sequence below.

A hard, dark brown daga feature which almost had the appearance of daga kerbing was excavated in Layer 8 of square F9. Its internal structure was however, more indicative of collapsed daga, possibly from the walls of a structure, as it consisted of hard and soft areas which were noted on sectioning the feature. This thick layer of daga was later found to overlie a definate floor surface. This surface (detail no. F12.9.1; Plate 26 was unfortunately very fragmented and its extent vaguely defined due to disturbance of the deposit in this area. The extent of the area covered by the compacted surface appeared to in-

dicate a lapa surface rather than a hut floor. This surmise was further substantiated by the possibility that the overlying layer of collapsed daga which appeared to be kerbing may have been the remains of a low wall around the lapa area. The proximity of this surface to the edge of the cattle byre seems to indicate that it may have abutted the byre enclosure.

On sectioning the floor it was found to vary in thickness from 3 to 4 centimeters and consisted of relatively fine to coarse ground dark brown gravelly material cemented in a brown clay matrix. This combination gave the feature a general dark-brown colour.

Directly to the west of and approximately 2 meters away from the floor mentioned above, a stone feature (detail no. E12.8.1) consisting of three large, flat stones embedded end-on in the soil, was found. Although an area of ashey deposit occurred adjacent to this feature, it did not appear related, neither were there any contextual artifacts nor other indicators as to the possible function of the feature.

Abutting the northern end of the F12.9.1 floor area an upright clay vessel of which the rim had largely broken away was found (detail no. F11.10.2). A subsequent analysis of the contents recovered from the pot represented nothing but soil.

Approximately 2.5 meters to the north west of the abovementioned clay pot, another vessel was found under similar circumstances in square E11 (detail no. E11.9.3). Analysis of the contents of the pot also indicated that nothing other than soil was present.

A pit feature (detail no. F11.10.1; Plate 27 was identified approximately 1 meter to the east of feature E11.9.3 and was subsequently excavated. It was found to be an irregular oval-shaped hole approximately 24 centimeters wide and 30 centimeters in length. The pit was about 24 centimeters deep, at the bottom of which a number of small irregularly shaped stones that may have constituted a stone lining for the pit floor, were found.

Plate 27 Pit feature. Detail F11.10.1

To the north of this pit and approximately 2,5 meters away, another hard, dark brown clay floor was found (detail no. F10.9.1). The periphery of this floor was also found to be vaguely defined as a result of disturbance by burrowing animals. On sectioning it was found to have the same composition and thickness as that of feature F12.9.1 above.

On the dividing line between squares E9 and E10 a further hard, dark brown, compacted clay floor was identified together with a series of other related features. The floor itself (detail no. E9.8.1, Plate 28) was well made and consisted of hard clays averaging 5 centimeters in thickness. On the southern half of the floor a large free standing stone was found (detail no. E9.8.2). This stone had a flat dorsal surface measuring approximately 16 centimeters by 12 centimeters. This surface had a small dolly-hole, approximately 3 centimeters in diameter and 1,5 centimeters deep, pecked into the center of it. About 50 centimeters to the north east of the stone feature, a complete, small beaker (mouth diameter 9,5 centimeters) was found standing in an upright position on the floor (detail no. E9.8.3). The edge of the floor itself was once again extremely difficult to define due to burrowing disturbance.

Just outside the southern limit of floor E9.8.1, a small, irregular, soft area was encountered. Assuming the possibility of a pit, the soft soil was removed, and an infant burial (detail no. E10.12, B4, Plate 29) was revealed 30 centimeters below the level of the floor, but quite obviously contextually related to it. The skeleton was found lying in a loosely flexed position on its left-hand side and oriented north east to south west. The top of the skull was to the south west and facing north west. Grave goods consisted of three pottery fragments and a small stone, all placed in the opening between the knees and the face of the skeleton. (Plate 30).

A meter to the east of this burial a stone feature consisting of a number of stones grouped in a small circle was found (detail no. E10.9.1: Plate 31). Interspersed amongst the stones were a number of small pottery and bone fragments, and the soft soil removed from the inside of this feature also contained small bone fragments.

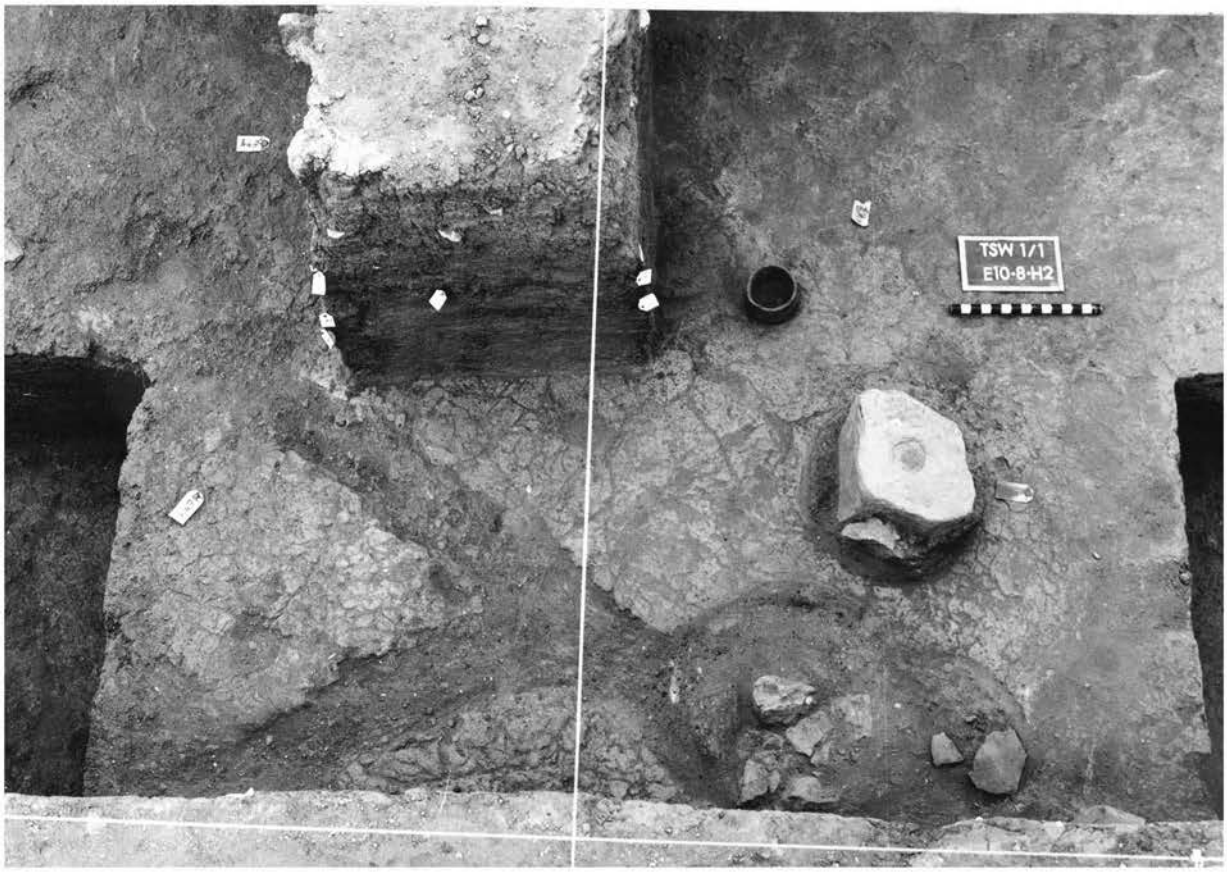


Plate 28 Floor feature E9.8.1, stone feature E9.8.2 and beaker E9.8.3

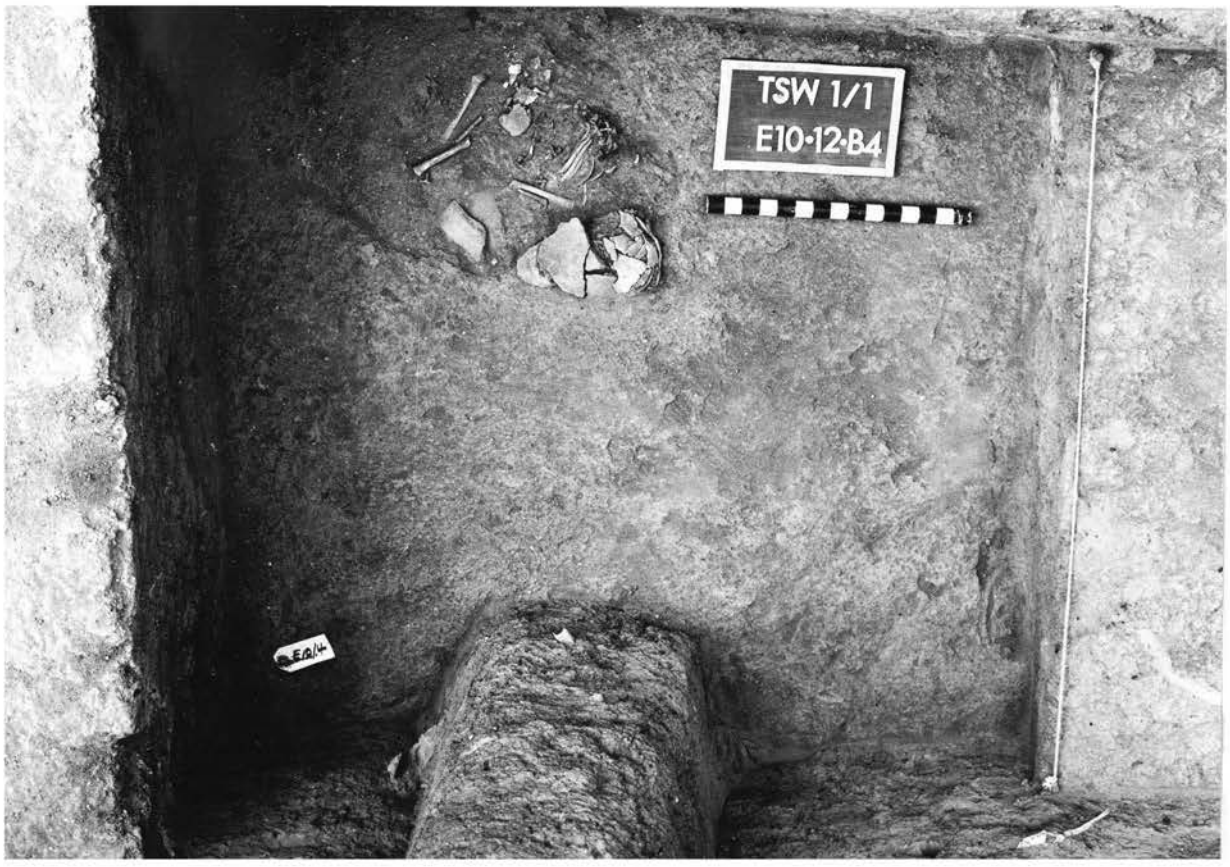


Plate 29 Detail of infant burial E10.12.B4

Plate 30 Sectional photograph showing interrelationship of features on floor E9.8.1. Burial in foreground E10.12.B4

Plate 31 Stone feature. Detail E10.9.1

Approximately 2 meters directly south of floor E9.8.1, another floor surface, also constructed of dark brown well compacted clay was found (detail E11.9.1).

A small area of floor, materially and structurally the same as E10.9.1 and E11.9.1, was uncovered in square E11 (detail no. E11.9.2). A further detail was identified in the form of three post holes, each approximately 3 centimeters in diameter, on the western edge of the floor. Although the wood from the posts had already completely decomposed, the postholes were well defined by the white, powdery remains of the posts.

In square F9 another pit was identified and excavated. The initial surface level of the pit was defined by a circular area of white ash streaked with lens of black ash and charcoal grains (detail no. F9.8.1, Plate 32). On removal of this matrix, the pit was found to have a bevelled rim of which the outer edges had an average diameter of 22 centimeters and the inner edges, 5 centimeters below the outer edge, had an average diameter of 16 centimeters. The latter diameter remained relatively constant to the bottom of the pit, which was, in turn, approximately 25 centimeters deep.

The material removed from this pit consisted initially of black and white ash, but after the inner edge of the bevel was passed the remains of small charred twigs, bits of charred bark and small chips of charcoal were recovered. A sample of this material was submitted for dating, and the date for this level was found to be AD 1120 ± 45 (Pta 3715).

Working to the north of the excavation, a floor consisting of pink coloured compacted gravel was identified in the south western quadrant of square G8 (detail G8.8.5) which continued through to the north western quadrant of square G9 (detail no. G9.8.5; Plate 33). The gravel itself consisted of pink, crushed shale which had not been cemented with any addition of a binding material resulting in a loose, fragmentary compaction. Burrowing activity precluded clear identification of the perimeter of the floor. A section through the floor indicated that the floor itself was an average 3 centimeters thick.

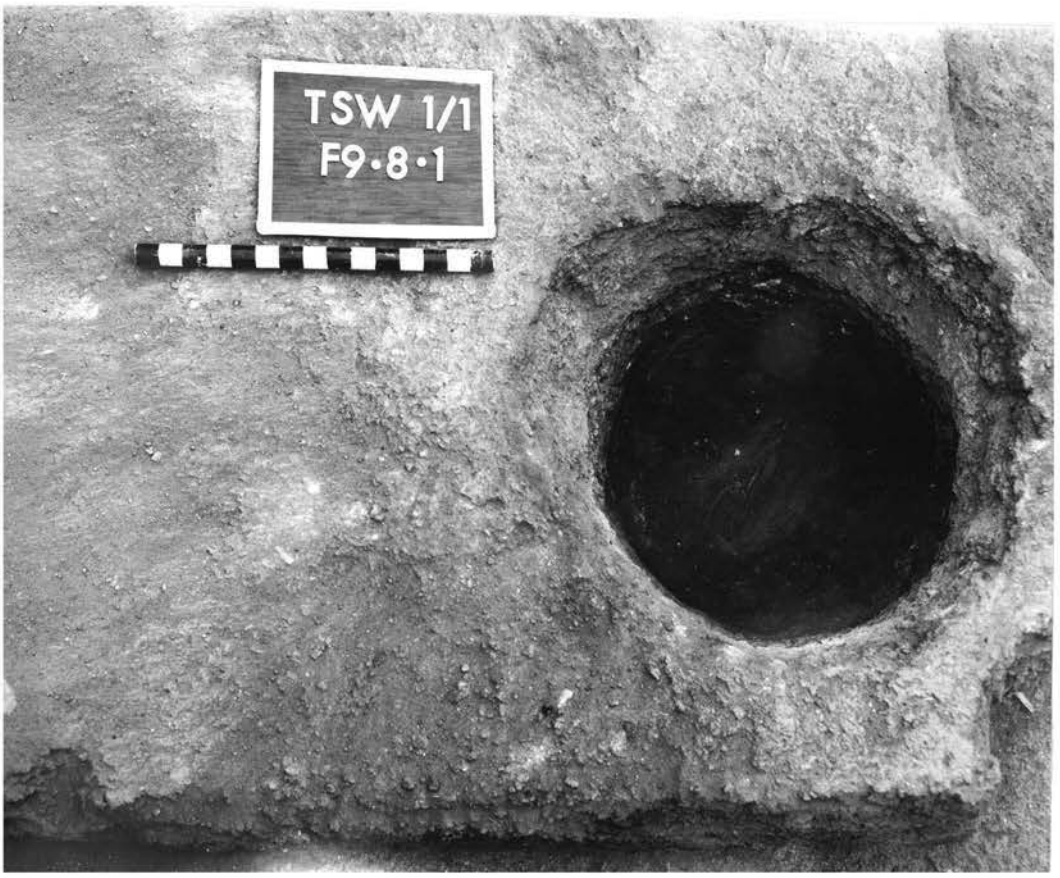


Plate 32 Pit feature. Detail F9.8.1

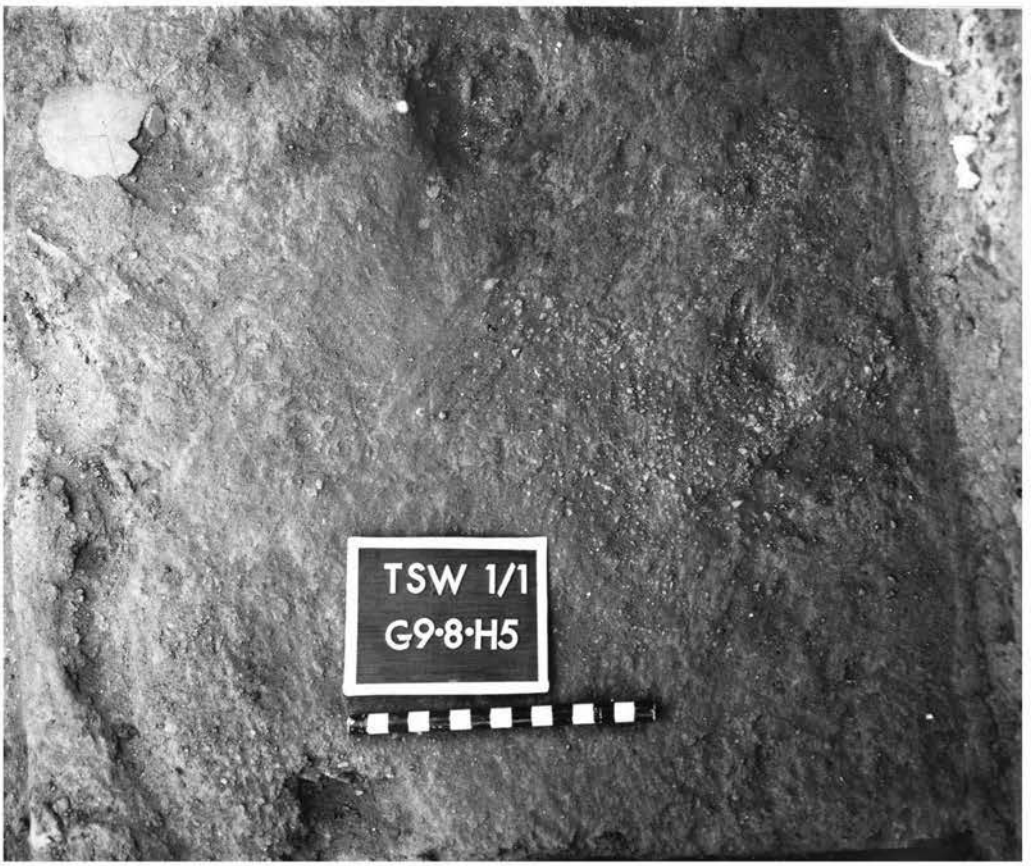


Plate 33 Fragmentary pink gravel floor. Detail G9.8.5

Approximately 20 centimeters beyond and approximately 25 centimeters below the level of floor G9.8.5 a second infant burial was discovered (detail G8.10.86; Plate 34). Although no stratigraphic link between the burial and the floor could be established, it was assumed that the two features were contemporary.

The skeleton itself was that of very young infant, of which the bones were in an extremely bad state of preservation. Consequently, no further descriptive data could be derived from it apart from the fact that it was flexed and facing south when interred. Two fragments of a single small necked pot were found placed around the cranium.

A meter to the north east of floor G9.8.5 a pit was found (detail G8.10.1; Plate 35). The mouth of the pit was oval in shape, 32 centimeters in length and 24 centimeters at it widest point. It had a maximum depth of 18 centimeters and the floor, which was bowl-shaped, was lined with a fine-grained layer of what appeared to be dried mud. This same phenomenon had been observed in several of the animal burrows that were encountered during excavation and it was interpreted as an inflow of sediments which had penetrated into the lower levels of open burrows during rainstorms. A section through the sediment of the pit indicated that it had been deposited onto dark, red-brown sterile soil. Consequently it was assumed that this pit was in fact the terminal section of an animal burrow into which sediments had flowed prior to it filling up with soil.

Two further pits were excavated. E7.9.1 (Plate 36). was a shallow bowl-shaped cavity containing a soft fill of ashy grey to brown sandy material. Analysis of this soil indicated the presence of organic material, but this was unfortunately of insufficient quantity to give any indication of what it could have been.

The surface of pit D7.7.1 was identified as originating in layer 7. Its surface was characterised by a lighter coloured soil containing a mixture of soft, white granules and scatters of minute charcoal grains. The bottom of the pit was level with the surface of layer 9, giving it a depth of 16 centimeters. The mouth of the pit was circular, with an average diameter of 30 centimeters. The sides curved downward to a bowl-shaped bottom. Apart from a number of bone fragments and potsherds, no other material was found in or around the pit.

Plate 34 Infant Burial. Detail G8.10.B6

Plate 35 Pit feature. Detail G8.10.1

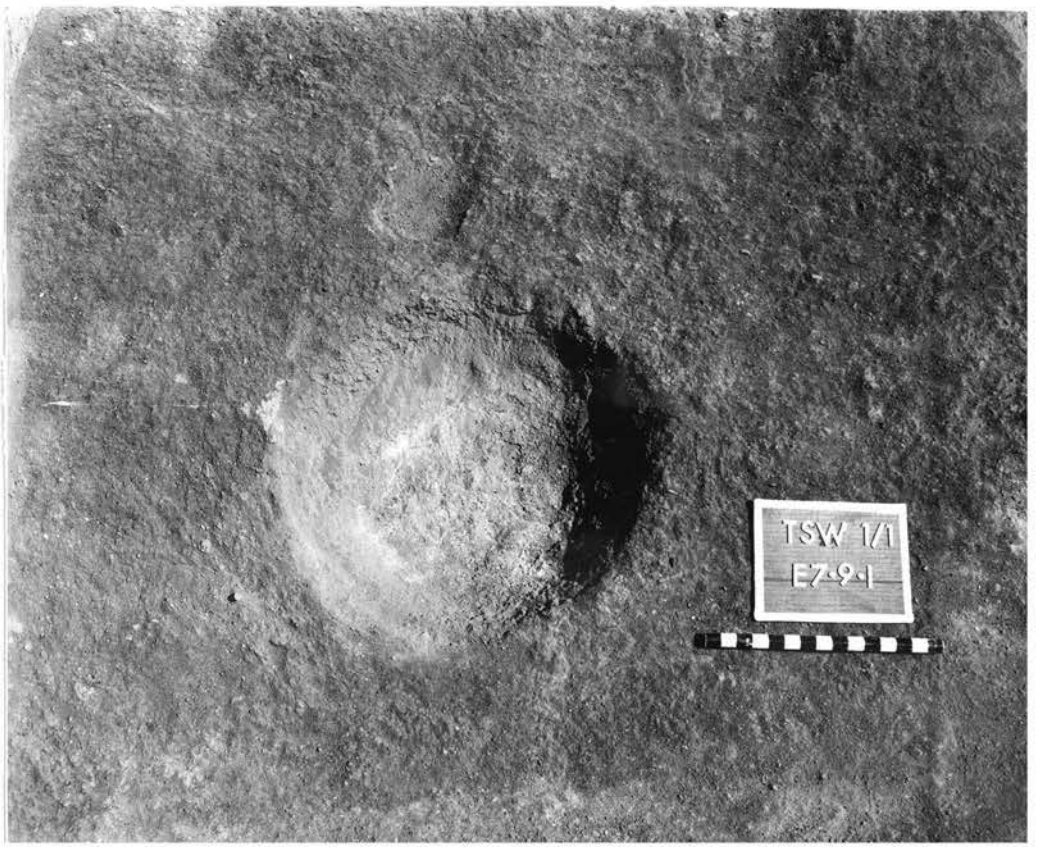


Plate 36 Pit feature. Detail E7.9.1

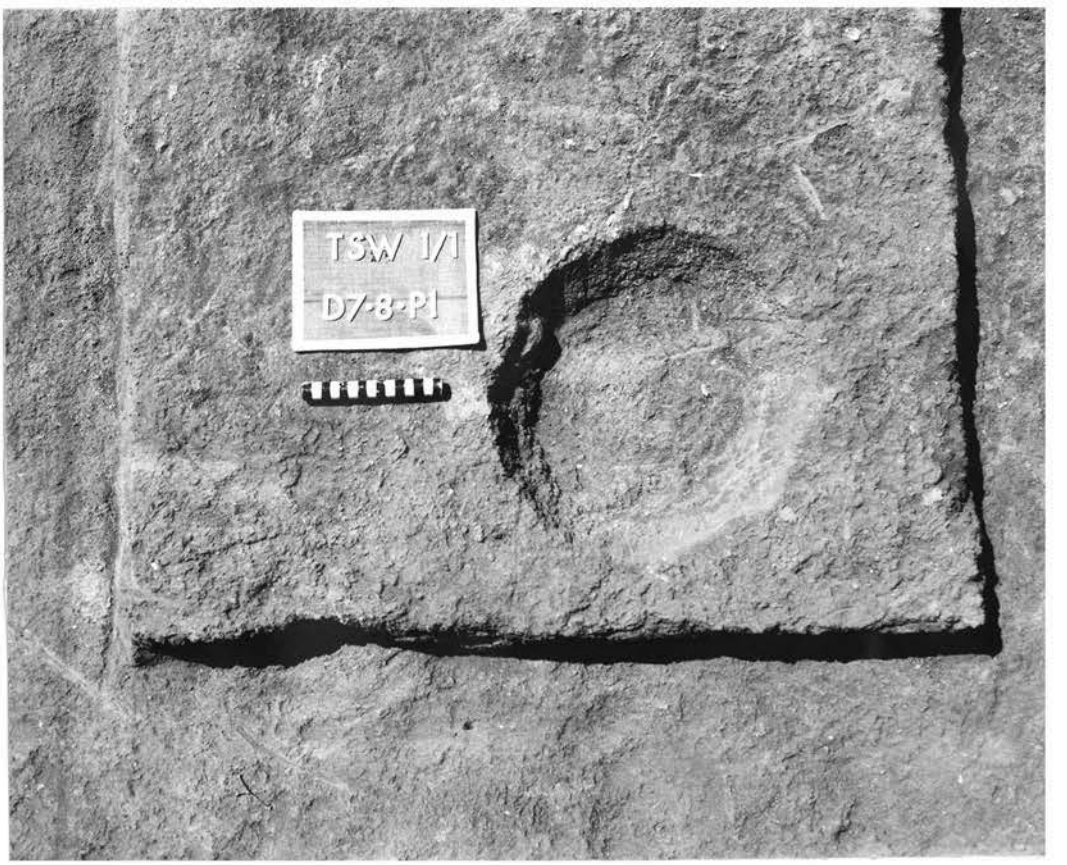


Plate 37 Pit feature. Detail D7.7.1

Plate 38 Burnt hut rubble. Detail H8.8.1

Plate 39 Detail of dung nodules overlying sterile soil

Against the eastern face of square H8 and small concentration of red to dark red-brown burnt hut rubble was encountered (detail H8.8.1). Many of the fragments excavated were examined and found to possess clearly defined impressions of thin poles (± 1.5 centimeters in diameter) and grass stalks, indicating that the rubble originally constituted the daga wall plaster of a hut structure. Although the rubble was very carefully excavated in section in search of an possible related floor, no such feature was found. It was subsequently assumed that the rubble represented a part of the western wall of a hut which had collapsed outwards i.e. to the west, and that the floor of the structure should be located to the east in square I 8. For the purpose of this research it was however deemed unecessary to futher investigate this possibility.

5.5 Identification of occupation

The analysis of the recovered material indicates that Skutwater represents a single period of occupation dating back to the first half of the 12th Century AD. Although four levels were identified on the basis of slight changes in soil colour and/or structure within the habitation area, it was established that a number of those changes were effected by natural change agents. This has in turn given rise to the following integration of the stratigraphic levels of the habition area: an integration which includes the central dung area as a prominent feature of the habitation area itself.

Level IV was defined as being devoid of artifacts and by its dark red-brown soil colour which is the same as that of the natural soil in the area surrounding the site. This level was further characterised by the presence of a random distribution of soft, white chalk-like granules as an integral part of the soil structure. These have subsequently been interpreted as termite mould as the granules consistently co-occur with extensive indications of termite activity primarily in the form of networks of clearly to vaguely defined termite passages. This level represents the original soil surface prededing the occupation of the site by the Skutwater people.

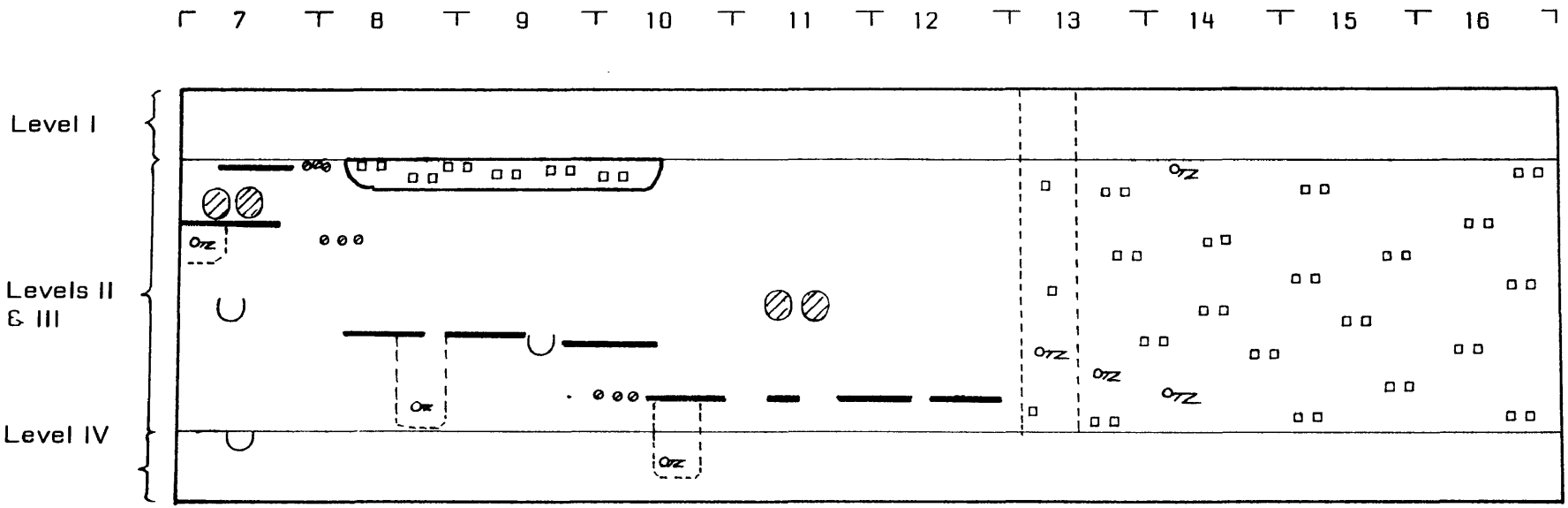
Levels III and II were identical, consisting of light red-brown soil, a high frequency of cultural material and a large number of features.

The only difference on which the division of the Levels was based, was the presence in Level III of the same white granules as identified in Level IV. Assuming that the white granules were the result of termite activity intruding upwards from Level IV, the difference is natural and not cultural and it was therefore decided to interpret the two Levels, namely Level III and Livel II as representative of a single occupational horizon. This interpretation was further substantiated by the results of the artifact analyses which give no indication of any break in the cultural sequence and by the stratigraphy itself which gives no indication of any breaks in the depositional sequence. Finally, the stratification of the central cattle byre, which abuts and links the vertical extent of both Levels III and II, is also a homogeneous deposit with no break in its deposition.

Level I was defined by another change in the colour of the soil which was light brown in the habitation area gradually changing to light grey-brown in the central byre area. In viewing this Level retrospectively it became apparent that its deposition reflects a natural secondary context resulting from centuries of redeposition of subsoils excavated by burrowing animals. This interpretation is further substantiated by the presence of light brown to light grey-brown soils in the early Levels in clearly defined animal burrow context. Although four features were identified in primary cultural context within this Level, it is assumed that they are representative of the final occupation of Level II and that, although features E7.2.1 and F7.2.1 appeared to be divorced from Level II due to burrowing activity, all the features are contextually part of the upper surface of Level II. This is also substantiated by the fact that the secondary dung concentration, feature F8.3.1 and F9.3.1, which is undoubledly related to the floor surface (F7.2.1) and stone feature (E7.2.1), overlies and constitutes an integral part of the soil matrix representative of Level II.

In reviewing all the various interrelationships between the data derived from the artifact analyses on the one hand and the stratigraphy on the other, it is clear that Levels III and II represent the occupational horizon of Skutwater as a relatively homogeneous cultural continuum. Fig. 5.16 below shows a schematic representation of the various constituent features of the above interpretation.

Fig. 5.16 Schematic representation of the Skutwater occupation



Floor surfaces

Stone Features

Pits

Burials

Dung combinations

Boundary lines

The combinations of levels II & III represents the occupational horizon of Skutwater.

CHAPTER 6

COMPARATIVE ANALYSES AND SYNTHESIS

6.1 Skutwater and the Greefswald Sequence

As stated in Chapter 3, the second objective of this research was to endeavour to establish the degree of cultural affinity that existed between Skutwater and the Greefswald sequence. To do this, a series of comparative tables have been designed which, where possible, quantify the correlation between the various assemblages based on the data derived from them. Where quantitative data was not available a lower resolution level of quantification based on presence/absence scores of qualitatively defined types within assemblages was used.

In order to adequately relate the various assemblages resulting from the excavations on both Greefswald and Skutwater, all the relevant data were adapted to classification systems which were either modifications of those used for Greefswald as designed by Eloff (1979) and Meyer (1980) or new systems designed for Skutwater.

The Greefswald sequence was defined by analysing the data obtained during a series of excavations in three areas, namely K2, the Southern Terrace of Mapungubwe Hill and the top of Mapungubwe Hill itself. The cultural material recovered indicated a definate interrelationship between the sites, the stratigraphy of which could be related to four occupational Phases.

Phase 1 was representative of the earliest occupation and was identified only in the bottom layers of the Mapungubwe Hill and Southern Terrace strata. The cultural material associated with this Phase was limited to a small number of potsherds which bore a general resemblance to these of the Gokomere Tradition of the Northern Transvaal and Zimbabwe. These potsherds do not occur on K2 at all and evidently, considering the paucity and discontinuity of the material, these people did not occupy the Hill area for any great length of time and that they had already vacated the site prior to the later establishment of settlements by the

K2 people. (Eloff 1979:344).

It was evident that by the 9th century AD the K2 people had already established themselves in the general area around the confluence of the Shashi and Limpopo Rivers. However, they only settled on the Greefswald sites during the latter half on the 10th century AD. At this time these people had established themselves on all three of the Greefswald sites mentioned above, namely K2, Mapungubwe Hill and the Southern Terrace. On comparing the lesser extent of the deposit on the latter two sites relative to the enormous accumulation of cultural debris on K2, it is apparent that K2 represented the primary habitation area at that time. This occupation which covered the period from about AD 970 to AD 1070 and represents Phase II of the Greefswald sequence, followed immediately after the layer of burnt hut-rubble and was characterised by a number of changes in the cultural remains. Although the Hilltop and Southern Terrace sites were still occupied by the manufacturers of K2-type pottery, it was found that the K2 site itself had been abandoned at this time and that the first evidence of Mapungubwe-type pottery was found to occur together with the K2-type pottery. It is important to note at this point that the entire emphasis of the occupation on Greefswald had shifted away from the site of K2 at the beginning of this Phase and was now concentrated only around Mapungubwe Hill. The K2 pottery was still the predominant type over that produced by the newly arrived Mapungubwe people at the beginning of this Phase. However, this situation gradually changed through time with the Mapungubwe-type pottery increasing in frequency until it represented the dominant type at the end of this Phase. This Phase is also divided from the next Phase which follows it by a layer of burnt hut-rubble apparently indicative of a further upheaval of some or other nature. (Eloff 1979, vol III: 373-377).

Phase IV of the occupation of Mapungubwe Hill and the Southern Terrace represented the final period of settlement on the sites from AD 1150 to AD 1200. This Phase was characterised by a largely dominant Mapungubwe-type pottery assemblage - almost to the total exclusion of K2-type pottery. Although the nature of the upheaval separating this Phase from the previous one is not yet evident, its apparent consequence was observed as a decline in the material culture following the developmental

heights reached during Phase III: a decline which ended in the abandonment of the sites at about AD 1200. (Eloff 1979, vol III: 377-397).

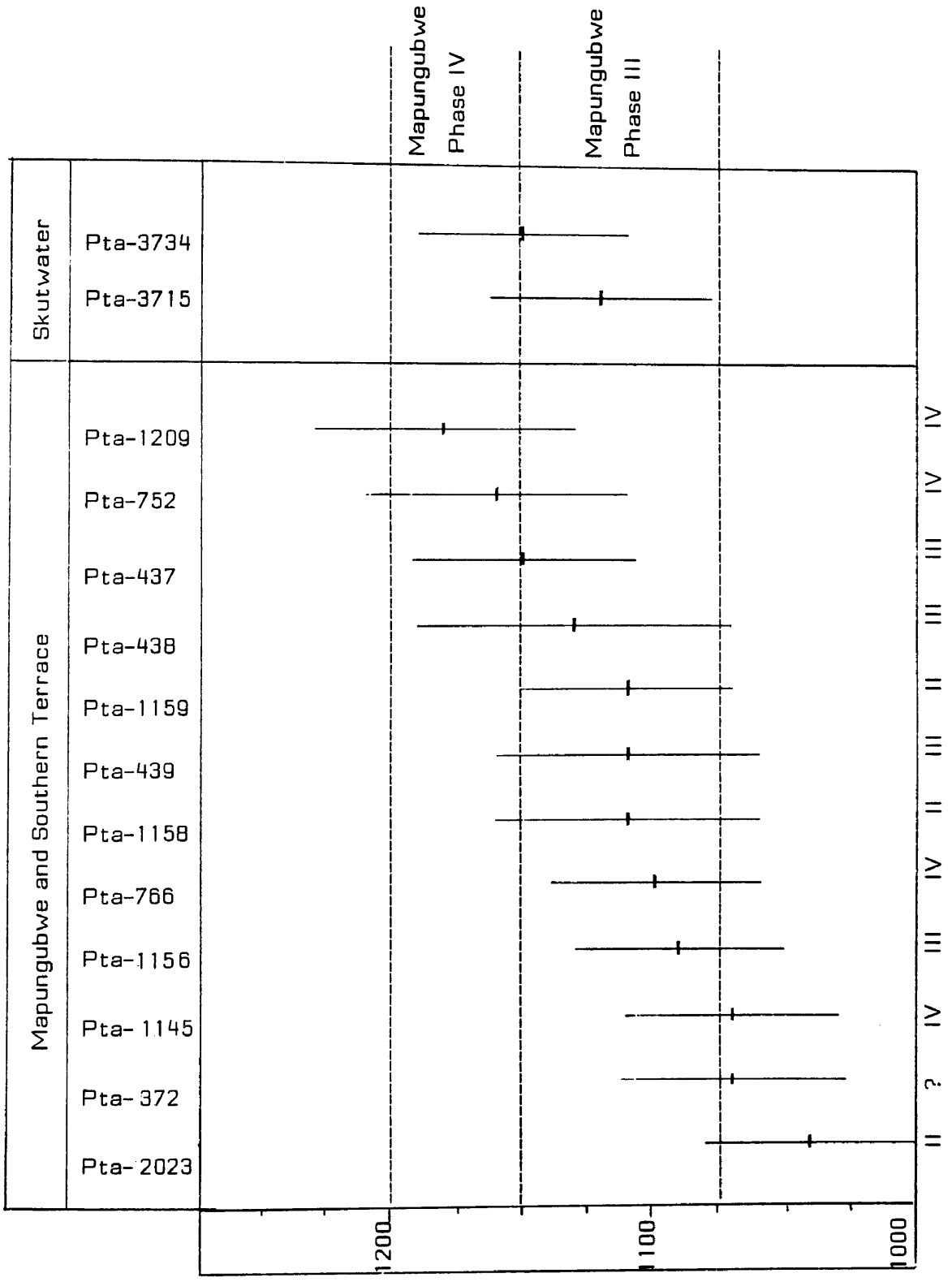
Two radio-carbon dates were obtained for Skutwater from the earliest and latest layers of the occupational horizon defined in Chapter 5 above: these were respectively AD 1130 ± 45 (Pta-3715) and AD 1150 ± 40 (Pta-3734). When these dates were juxtaposed with those obtained for the Greefswald sequence, it was found that the Skutwater occupation was temporally related to Phases III and IV of the occupation of Mapungubwe Hill and Southern Terrace. (Table 6.1). As a result it was decided to compare the Skutwater data primarily with those data derived from these two Phases of the Greefswald sequence. For the analyses which follow below the data obtained from the various assemblages representative of both the above Phases from both Mapungubwe Hill and the Southern Terrace have been combined into single analytic units for comparative purposes.

6.1.1 Pottery

In order to validly relate the two pottery assemblages, it was necessary to reclassify the Greefswald pottery within the classification system designed for Skutwater, resulting in the typological equation of the two samples: a prerequisite for the application of further quantitative procedures.

As mentioned above, Skutwater was found to be temporally related to Phases III and IV of the Greefswald sequence on the basis of radiocarbon dating results. It was consequently decided to apply quantitative comparative procedures on two levels for the material recovered only from Mapungubwe Hill and the Southern Terrace. The material from K2 was not included as it was assumed to be a discrete and independent entity containing no traces of Mapungubwe-type pottery on the one hand and that it was assumed to be sufficiently represented in the sample recovered from Phase II of the occupation of Mapungubwe Hill and Southern Terrace on the other. The two levels of comparison were based on: (1)-procedures comparing the Skutwater pottery type assemblage with the full spectrum of a combined total of the type-assemblages defined for the three relevant Phases of occupation

Table 6.1 Skutwater dates relative to dates from Mapungubwe Hill and Southern Terrace



on Mapungubwe Hill and the Southern Terrace: and (2)-procedures comparing the Skutwater Type assemblage with only those types represented in Phases III and IV of the combined totals obtained for the two excavations.

In attempting to establish the degree of affinity between the two pottery type assemblages a number of different comparative procedures were applied to the data. This was done in order to obtain a wider perspective of the degree of affinity because, as stated by Spaulding:

> "The problem of expressing the total similarity of a pair of assemblages with a single number is one for which no solution exists as yet. Differential preservation, sampling fluctuations, and uncertainly about the proper weighting of attribute combinations of varying degrees of complexity seem to be the chief difficulties." (1960:81).

This statement is still valid.

Three procedures were applied to the data for each of the two levels for comparison outlined above. The first of these was based on the presence/absence scores for the types represented. This was followed by the establishment of a percentage frequency distribution index of similarity and finally the Pearson r correlation coefficient was computed from the raw scores obtained for each type in the two assemblages.

Table 6.2 reflects the distribution of the presence/absence scores for all the types of pottery identified. The first column of scores covers the range represented by the Skutwater types relative to all the Mapungubwe Hill and Southern Terrace pottery types identified from occupation Phasess II, III and IV. The similarity index was found to be 0.82 for this procedure. The second column of scores indicates the presence/absence ratios for the Skutwater range juxtaposed with the equivalent scores obtained only from Phases III and IV of the Mapungubwe Hill and Southern Terrace occupations and in this case the similarity index obtained was slightly higher at 0.90.

The second comparative procedure that was applied was based on the

Table 6.2 Presence/Absence scores: Pottery types

	Type attribute combinations			Occurence			
Shape	Decoration	Position Decoration	Exterior finish	Skutwater	MH & ST Total Assemblage	Skutwater	MH & ST Phases III & IV
1	IV	S	B	X	X	X	X
1	V	S	B	X	X	X	X
1	II	S	M	X	X	X	X
1	III	S	M	O	X	O	O
1	IV	S	M	X	X	X	X
1	V	S	M	X	X	X	X
2	IV	S	B	X	O	X	O
3	IV	S	B	X	O	X	O
4a	I	-	B	X	X	X	X
4a	IV	BR	B	X	X	X	X
4b	I	-	B	X	X	X	X
4b	IV	S	B	X	X	X	X
5	I	-	M	X	X	X	X
5	III	B	B	O	X	O	O
5	IV	B	B	X	X	X	X
6	I	-	B	X	X	X	X
6	IV	B	B	X	X	X	X
7	I	-	B	O	X	O	X
7	III	S	B	O	X	O	O
7	IV	S	B	X	X	X	X
				16	17	16	15

Similarity Index = $\frac{28}{34}$ = 0.82

Similarity Index = $\frac{28}{31}$ = 0.90

determination of the differences in the percentage frequency distributions obtained for the frequency of occurrence scores for each type. After computing the percentages for each type score in each assemblage the lower value was subtracted from the higher one and the sum of the differences was divided by the sum of the percentages for the two columns. Table 6.3 shows this procedure applied to the percentage frequency distributions between the Skutwater pottery types and the Mapungubwe Hill and Southern Terrace total type assemblage. Table 6.4 shows the same procedure applied to Skutwater and only those type scores obtained for Phases III and IV. In both cases the similarity index obtained was 0.60.

The final analytic procedure applied was the comparison of the raw scores for each of the two levels of analysis by computing the Pearson r correlation coefficient between the type assemblages representing the two levels. Table 6.5 indicates the tabulated data for the first of these levels, namely the juxtaposition of the Skutwater type assemblage with the total Mapungubwe Hill and Southern Terrace type assemblages together with the computed values required for each score. This data was subjected to the Pearson r formula and the correlation coefficient obtained was 0.53. The same procedure was applied for the second level of comparison, namely between Skutwater and the Phase III and IV pottery types and the coefficient of correlation obtained was 0.46. (Table 6.6).

From the above computations it is clearly evident that Skutwater and the Greefswald sequence obtained from excavations on Mapungubwe Hill and the Southern Terrace display a high degree of similarity with regard to the pottery types represented in both cases. There appears to be a closer affiliation between Skutwater and Phase III and IV of the Greefswald occupations based on the smaller number of no-equivalent types represented on both Greefswald and Skutwater, relative to the computations based on the total Mapungubwe Hill and Southern Terrace type assemblage. The computations based on the percentage frequency distribution indicate a high-moderate degree of similarity on both levels of comparison whereas those based on the raw scores indicate a moderate degree of likeness between Skutwater and the total type assemblage for Greefswald and a low-moderate degree between

Table 6.3 Similarily index obtained from percentage frequency distribution between Skutwater pottery types and Mapungubwe Hill/Southern Terrace Total type assemblage

Arbitrary Type Number	Type attribute combinations				Skutwater		MH & ST		
	Shape	Dec	Dec Pos.	Ext fin.	Freq.	%	Freq.	%	D %
1	I	IV	S	B	103	26.08	114	20.77	5.31
2	I	V	S	B	29	7.34	0	0	7.34
3	I	II	S	M	31	7.85	16	2.91	4.94
4	I	III	S	M	0	0	15	2.73	2.73
5	I	IV	S	M	32	8.10	21	3.83	4.27
6	I	V	S	M	30	7.59	14	2.55	5.04
7	2	IV	S	B	19	4.81	0	0	4.81
8	3	IV	S	B	11	2.78	0	0	2.78
9	4a	I	-	B	13	3.29	17	3.10	0.19
10	4a	IV	BR	B	6	1.52	7	1.28	0.24
11	4b	I	-	B	15	3.80	49	8.93	5.13
12	4b	IV	S	B	21	5.32	14	2.55	2.77
13	5	I	-	M	18	4.56	21	3.83	0.73
14	5	III	B	B	0	0	17	3.10	3.10
15	5	IV	B	B	9	2.28	23	4.19	1.91
16	6	I	-	B	17	4.30	125	22.77	18.47
17	6	IV	B	B	21	5.32	26	4.74	0.58
18	7	I	-	B	0	0	31	5.65	5.65
19	7	III	S	B	0	0	17	3.10	3.10
20	7	IV	S	B	22	5.06	22	4.01	1.05
					395	100.0	549	100.04	80.14

$$\text{Similarity Index} = 1 - \frac{80.14}{200.04} = 1 - 0.401 = 0.599$$

Table 6.4 Similarity index obtained from percentage frequency distribution between Skutwater pottery types and MH/ST pottery types for occupation Phases III and IV

Type No.	Skutwater Freq.	%	MH/ST Freq.	%	D %
1	103	26.08	102	22.82	3.26
2	29	7.34	6	1.34	6.00
3	31	7.85	2	0.45	7.40
5	32	8.10	12	2.68	5.42
6	30	7.59	4	0.89	6.70
7	19	4.81	0	0	4.81
8	11	2.78	0	0	2.78
9	13	3.29	26	5.82	2.53
10	6	1.52	17	3.80	2.28
11	15	3.80	40	8.95	5.15
12	21	5.32	11	2.46	2.80
13	18	4.56	21	4.70	0.14
15	9	2.28	5	1.12	1.16
16	17	4.30	125	27.96	23.65
17	21	5.32	28	6.26	0.94
18	0	0	26	5.82	5.82
20	20	5.06	22	4.92	0.14
	395	100.00	447	99.99	81.05

$$\text{Similarity Index} = 1 - \frac{81.05}{199.99} = 1 - 0.405 = 0.595$$

Table 6.5 Calculation of Pearson r correlation coefficient between Skutwater and MH/ST total pottery type assemblages

SW X	MH/ST Y	X^2	Y^2	XY
103	114	10609	12996	11742
32	21	1024	441	672
31	16	961	256	496
30	14	900	196	420
29	0	841	0	0
21	26	441	676	546
21	14	441	196	294
20	22	400	484	440
19	0	361	0	0
18	21	324	441	378
17	125	289	15625	2125
15	49	225	2401	735
13	17	169	289	221
11	0	121	0	0
9	23	81	529	207
6	7	36	49	42
0	31	0	961	0
0	17	0	289	0
0	17	0	289	0
0	15	0	225	0
395	549	17223	36343	18318

$$r = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}} = \frac{149505}{\sqrt{(188435)\ (425459)}}$$

$$= \frac{20(18318) - (395)(549)}{\sqrt{[20(17223) - (395)^2][20(36343) - (549)^2]}} = \frac{149505}{283145}$$

$$= \frac{366360 - 216855}{\sqrt{(344460 - 156025)\ (726860 - 301401)}} = 0.53$$

Table 6.6 Calculation of Pearson r correlation coefficient between Skutwater pottery types and MH/ST pottery types from occupation Phases III and IV

SW X	MH/ST Y	X^2	Y^2	XY
103	102	10609	10404	10506
32	12	1024	144	384
31	2	961	4	62
30	4	900	8	120
29	6	841	36	174
21	11	441	121	231
21	28	441	784	588
20	22	400	484	440
19	0	361	0	0
18	21	324	441	378
17	125	289	15625	2125
15	40	225	1600	600
13	26	169	676	338
11	0	121	0	0
9	5	81	25	45
6	17	36	289	102
0	26	0	676	0
395	447	17223	31317	16093

$$r = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

$$= \frac{17(16093) - (394)(447)}{\sqrt{[17(17223) - (394)^2][17(31317) - (447)^2]}}$$

$$= \frac{273581 - 176118}{\sqrt{(292791 - 155236)(532389 - 199809)}}$$

$$= \frac{97463}{\sqrt{(137555)(332580)}}$$

$$= \frac{97463}{213887}$$

$$= 0.46$$

Skutwater and Phases III and IV.

Assuming minimal sampling error the following inferences can be made from the above data. Typologically, Skutwater and the Greefswald sequence are very closely related within the following qualifications based on the results of the frequency distributions obtaining between the two assemblages: The 0.0004 element of difference between the similarity indexes obtained for the Skutwater/total Greefswald type assemblage and the Skutwater/Phase III and IV only comparisons appears to indicate that certain stylistic preferences within the range of possible combinations were selected on a relatively constant basis. With regard to the r coeffecients of correlation where the correlation between Skutwater and the total pottery type assemblage for the Greefswald occupations was found to be slightly higher at 0.53 than that obtaining between Skutwater and Phase III and IV only at 0.46, it may be argued that the pottery identified as the K2 series is minimally more dominant at Skutwater than on Greefswald for the corresponding period of time.

6.1.2 Beads

The bead assemblages recovered from Skutwater and Mapungubwe Hill and Southern Terrace were also compared quantitatively on a typological basis. As was the case for the pottery analyses, the bead assemblages from the latter two sites were combined and treated as a single unit for comparative purposes.

The typology designed for the Skutwater bead assemblage (see Chapter 5) was a minor modification of the one designed for the Greefswald sites, with the result that only minor adaptation was required for comparative analyses. As with the pottery, the bead data were subjected to the same analytic procedures in which the presence/absence scores, percentage frequency distribution scores and Pearson r coefficient of correlation were determined.

It may be argued that glass beads, as an external trade commodity, must have been available to a wide range of archaeological cultures other than, yet contemporaneous with Skutwater and Greefswald. It follows that the validity of comparative analyses may be questioned

as many other unrelated sites may contain assemblages of bead types identical to those defined for Skutwater or Greefswald. This problem is resolved if two basic assumtions are accepted: that the concept of culture is refelected as patterned behaviour within a defineable permissible range for any community within a given cultural environment, and that the bead types represented were freely available. The implication is therefore, that it is not the presence of any bead type in any given assemblage that is important, but the range of types represented expressed as proportions of the assemblage as a whole. This allows valid inferential statements about the stylistic preferences of a given community albeit within a limited range of attribute combinations primarily based on technique of manufacture, size and colour variables which directly affect the stylistic acceptance or rejection levels of any given bead type. From this it follows that if typological patterning is apparent in any given bead assemblage then valid inferential statements can be made between it and any other spatially discrete typologically patterned bead assemblage by expressing the degree of affinity that may or may not exist between them on the basis of quantitative comparative analyses.

The presence/absence scores for the types represented in the Skutwater and Greefswald assemblages were tabulated (Table 6.7) and a similarity index of 0.95 was found to exist between the two assemblages. As mentioned above, this does not constitute an independently valid inferential statistic. As a result the percentage frequency distribution scores and the Pearson r correlation coefficient were also computed for the two assemblages resulting in similarity indexes of 0.73 and 0.84 respectively indicating that a high degree of affinity obtains between them.

6.1.3 Metal artifacts

In his analysis of the metal artifacts recovered from the Greefswald sites Eloff (1979 vol II: 12) included those found during the earlier excavations in the assemblage in order to give a more complete indication of the types of metal artifacts represented. These types were defined qualitatively as the fragmentary nature of the evidence precluded any detailed attribute analysis. The same problem was encountered with the Skutwater metal assemblages and consequently the only comparative

Table 6.7 Presence/absence scores: Skutwater MH/ST bead types.

Bead Type	Skutwater	MH/ST
1	X	X
2	X	X
3	X	X
4 & 5	X	X
6	X	X
7	X	X
8	X	X
Shell	0	X
Bone	X	X
O. Eggshell	X	X
	9	10

$$\text{Similarity Index} = \frac{18}{19}$$

$$= 0.947$$
$$0.95$$

Table 6.8 Percentage frequency distribution for Skutwater and MH/ST bead scores

Bead Type	Skutwater Freq.	Skutwater %	MH/ST Freq.	MH/ST %	D %
1	65	2.08	257	3.88	1.80
2	157	5.02	162	2.45	2.57
3	138	4.41	512	7.74	3.33
4 & 5	71	2.27	262	3.96	1.69
6	160	5.12	1423	21.51	16.39
7	9	0.29	123	1.86	1.57
8	650	20.81	1481	22.37	1.56
Shell	0	0	1	0.02	0.02
Bone	3	0.10	21	0.32	0.22
O. Eggshell	1873	59.90	2375	35.89	24.01
	3127	100.00	6617	100.00	53.16

$$\text{Similarity Index} = 1 - \frac{53.16}{200}$$

$$= 1 - 0.266$$

$$= 0.73$$

Table 6.9 Percentage comparison between Skutwater and Mapungubwe Hill/Southern Terrace Bead Types

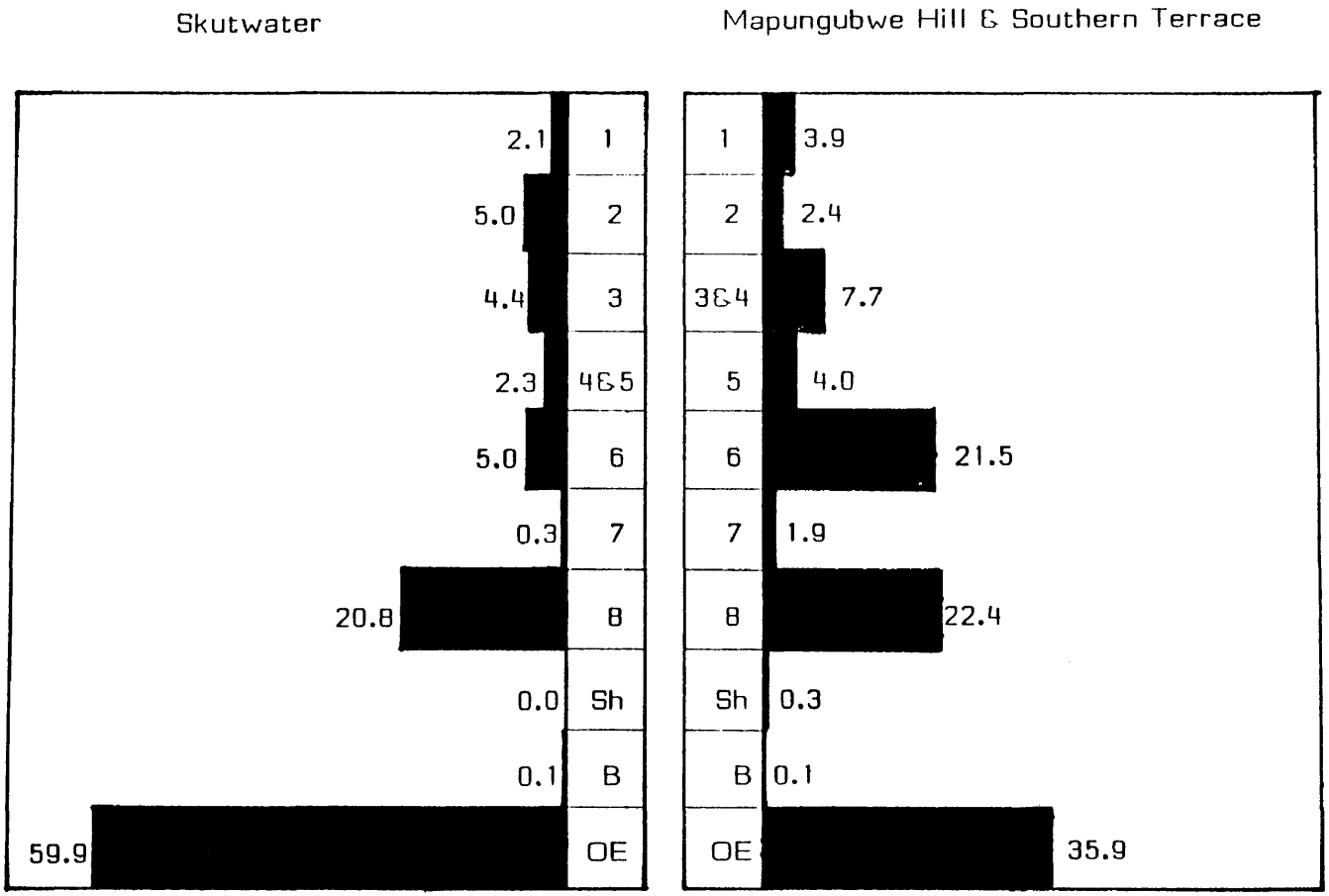


Table 6.10 Calculation of Pearson r correlation coefficient between Skutwater and Mapungubwe Hill and Southern Terrace bead assemblages

Bead Type	Skutwater X	MH/ST Y	X^2	Y^2	XY
1	65	257	4225	66045	16705
2	157	162	24645	26244	25434
3	138	512	19044	262144	70656
4 & 5	71	262	5041	68644	18602
6	160	1432	25600	2024929	227680
7	9	123	81	15125	1107
8	650	1481	422500	2193361	962650
Shell	0	1	0	1	0
Bone	3	21	9	441	63
O. Eggshell	1873	2375	3508129	5640625	4448375
	3127	6617	4009274	10297559	5771272

$$r = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

$$= \frac{10(5771272) - (3127)(6617)}{\sqrt{[10(4009274) - (3127)^2][10(10297559) - (6617)^2]}}$$

$$= \frac{57712720 - 20691359}{\sqrt{(40092740 - 9778129)(102975590 - 43784689)}}$$

$$= \frac{37021361}{\sqrt{(30314611)(59190901)}}$$

$$= \frac{37021361}{42359758}$$

$$= 0.874$$

analysis that could be applied was the tabulation of the presence/absence scores for the two assemblages based on assigning the Skutwater artifacts within the typological definitions proposed by Eloff for the Greefswald sites which are given below:

"Tipe 1.1 Goue krale. Die krale stem ooreen met sommige goue krale wat reeds deur vorige navorsers beskryf is (Fouché 1937:108-109, 114-116; plate B, XXXVIII, XL)

Tipe 1.2 Ysterkrale. Voorwerpe wat ysterkrale kan wees, is gevind. Dit is egter sodanig verroes dat 'n akkurate identifikasie daarvan onmoontlik is. Dit kan in sommige gevalle stukkies van ysterspirale wees.

Tipe 1.3 Koperkrale. Identifiseerbare koperkrale is deur vorige navorsers gevind en beskryf (Fouché 1937:109, plaat XXXVIII).

Tipe 2.1 Gedeeltes van soliede ysterringe of ysterstafies. Dit is erg verroes en kan dus nie presies beskryf word nie. Sommige van die ysterstafies is waarskynlik gedeeltes van pylpunte of ander voorwerpe.

Tipe 2.2 Gedeeltes van soliede koperringe of koperstafies. 'n Koperstafie is beskryf deur vroeëre navorsers (Fouché 1937:117). Normale diktes van die soliede koperstafies en ringe is 5 mm tot 6,5 mm.

Tipe 3.1 Ysterdraad wat spiraalvormig opgedraai is om hare of organiese vesels van een of ander aard. In metallurgiese terme kan dit as yster-helikse beskryf word. Draadvervaardiging is beskryf deur vorige navorsers: (Fouché 1937:117). Dit is so verroes dat mates nie daarvan geneem kan word nie. Dit skyn op die oog af dieselfde dikte- en breedte-mate te hê as die koperspirale.

Tipe 3.2 Koperdraad wat spiraalvormig opgedraai is om hare of organiese materiaal van een of ander aard. In metallurgiese terme kan dit as koper-helikse beskryf word (vgl. Fouché 1937: plaat XXXVIII). Dit is meestal afgeplatte draad, sowat 0.5 mm tot 0.8 mm dik en 1.4 mm tot 1.6 mm breed. Wanneer dit spiraalvormig opgedraai is, wissel die spiraaldikte van 1.6 mm tot 9 mm.

Tipe 3.3 Goue draad wat spiraalvormig opgedraai is. In metallurgiese terme kan dit as 'n goue heliks beskryf word. Slegs een stukkie hiervan is in laag 8 in opgrawing Mk 1 op Mapungubwekop gevind. Omdat slegs die een stukkie gevind is, word dit slegs hier vermeld en is daar nie 'n afsonderlike kolom daarvoor in die klassifikasie-tabel ingesluit nie. Die draad waarvan dié spiraal gemaak is, is plat, sowat 0.35 mm dik en 1.1 mm breed en is opgedraai om 'n spiraal van sowat 2 mm dik te vorm. Beskrywings van goudspirale is gemaak deur vorige navorsers (Fouché 1937:116; plate B, XVI, XXXVIII).

Tipe 4.1 Goue plaatwerk. Gegewens in verband met die goue plaatwerk word verskaf deur vorige navorsers (Fouché 1937:116-117) en goue spykertjies waarmee die plaatjies vasgeheg is (Fouché 1937:114). Geeneen van hierdie voorwerpe is tydens die huidige opgrawings gevind nie.

Tipe 4.2 Stukkies ysterplaat. Verskeie eksemplare hiervan is gevind, maar is sodanig verroes dat geen definitiewe inligting daarvan verkry kon word nie. Dit is heelwaarskynlik gedeeltes van ysterpikke, dissels of iets soortgelyks.

Tipe 5 Ysterpikke. Dit het 'n skerppuntige agterkant wat waarskynlik in 'n houtsteel gemonteer was, en 'n breë, plat werksrand waarmee grond waarskynlik losgekap

is. (Vgl. foto 13).

Tipe 6 — Ysterdissels. Dit is smal en langwerpig, met 'n skerppuntige agterkant wat waarkynlik in 'n houtsteel gemonteer is; en 'n dwarslopende, plat werksrand waarmee materiale soos hout waarskynlik afgewerk is. (Vgl foto 14).

Tipe 7 — Dit is 'n klein, plat ystervoorwerp met 'n skerppuntige agterkant en 'n dwarslopende werksrand aan die voorkant. Dit lyk na die sweetskrapers wat by histories bekende Bantoekulture in Suidelike Afrika voorgekom het (vgl. Fouché 1937: plaat xvi, foto 3, items 3 & 5).

Tipe 8 — Yster-spiespunte (vgl. Fouché 1937: plaat xvi, foto 2, items 1 & 2).

Tipe 9.1 — Yster-pylpunte met weerhakke (vgl. Fouché 1937: foto 2, items 4, 6 & 8).

Tipe 9.2 — Yster-pylpunte sonder weerhakke (vgl Fouché 1937: foto 2, item 3).

Tipe 10.1 — Metaalslak, vermoedelik ysterslak. Gegewens in verband met ysterslak is verskaf deur vorige navorsers (Fouché 1937:30).

Tipe 10.2 — Metaalslak, vermoedelik koperslak." (Ibid:13).

From the presence/absence scores for the Skutwater and Mapungubwe Hill and Southern Terrace metal assemblages reflected in table 6.11 a similarity index of 0.80 was calculated.

6.1.4 Stone artifacts

Eloff (1979, vol II) followed the same procedure for the classification of the stone artifacts as he did for the metal assemblage by arranging them into a series of qualitatively defined types. The type definitions

Table 6.11 Presence/absence scores for metal artifacts

Artifact Type	MH/ST	Skutwater
1.1	X	0
1.2	X	0
1.3	X	0
2.1	X	X
2.2	X	X
3.1	X	X
3.2	X	X
3.3	X	0
4.1	X	0
4.2	X	X
5	X	0
6	X	X
7	X	X
8	X	X
9.1	X	X
9.2	X	X
10.1	X	X
10.2	X	X
	18	12

Similarity Index $= \frac{24}{30}$

$= 0.80$

are as follows:

"Tipe 1.1 'n Losstaande vyselklip. Die tipe is selde breër as 300 mm. Dit het 'n enkele vyselholte op die plat bovlak. Die vyselholte is normaalweg 100 mm tot 200 mm wyd en tussen 30 mm en 100 mm diep. Hierdie vyselklippe kom ook voor as 'n deel van klipstruktuur-tipe 2 (vgl. deel IV: foto's 28, 30, 81 & 82).

Tipe 1.2 'n Vyselholte in die rotsbodem en op groot rotse. Soms kom verskeie van hierdie vyselholtes naby mekaar op rotsplate voor (vgl. deel IV: foto 93).

Tipe 1.3 Slegs een eksemplaar is gevind. Dit is 'n rotsblok met 10 holtes bymekaar op die plat bovlak (vgl. deel IV, foto 39).

Tipe 2 Dit is 'n klip met 'n langwerpige maal- of skuurholte daarop. Gedurende die huidige opgrawings is slegs 'n gedeelte van een op K2 gevind en geeneen op die ander terreine nie. Drie eksemplare wat deur vroëre opgrawers op Mapungubwe opgegrawe en daar gelaat is, vertoon die volgende kenmerke. Die ovaalvormige holtes is 130 mm tot 155 mm lank, 77 mm tot 85 mm wyd en 18 mm tot 43 mm diep. Op die Suidelike Terras is daar een waarvan die holte 100 mm lank, 80 mm wyd en 30 mm diep is. (Vgl. foto 15).

Tipe 3 'n Sg. "isifuba"-klip. Dit is plat, met rye vlak holtes daarop. Isifuba's kom op die klipplate en groot rotse voor. (Vgl. foto 16).

Tipe 4 Klippe waarvan die grootte normaalweg minder as 300 mm tot 400 mm is. Dit het een of meer klein holtetjies op die plat bovlak. Die holtetjies is sowat 10 mm tot 20 mm wyd en diep, en nie reëlmatig gerangskik nie (vgl. foto 17).

Tipe 5.1 'n Reghoekige klip met 'n deursnee van nie meer as

150 mm nie. Die sykante is glad geskuur, normaalweg met pokmerke in 'n klein, effense holtetjie in die middel van elke plat kant (vgl. foto 18).

Tipe 5.2 Min of meer dieselfde as tipe 5.1, maar is onreëlmatig van vorm in plaas van reghoekig (vgl foto 19).

Tipe 6.1 'n Ronde, ietwat afgeplatte klip. Die afgeplatte bo- en onderkant vertoon elk normaalweg skuur-slytasie met 'n effense holtetjie of pokmerke in die middel daarvan. Die sirkelvormige omtrek daarvan toon dikwels tekens van kneusing of slytasie (vgl. foto 20).

Tipe 6.2 Dieselfde as tipe 6.1, maar die omtrek daarvan is ovaalvormig, dit wil sê dit het 'n ovaal vorm met 'n ietwat afgeplatte bo- en onderkant (vgl. foto 21).

Tipe 7.1 Klippe met gladgeskuurde vlakke wat waarskynlik slypmerke is (vgl. foto 23).

Tipe 7.2 Klippe met 'n onreëlmatige vorm, en met snymerke daarop, waarvan die funksie nie duidelik is nie (vgl. foto 24).

Tipe 8.1 Steentydperk-kerns, skilfers, kernwerktuie en skilferwerktuie (vgl. foto 25)."

The various stone artifacts comprizing the Skutwater assemblage were assigned type affiliation within definitions of the above typology. However, two types of stone artifacts not reflected in the typology were identified in the Skutwater deposit. The first of these, designated type 12 to conform to the typological series, consists of a long cylindrical stone 15 centimeters long and ± 4 centimeters in diameter which has rounded and striated ends indicating that it had been used, possibly, as a form of pestle. The second type, designated 9.3 as it represents a variant of the small river stones described as type 9, consists of smooth pebbles varying in size from approximately 2 centimeters across to 4

across on their longest axis, characterised by one or more extremely smooth facets. These have been scrutinized under a microscope and very fine striations have been observed to constitute the smooth facets. On the basis of ethnographic evidence these have subsequently been interpreted as stones used for burnishing the surfaces of clay vessels.

The small representation of stone artifacts precludes the application of any comparative procedure other than on elementary presence/absence score tabulation (Table 6.12). In this manner a moderate similarity index of 0.55 was calculated. However, this score is not representative as a number of the types of artifacts defined-specifically 1.1, 1.2, 1.3, 2 & 3 - occur on geological features that are not represented at all in the Skutwater environment.

6.1.5 Seeds

Seeds representative of both wild and domesticated plant species have been recovered from both Skutwater and the Greefswald sites. It was found that a greater variety of wild species were represented in the Skutwater deposit than in the Greefswald sites. Considering the extremely perishable nature of the material coupled to the numerous variables relevant to the deposition, preservation and subsequent recovery thereof, it does not necessarily follow that if the seeds of any indigenous exploitable fruit are not represented in a deposit, that those fruits were not utilised.

The utilization of wild fruits does not invariably imply the need to process them prior to consumption. The flesh of a number of fruits, such as those of the *Grewia*, *Pappea* and *Rhus sp.* is eaten and the seeds discarded. In other cases, such as the *Sclerocarya caffra* and *Adansonia digitata*, the flesh of the fruit is eaten and the seeds are retained for further processing, i.e removing the kernels from the seed husk as a secondary food source. In a small number of species, such as *Acacia sp.* and *Xanthocercus Zambesiaca* only the seeds are processed. All of the seed material recovered from Skutwater had been preserved by carbonization: and this also applies to the seeds recovered from the Greefswald sites. (A Meyer: pers comm.). Under the existing soil and climatic conditions characteristic of the area, carbonisation appears to be a prerequisite for preservation. Of the range of wild seeds

Table 6.12 Presence/absence scores for Stone artifacts

Artifact Type	MH & ST	Skutwater
1.1	X	0
1.2	X	0
1.3	X	0
2	X	0
3	X	0
4	X	X
5.1	X	X
5.2	X	0
6.1	X	0
6.2	X	0
6.3	X	X
7.1	X	X
7.2	X	0
8.1	X	0
8.2	X	0
9.1	X	X
9.2	X	X
9.3	0	X
10	X	X
11	X	X
12	0	X
	19	10

$$\text{Similarity Index} = \frac{16}{29}$$

$$= 0.55$$

available for exploitation, it is only the latter category described above that have more than a random probability of being carbonised as a direct result of being processed for consumption by cooking or roasting.

The domesticated plants so far identified in the deposits are all subject to processing by either cooking or roasting to enhance both the palatability and digestibility of the product. Thus all have a high probability of being carbonised proportional to the level of importance each occupies as a food source within a given community.

Taking the above into consideration it is assumed that the probability of the majority of wild seeds exploited being carbonised is too random to allow for any form of comparative analyses. The presence of wild seeds in a deposit can only be interpreted in the widest sense, i.e. that the community concerned gathered wild fruits. No interpretations of specific preferences or proportions of wild fruits relative to domesticates would be valid until far more rigorous and sophisticated recovery and analytic procedures have been developed.

Accepting the proposition that where seed-bearing domesticated plants represent the primary dietary staple in sedentary communities as opposed to the secondary supplementary role of wild fruits in normal years (i.e. those seasons in which the climatic conditions were favourable for crop production; minor outbreaks of plant diseases and insect pests; etc), it can be assumed that the probability of domesticated seeds being preserved through carbonisation is far greater, though still random, than that of wild seeds. Implicit in this assumtion is that recovered seeds of domesticated food staples processed by heat can be subjected to comparative analytic procedures. It is axiom that this assumption only applies to seeds such as cereals, pea and bean types, etc., and not to any of the tuberous or other similar food sources available.

Table 6.13 reflects the presence/absence scores for the domesticated and wild seed species found on both Skutwater and Greefswald. There is a degree of uncertainty as to the identity of two species, namely that a possible lens sp. was identified on Skutwater and possibly pennisetum was identified on Mapungubwe. Considering the element of doubt that exists in this respect coupled to the definate presence of *Sorghum sp.* and *Vigna unguicalata* two similarity indexes were calculated:

Table 6.13 Seed occurrence comparison

Seeds identified	Skutwater	MH & ST
Sorghum sp	X	X
Vigna unguiculata	X	X
Cf lens sp	X	
Cf pennisetum		X
Acacia sp.	X	
Adansonia digitata		X
Cassine sp.	X	
Citrullus lanatus		X
Cyathula sp.	X	
Ficus sp	X	
Gardenia sp	X	
Grewia sp.	X	
Myrica sp.	X	
Pappea sp.	X	
Sclerocarya cafra	X	X
Syzygium cordatum		X
Vangueria infausta		X
Xanthocercis zambesiaca	X	X

the first, including the two possible occurrences, is 0.67 and the second deleting the two doubtful cases is 1.00. No similarity index was determined for the wild seed species.

6.1.6 Faunal artifacts

According to Voigt:

> "Bone tools occur in Iron Age sites, but are relatively rare. Greefswald proved to be an exception: numerous formalised bone tools have been excavated on the site throughout the period of investigation, and numerous 'informal' bone tools were identified during the analysis of the faunal reamains. The Greefswald people utilised bone, ivory and marine and freshwater shells: Their craftsmanship with the first two materials reached an exceptionally high standard." (1983:101)

Skutwater was no exception to the rule. Although a large sample of faunal material was recovered from the excavations, the subsequent analyses identified only two bone tools. Both of these fall into the category defined by Voigt as Type 522:

> "Polished bone with a rectangular section. One end is a blunt point or spatulate. The other end may be finished off in various ways or may be a partially preserved articular end. This end is perforated. The tools falling into this type have previously been referred to in the literature as 'eyed needles'". (ibid:100).

No artifacts manufactured from either ivory or shell were identified in the Skutwater faunal assemblage.

This lack of culturally modified faunal remains in the Skutwater assemblage, although an apparent characteristic of Iron Age sites, obviously precludes any form of quantitative comparison with the Greefswald assemblage. Further work will have to be done on other Skutwater type sites (i.e. contemporaneous with, related to and spatially removed from the Greefswald sites) before any conclusions can be reached in this respect.

6.1.7 Hut types and floor surfaces

During the excavations on the Greefswald sites Eloff (1979, Vol II: 2-5) was able to distinguish four hut types on the basis of variations in floorplans. Insufficient evidence was recovered from Skutwater in this respect and no comparison could be made.

In his classification of the floor surfaces found during the excavations Eloff distinguished three types on the basis of material and colour variations. These he defined as follows:

> "Liggeel tot witterige gruisvloere. Volgens die NBNI-verslag kom geelwit skalie in die Stormberg-series in die Karroo-sisteem in die omgewing voor. Dit wil voorkom of die liggeel tot witterige vloere gemaak is van brokke van die geelwit skalie.
>
> Rooi, rooi-bruin, pienk tot pienbruik gruisvloere. Volgens die NBNI-verslag kom rooi tot rooi-bruin skalie van die Stormberg-series in die Karroosisteem voor en is brokke daarvan gebruik vir hierdie vloere.
>
> Mosterdgeel, mosterdbruin, bruin gruisvloere. Volgens die NBNI-verslag bestaan hierdie vloere uit verweerde dolerietbasalt wat heelwat klei bevat, gemeng met bogenoemde skalies maar in fyn vorm. In die geval van sommige vloere bestaan die boonste lagie daarvan slegs uit dolerietbasalt." (Eloff 1979, Vol II: 6).

All three the above floor types occur on Skutwater, however, the limited extent of both samples allows only a wide interpretation expressing the occurrence of all the types in both sites.

6.1.8 Stone features

Seven different types of stone features were defined for the Greefswald sites. Of these only two stone features fitting the definitions for types 1 and 4 were identified during the Skutwater excavations: these are

"Tipe 1: Die tipe bestaan uit 'n holte in die grond waarvan die bodem en wande met klippe uitgevoer is.... Die holte is normaalweg ietwat minder as 50 cm diep en wyd.

Tipe 4: Dit bestaan uit enkele langwerpige klippe wat naby mekaar vertikaal in die grond geplant is." (1979, Vol II: 7-8).

The Skutwater equivalents of these types are shown in chapter 5, plates 8, 31, 33.

A stone feature not included in the typological definitions for the Greefswald sites was identified on Skutwater. This feature consists of a small circle (± 50 centimeters in diameter) of irregularly shaped stones which abut one another. (Chapter 5, plate 7).3).

A presence/absence comparison shows a low 0.36 similarity index: however, the sample is very small and its relevance to the interpretation of affinity consequently limited.

6.1.9 Faunal analysis

The analysis of the Skutwater faunal assemblage (Chapter 5) indicated that 74.91 percent of the meat contribution to the diet of the Skutwater people was derived from domesticated animals: primarily *Bos taurus* (60.28 percent) followed by *Ovis/Capra* (14.63 percent). (Table 5.12).

The faunal analyses for the Greefswald sites were based on the material recovered from the Mapungubwe Hill excavation MK1 and the Southern Terrace excavation K8. The data represent the occupation Phases II, III and IV and it was consequently necessary to reanalyse the data in order to segregate those relevant to Phases III and IV for comparative analyses. These data were juxtaposed with those obtained for Skutwater and the percentage frequency distributions for both sets determined in order to arrive at a similarity index for the two faunal assemblages. This was subsequently found to be a relatively high 0.74 (Table 6.14).

Table 6.14 Comparison by percentage frequency distribution of meat contribution to diet.

	Skutwater		MH & ST (Phase III & IV)		
Species	Total meat weight	% of Diet	Total meat Weight	% of diet	% Difference
A. Domesticated					
Bos taurus	5274	60.28	18705	85.82	25.54
Ovis & Capra	1280	14.63	2000	9.18	5.45
Total Domesticated	6554	74.91	20705	95.00	30.99
B. Non-Domesticated					
All species inclusive	2195.20	25.09	1090.02	5.00	20.09
	2195.20	25.09	1090.02	5.00	20.09
Sample total	8749. 2	100. 0	21795.92	100. 0	51.08

$$\text{Similarity index} = 1 - \frac{51.08}{200.00}$$

$$= 1 - 0.26$$

$$= 0.74$$

This analysis represents the last of the series based on the assemblages recovered from the excavations on the Greefswald sites and Skutwater. The only other aspect not yet dealt with is the settlement patterns obtaining in the sites under review.

In both cases - Skutwater and the Greefswald sites - the limited nature of the excavations have resulted in the recovery of very little data relevant to the intra-site pattern of settlement. This automatically precludes any quantitative comparative analyses. It is however possible to demonstrate on a broad level that the layouts, sizes and topography of the sites vary to a large extent.

As regards size, the observed limits of the surface occurence of cultural material were found to indicate that the Skutwater site covered an area of 1,04 hectares. The limits of the Greefswald sites have not yet been precisely determined, but the occupation area surrounding and including the settlement on the top of Mapungubwe Hill itself can be expected to cover an area in excess of 10 hectares.

The topography of the areas in which the two sites occur are very different from each other: where the Greefswald sites are found to occur in broken, hilly surroundings, with the sites specifically on the habitable gradients of the slopes of a hill and on its crest, the site of Skutwater is situated on an almost table-like plain far removed from the nearest high ground.

Although no specifics relative to the internal structure of Skutwater could be determined, it was quite apparent that it falls into what can be inferred from Kuper (1980) as the Southern Bantu pattern. This implies a layout in which the huts and other features of the settlement are arranged around a central cattle byre within the framework of a culturally oriented spatial structure. In the Greefswald sites, on the other hand, no such spatial structuring is apparent and, on a purely qualitative assumption, it can be inferred that the two sites display a high degree of independence in this respect.

CHAPTER 7

DISCUSSIONS AND CONCLUSION

The evidence retrieved from the excavations on Skutwater has been analysed above on an intra-site and inter-site level. The inter-site analyses were limited to comparative studies between Skutwater and the Greefswald sites as the latter are the only other representatives of the same facies of the Southern Branch of the Leopard's Kopje Tradition as defined by Huffman (1974). What follows below is an interpretation of the relevant data relative to both levels of comparison from a cultural perspective.

7.1 THE OCCUPATION ON SKUTWATER: AN INTERPRETATION

The stratigraphic evidence recovered from Skutwater indicates that the site was occupied by a single, relatively homogeneous cultural entity during the first half of the 12th century AD. There are no indications of any breaks, either by natural divisions or cultural phenomena, reflected in the deposit constituting the defined occupational horizon of the site. The further interpretation of artifact and feature data is done under the headings technology, settlement and economy.

7.1.1 Technology

a. Architecture

The hut floors identified on Skutwater were well made, consisting of an average 5 centimeter thick compacted layer of either clay mixed with a dolorite-basalt gravel or shale. The floors were found to co-occur with collapsed daga and in two instances, decomposed hut posts were recovered from the daga matrix. Where burnt hut-rubble was identified, several chunks of the material were found to contain clearly defined imprints of wooden poles (1,5 to 2,0 centimeters thick) and of grass stalks. From this evidence it is clear that the Skutwater people constructed substantial rondawel (cone-on-cylinder) types of huts more or less the equivalent of the huts that are still constructed in the area

in recent times (Van der Waal 1977).

b. Metalwork

A large number of metal artifacts were found during the excavations on Skutwater primarily comprizing core-rolled iron and copper wire ornamentation. A number of iron arrowheads and a spearhead were recovered together with what appear to be axe or adze fragments. The latter may actually be the tangs of hoe-blades. It has been found that the tangs of hoes of which the blades have either worn away or broken off are converted into the axe/adze category rather than being discarded (J. van Schalkwyk: pers comm). Two iron artifacts have the appearance of gads or chisels although they are too badly corroded to substantiate this identification. If it is assumed that they are gads, their occurence together with the hammerstones found in the deposit (see under stone artifacts below) appears to indicate that the Skutwater people may have participated in mining activity. This assumption is, however, unsupported: in the first instance no known areas exist anywhere near the site at which evidence of ore exploitation has been identified beyond doubt. On its own this may not be a deciding factor as Küsel (1979) has indicated that ore-bodies as far as 40 kilometers distant from a settlement are known to have been mined. The second element of evidence negating the assumption is that no evidence of smelting sites have been found in the vicinity of Skutwater, the nearest known ones occuring in the Messina area 65 kilometers to the east. This fact, coupled to the paucity of slag occurring in the deposit - only randomly distributed bits were found in isolation - and the long distances to the nearest known areas of ore exploitation gives rise to the inference that the Skutwater people came by their metal artifacts by some means other than self-exploitation.

c. Glass beads

The bead assemblage from Skutwater indicates that the Skutwater people utilised the beads in an unmodified form, i.e. they did not manufacture other beads from them as was the case with the "garden-roller" beads found on K2. Assuming that all the bead types were equally available, it follows that the relative frequencies of occurrence of each

type is indicative of certain stylistic preferences. The analyses of the stratigraphic distribution of the beads indicated a high degree of homogeneity except for Type 8 which indicates an increase in popularity through time and the ostrich eggshell beads which indicate a percentage decline. This further substantiates the homogeneity of the occupation as a whole.

The presence of glass beads in the deposit is also evidence for trade: This is discussed under the relevant heading below.

d. Faunal artifacts

A characteristic of Skutwater and of other Iron Age sites is the lack of bone, ivory and shell artifacts. Only two bone "needles" were identified on Skutwater and their possible significance is discussed in the section under other ceramic artifacts below. The only other faunal artifacts identified was the relative abundance of the ostrich eggshell beads in the bead assemblage. The presence of blanks and shell beads in various stages of production is clear evidence that these artifacts were also manufactured on site.

e. Stone artifacts

The stone tools retrieved were limited in number, all of which consisted of unmodified stones utilised for various purposes and showing traces of wear. These include mullers (upper-grindstones), a pestle, hammerstones and burnishing stones.

Although mullers were recovered no querns (lower grindstones) were found in the excavation itself or on the surface in the immediate vicinity of the site. Three querns were found at varying distances from the site but their specific relationship with Skutwater could not be defined as other small, unrelated sites also occur in the vicinity. Querns are known to occur on related sites (Eloff 1979 vol II: Hanisch: pers. comm) but they are unfortunately very visible *in situ* and are very often removed by misguided though well-meaning visitors to the area who in turn deposit them at various museums, or iniquitously utilise them as bird-baths in their gardens.

The function of a stone tool that has been termed a pestle is not clear. The only evidence of a mortar-like hollow occurs on a stone feature (E.9.8.2) which is discussed below.

The hammerstones found in the excavations were in the form of rough six-sided stones characterised by a shallow, pocked hollow more or less in the center of the face on each of the sides of the stone. These hollows have been interpreted as resulting from the hammering of an iron gad during the mining of ores and by the fact that they consistently occur in prehistoric mining contexts. (Küsel: 1979; Summers: 1965).

The final type of stone artifacts found to occur in Skutwater have been termed burnishing stones. These consist of small river pebbles which are naturally smooth of which a facet has been smoothed even further as a result of constant abrasion through contact with a very fine material. The only possible explanation for wear of this nature is that the pebbles were used to burnish the surface of clay vessels. This function is discussed further under pottery below.

f. Pottery

The analyses of the pottery recovered from Skutwater indicated a high degree of homogeneity through time. Seven of the fifteen variants representing the nine types defined occur in all the layers of the excavation and of these, two represent types defined by Meyer (1979; 1980) as belonging to the K2 series.

Huffman (1978; 1980; 1984 et. al.) has argued that archaeological entities can be validly defined on the basis of ceramic style if the assumption can be made that the identity of the producers was the same as that of the consumers: an assumption only applicable to those groups who do not possess a system of institutionalised markets. Assuming the latter condition to pertain as no evidence to the contrary exists in the context relative to this research, then the evidence recovered on Skutwater indicating localised manufacture and consumption of pottery supports the former condition: evidence in the form of puddled

clay features, burnishing stones (see stone artifacts above) and what has been termed practise pottery. To discuss the significance of this evidence sequentially, it is not axiomatic that a feature reflecting a concentration of dried, puddled clay is an indication of pottery making, even though the clay itself is obviously of the sort that was used in the manufacture of Skutwater pottery. A second element of supporting evidence can be inferred from the recovery of a number of vessel parts indicative of the amateur attempt of either a child at play or apprentice potter to make pots. The substantive evidence is, however, in the presence of the large number of burnishing stones in the deposit. This, together with the puddled clay feature and practice pottery can be interpreted as sufficient evidence for localised pottery manufacture, and, consequently, that the producers and the consumers belong to the same group.

To conclude: it is necessary to review a statement by Eloff (1979, vol III:374) with regard to the transition from K2 pottery to that characteristic of the types defined for Mapungubwe:

> "Die verskyning van nuwe potwerk, die sogenaamde Mapungubwe-serie, onmiddelik na die brandlaag wat fase II beëindig het, moes binne twee generasies, waarskynlik binne een generasie, plaasgevind het, en dit suggereer die aankoms van nuwe mense ... 'n Verandering waarvoor net een verklaring, naamlik immigrasie, gebied kan word."

Huffman (1986:3.8) argues the contrary:

> "Shortly after the move from K2 to Mapungubwe, the K2 ceramic style began to change ... but the ceramic differences are not stylistically or numerically abrupt. Instead, the surface finish was enchanced, the earlier K2 designs became more complex and the new types only gradually replaced the others. Rather than an ethnic replacement, these changes were more likely due to the emergence of full time specialists who were a consequence of the growing population and developing class structure."

The typological analyses of the Skutwater pottery distinctly segregated the K2 series pottery from the Mapungubwe series within the assemblage

as independent types and the percentage ratio for the two type series within the assemblage varied appreciably from the mean computed for phases III and IV of the Greefswald sequence, with the Mapungubwe series less strongly represented. This may, unfortunately, be interpreted as lending credence to both arguments: in the former argument it may be an indication that the immigrants consolidated their position around the capital, hence the higher representation of this type of pottery in the assemblage as opposed to a lesser representation away from it; in favour the latter argument it may indicate that the transition was a gradual one as no abrupt divisons occur at all. It may futher be argued that the temporal span of Skutwater does not include the period represented by the burnt rubble division between Mapungubwe phases II and III; however there is also no indication of the later upheaval as evidenced between phases III and IV on Mapungubwe – an upheaval that would surely have been reflected if it had been of any consequential magnitude.

g. Other ceramic artifacts

A number of ceramic artifacts other than pottery were excavated from Skutwater. Of these only the two animal figurine fragments and two spindle whorl pieces are of interpretive value.

The two fragments of animal figurines are not defineable as specific species of animal, although the head part of one of the fragments may be that of a sheep, and the rear half of an animal depicted by the other fragment is of a bovine nature.

The spindle whorl fragments on the other hand are evidence for spinning. The type of thread spun and the raw material used is, however, still an open question, although it is assumed that a species of wild cotton was utilised in this respect.

7.1.2 Settlement

The excavations on Skutwater were primarily designed to retrieve diagnostic artifact assemblages for the interpretation of cultural identity. In this process sufficient settlement data was recovered to allow for a relatively wide interpretation of the location of a number of different

features relative to one another in both temporal and spatial context.

The Skutwater mound was characterised by a centrally located deposit of dung surrounded by surface scatters of cultural material related to domestic activities, obviously indicating a habitation area. Subsequent excavations provided stratigraphic evidence supporting the initial identification.

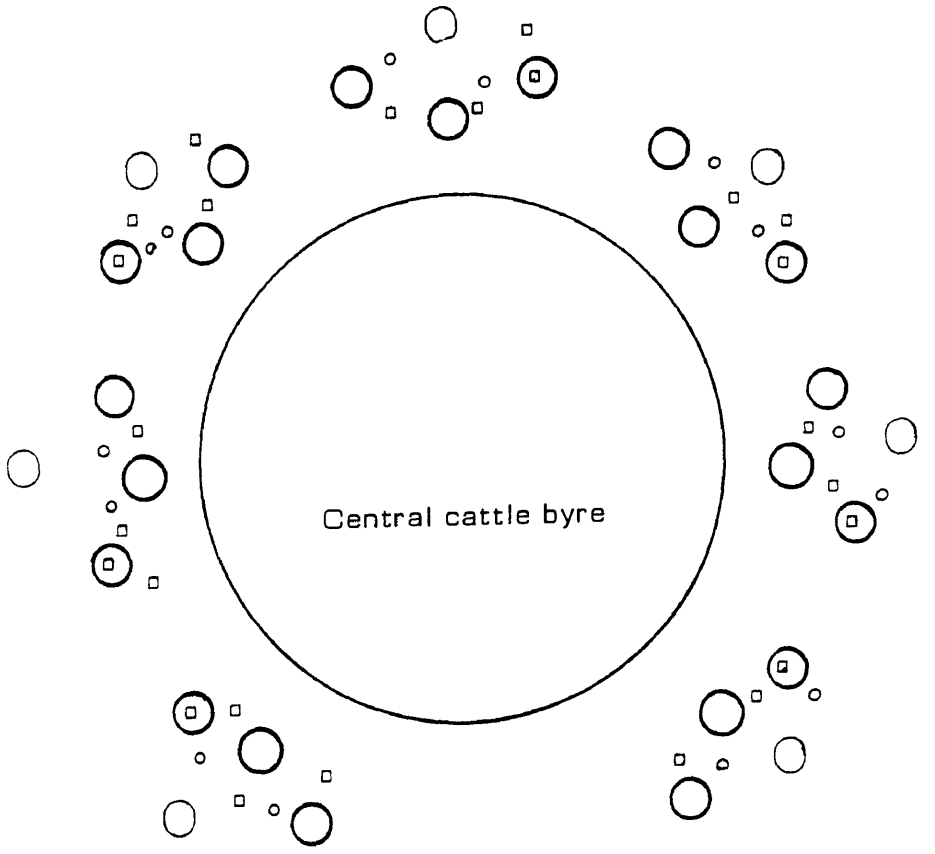
The central cattle byre consists of a thick deposit of dung contemporaneous with the total period of occupation represented by the stratigraphy of the habitation area. The latter in turn appears to be arranged concentrically around the byre and consists of a series of huts, related stone features, of which a number have been identified as possible grain bin supports, pit features, ashey lenses, and midden areas all of which occur on the outside of the boundary delimited by the spatial arrangement of the huts, i.e. first the cattle byre, then the concentric arrangement of the huts with in turn the other activity areas concentrically arranged on the outer periphery. (Fig. 7.1).

As the excavations progressed a total of seven burials were encountered of which five were of adults and two of juveniles.

Four of the five adult burials occurred in the central byre deposit. Grave goods in the form of broken pottery were present in each case to a greater or lesser degree. The only other material apart from a badly corroded copper artifact in one case that was found with the burials were a large number of glassbeads which appear to have been the personal property of the deceased. The fifth adult burial was interred in a grave excavated in the floor of the hut feature found in square F7.4 i.e. away from the byre area. The only grave goods found in association with this burial were personal ornaments still in position on the skeleton comprising copper and iron wire bracelets and leg ornaments. The two juvenile burials were found on the outside of and below contextually related hut floors.

The arrangement outlined above conforms to the broad outline of the Southern Bantu pattern defined by Kuper (1980) in which the traditional ordering of the spatial dimensions of features within a settlement are

Fig. 7.1 Schematic representation of Skutwater settlement.



related to certain significant legal and symbolic conditions. According to Huffman this pattern, which he has termed the Bantu Cattle pattern, demonstrates:

> "... the physical manifestation of a culture system that maintains a central relationship between the spirit world, cattle and the living. In this system cattle are an integral part of the nexus of power and success and belong to the domain of men.... The pattern is limited to Bantu speakers who use cattle for bride wealth. Therefore, if the pattern has been accurately determined, its presence in the archaeological record is evidence for a distinctive Bantu cattle oriented society." (1984:33).

7.1.3 Economy

a. Pastoralism

The large central byre area which occurs from the earliest through to the latest period defined for the occupational horizon of Skutwater indicates that animal husbandry played a very important role in the economy of the Skutwater people throughout their settlement of the site. This is further substantiated by the percentages computed for the total meat weight contribution to the diet of the Skutwater people based on MNI counts derived from the bone assemblage. *Bos taurus* was found to represent 60.28 percent of the meat contribution and *Ovis/Capra* a further 16.4 percent. These two percentages combined represent 74.91 percent of the total meat contribution, the remaining 25.09 percent being made up of all the various non-domesticated species which contributed to the diet.

From the above it is apparent that although the husbanding of domesticated animals was an important central theme in the economic life of the Skutwater people, hunting and gathering as a way of supplementing the meat diet was far from unimportant. This may have some bearing on Skutwaters' possible position in the political hierarchy within the culture system: a point that will be discussed in more detail below.

b. Agriculture

The evidence for agriculture recovered from Skutwater was in the form

of charred seed remains of known domesticated plant species, namely *Sorghum sp.* and *Vigna unguiculata*. Their occurrence in the various layers of the occupational horizon indicates that they were cultivated on a regular basis and it can be assumed that they constituted the major portion of the vegetable diet of the Skutwater people.

The cultivation of domesticated food resources is further substantiated by the occurrence of a number of mullers; a number of possible grain bin supports; and of iron artifacts related to the practice of agriculture.

c. Hunting and gathering

Hunting, as a contributor to the Skutwater economy, played a secondary though not unimportant role in this respect. However, this point has been touched on in a. above and will also be included in the discussion to follow on the broader aspects of the prehistory of Skutwater below. The wide variety of wild fruit species represented in the Skutwater deposit indicated that the gathering of wild fruits must have played an important though secondary role in supplementing the diet of the Skutwater people.

d. Trade

The only definitive evidence for possible trading activity by the Skutwater people is indicated by the occurrence of numerous glass beads throughout the Skutwater occupational horizon. No evidence reflecting the possible reciprocal content of Skutwaters' share in such trade were recovered. Within the wider perspective of the prehistory of the region this if felt to be significant and will be discussed in more detail below.

A further point relating to trade was mentioned in the section on metal artifacts above. Due to the limited representation of metal working, not only on the site but in the general area, it is argued here that the Skutwater people did not produce their own metal artifacts but must have obtained them by some other means-most probably by trade, although no direct evidence for this was found.

From the above it is evident that the Skutwater people can be characterised as typical of an Iron Age community which practiced a mixed economy based on agriculture and animal husbandry. The latter was, in turn, supplemented by the exploitation of non-domesiticated faunal and floral food resources. The limited observations relative to the settlement pattern that could be made reflected a layout typical of the Bantu Cattle Pattern as defined by Huffman (1982; 1984; 1986; et. al.) and the analyses of the various constituent assemblages indicate a high degree of affinity with those of the Greefswald sequence. The discussion which follows places Skutwater within the prehistoric framework of the region based on the above perspective.

7.2 THE PREHISTORY OF SKUTWATER

Up to the 9th century AD the Limpopo River valley in the area of the confluence of the Limpopo and Shashi Rivers was occupied by people belonging to the Zhizo culture. Although these people were primarily agriculturalists within a settlement pattern typical of the Bantu Cattle Pattern, the earliest known evidence for active participation in trade with the East Coast by the inhabitants of this region was recovered by Hanisch (1980) on the site of Schroda in the form of imported glass beads. The presence of locally manufactured ivory objects and the occurrence of alluvial gold in the region, together with the glass beads in the Schroda deposit, has prompted Huffman (1986) to argue that the trade links established with the East Coast by the Zhizo people at this time represented the first step in the evolution of a number of comprehensive social and political changes in the cultural patterns of the peoples subsequent to Zhizo, culminating in the establishment of the Zimbabwe Kingdom. This sequence is as follows.

Around the middle of the 10th century AD Leopards' Kopje A people settled on K2 and from the sudden and wide-spread appearance of their pottery in the northern Transvaal, coupled to the coincidental disappearence of Zhizo pottery from the area, it is apparent that this large scale influx of Lepoards' Kopje A people had the effect of displacing the Zhizo communities. In eastern and south-eastern Botswana, Denbow (1982) found evidence of a large increase in the frequency of occurrence of Zhizo sites during this period.

The evidence recovered from K2 indicated that it was occupied by a dynamic and growing population. The trade links with the east coast previously established by the Zhizo people had been taken over and expanded as was apparent from the considerable increase in the occurrence of ivory artifacts and glass beads in the K2 deposit.

Of all the Leopards' Kopje A sites in the nothern Transvaal, K2 is the largest, and according to Huffman (1986) size reflects political importance. Although its initial layout was typical of the Bantu Cattle Pattern, it was found that within a short while after the establishment of the settlement the central cattle byre was engulfed by the growth of an enormous midden deposit, resulting in the necessity of relocating the cattle byre away from the traditionally important central position. (Eloff 1979, vol III:372). Huffman (1986) has convincingly argued several points implicit in the above shift in sociocultural oranisation relative to political stratification and the evolution of a bureaucratic class structure within the Iron Age of the Limpopo/Shashi Basin at this time.

By AD 1075 the site of K2 had been abandoned in favour of Mapungubwe which offered considerably more living space and this shift in location is evident in the Mapungubwe deposit by a coinciding increase in the occurrence of K2 material. According to Huffman:

> "A natural amphitheatre at the bottom of Mapungubwe Hill probably sheltered the new court because this is the only sizeable area inside the town center free of residential debris. The absence of cattle dung anywhere in the vicinity indicates that a byre was not erected with the court; and so, the previous shift of cattle away from the court at K2 was a real spatial transformation and not the result of some temporary expediency.
>
> When the capital was relocated at Mapungubwe, most people lived in front of the court, but a few moved onto the hill above. Since only the leader and his family live upslope behind the court in the Bantu Culture Pattern, it is reasonable to presume that the leader (originally) upslope at K2 moved uphill at Mapungubwe. This move uphill is the first time in the prehistory of Southern Africa that

leaders were so physically separated from their followers, and it is a (further) indication of a developing bureaucratic class." (1986: 316-317).

He states further:

"The sequence of transformations in the Shashi/Limpopo Basin shows that Mapungubwe was the first Zimbabwe culture center, and that the Zimbabwe culture originated here (evolving) from the Bantu Cattle culture through the stimulus of the East Coast trade. The wealth from this trade ... (which) ... augmented the traditional wealth in cattle ... was introduced in far greater quantities than could be generated locally with cattle, and, given the relationship between political power and the unequal distribution of wealth, the control of this trade resulted in ... the development of a bureaucratic class." (ibid:319).

The foregoing largely constitutes a more explicit definition of the evidence recovered from and outlined by Eloff (1979) and Meyer (1980) for the Greefswald sequence. Within the above model of an evolving class structure where does Skutwater fit in?

In the area around Mapungubwe itself Hanisch, during the course of his reconnaisance programme, identified numerous sites characterised by surface scatters of Mapungubwe type pottery of which Skutwater is one. On the basis of size and topographic location Huffman (1986:320-321) has postulated that five levels of political administration are apparent in the distrubution of these sites within a radius of 100 kilometers of Mapungubwe.

Mapungubwe itself is characterised as the political capital by its size and spatial organisation and is consequently representative of the fifth or highest level of political authority. The fourth level of authority, second to Mapungubwe, is represented by the large settlement on Mapela Hill (Garlake, 1968). The third level is represented by a number of smaller hilltop settlements such as those found on Little Muck by Hanisch and Mmamgwa. (Tamplin, 1977). Finally the second and first levels combined are represented by smaller commoner sites such as

Skutwater and Mtetengwe (Robinson, 1958) in the more open areas of the region.

Within this context it is axiom that Skutwater clearly owed allegiance to the political authority on Mapungubwe. However, the present lack of data relating to the pattern of site sizes and distributions within the region and contemporaneous with Mapungubwe precludes the identification of a definitive hierarchical structure at this stage, i.e. although five levels of administration may be postulated, the sphere of influence and the possible privileges enjoyed by the two intermediate elite levels between the commoner sites and Mapungubwe itself can not yet be demonstrated. However, that Skutwater was subject to a degree of control, whether directly under Mapungubwe or via intermediary levels of authority, may be inferred from at least two aspects of the site.

The first possible indication of the status of Skutwater within the hierarchical structure is reflected by a combination of three aspects: the size of the site; its spatial organisation within that defined for the Bantu Cattle Pattern; and the ratio of exploitation of domesticated relative to non-domesticated faunal and floral food resources.

The size of Skutwater indicates that it functioned at the second level of authority. Evidence substantiating this inference is apparent in a number of very small satellite sites in the immediate vicinity of Skutwater that would have constituted the residences of the first level of authority, namely those of family units.

The spatial organisation of Skutwater is typical of the Bantu Cattle pattern comprising a central cattle byre surrounded by a habitation area. The size of the byre together with the depth of the deposit are indicators that a large number of domesticated animals were herded throughout the period of occupation on the site.

A comparison of the percentages of domesticated as opposed to non-domesticated meat contributions to the diet of the Skutwater people relative to the equivalent percentages for Mapungubwe, a significant difference is observed. Where domesticates represent about 98 percent of the meat contribution to the diet of the Mapungubwe people, the

corresponding figure for Skutwater is much lower at 74 percent. From this the commoner status of Skutwater is further substantiated as the conservation of this commodity can be assumed to be characteristic of low status sites in which, within the postulated evolvement of the Zimbabwe Culture Pattern, cattle would either represent the only means of individual status in the face of a strict trade monopoly controlled by the ruling authority or that, given their close proximity to Mapungubwe, the Skutwater people were custodians of a part of the royal herd in which case conservation would have been the rule rather than the exception.

The second indication may be identified on the level of trade participation. The lack of evidence in the form of locally manufactured or locally procured objects for trade in the Skutwater deposit may indicate that the control by the ruling authority was absolute. In this event all raw materials would presumably have been delivered to the controlling authority at Mapungubwe and exchanged for stock-piled trade goods at an internally determined rate which would have been designed to maintain an adequate equilibrium in supply and demand in order to ensure continued allegience to the system as a whole.

The final evidence from Mapungubwe indicates that the settlement was again devastated by fire at about AD 1150. This represented a turning point in the fortunes of the ruling class on the site as a gradual qualitative decline in the culture became apparent which continued until its disappearance at about the turn of the 12th century.

Eloff [1979, Vol III:378] equates this decline in the political influence of the ruling authority with the rise of the Great Zimbabwe state at about this time. Although the reason for this shift in the center of influence is not yet clear, an apparent consequence was the abandonment, not only of the elite sites, but of all the Mapungubwe phase sites in the northern Transvaal as evidenced by the radiocarbon dates obtained for the Skutwater occupation.

Subsequent research has indicatedthat the political expansion of Great Zimbabwe as an elite centre gathered momentum from this time onwards.

7.3 CONCLUSION

The political hierarchy proposed for the Mapungubwe phase by Huffman (1982) awaits a great deal of further research before it can be adequately defined, especially as regards spatial patterning. The need for this is emphasised by the identification of numerous Mapungubwe-type sites south of the Limpopo River and over 150 kilometers to the east of Mapungubwe; of which one reputedly rivals Mapungubwe itself as regards both size and spatial organisation.

It has been variously argued that trade with the East Coast constituted the primary motivation in the development of the bureaucratic class structure that evolved at Mapungubwe and continued through to the 17th century. (Eloff 1979; Huffman, 1986; Meyer 1980). In reviewing the possibilities for exports relating to metals in this context, it was found that very little work has been done on this facet in the prehistory of the far northern Transvaal. The standard statements, based on the existence of a number of known prehistoric mines and smelting sites, mention only that gold and copper were exported without any consideration of either the complexity of the technology concerned or to the archaeological context of metals in the prehistory of the region.

To summarise: in answer to the first objective of this thesis, the Skutwater people have been adequately identified as a single, homogeneous, Iron Age community practicing a mixed farming economy based on agriculture and animal husbandry. These activities were supplemented by hunting and gathering; exploiting wild faunal and floral food resources. They were largely self sufficient as the only imports identified were metals and glass beads. The settlement itself which has been dated to the first half of the 12th century AD, was characterised by substantial hut structures and other contextual features, reflecting the essentially sedentary nature of the occupation.

The various comparative procedures clearly demonstrate that the Skutwater was inextricably related socially, economically and politically to the Mapungubwe phase of the Greefswald sequence. Consequently, Skutwater represents an extension of the existing data relevant to the

Mapungubwe facies of the Leopards' Kopje Tradition as defined by Huffman (1974). This definition may be reviewed from this slightly expanded perspective in order to substantiate a number of hypotheses relating to the Leopards' Kopje Tradition that were previously argued to be based on data derived from inadequate stratigraphic data.

The excavations on Skutwater have added a further dimension to the existing framework which resulted from the research on the Greefswald sites by Eloff (1979) and Meyer (1980), constituting a further contribution towards a better understanding of this complex spatial and temporal locus in the prehistory of southern Africa.

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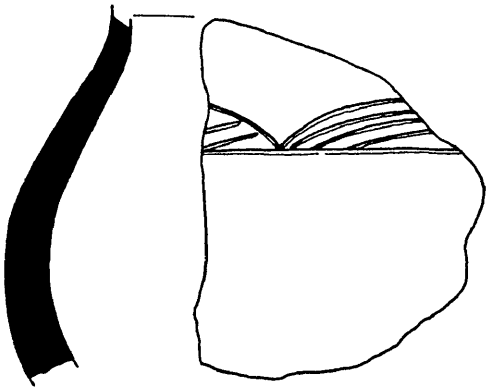
Pottery sample from Skutwater

Appendix I



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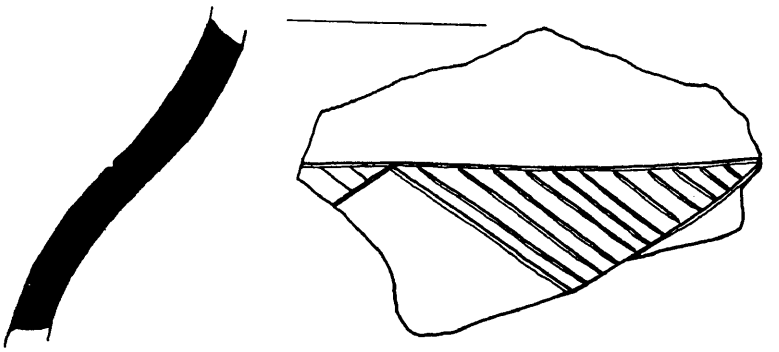

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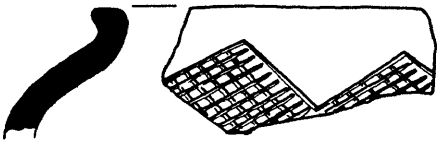

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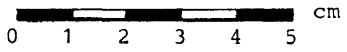

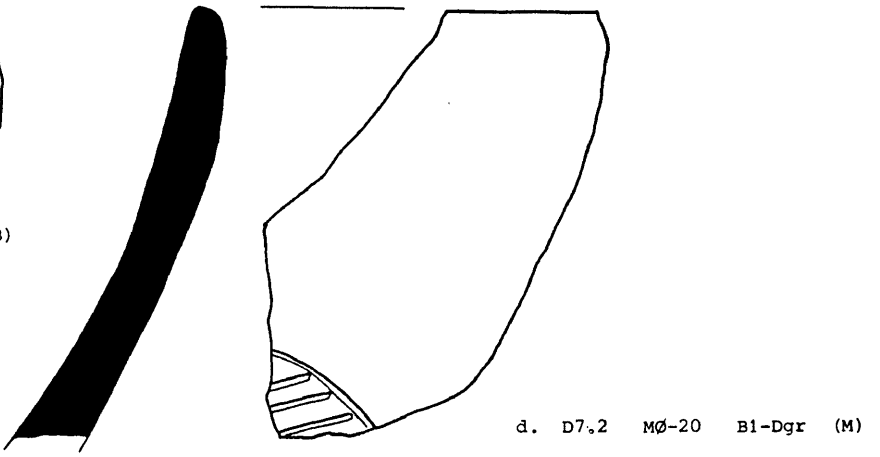

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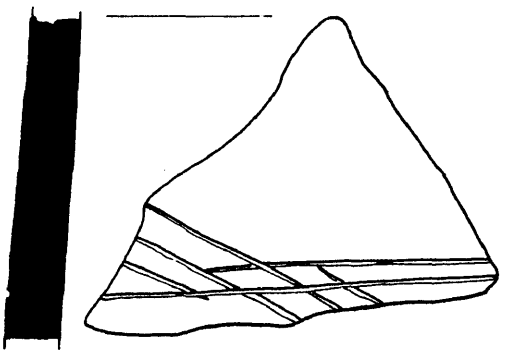

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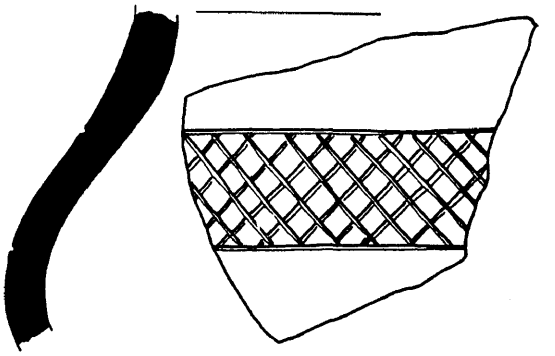

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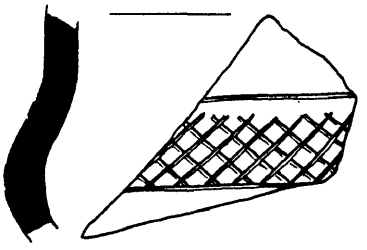

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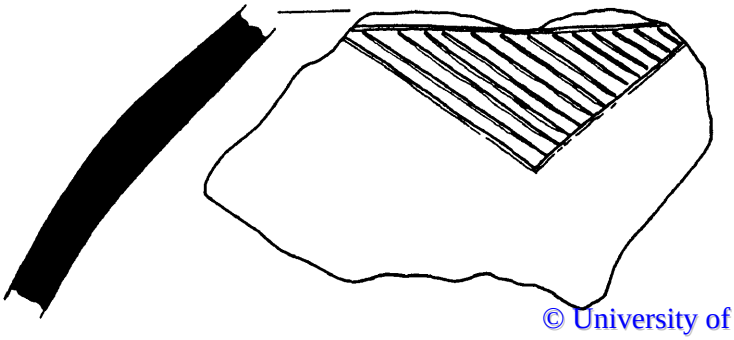

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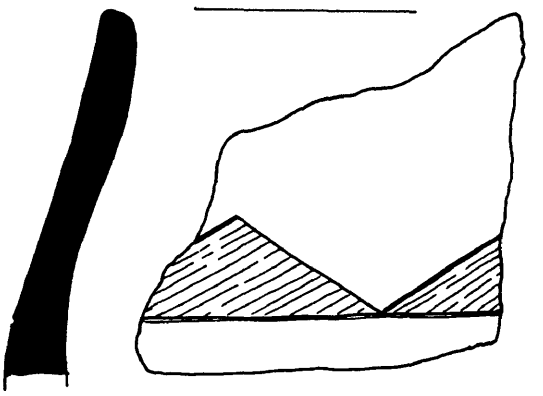

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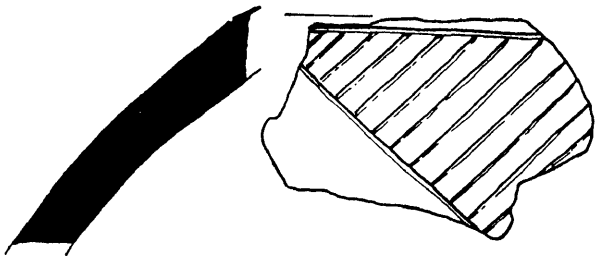

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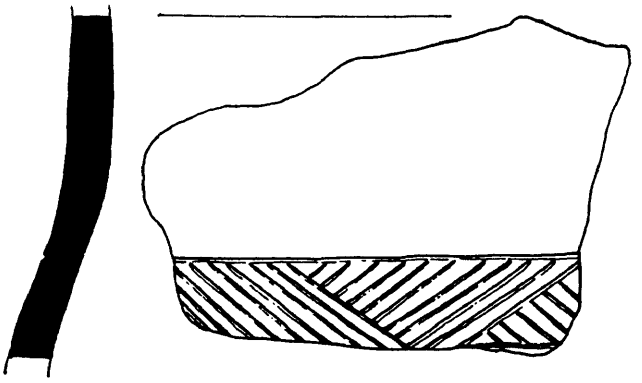

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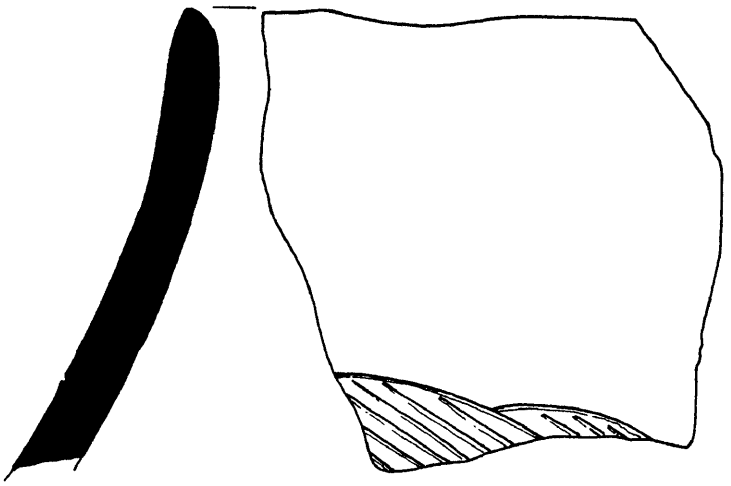

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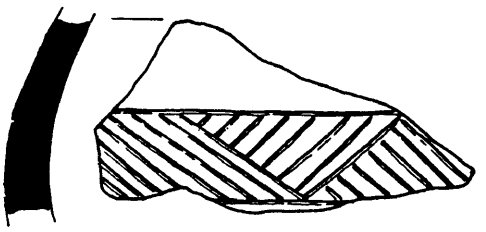

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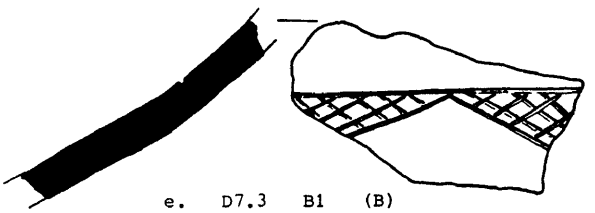

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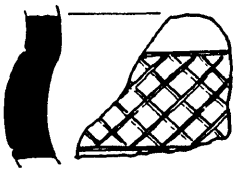

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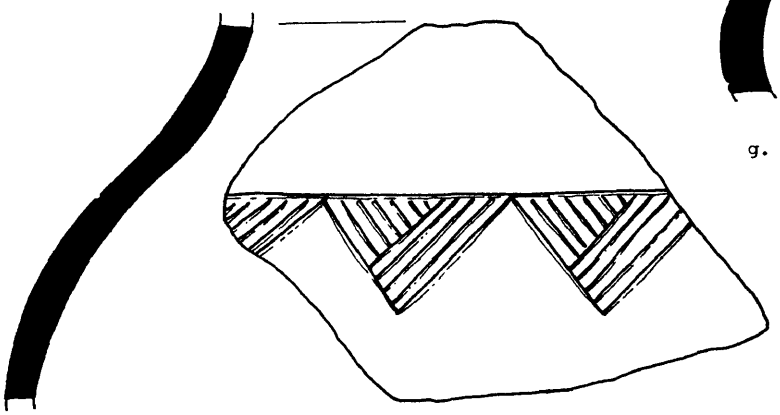
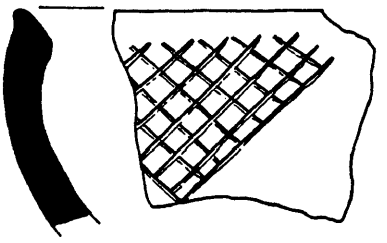
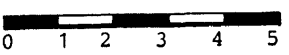
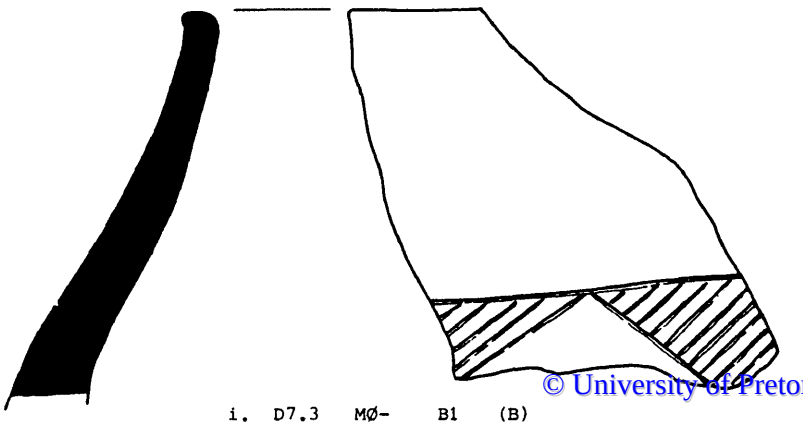


f. D7.3 B1 (B)

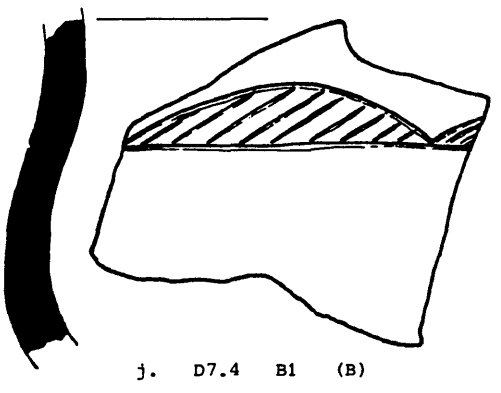


h. D7.3 MØ-26 B1 (B)

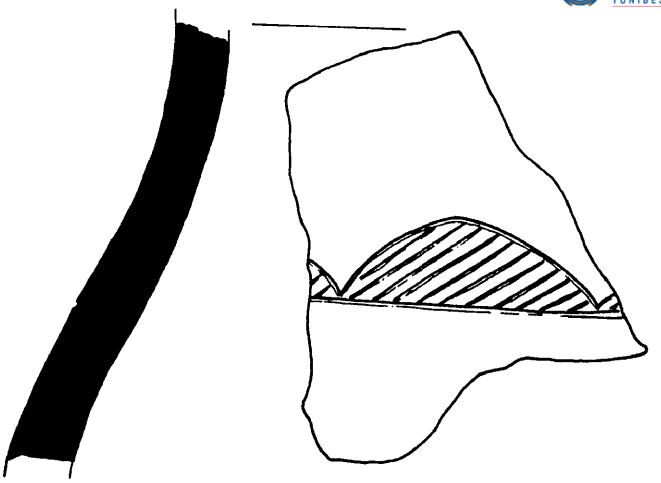




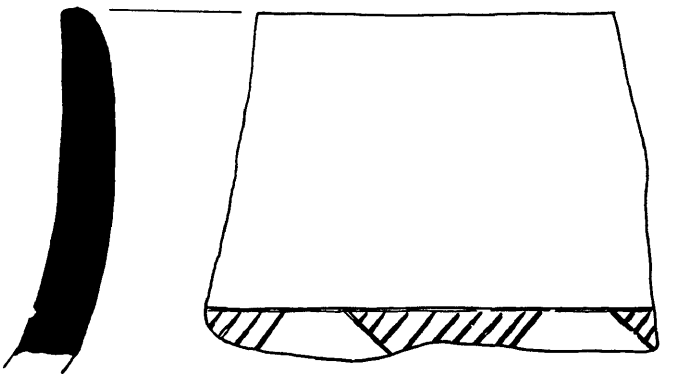
i. D7.3 MØ- B1 (B)



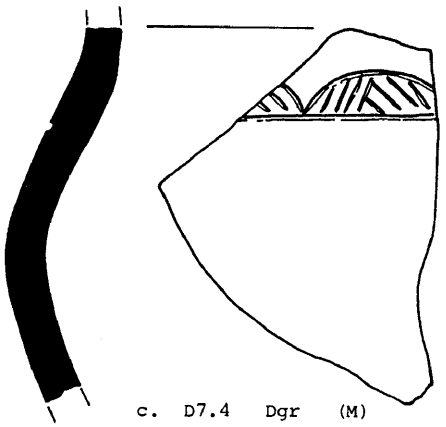
j. D7.4 B1 (B)



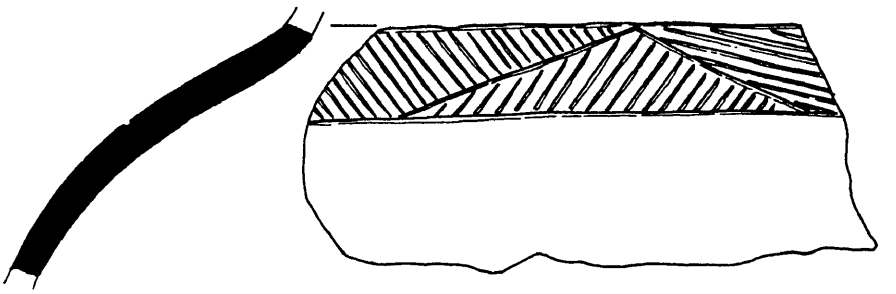
a. D7.4 Gr/B1 (B)



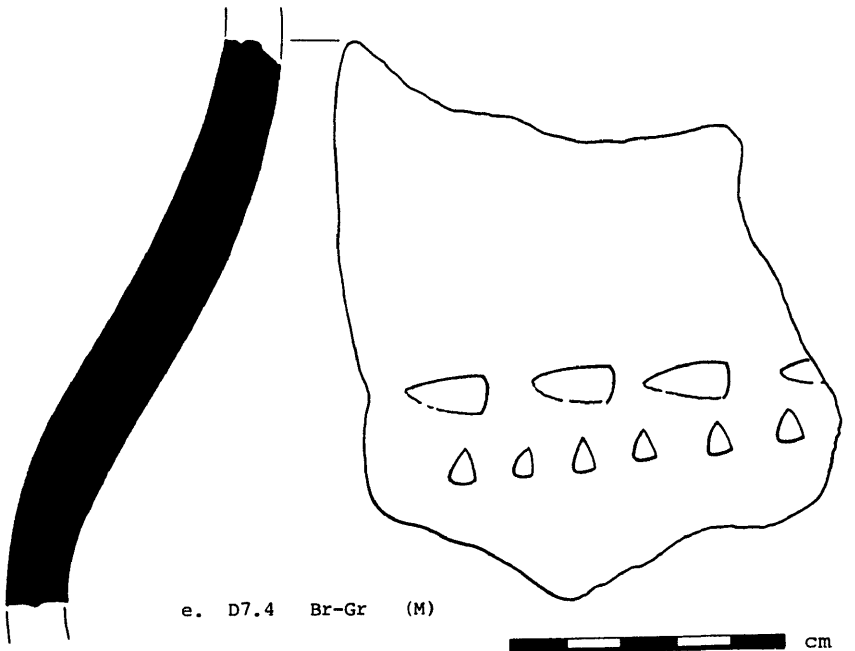
b. D7.4 MØ-17 B1 (B)



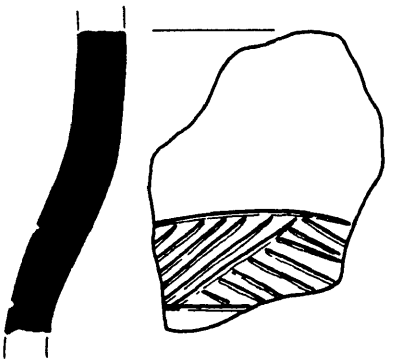
c. D7.4 Dgr (M)



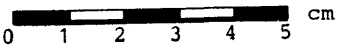
d. D7.4 B1-Gr (B)

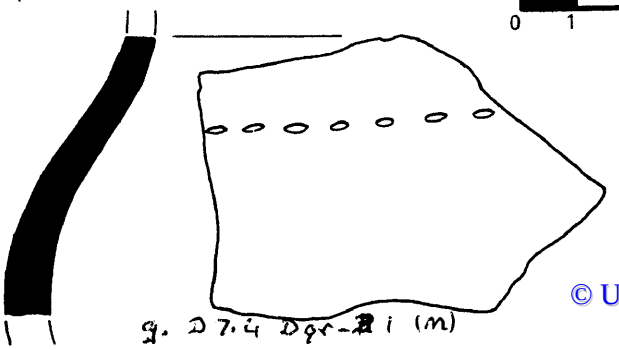


e. D7.4 Br-Gr (M)

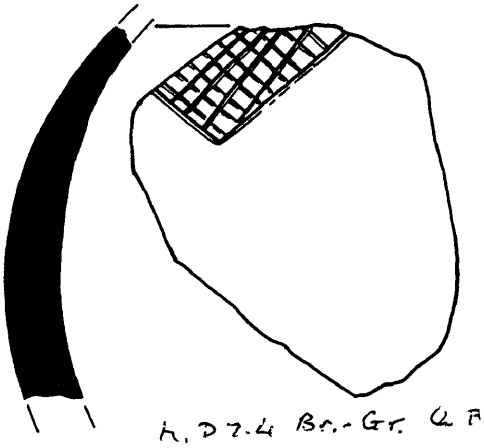


f. D7.4 B1 (B)

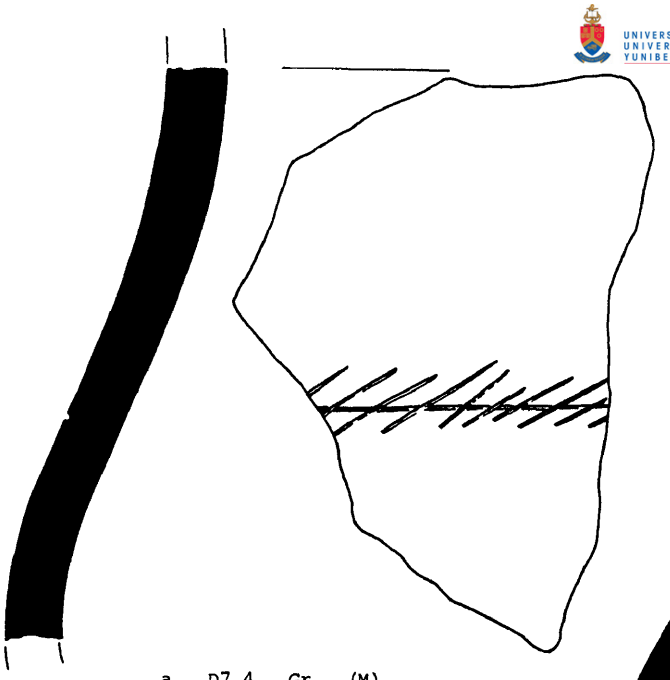




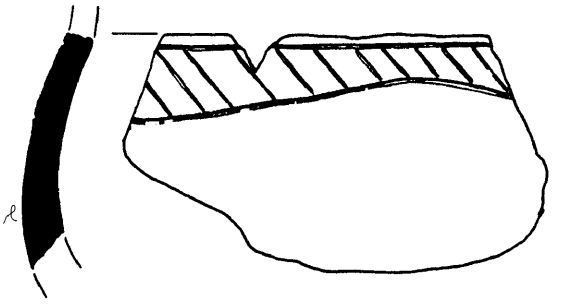
g. D7.4 Dgr-B1 (M)



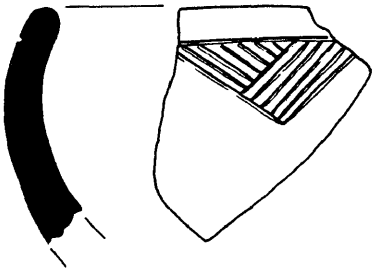
h. D7.4 Br.-Gr. (B)

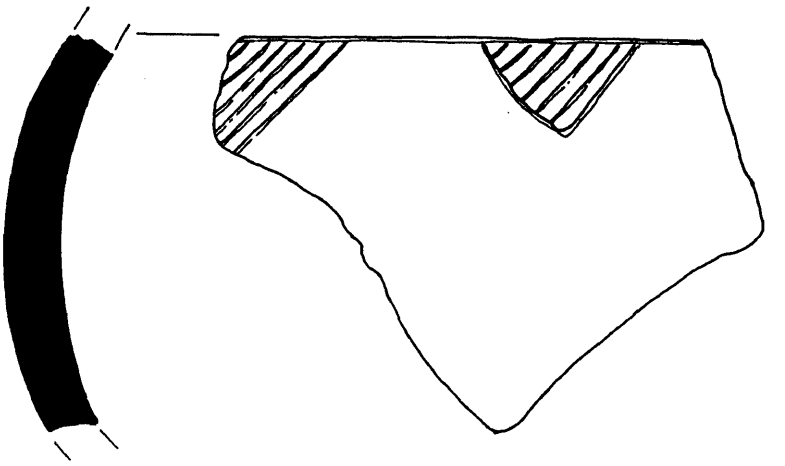


a. D7.4 Gr (M)

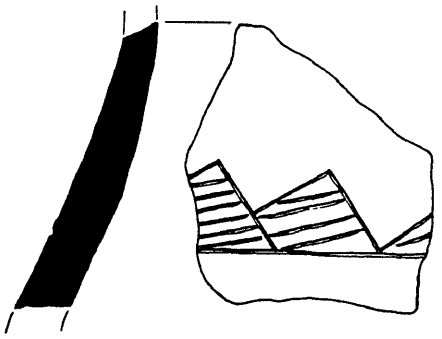


b. D7.4 Gr-Dgr (LB)

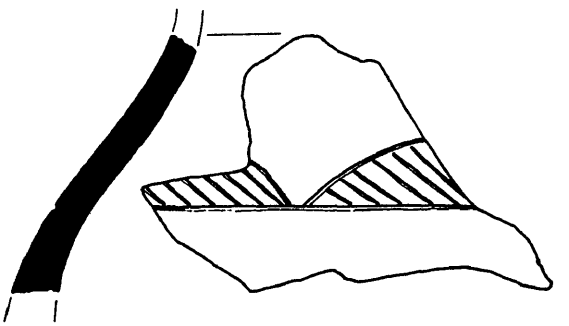




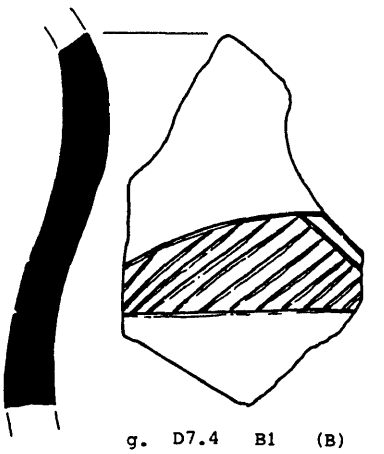
d. D7.4 B1-Gr (M)



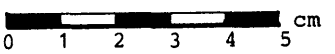
e. D7.4 Dgr/Br (M)

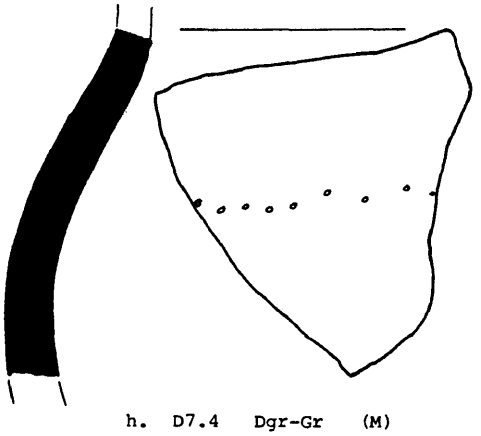


f. D7.4 B1 (B)

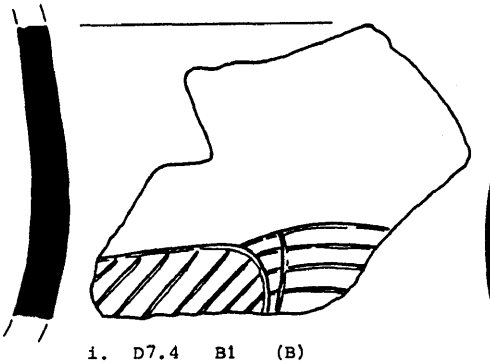


g. D7.4 B1 (B)

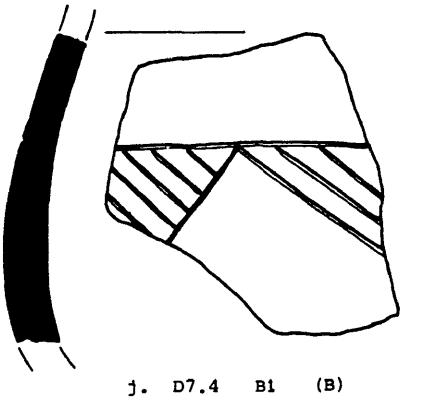




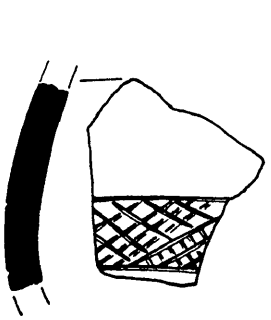
h. D7.4 Dgr-Gr (M)



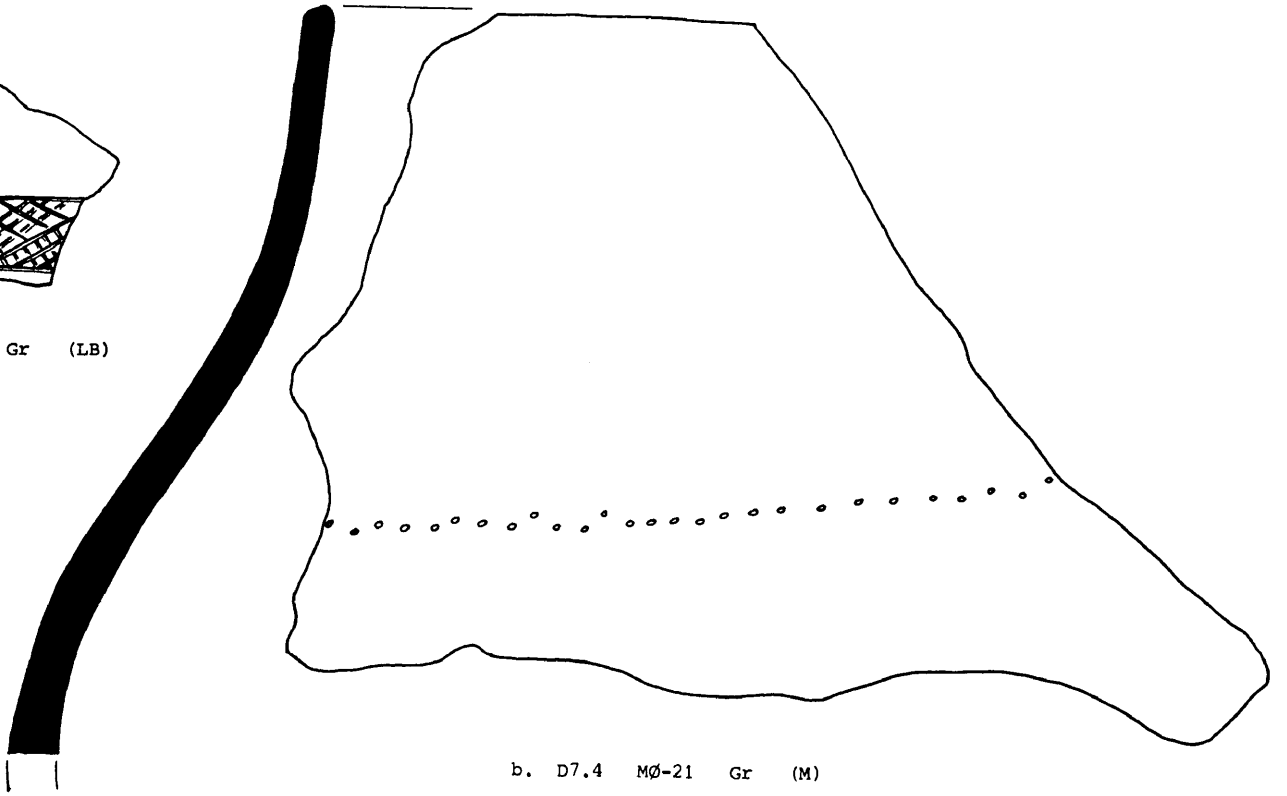
i. D7.4 B1 (B)



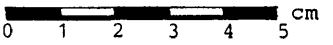
j. D7.4 B1 (B)

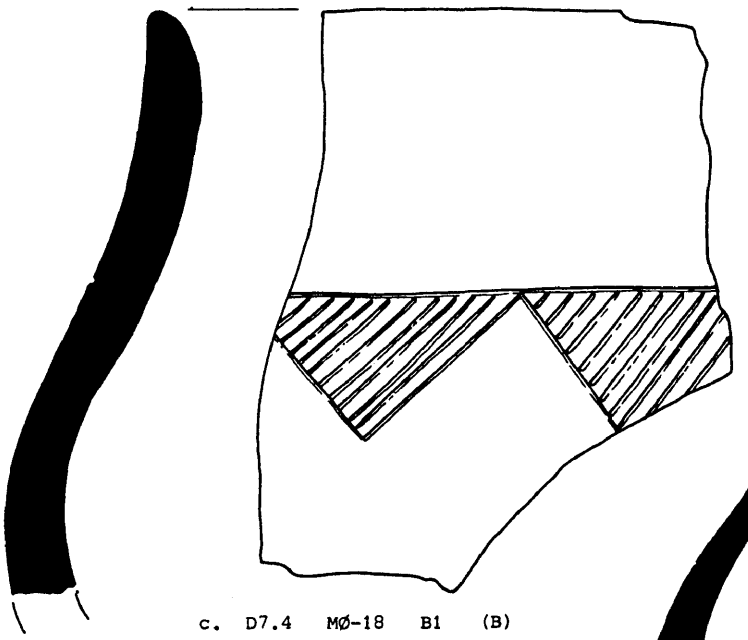


a. D7.4 Gr (LB)

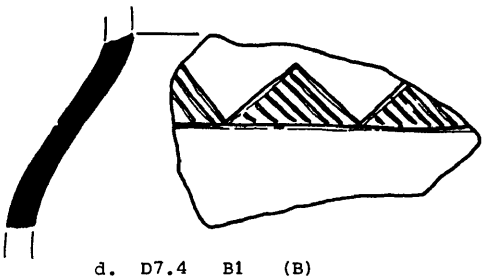


b. D7.4 MØ-21 Gr (M)

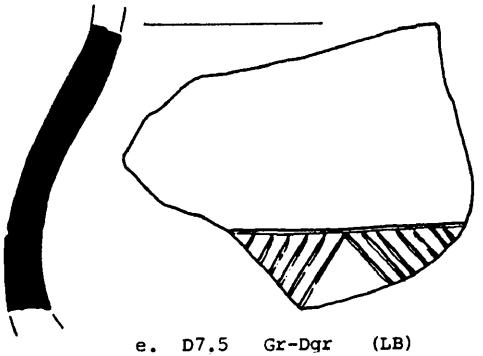




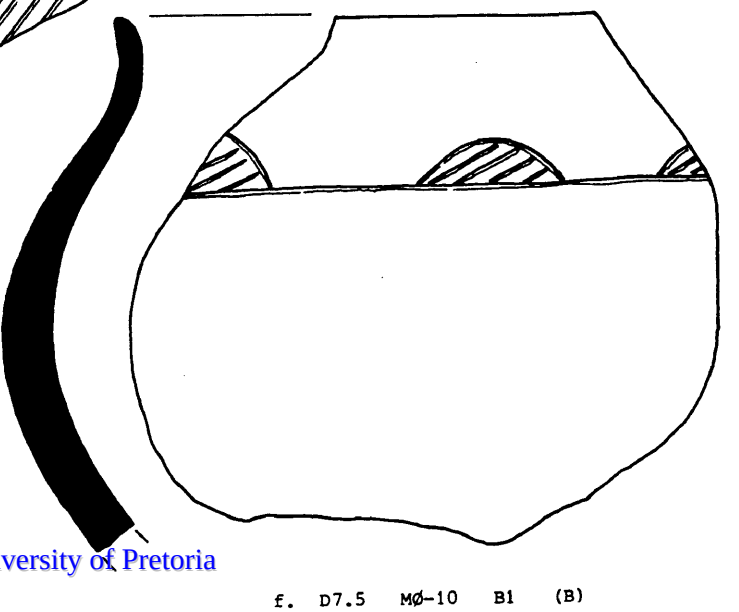
c. D7.4 MØ-18 B1 (B)



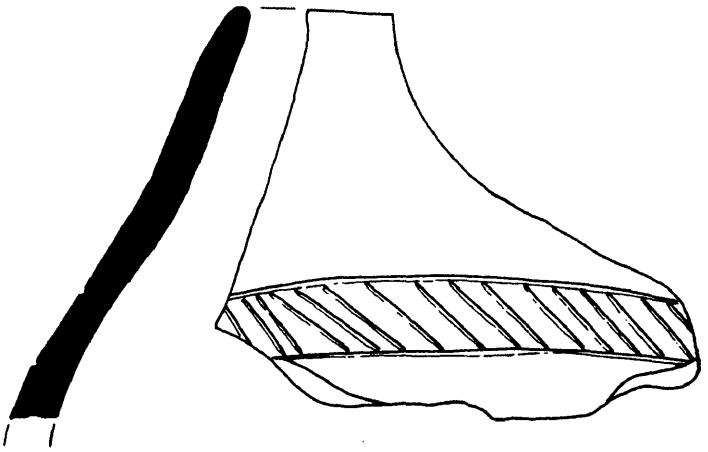
d. D7.4 B1 (B)



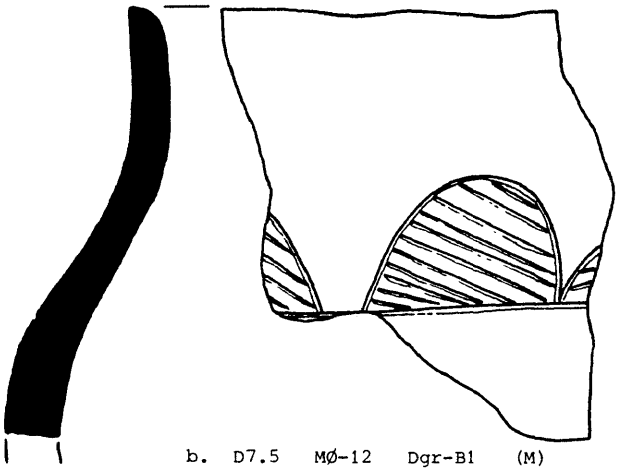
e. D7.5 Gr-Dgr (LB)



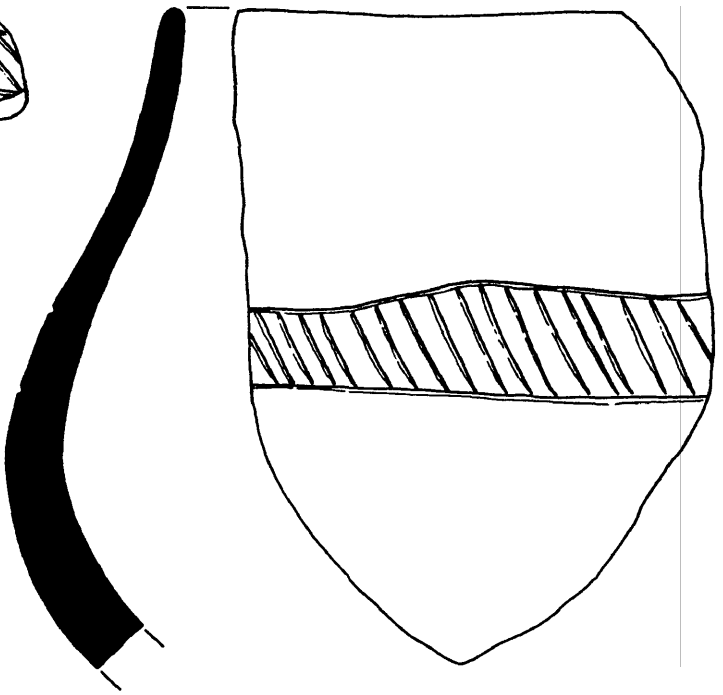
f. D7.5 MØ-10 B1 (B)



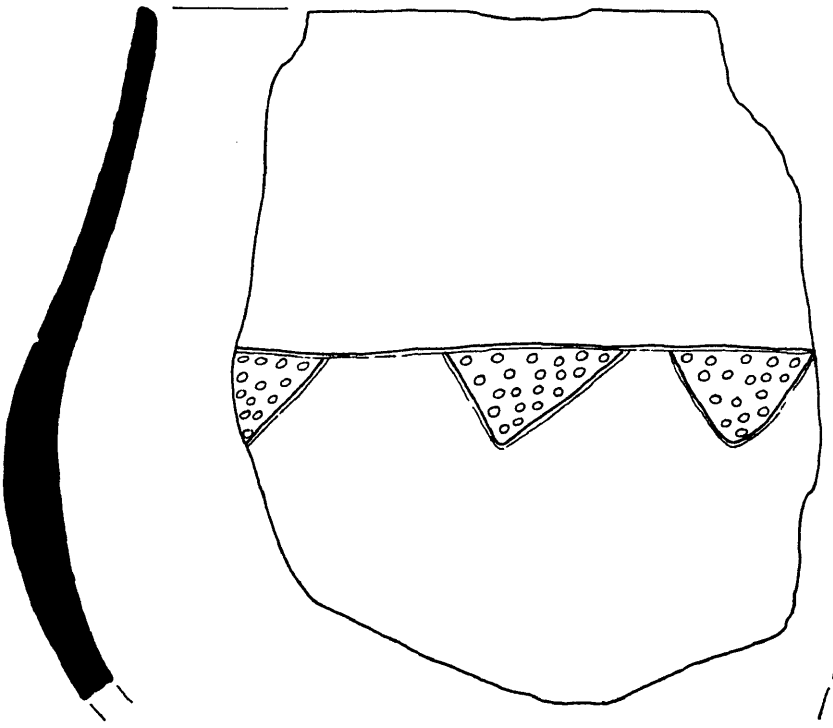
a. D7.5 MØ-9 B1-Gr (B)



b. D7.5 MØ-12 Dgr-B1 (M)

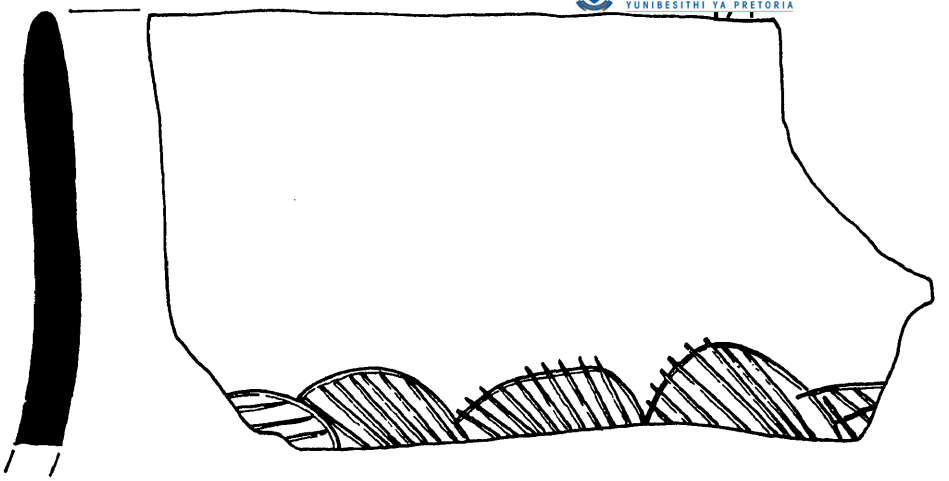


c. D7.5 MØ-13 Bl-Br (B)

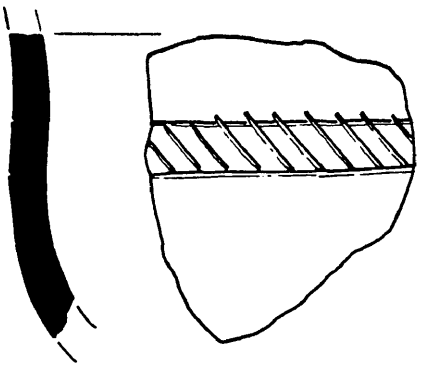


d. D7.5 MØ-16 Gr-B1 V (B)

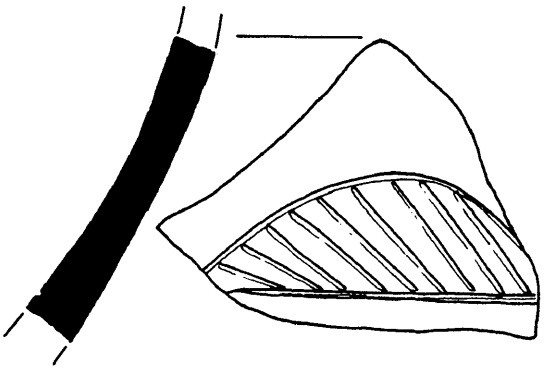
e. D7.5 MØ- Br-Gr (M)



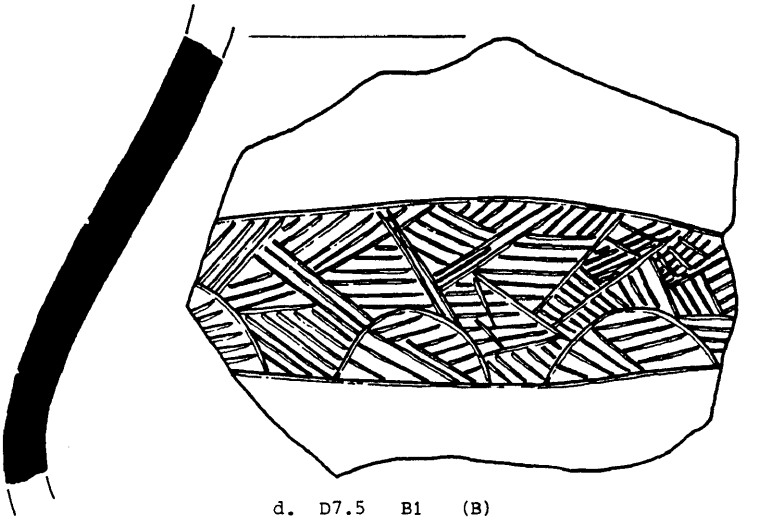
a. D7.5 MØ-18 Br-Gr-Bl (LB)



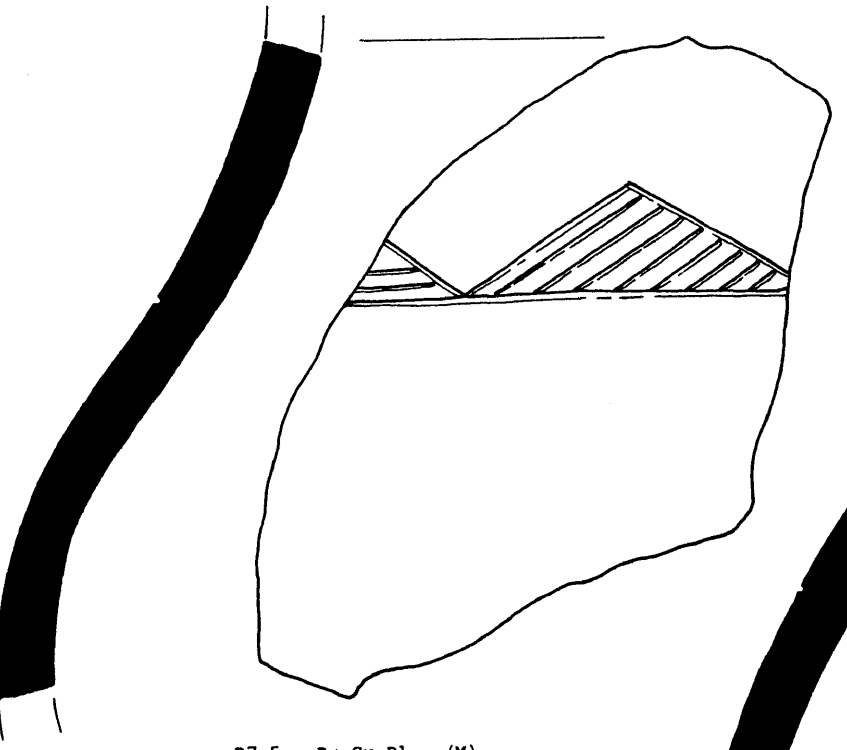
b. D7.5 Dgr (LB)



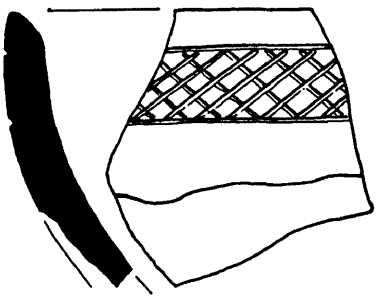
c. D7.5 Dgr (M)



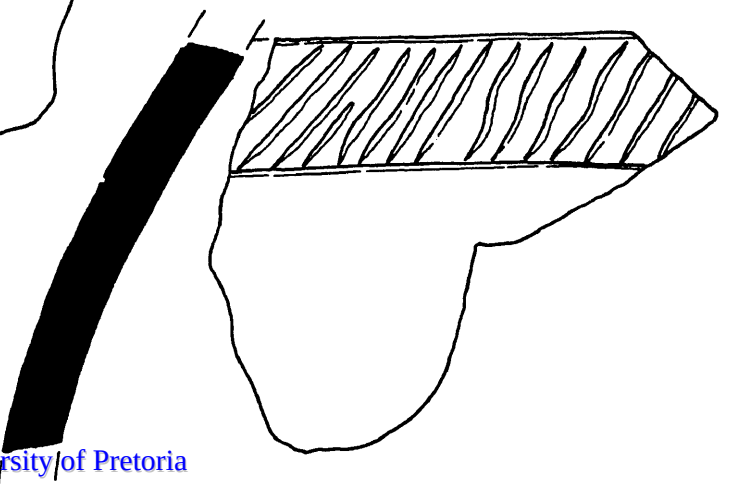
d. D7.5 B1 (B)



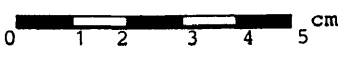
e. D7.5 Br-Gr-Bl (M)

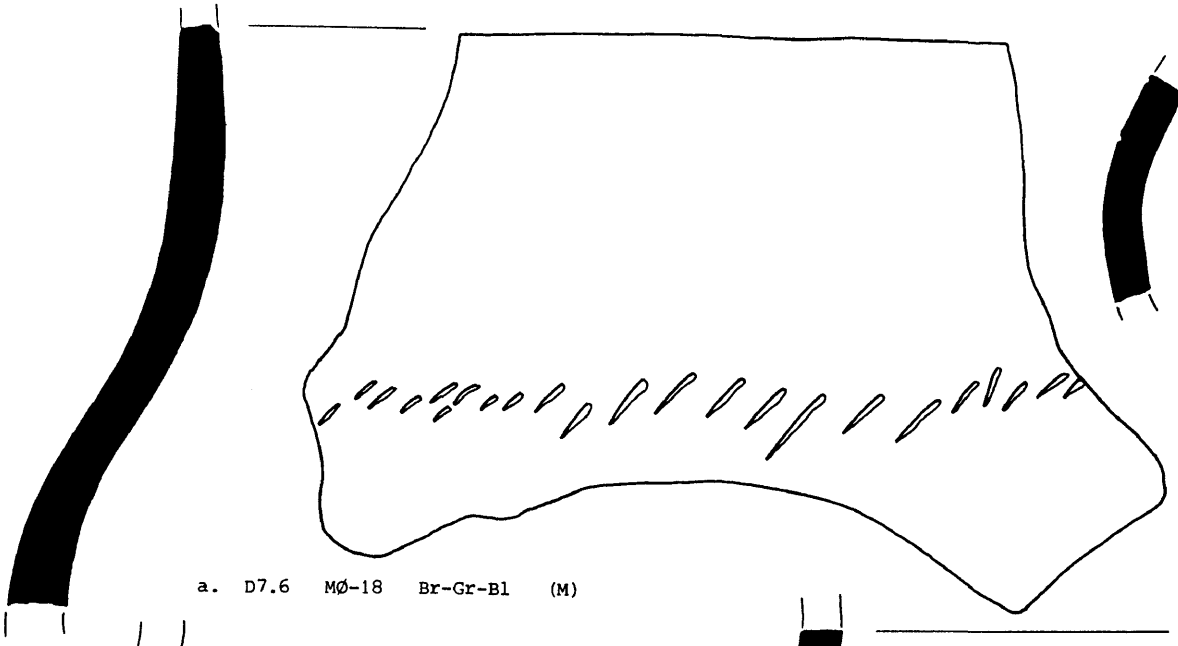


f. D7.5 MØ-22 Gr (LB)

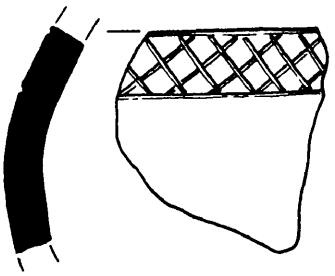


g. D7.5 Br-Gr (M)

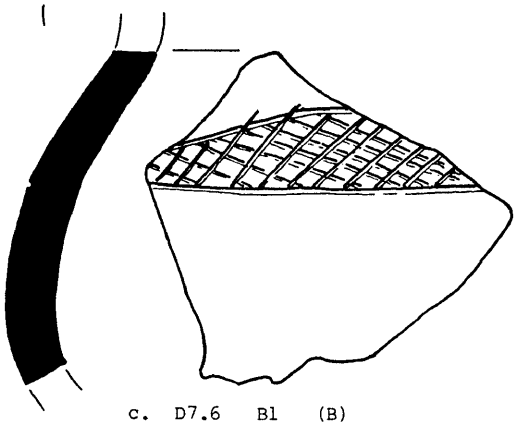




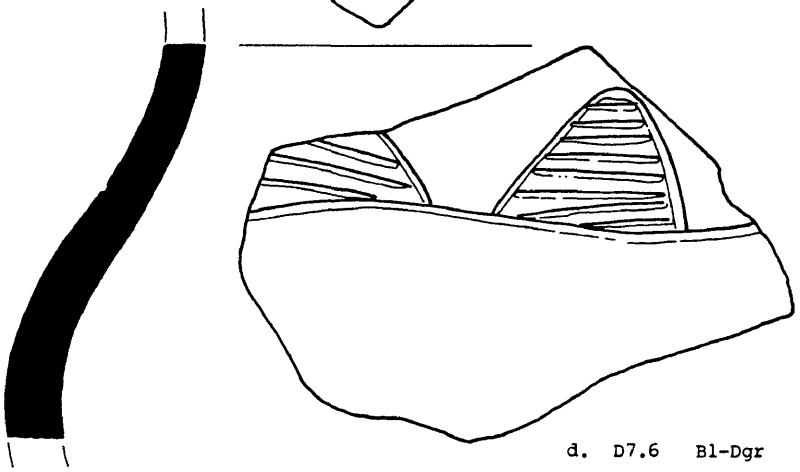
a. D7.6 MØ-18 Br-Gr-Bl (M)



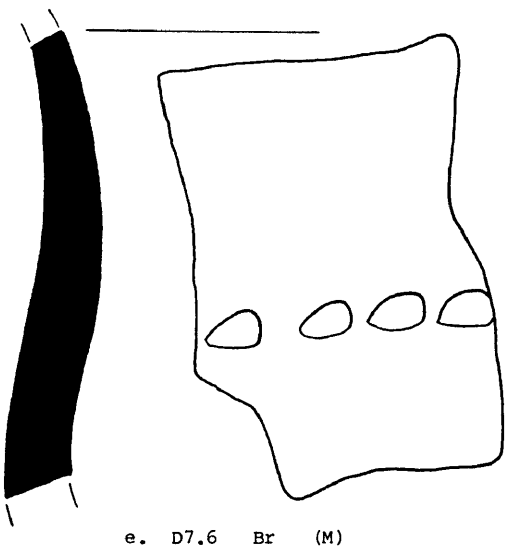
b. D7.6 Gr-Br (B)



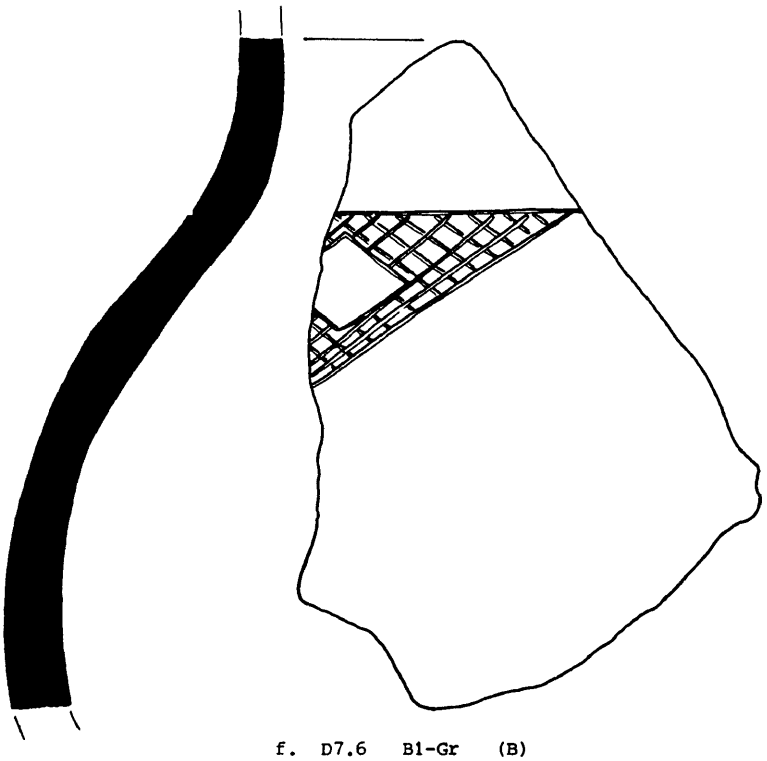
c. D7.6 Bl (B)



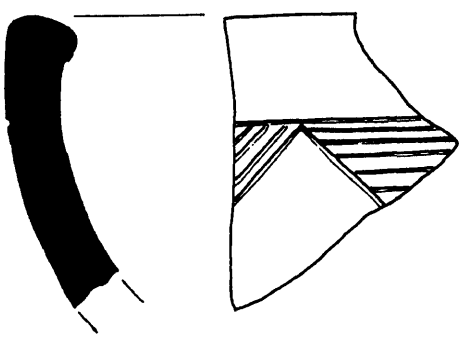
d. D7.6 Bl-Dgr (M



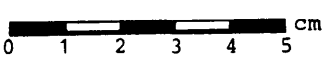
e. D7.6 Br (M)

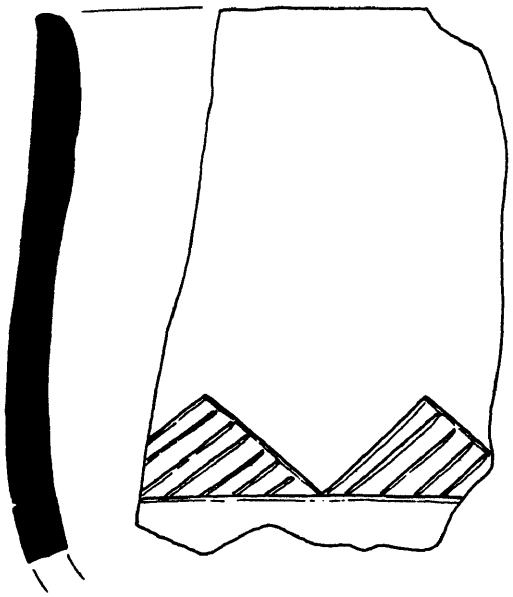


f. D7.6 Bl-Gr (B)

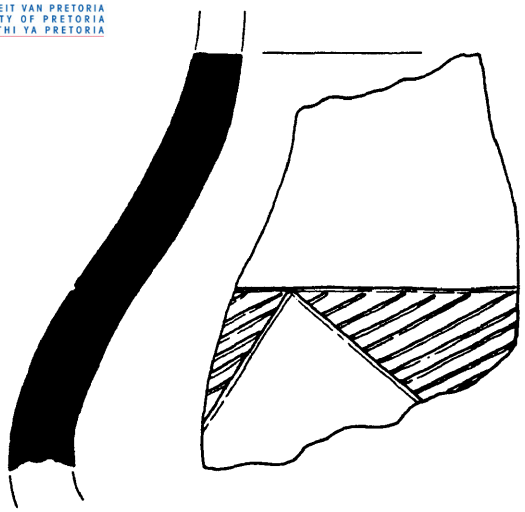


g. D7.6 MØ-+24 Bl-Dgr (B)

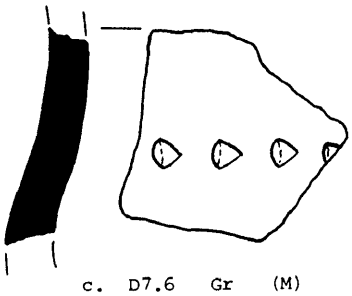




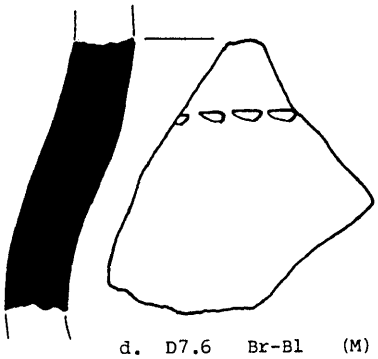
a. D7.6 MØ-24 Bl (B)



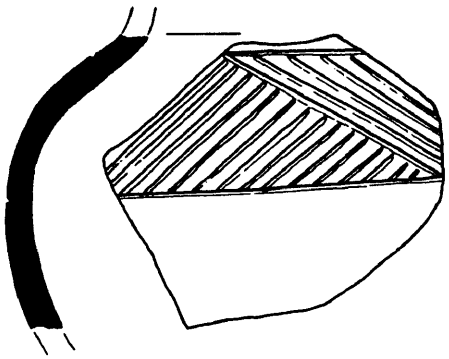
b. D7.6 Dgr-Br (LB)



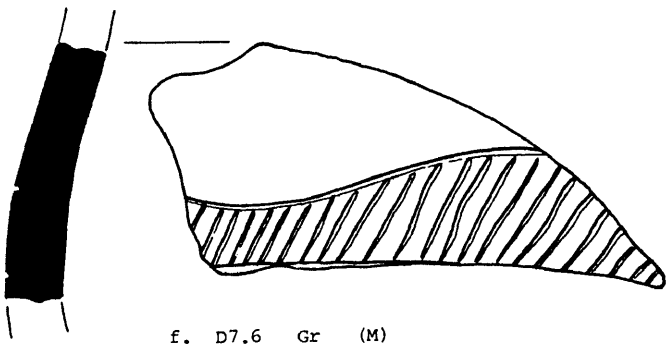
c. D7.6 Gr (M)



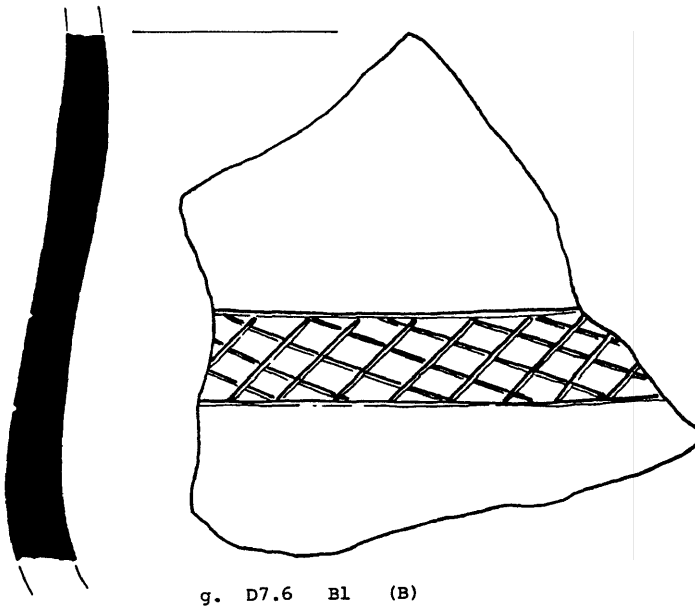
d. D7.6 Br-Bl (M)



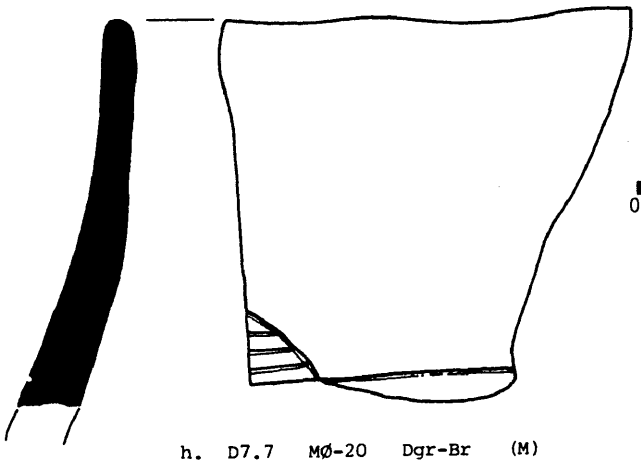
e. D7.6 Bl (B)



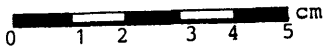
f. D7.6 Gr (M)



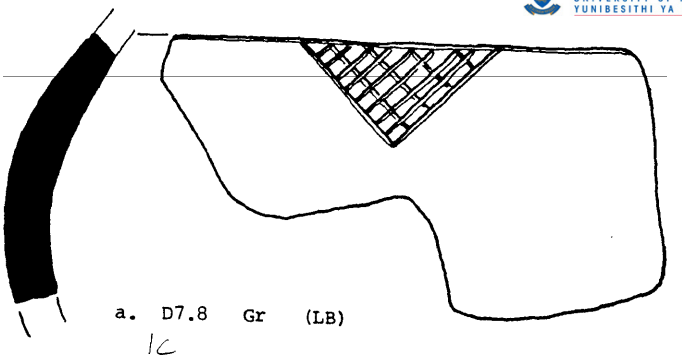
g. D7.6 Bl (B)



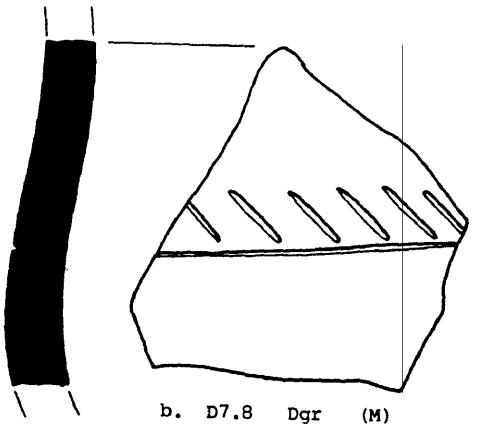
h. D7.7 MØ-20 Dgr-Br (M)



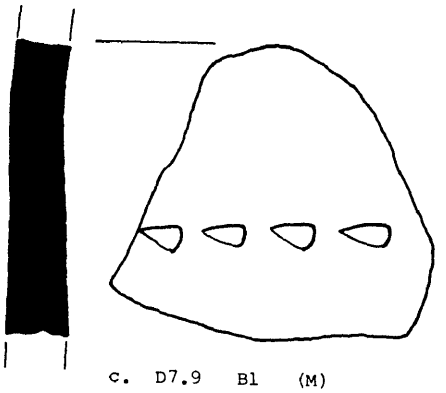
i. D7.7 Dgr (B)



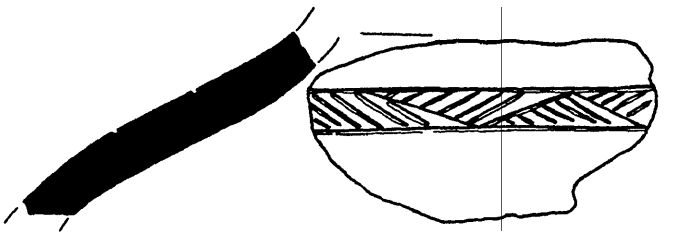
a. D7.8 Gr (LB)



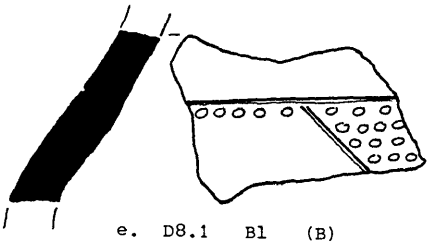
b. D7.8 Dgr (M)



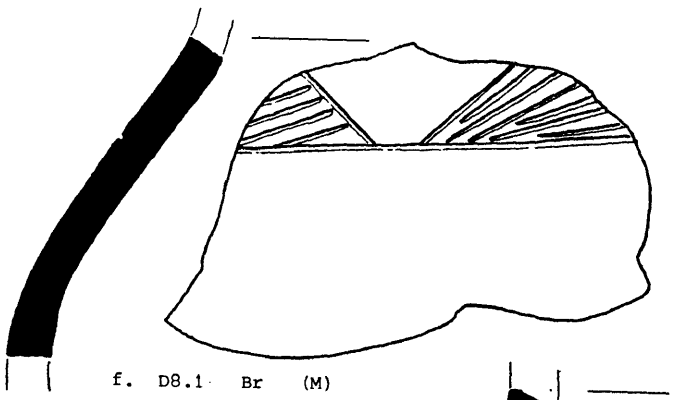
c. D7.9 Bl (M)



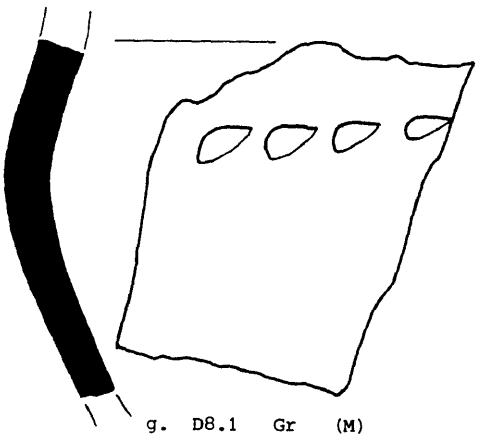
d. D7.8 Bl-Dgr-Br (B)



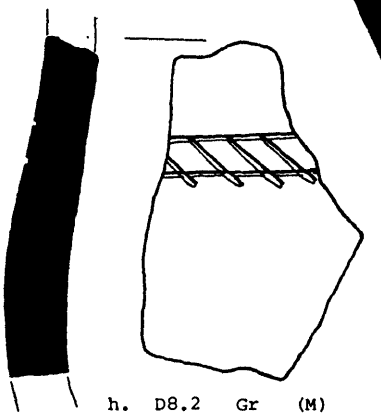
e. D8.1 Bl (B)



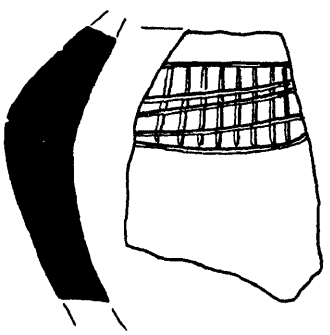
f. D8.1 Br (M)



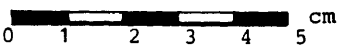
g. D8.1 Gr (M)

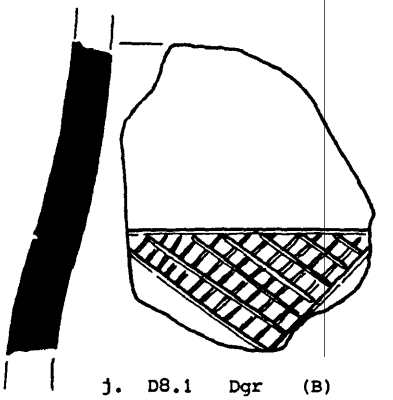


h. D8.2 Gr (M)

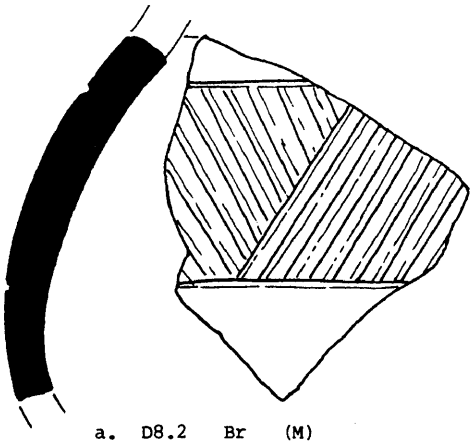


i. D8.2 Lgr-Gr (M)

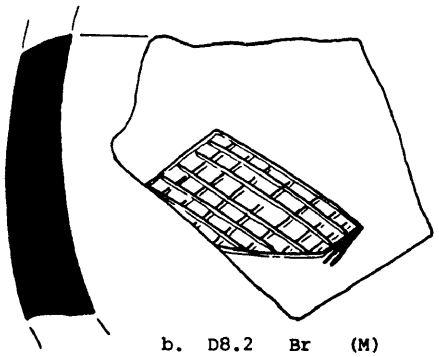




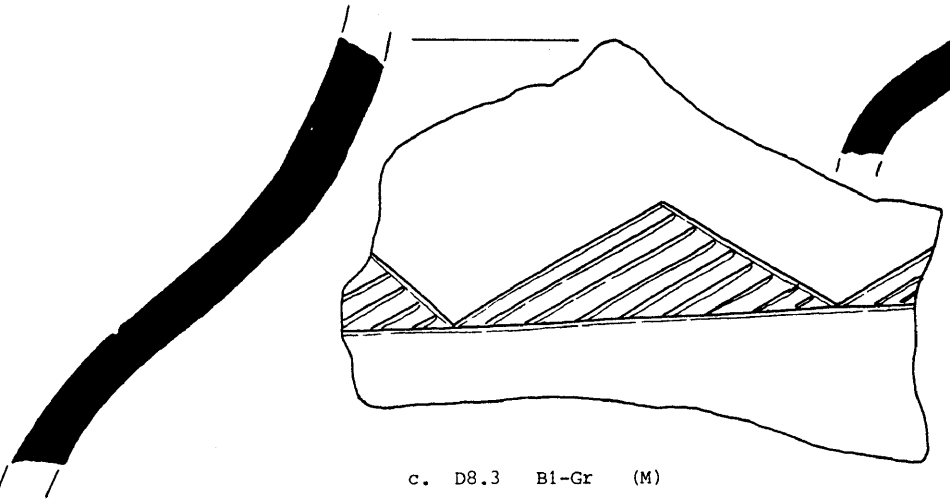
j. D8.1 Dgr (B)



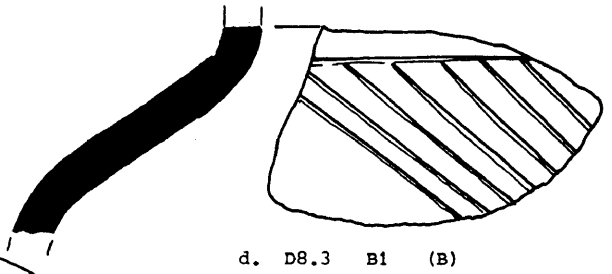
a. D8.2 Br (M)



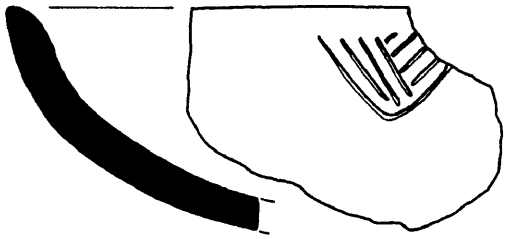
b. D8.2 Br (M)



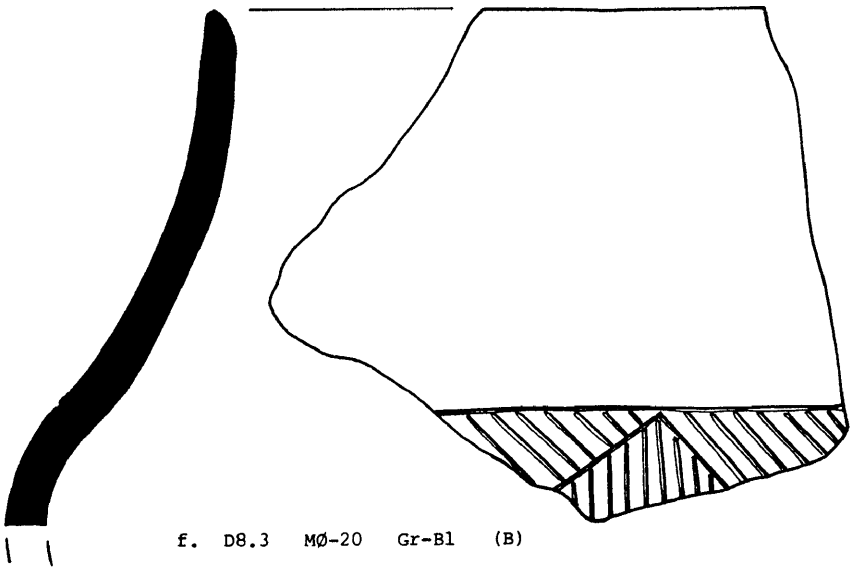
c. D8.3 B1-Gr (M)



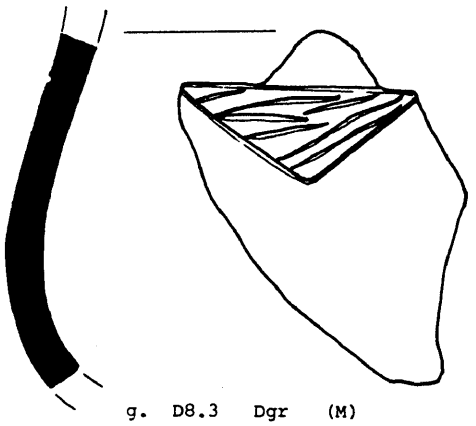
d. D8.3 B1 (B)



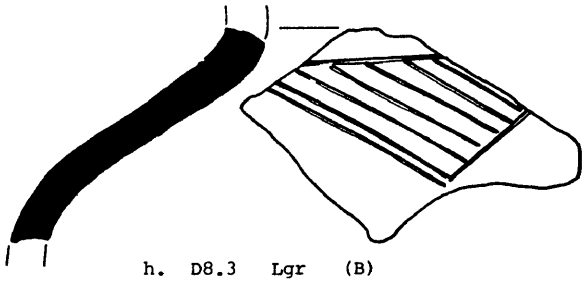
e. D8.3 MØ-16 Dgr (B)



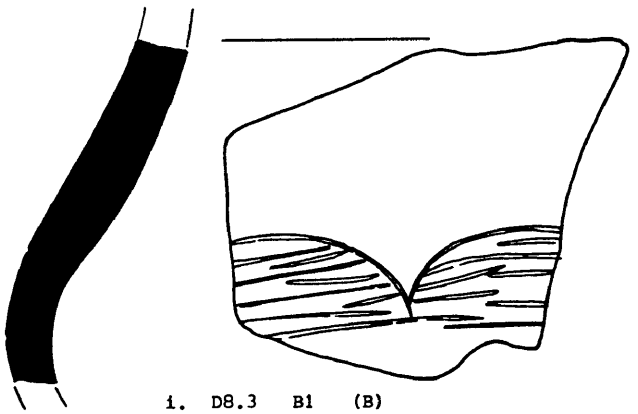
f. D8.3 MØ-20 Gr-B1 (B)



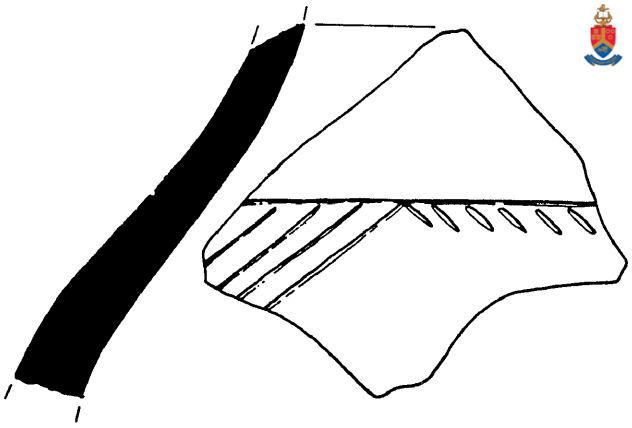
g. D8.3 Dgr (M)



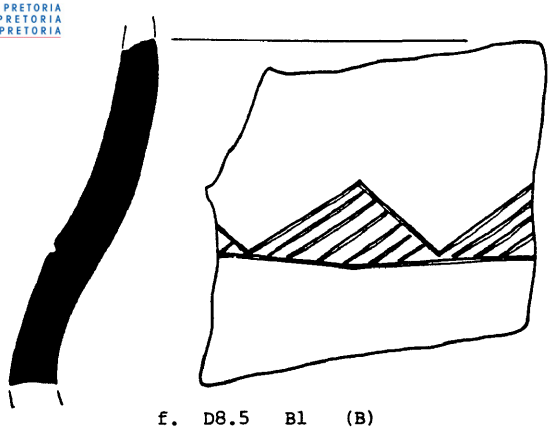
h. D8.3 Lgr (B)



i. D8.3 B1 (B)

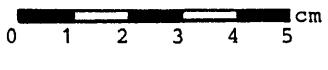


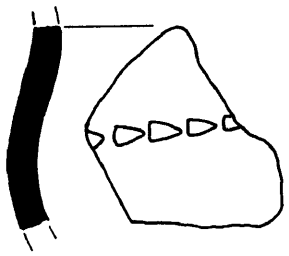
e. D8.5 Bl (LB)



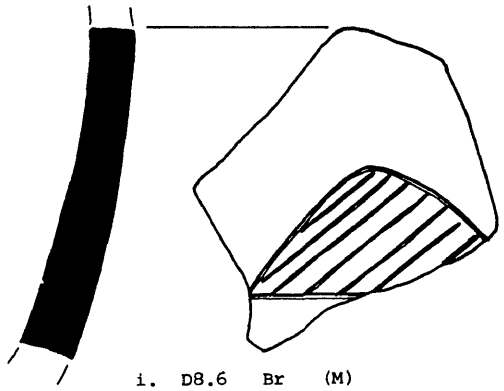
f. D8.5 Bl (B)

g. D8.6 Gr-Dgr (M)

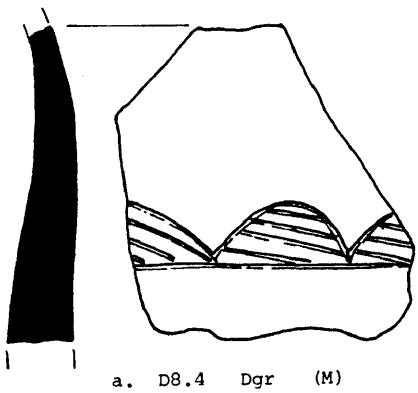




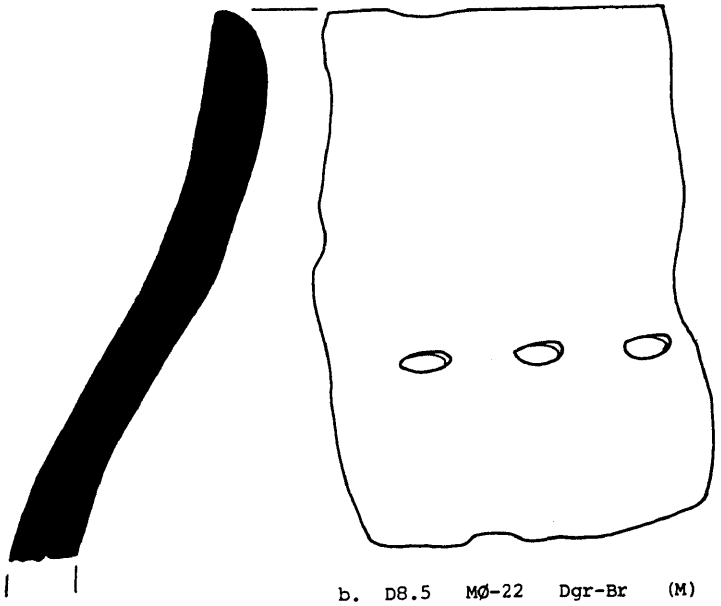
h. D8.6 Br-Gr (M)



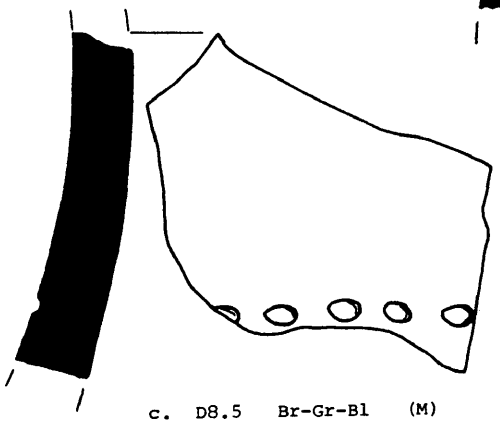
i. D8.6 Br (M)



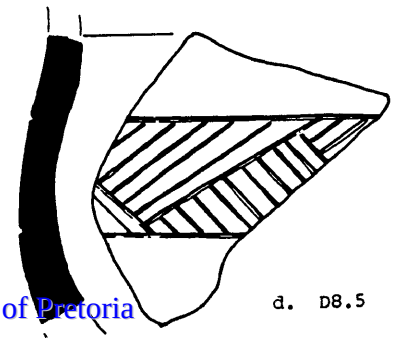
a. D8.4 Dgr (M)



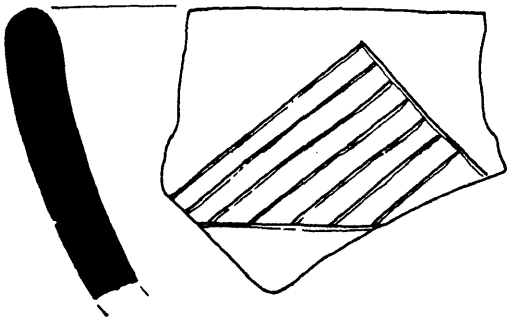
b. D8.5 MØ-22 Dgr-Br (M)



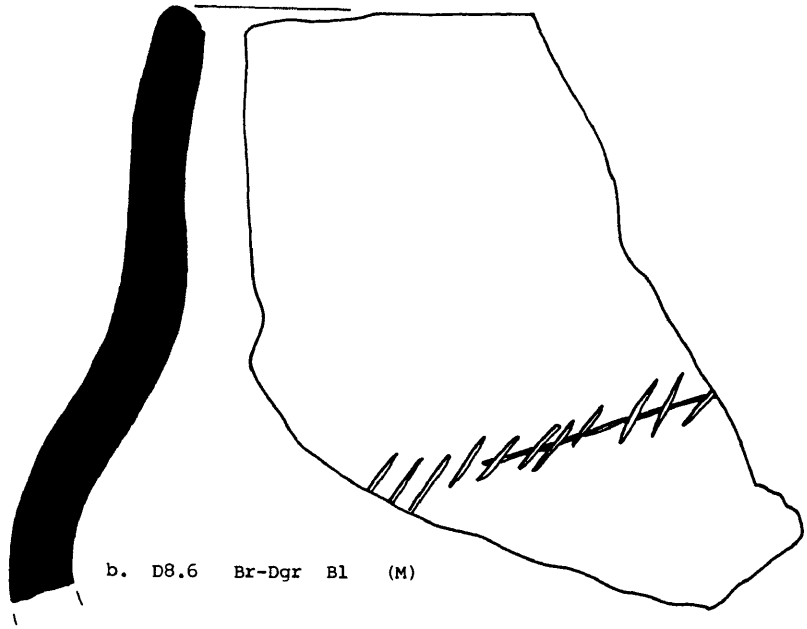
c. D8.5 Br-Gr-Bl (M)



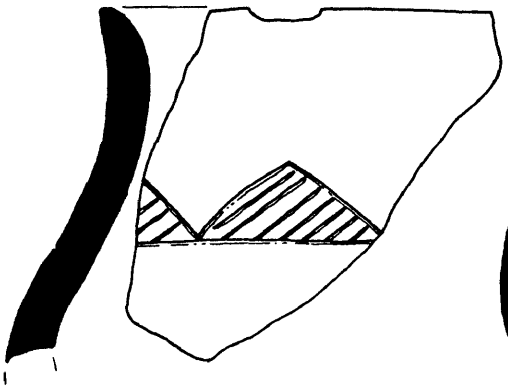
d. D8.5 Bl (B)



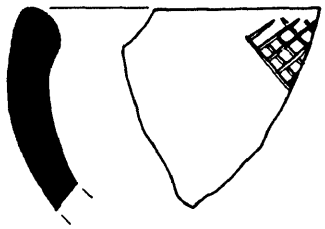
a. D8.6 MØ-36 Bl (B)



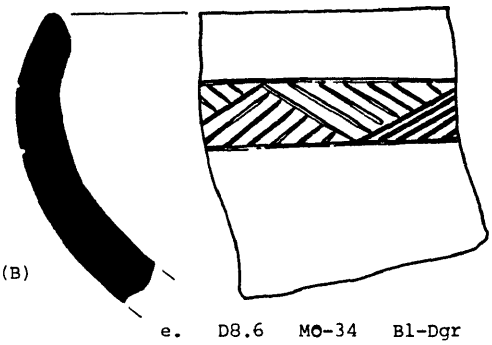
b. D8.6 Br-Dgr Bl (M)



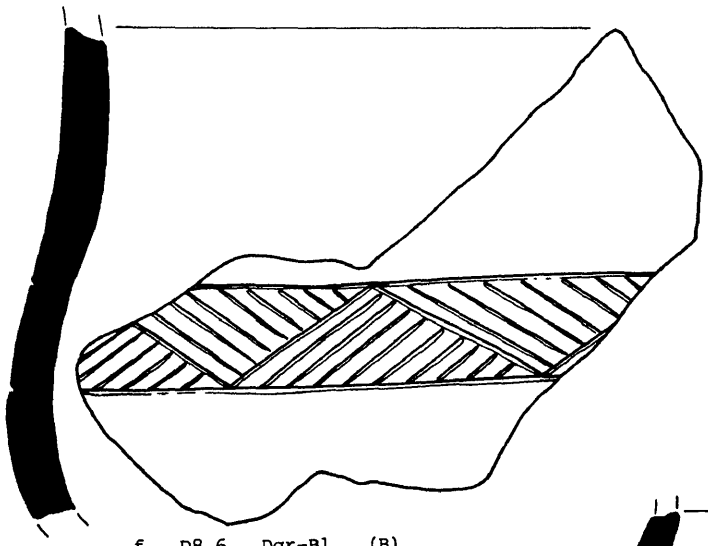
c. D8.6 MØ-12 Dgr-Bl (M)



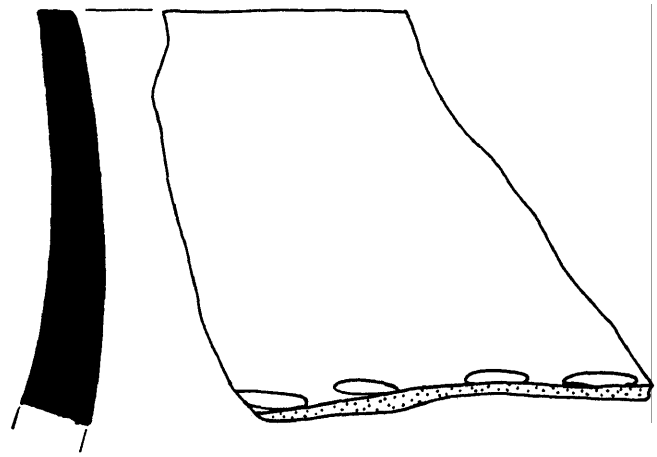
d. D8.6 MØ-24 Bl (B)



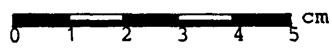
e. D8.6 MØ-34 Bl-Dgr (B)

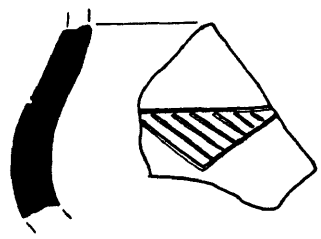


f. D8.6 Dgr-Bl (B)

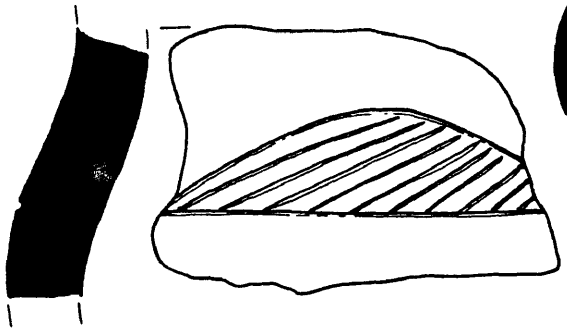


g. D8.6 MØ-28 Br (M)

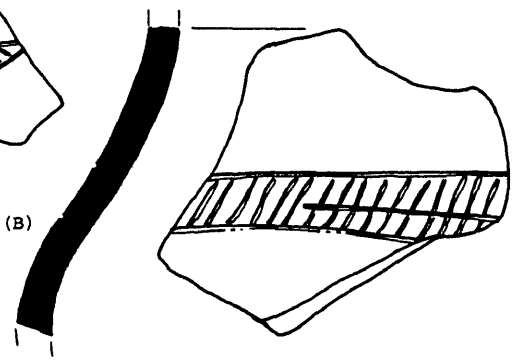




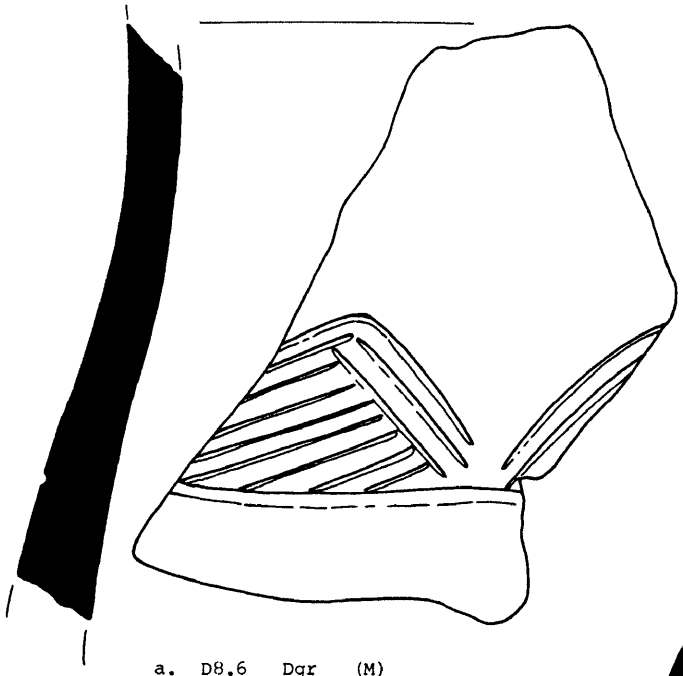
i. D8.6 Dgr (B)



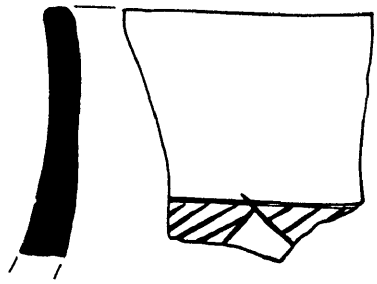
h. D8.6 Br-Dgr (M)



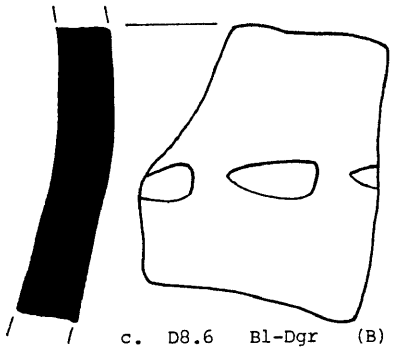
j. D8.6 Dgr (LB)



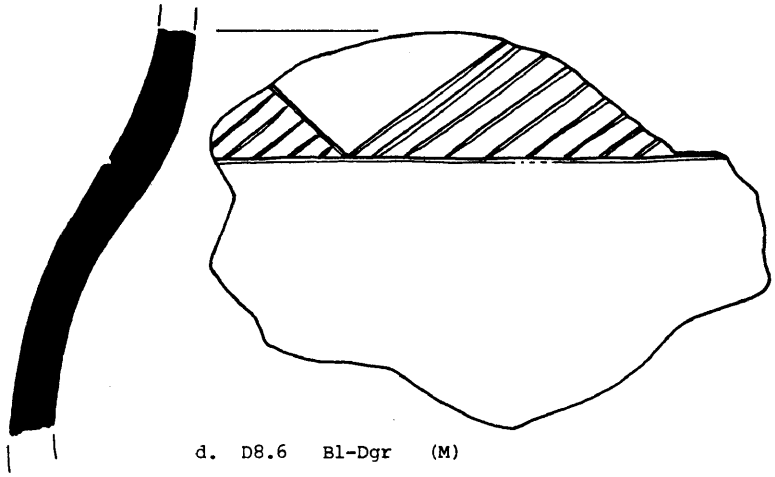
a. D8.6 Dgr (M)



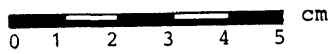
b. D8.6 MØ-9 Dgr (B)

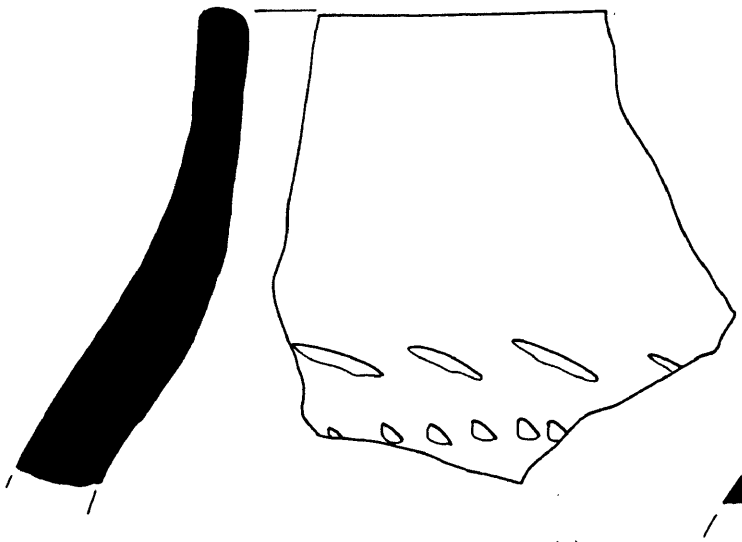


c. D8.6 Bl-Dgr (B)

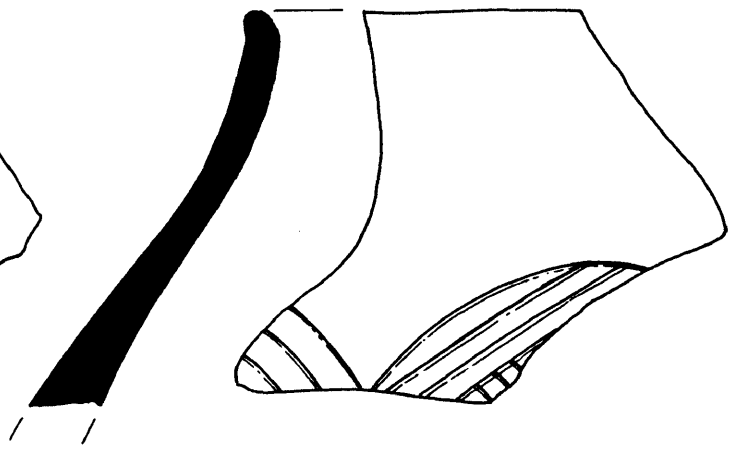


d. D8.6 Bl-Dgr (M)

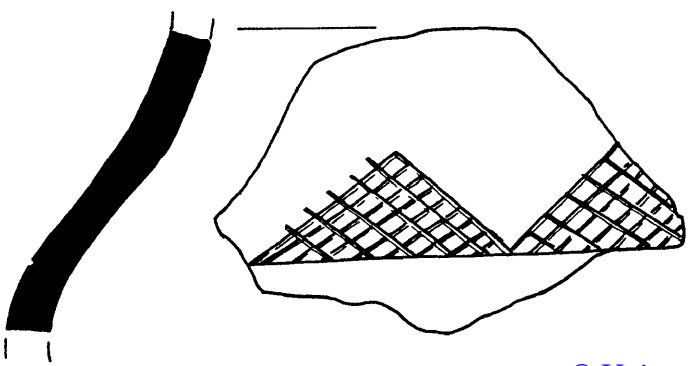




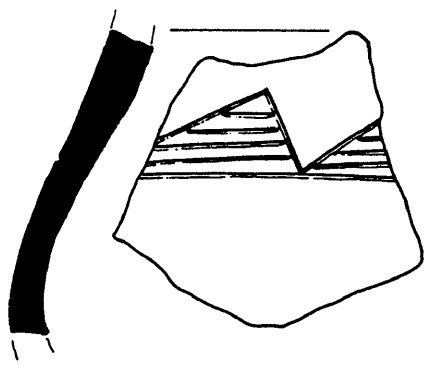
e. D8.6 MØ-20 Br-Gr-Lgr (M)



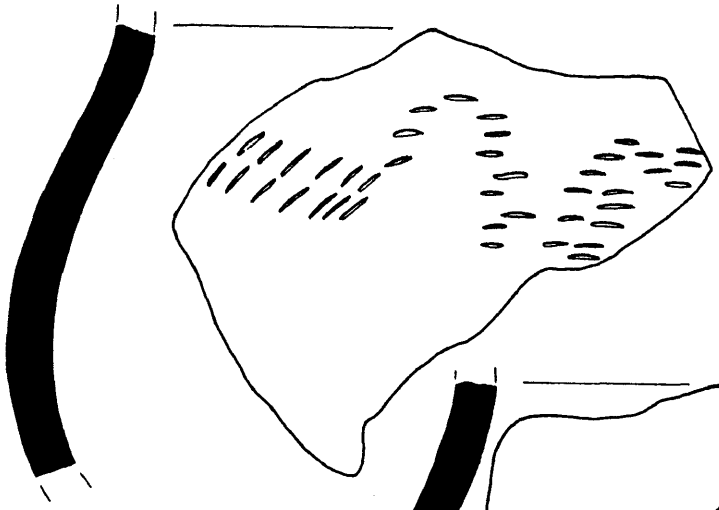
f. D8.6 MØ-22 Br-Gr-Bl (M)



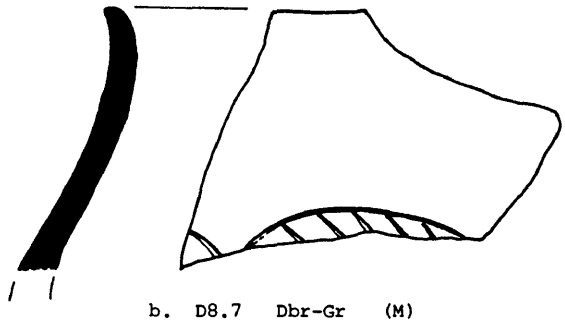
g. D8.6 Bl-Dgr (B)



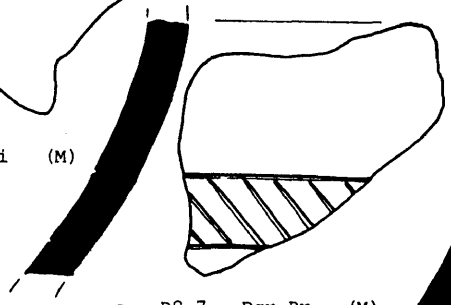
h. D8.7 Br-Bl (M)



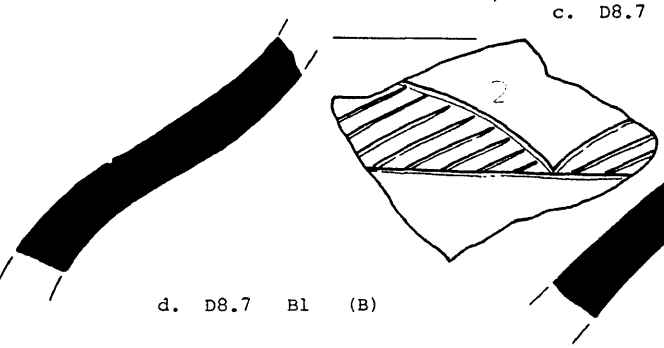
a. D8.7 Br-Dgr-Bi (M)



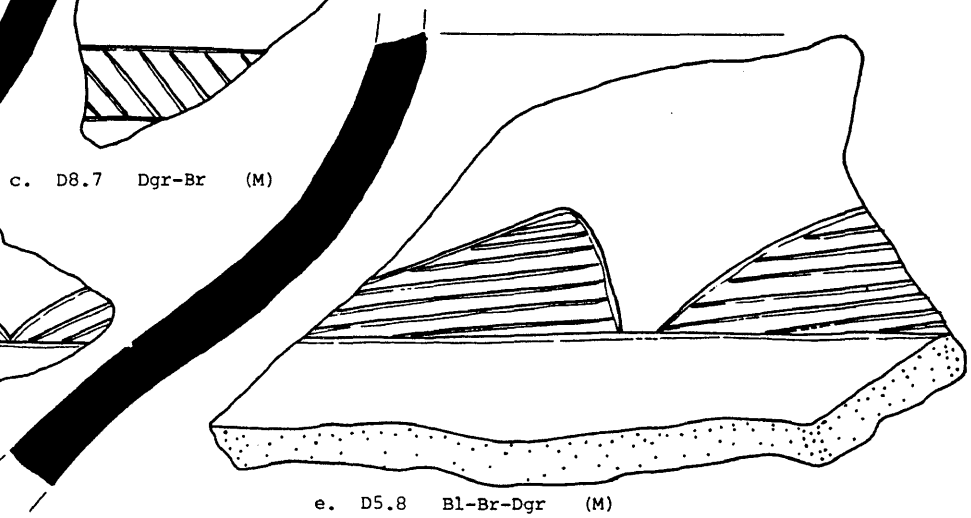
b. D8.7 Dbr-Gr (M)



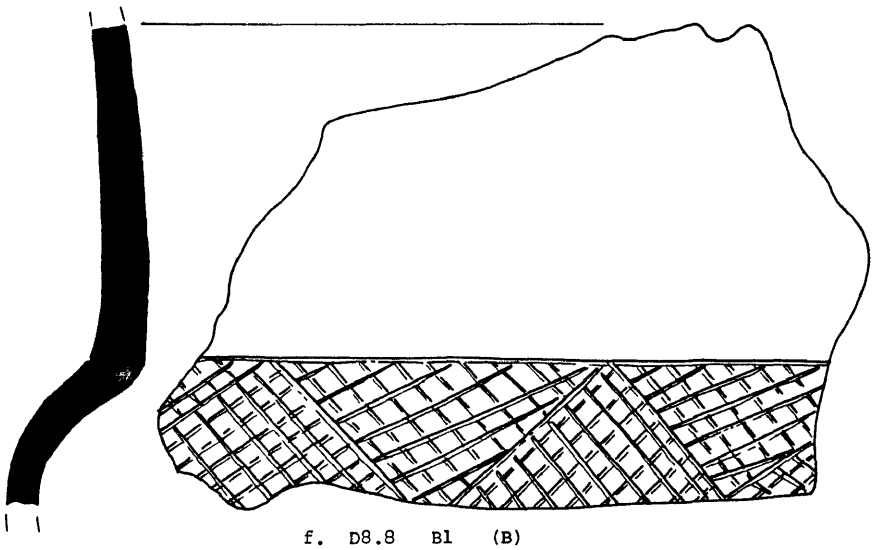
c. D8.7 Dgr-Br (M)



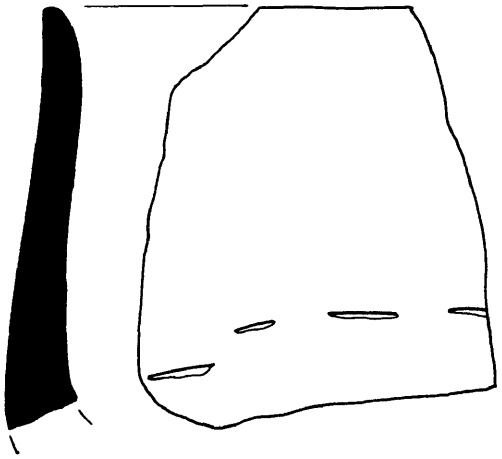
d. D8.7 Bl (B)



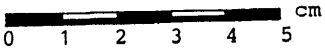
e. D5.8 Bl-Br-Dgr (M)

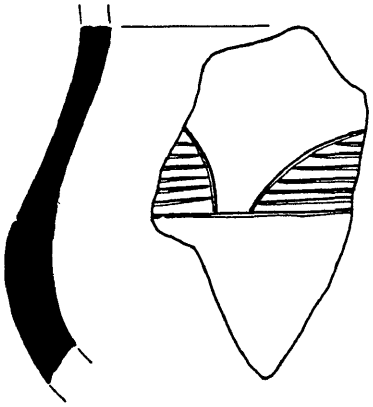


f. D8.8 Bl (B)

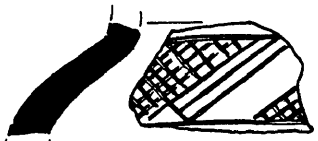


g. D8.8 MØ-26 Br-Gr (M)

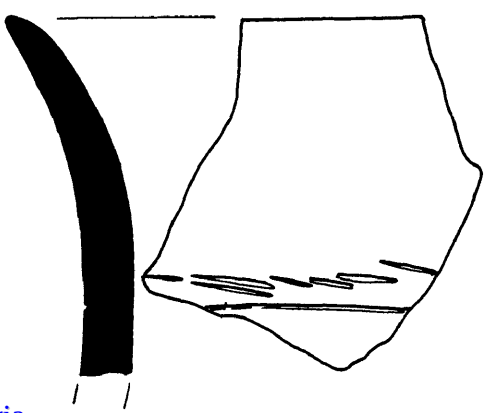




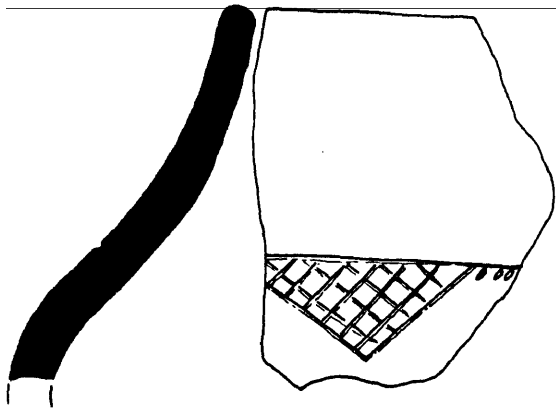
h. D8.9 Bl (B)



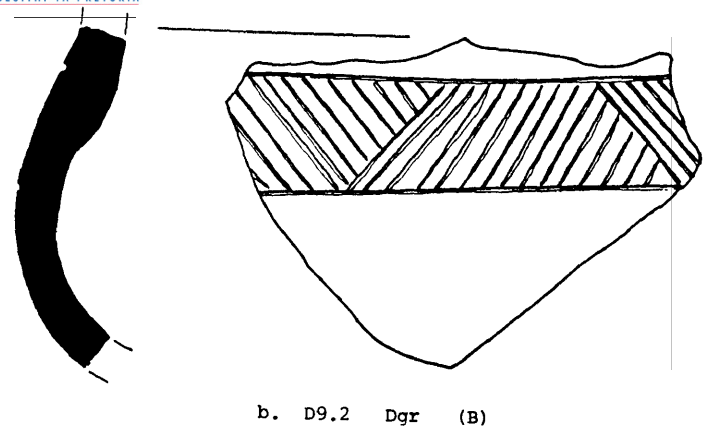
i. D9.1 Dgr (B)



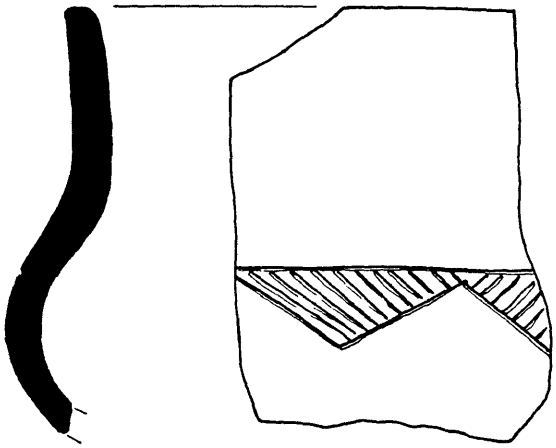
j. D9.1 MØ-14 Br-Gr (M)



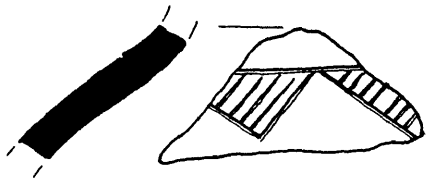
a. D9.2 MØ-15 Bl (B)



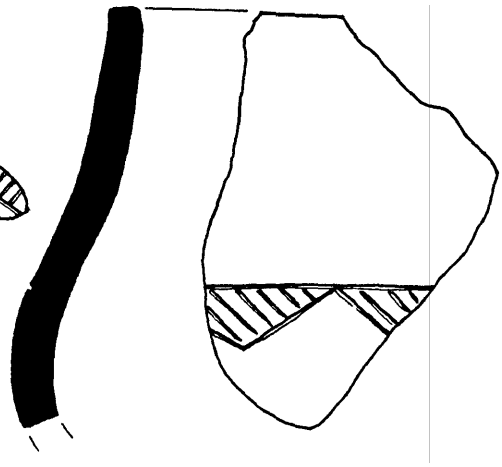
b. D9.2 Dgr (B)



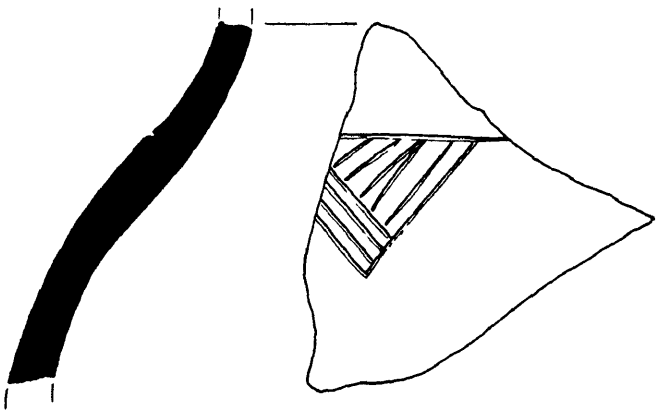
c. D9.2 MØ-10 Bl (B)



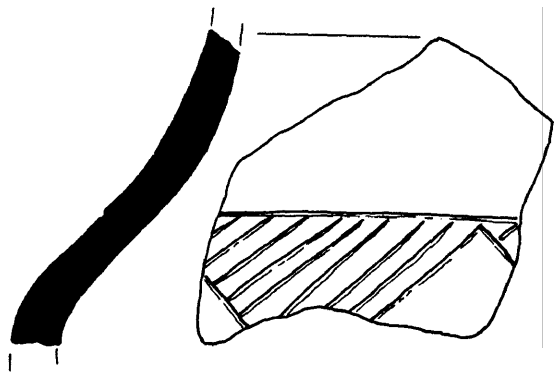
d. D9.2 Dgr (LB)



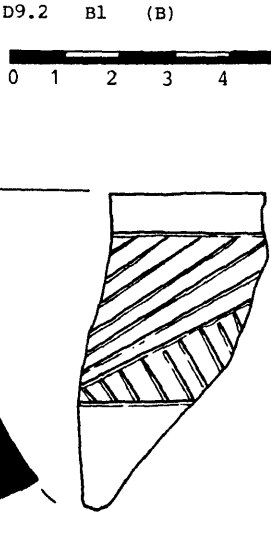
e. D9.2 MØ-10 Dgr (M)



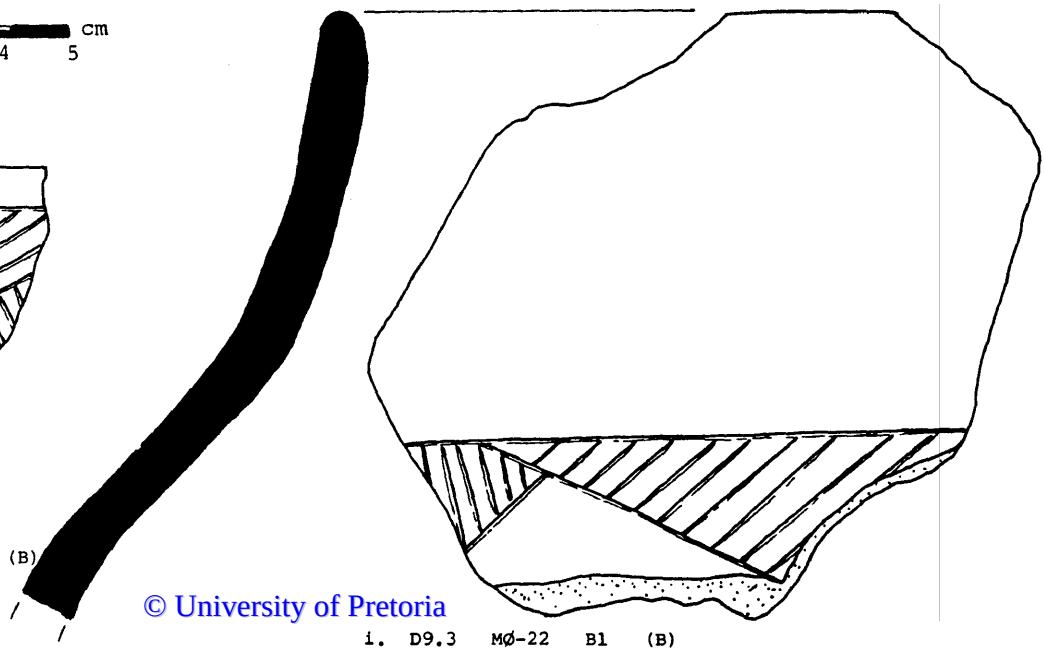
f. D9.2 Bl (B)



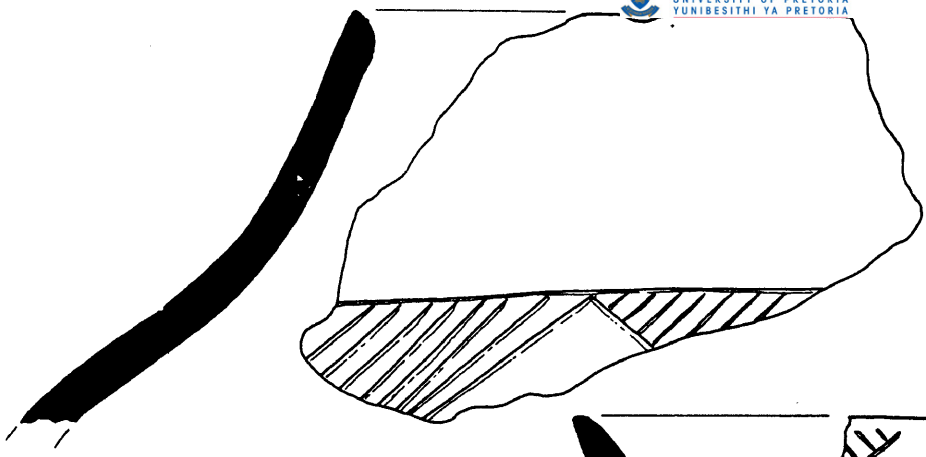
g. D9.2 Bl (B)



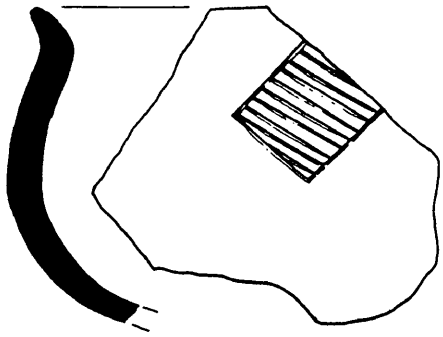
h. D9.2 MØ-24 Bl-Gr (B)



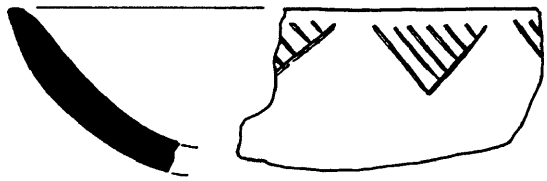
i. D9.3 MØ-22 Bl (B)



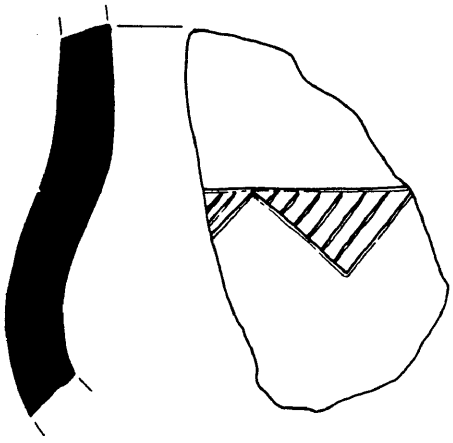
a. D9.3 Bl-Gr (B)



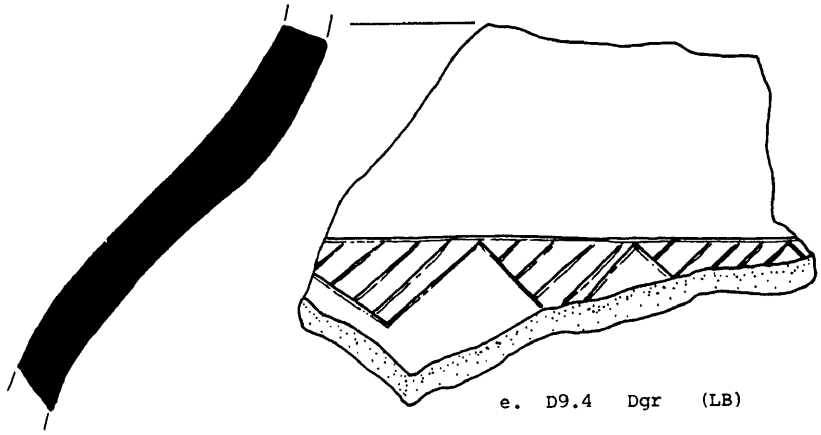
b. D9.3 Bl (B)



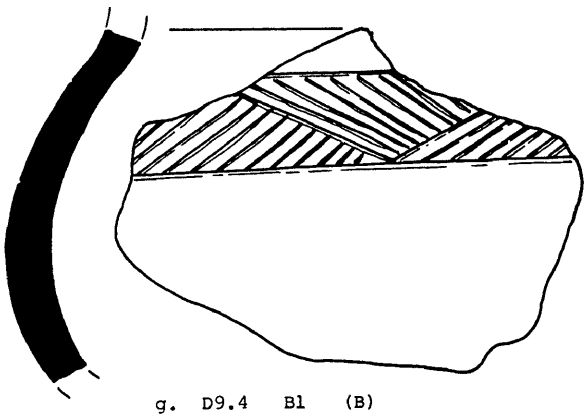
c. D9.3 MØ-14 Bl (LB)



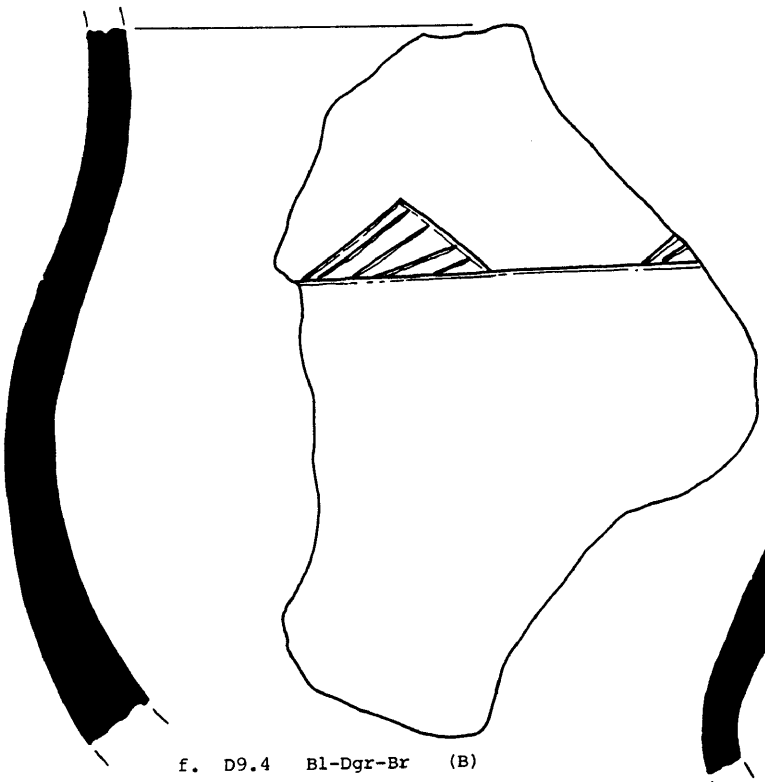
d. D9.4 Gr-Dgr (B)



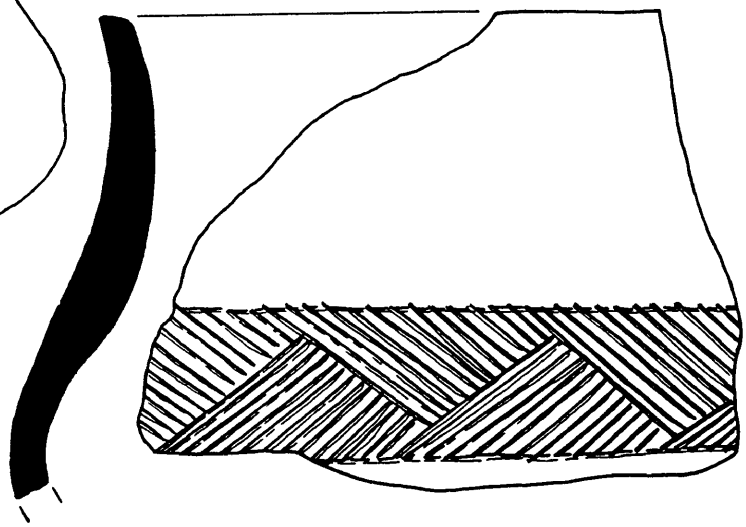
e. D9.4 Dgr (LB)



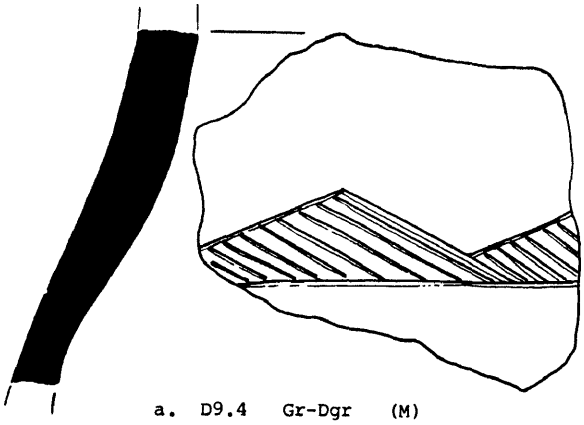
g. D9.4 Bl (B)



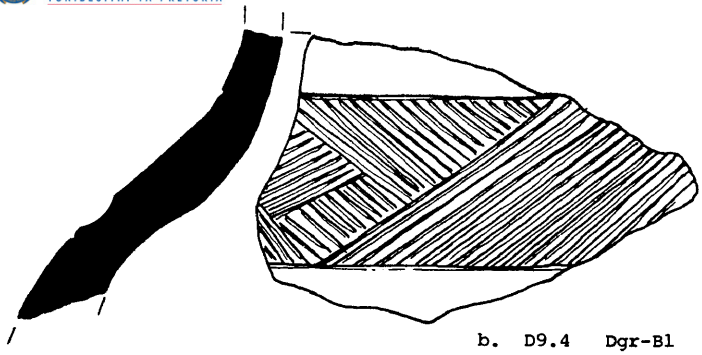
f. D9.4 Bl-Dgr-Br (B)



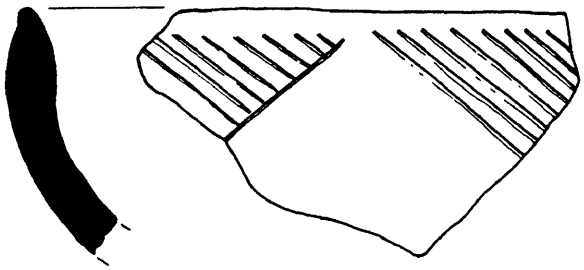
h. D9.4 MØ-20 Bl (B)



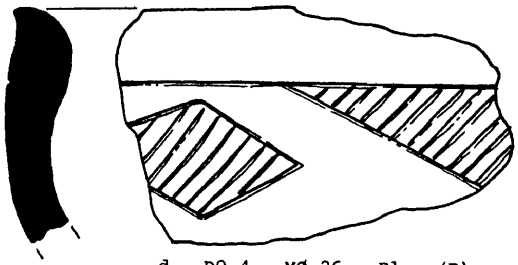
a. D9.4 Gr-Dgr (M)



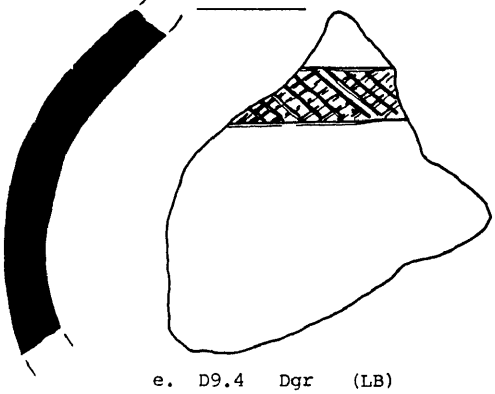
b. D9.4 Dgr-Bl (B)



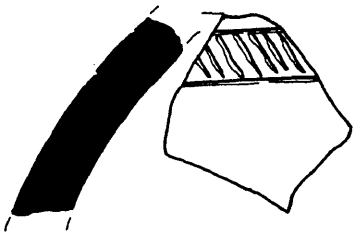
c. D9.4 MØ-28 Bl (B)



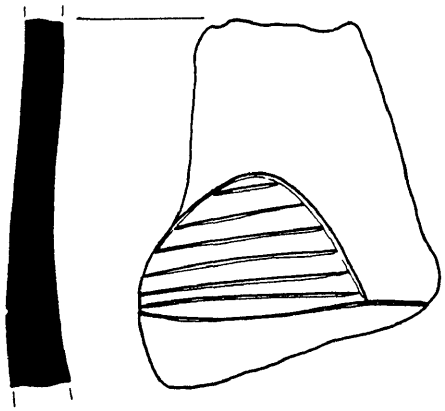
d. D9.4 MØ-26 Bl (B)



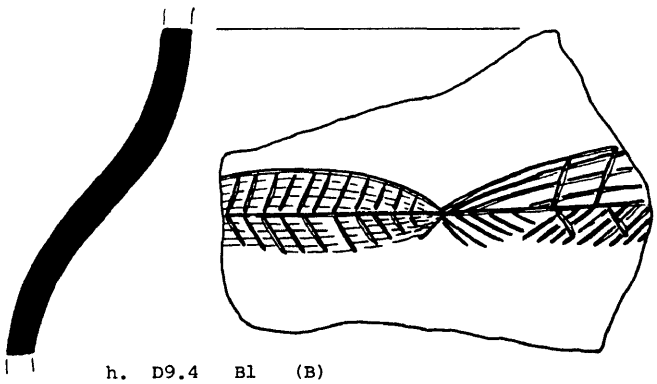
e. D9.4 Dgr (LB)



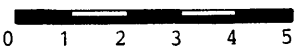
f. D9.4 Br (M)

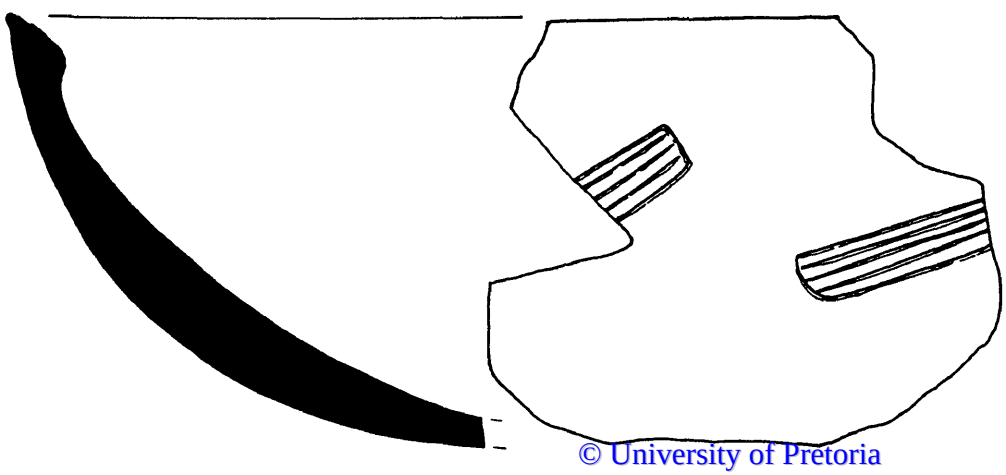


g. D9.6 Gr-Br (LB)

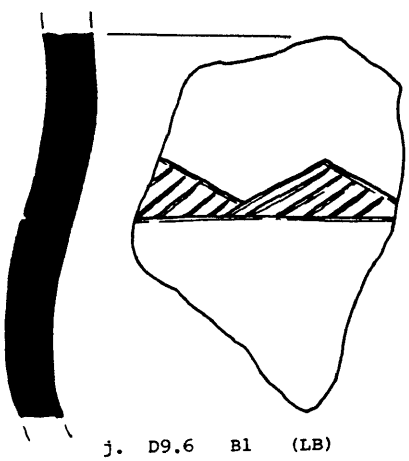


h. D9.4 Bl (B)

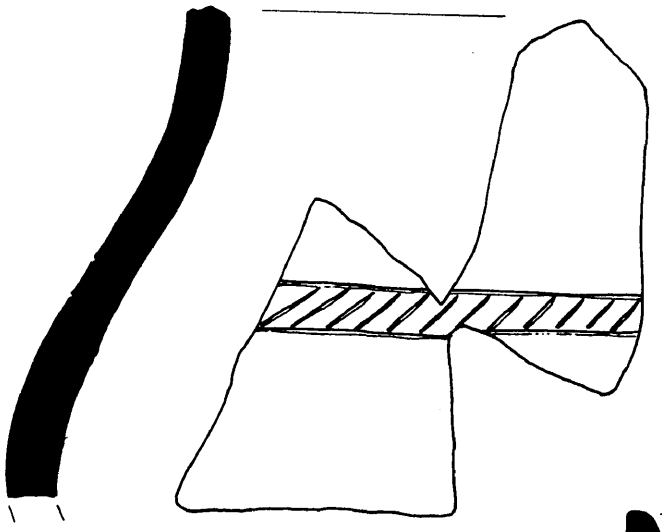




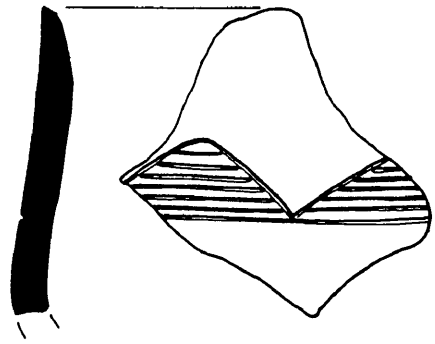
i. D9.4 MØ-32 Dgr-Bl (B)



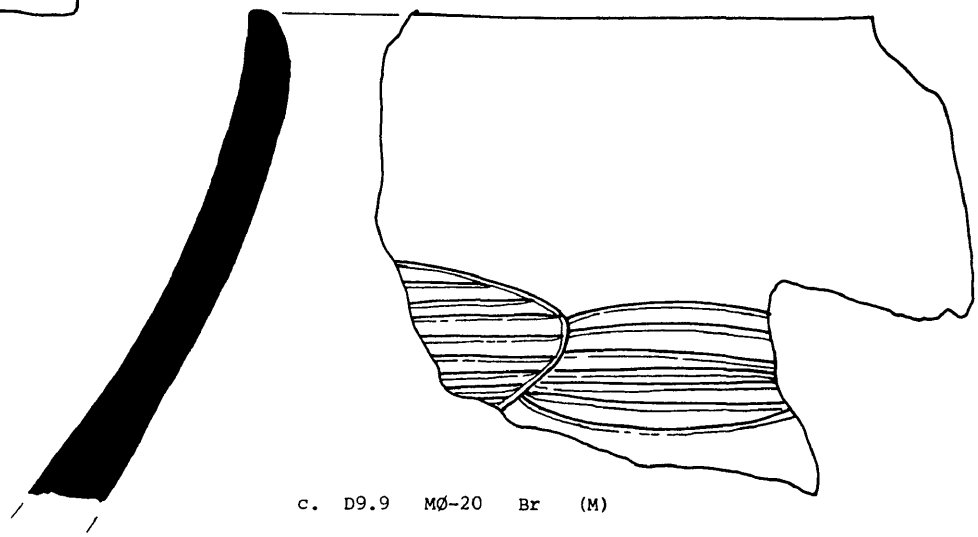
j. D9.6 Bl (LB)



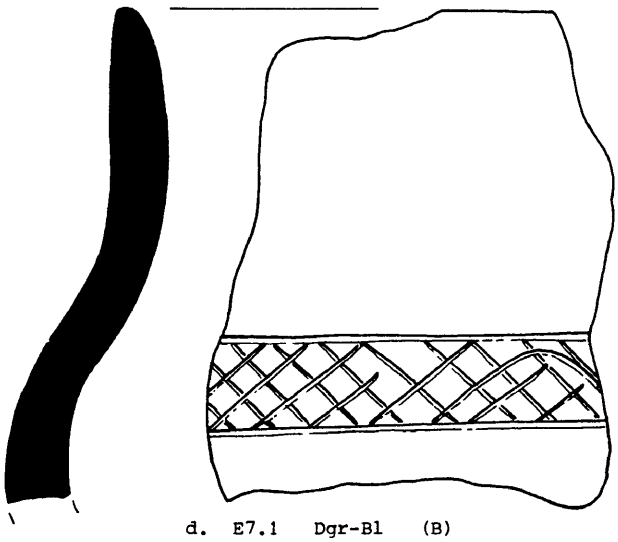
a. D9.9 Dgr (M)



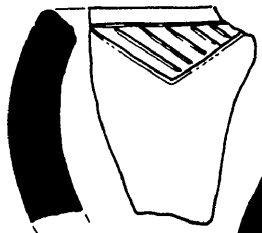
b. D9.6 Bl-Dgr (M)



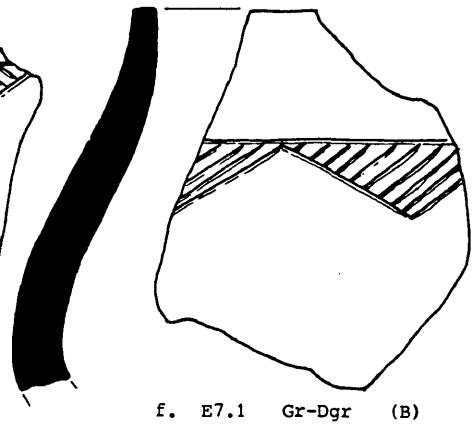
c. D9.9 MØ-20 Br (M)



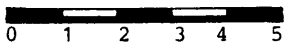
d. E7.1 Dgr-Bl (B)

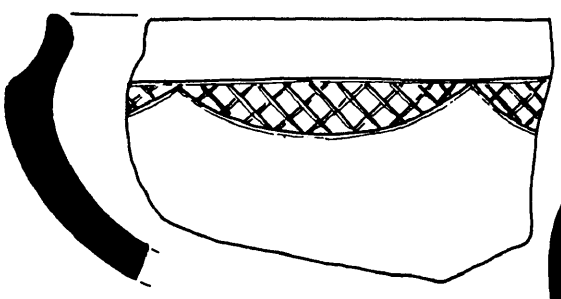


e. E7.3 MØ-24
Bl (B)

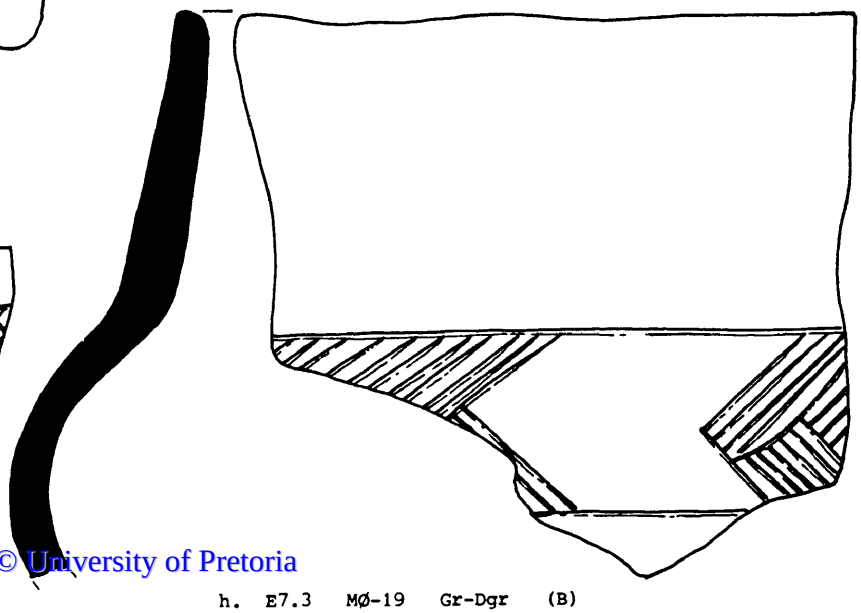


f. E7.1 Gr-Dgr (B)

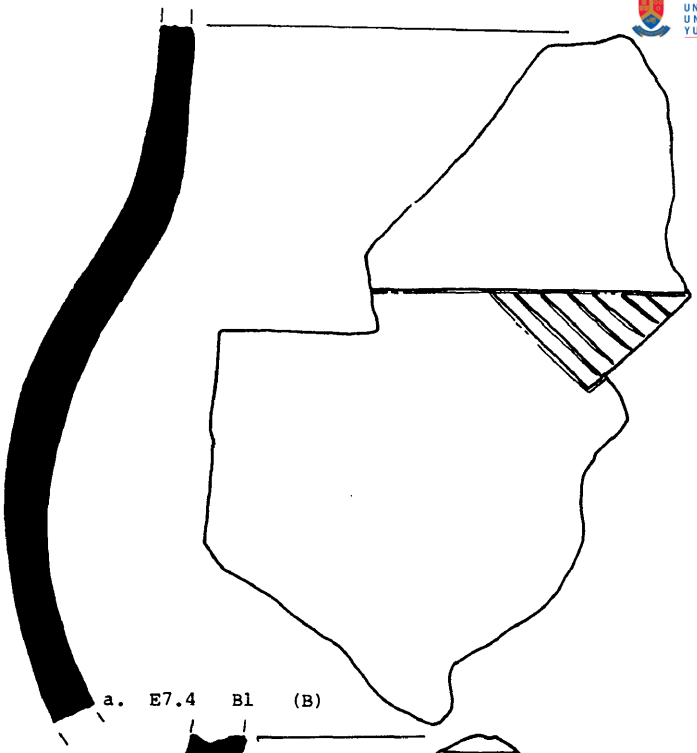




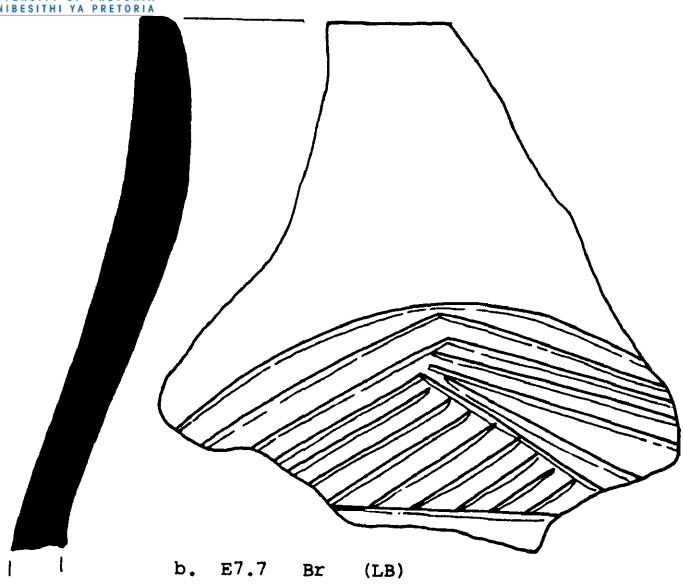
g. E7.4 MØ-18 Bl-Dgr (VLB)



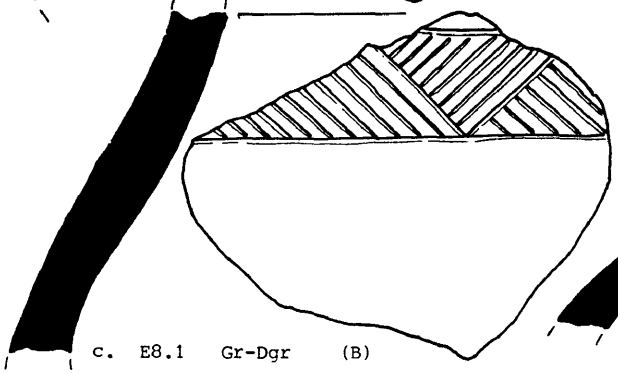
h. E7.3 MØ-19 Gr-Dgr (B)



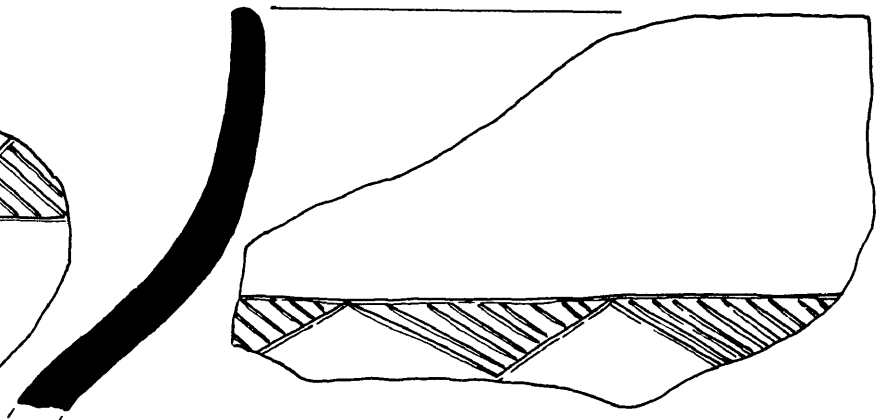
a. E7.4 Bl (B)



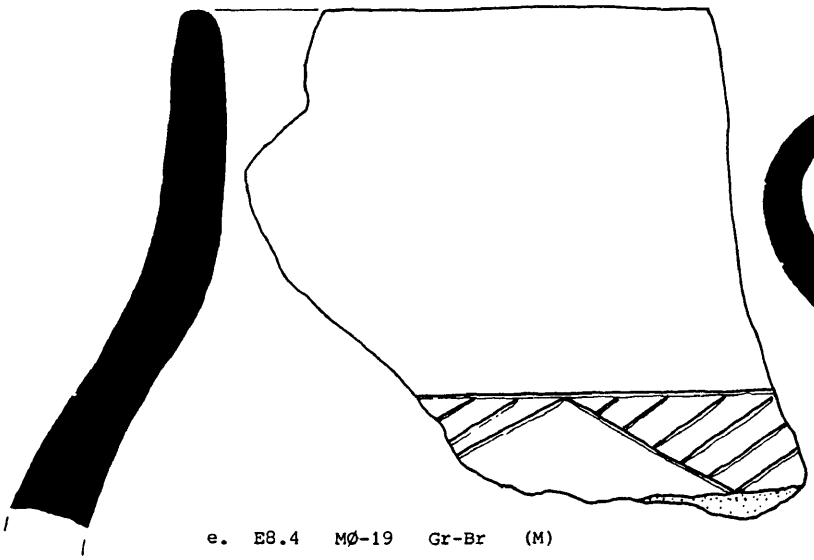
b. E7.7 Br (LB)



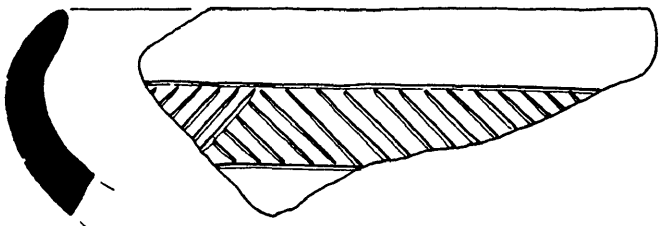
c. E8.1 Gr-Dgr (B)



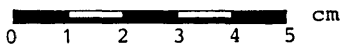
d. E8.3 MØ-14 Bl-Dgr (B)

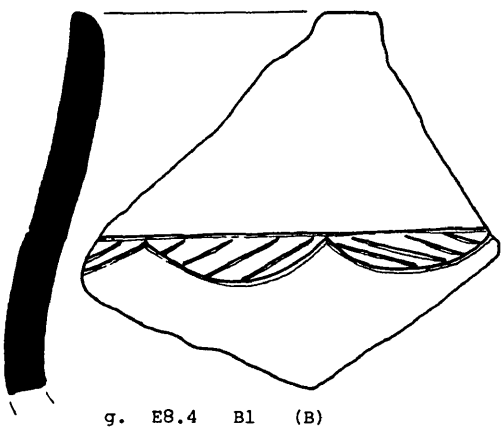


e. E8.4 MØ-19 Gr-Br (M)

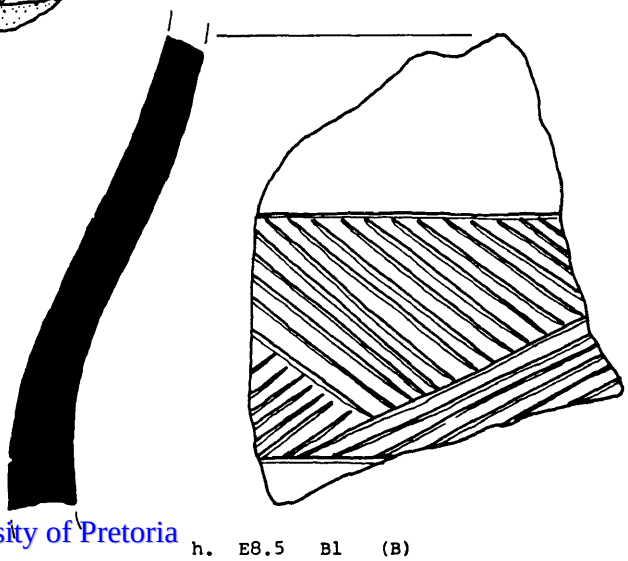


f. E8.4 MØ-20 Bl (B)

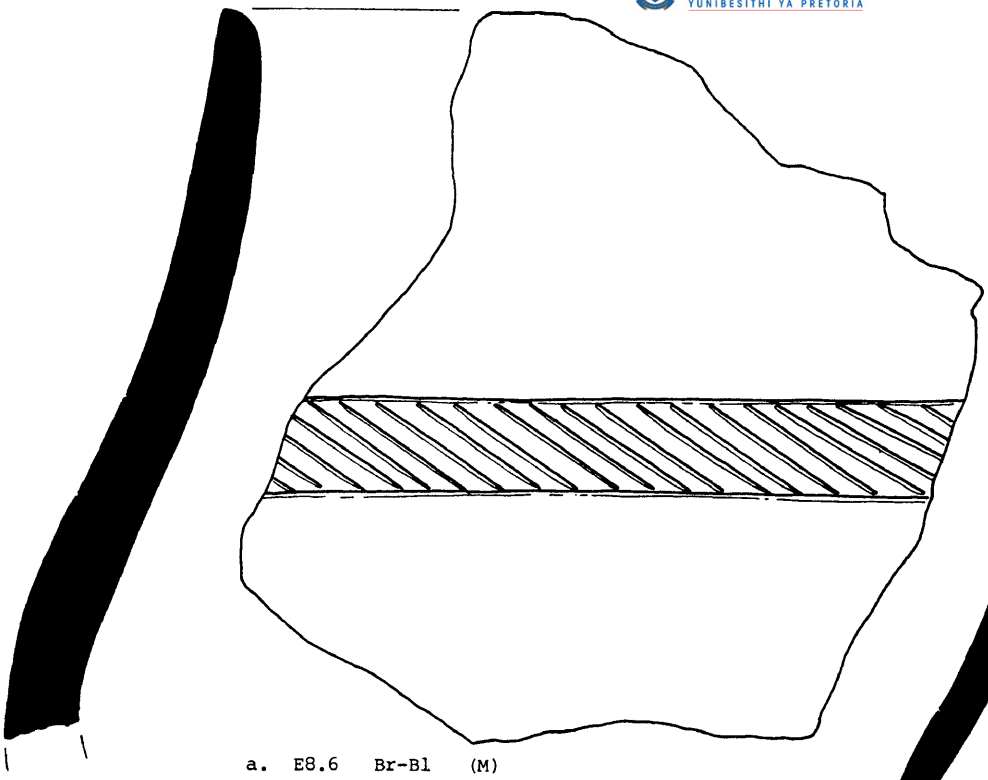




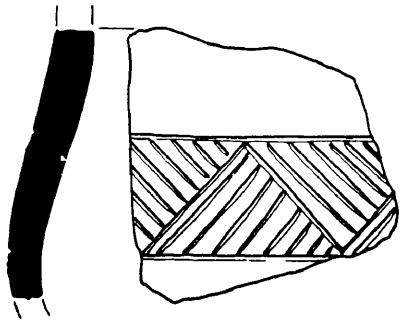
g. E8.4 Bl (B)



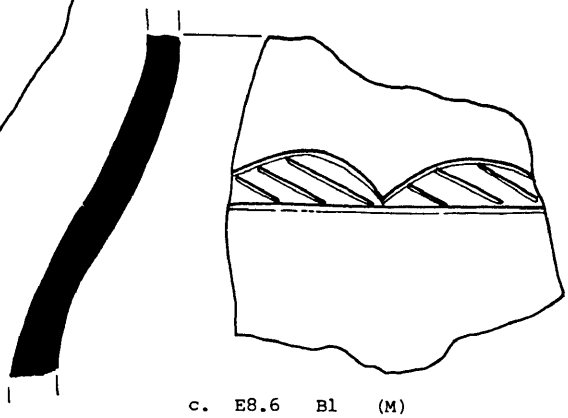
h. E8.5 Bl (B)



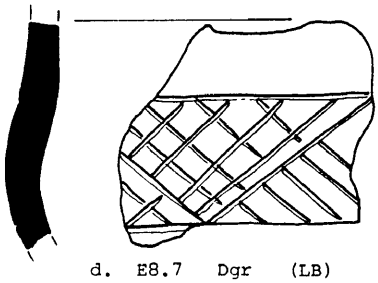
a. E8.6 Br-Bl (M)



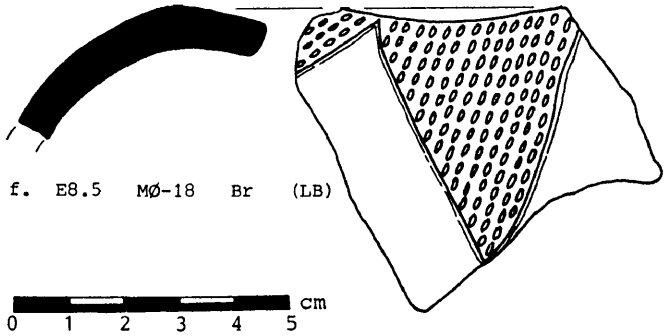
b. E8.7 Bl (B)



c. E8.6 Bl (M)

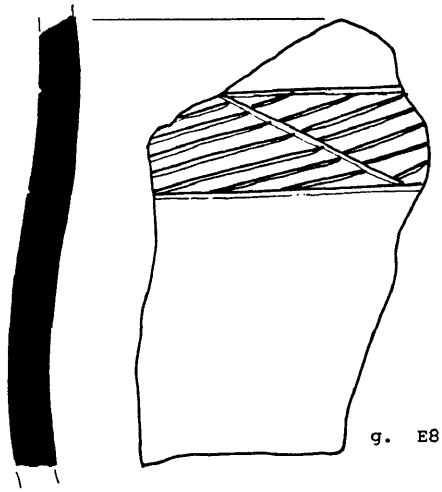


d. E8.7 Dgr (LB)

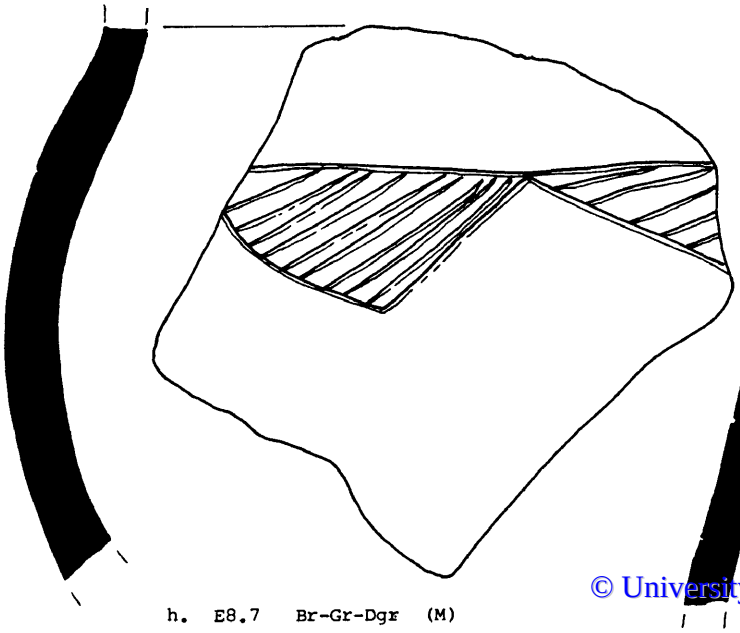


f. E8.5 MØ-18 Br (LB)

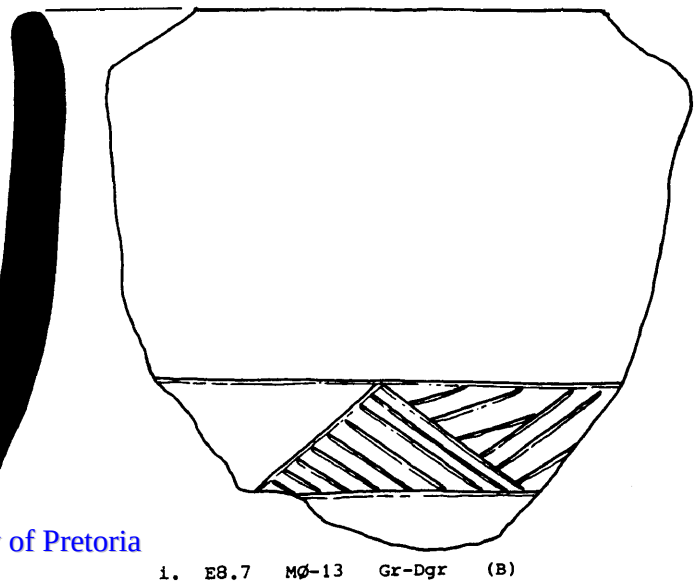
0 1 2 3 4 5 cm



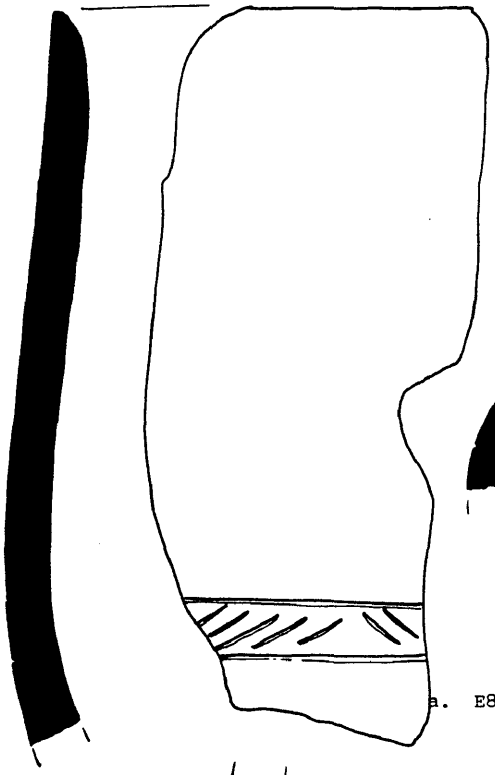
g. E8.7 Dgr (B)



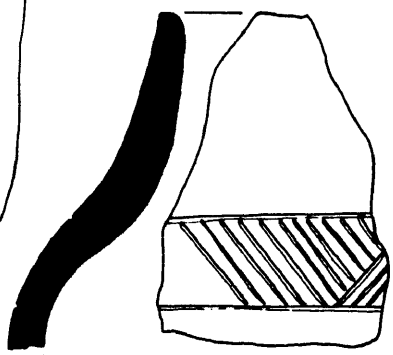
h. E8.7 Br-Gr-Dgr (M)



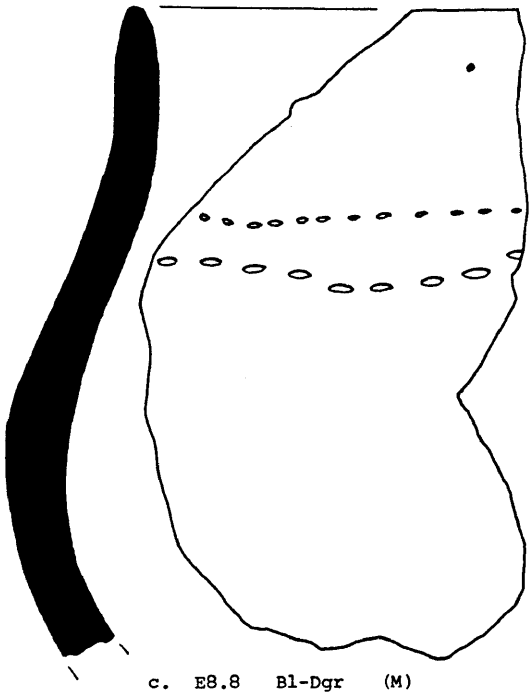
i. E8.7 MØ-13 Gr-Dgr (B)



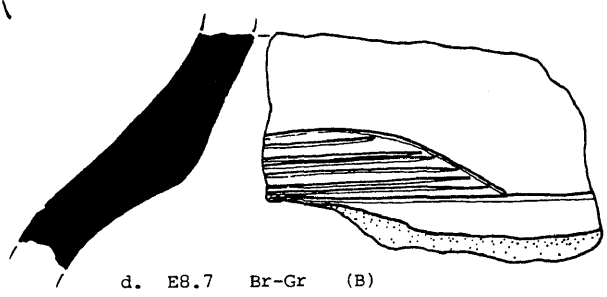
a. E8.8 MØ-18 Gr-Dgr (B9



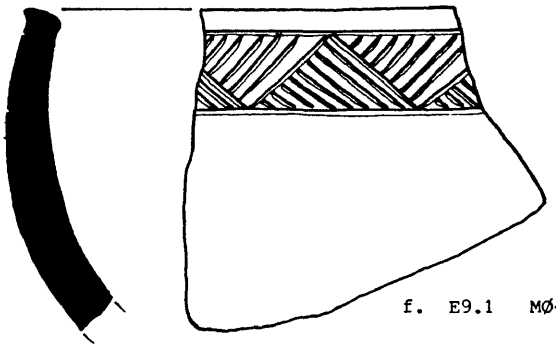
b. E9.1 Bl (B)



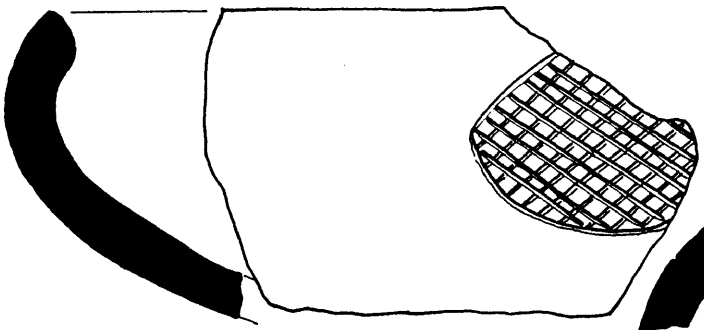
c. E8.8 Bl-Dgr (M)



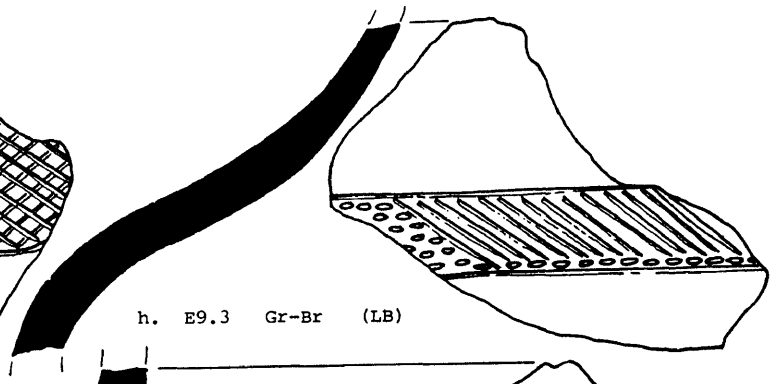
d. E8.7 Br-Gr (B)



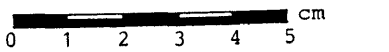
f. E9.1 MØ-20 Bl (B)

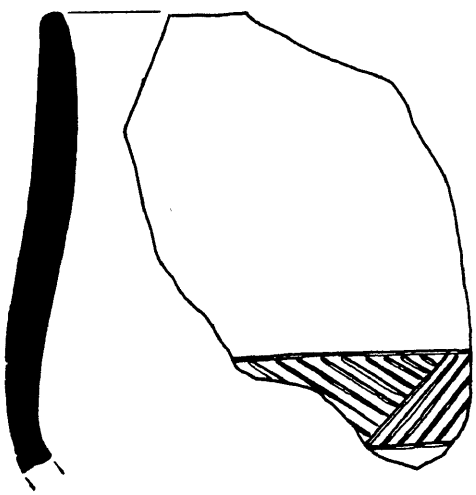


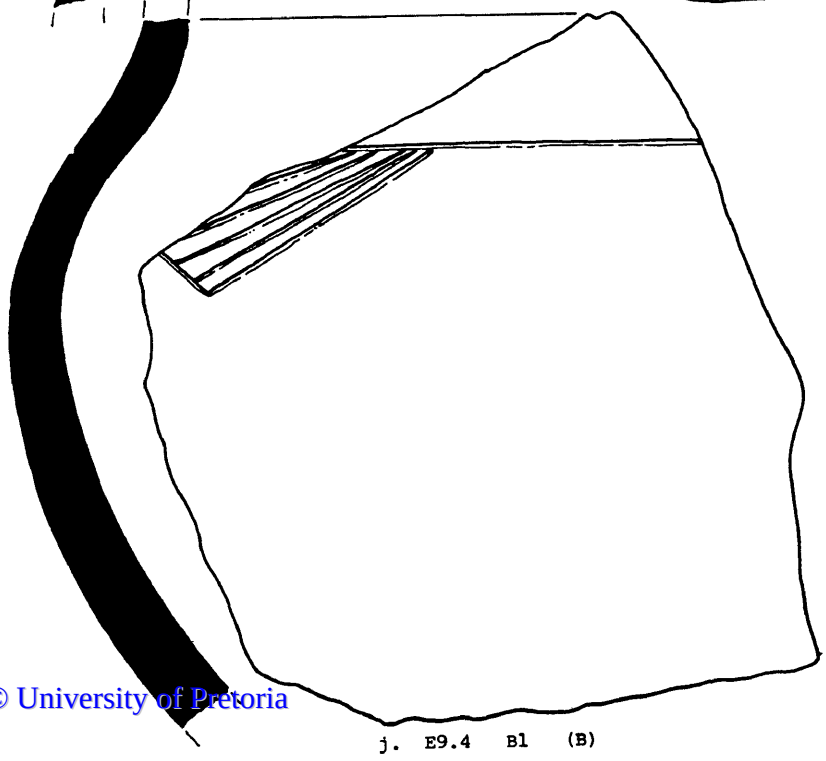
g. E9.2 MØ-34 Dgr-Bl (B)



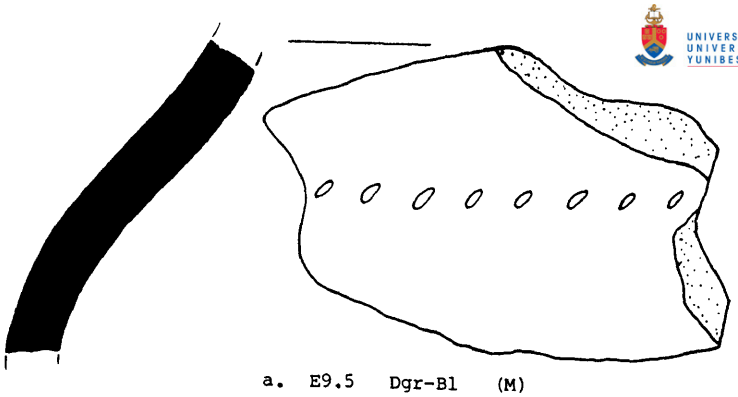
h. E9.3 Gr-Br (LB)



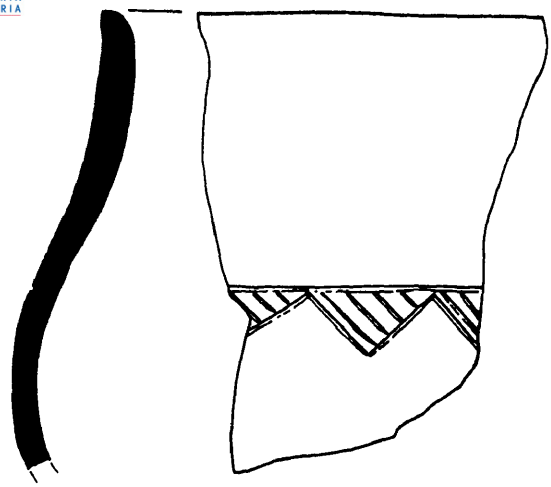




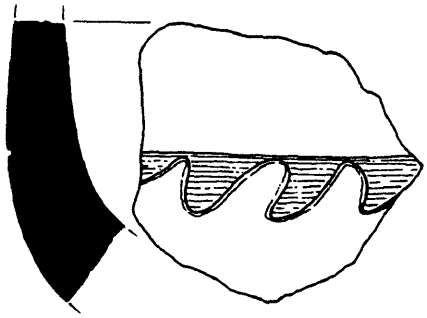
j. E9.4 Bl (B)



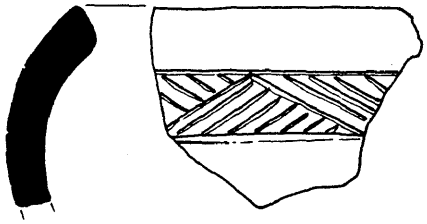
a. E9.5 Dgr-Bl (M)



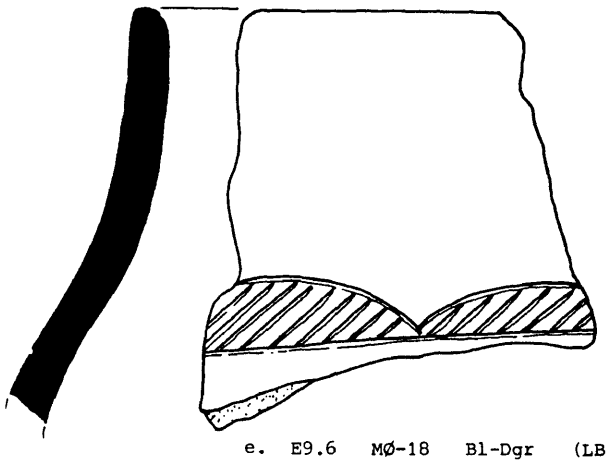
b. E9.6 MØ-10 Bl (M)



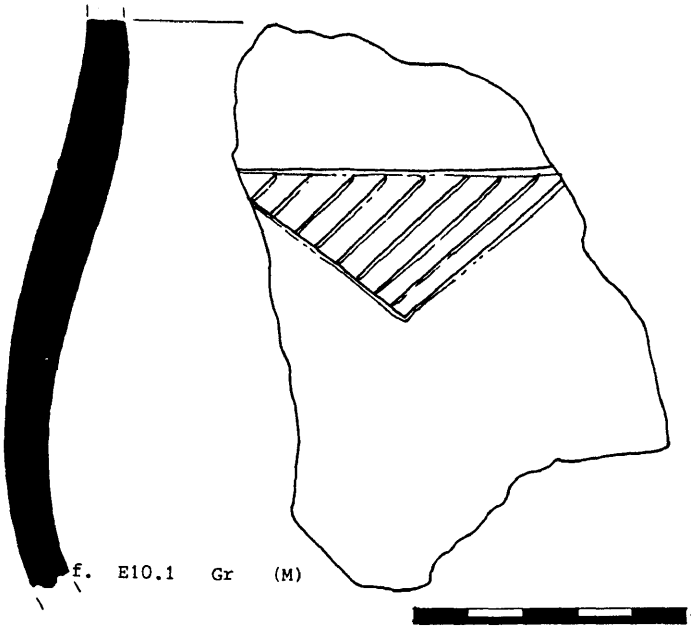
c. E9.9 Bl (B)



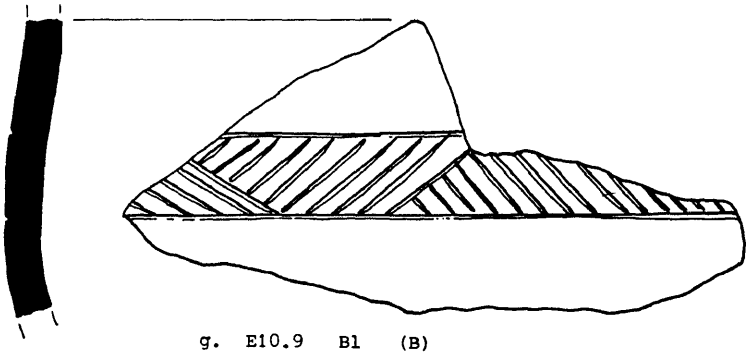
d. E9.9 Bl (B) MØ-18



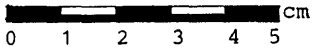
e. E9.6 MØ-18 Bl-Dgr (LB)

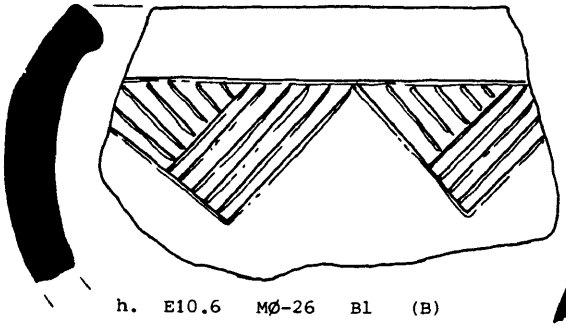


f. E10.1 Gr (M)



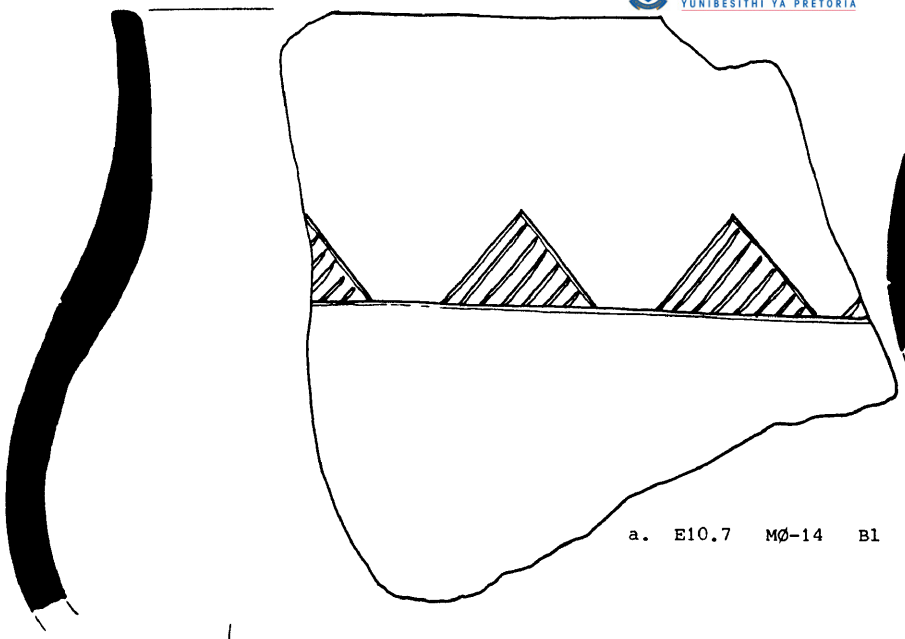
g. E10.9 Bl (B)



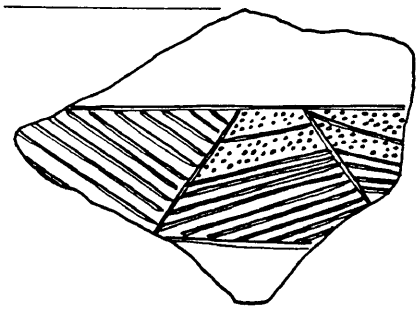


h. E10.6 MØ-26 Bl (B)

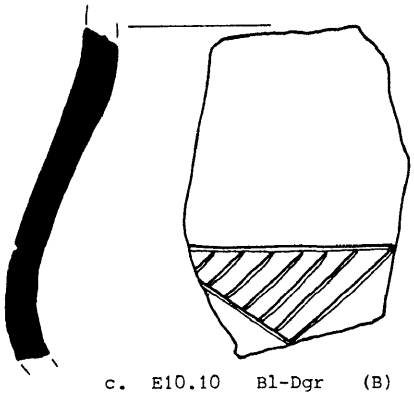
i. E10.6 Br-Bl (LB)



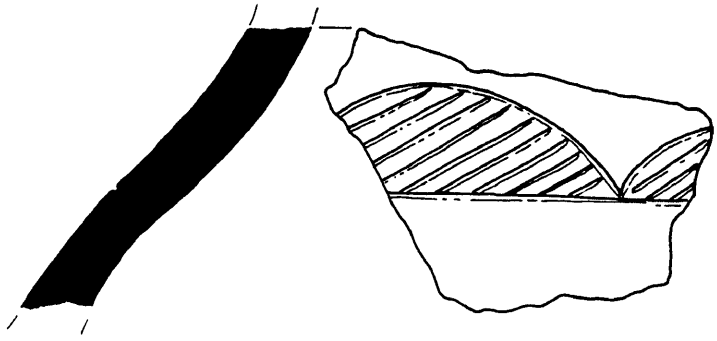
a. E10.7 MØ-14 Bl (B)



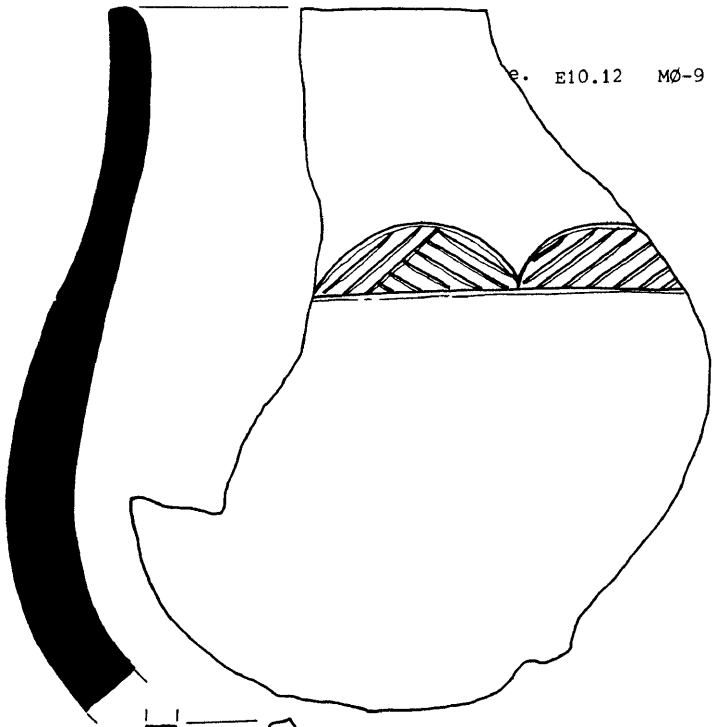
b. E10.10 Bl (B)



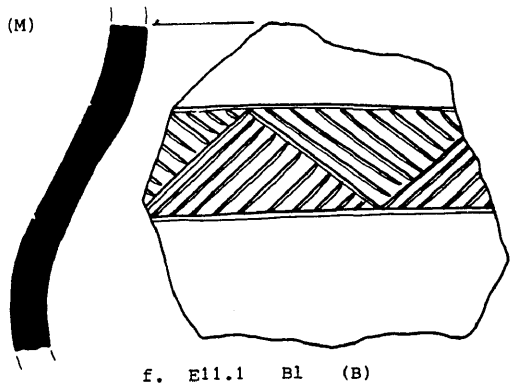
c. E10.10 Bl-Dgr (B)



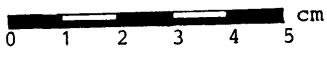
d. E10.10 Br-Dgr-Bl (M)

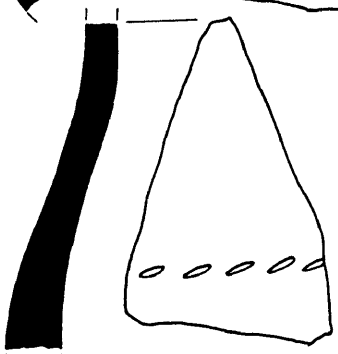


e. E10.12 MØ-9 Br-Bl (M)

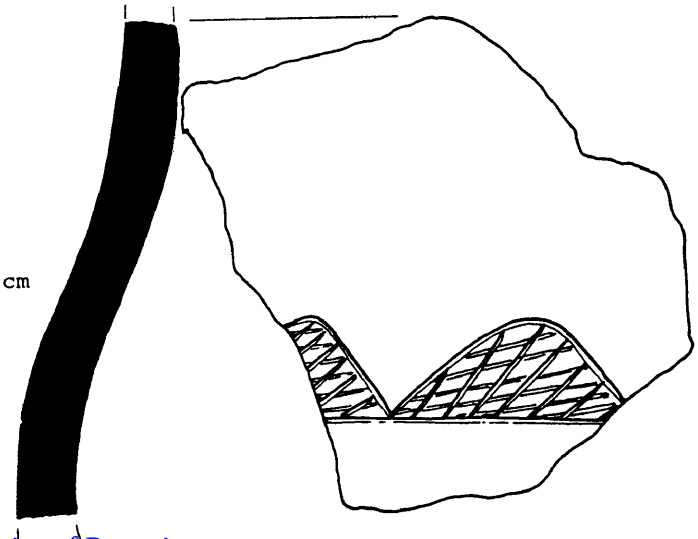


f. E11.1 Bl (B)

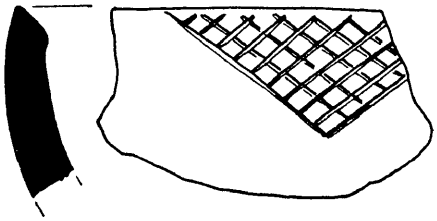




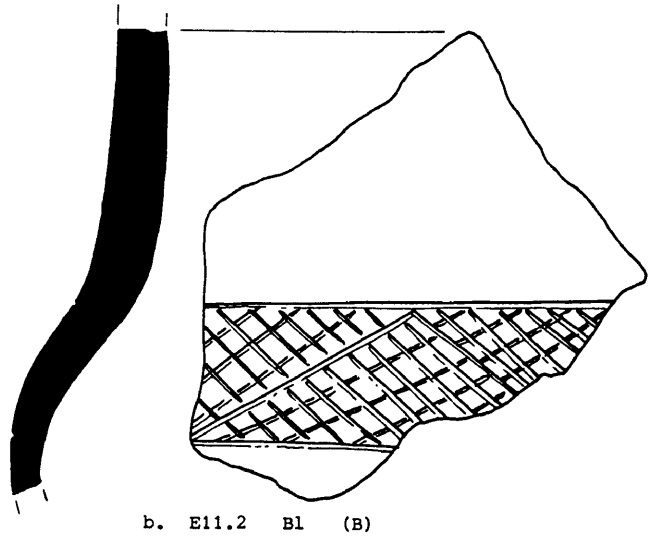
g. E10.11 Bl (M)



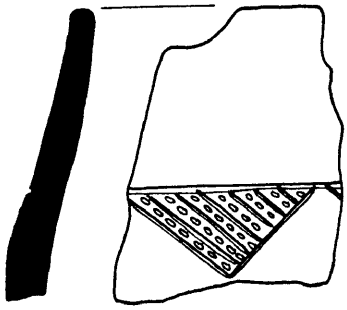
h. E10.11 Bl (B)



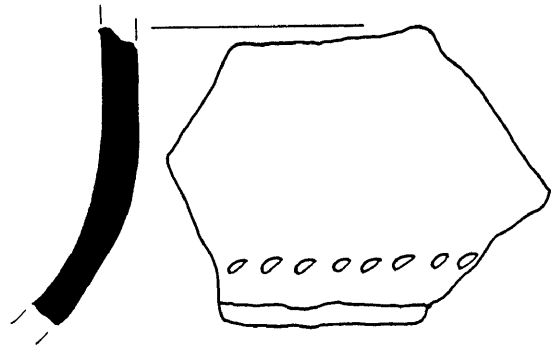
a. E11.2 MØ-28 Bl-Dgr (LB)



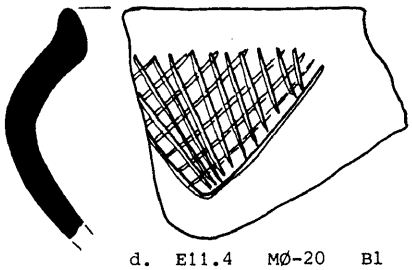
b. E11.2 Bl (B)



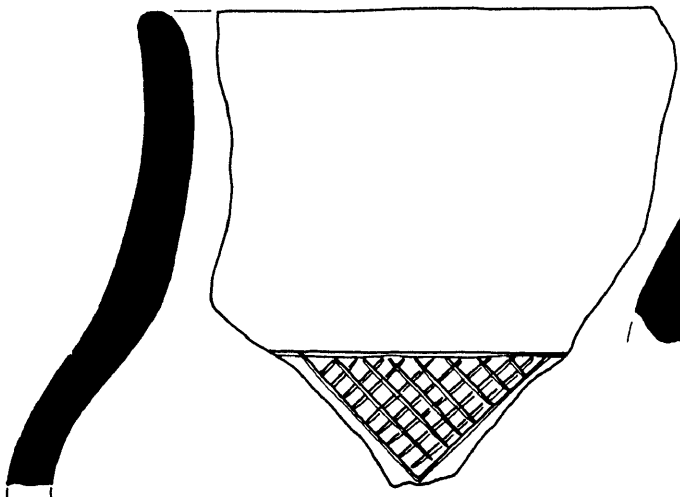
c. E11.3 MØ-10 Gr-Dgr (B)



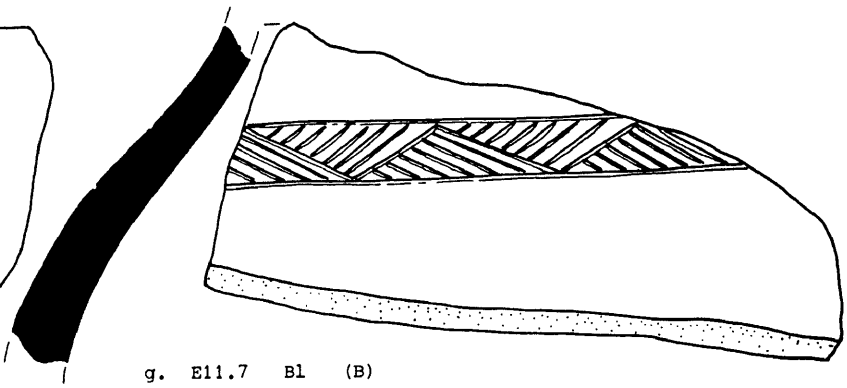
e. E11.4 Bl (B)



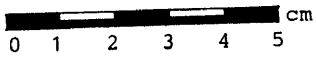
d. E11.4 MØ-20 Bl (B)

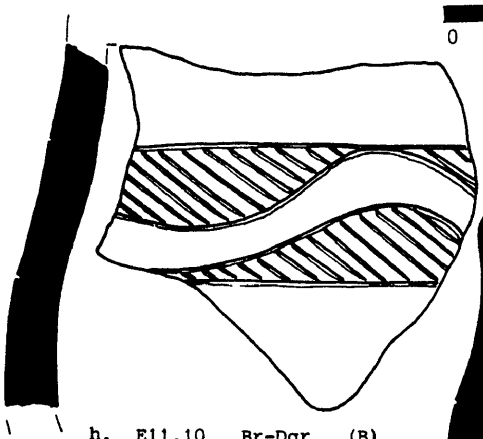


f. E11.5 MØ-16 Dgr-Bl (B)

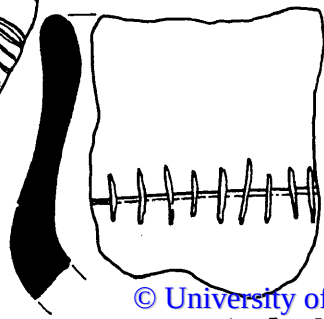


g. E11.7 Bl (B)

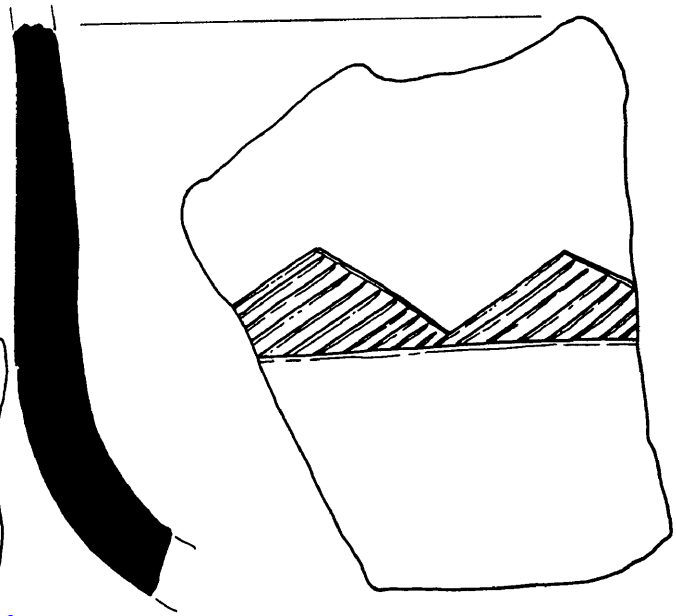




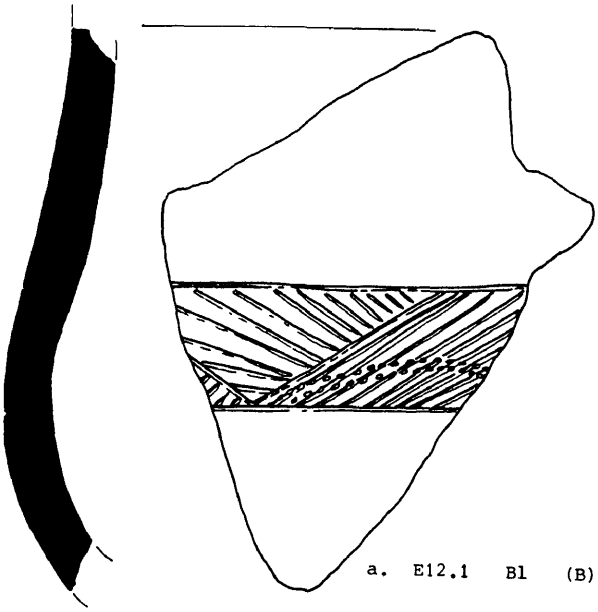
h. E11.10 Br-Dgr (B)



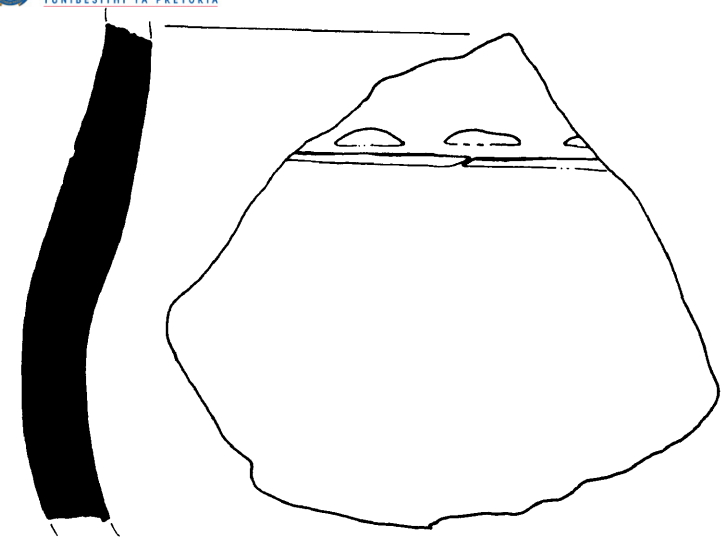
i. E11.7 MØ-± 7 Br (M)



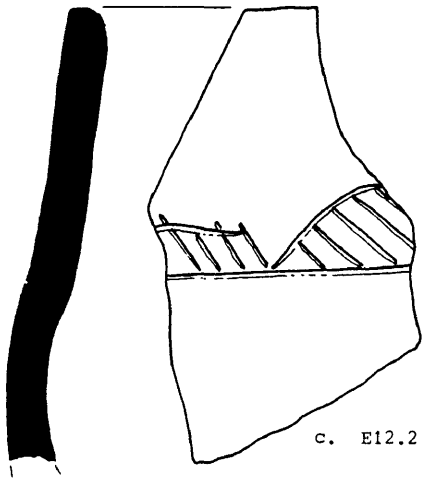
j. E11.8 Gr-Dgr (B)



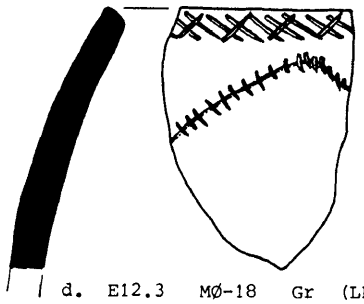
a. E12.1 Bl (B)



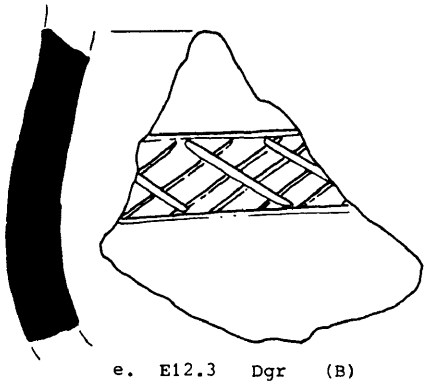
b. E12.3 Gr (M)



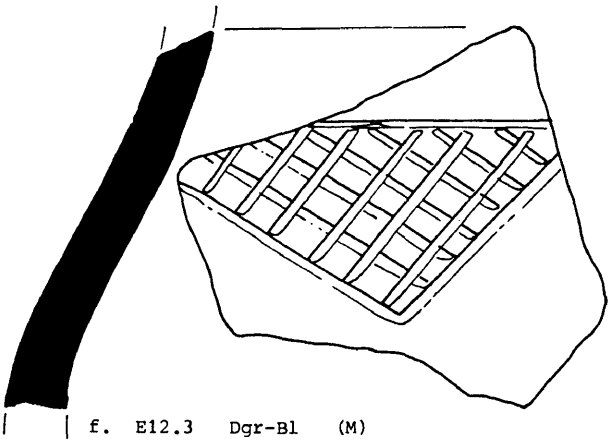
c. E12.2 Gr-Br (M)



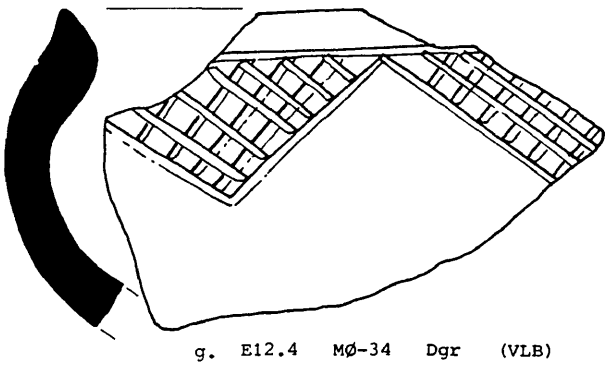
d. E12.3 MØ-18 Gr (LB)



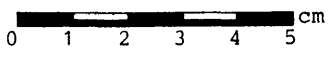
e. E12.3 Dgr (B)

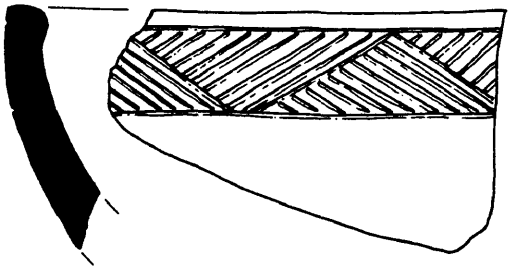


f. E12.3 Dgr-Bl (M)

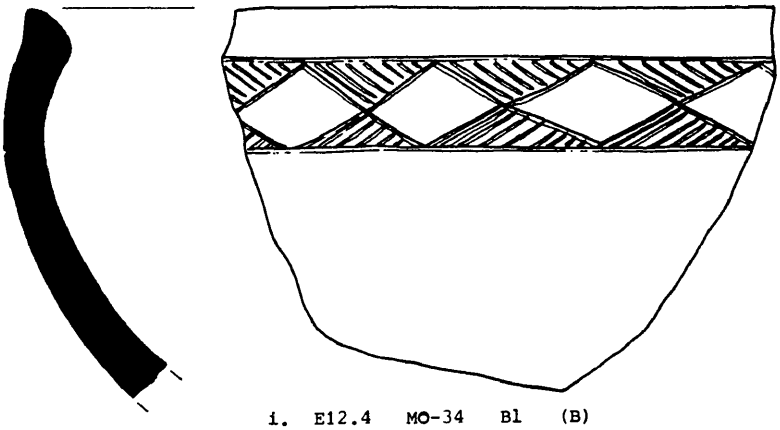


g. E12.4 MØ-34 Dgr (VLB)

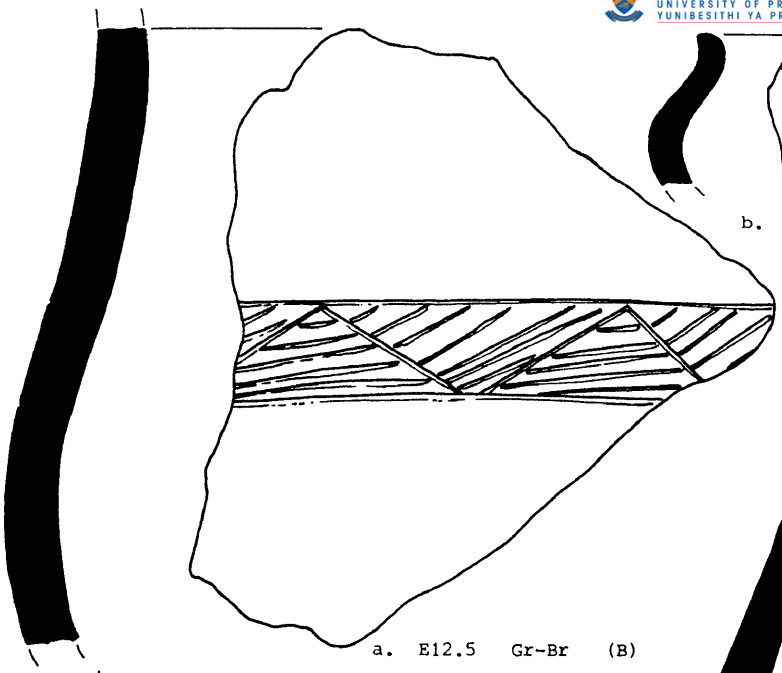




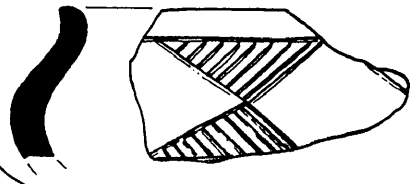
h. E12.3 MØ-24 Br (B)



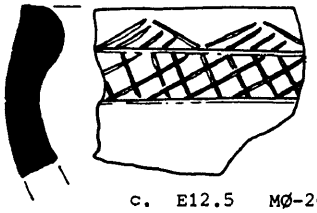
i. E12.4 MO-34 Bl (B)



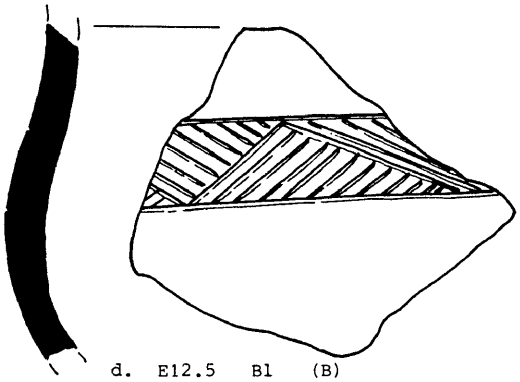
a. E12.5 Gr-Br (B)



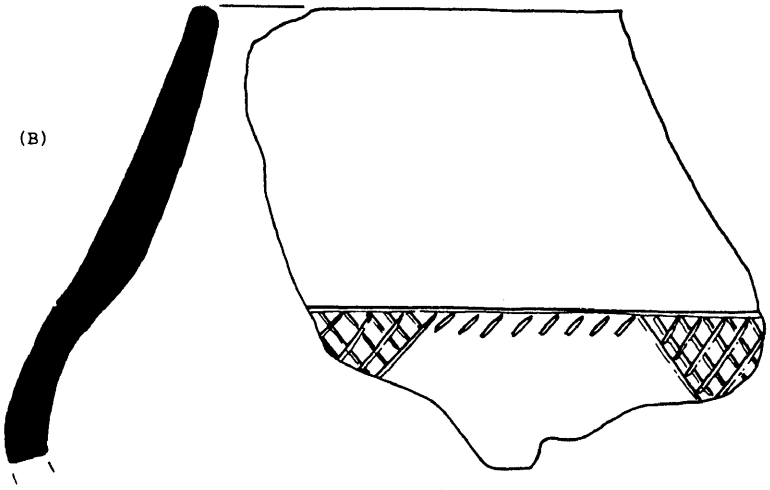
b. E12.5 MØ-26 Bl (B)



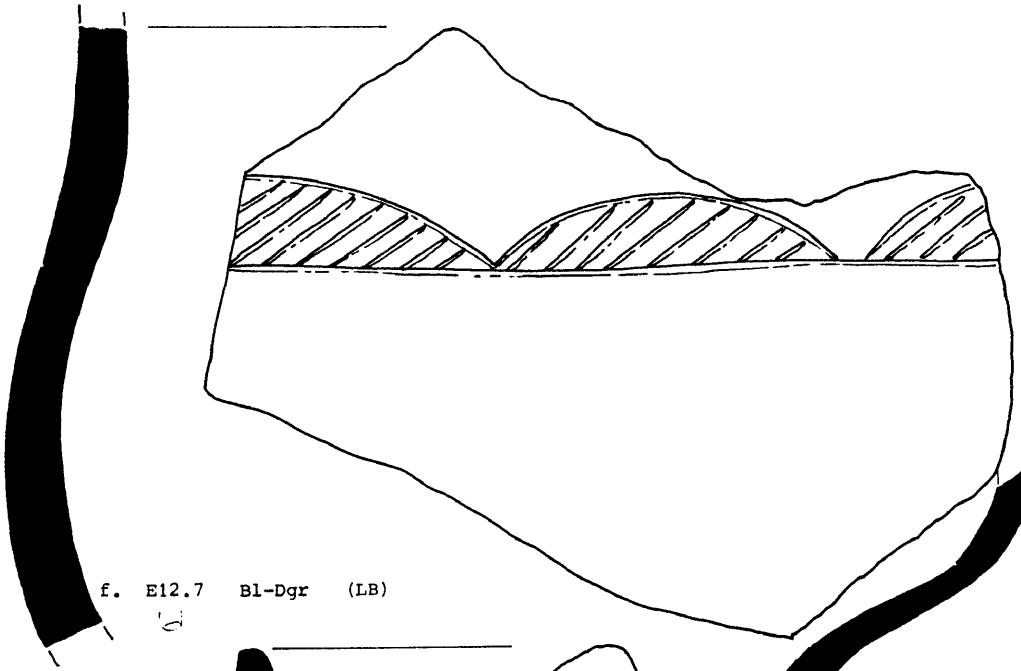
c. E12.5 MØ-26 Bl (LB)



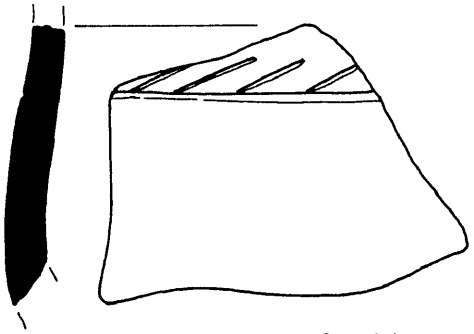
d. E12.5 Bl (B)



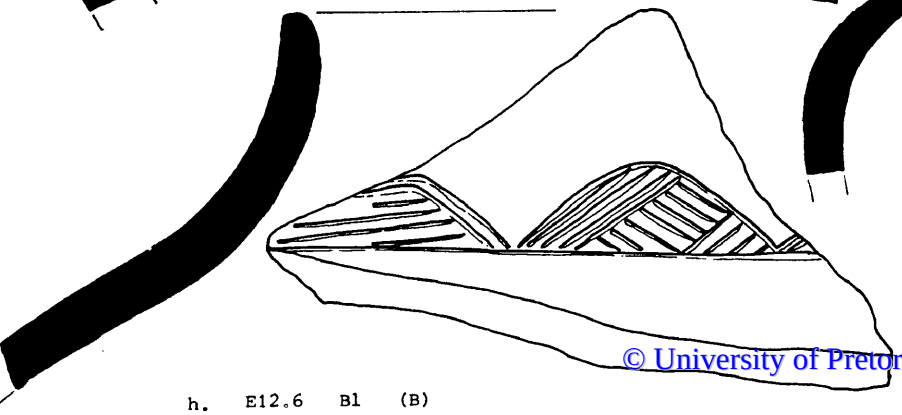
e. E12.5 MØ-12 Bl (B)



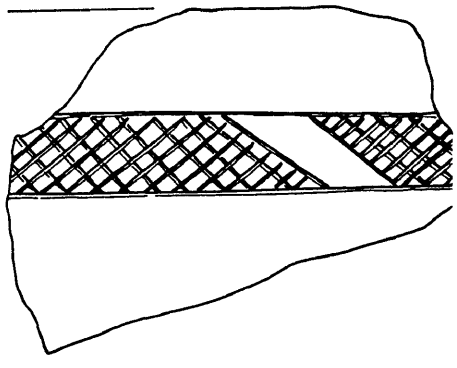
f. E12.7 Bl-Dgr (LB)



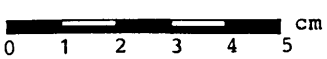
g. E12.12 Dgr-Br-Bl (M)

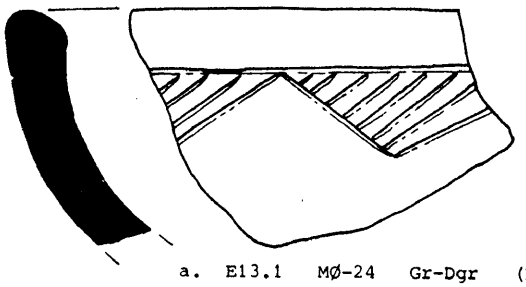


h. E12.6 Bl (B)

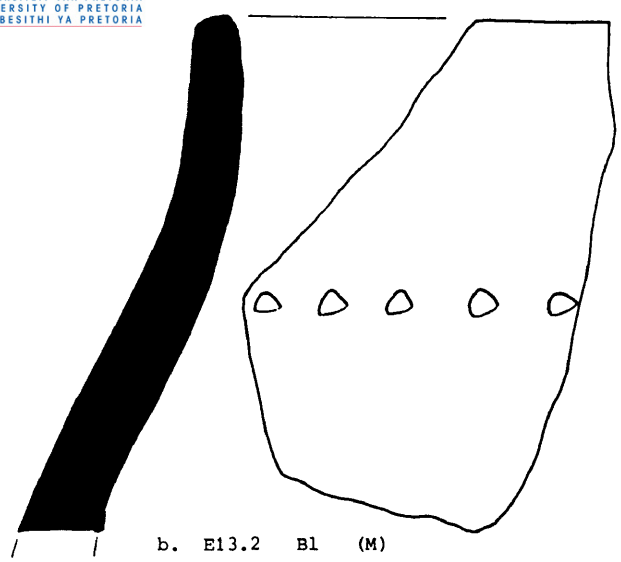


i. E13.1 Bl (B)

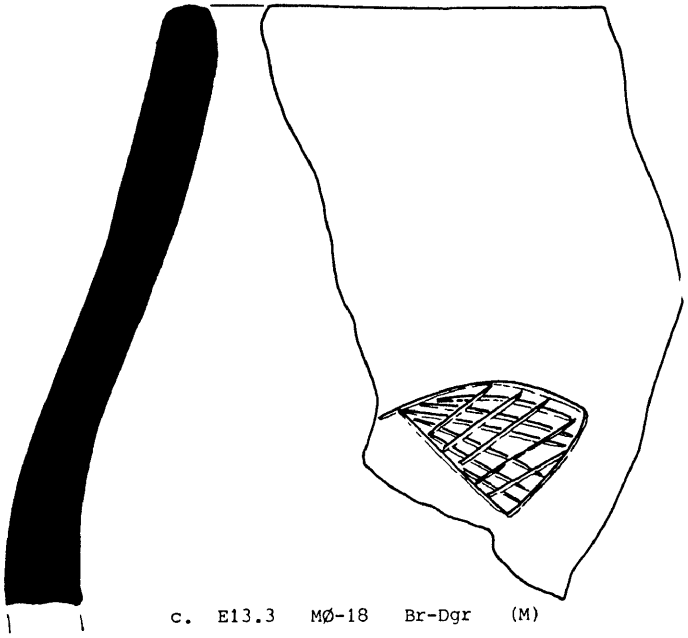




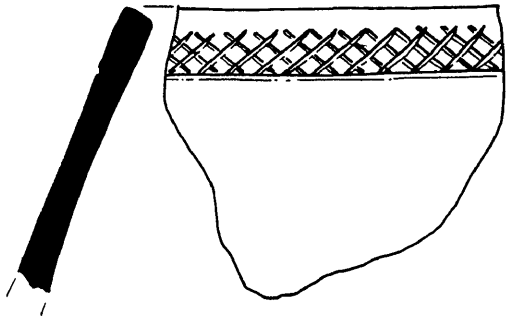
a. E13.1 MØ-24 Gr-Dgr (B)



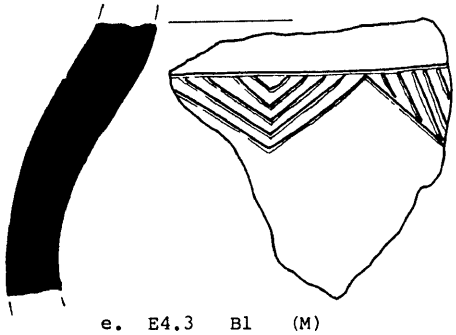
b. E13.2 Bl (M)



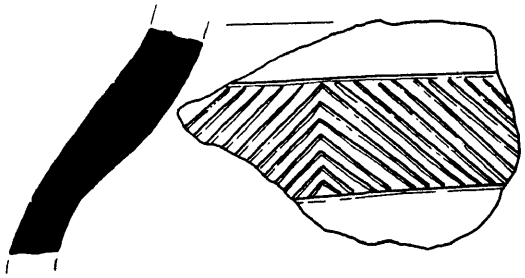
c. E13.3 MØ-18 Br-Dgr (M)



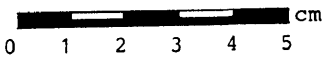
d. E13.2 MØ-12 Dgr-Br (M)

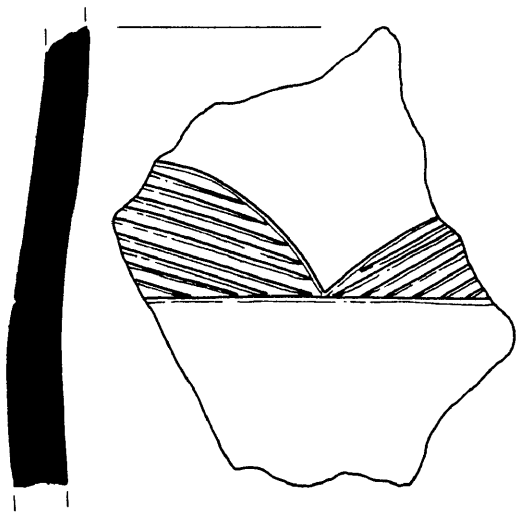


e. E4.3 Bl (M)

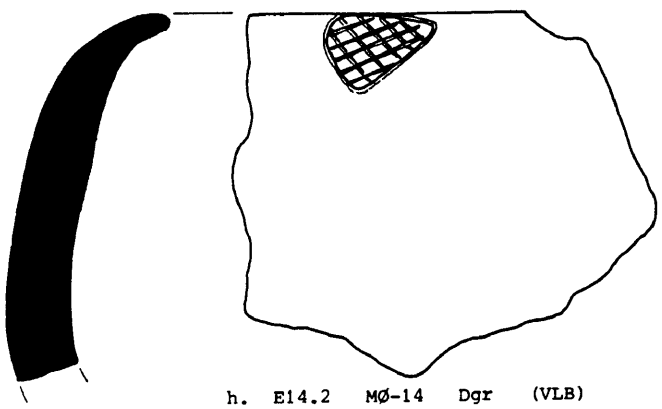


f. E13.6 Gr-Br (B)

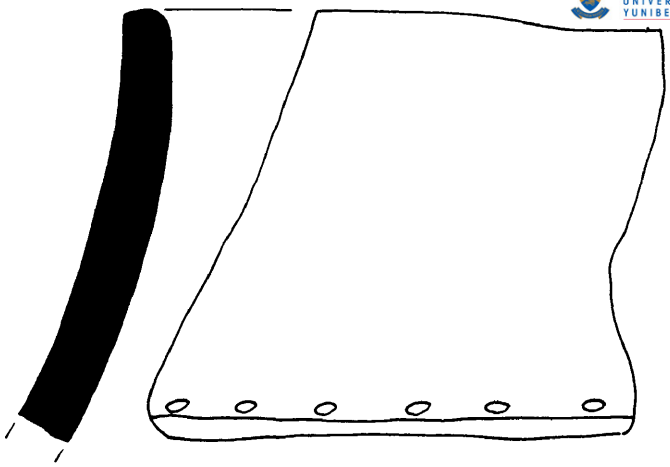




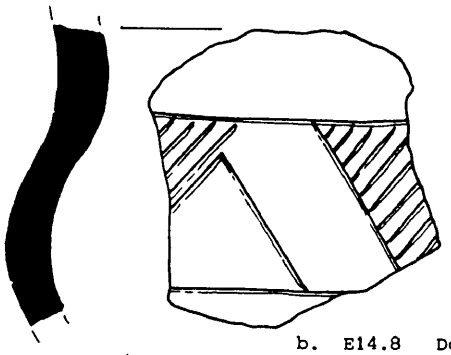
g. E13.8 Br (M)



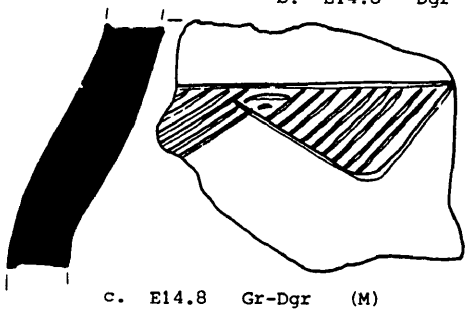
h. E14.2 MØ-14 Dgr (VLB)



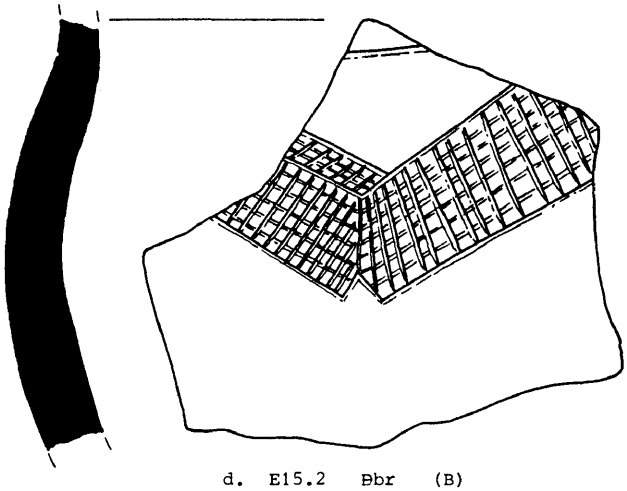
a. E14.7 MØ-34 Gr (M)



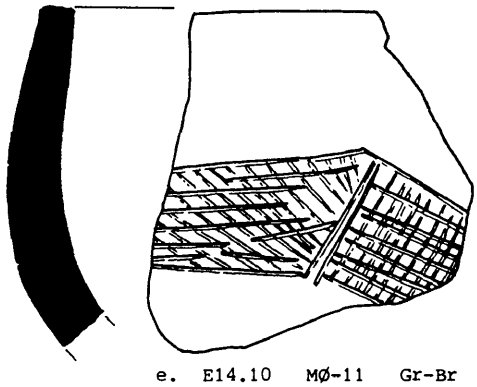
b. E14.8 Dgr (B)



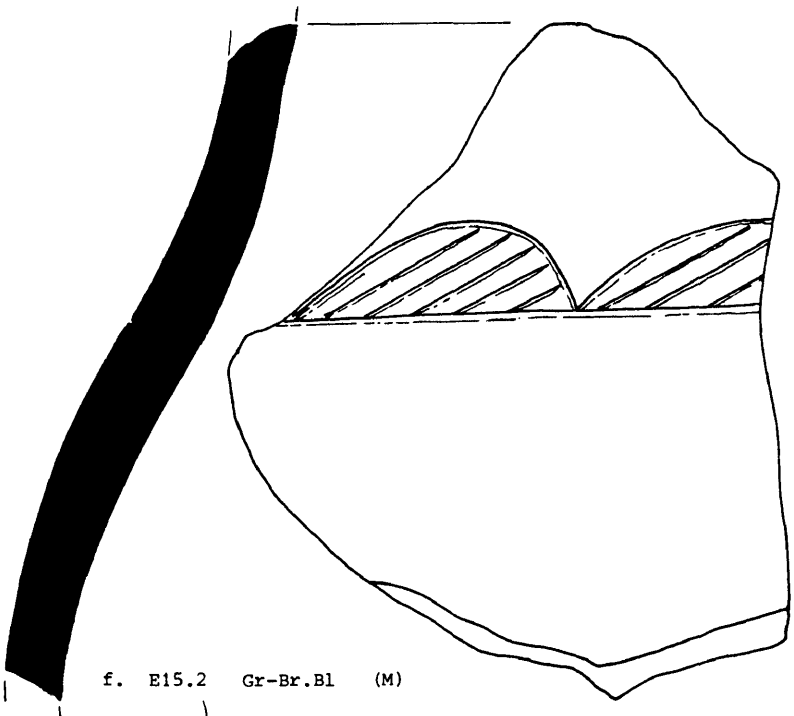
c. E14.8 Gr-Dgr (M)



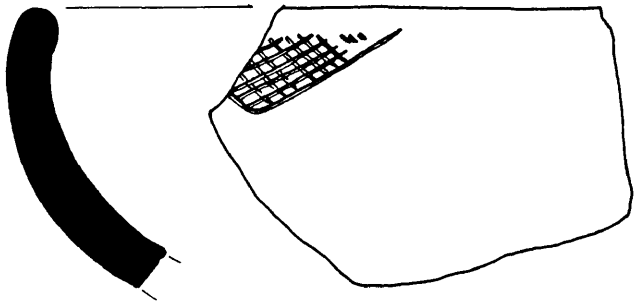
d. E15.2 Þbr (B)



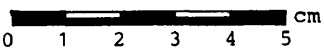
e. E14.10 MØ-11 Gr-Br (M)

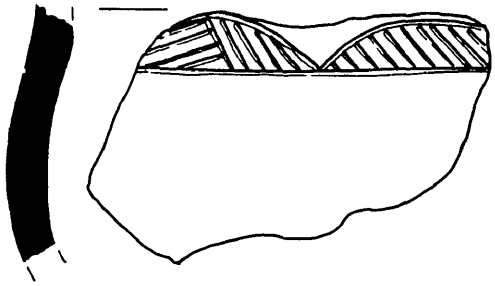


f. E15.2 Gr-Br.Bl (M)

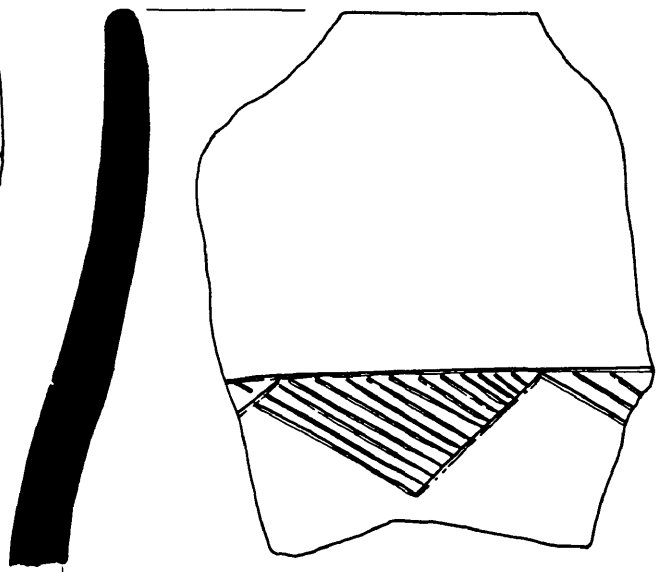


g. E15.5 MØ-20 Dgr-Dbr (B)

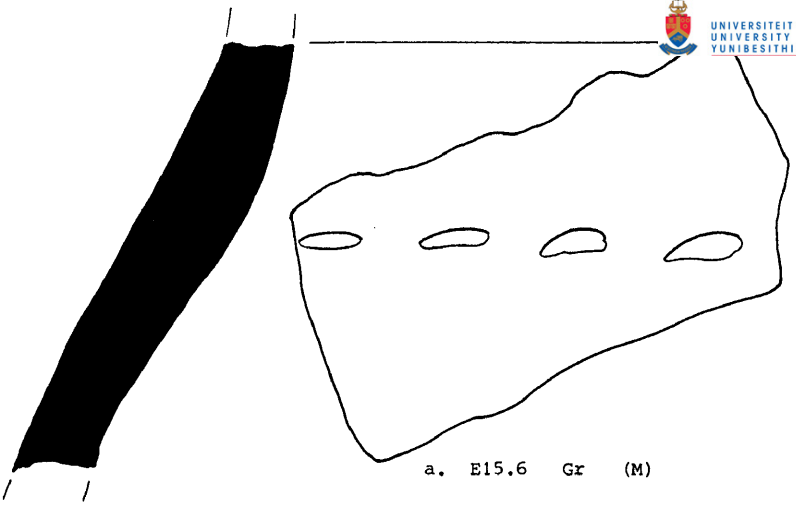




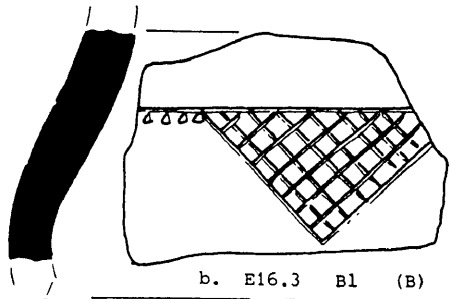
h. E15.4 Bl (B)



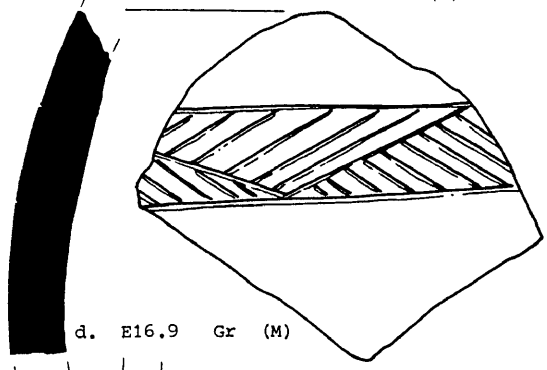
i. E15.4 MØ-18 Bl (VLB)



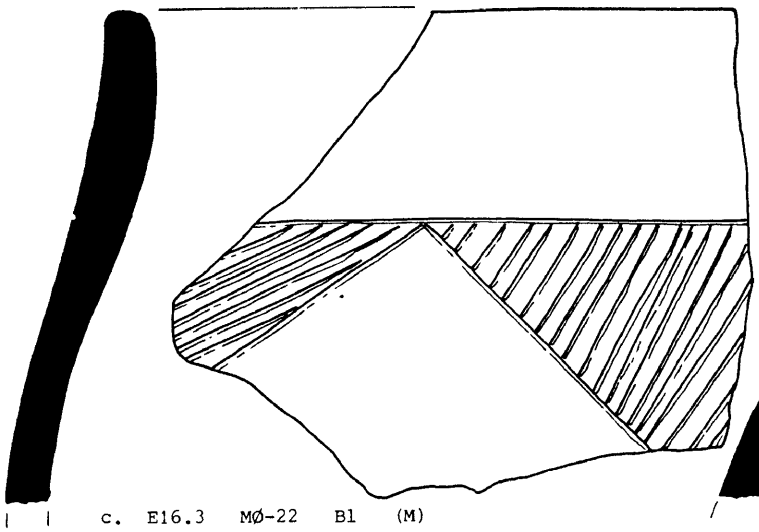
a. E15.6 Gr (M)



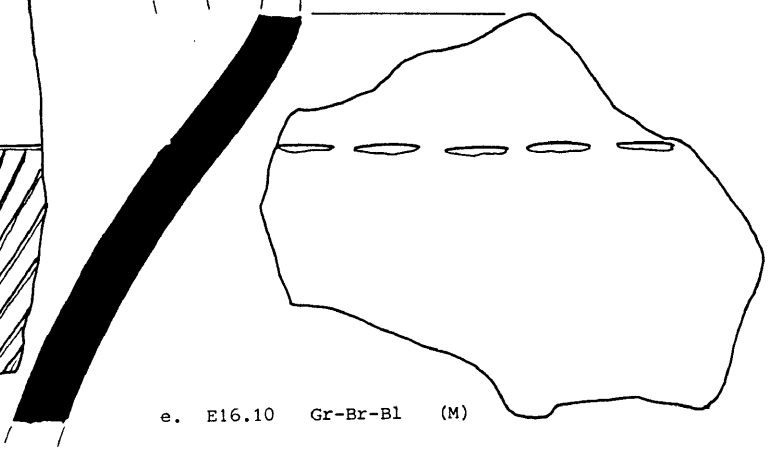
b. E16.3 Bl (B)



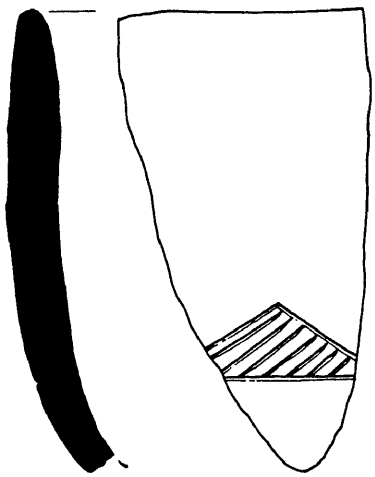
d. E16.9 Gr (M)



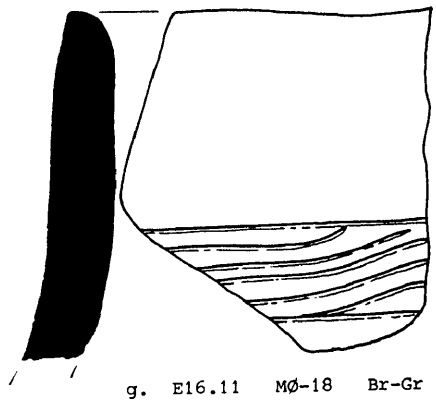
c. E16.3 MØ-22 Bl (M)



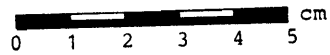
e. E16.10 Gr-Br-Bl (M)

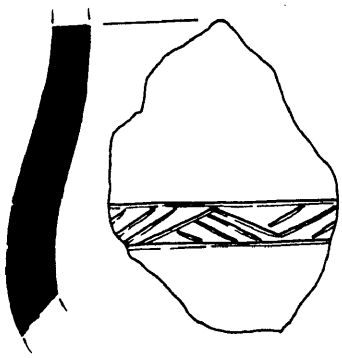


f. E16.11 MØ-14 Bl-Dgr (B)

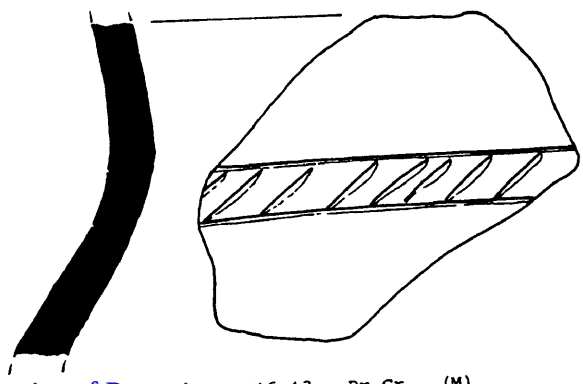


g. E16.11 MØ-18 Br-Gr (M)

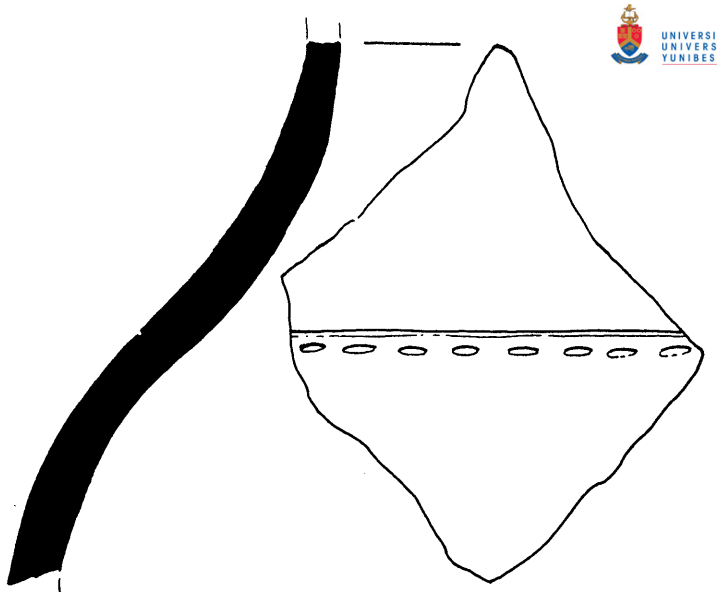




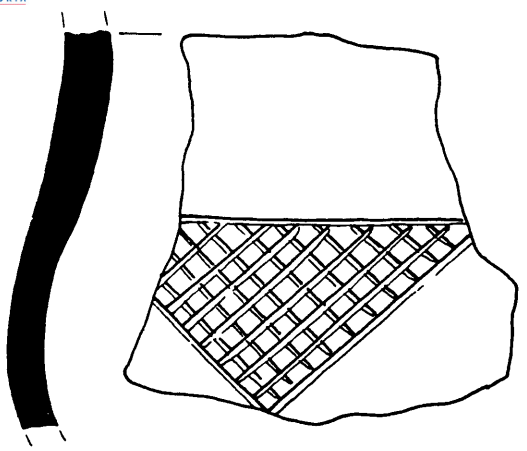
h. E16.11 Bl-Gr (B)



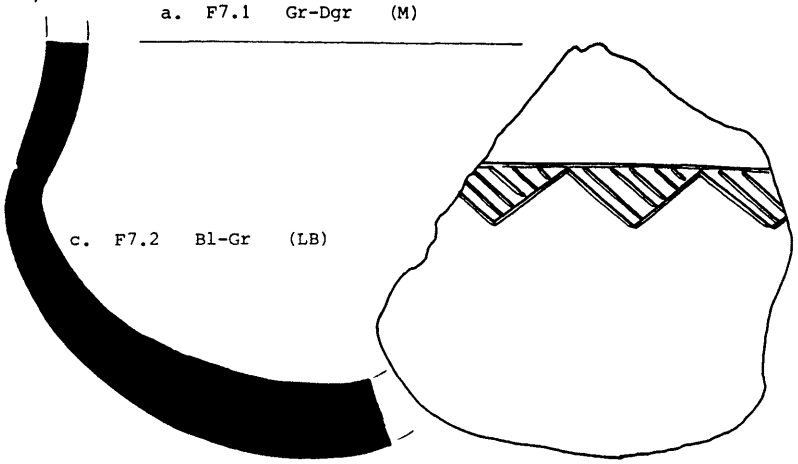
i. E16.13 Br-Gr (M)



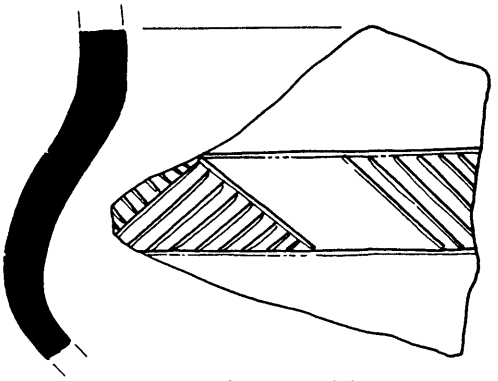
a. F7.1 Gr-Dgr (M)



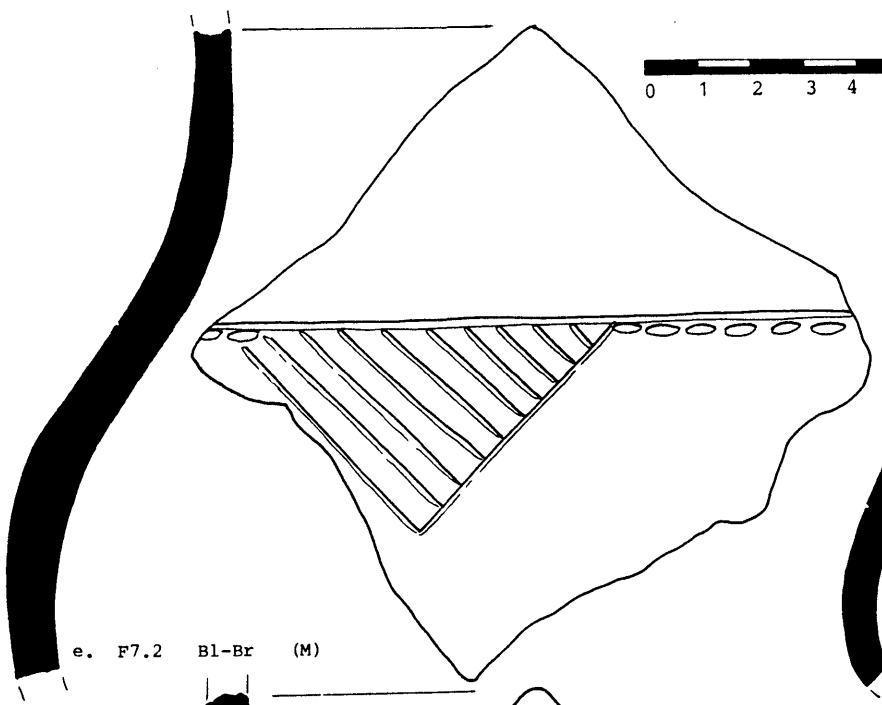
b. F7.1 Bl (M)



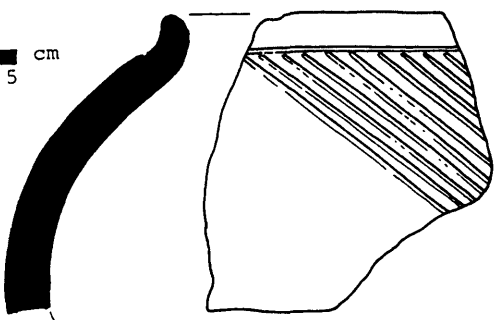
c. F7.2 Bl-Gr (LB)



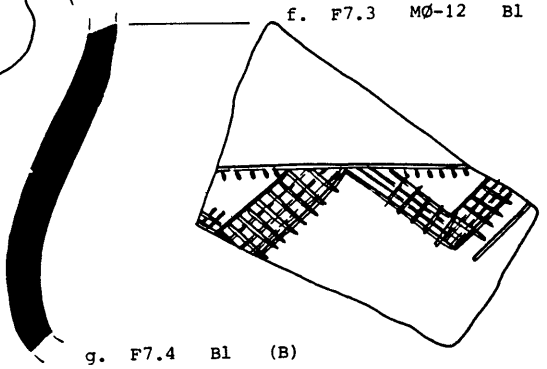
d. F7.2 Bl (B)



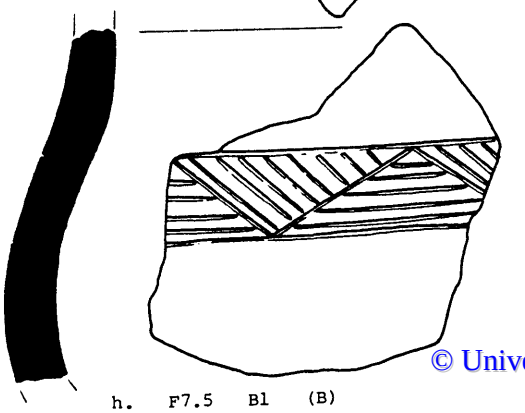
e. F7.2 Bl-Br (M)



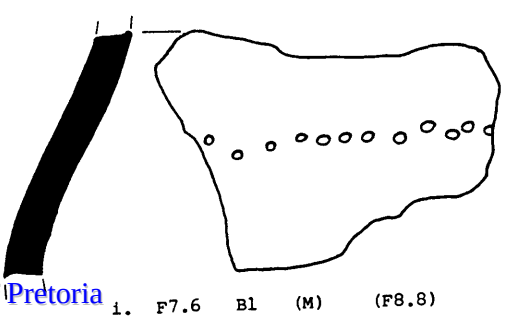
f. F7.3 MØ-12 Bl (LB)



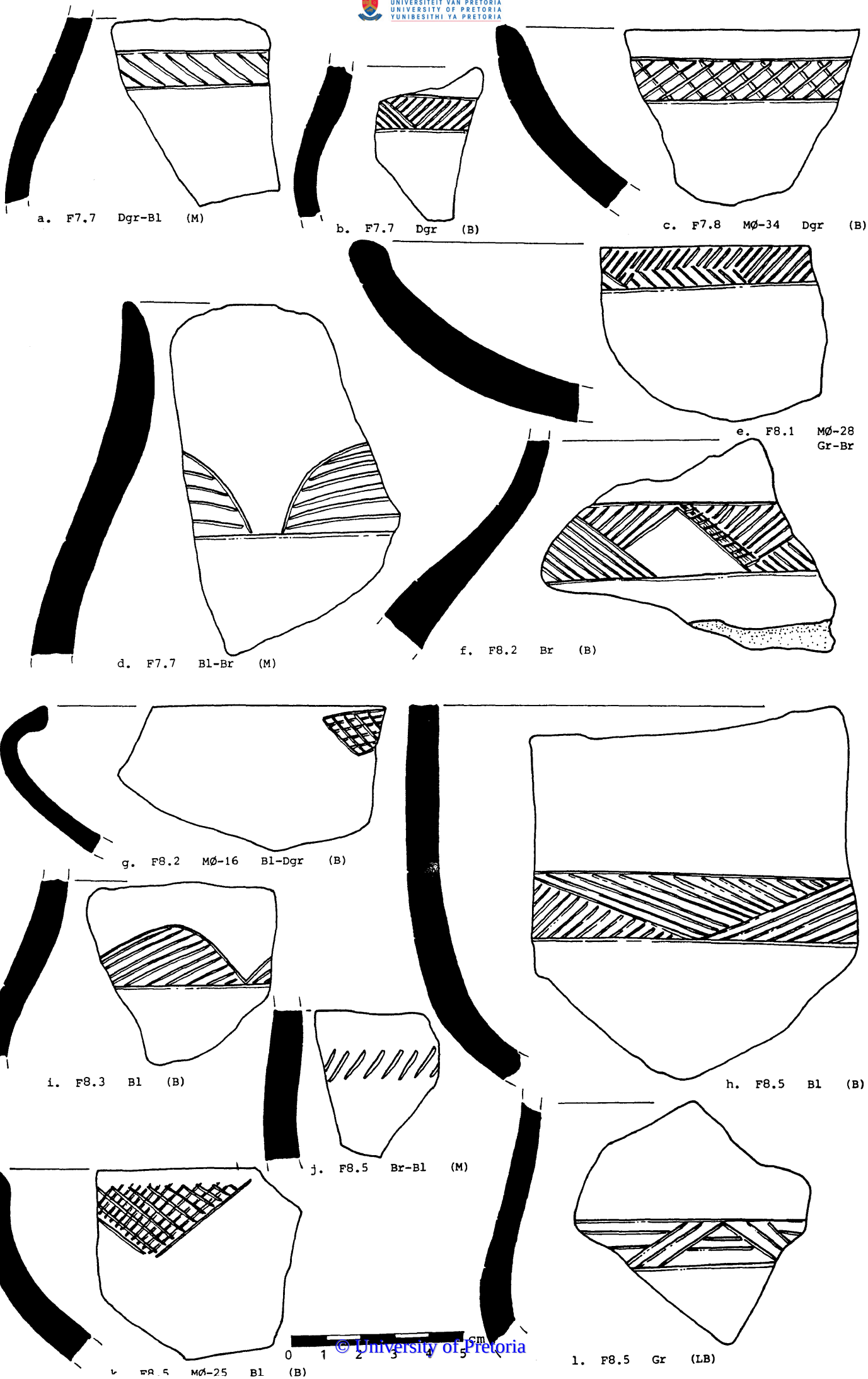
g. F7.4 Bl (B)



h. F7.5 Bl (B)



i. F7.6 Bl (M) (F8.8)



a. F7.7 Dgr-Bl (M)

b. F7.7 Dgr (B)

c. F7.8 MØ-34 Dgr (B)

d. F7.7 Bl-Br (M)

e. F8.1 MØ-28 Gr-Br (LB)

f. F8.2 Br (B)

g. F8.2 MØ-16 Bl-Dgr (B)

h. F8.5 Bl (B)

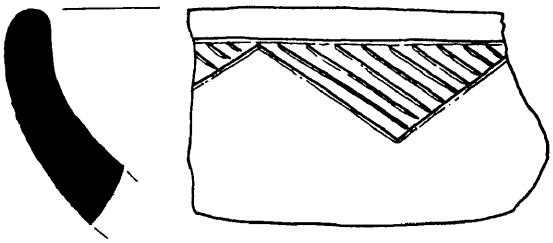
i. F8.3 Bl (B)

j. F8.5 Br-Bl (M)

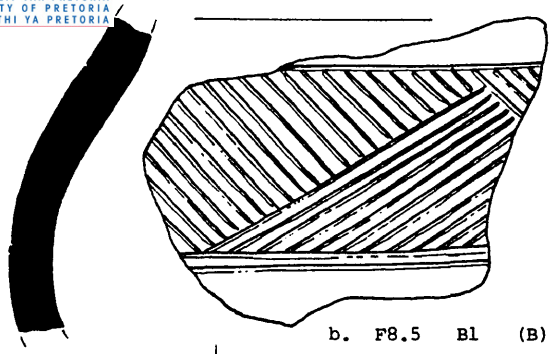
k. F8.5 MØ-25 Bl (B)

l. F8.5 Gr (LB)

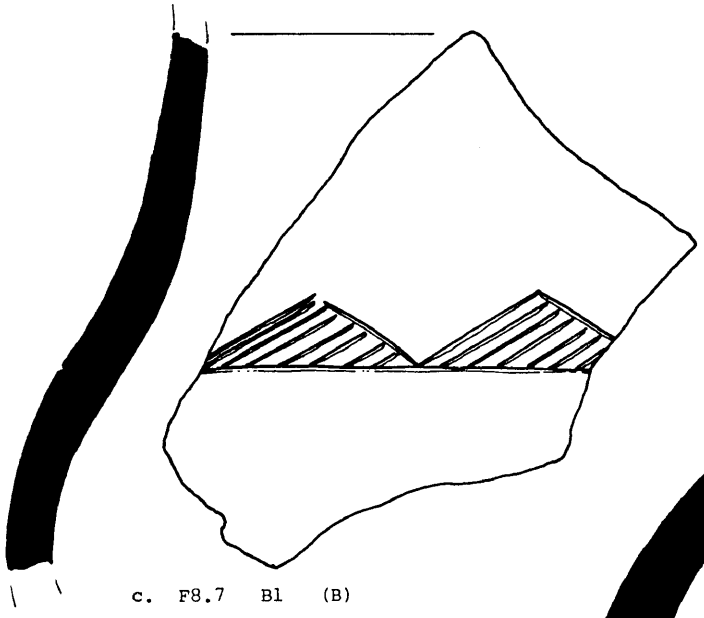
0 1 2 3 4 5 cm



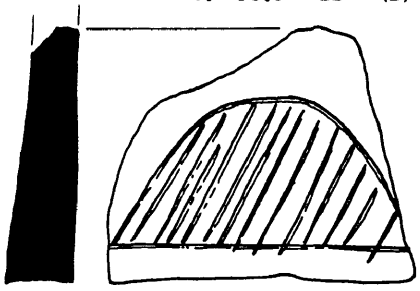
a. F8.5 MØ-30 Bl (B)



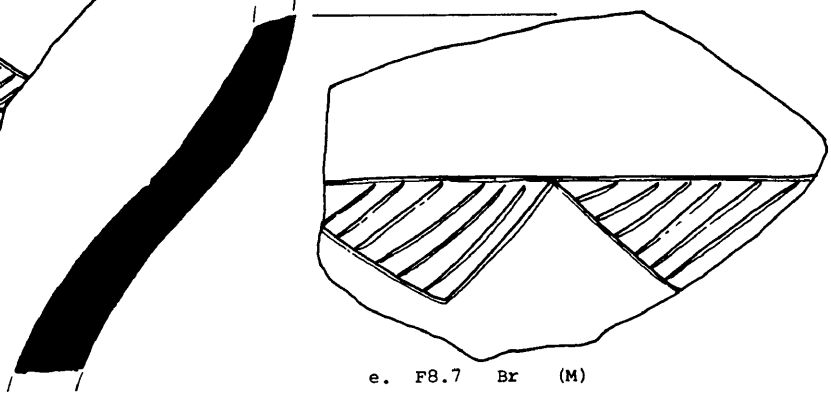
b. F8.5 Bl (B)



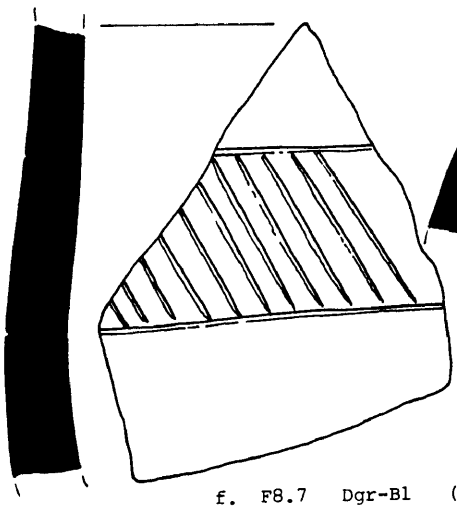
c. F8.7 Bl (B)



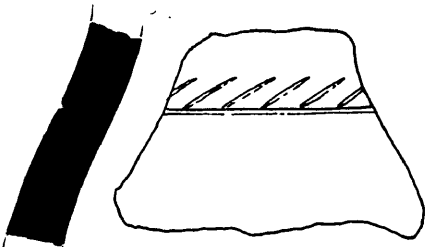
d. F8.7 Br (M)



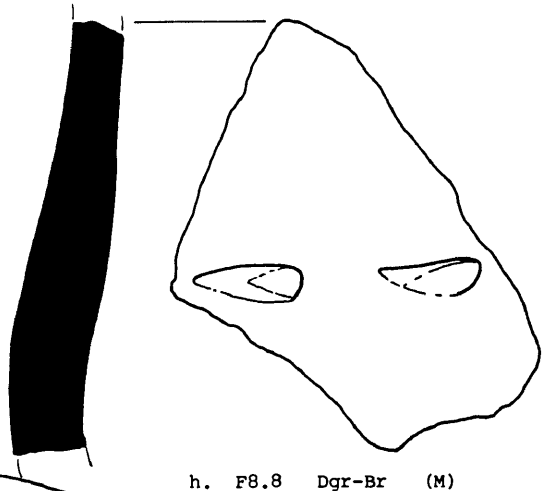
e. F8.7 Br (M)



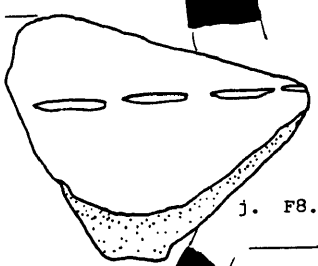
f. F8.7 Dgr-Bl (M)

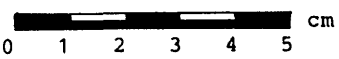


g. F8.8 Br-Dgr (M)

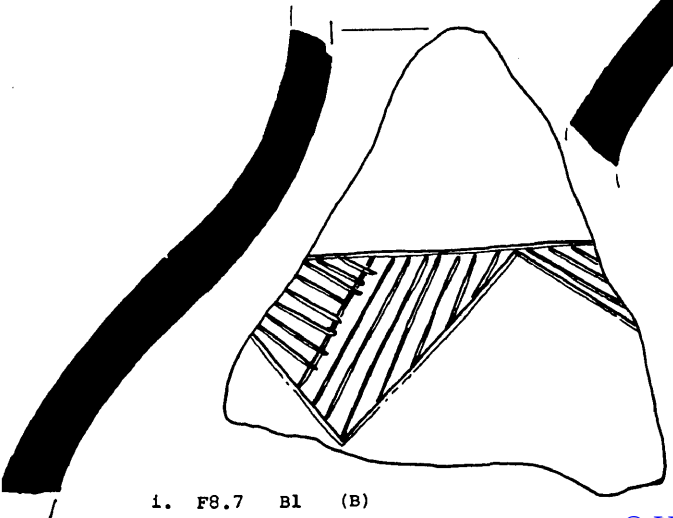


h. F8.8 Dgr-Br (M)

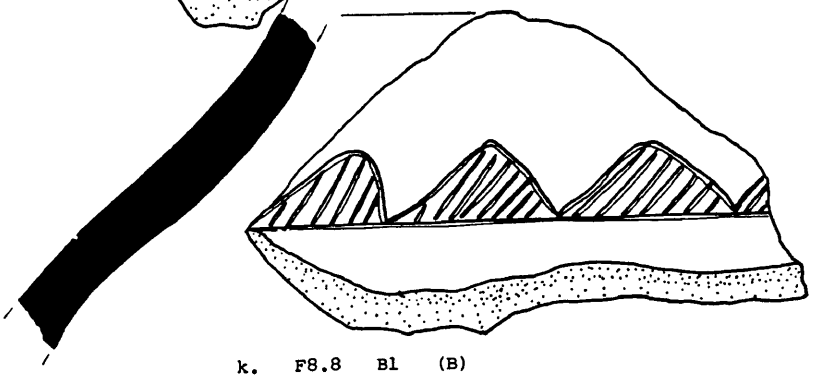




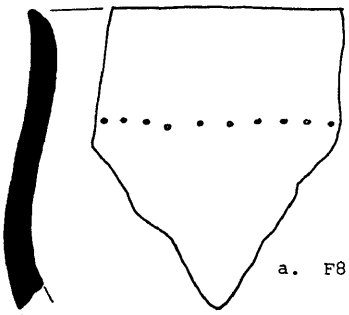
j. F8.8 Dgr-Br (M)



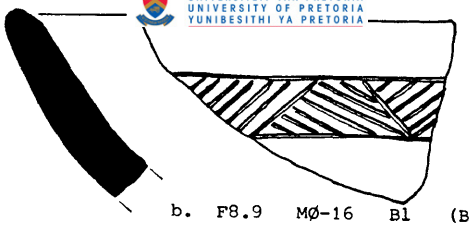
i. F8.7 Bl (B)



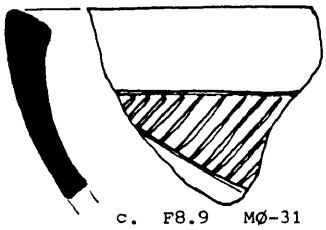
k. F8.8 Bl (B)



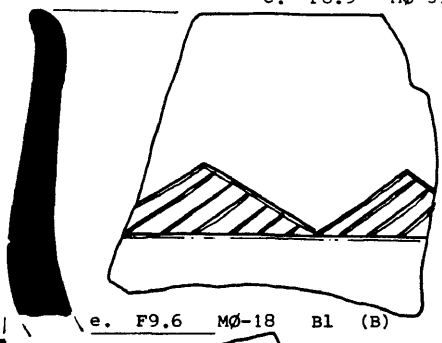
a. F8.9 MØ-7 Br-Gr (M)



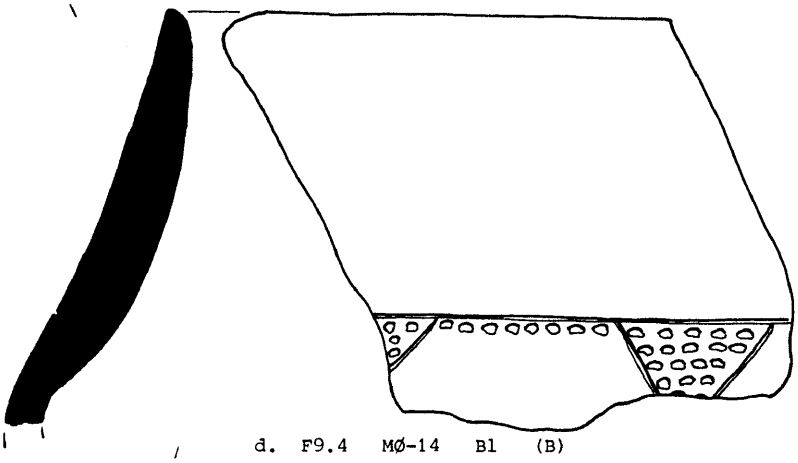
b. F8.9 MØ-16 Bl (B)



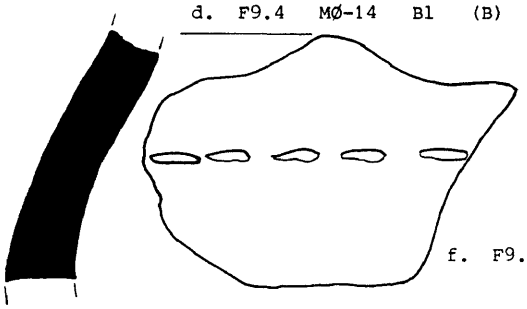
c. F8.9 MØ-31 Gr-Bl (B)



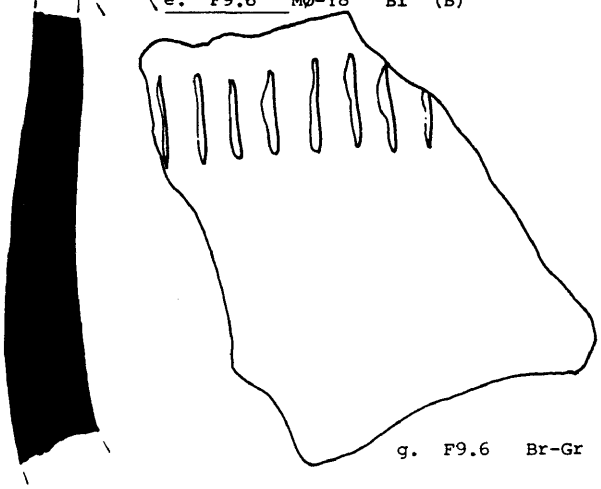
e. F9.6 MØ-18 Bl (B)



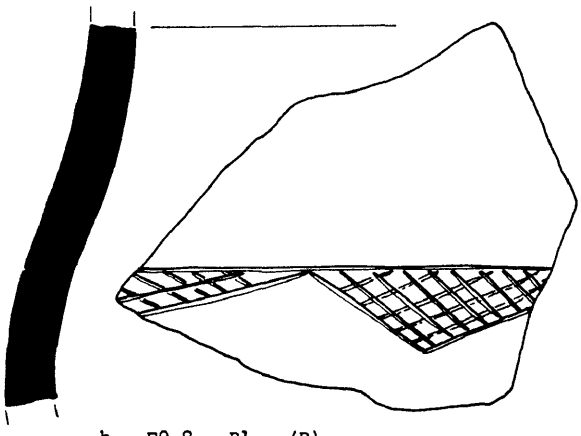
d. F9.4 MØ-14 Bl (B)



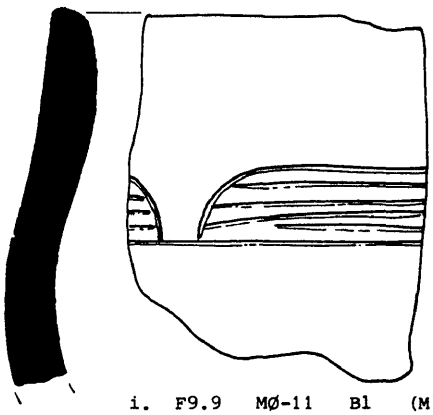
f. F9.6 Bl (M)



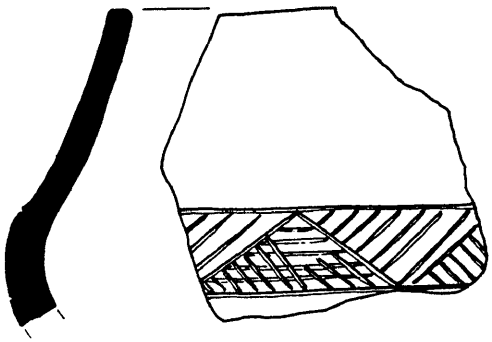
g. F9.6 Br-Gr (M)



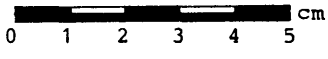
h. F9.8 Bl (B)

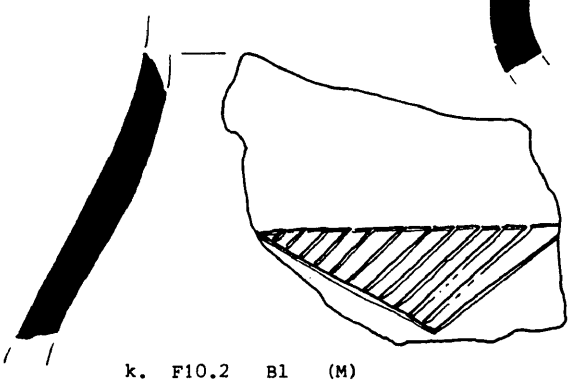


i. F9.9 MØ-11 Bl (M)

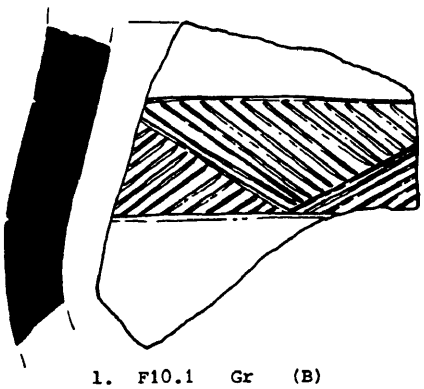


j. F10.1 MØ-14 Gr-Dgr (B)

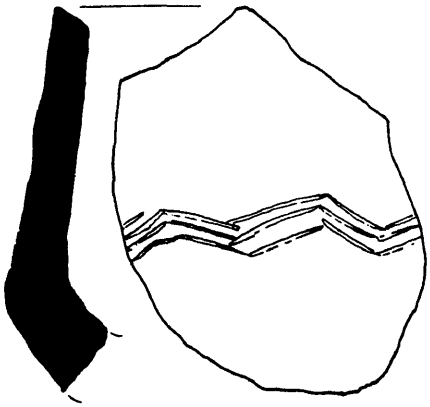




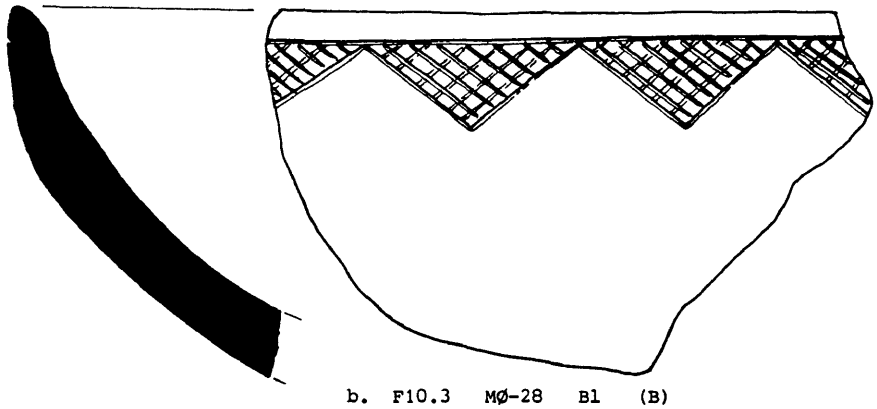
k. F10.2 Bl (M)



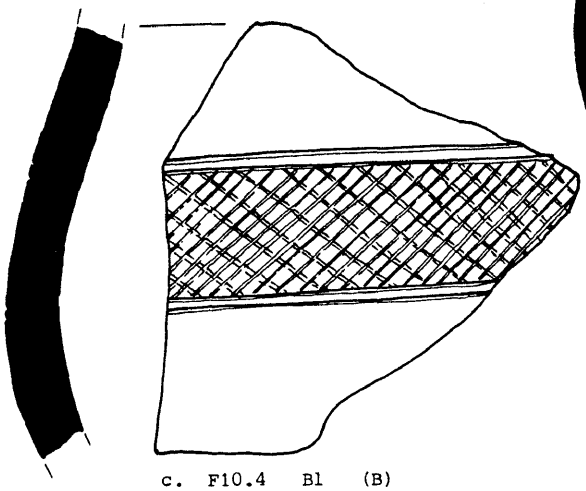
l. F10.1 Gr (B)



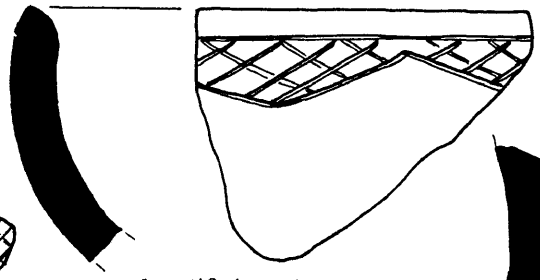
a. F10.3 Lbr (M)



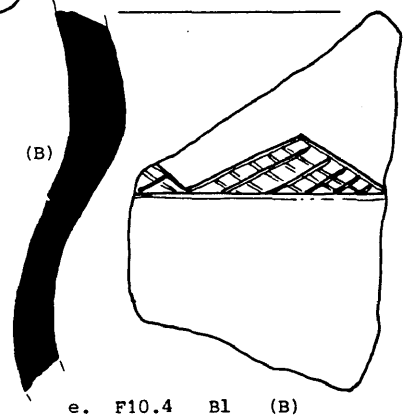
b. F10.3 MØ-28 Bl (B)



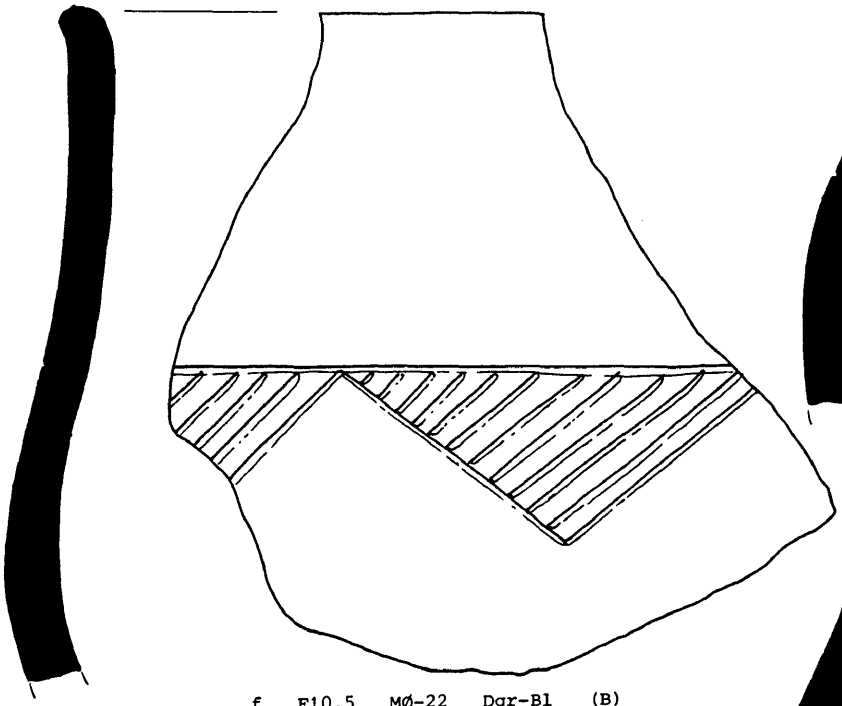
c. F10.4 Bl (B)



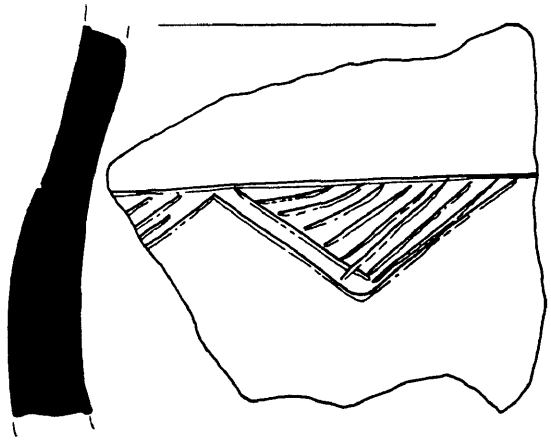
d. F10.4 MØ-30 Bl-Dgr (B)



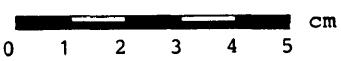
e. F10.4 Bl (B)

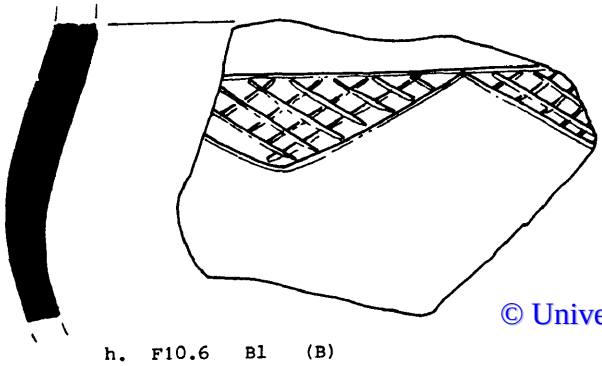


f. F10.5 MØ-22 Dgr-Bl (B)

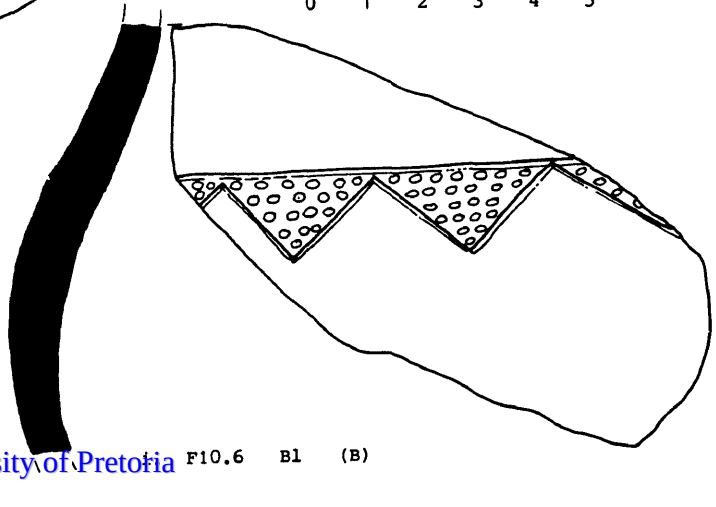


g. F10.5 Gr-Br (M)

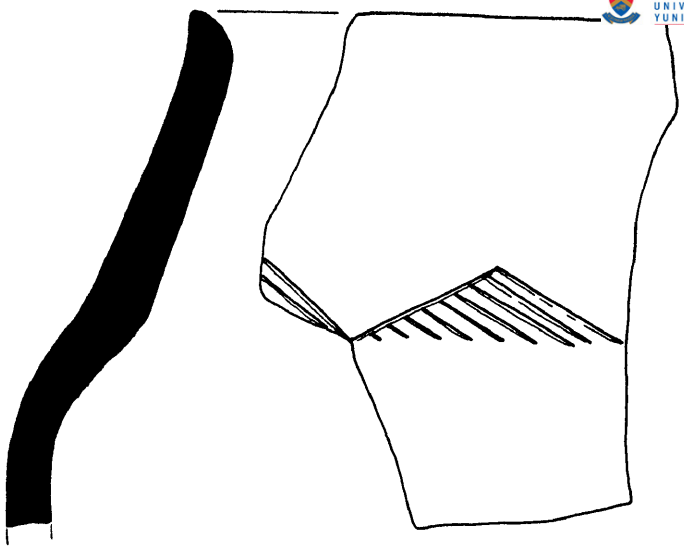




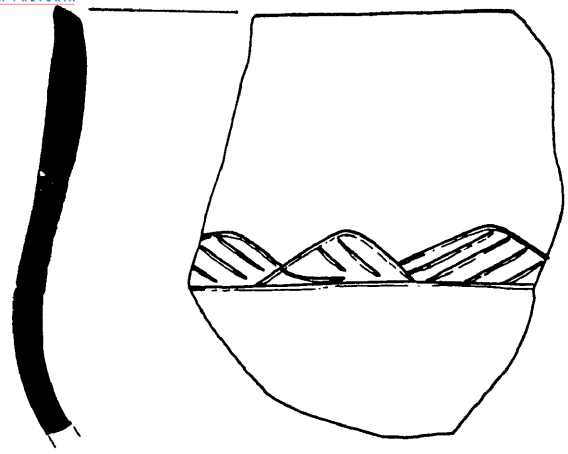
h. F10.6 Bl (B)



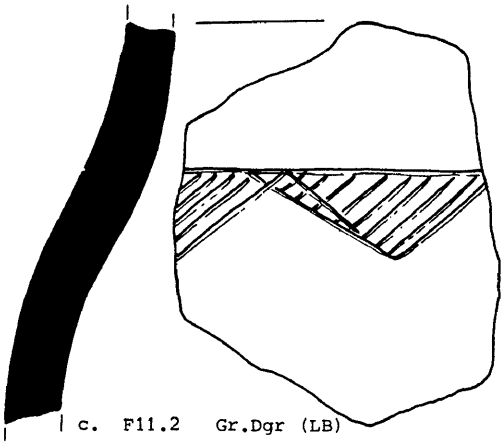
i. F10.6 Bl (B)



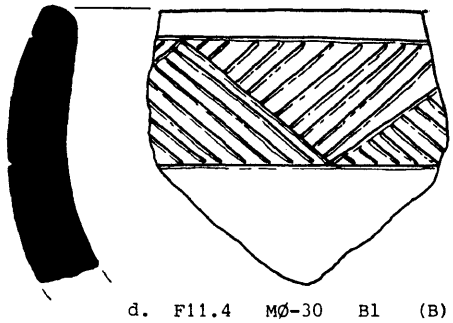
a. F10.8 MØ-17 Bl (B)



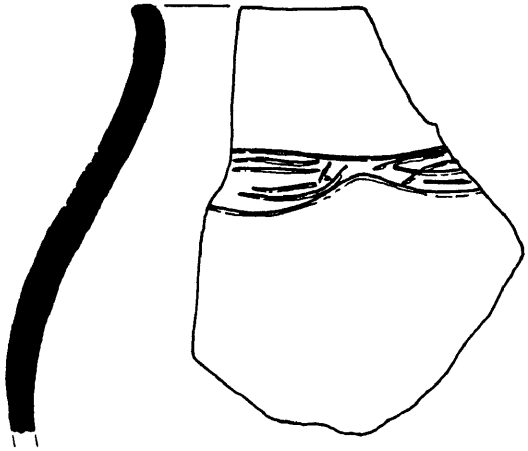
b. F10.9 MØ-11 Gr-Br-Bl (LB)



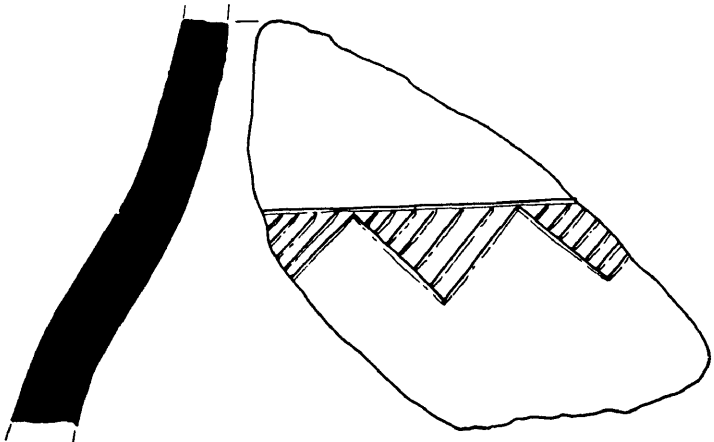
c. F11.2 Gr.Dgr (LB)



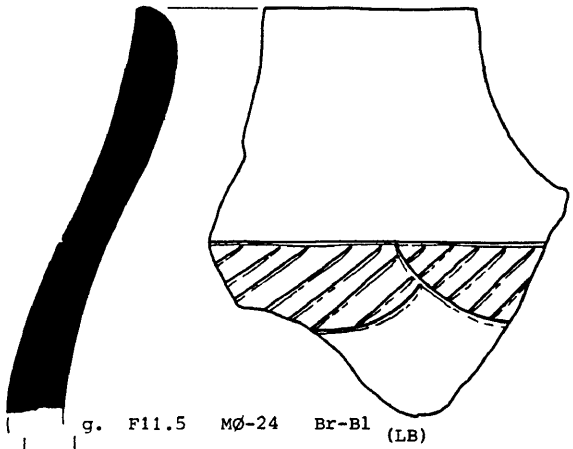
d. F11.4 MØ-30 Bl (B)



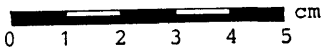
e. F11.5 MØ-8 Bl (LB)

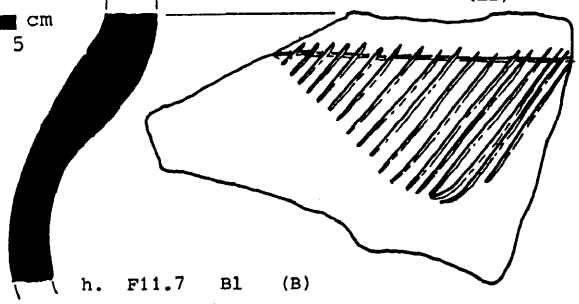


f. F11.5 Dgr-Bl (B)

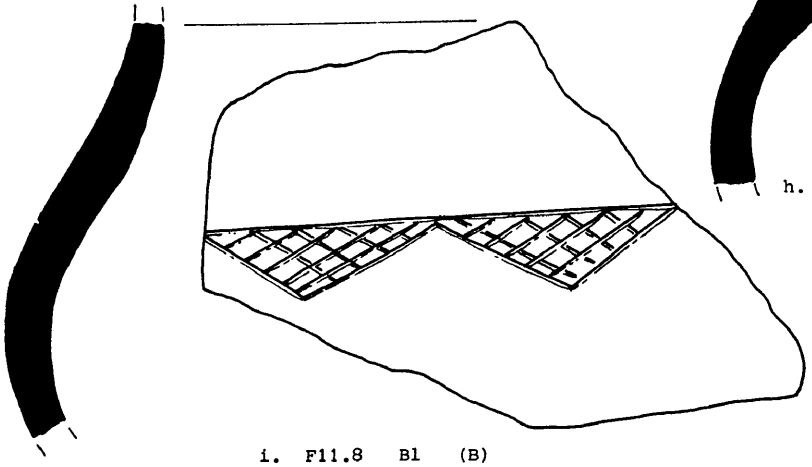


g. F11.5 MØ-24 Br-Bl (LB)

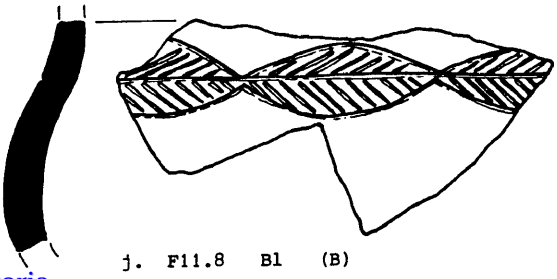




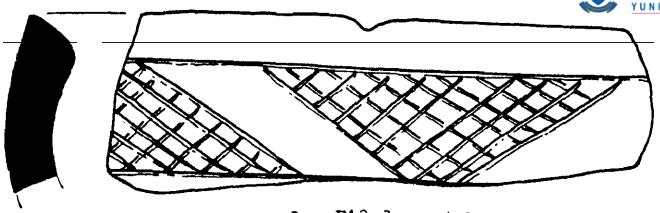
h. F11.7 Bl (B)



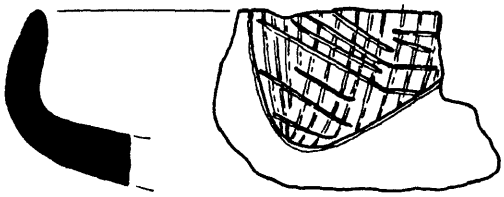
i. F11.8 Bl (B)



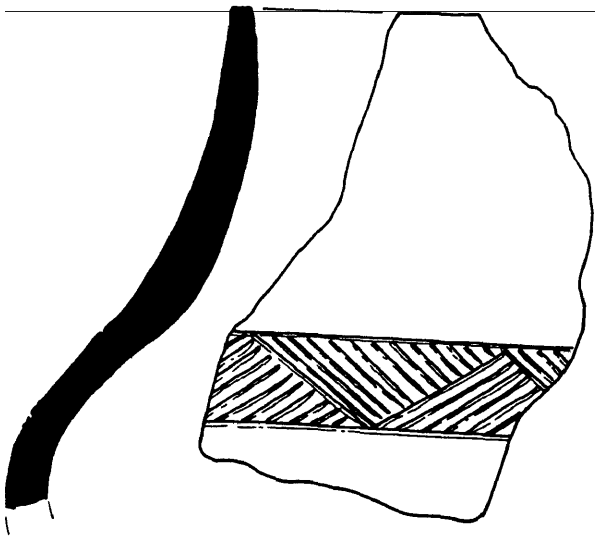
j. F11.8 Bl (B)



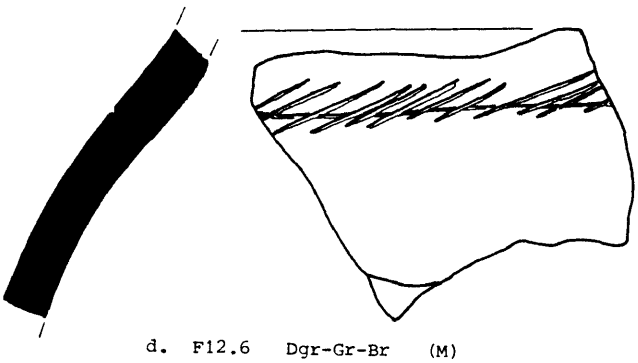
a. F12.3 MØ-31 Dgr (B)



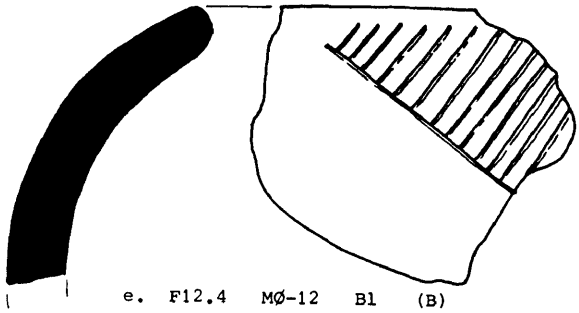
c. F12.5 MØ-18 Br (LB)



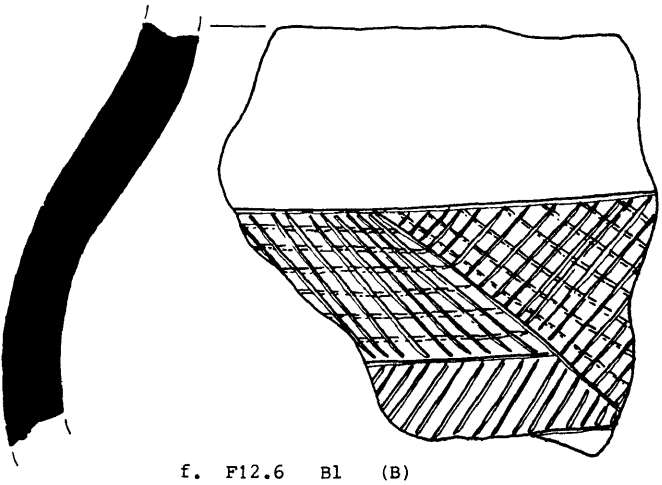
b. F12.5 MØ- Bl (B)



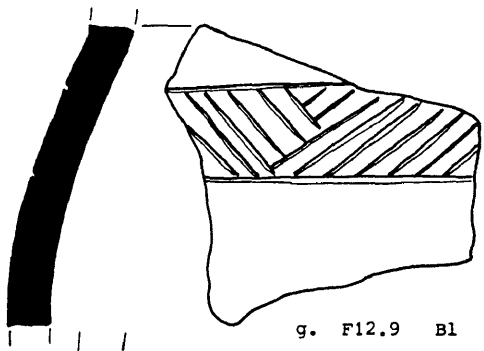
d. F12.6 Dgr-Gr-Br (M)



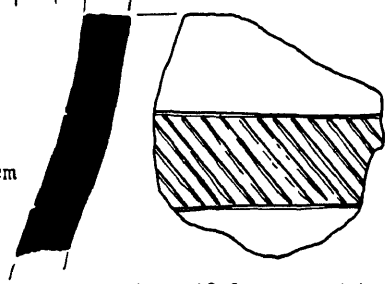
e. F12.4 MØ-12 Bl (B)



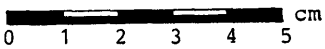
f. F12.6 Bl (B)

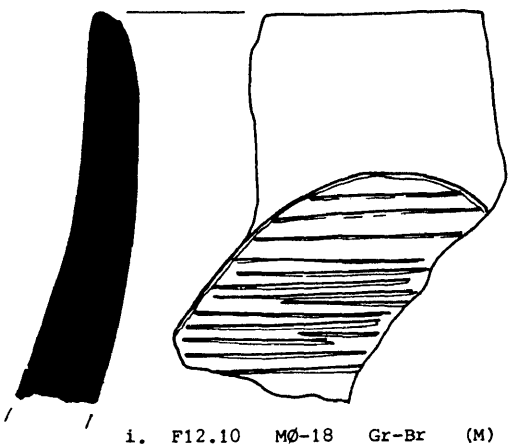


g. F12.9 Bl (B)

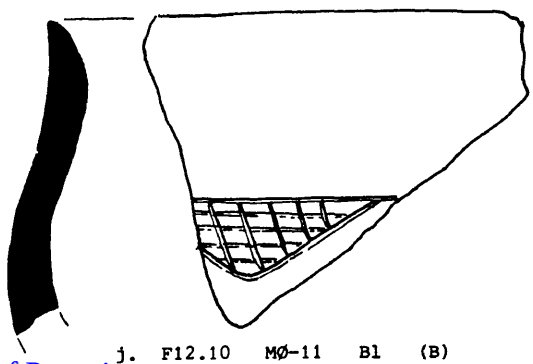


h. F12.9 Br (M)

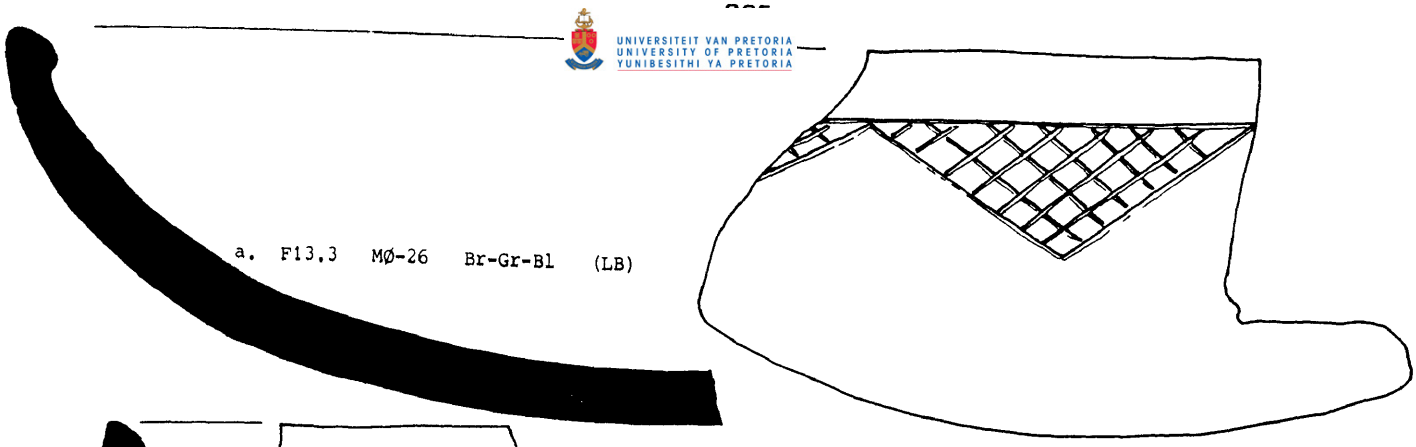




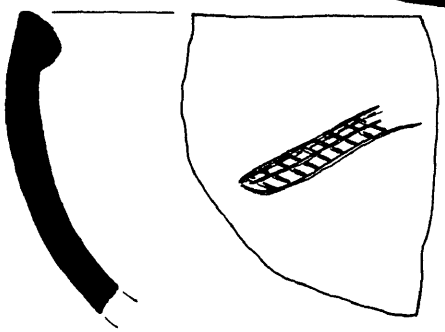
i. F12.10 MØ-18 Gr-Br (M)



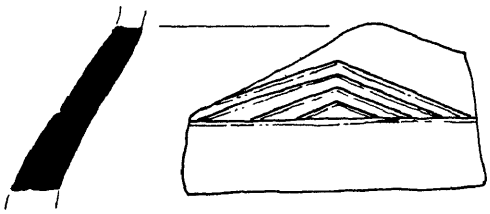
j. F12.10 MØ-11 Bl (B)



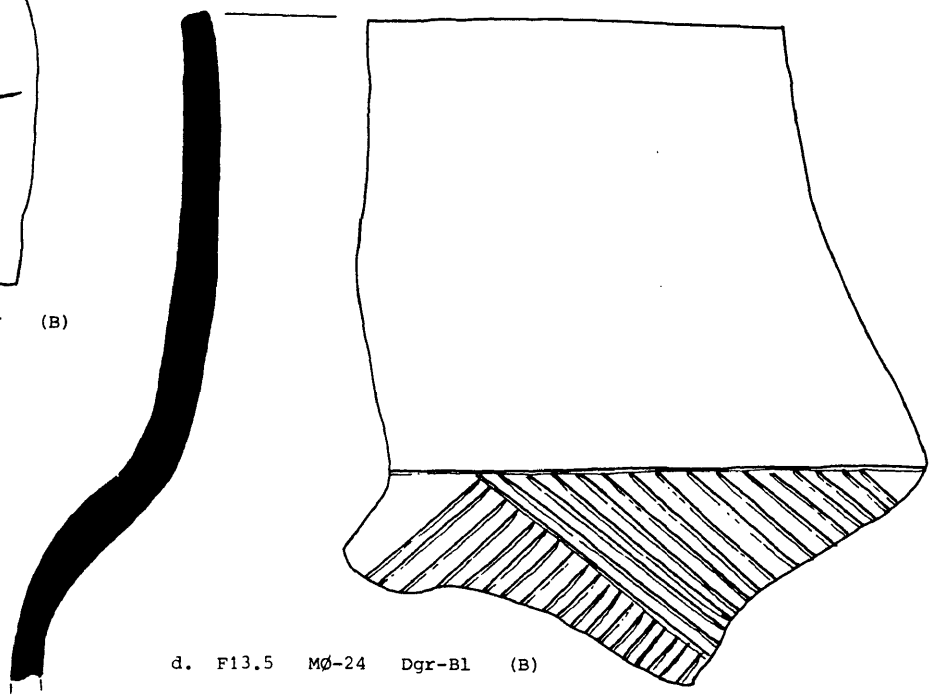
a. F13.3 MØ-26 Br-Gr-Bl (LB)



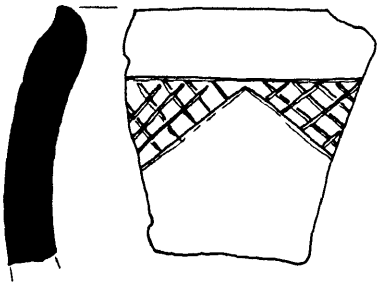
b. F13.2 MØ-20 Gr-Dgr (B)



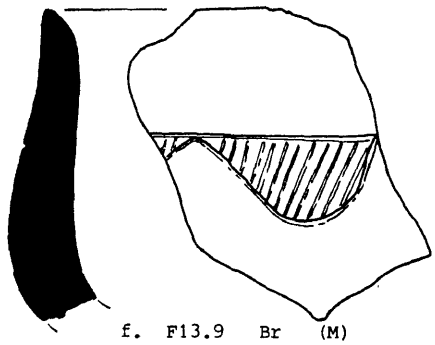
c. F13.8 Bl (B)



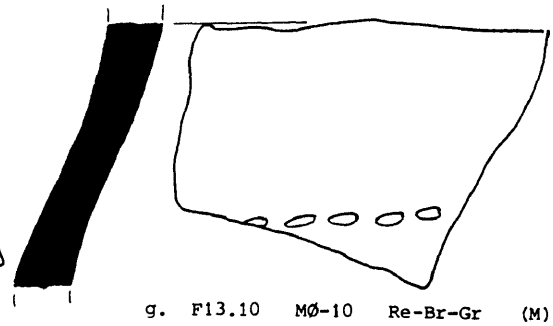
d. F13.5 MØ-24 Dgr-Bl (B)



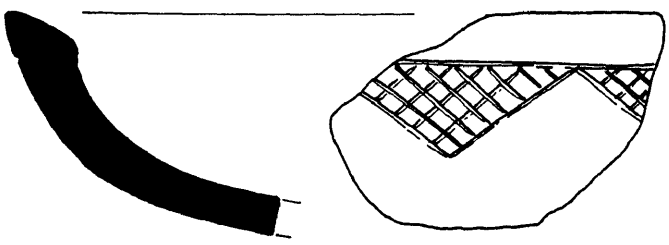
e. F13.9 MØ-34 Bl-Dgr (B)



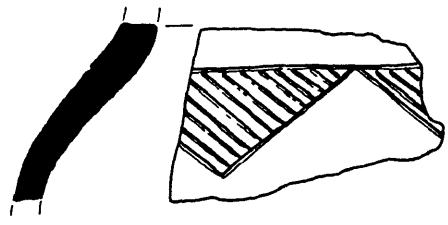
f. F13.9 Br (M)



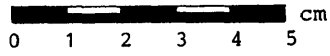
g. F13.10 MØ-10 Re-Br-Gr (M)

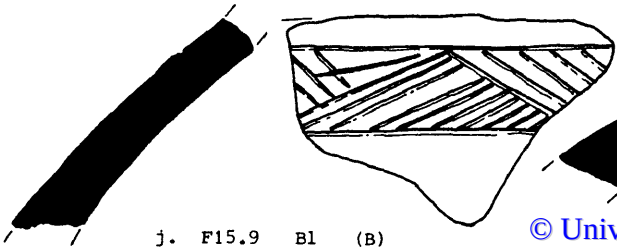


h. F14.4 MØ-30 Br (M)

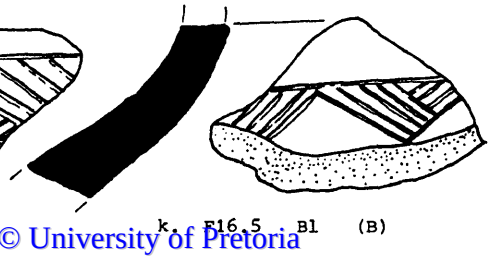


i. F15.8 Bl (B)

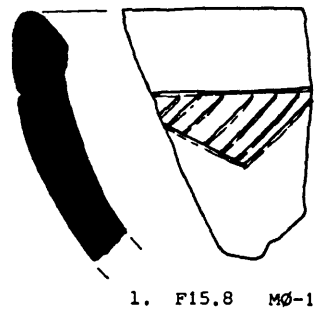




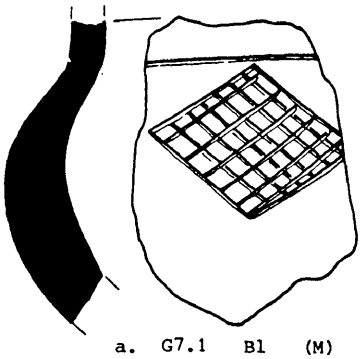
j. F15.9 Bl (B)



k. F16.5 Bl (B)

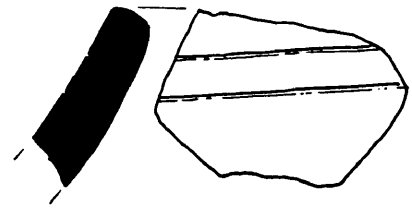


l. F15.8 MØ-19
Bl (B)

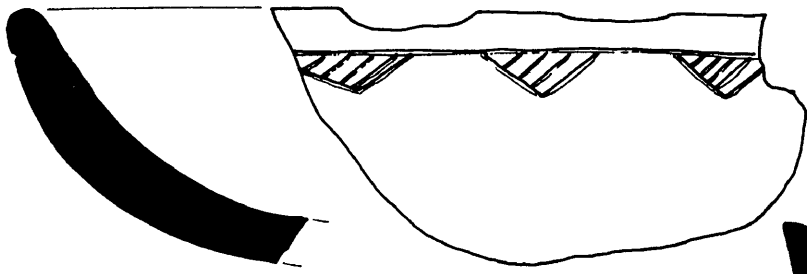


a. G7.1 Bl (M)

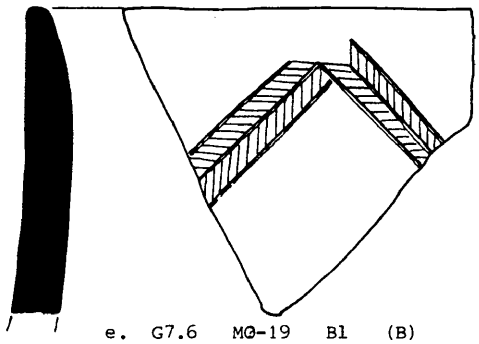
b. G7.2 Bl (LB)



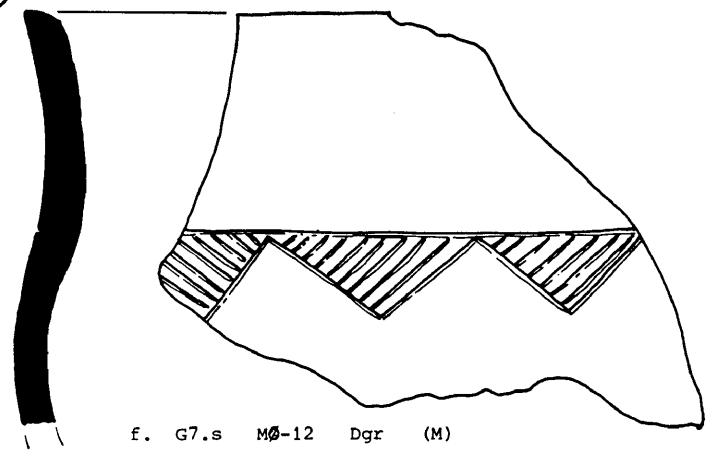
c. G7.2 Br-Bl (M)



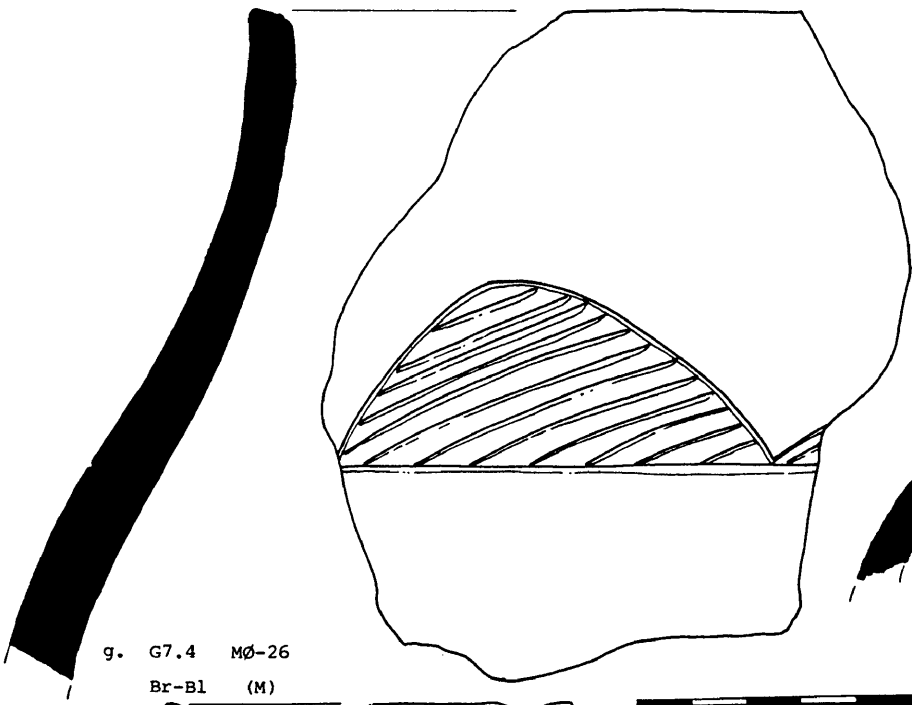
d. G7.2 MØ-15 Br-Gr-Bl (LB)



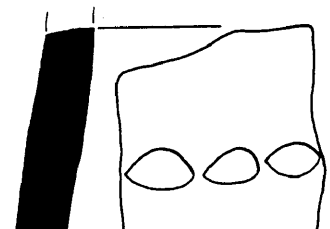
e. G7.6 MØ-19 Bl (B)



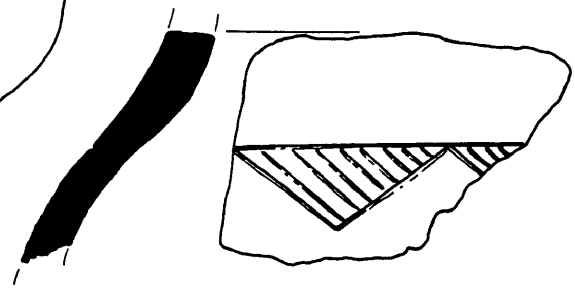
f. G7.s MØ-12 Dgr (M)



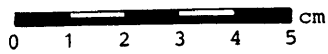
g. G7.4 MØ-26
Br-Bl (M)

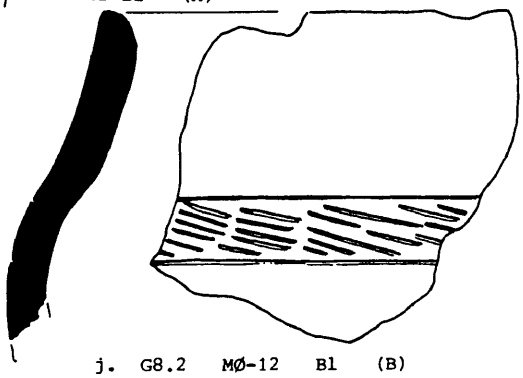


h. G7.7 Br-Bl (M)

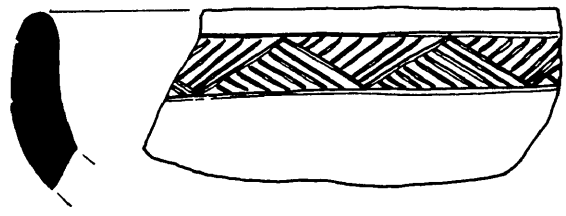


i. G8.1 Gr-Bl (B)

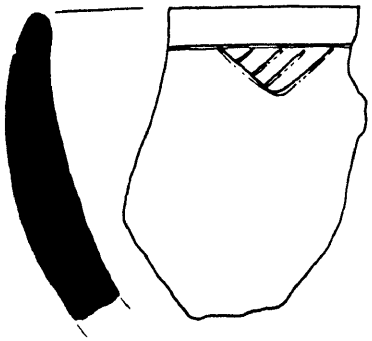




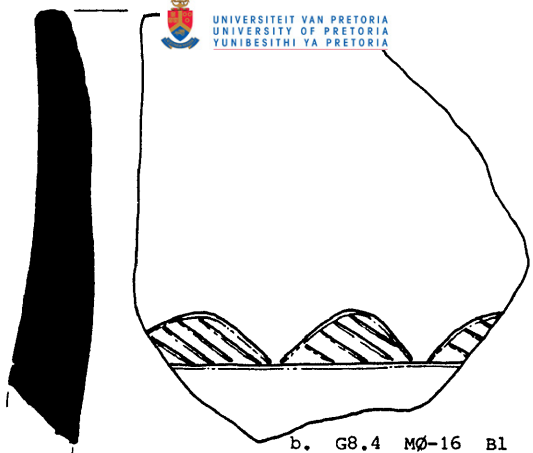
j. G8.2 MØ-12 Bl (B)



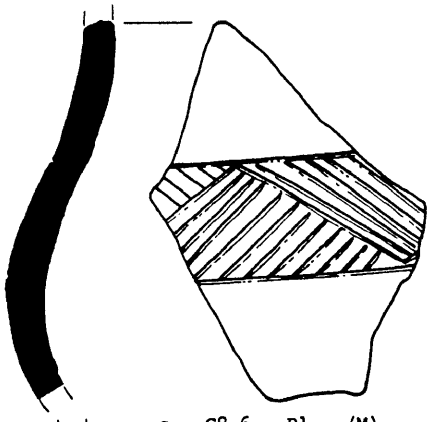
k. G8.2 MØ-12 Gr (B)



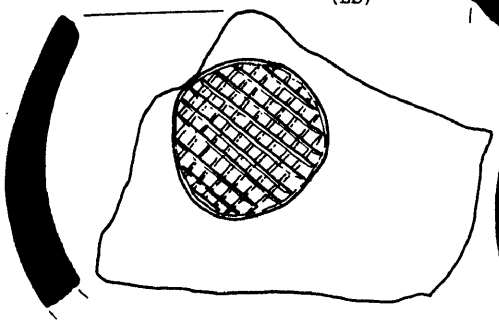
a. G8.3 MØ-19 Bl-Gr-Br (LB)



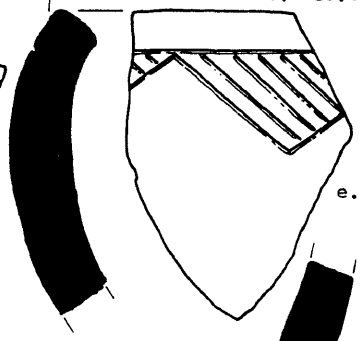
b. G8.4 MØ-16 Bl (B)



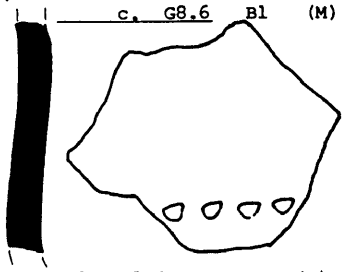
c. G8.6 Bl (M)



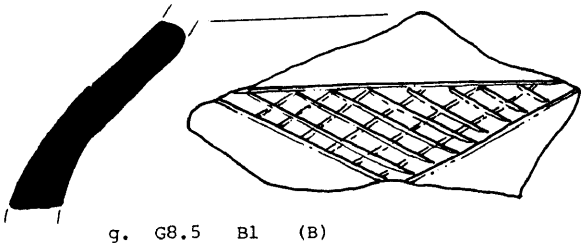
d. G8.5 Bl (B)



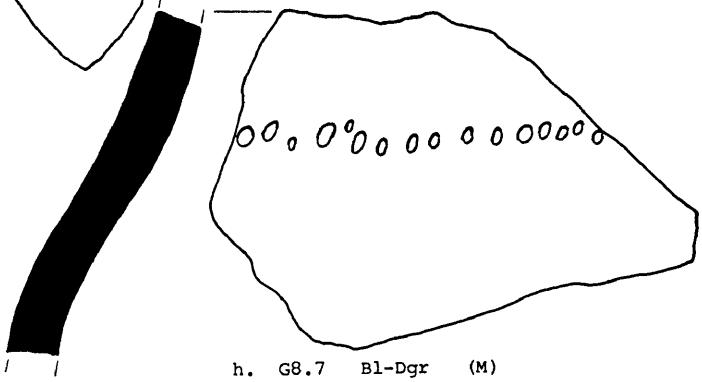
e. G8.5 MØ-24 Bl (B)



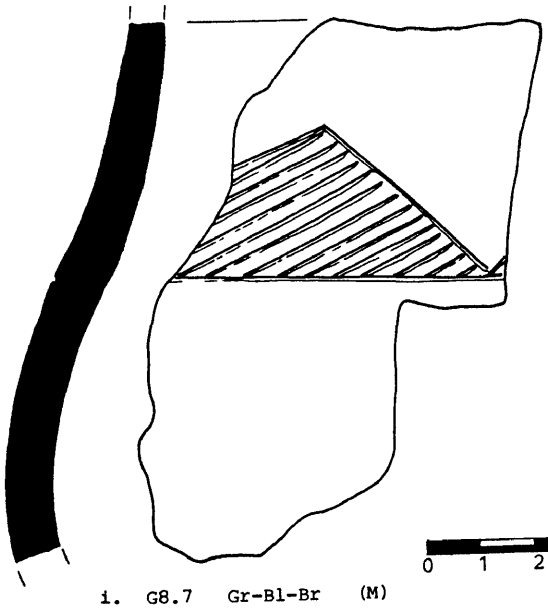
f. G8.6 Br-Gr (M)



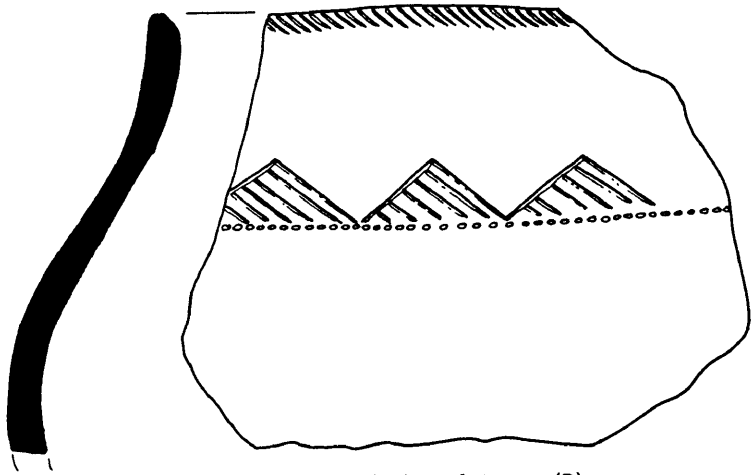
g. G8.5 Bl (B)



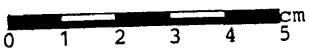
h. G8.7 Bl-Dgr (M)

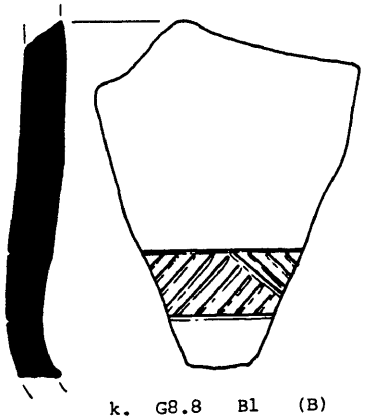


i. G8.7 Gr-Bl-Br (M)

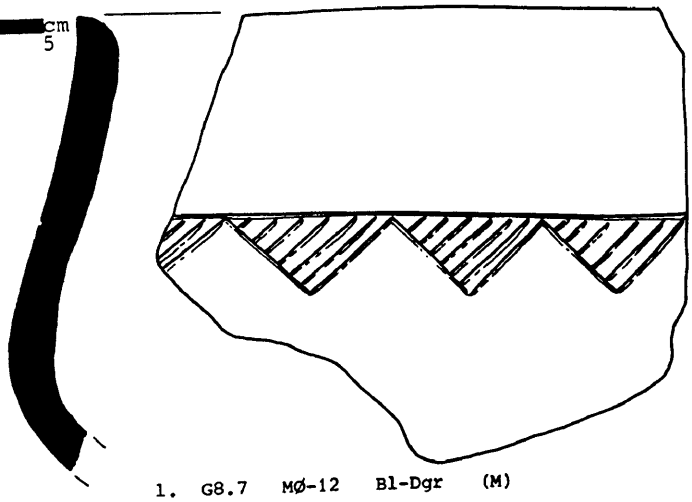


j. G8.8 MØ-13 Bl-Dgr (B)

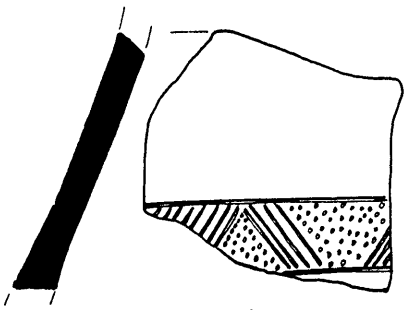




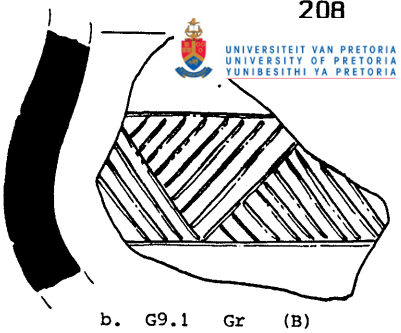
k. G8.8 Bl (B)



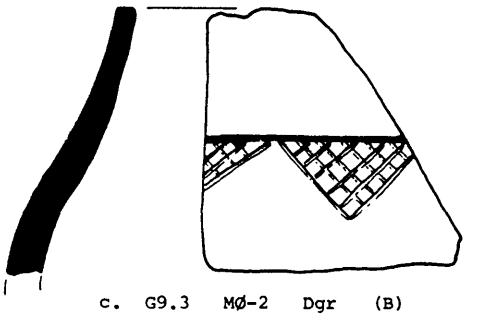
l. G8.7 MØ-12 Bl-Dgr (M)



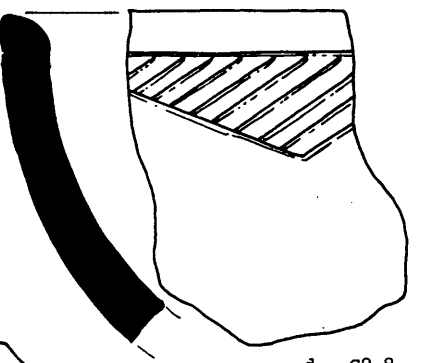
a. G9.1 Bl (B)



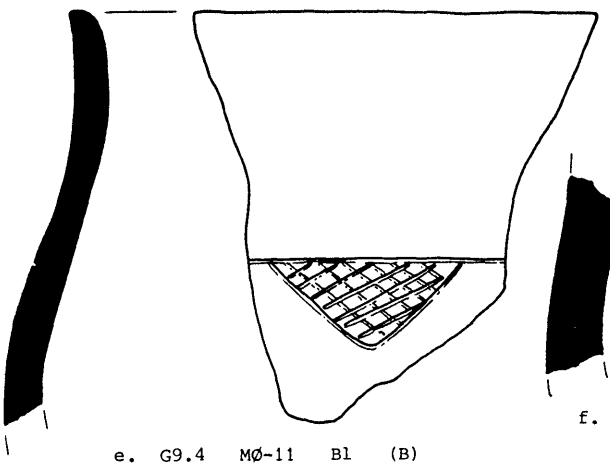
b. G9.1 Gr (B)



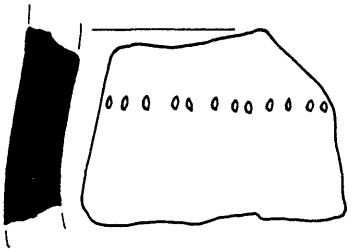
c. G9.3 MØ-2 Dgr (B)



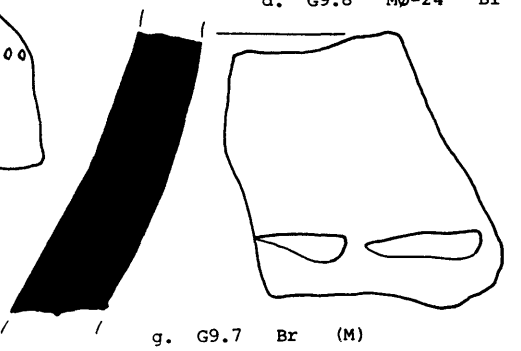
d. G9.8 MØ-24 Bl (B)



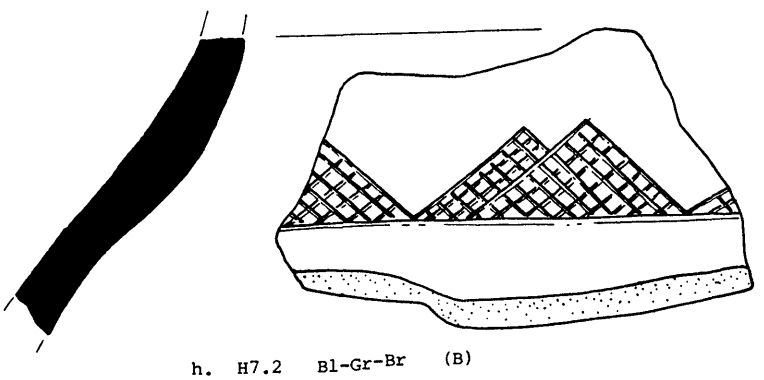
e. G9.4 MØ-11 Bl (B)



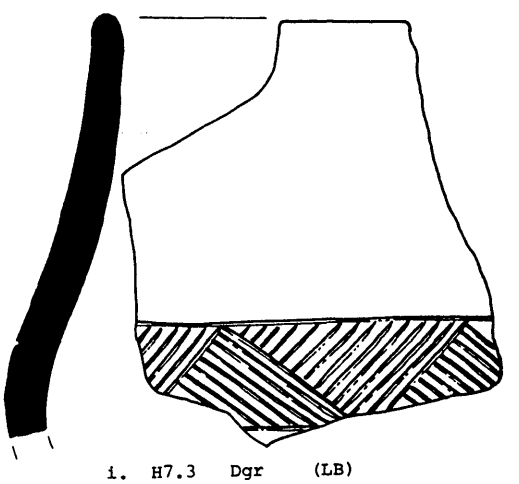
f. G9.9 Bl-Br (M)



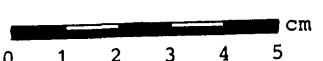
g. G9.7 Br (M)

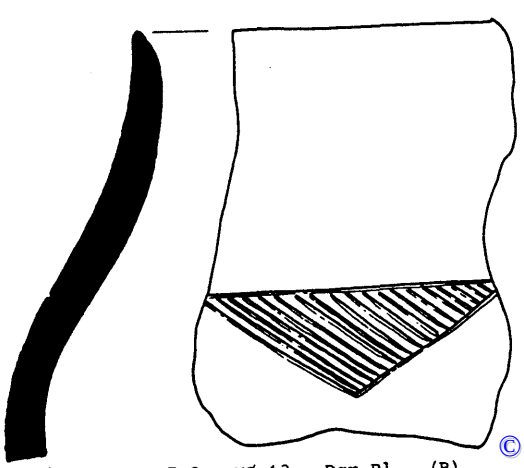


h. H7.2 Bl-Gr-Br (B)

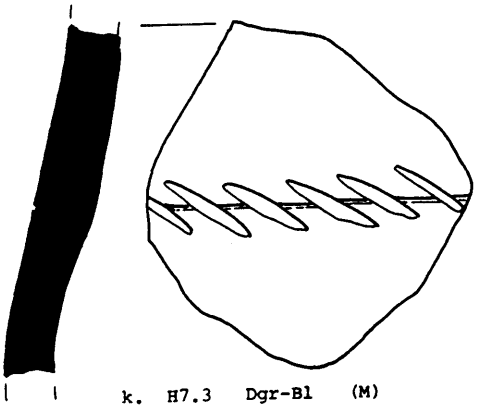


i. H7.3 Dgr (LB)

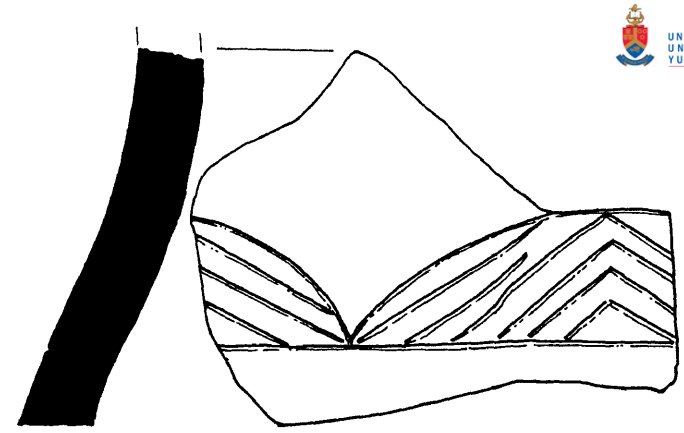




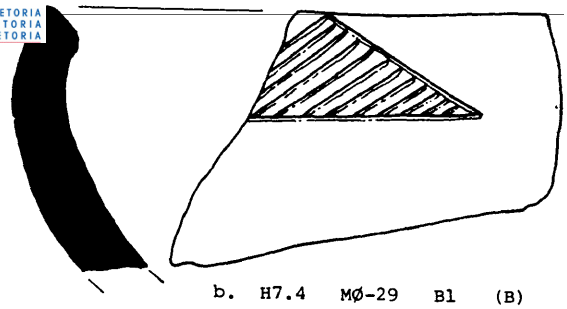
j. H7.3 MØ-13 Dgr-Bl (B)



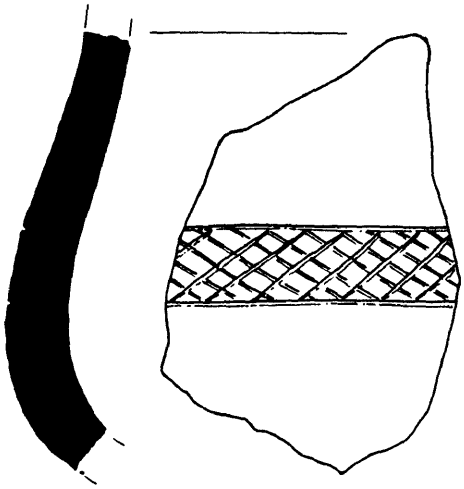
k. H7.3 Dgr-Bl (M)



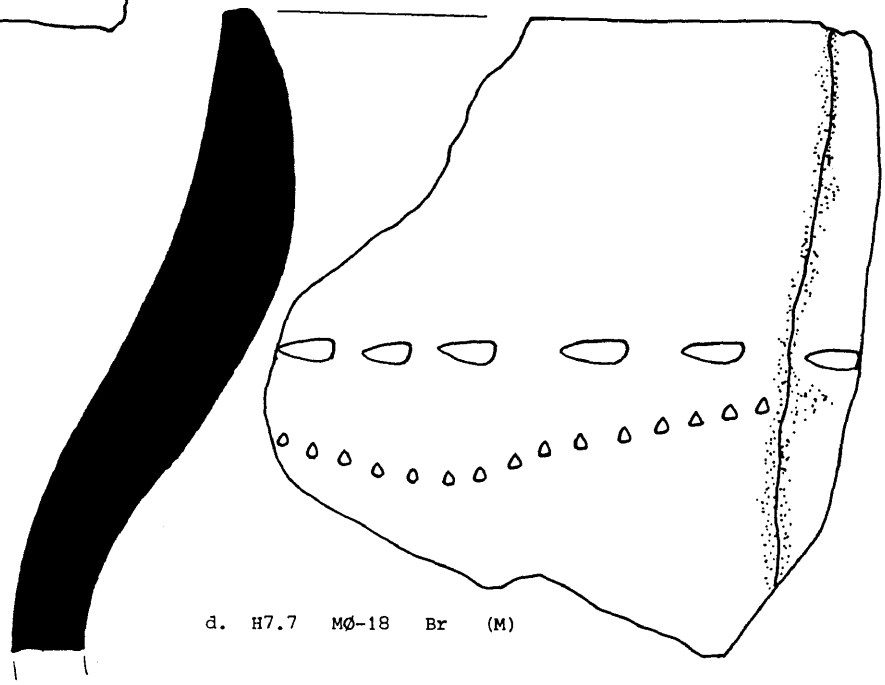
a. H7.4 Bl (B)



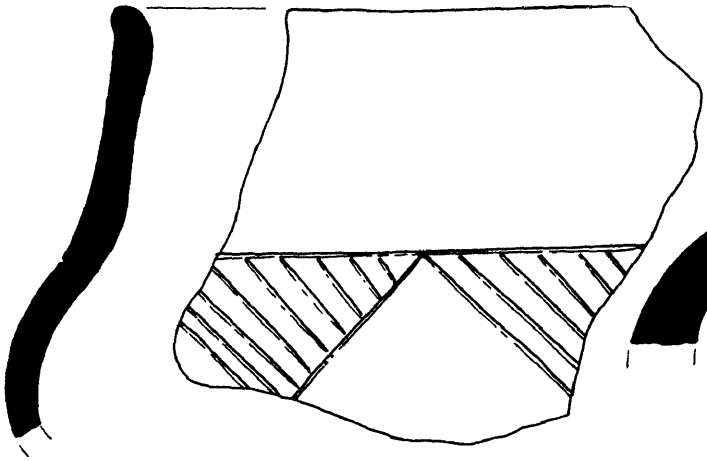
b. H7.4 MØ-29 Bl (B)



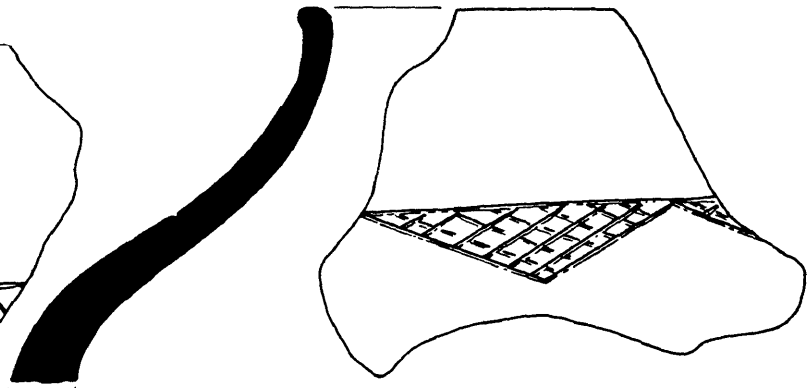
c. H7.3 Bl (LB)



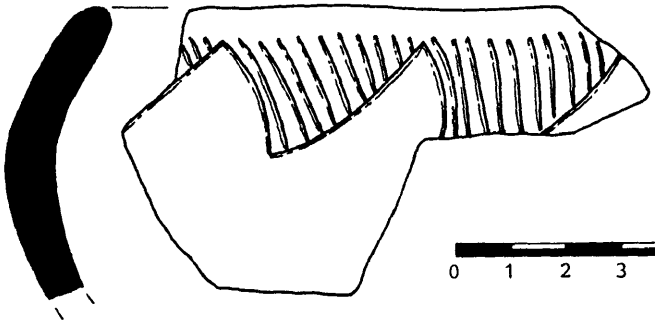
d. H7.7 MØ-18 Br (M)



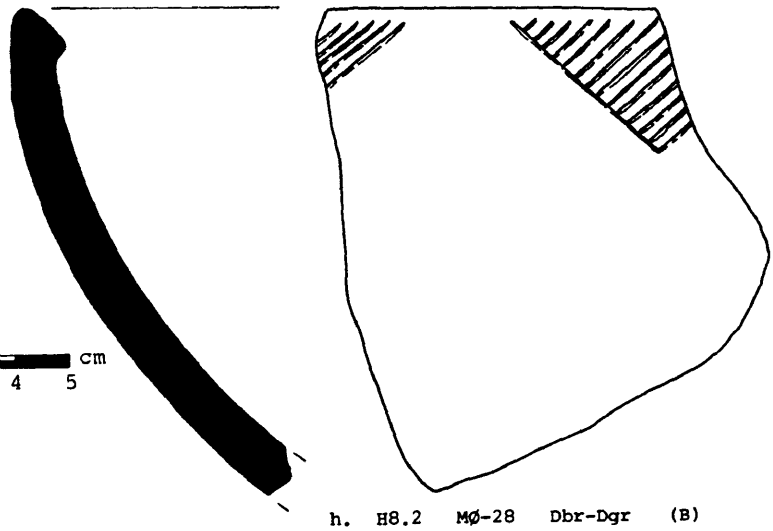
e. H8.2 MØ-12 Dgr (B)



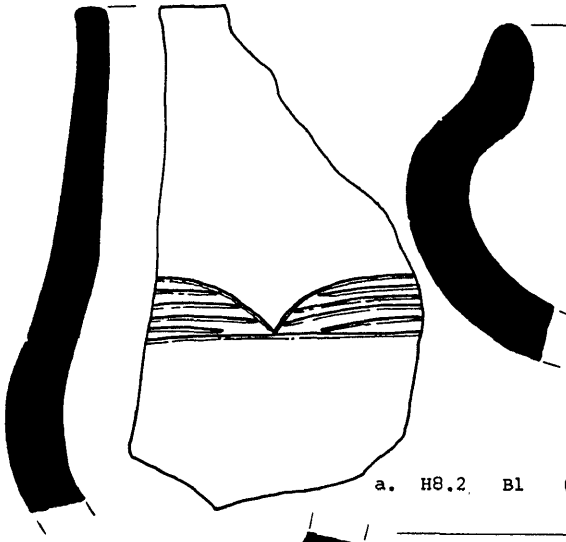
f. H8.2 MØ-14 Dgr (LB)



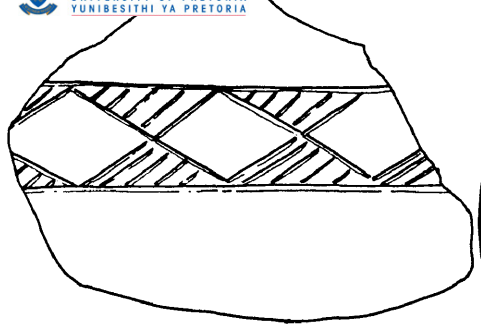
g. H8.2 MØ-23 Br-Dgr-Bl (VLB)



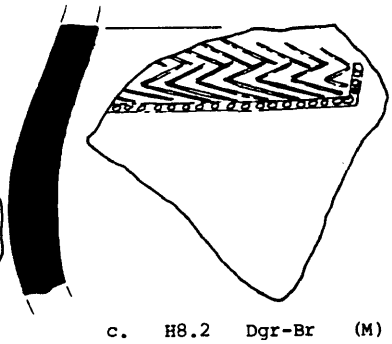
h. H8.2 MØ-28 Dbr-Dgr (B)



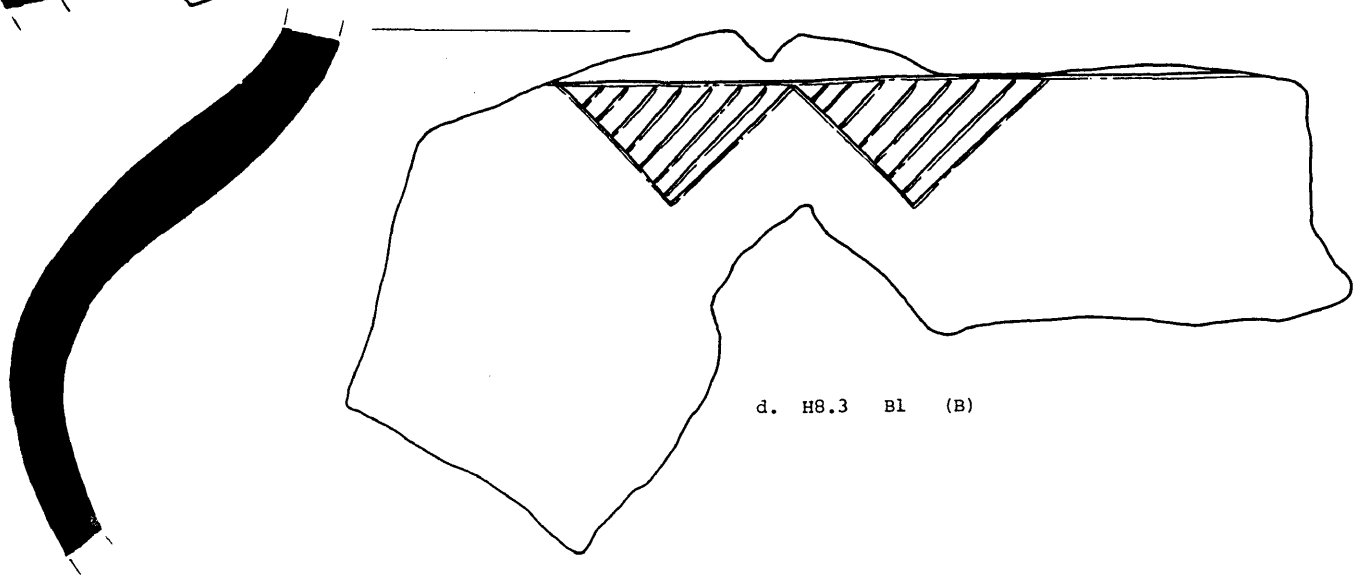
a. H8.2 Bl (B)



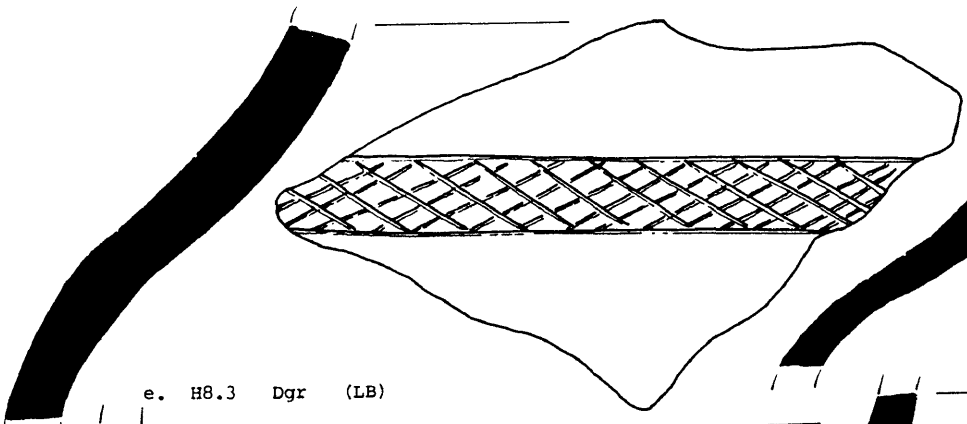
b. H8.2 MØ-34 Bl (B)



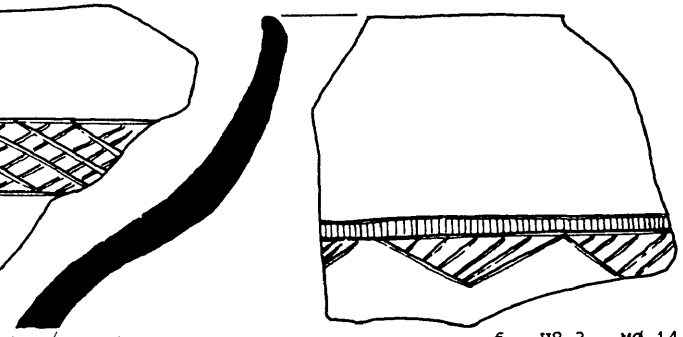
c. H8.2 Dgr-Br (M)



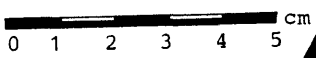
d. H8.3 Bl (B)

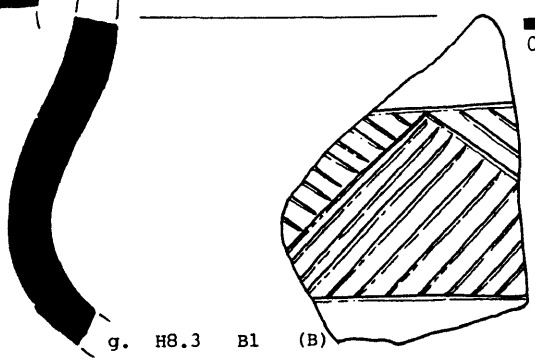


e. H8.3 Dgr (LB)

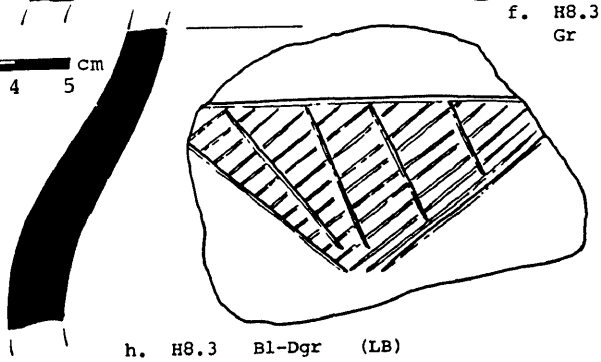


f. H8.3 MØ-14 Gr (B)

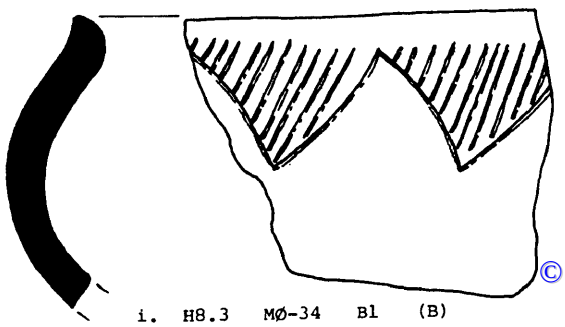




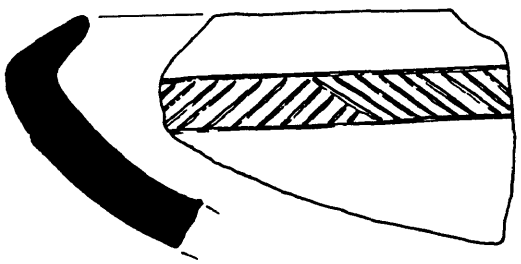
g. H8.3 Bl (B)



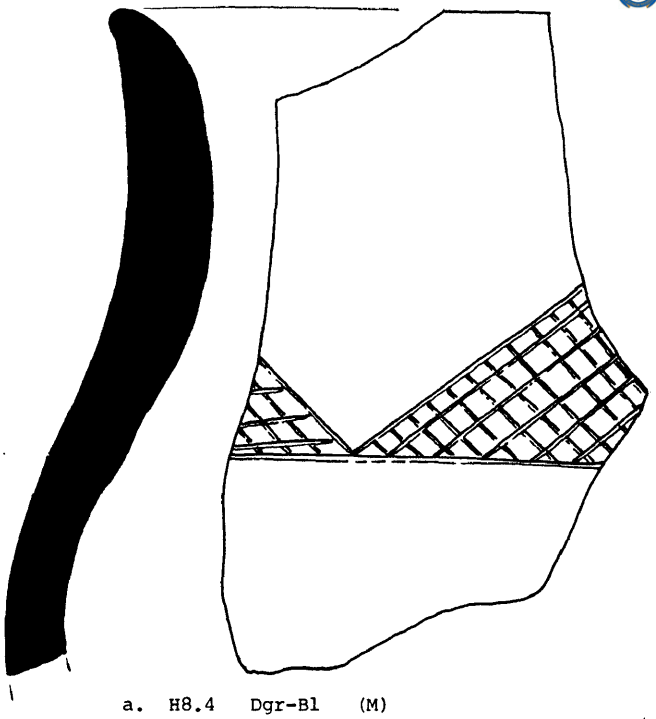
h. H8.3 Bl-Dgr (LB)



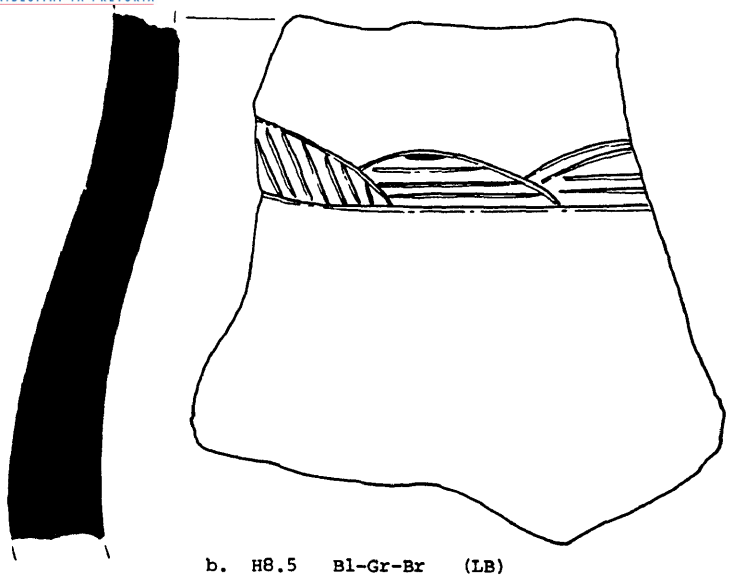
i. H8.3 MØ-34 Bl (B)



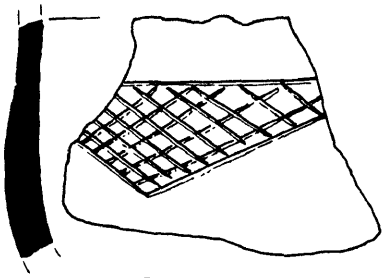
j. H8.4 MØ-24 Bl (B)



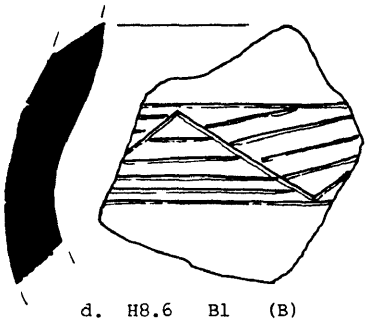
a. H8.4 Dgr-Bl (M)



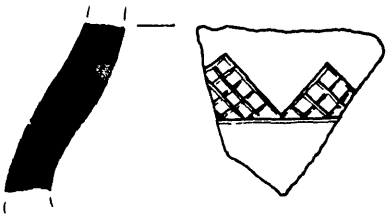
b. H8.5 Bl-Gr-Br (LB)



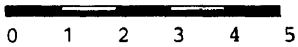
c. H8.5 Dgr-Br (LB)

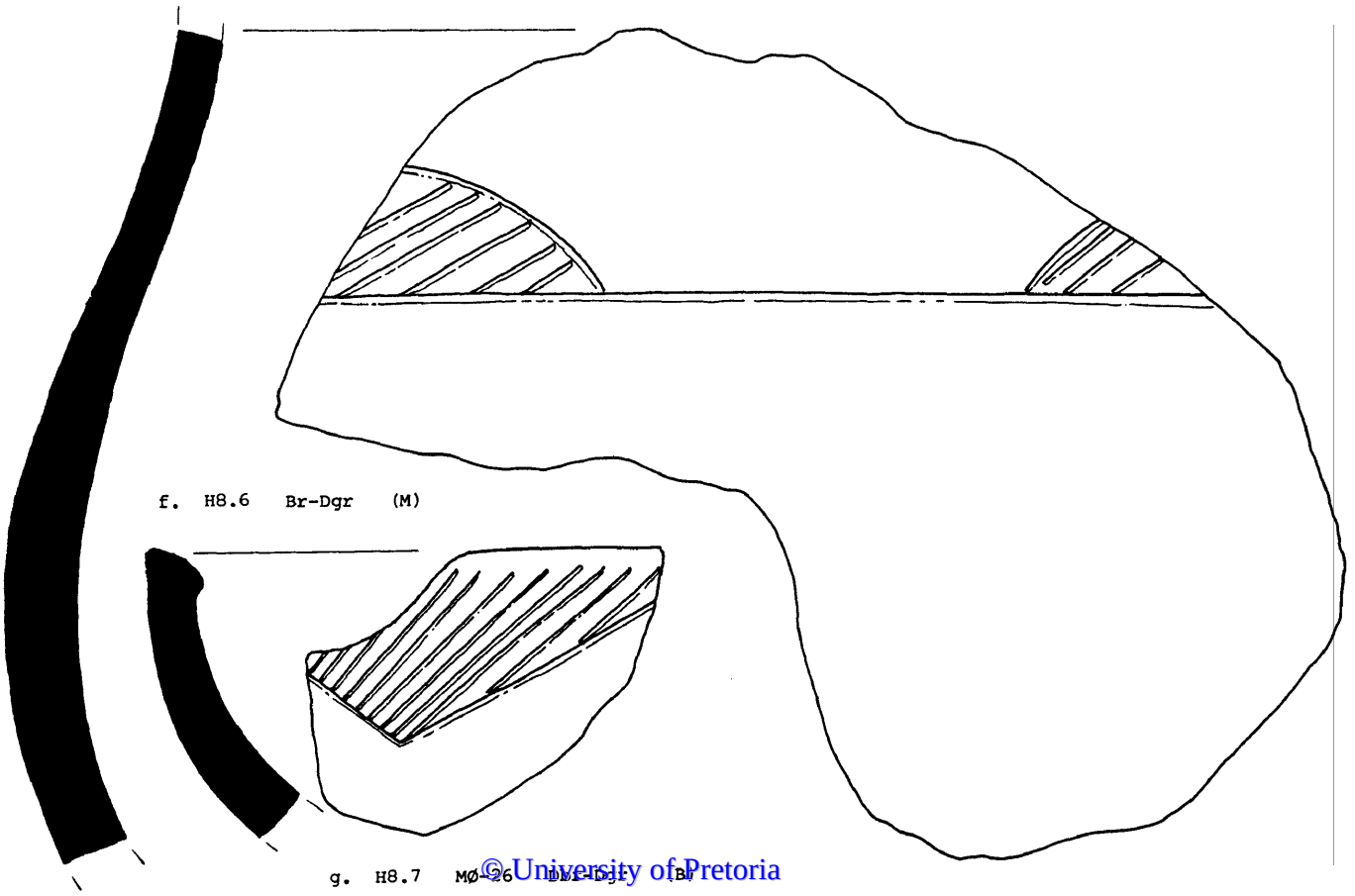


d. H8.6 Bl (B)



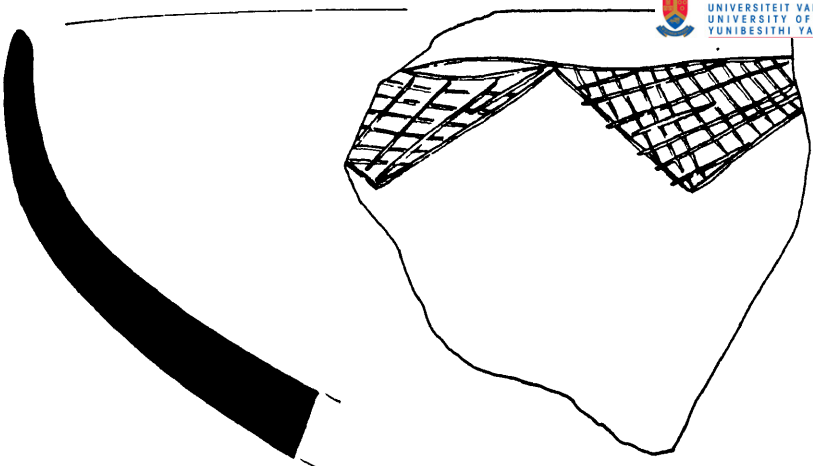
e. H8.6 Bl (B)



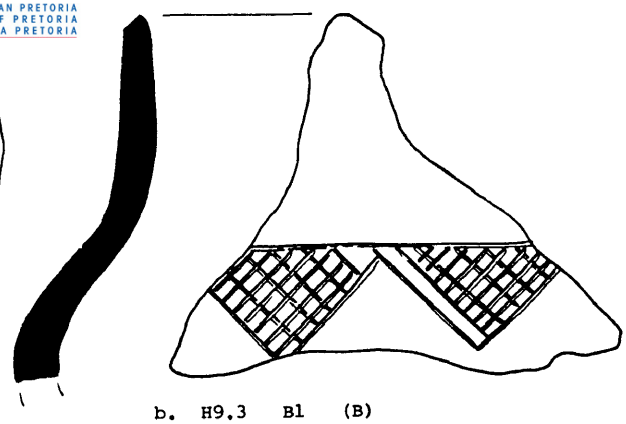


f. H8.6 Br-Dgr (M)

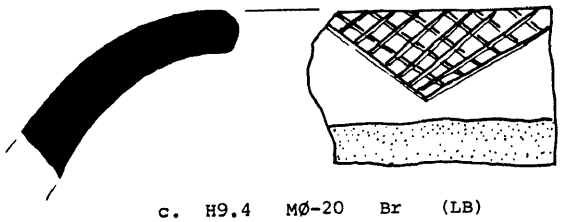
g. H8.7 MØ-26 [illegible] Bl



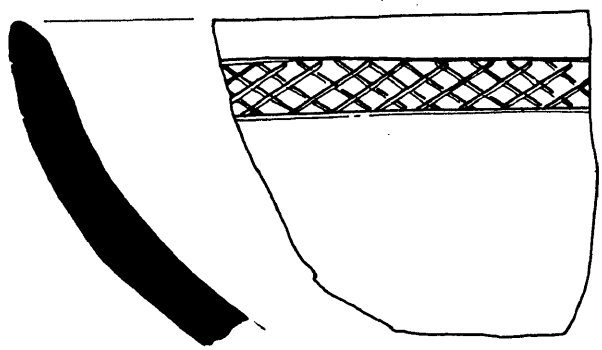
a. H9.2 MØ-24 Bl-Gr-Br (LB)



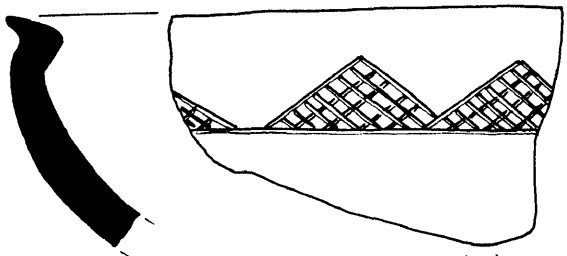
b. H9.3 Bl (B)



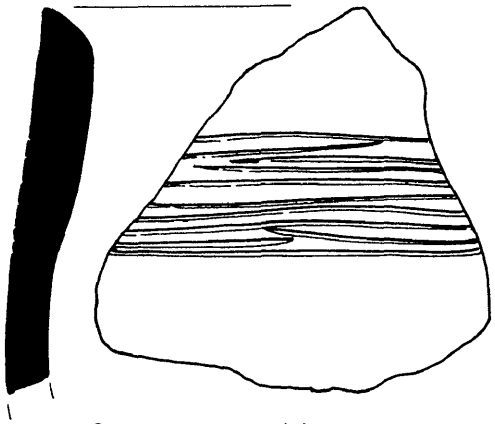
c. H9.4 MØ-20 Br (LB)



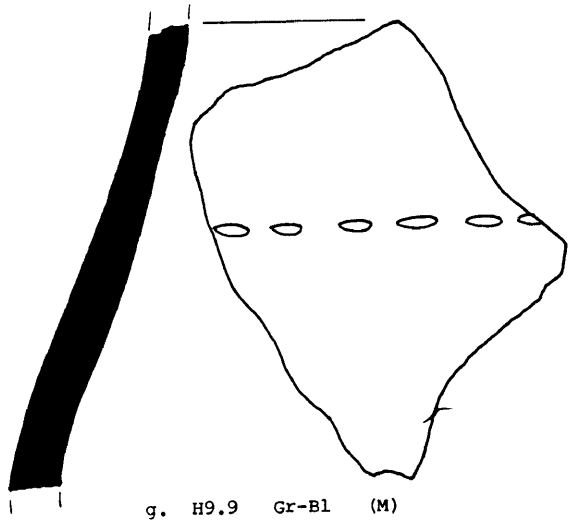
d. H9.4 MØ-27 Gr-Dgr (B)



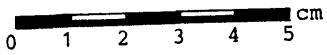
e. H9.4 MØ-27 Bl-Dgr (LB)

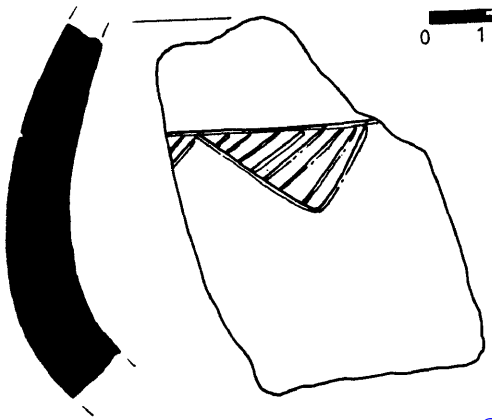


f. H9.6 Bl (B)

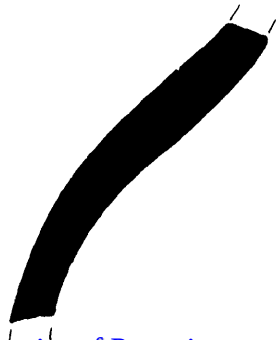


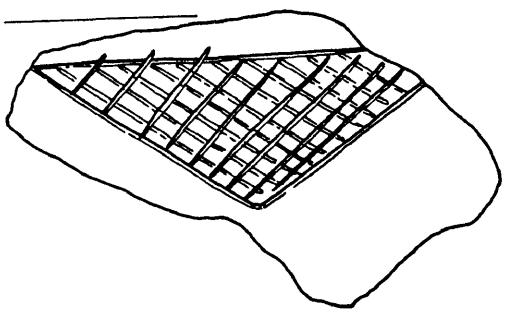
g. H9.9 Gr-Bl (M)



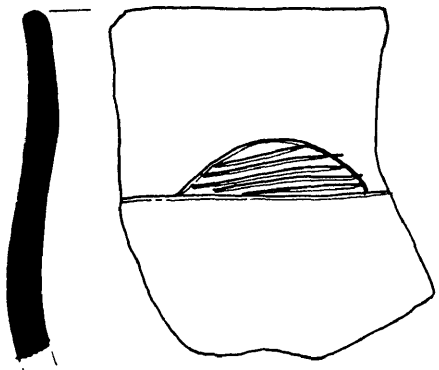


h. H9.4 Br-Bl (M)

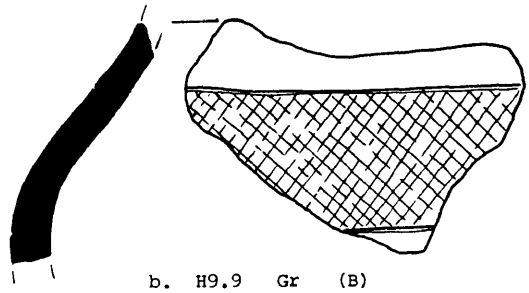




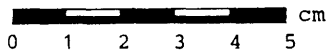
i. H9.6 Br (LB)

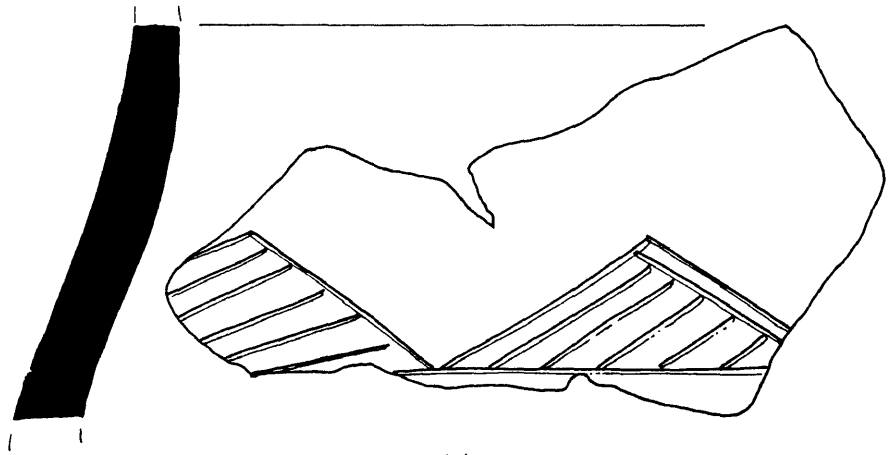


a. H9.9 MØ-9 Bl (B) Graphite



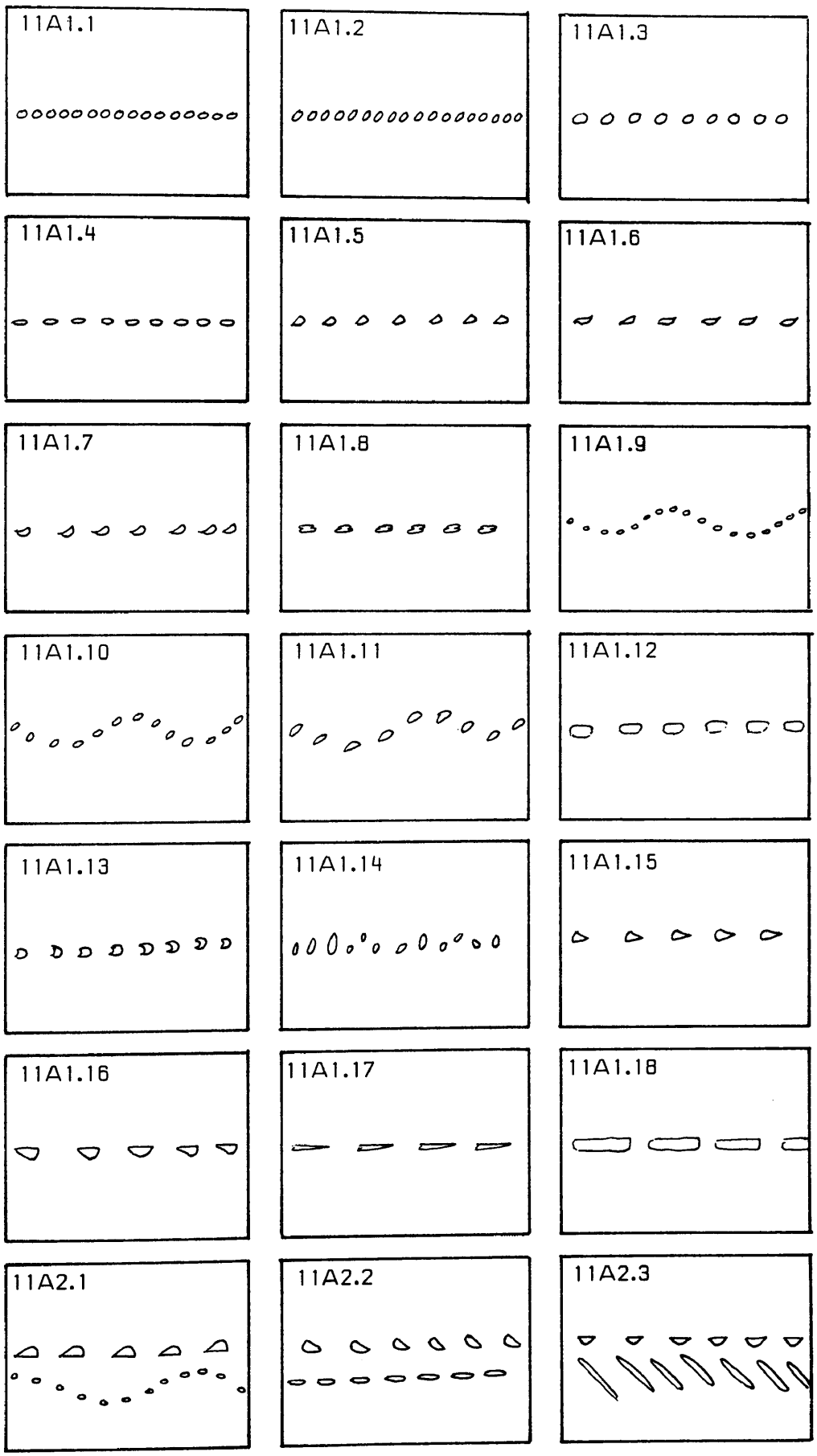
b. H9.9 Gr (B)

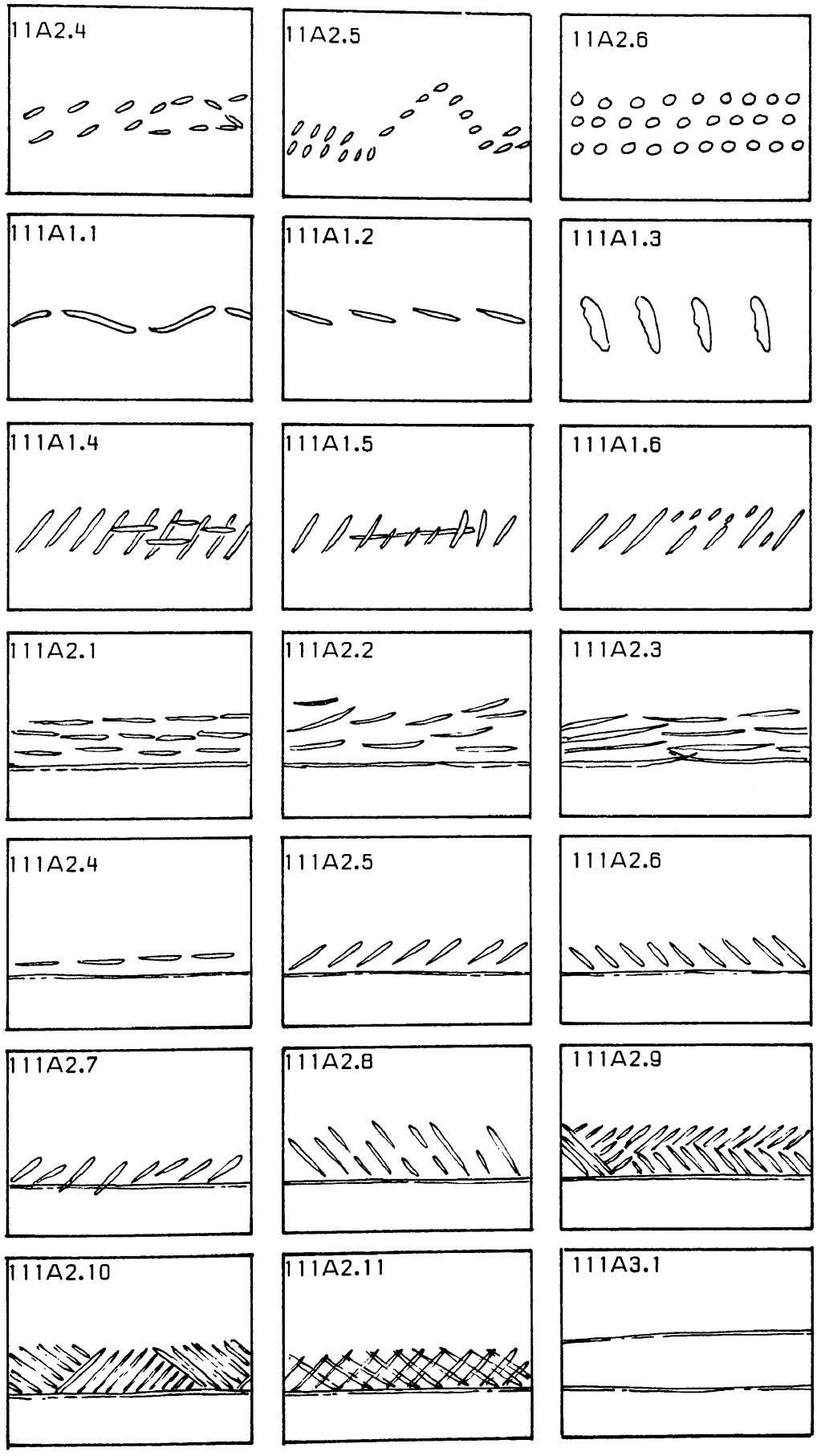


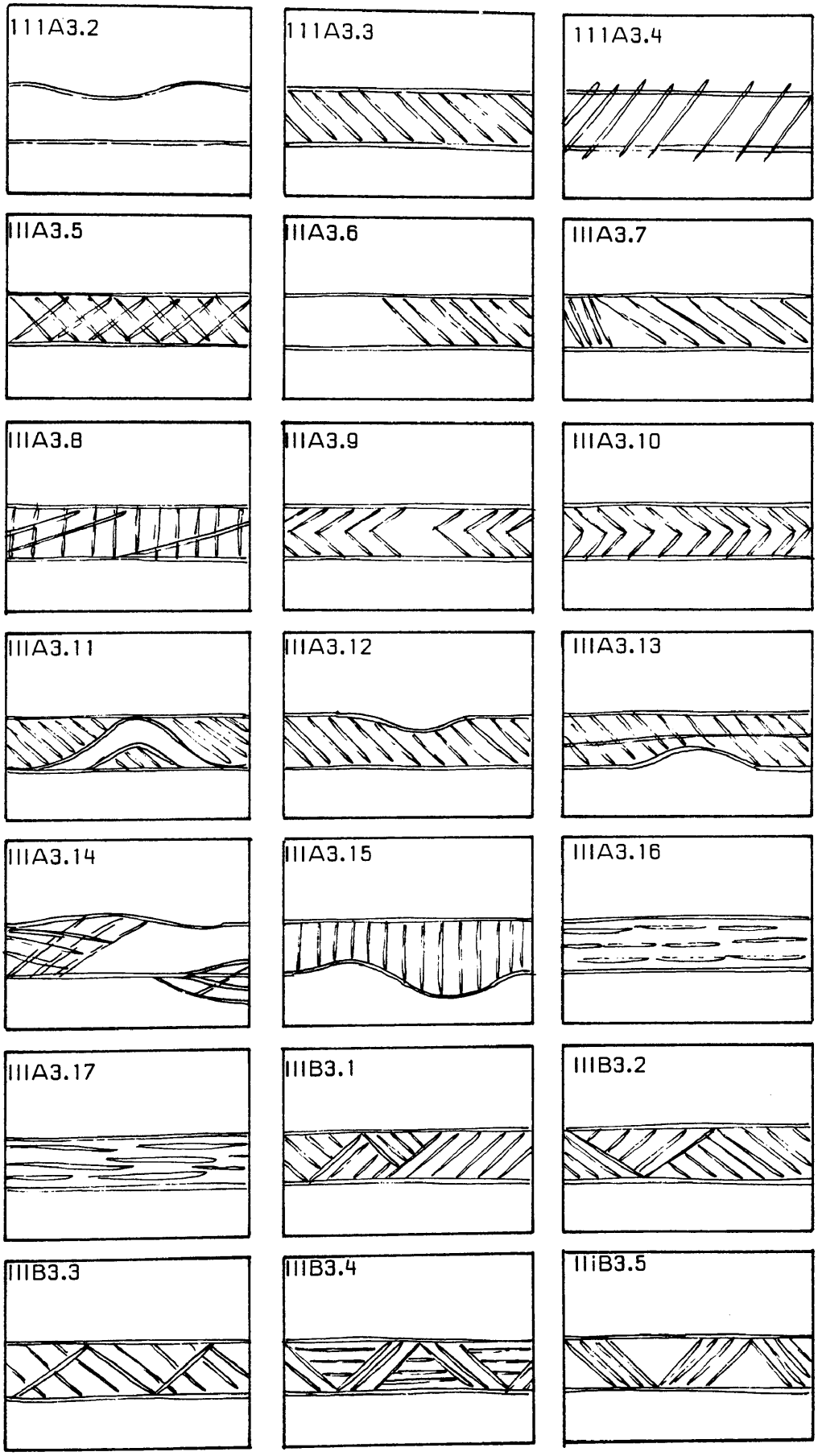


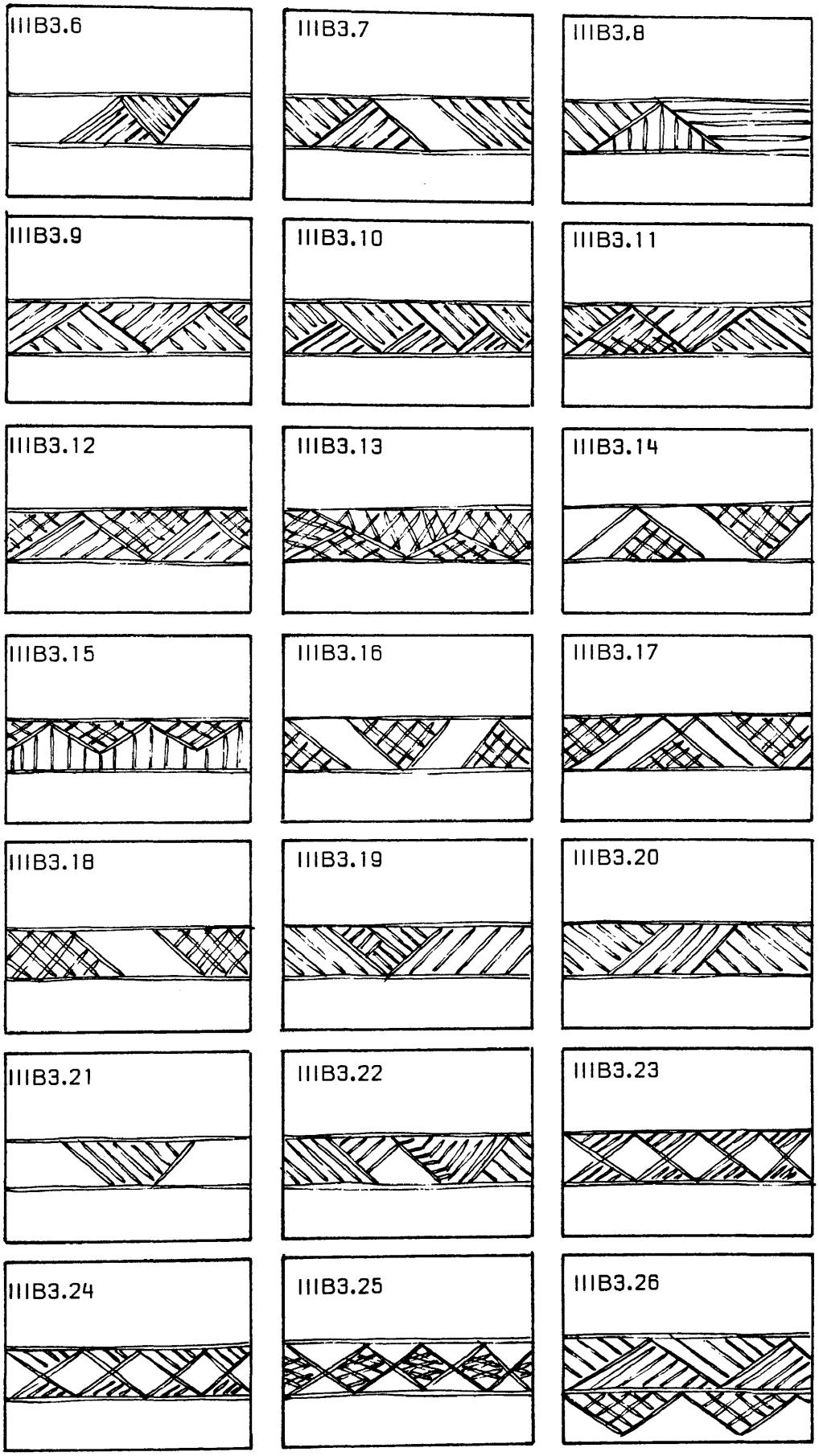
c. H9.9 Br (M)

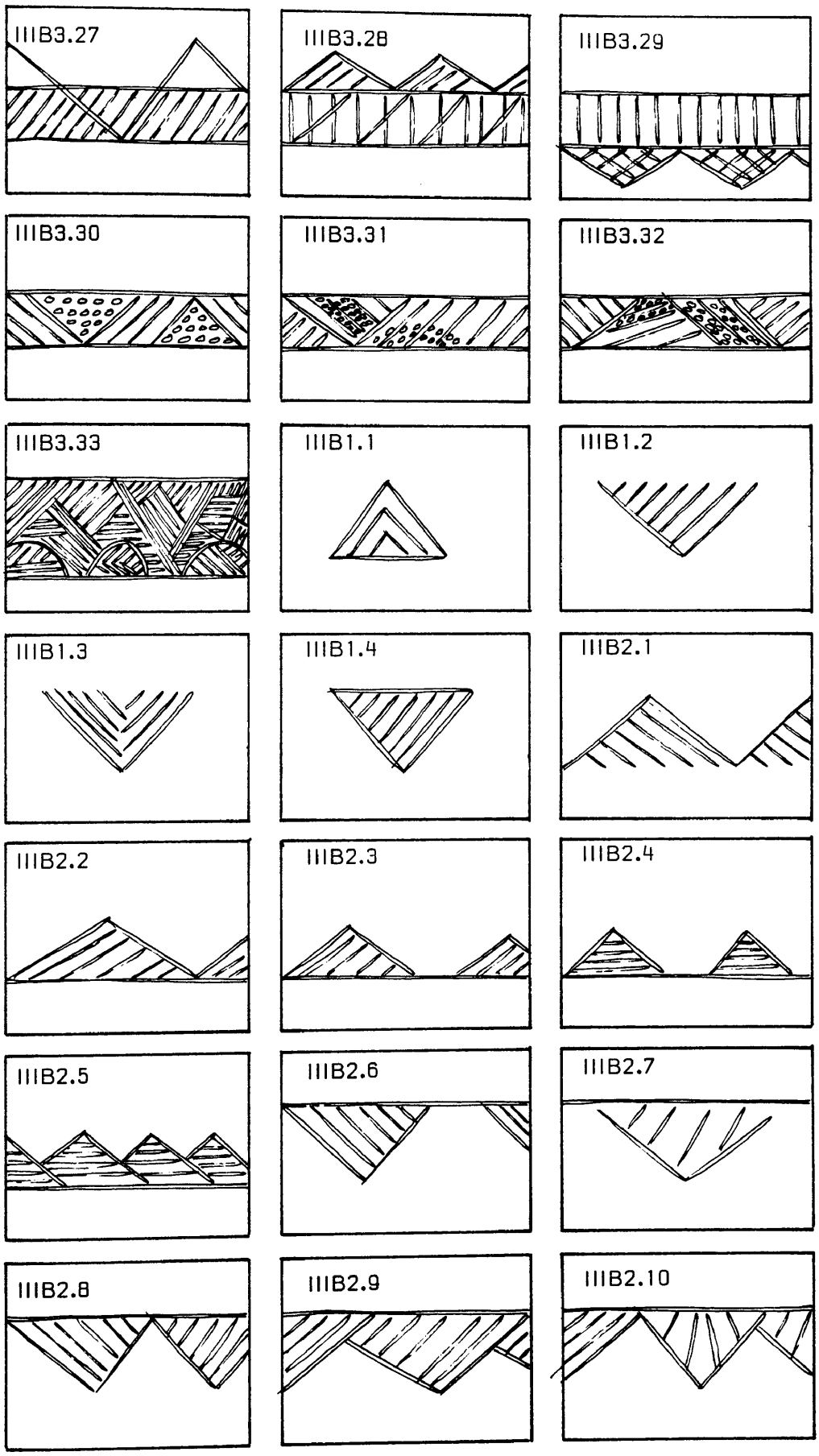
Skutwater Decoration Motifs

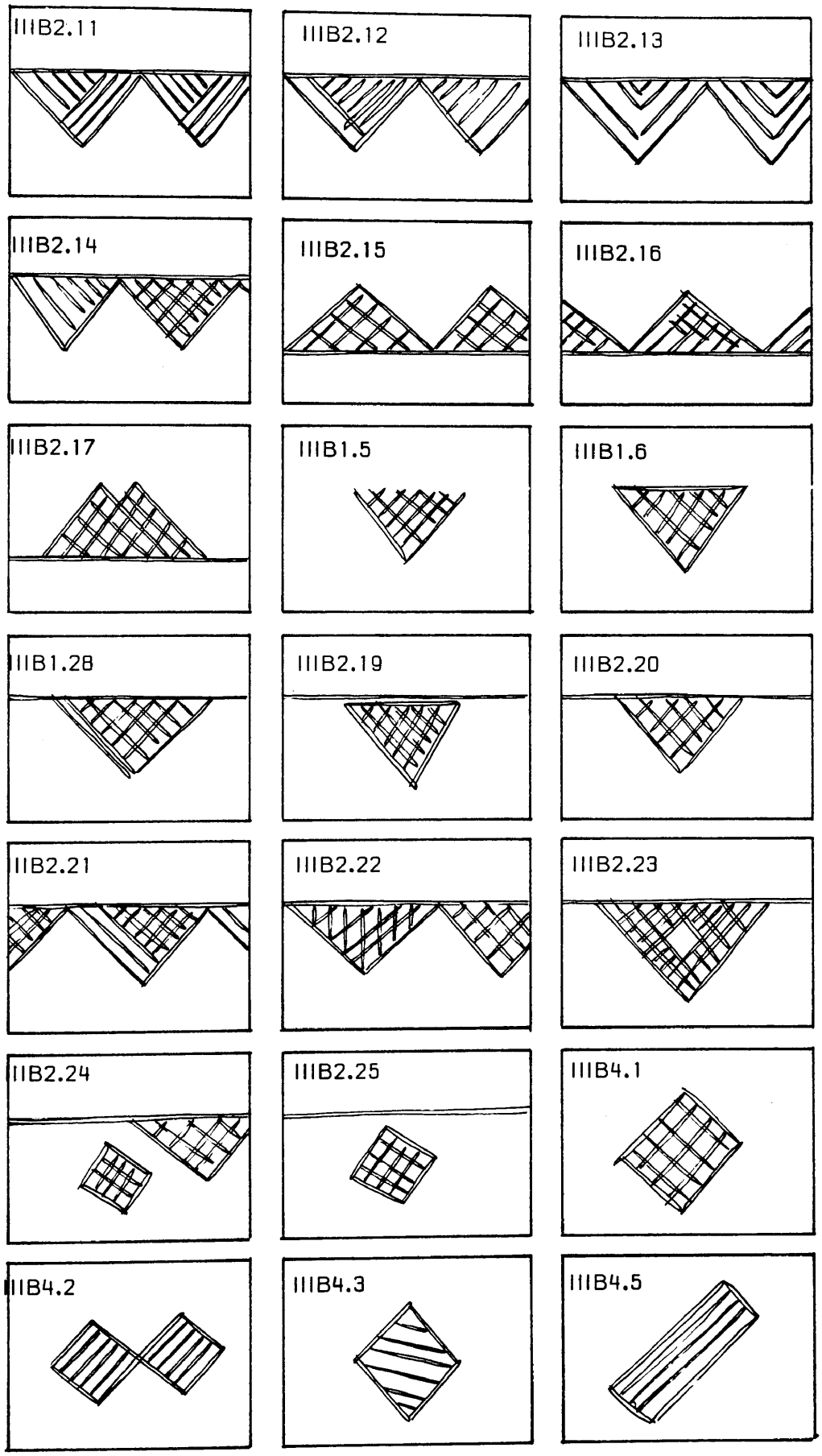


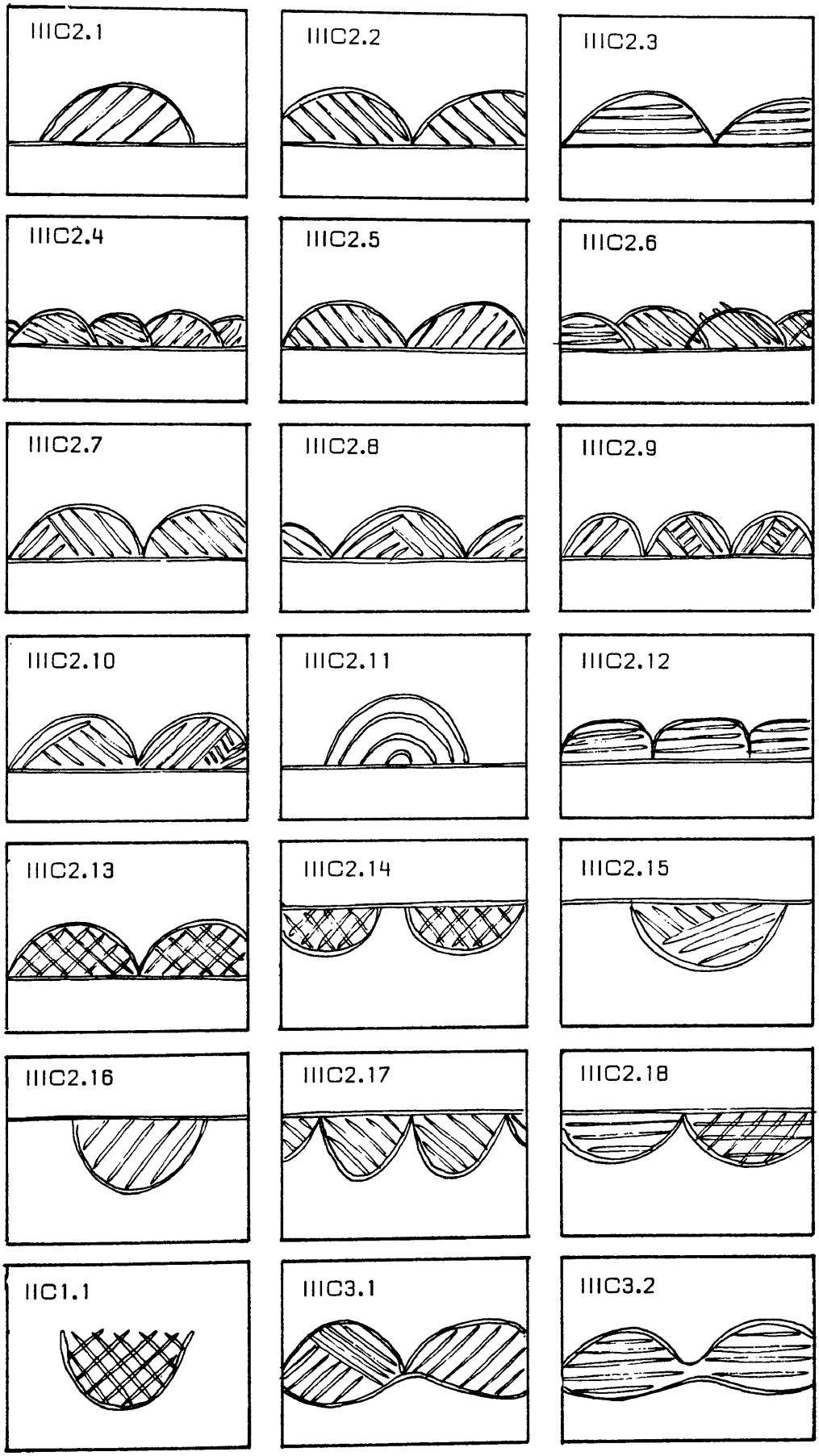


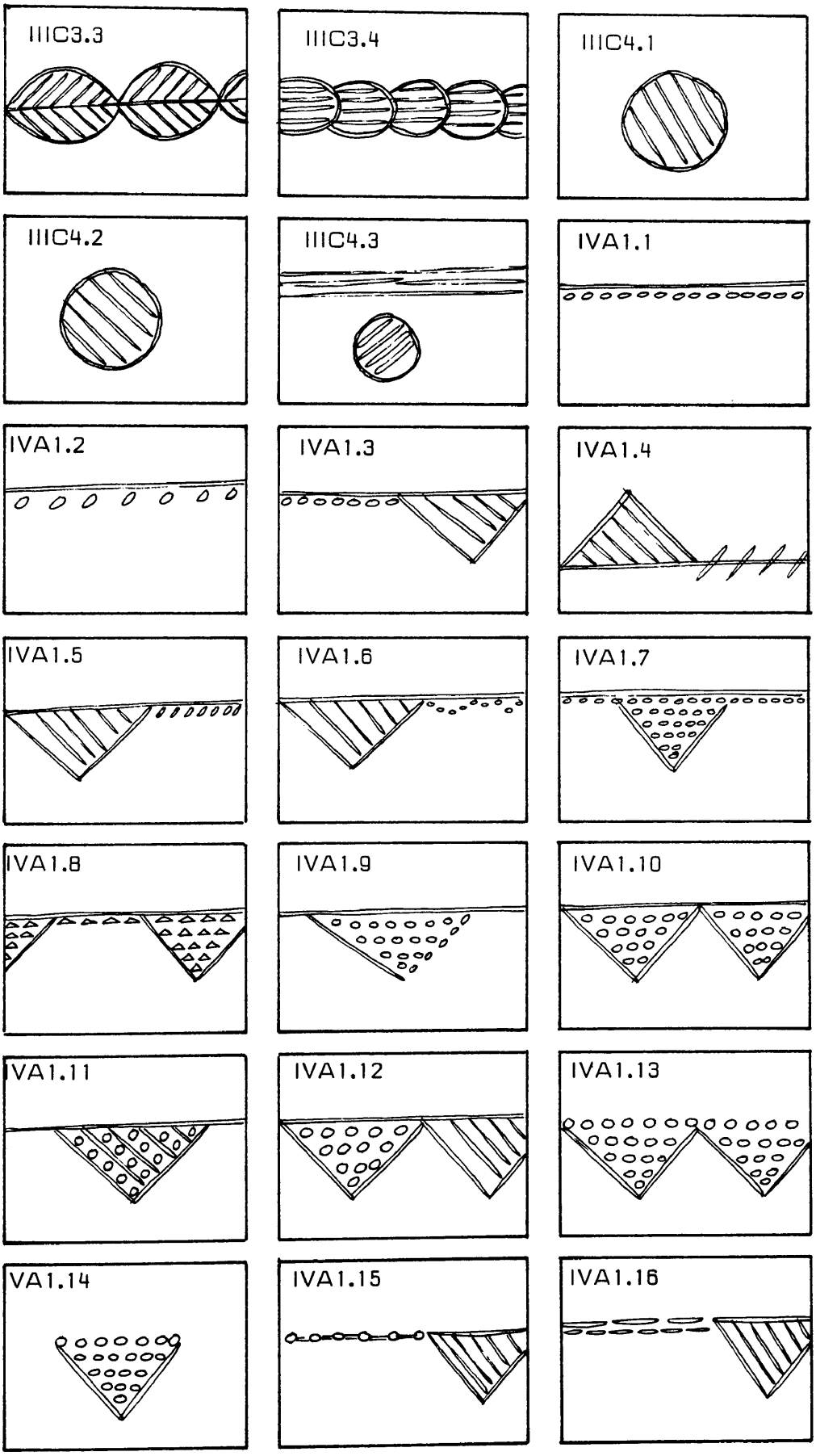






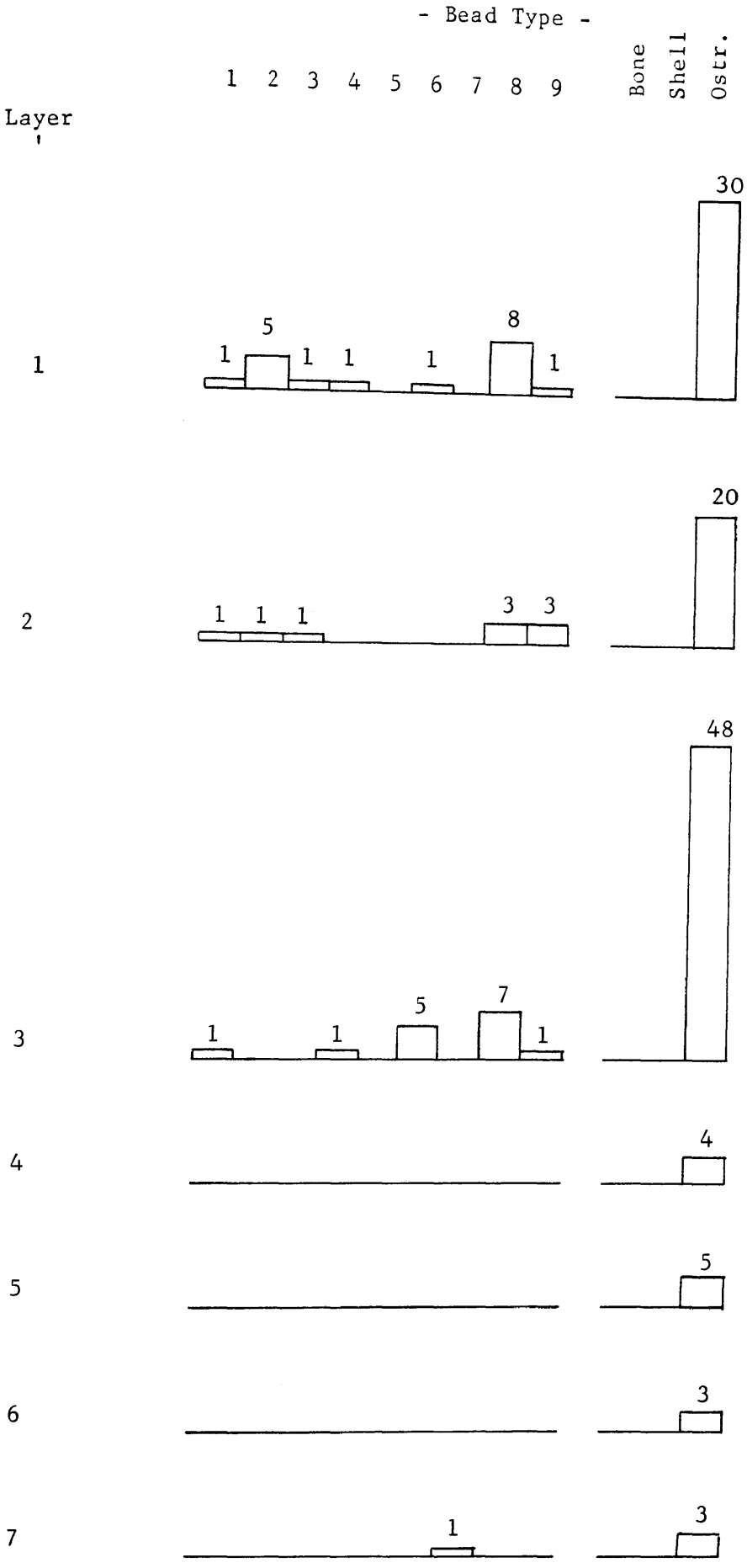




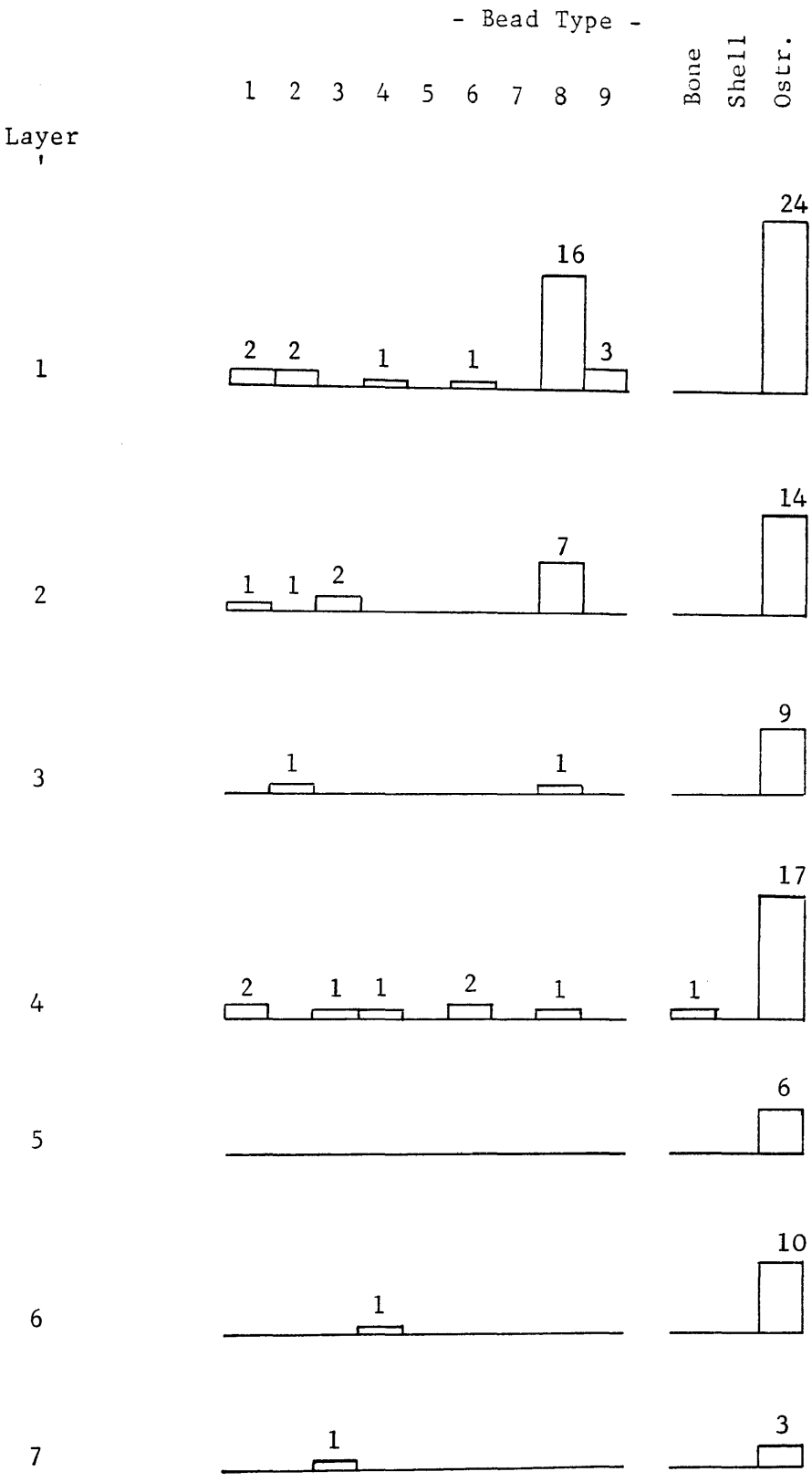


Beads recovered from Skutwater per layer per square

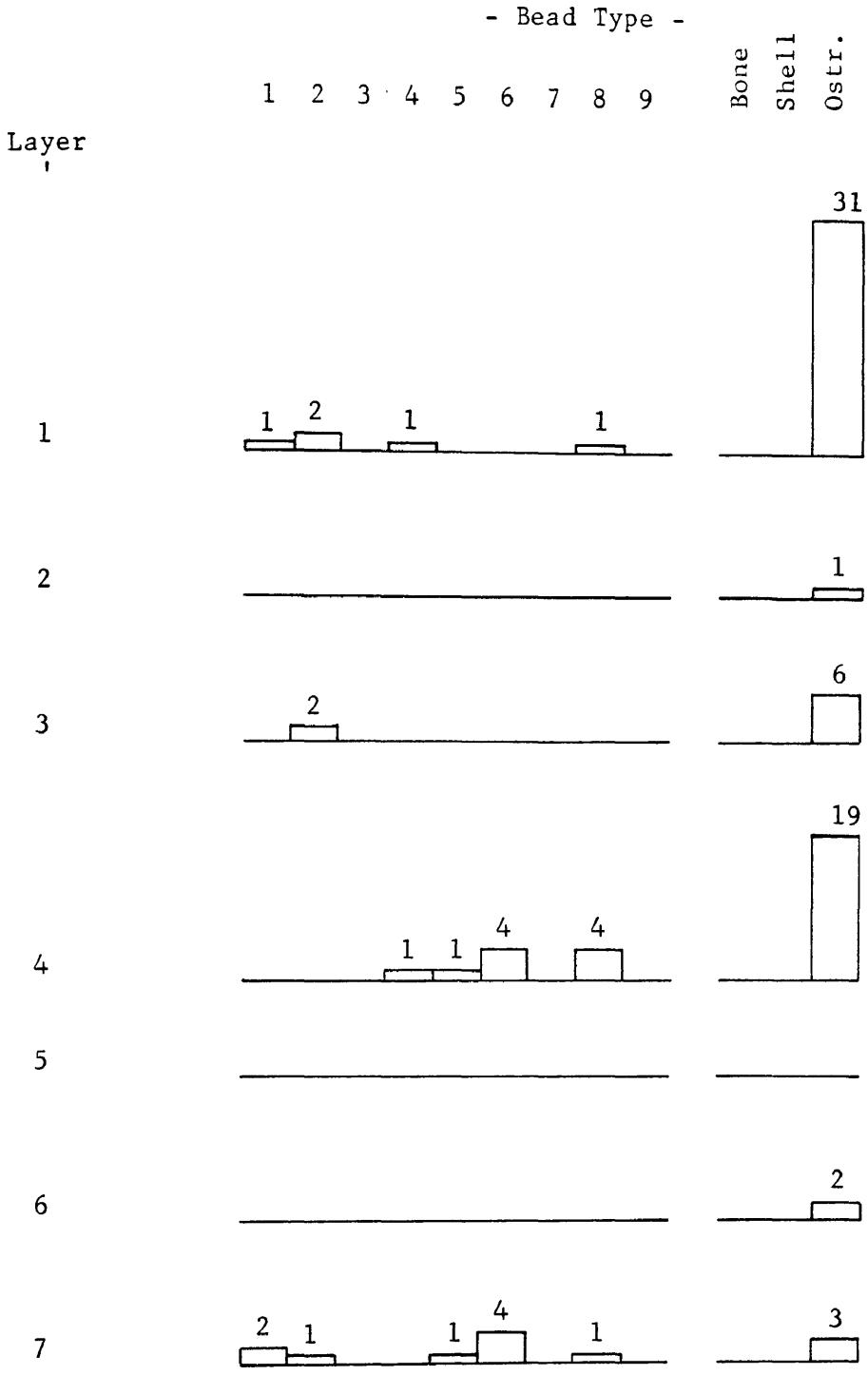
Square D7



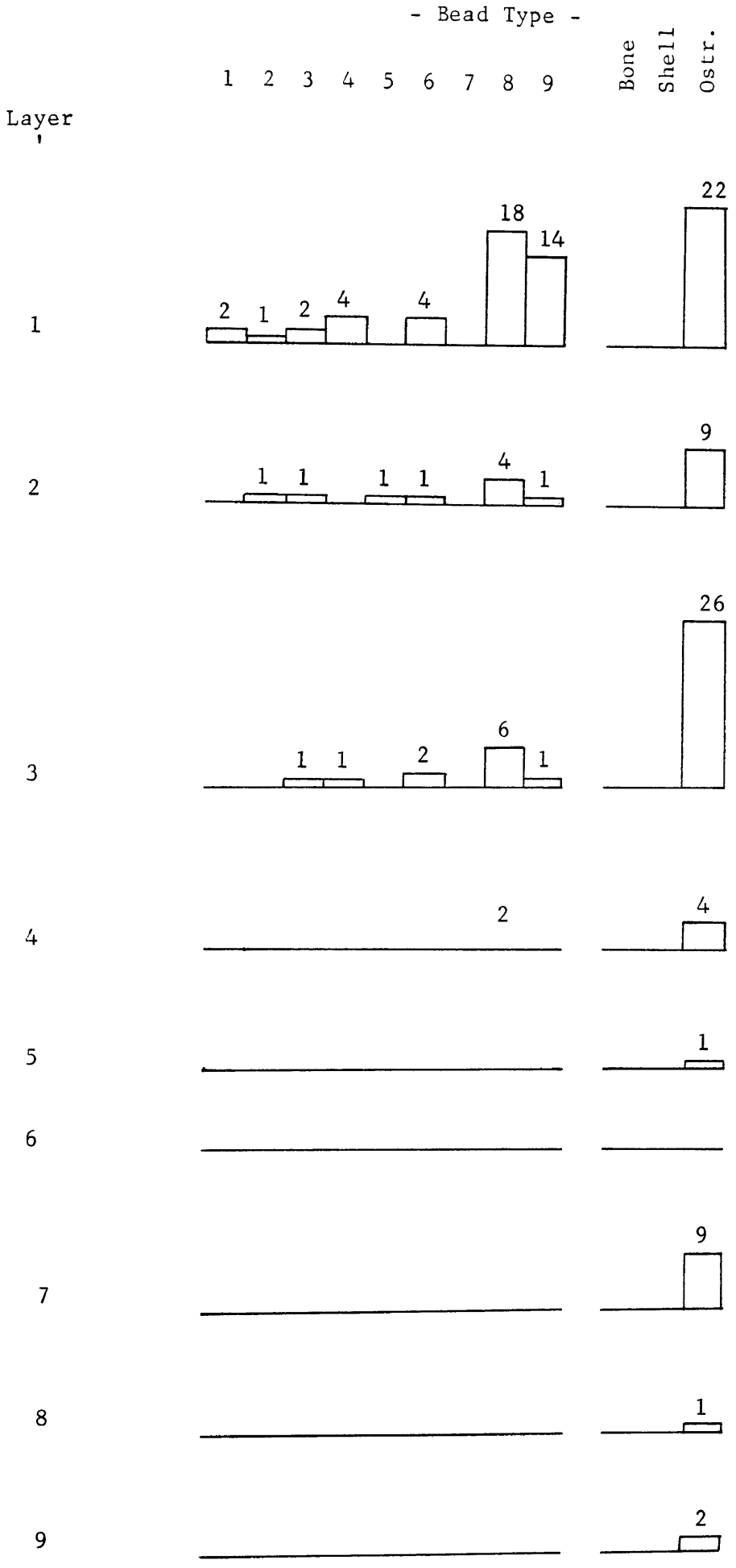
Square D8



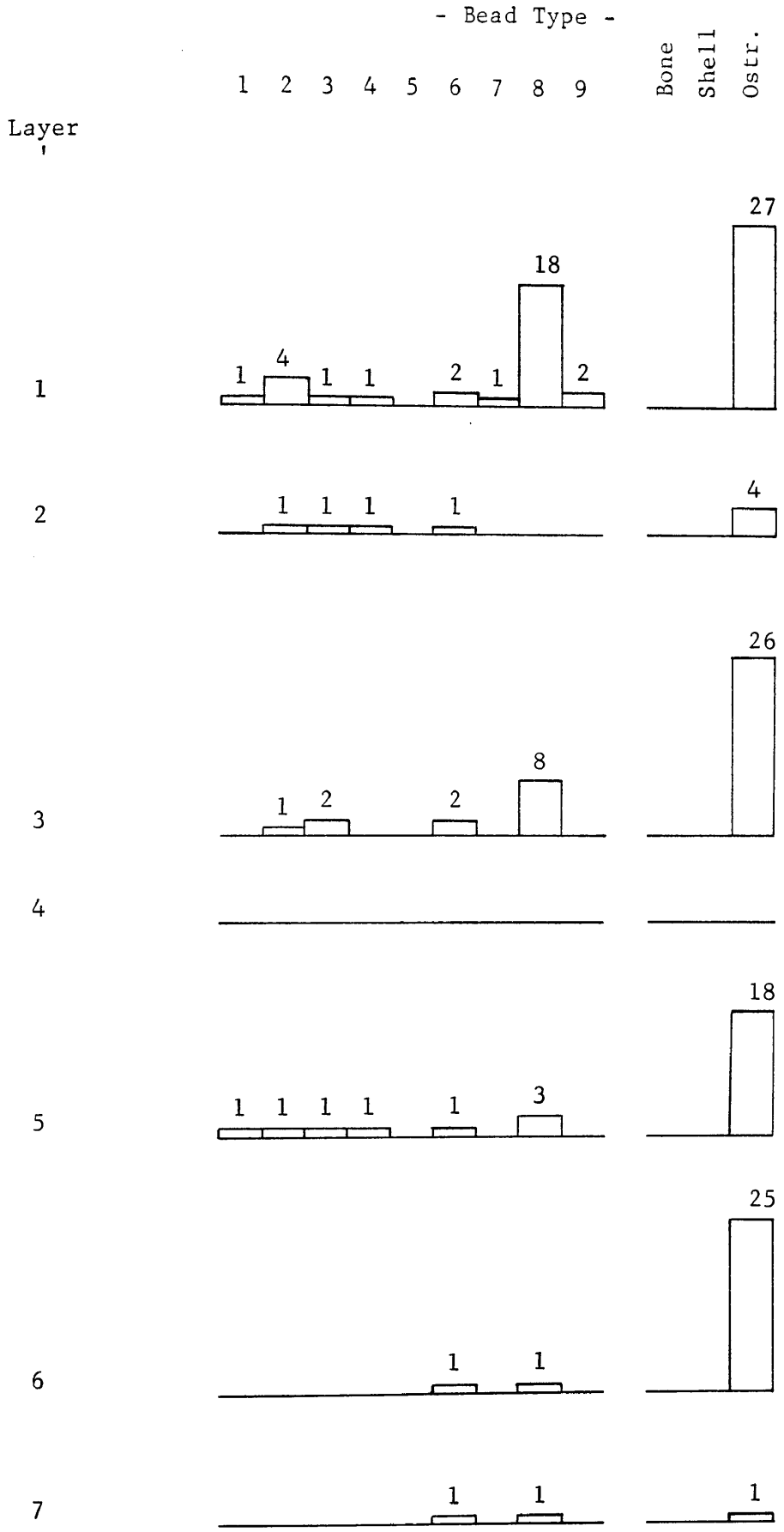
Square D9



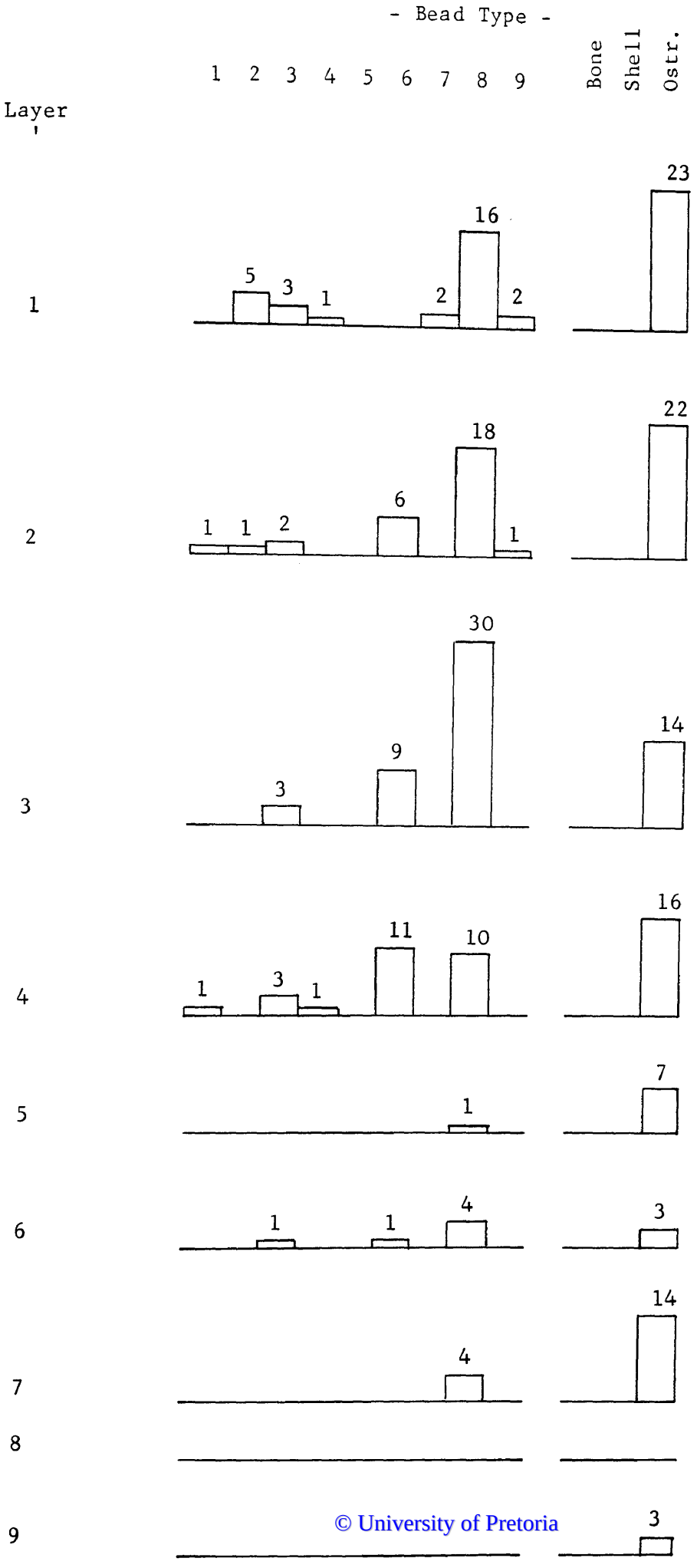
Square E7



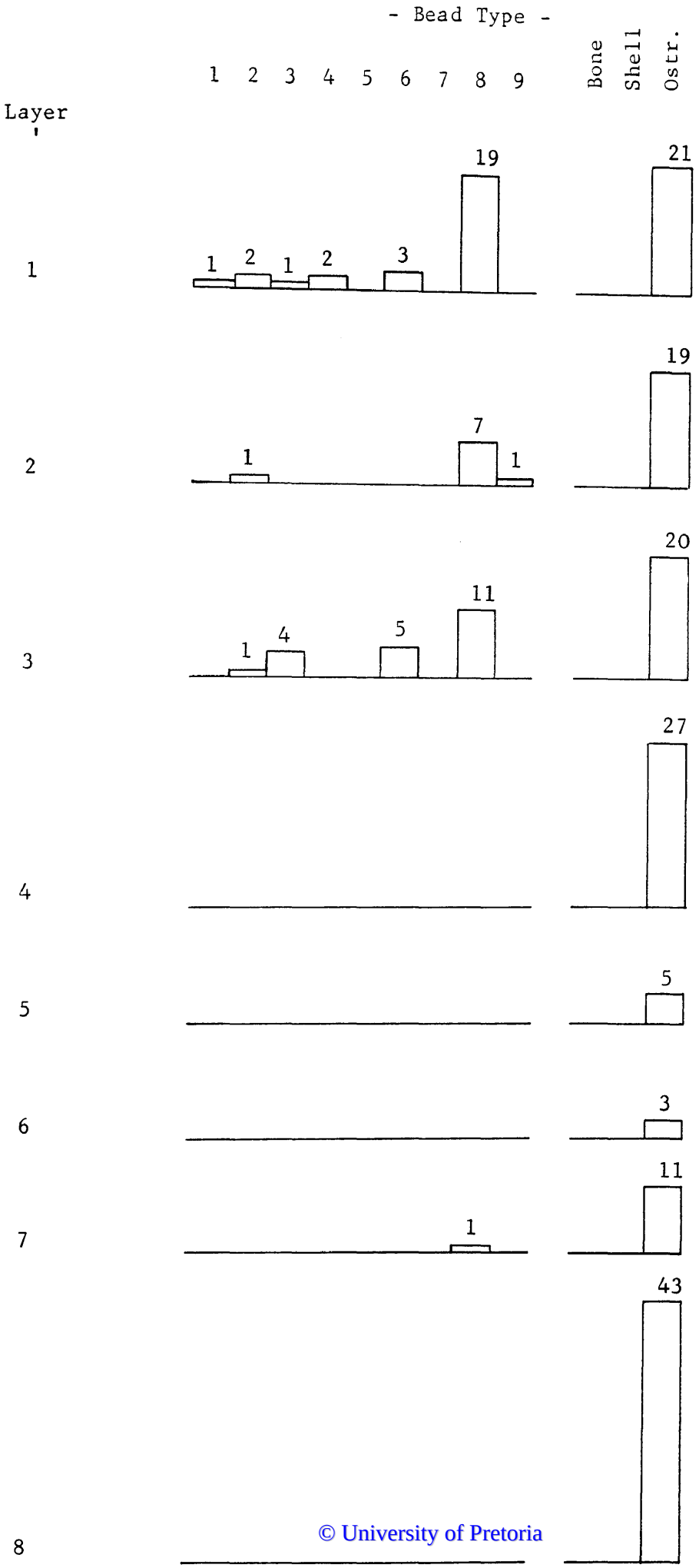
Square E8



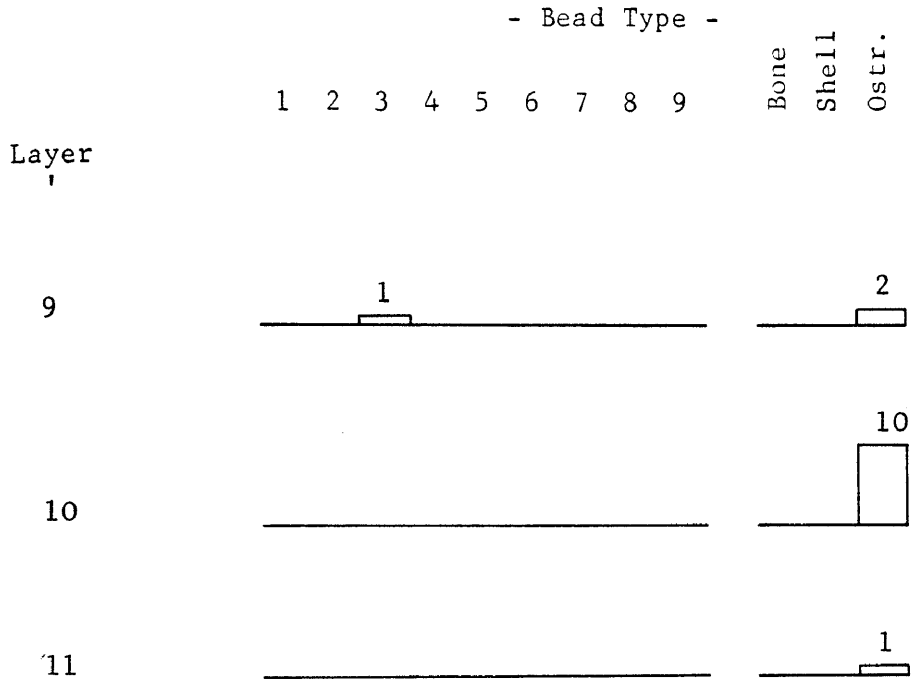
Square E9



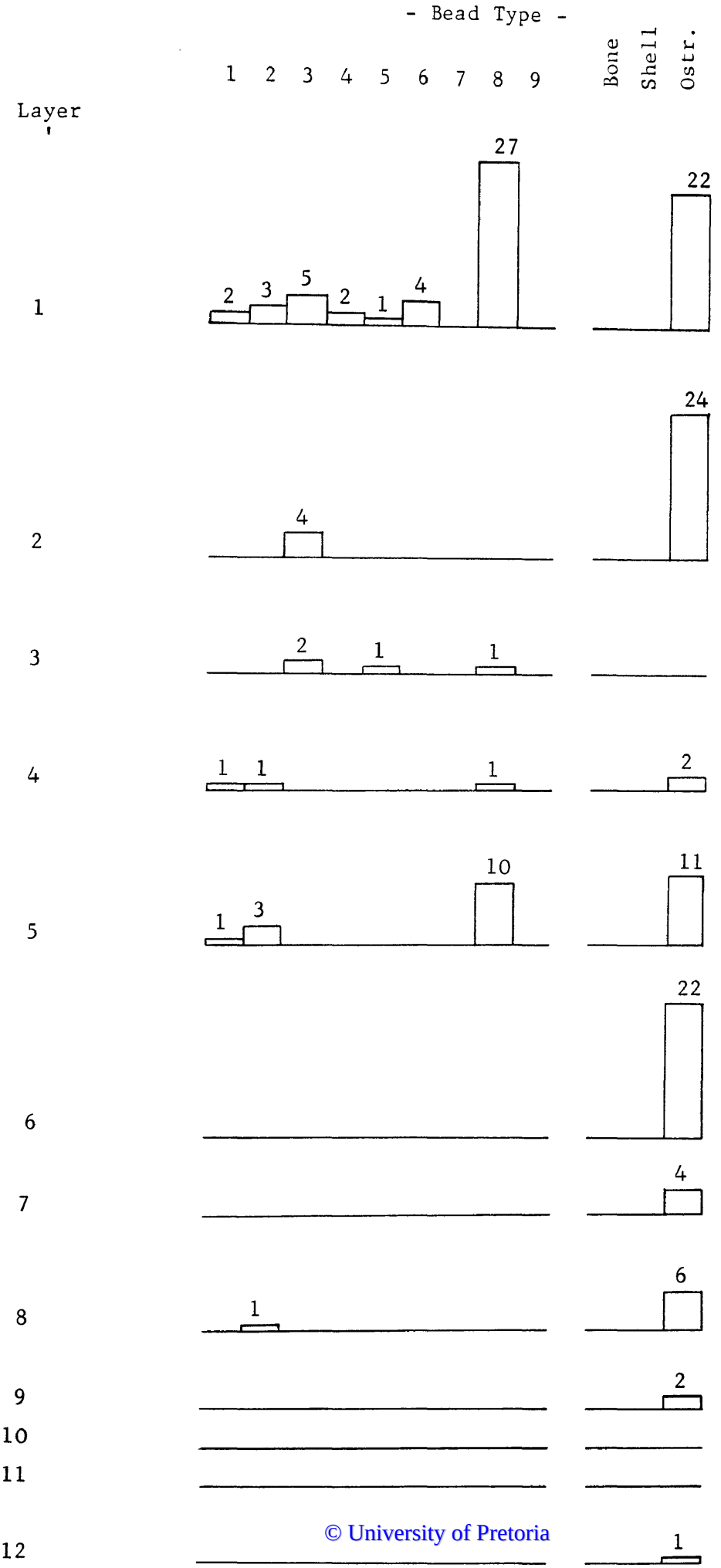
Square E10



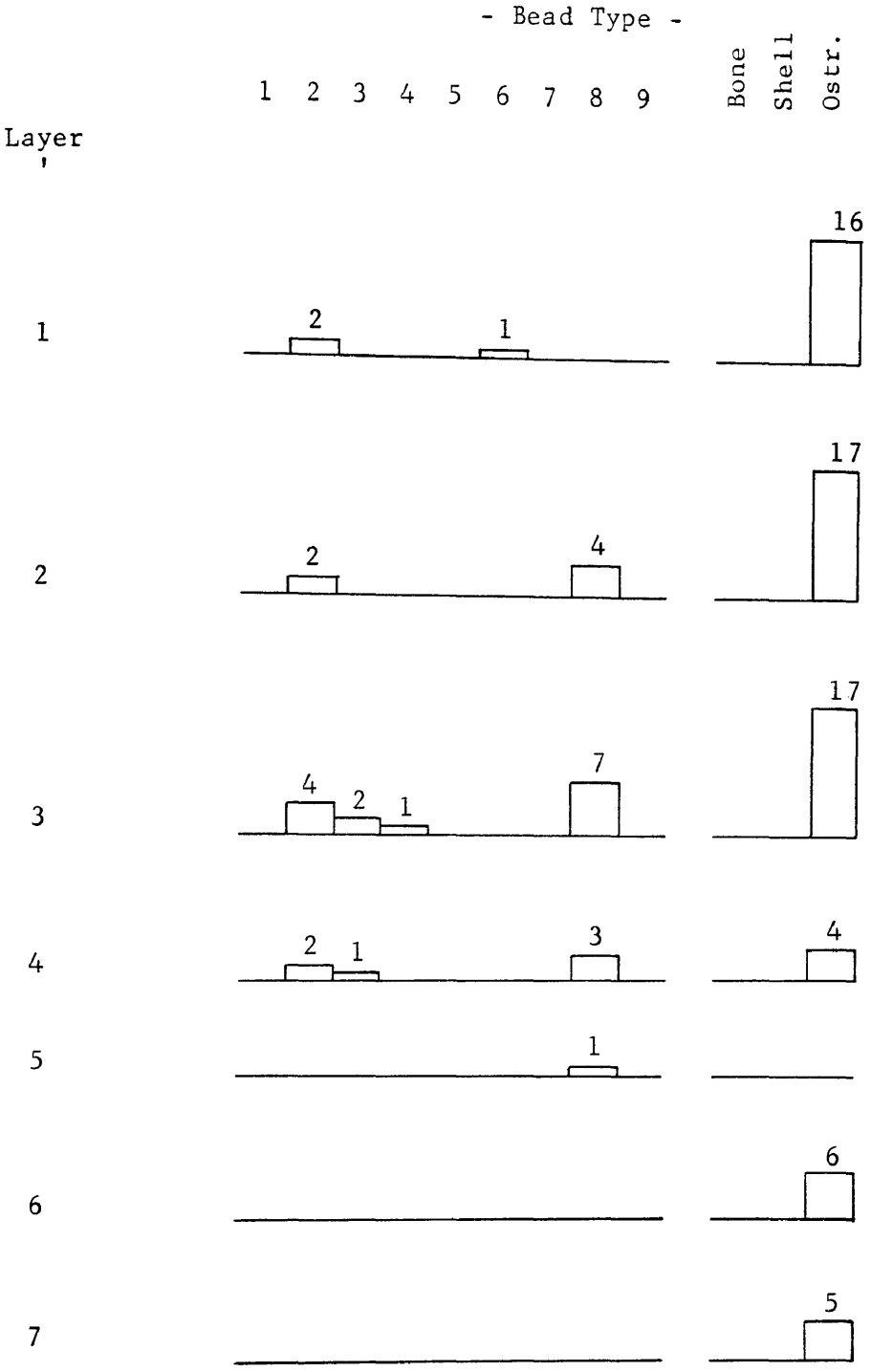
Square E10 (continued)



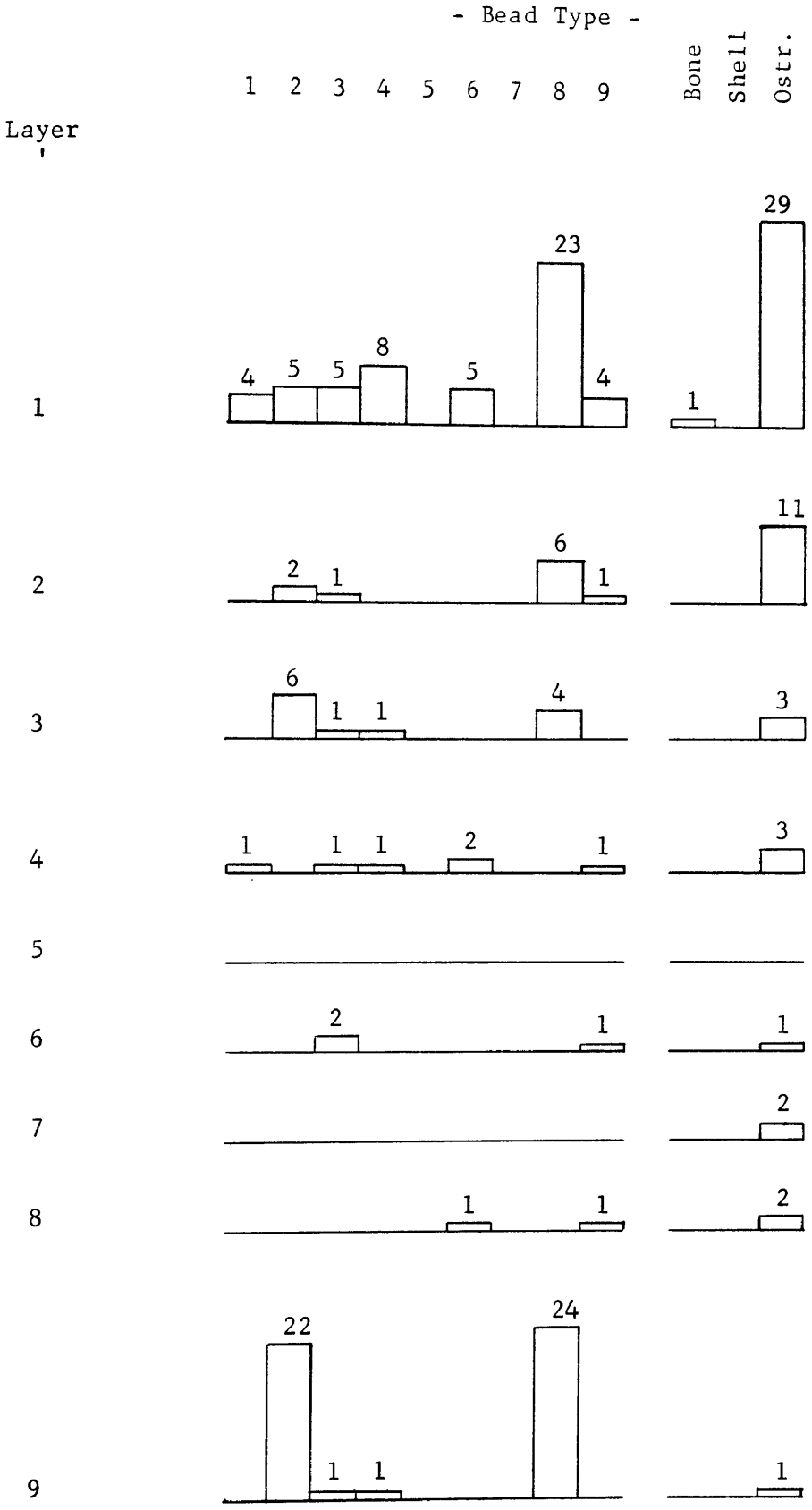
Square E 11



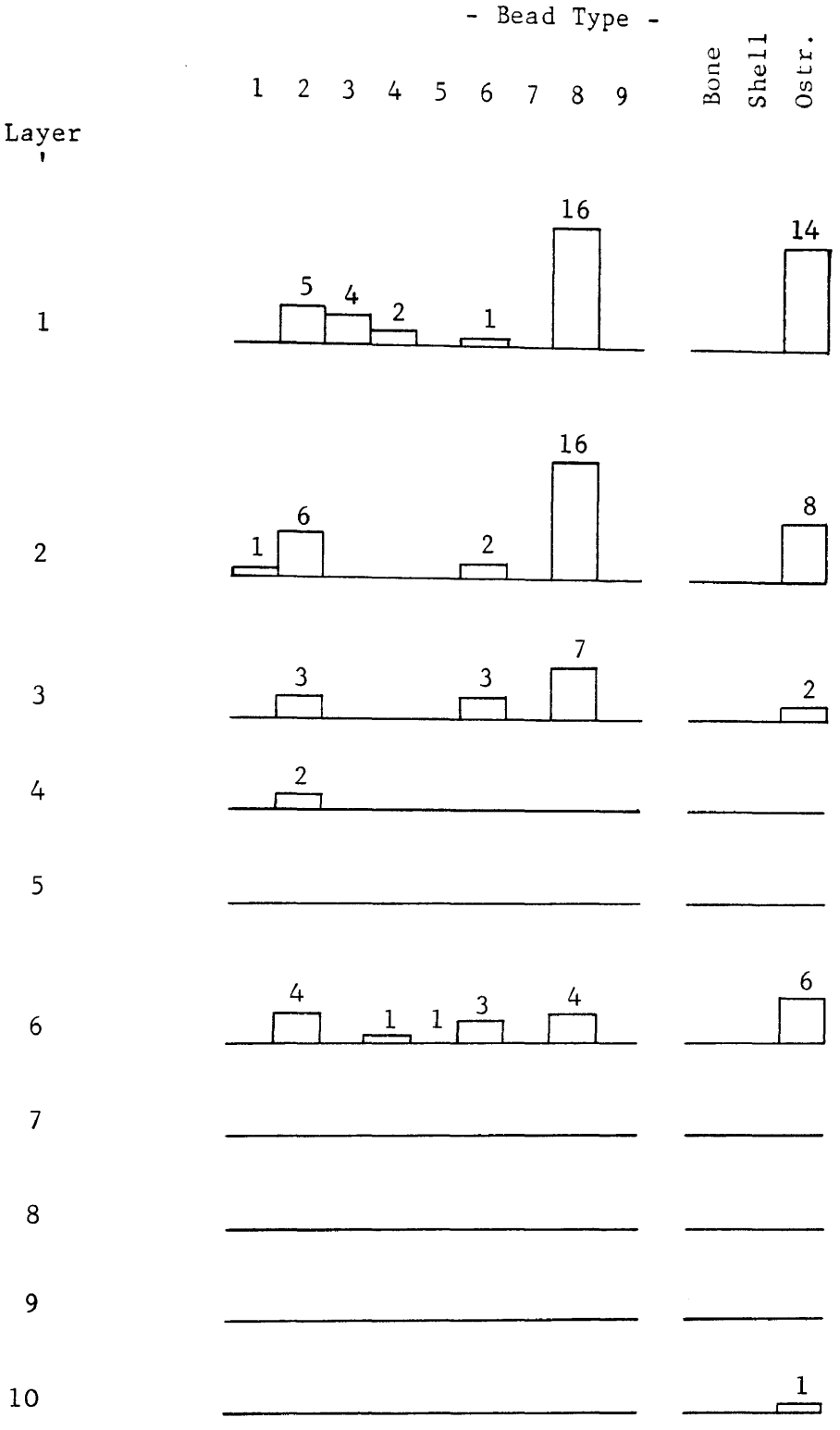
Square E 12



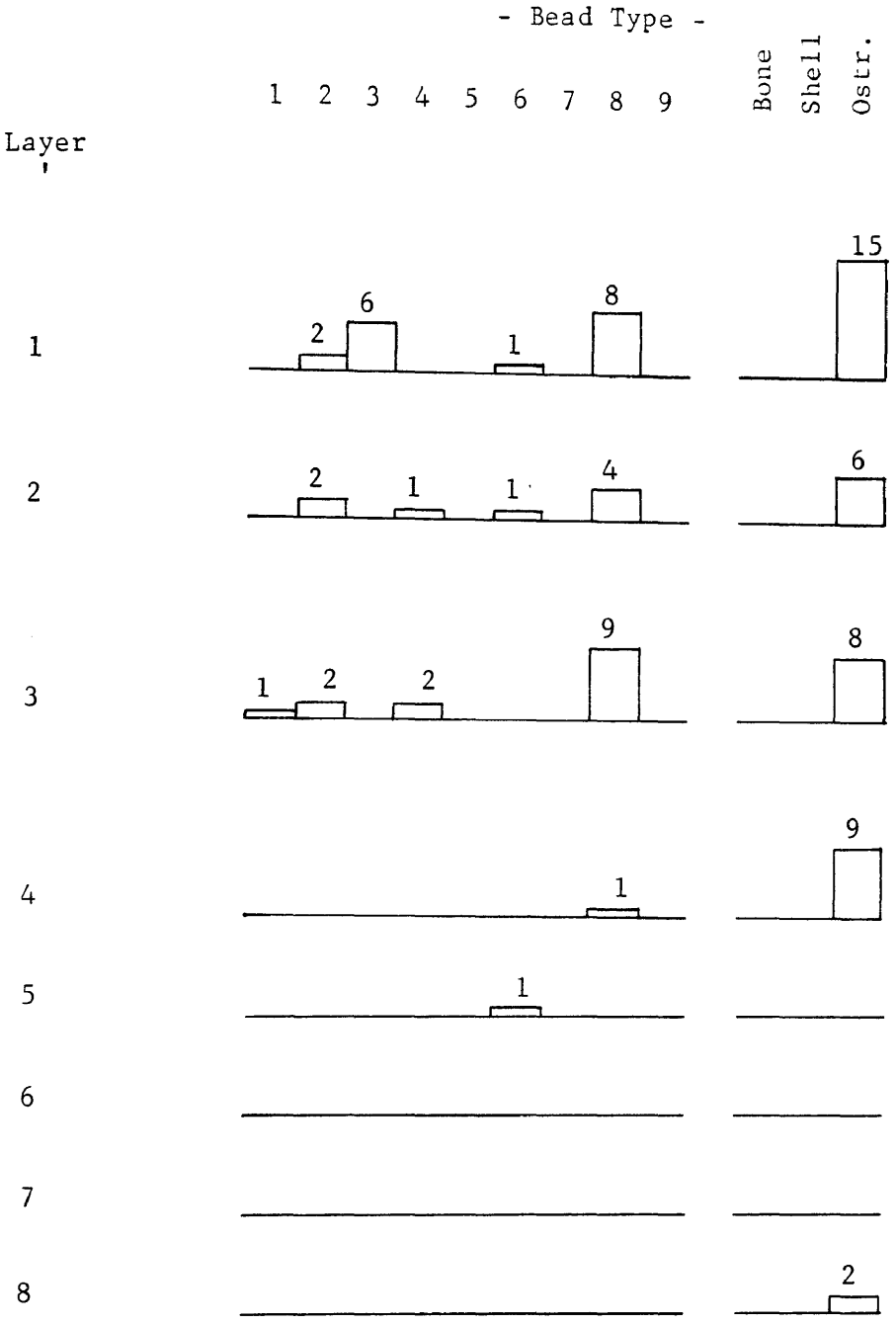
Square E 13



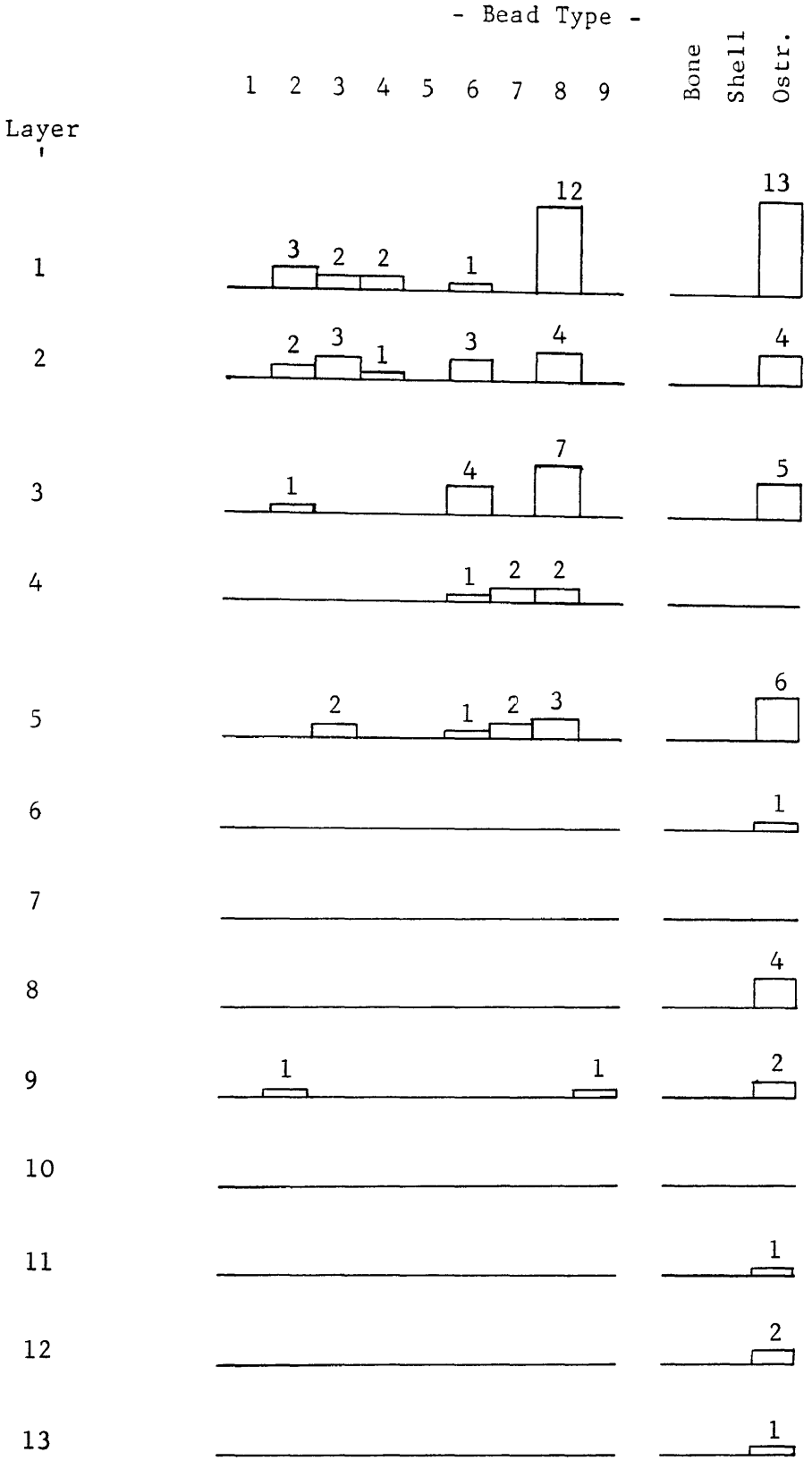
Square E 14



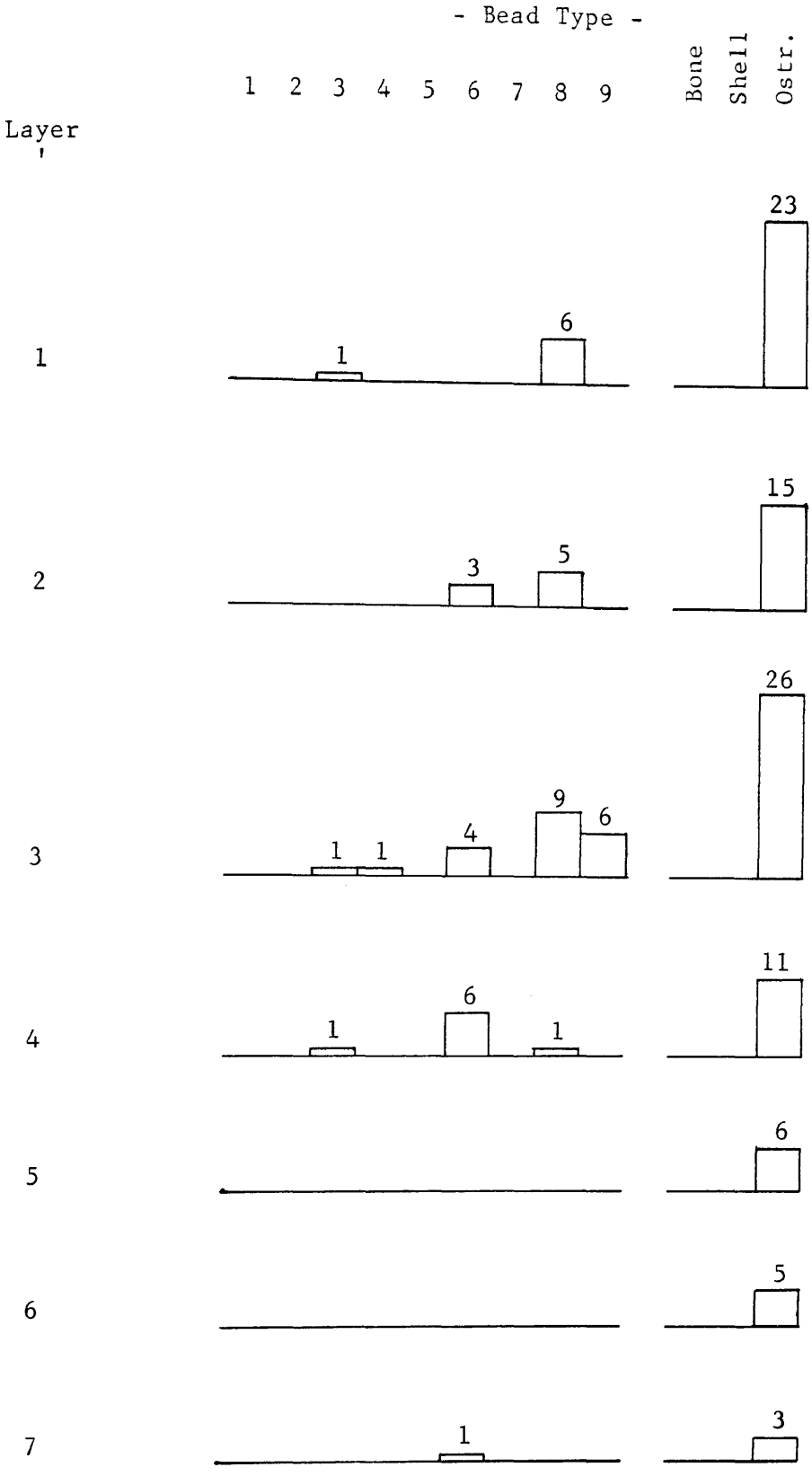
Square E 15



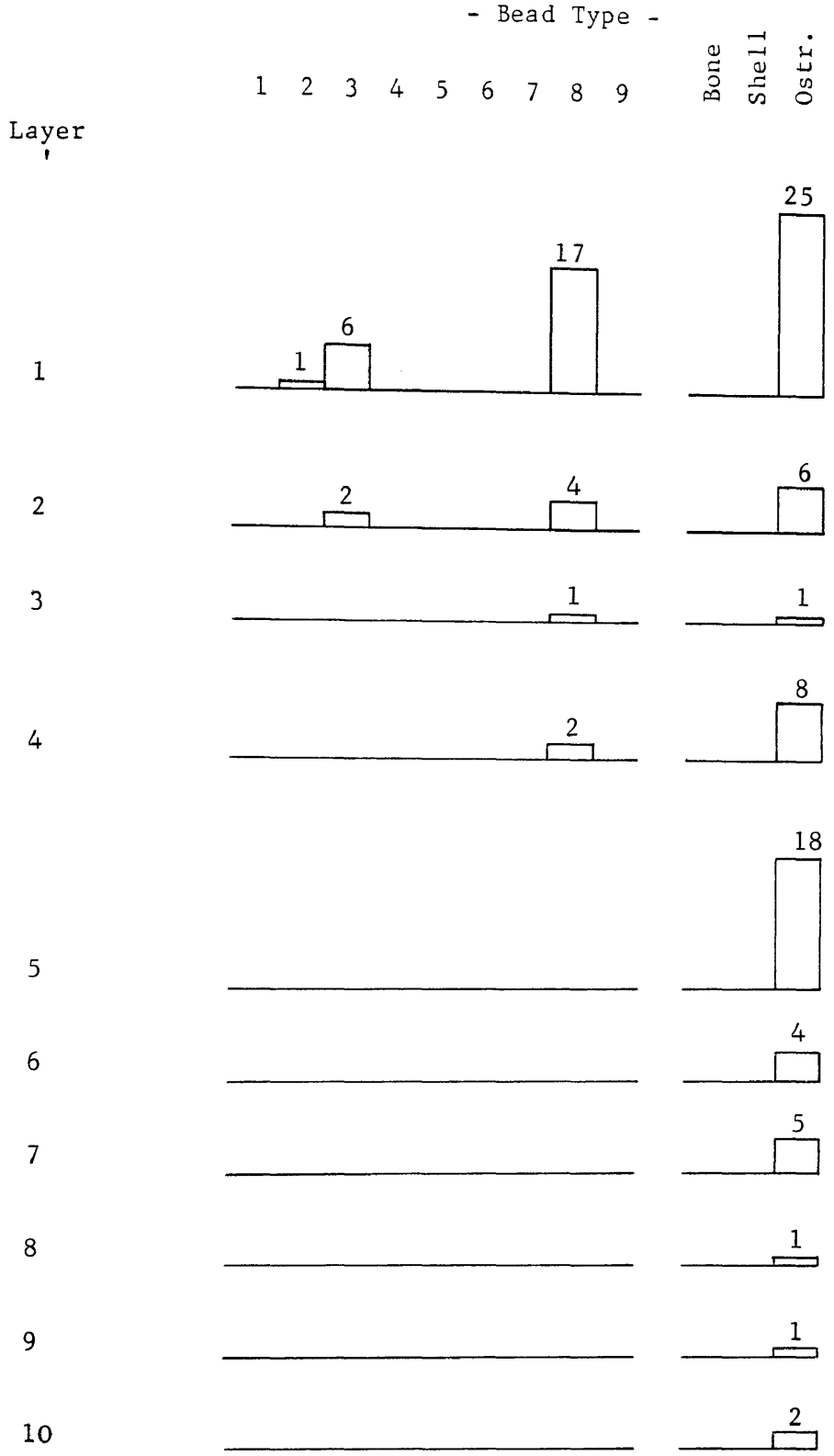
Square E 16



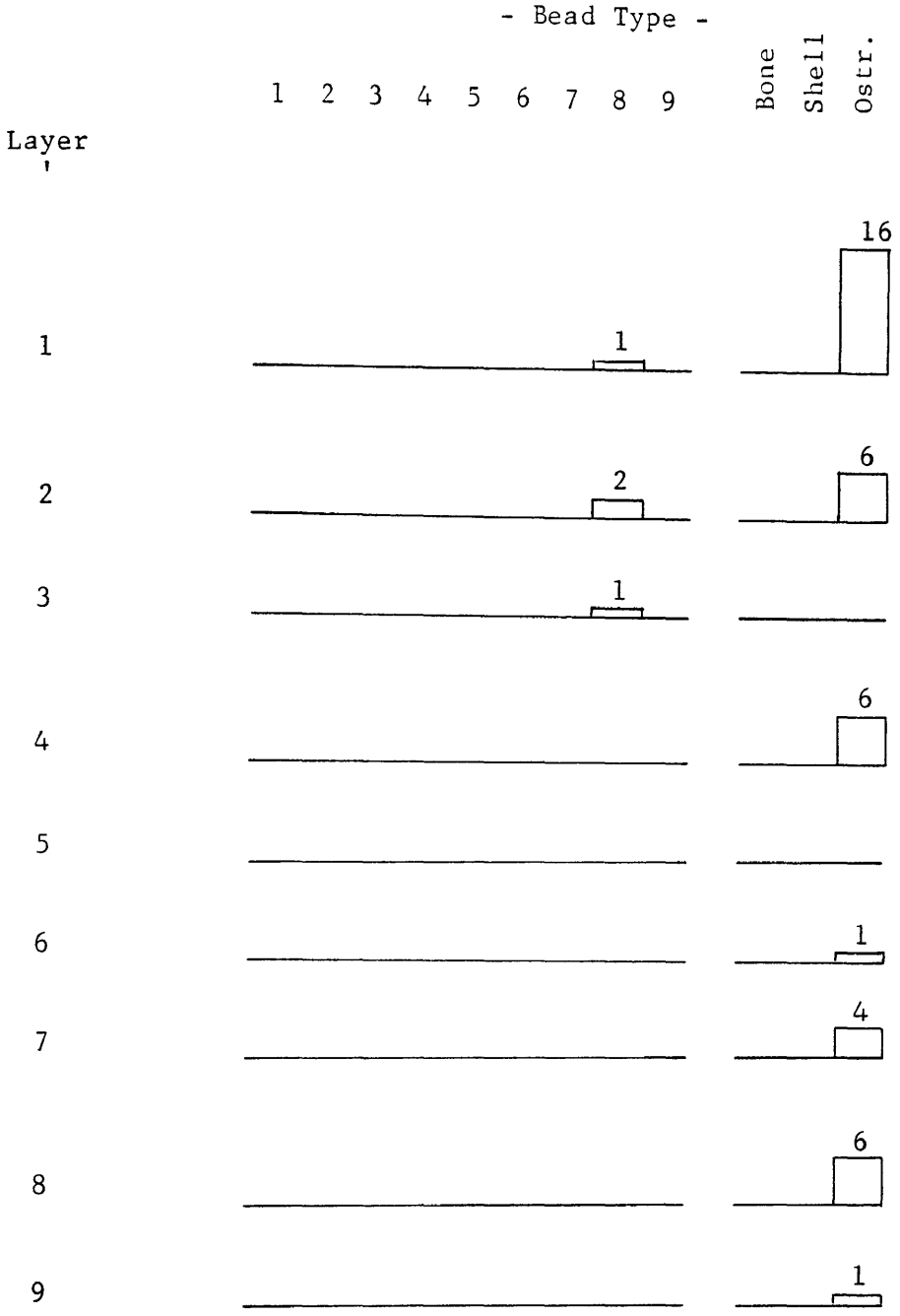
Square F 7



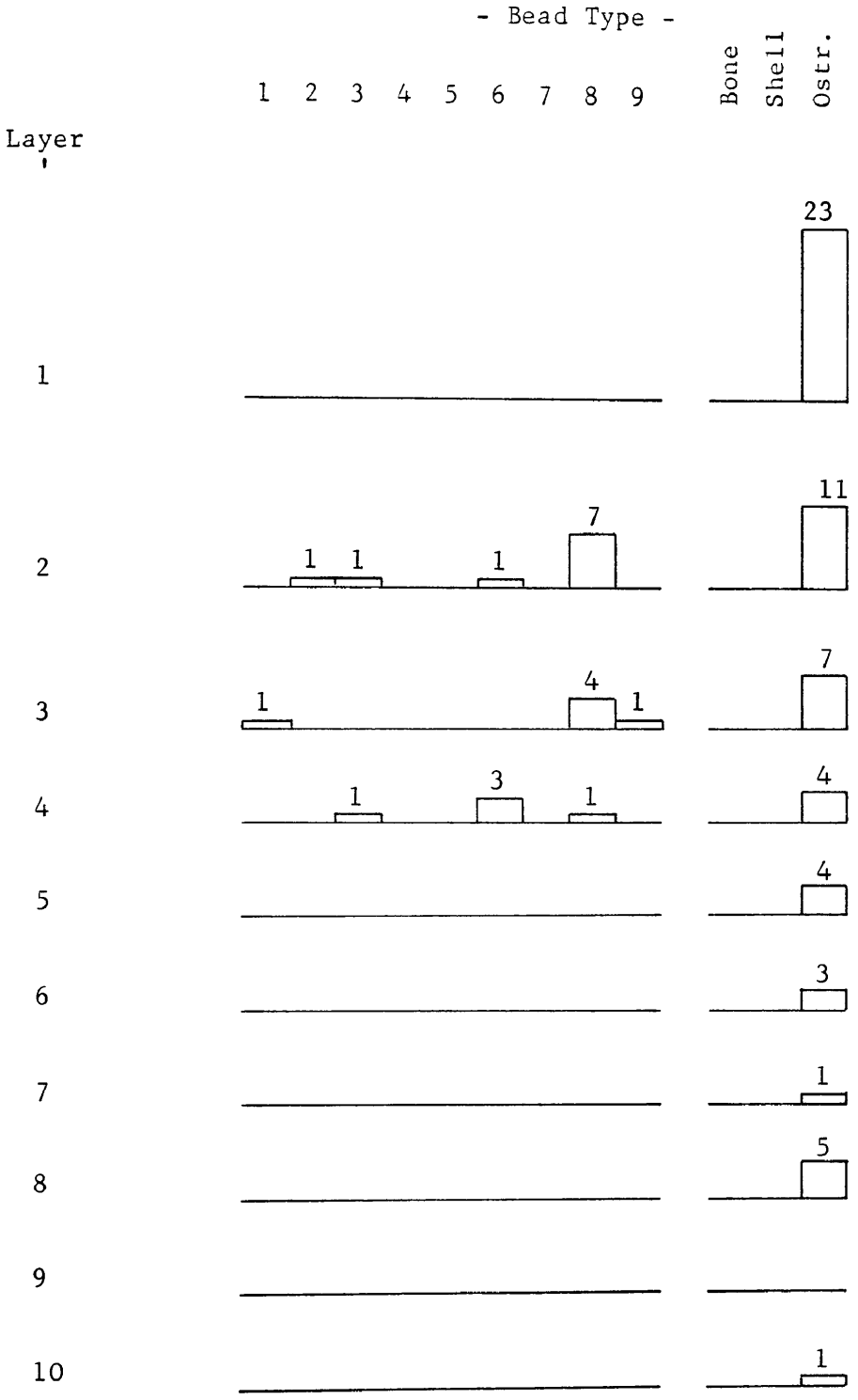
Square F 8



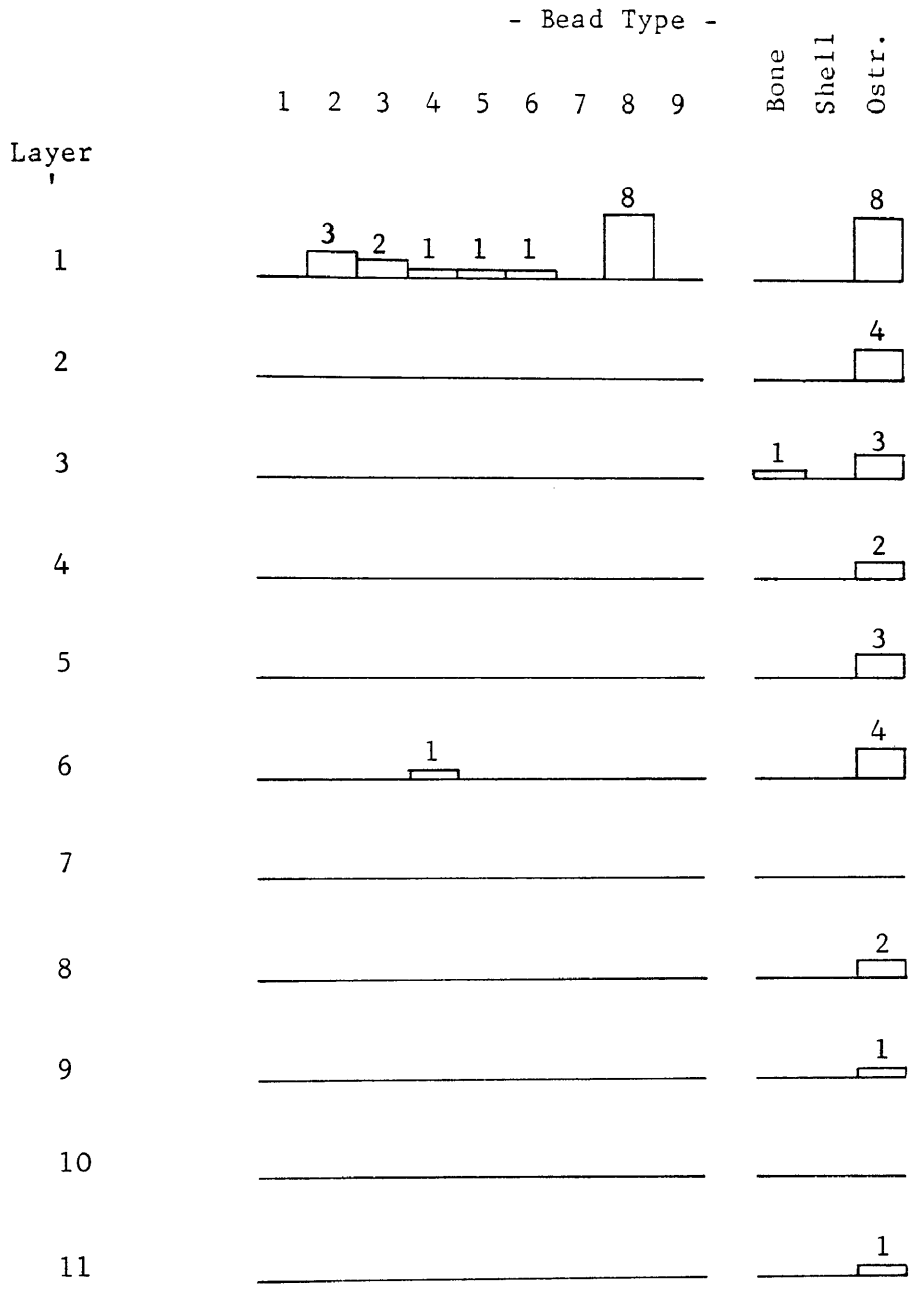
Square F 9



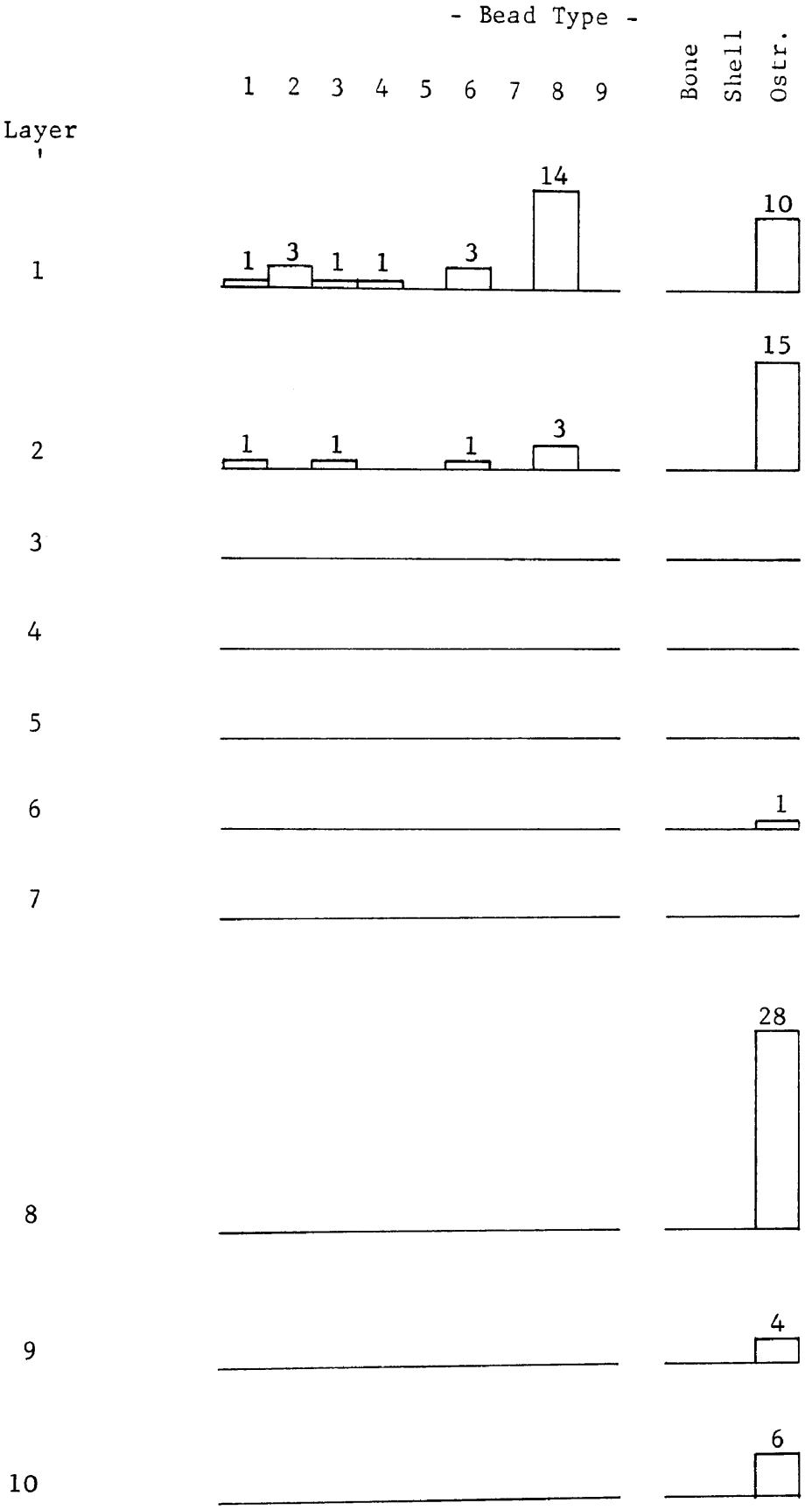
Square F 10



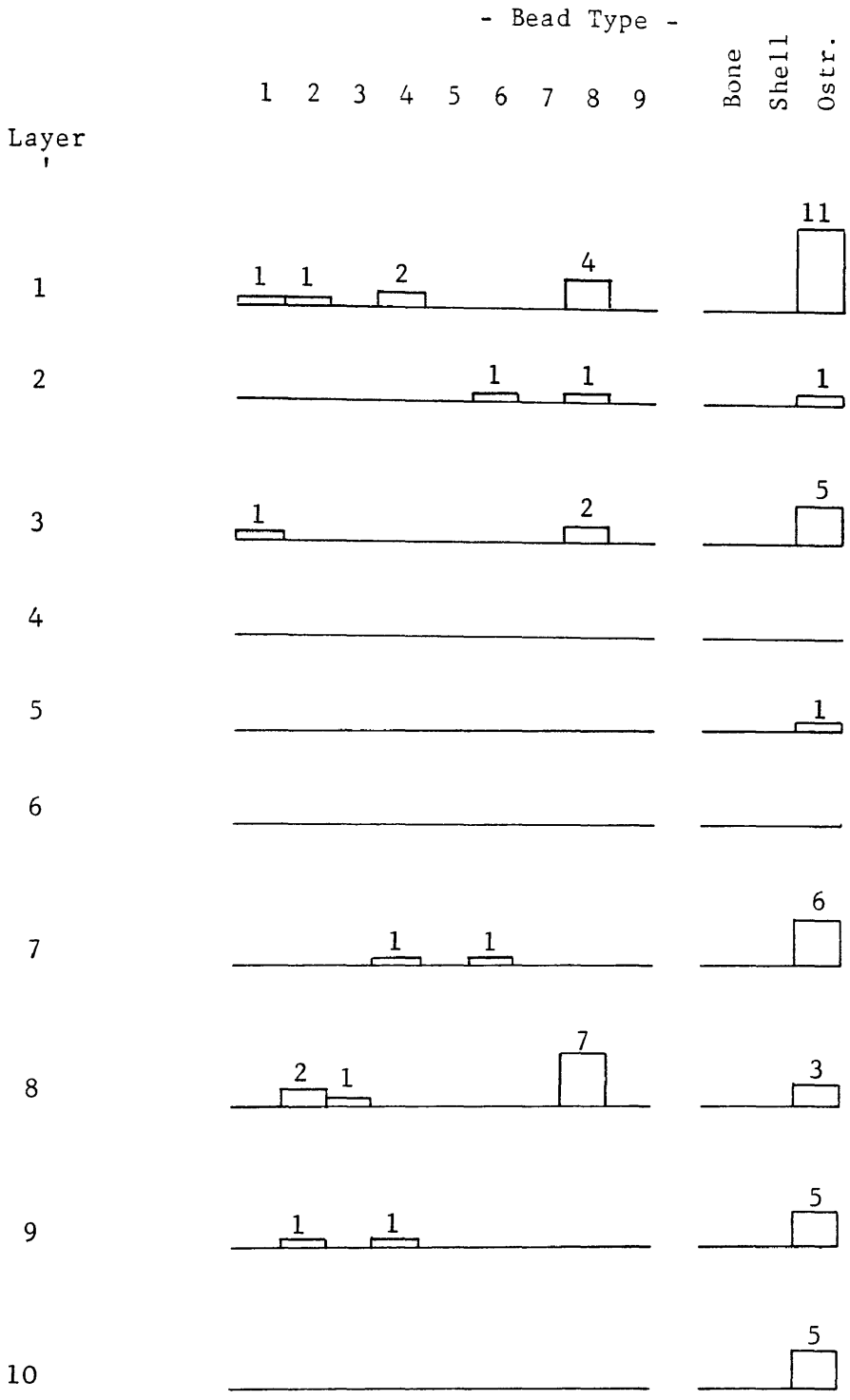
Square F 11



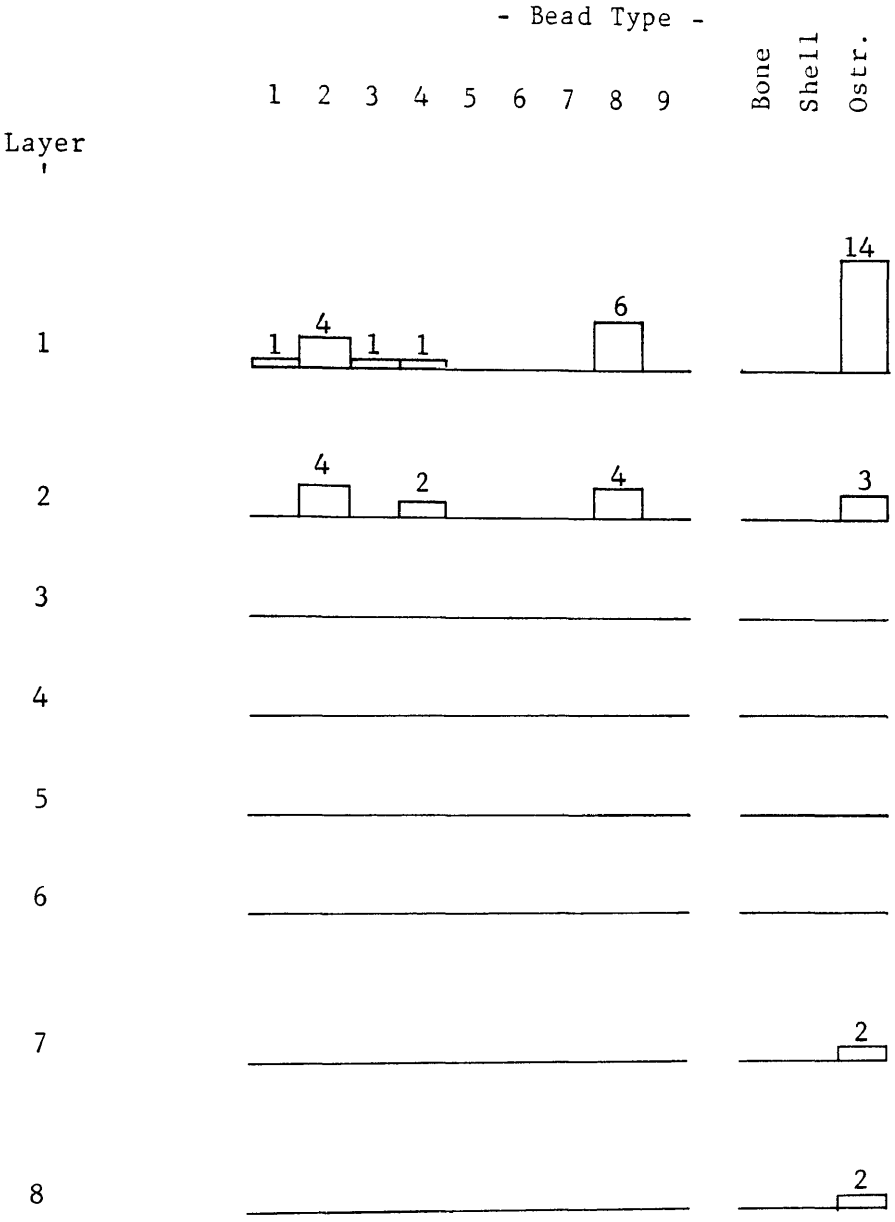
Square F 12



Square F 13



Square F 14



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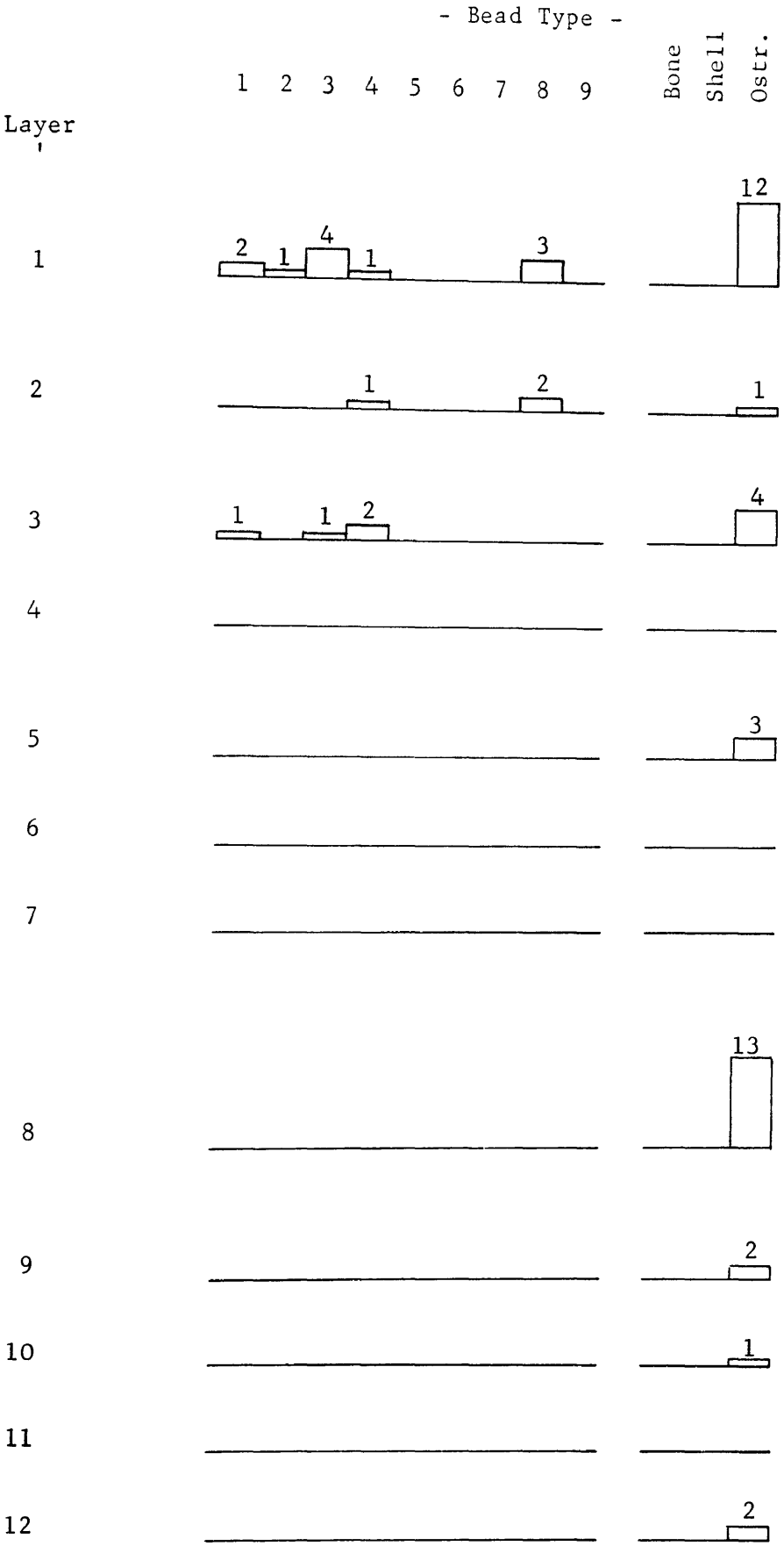

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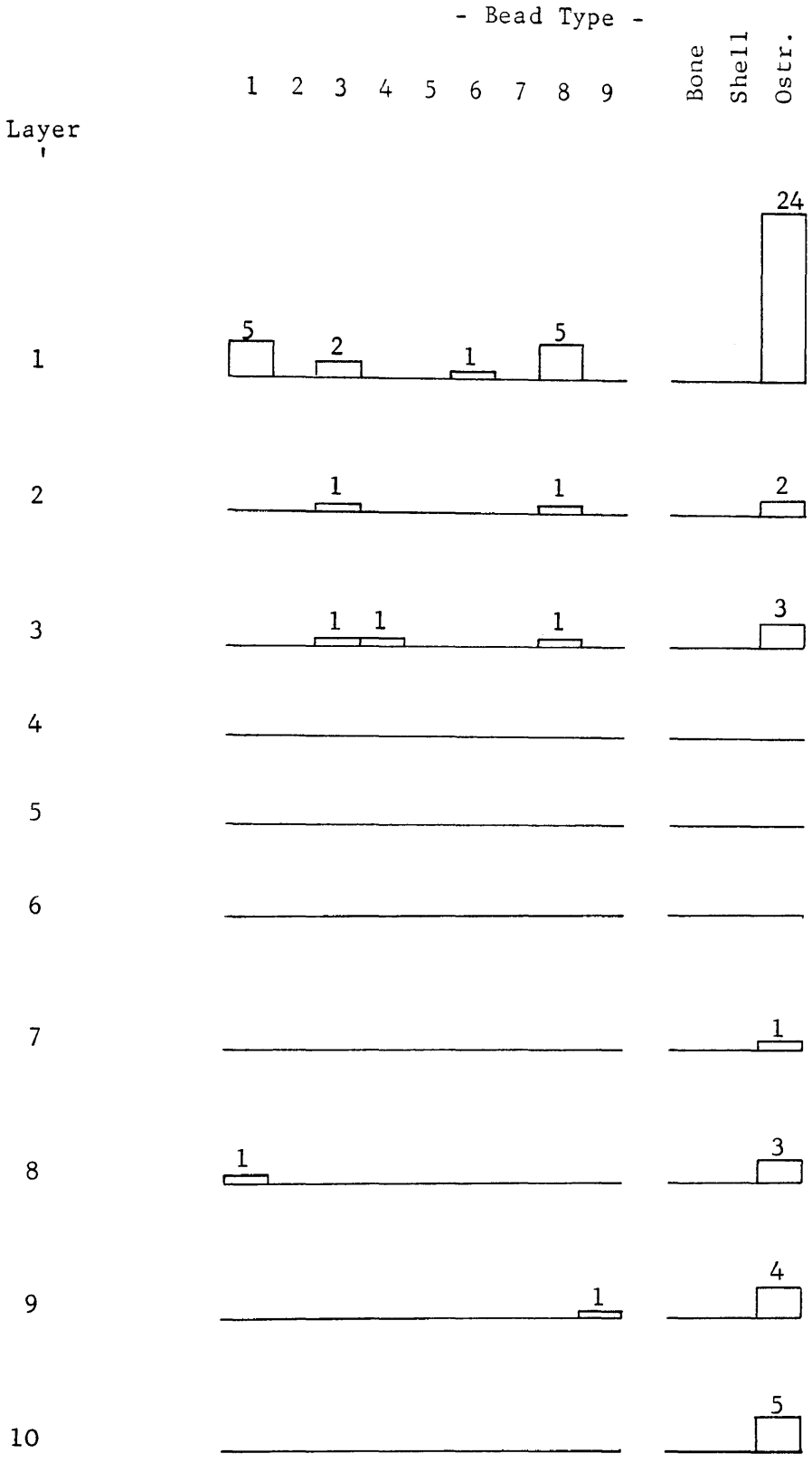
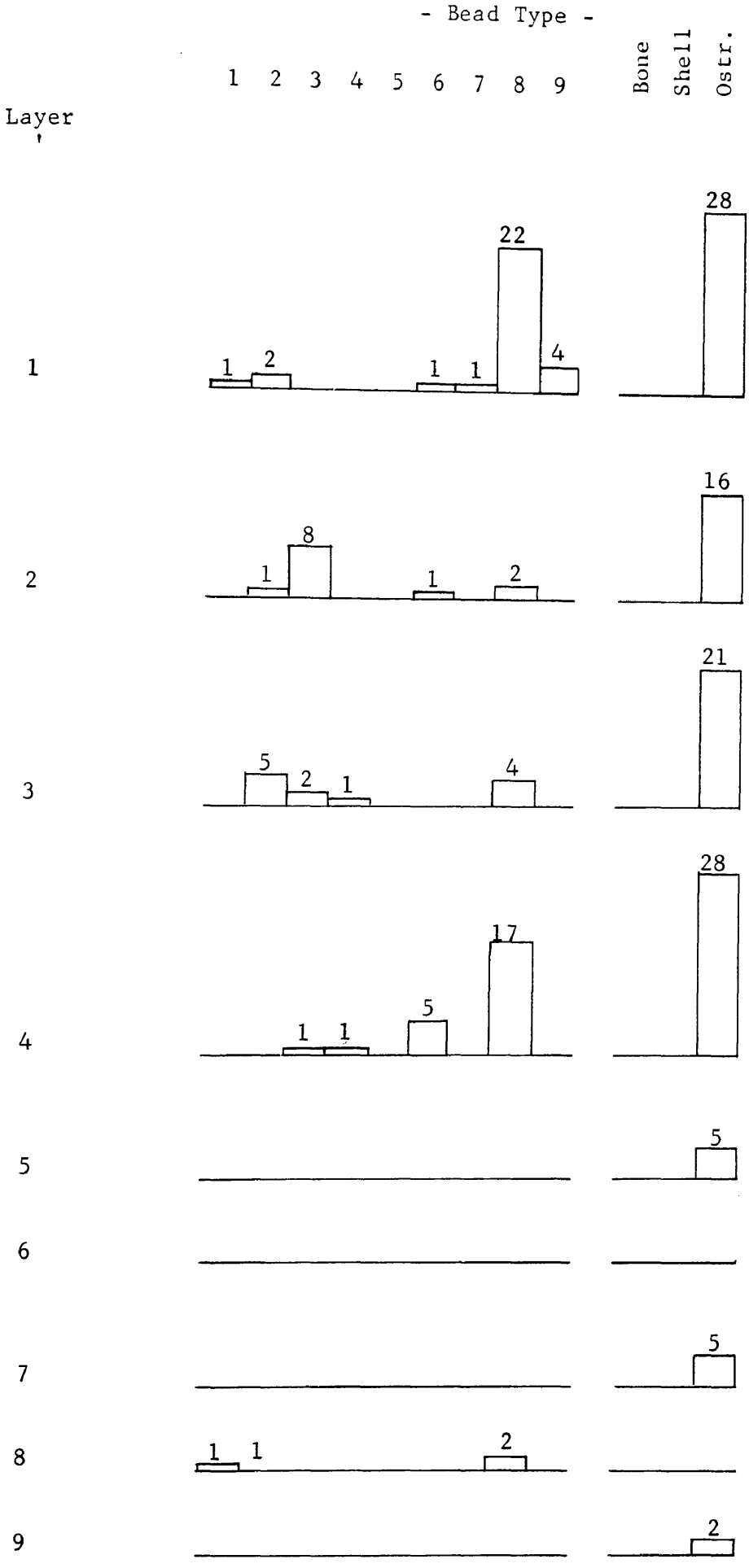
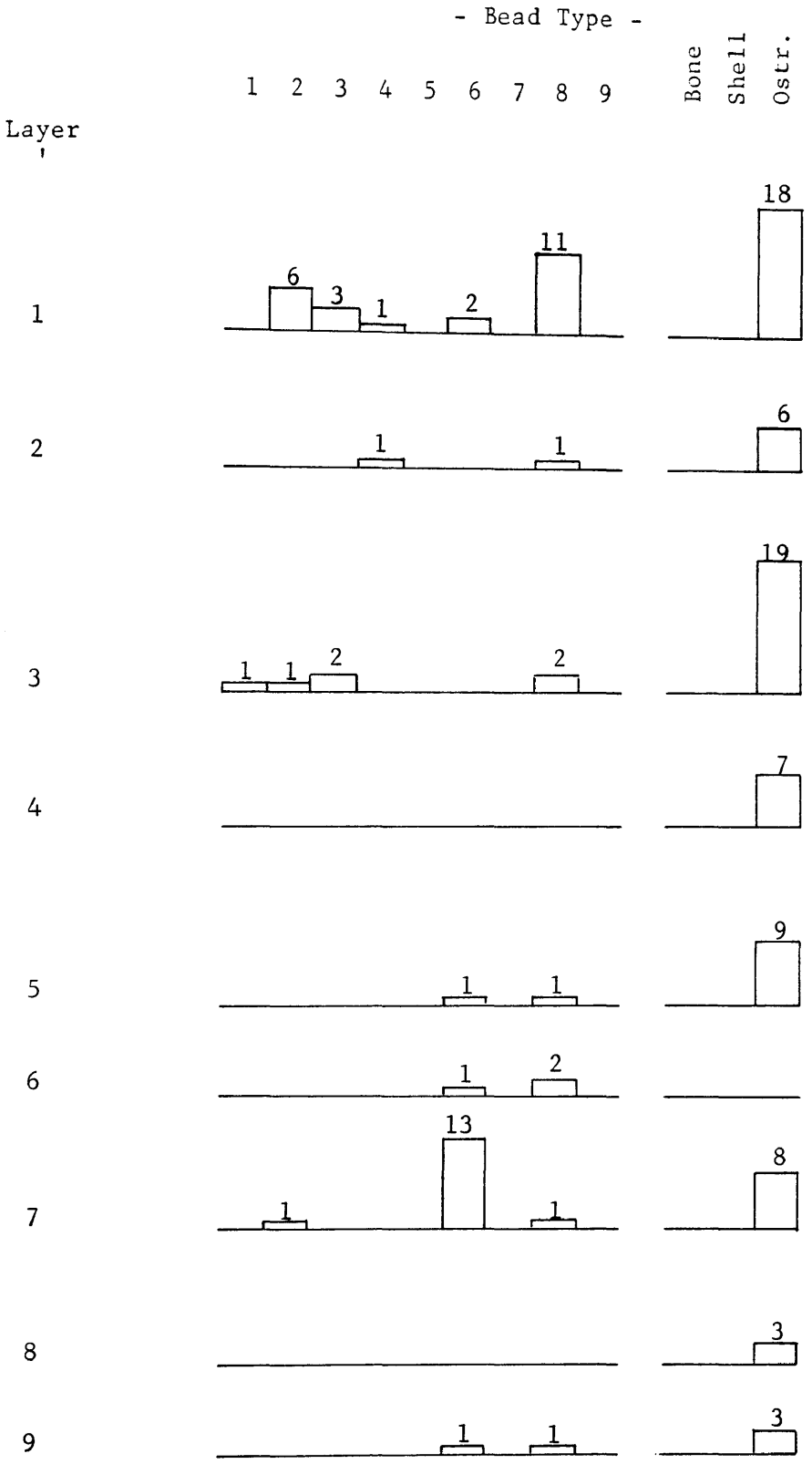


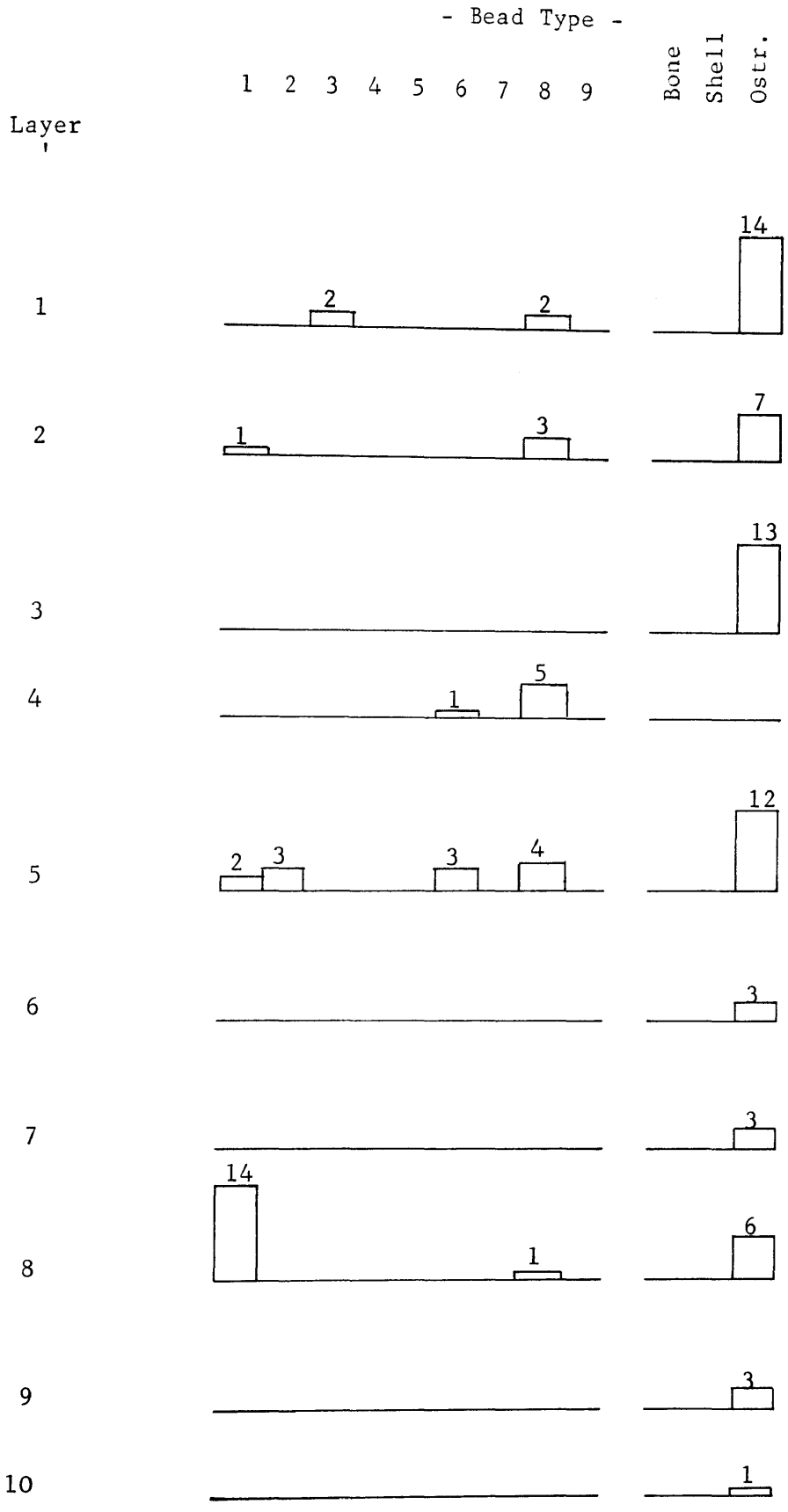
Square G 7



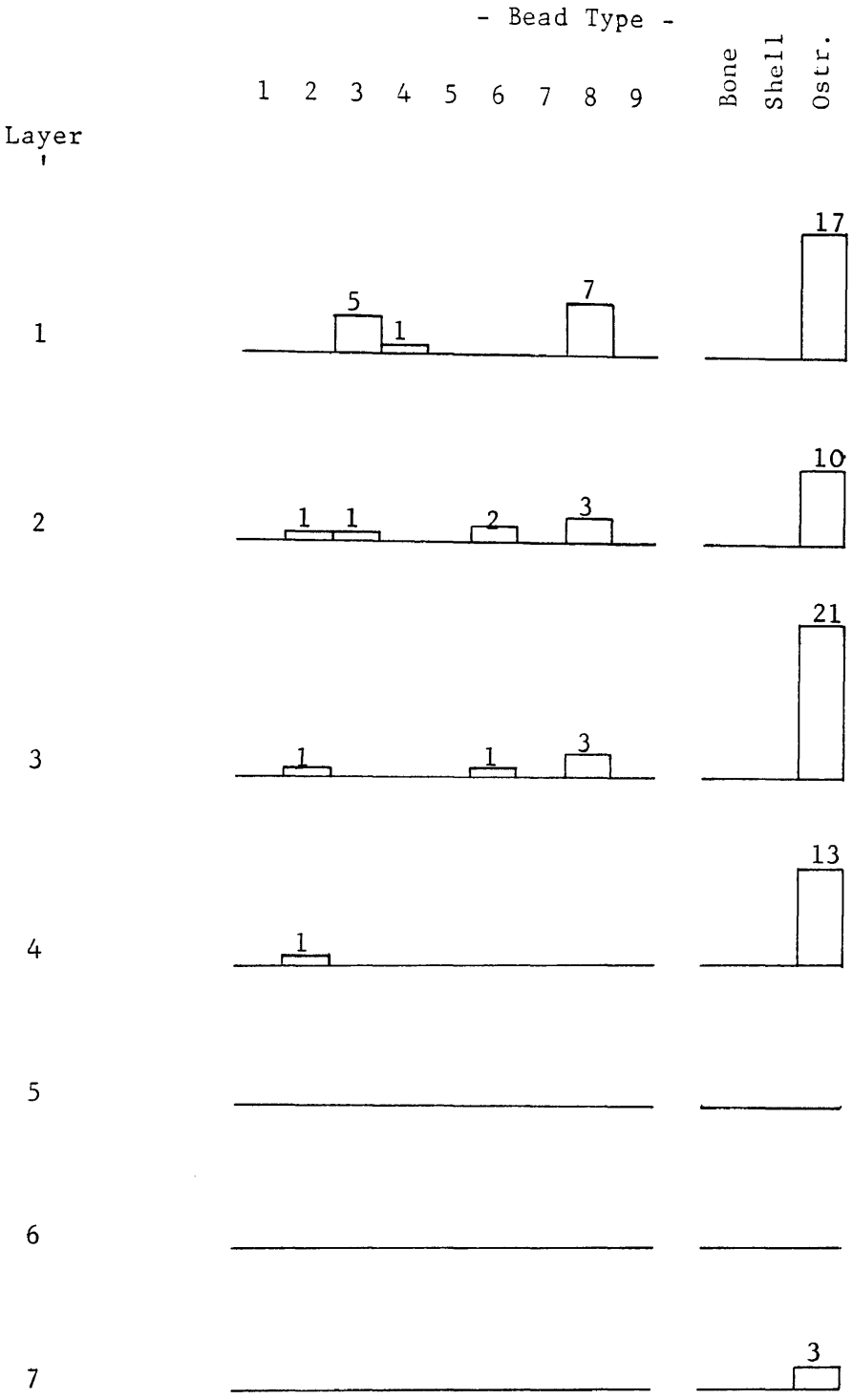
Square G 8



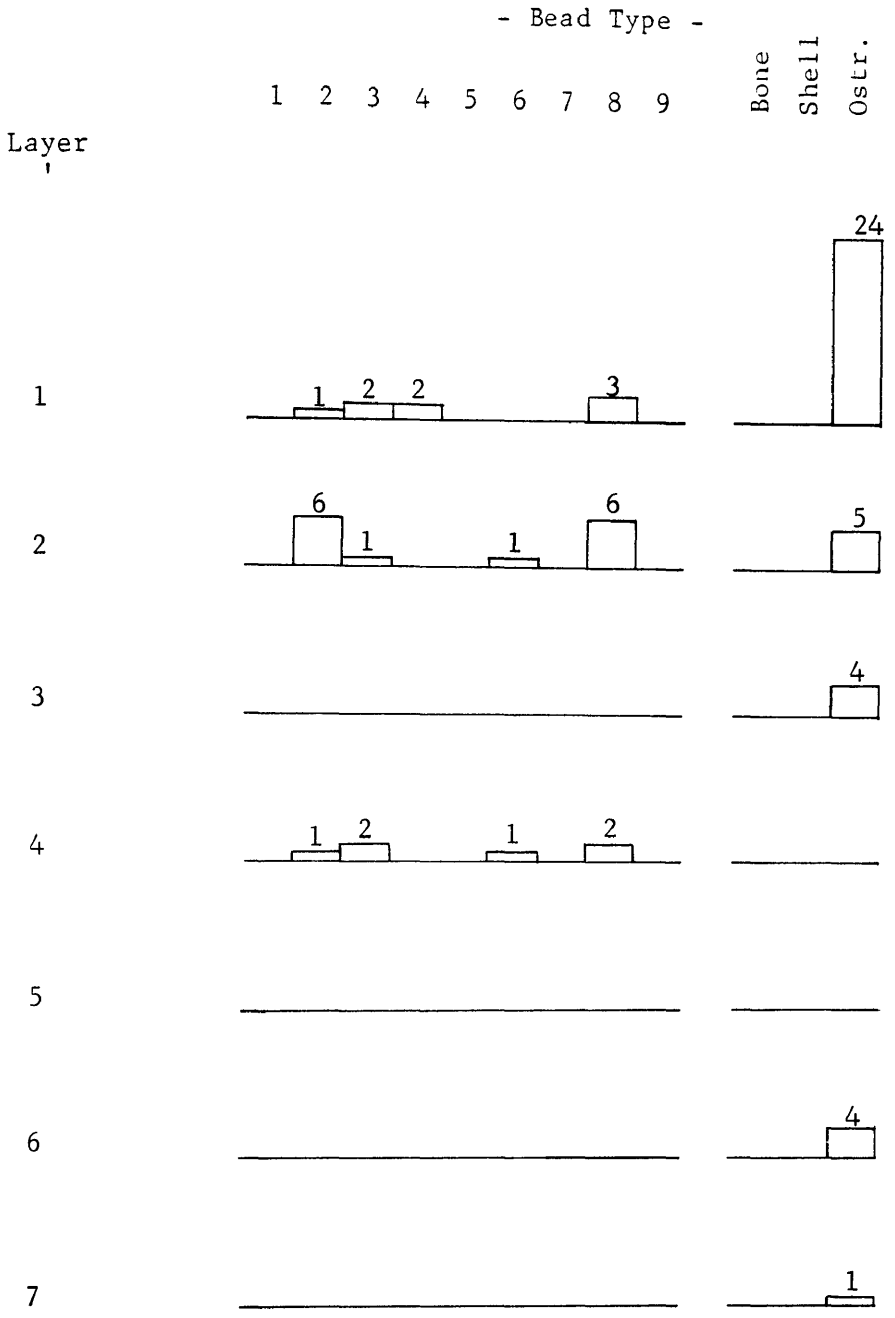
Square G 9



Square H 7



Square H 8



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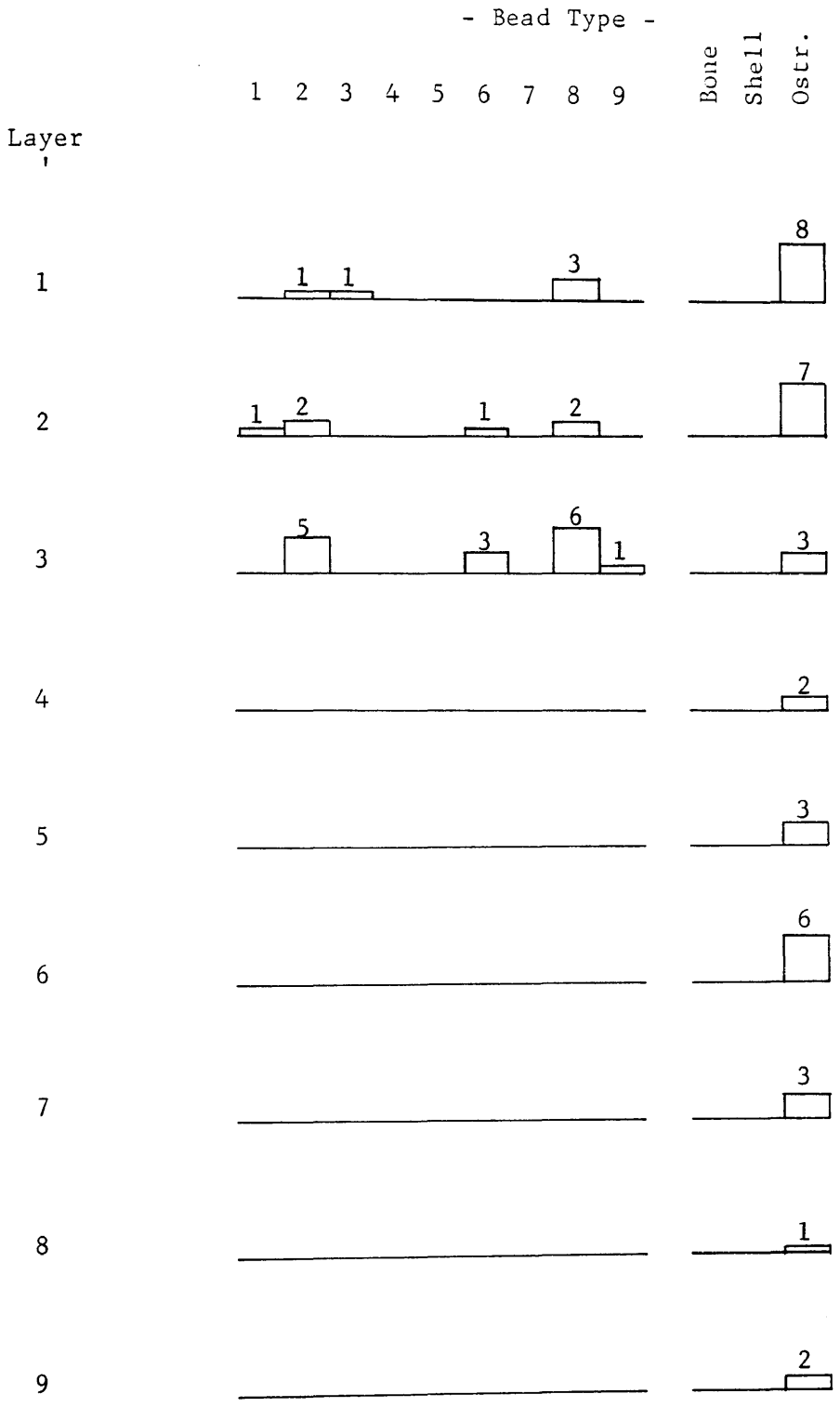

IDENTIFICATION OF ARCHAEOLOGICAL MATERIAL BY MRS. E.J. DU PLESSIS, DEPARTMENT OF AGRICULTURE, DIVISION OF PLANT AND SEED CONTROL.

IRON AGE RESEARCH PROTECT ON SKUTWATER 115 MS IN THE LIMPOPO

D. 8/1. 4.
Acacia sp.

D. 8/8. 4.
Sclerocarya eye-lids.

D. 8/8. 6.
1. Vigna unguiculata.
2. Grewia sp.

D. 9/1. 4.
1. Acacia sp.
2. Grewia sp.

D. 9/2. 4 Pac 41/19.
Sclerocarya eye-lids.

D. 9/2. 4. Pac 50/29.
1. Grewia sp.
2. Acacia sp.

D. 9/5. 4.
Xanthocercis sp.

D. 9/6. 4.
1. Acacia sp.
2. Slag droplet.

D. 9/7. 4.
Sclerocarya eye-lids.

2/ ....

E. 7/2. 6.

1. Grewia sp.
2. Acacia sp.
3. Sclerocarya eye-lid

E. 7/5. 4. RB.

Xanthocercis sp.

E. 7/5. 6.

Fragments of Sclerocarya husks.

E. 8/2. 7.

1. Sclerocarya eye-lid.
2. Acacia sp.

E. 9/1. 4.

1. Piece of bark.
2. Acacia sp.

E. 9/3. 5.

Acacia sp.

E. 9/7. 5.

Immature Ficas sp.

E. 10/1. 3. RB.

Fragments of Acacia sp.

E. 10/4. 4. Pac 7/16.

1. Acacia sp.
2. Sorghum sp.
3. Pieces of bark.
4. Limb of insect. (Bone)

E. 10/4. 4. Pac 7/27.

1. Acacia sp.
2. c.f. Cassine sp.

E. 10/5. 5.

1. Acacia sp.
2. Sclerocarya eye-lid.

E. 10/8. 5.

1. Sclerocarya eye-lid.
2. Bead.
3. Too badly damaged unidentifiable.
4. c.f. Lens sp.

E. 10/8. 10.

1. Acacia sp.
2. Anacardeaceae c.f. Rhus sp.

3/ ....

E. 11/2. 4.

Acacia sp.

E. 11/2. 5.

1. Pieces of wood & head of insect.
2. Acacia sp.
3. Unknown.

E. 11/5. 7.

Acacia sp.

E. 11/7. 8.

Pieces of Bark.

E. 11/9. 6.

Fragment of inside of fruit.

E. 12/1. 4.

Cyathula sp. c.f. C. orthacantha.

E. 12/8. 5.

1. Acacia sp.
2. Calyx.
3. Myrica sp.

E. 13/7. 2. RB.

1. Plant material.
2. Sapindaceae c.f. Pappea husk.

E. 15/3. 1.

Ostrich-egg beads.

E. 16/6. 9.

Grewia sp.

E. 16/7. 8.

1. Acacia sp.
2. Sorghum sp.
3. Fragments of bark.
4. Myrica sp.

4/ ....

F. 7/3. 4 Pac 24/24.

Acacia sp.

F. 7/3. 4. Pac 23/24.

Acacia sp.

F. 7/4. 2. RB.

1. Acacia sp.
2. Sclerocarya eye-lids.
3. Insect eggs.

F. 7/4. 4.

Acacia sp.

F. 8/1. 5.

Fragments of Sclerocarya husk and eye-lids.

F. 8/4. 4.

Fragments of Sclerocarya husk.

F. 9/1. 6.

Fragments of Sclerocarya husk.

F. 9/3. 6.

Fragments of Sclerocarya husk.

F. 11/2. 11.

Sclerocarya eye-lids.

F. 12/1. 12.

1. Acacia sp.
2. Grewia husks.
3. Sorghum sp.

F. 13/3. 11.

Sclerocarya sp.

F. 15/2. 10.

Acacia sp.

G. 7/4. 4. Pac 28/18.

1. Grewia sp.
2. Acacia sp.

G. 7/4. 4. Pac 28/31.

1. Acacia sp.
2. Sorghum sp.
3. Grewia sp.
4. Sclerocarya eye-lids.
5. c.f. Immature Gardenia sp.

G. 7/8. 7.

Sclerocarya sp.

G. 8/2. 4.

1. Grewia sp.
2. Acacia sp.
3. Fragment of bark.

H. 9/4. 4.

Badly damaged c.f. Xanthocercis sp.

UTILITARION VALUE

Acacia sp.
1. Human consumption - Medicinal.
2. Stock - Edible.
3. Making Tannin and Gum.

Cassine sp.
1. Human consumption - Medicinal, Edible.
2. Stock - Medicinal.
3. Making furniture, waggons, boats.

Cyathula sp.
1. Human consumption - Medicinal.
2. Root substitute for soap.

Ficus sp.
1. Human consumption - Medicinal.
2. Stock - Medicinal.
3. Making brake-blocks on waggons, firesticks, bark fibre.

Gardenia sp.
1. Human consumption - Medicinal, charm uses.

Grewia sp.
1. Human consumption, - Edible, Medicinal.
2. Stock - Edible.

Myeica sp.
1. Human consumption - Medicinal.
2. Making condles, edible fat, soap, ointments.

Pappea sp.
1. Human consumption - Medicinal, Infusion drank by warriors to instil courage.
2. Stock - Edible.
3. Making alcohol, vinegar, soap.

Rhus sp.
1. Human consumption - Edible, Medicinal.
2. Making brooms, knobkieries, building enclosures.

Sclerocorya sp.
1. Human consumption - Edible, medicinal, alcohol, beer.
2. Wild animals - Edible.
3. Making tannin, gum, dishes, mealie stamping mortars, drums, toys, curios.

Sorghum sp.
1. Human consumption - Medicinal, edible, beer.
2. Edible, provided good management is applied it can be toxio, for Stock.

Vigna unguiculata.
1. Human consumption - Edible.
2. Stock - Edible.
3. Green manure.

2/ ....

Xanthocercis sp.

1. Human consumption – Edible in times of famine.
2. Wild animals – Edible.