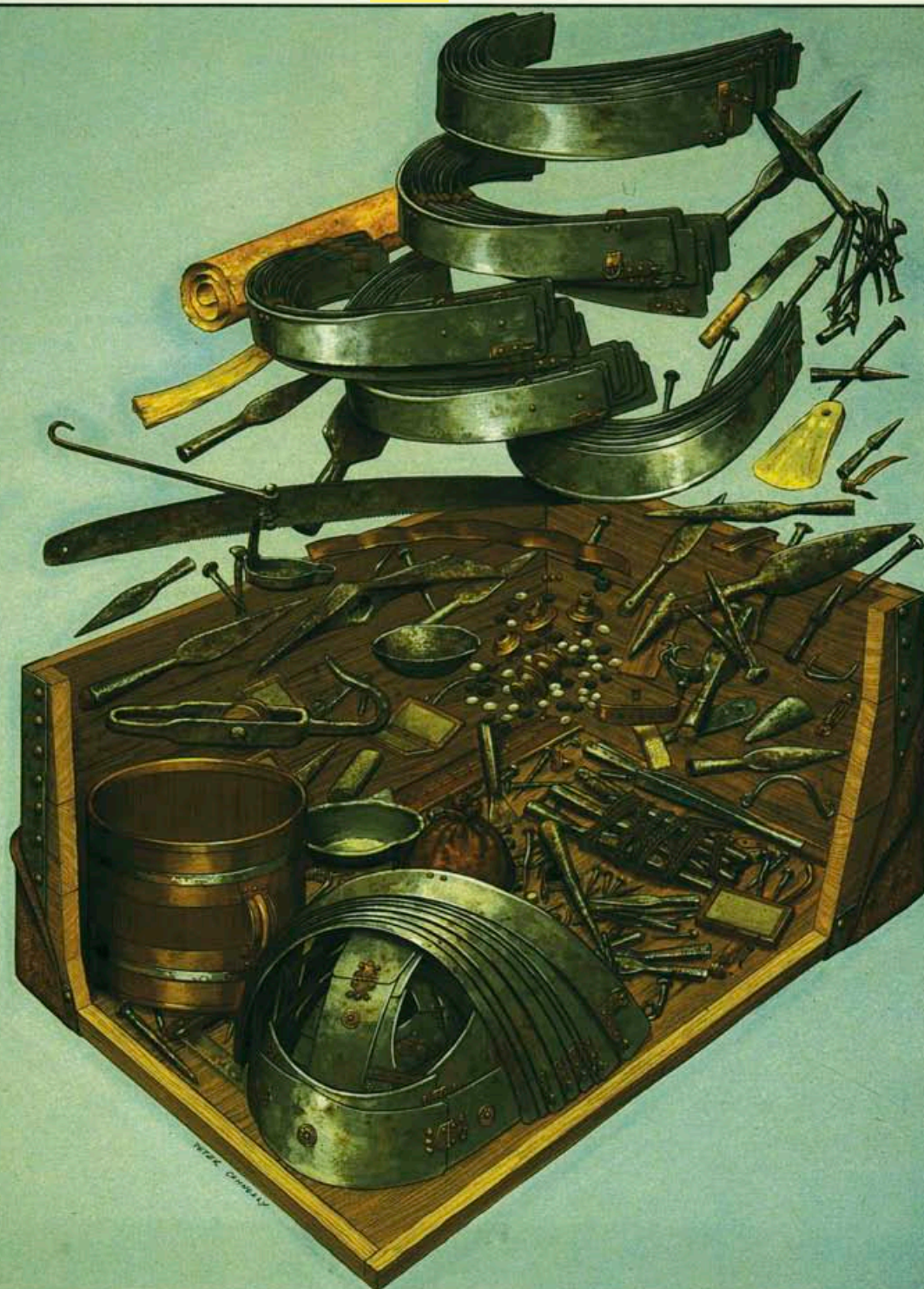


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# EXCAVATIONS AT ROMAN CORBRIDGE


## The Hoard

L Allason-Jones and M C Bishop



**Excavations at Roman Corbridge:  
the Hoard**



English  Heritage

Archaeological Report no 7

## **Excavations at Roman Corbridge: the Hoard**

L Allason-Jones and M C Bishop  
with contributions by  
C Daniels, J Watson and J P Wild

**Historic Buildings & Monuments Commission for England**

1988

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## Acknowledgements

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We should like to thank Alan Bowman for looking at the inscribed fragments of writing tablets; Peter Connolly for the loan of material, discussion of the late Russell Robinson's work on the armour, for modifying and permitting us to use his reconstruction diagrams of the 'lorica segmentata', and for producing the 'exploded' painting and drawing; John Dore, Sally Dummer, and Bill Hubbard, successive curators of the museum at Corbridge, for permitting access to material held there; the Ermine Street Guard for practical comments on the use and reliability of the 'lorica segmentata'; Helen Riley for producing the diagram illustrating the construction of the chest; Anne Gibson Ankers for drawing the plans, 'Harris' matrix, and section; Martin Hartmann for correspondence concerning the wooden boxes from Vindonissa; Jacqui Watson for analysis of the mineral preserved organic material in the Hoard; and John Peter Wild for revising his original report on the textiles. We are particularly grateful to Miriam Daniels for her drawings of the Hoard material. Alec Detsicas, Professor Norman McCord, and Professor John Mann provided eye-witness accounts of the discovery of the chest, as did Brian Dobson, who also loaned us an amateur 8mm film of the event. Charles Daniels has proved an invaluable source of help and information, as well as reading and contributing to the text, and we thank him accordingly. Jon Coulston discussed many matters relating to the Hoard and kindly read and commented upon a draft of the text. MCB would also like to thank Martha Andrews for much valuable discussion on the subject of the hoard.

Stephen Johnson of English Heritage proved most helpful at every stage of the preparation of this report, whilst Majorie Hutchinson and Jacqui Watson in the Ancient Monuments Laboratory bravely tackled the hideous problems presented by the samples of the Hoard sent to them. Finally, Elizabeth Nichols is owed a debt of gratitude for her meticulous editorial work, without which this volume would doubtless be much the poorer. As is customary, we thank all of these, but stress that any merit attaching to this work is due to their unstinting efforts, whilst any errors must remain the responsibility of the joint authors.

Newcastle upon Tyne  
January 1988



# 1 Introduction

The Roman site of Corbridge was excavated in annual seasons, partly as a training school run by the University of Durham, from 1947 to 1973. These investigations were mainly devoted to the examination of the remains of a series of forts which occupied the central portion of the later Roman town of Corbridge from about AD 80 to 163. Detailed results of these excavations, and an interpretation of the site, will be published in a separate volume (Bishop and Dore forthcoming).

Although the excavations produced much material of note from these early phases, the most remarkable single find, uncovered in July 1964, was the Corbridge 'hoard'. An interim publication of this (Daniels 1968) showed something of the wealth of material of which it consisted, but it was left until later for some of the major pieces – in particular the armour – to be more fully studied and presented.

The armour discovered in the Corbridge Hoard provided the necessary detail to enable the reconstruction of the '*lorica segmentata*' and was brought to the attention of a wide public by H Russell Robinson's book *The Armour of Imperial Rome* in 1975. Interest in the armour has, however, tended to overshadow the fact that the chest contained other objects of great interest.

This volume is offered as the definitive publication of all known objects from the Corbridge Hoard, but there are a number of inherent deficiencies. Over twenty years have elapsed since its discovery and, in that time, it is inevitable that some material has gone astray. At least one artefact, known to have existed from drawings made soon after conservation, cannot now be found. In this case an outline drawing has been included in this volume; the notebooks kept as the chest was 'unpacked' in the laboratory are now missing and no complete inventory of the contents of the Hoard survives. There can thus be no full presentation of everything from the Hoard: anything now lost and not drawn at the time of excavation is irrecoverable.

More seriously still, whilst many objects retained numbers (here called 'context numbers'), the way in which these numbers were allotted is not known for certain, although the process seems fairly logical: objects were removed from the chest in order and groups were numbered 1–31, but pieces within a given group could be subdivided, so that 31 would be closely associated with 311, 312, 313, and so forth. Such subdivision was most commonly used with objects that had fragmented, such as the armour or the writing tablets. These context numbers are given in the concordance.



Fig 1 The south-east corner of Site 11, showing the position of the Corbridge Hoard in relation to the post-trenches of Phases II and III. Further details about the Roman Site at Corbridge, along with more detailed phase plans, can be found in Bishop and Dore forthcoming



## The circumstances of the find

*with a contribution by Charles Daniels*

The Corbridge Hoard was first discovered in the course of the 1964 student training excavation, directed by Professor Eric Birley and Charles Daniels. On 17 July, one of a series of trenches laid out to investigate the Phase I *principia*, the building immediately to the east of it, and the road between the two, clipped the south-eastern corner of an iron-bound wooden chest in an advanced state of disintegration, but still packed with metal and other objects (Fig 1). Charles Daniels had to leave the Corbridge course for a prior commitment on the Wroxeter training excavation on 18 July and was only able to undertake the most preliminary of investigations of the whole before leaving. On the way to Wroxeter, the true nature of the cuirass strips occurred to him and he telegraphed the information, stressing the great importance of the material (the word 'unique' was even used), to John Tait, who was still at Corbridge.

Later in July, during the extramural course, which customarily followed the undergraduate training excavation, a larger area was opened up, under the direction of John Tait and Dr (now Professor) John Mann, to recover the whole of the find. The area around the chest was cleaned down to just below its apparent base and a plan drawn (Fig 2). Cleaning of the contents themselves was possible to some extent and contemporary photographs show the remarkable condition of the cuirasses (Figs 3, 4, 5) which lay on top of this collection of items. An amateur 8mm movie film exists showing excavation in progress in what was a comparatively confined area.

In order to facilitate the recovery of the chest, it was left on a plinth of subsoil whilst the trench around it was excavated. A large saw was used to cut beneath the assemblage and planks were inserted behind this; boards were used to form the four sides. The whole assembly was then taken to the site hut and thence to the newly-established laboratory of the Museum of Antiquities at the University of Newcastle upon Tyne. 'Unpacking' the material proved a longer task than initially estimated. Shortage of staff and funds meant that between August 1964 and May 1967 only limited treatment could be carried out. Thereafter, as a result of a grant from the Calouste Gulbenkian Foundation, Lisbon, negotiated by Dr David Smith, progress improved, although the whole task still proved a lengthy operation. Successive conservators of the Museums Service of the North of England, Miss Margaret White (Mrs Margaret Myres), Mr George Learmonth, and Mr Velson Horie were employed on the task of conservation and reconstruction from May 1967 onwards. Some of the objects, in particular the very badly damaged wooden items, including the tankard and the writing tablets, presented a particular problem, but the reconstruction of the pulley block, the hanging lamp, and various of the spear bundles was an equally long and arduous task of treatment and jigsaw, and the

patience of the various conservators needs to be recorded.

This find was first published as an interim report (Daniels 1968), and the late H Russell Robinson's reconstructions of the armour (1969; 1974; 1975) are now well known. Some items have been published already, including the gaming counters (Bell 1978 – the dice cup discussed and illustrated in that report came from Housesteads and not from the Hoard) and some of the textile fragments (Wild 1970, 89, 98–9, 101).

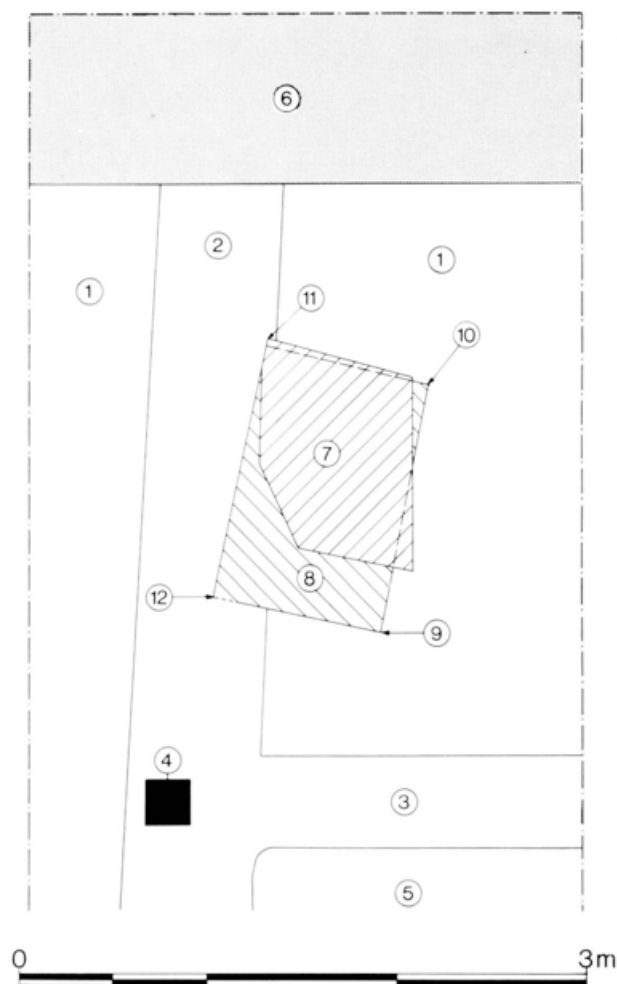


Fig 2 Plan of trenches X5/6 showing location of Corbridge Hoard (based on original plan PI 91, made on 23 July 1964); captions taken from plan: 1 Yellow sand – natural – 5ft 1in; 2 Construction trench filled with dirty ground sand [and] gravel at 5ft 1in; 3 Construction trench filled with dirty ground sand [and] gravel at 5ft 3in; 4 Posthole; 5 Excavated to 4ft 6in. Brown sandy filling; 6 Excavated to depth of 3ft 6in only. Brown occupation soil; 7 Blackened planking over chest. 3ft 9in; 8 Collapsed wooden chest; 9 South-east angle bracket at 4ft 4in; 10 North-east angle bracket; 11 North-west angle bracket; 12 South-west angle bracket (presumed position – dots indicate missing edge)





Fig 3 The Corbridge Hoard, photographed soon after it was discovered in the north section of X6

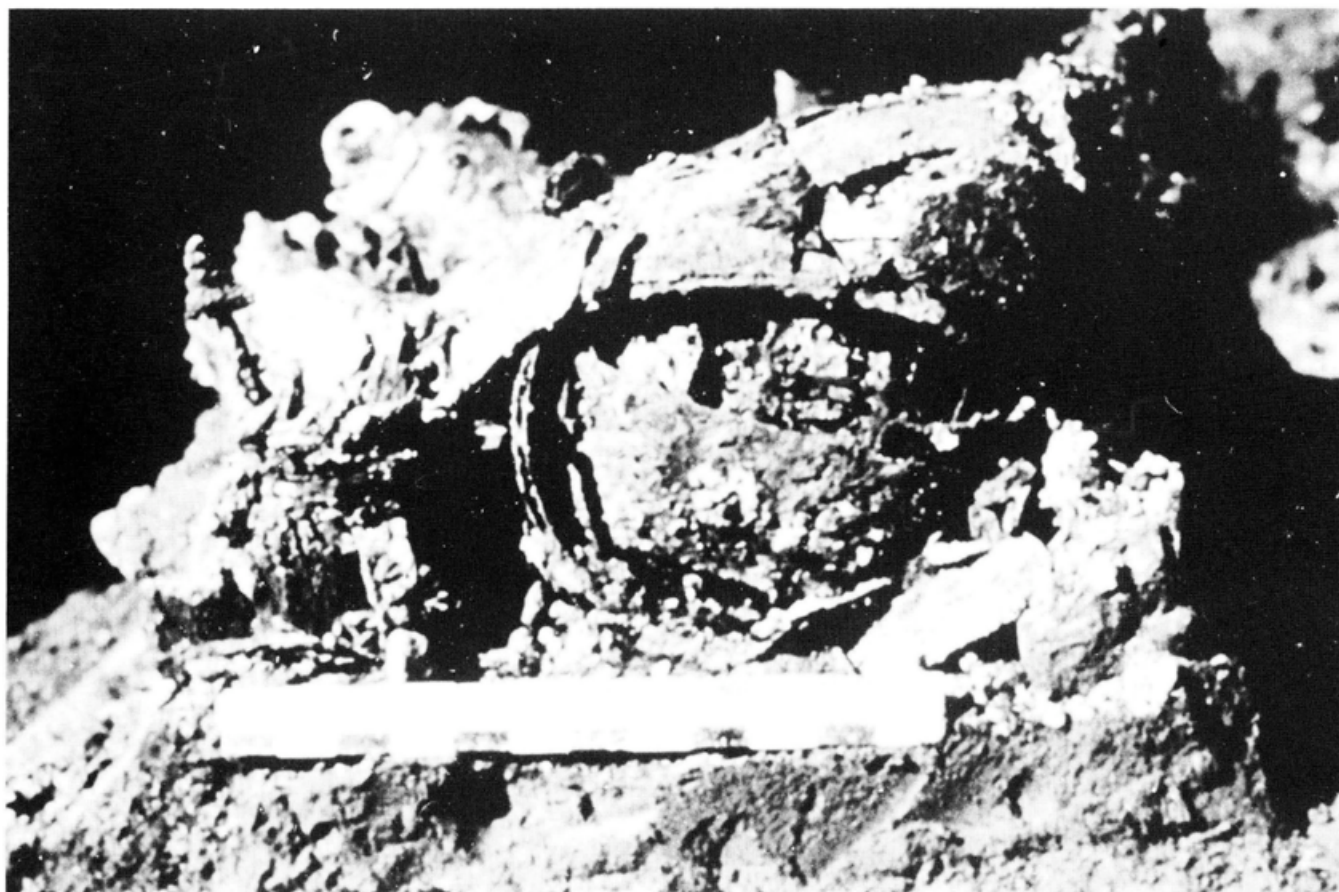


Fig 4 Hoard from south after excavation



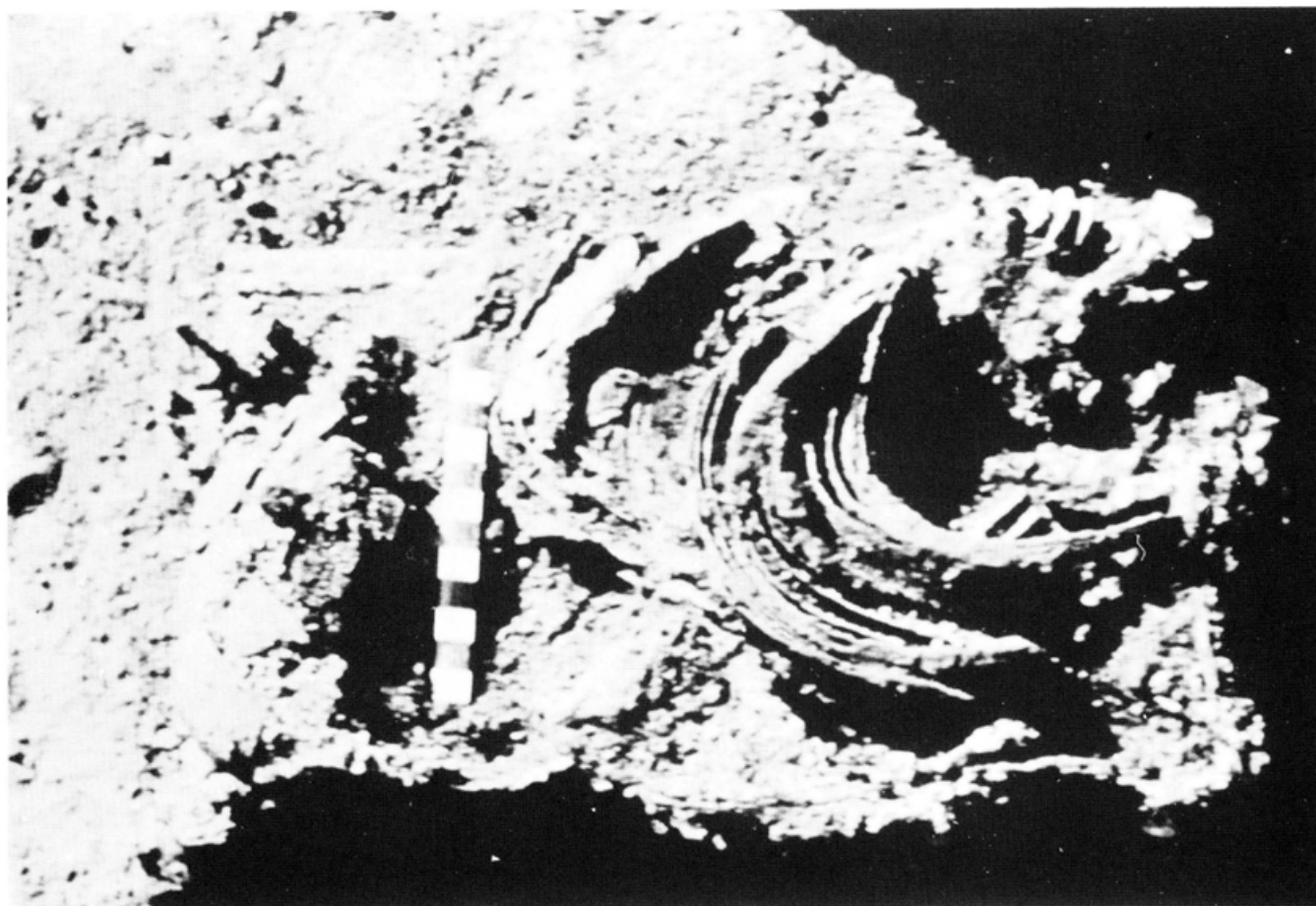


Fig 5 Hoard from east and above after excavation

## The archaeological context and date

The excavators considered that the chest, which appeared to lie more or less in the south-west corner of one of the rooms of a building of Phase I – perhaps a hospital or workshop – had been deliberately buried in this position and belonged to the end of the earliest phase of the fort at Corbridge. Charles Daniels (1968, 116) reported that ‘the enlarged excavation revealed that a portion of the wooden floor-boards of a room in the building to the east of the *principia* had been sawn through and raised, the chest buried and the floor-boards replaced. The fire which had subsequently destroyed the earliest fort at Corbridge had charred and shrunk the replaced boards so that when cleaned by the excavators, the history of the burial was clearly visible’.

The first difficulty with this theory lies in the identification of the floorboards: the conditions of preservation at Corbridge do not normally permit the survival of wood, except in comparatively small amounts when charred (mainly posts and fragments of sill-beams); this is the only location where it is suggested that floorboards could be traced at Corbridge (compare floorboards found at Pudding Lane at London – Bateman and Milne 1983, 221–2 and fig 6). No traces of joists are mentioned in the surviving records. Moreover, sections from this building drawn over a number of years (eg Sections

4–5, 87–91, 98–101, 106, 113 in Bishop and Dore forthcoming), make no mention of wooden floorboards surviving; the characteristic destruction deposit associated with the end of Phase I in this area consists of burnt wattle-and-daub with charcoal.

The alignment of the chest is also curious: it is not directly north–south, as might be expected if it had been buried next to the wall of the Phase I building, but north–north–east– south–south–west. This would have been inconvenient, not to say unnecessary, within a room of the Phase I structure.

At this point we must turn to those sections directly relating to trench X5/6. Here the most important section is that from the south face of V/W/X6 (Section 71), for marginal notes refer to a destruction layer sealing the chest (see Fig 6, where, as on the original drawing, an asterisk indicates the layer which ‘seals the hoard’). It is not, however, the Phase I destruction deposit. This section relates directly to the east face of X5/6 and thence to the north face of X5 (Section 64–5 respectively). The layer sealing the Hoard is earlier than the end of Phase IV and later than Phase I (see ‘Harris matrix’, Fig 7), so must belong to either Phase II or III – in order for it to belong to Phase IV, it would have to have been dug through the contemporary road surface.

An alternative interpretation may be offered which corresponds more closely with the stratigraphic evidence. At some point after the destruction of the Phase I building, and probably before the destruction





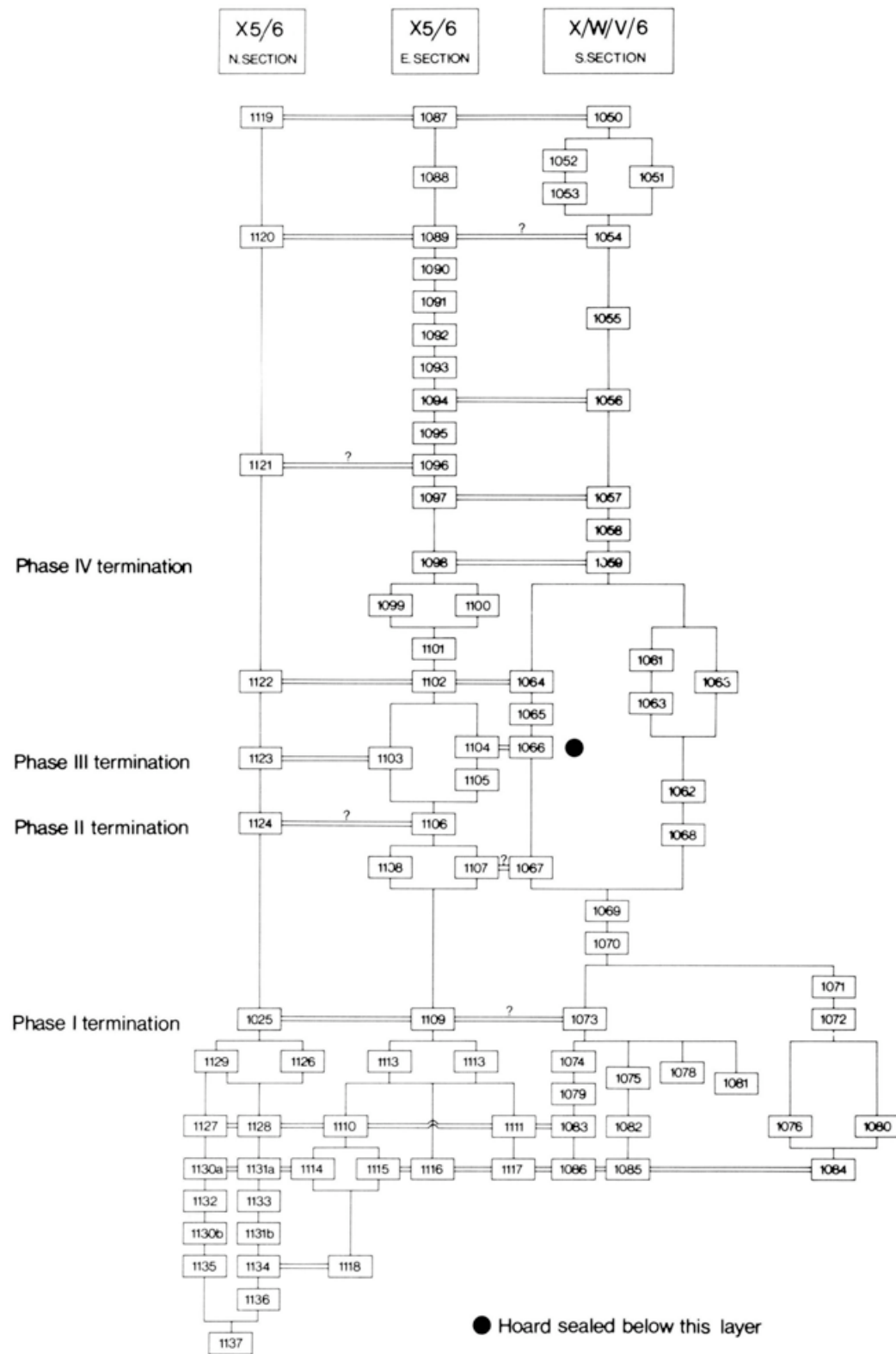


Fig 7 'Harris matrix' of Sections 54, 55 and 71 relating to the stratigraphy of the Corbridge Hoard



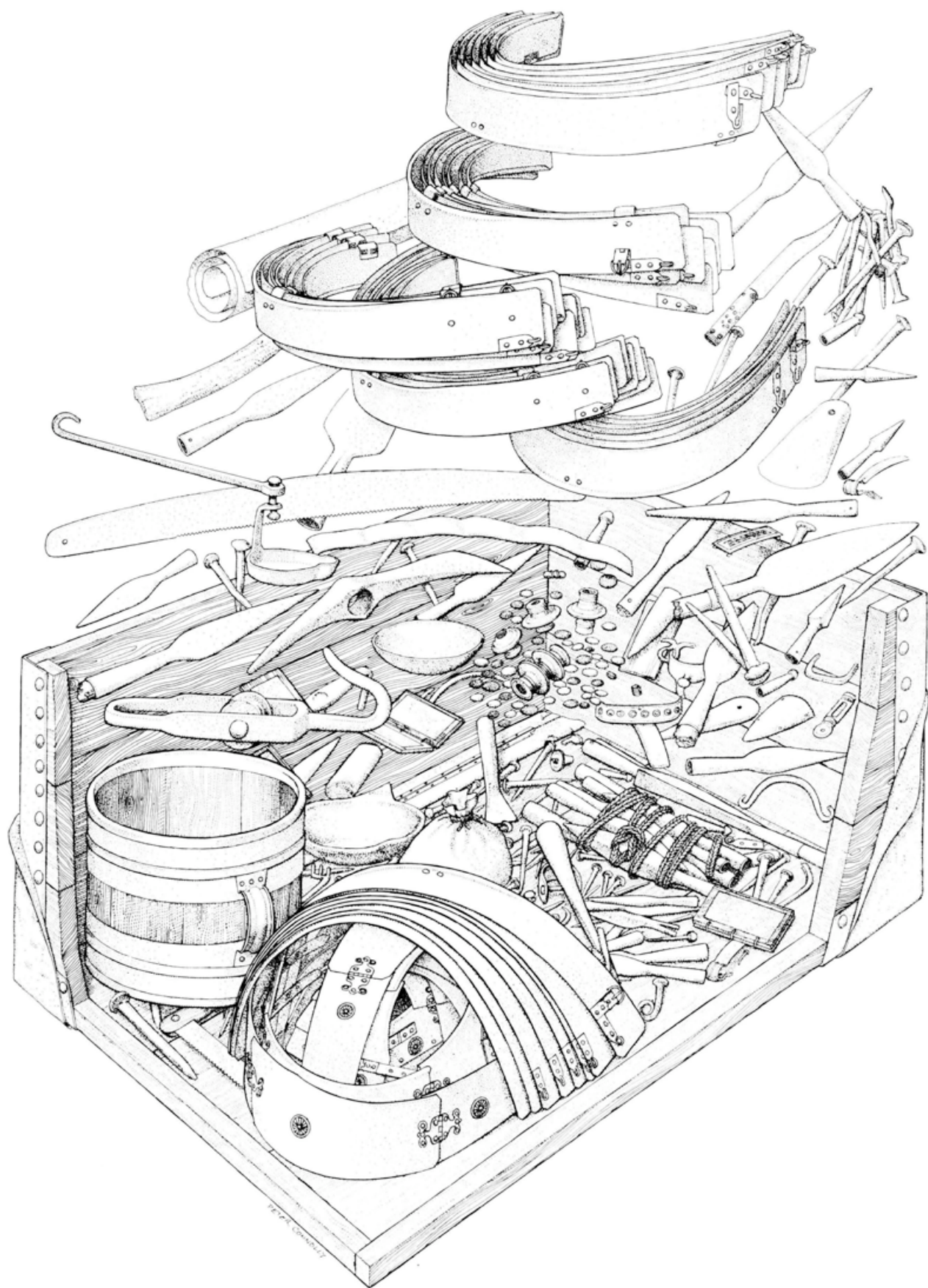


Fig 8 Reconstruction drawing of the arrangement of the items in the Corbridge Hoard chest. Whilst the locations of the major items are fairly certain those of many of the smaller objects cannot now be established. Drawn by Peter Connolly

## 2 Catalogue

with contributions by J P Wild (textile) and  
J Watson (wood identification)

This catalogue contains details of all items from the Corbridge Hoard. The catalogue number is given, followed by a description of the item concerned, references to parallels, and appropriate dimensions. The original provenance numbers (where they are known) are given in the concordance.

It should be pointed out that any division of the Hoard, be it by material or function, is artificial: the objects were found as one group, elements of which have in some cases been separated, whilst many items are still attached to others. In many cases, it has been deemed unnecessary to allocate a catalogue number to odd scraps which may be stored as if they were separate items (wherever possible, such frag-

ments have been considered to be part of their original parent artefact) or to small pieces which are unprovenanced.

### Iron objects

#### Weapons

1 (Fig 9) Socketed *pilum*. A circular socket tapers to a square-sectioned shank. A *pilum* head with a blunt pyramidal point adheres to the side, as do pieces of fine cloth, wood, leather, and a 25mm length of a square-sectioned shank. There is a small hole at the base of the socket. If the three pieces of metal all belong to the same weapon, then it would have been about 340mm long.

*Pila* seldom survive with their attachments intact, but two main types are known: the tanged and the socketed (Densem 1980, 30). The virtually intact Oberaden *pila* (Albrecht 1942, Tafn 48 and 49) are

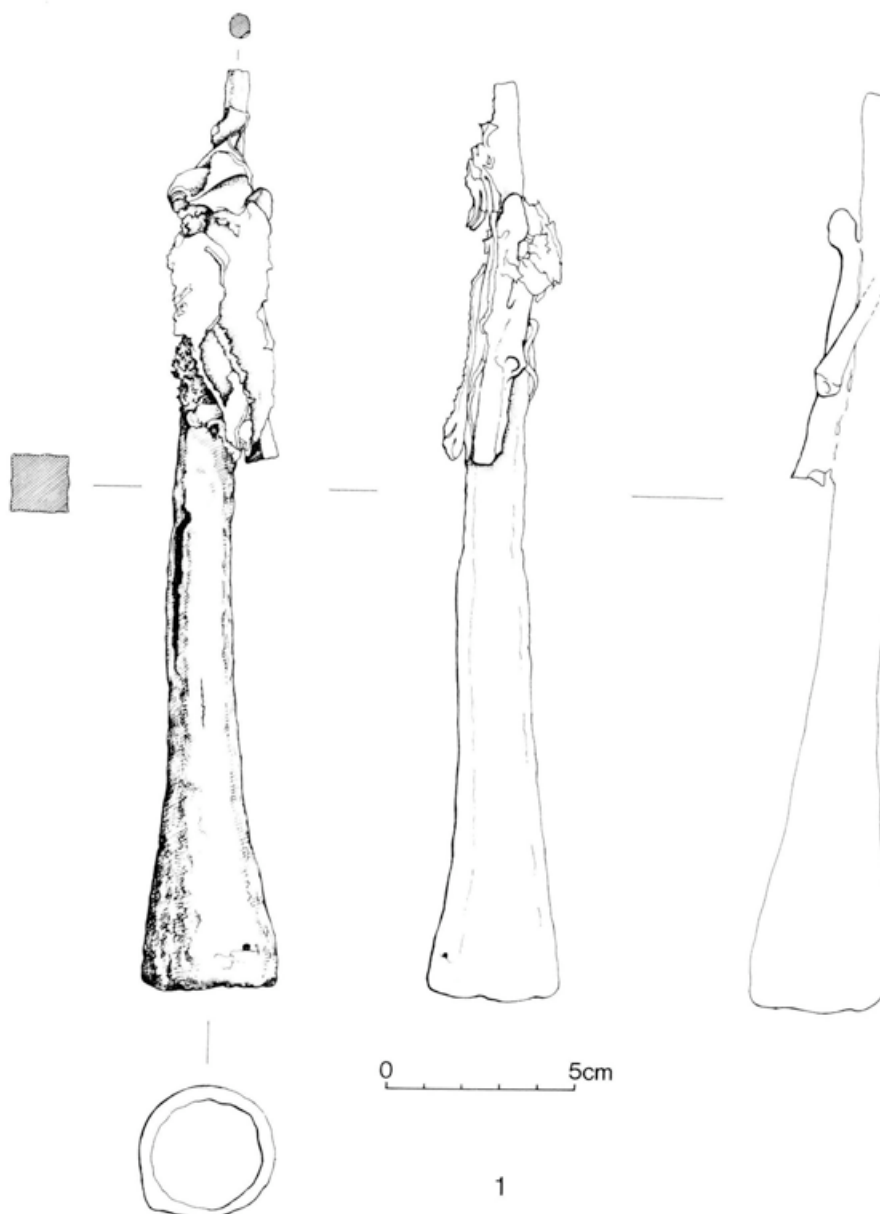


Fig 9 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

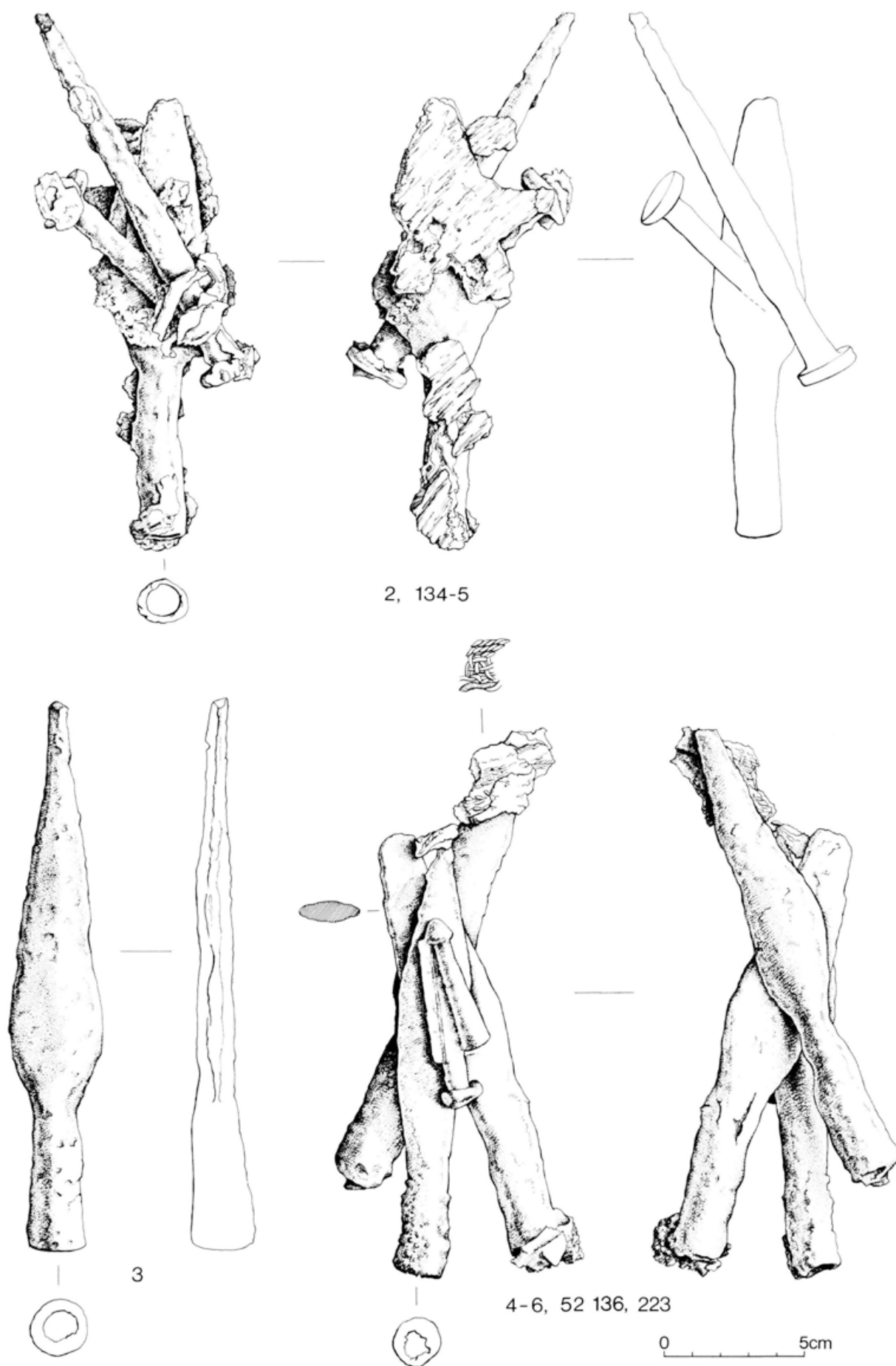


Fig 10 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



examples of the former type. The length of the shanks of socketed *pila* varied widely, so it is not possible to be sure that all parts of the weapon are present; cf Renieblas: Schulten 1929, Taf 25.1-3; Augsburg-Oberhausen: Hübener 1973, Taf 5.13; Saalburg: Jacobi 1897, fig 77.2.

Length: 241mm, socket diameter: 36mm, length of pyramidal head: 71mm, diameter across shank: 6mm

2 (Fig 10) Low-shouldered spearhead. The socket appears to be pierced and the tip may have been missing before loss or intentionally left blunt. For parallels, see Manning 1985, 160-70; Scott 1980. This forms a bundle with 2 nails (Nos 134-5), with wood and cord adhering.

Length: 159mm, length of blade: 100mm, socket diameter: 19mm, width: 41mm, length of entry: 71mm

3 (Fig 10) Low-shouldered spearhead with an elongated point.

Length: 196mm, length of blade: 145mm, socket diameter: 22mm, width: 34mm, length of entry: 118mm

Bundle of three spearheads (Nos 4-6), a ferrule (No 52), a nail (No 136), and a rod (No 223), with wood and textile adhering.

4 (Fig 10) Mid-shouldered spearhead with a fragment of wood adhering to the tip. The edges of the blade are damaged.

Length: 169mm, length of blade: 115mm, socket diameter: 20mm, width: 30mm, length of entry: 78mm

5 (Fig 10) Low-shouldered spearhead, with its tip missing.

Length: 160mm, length of blade: 100mm, socket diameter: 20mm, width: 33mm, length of entry: 70mm

6 (Fig 10) Mid-shouldered spearhead with fragments of textile adhering.

Length: 155mm, length of blade: 115mm, socket diameter: 16mm, width: 25mm, length of entry: 50mm

A bundle containing two spearheads (Nos 7-8) and a chisel (No 83) with fragments of wood adhering. Originally joined to the large bundle (see below).

7 Large, low-shouldered spearhead; the edge of the blade is damaged.

Length: 394mm, length of blade: 305mm, socket diameter: 25mm, width: 50mm, length of entry: 278mm

8 (Fig 11) Large, low-shouldered spearhead; the edge of the blade is damaged.

Length: 385mm, length of blade: 300mm, socket diameter: 25mm, width: 16mm, length of entry: 295mm

A bundle consisting of 14 spearheads (Nos 9-22), a knife (No 91), a bar (No 221), and a rod (No 222). A large fragment of writing tablet (possibly from 'Group 104' - see below, No 290) with a border of 12mm at one end adheres to the bundle, which is wrapped around with cord tied in a reef knot (see below, No 355).

Length of writing tablet fragment: 53mm, width: 40mm

9 (Fig 11) Spearhead.

Length: 216mm, length of blade: 142mm, socket diameter: 22mm, width: c 33mm, length of entry: 105mm

10 (Fig 11) Spearhead.

Length: 172mm, length of blade: 130mm, socket diameter: 18mm, width not determinable, length of entry: 83mm

11 (Fig 11) Spearhead.

Length: 125mm, length of blade: 87mm, socket diameter: 20mm, width: 25mm

12 (Fig 11) Spearhead.

Length: 170mm, length of blade: 120mm, socket diameter: 20mm, width not determinable

13 (Fig 11) Spearhead.

Length: 170mm, length of blade: 120mm, socket diameter: 20mm, width not determinable

14 (Fig 11) Spearhead.

Length: c 172mm, length of blade: 115mm, socket diameter: 15mm, width not determinable

15 (Fig 11) Spearhead.

Length: 217mm, length of blade: 155mm, socket diameter: 20mm, width not determinable

16 (Fig 11) Spearhead, incomplete.

Length: 147mm, length of blade: 120mm, socket diameter: 20mm, width not determinable

17 (Fig 11) Spearhead.

Length: 160mm, length of blade: 115mm, socket diameter: 20mm, width not determinable

18 (Fig 11) Spearhead.

Length: c 180mm, length of blade: 125mm, socket diameter: c 20mm, width not determinable

19 (Fig 11) Spearhead.

Length: c 150mm, length of blade: 105mm, socket diameter: c 15mm, width not determinable

20 (Fig 11) Spearhead.

Length: c 190mm, length of blade: 135mm, socket diameter: c 15mm, width not determinable

21 (Fig 11) Spearhead.

Length: 170mm, length of blade: 110mm, socket diameter: c 15mm, width not determinable

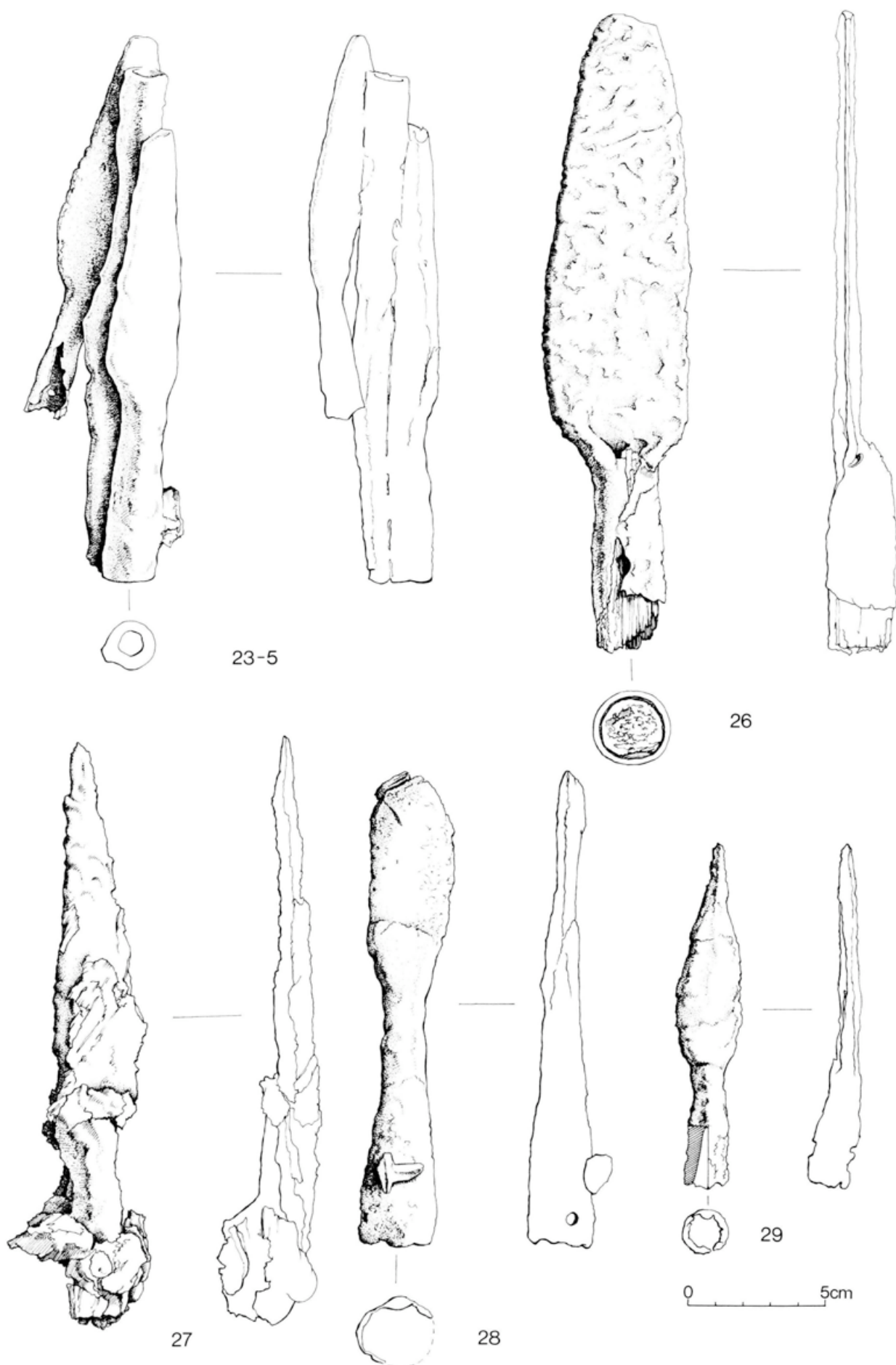


Fig 13 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



22 (Fig 11) Spearhead with damaged point.

Length: 190mm, length of blade: 130mm, socket diameter: c 15mm, width not determinable

Bundle of three spearheads (Nos 23–5), laid socket-point–socket; wood adheres to one.

23 (Fig 13) Low-shouldered spearhead with blunted or missing tip.

Length: 162mm, length of blade: 100mm, socket diameter: 18mm, width: 35mm, length of entry: 77mm

24 (Fig 13) Low-shouldered spearhead; the point is broken.

Length: 183mm, length of blade: 120mm, socket diameter: 16mm, width: 32mm, length of entry: 90mm

25 (Fig 13) Low-shouldered spearhead with a split socket and rivet hole. The point is missing or blunted.

Length: ?141mm, length of blade: 97mm, socket diameter: 15mm, width: 31mm, length of entry: 73mm

26 (Fig 13) Low-shouldered spearhead with broken tip. The seam of the wrapped socket is flush with the back of the blade, whilst the front protrudes. Part of the wooden shaft, identified as ash (*Fraxinus* sp), survives.

Length: 211mm, length of blade: 165mm, length of wooden shaft: 73mm, width: 51mm, length of entry: 146mm

27 (Fig 13) Low-shouldered spearhead with diamond cross-section. There is a circular socket with a rivet hole. Pieces of wood adhere.

Length: 205mm, length of blade: 145mm, width: c 33mm, length of entry: 110mm

28 (Fig 13) Damaged mid-shouldered spearhead, with a large portion of the tip missing. There is a disc-headed nail in the pierced oval socket and there is a second rivet hole below the first.

Length: 172mm, length of blade: 90mm, socket diameter: 29mm, width: 30mm

29 (Fig 13) Small mid-shouldered spearhead with a pierced socket.

Length: 125mm, length of blade: 85mm, socket diameter: 18mm, width: 25mm, length of entry: 60mm

30 (Fig 14) Small mid to low-shouldered spearhead with pierced socket, in which a piece of the wooden shaft remains.

Length: 123mm, length of blade: 70mm, socket diameter: 16mm, width: 25mm, length of entry: 55mm

31 (Fig 14) Spearhead and knife (No 93) crossed at their points. The low-shouldered spearhead has straight sides and a pierced socket, containing part of

the shaft, made from a wood with uniserate rays, probably one of the common coppice woods such as alder (*Alnus* sp), hazel (*Corylus* sp), willow (*Salix* sp), or poplar (*Populus* sp). Leather adheres and there is twine around the two items.

Length of spearhead: 205mm, length of blade: 145mm, socket diameter: 16mm, width: 30mm, length of entry: 110mm

32 (Fig 14) Mid-shouldered spearhead with a split and pierced socket.

Length: 170mm, length of blade: 120mm, socket diameter: 18mm, width: c 28mm, length of entry: 100mm

33 (Fig 14) Damaged spearhead of indeterminate type. It has a split socket, the split reaching right up to the blade (cf the spearhead from Sewingshields – Allason-Jones in Haigh and Savage 1984, fig 13.39).

Length: 138mm, length of blade: 78mm, socket diameter: 25mm, width: 60mm

34 (Fig 15) Pair of spearheads, crossed (at 90°) at mid-blade. Fragments of leather are attached. The first has a low-shouldered blade with straight edges. The socket and base of the blade taper to meet each other and the tip is damaged.

Length: 161mm, length of blade: 115mm, socket diameter: 19mm, width: 27mm, length of entry: c 90mm

The second also has a low-shouldered blade with straight sides and diamond cross-section. There are remains of the shaft in the socket.

Length: 192mm, length of blade: 145mm, socket diameter: 21mm, width: 32mm, length of entry: 120mm

35 (Fig 15) Mid to low-shouldered spearhead with two disc-headed nails (Nos 126–7) attached. The objects lie on wood and are covered by textile.

Length: 150mm, length of blade: 95mm, socket diameter: 19mm, width: 36mm, length of entry: 67mm

36 (Fig 16) Low-shouldered spearhead with straight-sided blade.

Length: 195mm, length of blade: 135mm, socket diameter: 22mm, width: 31mm, length of entry: 122mm

37 (Fig 16) Exploded spearhead; the form is now indeterminate, but may originally have been low-shouldered. It has a split socket with wood in it.

Length: 178mm, length of blade: 110mm, socket diameter: 22mm, width (surviving): 32mm, length of entry: 93mm

38 (Fig 16) Low-shouldered spearhead. There is wood, identified as willow (*Salix* sp) or poplar (*Populus* sp), remaining in the socket.

Length: 249mm, length of blade: 160mm, socket diameter: 19mm, width: 38mm, length of entry: 124mm

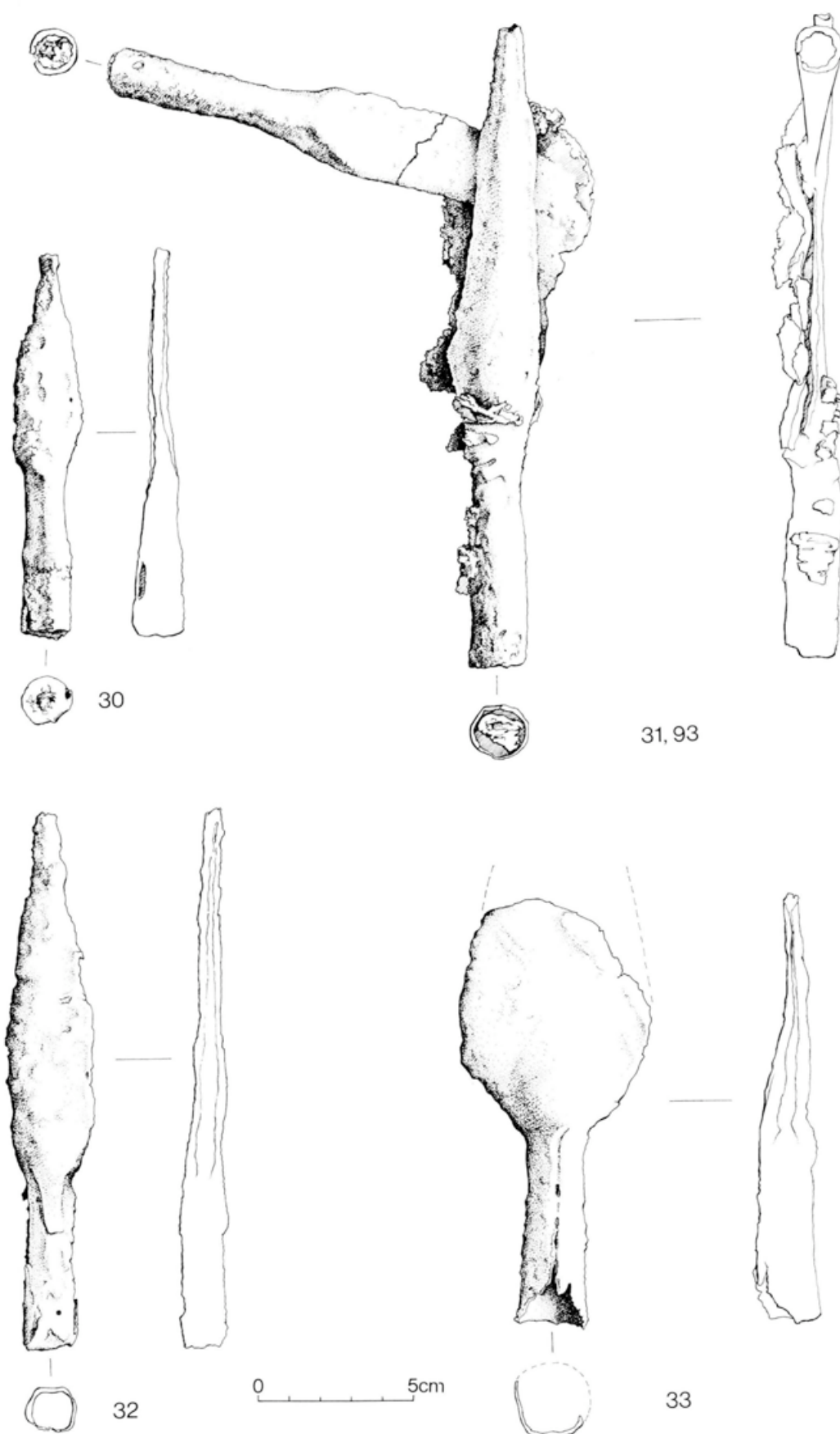


Fig 14 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



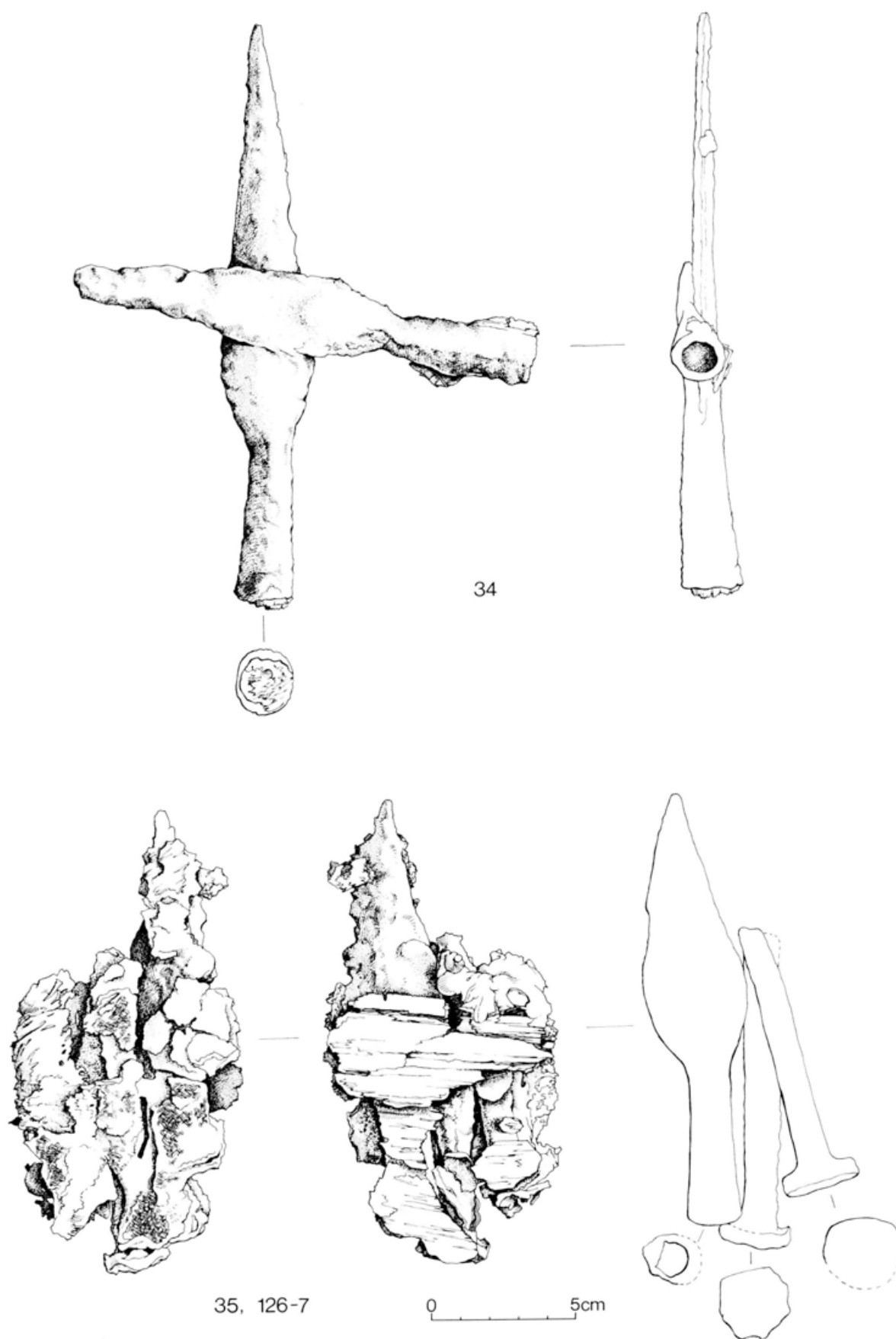


Fig 15 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

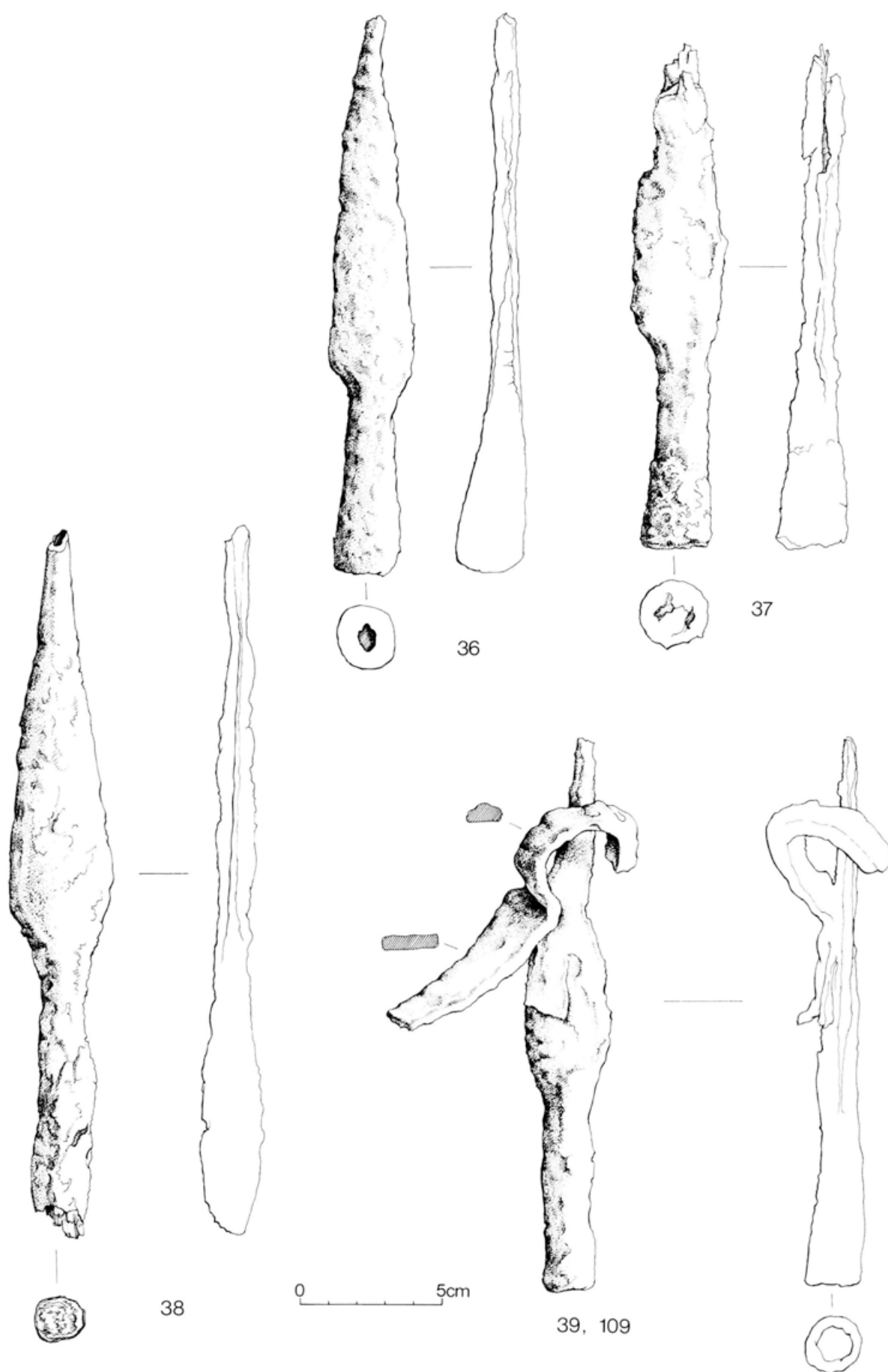


Fig 16 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



39 (Fig 16) Spearhead and bucket escutcheon (No 109). The spearhead has a low-shouldered blade, one edge of which is missing.

Length of spearhead: 189mm, length of blade: 130mm, socket diameter: 20mm, width: 30mm, length of entry: 105mm

40 (Fig 17) Mid-shouldered spearhead attached to two nails and mixed up with heavy twill material in folds. The wooden shaft survives in the socket.

Length: c 118mm, length of blade: 65mm, socket diameter: 14mm, width: 21mm

41 (Fig 17) Low-shouldered spearhead missing tip. This forms a bundle with No 42.

Length: 140mm, length of blade: 100mm, socket diameter: 18mm, width: 25mm, length of entry: 71mm

42 (Fig 17) Low-shouldered spearhead with very straight edges, also missing its tip.

Length: c 190mm, length of blade: 130mm, socket diameter: 20mm, width: 30mm, length of entry: 89mm

43 (Fig 18) Small spearhead with low wide shoulders and very straight edges. Large fragments of wood adhere to both faces.

Length: 125mm, length of blade: 75mm, diameter of socket: 15mm, width: 30mm, length of entry: 61mm

44 (Fig 18) Spearhead with low shoulders and a fragment of wood across the socket, indicating that the shaft had been broken flush with the end before the spearhead was placed in the chest.

Length: 163mm, length of blade: 105mm, diameter of socket: 17mm, width: 30mm, length of entry: 80mm

Bundle of two spearheads (Nos 45–6), with fragments of wood and leather and a piece of iron attached, which has a raised straight border (length: 120mm, depth of border: 5mm, thickness of border: 4mm, thickness: 3mm).

45 (Fig 18) Very narrow, low-shouldered, socketed spearhead.

Length: 203mm, length of blade: 155mm, diameter of socket: 18mm, width: 25mm, length of entry: 130mm

46 (Fig 18) Narrow spearhead similar to above but with a bent tip and missing most of the socket.

Length: 186mm, length of blade: 150mm, diameter of socket: 13mm, width: 34mm, length of entry: 128mm

47 (Fig 19) Broad, low-shouldered spearhead with a wrapped and pierced socket that reaches to the blade. Now missing.

Length: 195mm, length of blade: 125mm, socket

diameter: 30mm, width: 63mm, length of entry: 95mm

48 (Fig 19) Pyramidal catapult bolt. Manning Type I (cf Manning 1985, V141–249).

Length: 95mm, width of head: 16mm, length of entry: 40mm, socket diameter: 16mm

49 (Fig 19) Pyramidal catapult bolt (exploded) with a pierced socket. Manning Type I (1985).

Length: 95mm, width of head: 19mm, length of entry: 47mm, socket diameter: 20mm

50 (Fig 19) Pyramidal catapult bolt. Manning Type I (1985).

Length: 95mm, width: 15mm, socket diameter: 17mm, length of entry: 40mm

51 (Fig 19) Dome-headed ferrule with rectangular-sectioned rod (No 110). Both objects lie against a piece of wood. Cf Newstead: Curle 1911, pl XXXVIII.12–13; Housesteads: Manning 1976, fig 13.28.

Length: 52mm

52 (Fig 10) Dome-headed ferrule, socketed.

Length: 48mm, socket diameter: 13mm, head diameter: 11mm

53 (Fig 19) Conical-headed ferrule.

Length: 63mm, width: 14mm, socket diameter: 15mm, length of entry: 11mm

54 (Fig 20) Ferrule with piece of wood attached; no definite nail holes.

Length: 90mm, width: 32mm, thickness: 3mm

55 Fragment of ferrule with wood inside the socket. (Not illustrated)

Length: 40mm, diameter: 15mm

56 Fragment of ferrule with wood inside the socket. (Not illustrated)

Length: 21mm, diameter: 11mm

57 Fragment of dome-headed ferrule with wood inside the socket. (Not illustrated)

Length: 32mm, diameter: 13mm

58 Dome-headed ferrule. (Not illustrated)

Length: 50mm, diameter: 13mm

59 Dome-headed ferrule. (Not illustrated)

Length: 61mm, diameter: 11mm

60 (Fig 20) Dome-headed ferrule with a split socket.

Length: 59mm, diameter of head: 15mm, socket diameter: 12mm

61 (Fig 20) Conical-headed ferrule with a split socket.

Length: 56mm, diameter of head: 13mm, socket diameter: 14mm



Fig 17 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



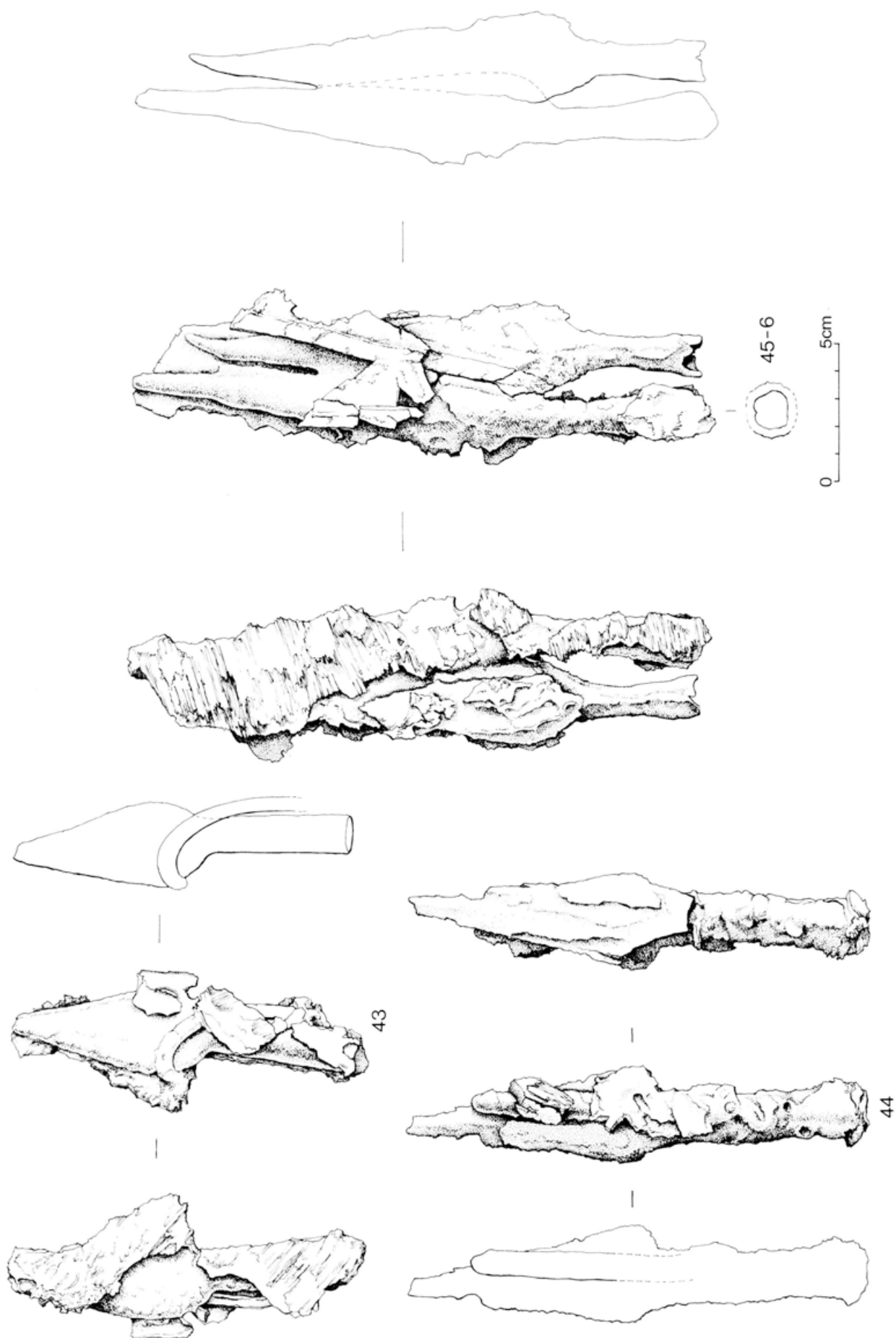


Fig 18 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

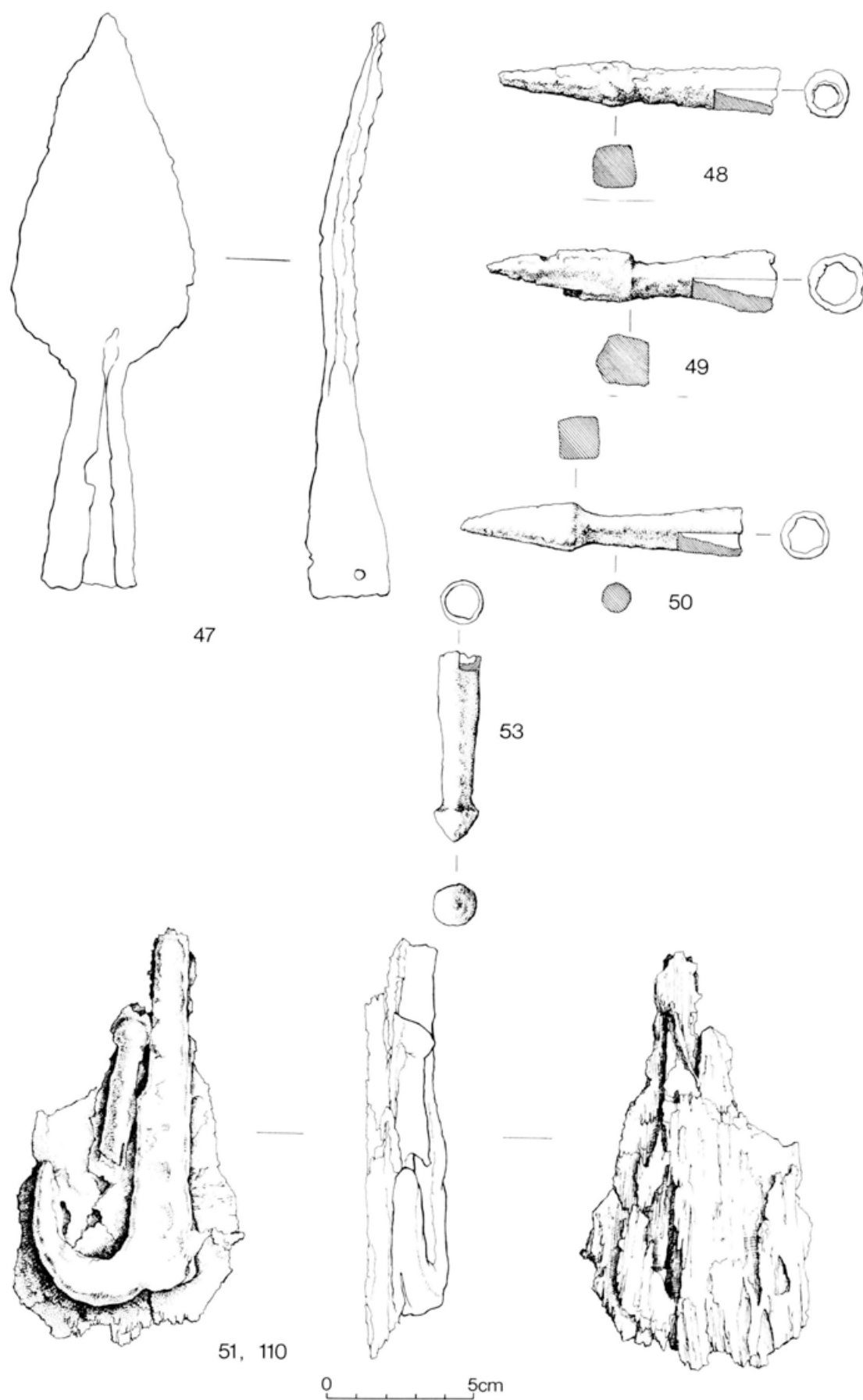


Fig 19 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



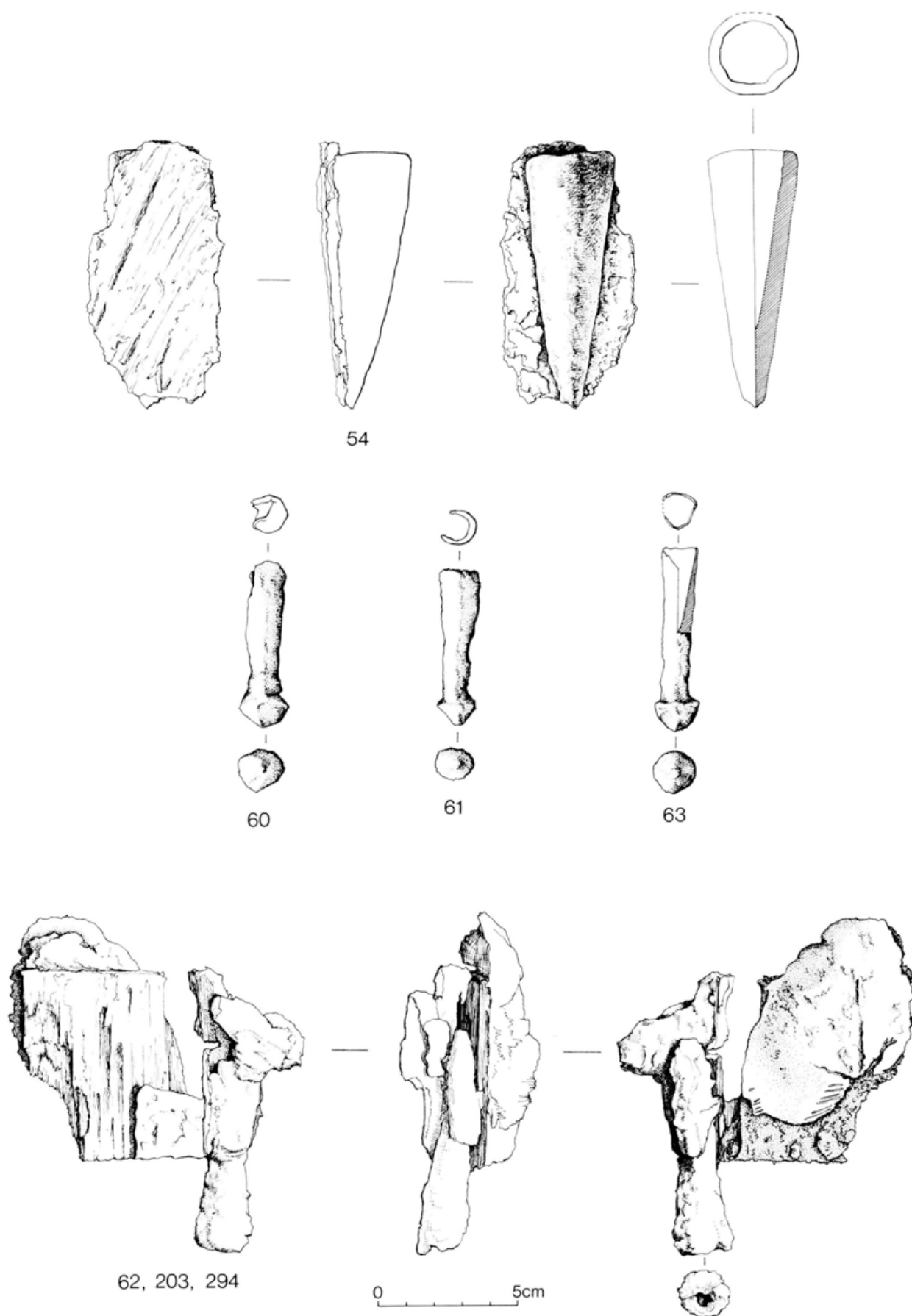


Fig 20 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

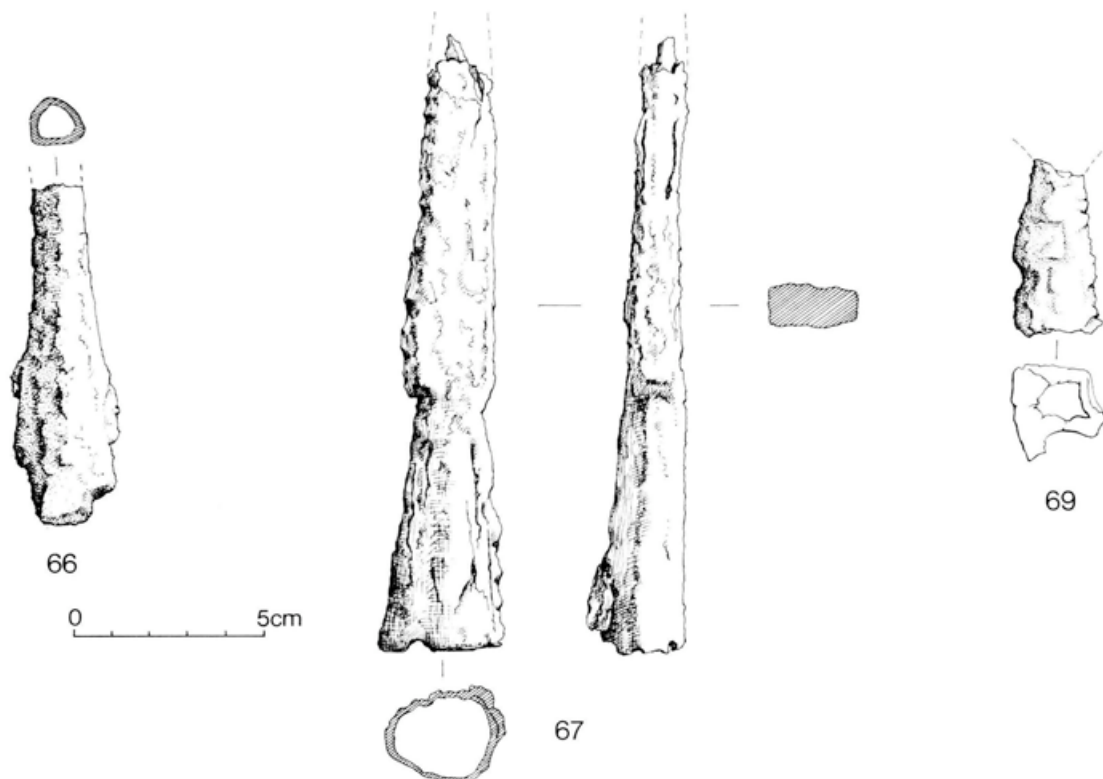


Fig 21 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

62 (Fig 20) Small ferrule with a long conical head (?) and a split socket. Attached to a nail fragment (No 203) and a wooden block (No 294).

Length: 73mm, diameter of head: 12mm, socket diameter: 18mm

63 (Fig 20) Conical-headed ferrule with a pierced socket.

Length: 67mm, diameter of head: 15mm, socket diameter: 12mm

64 Two sockets and several pieces of wood. (Not illustrated)

65 Two conjoined sockets; part of a bundle. (Not illustrated)

Length: 240mm, socket diameter: 20mm, socket diameter: 15mm

66 (Fig 21) Socket of spearhead or implement. Length: 85mm

67 (Fig 21) Socket for tool. Possibly part of a chisel or gouge.

Length: 150mm, socket diameter: 32mm

68 Very corroded and incomplete socket with fragments of leather attached. (Not illustrated)

Length: 52mm, diameter: 20mm

69 (Fig 21) Fragment of a socket.

Length: 42mm, diameter: 17mm



## Armour

For an explanation of the terminology used in the catalogue for items 70–5, see Fig 22, whilst reconstructions of the cuirass types are illustrated in Figs 23 and 24.

70 (Figs 25–9 Cuirass 1: an upper right-hand assembly from a Type A cuirass (Fig 23). The identifiable components comprise a breast and back-plate assembly (or collar piece) of five plates, an upper shoulder guard of three plates, and a set of four lesser shoulder guards

### The collar-plates

(Figs 26–7)

The breastplate is 90mm wide and 95mm deep from the neck to the bottom edge. The hinge of the lateral fastening buckle is 30mm from the (wearer's) left-hand edge, whilst the vertical fastening strap has its hinge 65mm from the bottom edge of the plate. The distance from the hinge at the top of the breastplate to the bottom edge is *c* 155mm. The lateral fastening buckle is fully flexed.

The surviving internal leather (for attaching the shoulder guards) on the rear face, *c* 20mm wide,

passes from the topmost rivet of the vertical fastening strap to the rivet nearest the hinge on the lateral fastening buckle. One end of this leather is partially wrapped over onto the front face of the breastplate.

The breastplate overlaps the mid collar-plate, whereas it should lie under it. The disc-headed copper alloy rivet on the outer edge of the centre of the mid collar-plate still has a fragment of the central leather (for attaching the shoulder guards) adhering to its rear, *c* 20mm wide. The rear portion of the mid collar-plate is badly damaged, but it adheres to the topmost back-plate.

The top back-plate has a fragment of internal leatherng 30mm wide adhering to its rear face; this is one of the two strips by which the three back-plates were fastened together.

The lobate hinges on this assembly are of the finer type and there are no decorated bosses attached. There is a lateral buckle fastening at the front, and a strap at the rear.

### The upper shoulder guard

28,

The broad upper shoulder guard has a central pointed plate. The central plate is bent across its width, as is the front plate. The decorated boss on the central plate had a maximum diameter of 25mm,

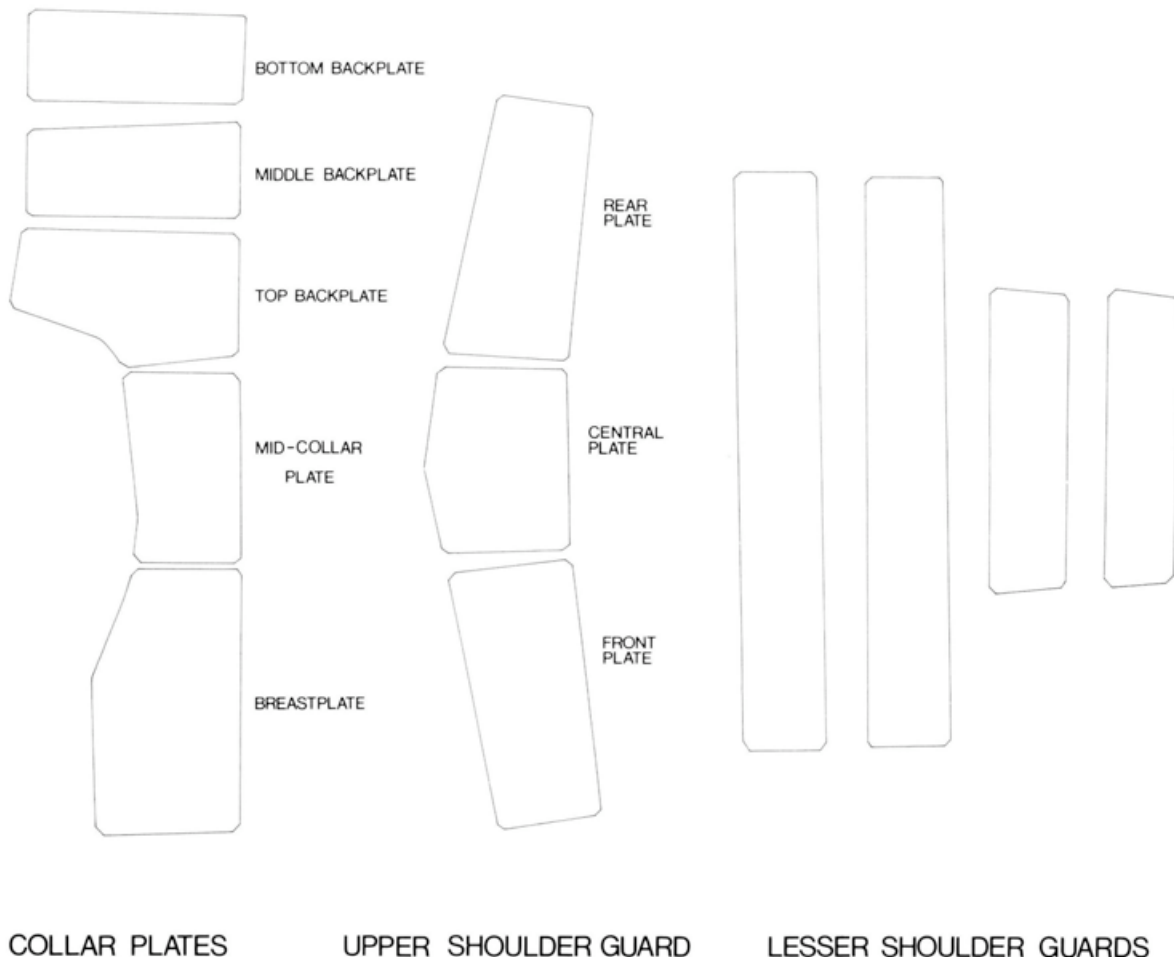


Fig 22 Corbridge Hoard: shoulder unit terminology

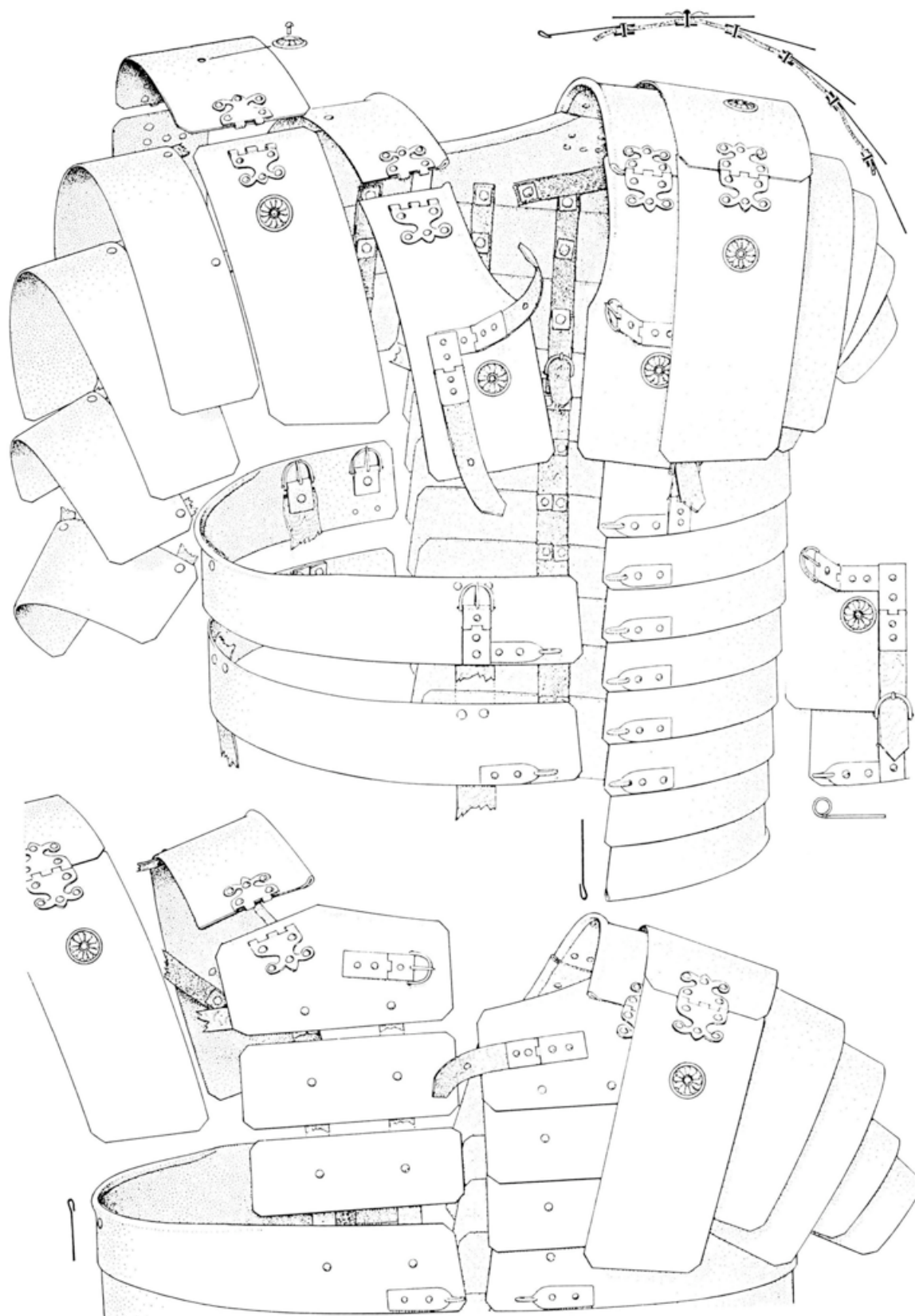


Fig 23 Corbridge Hoard: reconstruction of the Type A cuirass (drawn by Peter Connolly)



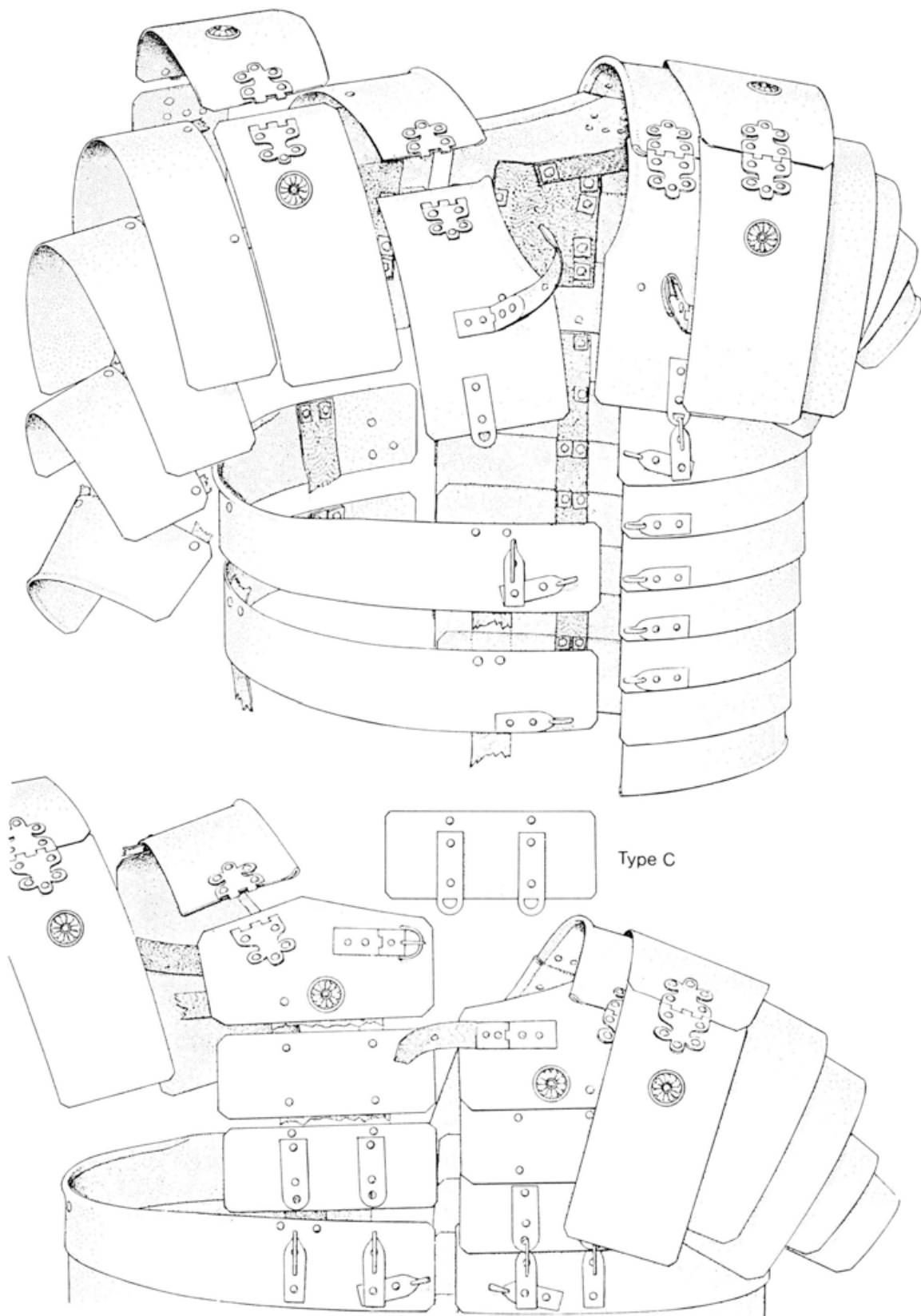


Fig 24 Corbridge Hoard: reconstruction of the Type B/C cuirass (drawn by Peter Connolly)

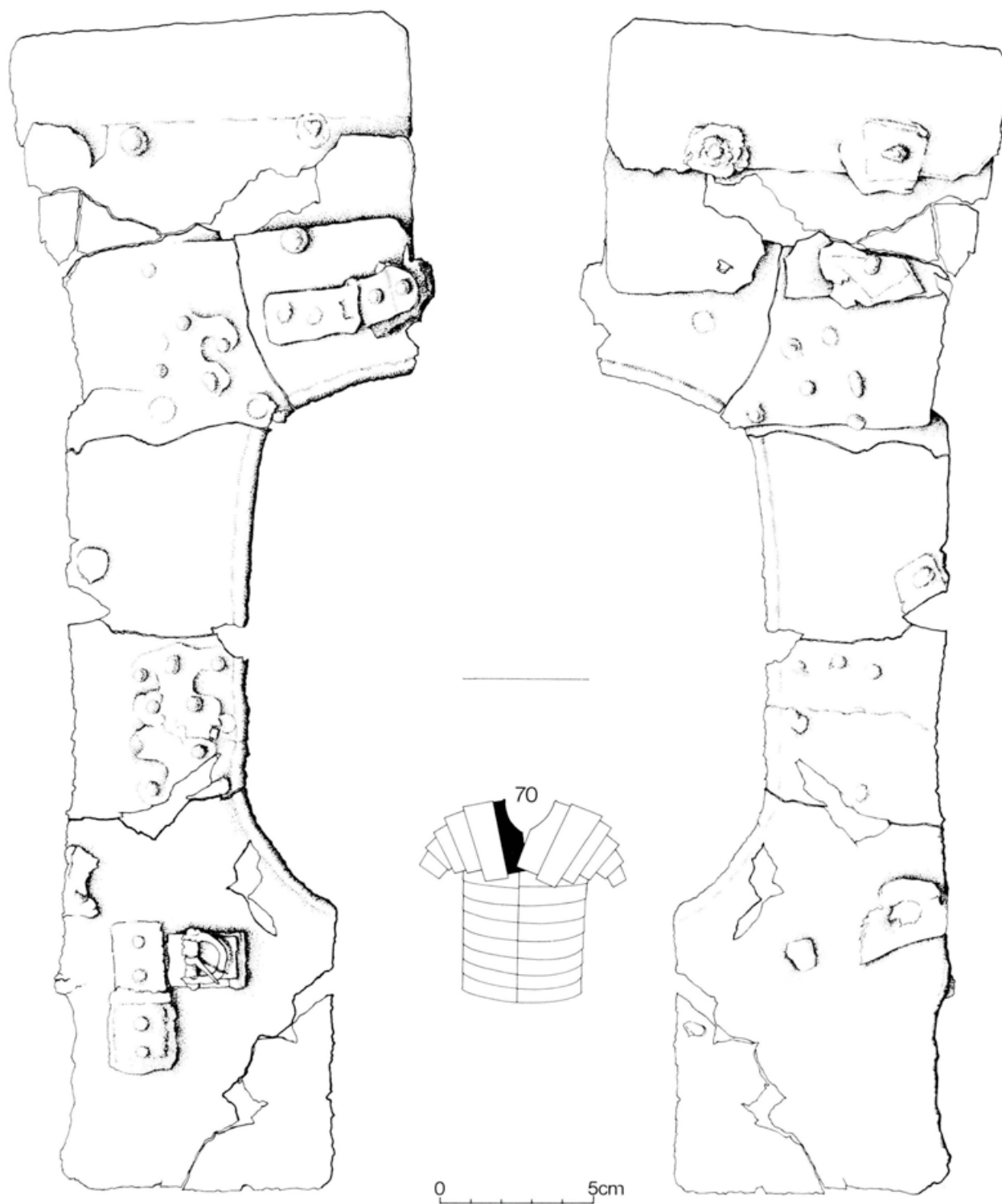


Fig 26 Corbridge Hoard: Cuirass 1, collar-plate (scale 1:2)



Fig 27 Corbridge Hoard: Cuirass 1, perspective view of collar-plate

of which 19mm consists of embossed detail, whilst the domed rivet head itself is 10mm in diameter. A small fragment of leather some 10mm wide adheres to the rear of this rivet.

The boss on the rear plate is decorated with embossed concentric rings (cf Ulbert 1969, Taf 29.8 and 10) and has comparable dimensions of 27mm, 17mm, and 10mm respectively. The fragment of internal leathering on the rear face of this plate is c 20mm wide.

There is no boss on the front plate, where the rivet head measures 9mm in diameter. The internal leathering on the back of this plate is obscured by the lesser shoulder guards which adhere at this point.

The lobate hinges are of the simple forms, with plain lobes rather than volutes, that are characteristic of Type B/C cuirasses (see below Nos 74–5). The decorated bosses are likewise similar to those of Type B/C. The total distance across the internal leathering rivets is c 260mm.

The fact that the three main elements of this assembly (collar piece, upper shoulder guard, lesser shoulder guards) were found in their correct relative positions within the chest suggests that they were still attached by their leathers at the time of burial,

but also demonstrates that the broad shoulder guard was attached with the point of the central plate facing outwards.

#### The lesser shoulder guards

(Figs 28, 29)

These were attached to the inside of the upper shoulder guard so there is little doubt about their correct attribution. As with the upper shoulder guard, these plates are bent at the front end. The largest plate is c 410mm long and 45–50mm broad, whilst the shortest is 175mm long and also 45–50mm broad.

The plates have traces of leathering adhering to their rear faces. On the largest of them, this is 30mm wide at the central rivet, and 25mm on the smallest plate (where it is held with two rivets). The front leather is 25mm wide on the largest plate, and c 35mm on the smallest. Traces of the rear strap are detectable on the largest plate, and it is clearly at least 15mm wide on the smallest. The total distance between the outer leathering rivets is c 220mm on the largest plate, c 160mm on the smallest.



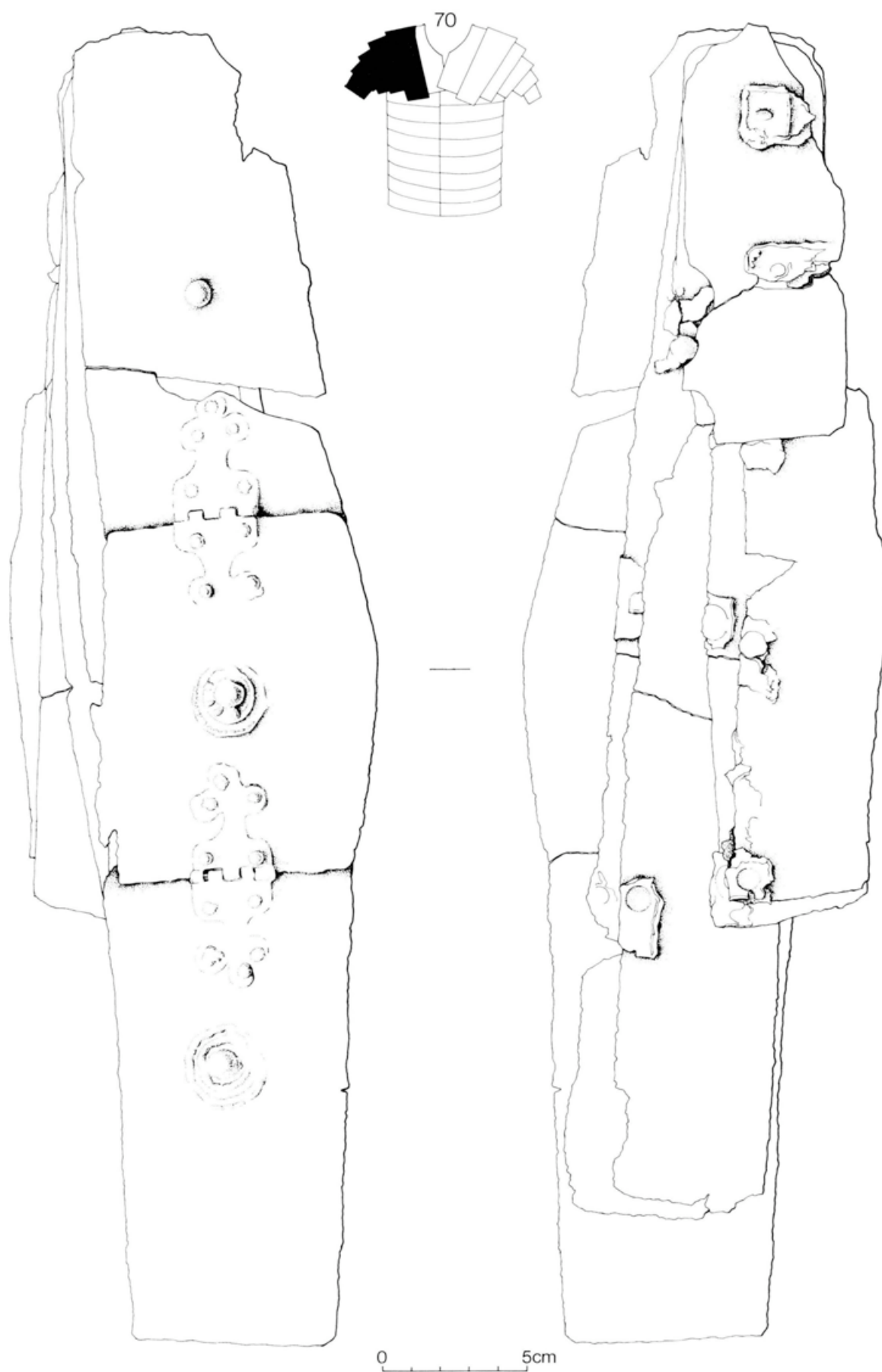


Fig 28 Corbridge Hoard: Cuirass 1, upper shoulder guard (scale 1:2)

71 (Figs 30–2) Cuirass 2: an upper right-hand assembly from a Type A cuirass (Fig 23). Identifiable components include a collar piece of four out of five plates, an upper shoulder guard of three plates, and a set of lesser shoulder guards (Fig 30).

### The collar-plates

(Fig 31)

The breastplate is 80mm wide and 90mm deep from neck to the bottom edge. The hinge of the lateral fastening buckle is 30mm from the left-hand edge, whilst the hinge of the vertical fastening strap is 70mm from the bottom edge of the plate. The distance from the hinge at the top of the plate to the bottom edge is c 175mm.

The vertical fastening strap overlaps the lateral fastening and they share an end rivet. There is a large decorated boss in the angle between the two fastenings. Its overall diameter is c 30mm, and the decorated portion is c 20mm, whilst the diameter of the rivet head is 6mm.

The leathering on the rear face passes from the rivet behind the decorated boss up to the rivet nearest to the hinge of the lateral hinged strap. This leather is 30mm wide.

The mid collar-plate appears to be slightly offset from the ideal position: the front lobate hinge is set quite close to the rolled collar, whilst the top back-plate projects considerably beyond the outside edge of the mid collar-plate. This may be the result of a repair, since two further rivets pass right through the mid collar and top back-plates. Fragments of internal leathering, c 30mm wide, survive on the rear face.

The top back-plate is, as has just been mentioned, attached directly to the mid collar-plate and has a hinged strap. A fragment of leathering remains on the rear face, now some 20mm wide, though originally broader. Parts of the middle and bottom back-plates, now missing, were attached to a small knife blade.

The lobate hinges are quite fine examples, with true volutes, and there is a large decorated boss on the breastplate (this differs from Cuirass 1 in having this additional rivet for the leathering). The assembly is fastened with hinged straps at both front and back.

### The upper shoulder guard

(Fig 32)

This is a narrow, parallel-sided shoulder guard, c 70mm wide. It was flattened out to an unusual degree before deposition. The central plate has a borderless decorated boss at its centre, the diameter of which is 27mm, whilst that of its rivet head is 8mm.


One end plate, now very fragmentary, has a large decorated boss 28mm in diameter, only 22mm of which was in raised relief, whilst the rivet head is 7mm. Traces of leather were attached to the rivet on the rear face.

The other end plate has no decorated boss, just the domed rivet head, which was 9mm in diameter.

The lobate hinges on this shoulder guard have quite elaborate lobes, in the form of volutes.

### The lesser shoulder guards

The larger plate is 280mm long and 60mm wide, whilst the smaller is 250mm long and c 60mm broad. The leathering rivets are 260mm across on the larger plate, 225mm on the smaller. There are traces of leathering on the rear face of the smaller, c 30mm on the centre and one end rivet, c 25mm at the other end.

72 (Figs 33–7) Cuirass 3: an upper left-hand assembly from a Type A cuirass (Fig 23). The assembly comprises three out of five plates from a collar piece, three plates of an upper shoulder guard, and four from a lesser shoulder guard .

### The collar-plates

(Fig 34)

The width of the breastplate is c 95mm and the depth from neck to the bottom edge is c 95mm. The hinge of the lateral fastening buckle is c 45mm from the right-hand edge and the vertical fastening strap hinge is 65mm from the bottom edge of the plate. The distance from the top hinge on the breastplate to the bottom edge is c 170mm. There is no additional rivet for the internal leathering.

The lower half of the lobate hinge at the top of the plate is of the elaborate voluted type but the corresponding half is of a completely different type unparalleled elsewhere in the Hoard (Fig 35). It has crude lobes and squarish shoulders, as well as a triangular piercing in the centre. It has been fixed to the mid collar-plate by means of four large dome-headed rivets, one through the head, one through each of the lobes, and one through the triangular aperture. The two rivet holes on the shoulders have been left unriveted. This arrangement is clearly a repair that necessitated the removal of the older component; the mid upper plate had started to twist the two elements of the hinge.

The top back-plate is attached to the mid collar-plate with the same sort of fine lobate hinge as the one on the breastplate (Fig 34), but the hinge itself is unusually large. There is a hinged buckle on the top back-plate, and the internal leathering (which survives intact on the middle and bottom back-plates) measures 15mm in width in both cases.

This collar piece has a hinged buckle fastening at both the front and the rear.

### The upper shoulder guard

(Fig 36)

This is a narrow upper shoulder guard, which has been severely bent and twisted about the central plate prior to burial. There is no decorated boss on the central plate, just a domed rivet head with a diameter of 10mm. A fragment of leather 20mm wide adheres to the rear of this.

One of the end plates also lacks a decorated boss, with merely a domed rivet head 9mm in diameter showing on top. The internal leather on the rear is c 25mm wide.

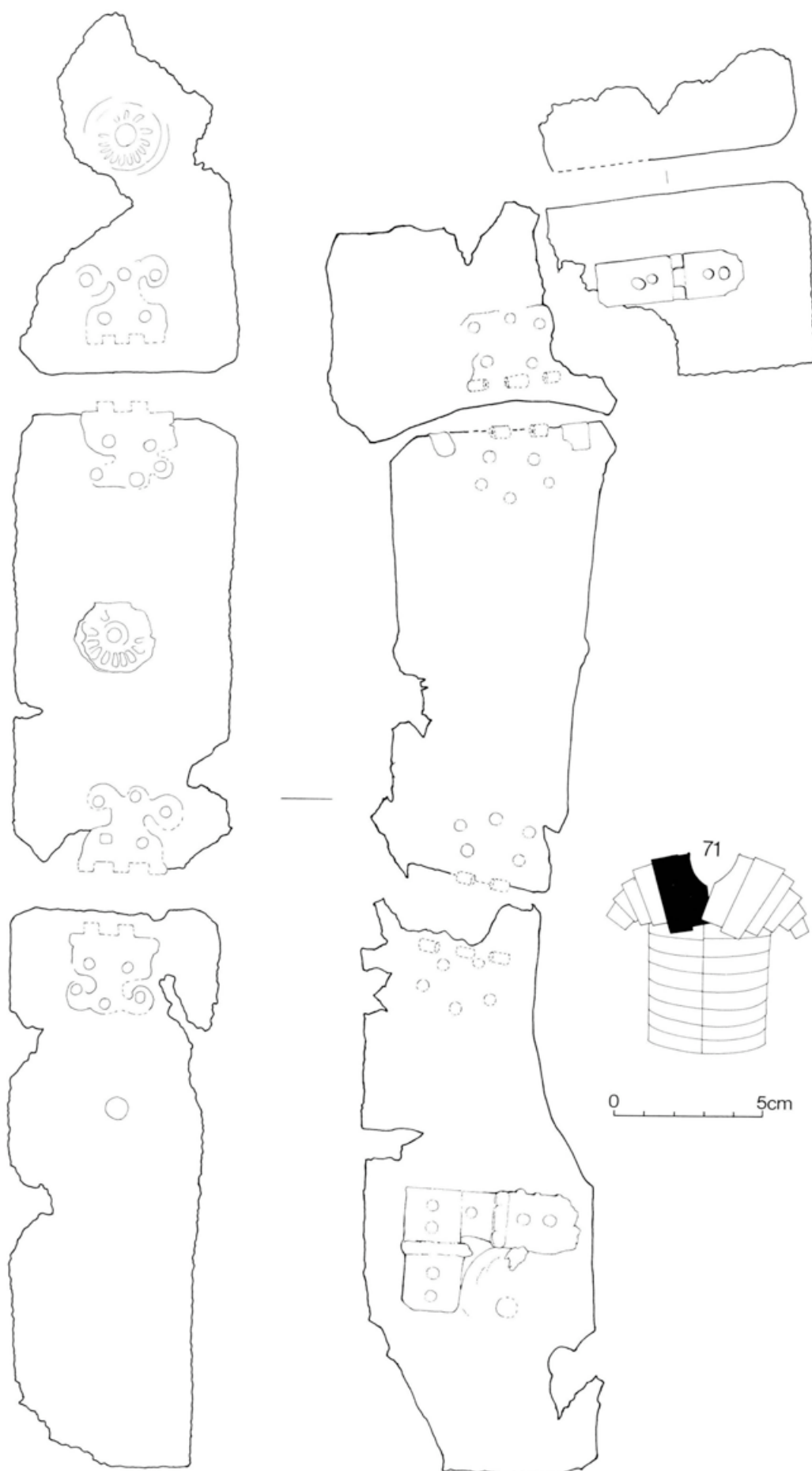


Fig 30 Corbridge Hoard: Cuirass 2, patterns (scale 1:2)



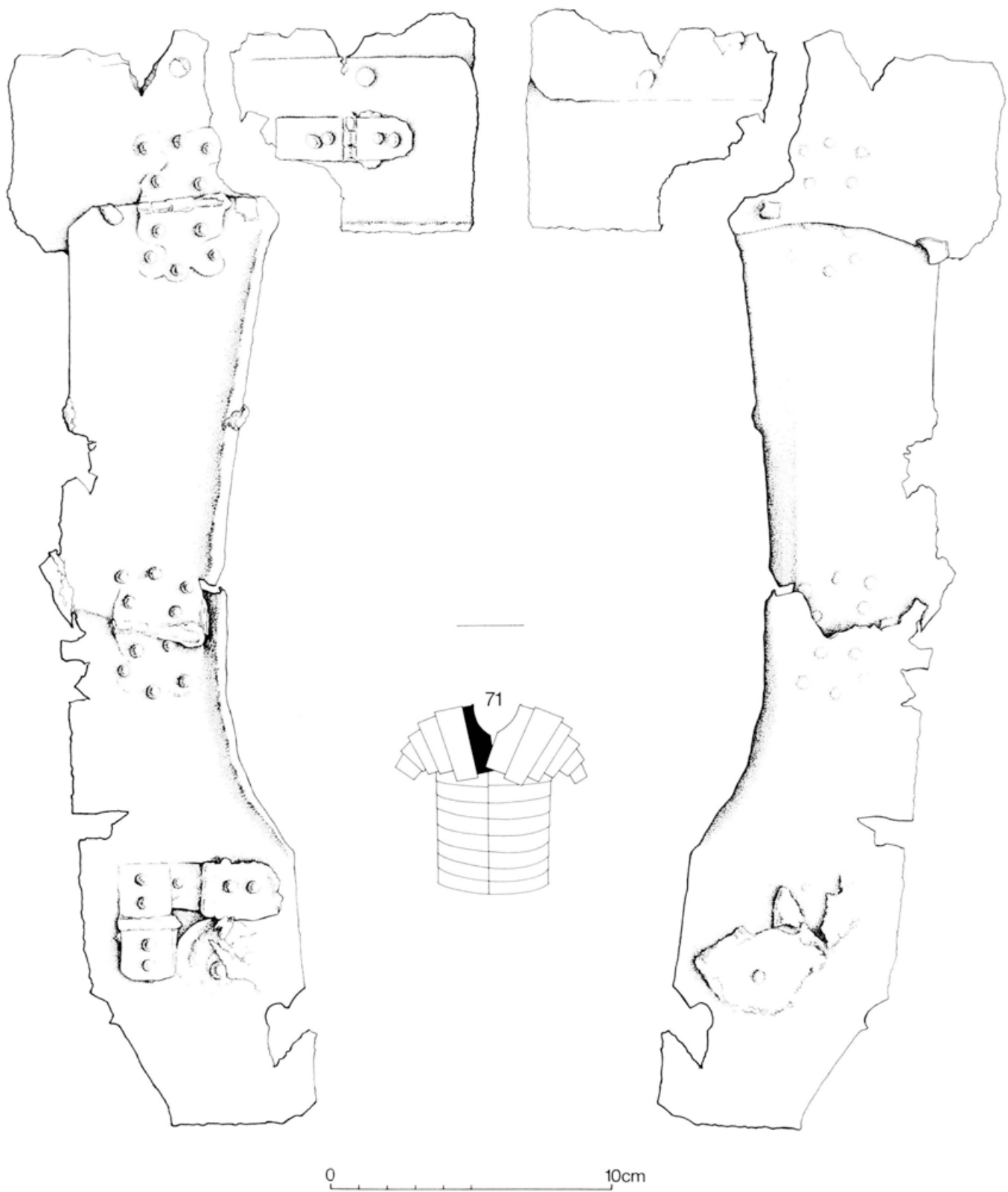


Fig 31 Corbridge Hoard: Cuirass 2, collar-plate (scale 1:2)

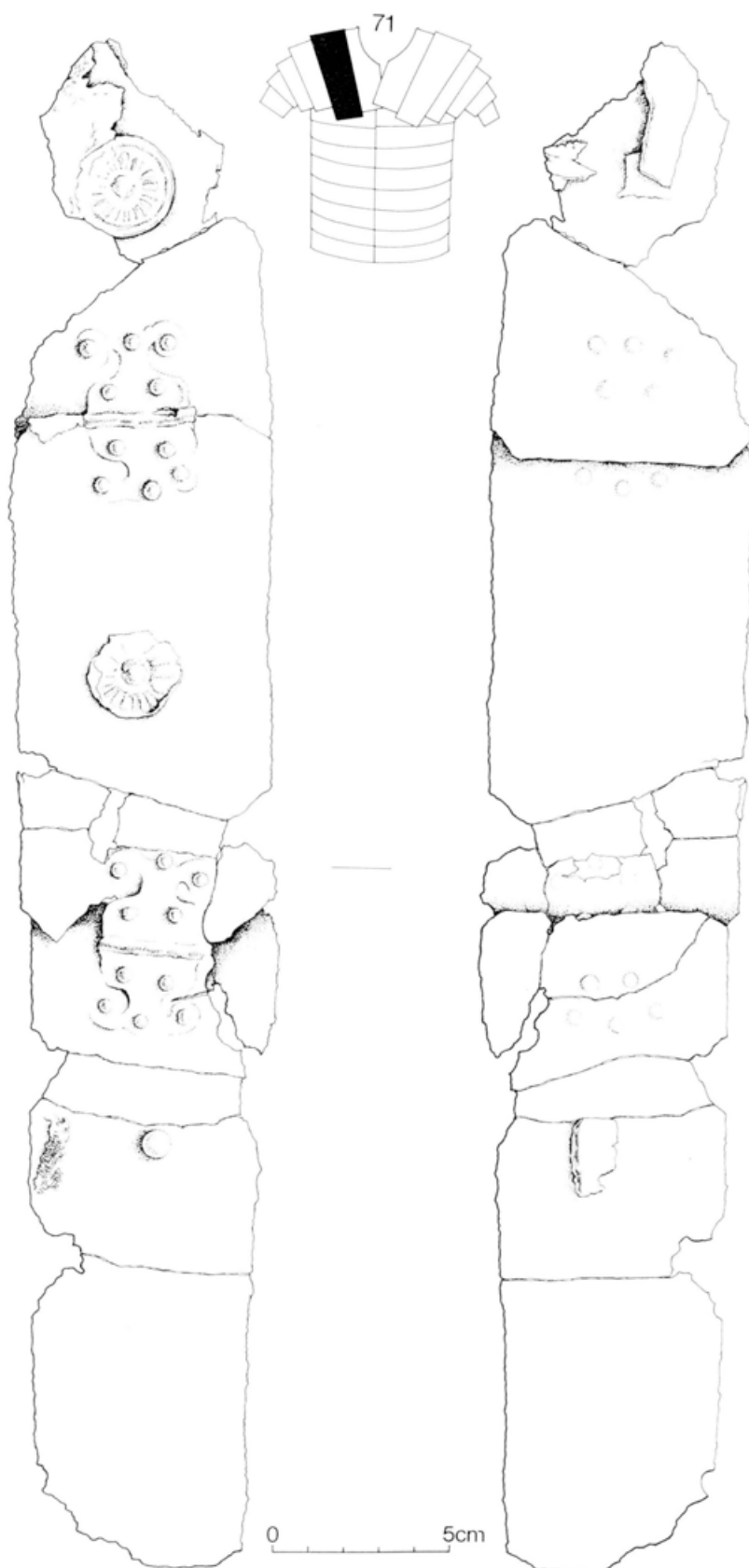


Fig 32 Corbridge Hoard: Cuirass 2, upper shoulder guard (scale 1:2)

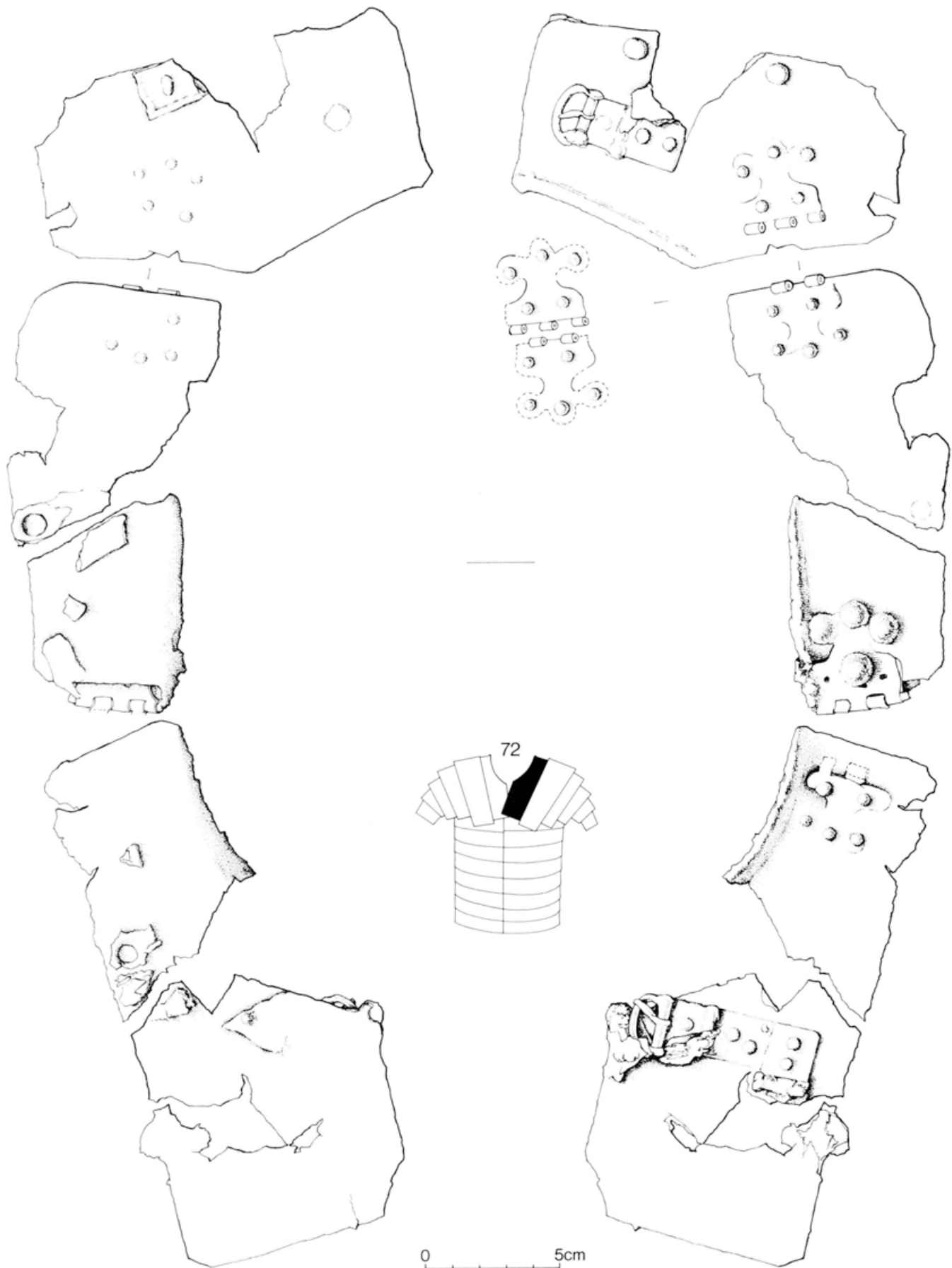


Fig 34 Corbridge Hoard: Cuirass 3, collar-plate (scale 1:2)



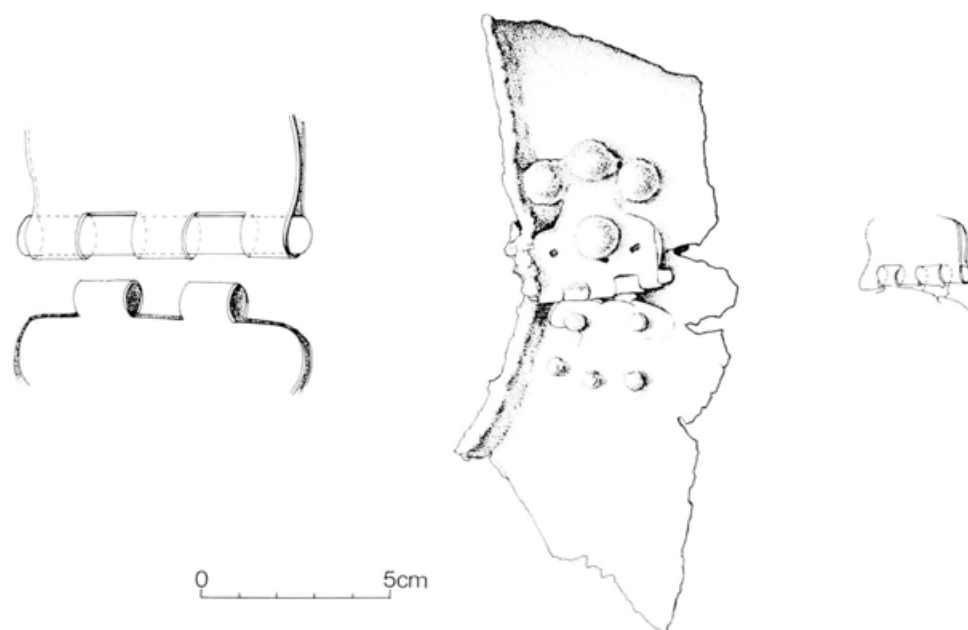


Fig 35 Corbridge Hoard: Cuirass 3, detail of twisted and repaired hinge

The other end plate has a decorated boss of the usual kind, with a diameter of 32mm, whilst that of the rivet head is 13mm. On the rear of this rivet there is a piece of leather *c* 20mm wide. The half of the lobate hinge attached to this plate has a rivet missing from one of the lobes. The shape of this piece, which is possibly even more elaborate than the others, may suggest an unfinished repair. The total distance across the rivets for internal leathering is about 230mm.

The lobate hinges are of a similar form to most of those on the collar piece of this cuirass.

#### The lesser shoulder guards

(Fig 37)

These comprise four plates of the smaller type with traces of internal leathering surviving on the inside upper edges. Some fragments of string (No 358) and textile adhere to the inside of the smallest plate, which is *c* 50mm wide and *c* 180mm long.

73 (Figs 38–41) Cuirass 4: an upper left-hand assembly from a Type A cuirass (Fig 23). The known components consist of four out of five plates from the collar piece, the upper shoulder guard, and three out of four plates from the lesser shoulder guards

The vertical fastening strap is mounted at an angle and is slightly flexed. It has one large, disc-headed rivet in the free element (any departure from the normal small dome-headed rivet is usually a sign of a repair), whilst the rivet nearest the hinge on the other half seems to be a crude copper alloy tack. This fitting would therefore appear to be a replacement for the original.

There is little trace of internal leathering on the rear face of the breastplate, with the exception of a piece *c* 20mm wide adhering to the outer edge of the plate on the underside, but it is not clear how, if at all, it was fixed to the plate.

The mid collar-plate has disc-headed rivets, 8mm in diameter, on the underside and on its outer edge for attaching the internal leathering, with traces of a smaller one towards the rear. This plate has been bent towards its rear and this has led to distortion of the rolled edge.

The top back-plate has lost the free element from its hinged fitting, although the spindle is still in place. The middle back-plate is still attached to its neighbour. The rivets on the back-plates are domed.

The lobate hinges from this collar piece are of the elaborate type, although there appears to be some variation in the standard of their execution.

#### The upper shoulder guard

(Fig 40)

The shoulder unit associated with this cuirass is of the narrow type and has some interesting features. The central decorated boss measures 30mm across and has a rivet head of 9mm. At its rear, a piece of leather 25mm wide is attached.

The central plate overlaps one of the end plates quite considerably, the reason for this being that they are actually riveted together, the two rivets on the

#### The collar-plates

(Fig 39)

The breastplate has a width of 85mm and a depth from the neck to the bottom of the plate of at least 90mm (although no trace of a rolled edge was found). The hinge of the lateral fastening buckle is 35mm from the right-hand edge, whilst that of the vertical fastening strap is about 60mm from the bottom.

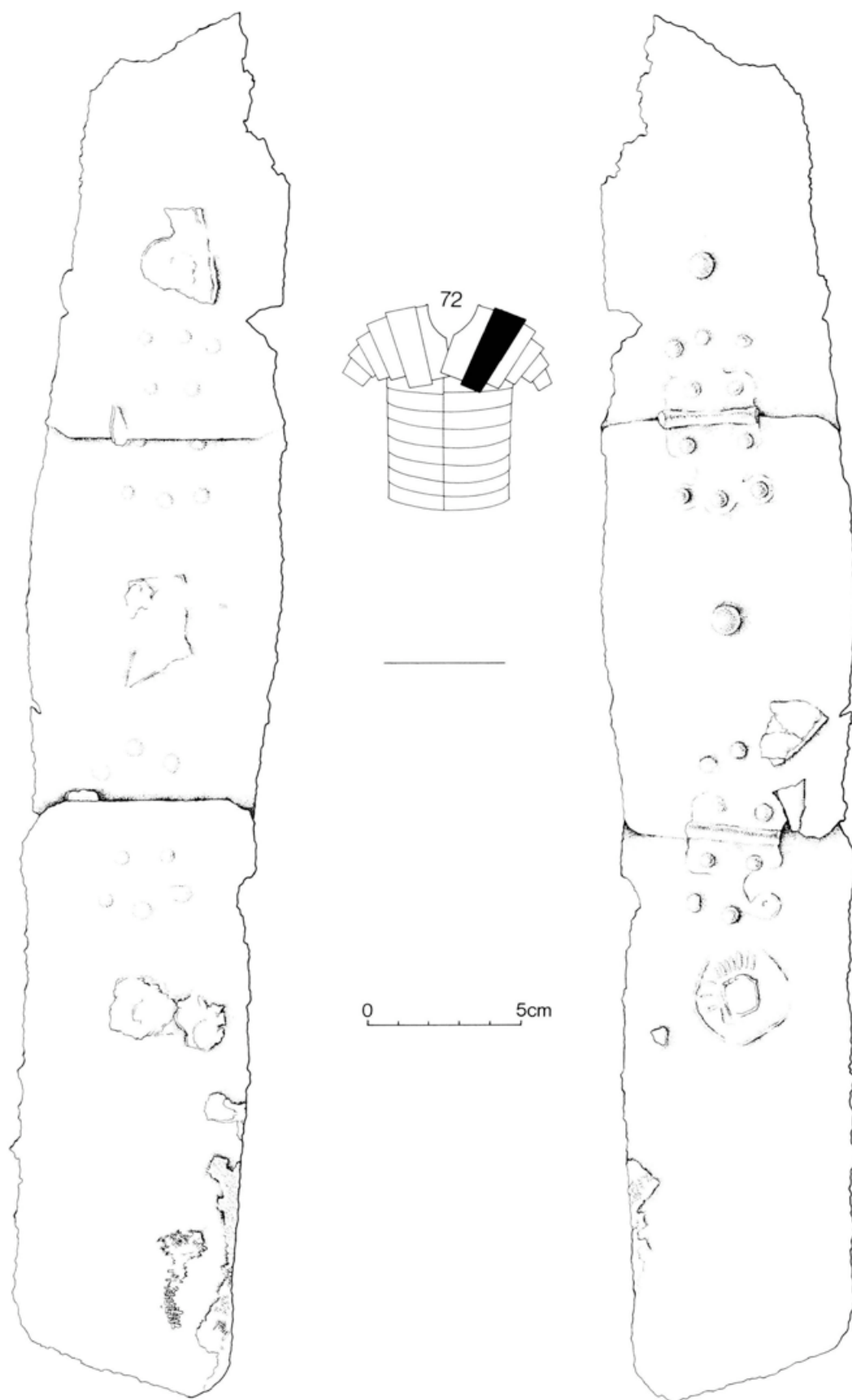


Fig 36 Corbridge Hoard: Cuirass 3, upper shoulder guard (scale 1:2)

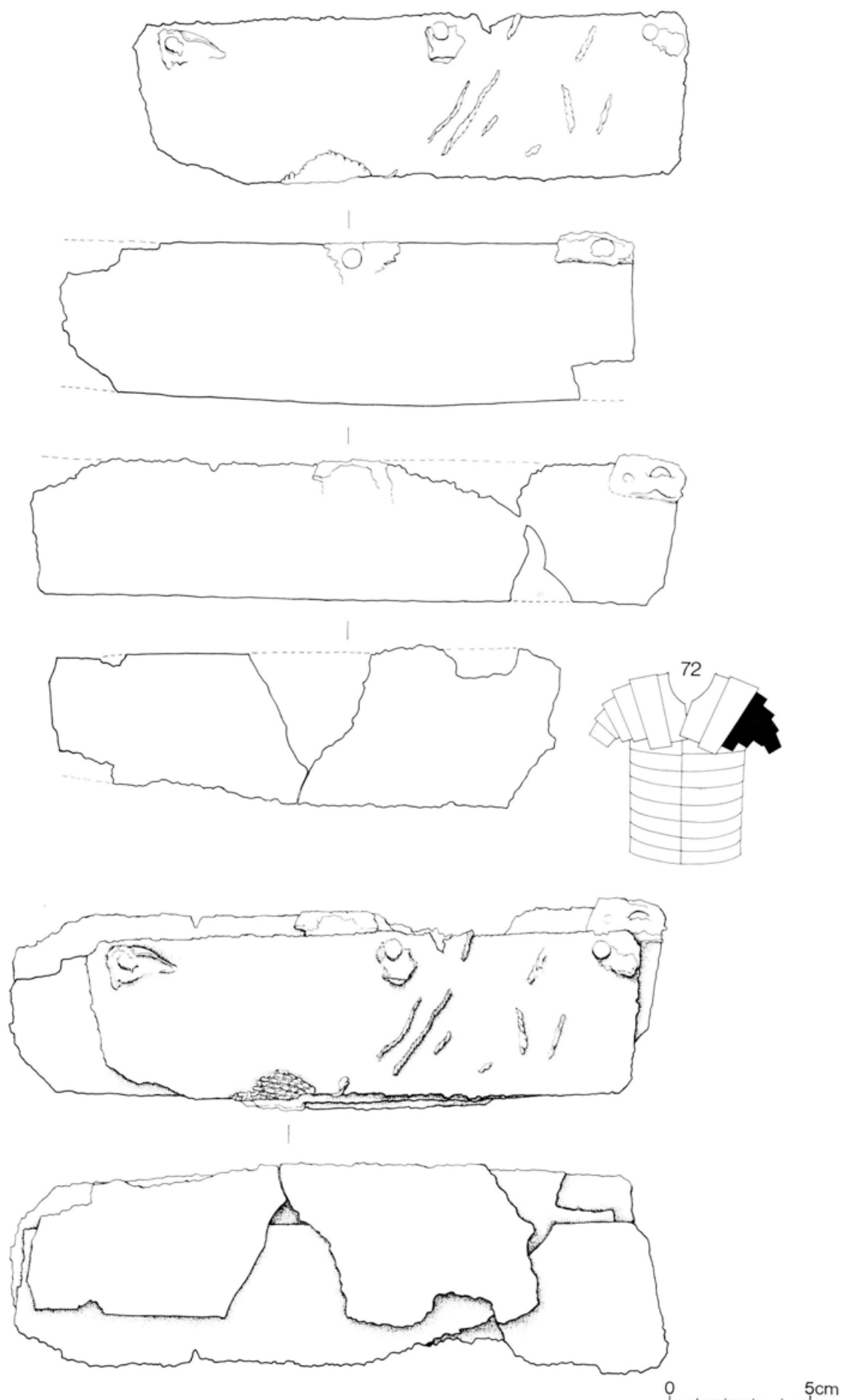


Fig 37 Corbridge Hoard: Cuirass 3, lesser shoulder guard (scale 1:2)



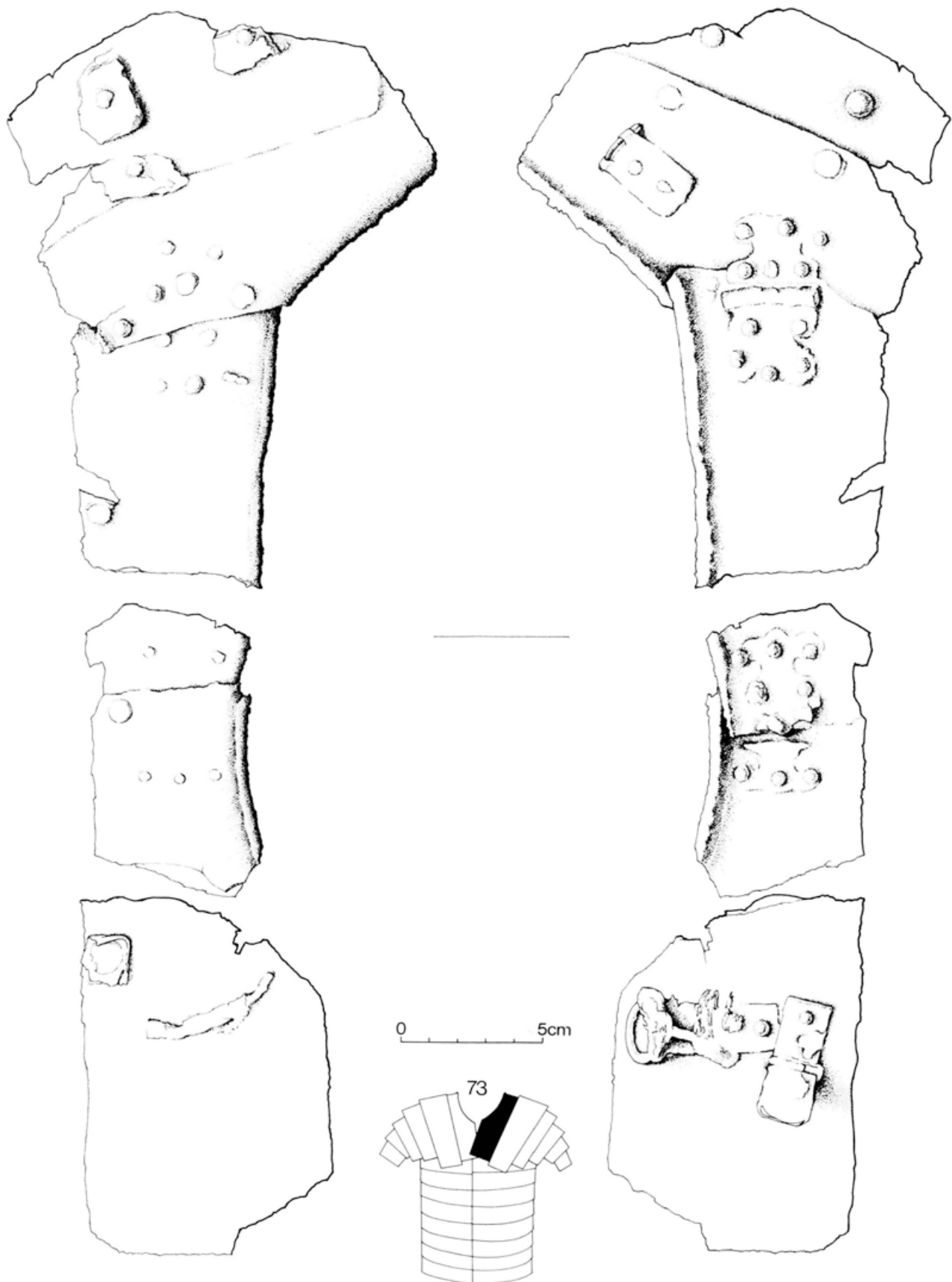


Fig 39 Corbridge Hoard: Cuirass 4, collar-plate (scale 1:2)

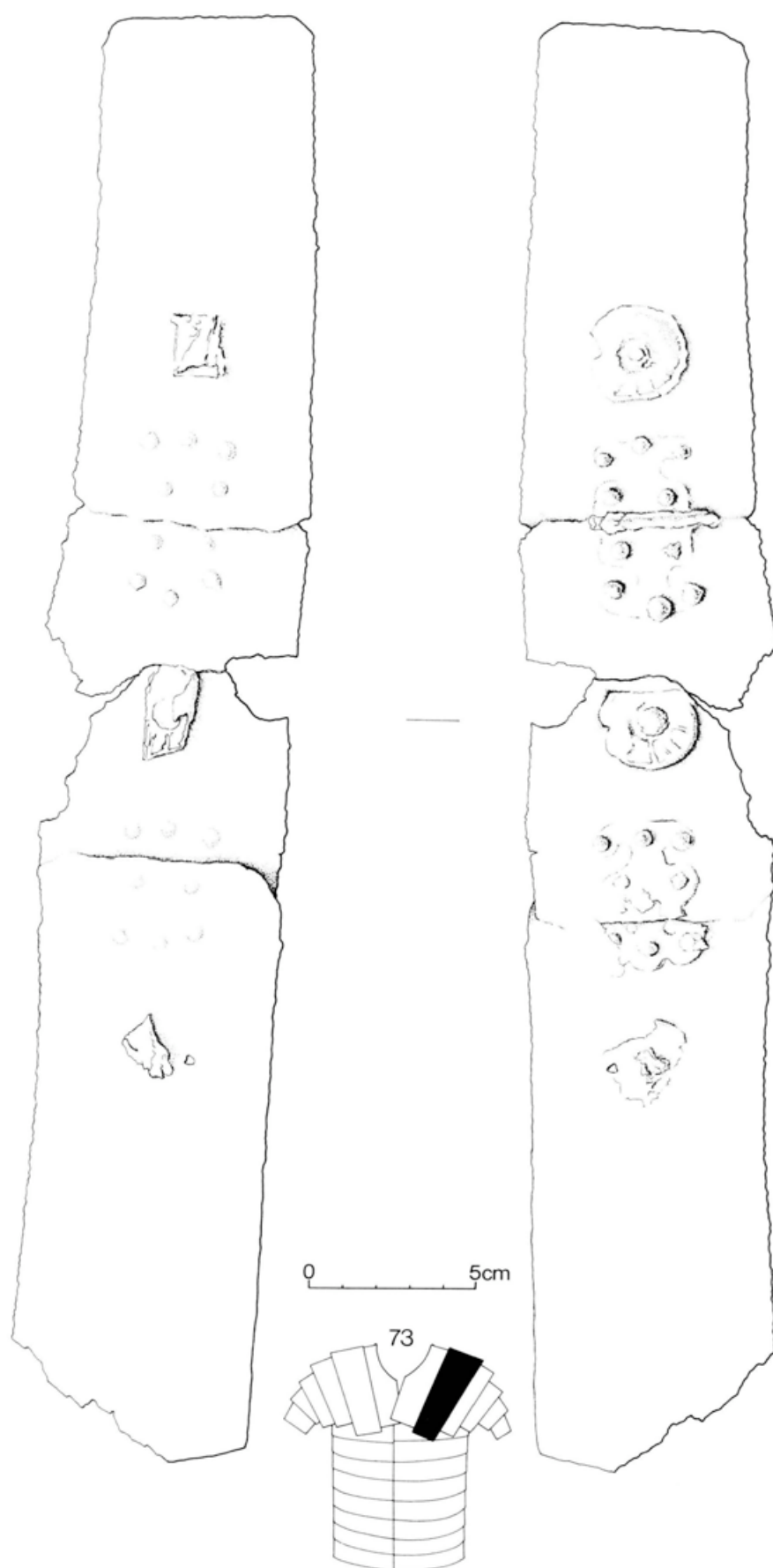


Fig 40 Corbridge Hoard: Cuirass 4, upper shoulder guard (scale 1:2)

shoulders of the half of the hinge on the central plate (which is a rather crude piece, probably a replacement) passing straight through both plates. This means that only the lobate end of the lower hinge element is visible. The boss on this plate has a diameter of 29mm and a rivet head of 4mm. A very small fragment of leather, 20mm wide, clings to the rear of the rivet.

The other end plate has the remains of a boss with a diameter of about 30mm and a piece of leather measuring c 30mm in width adhering to its rear.

The central boss is of the decorated type, but the other two are too damaged for any detail to be discerned upon them. The total distance across the rivets for the internal leathers of this set is c 235mm.

### The lesser shoulder guards

(Fig 41)

Three plates of the smaller variety are associated with this assembly. The largest is 285mm long and 50mm wide, whilst the smallest is 225mm long and similarly 50mm wide.

74 (Figs 42–7) Cuirass 5: an upper left-hand assembly from a Type B cuirass (Fig 24). The identifiable components comprise five plates of a breast and back-plate assembly, and three plates from an upper shoulder guard; a set of four lesser shoulder guards may also be associated with this set.

### The collar-plates

(Fig 43)

The breastplate has a width of 95mm and a depth from neck to bottom of 100mm. The hinge of the lateral fastening buckle is 45mm from the (wearer's) left-hand edge, whilst the centre of the copper alloy vertical fastening loop is 40mm from the (wearer's) right-hand edge of the plate. The distance from the hinge at the top of the breastplate to the bottom edge is c 155mm. The loop of the lateral fastening buckle is fully flexed.

The internal leathering (which is between 20mm and 30mm wide) on the breastplate is attached by means of the rivets securing the hinged buckle, where it appears to be doubled over for reinforcement. The strap then passes to the outer edge of the plate.

At the junction of the breastplate with the mid collar-plate, the assembly is bent, whilst the top edge of the former is some 10mm broader than the latter, the difference projecting on the outer edge. There are possible traces of a rolled edge on the outside edge of the mid collar-plate, as well as on the inside. The internal leather in the centre rear face of this plate is some 20mm wide.

The hinged buckle on the top back-plate is slightly flexed, whilst there is a decorated boss near the lower edge of the plate. The top back-plate has slipped under the middle back-plate, partially obscuring the boss.

The middle back-plate has four domed rivet heads (each 12mm in diameter) on its face and it is to these

that the internal leathering is fastened. The top plate has only one domed rivet. The lower back-plate has copper alloy vertical fastening loops characteristic of this form of cuirass, with the holes punched through the iron of the plate. Each of these fastenings is held in position by two rivets, which also serve to secure the internal leathering.

All three back-plates preserve their original leathering more or less intact on the rear face, although this is now largely obscured by a large piece of textile. Instead of straps, one large sheet of leather has been fastened to the various rivets by square copper alloy washers. The strap for attaching the top back-plate to the rear of the upper shoulder guard is c 20mm wide and its attachment is reinforced by means of a rivet passed through a decorated boss on the top back-plate.

The lobate hinges on this assembly are crude with very simple lobes and bulbous heads. The decorated boss has a small decorated zone within a larger plain border. There are lateral buckle fastenings at both the front and rear.

### The upper shoulder guard

(Fig 44)

This is a broad upper shoulder guard with a central pointed plate (although the point is damaged), the width now measuring 95mm. The way in which this shoulder guard was attached to the collar piece makes it certain that the point faced the wearer's neck in this instance (Fig 45).

The decorated boss on the central plate had a maximum diameter of 35mm, 20mm of this being embossed detail, whilst the domed rivet head itself is 10mm in diameter. To the rear of this rivet, a fragment of leather 20mm wide is still attached.

The boss on the rear plate has a maximum diameter of 30mm, of which 20mm is decorated, with a rivet head 9mm in diameter. The decorated circle is slightly offset in the centre of the washer. A fragment of leather 20mm wide adheres to the rear.

On the front plate, the boss is very similar, also measuring 30mm in diameter, with a decorated area of 19mm, and a rivet head of 9mm. Again, the piece of internal leathering adhering to this is 20mm wide.

The lobate hinges on this assembly are crude with simple lobes and bulbous heads and the bosses have a small decorated area within the plain border. Unlike the attached collar piece, this shoulder guard does not appear to have been bent prior to deposition. Its lower rear edge rested level with the lower edge of the middle back-plate. The total distance across the internal leathering rivets is c 225mm.

### The lesser shoulder guards

(Figs 46–7)

There is some doubt about the association of this set of lesser shoulder guards with Cuirass 5 although the finds group numbers (57 and 58) suggest that the attribution is correct, and this may be confirmed by their similarity to the set attached to the broad shoulder guard of Cuirass No 1 (No 70). The largest



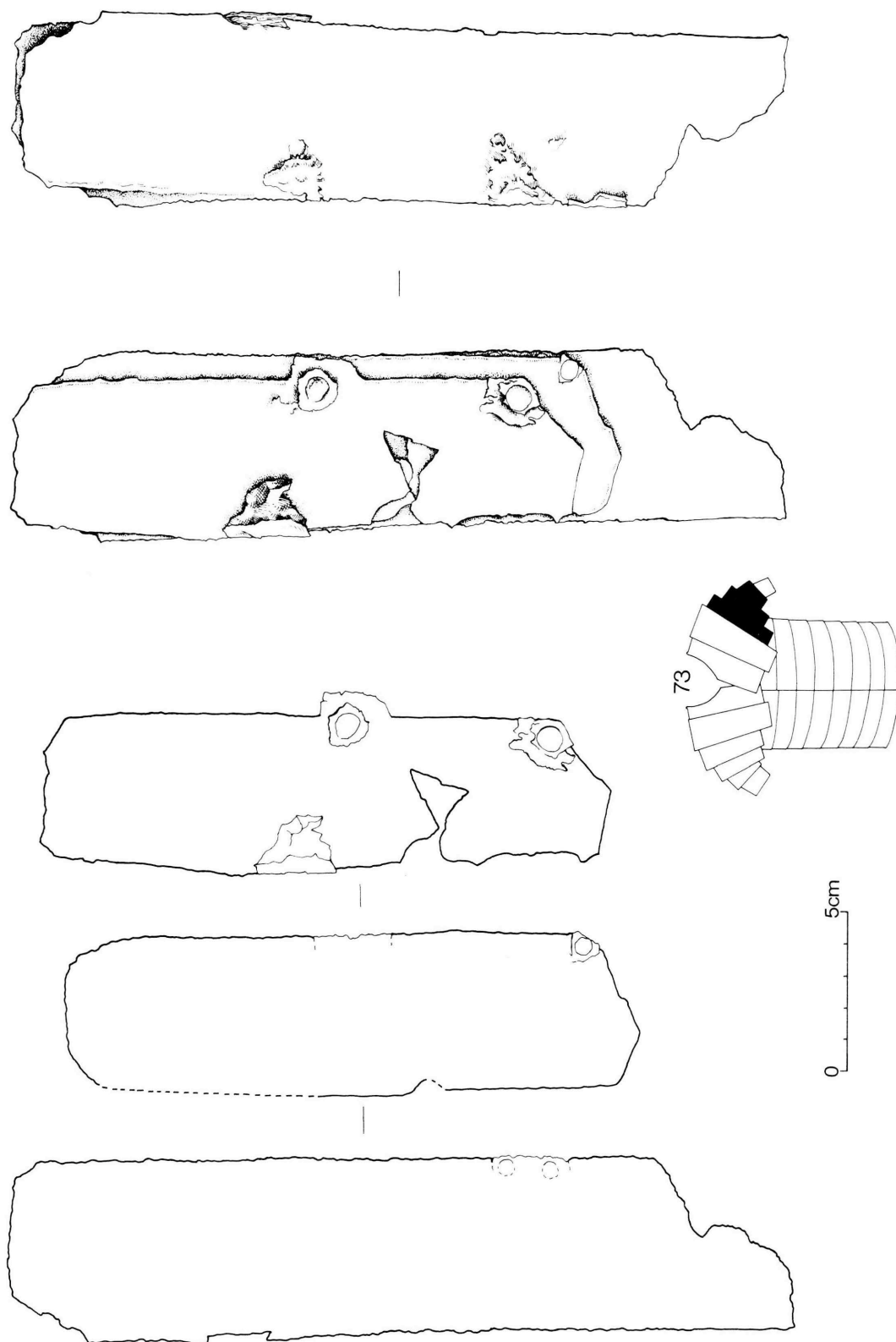


Fig 41 Corbridge Hoard: Cuirass 4, lesser shoulder guard (scale 1:2)

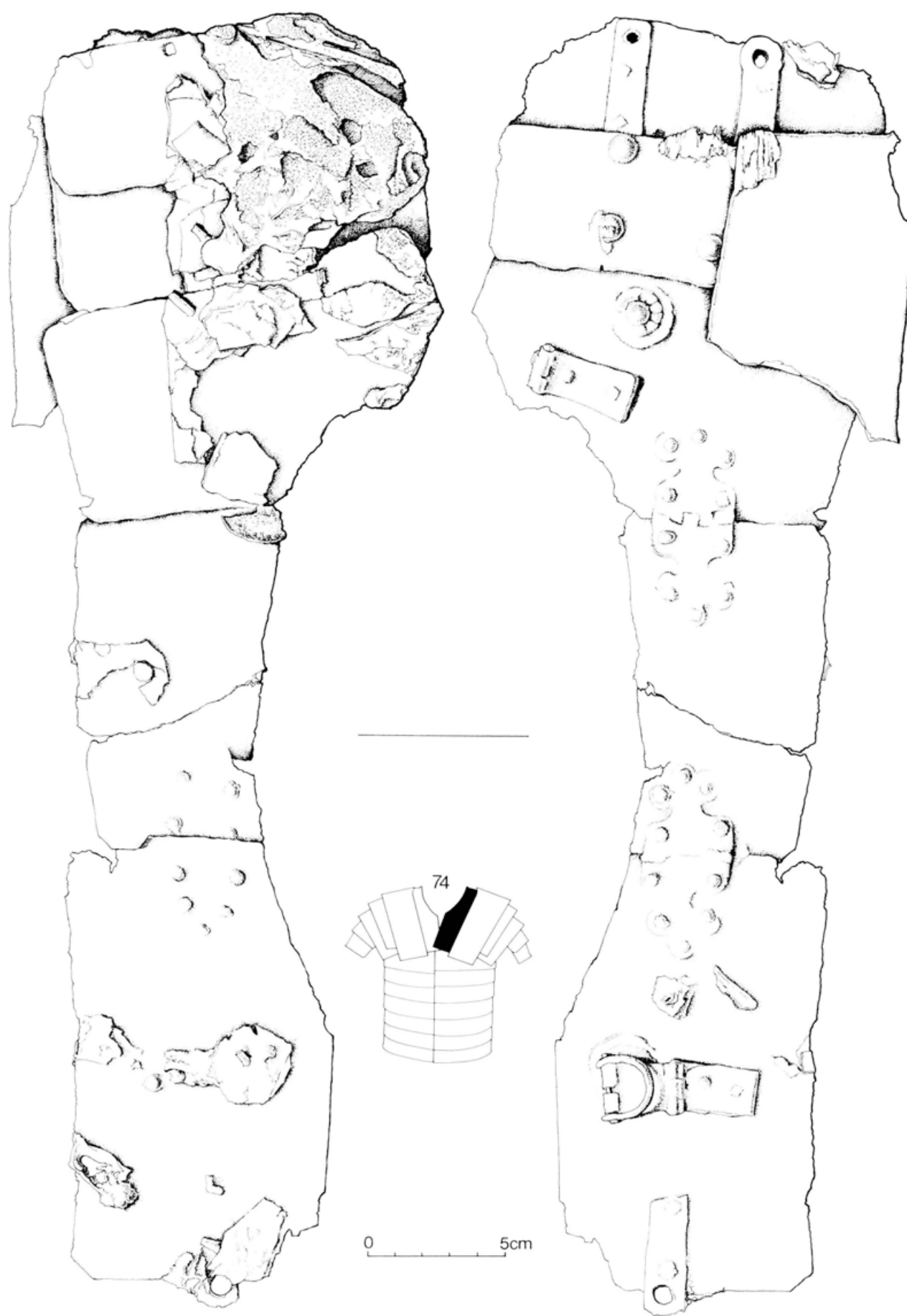


Fig 43 Corbridge Hoard: Cuirass 5, collar-plate (scale 1:2)

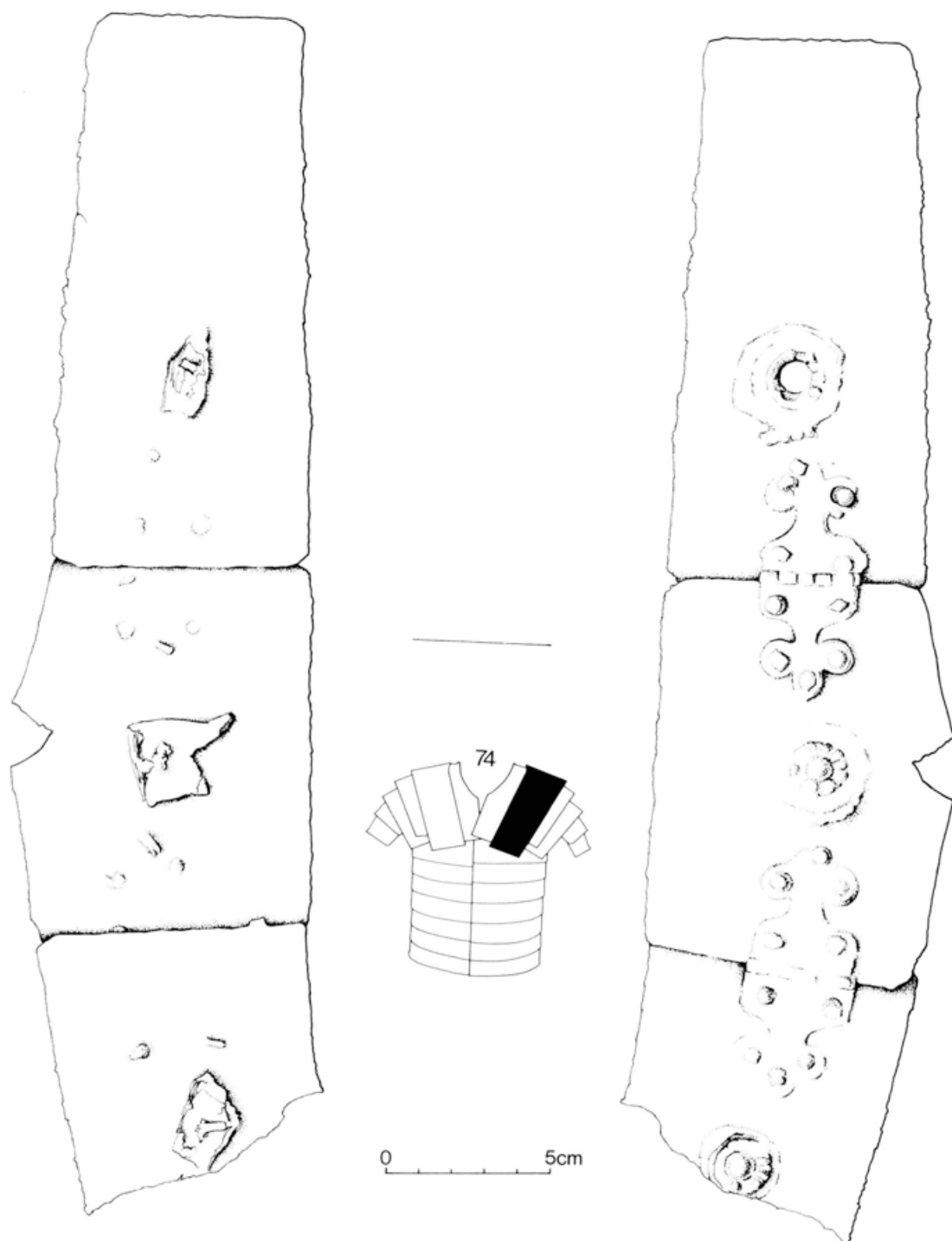


Fig 44 Corbridge Hoard: Cuirass 5, upper shoulder guard (scale 1:2)





Fig 45 Detail of the rear of Cuirass 5 (Catalogue 74), showing how the upper shoulder guard was attached to the other pieces and demonstrating that the point on the large central plate faces inwards

plate has a maximum length of 380mm and a width of 50mm. The shortest plate is 200mm long and 40mm wide.

On the largest plate, the internal leathering is 25mm wide on the central rivet, and 30mm at either end, whilst on the smallest plate the respective figures are 20mm, 25mm, and 30mm. The total distance across the leathering rivets is 200mm on the largest plate and 165mm on the smallest.

75 (Figs 48–9) Cuirass 6: an upper right-hand assembly from a Type C cuirass (Fig 24). Only the five plates forming the collar piece of this assembly appear to be present in the Hoard (Fig 48; but see Cuirass No 1, No 70 for the possible destination of the upper and lesser shoulder guards belonging to this unit and see below p 100.

#### The collar-plates

(Figs 48, 49)

The breastplate has a width of 95mm and a depth from neck to the bottom edge of 90mm. The hinge of the lateral fastening buckle is 40mm from the left edge, whilst the centre of the iron vertical fastening loop is 50mm from the left-hand edge of the plate.

The distance from the hinge at the top of the breastplate to the bottom edge is *c* 150mm. The free element of the lateral fastening is missing, although the hinge bar is still intact.

Traces of the internal leather, which is *c* 25mm wide, are attached to the rivets securing the lateral hinged fastening.

Fragments of textile (No 321) cover the lobate hinge joining the breastplate to the mid collar-plate, as they do the hinge between the mid collar-plate and top back-plate and areas of the middle and bottom back-plates too. The buckle loop of the lateral hinged fastening on the top back-plate is flexed. This plate also has a decorated boss with an overall diameter of 25mm, of which 18mm is decorated, whilst the rivet has a head diameter of 7mm. The middle back-plate has four domed copper alloy rivets, each of them 12mm in diameter. The bottom back-plate has two more of these rivets, as well as the iron vertical fastening loops (which project below the bottom plate, unlike the copper alloy ones on Cuirass 5, No 74).

The internal leathering has been very well preserved on the rear face of the back-plates. Two vertical straps, each *c* 20mm wide (although there is some variation), have been attached to the dome-headed rivets of all three plates, whilst the rivet with the decorated boss secures the leather, also 20mm wide, that would run to the upper shoulder guard.

The lobate hinges and decorated boss are again simple. There is a lateral buckle at the rear of the cuirass, but the type of front fastening is not known.

76 (Figs 50–3) Cuirass i: a lower right-hand assembly from a Type A cuirass (Fig 23). There are elements of eight girth hoops (Fig 53), wrapped in three types of textile (Fig 53).

The uppermost hoop has a rolled top edge in the central area, beneath the arm of the wearer. The copper alloy hinged buckle at the front is flexed downwards. Next to it, the loop of the top tie-hook is straightened and twisted upwards. A single rivet fastens each of the inner iron buckles at the rear of the hoop; the one nearest the outer edge of the plate is fully flexed, whilst the buckle of the inner one is likewise depressed. A single rivet at the centre of the plate, near the top edge, secures an internal leather strap, *c* 30mm wide. No other traces of internal leathering are visible.

Five other plates with tie-hooks are attached, each with tie-hooks at front and rear, and three internal leathers.

The lowest two plates have no tie-hooks, although the bottom plate has a rolled lower edge. The central internal leather is 30mm wide and held by two rivets in the case of this lower plate, whilst the front leather (also held by two rivets) is only 20mm wide.

The distance over the tie-hooks on the top girth plate is *c* 500mm. The maximum depth of the top plate is 55mm, the minimum 45mm; the bottom plate is also 55mm deep. The girth hoops have been forced together, the top plate riding down over the second at the front, partially obscuring the second tie-hook (Fig 54).



Fig 46 Corbridge hoard: Cuirass 5, lesser shoulder guard (scale 1:2)

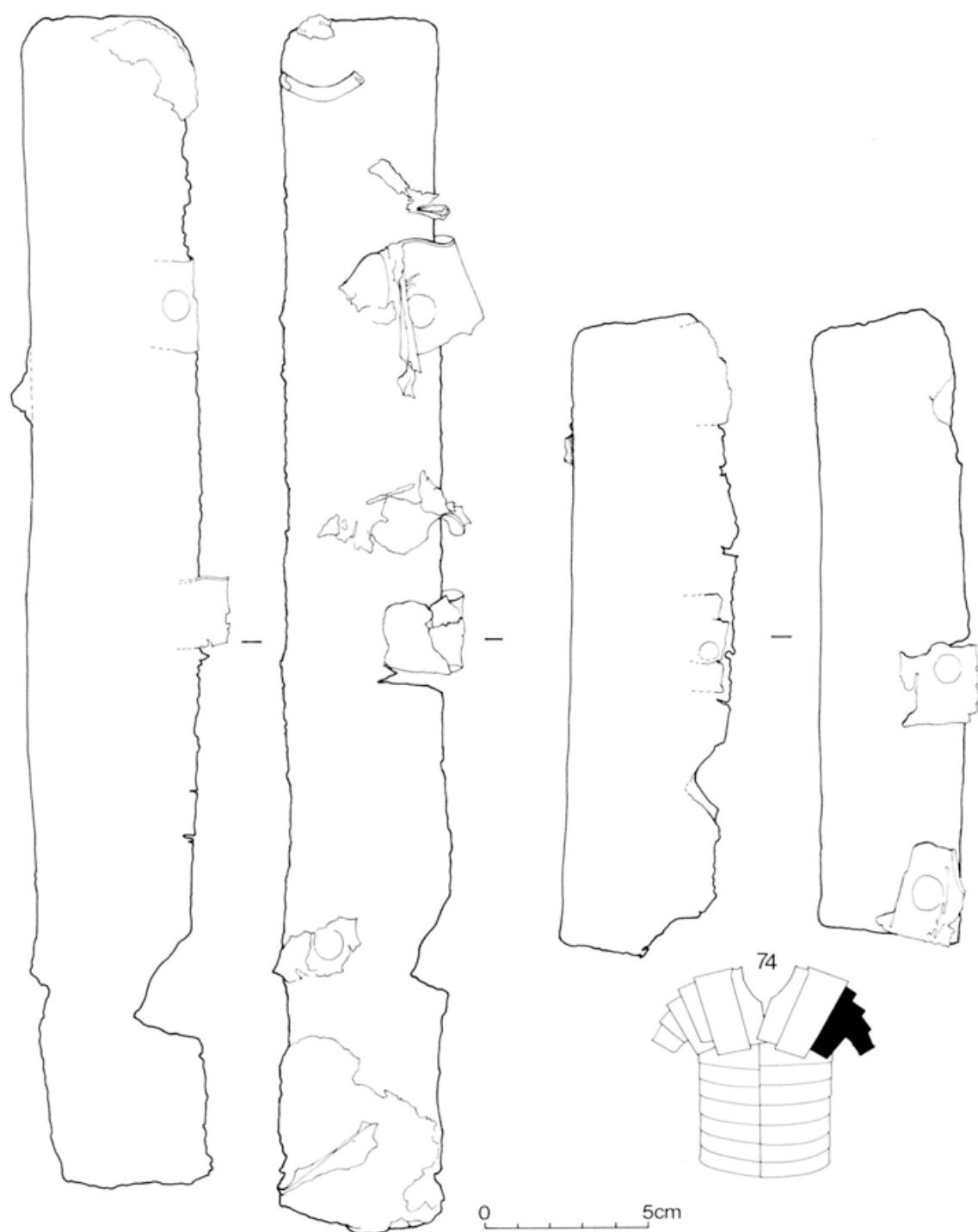


Fig 47 Corbridge Hoard: Cuirass 5, lesser shoulder guard pattern (scale 1:2)



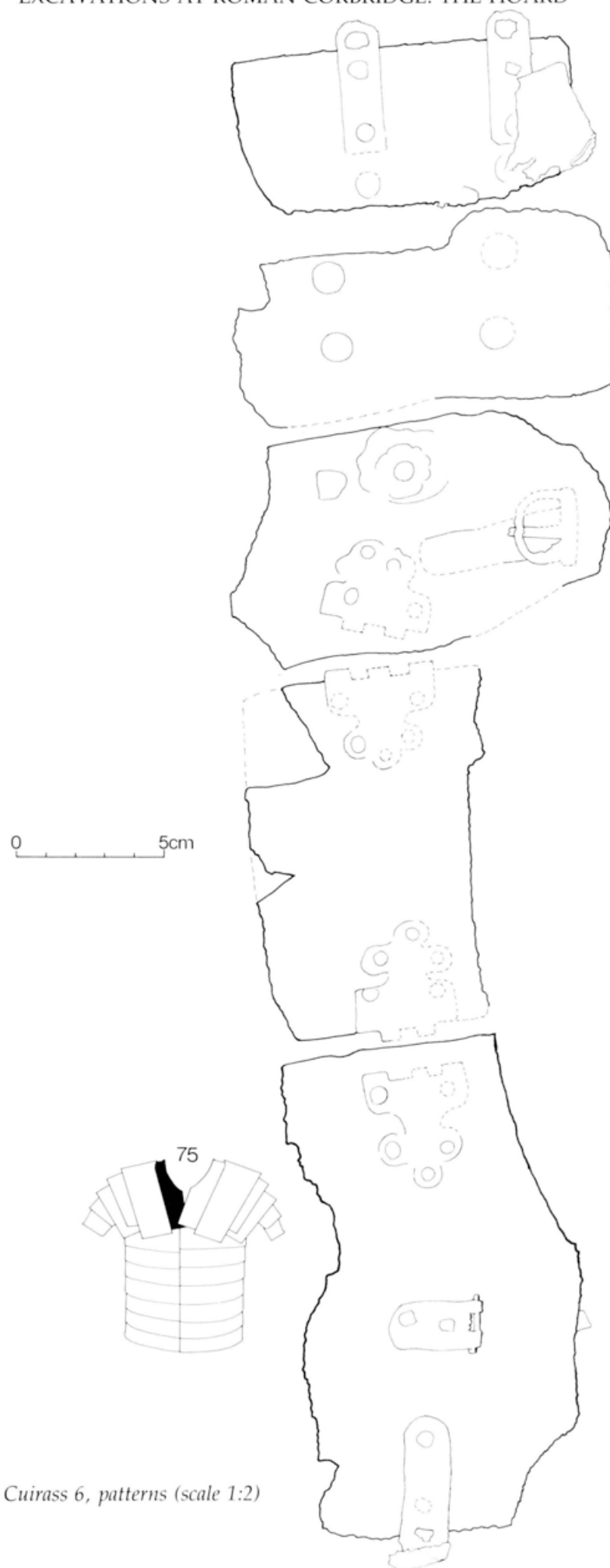


Fig 48 Corbridge Hoard: Cuirass 6, patterns (scale 1:2)

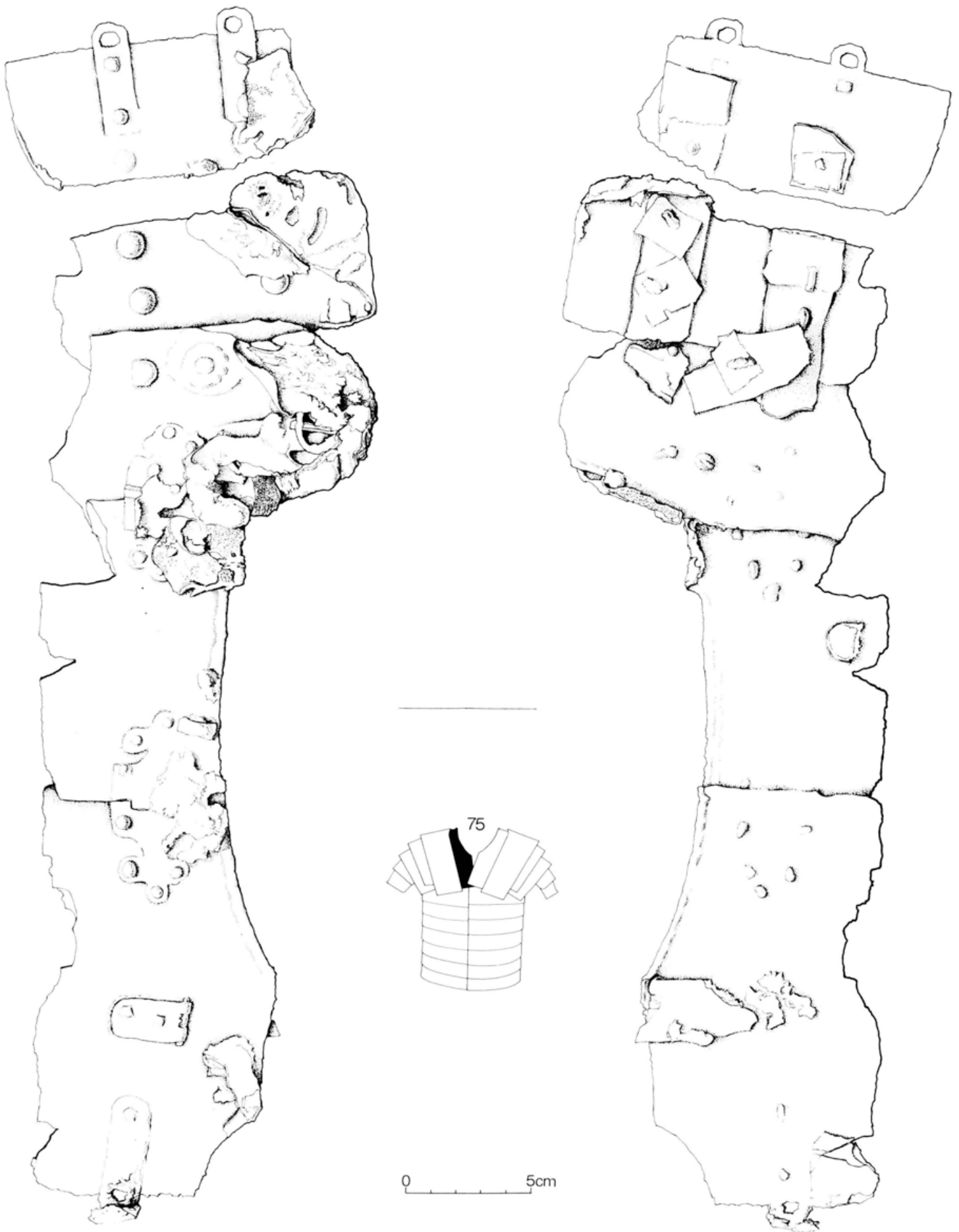


Fig 49 Corbridge Hoard: Cuirass 6, collar-plate (scale 1:2)

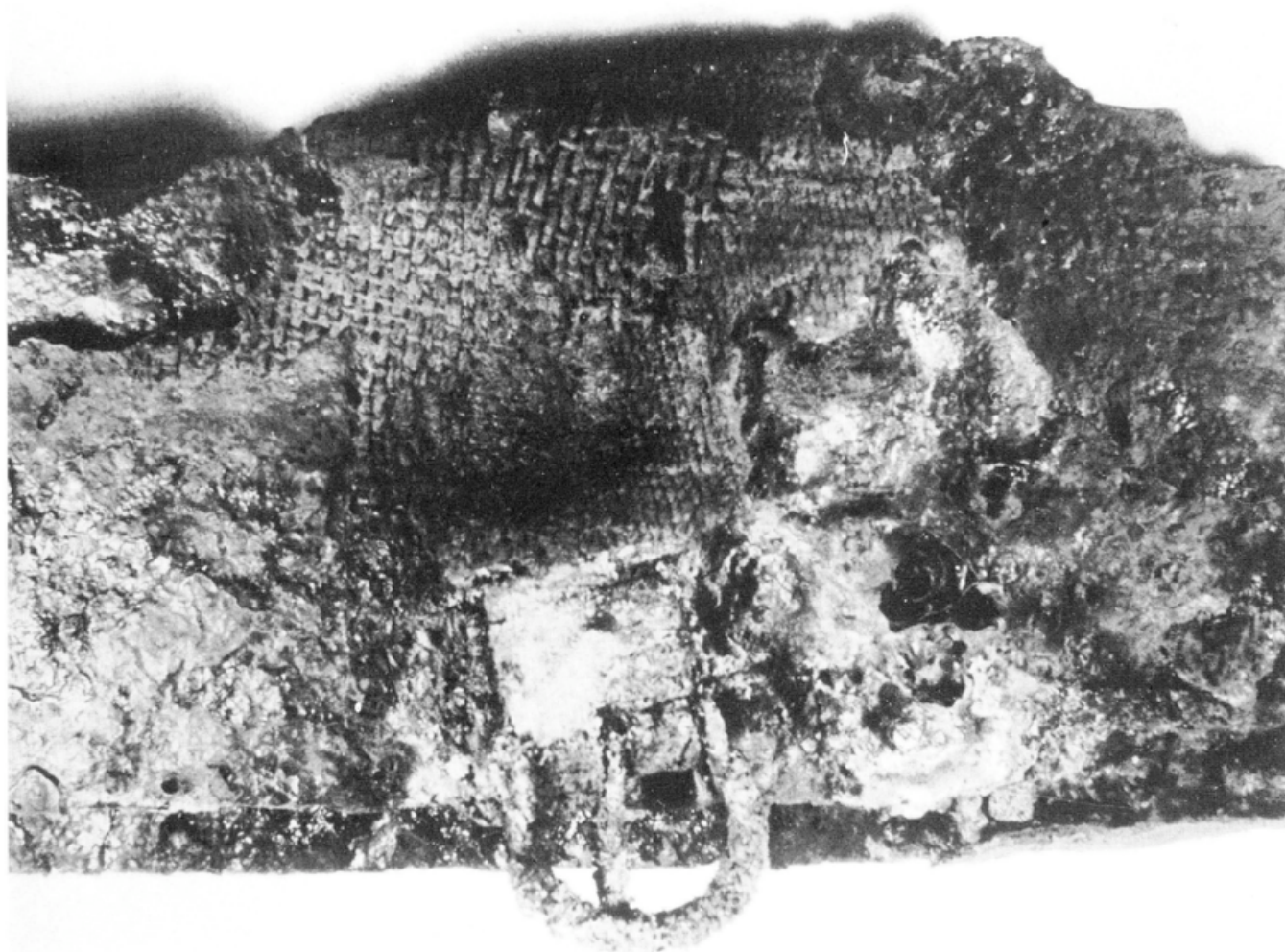


Fig 53 Close up of textile in Cuirass i

77 ( ) Cuirass ii: a lower right-hand assembly from a Type A cuirass (Fig 23). Elements of at least three plates are included, but these are now in a fragmentary state (Figs 55–6').

The uppermost hoop has a rolled top edge in the central area. The hinged buckle at the front is flexed and the loop of the top tie-hook is twisted upwards and slightly unwound. A single rivet fastens the inner iron buckle nearest the outer edge of the plate. Few traces of internal leathering are visible.

The other plates are fragmentary, but it is clear that the top plate has been forced down over the second plate at both the front and rear; indeed, at the front it has clearly dragged the leather strap (c 25mm wide) down over this second plate.

The top plate has a maximum depth of 55mm and a minimum of 40mm.

78 (Figs 57–60) Cuirass iii: a lower left-hand assembly from a Type A cuirass (Fig 23). Elements of at least six girth hoops are present, and these are now in a fragmentary state ( ).

The uppermost hoop has a rolled top edge in the central area. The hinged buckle at the front is flexed. A single rivet fastens each of the inner iron buckles at the rear of the hoop. The iron buckle nearest the

edge of the plate is fully flexed, whereas its neighbour has only a flexed tongue. Traces of internal leathering are visible on some of the plates.

The girth hoops are twisted, as well as curved, this probably being the result of forcing the plates together too tightly. The top plate overlaps significantly those immediately under it (Fig 60).

The maximum depth of the top plate is 60mm and the minimum 40mm.

79 ( ) Cuirass iv: a lower left-hand assembly from a Type A cuirass (Fig 23). Elements of eight girth hoops are present (Figs 61–3').

The uppermost hoop has a rolled top edge in the central area. The hinged buckle at the front, the bottom of which is flush with the bottom of the top plate, is flexed. A single rivet fastens each of the inner iron buckles at the rear of the hoop, the tongues of which are flexed.

The internal leathering at the rear is secured by two rivets at the top of the plate in each case (except for the top plate, where the two rivets are below the outermost iron buckle) and the strap is 35mm wide. The internal leathering at the front is also 35mm wide.

The girth hoops have been forced down over





Fig 54 Corbridge hoard: Cuirass i, perspective view from front (three plates at the top, five at the bottom)

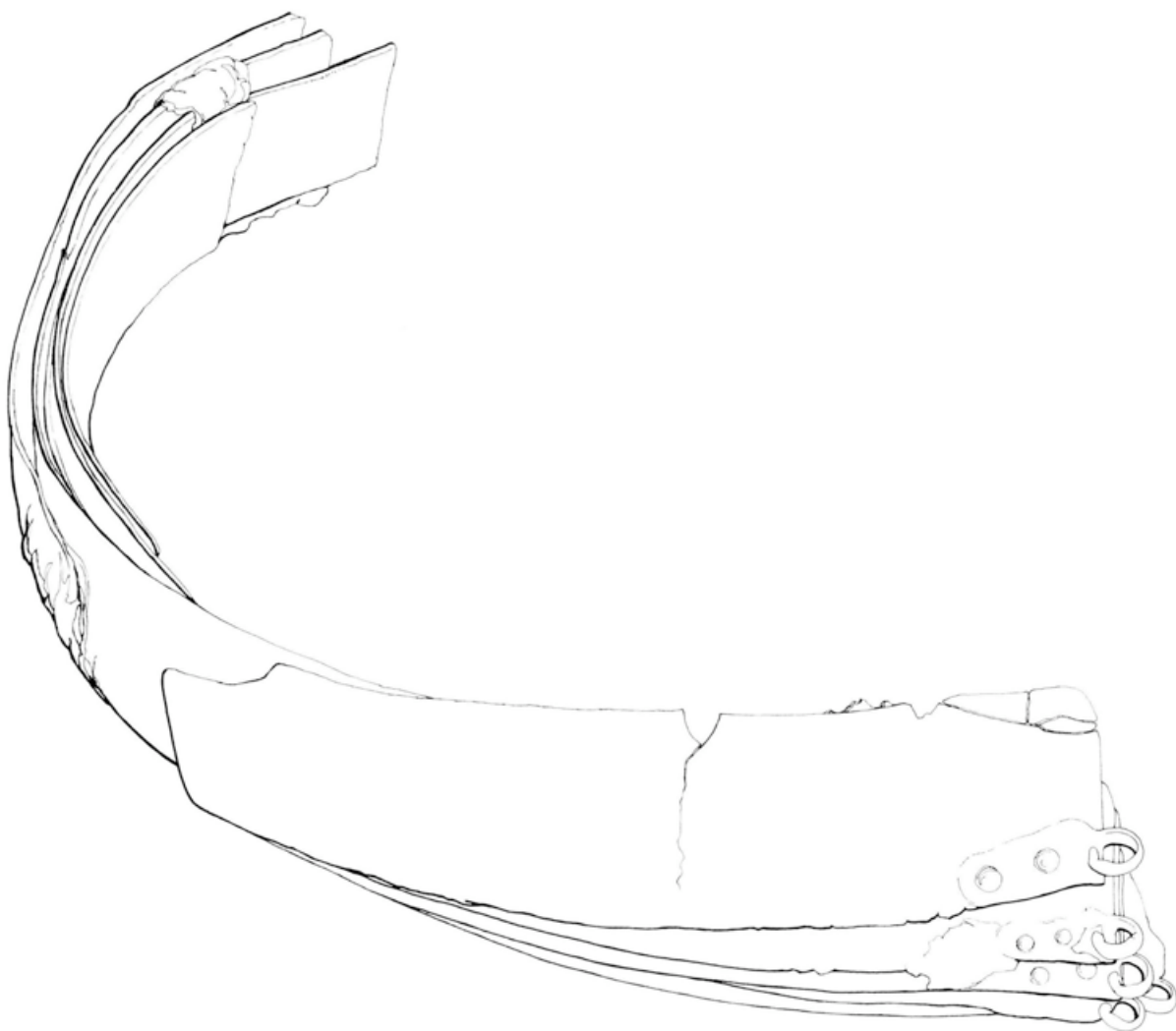


Fig 60 Corbridge Hoard: Cuirass iii, perspective view from rear of bottom plates

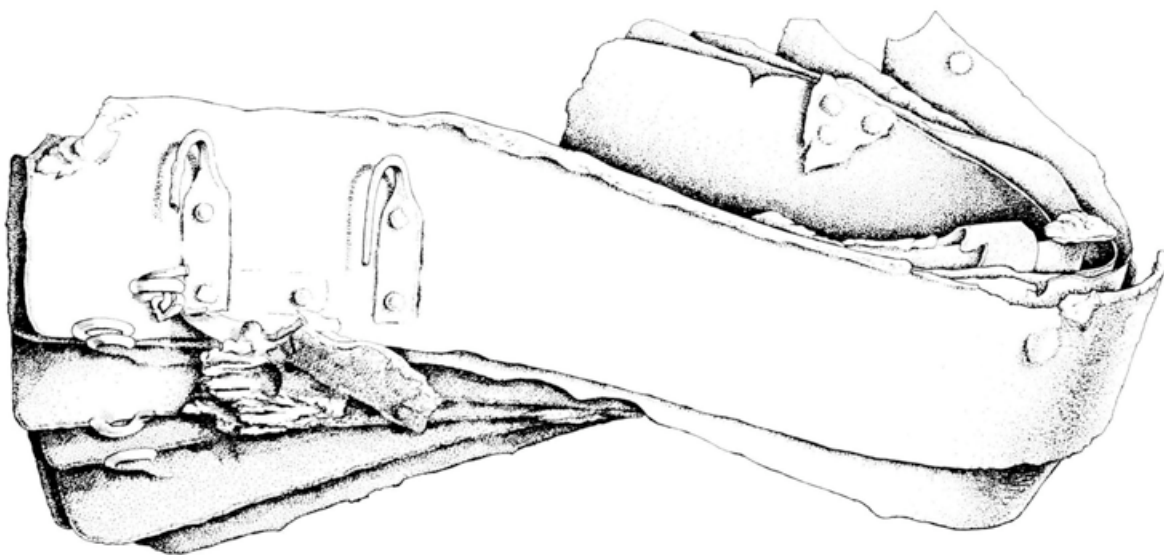


Fig 67 Corbridge Hoard: Cuirass v, perspective view from rear

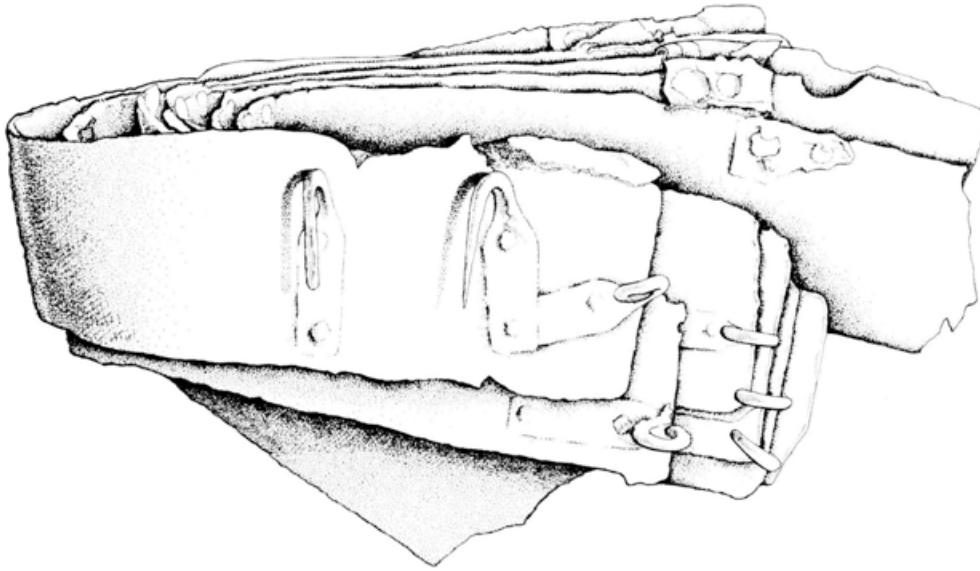


Fig 71 Corbridge Hoard: Cuirass vi, perspective view from rear

themselves, overlapping at the rear and splaying at the front, although the topmost hoop has been forced completely over the second at the front.

The maximum depth of the top hoop is 55mm and that of the bottom plate is 50mm.

80 (Figs 64–7) Cuirass v: a lower right-hand assembly from a Type B/C cuirass (Fig 24). Elements of seven girth hoops are present. The whole set was wrapped in textile (No 322) [redacted].

The top edge of the top plate is rolled. The front vertical hook fastener on the top hoop shares its lower rivet with the outermost one of the top tie-hook. The central rivet head is 13mm in diameter. The outer rear fastener also shares its lower rivet with the outer rivet of the outer tie-hook. The two rear fasteners are 45mm apart.

Leather strapping survives on the rear face of the top plate held by one rivet at the front and middle, and two at the rear. The widths are 30mm (front), 25mm (middle), 25mm (rear).

When first reconstructed, the lower edge of the second plate appeared to be rolled, which may suggest that this is a repair (utilising a bottom plate from a cuirass). More normally, the lower edge of the bottom plate is also rolled. Traces of leathers survive on this, all three being held by two rivets. Their widths are 30mm (front), 35mm (middle), 30mm (rear).

The plates have been compacted, but this has caused only slight splaying at the rear. Instead, the plates have fanned outwards at the front, thus distorting the original shape of the outer plates (Fig 67). The tie-hooks on this assembly are much sturdier than those of the four Type A cuirass elements. The top tie-hook at the rear appears to have a leather tie still adhering to it.

The depths of the plates (from the top) are: 55mm,

55mm, 55mm, 60mm, 50mm, 55mm, 55mm. The overall length of the top plate is 474mm and the distance over the tie-hooks on the top plate is c 430mm. The bottom plate has an overall length of 450mm (flattened).

81 (Figs 68–71) Cuirass vi: a lower left-hand assembly from a Type B/C cuirass (Fig 24). Elements of seven girth hoops are present. The whole set was wrapped in textile [redacted].

The top edge of the top plate is rolled, whilst the bottom edge retains fragments of coarse and fine textile adhering to it. The front vertical hook fastener is twisted almost to the horizontal, sharing its bottom rivet with the top tie-hook. The rear uppermost tie-hook is slightly above the horizontal and again shares its bottom rivet with the outermost hook fastener; the inner fastener has a pointed end to the hook. The internal leathering is fastened with two rivets at the top of the upper plate, although no central stud is visible. However, the internal leather is present on the rear face, where it is 30mm wide.

The bottom plate has a rolled lower edge, while the rear face retains all three internal leathers, each held by two rivets – 7mm diameter (rear), 8mm (middle), and 9mm (front). The widths of the internal leathers are 30mm (front), 25mm (middle), and 35mm (rear).

The hoops are collapsed, overlapping at the front, whilst at the rear the lowest plate is distorted considerably and splayed out (Fig 71).

The overall length of the top plate is 440mm, the maximum depth being 60mm, whilst the distance over the tie-hooks is 455mm. The overall length of the bottom plate is c 415mm, with a maximum depth of 55mm.

It should be noted that in Fig 70, the dimensions of the set of hoops have been distorted by being flattened out.



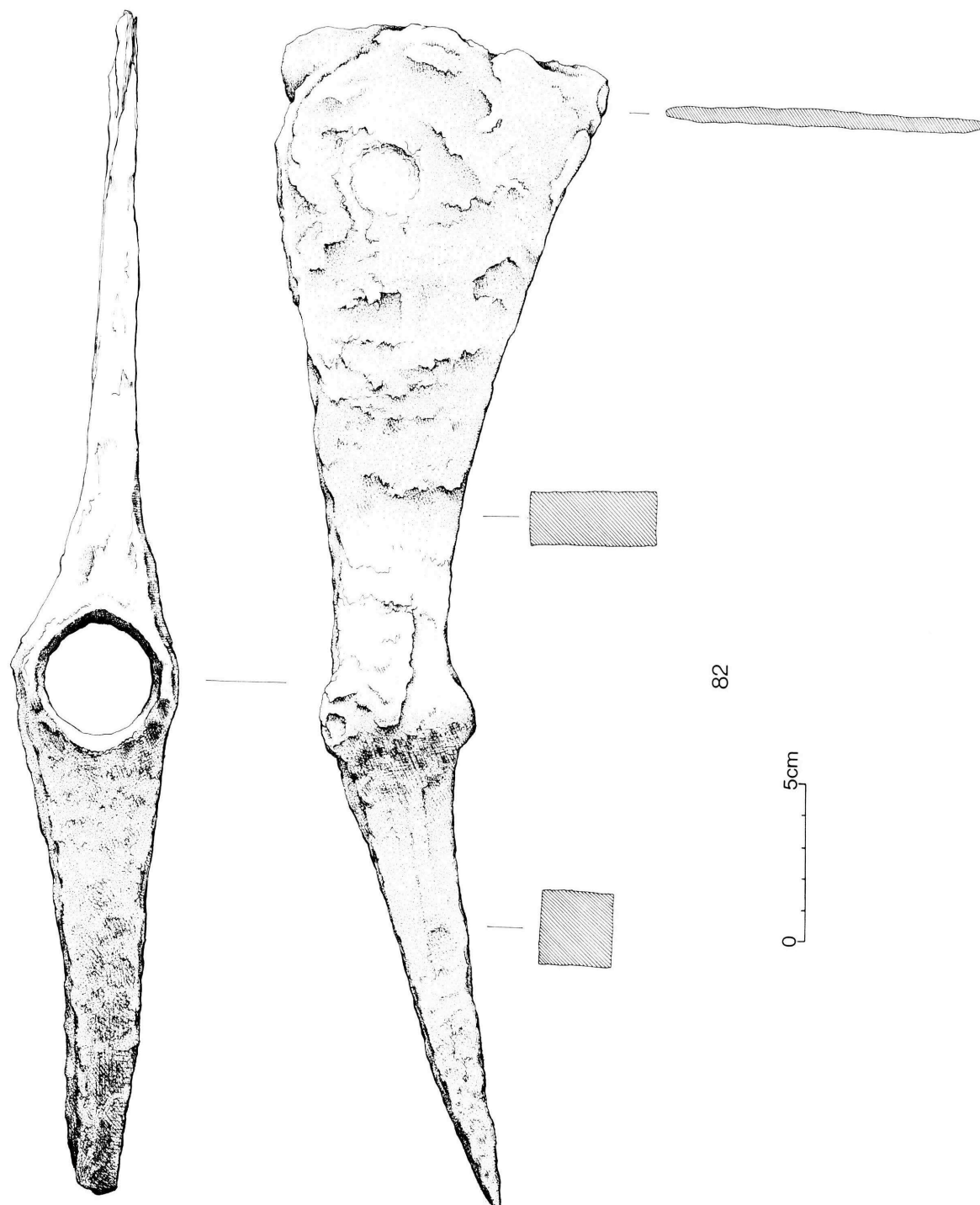


Fig 72 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

*Tools and implements*

82 (Fig 72) Pickaxe with a broad vertical blade balanced by a tine. It conforms to Manning's Type II (1976, 28 and fig 6), although the lugs were corroded or damaged before loss.

Length: 380mm, cutting edge: 102mm, socket length: 39mm, socket width: 36mm

83 (Fig 11) Flat chisel with sharpened spatulate end and hole near socket end. This is part of a bundle with Nos 7 and 8. Part of the wooden shaft survives *in situ*, and analysis shows this to have been of ash (*Fraxinus* sp.).

Length: 337mm, width across spatulate end: 38mm, socket diameter: 26mm

84      Bow or frame-saw in two pieces. The teeth are cut on one edge and appear to be symmetrical, giving no bias to the forestroke or backstroke. Both ends are pierced by an iron rivet holding fragments of the wooden handle, which

analysis reveals was made of box (*Buxus* sp). On both sides, the edge of the wood nearest the blade is curved.

Length: 355mm, width: 30mm, 4 teeth per 10mm

85 (Fig 73) Saw with slightly arched back and a straight edge which curves slightly at both ends. The teeth are cut symmetrically along one edge, giving no bias to the forestroke or the backstroke and suggesting a frame-saw or a bow-saw. The teeth go almost to one end but stop well short of the other. Both ends are pierced by a small hole and have fragments of wood attached (cf Manning 1985, B22).

Length around curve: 755mm, teeth start 52mm from one end, 214mm from the other, width: 75mm, 2 teeth per 10mm

86 (Fig 74) Shears, made from a single piece of metal with a U-shaped spring, the curve of which is much wider than the arms. The blades have straight edges and slightly arched backs. Manning Type 2

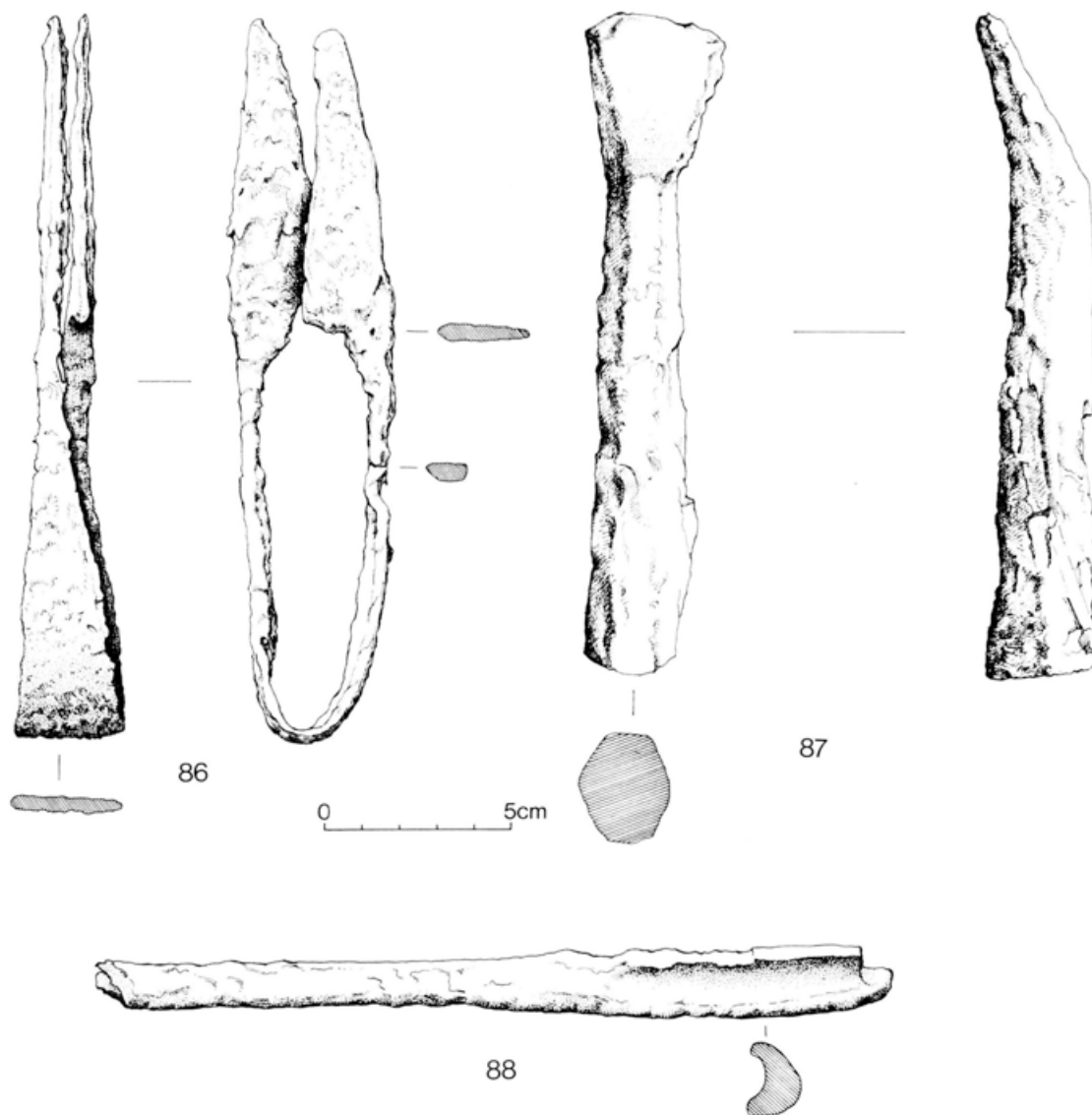


Fig 74 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

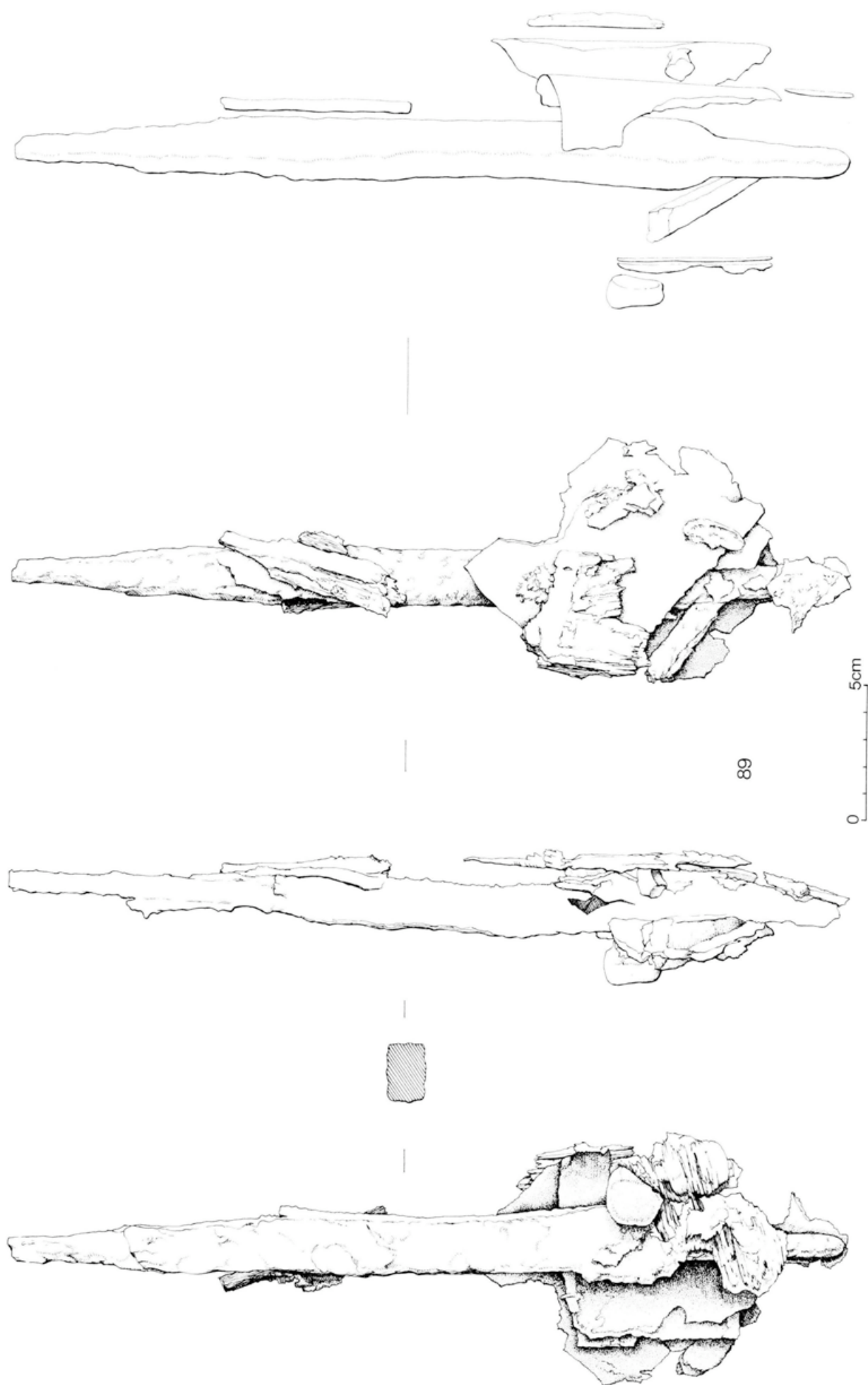


Fig 75 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



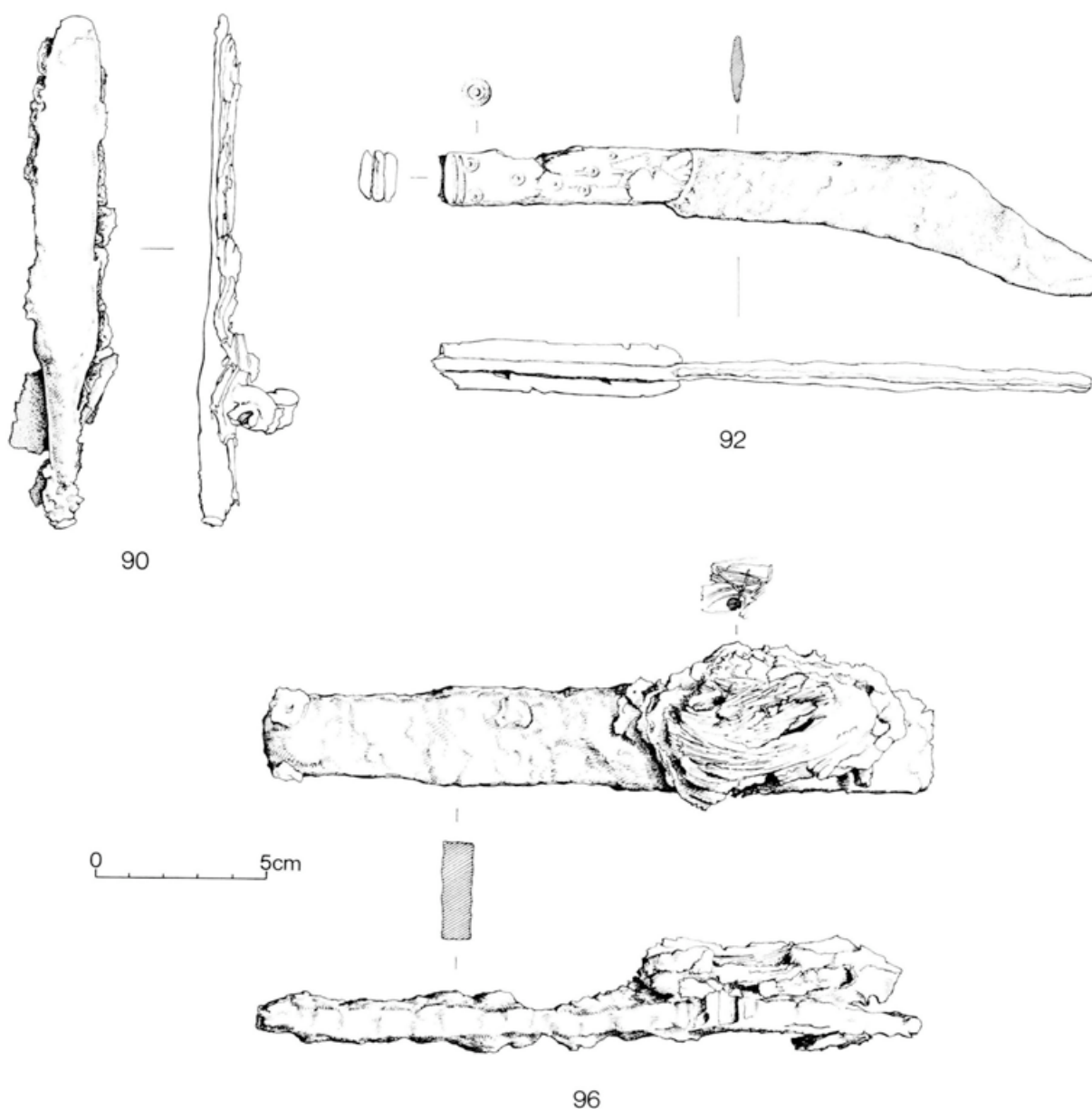


Fig 76 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

(1985, 34), used for shearing sheep, cutting cloth, etc.

Length: 192mm, length of blades (each): 80mm, width of blades (each): 26mm, width at curve: 29mm

87 (Fig 74) Crow-bar with a hexagonal section and an angled spatulate head. Crow-bars are unusual finds on Roman sites in Britain (see Manning 1985, C19), but they are known in Italy (Gaitzsch 1980, 359, Taf 32.153-5).

Length: 173mm

88 (Fig 74) Spoon bit with solid oval haft, broken before the socket, and thick crescentic-sectioned blade (cf Manning 1985, B57).

Length: 212mm, width: 18mm, width of tang: 13mm

89 (Fig 75) Rectangular-sectioned bar, with one end tapering sharply to provide an oval-sectioned tang or handle. Possibly a file.

Many fragments of leather, iron cuirass strips, and writing tablet pieces, as well as a headless iron nail adhere.

Length: 298mm, width: 26mm, thickness: 16mm, length of nail: 56mm

90 (Fig 76) Knife blade with oval-sectioned tang, straight edge and back, and rounded end; there is ?bone attached to the blade.

Length: 149mm, thickness: 21mm

91 (Fig 11) Knife, with narrow tang fitting into a bone one-piece handle (made from sheep's long bone) the marrow cavity has been left in its natural state. It is undecorated, but expands naturally to one end with a curved edge and back, and there is very rough facetting lengthwise. Part of a bundle.

Length: 167mm

92 (Fig 76) Knife, the blade of which has a curved

lower cutting edge and a steeply-angled back. The point is missing, but there is a two-piece bone handle *in situ* which appears to have only one rivet holding it. The handle is decorated all over with stamped ring-and-dot motifs and has two incised lines at the end. A flat tang projects through and past the handle (cf Manning 1985, 112 (Type 7b), fig 28).

Total length: 192mm, width of blade: 26mm, length of handle: 71mm, width of handle: 18mm, thickness across bone and iron: 15mm

93 (Fig 14) Knife joined to a spearhead (No 31). The knife has a curved back and straight edge. There is a split socket with a piece of wood in it.

Length: c 145mm, socket diameter: 16mm, width: 28mm

94 Fragment of a knife blade, with a straight edge

and curved back. (Not illustrated)

Length: 63mm, thickness: 17mm

95 'Rock-shatterer'; the shank expands under the neck to 16× 15mm before tapering to a point. (Not illustrated)

Length: 96mm, width across head: 20mm

96 (Fig 76) Rectangular bar with textile and ?feathers adhering.

Length: 196mm, width: 31mm, thickness: varying

97 (Fig 77) Pulley block, with a rectangular loop of rectangular section, changing to oval section at the top of the curve, and a rectangular-sectioned hook. A disc-headed iron spindle passes through the loop c 60mm above the hook, held in place by a short curved iron rod which passes through a small hole at

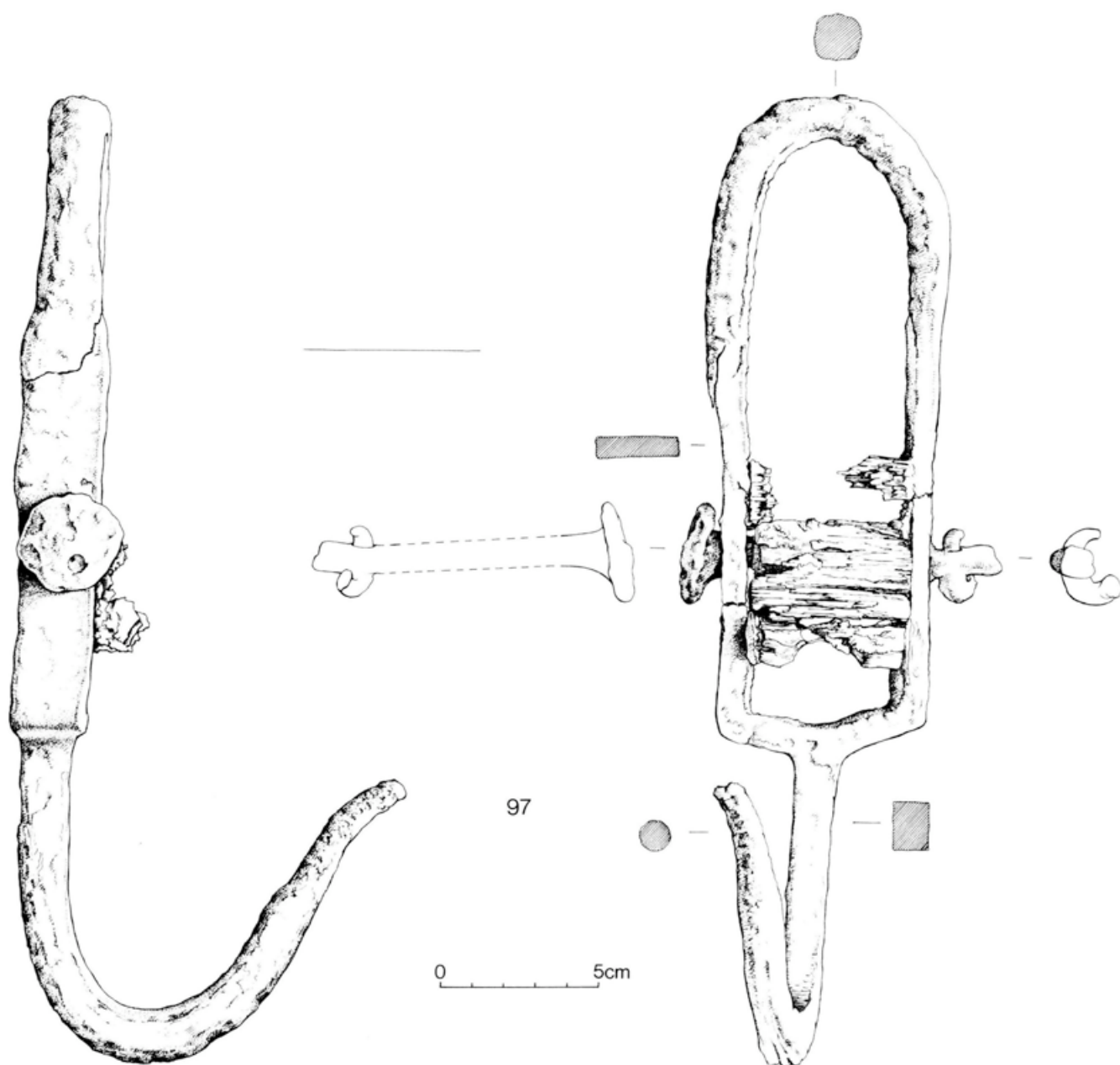


Fig 77 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

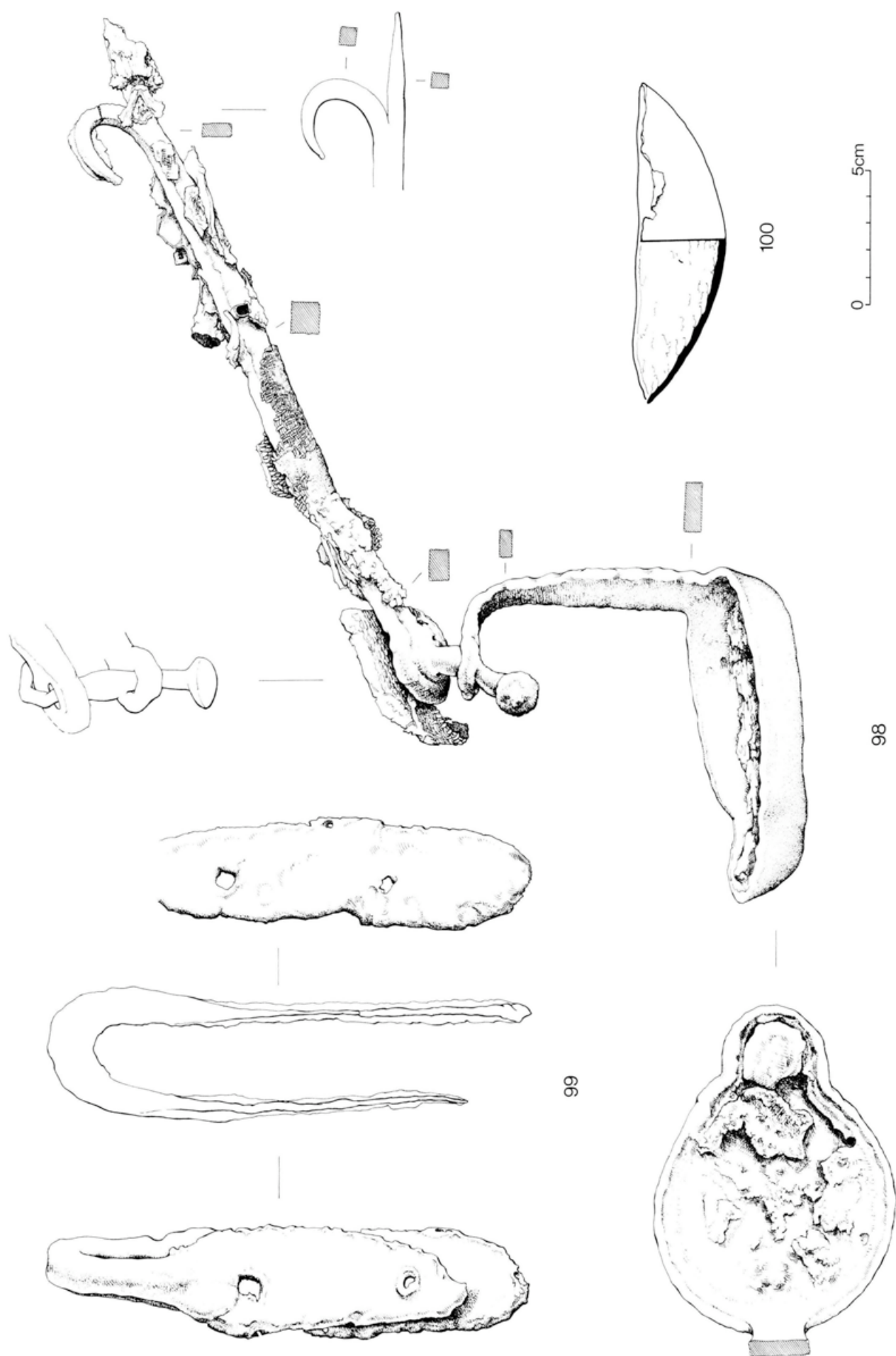


Fig 78 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



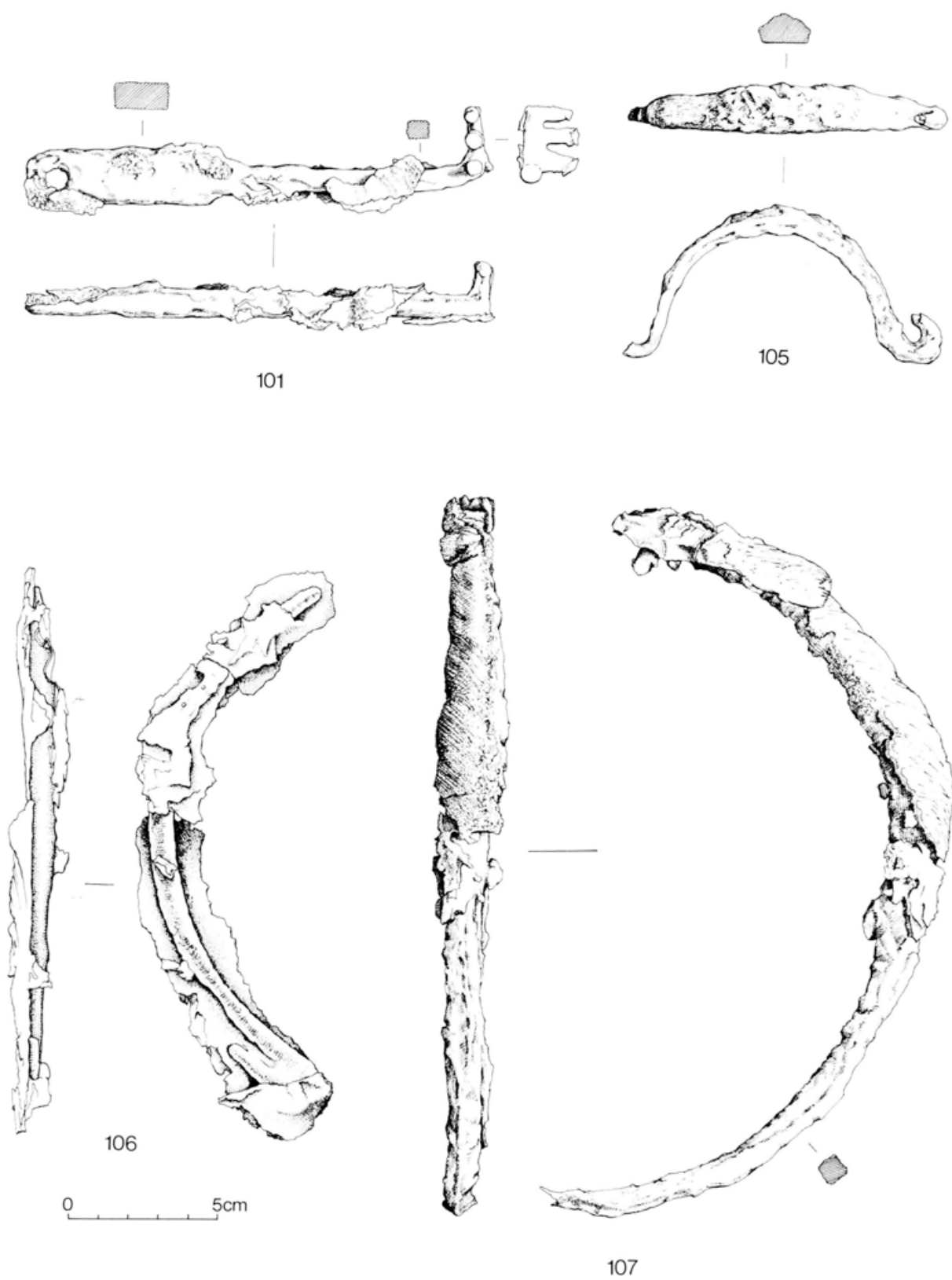


Fig 79 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

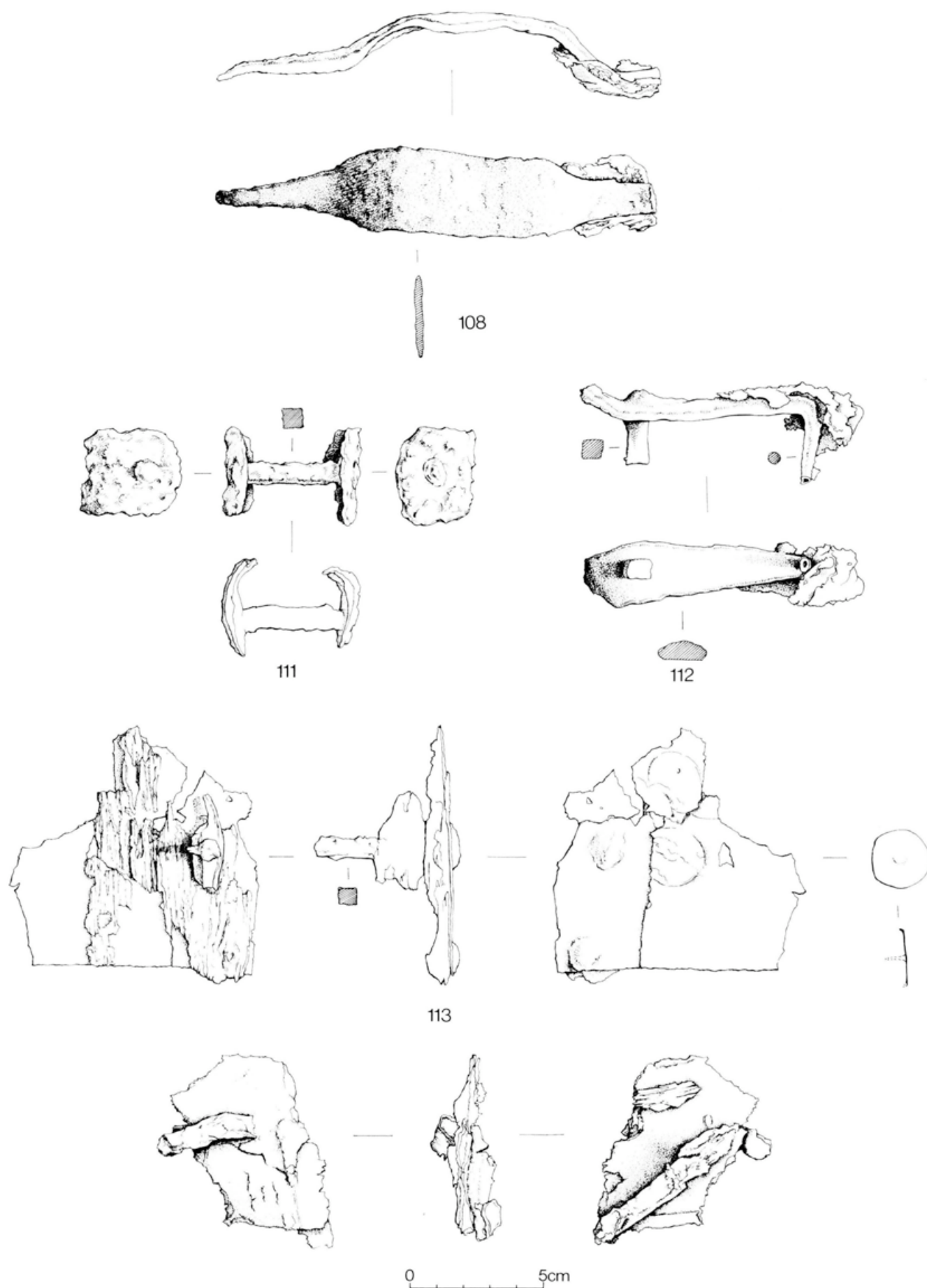


Fig 80 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

the end of the larger rod, 9mm across. Part of the wooden pulley wheel is in place and analysis has shown this to be made of oak (*Quercus* sp).

An example from Lakenheath is late Roman in date, whilst one from Hod Hill belongs to the mid-first century AD. They are both similar in shape to the Corbridge pulley, but half the size (Manning 1985, S1 and S2).

Length: 306mm, width: 66mm, thickness: 30mm, length of hook around outside of curve: 230mm, length of rod: 95mm, diameter of rod head: 35mm

98 (Fig 78) Lamp and lamp bracket, consisting of a rectangular-sectioned spike with one end curled to form a loop, the other split with one piece curled back; the lamp itself has a flat base and curved sides, the nozzle formed by nipping the front of the pear-shaped bowl. A strip rises from the back, curving to a looped end. A disc-headed rod holds the spike and lamp together with the end curled around the spike loop. An iron bar is attached to the spike, expanding at its head. The spike has been wrapped in textile, and there are fragments of fabric in the bowl (cf Manning 1985, fig 26).

Length of spike: 283mm, width across loop: 22mm, thickness of spike: 20mm, length of rod: 70mm (at least), diameter of rod head: 18mm, length of lamp: 119mm, from base of lamp to hook of handle: 118mm, width of lamp: 91mm, depth of lamp: 19mm, width of handle: 20mm, length of bar: 27mm, head of bar: 10×11mm

99 (Fig 78) Drop hinge, formed from a piece of metal bent double on itself. Its ends are flattened and each is pierced by two holes. (Manning 1985, 126–7, R8–10; Stead and Rigby 1986, fig 68.565).

Length: 180mm, width: 40mm, width across loop: 50mm

100 (Fig 78) Small circular bowl with a rounded base. A rectangular area is cut out from the rim and curled forwards. A small hole under this lip may be intentional.

Diameter: 114mm; maximum height: 44mm; thickness: 2mm

101 (Fig 79) Slide key. A rectangular-sectioned handle with a rounded end pierced by a 6mm hole and narrowing to a 10mm circular-sectioned shank. An L-shaped bit projects at right-angles at the end of the shank, three teeth survive, but the short arm of one ?tooth is missing (cf Manning 1985, 92–3, Type 1). Fragments of textile adhere (No 336).

Length: 156mm, width: 20mm, thickness: 10mm, length of bit: 19mm, width of bit: 24mm

102 Fragment of a ferrule with a piece of ?leather attached. The ferrule is square in section and tapers to a broken head. The socket still contains fragments of wood. (Not illustrated)

Length: 69mm, maximum width: 10mm

103 L-shaped 'hook'; angular with wood on either side of lower section. Possibly a staple or cleat. (Not

illustrated)

Length (unwrapped): 62mm

104 U-shaped rod with traces of wood. Possibly a staple or cleat. (Not illustrated)

Length: 50mm

105 (Fig 79) Strip handle of rectangular section tapering to hooked ends, one of which is missing.

Length across bottom: 110mm, width: 18mm, depth: 8mm

106 (Fig 79) Circular-sectioned handle; one terminal survives hooked back onto the shank. It is sandwiched between two layers of wood, with holes in one.

Length: 171mm, thickness: 8mm

107 (Fig 79) Handle, lacking both terminals and very corroded, but apparently of lozenge section. Traces of wood along one section suggest that the handle was placed with its terminals pointing upwards, half of it leaning against the side of the chest and the other half pointing into the interior.

Width across ends: 233mm, maximum height: 100mm, maximum thickness: 13mm

108 (Fig 80) Curved bar tapering markedly to both ends (?handle); one end rests on wood frags.

Length: 176mm, width: 32mm

109 (Fig 16) Escutcheon, consisting of a strip pierced by two wider holes expanding to a large hook.

Length: 109mm, width: 22mm

110 (Fig 19) Rectangular-sectioned rod which expands to one end with a hook set to one side. Both it and a ferrule (No 51) rest on a piece of wood.

Length: 117mm

111 (Fig 80) Stud with a curved rectangular head, a rectangular shank set towards one end of the head, and a rectangular rove. It is possible that the head and rove are one sheet, suggesting a shackle.

Length: 50mm, head width: 37×32mm, shank: 8×7mm

112 (Fig 80) Hinge or bucket escutcheon. The strip tapers to one end and is bent at a right-angle to the shank; the expanded end is broken off (it may originally have led to a hook). It is pierced by a square-sectioned disc-headed nail and there is fabric attached.

Length: 105mm, width: 25mm, height: 35mm

### *Chest fittings*

113 (Fig 80) Rectangular iron plate, two edges of which survive, pierced by an iron nail which passes through wood on the rear face. There appear to be the remains of two copper alloy bosses or studs on the front face, one next to the other. At one corner of the plate is a dome-headed iron stud. The front



face is virtually covered in leather.

Maximum length: 88mm, maximum width: 90mm, length of nail: 53mm, diameter of boss: 22mm

114 (Figs 81–3]) Chest angle-pieces with copper alloy studs. A piece of wood adhering to one of these has been identified as probably willow (*Salix* sp) or poplar (*Populus* sp).

a (Fig 81) L-shaped angle-piece with one side border broader than the other. One end survives intact. Dome-headed copper alloy studs are placed along the edges of the two long sides, mostly in pairs. There is an iron plate inserted behind the short side at one point, at the bottom of which is a disc-headed copper alloy stud (apparently replacing the two dome-headed ones on the other side) and there is a dent in the angle-piece just above this stud. Seven studs remain on the broader side, five on the narrower. Wood, preserved by iron corrosion products, remains on the rear of the broader side, the grain lying across the short axis and apparently preserving the original thickness of the wood of the box. The two sides of the chest have clearly been joined by dovetails (which are still visible) at this corner (Fig 107). Traces of leather remain at the broken end of the fitting, adhering to one of the rivet heads on the broad side and to the face of the angle-piece. There is no sign of leather at the complete end of the fitting.

Maximum length: 220mm, maximum width of sides: 42mm and 28mm (with extension to 35mm at one point), length of extension: 82mm, diameter of dome-headed studs: 15mm, thickness of wood: 17mm, thickness of iron plate: 1–1.5mm

b (Fig 82) L-shaped angle-piece, mostly covered by leather on the outside, although two dome-headed rivets are visible. Inside there are the remains of a piece of wood running the length of the object, rather than across it suggesting a vertical support in one corner (possibly a repair). The spike of one of the rivets survives *in situ* and is bent over. One piece of wood, 10mm thick, runs down next to the short side, the faces being just discernible; the spike was bent over this thin piece and the next piece of wood was applied on top of it. The leather appears to be overlapped on the broader side.

Maximum length: 160mm, maximum width of sides: 36mm and 45mm, diameter of dome-headed studs: 13mm and 14mm

115 Fragments 'from box hinge with piece of fabric attached'. (Not illustrated)

116 (Fig 84) Box hinge, comprising a bar bent to right-angles and pierced by three disc-headed rivets with split loop through a hole at one end. There are pieces of wood on the loop and hinge and between the discs of heads and bar.

Length: 115mm, width: 22mm, loop (unwound): 74mm, nail length: 50mm, distance between heads and bar (ie thickness of wood): 15mm

117 (Fig 84) Box hinge. A split loop with diverging ends passes through an L-shaped bar with a rounded end. The plate is pierced by a disc-headed nail just

inside the angle and pierced again by an object at the end. There are fragments of wood preserved by iron corrosion products under the nail heads and around the split loop, and this has been identified as alder (*Alnus* sp) in both cases.

Length of loop (straightened): 80mm, length of plate (on external curve): 107mm, width of plate: 25mm, length of nail: 85mm, head diameter: 16mm, length of object: 37mm

## Nails

118 Two disc-headed and square-sectioned nails, one of which has its end bent to form a hook. (Not illustrated)

Length: 155mm, diameter: 25mm

119 (Fig 85) Concretion (very open) of at least nine large disc-headed nails, with wood fragments attached.

Length (all): c 80–90mm

120 (Fig 86) Disc-headed nail with rectangular-sectioned shank.

Length: 140mm, diameter of head: 36mm

121 (Fig 86) Disc-headed nail with offset, rectangular-sectioned shank.

Length: 101mm, diameter of head: 20mm

122 (Fig 86) Disc-headed nail with rectangular shank.

Length: 103mm, diameter of head: 22mm

123 (Fig 86) Dome-headed nail, incomplete.

Length: 27.5mm, diameter of head: 14.5mm

124 (Fig 86) Disc-headed nail with rectangular shank, incomplete.

Length: 31.5mm, diameter of head: 21mm

125 (Fig 86) Disc-headed nail with a bent shank.

Length: 130mm, diameter of head: 23mm

126 (Fig 15) Disc-headed nail.

Length: 95mm, diameter of head: 27mm

127 (Fig 15) Disc-headed nail.

Length: 110mm, diameter of head: 25mm

128 Disc-headed nail. (Not illustrated)

Length: 130mm, diameter of head: 25mm

129 Disc-headed nail. (Not illustrated)

Length: 27mm, diameter of head: 13mm

130 Disc-headed nail. (Not illustrated)

Length: 135mm, diameter of head: 34mm

131 Incomplete disc-headed nail. (Not illustrated)

Length: 33mm, diameter of head: 21mm

132 Disc-headed nail. (Not illustrated)

Length: 101mm, diameter of head: 21mm

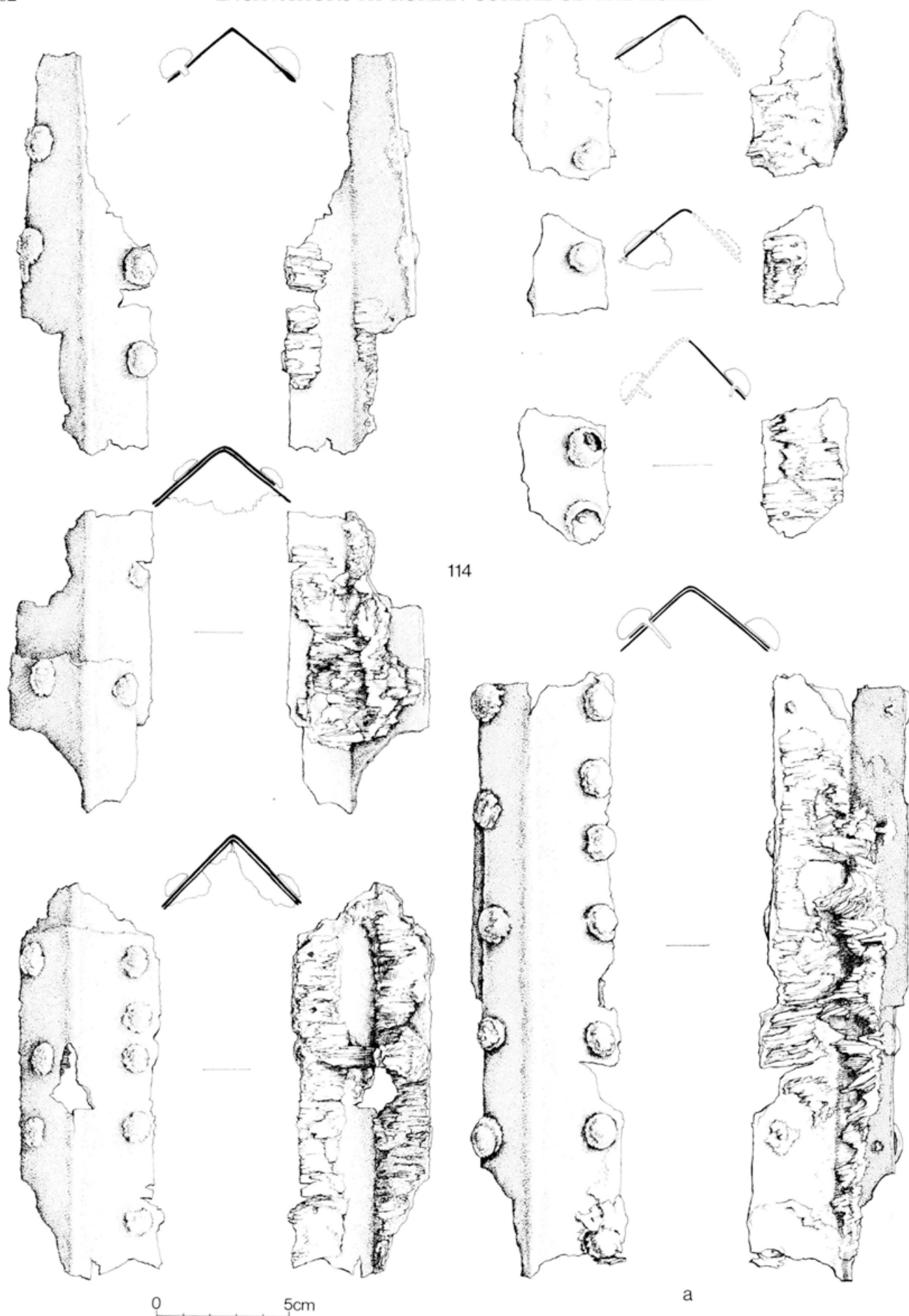


Fig 81 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicate)

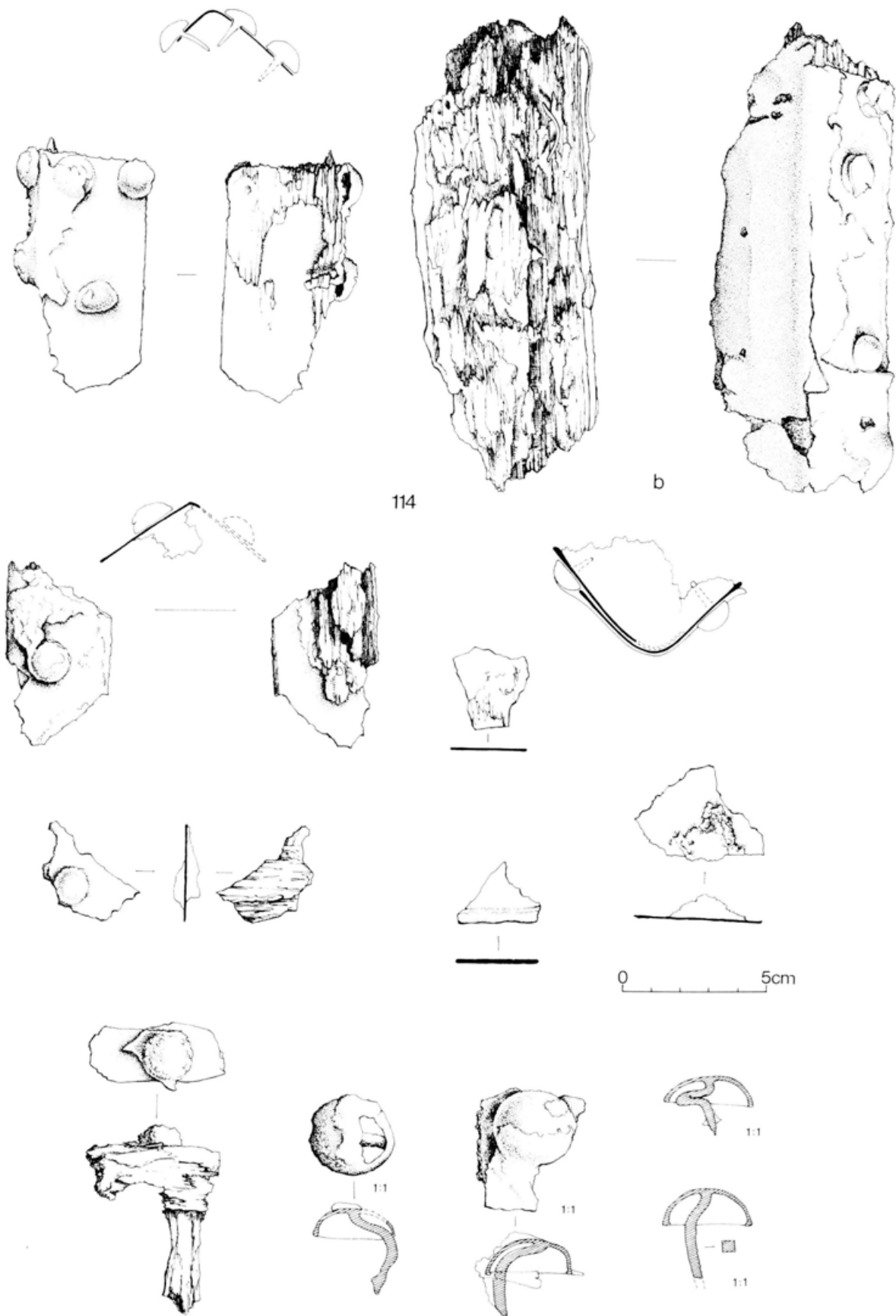


Fig 82 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



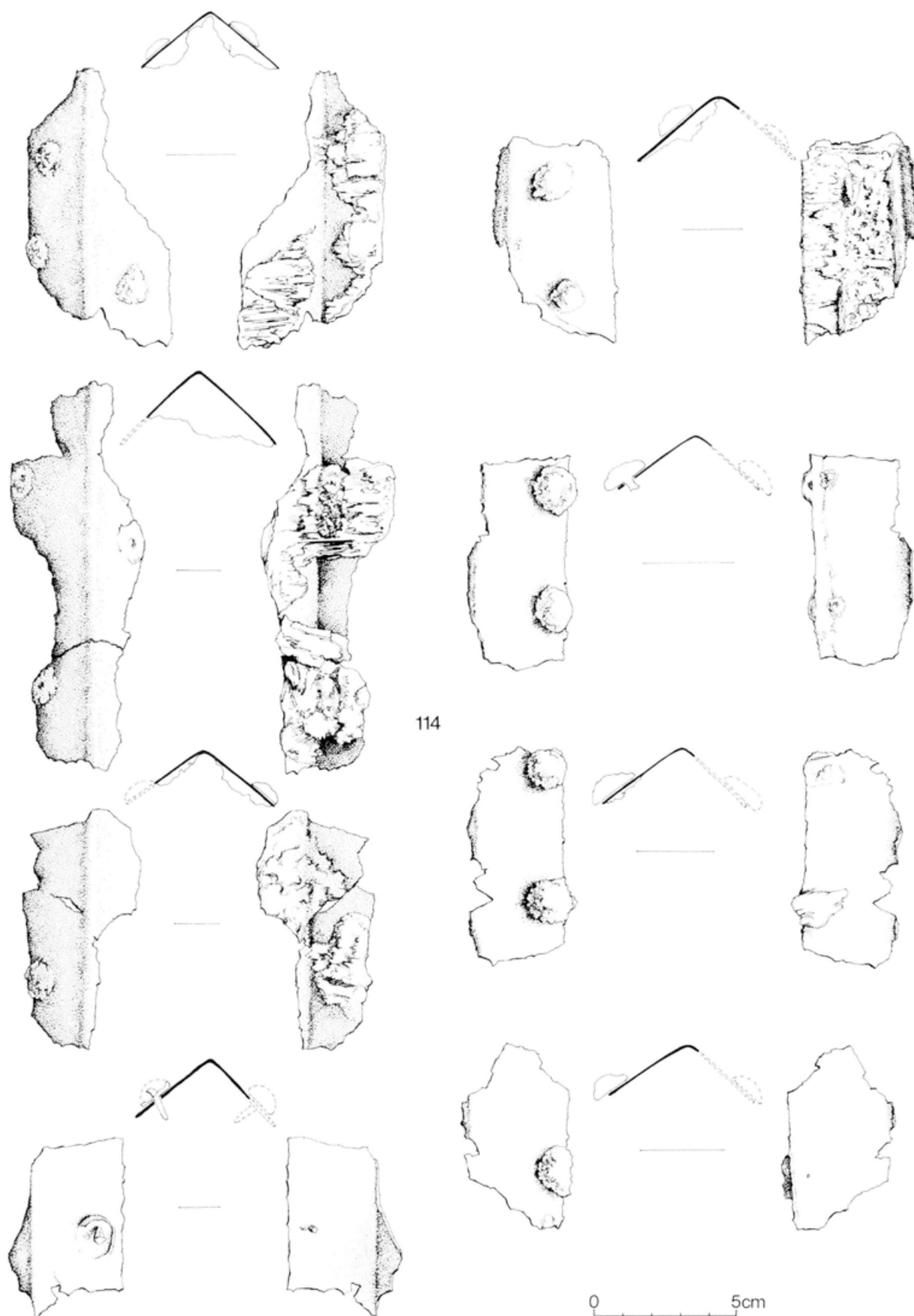


Fig 83 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

- 133 Coarse textile with nails (possibly sack containing nails). (Not illustrated)
- 134 (Fig 10) Nail.  
Length: 144mm, diameter of head: 24mm, width of shank: 13mm
- 135 (Fig 10) Nail.  
Length: 70mm, diameter of head: 23mm
- 136 (Fig 10) Disc-headed nail.  
Length: 65mm, diameter of head: 17mm
- 137 Disc-headed nail; shank set to one side; rectangular-sectioned. (Not illustrated)  
Length: 41mm
- 138 Disc-headed nail with the rectangular-sectioned shank set to one side, sandwiched between two plates of wood. (Not illustrated)  
Length: 122mm
- 139 Dome-headed nail with its rectangular-sectioned shank set to one side. (Not illustrated)  
Length: 51mm
- 140 Disc-headed nail with its rectangular-sectioned shank set to one side. (Not illustrated)  
Length: 41mm
- 141 Dome-headed nail with its rectangular-sectioned shank set to one side. There is a bulge just below the neck. (Not illustrated)  
Length: 25mm
- 142 Six disc-headed nails, and one with its shank 8×7mm; the rectangular-sectioned shank is set to one side. (Not illustrated)  
Lengths: 69mm, 27mm, 55mm, 42mm, 32mm, 45mm, 21mm
- 143 Disc-headed nail with its rectangular-sectioned shank set to one side. (Not illustrated)  
Length: 170mm
- 144 Two disc-headed nails corroded together, each with its rectangular-sectioned shank set to one side. (Not illustrated)  
Lengths: 58mm, 61mm
- 145 Two nails corroded together. One large disc-headed nail and one disc-headed 'furniture' nail with its rectangular-sectioned shank set to one side. (Not illustrated)  
Lengths: 86mm, 8mm
- 146 Disc-headed nail with its rectangular-sectioned shank set to one side. (Not illustrated)  
Length: 138mm
- 147 Disc-headed nail sandwiched between two strips of wood. It has a rectangular-sectioned shank set to one side. (Not illustrated)  
Length: 124mm
- 148 Disc-headed nail with its rectangular-sectioned shank set to one side. (Not illustrated)  
Length: 66mm
- 149 Disc-headed nail with its rectangular-sectioned shank set to one side. (Not illustrated)  
Length: 67mm
- 150 Disc-headed nail with its rectangular-sectioned shank set to one side. (Not illustrated)  
Length: 63mm
- 151 Concretion of three disc-headed nails. (Not illustrated)  
Length (longest): 40mm
- 152 Disc-headed nails. (Not illustrated)  
Lengths: 85mm, 37mm, 24mm
- 153 Concretion of three nails, one disc-headed with a piece of wood adhering. (Not illustrated)  
Lengths: 62mm (disc-headed), 70mm, 42mm
- The fragments of textile (No 348?) suggest that the groups of small nails (Nos 154 and 173–4) belonged to one mass of nails, possibly contained within a bag.
- 154 One disc-headed nail and ten assorted lumps of nails possibly from bag. (Not illustrated)  
Length (nail): 60mm
- 155 Concretion of disc-headed nails with wood. (Not illustrated)  
Lengths: 45mm, 35mm, 45mm
- 156 Several nail fragments. There is wood under the head of one, so it probably corroded *in situ*. (Not illustrated)  
Lengths: 55mm, 40mm, 41mm, 40mm
- 157 Nails (including one headless). (Not illustrated)  
Length: 100mm
- 158 Disc-headed nail. (Not illustrated)  
Length: 78mm
- 159 (Fig 86) Disc-headed nail with a rectangular-sectioned shank. Attached to No 248.  
Length: 66mm, diameter of head: 11mm, shank: 3.5×3mm
- 160 (Fig 86) Dome-headed nail.  
Length: 155mm
- 161 Large disc-headed nail attached to wood. (Not illustrated)
- 162 Disc-headed nail lying across a piece of wood. (Not illustrated)
- 163 Three nails. (Not illustrated)
- 164 (Fig 87) Disc-headed nail with a bent shank and a writing tablet fragment (No 289) and piece of

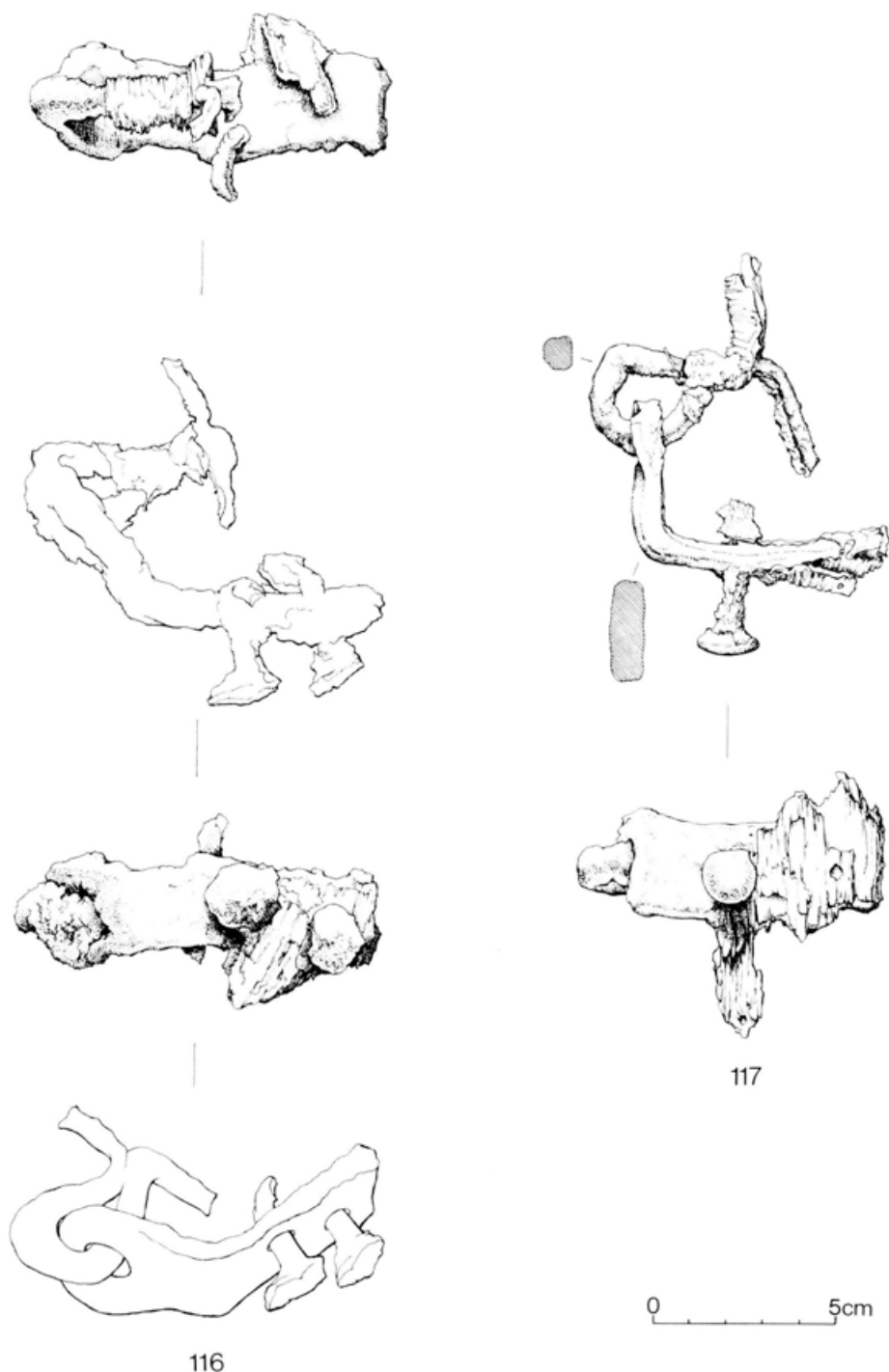


Fig 84 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

lead (No 275) attached. The hooked end and disc head have layers of heavy twill (Nos 300, 308) attached (five layers on the head).

Length (unwound): 165mm

165 (Fig 87) Large disc-headed nail attached to copper alloy and wood tankard fragment (No 293).

Length: 150mm, disc diameter: 20mm

166 Large disc-headed nail, with wood adhering to its head. It has a square-sectioned shank. (Not illustrated)

Length: 90mm, disc diameter: 35mm, thickness (shank): 12mm

167 Headless nail. (Not illustrated)

Length: 79mm

168 Headless nail. (Not illustrated)

Length: 54mm

169 Two disc-headed (and one headless) nails with various fragments. (Not illustrated)

Lengths: 82mm (disc-headed), 67mm (headless), 33mm (disc-headed)



170 Four nails, disc-headed and headless. (Not illustrated)

Lengths: 135mm (disc-headed), 70mm (disc-headed), 52mm (headless), 47mm (disc-headed)

171 Nail (staple?). (Not illustrated)

Length: 36mm

172 Nail fragments and strip. (Not illustrated)

173 Nail concretion (from bag). (Not illustrated)

174 Nail concretion (from bag). (Not illustrated)

175 Concretion of nails. (Not illustrated)

176 Concretion of nails on wood. (Not illustrated)

177 Concretion of nails. (Not illustrated)

178 Concretion of nails, mixed sizes, all disc-headed. (Not illustrated)

179 Nail fragments. (Not illustrated)

180 94 small disc-headed nail fragments. (Not illustrated)

181 53 small disc-headed nail fragments. (Not illustrated)

182 Nail fragments. (Not illustrated)

183 Bar and nails. (Not illustrated)  
Lengths: 61mm (bar), 26mm, 35mm, 21mm

184 Nail fragments. (Not illustrated)

185 Nail fragments. (Not illustrated)

186 Nail fragments. (Not illustrated)

187 Nail fragments. (Not illustrated)

188 Nail fragments. (Not illustrated)

189 Five headless nail fragments. (Not illustrated)

190 Assorted nail fragments. (Not illustrated)

191 Nail fragments. (Not illustrated)

192 Nail fragments. (Not illustrated)

193 Nail fragments. (Not illustrated)

194 Nail fragments. (Not illustrated)

195 Nail fragments. (Not illustrated)

196 Fragment of a nail. (Not illustrated)  
Length: 32mm, width: 6mm, thickness: 7mm

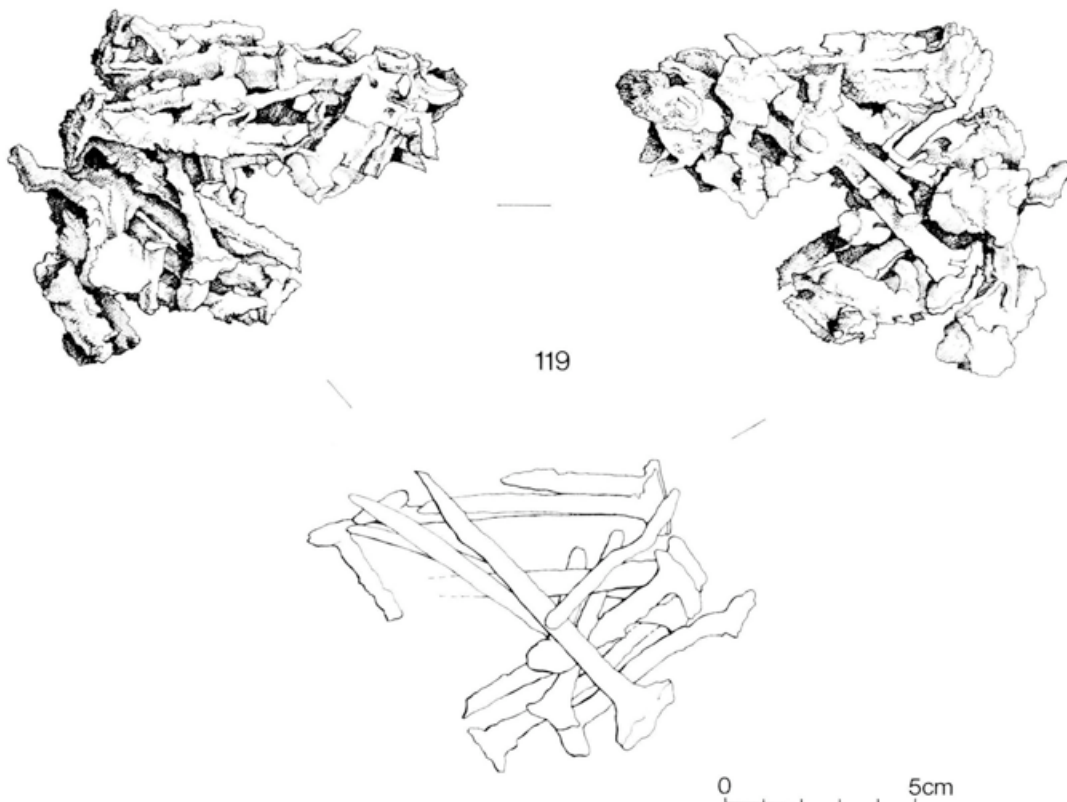


Fig 85 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

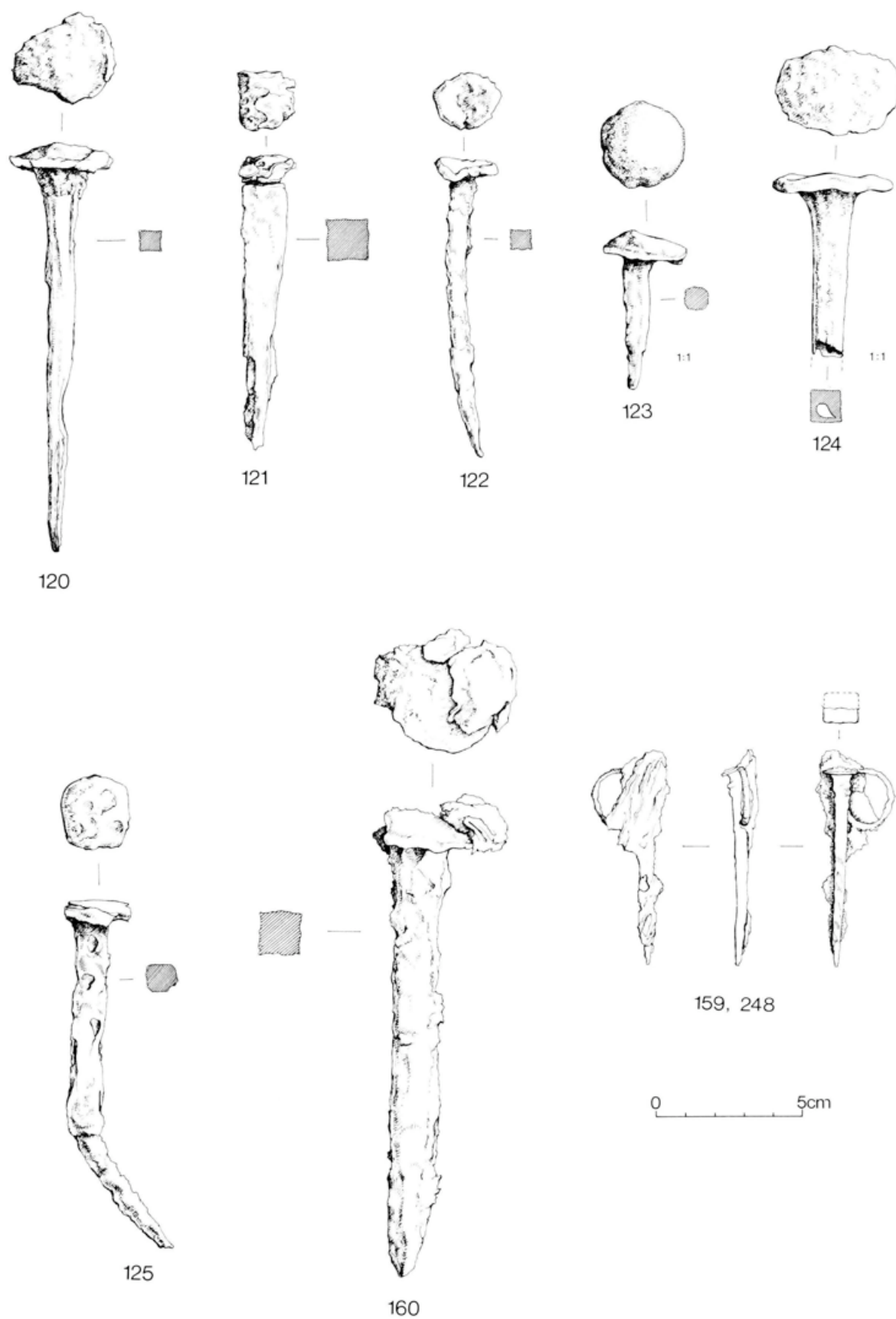


Fig 86 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

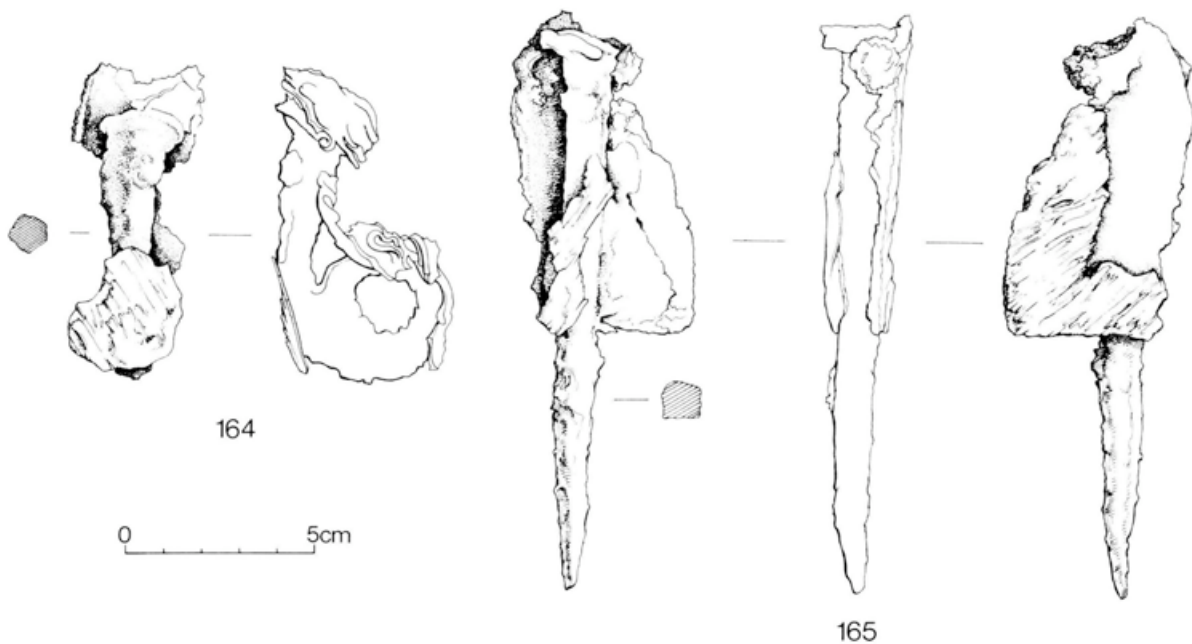


Fig 87 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

197 ?Twisted nail. According to its label: 'iron holdfast or cleat from box'. (Not illustrated)

Length: 35mm

198 Nails attached to writing tablet. (Not illustrated)

199 Two disc-headed nails; small piece of corroded copper alloy plate with hollow rib edging; wood adhering to whole. (Not illustrated)

Lengths: 50mm, 46mm

200 Lumps of corrosion products with charcoal and two disc-headed nails. (Not illustrated)

Lengths: 40mm, 60mm (bent)

201 Nails resting against fragments of writing tablet. (Not illustrated)

202 (Fig 88) Fragments of two writing tablets with a concretion of ten small iron nails attached. The ten nails are of rectangular section.

Nails: 6×4mm, thickness of wood: 4mm

203 (Fig 20) Nail fragment. Missing head and tip.

Length: 90mm

#### *Other objects*

204 (Fig 88) Two rectangular pieces of iron sheet (probably not from armour) corroded together with pieces of wood (?writing tablet) and one and two-ply string (No 360) adhering to them.

Length: 198mm, width: 43mm, length: 67mm, width: 44mm.

205 (Fig 88) Tapering bar with a rounded end. 23mm from wider end, it is pierced by a 4mm round hole.

Length: 90mm, width: 30mm, thickness: 9mm

206 Triangular-shaped object with rectangular-sectioned tang leading from the apex. Possibly a blade, but exploded from corrosion. (Not illustrated)

Length: 58mm, width: 63mm

207 (Fig 88) Triangular curved piece with at least four holes along both edges. A piece of wood is attached.

Length: 69mm, hole diameter near end: 2mm

208 (Fig 88) Crescentic piece lying on a piece of laminated wood. It tapers in thickness as well as in width.

Length: 111mm

209 (Fig 88) Folded piece riveted by two disc-headed rivets, one of which is missing.

Width: 90mm, height: 52mm

210 (Fig 89) Large plate with one curled edge. A disc-headed nail lies along this edge. Other fragments of iron project from it, but are probably not part of it.

Length: 100mm, width: 83mm, thickness: 2mm

211 (Fig 89) Sheet, ragged at the edges. There are two rivet holes roughly hammered through.

Length: 150mm, width: 32mm

212 (Fig 89) Bar, rectangular-sectioned. At the narrower end it expands to a spatulate plate (40×20mm) at right angles to the end; at the other end it bends at 90° to the spatulate end and curls up 20mm at its extremity. The spatulate end has wood on both faces.

Length: 104mm, width: 14mm, thickness: 9mm



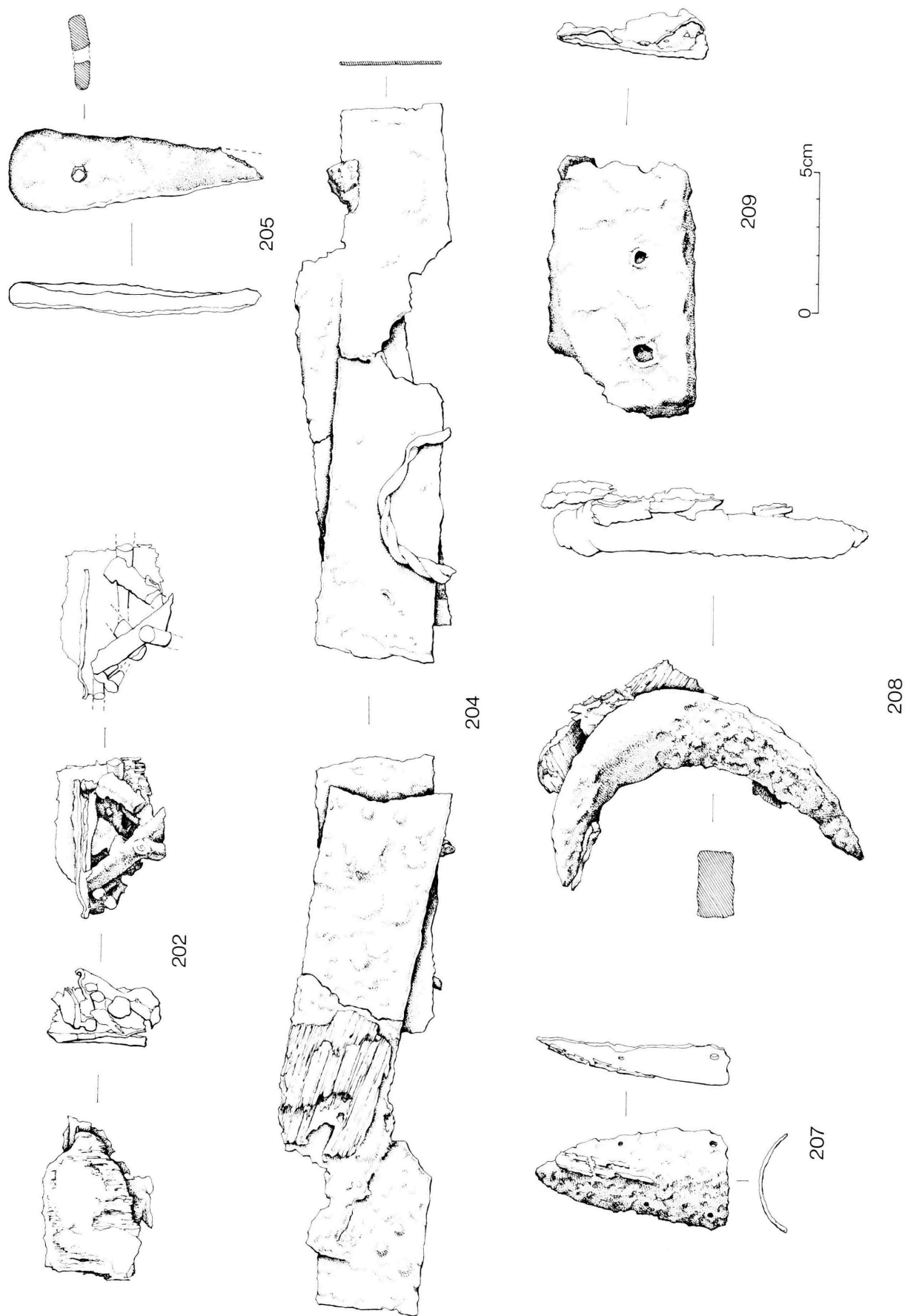


Fig 88 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

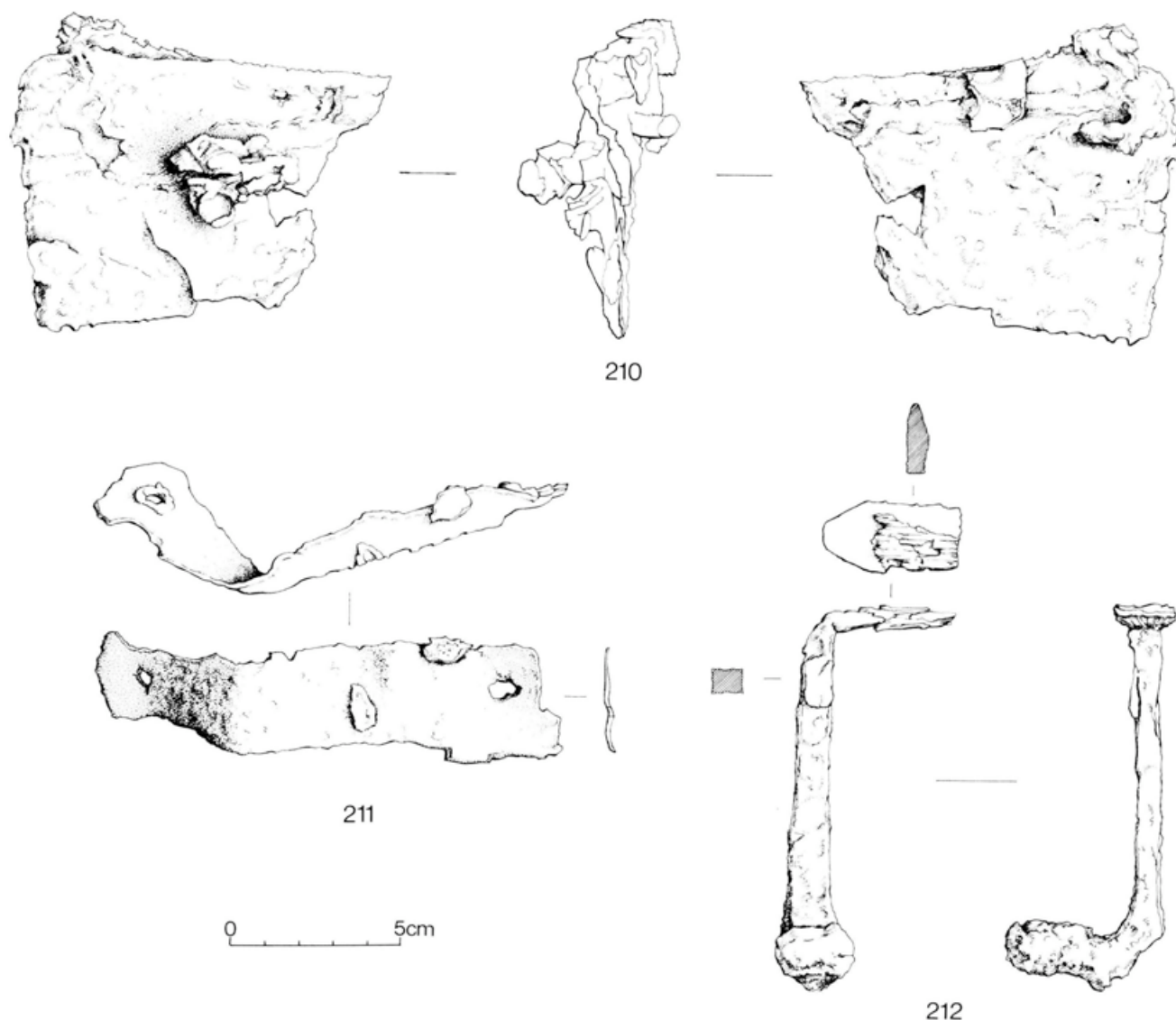


Fig 89 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

213 (Fig 90) Large bar of rectangular section with both ends cut to an angle.

Length: 386mm, width: 28mm, thickness: 14mm

214 (Fig 90) Bar with rounded ends. The narrower end is bent and has been perforated by a 5mm hole.

Length (unbent): 102mm, width: 30mm

215 (Fig 90) Rectangular bar, slightly curved and tapering to one end.

Length: 94mm, width: 21mm, thickness: 8mm

216 (Fig 90) Curved bar. A concretion of small disc-headed nails and a fragment of writing tablet are attached to one rounded end. The other end is slightly splayed and blunt.

Length: 150mm, width: 23mm, thickness: 4mm, diameter of nail heads: 12mm

217 (Fig 90) Curved bar of rectangular section flattened to a splayed end, with fragments of cloth attached.

Length: 125mm, maximum width: 21mm, maximum thickness: 13mm

218 (Fig 91) Curved bar of rectangular section, with several fragments of writing tablet and leather attached. Possibly a handle lacking its terminals, but more likely part of a large hoop from a barrel or wheel. See Nos 219–20.

Width across ends: 240mm, height of curve: 113mm

219 (Fig 91) Curved bar of rectangular section, possibly part of the same hoop as above.

Length: 252mm, width: 16mm, thickness: 15mm

220 (Fig 92) Curved bar of rectangular section. Probably part of a large barrel or wheel hoop.

Length: 398mm, width: 72mm, width: 16mm, thickness: 12mm

221 (Figs 11) Bar. Part of a bundle.

Length: c 166mm

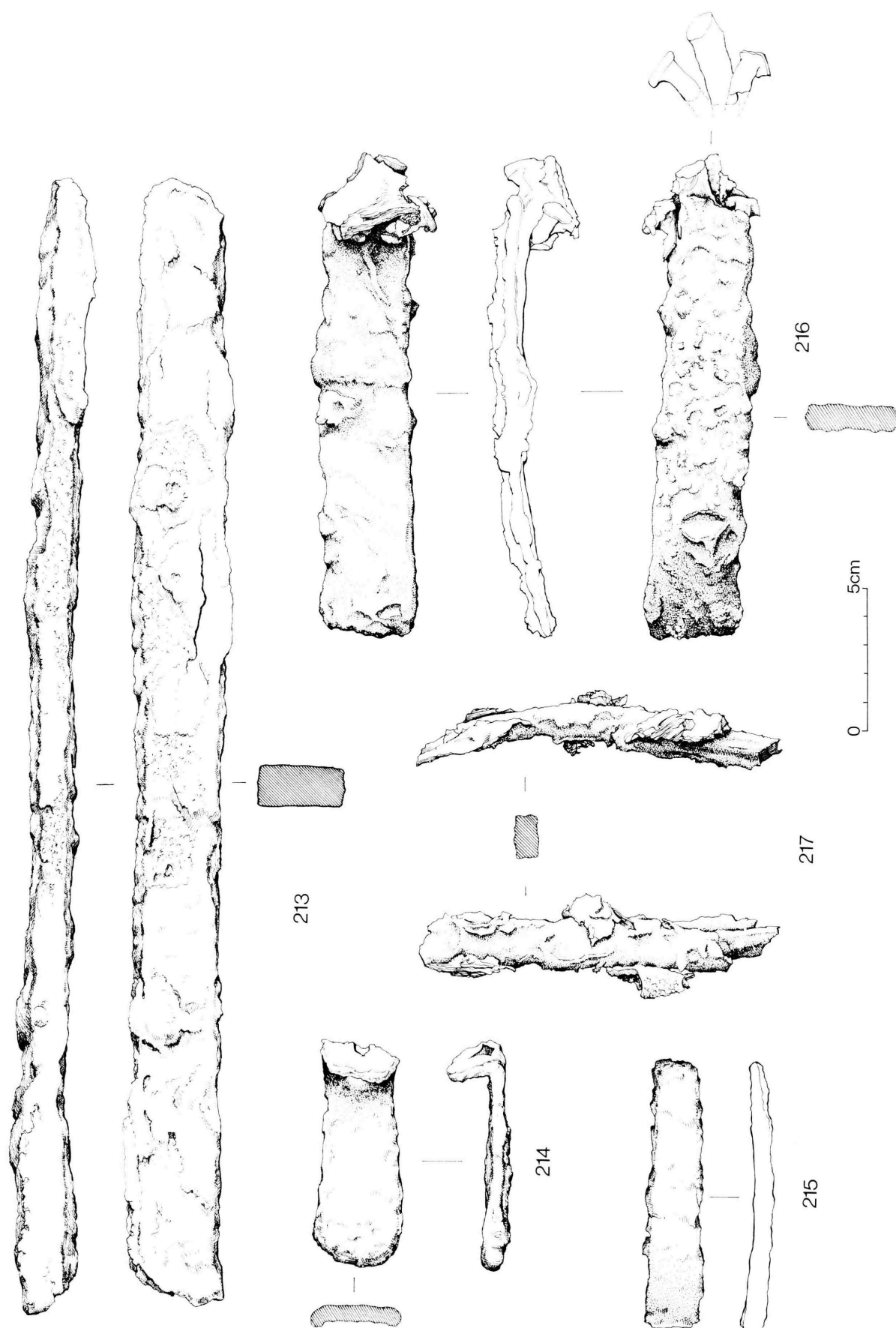


Fig 90 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



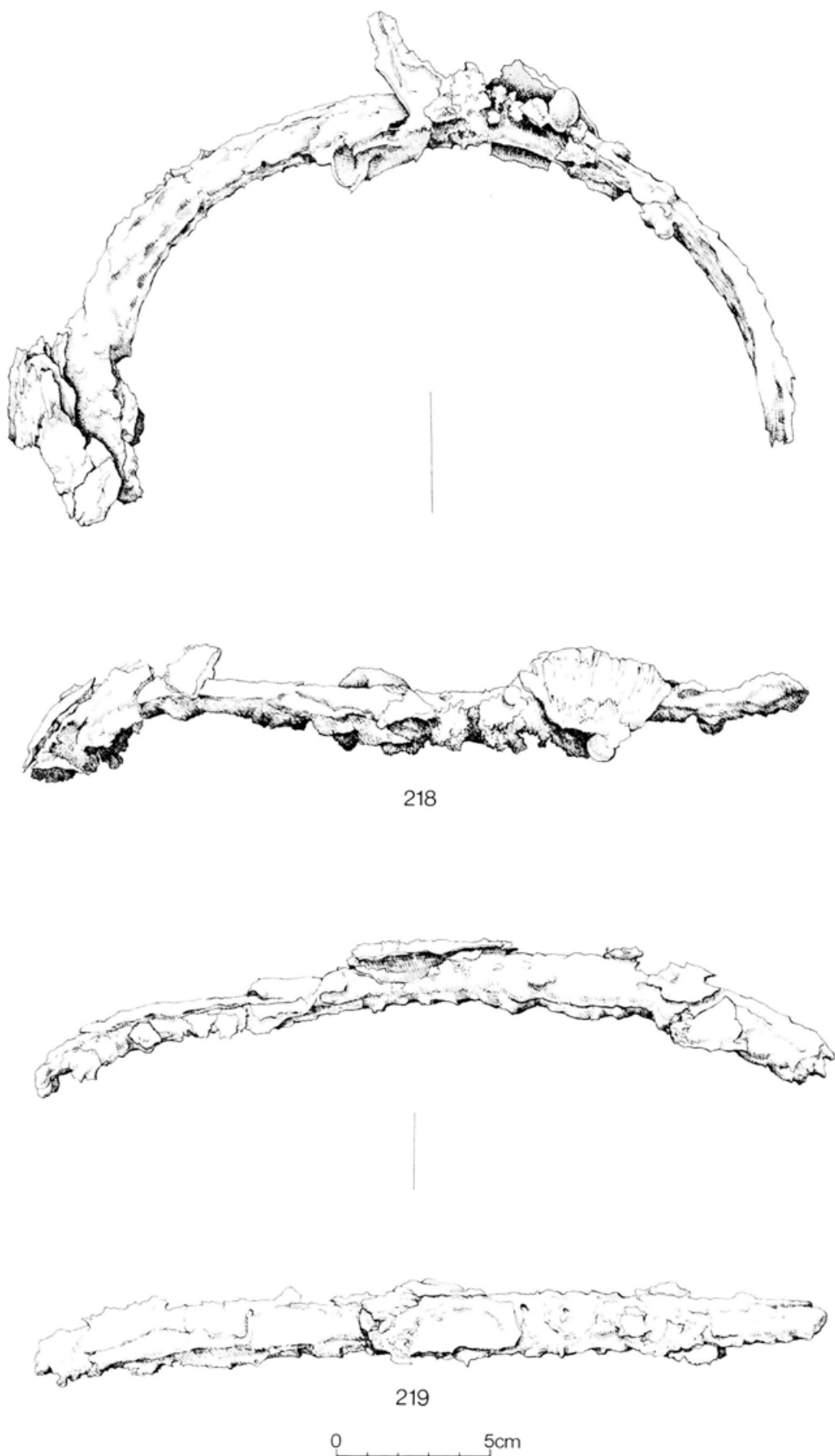


Fig 91 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



Fig 92 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

222 (Figs 11) Rod. Part of a bundle.  
Length: c 65mm

223 (Fig 10) Rod.  
Length: 46mm, thickness: 5mm

224 Rectangular-sectioned rod tapering to a splayed end. (Not illustrated)  
Length: 67mm


225 'Residual material'; strip fragments and wood. (Not illustrated)

226 Fragments. (Not illustrated)

227 Fragments. (Not illustrated)

## Copper alloy objects

### *Military fittings*

228  Scabbard. Made from one sheet of metal and bent to shape, the seam being covered with a long strip with a median rib. The strip is held in place by a series of disc-headed rivets arranged in an alternating pattern of two oblique groups and one horizontal group. At the base, the main strip is replaced by a plain sheet with randomly placed rivets, apparently a crude repair. It is uncertain whether the seam was on the front or rear face of the object and no trace remains of the method of suspension. The end of the scabbard is cut straight across and has two small holes, presumably to secure the missing chape – no chape was found in the chest. There are slight traces of tinning on the face with the seam and, at one point, a minor change in the surface patination may indicate the line of a missing suspension loop band.

This example is unusual in that it is neither a standard Roman sheath nor a traditional La Tène type (Piggott 1950), although the long decorative strip is reminiscent of the La Tène III scabbard from Isleham (Stead *et al* 1980, 61–74), Witham, and Battersea (Fox 1958, fig 73). The size of the void (c 700×70mm tapering to 30mm) makes it likely that this was intended for a sword of the *spatha* type and was thus, presumably, a cavalryman's weapon. The blade of such a sword would have been longer than the *spathae* from Newstead (580mm and 620mm – Curle 1911, pl XXXIV.6 and 7) but still shorter than one from Rottweil (860mm – Planck 1975, Taf 79.3). A sword from Wesólki in Poland (Dabrowski and Kolendo 1972, 63, fig 2) may be an example of this type of weapon, and there is a similar piece from Amerongen on the Rhine (Braat 1967, 61 and Taf V.3).

Length: 740mm, maximum width: 72mm, minimum width: 34mm, length of decorated strip: 522mm, length of plain strip: 108mm, total length of strips: 630mm

229 (Fig 94) Part of a sword scabbard suspension loop band, consisting of part of the front face and the end loop. The rounded end is pierced by an off-centre aperture 2.5mm diameter, used for securing the band to the rear face of the sheath. There is a median double rib-and-groove motif on the loop and a complex series of rib-and-groove decorations on the face (cf Rheingönheim: Ulbert 1969, Taf 31.3; Windisch: Unz 1973, Abb 6, 26–7).

Length: 55mm, width: 12mm, thickness: 0.5mm.

230 (Fig 94) Part of a sword scabbard suspension loop band, with the rear face and end loop surviving. The rear face is plain, but the loop has rib-and-groove decoration (cf Aislingen: Ulbert 1959, Taf 18.19–20).

Length: 65mm, width: 12mm

231 (Fig 94) Lobate cuirass hinge with triangular piercing. One disc-headed rivet survives on one lobe with another one (also disc-headed) at the shoulder. It is now only a single thickness sheet, broken at the hinge (cf Rheingönheim: Ulbert 1969, Taf 33.1; Colchester Sheepen: Niblett 1985, fig 65.48).

Length: 44mm, width: 29mm

232 (Fig 94) Cuirass tie-hook. The plate is broad-shouldered (which is unusual – most examples either have curved or parallel straight sides) and shows slight dishing around the two holes, with no trace of ring decoration. This object clearly shows that the loop has been formed by rolling one end of the sheet of metal, since two seams are still visible. A similar phenomenon is visible on an unpublished piece from Castleford, West Yorkshire (cf Hofheim: Ritterling 1913, Taf XI.2).

Length: 43mm, width: 15mm, diameter of holes: 3mm

233 (Fig 94) Fragment of a corner strip of U-sectioned binding, probably from a helmet cheek-piece (Robinson 1975, pls 204–33); (cf Oberstimm: Schönberger 1978, Taf 19.74).

Length (around curve): 95mm, depth: 4.5mm, width: 4mm

234 (Fig 94) Rectangular copper alloy belt plate with a stubby shank projecting from each corner at the back. At the edge, a double groove forms a frame, the lines crossing at the corners and each complicated by transverse nicks spaced irregularly. A central rectangular field has a row of seven raised lozenges creating triangular cells above and below for white or yellow opaque enamel. Each lozenge encloses a circular field of pale turquoise or white opaque enamel. The plate curves slightly along its length.

A number of similar pieces from Upper Germany and the Raetian *limes* have been dated to the first half of the second century AD by Oldenstein (1976, 197–8 and Taf 64.827–31). It is possible that the more elaborate enamelled openwork belt-plates such as that from Vimose in Denmark (Henry 1933, fig 38.4) were being copied. See below (p 105) for a discussion of the dating of this piece.

Length: 47mm, width: 18mm, height: 6mm



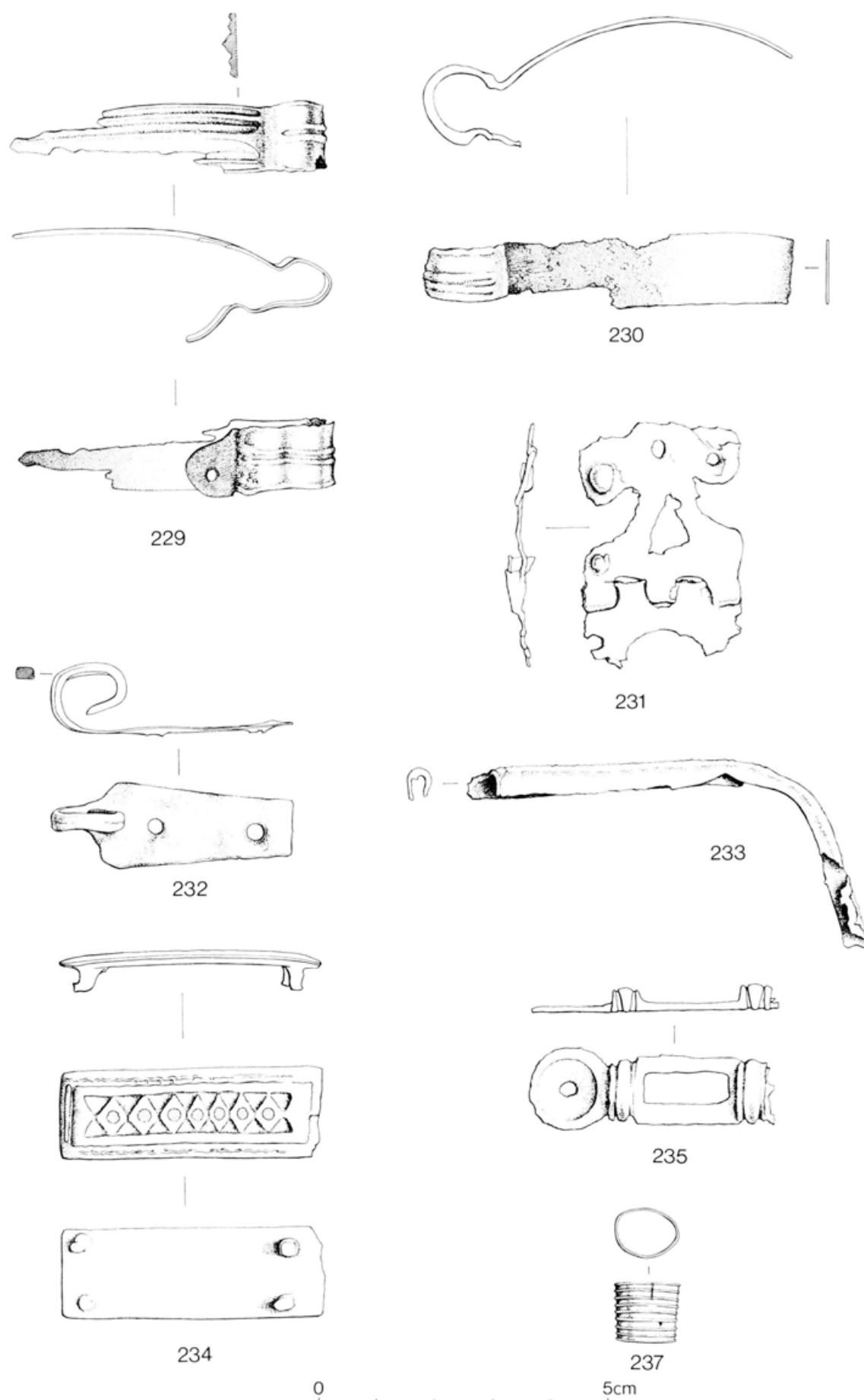


Fig 94 Corbridge Hoard: copper alloy objects (scale 1:2 unless otherwise indicated)

235 (Fig 94) Horse harness strap fastener (female) with a rectangular aperture and circular countersunk rivet hole. The method of use is illustrated by an *in situ* male fastener from Doorwerth (Brouwer 1982, Taf 2.144). This particular form, one of the 'spectacle'-type strap mounts (Bishop forthcoming) is rarer than the 'keyhole' type of female fastener (Brouwer 1982, Taf 10.276; for a male 'spectacle' fastener from Silchester see Boon 1969, fig 5.17). There are a number of 'spectacle' type strap fittings from pre-war excavations in the museum at Corbridge (Acc nos 75.1338-42, 1344); (cf Hofheim: Ritterling 1913, Taf XIII.19; Baden: Unz 1971, Abb 5, 42).

Length: 43mm, width: 14mm, length of aperture: 15mm, width of aperture: 5mm

236 Shallow boss stud with marginal groove. There is a fragmentary shank at the rear. (Not illustrated)

Diameter: 12mm

237 (Fig 94) Small collar with rilled outer face. Such objects are common finds on military sites (though apparently not on those of the second or third century AD Upper German-Raetian *limes*), but their purpose remains unknown (cf Hofheim: Ritterling 1913, Taf XVI.32; Colchester, Sheepen: Niblett 1985, fig 72.109).

Length: 10mm, external diameter: 10mm, thickness: 0.25mm

### Furniture fittings

238 (Fig 95) Heavily leaded chair leg decoration; hollow tube with heavy ridge-and-groove decoration along its length expanding to a central flange, the 'underside' of which has incised concentric circle decoration.

The closest parallel can be seen on a folding stool from Nijmegen, Holland (Liversidge 1955, 33-4, figs

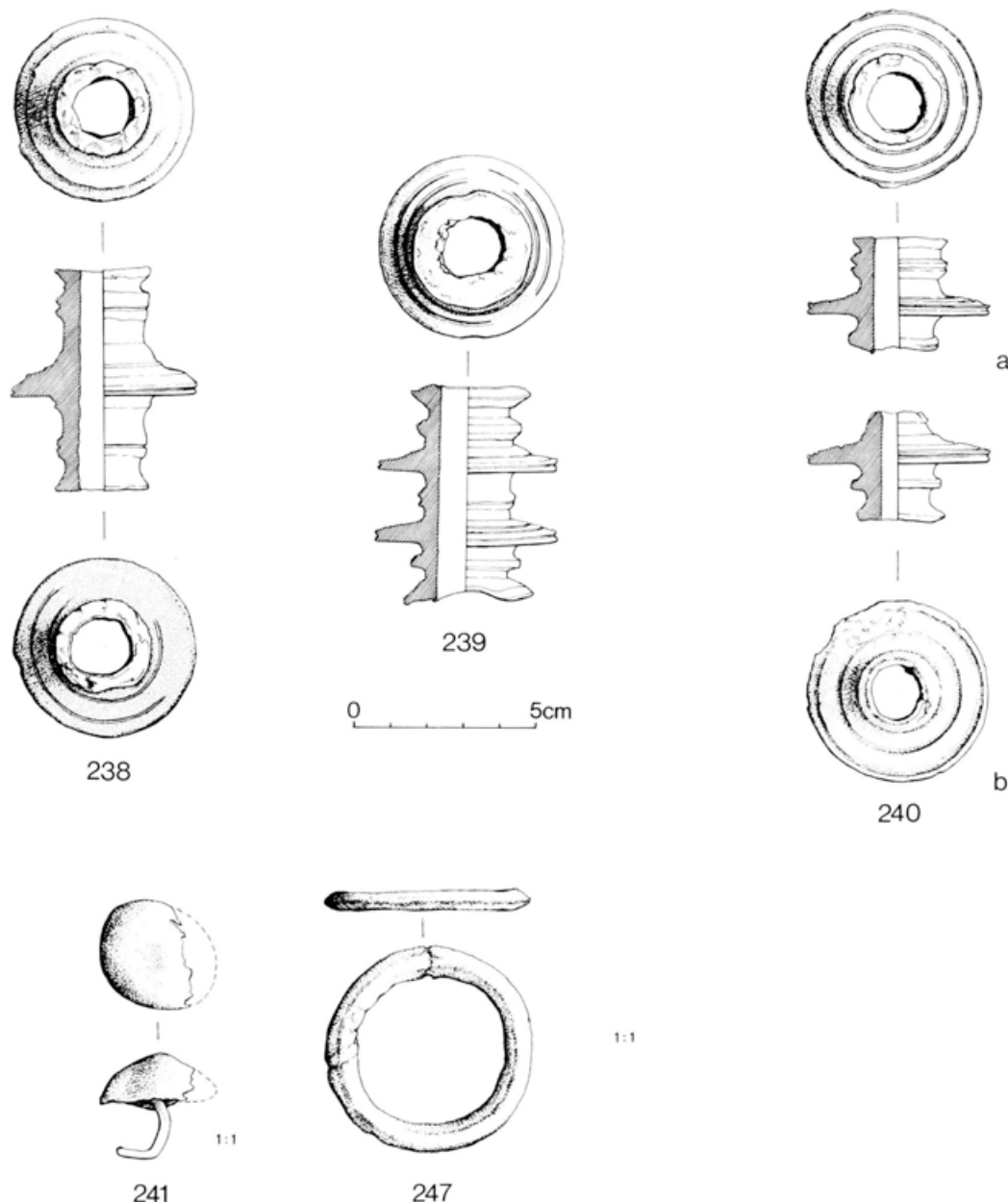


Fig 95 Corbridge Hoard: copper alloy objects (scale 1:2 unless otherwise indicated)

40, 41), where several flanged brass tubes are slotted onto the five iron rods which join the folding legs. Iron rods with incorporated flanges were found in a Flavian context at Newstead (Curle 1911, pl LXIV.1–2, 4–5), apparently copying the iron and brass composite rods of Nijmegen and Corbridge. None of the central holes in the chair flanges from Corbridge is circular nor do they show any sign of wear. The ends are split and distorted, and it would appear that these are workshop rejects.

For a general discussion of folding stools, see Liversidge 1955, 28–34.

Length: 60mm, top diameter: 27mm, bottom diameter: 27mm, flange diameter: 52mm

239 (Fig 95) Heavily leaded chair leg decoration; there are two shank flanges (48mm diameter and 50mm diameter) with incised concentric circle decoration on both faces and a groove along their edges; the shank expands to heavy ridges in between the flanges and before the expanded ends.

Length: 55mm, top diameter: 32mm, bottom diameter: 36mm

240 (Fig 95) Heavily leaded chair leg decoration of the same type as No 239, now in two pieces.

The first piece (a) has a heavy ridge just below one end and that and the shank flange both have an edge groove; the shank flange has concentric circle decoration on both faces.

Length: 27mm, diameter at one end: 26mm, diameter at other end: 19mm, diameter shank flange: 51mm

The second piece (b) has incised concentric circle decoration on both faces of the flange; the terminal, the shank flange, and the rib below the other terminal have edged grooves.

Length: 30mm, diameter at one end: 26mm, diameter at other end: 25mm, diameter shank flange: 48mm

### *Studs*

241 (Fig 95) Domed stud (from ?box edging) with a rectangular-sectioned shank.

Diameter: 16mm, length of shank: 20mm

242 Flat disc stud with hardly any shank surviving. (Not illustrated)

Diameter: 13mm

243 Disc stud with fragmentary shank. (Not illustrated)

Diameter: 13mm

244 Disc stud with wood on rear. (Not illustrated)

Diameter: 19mm

245 Fragmentary disc-headed stud. (Not illustrated)

Diameter: 13mm

246 Fragmentary disc-headed stud. (Not illustrated)

Diameter: 18mm

### *Other objects*

247 (Fig 95) Annular ring of oval section.

Diameter: 28mm, width: 4mm, thickness: 4mm

248 (Fig 86) Annular ring of oval section. Attached to No 159.

Diameter: 18mm, width: 1.25mm, thickness: 2mm

249 Disc fragment. A piece of textile (No 318) was attached to it (subsequently removed). (Not illustrated)

Diameter: 50mm, thickness: 0.25mm

250 (Figs 96–7) Undulating rectangular strip with slightly curved edges. Both ends are roughly cut, as though pieces have been removed for use. Hammer marks are clearly visible on the rear, concave face, running both laterally and longitudinally. There are also traces of file marks. The convex face is, in parts, scored with a line running along each of the long sides.

Length: 375mm, width: 42mm, thickness: 1mm

251 (Fig 97) Conical terminal with incised concentric circles around its upper face and the edge of the flange. There is a square-sectioned iron shank (4mm across) passing right through the object, collared by the copper alloy past the flange (cf Mainz: Behrens 1912, Abb 5, 22)

Length: 10mm, diameter: 27mm

252 (Fig 97) Hook, oval in section, squashed at end.

Length: 38mm, width across hook: 18mm

253 (Fig 97) Globular-headed nail with rectangular-sectioned shank.

Length: 45mm, head diameter: 9mm, shank thickness: 2.5×3mm

254 (Fig 97) Globular-headed nail with rectangular-sectioned shank, roughly trimmed around the neck.

Length: 24mm, head diameter: 9mm, shank thickness: 2.5mm

255 (Fig 97) Rough block, rectangular in section.

Length: 42mm, width: 16mm, thickness: 10mm

256 (Fig 97) Band with repoussé decoration, consisting of raised edges and a median row of ring-and-boss motifs arranged at irregular intervals. The band is curved throughout, but more so at both ends. There is a circular hole at each corner and a fifth on one edge in the middle (cf Llyn Cerrig Bach: Fox 1945, 69 and pl XXVII.B; Newstead: Curle 1911, pl LXXXI.18).

Length: 131mm, width: 24mm

257 (Fig 98) Two fragments of strip. The smaller piece has a hollow rib around the outside and is pierced by two circular holes; the larger is a tapering strip with a hollow rib along both edges and has four





Fig 96 Copper alloy strip (Catalogue 250) from the Hoard, showing clear traces of hammer marks on its concave face

repoussé ring-and-boss motifs. There is a circular hole pierced through without regard to the decoration.

Length: 25mm, length: 47mm, width: 18mm

258 Two fragments of strip with ring-and-boss motifs. (Not illustrated)

259 Head of 'drawing pin'; (now missing from its envelope). (Not illustrated)

260 Corroded fragment with one long edge curved over. Possibly from the rear of the copper alloy scabbard (No 228 – although the corrosion products look different). (Not illustrated)

261 Fragment. (Not illustrated)

262 Fragment. (Not illustrated)

263 Two corroded lumps, shaped. (Not illustrated)

264 Fragments of copper alloy and iron. (Not illustrated)

### *Lead objects*

265 (Fig 98) Large bowl with rough triangular projection from one edge. The projection is flat and irregular and cannot have been intended as a pouring lip, but it might have been used for keying the bowl

into position in a bench to stop it spinning when in use. Tool marks are visible on the inner surface.

Diameter: 155mm, height: 56mm, thickness (varies): 4mm

266 (Fig 98) Thin rectangular sheet folded in half and then half again.

Width: 84mm, thickness (sheet): 1mm

267 (Fig 98) Thick sheet cut to shape and folded over.

Length (unfolded): 110mm

268 Thick rectangular strip folded in half, with one cut edge. (Not illustrated)

Length (unfolded): 232mm, width: 47mm

269 (Fig 98) Thick triangular offcut.

Length: 70mm, thickness: 9mm

270 Thick triangular offcut of sheet. (Not illustrated)

Length: 100mm

271 (Fig 98) Offcut.

272 Lump of galena. (Not illustrated)

273 Dribble. (Not illustrated)

274 Fragments. (Not illustrated)

275 Fragments. (Not illustrated)

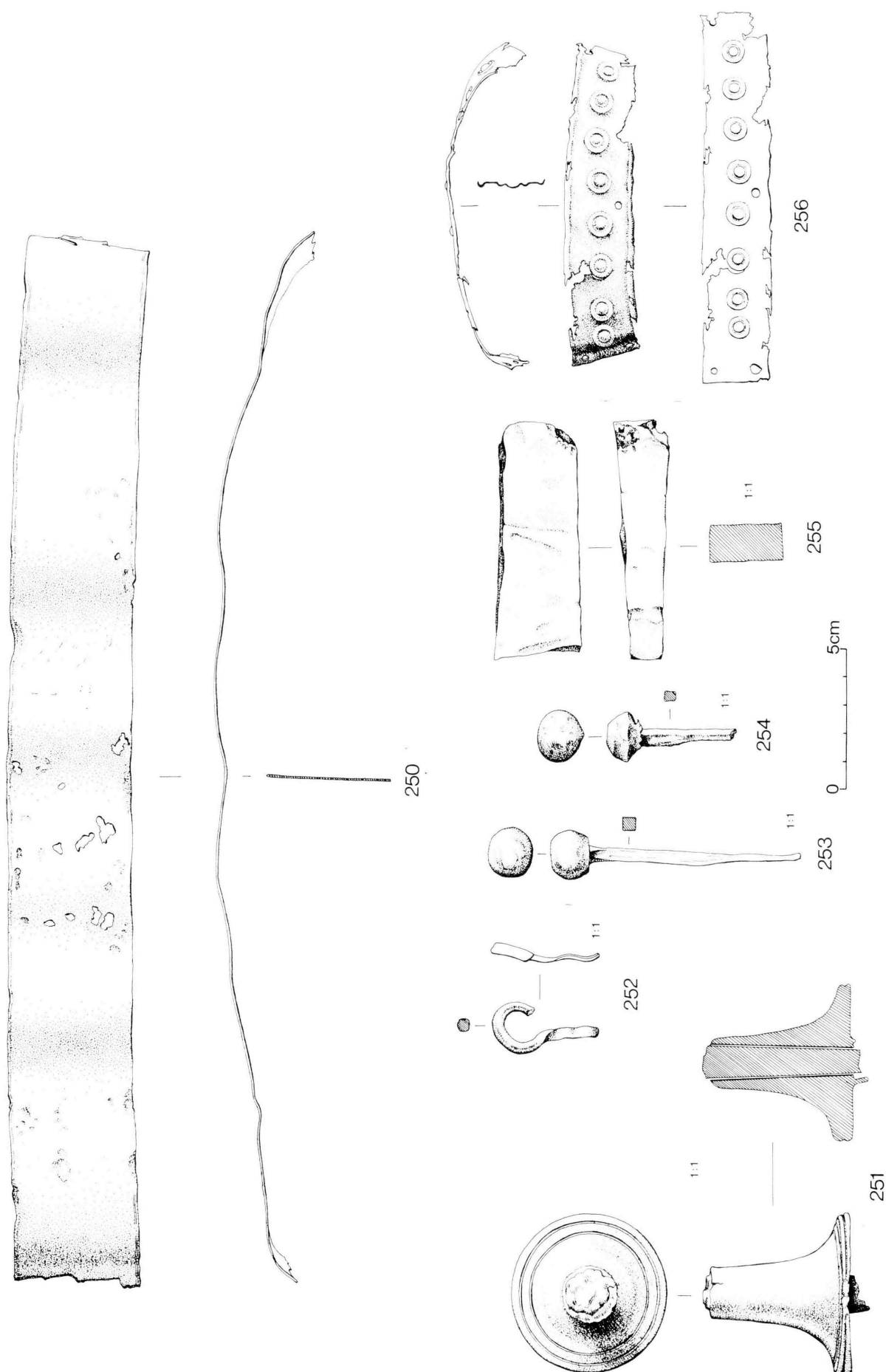


Fig 97 Corbridge Hoard: copper alloy objects (scale 1:2 unless otherwise indicated)

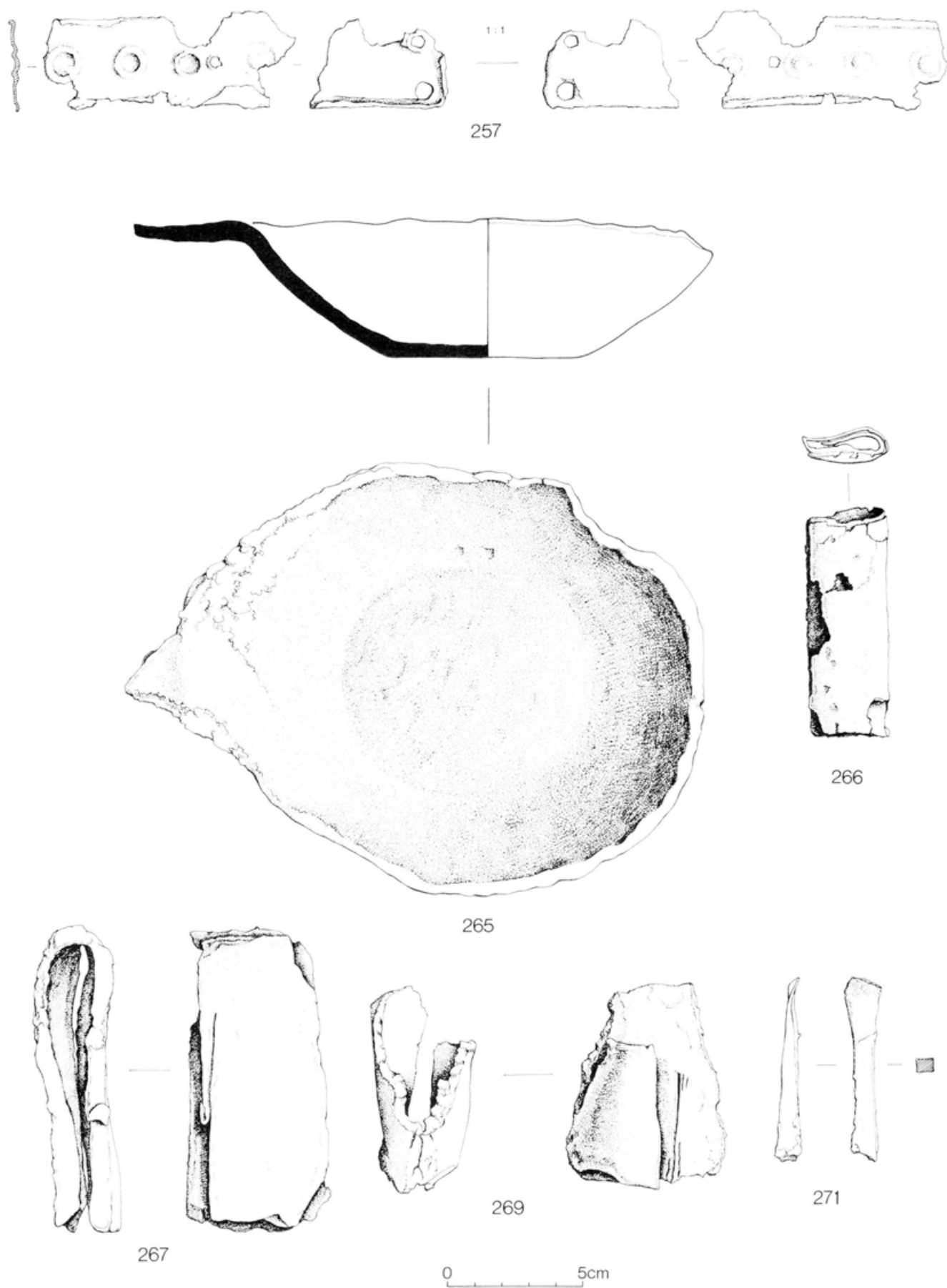


Fig 98 Corbridge Hoard: copper alloy and lead objects (scale 1:2 unless otherwise indicated)



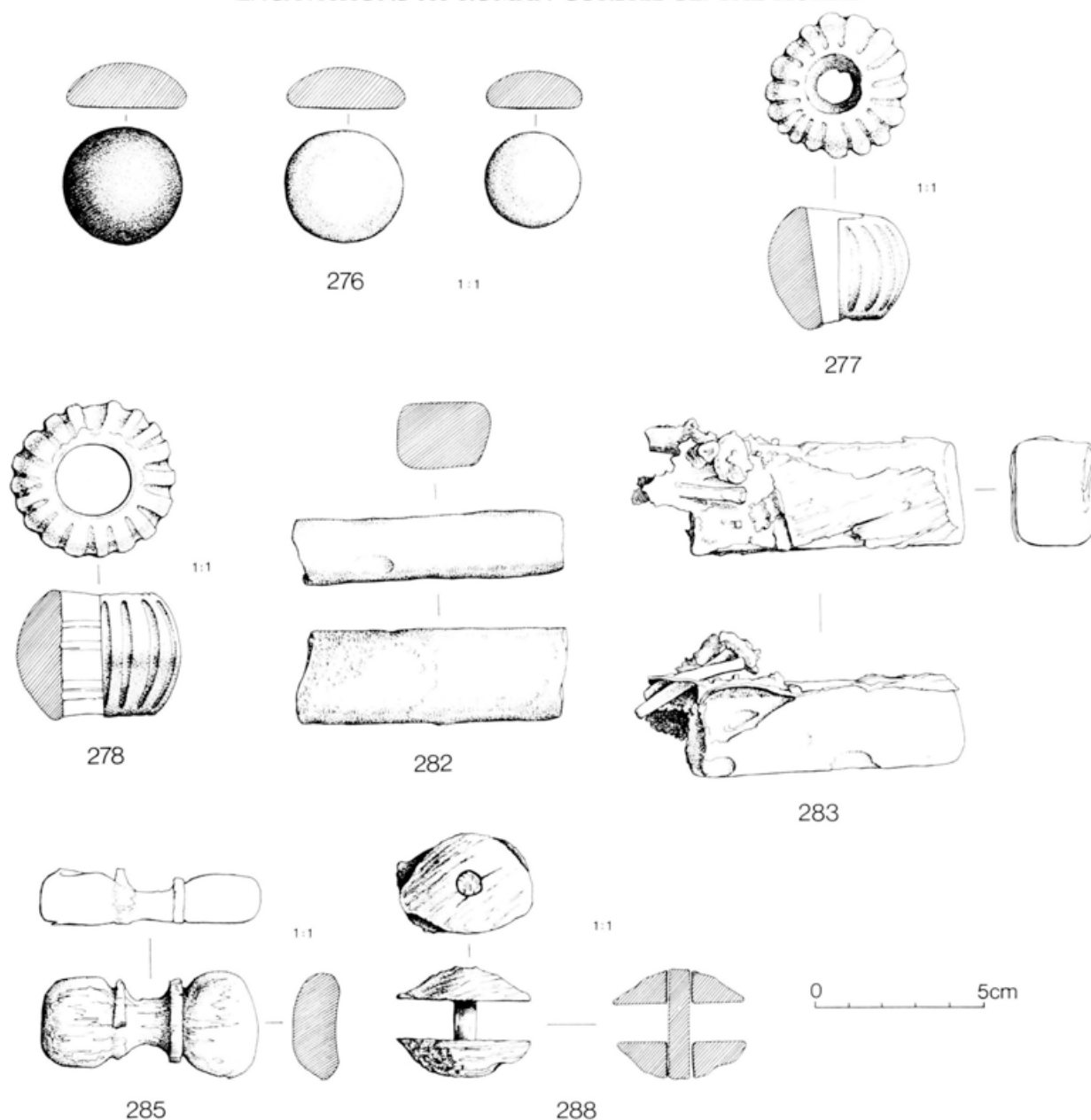


Fig 99 Corbridge Hoard: glass, stone, and bone and antler objects (scale 1:2 unless otherwise indicated)

### Glass

276 (Fig 99) Gaming counters (23 black, 31 white), all bun-shaped and opaque. The counters come from a variety of contexts:

Context	Black	White
21	1	2
22	1	—
135	—	1
136	4	9
171a	11	11
171c	2	1
171d	4	5
181	—	1
17[?]	—	1

Glass counters have been found individually on the main site but this is the only group which could be

seen as a complete, or nearly complete, set. According to Ovid (*Ars Amatoria* II, 208; *Trist* II, 478–80), coloured counters of glass called *calculi*, *latrones*, or *milites* were used for the game *ludus latrunculorum* – the ‘soldiers’ game’. This was played on a squared board (*Laus Pisonis* lines 192–205), several of which have been found at Corbridge (Austin 1935, 26–7). Isidore (*Orig* XVIII, 60ff) discusses *tabula* or *alea*, a game similar to modern backgammon in which each player had fifteen pieces, as opposed to the sixteen required by each player of *ludus latrunculorum*. The discovery of 47 glass counters may suggest a compendium of several games, rather than a set for one particular game.

The counters vary in size from 12mm to 22mm in diameter.

277 (Fig 99) Royal blue melon bead. Very few glass beads were found during the excavations at Cor-

bridge and the majority of those are melon beads (see Bishop and Dore forthcoming, Chapter 10). Guido (1978, 100) has demonstrated that melon beads appear to be confined in Britain to the Flavian and Antonine periods, before disappearing, to re-emerge in post-Roman times. The melon beads from the rest of the site are mostly opaque turquoise, but one (Bishop and Dore forthcoming, Glass, No 18) is similar to this example.

Length: 18mm, diameter: 21mm, internal diameter of hole: 9mm, tapering to 5mm

278 (Fig 99) Turquoise blue glass-paste melon bead with brighter blue outer coating.

Length: 20mm, diameter: 24mm, internal diameter of hole: 13mm

279 Six fragments of window glass. (Not illustrated)  
Thickness: 3.5mm

280 Window glass fragments. (Not illustrated)

281 Three fragments of window glass. (Not illustrated)  
Thickness: 3mm

### Stone

282 (Fig 99) Whetstone, rectangular in shape and section, with rounded edges. Micaceous sandstone. There is little sign of wear.

Length: 78mm, width: 28mm, thickness: 17mm

283 (Fig 99) Whetstone, rectangular in section and shape with slightly oblique ends. Pieces of wood and a concretion of nails (one being 35mm long with an 18mm diameter head) adhere. There is little sign of wear.

Length: 81mm, width: 30mm, thickness: 25mm

### Bone and antler

284 Two pieces of unworked red deer antler. (Not illustrated)

285 (Fig 99) Bone or antler dumb-bell button, split down a plane, so incomplete. The ends are globular with pronounced collars. There is iron staining.

Copper alloy was more commonly used for making dumb-bell buttons, although bone and antler are known, particularly in the north. M MacGregor (1976, 134), in her discussion of both types, has suggested a late first to early third century date.

Length: 32mm, width: 15mm

286 Long bone of medium-sized animal, adhering to disc-headed nail and pieces of writing tablet and wood. (Not illustrated)

Length (bone): 91mm, length (nail): c 70mm

287 Ox scapula with the edges trimmed flat and pierced by a circular hole at the apex. MacGregor

(1985, 179) has suggested that such tools were used as scoops, probably for flour. An example from Billingsgate, London, is inscribed (Jones and Rhodes 1980, 93, no 490). They are common throughout the Roman period and are also known in Viking contexts. (Not illustrated)

Length: 141mm

288 (Fig 99) Bone stud. Two oval plates with convex outer faces are held together by 3mm diameter bone rivet which holds them 5mm apart.

Length: 16mm, width: 19mm, thickness: 15mm

### Wood

#### Writing tablets

Fragments of at least three wax tablets (*cerae*) were found in the Hoard. None of these survives intact, so each of the recognised tablets is briefly described, with a list of its component context numbers, using the working sketches made at the time of unpacking (see Figs 100–1 and Chapter 5 below for further details of the reconstruction of the tablets).

289 (Fig 100) b and c overlie a.

a: includes border (5mm broad) and inscribed fragment (130). At least 40×105mm.

b: includes border (5mm broad) (87). At least 90×100mm.

c: At least 40×50mm.

290 (Fig 101) b overlies a.

a: includes one section of edge (104, 124 and 136, and 145) 92mm long (border 8mm broad), corner, and part of the adjoining edge (124 and 136), as well as an inscribed fragment (145). At least 95×95mm.

b: At least 80×85mm.

291 (Fig 101) Includes one border (81) and an inscribed fragment (84). At least 75×75mm.

#### Other objects

292 (Fig 102) Lathe-turned tubular box with a slightly raised base of considerable thickness which rises to a dimpled peak internally. The sides are straight and there is a rib around the lower edge and around the neck. The lip is inset and bevelled on the inner edge and has clearly been designed for a lid to fit flush with the box sides.

Similar boxes are known from the Schutthügel at Vindonissa (Vindonissa Museum, Brugg), one has a lid. They are likely to have been used for ointments or cosmetics.

293 (Fig 102) Tankard made of eight wooden staves held in position by two wide bands of copper alloy, the lower one 53mm high, the upper 68mm high, with an incised line 5mm from rim. The upper band hooks over the rim and exaggerates the beaded shape. It is not clear whether the lower band stopped flush with the base, as the base is now missing. The handle is beaten from a strip with a wide median rib

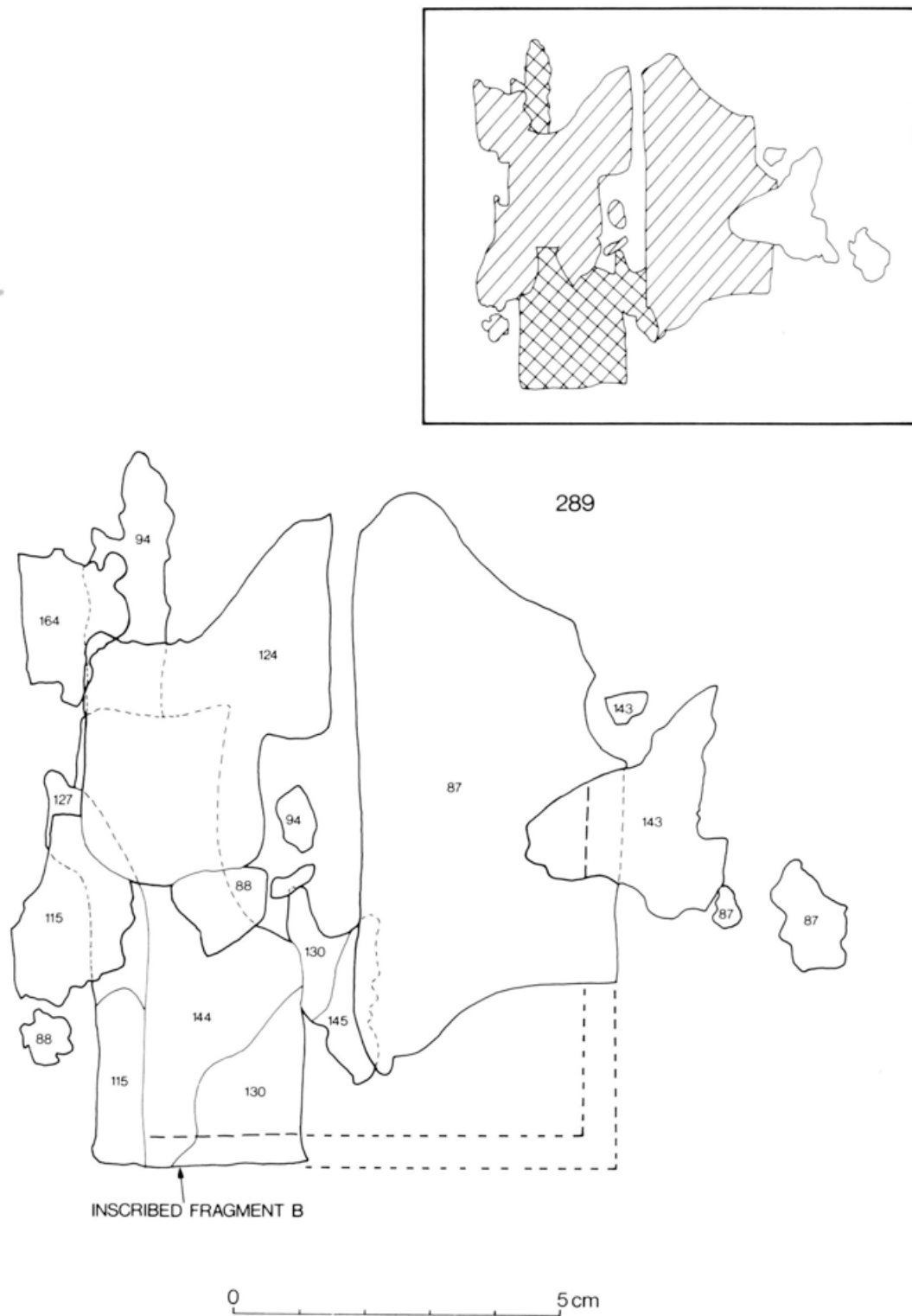
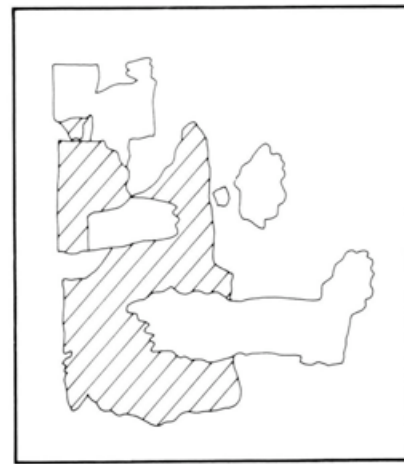
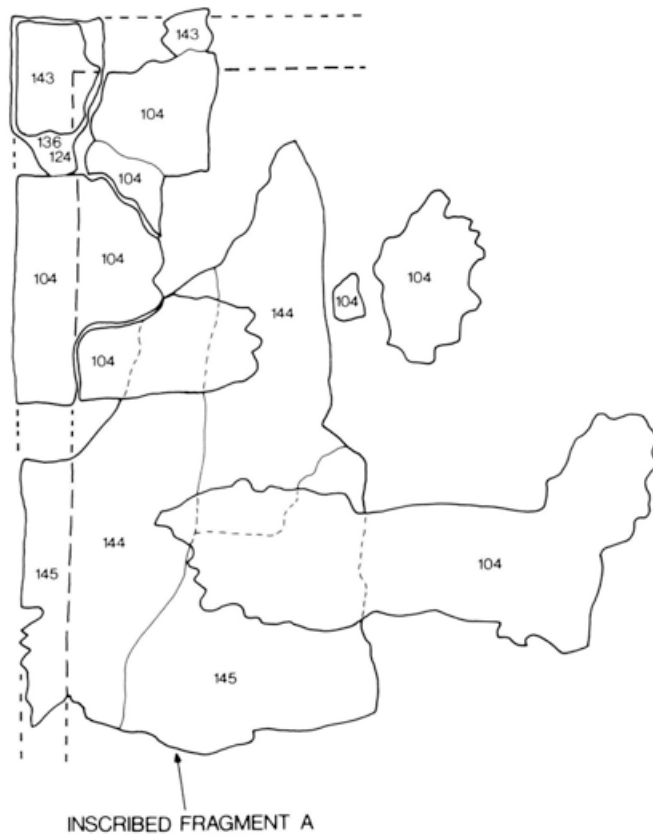
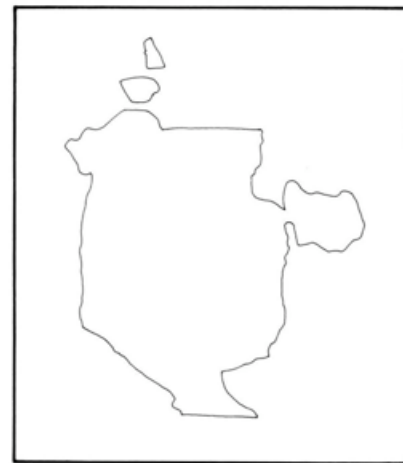
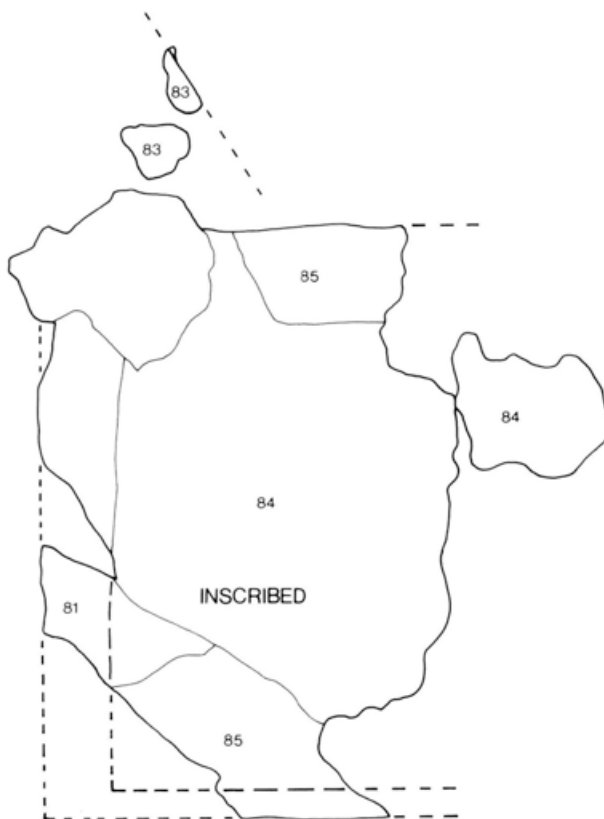


Fig 100 Corbridge Hoard: wooden objects (scale 1:1)





290



291

0 5cm

Fig 101 Corbridge Hoard: wooden objects (scale 1:1)

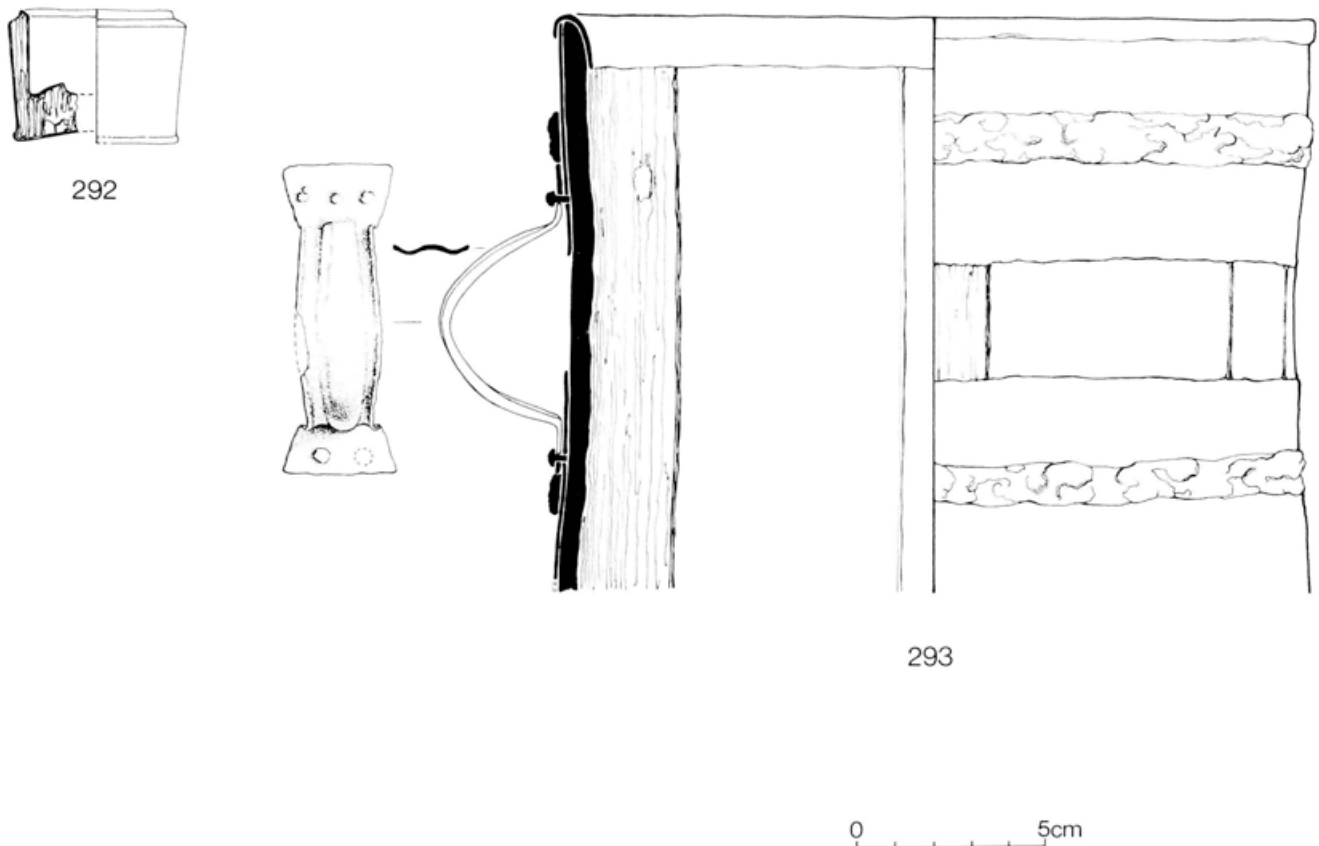


Fig 102 Corbridge Hoard: wooden objects (scale 1:1)

and raised edges. The ends are splayed and riveted to flat copper alloy plates by two globular-headed rivets. These plates, which are riveted to the tankard side and hook over the rim of the vessel, appear to be the remains of the original handle, which was further held in place by two iron rings, the lower one 13mm wide, the upper 12mm. The present handle stops short of these rings, which seem to serve no useful purpose if not to keep a handle in position.

This corresponds to the normal British Iron Age tankard in its straight-sided stave-built design with bronze bands, and in size (see Corcoran 1952). Four complete tankards are known from Trawsfynydd, Kew, Pentuan, and Shapwick, but many handles are known, the average length of grip being 80mm. Handles can be highly decorated with enamel and openwork designs, but a similar handle is known on a first century AD tankard from Neath (Corcoran 1952, fig 1c) and the Corbridge example may be assigned to Corcoran's Class V type handle. Last quarter of first century BC to first half of first century AD.

External diameter: 200mm, internal diameter: 175mm, height: 159mm, length of grip: 82mm, capacity: 1.57 litres

294 (Fig 20) Incomplete block of rectangular shape, with sawn ends and rounded edges. The end grain of another wooden object is adhering.

Length: 66mm, width: 49mm, thickness: 11mm

295 Twig? with copper alloy fragments. (Not illustrated)

296 Sheeting; 'box side by handle'; includes strip with ring-and-boss decoration (cf Nos 256-7). (Not illustrated)

297 Several fragments. (Not illustrated)

### *Papyrus*

298 (Fig 103) Several small fragments of papyrus were found in the Hoard.

### *Textiles*

by J P Wild

Unless the contrary is specifically stated, all the material described below appears under low-power magnification to be sheeps' wool. The thread-counts quoted here are probably – and in some cases demonstrably – lower than they would have been when the textile was new. Distortion can be seen to have taken place (for instance in (32)) before the cloth was replaced by iron corrosion products.

The original context numbers are included in brackets after the catalogue numbers.



Fig 103 Fragments of mineral preserved papyrus from the Corbridge hoard (AMLab photo)





■ Z-spun system uppermost

Fig 104 Tentative reconstruction of a repeating unit in the 2/2 diamond twill Textile 1, based on reverse-centres visible in fragments from (105) and (110AB)

### Textile 1

2/2 diamond twill of medium weight.

System 1: warp?, Z-spun, 10 threads per cm

System 2: weft?, S-spun, 8 threads per cm

The yarns are medium fine, evenly and fairly strongly spun in both cases. Given the size of the fragments and their state of preservation, a draft of the full repeat-pattern of the diamond structure could not be recovered (but see Fig 104). There was displacement in both systems. Direction of weave in System 1, probably the warp, changed after 12 or in one place 17–18 threads, and in System 2, probably the weft, after 10 or more threads.

At the end of the list below are catalogued a number of fragments from (147), (103), (105), and (99) which were recorded in 1964 as having S-spun yarns in both warp and weft. They were identical with the other fragments in all other respects. S-spun warp and weft would be exceptional in the western Roman provinces, and this puts a question-mark over the 1964 analysis, which could unfortunately not be repeated in 1986. The solution to the apparent problem is revealed in (110ab) where two Z-spun and two S-spun threads follow one another in sequence in at least one of the thread systems. Hence it is likely that certain areas of Textile 1 were originally spin-patterned, a decorative technique being increasingly recognised in new textile finds on both sides of the northern Roman frontiers.

299 (45) Adhering to saw blade (No 85). Overlies fragment of plain weave (Textile 6).

System 1: Z-spun, 10 threads per cm. Maximum length: c 20mm

System 2: S-spun, 8 threads per cm. Maximum length: 50mm

300 (87) Attached to ?nail (No 164), lead (No 275), and writing tablet (No 289). Much doubled-up. Reverse after 17 or 18 threads of System 1.

System 1: Z-spun, 10 threads per cm. Maximum length: 50mm

System 2: S-spun, 8–9 threads per cm. Maximum length: 80mm

301 (104) Fragments 1–4 much doubled and damaged: c 20×20mm maximum length. Fragment 5 folded over at least once.

System 1: Z-spun. Maximum length: at least 80mm

System 2: S-spun. Length concealed under mass of ironwork, but several cm at least.

302 (105) Fragment 1 with single nail.

System 1: Z-spun. Maximum length: 30mm

System 2: S-spun. Maximum length: 25mm

Detached Fragments 2–4. Two layers each fragment.

Fragment 2

System 1: Z-spun. Maximum length: 45mm

System 2: S-spun. Maximum length: 20mm

Fragment 3

System 1: Z-spun. Maximum length: 30mm

System 2: S-spun. Maximum length: 15mm

Fragment 4

System 1: Z-spun. Maximum length: 25mm

System 2: S-spun. Maximum length: 20mm

Fragment 6 Adheres to ?iron rod (?part of lamp – No 98). Two layers. Pattern of diverging centre visible and tallies exactly with that of (110ab).

System 1: Z-spun. Maximum length: 30mm

System 2: S-spun. 40mm

303 (106) Mass of corroded nails (?part of lamp – No 98). Textile doubled up.

System 1: Z-spun. c 9 threads per cm. Maximum length: 60mm

System 2: S-spun. c 8 threads per cm. Maximum length: c 30mm

304 (107) Mass of nails (?). Reverse after 10-plus threads of System 2.

System 1: Z-spun. 10 threads per cm. Maximum length: 60mm

System 2: S-spun. 8 threads per cm. Maximum length: 60mm

305 (108) Four small fragments, much doubled and crumpled. Largest measures 35×35mm.

306 (109) Mass of corroded ironwork (when originally inspected, now conserved and identified as No 96). One double portion of textile, c 40×40mm.

307 (110ab) Adhering to broken portion of plate (No 74). Both systems are obscured by corrosion products, but the pattern of a reverse-centre where lines of twill diverge is visible. Reverse is after 12-plus threads of System 1, after 10 threads of System 2. Displacement in both systems.

System 1: Z-spun. c 10 threads per cm. Maximum length: 50mm

System 2: S-spun. c 8 threads per cm. Maximum length: 85mm

Another tiny fragment exhibits a sequence of two Z-spun followed by two S-spun yarns in the one system. The other system contains S-spun yarn, and possibly Z-spun, too.

308 (111) Corroded nails (No 164). One doubled piece of twill and several fragments adhering.  
Fragment 1 One doubled piece.

System 1: Z-spun. Maximum length: 15mm

System 2: S-spun. Maximum length: 25mm

Fragment 2 As Fragment 1; measures 15×15mm

Fragment 3 Despite the count, System 1 predominates and displacement in it is visible.

System 1: Z-spun. *c* 8 threads per cm (sic). Maximum length: 17mm

System 2: S-spun. *c* 10 threads per cm. Maximum length: *c* 28mm

Fragment 4

System 1: Z-spun. Maximum length: 25mm

System 2: S-spun. Maximum length: 15mm

309 (112) Small fragment.

System 1: Z-spun. *c* 10 threads per cm

System 2: S-spun. *c* 8 threads per cm

310 (183) A small fragment with Z-spun yarn in the one system, S-spun in the other. There is a reverse of weave-slope after 11-plus yarns of the Z-system.

311 (186) Minute fragment of 2/2 twill of same character as the above.

Groups thought to contain diamond twill with S-spun yarn in both warp and weft:

312 (147) Four layers of twill adhering to plate. Both systems have at least partial displacement. Reverse after 10 threads of System 2. Diverging-centre pattern damaged and not certain.

System 1: S-spun. 10 threads per cm. Maximum length: 45mm

System 2: S-spun. *c* 8 threads per cm. Maximum length: 35mm

313 (103) Mass of nails (?).

System 1: S-spun, 10 threads per cm. Maximum length: 15mm

System 2: S-spun, *c* 9 threads per cm. Maximum length: 17mm

314 (105) Adhering to iron rod (?part of lamp – No 98). Reverse after ten threads of System 2, after 14-plus (probably 14–16) of System 1.

System 1: S-spun, 10 threads per cm. Maximum length: 105mm

System 2: S-spun, 8 threads per cm. Maximum length: *c* 30mm

315 (99) Doubled-up piece of twill. Details largely obscure.

System 1: S-spun, 10 threads per cm. Maximum length: 60mm

System 2: S-spun, 8 threads per cm. Maximum length: *c* 40mm

316 (?) Loose fragments from edge. Single fragment:

System 1: Maximum length: 45mm

System 2: Maximum length: 15mm

## Textile 2

A distinctive fine 2/2 diamond twill was noted in small amounts in three adjacent contexts.

System 1: Z-spun. *c* 20 threads per cm

System 2: S-spun. *c* 20 threads per cm

Change of direction of the weave identified in two places, together with visible displacement, strongly suggest that the fabric is a diamond twill.

317 (148) Three small fragments of badly doubled and crumpled textile, sticking to a mass of corroded ironwork. System 2 predominates (weft?). At least a herringbone, probably a diamond twill. Reverse after at least 8 threads of System 1.

System 1: Z-spun. *c* 20 threads per cm. Maximum length: 20mm

System 2: S-spun. *c* 20 threads per cm. Maximum length: 15mm

318 (147) Fragment of 2/2 twill adhering to back of copper alloy disc (No 249). Two further fragments are loose. One other fragment reveals displacement and change of weave direction.

System 1: Z-spun. *c* 20 threads per cm. Maximum length: 10mm

System 2: S-spun. *c* 20 threads per cm. Maximum length: 70mm

319 (145) Further very small fragment of same fine twill.

## Textile 3

Plain 2/1 twill

System 1: Z-spun. 10 threads per cm

System 2: Z-spun. 8 threads per cm

The weave is now relatively open and the count probably misleading: the fabric once had denser cover. A fault, probably involving a single misplaced heddle, was noted at least twice (see Fig 105). Everywhere the twill overlies half-basket weave wrapping the bundles of cuirass plates (see Textiles 4 and 5 below).

320 (6) Bags of separate fragments.

Fragment 1, adhering to a plain weave

System 1: Z-spun, 10 threads per cm. Maximum length: 15mm

System 2: Z-spun, 8 threads per cm. Maximum length: 20mm

Fragment 2, adhering to a half-basket weave

System 1: Maximum length: 35mm

System 2: Maximum length: 18mm

Fragment 3, adhering to a half-basket weave



System 1: Maximum length: 25mm  
 System 2: Maximum length: 30mm

Fragment 4, adhering to half-basket weave.  
 20×20mm

321 (10a) Corroded to cuirass plate (No 75) in two layers; upper twill, lower half-basket weave.

The fabric in all cases is faced with System 1, but neither system is closely beaten up. At one point in (10a), a single thread of System 1 floats over five of System 2, instead of over two, under one, and over two. It is probably caused by a caught-up leash (see Fig 105).

System 1: Z-spun, 10 threads per cm. Maximum length: 25mm

System 2: Z-spun, 8 threads per cm. Maximum length: 60mm



■ Z-spun system uppermost  
 □ thread of Z-spun system uppermost (incorrectly)

Fig 105 Fault in 2/1 twill Textile 3

322 (12) Corroded to edge of cuirass plates (No 79–80); upper layer twill, lower plain weave. The reverse of the fault in (10a) occurs once.

System 1: c 30mm

System 2: c 90mm

323 (25) On edge of a collection of cuirass plates (Catalogue no unknown); two layers, upper of twill.

System 1: Z-spun, 10 threads per cm. Maximum length: 20mm

System 2: Z-spun, 8 threads per cm. Maximum length: c 90mm

324 (32) Sections of cuirass (Catalogue No unknown) wrapped in two layers of fabric; upper layer twill, lower plain weave. System 1 covers what is now the outer face of the cloth; neither system well beaten up. Mostly moderately fine, even yarn on both warp and weft, but occasionally a section of thread is too thin. Definitely a plain twill.

System 1: Z-spun, 10 threads per cm. Maximum length: 70mm

System 2: Z-spun, 8 threads per cm. Maximum length: c 140mm

325 (43) Two tiny fragments of 2/1 twill, Z-spun in both systems.

326 (51) Sticking to outer edge of cuirass plates. Two layers, outer twill.

System 1: Z-spun, 10 threads per cm. Maximum length: 10mm

System 2: Z-spun, 8 threads per cm. Maximum length: c 60mm

327 (181b) Tiny fragment of 2/1 twill, Z-spun in both systems, associated with a probable half-basket weave.

The remaining textiles in the catalogue are hard to classify with confidence. Before being enveloped in corrosion products they had been stretched and pulled out of shape. The fragments believed to make up the single Textile 4 below are all associated with 2/1 twill (Textile 3 above) and with the cuirass plates; they are in half-basket weave. Textile 5 may be from the same web, if its greater fineness is illusory. Textile 6 is the only plain tabby weave in the Hoard, but there may be doubt about the attribution of some of the gramnets assigned to it here.

#### Textile 4

Half-basket weave. Establishing the thread-count of this textile was extremely difficult, for it was clear that considerable distortion had taken place before the mass was engulfed in corrosion products.

System 1: Z-spun singles, fine yarns, well spaced out. 8–9 threads per cm

System 2: weak Z-spun doubles. Up to 22 pairs per cm in well preserved areas of cloth

Parallels suggest that System 1 was the warp. In most cases this textile was interposed between the 2/1 twill (Textile 3) and the cuirass plates.

328 (6) Separate fragments each stuck to 2/1 twill. Fragment 1

System 1: Z-spun singles. c 7 threads per cm. Maximum length: 35mm

System 2: Z-spun doubles. c 16 threads per cm. Maximum length: 20mm

Fragment 2

System 1: maximum length 30mm

System 2: maximum length 30mm

Fragment 3

System 1: maximum length 20mm

System 2: maximum length 20mm

329 (25) Adhering to 2/1 twill.

System 1: Z-spun singles. 7 threads per cm well spaced out. Maximum length: c 200mm

System 2: Z-spun doubles. 8 pairs per cm. Maximum length: 40mm

330 (32) Patch of half-basket weave between 2/1 twill and cuirass plates (Catalogue no unknown). Where well preserved with the original degree of cover, the details are:

System 1: Z-spun singles, well spaced out. 8–9 threads per cm. Maximum length: c 60mm

System 2: weak Z-spun doubles. c 22 threads per cm. Maximum length: c 140mm

In the central portion of the surviving textiles, the weft is now much looser, giving a count of 9–10 pairs per cm.

331 (48) c 2 square cm in all.

System 1: weak Z-spun. c 8 threads per cm

System 2: weak Z-spun. c 18 threads per cm



332 (163) Loose fragments of fine half-basket weave.

333 (183) Tiny fragment.

System 1: Z-spun singles, wide set. *c* 8 threads per cm

System 2: weak Z-spun doubles. *c* 10 threads per cm

Another fragment. There is fleece adhering to the cloth.

System 1: Z-spun singles

System 2: weak Z-spun doubles. *c* 32 pairs (sic) per cm

334 (10a) Half-basket weave with 2/1 twill on plate (No 74).

System 1: strong Z-spun singles. *c* 8 threads per cm. Maximum length: 60mm

System 2: weak Z-spun doubles. *c* 10 threads per cm. Maximum length: 25mm

335 (12) On plate (Nos 79–80), same as in 10a. *c* 90 by *c* 30mm

336 (43) Loose fragment adhering to key (No 101) under 2/1 twill.

System 1: Z-spun singles. *c* 8 threads per cm. Maximum length: 15mm

System 2: Z-spun doubles. *c* 12 pairs per cm. Maximum length: 15mm

Another fragment of same:

System 1: maximum length 20mm

System 2: maximum length 25mm

## Textile 5

Half-basket weave. The textile fragments assembled below are distinguished from those that comprise Textile 4 solely on the grounds of their finer thread-count. They are associated with the cuirass plates and with patches of what has been identified as fleece. Two have remains of stitching.

System 1: strong Z-spun singles. *c* 16 threads per cm.

System 2: weak Z-spun doubles. *c* 14–20 pairs per cm.

It could be argued that Textiles 4 and 5 are in fact from the same web of cloth.

337 (63) Stuck to cuirass plate (Nos 73 and 75).

Fragment 1

System 1: strong Z-spun, 16 threads per cm. Maximum length: at least 70mm

System 2: weak Z-spun, 14 pairs per cm. Maximum length: 40mm

Fragment 2

System 1: maximum length: 35mm

System 2: maximum length: 50mm

338 (64) Remains of feather(s). Two layers of textile adhering to cuirass plates (No 74).

Layer 1 (uppermost). *c* 10 sq cm left in all

System 1: strong Z-spun, *c* 18 threads per cm

System 2: weak Z-spun, 20 pairs per cm. Maximum length: ?

Layer 2, finer quality than layer 1, but same textile.

System 1: spin? count obscure

System 2: Z-spun, 20–2 pairs (?) per cm

339 (65) Remains of feathers. Layers uppermost on cuirass plate (Catalogue no unknown).

System 1: strong Z-spun, *c* 16 threads per cm. Maximum length: 25mm. Very fine yarn

System 2: weak Z-spun, 14 pairs per cm. Maximum length: 40mm. Moderately fine yarn

340 (?) Various fragments – labelled A. Plain weave wool with stitching (see below).

System 1: *c* 20 threads per cm, *c* 10 sq cm

System 2: *c* 18 threads per cm

341 (185a) Many tiny pieces of fine half-basket weave, some with stitching (see below).

System 1: probably Z-spun, wide spaced. *c* 16 threads per cm

System 2: weak Z-spun, probably doubles. *c* 18 pairs per cm

342 (21) Two fragments much pulled out and encrusted.

Fragment 1

System 1: Z-spun. *c* 8 pairs per cm. Maximum length: 20mm

System 2: Z-spun. *c* 10 threads per cm. Maximum length: *c* 20mm

Fragment 2

Much of structure of weave obscured, but probably same count as fragment 1. Measures *c* 50mm by *c* 20mm; bears stitches (see below).

## Textile 6

Plain tabby weave. The sole plain tabby fabric in the Hoard.

System 1: Z-spun. *c* 12 threads per cm

System 2: Z-spun. *c* 12 threads per cm

343 (45) Much crumpled piece of plain weave associated with 2/2 twill (Textile 1). System 1 practically covers System 2, which is a finer yarn.

System 1: Z-spun. 12–13 threads per cm. Maximum length: 50mm

System 2: Z-spun. 12–13 threads per cm. Maximum length: 35mm

344 (59) Various fragments of plain weave exactly like 45.

Fragment 1 (lies in three layers)

System 1: maximum length 35mm

System 2: maximum length at least 50mm

Fragment 2

System 1: maximum length *c* 40mm

System 2: maximum length *c* 50mm

Apparent remains of feathers.

345 (63) Remains of much-folded plain weave wool adhering to plate (Nos 73 and 75). Other fragments of same, adding up to about *c* 25 square cm.

System 1: Z-spun. 12 threads per cm. Maximum length: 50mm

System 2: Z-spun. 12 threads per cm. Maximum length: 50mm

346 (65) Plain weave wool (clear under microscope). System 1 beaten up so as to cover System 2 to a large extent. Both fairly fine yarns; System 2 distinctly finer.

System 1: weak Z-spun. 12–13 threads per cm. Maximum length: 110mm

System 2: weak Z-spun. 12–13 threads per cm. Maximum length: c 40mm

347 (105) Fine plain weave. System 1 a thicker yarn than System 2. Spin of System 2 not clear.

System 1: weak Z-spun. 12 threads per cm. Maximum length: 20mm

System 2: spin? c 12 threads per cm. Maximum length: 15mm

348 (122) Fragment, much pulled out, of plain weave wool. Both systems Z-spun, probably c 15×15 threads per cm. Adhering to ironwork mass (No 173).

349 (183) Tiny loose fragment of definite plain weave.

System 1: Z-spun. c 8 threads per cm, well spaced out

System 2: Z-spun. c 8 threads per cm, well spaced out

350 'Loose fragments from edge'. Plain weave wool.

System 1: Z-spun. 12 threads per cm. Maximum length: 25mm

System 2: Z-spun. 12 threads per cm. Maximum length: 12mm

351 'Various fragments'. Plain weave wool, much pulled out. Both systems Z-spun; probably once c 10×10 threads per cm.

## Stitches

352 (21) Textile 5

On fragment of half-basket weave wool. Fragment has straight edge – uncertain whether cut or selvedge. 5 holes 6mm apart and 6mm from edge. Remains of 2 running stitches following consecutively.

Thread: wool, fine yarn. Z-spun, S-ply – 2 strands. Two layers of plain weave seem to be sewn together at this point.

353 'Various fragments – labelled A'. Textile 5.

Fragment 1: single stitch holding two very small fragments together. Probably fine wool, single strand, Z-spun.

Fragment 2: 2 running stitches, parallel to, and close to, one another; one fragment remains of each. Holes 5mm apart.

Thread: very coarse, perhaps string. 2.5mm in diameter: under microscope a bast fibre. Several strands, each weakly Z-spun, possibly S-ply. Uncertain how many strands; of uneven diameter.

354 (185a) Textile 5

Remains of a running stitch. Several strands (without visible ply) of Z-spun yarns, c 3mm thick

## Rope

355 (137) (Fig 12) Mass of ironwork (Nos 9–22, 91, 221–3), including spearheads, bound at least six times round with a length of rope. Rope consists of at least eight strands of equal thickness; it is oval in section, c 11mm by 6mm.

Strands: definitely a bast fibre under microscope, diameter 25mm all S-spun

Rope divided into 2 portions, each a group of four strands making up the eight; they may be separate pieces of string taken together – nowhere clear to see if they intertwined.

Length A: simple plying of 4 strands in Z-direction

Length B: 4 strands plaited together like pigtail

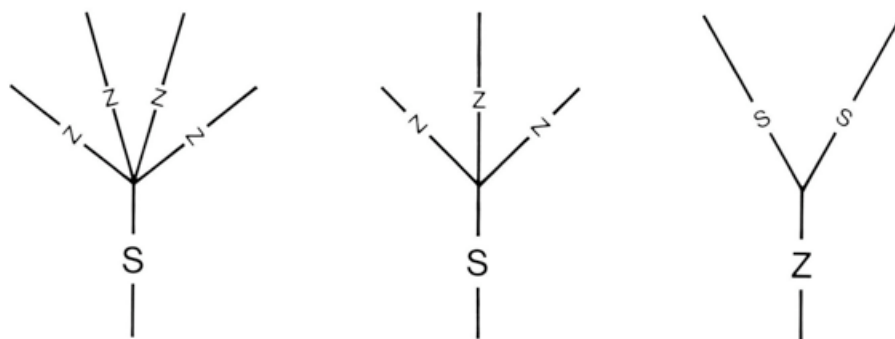


Fig 106 Structure of string or rope used in Nos 357, 358, and 359

356 (38) Spearheads (Nos 7, 8) and chisel (83) tied at least nine times round with same rope, which is here less well preserved.

### **String**

357 (102) (Fig 106) String, 4-strand, now 70mm long, diameter 4mm. Each strand: Z-spun, then S-plied with rest

358 (51) (Fig 106) String 3-strand, now length 20mm, diameter 2mm. Each strand: Z-spun and S-plied

359 (78) (Fig 106) 4 pieces of string adding up to 80mm (like (51)).

360 (48) String corroded to iron sheet (No 204). 80mm long. 2-strand; S-spun and Z-plied together. Diameter of strand 3mm

361 (52) Fine string. 2-strand. S-plied, probably Z-spun. 20mm long, string 2mm diameter



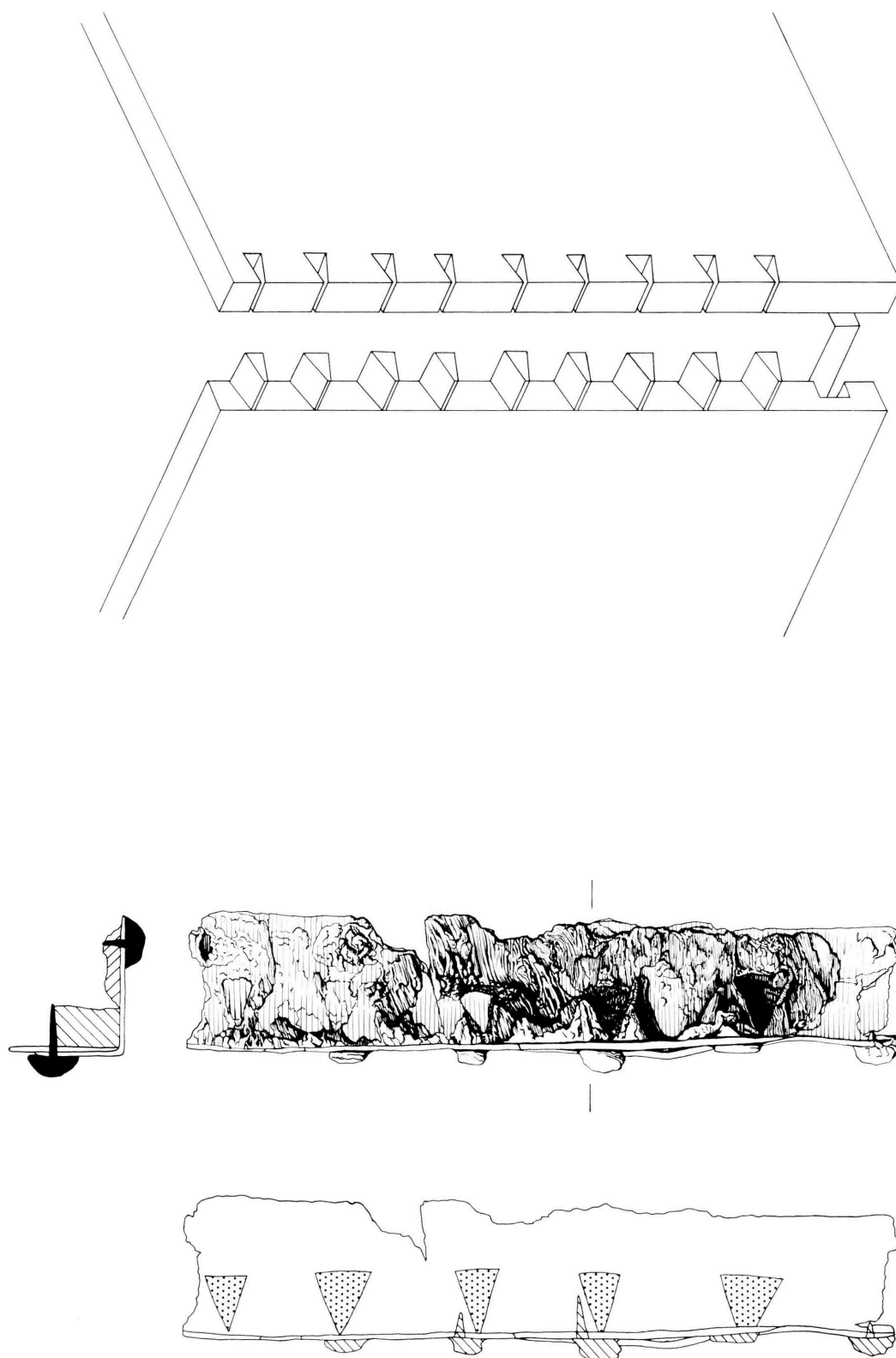


Fig 107 Reconstruction drawing illustrating construction details of the chest, notably the dovetails at the corners and the hypothetical manner in which the base was attached.

### 3 The chest

*with a contribution by J Watson*

The chest itself measured  $0.88 \times 0.58\text{m}$  and may have been as much as  $0.41\text{m}$  high when buried, although there has been some compaction. Using photographs and sketches made during the unpacking process, it is possible to locate three-dimensionally most of the items within it, but reconstruction of the chest itself is slightly more difficult.

The box was fitted with right-angled iron reinforcing strips at the corners (No 114). The lid was attached by iron hinges (Nos 116–17). Analysis of the mineralised remains of the wood shows that the chest was made of alder (*Alnus* sp) wood, with at least two of the sides dovetailed together (Fig 107). The pins of these dovetails are triangular, with depths of 17–18mm, which probably corresponds to the thickness of the plank. The pin widths vary in size between 13–21mm. The angle of the dovetails is approximately 1 in 4, and this is very similar to those

of the Bradwell villa chest, which were 1 in 3.5 (Keepax and Robson 1978). However, the dovetails' angles on these two chests are more acute than the modern recommendation of 1 in 8 (Brazier and Harris 1969). The heights of the tails measure 38–42mm, so that if the chest were 410mm high, there would have been ten dovetails per corner. At least one of the corners (No 114b) appears to have been repaired without the use of dovetails. The angle-irons were studded with copper alloy dome-headed studs on their faces (No 241).

There is no evidence to indicate whether the sides were made from single boards or smaller planks secured with tenons. The surfaces preserved suggest that the sides were made of flat sawn timber. If single boards were used, the original tree that provided the timber would have been at least 0.5m in diameter. Alder trees can grow to this size, but are not common.

It is not known how the base was fixed to the sides. It is therefore assumed that it was inserted using tongue and groove joints (Fig 107). What were originally interpreted as floor boards (removed in order to bury the Hoard and then replaced on top)

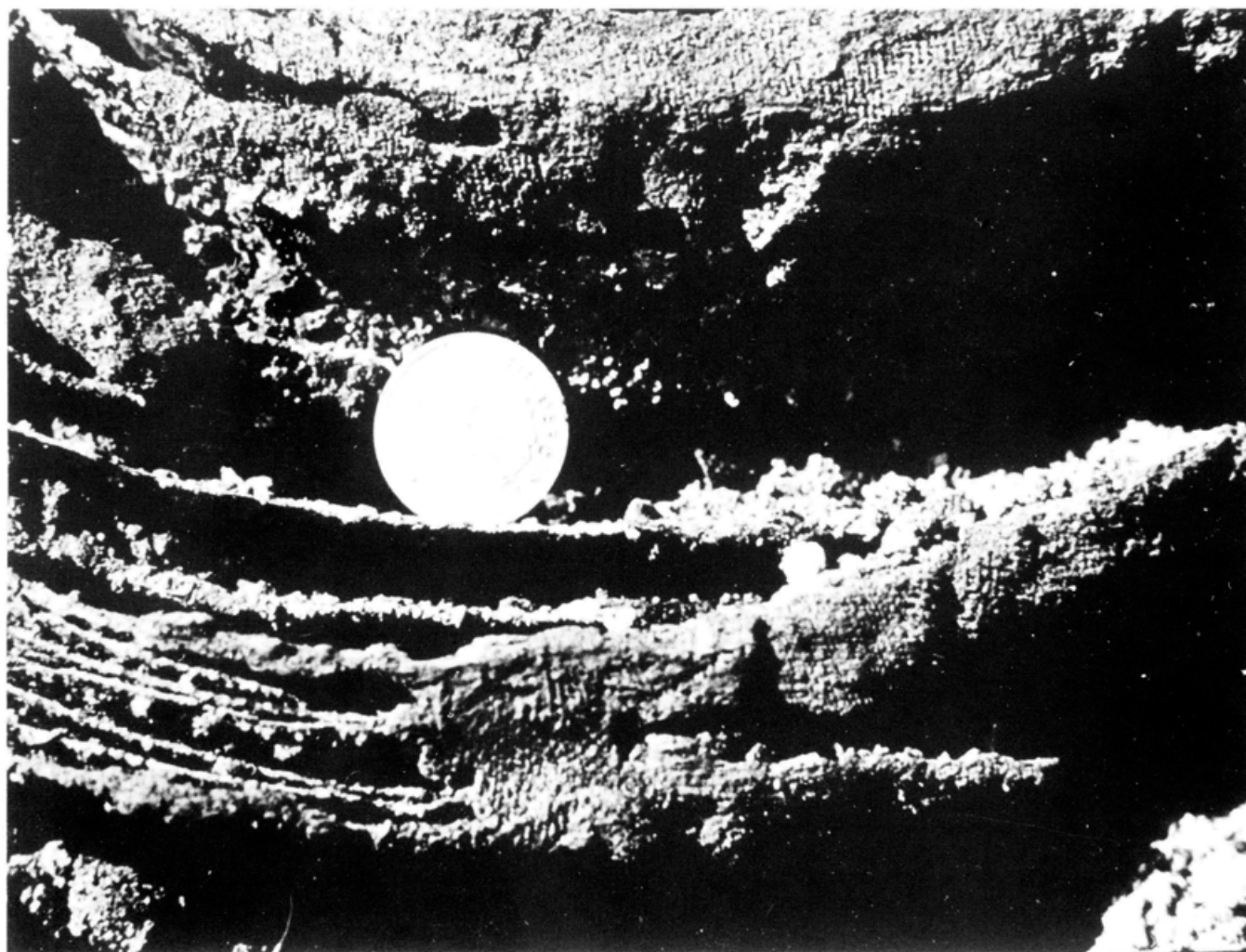


Fig 108 Detail of one of the sets of girth hoops during excavation, showing the remains of textile adhering to it. The coin is a half crown (diameter 32mm)

was probably the lid of the chest. The analysis of the mineralised wood on the hinges shows that the lid was made of alder.

The whole box was covered in leather (the fact that the leather covered even the copper alloy studs is revealed by one of the chest angle-pieces, No 114). This was almost certainly a fitted cover, rather than some sort of leather bag, because the surviving pieces are pulled taut over the angle-pieces and domed rivets.

A lock-plate (No 113) survives, so the major elements of the box appear to have been present when it was buried, although it is, of course, impossible to determine its condition at the time of burial.

Whilst it is clear that the contents of the box have settled, it is nevertheless possible to attempt a reconstruction of the way in which the contents were arranged (Fig 8). Obvious groups are formed by the armour and some of the larger objects: the scabbard (No 228), the pickaxe (No 82), and the lead bowl (No 265) were placed along the western side of the chest, the scabbard in the angle between the bottom and side with the riveted strip uppermost. This may indicate not only that the scabbard was one of the first objects packed in the chest, but also that the lid was hinged on the eastern side (if it was indeed still hinged), since it would be natural to pack an object of the dimensions and form of the sheath in the bottom corner nearest to the packer and the packer would not work from the side on which the lid was hinged. The copper alloy furniture fittings (Nos 238–40) were found in the north-west corner, whilst the tankard (No 293) was in the south-west. Five of the six sets of girth hoops were placed, forcibly collapsed (see below), in the northern half of the box, wrapped in textile (Fig 108), whilst the remaining set of hoops and the upper assemblies were in the south-east corner, again wrapped in textile (see below). Two of the larger bundles of spearheads were located at the northernmost end of the chest, towards the bottom.

There is an impression of orderliness in the way in which the contents of the chest had been packed, as if thought had been given to the task, which would appear to gainsay the belief that the Hoard had been hurriedly concealed (Daniels 1968, 126 but cf Manning 1972, 242 where the element of haste is doubted). This is only common sense, since careful packing would mean that more objects could be accommodated within the chest than would be the case if items were just thrown in regardless.

A chest of this type was almost certainly used for storage and transport, in a similar way to a modern trunk. It is often suggested that Roman army units had a regimental chest in which valuables were stored (Johnson 1983, 114), and references to '*loricem*' or '*lorictitis*' in P Berol 6866 (Fink 1971, no 70) have been seen as confirmation of this. It has been pointed out, however, that before the use of large stone strongrooms, a wooden-lined pit under the floor of the *aedes* may have served as the strongbox if fitted with a trap-door (Pitts and St Joseph 1985, 87–8).

Even if such armoured boxes did exist in the first and second centuries, it is unlikely that the Corbridge

chest can be identified with one of these, given the use of comparatively soft woods and the limited amount of iron reinforcement. Although it is pure speculation, it is possible that it was the personal property of a member of the garrison, perhaps an officer, and had found its way to the workshops for some minor repair, only to become a convenient container for the material in the Hoard.



## 4 The armour

### The conservation and reconstruction of the armour

Charles Daniels

The conservation of the armour was undertaken with the rest of the material from the Hoard (see above, Chapter 1). The material was, in some cases, very fragmentary and, on unpacking, was put into individual trays to facilitate the building up of the jigsaw. It must be stressed that as the armour was spread across the top of the box and, by dint of its thin nature, had in some cases broken while in the earth, fitting together the pieces was complex. The unexpected form of some of the pieces, and the relationship of some of the plates to the whole, was also different from ideas current in the early sixties, and this, too, made the task of restoring and interpreting the whole a more difficult one than initially expected.

Ideas currently held in the mid 1960s were based on Trajan's Column and such studies as von Groller's treatment of the Carnuntum 1899 material (von Groller 1901, 95–113), the Newstead plates (Curle 1911, 156–8), and Webster's interpretation of the London fragment (1960). The idea of a leather jerkin backing may have been dropped, but rear hinges and very small shoulder plates were taken for granted.

It is not surprising, then, that when Mr H Russell Robinson (the Assistant Keeper, later Keeper, of Armour at HM Tower of London) first saw the material in trays in June 1967, his initial reconstructions were of this interpretation. On 15 June he wrote:

the *lorica* now begins to take on a very definite shape and a very practical and workmanlike cuirass it must have been. Having spent hours thinking about the various elements and studying my notes I feel fairly certain that the result of the reconstruction I have begun will be about as close as we shall ever get to the original without a very complete specimen turning up.

On 4 August he reported:

the working model of the *lorica* has been delayed by leave and also by the fact that of course the pieces I took notes of most probably come from different cuirasses. This of course meant that a certain amount of alteration and fitting around the shoulders and neck have had to be made and as the strap fastenings of the actual shoulder guards have not survived I have had them off and on in two or three different ways to get the most practicable manner of attachment

and by late September he had 'now finished the *lorica* which looks very small when worn. A man can do anything in it except wash his body.'

This was the original armour, seen in Figs 109 and 110 (front and back) which was the basis for Webster's illustration in *The Roman Imperial Army* (1969, figs 15 and 16).

However, careful sorting had been progressing in Newcastle, although early in 1968 Miss White left the Museum Service, and numerous other matters interrupted the task. It was not until January 1969 that I visited the Tower with a whole series of new ideas concerning the shoulder guards, the upper body plates, and the very idea of rear hinges. Robinson was enthusiastic and wrote on 20 January:

These large hinged shoulder straps may be the upper plates of the larger shoulder guards you have found in pieces. On the Column of Trajan there are several legionaries with studded upper shoulder plates which may represent the alternate studs and hinges on your plates. Do you think this might be possible? I have by the way made sketches of some of these.

By 4 February, I had made four cardboard replicas of what seemed to be the definitive shape of the main pieces, which I sent to him:

Four details (in card) from portions of the armour, which I now send. Also an offprint of my note on the discovery and composition of the whole. In it I have given the lowest likely number for pieces of each type, but my terminology is hardly orthodox so perhaps I had better expand:

The four sections of body hoops = four halves of a complete girth ie four times the cardboard piece enclosed (No 1)

Eight or nine quarter sections = the chest or back plates which are card No 2, but none is complete over the shoulder as yet so I cannot assemble front and back units.

Five shoulder strips or bands = the pieces I spoke about, rather like the big strips which Facilis wears: cardboard No 3 is a typical and complete example. There appear to be leather strap-ends on the back of the two lower bosses and probably one at the back of the central boss. These I have put in in red ink.

Two shoulder pieces = the one you saw and the very deep, almost horseshoe shaped, one.

The fourth piece of card shows the overlap and amount of movement allowed to the body strips by the leather backing.

I am sorry the pieces are so rough but they were never intended for anyone else to have to see. I hope they enable you to carry on *pro tem*, for I am not quite sure when I will be able to get down to detailed and adequate photography.

Time was now pressing if detailed alterations were to be made before the armour could be exhibited to the 1969 Limes Congress, but Robinson reported within two days:



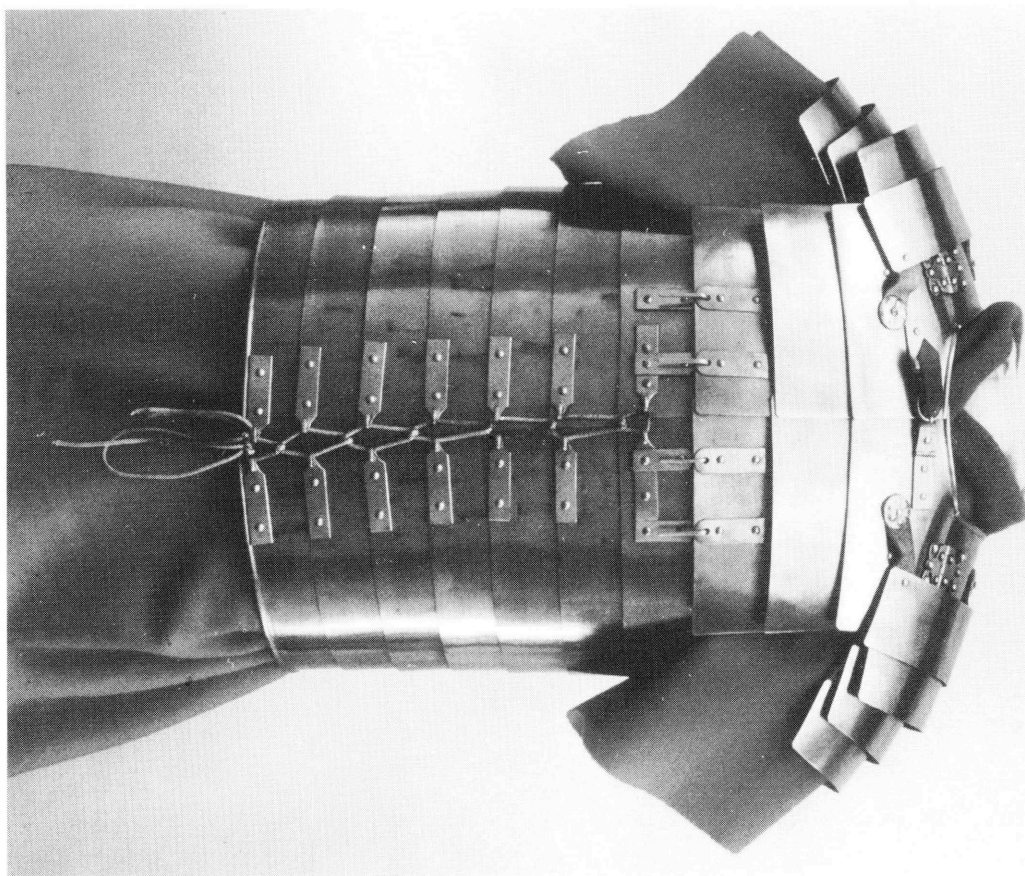


Fig 109 H Russell Robinson's first attempt at a reconstruction of 'lorica segmentata' based on the Corbridge finds – front

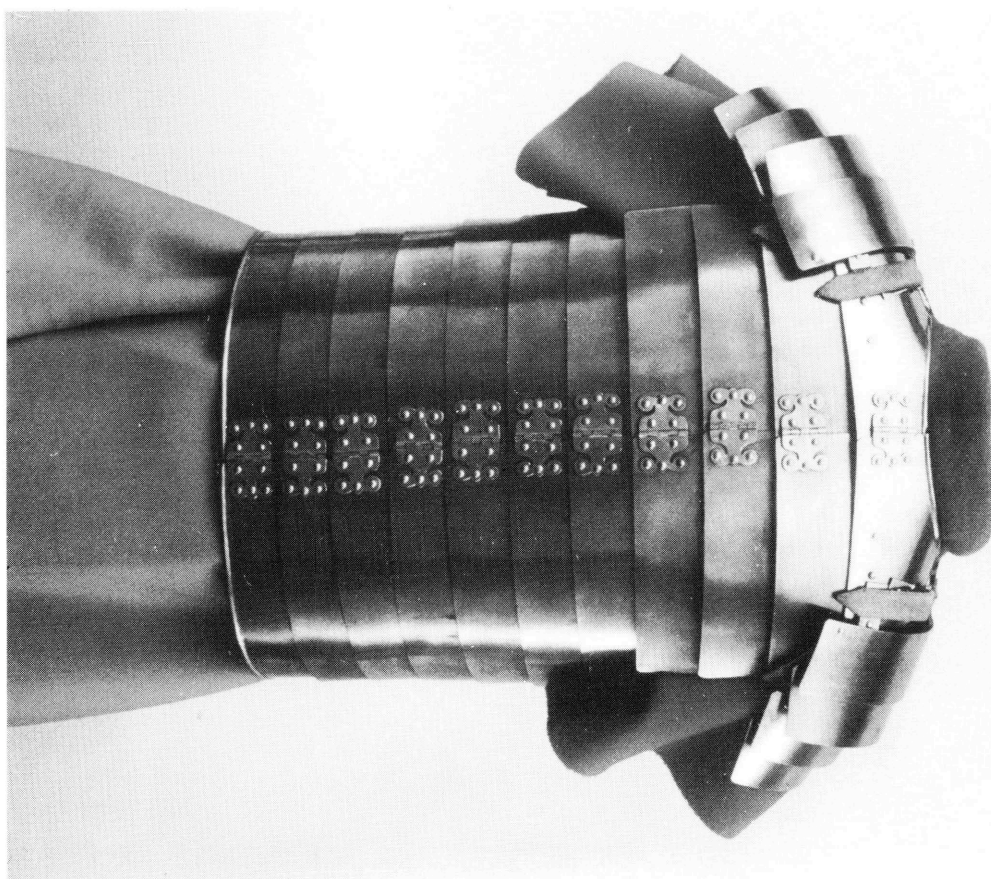


Fig 110 H Russell Robinson's first attempt at a reconstruction of 'lorica segmentata' based on the Corbridge finds – back



I will strip off the hinges from the back of my reconstructed *lorica* and substitute hooks. The method of fastening the upper hinged back-plates to the girdle plates can be left until we have had our consultation and examination in May.

I will also make a pair of these large hinged shoulder plates then again they can wait until May when I trust we shall be certain as to whether they are the upper plate of the larger shoulder pieces or a separate shoulder guard.

To save time I will have another set of girdle plates ready for assembly for our second *lorica* to be exhibited with your pieces for the Congress visit.

After another visit to Newcastle, he wrote on 16 May:

Modifications on the first *lorica* have begun and I hope to be finished with it within a week at the most.

Looking at my sketches and notes on the way down in the train revealed what could well be the answer to the leather shoulder strap problem.

On the inside of the complete breastplate for double hook fastening, there is a single broad leather and this has been extended upwards at the upper outside corner to form a single strap. This would have passed to the back shoulder buckle and therefore completely covered by the hinged flap and the upper shoulder-guard plate above it.

On the fragmentary breastplate with double narrow straps inside, a separate rivet is placed below the hinge which could well have held this shoulder strap. This particular rivet could serve no other function.

I enclose two rough sketches to make my point a little clearer.

Intensive question-and-answer letters, and continuous drawing, continued through May. C D:

It was good to hear you on Sunday for I was having terrible doubts about the whole thing all Saturday, following failure to get the 'new form' plates to fit any known human shape. (We concluded that anyone who wore this set must have been a hunchback dwarf). However, there is further sad news. We have separated all remaining masses of plates (except obvious girth-bands) and there are no possible 'centre-plates'. Both groups were parts of shoulder pieces (more!). Very sad. I am going to try again with a cardboard replica over the weekend and see whether the present design can be made usable, considering the positions of the girth-band hooks, and the angle of the hinges etc. I will also finish the patterns of the 'strap-and-buckle' variants.

A day or two later, another long letter with further details followed to which Robinson replied:

The cuirass for your exhibit was completed on Saturday at 11.30am precisely! It weighed 14lbs and when worn must have the small solid plates at the front with a V-neck. When I tried the collar plates before they were not completed with the shoulder-guards nor were they attached to the girdle plates.

The set of the shoulders and the form of the collar will not permit it to be worn in any other way. A little twisting of the collar plates brings them into shape so that the small breast-plates sit more squarely together.

It is a strong handsome cuirass and all these little pieces build up into quite a large thing. The only discomfort is at the neck where it dug-in even on my daughter's slender neck.

When the pieces are all closed up the internal leathers take up exactly the positions the originals are stuck in. Every thing falls into place rather as you found them and as shown in your colour transparencies.

The little doubt is still attached to the buckles at breast and back. Are they pairs of buckles or a strap and a buckle? I am hoping that your latest tracings may prove this point. Two buckles would give a 'finer' adjustment to the closing of front and back though a separate strap could easily become detached. On the other hand, like the ties of the girdle plates, replacement is simple.

I will wait to see what we have to decide about the buckles and also to get good photographs and then it shall be packed up and dispatched to you. I think your latest findings make this the most convincing reconstruction we can possibly make. I am certain it could not be different in any way unless it is some other variation. Graham [Webster] will be surprised when he knows his plate is a breast and not a back and so differently placed!

At more or less the same time, by work in the laboratory and practical testing in the Armoury, we moved to the same conclusions. By 10 June, only minor details needed to be settled. H R R:

Here are all your tracings with my sincere thanks for your valuable work. They have certainly set things to rights in every way.

I would like to see the 'strap-and-buckle' type shoulder-guards when you have one completed and also hear your findings re turned edges on girdle plates. They were certainly not turned on every set except for top and bottom plates.

The shirt for your *lorica* is taking longer than I had intended but I hope it will not be more than a few days.

The armours were shown in Cardiff to the Limes Congress in September and an exhibition of the real material was shown in Newcastle to the Pilgrimage of Hadrian's Wall following the Limes Congress. With this the main interest went out of the matter. Robinson went on to work on other problems. 7 October 1970 he wrote:



The Newstead *lorica* must have been the latest pattern when it was in use. It is the second-century pattern and devoid of hinges and buckles and straps. The breast and back sections fastened to each other by means of a bronze loop on one half being pushed through the slot on the other half and a pin thrust through to retain them. There were two at the back and one in front.

The girdle plates had bronze loops for ties instead of the first-century hooks and the plates over the shoulders normally hinged, were continuous strips. The turned edges on plates at the neck were here flanged. Cheaper, much simpler in construction, but I would think more efficient.

I will make one of these very soon and see how it works out. The fragments are not as complete as the Corbridge material but there is sufficient to reconstruct, without too much guessing, just what the cuirass looked like. Those on Trajan's Column are exactly it!

In 1975, *The Armour of Imperial Rome* was published, but other matters were taking effect. An increasing number of museums wanted armour and Robinson's time was increasingly taken up in supplying them. But his health was also deteriorating, resulting in his premature death at the age of 57 in January 1978. He had, however, the year before, been given an honorary MA by the University of Newcastle upon Tyne for his lifelong study of armour, and in particular his work on the Corbridge material.

## Details of the 'lorica segmentata'

So far as it is possible to tell, there are elements of at least six cuirasses represented amongst the material in the Hoard – four Type A, one Type B, and one Type C (Robinson 1975, figs 178 and 180, modified here as Figs 23 and 24). These are readily identifiable from the upper assemblies, but it is not possible to say whether the six lower sets belonged with these or not, although they suggest the identification of four Type A and two Type B/C cuirasses, which may be more than coincidental. It is thus possible that as many as twelve individual sets are represented. All of these pieces show signs of having been damaged prior to deposition – often severe bending and distortion of plates – as well as plentiful evidence for repairs in service, such as fittings replaced or plates riveted together when they should have been joined by hinges.

### *Type A cuirasses*

The Hoard contained four upper assemblies from Type A cuirasses, two from the left and two from the right. They differ sufficiently in detail and in size to suggest that they were unlikely to have formed matching sets at any stage. The upper and lower assemblies appear to have been packed separately within the chest, the upper assemblies at the

southern end, whilst the lower sets were in the middle and at the northern end. The fact that most of the copper alloy hinged buckle fittings on the top girth plates of these Type A cuirasses were bent down when found (Figs 50, 55, 57, 61) suggests that the girth hoops were placed in the chest the right way up, since these buckles naturally drop down when unattached.

The Type A cuirasses normally possessed a narrow, parallel-sided upper shoulder guard (Fig 23), as is shown by three of the four upper assemblies (Nos 71–3). The remaining example (No 70), however, appears to have been fitted with one of the broad shoulder guards with a central point. In this instance, the point on the central shoulder plate faces outwards (ie away from the wearer's neck). Examination of the Type B upper assembly (see below) suggests that this may be a repair (not least because the form of brass fitting employed on this shoulder guard differs markedly from those found on all the other Type A assemblies) and that this replacement unit was taken from the Type C set, which did not possess an upper shoulder guard of any kind.

The lesser shoulder guards of Type A cuirasses normally consisted of four plates of gradually decreasing sizes, but Cuirass 1 was fitted with a different form, with two larger and two smaller plates, almost certainly the Type B/C form, since it was also found associated with Cuirass 5.

### *The Type B/C cuirasses*

The upper assembly from the Type B cuirass (No 74) demonstrates a number of interesting points. The upper shoulder guard, which is of the broad form with a point on one edge of the central plate, was very clearly fitted so that the point faced inwards, or towards the wearer's neck. There can be little doubt that it is an original piece, for the brass fittings are of the same form as those on the breast and back-plates. The lesser shoulder guards consisted of two larger and two smaller plates, presumably a characteristic of the Type B/C cuirass, since Cuirass 1 shows a similar arrangement on its replaced shoulder guards.

Another interesting feature of the Type B assembly concerns the three plates which form the back of the collar piece (or breast and back-plate assembly). These are supposed to sit so that the top edge of one plate is always beneath the bottom edge of the plate above it, but the middle back-plate on this particular set stands proud of both the plate below it and the one above it. A similar phenomenon has been observed on the reconstruction cuirasses worn by the Ermine Street Guard (pers comm), although it does not appear to be present on any of the other upper assemblies in the Hoard.

Robinson's first reconstructions of this type of armour (notably the sets for Newcastle and Caerleon museums) followed the example of this assembly and put the point of the middle plate on the inside (Figs 111, 112), although subsequent cuirasses were made with the point on the outside (Robinson 1975, pls 491–3) and it is this form that Peter Connolly used as the basis for his reconstruction drawings in Robin-



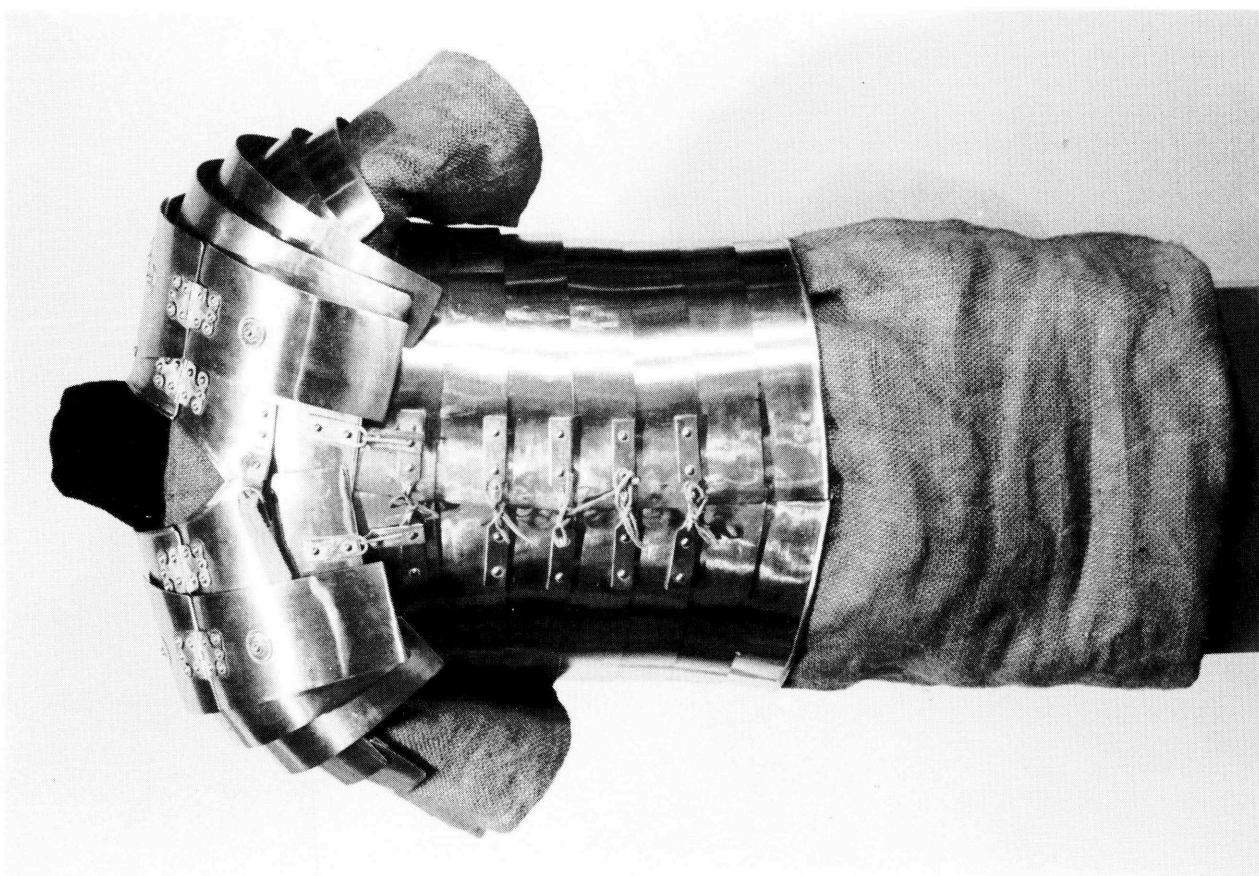


Fig 111 H Russell Robinson's final version of the Corbridge Type B 'lorica segmentata' – front

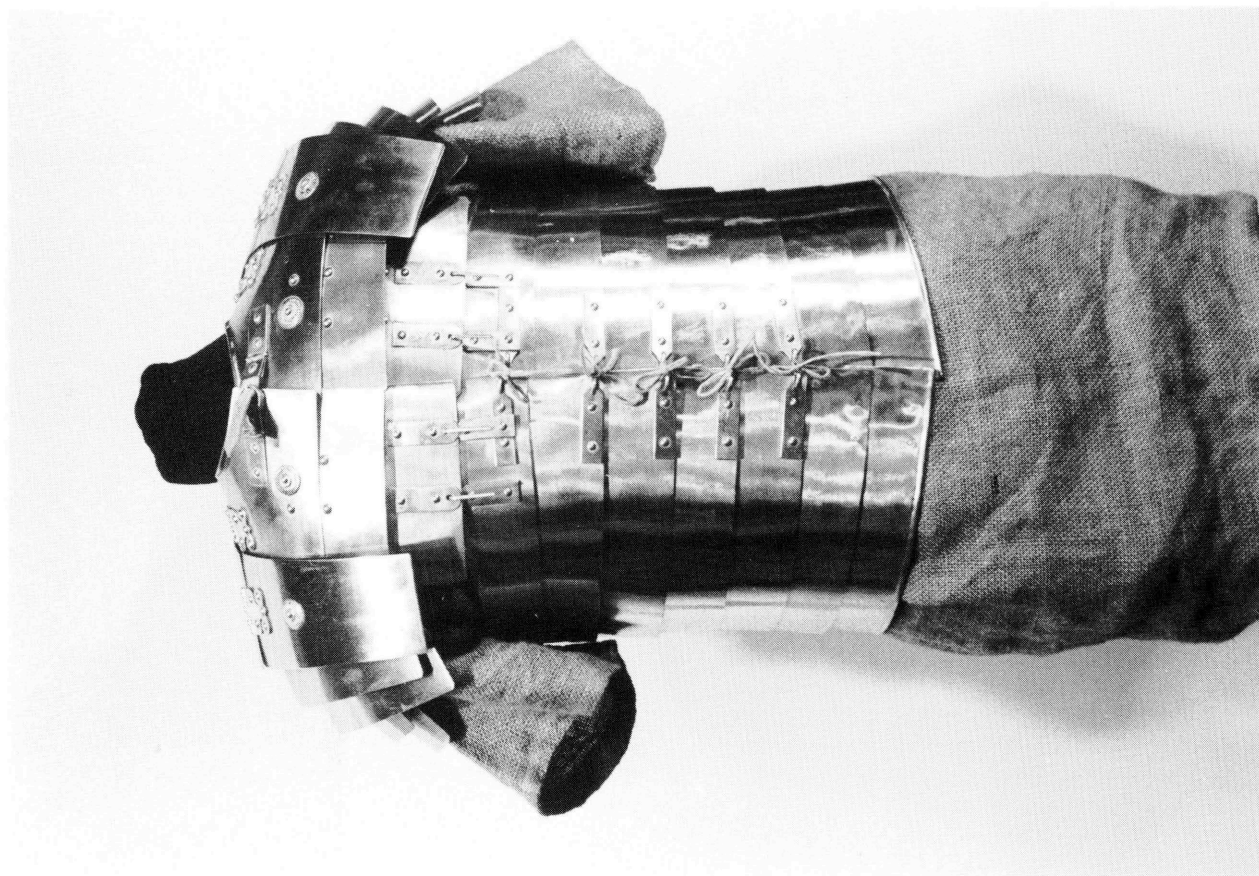


Fig 112 H Russell Robinson's final version of the Corbridge Type B 'lorica segmentata' – back



son's publication of the armour (*ibid.*, figs 178 and 180). It is possible that this change of heart was brought about by the hybrid Type A/C set (Cuirass 1) which, superficially at least, appeared to show that the point did belong on the outside.

The Type C cuirass (Cuirass 6) is unique in the Hoard in that no shoulder guards can be assigned to it; there are only five sets and reference to the provenances of these shows that all can be attributed to the other upper assemblies.

### *The girth hoops*

All of the sets of girth hoops had been forcibly collapsed. Under normal circumstances, it is only possible partially to collapse a set of these, not only because of the way in which the leathers are attached, but also due to the curvature of the pieces. Consequently, when the girth sets are compacted in this way, a number of things can happen: one set of plate ends will fan out, whilst the other end stays together (No 81); the topmost girth hoop can be forced down over the lower plates (No 78), and this can be one of the main contributory factors in leathers being torn from their rivets (No 77). In other words, the very act of compressing the girth hoop sets, presumably in order that they should take up as little room as possible in the chest, would probably make it necessary to undertake repair work on the pieces if they were intended to be used again, regardless of what other damage they may have incurred.

Many of the sets of girth hoops provide evidence that at least one tie-hook had been twisted out of shape at some point (Figs 50, 55, 57, 68), but this is hardly surprising, since these were rather flimsily constructed fittings. Cut from very thin brass sheet (most such fittings were made from an 85/15 brass – Bishop 1984), one end of the tie-hook was rolled to form a tongue, which was in turn curled up to become the loop, a construction detail which is illustrated by a loose tie-hook in the Hoard (No 232).

### *The decorative fittings*

There is one basic stylistic difference between the Type A and Type B/C cuirasses and this concerns the form of the brass fittings. With the Type A cuirasses, the lobate hinges are quite elegant (Fig 31) and the decorative bosses are large (Fig 32). On the Type B/C, however, the lobate hinges are less refined (Fig 43) and the bosses consist of small decorated relief zones surrounded by large, flat, and plain borders (Fig 44). Where replacement fittings were necessary, yet further styles have been used and these only serve to emphasise the point that the differences Robinson rightly detected between the two main types of cuirass (1975, 177–80) may not be temporal features, but rather the result of different workshops or craftsmen producing the fittings (Bishop 1987, 112–13; 120).

### *Damage to the cuirasses*

All of the assemblies show signs of damage, some of

which had evidently already been repaired, and some which may have been the reason for the armour being discarded on the occasion of the burial of the Hoard.

In the category of damage already repaired, there are those pieces which have had fittings – commonly lobate hinges – replaced. This can be detected when a different form of fitting was used or different types of rivet, such as large dome-headed examples in one case (Fig 35); in this last instance, only four rivets had been used, one of which was fastened through the centre of the decorative triangular aperture of the hinge. In another case (Fig 39), the hinge had been riveted straight through two of the plates of a collar piece (thus removing the need to have a hinge between the two plates!).

The other, more recent, damage was more plentiful. Most of the assemblies are twisted or bent in such a way as to render them unusable. It is worth pointing out that some distortion (as was the case with the girth hoops) may have occurred if it was necessary to force the assemblies into the box. Nevertheless, it seems unlikely that all such damage can be put down to this cause, in which case it may be worthwhile remembering that it has been suggested that the segmented cuirass was a 'soft' armour (Williams 1977, 77): that it was designed to give under a blow and thereby absorb most of the shock of impact, unlike mail which transmits the full force of a blow and causes particularly unpleasant wounds where the armour is forced into the flesh.

Certainly, most of the upper shoulder guards have suffered some sort of damage (and it is this part of the armour that was most vulnerable to a swinging blow when legionaries were in close order and with their bodies protected by their shields). Similar damage is to be found on the collar piece, presumably for the same reasons, although none is immediately obvious on back or breastplates. Likewise, no signs of what might be combat damage are to be found on the girth hoops.

### *Conclusions*

The Corbridge sets of armour are undoubtedly the most important such find to date, but there are a number of difficulties inherent in studying them, not least of which is the fact that they are such an unusual find. Whilst they have much to tell us about the way in which this sophisticated type of armour functioned, they are equally informative about its drawbacks and are apparently a splendid illustration of the difficulties involved in keeping such materials in a serviceable condition.

We shall never know for certain why these pieces of armour were placed in the chest and then buried, but we can be reasonably confident that they do not go together to make complete sets and that most, if not all, were in need of repair at the time of deposition. The cuirass elements in the Hoard should also act as a warning not to generalise from the particular; these pieces are all highly individual, although bearing a number of superficial similarities, but cannot be thought of as uniform.



## 5 Other finds

Whilst the armour is the best known find from the Hoard, the wide range of other items deserves some comment. Apart from what are quite obviously military finds – the weapon heads, scabbard, and fittings – there are a number of items which have no clear military connection, such as the tools, although the military context should serve to confirm their use by the army.

### Weapons

Weapons form one of the most prominent groups in the Hoard, with bundles of spearheads and butts tied together with cord, and a copper alloy scabbard. Many of the weapon heads still include fragments of wooden shafts within their sockets, and these have usually been broken off. The spearheads are of various types, ranging from probable cavalry lances to infantry stabbing spears, but also including a socketed *pilum*.

Wherever possible, the measurements taken on the examples in the Corbridge Hoard include the maximum length (from tip of blade to base of socket), the maximum width (or width of entry), the length from the tip to the broadest part of the blade (length of entry), and the diameter of the socket. Some of the principles of measurement of spearheads are set out by Barker (1975). In some cases, particularly those of items that form part of a bundle, some dimensions cannot be obtained and this has been indicated wherever necessary.

The classification of spearheads presents a number of problems. Amongst recent treatments of the subject, those by Scott (1980) and Manning (1985, 160–70) repay examination, as does Densmore's (1976) attempt at numerical classification of spearhead forms. Whilst it is fairly certain that spears normally fell into one of two categories, the thrusting spear and the javelin, this did not mean, of course, that thrusting spears could not be thrown or javelins used for thrusting, should the occasion demand. Auxiliary infantry were normally armed with at least two thrusting spears, or *hastae*: this is clear from early imperial provincial sculpture, both funerary (Éspérandieu 1907–38, nos 6125 and 6207) and monumental (Robinson 1975, pl 199), whereas the cavalryman was not only equipped with a thrusting weapon, the *lancea*, but also with a number of light javelins (Josephus *BJ*, III, 96).

Javelins were evidently quite small (Josephus says that each cavalryman carried a quiver full of them) so we need not expect these weapons to have large heads. It is quite possible that many of the smaller heads that have previously been identified as catapult bolt-heads (Manning 1985, 175–7, V254–79) are actually the heads of these small javelins.

Thrusting weapons, on the other hand, would benefit from the largest head possible, since the aim with these was to produce wounds in close combat

but without rendering the weapon useless (as happened with javelins, whose function was primarily one of penetration). For cavalry, a spearhead with a long length of entry was obviously advantageous, since it would inflict the maximum damage without risking it becoming snagged on withdrawal (achieving penetration beyond the widest point of blade could obviously lead to this happening). Thus for the moving cavalryman, the ideal action would be to penetrate the target whilst approaching, and withdraw once past it (cf Coulston 1986, 65–6). No such strictures need apply to the thrusting spears of the infantry, where the momentum of the individual is unlikely to rip the weapon from his hands if it becomes jammed in a target.

On balance, most of the spearheads in the Hoard (Nos 2–47), which are predominantly low-shouldered (ie they have a length–length of entry ratio close to 1: see Table 1), would seem best-suited as cavalry weapons; the larger ones as thrusting weapons, the smaller as javelins (although there is clearly some blurring of the distinction between the two, since their roles were, to some extent, interchangeable). The majority fall within Manning's classes II and III (1985).

In the end, however, we can only guess at the function of these weapons. Sculptural representations are of little help, since sculptors were unlikely to have had knowledge of the finer points of spearhead shape. Some weapons have survived with punched inscriptions on the blade, but the evidence is equivocal: one of the large spearheads from pit XVI at Newstead bears an inscription that probably reads *T.IVN.BA* (Curle 1911, 188, pl XXXVI), interpreted as *T(urma) Iun(ii) Ba(ssi)*, whilst a similar example from the Walbrook at London (Webster 1960, 86 no 257, pl XI.D) has *>.VER.VICT*, possibly *c(enturia) Ver(i) Vict(ri)*. The former clearly belongs to auxiliary cavalry (either an *ala* or *cohors equitata*), but the latter could plausibly come from an *eques legionis* (since legionary horsemen were held on centurial strength – Breeze 1969, 54) or an auxiliary infantryman.

A number of the spearheads retain their wooden shafts (now preserved by iron corrosion products) within their sockets. They usually show signs of having been broken off near the head. It is impossible to tell whether this was done deliberately in order to fit them into the chest, or if the fact that they were broken was the reason why they were included in the assemblage. Where they have been analysed, the woods used included ash (*Fraxinus* sp) and willow (*Salix* sp) or poplar (*Populus* sp). Willow and ash coppice readily, forming the sort of poles required for spear shafts. It is interesting to note that hazel (*Corylus* sp) was used for tool and weapon shafts at Newstead (Tagg in Curle 1911, 360). It may well be that locally available stands (ash at Corbridge, hazel at Newstead) were exploited by units, hinting at some form of woodland management by the army. Obviously, more data is necessary before anything useful can be said on this subject.

There are a number of rectangular iron bars amongst the material from the Hoard (eg Nos 213, 221) including one from the large bundle (No 221)

Table 1 Corbridge Hoard spear dimensions

Cat no	Blade length	Maximum width	Socket diameter	Length of entry	Comments	Length/entry L	Length/width	Manning's class
2	100	41	19	71	point missing	1.41	2.44	II
3	145	34	22	118	—	1.23	4.26	III
4	115	30	20	78	edge damaged	1.47	3.83	II
5	100	33	20	70	point missing	1.43	3.03	II
6	115	25	16	50	—	2.30	4.60	II
7	305	50	25	278	edge damaged	1.10	6.10	—
8	300	16	25	295	edge damaged	1.02	18.75	—
9	142	33	22	105	—	1.35	4.30	III
10	130	—	18	83	—	1.57	—	III
11	87	25	20	—	—	—	—	II
12	120	—	20	—	—	—	—	II/III
13	120	—	20	—	—	—	—	II/III
14	115	—	15	—	—	—	—	II
15	155	—	20	—	—	—	—	III
16	120	—	20	—	incomplete	—	—	II/III
17	115	—	20	—	—	—	—	II
18	125	—	20	—	—	—	—	III
19	105	—	15	—	—	—	—	II
20	135	—	15	—	—	—	—	III
21	110	—	15	—	—	—	—	II
22	130	—	15	—	—	—	—	III
23	100	35	18	77	point missing	1.30	2.86	II
24	120	32	16	90	point missing	1.33	3.75	II/III
25	97	31	15	73	point missing	1.33	3.13	II
26	165	51	—	146	point missing	1.13	3.24	IV
27	145	33	—	110	—	1.32	4.39	III
28	90	30	29	—	point missing	—	3.00	II
29	85	25	18	60	—	1.42	3.40	II
30	70	25	16	55	—	1.27	2.80	I
31	145	30	16	110	—	1.32	4.83	III
32	120	28	18	100	—	1.20	4.29	II/III
33	78	60	25	—	—	—	1.30	II
34a	115	27	19	90	point missing	1.28	4.26	II
34b	145	32	21	120	—	1.21	4.53	III
35	95	36	19	67	—	1.42	2.64	II
36	135	31	22	122	—	1.11	4.35	III
37	110	32	22	93	exploded	1.18	3.44	II
38	160	38	19	124	—	1.29	4.21	III/IV
39	130	30	20	105	edge damaged	1.24	4.33	III
40	65	21	14	—	—	—	3.10	I
41	100	25	18	71	point missing	1.41	4.00	II
42	130	30	20	89	point missing	1.46	4.33	III
43	75	30	15	61	—	1.23	2.50	I/II
44	105	30	17	80	—	1.31	3.50	II
45	155	25	18	130	—	1.19	6.20	III
46	150	34	13	128	point bent	1.17	4.41	III
47	125	63	30	95	—	1.32	1.98	III



and it is possible that these were intended as ingots from which spearheads could be manufactured, although this is highly speculative.

The socketed *pilum* (No 1) is a fairly small example, though not unusually so. At the time of Polybius, the legionary possessed two types of *pilum*, one heavy and the other light (Polybius *Hist* VI, 23), and examples of both kinds are known from Republican military sites in Spain (Schulten 1929, Taf 25; Ulbert 1984, 105–8, Taf 24). From its size, this object would appear to match the description of one of these light *pila*. Far too few complete examples of the *pilum* have survived from antiquity for us to be able to say much about their morphology, although it was at one time fashionable for scholars to speculate (Schulten 1911; idem 1914). There seems little room for doubt, however, that the *pilum* (of whatever form) was a legionary weapon.

The catapult bolts (Nos 48–50) need little comment, save that they are of a standard type. The socket diameters are noticeably larger than those from Hod Hill, which average 10mm with very little variation (Manning 1985, 171), and this may reflect the calibre of weapon from which it was intended they should be fired. It is also worth noting that such weapons, being associated with artillery, are normally held to have a legionary, rather than auxiliary, context during the first and second centuries AD (Baatz 1966; Campbell 1986).

Two types of iron ferrule are represented in the Hoard. One, a simple cone (Nos 64–6), is generally accepted as a spear butt, but the other (Nos 51–63), with a bulbous end, identified by Curle as the butt of an artillery bolt (1911, 189), may have been fitted to a different type of shafted weapon (possibly one type to an infantry spear, the other to cavalry weapons).

The bundles are of interest in their own right, since they seem to indicate systematic collection of the component pieces. They were presumably tied up before it was decided to put them in the Hoard (many other things in the box were loose), and they may have been gathered for repair. It may be inferred that they lacked their shafts before being tied up: a bundle of spears is most easily tied at the middle (ie half way along the shafts), whilst three of the bundles contained shafted objects pointing both ways. It is possible, therefore, that it was intended that new shafts should be fitted to the weapons and tools in the bundles, at least.

## Military equipment

There are a number of copper alloy objects that are traditionally recognised as being military equipment and are, as such, common finds on military sites of the imperial period. Scabbard fittings include two pieces of suspension loop band (Nos 229–30), as well as the unusual large sheath (No 228). This last piece is strongly suggestive of some sort of Celtic long sword, although its form appears to be unparalleled,

as is the tapering sword to which it must have belonged. Nevertheless, a number of Celtic or quasi-Celtic swords have been found in contexts which strongly suggest their use within the Roman army (Manning 1985, 149–51), possibly by auxiliaries bringing their own weapons with them when they enlisted or were drafted.

A fragment of a strap fastener from horse harness (No 235) and a piece of binding strip from a helmet (No 233) can tell us little by themselves, but fit in with the general mixed nature of the arms and armour (suggesting both cavalry and infantry could be represented). The belt plate (No 234) is interesting, not just because it is a comparatively rare piece, but because, unlike most of the objects in the Hoard, it is not typical of the first century AD, as it is decorated with enamel inlay. In this respect, it is a harbinger of later second-century tastes, particularly in the Celtic north-western provinces of the empire. Bateson, in discussing enamelled belt plates (1981, 54–5), considers all except one example from Wroxeter (Webster 1960, 56, no 258) to date to the second century AD. This latter piece, however, also belongs to a type of plate that is not found in stratified first or early second century deposits in Britain or the Rhineland and consequently belongs with second and third-century equipment. Oldenstein (1976, 66 with note 51) has demonstrated that a number of items in Webster's list do not belong in the first century.

The two loose cuirass fittings do not appear to have become detached from the sets of armour in the chest, but were probably packed independently. The tie-hook (No 232) is very well preserved and is unlikely to have been in contact with the armour. The lobate hinge (No 231) is one of the examples with a triangular piercing, similar to (but not an exact parallel with) a hinge still in place on one of the Type A collar pieces (No 72). Such loose fittings are, once again, common finds on military sites.

The remains of feathers in the Hoard were originally thought to derive from cushions (Daniels 1968, 119). Microscopic examination of the material showed it to be made up of long fibres of keratinous tissue (but not animal hair), the most likely interpretation of which is a large fluffy feather similar to those of an ostrich. Remains of a quill were also found in the box in association with some of this material. Whilst the suggestion that the feathers formed part of the stuffing of a cushion cannot be completely discounted, it is possible that, given the presence in the Hoard of writing materials, the quill may have been used as an ink pen, although large fluffy feathers may seem an unusual choice. Alternatively, this type of feather is already known in a Roman military context, for sculptures depicting plumes occasionally show precisely this form of feather, a well known example being the relief (now in the Louvre) supposedly showing soldiers of the Praetorian Guard (Robinson 1975, pl 423 with fig 154). Another example can be found on the Great Trajanic Frieze (ibid, pl 494 and fig 156). Crests and plumes were made from horse hair or feathers (ibid 140–3), although the latter usually appear to have been an erect form (such as those of the *signifer* Flavianus from Hexham (Daniels 1978, 91 fig).



## Tools

The wide range of tools in the Hoard, including a pulley-block, pickaxe, two saws, a chisel, large structural nails, and a bag of small nails, are mostly suggestive of carpentry and joinery.

As with the spears, the chisel (No 83) had an ash (*Fraxinus* sp) shaft. One of the saws (No 84) had a handle of box (*Buxus* sp), whilst the wheel of the pulley (No 97) has been identified as probably oak (*Quercus* sp).

## Miscellaneous objects

Items with no obvious military association include the furniture fittings, hanging lamp, gaming set, faience beads, window glass, and tankard. No pottery was found in the Hoard. Whilst the presence of the glass may at first seem puzzling, it could always have been used to make frit, but it is also conceivable that it could be used as an abrasive.

## Writing tablets and papyrus

The fragments (Nos 289–91) of at least three wax tablets (*cerae*) were in a very poor state of preservation (possibly owing to only partial contact with the corrosion products). Small pieces still survive, but careful sketches were made of them as the chest was unpacked and these can be checked against the photographs of the unpacking, to reveal their location within the box. Analysis of the tablet fragments showed there to have been four or five species used, none of which were native to Britain at the time the Hoard was probably deposited (larch (*Larix* sp): Huntley and Birks 1983, fig 5.151; maple (*Acer* sp): *ibid*, fig 5.25; silver fir (*Abies* sp): *ibid*, fig 5.14; sweet chestnut (*Castanea* sp): *ibid*, fig 5.76) which suggests that they may have been imported ready-made.

Comparison can usefully be made with the well preserved examples from Vindolanda (Bowman and Thomas 1983, 44, fig 9, pls XII, XIII). Since these 'stylus tablets' were formed by hollowing out a sheet of wood and filling the resulting area with wax, it is not surprising that analysis of the contents of the Hoard by the Ancient Monuments Laboratory has revealed the presence of what may be mineral replaced wax. Unfortunately, wet chemical techniques are necessary to confirm such an identification and these are obviously impossible on mineral replaced material. There were traces of characters inscribed in at least one portion of this 'wax' and at least two fragments of writing tablet contained lettering on the surface (now indecipherable), in a similar manner to the Vindolanda examples.

An extremely interesting discovery amongst the variety of organic materials in the Hoard was a few tiny fragments of papyrus. Evidence for its presence in Britain is extremely rare, there being reason to believe it was associated with the manufacture of potin coins in the pre-Roman period (Wild 1966), but

the paucity of finds is almost certainly due to the perishable nature of the material (cf Turner 1980, 18), rather than the scarcity of its use here in antiquity.

The sites of Corbridge and Vindolanda have now produced evidence of two of the main forms of written record in the Roman period – ink and wax – and two different types of medium for the more permanent record, thin wooden sheets in the case of Vindolanda (Bowman and Thomas 1983, 32–44), papyrus at Corbridge (although the Hoard may have contained at least one fragment of a Vindolanda-type concertina tablet, suggested by AM Lab sample no 868134).

Unfortunately, the biases inherent in the circumstances of deposition and preservation make it unwise to attempt to draw any conclusions from these discoveries.

## 6 The textiles

*J P Wild*

### Summary of the analyses

Textile 1: 2/2 diamond twill of medium weight, Z/S, 10/8 per cm, perhaps spin-patterned in part  
 Textile 2: 2/2 diamond twill, fine, Z/S, 20/20 per cm  
 Textile 3: 2/1 plain twill, Z/Z, 10/8 per cm  
 Textile 4: half-basket weave, Z/ZZ, 8–9/c 22 pairs per cm  
 Textile 5: half-basket weave, Z/ZZ, 16/14–20 pairs per cm

Textile 6: plain tabby, Z/Z, 12/12 per cm  
 Lengths of rope and string

### Discussion

Examination under low-power magnification indicated that all the textiles were of wool, but some of the string may be a bast fibre. The yarns in some places showed signs of degradation between the time they were buried and their ultimate envelopment in corrosion products, but all, so far as can be judged, were consistently and competently spun. The yarns were not markedly hard-spun (under 25° angle of twist), but the weft of the half-basket weaves was only weakly twisted (less than 10°). The direction of

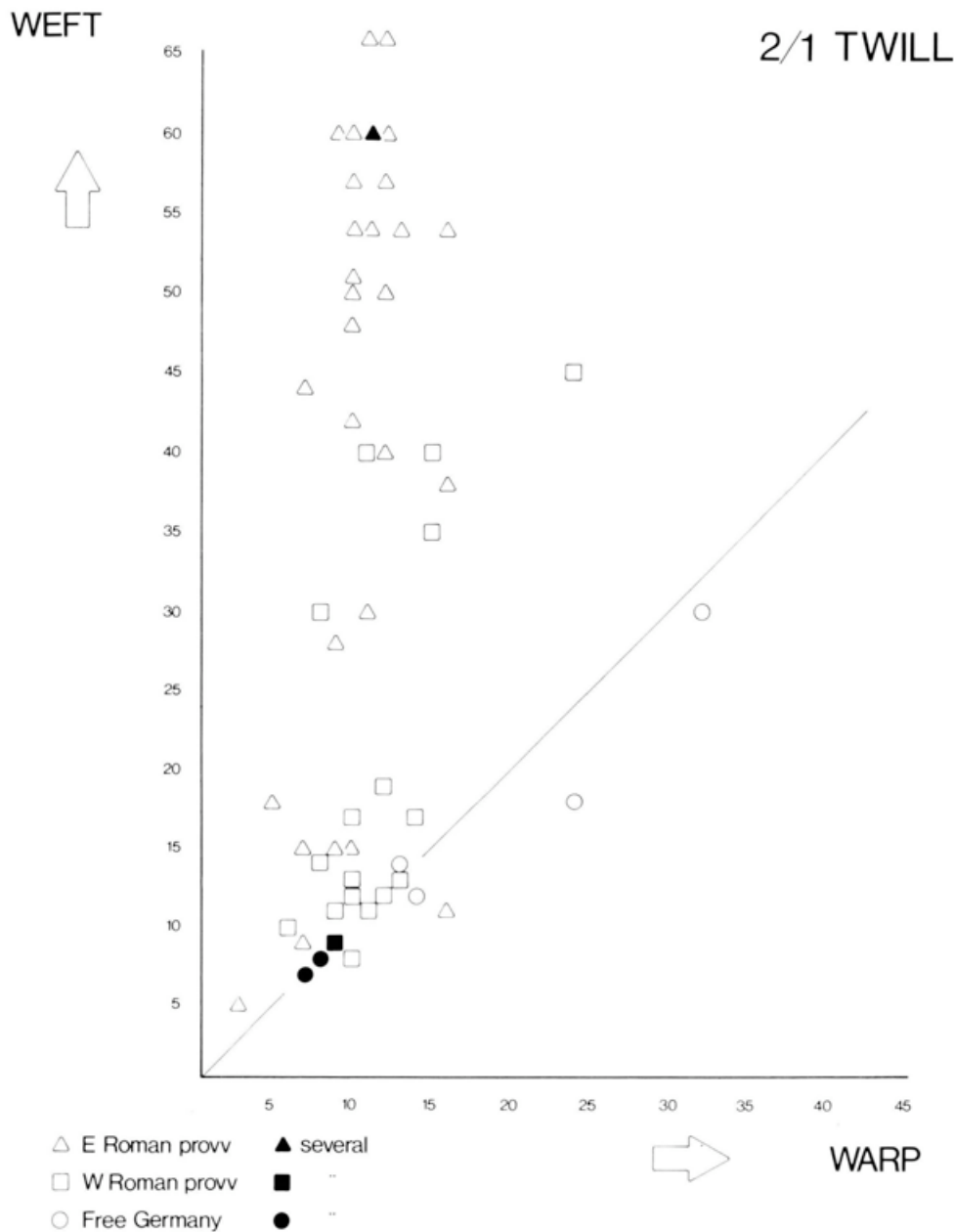


Fig 113 Roman-period 2/1 twills: counts of threads per cm in warp and weft. Triangles denote twills from the eastern Roman provinces, squares twills of the north-western provinces, circles twills of Free Germany. Filled symbols indicate several examples at that count

spin, as one would expect of the northern Roman provinces, was to the right (Z: Wild 1970b, 44–5; Bender Jorgensen 1986, 139–45, 345–8); but the two 2/2 diamond twills combine Z-spun weft, a feature of good quality wool cloth and of twill in particular which is amply attested in Roman contexts like Vindolanda and Mainz (Wild 1977, 27; idem 1982, 13) and on Roman Iron Age sites beyond the frontiers (Bender Jorgensen 1986, 140–5, 346–8, fig 220 'Verring type').

One fragment of the medium weight 2/2 diamond twill (Textile 1) seems to show a sequence of two Z-spun followed by two S-spun yarns in at least one system. Such spin-patterning (as it is called), supported perhaps by contrasting shades in natural wool, is a recognised trait in early north European textiles. On Roman territory, it has been recorded at Vindolanda (stripes: Wild 1977, 27) and Mainz (Wild 1982, 15), but otherwise it is at its most frequent in Free Germany as hound's tooth 'shadow checks' (Bender Jorgensen 1986, 155–61, 352–3, figs 236–8). Stripes as narrow as the two Z/S at Corbridge are hard to parallel.

Textiles 1 and 2, both in 2/2 diamond twill, represent a weave which enjoyed an astonishing upsurge of popularity from about the time of the Roman expansion into western Europe. The published material from Vindolanda (perhaps 30 years earlier than the deposition of the Corbridge Hoard) includes 22 diamond twills as against eight plain 2/2 twills and 19 other weaves (Wild 1977) and the finds from the new excavations will reinforce these figures. A parallel phenomenon can be observed in the Germanic North, too (Bender Jorgensen 1986, 30, fig 22). The thread-counts of Textiles 1 and 2, general indicators of their quality, match some of those at Vindolanda.

2/1 twill, as in Textile 3, is a rare find in Roman Britain. The only comparable piece is from a pit in the Severan fortress at Carpow on the Tay. It is of similar quality to the Corbridge example, but of linen, and served as the backing of scale armour (Wild 1981). From the Rhineland, there are at least eighteen 2/1 twills in the large collection of early Roman textiles from Mainz (Wild 1970b, 117; idem 1982, 12–13 and unpublished) and four from Köln (Schleiermacher 1982). When the thread-counts of the known Roman-period 2/1 twills are plotted on a scatter diagram (Fig 113), it becomes evident that the western provincial pieces and the few from Free Germany (Bender Jorgensen 1980) differ in character from those of the East. There is every likelihood, therefore, that the Corbridge twill is a western provincial product. The type of loom on which 2/1 twill was woven is much discussed, but there is no disguising the great interest after the end of the Roman period in the possibilities of this weave-structure.

Half-basket weave (Textiles 4 and 5) would not be expected in pre-Roman Iron Age Europe or in the Roman Iron Age; it is a distinctively Roman structure, and Mediterranean at that (Wild forthcoming). In fact, it is more than just a short cut to a high output in which the weaver of plain tabby (1/1) passes pairs of weft yarns through the shed instead of singles –

the carefully chosen very weakly spun yarns used for the weft pairs at Corbridge, coupled with the tight beating-up, demonstrate that. Finds made over the past 20 years reveal that half-basket is commoner in some Roman contexts than ordinary plain tabby (Wild 1982, 12 and forthcoming).

The running stitches on fragments of Textile 5 are unfortunately too meagre to interpret, but they add usefully to the small corpus of such techniques in Roman Britain.

None of the Corbridge textiles has any edges, and none (apart from the putative spin-patterning of Textile 1) is decorated. They may simply have been a convenient collection of rags that were to hand when the cuirass plates and other gear had to be wrapped before being stowed in the chest.



## 7 Discussion

### Dating the Hoard

The dating of the Corbridge Hoard is problematical. Although it was originally thought to belong to the end of the Phase I occupation (Daniels 1968; Gillam and Tait 1971; Gillam 1977), with a suggested date of between AD 98 and 105, another interpretation can now be proposed.

The original dating is dependant upon the apparent nature of deposition. It was suggested that the floorboards of the Phase I building were sawn through, the chest buried beneath the floor, against the west wall of the building, and the section of flooring replaced. When the building was subsequently burned down, the replaced floorboards shrank, leaving a gap around them ('a portion of the wooden floor-boards of a room in the building... had been sawn through and raised, the chest buried and the floor-boards replaced' – Daniels 1968, 116).

The few indications that are available seem to point to a date in the first quarter of the second century AD, marginally later than that traditionally attached to the Hoard. A traditional date for these phases suggests either *c* AD 122 or *c* AD 138, making the Hoard Hadrianic rather than Trajanic.

There is little by way of internal evidence to assist with dating the Hoard. Were it not for the enamel belt plate, the contents could belong to any time between the mid first and mid second centuries AD. The presence of the belt plate suggests, but cannot of course be thought to prove, that a date within the last quarter of that notional one-hundred-year span would be appropriate. It must be stressed, therefore, that it is very much a case of the context dating the Hoard, rather than the other way round. Indeed, the new dates suggested for it, based upon the re-examination of the stratigraphical evidence, may have important implications for the period during which the Corbridge type of '*lorica segmentata*' was current. It may also offer an indication of the date for the beginning of popularity for enamel-inlaid military equipment.

### The purpose of the Hoard

The idea that the Hoard was buried in order to accumulate rust and verdigris for medicinal purposes (Davies 1970) seems unlikely, given that there is no structural evidence for a hospital at Corbridge (see Bishop and Dore forthcoming, Chapter 4) and that corrosion products would gather more rapidly in the open in the British climate. More seriously, the suggestion that the deposit is an armourer's hoard (Daniels 1968) deserves consideration.

The items within the chest, weapons and armour, tools, various objects of a domestic nature, and a few unusual pieces such as the window glass are not at first sight directly indicative of armour manufacture *per se*, but they do suggest the sort of range of activities undertaken by the military *fabrica* of this

period. The damaged condition in which some of these objects were deposited suggests that this was not a collection of pristine items, but more likely the sort of material that may have been lying around such a workshop awaiting repair or scrapping.

Thus, whilst we cannot describe this as an armourer's hoard in the narrowest sense, it very probably belonged to a workshop of some kind and was buried when the site was abandoned (burial of unwanted material being standard practice in the army – Bishop 1985, 7–9; idem 1986, 721–2). There is nothing within the Hoard that suggests undue haste in its collection and burial; rather, the meticulous care with which fragments of window glass and a variety of used nails were included, as well as the attention that seems to have been paid to the way in which the contents were packed, seem to indicate a very careful clearance in a short space of time. The gathering of material lying around one or more rooms of a workshop or a storeroom full of scrap and assorted detritus may be the sort of occasion that led to this diverse collection of objects being brought together. If this were so, then the Hoard would present a fascinating insight into the sort of things one might expect to find present, but in use, within a Roman fort.

### Other hoards

A number of similar hoards from the Roman west are useful for the purposes of comparison, although most belong to a slightly later period than the Corbridge Hoard. The Straubing Hoard was found in 1950 some 3km south-west of the fort of Straubing-Sorviodunum and dated to the third century AD (Keim and Klumbach 1976). A similar date is likely for the two hoards found in 1962 (Herrmann 1969, 129–30) and 1967 on either side of the *principia* at Künzing (Schönberger and Herrmann 1971); one was largely made up of iron artefacts, the other copper alloy. The collection of material found at Augsburg-Oberhausen (Hübener 1973), on the other hand, is probably Augustan in date, although there is some doubt about the true nature of the 'hoard' (Wells 1970). Both the hoard from Inchtuthil (Pitts and St. Joseph 1985, 289–99) and the large collection of material from the pits and wells at Newstead may also be relevant here (Curle 1911; Manning 1972).

Besides the well-known 'parade' equipment in the Straubing Hoard, there were many items which were not specifically military in nature – such as the statuettes of gods – and a considerable quantity of material of a similar nature to that found in the Corbridge Hoard: saw blades, keys, nails, bars of iron, 'hipposandals', a bit, part of a set of manacles, and various weapon blades. These were all found placed either in or around a large bronze kettle (Keim and Klumbach 1976, 1–3).

The two Künzing hoards contained a similar range of material, but in far greater quantities – the iron hoard produced large numbers of dagger blades and sheaths, various tools such as mattocks, pickaxes, and bill-hooks, along with nails, tent-pegs, and complete sets of manacles. The bronze hoard was



made up entirely of parade equipment (Schönberger and Herrman 1971, 80–6).

The Augsburg-Oberhausen material was found during gravel working in the nineteenth century and contains the widest range of objects in both copper alloy and iron from this type of hoard: weapon heads, horse trappings, personal fittings, tools, keys, chains, horse harness, and nails of various kinds (Hübener 1973).

It is well known that the hoard from Inchtuthil consisted of a large number of nails with a few wheel tyres and it is this hoard that is always seen as typical of the Roman practice of concealing unwanted materials when a site was abandoned (Pitts and St Joseph 1985).

The collection of objects from the pits at Newstead, from both the Flavian and Antonine periods, parallels these hoards in many ways and may well have had a similar purpose. Not only large numbers of weapons and armour, but also tools and various types of fittings are present (Curle 1911).

With the exception of the Augsburg-Oberhausen material, where the circumstances of deposition are unclear, all of these collections seem to have been deliberately concealed. In some cases, deposition might be related to a known historical event, as is apparently so for the Künzing and Straubing hoards, whilst the historical context for the Inchtuthil and Newstead finds is the subject of speculation.

A parallel for the use of a chest for storing tools and weapons is known from phase III of the civilian building at Chalk in Kent (Johnston 1972, 118). The remains of this chest were found in the upstairs room and the excavators suggested that it may have contained the collection of material found in close proximity to it. This material included two bill-hooks, a hunting spear, a knife, a key, an iron ring, and a linch-pin.

## Conclusions

It would seem that the Corbridge Hoard was a collection of damaged items, much of which was probably scrap, which was placed in a wooden chest and subsequently buried, probably at the end of the Phase II occupation of the fort. This assemblage may have been the result of clearing out part of the fort workshop or store prior to the departure of the garrison. However, the care with which the chest had been packed, even to the point of the armour being wrapped in textile, suggests that the collection may have been gathered in the box before the decision to bury it had been taken, for it would have made more sense to conceal the contents in a pit and burn the box if it had always been intended to leave it behind.

If this is indeed the case, then the Corbridge Hoard may provide an interesting example of the sort of scrap that the Roman army would consider taking with it when it abandoned a site, rather than the material that more normally occurs in the archaeological record – objects that were not thought worth removing, for whatever reason (Bishop 1985, 7–8; idem 1986, 721–2).

It has recently been argued (Maxfield 1986, 66–71,

following Ulbert 1970, 12) that the frequent occurrence of '*lorica segmentata*' fittings in forts usually thought to have held auxiliary troops suggests that this form of armour was not exclusively legionary. In addition, it seems logical that '*lorica segmentata*' was cheaper and easier to produce than *lorica hamata* or *squamata*. However, this has recently been countered (Coulston forthcoming) by pointing out that this form of cuirass was best-suited to close-order legionary combat, whilst auxiliaries equipped with *lorica squamata* or *hamata* would retain greater flexibility, in that they could be used in either open order (in their normal skirmishing role) or close order, should the need arise. Mass production by the army would also tend to negate the question of cost and ease of manufacture being a consideration. It is also important that the '*lorica segmentata*' fittings in 'auxiliary forts' are recovered alongside examples of *pilum* and catapult bolt heads, both of which are probably legionary.

The implications of the contents of the Corbridge Hoard, which includes segmental armour, catapult bolt-heads, and a socketed *pilum*, cannot be discussed in depth here but need to be briefly summarised. If the armour and at least some of the weapons are interpreted as legionary, then the contents might be viewed as suggesting a (part-?) legionary garrison in either Phase II or III. On the other hand, it is conceivable that the armour was only at Corbridge to be repaired and would thus reveal nothing about the nature of the occupying force. Standard interpretations of forts of the type to which Corbridge belongs would require the presence of an auxiliary garrison, but even the excavators had their doubts about this hypothesis (for the Phase I fort, at least – Gillam and Tait 1971, 27) and there is certainly epigraphic evidence that may be seen as indicative of a legionary presence before the final destruction of the fort.

Whilst it may be possible to follow Ulbert (1970, 12) in seeing '*lorica segmentata*' as issued to auxiliary (as well as legionary) infantry, there are obvious objections to doing the same with the *pilum*, so characteristically legionary, both in its traditions and its function, and the artillery bolts (Baatz 1966). If the contents of the Corbridge Hoard are taken at face value, therefore, it could be argued that they would do nothing to hinder the notion of a mixed (legionary infantry and auxiliary cavalry?) garrison during the early years of the second century AD. It is equally clear, however, that it is possible (but not necessarily wholly plausible) to turn this argument on its head to show that auxiliary troops were using what has always been assumed to be legionary equipment.



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# Concordance of original context numbers and catalogue numbers from the Corbridge Hoard

1	143	59	104
2	154	60	104
3	7	61	36
4	94, 104	62	26, 27
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6	94, 104	64	10
7	38	65	10
8	38	66	104
9	136, 137	67	113
10	136, 137	68	45b, 502
11	136, 137	69	104
12	136, 137	70	58, 61, 62b, 131, 131(2)
13	136, 137	71	52, 127, 128, 129, 130, 132a, 133, 301, 303, 304
14	136, 137	72	51, 217, 301, 303, 305, 306, 307
15	136, 137	73	63, 69, 131, 131(2)
16	136, 137	74	10a, 10b, 57, 58, 64
17	136, 137	75	63, 131
18	136, 137	76	16, 175, 178
19	136, 137	77	7
20	136, 137	78	40, 41, 46, 301, 304
21	136, 137	79	12, 30, 44
22	136, 137	80	12, 30
23	82, 95	81	18, 30
24	82, 95	82	106
25	82, 95	83	38
26	?	84	55, 58, 59, 80, 90, 155
27	145	85	31, 45, 98, 110ab, 138, 142, 146
28	91	86	104, 109, 144
29	104	87	26, 27
30	104	88	43
31	21	89	169
32	125, 143	90	109, 160
33	91	91	136, 137
34	104	92	104
35	?	93	21
36	122	94	26, 27
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40	104	98	96, 97, 101, 104, 105, 111, 125
41	45a, 502	99	119
42	45a, 502	100	126, 128, 129
43	132ab	101	43
44	104	102	?
45	109, 161	103	178
46	109, 161	104	178
47	7	105	97
48	104	106	141, 144
49	97	107	500
50	116	108	118, 87
51	43	109	125, 143, 26, 27
52	94, 104	110	43
53	67, 171d	111	103, 161
54	134	112	95
55	104	113	?
56	104	114	?
57	104	115	178
58	104	116	178
		117	175, 178
		118	7
		119	77, 157, 154
		120	56
		121	26, 27
		122	78
		123	171c

124	26, 27	189	?
125	100	190	?
126	7	191	?
127	7	192	?
128	67?	193	?
129	67?	194	?
130	67?	195	?
131	67?	196	?
132	67?	197	24
133	108	198	109
134	154	199	57
135	154	200	179
136	94, 104	201	179
137	109	202	143a, 501
138	?	203	26, 27
139	90	204	78, 92
140	90	205	104
141	145	206	145
142	143	207	109
143	7	208	131
144	116	209	26, 27, 139
145	69	210	?
146	154/54	211	109
147	109	212	109?
148	26, 27	213	177, 503
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150	104	215	26, 27
151	123	216	143b, 501
152	?	217	?
153	?	218	?
154	?	219	?
155	141	220	?
156	175, 60	221	
157	35	222	
158	104	223	94, 104
159	141	224	?
160	109	225	161
161	?	226	59
162	145	227	145
163	?	228	20
164	111	229	12
165	125	230	151
166	119	231	119
167	140	232	104
168	85, 37	233	141
169	?	234	106
170		235	141
171	136	236	104?
172	96	237	171c
173	122	238	26, 27
174	159	239	26, 27
175	104	240	26, 27
176	104	241	171d
177	7	242	?
178	116	243	104?
179	84?	244	104?
180	7, 94	245	143
181	7, 53	246	146
182	142	247	171d
183	99	248	141
184	113	249	147
185	109	250	122
186	144	251	16
187	145	252	15
188	154	253	13



254	138	318	147
255	171c	319	145
256	150	320	6
257	164	321	10a
258	145	322	12
259	161	323	25
260	?	324	32
261	112	325	43
262	136	326	51
263	23	327	181b
264	39	328	6
265	149	329	25
266	102	330	32
267	26, 27	331	48
268	114	332	163
269	109?	333	183
270	143	334	10a
271	109	335	12
272	111	336	43
273	144	337	63
274	145	338	64
275	87	339	65
276	21, 22, 135, 136, 171a, 171c, 171d, 181	340	?
277	85	341	185a
278	171b	342	21
279	54?	343	45
280	?	344	59
281	?	345	63
282	148	346	65
283	128	347	105
284	113	348	122
285	99	349	183
286	72	350	'Loose fragments from edge'
287	104	351	'Various fragments'
288	156	352	21
289	'Group 124/87'	353	'Various fragments – labelled A'
290	'Group 104'	354	185a
291	'Mass 84'	355	137
292	104	356	38
293	37, 43, 73, 77, 79, 85, 88, 103, 115, 124, 147, 158, 163, 173, 174, 176, 178, 185a, 191	357	102
294	26, 27	358	51
295	53	359	48
296	90	360	78
297	158	361	52
298	104, 109, 111, 124, 130, 132ab, 138, 141, 144, 163		
299	45		
300	87		
301	302 105		
302	105		
303	106		
304	107		
305	108		
306	109		
307	110ab		
308	111		
309	112		
310	183		
311	186		
312	147		
313	103		
314	105		
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316	?		
317	148		

## The Corbridge Hoard

The Roman fort at Corbridge, Northumberland, was a major military site in the north of England, and overlooked the crossing of the River Tyne by Dere Street. In 1964, excavation of the Flavian *principia*, the adjacent building, and the road between them, uncovered an iron-bound wooden box. The material contained in the box is definitively published in this volume.

At the time of the excavation, it was thought that the box and its contents had been deliberately buried in the corner of one of the rooms of a workshop assigned to the Phase I occupation of the site (c AD 98–105). However, detailed study of the material and the site archive has indicated that the wood initially identified as 'floorboards' in fact formed the lid of the box, which was buried in a pit dug through the Phase I destruction layer at the side of the road to the east of the *principia*. This new assessment suggests that the Hoard was buried between AD 122 and 138.

The box contained a variety of weapons, tools, and fittings. There were as many as 47 spearheads, several of which were tied in bundles, as well as other weapons, such as catapult bolts. Sections of at least six 'lorica segmentata' cuirasses, wrapped in textile and of three distinct types, were also included and these constitute a major contribution to our knowledge of Roman armour of this date. All the armour pieces are shoulder or girth sections, with no complete cuirass represented. In addition, there were a number of other fittings of a type normally considered to be military, including a scabbard, possibly for a cavalry *spatha*.

There was also a rich variety of tools and objects of a less exclusively military nature amongst the contents. These include a pick-axe, chisel, saws, shears, crow-bar, pulley-block, knives, and a lamp and lamp-bracket, as well as a considerable quantity of other iron and copper alloy implements. Nails, gaming counters, beads, whetstones, and objects of bone were also recovered.

It is clear that the box originally contained a number of writing tablets in at least three groups, all of which were fragmentary and illegible. Other wooden objects include a cylindrical box and a tankard. Woollen textiles were recognised and further identifications of textiles have been made on the basis of corrosion products attached to the metalwork. Analysis has suggested that papyrus, rope, string, and possibly feathers, were also present.

The chest in which all this material was packed was 0.88m by 0.58m in size, and about 0.41m deep. It was made of alder (*Alnus* sp) and its corners, which were reinforced with strips of iron, were originally dovetailed. Leather covered the entire box, including the iron reinforcements and their copper alloy domed studs. It has been possible tentatively to reconstruct the manner in which the contents were originally packed (Fig 8).

The Corbridge Hoard consists of items which were already damaged when consigned to the chest and

can probably be identified as scrap. The chest had been carefully packed, perhaps as the result of clearing out a workshop or store prior to the departure of a garrison, and then deliberately buried.

## Résumé

Le fortin romain à Corbridge, Northumberland, une installation militaire d'une importance majeure située en Angleterre du nord, contrôlait le point du traversée de la rivière Tyne par la route 'Dere Street'. En 1964, les fouilles du *principia* Flavian, le bâtiment à son côté, et une rue entre les deux ont découvert un coffre en bois relié en bandes de fer. Ce volume présente un aperçu définitif de ce coffre et de son contenu - le dépôt de Corbridge.

Au moment de son dégagement, on pensait que le coffre et son contenu avait été enterré à dessein dans le coin d'une des salles d'un atelier qui appartenait à la première phase d'occupation du site (c98–105 n.è.). Une étude détaillée des trouvailles et de l'archive du site a indiqué que les traces de bois, considérées en 1964 comme planches, formaient le toit du coffre, enseveli dans une fosse qui avait pénétré les couches de destruction de la première phase au bord de la rue à l'est du *principia*. Selon la nouvelle évaluation présentée dans ce volume, on a pu conclure que le dépôt a été enterré entre les années 122 et 138 de notre ère.

Le coffre contenait une diversité d'outils, d'armes et d'attachements. Il y avait jusqu'à 47 têtes de lance, dont plusieurs étaient liés en groupes, aussi bien que d'autres armes, y inclus les culasses de catapulte. Des sections d'au moins six cuirasses de forme *lorica segmentata*, enveloppées de textile, et en trois formes diverses, fournissent des données importantes sur l'armure romaine de cette époque. Elles sont toutes des éléments partielles - la protection pour la poitrine ou pour les épaules; il n'y avait aucune cuirasse intégrale. En outre on a trouvé des autres éléments considérés comme d'origine militaire, y inclus un fourreau, peut-être pour un *spatha* de cavalerie.

Le coffre contenait aussi une grande variété d'objets moins militaires, comme une pioche, un ciseau, des scies, des cisailles, une pince à levier, une poulie, des couteaux et une lampe et son console aussi bien qu'une quantité considérable d'objets de fer et d'alliage de cuivre. Des clous, des jetons de jeu, des perles, des pierres d'aiguisage et des éléments en os y étaient aussi.

Le coffre a évidemment contenu au moins trois groupes de tablettes d'écriture, toutes très fragmentées et illisibles. Parmi les autres objets en bois étaient une boîte en forme de cylindre et un pot. Des textiles en laine ont été reconnus, et des autres textiles ont survécu comme produits de corrosion sur les éléments de métal. Les analyses ont identifié du papyrus, de la corde, de la ficelle et peut-être des plumes.

Le coffre mesurait 0.99 par 0.58m, sur 0.41 de profondeur. On l'avait construit en bois d'aune



(*Alnus* sp), avec les coins en queue d'aronde renforcés par des bandes de fer. L'ensemble était couvert en cuir, y inclus les bandes de fer et les clous en cuivre. On a pu tentativement reconstruire la disposition originale du contenu. Le depot était composée d'objets déjà dommagées, et peut-être considéré comme de la ferraille. C'était peut-être le débris du nettoyage d'un atelier ou un entrepôt qu'on avait soigneusement emballé et délibérément enterré avant le départ du garnison.

## Zusammenfassung

Das römische Kastell in Corbridge, Northumberland, war eine bedeutende militärische Anlage im Norden Englands. Es überschaut den Übergang der Dere Street über den Tyne. 1964 wurde im Zuge der Ausgrabung der flavischen Principia, des benachbarten Gebäudes und des Straßenzuges zwischen ihnen ein eisenbeschlagener hölzerner Kasten gefunden. Der Inhalt dieses Kastens wird in diesem Band abschließend veröffentlicht.

Zur Zeit der Ausgrabung wurde angenommen, daß der Kasten und sein Inhalt absichtlich in der Ecke eines der Räume einer Werkstatt, die der Siedlungsphase I des Areals (um 98 – 105 n. Chr.) zugeschrieben wird, vergraben worden war. Ein eingehendes Studium des Inhaltes und des Ausgrabungsarchives hat jedoch ergeben, daß die Hölzer, die ursprünglich als 'Fußbodenbretter' angesehen worden waren, in Wirklichkeit den Deckel des Kastens darstellen. Der Kasten war in einer Grube, die durch die Abbruchsschicht der Phase I an der Straßenfront östlich der Principia ausgehoben worden war, vergraben worden. Diese neue Interpretation legt es nahe, daß der Depotfund zwischen 122 und 138 n. Chr. versteckt worden ist.

Der Kasten enthielt eine Vielfalt an Waffen, Werkzeugen und Zubehör. Darunter waren 47 Lanzenspitzen, davon mehrere zu Bündeln zusammengeschnürt, und andere Waffen wie etwa Katalpultbolzen. Teilstücke von wenigstens sechs 'lorica segmentata' Kürassen, die in Tuch eingewickelt waren und zu drei getrennten Gruppen gehörten, befanden sich ebenfalls unter dem Inhalt. Sie tragen in bedeutender Weise zu unserem Wissen über den römischen Harnisch zu diesem Zeitpunkt bei. Die Teile der Rüstungen waren alles Schulter- und Gürtelstücke. Es befand sich kein vollständiger Kürass unter den Funden. Daneben war weiteres Zubehör vertreten, welches normalerweise als militärisch angesprochen werden kann, einschließlich einer Scheide, die möglicherweise zu einer Kavallerie-spatha gehört hatte.

Unter dem Inhalt befand sich auch eine reiche Vielfalt an Werkzeugen und anderen Gegenständen mit nicht so ausschließlich militärischem Nutzen. Dazu zählten Spitzhacken, Meißel, Sägen, große Scheren, Brechstangen, Flaschenzüge, eine Lampe und ein Lampenwandarm, so wie eine beträchtliche Anzahl anderer Geräte aus Eisen und Kupferlig-

ierung. Nägel, Spielsteine, Perlen, Wetzsteine und Gegenstände aus Bein wurden sichergestellt.

Es steht fest, daß der Kasten ursprünglich eine Anzahl von Schreibtafeln in wenigstens drei Gruppierungen enthalten hatte, von denen jedoch alle fragmentarisch und unleserlich waren. Unter weiteren Holzgegenständen befanden sich eine zylindrische Schachtel und ein Trinkkrug. Textilien aus Wolle wurden festgestellt und weitere Textilien sind auf Grund von Korrosionsprodukten an Metallobjekten identifiziert worden. Analyse gibt Anzeichen dafür, daß Papyrus, Seil, Bindfaden und möglicherweise auch Federn mit zu dem Inhalt gehört haben.

Die Truhe, in der all dieses Material verpackt gewesen war, hatte ein Ausmaß von 0.88m mal 0.58m und war ungefähr 0.41m tief. Sie war aus Erle (*Alnus*) hergestellt und ihre Ecken, die durch Eisenbänder verstärkt waren, waren ursprünglich durch Schwalbenschwänze verzinkt. Die ganze Truhe, einschließlich ihrer Eisenverstärkung und halbrunden Beschlägen aus Kupferligierung, war mit Leder bespannt. Es gelang annähernd die Art und Weise, in der der Inhalt ursprünglich gepackt gewesen war, zu rekonstruieren (Abb 66).

Der Depotfund in Corbridge bestand aus Stücken, die schon beschädigt waren, als sie in den Kasten gelegt wurden und sie können deshalb wahrscheinlich als Altmetall angesehen werden. Die Truhe war mit Sorgfalt, möglicherweise als das Ergebnis einer Aufräumsaktion in der Werkstatt oder dem Lagerraum vor dem Abzug der Garnison gepackt und dann mit Absicht vergraben worden.



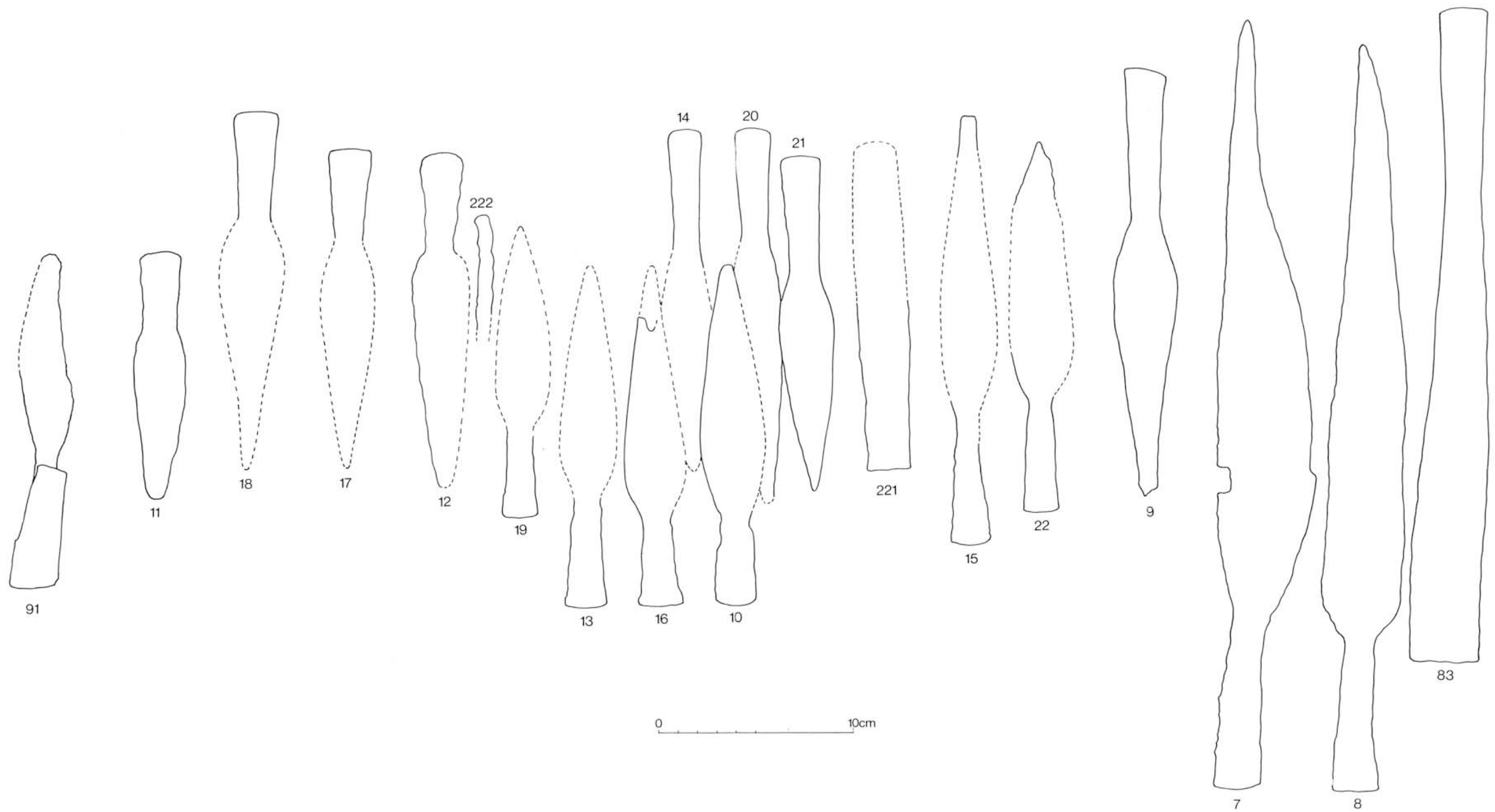


Fig 11 Corbridge hoard: diagram illustrating 'unpacked' contents of bundle (scale 1:2)

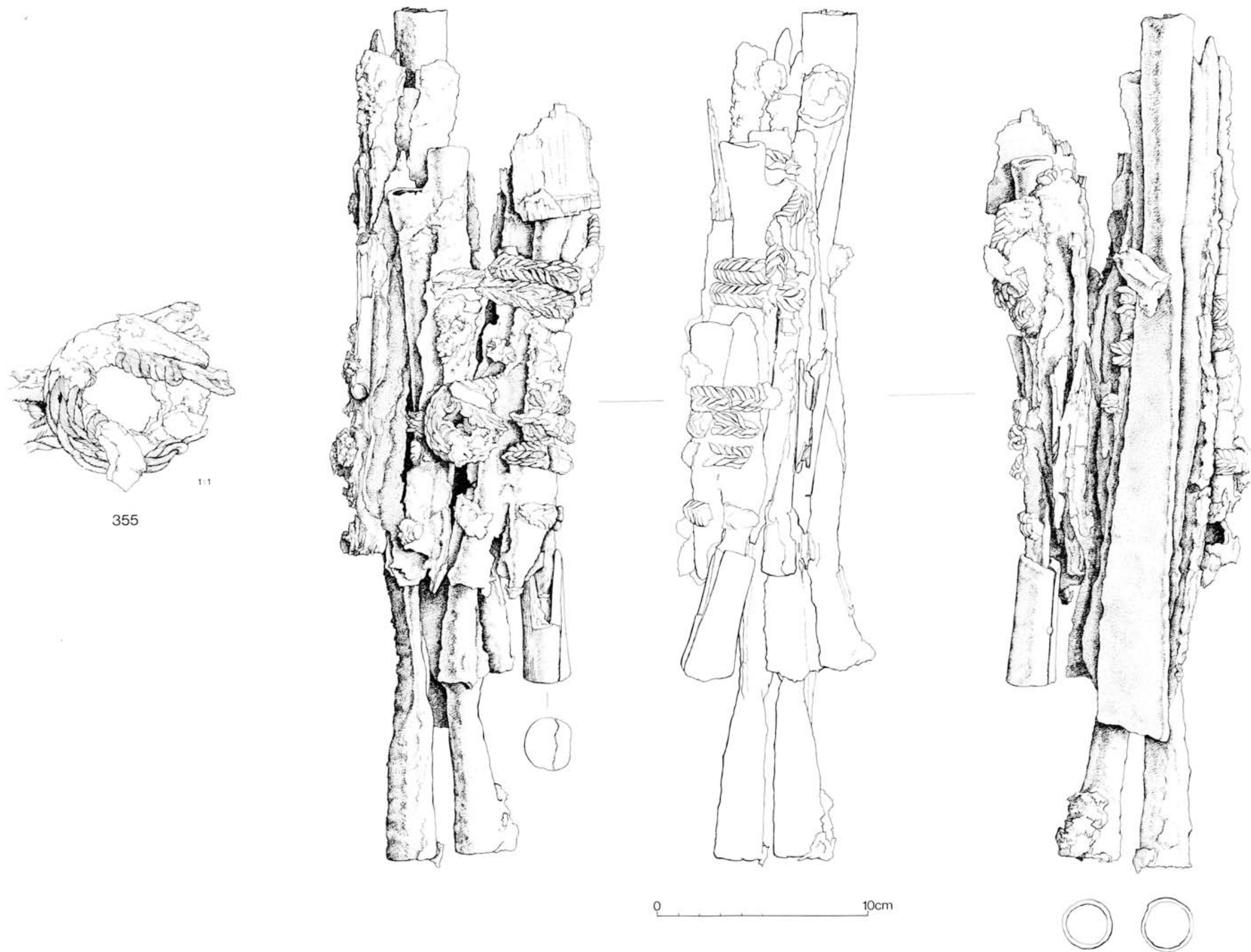


Fig 12 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)

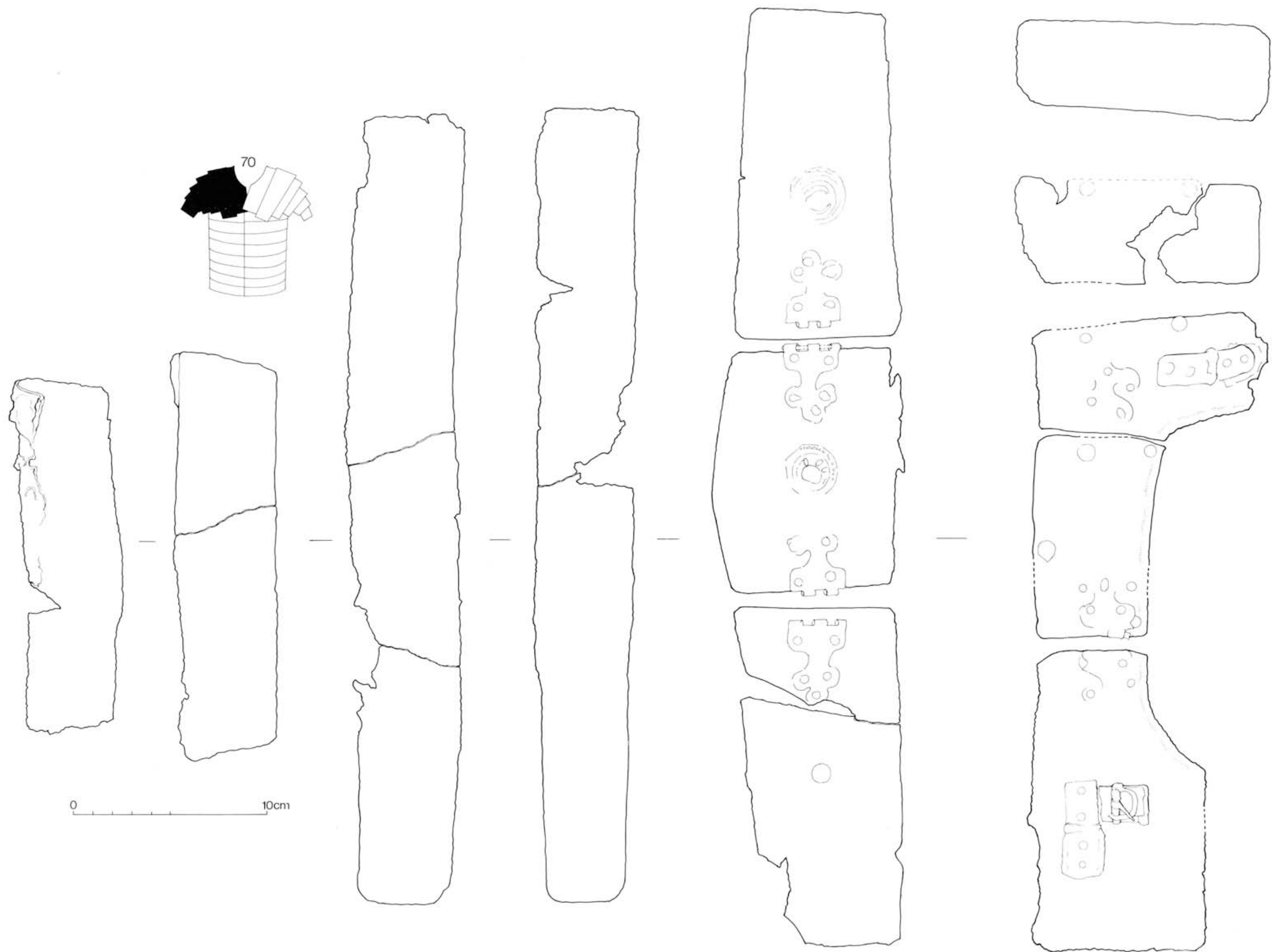


Fig 25 Corbridge Hoard: Cuirass 1, patterns (scale 1:2)



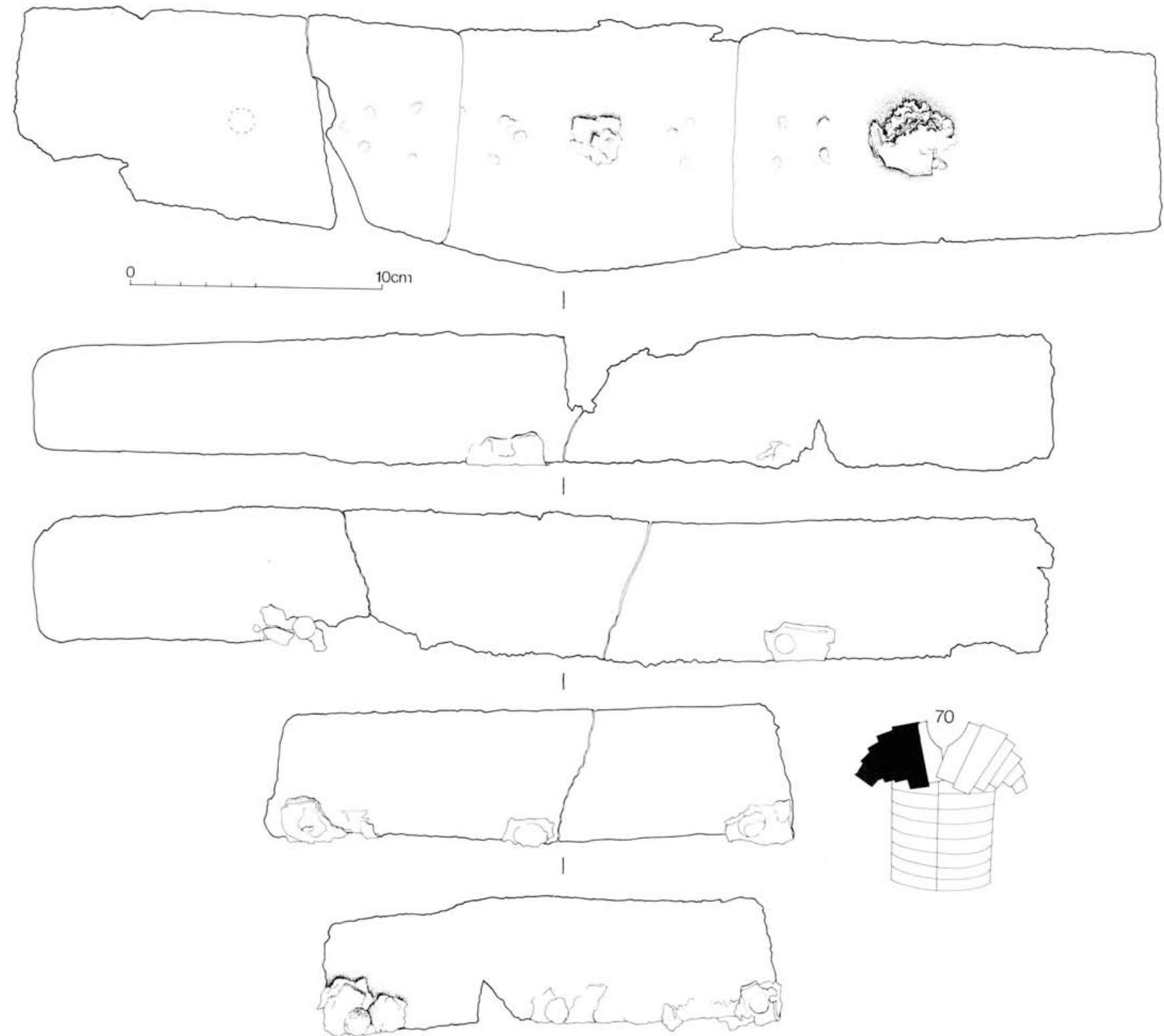


Fig 29 Corbridge Hoard: Cuirass 1, shoulder guard patterns (scale 1:2)

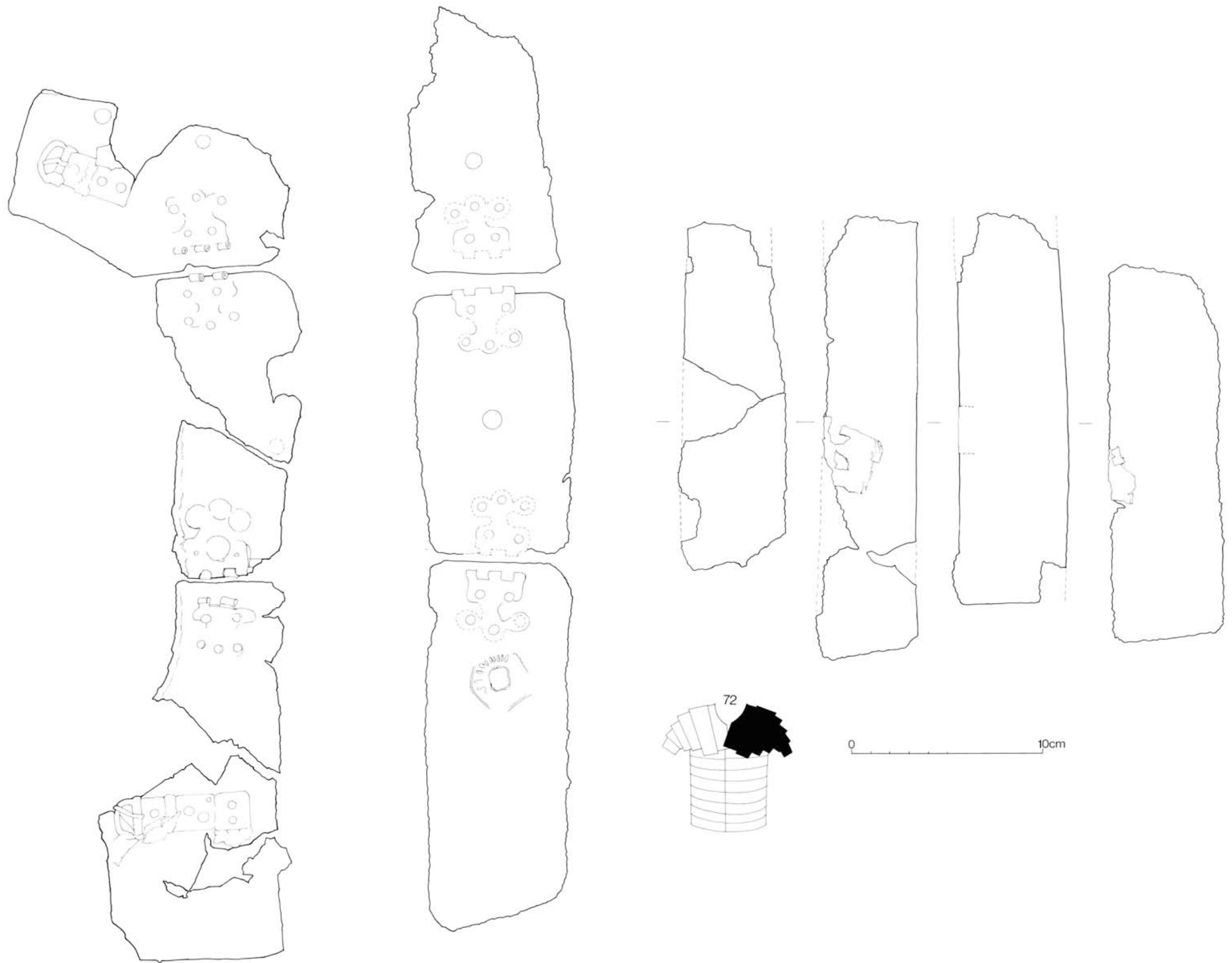


Fig 33 Corbridge Hoard: Cuirass 3, patterns (scale 1:2)

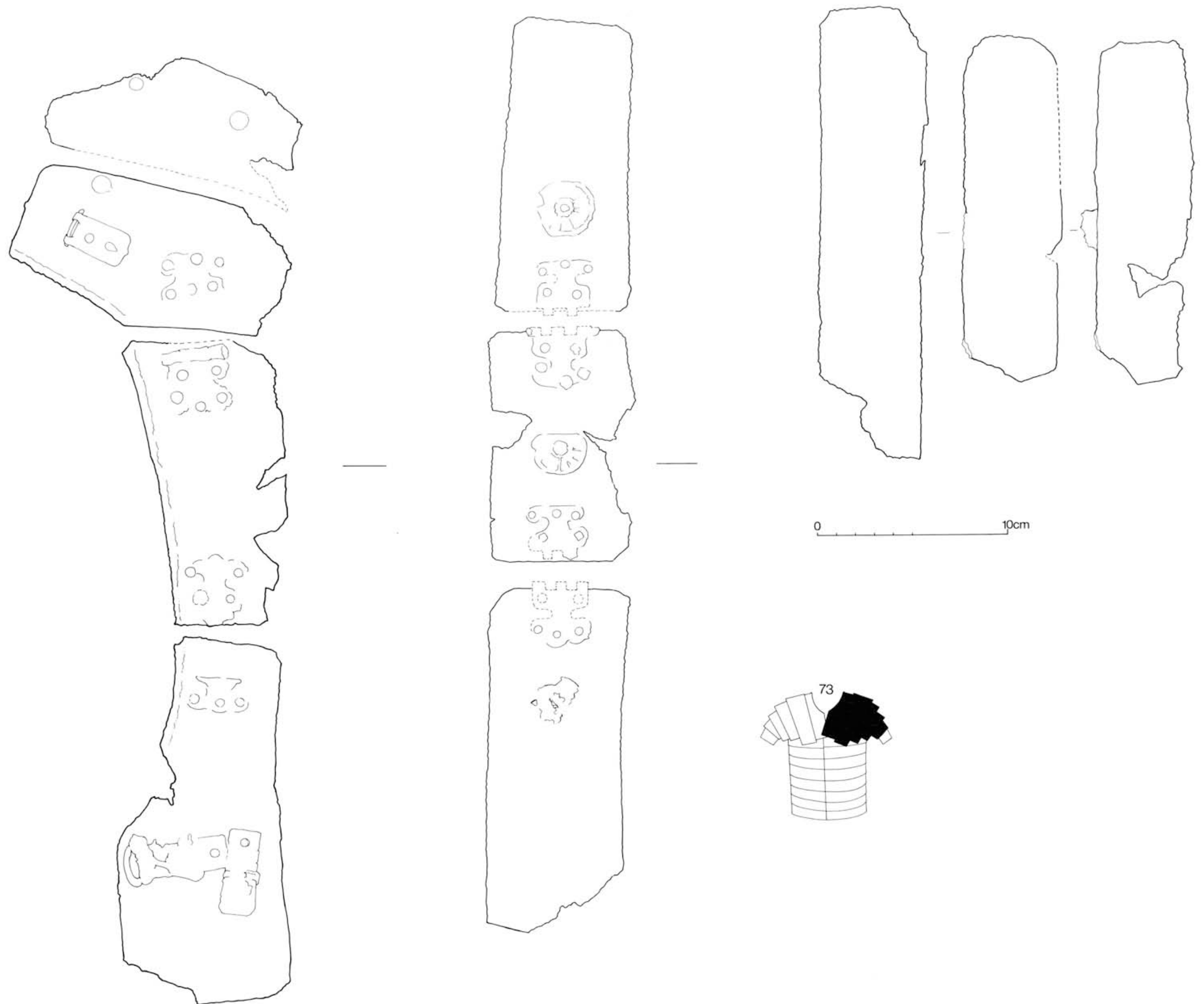


Fig 38 Corbridge Hoard: Cuirass 4, patterns (scale 1:2)



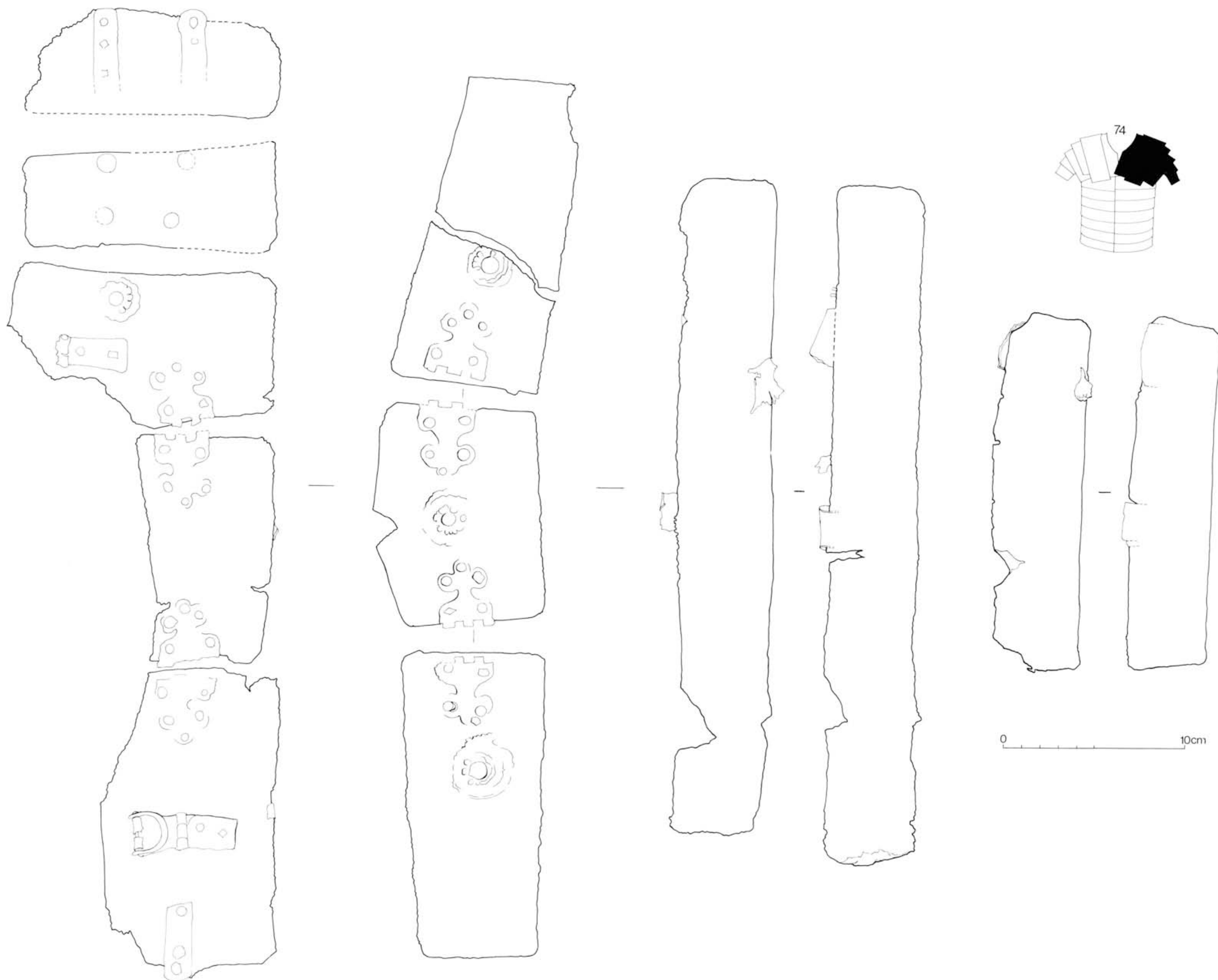


Fig 42 Corbridge Hoard: Cuirass 5, patterns (scale 1:2)

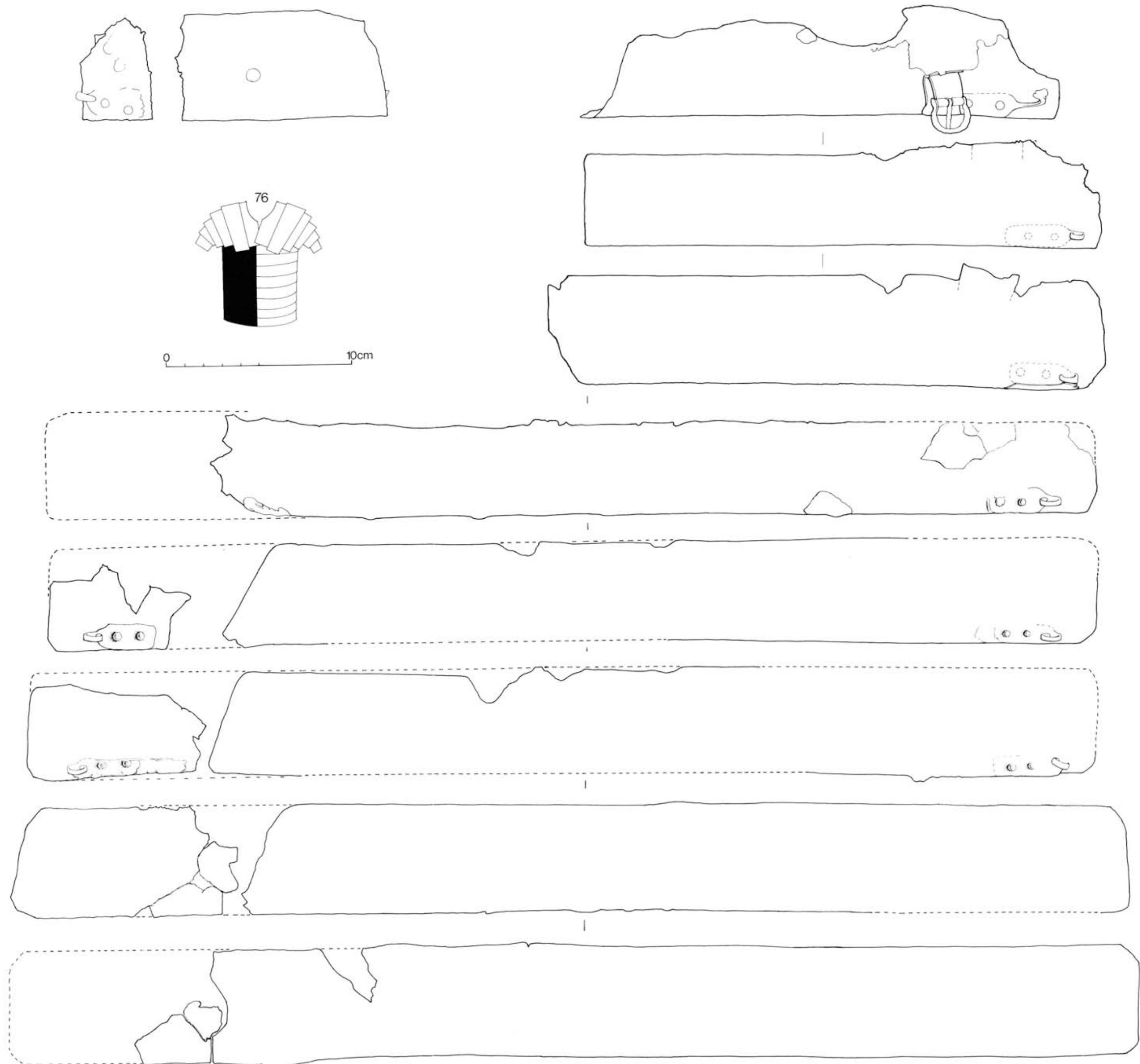


Fig 50 Corbridge Hoard: Cuirass i, outside patterns (scale 1:2)

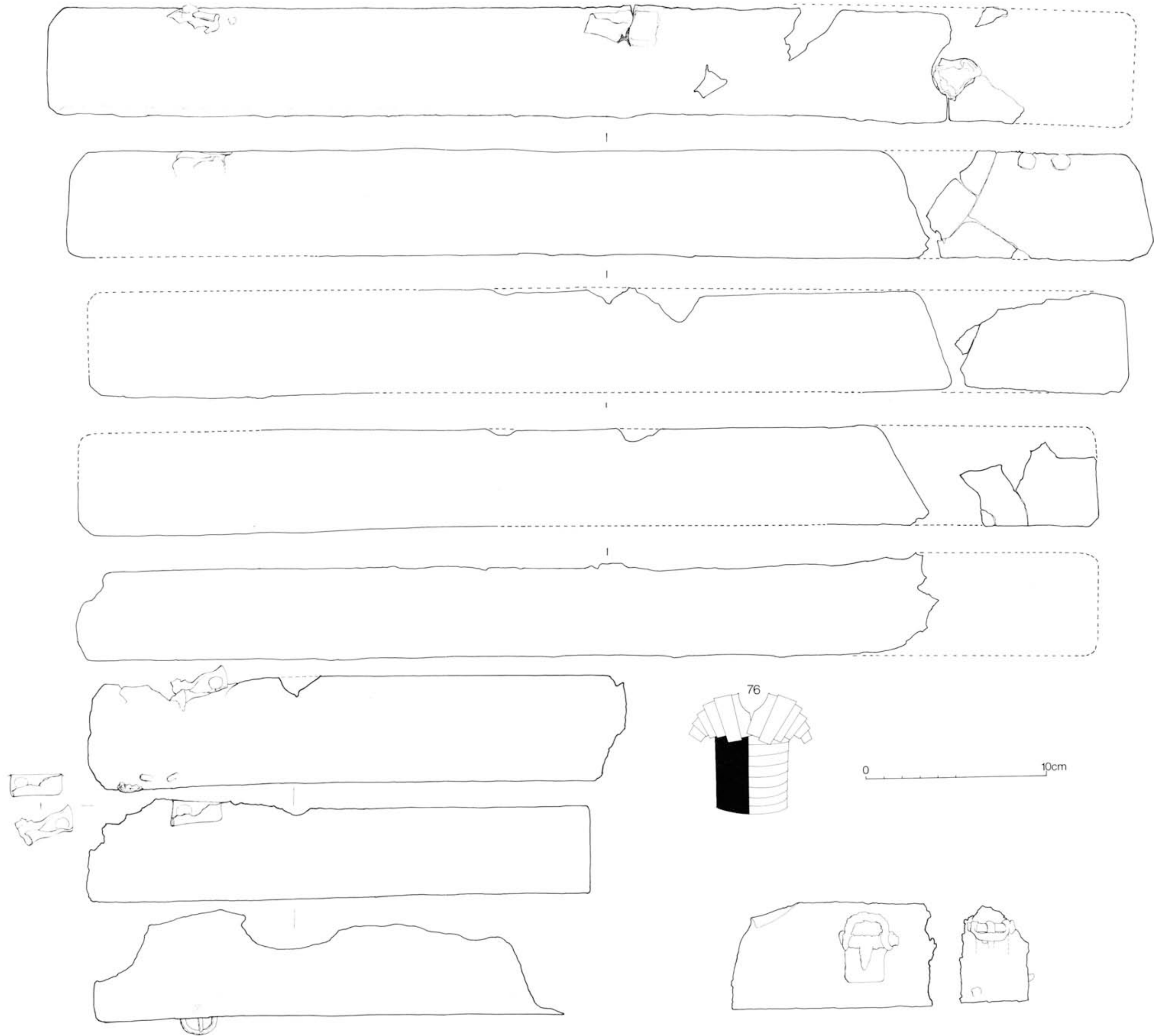


Fig 51 Corbridge Hoard: Cuirass i, inside patterns (scale 1:2)



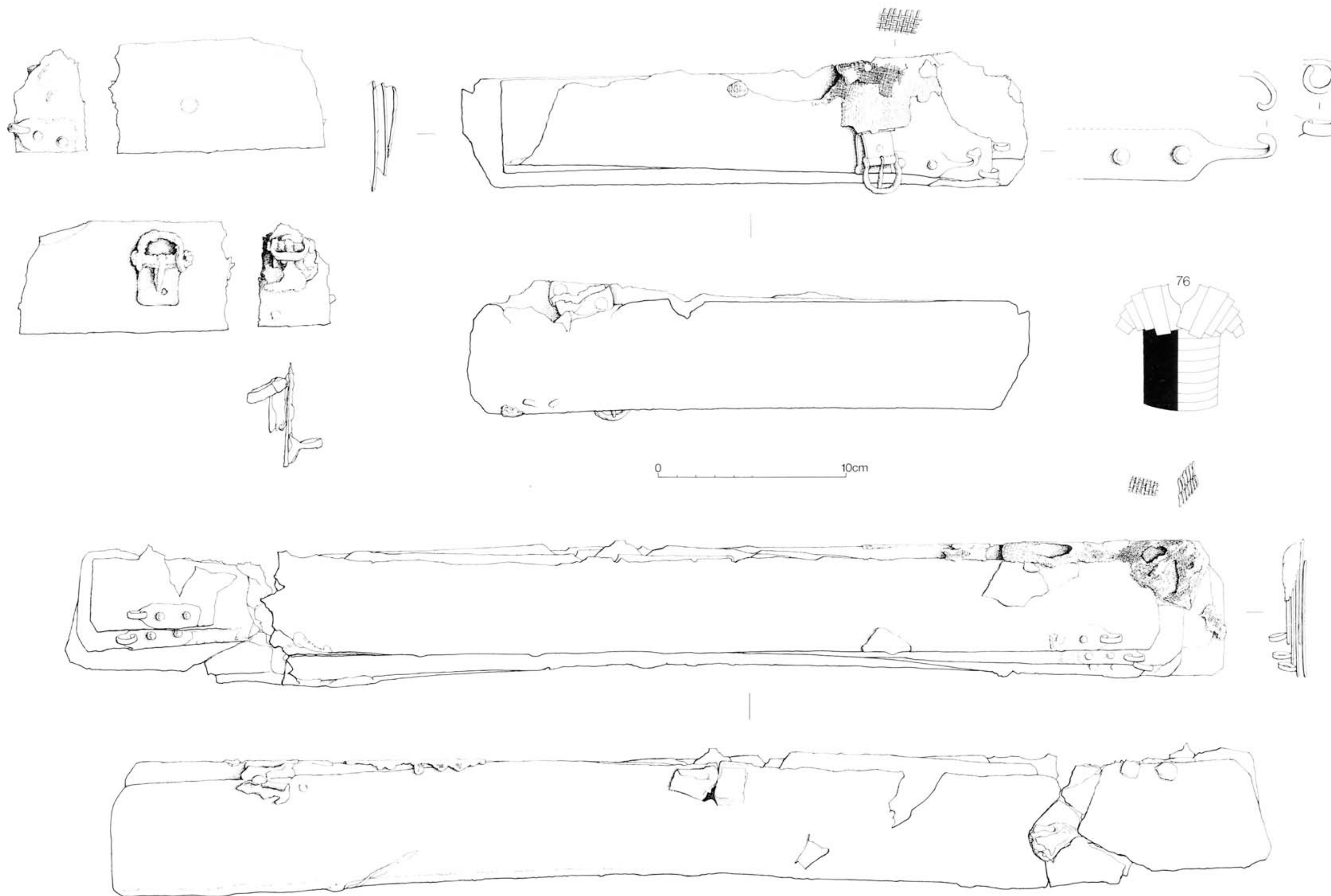


Fig 52 Corbridge Hoard: Cuirass i, plans (scale 1:2)

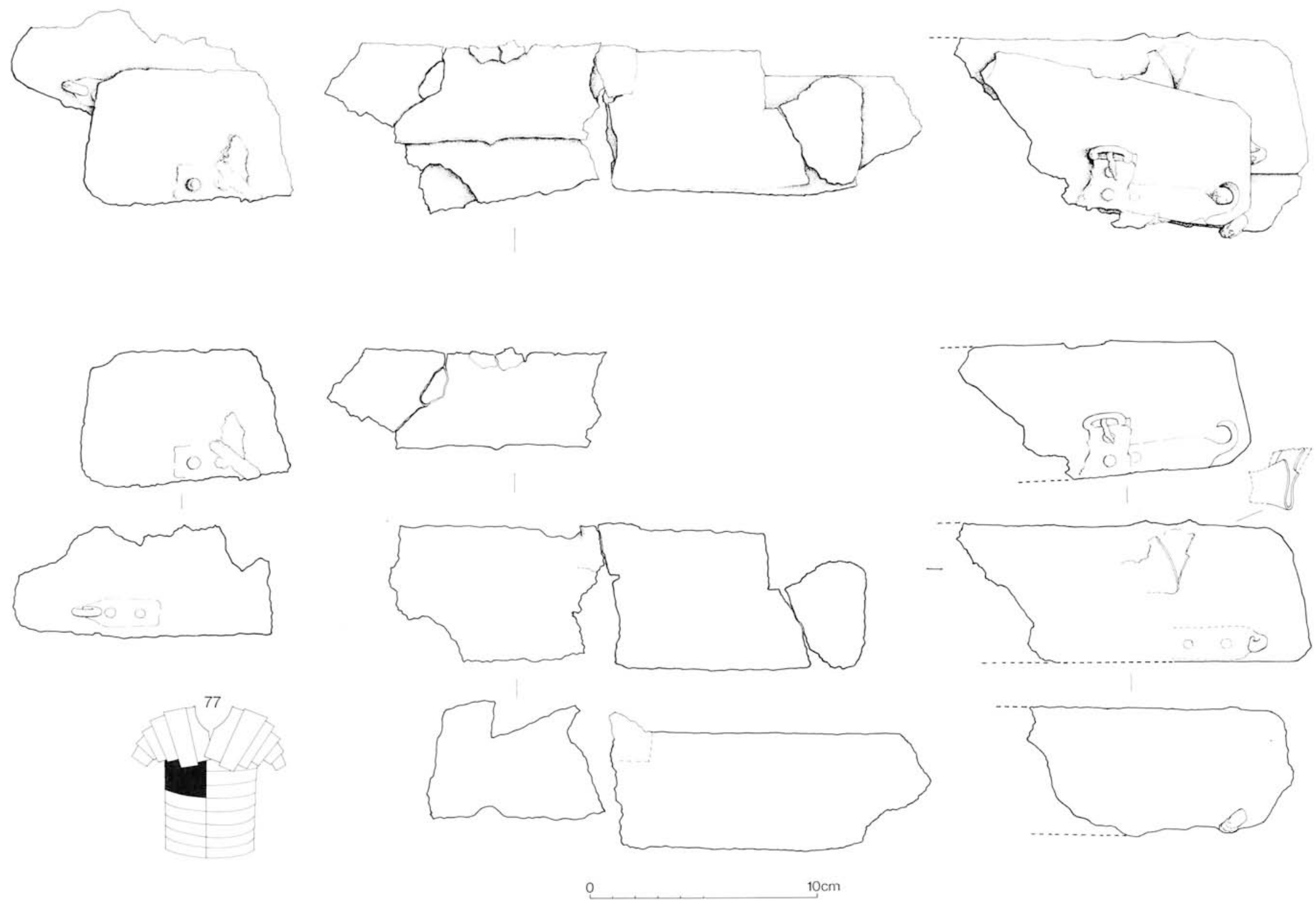


Fig 55 Corbridge Hoard: Cuirass ii, outside plans and patterns (scale 1:2)

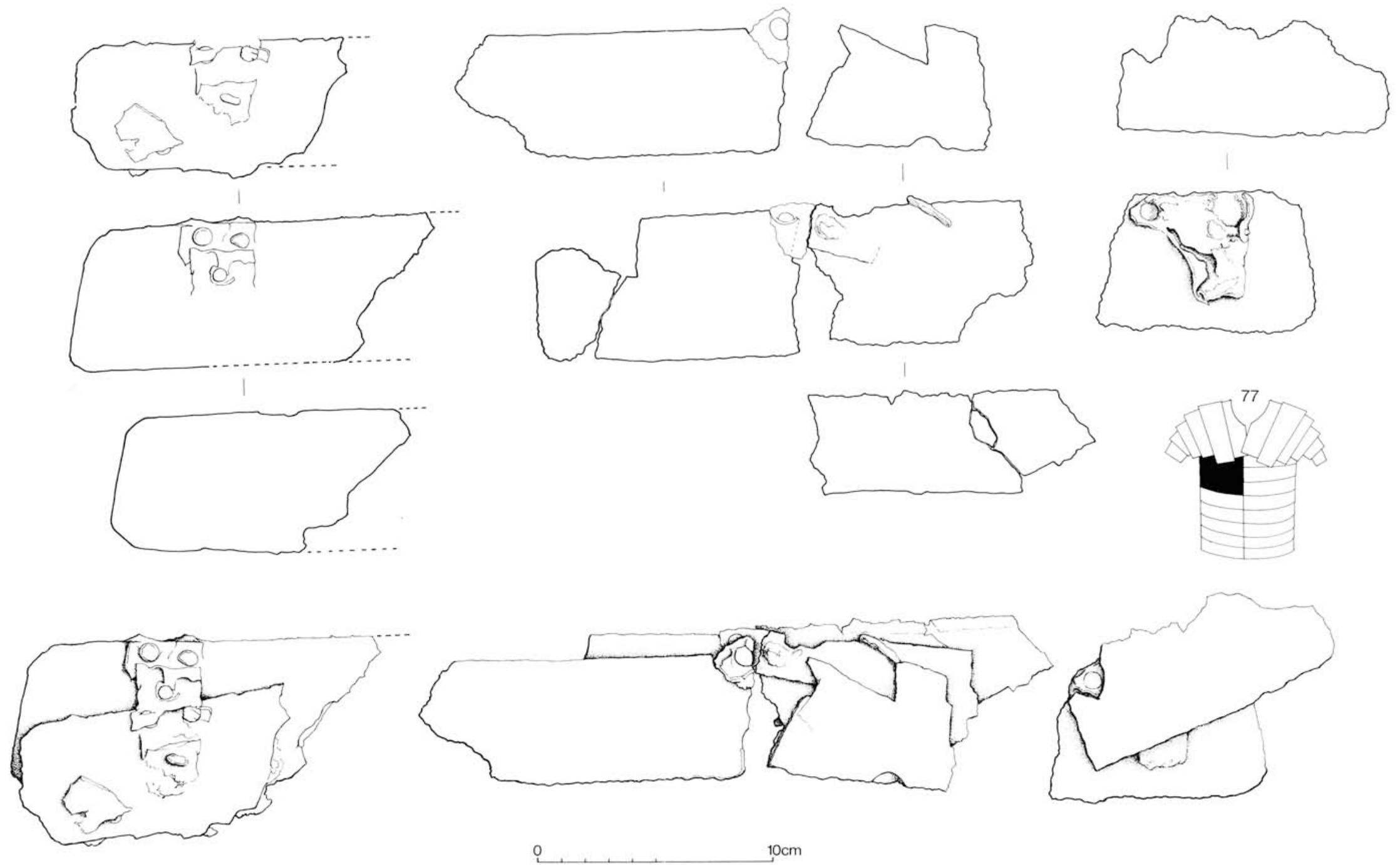


Fig 56 Corbridge Hoard: Cuirass ii, inside plans and patterns (scale 1:2)



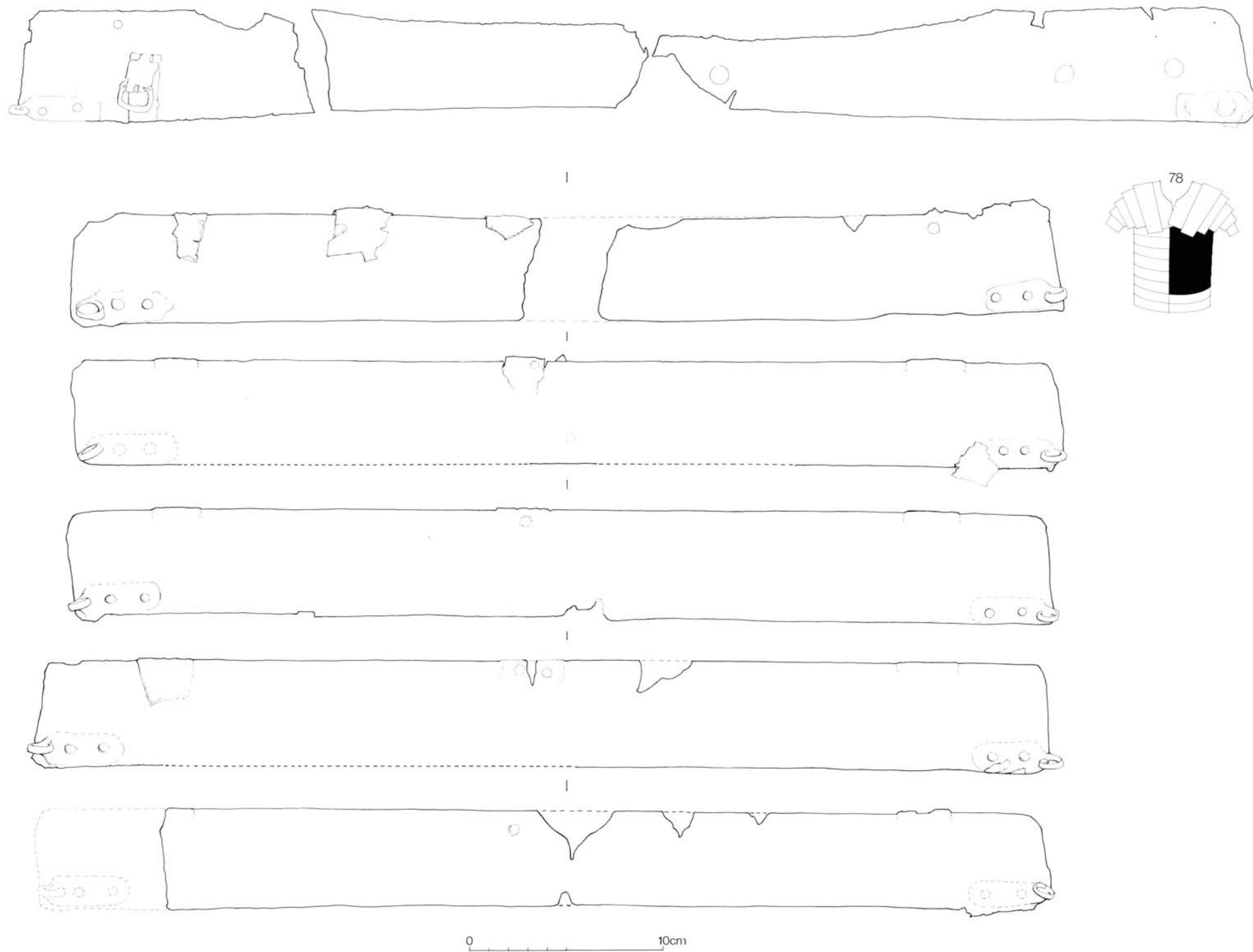


Fig 57 Corbridge Hoard: Cuirass iii, outside patterns (scale 1:2)



Fig 58 Corbridge Hoard: Cuirass iii, inside patterns (scale 1:2)



Fig 59 Corbridge Hoard: Cuirass iii, plans (scale 1:2)



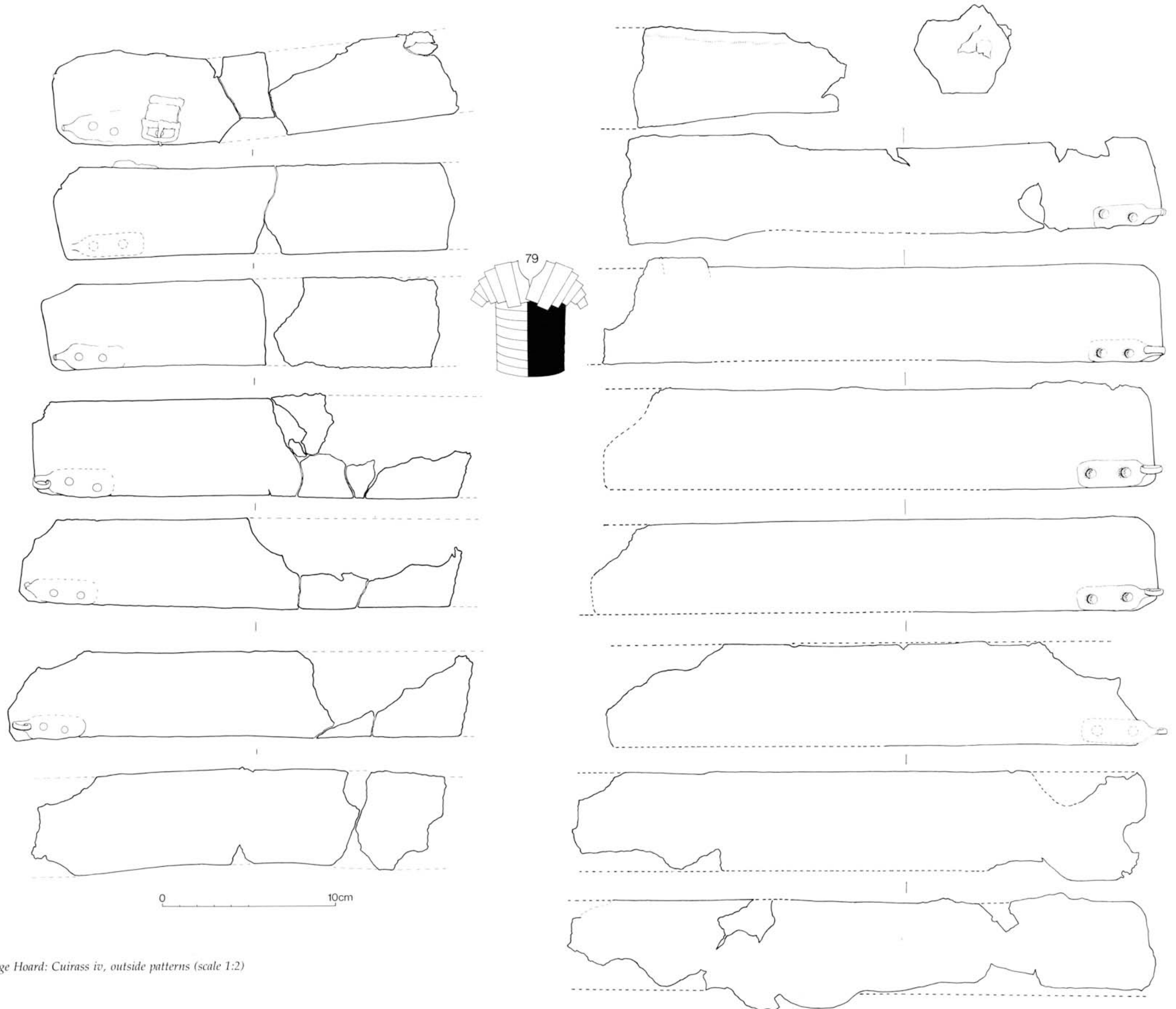


Fig 61 Corbridge Hoard: Cuirass iv, outside patterns (scale 1:2)

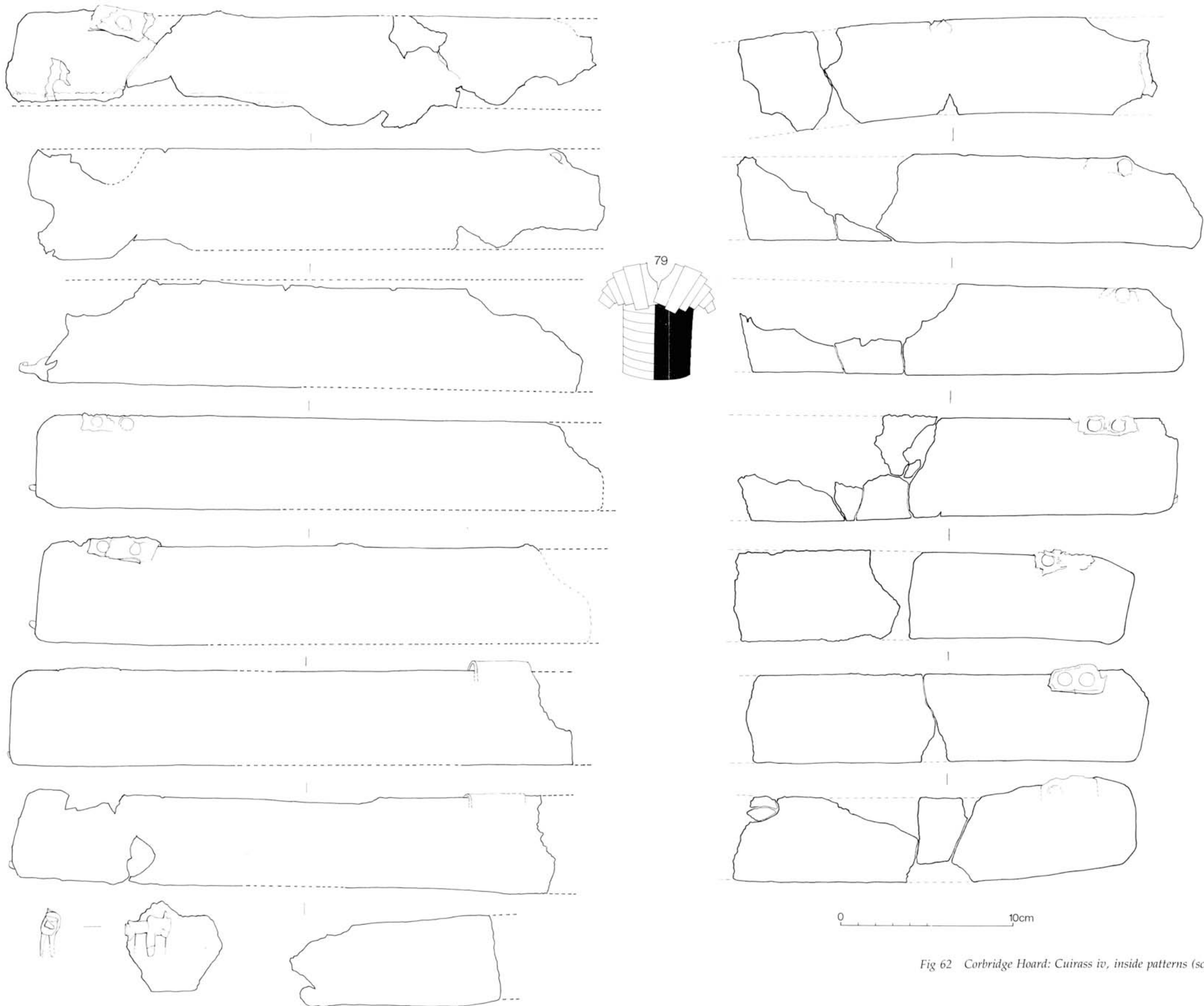


Fig 62 Corbridge Hoard: Cuirass iv, inside patterns (scale 1:2)

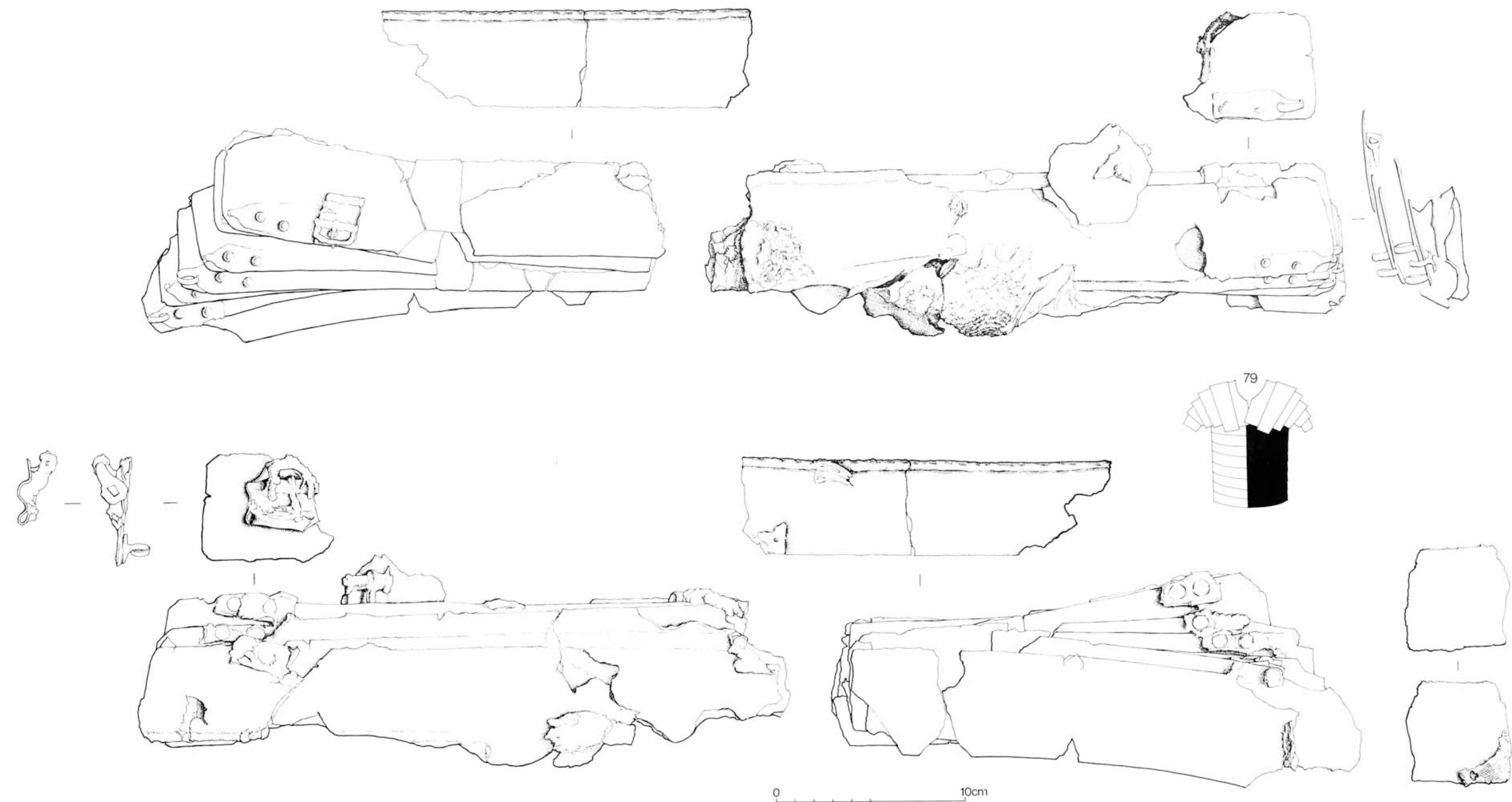


Fig 63 Corbridge Hoard: Cuirass iv, plans (scale 1:2)



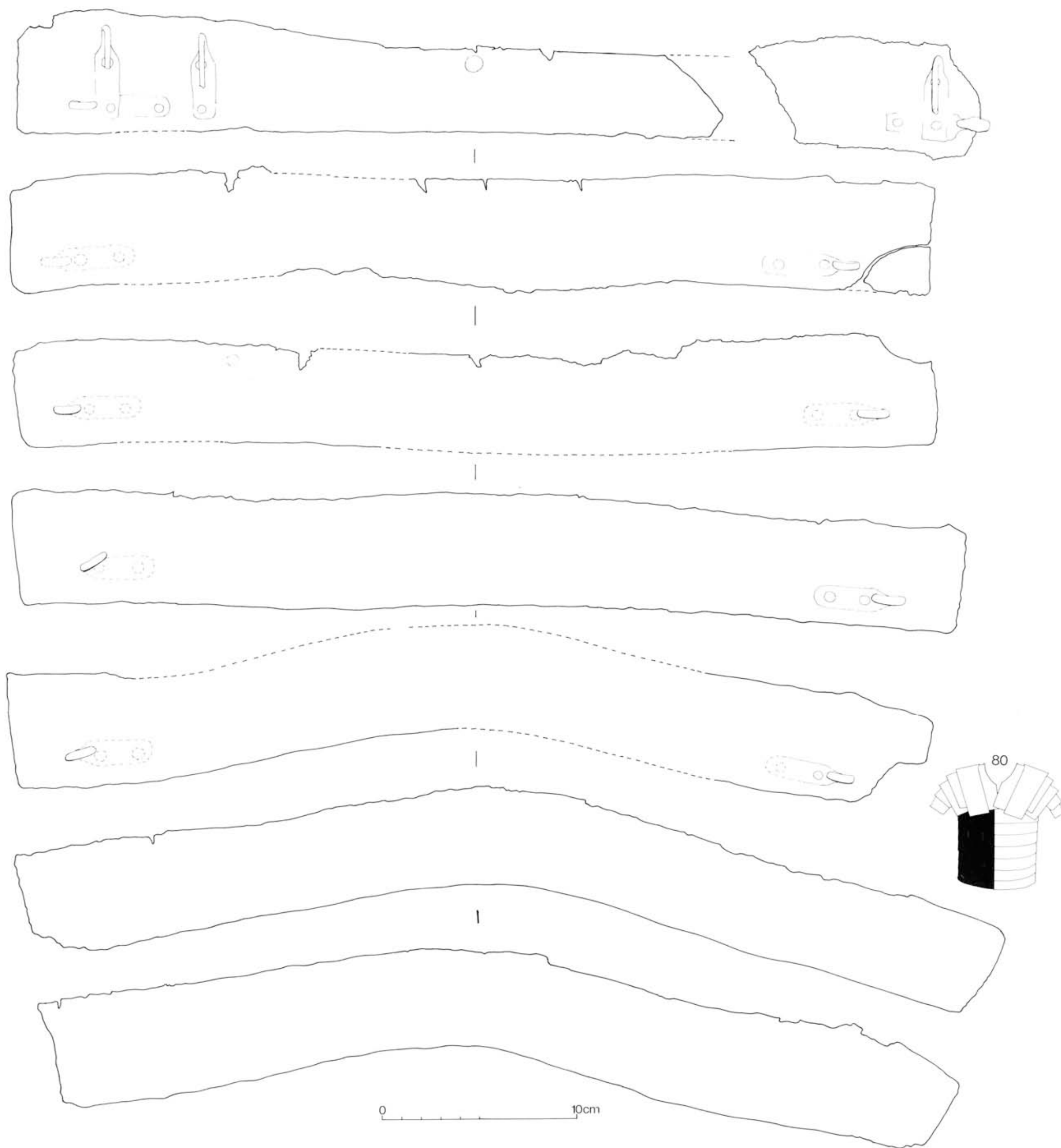


Fig 64 Corbridge Hoard: Cuirass v, outside patterns (scale 1:2)

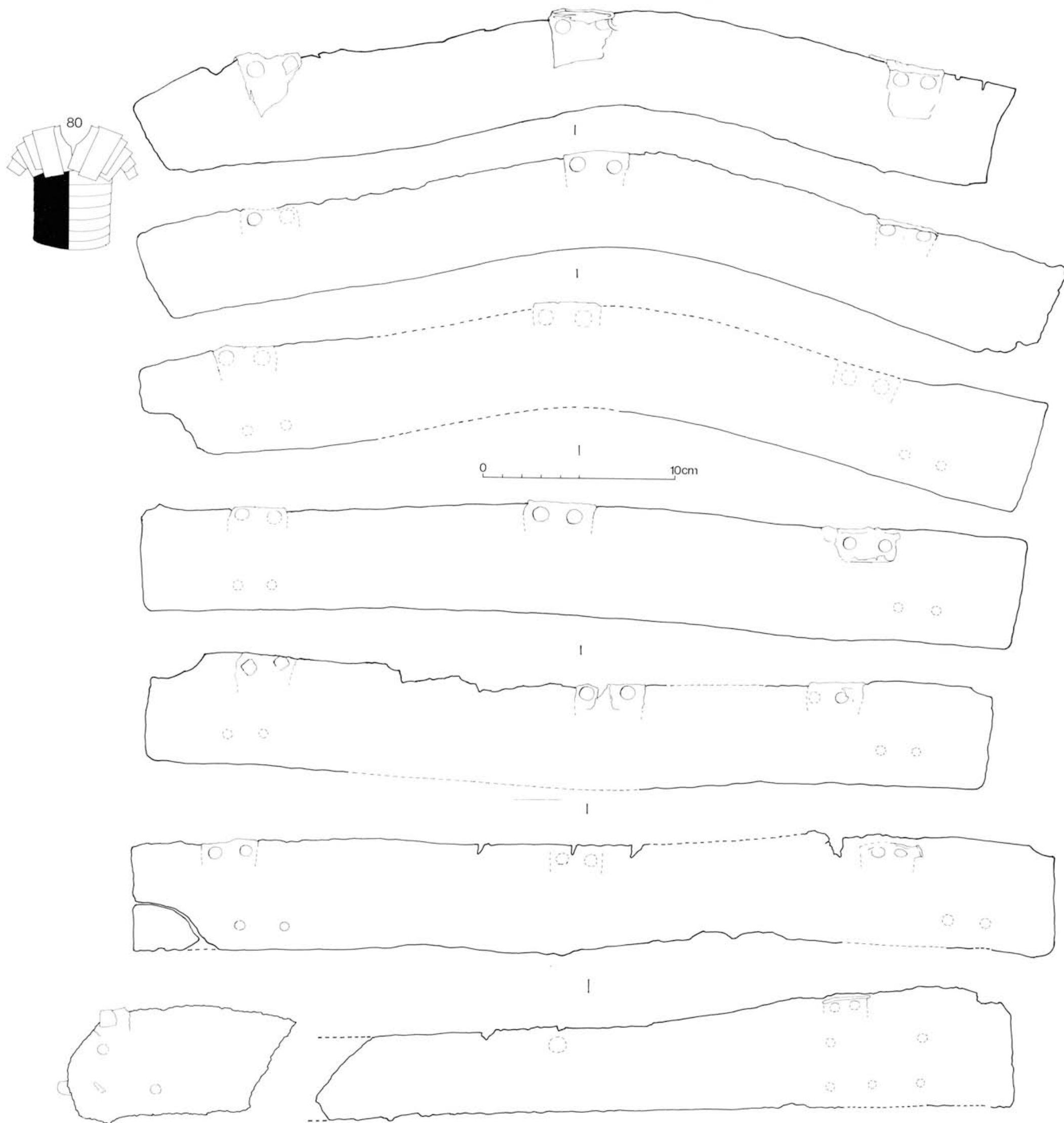


Fig 65 Corbridge Hoard: Cuirass v, inside patterns (scale 1:2)

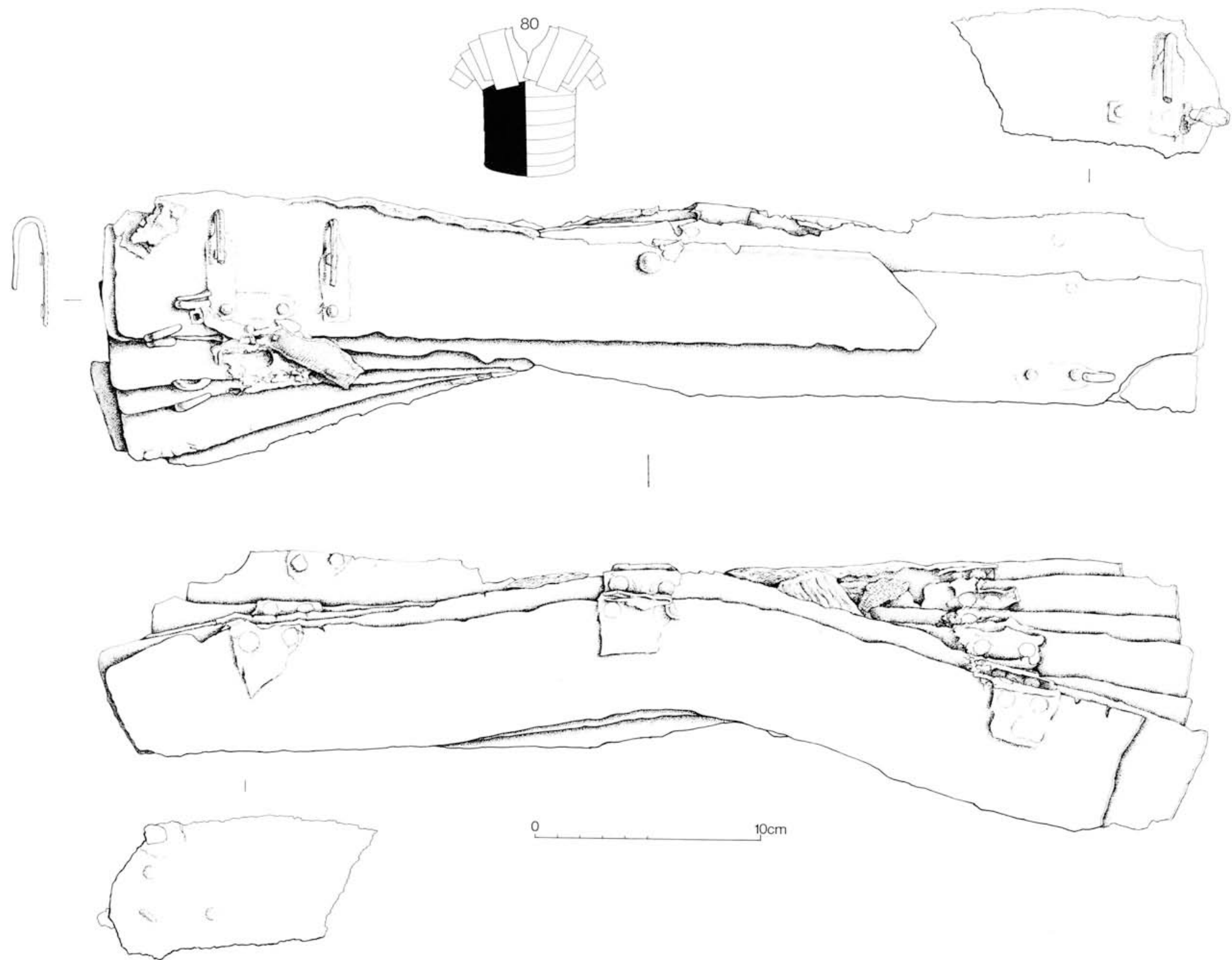


Fig 66 Corbridge Hoard: Cuirass v, plans (scale 1:2)



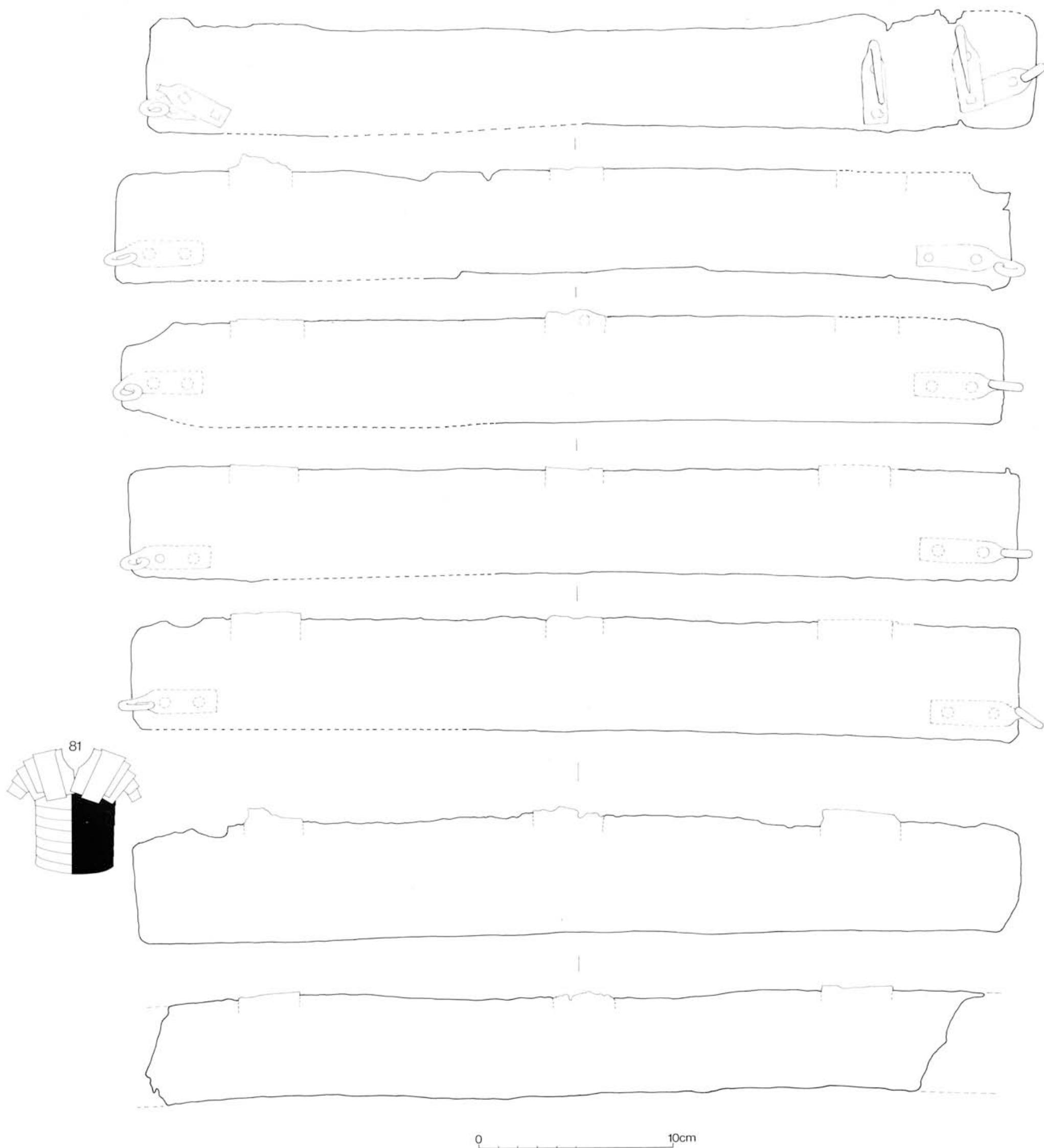


Fig 68 Corbridge Hoard: Cuirass vi, outside patterns (scale 1:2)

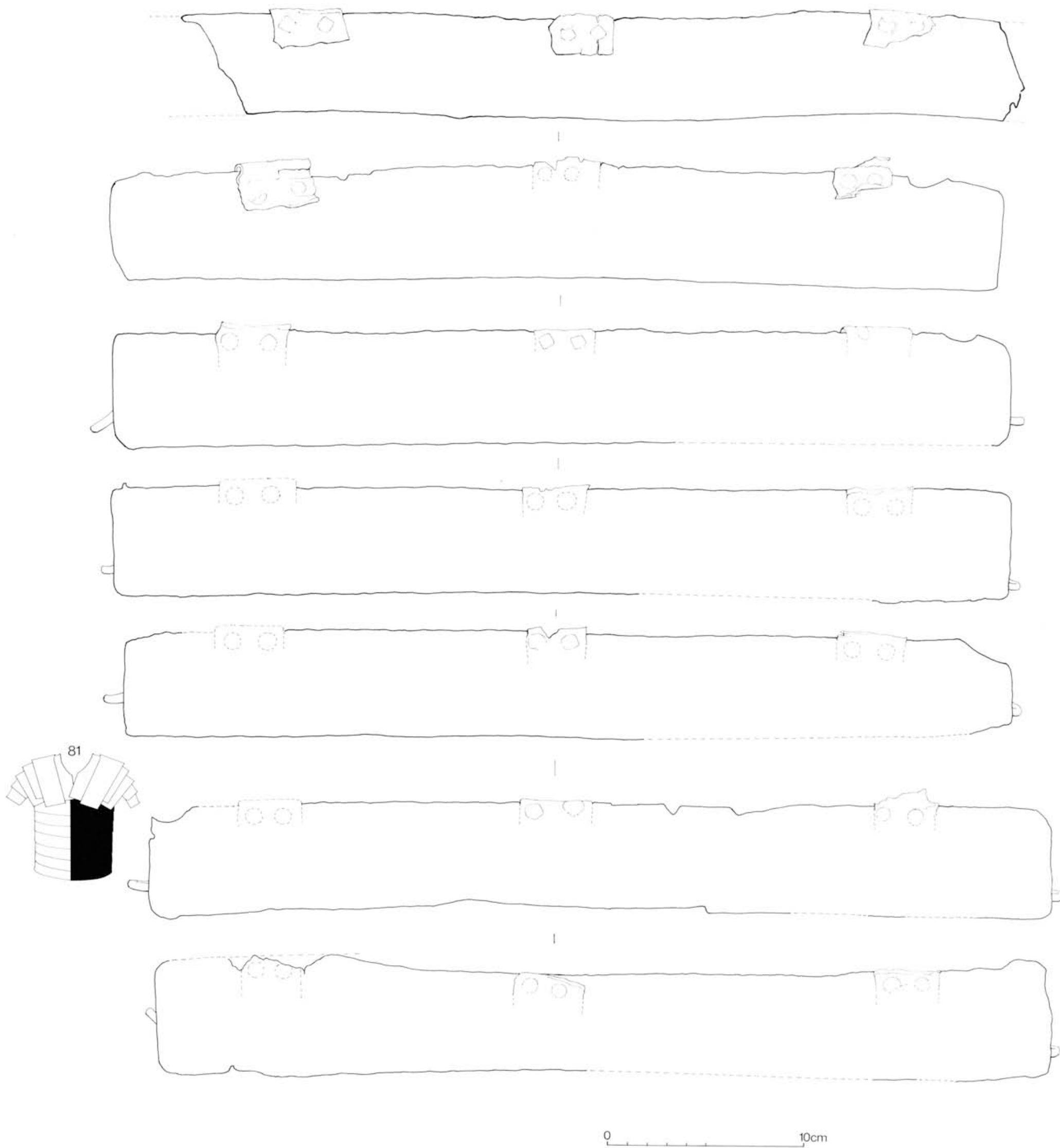


Fig 69 Corbridge Hoard: Cuirass vi, inside patterns (scale 1:2)

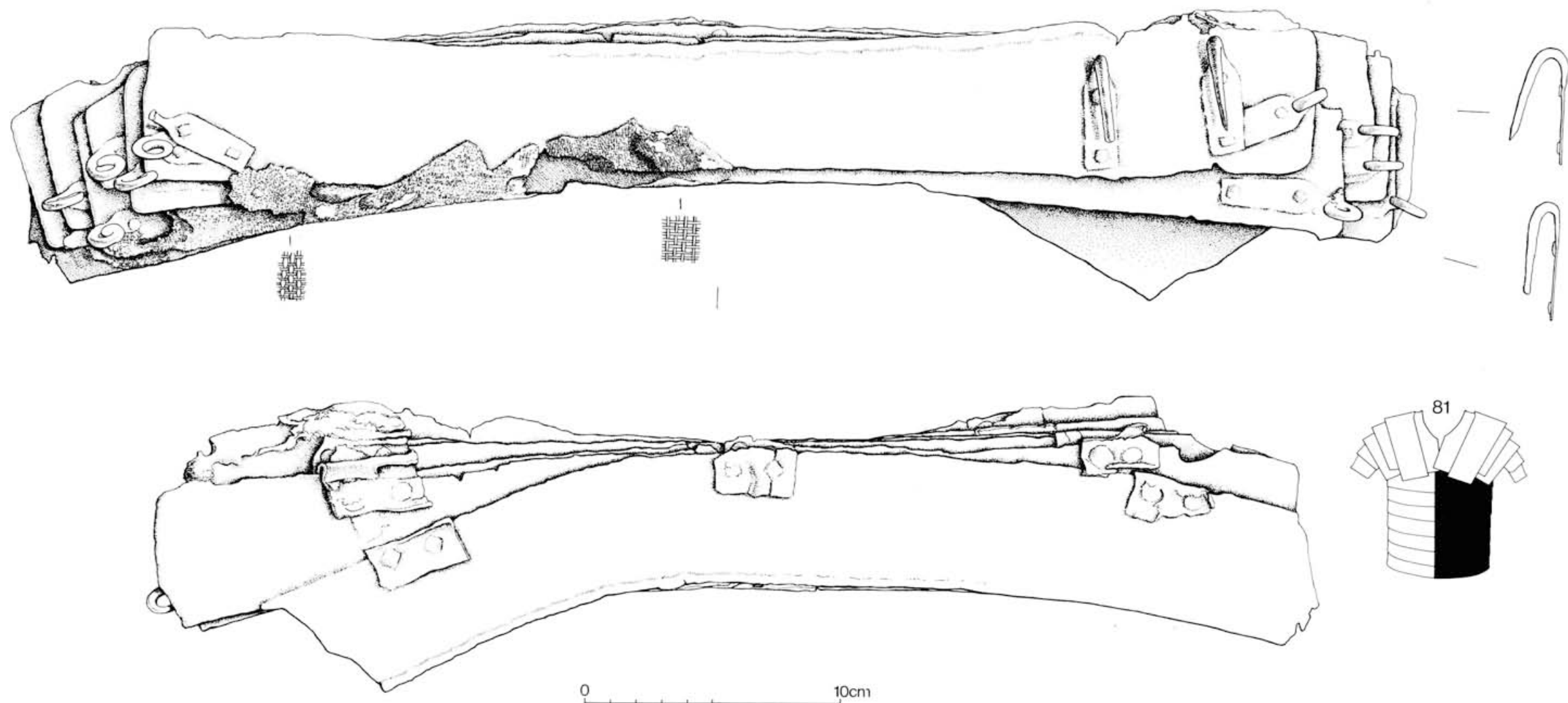


Fig 70 Corbridge Hoard: Cuirass vi, plans (scale 1:2)



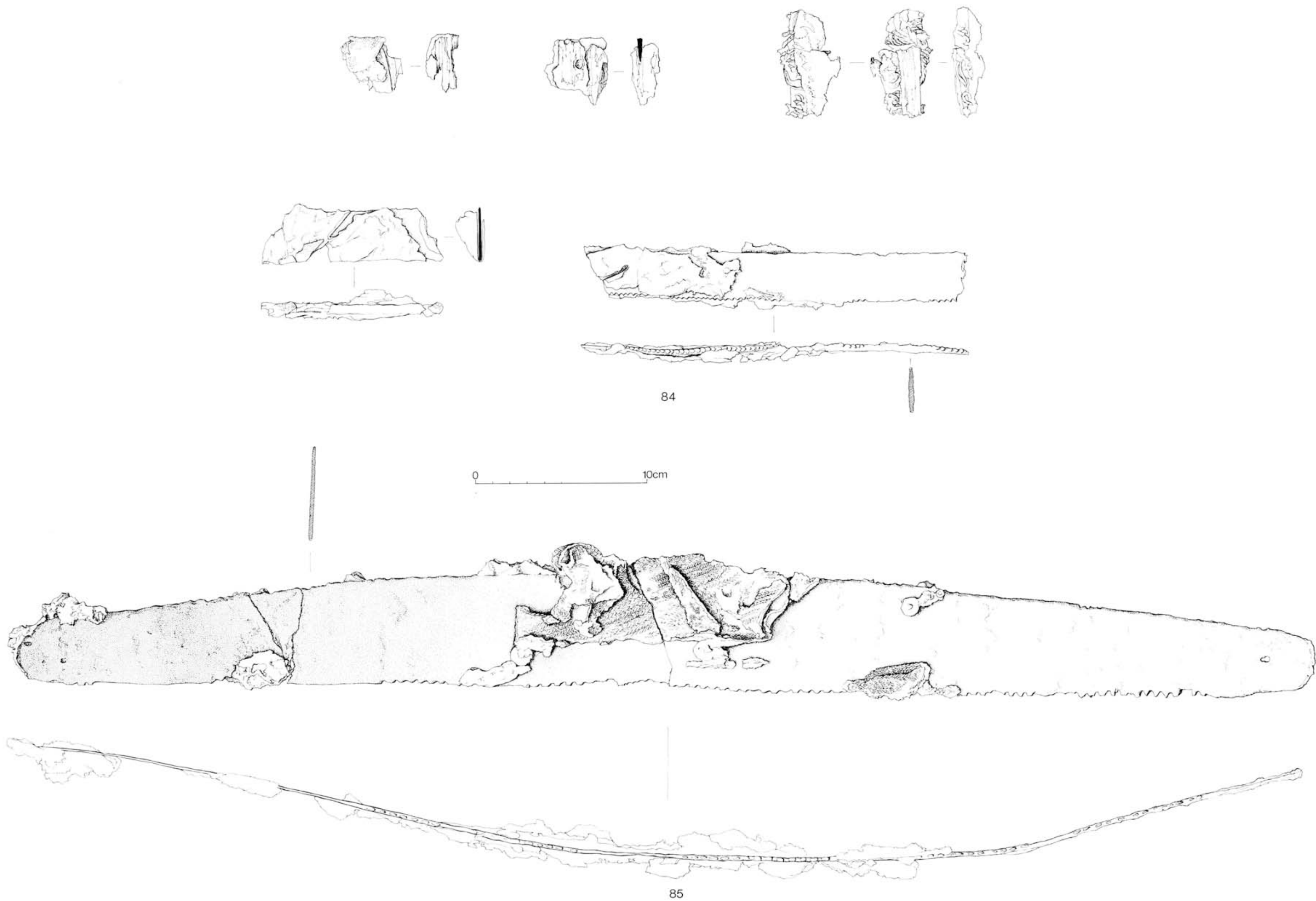
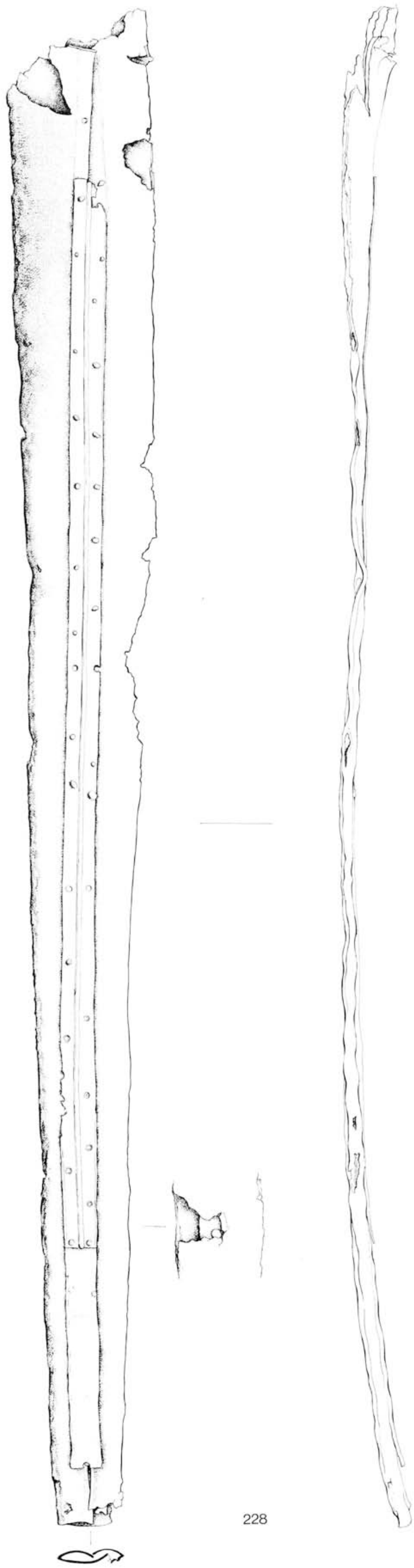


Fig 73 Corbridge Hoard: iron objects (scale 1:2 unless otherwise indicated)



228

Fig 93 Corbridge Hoard: copper alloy objects  
(scale 1:2 unless otherwise indicated)

0 10cm

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*Front cover*

*Colour reconstruction of the Hoard to show how it was originally arranged in the chest.*