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## CORBRIDGE

## Excavations of the Roman fort and town, 1947-80

## MC Bishop and J N Dore



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# Archaeological Report no 8 

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Newcastle upon Tyne
August 1988

This volume is dedicated to the memory of J P Gillam

## 1 Introduction

## Outline history of the excavations

Serious archaeological excavation began at Corbridge in 1906, when Leonard Woolley conducted a short season of work on behalf of the Northumberland History Committee who were then engaged on the volume of the Northumberland County History dealing with Corbridge parish. The aims of this first season were limited to the establishment of the character of the site, its general outline, and the nature of its defences. The results, however, were so encouraging that the Corbridge Excavation Committee, representing the best of local and national scholarship, was formed to superintend an extended excavation programme which was carried out between 1907 and 1914. Much of this work was supervised by R H Forster and W H Knowles, who were largely responsible for writing a description of what had been found and for compiling the subsequent annual reports for publication, with the aid of contributions from specialists such as J P Bushe-Fox and P Newbold on the pottery, H H E Craster on the coins, F Haverfield on the inscriptions, Henry Louis on the metalwork, and R A H Gray and A A Meek on the animal bones.

Following the 1914-18 war, work was not resumed until 1930, when H M Office of Works began the disengagement and consolidation of the central part of the site for display to the public. This area was conveyed to the Ancient Monuments Department by deed of gift from the landowner in 1933, and has subsequently formed the focus for all the archaeological work on the site. Durham University was asked to conduct research excavations there in association with this work. A training excavation was established in 1934, and, apart from a brief intermission during the Second World War, an annual excavation season took place on the site each year until 1973, at first under the direction of Eric Birley and Ian Richmond, but later under the supervision of Brian Dobson, John Gillam, and John Mann.

This report is primarily an account of the results of the excavations on the site which took place between 1947 and 1973. No unpublished records relating to the 1946 excavations remain in the Corbridge archive. The need for a permanent museum at Corbridge, however, to house the rich collection of material from the site meant that in 1976 and 1980 further work, supervised by John Dore and John Gillam, had to take place in advance of its construction. An account of this excavation too has therefore been added to this volume. Preparation of the material for publication was supported by the Department of the Environment and by English Heritage through the establishment of the post of research associate in the Department of Archaeology at the University of Newcastle upon Tyne, a position held successively by J N Dore and M C Bishop.


Fig 1 Key to sections and plans

## The examination and understanding of the site

The excavations conducted between 1906 and 1914 were extensive (see and many of the buildings which they briefly revealed have never been reexamined. Although in places deeper soundings were made into earlier deposits, these investigations normally only penetrated down to the level of the latest Roman stone buildings encountered. Individual buildings or groups of remains were assigned a 'Site' number, shown on Figs 3 and 4, during the course of this work, according to the chronological order in which they had been discovered. In writing this report, it has seemed simplest to refer to areas of the site by this traditional numbering system.
The excavators considered that the remains belonged to a town. They therefore interpreted the large building known as Site 11 as a forum, and diagnosed the cobble foundations of what are now thought to be the enclosing walls of the two military compounds south of the main street (the Stanegate) as the supports for an aqueduct. The reports show that the excavators clearly understood the processes leading


Fig 2 Location plan
to the formation of archaeological deposits and that they were well aware that the deep underlying deposits which they had sampled in places represented earlier, and probably military, phases of the site's history.
Work carried out between 1930 and the outbreak of war in 1939 was confined to the southern half of the central area of the site, at that time in the ownership of the Office of Works. The extent of this area is shown in outline on Fig 3, and in more detail on Much of the archacological work involved the examination of previously located structures as they were disengaged for consolidation and display, but some trenches were also cut into the underlying levels. Areas examined in particular detail included Sites $45,47,40$, and 39 ; in the last, a deep section was cut in the rooms of the south-west corner, and further sections were cut across the Stanegate and across both sides of the north end of the north-south street.

In the resulting publications the excavators concluded that most of the buildings which lay south of the Stanegate were contained within two compounds which faced each other across a side street (the north-south street). These were military in character, and although each was initially enclosed within a separate defensive circuit, they were later united by a wall and gate across the north end of the side-street where it opened out into the Stanegate. The buildings on Site 39 represented two residential houses which were later combined. In the west compound, the building on Site 40 was a temple or guild room, that on Site 45 was a small headquarters building, and those on Sites 40 N and 47 were workshops.
Richmond and Birley (1940, 115) identified the large building on Site 11 as a storehouse. In their
view, this, together with the aqueduct, granaries, and compounds formed the nucleus of a military depot which was established at Corbridge in the time of Severus. The temple or guild room on Site 40, the later phases of Site 39, the porticoes fronting the granaries and Site 11, and the wall which united the compounds they assigned to the late third century. Beneath these visible remains, however, they were able to establish that there were two levels of Antonine and at least one of Flavian occupation. The linear depressions into which the standing buildings within the compounds seem to have sunk (see cover photo) were identified as the line of the ditches of an early (probably Flavian) fort, and some evidence was found to suggest the presence of a gateway below the road between the compounds.

During the 1939-45 war, Richmond supervised some excavation work on a number of small buildings outside the north-east corner of the east compound. In the resulting publication (1943) he combined his findings with epigraphic and sculptural evidence from the whole site to argue strongly that these and other buildings in a similar position outside the west compound had been temples.
Large-scale work was resumed on the central area in 1947 and continued during annual excavation seasons until 1973. Table 1 gives a detailed breakdown of what was done during these years, while Fig 4 shows, as far as is now possible to do so, the location of the trenches excavated. The intention was to recover as much as possible of the plan of the series of forts which preceded the establishment of Site 11 and the military compounds. Work therefore concentrated on the courtyard and ranges of rooms in Site 11 , the most open areas of the site unencumbered by
late structures. The only work carried out south of the Stanegate was on Site 44 and Temple 3, apart from a number of limited excavations in selected areas designed to check particular points of interpretation of the underlying structures.

By the end of the 1973 season, after a period which had concentrated on the systematic excavation of the south-east quadrant of Site 11, the plan of the central area of a series of forts predating most of the visible remains on the site had been recovered.

The principia was known to lie under the southwest quadrant of Site 11, and under the south-eastern were the superimposed remains of a number of buildings of varied function: houses, 'hospital', and granaries. Under the northern half of Site 11 and further to the west a total of four sets of barracks were known, one in some detail, the rest much less so. Richmond's interpretation of the linear depressions beneath the compounds as the southern defences of an early fort had been abandoned, as had certain ideas about the differing alignment of the eastern defences. It was thought instead that the defences, certainly on the east and west sides and possibly on all sides of the fort, had never departed radically from their initial location. The dating of the different phases of the forts, and indeed the site as a whole, derives ultimately from the model which Collingwood had proposed for Hadrian's Wall in the 1920 s but with some later refinements and modifications and is summarised by Gillam (1977).

As with the whole of the northern frontier, the history of the later second century at Corbridge remained particularly problematical, with much controversy surrounding the question of whether the site suffered a wholesale destruction during this time and, if so, exactly when. Evidence suggested that the site ceased to be used as an orthodox auxiliary fort some time in the $\mathrm{AD} \mathrm{160s}$ and that destruction of some kind took place between then and the early years of the third century. This was initially linked to events surrounding Clodius Albinus's bid to become emperor in the closing years of the second century, but the attempt to link the destruction deposits with this known historical episode has subsequently been seriously questioned. From the early third century onwards, however, the sequence of building on the site was thought to be fairly well understood. The military compounds south of the Stanegate were thought to have been established by this date and these, together with Site 11, the pair of stone granaries, and the fountain house, formed the core of a small garrison town which developed on the site for the next century and a half.

A major advance in the understanding of the earliest phases at Corbridge was provided by the discovery and excavation in 1974 of the Roman base at Red House, Beaufront, some two kilometres north-west of the main Corbridge site (see Fig 2). Indications that an earlier military base must lie somewhere in the neighbourhood had been given by fragments of a south Gaulish samian bowl, Dragendorff form 37, recovered in 1973 from one of the post-trenches of the earliest known structure within the area of the fort principia on Corbridge site. This suggested that the foundation date of the earliest fort
on this spot could not have been any earlier than about AD 85 , despite the assumed presence of Agricola's armies in the area by AD 79-80, and that the bath-house by the Red House Burn (Daniels 1959), which had been thought of as contemporary with the earliest fort at Corbridge despite its distance from the site, might after all be associated with an earlier military base associated with Agricola's campaigns. Excavation work in advance of the construction of the Corbridge by-pass, which brought the site of the Agricolan base to light, considerably clarified one of the earliest episodes of the Roman occupation in the Corbridge area (Hanson et al 1979).

The final two seasons' work took place in 1976 and 1980. In 1976 several small trenches were dug within Site 4 (Temple 6) to examine certain features of the later second century fort, and in 1980 a sizeable area west of the visible pair of granaries (Site 9) was examined prior to the construction of a new museum building.

The results of all this work have been the formulation of an outline chronological scheme for the development of a sequence of four forts (forts I-IV) on the Corbridge site prior to the construction of the stone buildings on Site 11 and to the south of the Stanegate. This view is essentially that published by Gillam (1977), who went on to suggest that internal alterations to buildings in both forts I and IV were sufficient to subdivide those periods into la and Ib , IVa and IVb. The chronological scheme is therefore as follows:

| Fort Ia/lb | AD 90-105 |
| :--- | :--- |
| Fort II | AD 105-120 |
| Fort III | AD 120-c 130 |
| Fort IVa | AD 139-c 158 |
| Fort IVb | c AD $158-c 163$ |

## The documentary archive

Documentary records for the excavations between 1947 and 1973 consist of:

Plans and sections These were drawn mainly on graph paper in imperial measurements, at scales of $1: 48,1: 24$, or $1: 12$. Different structural phases are usually indicated by coloured shading and they frequently also bear accompanying notes or interpretations. For the purposes of reference from this report back to the site archive, each sheet of drawings within the archive has been assigned an identifying PI (Plan Index) number.

Finds books These record the contents of each group of finds and the date on which it was processed on site as well as giving a brief description of the archaeological context and the area of the site from which it came. Each finds group was given a unique identifying code (eg AB59), where the first two letters reveal the order in which the material was recovered (beginning with $A A, A B$, etc), and the last two figures show the year of excavation.

Site books These are of two kinds: those kept by the supervisors of individual trenches, and those kept by students for practice in recording techniques. The latter are rarely of significant value, but the supervisors' books record an account of the day-to-day progress of the excavation. They do not therefore always catalogue the archaeological contexts consistently and there is little rationalisation of the information they contain. In order to refer from this report back to the site archive, each site book has been given an identifying number.

Photographs There is a collection of 35 mm colour transparencies.

The documentary record of the excavations in 1980 takes the same four forms. Plans and sections, however, were recorded on drafting film at scales of $1: 20$ or $1: 10$. The finds books use the same system of finds group coding as the excavations of 1947-73, while the site books record the excavated contexts as well as providing a concordance of record sheets, plans, section drawings, and finds books. The archive of photographs consists of 35 mm black and white negatives and selected prints as well as 35 mm colour transparencies.

## The presentation of the evidence

For the excavations up to 1973, where individual small trenches were examined each year often by different supervisors, the documentary records made at the time of excavation have to be treated as the most reliable primary source. Individuals' recollection of what was found on such a large excavation spread over many different seasons' work cannot necessarily be regarded as any more reliable or accurate than the site records. The record books themselves, however, are difficult to use for a number of reasons.
Their principal defect is that there is no clear and single definition of each of the archaeological features or layers ('contexts') encountered. Although features shown on plans and sections - occasionally with an accompanying written description of their composition or extent - are also referred to in the finds books when finds from them are recorded, the lack of any standardised terminology often makes it difficult to be certain that the same archaeological context is being described. It is not always easy, therefore, to establish which finds came from which features on the site. Consequently, unless the verbal descriptions of features in different trenches (which may have been excavated in different seasons of work by different supervisors) are sufficiently exact, it may be impossible to identify the same feature - for example a beam-slot - in more than one trench.

In accordance with the practice of the time, and in part because of the presence of the consolidated remains, much of the excavation took place in very small trenches with baulks of unexcavated material between them. It appears that a survey grid was never established for the site, and this has made it difficult to be certain of the exact positions of some
of the large number of trenches. In addition, the amount and the quality of the information recorded on the plans and sections is variable. By and large the sections (of which there are many) contain much more usable information since they form a complete record of the stratigraphy of the relevant trench to which they belonged, while the plans often record only major structural information such as walls or flagged floors. It has frequently proved difficult to relate phases of the same trench recorded on different plans, particularly if the features it contained are not recorded on one of the section drawings.

## Interpreting the site record

Since many of the finds groups could not be unambiguously linked to the archaeological contexts within which they were found, it was necessary to develop ways of using the site record which would recover as much reliable information as possible. The records were therefore divided into six areas, each centred on a major complex of buildings belonging to the forts underlying the present site. All the data from plans and sections about each area were then assembled and rationalised. Each archaeological context which appeared on a section drawing was assigned a context number, its description was carefully recorded, and its relationship to other layers noted. This led to the formation of an outline matrix diagram for each area, despite the fact that the relationships between some of the layers and features was still unclear.
Where it was possible to do so, layers and features which spread across more than one trench and more than one area were next identified, and the individual matrices were combined into an overall site matrix. At the same time, the descriptions of these archaeological contexts were compared with those found in the finds books. Although these verbal descriptions were particularly difficult to link to the graphic or 'notational' descriptions on plans and sections, care was taken to ensure that, where finds could be related to the features from which they came, this identification was completely certain.
It will be clear therefore that the strict application of this procedure has restricted the material directly usable for dating to the small amount whose provenance could be identified with certainty. Nevertheless it has meant that what is left forms a reliable basis for interpretation. Since these identified archaeological contexts derive mainly from layers recorded on the sections, the conclusions arrived at in this report may not be telling the whole story about the site. There may have been other activity taking place of which we are now unaware because it was not recorded on a plan or a section drawing.

## Presentation

The account of the remains of the forts is divided into five chapters most of which deal with a major building complex. These are:

1 The principia (the Headquarters Buildings)

2 The area of the practorium (the Commanding Officer's House)
3 Barracks
4 Defences
5 Other areas of the fort and post-fort activity
The basic unit of description of the buildings and other structures phase by phase in these cases is labelled a 'component', a term which signifies an interpretation by the writers of one or more of the recorded contexts as a functional part of the building or structure (ie wall, road, floor). The stages of interpretation which define groups of contexts as components have not been presented explicitly, although they can be traced via the context numbers associated with each component to the complete corpus of drawn sections in microfiche (M3:A3-C3).

Each chapter is divided into description and interpretation. While continuous prose is used in the latter, much of the evidence in the former is presented in tabular form. Almost all the descriptive data are held in two tables, which identify the components and show their relationships to each other.

## The component tables

These tables record the descriptions of archaeological contexts from each individual area of the site verbatim as they appear in the site record. They have been sorted and defined as components of the structures encountered, and assigned to the relevant phase of the site's development. The main fort phases are assigned the labels ' $\mathrm{la} / \mathrm{b}^{\prime}$ ' to ' $\mathrm{IVa} / \mathrm{b}$ ' - see p 3 - whilst those components which belong to the post-fort phases or which cannot be assigned to any phase are labelled 'PF' and ' U ' (unknown) respectively. Information about each component is arranged under the following sixteen headings:

1 Component number: a single component number can be assigned to a group of different contexts found in different trenches or years of excavation
2 A brief description of what the component was
3 Years in which the component was excavated
4 Trenches in which the component was found; corresponding entries in columns 3 and 4 line up horizontally
5 Length
6 Width
7 Depth or thickness
8 Comments describing the component reproduced verbatim from finds books, site books, plans, or sections
9 Description of any related features or contexts
10 The phase of the fort or its sequel to which the component is assigned (see above)
11 Published reference(s), if any
12 Context numbers identified on section drawings
13 Finds groups which have been associated with the component
14 Site book reference of component or its elements by volume and page number
15 Identifying PI (Plan Index) numbers of plans and sections on which the component appears

16 Any relevant illustrations which appear in this report, either in text or in microfiche.

## Relationship table

This presents the archaeological relationships which have enabled the components to be grouped into separate structural phases. Component numbers are given across the top and along the diagonal. By following numbers down and across to their point of intersection, the relationships between components can be checked: these are expressed using four special symbols and the numbers 1-4. The special symbols denote the type of relationship. If this is a square box, the component on the horizontal axis is contemporary with that on the vertical. If it is a triangle pointing downtoards, the component on the horizontal axis is later than or lies stratigraphically above that on the vertical. If it is a triangle pointing upwards, the component on the horizontal axis is earlier than or lies stratigraphically below that on the vertical. No relationship can be established for those intersections marked with a small filled circle.

The numbers $1-4$ within the squares and triangles denote the type (and the reliability) of evidence used to establish the relationship. The number 1 indicates that the relationship was established from an alignment or intersection of components represented diagrammatrically on a section, while the number 2 indicates that this information came from a plan. When the relationship was established on the basis of consistency or similarity of constructional method gleaned from a vertical description in the site record, the number 3 is assigned, and when the relationship was established by reference to components other than the two in question, number 4 is used. It is clear that 1 represents the most reliable and certain relationships, while 4 represents the weakest link.

## Microfiche

The following information has been included in the microfiche which accompanies this volume:

1 Copies of virtually all the surviving section drawings. Only those whose trench location cannot now be ascertained or which are incomplete or otherwise seriously deficient have been excluded.
2 A list of all contexts which have been numbered on the sections together with descriptions (taken verbatim from the original drawings) and any finds groups which can be associated with them.
3 A list of all the finds groups which are mentioned in the text and in the microfiche together with descriptions of their provenance (taken verbatim from the finds books) and any contexts which can be associated with them.
4 A list of certain classes of finds together with their finds groups. These include full lists of the coarse pottery from both 1947-73 and 1980 seasons, nails, and lists of those objects (eg scraps of copper alloy or iron) which could not be identified and which are not illustrated within the report.

Table 1: Excavations 1947-73

Year
1947 Area north of granaries (Site 12)
1948 Site 11, North Range
Site 12, centurion's end of barracks
1949 Site 12, centurion's end of barracks
1950 Site 12, centurion's end of barracks
1951 Site 20
Site 11, West Range, Rooms 2 and 3
Site 44
1952 Site 11, centre: HQ, CO's House, pre-Roman circular building
Temple 3 and remains between Temples 1 and 2
1953 Site 11, CO's House and pre-Roman circular building
Outside north-east corner of Site 11
1954 Site 20
1955 Site 11 centre: Flavian tank to north of HQ Site 11 CO's House
Site 20 , trench $2 \mathrm{a}, \mathrm{b}, \mathrm{c}$ and new deep section, Temple 3 and east area of site
1956 Site 47 - trench between workshops 1 and 2 Site 11 centre - north Site 20
1957 Site 11 North Range, Rooms 0, 1, 2, 3
Site 11 centre and NE corner of courtyard Site 11 West Range, Rooms 5 and 6
1958 Site 11 West Range, Room 7 and north-west corner room
Site 11 outside north-west corner
Site 11 East Range, north end and SW angle of SE corner room
Site 441 section of trench
1959 Site 11 CO's House trenches A1, A2, A3, A4, B1, B2, C1, D1, D3, D4
Site 11 North Range Rooms 6A, 6B, 7
Site 11 West Range Room 8
Site 11 outside east side: section on top of east rampart
1960 Site 11 north-west: North Range Room 5
Site 11 CO's House trenches B2, B3, C2, C3, D2 Section between Sites 40 and 47 (Workshops 2 and 3 ) in W compound
1961 Site 11 North Range Room immediately to W of NE corner room
Site 11 centre: NE corner of courtyard Site 11 CO's House trenches A3, A4, B4, B5, C1, C2, C4, C5, E4

Site 4
1962 Site 11 CO's House trenches Y0, Z0, Z1, Z4, Z6, A0, A1, A5, A6, B0, B6, C6, D4, D5, D6
Site 11 East Range
Site 13
Sections of sump hole in car park
Site 40S, west compound - section
1963 Site 11 CO's House trenches X4, X5, Z5, B5, C5, E5, E6
Site 11 outside north side, section of north bank
Site 11 centre, NW corner of courtyard
Site 44
1964 Site 11 CO's House trenches - X5, V6, X6, X6, Y6, Z6, Y7, Z7, A7, B7, C7, D7, E7
Site 44 trenches $\mathrm{A}-\mathrm{H}$
1965 Site 11 CO's House trench $X 7$
Site 11 HQ trenches U7, V7, W7, V1
Site 11 South Range Room 9
Site 44 trenches H-K
1966 Site 11 HQ trenches T4, U4, V4, S5, T5, U5, V5, T6, U6, T7
Site 11 South Range Rooms 7 and 8 East Gate site
1967 Site 11 HQ trenches O5, P5, Q5, R5, O6, P6, Q6, R6, S6, T6, O7, T7
Site 11 South Range Room 6
Temple 3 trenches $\mathrm{Cl}, \mathrm{C} 2, \mathrm{C} 3, \mathrm{~B} 2, \mathrm{~B} 3$
1968 Temple 3 trenches B6, C4, C5, C6
Site 12 trenches E1, E2, E3, W1, W2, W3, W4, W5
1969 Site 11 East Range trenches L, M, and extension K and M
Site 12 East
Temple 3
1970 Site 11 CO's House trenches E0, E12, E2, E3, E4
Site 11 East Range trenches FE, GE, HE, IE North of Site 39
1971 Site 11 South Range Rooms 5, 10, 11
Site 39 north
North of Site 20
1972 Site 12
Site 11 centre, north of HQ
Site 39
East bank
1973 Site 11 centre, north of HQ , trench 5
Trenches in roads between compounds

## 2 The setting

## The topography and geology of the site

The Roman site at Corbridge, Northumberland (Figs 3 and 4; NY 9864), lies on a south-facing spur of the terrace above the River Tyne (Fig 5). There is a steep scarp to the south, whilst the ground slopes away to the west fairly gently towards the Cor Burn, rises slightly to the east, and is more or less level immediately to the north. Good views are afforded eastwards and westwards along the Tyne valley and to the south, where Dere Street heads for the crossing point of the river which the Roman fort may have been intended to guard. Further to the north, the line of Hadrian's Wall is effectively obscured from sight by the lie of the land. The area open to visitors today is popularly known as Corstopitum (although this name is almost certainly corrupt - Hind 1980; Rivet and Smith 1979, 322-4). Its extent, however, coincides with the major portion of the secondary fort, and was arguably the heart of the ancient settlement.

The Roman site sits upon the second terrace of the River Tyne, the mean composition of which is $11 \%$ fines, $46 \%$ sand, and $43 \%$ gravel. The latter contains well-rounded Carboniferous sandstones with some Lower Palaeozoic greywackes, and some limestone, pink granite, and green acid igneous rocks, whilst the sand consists of sub-angular to well-rounded quartz grains and rock fragments and the fines consist of reddish brown and grey micaceous and clayey soils. The underlying solid geology consists of the Stainmore Group of limestones and sandstones, which contain thin coal seams (Lovell 1981, 3-4).

To the north of Corchester Lane, boulder clay was noted during the construction of the bypass (British Geological Survey 1980). It is also recorded in the vicinity of the old brickworks by the side of Brick Lane, to the north-east of the Roman site. It has been described as being tough grey or brown clay containing sand lenses and pebbles and boulders of sandstone, limestone, greywacke, acid igneous rock, and dolerite (Lovell 1981, 3).

To the south of the site, in the valley bottom, there are alluvial deposits, the mean composition of which is $8 \%$ fines, $53 \%$ sand, and $39 \%$ gravel, the lithological composition being similar to that of the second terrace. Lovell notes that 'the upper facies is thin and consists of silt, clay, and some peat, with sand lenses' and that the 'thicker lower facies exhibits great lateral variations and contains sand and gravel in varying proportions with some silt bands' (ibid, 3).

The subsoil within the excavated area has proved to be sand or gravel, although occasional lenses of shale or coal in the sand and gravel were noted in the recent series of excavations. Similarly, laminations of various kinds of sand and gravel are recorded, all to be expected in material of this sort. Forster and Knowles reported encountering clay at a number of points to the north of the site, notably in the angle made by the bend in Corchester Lane north-east of
the site, where it was cut by the early military ditches (Forster and Knowles 1915, 234-5). The clays used in the construction of the ramparts of the secondary fort, both oxidised (brown) and reduced (grey-blue), do not appear to derive from within the excavated area.

## The prehistoric remains

The discovery in 1952 of a palisaded enclosure containing the remains of a circular hut (Richmond and Gillam 1955, 221-4) beneath the Roman military structures was only one of several indications of the use of this location before the arrival of the army. Richmond suggested, on the evidence of parallels, that this hut circle dated to the Bronze Age (ibid, 224). There have been several occurrences of prehistoric material at Corbridge, and these should be viewed in the context of neighbouring sites, such as Bishop Rigg (Jobey 1979).

Ard marks, found in the trench known as 'Street $2^{\prime}$ in 1973 (see Figs 4, 61) are characteristic of cross ploughing. It has been suggested that such marks, rather than representing the normal process of cultivation, are in fact indicative of clearance of land using a heavy-duty rip ard (Reynolds 1979, 98-104). Unfortunately, they are in themselves undatable (Fowler and Evans 1967, 294-5), although their context at Corbridge indicates that they belong before the last quarter of the first century AD .

A possible cremation pit was sectioned in trench U6 in 1966 and, in 1961, a 'coracle burial' was located within the area opened up in the northern half of the courtyard of Site 11. No written records relating to that excavation (with the exception of the finds book) have survived, so we cannot even be sure of the precise position of the pit in question, although it contained Bronze Age pottery. Sherds of 'native' pottery have been recorded on a number of occasions at Corbridge, although in many cases it is impossible to tell whether they should properly belong to the Bronze or the Iron Age (G Jobey, pers comm).

Within the courtyard of Site 11, towards the central southern sector, a layer described by the excavators as being 'pock-marked' was encountered. It appears to have been a buried soil, underlying the Roman site, a notion supported by the discovery of the remains of pre-Roman root systems in trenches W7 and $X 7$ in 1965. The levelling of the area within and around Site 11 (see below, p 67) would effectively have removed all traces of this at other locations; indeed, Richmond commented on the fact that only the very bottoms of the postholes belonging to the prehistoric hut were located (Richmond and Gillam 1955, 222-4). It is thus possible that this soil lay over the hut circle and that scrub covered the site when the Roman army first chose to occupy it.

# Roman Corbridge: the evidence of air photography 

by G Soffe

## Background and introduction

Since 1945, air photographs of the site of the Roman fort, military supply depot, and the civil town at Corbridge have been taken regularly, particularly during annual programmes of reconnaissance by the Cambridge University Committee for Air Photography (CUCAP). More recently, the Air Photographs Unit of the Royal Commission on the Historical Monuments of England (RCHME), and locally-based fliers such as Professor N McCord have also made useful contributions to the overall knowledge of the site.

Initially, the interest of archaeological air photographers concentrated on the central part of the site laid out for public view. This interest ran in parallel with the long series of Durham University-sponsored excavations whose emphasis was on the interpretation of the complicated military development of the site from the first to the early third centuries ( St Joseph 1955; Birley 1975; Frere and St Joseph 1983, 54-7).

The extent of the Roman settlement, particularly those parts of the planned civil town dating to the second century onwards, first became known through the excavations of 1906-14. The emphasis on the military aspects of the site since then led to a diversion of attention from the civilian remains outside the area on display to the public, and also played a part in limiting the size of that area. Keeney (1934) tried to redress the balance by pointing out the importance of the later civil phases in the history of Corbridge. But it was not until 1965 that an adequate discussion of this evidence was published by Salway (1965, 45-60, fig 5). This essay included a plan of the Roman civil town prepared by St Joseph and Salway in 1957 incorporating some of the new evidence provided by air photographs taken up to that date. This confirmed that Roman buildings and streets extended beyond the back-filled excavations of 1906-14, and could be recorded at suitable times as crop, soil, and parch marks. In 1975 it was again noted that air photography was showing extensive areas of settlement east and west of the excavated areas of the site, comprising streets and numbers of rectangular buildings probably belonging to the later phases of civilian use of the site (Wilson 1975).

The present report has provided a fresh opportunity to bring together the account of excavations at Corbridge with an up-to-date examination of the unexcavated archaeological features detectable through air photography. However, the general plan thus produced (Fig 5) is intended only to provide a record of the extent of this evidence within the geographical setting of the site. The published scale of this plan does not permit any attempt to show every detail of crop and parch marks or any of the fine detail about the buildings of the central area produced by
excavation work there.
The plan is based on an initial photogrammetric survey carried out for RCHME by A W Hull in 1985, supervised by Professor G Petrie, at the Department of Geography, Glasgow University. The survey was plotted at a scale of 1:1000 using a Wild B8 Aviograph plotting machine, from vertical stereoscopic photography flown by CUCAP (RC8-MB 228-30). Problems were encountered through a lack of adequate photogrammetric control information available from the existing Ordnance Survey. Nevertheless it did prove possible to interpolate contours at a 5 m interval between gridded spot heights. The archaeological detail from this survey was then enhanced by RCHME using all the available specialist air photography, principally taken by CUCAP and RCHME, and the final plan drawn by P Sinton. Although some of the features excavated in 1906-14 lying outside the central area showed as crop and parch marks on some air photographs, the back-filling of the original trenches and subsequent deep ploughing has rendered most of these marks far too indistinct to plan with any accuracy. All excavated features have therefore been planned from the original excavation plans despite occasional difficulties in marrying them accurately with the newly-plotted air photographic information. In order not to clutter the air photograph plan (Fig 5b) with too much annotation, the excavators' Site numbers have been left off this plan, but will most conveniently be found on Fig 3.

The quality of information recorded from the air over the past 40 years has depended on local conditions. That so much has been recorded has been due to well-drained heavy gravel soils forming part of a river terrace of the Tyne lying between 10 and 35 m above the water level. These conditions have helped to encourage good crop and parch marks, particularly in mid to late July, when the most informative air photographs were taken. Most of the area producing marks is scheduled as an ancient monument, but the whole area to the west, north, and north-east of the site open to the public has in recent years been ploughed and regularly planted with an arable crop. Only the land to the south (east of Site 2) and south-east (south of the Roman street continuing the line of the Stanegate eastwards) has been under well-grazed pasture. The archaeological remains under the pasture are likely to be better preserved and may produce sharp parch marks in conditions approaching drought.

## The fort

The layout of the successive phases of fort building at Corbridge is one of the main themes of this report. There may have been considerable changes in the area covered by the sequence of forts to accommodate units of different sizes, and therefore the defences of individual phases might occupy different sites. However, precise knowledge of the layout at each phase has been almost entirely based upon the excavation of early fort buildings within the only area available for excavation - the central area. Of the buildings excavated, only the shrine of the principia
and part of the practorium of the secondary fort (Phases IVa and b) are shown on the plan (Fig 5), because these are the features now visible inside the later courtyard building on Site 11. However, outside the central area, evidence from the early excavations for the ditches and rampart in the north-east of the site (the 'outer defences' see p 00) now suggests that these features are Flavian in date and probably belong to the defences of the two phases of the primary fort. The east-west ditches running under the compounds may also now fall into this category. Unfortunately, the precise location and plan of the complete circuit of defences for all phases of the primary and secondary fort remain open to speculation through lack of sufficient dated excavated evidence.

Air photographs may shed some light on these questions. In the north of the town two alignments of possible ditch can be detected as crop marks (Fig 5.A). One line runs north-south, parallel to the main alignment of fort buildings, and curves round to the east on the 45 m contour. Another alignment of possible ditch continues eastwards. In addition to this, St Joseph and Salway have noted that air photographs show that the line of the road running north from the bridge bends north-eastwards as it approaches Corchester Lane as if skirting the angle of a ditch found in 1909 'and clearly belonging to an early fort' (Salway 1965, 47). The alignment of these features may also be continued by the crop marks of at least three possible parallel ditches (cf CUCAP DN81) also running north-south, with the eastern example curving round to the east (Fig 5.B). It is tempting to interpret these features as the evidence for the north-west and south-west defences of the secondary fort and this question is touched on again in the conclusion ( p 131).

## Buildings and streets in the military compounds and civil town

Air photographs of the western part of the civil town show most clearly the crop marks of the main roads into the settlement. The gently curving line of the Stanegate runs in from the west to be met by Dere Street running up the slope from the Roman bridge across the Tyne. Both roads are wide with metalled surfaces and have side streets at intervals. The road running north from the bridge bends slightly to the east as it approaches Corchester Lane. For most of its length it can be seen on the surface of the fields as a low agger c 0.5 m high. This probably indicates that there are remains of buildings immediately on either side of it, although only two are clearly recorded as crop marks. Just west of this road, another short length of street runs north from the Stanegate towards an area of pits and quarries discussed below. A relative chronology for these roads and the possible planning of the layout of streets and buildings has been suggested by Salway (1965).

During the 1906-14 excavations, a number of strip buildings lining the north and south sides of the Stanegate were recorded (Sites $26-37$ ). These, along with those along the eastern arm of Dere Street (Sites
$21-5,48-51$ ), are generally considered to be stonefounded houses, shops, and workshops dating from the third to fourth centuries. They are readily comparable with stone buildings at civil settlements attached to the forts at Housesteads and Vindolanda and the isolated roadside settlements situated between civitas centres further south, such as at Hibaldstow, Humberside (Smith 1987). Air photographs show that similar buildings continue west along the Stanegate, some with interesting details. For example, some photographs (eg CUCAP
DN81-90) indicate a linear feature running along the south side of the buildings on the south side of Stanegate crossing a very diffuse circular crop mark c 15 m in diameter. Another crop mark forms a straight light band across the site, crossing the Stanegate at a very oblique angle. This gives the impression of a side street forking east-north-east off the Stanegate towards Sites 9,10 , and 7, and running across the northern row of strip buildings. However, this mark has been clearly caused by the modern plough dragging building debris across the site (RCHME NY9864/60 etc show the mark well; CUCAP ATH8-9 provide a good record of the course of the Stanegate). North of the buildings on the north side of the Stanegate traces of another row of buildings can be detected. The western example (Fig 5.C) may contain a solid floor (CUCAP CQM18).

South of the excavated strip buildings on the Stanegate, a length of north-south wall has been recorded (CUCAP DN81), and a number of dark blobs in a lighter area of alluvial material may be interpreted as pits (CUCAP CKD59 etc). In trenching this area in 1907, Forster (1908, 244) found a thick bed of natural sand'; it is therefore possible that the pits were quarries supplying building sand, although the sand may be an artificial deposit. These features lie on the north side of the partly excavated long building (Site 3), which has been terraced into the steep slope running down to the river. The terrace extends south to include the site of the corridorhouse, possibly a mansio (Site 2), bounded by a steep scarp along its riverside edge.
Parch marks immediately south of the central area shed some additional light on the layout of the military compounds. A metalled street running along the top of the scarp on the north side of the terrace may be following the line of the southern boundary of the west compound. Further east, the thick line of what is likely to be the southern boundary wall of the east compound shows clearly on a number of air photographs, with a dark line, probably indicating a ditch, and a strip of metalling running parallel to it on its south side. Other strips of metalling can also be detected running through the sites of buildings within the compounds, particularly Sites $1,40 \mathrm{~N}$, and 47. Another line of walling running north-south to the immediate east of the east compound lies just over 1 Om beyond the compound's excavated east wall. The general impression is of the buildings of the east compound being arranged symmetrically around crossing streets with the southern group of buildings mirroring in plan the excavated northern group.

The early excavations also suggested that the military workshop buildings within the west com-
pound were probably symmetrically arranged on either side of an east-west street leading from the compound gateway to the compound headquarters building. The plans of the two workshops on the north side of the street were completely revealed by excavation and are currently displayed (Sites 47 and $40 \mathrm{~N})$. However, only the northern edges of the two workshops south of the street have been excavated (Site 40S) and air photographs of parch marks now confirm that their plans mirror those of the other two, and the whole scheme forms a symmetrical arrangement. The break in the wall lines is probably the result of post-Roman stone-robbing which is known to have taken place in this area of the site. At the south-east corner of the east compound, where the boundary wall cannot be traced as a parch mark, a number of dark features occur, possibly indicating a kiln or hearth and a series of pits.

South of the compounds and immediately east of Site 2, further parch marks of buildings have been recorded on both sides of the road which branches off the Stanegate and runs between the compounds down the slope to the river. A long wall fronts the west side of this road with traces of rectangular structures behind it, all oriented on the road rather than on the adjacent buildings of Sites 2 and 3. The layout of these structures does not conform with the regular pattern of strip houses and shops and would perhaps suggest specialist buildings which may have undergone a complicated development comparable to that proposed by Salway for the corridor-house on Site 2 (Salway 1965, 50-5).

Immediately to the north of these features, further parch marks indicate a length of east-west metalling and the eastern end of a long building which has two parallel east-west walls terminating in a short wall. The end of this building encroaches on the road. Its alignment and dimensions suggest that it may be the eastern end of the long terraced building partly excavated on Site 3 in 1907, with the metalled area in front of it perhaps the floor of a long verandah. Thus the air photographs may provide interesting new data on a building already partly known. If this is so, its length ( $c 87 \mathrm{~m}$, or 130 m if the westward extension is included), and its orientation with the corridorhouse (Site 2) to the south, suggest that at some stage both structures formed an impressive planned unit terraced into the slope and overlooking the Tyne, the Roman bridge, and the country beyond. The relationship of buildings to topography is comparable with evidence from London, where the structures interpreted as the governor's palace are terraced into a slope overlooking the Thames, and also have a long axial building at the rear (Marsden 1975).

On the east side of the road air photographs indicate the presence of another large rectangular building, $c 16 \mathrm{~m}$ wide and up to 31 m in length. It contains a row of rooms on its north side and there are traces of a central nave or corridor and perhaps a similar row of rooms on the south side. If this interpretation is correct, then the building finds parallels with the slightly narrower Building b in the primary fort (phase la, Fig 68) and Building $g$ in the secondary fort (phase la, Fig 68). Parallels for these buildings at other forts and the reassessment
discussed elsewhere in this report (see p 131) suggest that they functioned as military store buildings rather than, in the traditional interpretation, hospitals. In an early civilian context this plan is also reminiscent of the slightly larger Flavian building in insula XVII at Verulamium, usually interpreted as a macellum (Richardson 1944). South of this building parch marks indicate a large fan-shaped feature 90 m east-west and $c 35 \mathrm{~m}$ north-south. It lies between the bottom of the main scarp and the present north bank of the river. This appears more likely to be the result of spoil dumping during the early excavations than activity in the Roman period.

East of the central area the eastern extension of the Stanegate is easily traced as a parch and crop mark from air photographs. The metalled surface widens at its junction with the eastern arm of Dere Street and again towards its east end where it joins Corchester Lane. At this point there are traces of a central ditch. Several strip buildings have been excavated on its north side (Sites 20, 23-5) and beyond these very faint crop marks of north-south walls show that they continue eastwards. On the south side of the road there is further evidence of strip houses and shops, more clearly defined as parch marks. These buildings lie on a gentle slope $40-45 \mathrm{~m}$ OD, overlooking a steep scarp falling away to the river. A second range of buildings lies immediately to the south of the strip buildings, along the edge of the scarp. Most have their main axis turned at right angles to the strip buildings, giving the impression that their area was constricted by the availability of level ground.

The parch marks of the southern edge of this range of buildings are extremely sharp. They can be clearly observed from the opposite bank of the river at suitable times, and it is possible they were buttressed out onto the slope. It is also possible that some structural remains were visible above ground level in the nineteenth century, which led to their interpretation as the wall of Corstopitum on MacLaughlan's survey, where he shows 'Foundations of Wall existing' along the edge of the scarp (MacLaughlan 1852, sheet IV).
The air photographs provide scant evidence for further buildings on the scarp or the more level ground below it, presumably because the slope was considered too steep to terrace. However, very faint traces of buildings and mortared or metalled areas can be detected at D (Fig 5; RCHME NMR NY9864 69/170), and E (Fig 5; eg CUCAP DS14-16).

Two buildings on the edge of the scarp deserve particular mention. A side street off the eastern extension of the Stanegate runs due south towards the front of a building which contains a narrow east-west corridor, an apse, and other structures jutting out on its south side. This may be a bath-house of the form known on German sites as of Reihentypus, significantly larger than the example already known from the north of the site (Site 17), or a dwelling house with an apsidal room overlooking the river (CUCAP BTN30-2, CAB23-4). Further east another building has a similarly sized apse with a solid mortar interior, again jutting southwards (CUCAP BTN30-2). This may also be a bath-house. If these apsed extensions and other structures were
buttressed out above the slope, they would find a parallel with the possible second century bath-house with its curious square base structure to the south, beneath the corridor-house on Site 2. In the original excavation report, this base was seen as a 'bellavista' or foundation for a richly decorated superstructure (Forster 1908, 231-4). Salway (1965, 54) suggested that it was the base for the bath-house latrine.

The north-western and north-eastern quarters of the site are characterised by areas of crop marks caused by major disturbance of the subsoil where the evidence of buildings and streets is lacking (RCHME NMR NY9864/69, CUCAP RC8-HB series). In the north-west an area of darker tone may indicate a large gravel quarry similar to that located on Bishop Rigg just to the west (Jobey 1979). It is crossed by a linear crop mark of an artificial feature, clearly later than the main period of quarrying, and it separates two light areas containing darker blobs. There is a similar light area in the north-east of the site also containing darker blobs. The light areas may be interpreted as thinner patches of brown earth over the developed river terrace consisting of large stone pebbles derived from the underlying carboniferous limestone or the erratics in the boulder clay deposits on the higher ground to north and south. The blobs probably indicate smaller quarries or pits, dug to supply building material, possibly during the life of the Roman settlement. A number of side streets run out from the Stanegate and the other main roads into these areas, but their precise relationship with adjacent buildings and streets cannot be established from the air photographs. Part of one of the areas concerned, east of Sites 58 and 59 , was examined in 1914, but no features were detected, and the excavators noted that it is not unreasonable to suppose that it was largely an open space' (Forster and Knowles 1915, 243).

## The outer defences

Air photographs shed little additional light on the evidence for defences found north of the north-east quarter of the site in 1914. Only the clay rampart shows as a light crop mark. It is likely that modern ploughing has now reduced the rampart to its cobbled foundation - thus producing a crop mark similar to those of the streets. The ditches known from excavation do not show here, except where the outer 'Sanitary Ditch' (so-called because the 'filling consisted mainly of sewage material' Forster and Knowles 1915, 237) runs south to meet the eastward extension of the Stanegate, where it is bounded by two strips of metalling (Fig 5.F; RCHME NMR NY9864/69/170).
MacLaughlan's plan of Corstopitum (MacLaughlan 1852, sheet IV) shows Roman Corbridge as an oval area surrounded by a line annotated as the 'probable extent of the Wall'. No evidence for this is provided by air photographs, except that the remains of buildings visible as parch marks in the south-east part of the site may have been visible above ground in MacLaughlan's time and led to his interpretation of them as 'foundations of Wall existing'. However, at
the base of the scarp slope MacLaughlan shows a long narrow hachured ridge, running obliquely towards the river's edge. Air photographs suggest that parch marks indicating a thin line of walling or metalling, with a probable spread of material on its north side, may show the same feature (Fig 5.G). This might be interpreted as some form of defensive work, but the air photographs provide no evidence of function or dating.

Running along the outer edge of the north-west quarter of the site, two parallel ditches have been recorded as crop marks (Fig 5.H). Both ditches appear as lines of variable thickness crossing an area of gravel (cf especially CUCAP CQM18), which might lead to their interpretation as a section of a Roman defensive work. It is certainly clear that these ditches are artificial in origin but their morphology and other characteristics visible from the air provide no evidence of function or dating.

## The evidence for extra-mural features

Crop and soil marks have been recorded around the perimeter of the main site of Roman Corbridge. To the west fieldwork has suggested that the Stanegate descended the short incline to the Cor Burn and negotiated its crossing by a series of right-angled bends, bringing it to the stream at its narrowest point. It is generally agreed that it was then joined by the line of the Carelgate, the pre-nineteenth century road from Corbridge to Hexham running along the bank of the Redhouse Burn (Wright 1941). Air photographs provide no guidance here because the route runs through the woodland of Shorden Brae, nor do they indicate a more northerly route closer to the mausoleum and cemetery. There is also no air photographic evidence for Roman strip buildings in this area. Nevertheless, a crop mark of the mausoleum itself was first recorded in 1949 (CUCAP DS18; Frere and St Joseph 1983, 227-8), which led to the subsequent excavation (Gillam and Daniels 1961). Just west of these features lie the Agricolan supply base and its associated bath-house at Red House (Hanson et al 1979; Daniels 1959), neither of which show traces on air photographs.
In Bishop Rigg, north of the mausoleum and just west of the main site (NY976653), at least two curvilinear and two rectangular ditched enclosures have been recorded as crop marks from the air by Professor McCord (RCHME NMR NY9865/1-10). Sections of these enclosures were excavated on the route of the new A69 trunk road in 1974 (Jobey 1979). They produced meagre evidence, except to suggest that they were of first century but pre-Flavian date, and of 'native' origin. Although the interpretation of the largest enclosure as a Roman camp seems plausible on the evidence produced from the excavation of its south-east corner, the crop mark evidence for the remaining circuit of its ditch does not support this, or the suggestion that it had east and west gates with outer tituli. Indications of other smaller enclosures occur on the west side of this enclosure, all of which have a non-military, even 'native' appearance. The interpretation of large dark
areas of crop as evidence of Roman gravel quarrying is more convincing.
North of the main site, the line of the road running northwards to the west of the central area cannot be detected as a crop mark north of Corchester Lane, unless a light area slightly east of its expected alignment is an indication of it on some air photographs. However, since the level of Corchester Lane and the field north of it is up to 2 m lower than the north edge of the main site, and since there is also no trace of a ridge at this point, any evidence of Roman material in this area has probably been ploughed away. By contrast, the eastern arm of Dere Street continues northwards beyond Corchester Lane where traces of a cemetery are known and ribbon strip building development is suspected (Daniels 1978, 99). Air photographs show no trace of this road crossing the playing field of Corchester School on the alignment established south of Corchester Lane. However MacLaughlan's survey shows its line running along the bank a few metres to the west as 'Watling Street, evident traces' and this new alignment remains preserved as a stretch of agger just to the north at NY984657.

The eastern extension of the Stanegate runs into, and is hidden by, the built-up area of modern Corbridge (cf Simpson 1972) but it may have continued east on the line of St Helen's Lane and the modern field boundaries beyond. Immediately east of the main area of crop and parch marks air photographs show a number of ditches and hollowways as parch marks (Fig 5.J). Some of these may be related to Roman Corbridge, but most are probably post-Roman in origin.
They are overlain by ridge and furrow aligned east-west. Further ridge and furrow oriented northsouth extends south to the river.
Immediately south of the Tyne lies Dilston Haughs, a relatively flat and extensive flood plain about one kilometre wide - the widest deposit of alluvial material along the course of this river. Crop marks indicate an extensive patterning of overlapping and swirling meanders, the result of successive generations of alluvial deposition by the Tyne and its tributary, the Devil's Water. A very slightly curved line heading from the direction of the Roman bridge towards Prospect Hill may indicate the south-eastward course of Dere Street (CUCAP RC8 series). Other straight lengths of line may also show features of archaeological interest but it is likely that some deposition of alluvium has taken place since the Roman period, masking much of the evidence here. Just to the east at Farnley (NY995631), three Roman camps have been recorded by air photography (CUCAP DN92-3, DS11-12).

## Conclusion

Air photographs taken since 1945 have provided a considerable accumulation of fresh evidence for Roman Corbridge. They give an impression of a
settlement which developed beyond the immediate confines of military defences and the walls of the later military works compounds. It was a settlement which became more than a mere vicus and developed by the third century into a planned civil town, the most northerly example in Britain, on the frontier of the empire. Nevertheless, insights into aspects of its history and development cannot be obtained with any confidence from the aerial evidence alone, and only the most tentative suggestions can be made from crop and parch mark plans for the function or the military or civilian origin of many of the buildings.

Only the most robust stone structures have been revealed as crop and parch marks and it is unlikely that earlier phases of timber-built houses, shops, and other buildings will be detected. It is also unlikely that continued air reconnaissance will add considerably more to our knowledge of the main site, except in the advent of a drought of 1976 proportions, or unless the entire site is put under pasture.
This leads to another point. The air photographs show that large areas of Roman Corbridge are being severely eroded by modern ploughing. This is well illustrated on Sites 2 and 3 where important buildings crucial to an understanding of the later settlement lie under the modern boundary between ploughed and unploughed land. Here there is evidence of considerable down slope erosion, to the extent that the level of the ploughed field lies $0.5-1.0 \mathrm{~m}$ below that of the pasture. It seems clear therefore that continual ploughing within the area of the Roman site may have led to a substantial loss of evidence for the latest phases of settlement from the third century to the end of the Roman period and beyond.

## 3 The area of the principia

## Introduction

The site occupied by the fort principia (headquarters building) was first excavated in 1908, when the building now identified as the yellow-plastered stone aedes (which belonged to the buildings here assigned to phases III and IV) was discovered in the courtyard of Site 11 (Knowles and Forster 1909, 338-42). The early excavators were also responsible for locating traces of the stone west wall of the phase IV building, as well as postholes belonging to earlier phases. They rightly deduced that the building they had found originally functioned as part of structures which predated Site 11 (ibid, 341).

After further examination of this area in 1951, it was realised that this was the shrine of a principia (Richmond and Gillam 1952, 245). At this point, only the later three main phases of the building were recognised, but Richmond noted evidence of earlier construction on that site in the same year, and again, but on a more substantial scale, in 1952, when the north-east corner of the earliest principia was found, along with the north-west corner of the adjacent building and the intervening street, (Richmond and Gillam 1955, 220-1).

More recent excavations (1965-7 - Table 1) concentrated on the south-west corner of the courtyard of Site 11, in the area of the courtyard and peristyle of the buildings of phases II to IV. In 1971, work was carried out in room 5 of the south range of Site 11, revealing the remains of wattle-and-daub walling from the phase II building. Then, in 1973, the north range of the phase I building was re-examined, a campaign which produced one of the most important pieces of dating evidence for this earliest phase.

## Description

A plan showing all of the known excavated material is shown in Fig 6, the section referred to in this chapter is shown in Fig 7, whilst Figs 8-12 are individual phase plans which include the numbered components assigned to the different phases. A further key to the component numbering system for this area will be found in Figs 13 and 14, although Fig 6 contains those numbers which cannot be allotted to any particular phase; detailed descriptions of the individual components are contained in Table 2. The relationships between components are shown in Fig 15.

## Discussion

## Phase I

(Figs 8, 13)
The plan of what Richmond and subsequent workers assumed to be the first principia at Corbridge is only partially known. Its northern range of rooms
(components $2-4$ and 72 ) and main exterior wall on the east (component 1) have been most comprehensively studied (1952, 1965, and 1973 for the east wall, 1952, 1957, 1972 for the north). The western main wall is not known with any certainty, but is suggested by a possible return in the post-trench (component 2 ) found in room 6 of the west range of Site 11. Likewise, the southernmost extremity of the building has not definitely been detected and has had to be deduced from the southern edge of the neighbouring building to the east.

The method of construction employed was posttrench (Hanson 1982, 170), the trenches for components 1 and 2 generally being $0.41-0.56 \mathrm{~m}(16-22 \mathrm{in})$ in width and about 0.51 m ( 20 in ) in depth. A range of post sizes seems to have been used - the recorded scantling includes $64 \times 64 \mathrm{~mm}(2.5 \times 2.5 \mathrm{in}), 102 \times 64 \mathrm{~mm}$ $(4 \times 2.5 \mathrm{in}), \quad 127-52 \times 102 \mathrm{~mm}$ ( $5-6 \times 4 \mathrm{in}$ ), and either $203 \times 203 \mathrm{~mm}(8 \times 8 \mathrm{in})$ squared or $203 \mathrm{~mm}(8 \mathrm{in})$ diameter. Many of the timbers survived in situ, either as more or less decayed wood or as post 'shadows' (and in some cases as voids), apparently having been cut off at or near ground level at demolition. The scantling of the timber uprights in component 2 $(203 \times 203 \mathrm{~mm}(8 \times 8 \mathrm{in}))$ may indicate that this part at least of the building had more than one storey (Hanson 1982, 180).

Indications that this was the principia, apart from its presumed central location within the primary fort, are provided by the layout of the northernmost range of rooms. Component 3 is slightly narrower than the main external post-trenches and forms the southern wall of the rear range. Internal partitions were only found at one point (components 4 and 72); these trenches were apparently filled with plaster, no doubt as a result of the demolition of plastered walls.

Other internal features in this first building are less easily explained - components 5,6 , and 7 are situated within the supposed area of the courtyard and form a right angle, possibly with an associated internal partition. A number of postholes may also be associated with this phase, at least one of which may have belonged to a courtyard colonnade, but in the absence of dating evidence certainty is impossible. A gravelled courtyard may be evident in the lowest of the gravel surfaces in trench R6.

In addition, Richmond noted some early features just south of the fribunal, itself here assigned to phase IV, which could well belong to this phase (Richmond and Gillam 1952, 249). From his published illustration, they appear to consist of two post-trenches running north-south (components 107, 109), the most westerly of which has a junction with a trench running to the west (component 108). These features do not really make any sense in the context of the later principia plan (since they would run across the area of the cross-hall), so are here assigned to the primary phase.

The discussion so far has assumed that the building in question has been correctly identified as a principia and was located in the usual place within the phase I fort. Elsewhere in this report (see p 97, 129), it is suggested that the parallel linear depressions running from east to west beneath the southern part of the central area form part of the defences of the


Fig 6 Principia area. All phases plan (scale 1:200)

141: Trench in Principia Crosshall


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Fig 7 Section 141 (scale 1:50)


Fig 8 Principia area. Phase I plan (scale 1:200)


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Fig 10 Principia area. Phase III plan (scale 1:200)


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Fig 11 Principia area. Phase IV plan (scale 1:200)
primary fort, in which case the latter assumption is false and the former may well be called into question. It could still be argued that the building was a north-facing principia, since the absence of a retentura is not without parallel in first century castrametation.

One of the most widely recognised features of the first phase of Roman military activity at Corbridge is the evidence for the burning of the buildings, normally manifested in the form of charcoal and burnt daub. The principia has also produced evidence for this type of destruction, the interpretation of which will be considered in the general discussion (p 129).

The dating of this phase of the principia is indicated by the recorded discovery of a samian bowl of Dragendorff form 37 within a post-trench in the northern range. These sherds, though they cannot now be traced, apparently give a terminus post quem of AD 85 (Hanson et al 1979, 2-4) and this accords with the presumed Agricolan date of occupation of the Red House site (ibid, 4).

## Phase II

(Figs 9, 13)
The position and plan chosen for the principia building of phase II was closely followed through the subsequent phases of the fort. Three of its comers have been located, so its overall dimensions are clearer. The postholes that bordered three sides of the courtyard and divided it from the cross-hall have also been located, along with some internal partitions in the eastern (and possibly the western) areas of the building. The main external walls (components 20 , $21,22,73$ ) seem to have been reused in phase III without any sign of reconstruction (apart from modifications to the aedes).

Phase II, like phase I, was a building of post-trench construction. The dimensions of the trenches used for this structure are more or less the same as those of the earlier building. Postholes within these tren-
ches include those with dimensions of $102 \times 51 \mathrm{~mm}$ ( $4 \times 2 \mathrm{in}$ ), $102 \times 114 \mathrm{~mm}(4 \times 4.5 \mathrm{in})$, and $152 \mathrm{~mm}(6 \mathrm{in})$ square. Post-pits for the colonnade between the cross-hall and courtyard were approximately $0.30 \times 0.61 \mathrm{~m}(12 \times 24 \mathrm{in})$ as a rule and, where they survived, the posts themselves measured $165 \times 165 \mathrm{~mm}$ ( $6.5 \times 6.5 \mathrm{in}$ ) (component 16) or 229 mm (9in) in diameter (components 17 and 18). The scantling of the posts in the north-west corner ( $152 \times 152 \mathrm{~mm}(6 \times 6 \mathrm{in}))$ may suggest that this building, like its predecessor on the same site had more than one storey in the rear range.

A daub wall 0.15 m ( 6 in ) wide (component 75 ) forming part of this building associated with the underlying post-trench (component 20) was recorded in room 5 of the south range of Site 11. Its timber uprights and portions of its vertical wattling were found, and traces of the plastering on the inner (west) face of the wall were also detected. Lines of stakeholes (component 76), similar to those associated elsewhere at Corbridge in phases Ib and Ila with sleeper beam construction, were found to run parallel with the wall inside and outside the building. The eastern line underlay the contemporary road surface, which butted against the daub wall. The stakeholes were about 25 mm (1in) in diameter, and lay an average of 0.76 m ( 30 in ) apart, with the spacing between holes 0.30 m ( 12 in ) on the west and 229 mm (9in) on the east. Traces of the daub wall appear also to have been found by Richmond in a small trench of 1951 at the south-west corner of the building.

The dimensions of the cross-hall, which was divided from the courtyard by at least six posts (components $14-19)$, were about $22 \times 7 \mathrm{~m}(72 \times 23 \mathrm{ft})$. Five postholes ( $127 \times 76 \mathrm{~mm}$ ( $5 \times 3 \mathrm{in}$ ), component 83 ) were found along the presumed line of the front wall of the eastern half of the northern range of rooms (first located in 1908 - Knowles and Forster 1909, 341) and an internal division of this period (component 82 ) is illustrated by Richmond (Richmond and Gillam 1955, fig 1), whilst a further post (component 84) in the western half probably formed a respond to the room immediately west of the shrine.


Fig 12 Principia area. Post-fort phase plan (scale 1:200)


Fig 13 Principia area. Component location plan, phases I-IV (scale 1:400)

There is evidence of post-trenches inside the building, probably forming rooms on at least one side (the east) of the courtyard (components 12 and 13). In absolute terms these two trenches are later than component 20 , but may nevertheless best be interpreted as belonging to the same phase - ie the external wall was erected before the internal partitions were added. Their uprights ( c $51 \times 25 \mathrm{~mm}$ $(2 \times 1 \mathrm{in}))$ suggest that these were slighter in build than the external wall. A further internal partition may be evident in component 71 . Traces of the wall flanking the west side of the courtyard were at one time thought to have been recorded in trench $06 / 7$ (marked on PI 474 'construction trench').
The courtyard was surfaced with gravel. Richmond and Gillam noted the presence of an eavesdrip outside the western wall of the northern range, thinking it had formed naturally, and pointed out that it indicated a roof sloping to the west, rather than to the north (component 81).

A terminus post quem for this phase was provided by a coin of Domitian (IL71 - now missing) of c AD 87 in the fill of a post-trench (component 20?) in room 5 of the south range of Site 11, although this coin was almost certainly residual, in the light of the terminus post quem for phase I, provided by the samian dated to $c \mathrm{AD} 85$.

## Phase III

(Figs 10, 13)
Much of the principia of phase II - the outer wall, the rear range, and the general divisions, were retained unaltered in phase III. The major change occurred in the replacement of the post-pits surrounding the gravelled courtyard and dividing it from the crosshall. The details of their construction were much the same as for phase II; the posts forming the colonnade to the north of the courtyard (components 24-9) ranged in diameter from 152 mm ( 6 in ) to 254 mm ( 10 in ) and some of them appear to have been squared.

It has been argued that in this phase the timberframed aedes of the phase II principia was clad in stone, on the basis of the imperfect alignment between the stone wall and its timber uprights (Gillam 1977, 62). If this was so, the presence of timber uprights within the stonework of phase IV in room 5 of the south range of Site 11 may suggest that this was not the only area in which this modification was made. (For the practice elsewhere, see Johnson 1983, 101). The stonework of the ades, however, was of a different kind from that found elsewhere in the first stone phase of the site. It was built of 'small and very neatly trimmed blocks, carefully set in hard mortar' (Richmond and Gillam 1952, 244). The east wall was 0.51 m ( 20 in ) wide, the west $0.43-0.46 \mathrm{~m}$ (17-18in), and both had responds at their southern ends. When first found, in 1908, the aedes walls were covered in yellow plaster (Knowles and Forster 1909, 339 ) and plaster was again found by Richmond in 1951. The 1908 report, along with Richmond's 1951 plan, appear to show that the northern rear wall of the aedes was not connected to the side walls and was
later even than phase IV, although it must have replaced an earlier wall in this position.

Although there was some rebuilding during the phase, therefore, the evidence suggests that it was a result of a series of major repairs to an existing building - the replacement of the internal timber peristyle may, for example, have been necessitated by decay or damage, rather than the construction of a wholly new one. The internal features noted above (especially components 12 and 13) may have been removed or added to in this phase, since the butt end of another post-trench (component 51 ) was found cut into component 13.

## Phase IV

(Figs 11, 13)
Traces of the first stone-built principia (IVa) have been recorded at various points of the rear range, as well as along both of the main side elements and at its southernmost corners. Elements of its layout around the northern end of the courtyard, as well as parts of the cross-hall, have also been recovered. Its walls were composed of coursed, mortared, and faced stone placed on a clay and cobble foundation. In many places the only surviving evidence for the walls was this foundation. In several places the posts from the timber walls of forts II and III appear to have been clasped by the foundations, and the uprights may therefore have been incorporated into the wall fabric itself. The main external walls (components $33-6$ ) range in width from $0.91-1.07 \mathrm{~m}(36-42 \mathrm{in})$.

In this phase, although the principia still followed the plan of phases II and III, albeit on a marginally different alignment, a number of changes were made particularly to the courtyard. A drain lined with stone slabs, probably serving as an eavesdrip (components 43 and 77 ), lined the exterior of the main east, west, and south walls. In each case, the outer edge of the drain was formed by the kerb of a road.
The line of posts previously used to divide the cross-hall from the courtyard was now replaced by a wall (component 45), probably the footing for a portico, with a central opening almost directly in line with the front of the aedes. The courtyard was bounded on two sides at least by a colonnade; foundations for the columns have been traced on its western side. There was an eavesdrip running around the edge of the courtyard (components 44 and 46), while its surface was gravelled, as in previous phases.

At the eastern end of the cross-hall, the remains of a stone tribural (components $40-2$ ) have been revealed at different times. It measured $3.51 \times 2.90 \mathrm{~m}$ (11ft $6 \times 9 \mathrm{ft} 6 \mathrm{in}$ ), and was originally located by Richmond and the remains of its southern wall were rediscovered in 1966 in trenches T/U4. This structure was found to incorporate sherds from a Dr 37 of Arcanus in its clay fill when originally excavated (Richmond and Gillam 1952, 249). Richmond found possible traces of piers or pillar bases within the cross-hall (see Section 141, Fig 7). Part of a stone pier or respond for one of the rooms to the east of the
aedes was located (component 89), with similar traces to the west (component 90).

Richmond's excavations in 1951 led him to believe that the eastern main wall of the principia (component 33) lay slightly to the west of the previous timber building of phases II and III at those points towards the northern end, where he came across it. Gillam ( 1977,66 ) refuted this, probably using the evidence of the 1960s excavations. Nevertheless, the plans suggest that the stone - phase IVa - principia did not lie squarely on top of its predecessor. Like phase III, therefore, phase $I \mathrm{Va}$ is best interpreted as the rebuilding or recladding of an existing structure. Where possible it adapted existing elements - such as the timber uprights of the external walls - and incorporated them into its fabric, while at the same time introducing dwarf walls (component 45 is one example) to replace the previous series of postholes. There could not have been a substantial gap between the occupation of phases III and IV of the principia.

On the basis of excavations in the western range of Site 11, it has been suggested that there were two distinct phases of stone construction, IVa and IVb. Examination of the walls in room 3 of the west range revealed that the first wall, some 1.14 m ( 3 ft 9 in ) broad and of good quality construction, was surmounted by a narrower wall - up to 0.61 m ( 2 ft ) in width - of less competent construction and built flush with its inner face. Gillam $(1977,70)$ has suggested that at this stage the walls were converted from stone sills supporting a timber superstructure into walls entirely of stone. Quarter-round plaster mouldings against component 45 , and in other places, show that in the cross-hall at least there were two successive floor levels in this stone fort. This may indicate that there was also a second phase of building elsewhere.

## Post-fort activity

(Figs 12, 14)
Richmond and previous excavators have shown that elements of the principia building continued to be used after the fort had been abandoned (Richmond and Gillam 1952, 249-50). Various structures, described by the first excavators as 'cabins', were added to the previous building. There is evidence for

Fig 14 Principia arca. Component location plan, postfort phase (scale 1:400)

industrial activities within the principia. The surviving rear wall of the aedes may have been constructed at this point, probably replacing an earlier one on the same line. This phase of use seems to predate (although it is not clear by how much) the construction of Site 11. The original excavators state that the aedes was the only building in the south-west corner of the courtyard which was not covered by a mixed layer of sand, gravel, and lime laid down immediately before the construction of Site 11 (Knowles and Forster 1909, 341). However, it is now impossible to be precise about the order in which these components were constructed, or their relationship to each other.

## Structural sequence

The structural sequence of the principia at Corbridge can be summarised as follows:

Phase la Flavian timber building
Phase Ib [no definite changes from Ia]
Deliberate demolition
Phase II Smaller timber building
Phase III Rebuild of parts of the phase II building
Phase IVa Rebuild of the phase IIIIII building in stone with some minor changes in detail possibly only stone footings
Phase IVb Rebuild of some stone walls in masonry of a poorer quality - full height stone structure?
Final Abandonment
Post-fort Utilisation of remains of aedes


Fig 15 Principia area. Component relationship table



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| Light clean filling including someday＇ |
| － |
| ＇Foundation trench hq building＇；＇grey day fili＇ |
| ＇Broad sand－filled construction trench＇ |
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Table 2：HQ components table

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## 4 The area of the praetorium (Commanding Officer's house)

## Introduction

The eastern half of Site 11 was first excavated in 1910 (Forster and Knowles 1911, 145-65) and it was then that the building subsequently known as the Commanding Officer's/Commandant's House was located. The early excavators rightly deduced that this structure predated the large courtyard building and cited possible changes in ground level from the original Roman land surface (ibid 163).

The south-east corner of Site 11 was chosen as the focus for the post-war training excavations at Corbridge, largely because it promised a greater depth of stratigraphy than other areas (Gillam and Tait 1971, 2). Richmond had examined parts of this area in 1952 (Richmond and Gillam 1955, fig 1) and revealed a phase I timber building lying to the east of the phase I timber structure beneath the stone principia. Moreover, he demonstrated in section (Sections 4, 5, see Fig 17) the relationship between this phase I building, a pre-Roman settlement, and subsequent timber and stone phases of the practorium. Richmond also excavated a few small (unpublished) 'keyhole' trenches in areas covered by later trenches. In a series of excavations from 1959-71, the whole area including the south and east ranges of Site 11 was comprehensively examined.

## Description

Fig 16 shows all of the known features. The sections referred to in this chapter are shown in Figs 17-20, whilst Figures 21-5 are individual phase plans. The key to the component numbering system for this area is found in Figs 28-9, although Fig 16 contains those numbers which cannot be allotted to any particular phase. Detailed descriptions of the individual components are contained in Table 3. The relationships between components are shown in Fig 30.

## Discussion

## Phase I

(Figs 21, 23)
The timber building first excavated by Richmond is of considerable interest. It is composed of a corridor (defined by components 2 and 3) running northsouth, with a series of rooms lying on either side of it. The building measures 13.41 m (44ft) from east to west; and the corridor and rooms are each about 4.27 m ( 14 ft ) wide, thus dividing it into three equal strips. There were indications that a gravel surface had been laid within the building, possibly even before the trenches were dug (Sections 75, 98, 106, see Figs 18,19 ). It probably functioned as a store building.

Its northernmost post-trench (component 5) lies 31.09 m ( 102 ft ) north of the south range of Site 11. It extends beyond the eastern edge of the building by some 2.4 m ( 8 ft ). The southern end is more difficult to define. Component 14 was used by Gillam and Tait in their reconstruction (1971, fig 3). However this is not the only possibility. A further post-trench (component 32) has been located to the south of component 14, and like component 5 it continues to the east of component 1 (in this case by at least 0.61 m ( 2 ft )). This could plausibly be reconstructed as a corridor at the south end of the building (Fig 28). The first interpretation suggests a building c 32.92 m ( 108 ft ) in length; the second a building 35.36 m ( 116 ft ) long.

One curious constructional detail in this building deserves comment. In trench X6, at the junction of components 4 and 13, it is evident that a corner had been cut off when the post-trenches were dug by the Roman army. Similar phenomena have been found at a junction between two trenches in the northern corner of the principia at Fendoch (Richmond and McIntyre 1939, fig 6) and in a pre-Flavian building beneath the busilica at Silchester (Frere 1985, fig 31). In each case, this was possibly due to overdigging by the workforce rather than any error on the part of the Roman surveyors.

There are traces of phase Ib alteration in this building, clearest in the beam slot partitions (components 17 and 18). Component 35 replaced component 14 in this same distinctive construction. These were originally seen as minor alterations to the phase la building (Gillam and Tait 1971, 10-13), but the possibility that a beam slot may have lain directly on top of component 4 was raised by excavation in the immediate vicinity of the hoard in trench X5/6 (see Allason-Jones and Bishop 1988). It is also suggested in section for component 3 (Section 75, Fig 18). Therefore, this building may have been altered at the end of phase 1a.
To the east of the corridor building lay the phase I granary. Although this was described as possessing 17 east-west post-trenches (Gillam and Tait 1971, 9), only ten of these can be proved conclusively from the surviving records. However it is worth noting that if the larger alternative is preferred, then component 30 is in the correct position to form an eighteenth post-trench. Assuming a north-south orientation, the width of the building is 18.29 m ( 60 ft ) and its length a minimum of 13.72 m ( 45 ft ) (ten trenches) or a maximum of 25.60 m ( 84 ft ) ( 18 trenches). It is quite possible that component 30 is not the most northerly post-trench as there is room for a granary 29.26 m ( 96 ft ) long ( 21 trenches) by the side of the corridor building.

In phase Ib , a third possible building has been located within the south-east corner of Site 11. It lay within the later south range and is characterised by beam slots with peg-holes on either side. Of the three parallel phase lb sleeper trenches in the south range (components 31, 33 and 35 ) two are probably associated with the corridor building, but the southernmost (component 31), which is at least 16.76 m ( 55 ft ) long, may belong to a building to the


Fig 16 The ara of the practorium. All phases plan (saale 1:200)


Fig 17 Sections 4, 5, 10, 56, 62, 68, 70 (scale 1:50)

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Fig 18 Sections 71, 72, 75, 76, 77, 92, 98 (scale 1.50)


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Fig 19 Sections 102, 106, 110, 111, 113, 114 (scale 1:50)



Fig 21 The area of the praetorium. Phase la/b plan (scale 1:200)
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Fig 22 The area of the praetorium. Phase II plan (scale 1:200)


Fig 23 The area of the praetorium. Phase III plan (scale 1:200)


Fig 24 The area of the practorium Phase IVa plan (scale 1:200)




3


Fig 26 Reconstructed plan showing the changes to the Phase IV store building in the area of the practorium (scale 1:200)


Fig 27 The area of the praetorium, west section of E5 showing the south wall of the praetorium surviving higher than the north wall of the store building to its south. This photograph also demonstrates hove the wall and foundations of the praetorium has been truncated to facilitate the construction of Site 11, whilst the remains of the store building are largely undisturbed
south of this. It is apparently of similar construction to that found south of the phase I headquarters building located by Richmond (see above, Chapter 3).

The phase I buildings were characterised by the fact that they were sealed by a prominent destruction deposit consisting of charcoal and burnt wattle and daub (Sections 10, 71, 72, 77, Figs 17, 18).

## Phase II

(Figs 22, 28)
The only phase II building within the south-eastern sector of the Site 11 courtyard has its long axis orientated north-south and measures $7.01 \times 8.84 \mathrm{~m}$ ( $23 \times 29 \mathrm{ft}$ ). 2.74 m ( 9 ft ) from its eastern post-trench (component 36), a similarly aligned partition (component 40) was traced; it is possible that a pair for it lay beneath component 96 (phase IVb). If such a trench did exist, it would form another corridor-type building with a narrow passage about 1.22 m (4ft) wide.

A second phase II building has been located within the south range. It is at least 19.81 m ( 65 ft ) long. Apparently consisting of a series of rooms with a corridor to the north, it was identified as a barrack building of some kind (Gillam and Tait 1971, 27;

Gillam 1977, 58; followed by Johnson 1983, 192). At least five rooms seem to be represented but their dimensions, $2.13 \times 3.34 \mathrm{~m}(7 \times 11 \mathrm{ft})$ (the longer dimension being orientated along the long axis of the building), militate agairst the identification of this building as barrack accommodation.

These two structures are the only certain members of the phase II fort contained within this south-east corner of Site 11. Previous speculation about the possible existence of other buildings in this area, destroyed by levelling down in phase III (Gillam and Tait 1971, 14), can be neither proved nor disproved. It is significant that traces of phase I construction survive in most places and phase II trenches were equally substantial and normally cut from directly on top of the phase I destruction layer. As this was never very thick, any constructional activity of this phase would be likely to survive in such areas.

## Phase III

(Figs 23, 28)
There are three phase III structures within the area of the practorium including two parallel granaries. Each consisted of at least 15 post-trenches running north-south. Gillam and Tait preferred to see


Fig 28 The area of the praetorium. Component location plan phases I-III (scale 1:400)


Fig 29 The area of the praetorium. Component location plan phases IVa-b (scale 1:400)
granaries with 17 post-trenches, two of which would have been concealed under the east wall of Site 11. As they survive, the buildings are 21.03 m ( 69 ft ) long and 9.14 m ( 30 ft ) wide, although the additional trenches (if they existed), would increase the length to about 23.77 m ( 78 ft ). The posts in component 62 , still evident as voids, were $114 \mathrm{~mm}(4.5 \mathrm{in})$ in diameter and between $1.52 \mathrm{~m}(5 \mathrm{ft})$ and $2.44 \mathrm{~m}(8 \mathrm{ft})$ apart (see Section 76 (Fig 18) for a longitudinal section of component 62 ), and survived to a height of 0.48 m ( 1 ft 7 in ) in one instance. They appear to have been cut off at ground level when the building was demolished (contra Manning 1975, 127) and destruction deposits overlay parts of components 57 and 59 (Sections 106 and 102 respectively, Fig 19). The posts rested upon flat stones in the bottom of the post-trench (Section 76, Fig 18). It is suggested that there was considerable levelling down of what later became the eastern courtyard of Site 11, the northern phase III granary being partially terraced into a slope (Gillam and Tait 1971, 1, 4, 16).

The third phase III building was found within the south range of Site 11, although there is insufficient evidence to allow a plausible reconstruction of its original configuration. It was at least 14.02 m ( 46 ft ) long, but it is possible that some additional elements (components 34 and 104-7, to which a phase cannot be allocated on the surviving evidence) increase the length to 25.60 m ( 84 ft ).

## Phase IV

(Figs 24, 25, 29)
There is a very clear distinction between phase IVa and IVb in this area. The earlier constructions were of timber set in post-trenches, with plastered wattle-and-daub walls, whilst the succeeding phase was built of dressed stone masonry on clay and cobble foundations.

Substantial traces of a post-trench building were found beneath the surviving stone pratorium. One wall (component 75) had almost completely removed component 61 of the northern phase III granary (Section 92, Fig 18), whilst component 76 lay directly beneath component 102 of the later stone structure. The post-trenches that survive would appear to belong to a courtyard building, possibly the IVa practorium (Gillam and Tait 1971, 20; Gillam 1977, 66). This building was associated with a thick clay layer covering most of the eastern end of the northern phase III granary (Sections 56, 76, Figs 17, 18).

To the south of this timber building were found the remains of five stone walls, each at least 6.10 m (20ft) long (components 82-6) situated directly over (Section 113, Fig 19) post-trenches belonging to the southern phase III granary (components 51-3). The structure measures overall 7.01 m ( 23 ft ) east-west, each wall being at least 6.10 m (20ft) long. They seem to be an attempt to echo the earlier timber granary in
stone, although the use of transverse dwarf walls by themselves does not appear to be paralleled elsewhere in stone granaries.
Within the south range of Site 11, construction typical of phase IVa (notably plaster fillets on either side of the post-trenches) was found (components $72-4$ ). Once again, not enough of the building survives to attempt any appraisal of its original form.

The five transverse stone walls (components 82-6) were succeeded in phase IVb by a large stone building orientated east-west. This consisted of four main longitudinal walls (components $87-90$ ) with a cross-wall at the east end (component 91). It was 28.04 m ( 92 ft ) long and 7.92 m ( 26 ft ) wide. The construction of this building seems to have involved the demolition of the earlier transverse walls, with the exception of component 85 , which was incorporated into the new structure (Section 113, Fig 19). The other walls were included within the foundations of the new building, which were cobble and clay in the western half, loose stone in the east. This building received one further major alteration: components $87-90$ were either never completed in the western half, or robbed right down to their clay and cobble foundations (Sections 62, 68, 111, 113, 114, 121, 122, Figs 17, 19, 20), leaving just two responds at the west ends of components 87 and 90 (Section 110, Fig 19). Furthermore, sections clearly show that a demolition deposit overlay components 88 and 89 (Sections 111, 113, Fig 19), but butted against 87 and 90 (Sections 62, 68, 70, Fig 17), suggesting that the outer walls of this building were left standing when the others were demolished (Sections 115, 116, 121, 122, Fig 20).

The following sequence for this building (Fig 26) can be suggested. Five transverse walls were constructed (components 82-6). They were probably intended for a granary. Four of them were incorporated into the foundations of the 28.04 m ( 92 ft ) long building (components 87-91). One of the transverse walls (component 85) was possibly retained and four longitudinal walls were built. This seems to have been intended as a granary. It was followed by a 16.46 m ( 54 ft ) truncated version of the long building components 87 and 90). The two internal longitudinal walls were demolished. There is clear evidence of burning at some point between the first and third stages of this project, as well as slight evidence for burning at the end of the third stage.

This building post-dates phase IVa but is earlier than Site 11 itself. A careful examination of original photographs of the western section of trench E5 (Fig 27; cf Section 70, Fig 17) indicates that it may well predate the phase IVb practorium. After its abandonment, it was covered with clay packing over virtually its entire length (Sections 62, 68, 70, Fig 17).

Within the south range itself, the only structural feature belonging to this phase is the rubble-filled 'drain' (component 92) with regular 'sumps' (eg Sections 127, 128, Fig 20) which were spaced approximately $6.10 \mathrm{~m}(20 \mathrm{ft})$ apart.

Because of the constraints imposed by excavating around consolidated remains, little was added to present knowledge of the stone built practorium itself.

However it was possible to demonstrate its stratigraphical relationship with the earlier buildings on the site (Sections 70, 76, Figs 17, 18). The most detailed information about the building itself remains that gathered, and published, by the first excavators (Forster and Knowles 1911, 145-65).

## Post-fort activity

Much of the south-eastern sector of Site 11 was covered by a layer of lime or mortar, two layers of compact gravel, and a layer of 'mason's chippings' (eg Section 71, Fig 18), normally assumed to derive from the construction of Site 11 itself. The mortar and gravel seem to be preliminary levelling before the huge courtyard building was begun. Site 11 itself will be discussed in greater detail below (Chapter 7). There is little coherent evidence of post-fort activity similar to that found in the principia.

## Structural sequence

The structural sequence of the area of the practorium at Corbridge can be summarised as follows

| Phase la |  |
| :--- | :--- |
| Phase Ib | Timber store building and granary <br> Timber store building partially rebuilt; <br> new building to south of both |
| Deliberate demolition |  |

Phase Ib Timber store building partially rebuilt; new building to south of both Deliberate demolition
Phase II Small timber store building with a similar building to the south
Phase III Two timber granaries to the north, a building of unknown form to south
Phase IVa Timber practorium with building of unknown form to south
Phase IVa/b Five north-south stone walls; replaced by four east-west walls; these four shortened Deliberate demolition
Phase IVb Rubble-filled drain; stone praetorium Final abandonment
Post-fort Levelling and metalling of area; construction of Site 11


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| ＇Dark gravel＇ |
| ＇Trench of dark brown sand and gravel＇ |
| － |
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| Double trench already recorded＇ |
| ＇Construction trench filled with brown＇grey sand and gravel mived＇ |
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| ＇Dark gravel－tilled trench＇； ＂grey－brown sand with small pebbles＇ |

Table 3：CO＇s House components t＇＇le

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| $\stackrel{\sim}{*}$ | $\underset{a}{b}$ | y | W | 睒 | E | 8 | 1 | 1 | 2 | $₹$ | $\frac{e}{x}$ | \％ | 与 | 2 | 总 | Z |
| $\stackrel{\rightharpoonup}{\mathrm{z}}$ | $\underset{~}{\mathbf{z}}$ | $\underline{8}$ | $\stackrel{\rightharpoonup}{8}$ | $8$ | 㫗 | $\frac{8}{8}$ | $\stackrel{\text { 荤 }}{2}$ | $\stackrel{8}{8}$ | $\stackrel{y}{y}$ | $\frac{3}{6}$ | 各 | 各 | 恩 | 要 | 各 | $\frac{8}{8}$ |
|  | $\frac{8}{8}$ | $\frac{\frac{1}{\delta}}{\frac{8}{2}}$ | 妾 | $\frac{8}{8}$ | $\frac{\frac{1}{8}}{8}$ | $\frac{\dot{8}}{8}$ | $\frac{8}{8}$ | $\begin{aligned} & \frac{2}{6} \\ & \frac{5}{6} \end{aligned}$ | $\frac{\frac{2}{8}}{\frac{c}{2}}$ | $\frac{1}{6}$ | $\frac{1}{8}$ | $\frac{1}{6}$ | $\frac{\dot{y}}{\frac{1}{6}}$ | $\frac{2}{8}$ | $\frac{\dot{5}}{\frac{1}{6}}$ | $\frac{1}{8}$ |
| $\frac{4}{4}$ | $\begin{aligned} & \frac{2}{w} \\ & \frac{5}{5} \\ & \frac{5}{2} \end{aligned}$ | $\begin{aligned} & z \\ & \frac{5}{5} \\ & \frac{5}{2} \end{aligned}$ | $\begin{aligned} & z \\ & \text { w } \\ & \frac{5}{4} \\ & \frac{4}{2} \end{aligned}$ | $\begin{aligned} & \frac{z}{w} \\ & \frac{5}{5} \\ & \frac{1}{2} \end{aligned}$ | $\begin{aligned} & \frac{2}{2} \\ & \frac{5}{2} \\ & \frac{5}{2} \end{aligned}$ | $\begin{aligned} & \text { Z } \\ & \text { w } \\ & \frac{5}{4} \\ & \frac{4}{2} \end{aligned}$ | $\begin{aligned} & \text { z } \\ & \text { w } \\ & \frac{5}{2} \end{aligned}$ | $\begin{aligned} & \text { 炭 } \\ & E \\ & E \end{aligned}$ | $\begin{aligned} & z \\ & H \\ & E \\ & E \end{aligned}$ | $\begin{aligned} & \frac{2}{2} \\ & \frac{4}{4} \\ & \frac{4}{4} \end{aligned}$ | $\begin{aligned} & \frac{2}{w} \\ & \text { 花 } \\ & \frac{1}{4} \end{aligned}$ | $\begin{aligned} & z \\ & \underset{y}{w} \\ & \underline{E} \\ & \underline{E} \end{aligned}$ | $\begin{aligned} & \text { z } \\ & \text { 世 } \\ & \frac{t}{t} \\ & \underline{E} \end{aligned}$ | $\begin{aligned} & z \\ & w \\ & t \\ & \underline{E} \end{aligned}$ | $\begin{aligned} & z \\ & \frac{y}{w} \\ & \frac{y}{4} \\ & \frac{1}{5} \end{aligned}$ | $\begin{aligned} & z \\ & w \\ & \frac{y}{t} \\ & \frac{1}{4} \end{aligned}$ |
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| ${ }^{3}$ postholes $2^{\text {r }}$ diam； palch of burnt material $6^{6}$ diam |  |


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Table 3 continued

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| e | $z_{z}$ | $\underset{z}{z}$ | $\underset{\sim}{z}$ | $z_{6}^{2}$ | $\frac{1}{2}$ | $z$ <br> 3 | $\frac{2}{3}$ | $z_{2}^{3}$ | $z_{2}$ | $z_{5}$ | $z_{E}$ | $z_{5}$ | $z_{2}$ | z |
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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | Internal E-W partition post-trench, West Range | $\begin{aligned} & 1952, \\ & 1973 \end{aligned}$ | - | ${ }^{\prime \prime}$ | 1 | - | - | - | 1a/b | 1, fig 1 | - | - | - | $\begin{aligned} & 601, \\ & 109 \end{aligned}$ | 21 |
| 7 | Internal E-W partition post-trench, West Range | $\begin{aligned} & 1952 \\ & 1993 \end{aligned}$ | - | 8 | $14^{*}$ | - | - | - | 1a/b | 1.fig 1 | - | - | - | $\begin{aligned} & 601, \\ & 107, \\ & 108, \\ & 200 \end{aligned}$ | 21 |
| 8 | Intemal E-W partition post-trench, West Range | 1952 | - | 13 | 12 | 19 | 'Flav. Itrench fill | $\begin{aligned} & { }^{4} \text { postholes } 4 \times 25 \text {, } \\ & 4 \times 35,5 \times 5 \end{aligned}$ | 1a/b | 1, Eig 1 | 2485 | - | - | 601. <br> 108. <br> 2008 208 | 21 |
| 9 | Intermal E-W partition post-tresch, West Range | 1952 | - | 3 | - | - | 'Flavian I partition sleeper trench | 1 posthole | 1a/b | 1, fig 1 | - | - | - | ${ }_{601}^{100}$ | 21 |
| 10 | Internal E-W partition post-trench, West Range | 1952 | - | 11 | - | $r^{\prime}$ | 'Fisleeper trench fill' | - | $1 \mathrm{a} / \mathrm{b}$ | 1, fig 1 | 2508 | - | - | $\begin{aligned} & 601, \\ & 108, \\ & 298 \end{aligned}$ | 21 |
| 11 | Internal E-W partition post-trench, West Range | 1963 | Y5 | 8 | 19 | - | 'Brown soil and stones' | - | 1a/b | - | - | - | - | 241 | 21 |
| 12 | Internal E-W partition post-teench, West Range | 1964 | x6 | $36^{\circ}$ | 23 | ${ }^{1} 1 \sigma^{\prime}$ | Construction trench filled with dirty brown sand and gravel'; 'clean light brown soit | 1 posthole ${ }^{\text {Tdiam }}$ | 1a/b | - | $\begin{gathered} 113,1169, \\ 1192 \end{gathered}$ | - | 5.13 | $\begin{aligned} & 91, \\ & 460, \\ & 259, \\ & 269 \end{aligned}$ | 21 |
| 12 | Internal E-W partition post-trench West Range | 1964 | Y6 | 8 | $16^{\circ}$ | - | Yellow sandy material' | 4 pestholes |  | - | - | - | $\begin{gathered} 25.7(\mathrm{il1}), \\ 25.7, \\ 5.8, \\ 5.9, \\ 5.11 \end{gathered}$ | - |  |
| 13 | Internal E-W partition post-trench, West Range | 1965 | $x^{7}$ | $36{ }^{\circ}$ | $1^{*}$ | - | - | 2 postholes $2^{\text {r }}$ diam | $1 \mathrm{a} / \mathrm{b}$ | - | - | - | 5.21 | 257 | 21 |
| 13 | Internal E-W partition post-trench, West Range | 1564 | $\gamma$ | $\tau$ | 10 | - | 'An early Itench' | 2 postholes, 3 diam |  | - | - | - | 3.23 | 250 |  |
| 14 | Internal E-W partition post-trench, at 5 end of building | 1967 | 11,5R, RMb, NWSQ | 74 | $14^{\circ}$ | $14^{*}$ | Teriodla | - | 1a/b | 2.8 | 1565 | - | 3.37 | $\begin{aligned} & 151, \\ & 152, \\ & 155 \end{aligned}$ | 21 |
| 14 | Intemal E-W partition post-trench, at S end of building | 1967 | 11.SR. RMS, NE SQ | 68 | 17 | $1 \cdot$ | 'Construction trench' | - |  | 2.8 | 1543 | - | 3:38 | $\begin{aligned} & 150, \\ & 151, \\ & 155 \end{aligned}$ |  |
| 15 | Intemal E-W partition post-trench, East Range | 1964 | A/87 | $>13$ | $1^{\prime}$ | - | 'Gravelly sand (oeange)' | - | 1a/b | - | - | - |  | 240 | 21 |

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| 23 | trench <br> $\underset{\substack{\text { E．W } \\ \text { trench }}}{\text { granary post．}}$ |
| ${ }^{3}$ | E－W granary post－ trench |
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| 24 | $\underset{\substack{\text { E．W } \\ \text { trench }}}{\substack{\text { granary } \\ \text { post．}}}$ |
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| 25 | trench <br> E－W granary post |
| 26 | E－Wgranary post－ trench |
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| 27 | trench <br> $\underset{\substack{\text { E．W granary post } \\ \text { trench }}}{ }$ |
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|  | $\begin{aligned} & \text { F } \\ & \frac{2}{5} \\ & \frac{3}{x} \end{aligned}$ | 3 -8 | 8 8 | Z $3\}$ | Z 新客 | 8 <br> ह | $\begin{aligned} & 0_{2}^{n} \\ & =38 \\ & 2 \end{aligned}$ | $\begin{aligned} & 0_{2}^{n} \\ & =\frac{5}{2} 8 \end{aligned}$ $8$ |  | $\begin{aligned} & \frac{2_{5}^{6}}{5} \frac{1}{2} \\ & =\frac{8}{2} 8 \\ & \frac{8}{2} \end{aligned}$ | $\begin{aligned} & \frac{2_{2}^{2}}{2^{6}} 8 \\ & =\frac{5}{3} 8 \\ & \frac{8}{8} \end{aligned}$ | $\begin{aligned} & \frac{2}{8} \\ & =\frac{5}{2} \frac{1}{2} \\ & \frac{8}{2} \end{aligned}$ | $\begin{aligned} & \frac{2}{5}, \frac{8}{3} \\ & =3 \\ & \frac{3}{2} \end{aligned}$ |
|  | $\begin{aligned} & \text { E } \\ & \frac{8}{E} \\ & \frac{E}{6} \\ & \frac{0}{4} \end{aligned}$ | $\begin{aligned} & \frac{2}{8} \\ & \frac{2}{2} \\ & \frac{2}{4} \\ & 3 \\ & 3 \\ & 2 \end{aligned}$ | $\begin{aligned} & \text { E-W granary post- } \\ & \text { trench } \end{aligned}$ | $\frac{2}{8}$ <br> $\frac{2}{8}$ <br> 2 <br> 5 <br> 3 <br> 3 |  | E－W post－trench | $\begin{aligned} & \frac{\pi}{5} \\ & \frac{5}{5} \\ & \frac{1}{2} \\ & 3 \\ & \hline \end{aligned}$ | $\begin{aligned} & \frac{\pi}{7} \\ & \frac{5}{4} \\ & \frac{5}{3} \\ & 3 \end{aligned}$ | $\begin{aligned} & \frac{5}{4} \\ & \frac{E}{2} \\ & \frac{E}{4} \\ & 3 \end{aligned}$ | $\begin{aligned} & \frac{6}{4} \\ & \frac{1}{2} \\ & \frac{g}{2} \\ & 3 \\ & d \end{aligned}$ | $\begin{aligned} & \frac{4}{6} \\ & \frac{2}{2} \\ & \frac{2}{2} \\ & 3 \\ & 4 \end{aligned}$ | E $\frac{4}{4}$ $\frac{8}{2}$ 3 3 | $\begin{aligned} & \frac{\pi}{2} \\ & \frac{1}{2} \\ & \frac{g}{3} \\ & \frac{1}{4} \end{aligned}$ |
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|  | $\frac{5}{7}$ $\frac{1}{4}$ $\frac{5}{4}$ 3 |  | $\begin{aligned} & \frac{\epsilon}{4} \\ & \frac{5}{5} \\ & \frac{1}{8} \\ & \frac{1}{2} \end{aligned}$ | $\begin{aligned} & \frac{4}{4} \\ & \frac{5}{5} \\ & \frac{1}{2} \\ & \frac{2}{4} \end{aligned}$ | $\begin{aligned} & \frac{\pi}{4} \\ & \frac{4}{4} \\ & \frac{1}{8} \\ & 3 \\ & 3 \end{aligned}$ | $\begin{aligned} & \frac{\pi}{4} \\ & \frac{y}{4} \\ & \frac{1}{2} \\ & 3 \\ & 3 \end{aligned}$ | $\begin{aligned} & \frac{y}{4} \\ & \frac{1}{y} \\ & \frac{1}{2} \\ & 3 \\ & 3 \end{aligned}$ | $\begin{aligned} & \frac{1}{8} \\ & \frac{1}{0} \\ & \frac{2}{2} \\ & \frac{5}{3} \\ & \frac{5}{2} \end{aligned}$ | $\begin{aligned} & \frac{1}{8} \\ & 0 \\ & 2 \\ & \frac{2}{4} \\ & \frac{5}{3} \\ & \frac{4}{2} \end{aligned}$ | $\begin{aligned} & \frac{1}{8} \\ & 0 \\ & 2 \\ & 2 \\ & \frac{1}{4} \\ & \frac{4}{2} \end{aligned}$ | $\begin{aligned} & \frac{1}{6} \\ & \frac{1}{n} \\ & 2 \\ & \text { w } \\ & \frac{1}{5} \\ & \frac{1}{2} \end{aligned}$ | $\begin{aligned} & \frac{2}{8} \\ & \infty \\ & 2 \\ & \frac{c}{4} \\ & \frac{1}{2} \end{aligned}$ |  | $\begin{aligned} & \frac{4}{3} \\ & \frac{1}{3} \\ & \frac{山}{z} \\ & \frac{c}{4} \\ & \frac{1}{2} \end{aligned}$ | $\begin{aligned} & \frac{2}{8} \\ & \frac{2}{n} \\ & 2 \\ & \frac{1}{3} \\ & \frac{1}{2} \end{aligned}$ | $\begin{aligned} & \frac{⿳ 亠 丷 厂 彡}{8} \\ & \frac{2}{2} \\ & \frac{1}{4} \\ & \frac{5}{4} \end{aligned}$ |
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| D | Comments |
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| $r^{\prime}$ | ＇Period 2 ；＇construction trench＇；＂trench II |
| $>18$ | Teriod $2 ;$＇．．．cut through the destruction layez，the filling ．．．contained a lot of burnt material＇ |
| ${ }^{1}{ }^{\prime \prime}$ | ＇Contained dirly material＇ |
| － | ＇Contained dirty material＇ |
| － | Later than the one to the morth．．．2＇does not come through the baulk in the NE quadrant＇ |
| － | Cut through the destruction debris and gravel surfaces of the earlier period |
| － | ＇Cut through the destruction debris and gravel surfaces of the earlier period |
| － | ＇Cut through the destruction debris and gravel surfaces of the earlier period |
| － | ＇Periodz＇ |
| － | Foundation trench of wooden building |
| 22 | ＇Brown stony soil＇； ＇construction tresch gravel （period III） |
| － | ＇Foundation trench of wooden building＇： ＇misture of yellow and brown sand with much graveland small pebbles |


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| No | Description |
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| 43 | E．Wporstrench |
| 43 | E．W．post－teench |
| 43 | E．W post－trench |
| 43 | E．Wpost－tench |
| 43 | E．W．post－tench |
| 4 | N－Spartition trench |
| 45 | N －S partition post－ trench |
| 46 | $\mathrm{N}-\mathrm{S}$ partition post－ trench |
| 47 | N－S partition post－ trench |
| 48 | $\mathrm{N} . \mathrm{S}_{\text {gramery }}(5)$ post trench |
| 4s0 | N － $\mathrm{g}_{\mathrm{gran}}$（5）post trench |
| 49 | N－S granary（S）post trench |


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| $\ldots$ | $\begin{aligned} & \bar{z} \\ & \text { 会 } \end{aligned}$ | $\begin{aligned} & \frac{2}{2} \\ & \frac{2}{3} \end{aligned}$ | 4 | $\frac{\pi}{6}$ | 8 | 3 | 0 | 0 | $0$ | $0$ | 这 | $\pm$ | 18 | \＄ |
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| 57 | $\mathrm{N}-\mathrm{S}_{\text {granary }}$ (5) posttrench | 1962 | As | 9 | $1^{1} 3$ | - | 'Grey construation trench' | - | 3 | - | - | - | - | 276 | 23 |
| 57 | N-S gramary (S) posttrench | 1962 | A | 8 | $15^{\circ}$ | 19 | 'Grey construction trench'; 'dark brown trench filling with charcoal fragments | - |  | - | 1418 | - | - | 276 |  |
| 57 | N-S granary (\$) post. trench | 1964 | A7 | 68 | $1^{12-1 / 4}$ | $14^{*}$ | Teriod III dark filit';'dark brown soll with traces of charcoal and burnt clay (Trajanic)' | 1 posthole $5^{\prime \prime}$ square |  | - | 1338 | - | $\begin{gathered} 3: 21 . \\ 17.7 \text { (iil) } \end{gathered}$ | $\begin{aligned} & 209 \\ & 205 \end{aligned}$ |  |
| 58 | N-S gramary (\$) posttrench | 194 | A7 | 6'6 | $>4^{*}$ | - | Teriod MI dark fir' | - | 3 | - | - | - | - | 240 | 23 |
| 59 | N-5 gramary (5) posttrench | 1962 | Z6 | 3 | 25 | 1 | Coestruction trench with posthole pir'; 'intrasion filled with sasdy gravel and stones' | ${ }^{1}$ posthole c $9^{9}$ diam rounded | 3 | - | 1209 | - | - | $\begin{aligned} & 273, \\ & 280 \end{aligned}$ | 23 |
| 60 | $\mathrm{N}-\mathrm{S}$ granary ( N ) posttrench | 1963 | $\begin{aligned} & \text { H11, ER, } \\ & \mathrm{Fi}, \end{aligned}$ | 6 | $>1^{\prime} 10^{\prime}$ | - | 'Coestruction trench' | - | 3 | - | - | - | 41 | 377 | 23 |
| 60 | N-S granary ( N ) post. trench | 1963 | $\begin{aligned} & \text { 11,ER, } \\ & \mathrm{H} / \mathrm{A}, \end{aligned}$ | $18^{\prime}$ | 18 | - | Brown sandy clay with stones': 'yellow brown dly with stones | - |  | - | - | - | 4:1 | 378 |  |
| 60 | N-S granary ( N ) post. trench | 1963 | 11,ER, J | 3 | $>10$ | - | Gravel' | - |  | - | - | - | 4.2 | 386 | 23 |
| 61 | N-S granary ( $\mathbf{N}$ ) posttrench | $\begin{aligned} & 1961 . \\ & 1990 \end{aligned}$ | E1 | 62 | $14^{*}$ | $>12$ | Period III construction trench'; 'dark gravel mix' | - | 3 | - | 2028 | $\begin{gathered} \text { Du61, } \\ \text { EZ61, } \end{gathered}$ | $\begin{gathered} 3.74, \\ 1.24 \text { (iil) } \end{gathered}$ | $\begin{aligned} & 462, \\ & 468 \end{aligned}$ |  |
| 61 | N-S granary ( N ) posttrench | $19 \% 0$ | E | - | $>9$ | $15^{\prime}$ | 'Construction trench' | - |  | - | 2069 | - | 3.74 | 469 |  |
| 61 | N-S granary ( $\mathbf{N}$ ) posttrench | $19 \% 0$ | 54 | ${ }^{2} \mathrm{r}$ | 13 | - | 'Cossuruction trench' | - |  | - | - | - | 3.69 | 469 |  |
| 62 | $\mathrm{N}-\mathrm{S}$ granary ( $\mathbf{N}$ ) posttrench | $19 \% 0$ | E1 | 56 | $>6^{*}$ | $z$ | Coestruction trench brownish grey; grey orange gravel' | 2 postholes $5^{\circ}$ diam $2^{\prime} 6^{\prime}$ long | 3 | - | 1937,2027 | Aro. DDRo. EP\% | 3.74 | 467 , 468, 469 , <br> 470 | 23 |
| 62 | $\mathrm{N}-\mathrm{S}_{\text {granary }}(\mathrm{N}$ ) posttresch | 1970 | E2 | 66* | $>5^{\circ}$ | 12 | Construction trench brownish grey: grey orange grave | 1 posthole $5^{\prime}$ diam $2^{\prime} 5^{\circ}$ long |  | 2.plili 2 | $\begin{gathered} 1909,2034, \\ 2051 \end{gathered}$ | - | 3.74 | 467, 468, ${ }_{4}^{469}$ |  |
| 62 | N-5 granary ( N ) posttrench | $19 \% 0$ | E | 8 | >3 | $25^{*}$ | Construction treach brownish grey: grey ceange gravel | - |  | - | 1937,2058 | - | 3.74 | 46. 458. 469 |  |
| 63 | N-S granary ( $\mathbf{N}$ ) posttrench | 1959 | D1 | ${ }^{4} 4$ | 1'1-1'7 | $25^{*}$ | Dark soil'; N-S trench filled with hand sandy gravel' | - | 3 | - | 1974 | - | - | $\begin{aligned} & 232 \\ & 233 \end{aligned}$ | 23 |






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| 63 | N－Sgranary（ N ）post－ trench |
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| 67 | N－Sgranary（N）post trench |
| 67 | N－S granary（ N ）post trench |
| 67 | N－Sgranary（N）post－ trench |
| 6 | $\mathrm{N}-\mathrm{S}_{\text {granary }}(\mathrm{N})$ post trench |


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## 5 The barracks in the retentura

## Introduction

The area corresponding to the retentura of the secondary fort had not been examined in any detail in the period prior to the Second World War, so details of the barrack blocks in this part of the site were unknown. With the apparent exception of an opus signinum floor which may be relevant here (see below), the clearance of Sites 11 and 12 in the campaign of excavation at the beginning of the century did not apparently go deep enough to affect them. The clearance of Site 11 in the 1930s in order to display the remains may have removed some traces of these structures, although the main cause of their incomplete survival is doubtless the partial levelling of the site and the construction of Site 11 itself in the Roman period. As a result, the remains of the barrack blocks in the northern half of Site 11 are only partially preserved - in many cases only the bottom of a post-trench or beam slot will survive and the stratigraphic relationship between features is usually lost or, at best, ambiguous. Indeed, many such features have completely disappeared, so that phases IVa and IVb are poorly represented within Site 11 itself. To some extent, excavations on Site 12 have served as a stratigraphic check upon the larger area.

In 1908, excavation to the west of Site 12 revealed an opus signinum floor with a plaster fillet (Knowles and Forster 1909, 344). Although the significance of this was not realised at the time, Richmond's excavations in 1952 of the centurial quarters of the barracks immediately to the north of the granaries (Richmond and Gillam 1953) suggests that this earlier discovery may be part of another similar block, since opus signinum floors were characteristic of the Antonine phases of barrack buildings at Corbridge (ibid, 206-8).

Richmond found four separate phases of barrack block under Site 12 (II, III, IVa, and IVb), all apparently representing the centurial quarters. A phase I building of unknown function was situated beneath the later via quintana (ibid, 216-9 and fig 7). A previous limited excavation in 1947 under the site of the present car park revealed remains of timber barracks, possibly of phases I-IVa. Apart from the plan reproduced here (Fig 31), no record of this excavation survives.

## Description

A plan showing all of the known excavated material is shown in whilst Figs 33-7 are individual phase plans. The key to the component numbering system for this area will be found in Figs 38-40, although Fig 32 contains those numbers which cannot be allotted to any particular phase; detailed descriptions of the individual components are contained in Table 4. The relationships between components are shown in

## Discussion

## Phase I

(Figs 33, 38)
As with most other areas of the fort at Corbridge, the phase 1 activity represented within the excavated areas of Site 12 and the northern half of Site 11 does not conform to that of the later forts: there is no clear indication that the buildings located respected the later retentura nor that they were all barrack blocks. In the courtyard of Site 11, a long narrow structure (components $173-5$ ), 5.18 m by at least 30.48 m ( $17 \times 100 \mathrm{ft}$ ), oriented east-west, lay to the north of the so-called 'principia' (see above, Chapter 3) and so-called 'hospital' (see below, Chapter 8 ) of this phase. There may have been a road between them, since the 'principia' and 'hospital' were themselves separated by a narrow street (Section 71, Fig 18). To the north of the 'principia', immediately to the south of the rectangular building, and on the line of this presumed street, there was a large rectangular pit (component 187), identified by its excavators as a water tank, and this was about 2.74 m ( 9 ft ) deep.

A building aligned east-west (components 33, $70-1,85-7$ ) was located under Site 12 and in the west range of Site 11. This shows some of the characteristics of a barrack block and may have had regular partitions, but insufficient is known of it to be able to identify it with confidence. It was at least 22 m long and 9 m wide $(72 \times 30 \mathrm{ft})$. The one room within this long building which could be identified through the survival of internal partitions (located within room 7 of the west range of Site 11 - components $85-7$ ) was 3.4 m (11ft) in width. In Site 12 W series of peg-holes were associated with this phase and these may have been made by shelving or bunk beds (Johnson 1983, 171).

A further east-west post-trench (component 63) was found towards the southern end of trench 12 E , associated with a pit containing deposits apparently


Fig 31 Sketch plan of the 1947 exarations in the car park, to the west of Site 12 (based on plan PI 213, dated 1947 and initialled IAR). No written records of this excavation survive in the Corbridge archive: a [?]; $b$ [Phase 1?]; $c$ Flavian II Iphase 2?); d Ant I in section phase 1 Iphase III?); © Ant I phase 2 Iphase 4a? I: f IPhase I?I; g I? ) (scale 1:100)
belonging to the demolition of this phase. Another (component 113) was located within the north range of Site 11. It is difficult to make any sense of the other features which demonstrably belong to this phase, notably the structure comprising components 144-6.

## Phase II

## 38)

In phase II two buildings of standard barrack layout were preserved in sufficient detail to enable something to be said about them. Fragments of at least another four were traced.

The eastern building (components $166-72$ ) was divided in two longitudinally. The southern half was partitioned, producing rooms with a dimension of about 3.7 m by $4.6 \mathrm{~m}(12 \times 15 \mathrm{ft})$. The corridor to the north (for, in the absence of partitions, this is what the northern half must have been) was 3 m (10ft) wide. The overall length of the building was at least 27 m ( 988 ft ), and possibly as much as 38 m ( 124 ft ). To the north of this building there may have been another building (components $125-6,130,132-3$ ).

Richmond (Richmond and Gillam 1953) discovered the western end of the more westerly of these two buildings underneath Site 12, identifying the features he located as part of the centurial quarters of the block. This structure was at least 43 m long and 12 m wide ( $140 \times 40 \mathrm{ft}$ ) wide at its broadest point. This was again divided into two by a longitudinal member (components 64 and 78 ), the northern part being 4.3 m ( 14 ft ) wide and the southern 6.7 m ( 22 ft ). Hardly any partitions survived within this building, so no representative room dimensions can be given. One room at the eastern end has been further partitioned (components 203-4), and this may have been used for storage purposes or accommodation for a junior officer (it is possible that this was a cavalry barrack with decurial quarters at each end, although no decisive proof of this can be offered).

In no case can the number of contubernia be determined with precision (see below, Chapter 8).

## Phase III

## , 39)

As with phase II, two buildings are known in some detail, others only being fragmentary. The structure towards the north of the courtyard of Site 11 (components 159-65) has an overall length of at least 26 m and a width of $9 \mathrm{~m}(84 \times 29 \mathrm{ft})$. The rooms contained within this building have dimensions of 3.4 m by 3.4 m ( $11 \times 11 \mathrm{ft}$ ) to the north, and 5 m by 3.4 m ( $17 \times 11 \mathrm{ft}$ ) to the south (the greater dimension being aligned across the building). Since the arma is normally the smaller of the two elements of a contubernium, where a size differential can be demonstrated, this would appear to confirm that this building faced north and was the southernmost of a pair of barracks.

The building to the south-west of this is at least 43 m long and 11 m wide ( $142 \times 36 \mathrm{ft}$ ) (components 1 , $9-11,34,38,61,66,75,195-6,200$ ). One set of rooms seems to have been larger than the other; the only dimensions that can be retrieved are 5 m (17ft) for the
width of one room in trench 12E (components 66 and 75 ) and a length of 4 m (13ft) at the eastern end of the building (components 195-6).

Parts of another building were excavated (components 92, 95, 99, 100, 102-3, 147-9). Two rooms, with dimensions of 3.4 m by $3.4 \mathrm{~m}(11 \times 11 \mathrm{ft})$ and at least 4.9 m by 3.4 m ( $16 \times 11 \mathrm{ft}$ ) were located in west range room 8 , and both were elements of the same contubernium. Other traces of buildings of this phase were found in the north range of Site 11 (components 104 and 109 ; and $124,127-8$ ). The number of contubernia in each case is unknown.

## Phase IV

## 39-40)

Phase IV activity is very poorly represented in the northern half of Site 11 due to later levelling down activities. Richmond's plan from his 1952 excavations (Richmond and Gillam 1953, fig 1) (components 5, 15, $16,18,19,25$ ) has been augmented by discoveries in trenches 12 W and 12 E , but virtually no features were recorded from the courtyard of Site 11 and only a few from the surrounding rooms.

The IVa beam-slot barrack was replaced by a structure with stone foundations on virtually the same lines (components 12-14). The length of these buildings was at least 36 m ( 118 ft ), with a width of 8 m (26ft); the number of contubernia cannot be determined.

## Post-fortactivity

(Fig 40)
In the north-west corner of Site 11, above the barrack buildings but below the later structure, the clay and cobble foundations of a rectangular building were recovered (components $141-3$ ). This was 8.5 m ( 28 ft ) wide and at least 6 m (20ft) long. More than one of the partitions in the north range of Site 11 seems to have been deliberately laid on top of this structure, which may suggest it had a total length of at least 12 m (40ft).

Forster and Knowles' account of the 1910 excavations (1911) mentions that much of the northern half of the courtyard of Site 11 lay under about 130 mm (5in) of 'silt", which they presumed had accumulated from a pond (ibid, 162). This lay above the gravel spread that lay under most of Site 11 and over the military buildings beneath.

## Structural sequence

The structural sequence of the barracks in the refentura can be summarised as follows

[^2]

Fig 38 The barracks in the retentura. Component location plan, platses I-II (scale 1:500)


Fig 39 The harracks in the retentura. Component location plan, plases III-IVa (scale 1:500)


Post-Fort


Fig 40 The barracks in the retentura. Component location plan phases IVb-post-fort (scale 1:500)

| No | Description | Year(s) | Tr | L | w | D | Comumens | Related Foctures | Please | Refs* | $\begin{aligned} & \text { Costext } \\ & \text { mos } \end{aligned}$ | Finds | $\begin{gathered} \text { Page } \\ \text { no } \end{gathered}$ | $\underset{\text { nos }}{\sim 1}$ | $\begin{aligned} & \text { Fig } \\ & \text { nos } \end{aligned}$ |
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| 1 | E-W post-trench | $\begin{aligned} & 1950, \\ & 1951 \end{aligned}$ | - | $42^{\prime}$ | $10^{\circ}$ | 25 | Loose stony fill of period III sleeper trench'?'cobblefilled sleeper trench | Several postholes $\mathrm{CA}^{-}$ diam | 3 | 1,fig6 | - | - | - | $\begin{aligned} & 212, \\ & 218, \\ & 602, \\ & 604, \\ & 606, \\ & 607 \end{aligned}$ | 35 |
| 2 | N -Spost-trench | $\begin{aligned} & 1948, \\ & 1950, \\ & 1951 \end{aligned}$ | - | *9 | 1 | - | No 2 period (7) sleeper | Plastered clay wall | 2 | 1,figs 5, 8, pl Xxvi, 2 | - | - | - | $\begin{aligned} & 209, \\ & 212, \\ & 218, \\ & 219, \\ & 600 \end{aligned}$ | 3 |
| 3 | E-W pest-trench | $\begin{aligned} & 1950, \\ & 1951 \end{aligned}$ | - | nor | \% | $4{ }^{\circ}$ | 'No 2 period sleeper trench | - | 2 | 2,igss 3, 4, 8 | - | - | - | 602 | 34 |
| 4 | E-W post-trench | 1965 | - | - | - | - | '. . .the north wall. . . lay just outside the early Antonine sleeper trench | Lime floor; standing plasterface | 2 | 1.216.fig 8 | - | - | - | $214 ?$ | 34 |
| 5 | E-Wpartition | 1985 | - | $>6^{\prime}$ | ${ }^{\prime}$ | $z^{\prime}$ | - | ${ }^{3}$ pustholes | 4a | 1.figi ${ }^{1}$ | - | - | - | 209 | 36 |
| 6 | E-W post-trench | 1951 | - | $4^{4}$ | - | - | 'No 2 period sleeper trench | - | 2 | 1, fig 8 | - | - | - | $\begin{aligned} & 218, \\ & 602 \end{aligned}$ | 4 |
| 7 | E-Wpartition | 1965 | - | 106 | $a$ | - | Standing plaster wall Flavian II: ;'the plaster was self coloured white to cream in tone' | - | 2 | 1.fig 8, pl Xaiv. | - | - | - | 211 | 3 |
| 8 | N -S partition | 1945 | - | $7{ }^{\prime}$ | $\tau$ | - | 'Soft filling of Flavian II partition trench'; 'the plaster was self-coloured, . white to cream in tone' | $4^{\prime} 2^{\prime}$ diam postholes. rounded; standing plaster face to E cobbled floor to west | 2 | 1,fig 8 | - | - | - | ${ }_{214}^{211}$ | 34 |
| 9 | E-W post-trench | 1988 | - | $11^{\prime}{ }^{\circ}$ | 8 | - | Thavian II | Posthole, $c 6 \times 2$ oval | 3 | 1.fig 6 | - | - | - | $\begin{aligned} & 209, \\ & 210 \end{aligned}$ | 35 |
| 10 | N-Spost-trench | $\begin{aligned} & 1998, \\ & 1951 \end{aligned}$ | - | >9 | $1^{*}$ | 1 | Cobble-filled sleeper trenah | - | 3 | 1, figs 5, 6 | - | - | - | $\begin{aligned} & 209 . \\ & 219 \end{aligned}$ | 35 |
| 11 | E-W post-trench | 1948 | - | $>1^{\prime}$ | - | - | - | - | 3 | 1.4.fig 6 | - | - | - | 209 | 35 |
| 12 | E-Wwall | 1948 | - | 396 | $r^{\prime}$ | - | '. .coursed hammerdressed squared masonry, set upon three layers of clay and cobble' | Quarter-found moulding: timber partition (21): opos signimum floot | 4b | 1,206, fig 1 | - | - | - | $\begin{aligned} & 200, \\ & 212 \\ & 218, \\ & 602 \end{aligned}$ | 37 |
| 13 | N -S wall | 1948 | - | 36 | $2^{\prime}$ | - | - . .coursed hammer. dressed squared masoery. set upon three layers of clay and cobble' | - | ab | 1,206, fig 1 | - | - | - | $\begin{aligned} & 209, \\ & 210, \\ & 600 \end{aligned}$ | 37 |
| 14 | E-W partition wall | 1948 | - | $>2^{\prime}$ | $1^{\prime}$ | - | '. . part of a north dividing wall of stope' | - | 4b | 1.208 and fig 1 | - | - | - | 209 | 37 |


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Table 4 continued




| No | Description | Year(s) | Tr | $\downarrow$ | w | D | Comments | Releted Featares | Phase | Refs* | $\begin{aligned} & \text { Context } \\ & \text { nos } \end{aligned}$ | Finds | $\begin{aligned} & \text { Page } \\ & \text { no } \end{aligned}$ | $\underset{\text { nes }}{n}$ | $\begin{aligned} & F_{i g} \\ & \text { Nos } \end{aligned}$ |
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| 73 | E-W post-trench | 1908 | 12,E1-3 | 48 | $16^{*}$ | - | Construction trench sandy containing some gravel' | - | U | - | - | - | $\begin{gathered} 356, \\ 66 \end{gathered}$ | 126 | Not ill |
| 74 | Pit | 1968 | 12,E1-3 | $>4$ | $>5^{\prime}$ | - | Path of dark material containing clay' | - | U | - | - | - | 6.3 | 126 | Not ill |
| 75 | E-W Post-trench | 1969 | 12.E4-5 | 5 | ${ }^{18}$ | - | Construction trench, possibly two trenches on same line | Road surface immediately to south | 3 | - | 2792 | - | $6: 14$ | ${ }_{129}^{125}$ | 35 |
| 76 | E-W post-trench | $19 * 9$ | 12.E4-5 | 8 | $r \boldsymbol{r}$ | 17 | 'Construction trench': 'possibly two trenches on same line' | - | 4b | - | 22\% | - | 6.14 | $\begin{aligned} & 81, \\ & 15, \\ & 129 \end{aligned}$ | 37 |
| 77 | Pit | 1969 | 12.E4-5 | 4 | $3^{\prime}$ | - | Pit clayey material containing burnt material' | - | 1a/b | - | 2521 | HF69? H769, HZ69 | 6:16 | $\begin{aligned} & 78 \\ & 129 \end{aligned}$ | 33 |
| 78 | E-W post-trench | 1957 | 11.WR RM6 | $>6^{\prime} 6^{\circ}$ | 1 | $>6^{*}$ | 'Clear construction trench (apparently Trajanic) containing burnt wattle and daub | - | 2 | - | 2622 | - | - | $\begin{aligned} & 395, \\ & 412, \\ & 430 \end{aligned}$ | 34 |
| 78 | E-W post-trench | 1956 | 11.1 | 15 | $\mathrm{v}^{*}$ | - | Construation trench filled with bumt wattle and daub not always clear'; posit treenh filled with sand. pebbles, wattle and daub | - |  | - | - | - | - | $\begin{aligned} & 288, \\ & 288, \\ & 421 \end{aligned}$ |  |
| 79 | E-Wpost-tench | 1957 | 11. WR <br> RM6 | $10^{\prime}$ | $1^{*}$ | $\gg$ | Construction trench. . filled with grey (clayey) sand dark when wet, very light when dry' | - | U | - | 2623 | - | - | $\begin{aligned} & 395, \\ & 412, \\ & 430 \end{aligned}$ | 32 |
| 50 | N -Spost-trench | 1957 | $\begin{aligned} & \text { 11. WR } \\ & \text { RM5 } \end{aligned}$ | $>5^{\circ}$ | 13 | - | Construction trench filled with burnt wattle and daub' | - | 2 | - | - | - | - | 395 | 34 |
| 80 | N-S post-treesh | 1957 | $\begin{aligned} & \text { 11. WR } \\ & \text { RM6 } \end{aligned}$ | 136 | $1^{\prime}$ | - | 'Clear ceenstruction trench (apparently Trajanic) containing burns wattle and daub | Associated with patches of burnt wattle and daub? |  | - | - | - | - | $\begin{aligned} & 395, \\ & 412 \end{aligned}$ |  |
| 81 | N -Spost-trench | 1957 | $\begin{aligned} & 11, \text { WR } \\ & \text { RMb } \end{aligned}$ | 10 | $>9$ | - | 'Geyey filling' | 7 postholes, 43 diam; large patch of burning (7×4) | $4{ }^{4}$ | - | - | - | - | $\begin{aligned} & 395, \\ & 412 \end{aligned}$ | 36 |
| 82 | E-W post-trench | 1957 | $\begin{aligned} & \text { 11, WR } \\ & \text { RM6 } \end{aligned}$ | 8 | $16^{\circ}$ | - | 'Dark filling, resembling constraction trench' | 2 pestholes, ${ }^{3} 3$ diam; large patch of burning (7xi) | $4{ }^{4}$ | - | - | - | - | $\begin{aligned} & 395, \\ & 412 \end{aligned}$ | 36 |
| 83 | N -Slinearfeature | 1987 | $\begin{aligned} & \text { 11, WR } \\ & \text { RMS } \end{aligned}$ | $>4^{\circ}$ | 1-1/6 ${ }^{*}$ | - | 'Very dirty material (includes flecks of daub). few stones, grey bleached and border | - | U | - | - | - | - | 395 | 32 |


| No | Description | Years) | Tr | $t$ | w | D | Comments | Reieted Fratars | Phese | Refs* | $\begin{aligned} & \text { Coestaxt } \\ & \text { nos } \end{aligned}$ | Fieds | $\begin{aligned} & \text { Page } \\ & \text { no } \end{aligned}$ | $\underset{n}{N}$ | Fig nos |
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| 84 | N -Slinear feature | 1957 | $\begin{aligned} & 11, \mathrm{WR} \\ & \mathrm{RM} 6 \end{aligned}$ | $>36{ }^{\prime \prime}$ | $1{ }^{\prime}$ | - | Very disty material (includes flecks of doub). few stones, grey bleached sand boeder | - | U | - | - | - | - | as | 32 |
| 85 | N -Spost-trench | 1958 | 11,wR RM7 | $w^{*}$ | $1^{*}$ | - | Slightly less distinct construction trench with clean sandy yellowish fillshowing up when dry' | - | $1 \mathrm{a} / \mathrm{b}$ | - | - | - | - | 344 | 33 |
| 86 | E-W post-trench | 1958 | $\begin{aligned} & 11 . W R \\ & R M 7 \end{aligned}$ | $>15$ | $1^{\prime}$ | - | Less distimet construction trench than one to north. Slightly yellow sandy fill' | - | 1a/b | - | - | - | - | 394 | 33 |
| 87 | N -Spost-trench | 1958 | $\begin{aligned} & \text { 11,WR } \\ & \text { RM7 } \end{aligned}$ | $>10$ | ${ }^{*}$ | - | 'Faint but undoubted tongue'; 'very indistingt trench' | 2 pestholes, $\mathrm{Cl}^{\mathrm{r}}$ diam | 1a/b | - | - | - | - | 394 | 33 |
| 87 | N -Spost-trench | 1959 | $\begin{aligned} & \text { 11,WR } \\ & \text { RM8 } \end{aligned}$ | > $8^{\prime}$ | ${ }^{6}$ | 12 | 'Faint sand-6illed constraction trench. shows up distinctly as light dry band against darker wet sund | 2 postholes, $\mathrm{Cl}^{2}$ diam, rounded |  | - | 2679 | - | - | $\begin{aligned} & 86, \\ & 380, \end{aligned}$ |  |
| 88 | N-Spost-trench | 1958 | $\begin{aligned} & \text { ni. WR } \\ & \mathrm{RM} 7 \end{aligned}$ | $11^{\prime \prime}$ | ${ }^{\prime}$ | - | Very distinct construction trench coming to definite end. Dark greeny brown filling with grey-green edging': 'in section this was round-bottomed' | 1 posthole, ${ }^{3}$ 'diam | U | - | - | kwss | - | 394 | 32 |
| 89 | E-W pest-trench | 1958 | $\begin{aligned} & 11 \mathrm{WR} \\ & \mathrm{RM} 7 \end{aligned}$ | 15\% | $1^{\prime}$ | $11^{*}$ | Distinetconstruction trench, running whole length. Grey filling with some pebbles | 1 posthole, $\mathrm{Cl}^{\prime}$ diam, rounded | 3 | - | - | KMSs, | - | 394 | 35 |
| 90 | N -Spost-trench | 1958 | $\begin{aligned} & \text { 11,WR } \\ & \text { RM7 } \end{aligned}$ | >39 ${ }^{\circ}$ | $15^{\prime}$ | $6^{*}$ | Very distinct trench, dirty filling, but not black. Many stones in it - apparently small dressed walling stones' | - | 4 | - | - | KNSs | - | $\begin{aligned} & 394, \\ & 418 \end{aligned}$ | 36 |
| 91 | E-W post-treech | 1958 | $\begin{aligned} & \text { 11.wR } \\ & \text { RM7 } \end{aligned}$ | 27 | 9 | $6^{\circ}$ | Very distinct trench, dirty filling, but not black. Many stones in it - apparently dressed walling stones | - | 4 | - | - | - | - | ${ }_{418}^{39 .}$ | 36 |
| 92 | N -Spost-trench | ${ }^{1958}$ | $\begin{aligned} & \text { 11.WR } \\ & \text { RMs } \end{aligned}$ | 11 | $w^{\circ}$ | - | Construction trench, very distinct, filled with sand. gravel and a very little burnt wattle and daub; ; 'mixture of clean sand and mottled with rusty colouredmaterial; some clay' | - | 3 | - | 2656 | - | 2.2 | $\begin{aligned} & 56 \\ & 397, \\ & 420 \end{aligned}$ | 35 |


| No | Description | Ycarss | Tr | $L$ | w | D | Comments | Related Freaturs | Phese | Refs* | $\begin{aligned} & \text { Contest } \\ & \text { nes } \end{aligned}$ | Finds | $\begin{aligned} & \text { Pegr } \\ & \text { no } \end{aligned}$ | $\begin{aligned} & \text { PI } \\ & n 0 \end{aligned}$ | Fig |
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| 93 | N -Spost-trench | 1959 | $\begin{aligned} & \text { 11. WR } \\ & \text { RMs } \end{aligned}$ | ${ }^{13}$ | ¢1\% ${ }^{\prime \prime}$ | - | Most distinct constraction trench, fall of lime, with many regular post-holes in bottom and pegrelholes along edges' | At least 13 postholes, 4 z'diam rounded. along edge of trench. with 2 similar ones in centre, line of white plaster associated with postholes | $4 a$ | - | $\begin{aligned} & 2664 ?, \\ & 26657, \\ & 2666, \\ & 2667 \end{aligned}$ | $\begin{aligned} & \text { FYS9, } \\ & \text { HMS9 } \end{aligned}$ | 2:2 | $\begin{aligned} & 86, \\ & 397, \\ & 420 \end{aligned}$ | 36 |
| 94 | N-Spost-trench | 1999 | $\begin{aligned} & \text { 11, WR } \\ & \text { RMS } \end{aligned}$ | $10^{\prime}$ | ${ }^{1} 1$ | - | Construction trench with tilling of gravel and a few stones. A little burnt wattle and daub': ' . . filled with mived and dirty sand. yellowish grey near the sop, and containing plaster and stones' | 3 postholes, $c 2^{\prime}$ diam. rounded | 4b | - | 2659 | $\begin{aligned} & \text { FSS9, } \\ & \text { HISS } \\ & \text { UV59 } \end{aligned}$ | $2: 3$ | $\begin{aligned} & 86, \\ & 307, \\ & 420 \end{aligned}$ | 37 |
| 95 | N-Spost-trench | 1959 | $\begin{aligned} & \text { 11, WR } \\ & \text { RMS } \end{aligned}$ | 15 | (1-16 ${ }^{\prime}$ | $15^{\prime \prime}$ | Construction tresch, very distinct, filled with sand, gravel and a very little burnt watle and daub"; 'construction trench. greyish yellow filling | - | 3 | - | 2660 | $\begin{aligned} & \text { FTS9, } \\ & \text { fus9? } \\ & \text { HASS } \end{aligned}$ | 2.3 | $\begin{aligned} & 86 \\ & 397, \\ & 420 \end{aligned}$ | 35 |
| \% | N-Sport-trench | 1959 | $\begin{aligned} & \text { 11, WR } \\ & \text { RMS } \end{aligned}$ | $\gg$ | 9 | $>7$ | Dark'; 'dirty sand' | - | 2 | - | 2662 | - | - | $\begin{aligned} & 86 \\ & 420 \end{aligned}$ | 3 |
| 98 | E-W post-trench | 1959 | $\begin{aligned} & \text { 11, WR } \\ & \text { RMS } \end{aligned}$ | 15 | ${ }^{1}$ | - | Clay-filled construction trensh';'constraction trench, very distinct, filled with sasd, gravel anda very little burnt wattle and daub ${ }^{\prime}$ | ${ }^{3}$ pestholes, $<2$ ' diam, rounded | 3 | - | - | $\begin{aligned} & \text { GVS9, } \\ & \text { ITS9, } \\ & \text { RUSS } \end{aligned}$ | $\underset{2: 6}{2 ; 4}$ | ${ }_{420}^{397}$ | 35 |
| of | N -Spost-trench | 1959 | $\begin{aligned} & 11, \text { WR } \\ & \text { RMs } \end{aligned}$ | $12^{\prime}$ | $r^{*}$ | - | Distinct trench with flecks of chascoal and clayey colour'; 'clay-filled constraction trenches | - | 3 | - | - | - | $\begin{gathered} 25, \\ 27, \\ 27 \text { (ili) } \end{gathered}$ | $\begin{aligned} & 397 \\ & 420 \end{aligned}$ | 35 |
| 100 | E-Wpost-trench | 1959 | $\begin{aligned} & \text { 11.WR } \\ & \text { RMs } \end{aligned}$ | 4 | ${ }^{1} 5$ | - | Distinct trench with flecks of chancoal and clayey colour' | - | 3 | - | - | - | $\begin{gathered} 27 \text {, } \\ 2: 7(i i l) \end{gathered}$ | $\begin{aligned} & 397, \\ & 420 \end{aligned}$ | 35 |
| 101 | E-W post-trench | 1959 | $\begin{aligned} & \text { 11, WR } \\ & \text { RMS } \end{aligned}$ | >5' | c $\mathrm{I}^{\prime}$ | - | Light coloured sandy soil; trench filling? | - | 2 | - | - | - | 2:7 (ill) | 397 | 34 |
| 102 | E-W post-trench | 1959 | $\begin{aligned} & \text { 11, WR } \\ & \text { RMs } \end{aligned}$ | $>1^{\prime \prime}$ | ${ }_{c}{ }^{T}$ | - | 'Mixed filling' | Pesthole, c3* square | la/b | - | - | - | $\begin{aligned} & 2.7, \\ & 2: 7 \text { (ill) } \end{aligned}$ | 397 | 33 |
| 103 | N-Spont-treech | 1959 | $\begin{aligned} & \text { 11,WR } \\ & \text { RMs } \end{aligned}$ | $>13$ | ${ }^{1} \mathrm{~F}$ | - | 'Construction trench' | 1 posthole, cz diam | 3 | - | - | - | - | $\begin{aligned} & 397, \\ & 420 \end{aligned}$ | 35 |
| 104 | N-Spost-trench | 1958 | $\begin{aligned} & \text { 11,NR } \\ & \text { RMs } \end{aligned}$ | 119 | $\mathrm{I}^{\prime}$ | - | 'Grey clay', harder stonier and with little burnt wattle and daub | ${ }^{1}$ posthole, ${ }^{\text {FI'diam }}$ rounded | 3 | - | - | - | - | $\begin{aligned} & 85, \\ & 424 \end{aligned}$ | 35 |


| No | Description | Yearls) | Tr | L | W | D | Comments | Relatedfeatures | Phase | Refs | $\begin{gathered} \text { Contest } \\ \text { nos } \end{gathered}$ | Finds | Pagr no | $\begin{aligned} & \text { PI } \\ & \text { ne } \end{aligned}$ | Fis <br> nor |
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| 105 | E-W poos-trench | 1958 | 11.NR RMS | 15 | wr | - | Yellowish clay ${ }^{\prime}$ | 6 pootholes, $6 \mathrm{str} ; 1$ posthole, c $3^{\prime \prime}$ diam. rounded | 4 | - | - | - | - | 85 | 36 |
| 106 | N-Stream-slot? | 1958 | 11. NR RMS | $8^{\prime}$ | 13-2\% |  | Sleeper trench with clay edges and ceetaining large stones and yellow porsler' | - | 4b | - | - | - | = | $\begin{aligned} & 85 \\ & 424 \end{aligned}$ | 37 |
| 107 | N -Slinear feature | 1958 | 11. NR RMS | $8^{\prime}$ | $6^{\circ}-16^{\circ}$ | * | Darker greenish brown strip with few pebbles and much bumt wattle and dawb' | 3 postholes, $61^{\prime}$ diam, rounded; 1 posthole, $f$ 3 -diam, rounded | 2 | - | - | - | - | 424 | 34 |
| 108 | E-W post-trench | 1958 | 11,NR <br> RMS | $c^{*}$ | r | - | Clay with chansoal' | $=$ | U | - | - | - | - | 85 | 32 |
| 109 | E-W post-tresch | 1958 | 11. NR RMS | 9.9 | 13 | - | "Clay with charceal"; Tharder, stonier and with little burnt wattle and daub' | Strip of solid puddied clay, red and yellow | 3 | - | - | - | - | $\begin{aligned} & 85 \\ & 424 \end{aligned}$ | 35 |
| 110 | N-S post-trench | 1958 | 11. NR RMS | $56^{\circ}$ | c1 |  | 'Gecy clay'; 'mised sand clay gravel containing much burnt wattle and daub' | - | U | - | - | - | - | $\begin{aligned} & 85, \\ & 424 \end{aligned}$ | 32 |
| 111 | N -Slinear frature | 1959 | 11, NR <br> RM6 | $18^{\prime} 7$ | $2^{\prime}$ | - | Graveland stones* | 4 postholes. 6 6at $0^{\circ}$. 6 $4 \times 4^{\prime}(2), 63 \times 3^{*}$ | U | = | $=$ | - | - | 24 | 32 |
| 112 | E-W Winear feature | 1959 | $11, \mathrm{NR}$ <br> RM6 | 84 | 3 | - | - | ${ }^{1}$ posthole, $64 \times 4{ }^{-}$ | U | * | = | = | - | 294 | 32 |
| 113 | E-W post-trench | 1960 | $\begin{aligned} & 11 . \mathrm{NR} \\ & \mathrm{rm5} \end{aligned}$ | 25 | 1.1'4* | - | Construction trench of cleantillinged Period IF; 'sand-filled constructiontrench; very indistinct except for differemial drying' | ${ }^{3}$ portholes, $4^{\text { }}$ diam. rounded, $2^{\prime \prime}$ diam (2) | 12/b | - | 2091. <br> 270 | - | = | 224 | 33 |
| 114 | E. W post-trench | 1960 | 11.NR RM5 | 13 | 17 | - | Grey-filled construction trench, with some clay and plaster: greenishleached bonder' | - | $4 a$ | - | $\begin{aligned} & 2700 \\ & 2710 \end{aligned}$ | - | - | 224 | 36 |
| 115 | N -Spost-trench | 1960 | 11,NR RMS | $86^{\prime}$ | 18 | - | Gireenish leaching marking position of probable period IV constructicen trensh' | - | 4a | - | - | $=$ | - | 224 | 36 |
| 116 | N-Spost-trench | 1960 | 11. NR RMS | 9 | $1-26^{\prime}$ | - | Nery bottom of Period IV N -Sconstruction trench. with greenish staining' | - | 4a | = | - | NO60 | - | 224 | 36 |
| 117 | E-W beam-slot | 1960 | 11. NR <br> RMS | $>12$ | 9 | 5 | 'Beown, with some burnt wattle and daub' | ${ }^{1}$ posthole, $4^{\text { }}$ diam rounded | U | $=$ | $\begin{aligned} & 2693, \\ & 2705 \end{aligned}$ | - | - | 224 | 32 |
| 118 | E-W post-trench | 1960 | 11. NR <br> RM5 | 22 | $1{ }^{\prime}$ | 5 | Constraction trench with clean but distinct filling' | - | U | - | - | - | - | - | 32 |


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Releced Fatares

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| Very clear construction trench filled with charcoal wattle and fired daub |
| 'Cuy and cobbble' |
| Pit containing some burn wattle and daub' |
| Pash with burnt wattle and daub' |
| Hollow filled with yellowish sandy day |
| Distinct, beown filling |
| 'Cuy filling' |
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| Distinatbown filling' |
| Construction trench dying away, slightly vellow clay-lik apprafance |
| Construction trench slightly yellow, clay-like filling |
| - |
| Censtruction trench slightly yellow, clay-like filling |
| Construction trench slightly yellow, clay-like appearance |
| Rutbish pir |
| Small pa with black material |
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Table 4 continued
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## 6 The defences

## Introduction

In the series of excavations conducted at Corbridge prior to the 1914-18 War, ditches - some of which probably date to the period of the fort - were encountered on the north, south, and east sides of the site (Woolley 1907, 163-7; Forster and Knowles 1910, 244-6; idem 1911, 165-8; idem 1914, 283-4; idem 1915, 232-5). In addition, seven rubbish pits were excavated in 1907 outside the south-west corner of the area currently on display to visitors (Forster 1908, 244-6) and it was later realised that one of these was almost certainly dug in the fill of a ditch on the west side of the fort (Richmond and Gillam 1952, 251-66). However, it was not until 1914, the last year of the initial series of excavations, that a clay rampart was recognised in the north-east corner of the excavated area between the so-called Sanitary and Outer Ditches (components 42 and 39) (Forster and Knowles 1915, 235-7). This was identified as part of the later town defences. Thus, the excavators had failed to recognise what were later seen to be the east and west ramparts of the fort during work on Site 9, to the west of the stone granaries, in 1908 (Knowles and Forster 1909, 345-6) and on Sites 20 and 44, to the east of Site 11, in 1910 (Forster and Knowles 1911, 170) and 1912 (idem 1913, 235-6); they referred only to the depth of made soil between the stone buildings (eg Forster and Knowles 1911, 170).

## Description

The location of trenches where evidence for the defences was demonstrated is shown in Fig 42, and the sections referred to in this chapter are shown in Figs 43-6. More detailed plans are shown in Figs 47-9. The key to the component numbering system is found in Fig 50. Detailed descriptions of the individual components are contained in Table 5. The relationship between components is shown in Fig 51.

## The eastern defences

## The rampart

With the exception of Richmond's work in 1946 (Richmond and Gillam 1950, 168-174, pls XIII.2-XVI), the sections across the east rampart were located in Sites 20 and 44 (see Fig 42).

The foundations of the east rampart were of river cobbles set in blue-grey clay (component 1). In some places (such as Site 44) the cobbles appear to be confined to the front half of the structure (cf Jones 1975, 78), but elsewhere (Site 20) they stretch under the whole rampart (Section 180, Fig 44). This primary foundation is associated with an 'organic deposit' (eg QX64/XLIVC - 'Manure layer above wood/insects'), which produced twigs, oyster shells, and beetles, however, it is seldom clear whether this was under,
over, or part of the rampart foundation. The 'wooden billets' found under the later roads at the east gate may be part of the same deposit.

A corduroy of logs (component 2) lay above the clay and cobble base, beneath the whole rampart. It was composed of rough-hewn lengths of oak, averaging 90 mm ( 3.5 in ) in width and of roughly square section. Their lengths ranged from $0.71-2.36 \mathrm{~m}$ ( 2 ft 4 in to 7 ft 9 in ). Interestingly, no corduroy was found by Richmond in 1946 during his excavations on Site 43 (Richmond and Gillam 1950, 172-3). Timber foundations of this kind are normally thought to imply ground conditions that were too wet for the rampart to be placed directly onto subsoil (Jones 1975, 74). This seems unusual at Corbridge, where well-drained sand and gravel cover the entire excavated area, but the demolition of the phase I fort may have created drainage problems for subsequent occupation. The 'marsh' to the north of Site 11 could be another example of such local obstructions to the prevailing natural drainage (Forster and Knowles 1914, 282). One of the prime causes for waterlogged ground in the area of Site 44 may have been the two east-west depressions (see p 95-7, for a detailed consideration of these).
There were traces of timber strapping underneath the rampart on Site 20, but this very clearly did not extend to the full width of the bank (Richmond and Gillam 1955, 228-30, fig 4, pl XXIII). The fact that the ends of the timbers were located seems to suggest that only the rear of the rampart was placed on this sort of foundation.

The east rampart itself appears to conform to a well-known design for such defences of this period, although the front of the bank has never been convincingly recorded during excavations. In Sections 175 and 179 (Fig 43), a vertical turf 'cheek' of up to 0.9 m (3ft) in height and about $1.5 \mathrm{~m}(5 \mathrm{ft})$ in width is recognisable. Composed of brown, yellow, or grey clay, the revetment is characteristically layered in a manner typical of turf (Jones 1975, 80). Similarly, rampart core material can be recognised (Section 175, Fig 43). There is a definite difference between this and the cheek, although it seemingly included the same materials (turf and clay) within its matrix. Presumably, this was a result of forming the core from spoil from the ditches, combined with broken turves (Jones 1975, 30) and material from outside the immediate line of the defences (ibid, 32).

In many places, it was evidently impossible to distinguish any such structural features within the body of the rampart and this confirms the similarity of the core material to that used to form the turf cheeks (possible reasons for this are discussed below). It is interesting that, since it is largely composed of clay and turf, the eastern rampart core at Corbridge does not reflect the local subsoil (cf ibid 74).

To the rear of the rampart, there was at least one (component 5), and in some instances two (component 6), timbers laid parallel with the bank. They may be connected with additional revetting for the rear turf cheek. In the 1954 section (Section 182, Fig 45), these baulks were interpreted as bundles of wattles (Richmond and Gillam 1955, 230), but this
could be a mistaken identification of waterlogged timbers that have subsequently dried. Component 6 was associated with a line of pegholes against its western side; it is conceivable that, if these timbers were in some way connected with revetting the rampart back, then the rear one was a replacement or additional support. The clay found between the two baulks (Section 182, Fig 45) may be connected with such a reinforcement for the rearmost turf cheek. However, comparison with the rampart of Kastell III at Rottweil, where similar timber baulks were laid beneath the front and rear lips of the bank, may suggest an alternative interpretation for component 6, for at Rottweil a ramp or ascensus has been identified next to the south gate (Planck 1975, 57, Beilage 5). If this is an ascensus to the rear of the east rampart at Corbridge, then it would have had a width of about 1.52 m ( 5 ft ) over the two timbers.
The dating and structural sequence of the east rampart is problematical. In 1954, trench I on Site 20 (Richmond and Gillam 1955, 224-52) appeared to contradict the evidence of the 1946 trench, suggesting that the primary (Trajanic) rampart lay slightly to the west of the subsequent banks (cf Gillam and Richmond 1959, fig 1). The reasons for thinking this were because the timber strapping appeared to have an edge (Richmond and Gillam 1955, 228), indicating that the front of the rampart had been found and because a stone kerb was found between the 'rampart' and the intervallum road (loc cit). The 'kerb' is illusory, however, as the surviving section (Section 182, Fig 45; cf Richmond and Gillam 1955, fig 3) shows very clearly: the intervallum road (to which the drystone appears to belong) continues up to the baulk of trench IA (cf ibid, fig 3). Likewise, there is no need for the timber corduroys to continue beneath the whole rampart, since they appear to have been designed to meet specific needs, and these clearly differed even over a comparatively short stretch of the eastern defences. There is little reason to doubt that the primary rampart on the eastern side of the site was built at the start of phase II.

Thus the idea of a separate 'Trajanic' rampart cannot be sustained. Richmond had thought the rampart excavated in 1946 was Antonine, because a road (associated with a building he took to be of this period) rạn up to the rampart (Richmond and Gillam 1950, 172-3). This notion of separate ramparts persisted (cf Gillam and Richmond 1959, fig 2), but there is good reason to suspect that this interpretation is misleading. The accumulated layers of 'rampart material' above the primary bank have been interpreted as subsequent additions. These are, however, quite plausibly explained as rampart spread, a result of the demolition of the rampart at the end of phase IVb; there was no need to rebuild the rampart after phase II, especially in view of the fact that there is no evidence for a gap in occupation until the final abandonment of the fort. The principia appears to have been repaired and rebuilt to a similar plan throughout its use (see above) and it would be difficult to conceive that this could have been left standing when the ramparts round the fort had been levelled.

Attempts to associate dating evidence with the
various 'phases' of this rampart may also be unproductive, for if the demolition and resultant spread date from the Antonine period, finds from within it could belong to any period up to that point. However, it is worth noting that the dating evidence associated with the construction of the primary rampart includes a denarius of AD 103 (see below, p 140) and that there does not appear to be any material that post-dates the reign of Hadrian.
Thus the evidence seems to point fairly conclusively to a rampart, at least 6.7 m ( 22 ft ) wide, built at the beginning of phase II. It was possibly repaired, although it is reasonably certain that such maintenance was not, or could not be, recognised in the archaeological record. It was then demolished and spread at the end of phase IVb.

## Rampart buildings

Excavations on Site 20 in 1954 revealed traces of a timber building (components 18 and 19), possibly connected with an oven of clay and stone (component 20), but the section (Section 182, Fig 45) suggests that these post-date the fort. Two clay and cobble foundations, running parallel to the rampart (components 8 and 9), were found in 1955 (Section 178, Fig 43), but judging by the stratigraphical evidence these would appear to be later than the fort. There is, therefore, no conclusive evidence for structures associated with the rampart on the eastern side of the fort.

## The east gate

In 1954, three large posts (components 15-17) were discovered associated with the eastern rampart. Two of these were set in post-pits and packed with stone. These timbers were 0.3 m ( 1 ft ) square and obviously belonged to a substantial structure. The excavators thought that they were part of a Trajanic gate tower (Richmond and Gillam 1955, 231-2), although they also considered the Trajanic rampart to be 4.3 m ( 14 ft ) west of the position favoured here.

In 1966, a trench was opened immediately south of Site 20 with the specific purpose of locating evidence for the east gate (Fig 48). Two postholes (components 11 and 12) were located, $2.1 \mathrm{~m}(7 \mathrm{ft})$ apart (centre to centre) on an east-west alignment. The westernmost was $0.38 \times 0.28 \mathrm{~mm}(15 \times 11 \mathrm{in})$ and the other 0.46 m (18in) square. South of these posts was a row of wooden billets, laid north-south, and apparently resting upon a road surface (Section 177, Fig 43). A clay and cobble filled post-trench (component 13) had subsequently cut away the posts, and a series of gravel layers rested upon the wooden billets. This, in turn, was cut by a later postpit containing the remains of a smaller post (component 10) c 0.25 m (10in) thick and still standing to a height of 1.5 m ( 5 ft ), although it had clearly been pulled towards the east at some point and (possibly connected with this), cut off at ground level. Another posthole (component 14) was found further south, which the excavators believed was contemporary with the smaller post.

It is obviously difficult to determine the precise


Fig 42 Defences location plan (scale 1:800)


Fig 43 Sections 175, 177, 178 (scale 1:50)



Fig 45 Sections 182, 200 (satle 1:50)


Fig 46 Section 220 (scale 1:50)
type of gateway used in the eastern defences at Corbridge, but if the posts found on Site 20 did belong to a gateway one phase at least would seem to have incorporated flanking towers embedded in the rampart. Their scantling may suggest that they are analogous to the later posts in the 1966 trench, but little can be added by such speculation.

## The western defences

## The rampart

The west rampart has been identified on three separate occasions (1947, 1953, and 1980), in two cases below the present museum building. Material that probably belonged to the rampart was also located on 'Site 13', which only exists on a plan which cannot be located with any accuracy. Richmond was only able to distinguish the rampart material itself, but the excavations of 1980 revealed a probable turf cheek (component 21) and core (component 22) at the rear of the bank in trench 1 (Section 220, Fig 46). Other similarities with the eastern rampart were also found: behind the cheek, a large timber baulk (component 23 ) had been laid parallel to the western rampart. No traces of a cobble foundation or timber corduroy were located, but a feature noted beneath the west rampart for the first time in 1980 was a thick crust of iron-panning on the surface of the subsoil (cf Limbrey 1975, 311-12). Rampart spread was again evident.

Richmond's section (Richmond and Gillam 1950, fig 5) suggests the rampart was 7.3 m ( 24 ft ) wide, almost 6.1 m ( 20 ft ) of which was excavated again in 1980 , when 40 m (130ft) of the rampart was traced. The earlier excavation also hinted at a difference in the subsoil level between the berm and what lay under the rampart bank; the excavators suggested that this was because of weathering of the subsoil on the western side (ibid 177), but it might also have been an attempt at deliberate terracing by the Romans.

Richmond's excavation of the west gate in 1953 (see below) demonstrated that the rampart ran right up to the northernmost set of posts (Gillam and Richmond 1959, 78), overlying the pits in which the posts rested.
The excavations of 1980 brought to light two postholes (components 29 and 30) (Fig 49), one $0.30 \times 0.20 \mathrm{~m}(12 \times 8 \mathrm{in})$ and the other $0.36 \times 0.30 \mathrm{~m}$ ( 1 ft $2 \mathrm{in} \times 1 \mathrm{ft}$ ) which may have belonged to an interval tower (although no trace of the posts could be found in the overlying rampart material). A narrow band of cobbles were associated with the southern post, but their precise function is unclear.

## Rampart buildings

A clay oven (component 31, also referred to as component 14 see below p 105-9, Fig 54) lined with stone slabs was discovered in 1980, towards the southern end of trench 2 , associated with the rampart. It is not completely certain whether it was contemporary with the occupation of the site or whether it post-dated it slightly as it was built on the rampart spread in a similar fashion to an oven on Site 20 (Richmond and Gillam 1955, 236; see also Section 220, Fig 46).

## The west gate

In 1953, in advance of work by the Ministry of Works, a small trial trench was dug in the area to the south of the site museum. Four postholes (components $24-7$ ), were found in the trench and must have originally formed part of a timber gateway. The posts were roughly in line, but the middle pair were situated slightly to the south of the outer posts; Richmond suggested (Gillam and Richmond 1959, 82) that this might have been in order to wedge boarding between them to hold back rampart material which, on the north side, came right up to the posts. These postholes contained the decayed remains of posts, with scantling of $0.30 \mathrm{~m}(1 \mathrm{ft})$, standing to a height of c 1.8 m ( 6 ft ). They were set in pits and the intervals
between the posts were (from west to east) 1.5 m ( 5 ft ), $1.5 \mathrm{~m}(5 \mathrm{ft})$, and 1.2 m ( 4 ft ).

The post-pit for the westernmost post (component 24) had been cut through the lowest gravel road visible in the section (ibid, fig 3), so it is probable that this post (which was associated with two subsequent road surfaces) at least did not belong to the first gateway. Richmond (ibid, 82-3) dated these two roads to the Antonine period (phases III and IVa/b) by the simple process of counting from the bottom upwards (since he did not believe the Flavian gate to have been in this position), thus the lowest must have been Trajanic (phase II).

## The ditches

In 1906, during the first season's work on the site, Woolley dug seven exploratory trenches in the area to the south and south-east of the central area (Woolley 1907, 163-7). In three of these (trenches A, E, and I), a roughly V-shaped ditch was found running approximately east-west. The depth ranged from 0.9 m ( 3 ft ) in trench I to $2.4 \mathrm{~m}(8 \mathrm{ft})$ in trench E , and the width from $c 2.4 \mathrm{~m}(8 \mathrm{ft})$ in trench I to 4 m (13ft) in trench A . In trenches A and I there was some evidence of a wall on the north side of the ditch. The trenches which Woolley cut were widely spaced, so there is no guarantee that the same ditch appeared in the three sections. If it did, then the meandering course it takes across the slope, from south-west to north-east, would count against its being military. No dating evidence was recovered.

In 1907, on the west side of the site, seven of what were then interpreted as rubbish pits were excavated (Forster 1908, 244-6). Gillam compared the fill, and the objects found in the fill (including a helmet cheekpiece, fragments of wood, some of which resembled tent pegs, and fragments of leather) with those of the eastern ditches found in 1910 and suggested that one of the pits (pit 5 ) was situated over a ditch and might possibly have been a softer patch in the ditch fill (Richmond and Gillam 1952, 251-66). Similarly, there are other features in this area which could have been associated with a fort. In 1911, buildings on each side of the Stanegate were cleared. The excavators noted that the southern part of Site 27 had been built over a natural hollow filled in with stiff clay. On Site 28 'the east wall of this site and the west wall of site XXVI... showed a marked depression at a point a little to the north of the cross wall. The masonry was accordingly removed and a rubbish pit of considerable size was discovered and cleared... This pit produced pottery of an early character...' (Forster and Knowles 1912, 149). In describing Site 34 on the north side of the Stanegate, the excavators noted that the northern part showed traces of some sort of building which had been erected over an oblong pit, and had consequently suffered much from subsidence...' (ibid, 157).

In 1909, 1910, 1913 and 1914, parts of ditch systems on the north and east sides of the site were exposed. To the east side of Site 11, two parallel ditches were found c 23.77 m ( 78 ft ) apart, running north-south. The eastern one (component 36) was $c 5.48 \mathrm{~m}$ (18ft)


Fig 47 Temple 3/Site 44 arat. Fort phases plan (scale 1:200)
wide and 1.8 m ( 6 ft ) deep, and its lowest fill contained samian and coarseware of 'a late Flavian character' (Forster and Knowles 1911, 167). Its eastern side was overlain by a later north-south road (Eastern Dere Street). The western ditch (component 35) was of similar dimensions but had been filled with 'soil strongly impregnated with sewage' (loc cit) and this was sealed with clay. The fill produced more late Flavian pottery, some pieces of leather and some pieces of worked oak, one of which had been a tent peg. The western ditch was c 22.25 m (73ft) west of Site 11. The ditches did not, however, run parallel with the east side of Site 11, but were skewed slightly to the north-west, a fact which caused later excavators to search for a rampart on a similar alignment. The eastern ditch was traced northwards for 133.50 m ( 438 ft ), the western for 74.07 m ( 243 ft ); the eastern ditch was thought to turn to the east, under Site 50, and join a short, southward-curving length of ditch (component 40) excavated in 1913 and 1914, but it is obvious from the report that the excavators were working under difficult conditions and at great depth, so could not be sure of the exact relationship (Forster and Knowles 1914, 283).

Almost immediately east of the short curving
section, there was a 66 m (217ft) length of V -shaped ditch (component 41 ) c 4.88 m ( 16 ft ) wide (called the Inner Ditch in the 1914 report - Forster and Knowles 1915, 232). From its fill came pottery, including two fragments of Dr 29, and coins of Vespasian and Domitian. To the north of the Inner Ditch, another ditch (component 39) of similar dimensions and character was located and this ran for some 295.66 m ( 970 ft ) from west to east (components 37 and 38 ), before turning south at its east end (called the North Ditch in the 1909 and 1913 reports and the Outer Ditch in the 1914 report - ibid, 234). Pottery of the same early date as that from the Inner Ditch was recovered from near the bottom. To the north of the east end of the Outer Ditch, a further length of V -shaped ditch (component 42) c 5.18 m (17ft) wide and 2.31 m ( 7 ft ) deep was located (called the Sanitary Ditch in the 1914 report - loc cit). This ran on a slightly different alignment from the Outer Ditch and turned south at its eastern end. It was cut through clay in the centre of the section examined and here there were straight-sided 'sumps' in the bottom at intervals; the fill, which consisted 'mainly of sewage matter' (ibid, 235) sealed with stiff blue clay, contained no pottery or coins.

On the berm between the Outer and Sanitary Ditches, there was a clay rampart (component 43) on a foundation of cobbles with stone kerbs. Some 92.66 m ( 304 ft ) was traced in 1914 and it turned south at its eastern end, following the ditches (ibid, 235-7). It was of later date than the Sanitary Ditch, for the platform on which it was built partly filled the ditch (Forster and Knowles 1915, fig 2). The excavators were of the opinion that more of the rampart had been found further to the west in earlier seasons' work, but had not been recognised for what it was. In this case it would have run along the whole of the north side of the site. They also thought that various stones found in 1914 on either side of Dere Street, near the north hedge, could have been a gate in the rampart and that an enlargement of the bank at the southward turn could have indicated the addition of some kind of bastion (Forster and Knowles 1915, plan).

It is noteworthy that the ditches that have so far been examined are either undated or of late Flavian date, to judge from their contents. It would thus seem that neither of the eastern excavated ditches can be proved to be associated with the secondary fort at Corbridge (phases II to IV). Moreover, the confusing ditch complex cannot easily be reconciled with just the two late first century phases (la and Ib - the primary fort). It is possible that more than one layout is involved and this whole question will be discussed later (see below, Chapter 8 ) in relation to the history of the forts at Corbridge.

## The early defences below the thirdcentury compounds

In 1907, to the north-west of Site 3, the excavators noted that 'there were indications that during the earlier part of the Roman period a small dene or


Fig 48 East Gate (1966) plan (scale 1:200)
hollow had existed here, running westward toward the burn' (Forster 1908, 245). This is approximately on a line with the southernmost of a pair of parallel depressions which run east-west through the area south of the Stanegate now occupied by the buildings of the third century military compounds. In 1912, the buildings at the north side of the compounds and the northernmost depression were excavated. The excavators remarked that 'this depression or hollow was found to extend westwards across sites 39 north, 40 north, 42, and along the north side of $45^{\prime}$ (Forster and Knowles 1913, 237). They were of the opinion that it was a natural feature and connected with the hollow found in the rubbish pit area in 1907.

When excavations began again in the 1930s, the depressions (components 33 and 34 ) were noted beneath Site 39, although only the northern one (component 33 ) is shown in a published section from a trench dug on the west side of the road between the compounds (Birley and Richmond 1938, 255, fig 3). There it is shown filled with what is described as 'tumbled turf'. On the north side of the northern depression, and partly overlapping it, a mass of clay (which Richmond identified as the turf of a rampart) was found (component 32). He interpreted the depressions as defensive ditches and remarked that their profile bears the unmistakable stamp of the Roman military engineer' (loc cit). It was noted that


Fig 49 Site 9, plan of two postholes in the defences (scale 1: 200)


Fig 50 Defences component location plan (scale 1:2000)
the northern ditch was deeper than its companion (Wright 1938, 384). A fragment of Vespasianic samian (Dr 27) was recovered from the bottom of the northern depression (Birley and Richmond 1938, 282, fig 13.1). The turf rampart was encountered again in 1939 when a section was dug on Site 47 (Richmond 1943, fig 12), although no trace of any ditches was recorded.

In 1956, a trench placed between Sites 40 N and 47 located a V-shaped feature cut into the post-trenches of the la phase fort, and associated with this 'gully' was a section of turf rampart (Section 200, Fig 45, see also Fig 59). However, excavations in 1962, to the west of Site 40S, exposed the remains of timber buildings but failed to find traces of the southern depression. A trench cut through the road between the compounds in 1973 likewise found no trace of the depressions.
This conflicting evidence about these features eventually meant that they ceased to be regarded as defensive ditches, and an alternative interpretation was sought. The identification of an east-west street in some trenches led to the suggestion that rather than a pair of ditches, the undulation was caused by the embankment of a road (agger) running across the site. The depressions were caused by the ground subsiding into a natural hollow on either side of successive roads (Daniels 1978, 97). Richmond first proposed this explanation for the subsidence (1943,
222), but he saw the depressions as man-made, not natural.

This interpretation has a number of flaws. First, two parallel 'natural hollows' are unlikely in a sand and gravel river terrace especially bearing in mind that, in one section at least, the fill consisted of turfy material and included a fragment of Roman pottery (indicating that they were open at some point during the Roman occupation of the site). The fact that the excavations of the area between Sites 40 and 47 in 1960 failed to trace the southern depression does not prove that there was no ditch here. The excavation in 1973 of two trenches in the street between the two compounds failed to find any traces of the depressions, but this would not be surprising if Richmond was correct in assuming that there was a gateway through what he at first regarded as the southern defences at this point.

The factors supporting the depressions being identified as ditches are more convincing. The location of an apparent turf rampart on Site 47 to the east (and 39 to the west) of the street between the compounds, and in a trench between Temples 1 and 2 in 1952 is certainly relevant to the discussion. Flavian material (coins and Samian, in particular) are associated with it. It is puzzling why 'turfy' material and clay should be found here if it is not part of a rampart; such a phenomenon is certainly only paralleled at Corbridge on the sites of the east and


Fig 51 Defences component relationship table
west ramparts, levelling up usually being done with just clay or sand and gravel. The U-shaped profile of the northernmost depression in the published section (Birley and Richmond 1938, fig 3) by no means excludes the possibility of this being a defensive ditch, as is shown by the ditches at Oberstimm (Schönberger 1978, 24-30). In fact, the 1956 section appears to be decisive: a V-shaped ditch clearly cut earlier post-trenches (Section 200, Fig 45), so it cannot be a natural feature.

Another notable feature of the early ditches on the east side located by Forster and Knowles was their organic content. They provided extremely suitable conditions for the survival of wood and leather (Forster and Knowles 1911, 167), but they are by no means the only occurrence of organic debris. Similar material was located beneath the east rampart of the secondary fort (see above) and in a feature described as a ditch beneath Site 39; in these cases, typical finds (apart from a general organic matrix) included hazelnuts, twigs, fragments of leather, pieces of wood, and insects. Thus the end of the primary fort at Corbridge may have seen the deposition of organic material, a situation that is paralleled elsewhere, as at Vindolanda (where it is associated by the excavators with tanning - Birley 1977, 123-6).

If it is accepted that the depressions represent a pair of ditches accompanied by a rampart running beneath the later compounds, then it only remains to comment upon their possible date. Richmond's section shows features (which he thought belonged to the canabac, not realising that there were two phases to the primary fort) beneath the rampart and
these may date to the phase la fort. The 1956 section (Section 200, Fig 45) also shows two post-trenches actually cut by the northernmost ditch. If these post-trenches formed part of the phase la fort, this would imply that these southern defences are associated with phase Ib and that there has been a reduction in size of the phase la site.

The reduction of a defensive circuit was not uncommon in the first century AD . It is paralleled at Longthorpe II, although other sites have shown evidence of this. The advantages are obvious: a smaller garrison could be accommodated with a minimum of work, since the previous defences could be partially reused, as could the buildings retained within the new circuit. Thus, whilst phase Ib meant only minor changes to most of the buildings in the area of Site 11, it was marked by a new defensive line beneath what were later to be the two compounds.

## Structural sequence

Phase la No demonstrable defences
Phase Ib Rampart and two ditches beneath military compounds; reduction Demolition
Phase II East and west ramparts constructed
Phase III East and west ramparts repaired?
Phase IVa East and west ramparts repaired?
Phase IVb East and west ramparts repaired? Abandonment
Post-fort Ramparts levelled and spread

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| 4 | Erampart core material? | 1955 | 20.18 | - | (11' | $y$ | 'Body of Antonine ! rampart. Yellowish grey in colour, compact flecks of otange in it ${ }^{\prime \prime}$ | - |  | 1.70 | 3252 | - | - | 153 |  |
| 4 | Erampart core material? | 1963 | 44 | - | $>12$ | 3 | Trajanic rampart';'a homogeneous material containing turf, soil, stones etc | - |  | - | 3171 | $\begin{aligned} & \text { Dy63, } \\ & \text { H/63, } \end{aligned}$ | - | 39 |  |
| $3 / 4$ | Erampart material | 1964 | 4.C/D | - | $>226^{\circ}$ | $>16^{\circ}$ | Dark grey organic clay with turf contemt in castern half | - | 2 | - | 3111 | - | 4.12 (ili) | 31 | so |
| 3/4 | Erampartmaterial | 1954 | 20,1C | - | >2 ${ }^{\prime}$ | $26^{\circ}$ | 'Rampart 1';'contains many river cobbles | - |  | 2,230 | 3355 | - | - | $\begin{aligned} & 160 . \\ & 180 \end{aligned}$ |  |
| 3/4 | Erampart material | 1956 | 20 | - | $>10$ | ${ }^{3}$ | 'Rampartclay' | - | - | - | 3228 | - | - | 181 |  |
| 3/4 | Erampartmaterial | 1955 | 20.1 | - | $28^{\prime \prime}$ | $16^{*}$ | Grey clay with yellow streaks and small stooes' | - |  | - | 3293 | - | - | 193 |  |
| 3/4 | Erampart material | 1946 | - | $4^{\prime}$ | $>16{ }^{\prime}$ | $4^{\prime}$ | Massive bank of well. consolidated clay . . .not clean, but containeda good deal of ash and dirt' | - |  | 3,172, plxiv | - | - | - | - |  |
| 3/4 | Erampart material | 1955 | 20 | - | >9 | $2^{\prime} 6^{\circ}$ | 'Rampart day' | - |  | - | 3319 | - | - | 194 |  |
| 5 | Erampart tevetting timber | 1963 | - | $36^{*}$ | $46^{\circ}$ | - | Only timber ruaning parallel with rampart | Occurs where rampart dips sharply | 2 | - | - | - | - | 19 | 47, |
| 5 | Erampart revetting timber? | 1964 | 44, ${ }^{\text {D }}$ 2 | 13 | $9-11^{*}$ | - | Timber, rough hewn' | - |  | - | - | - | - | 32 |  |
| 5 | Erampart revetting timber | 1954 | 20,18 | - | ${ }^{6}$ | c $5^{\circ}$ | 'Fascine'; 'a bundle of rastcoloured wattles. resembling a fascine | - |  | 2.230 | 3347 | - | - | 150 |  |
| 5 | Erampart revetting timber | 1955 | 20, II | - | cher | cter | Dense black friable material wood, apparently but sot charcoal'; 'baulk of timber' | Associated with rampart cheek (3280) and above kerb of foundation (3258) |  | 1,71 | 3254 | - | - | 183 |  |
| 5 | Erampart revetting timber | 1956 | 20 | - | 18 | $1{ }^{6}$ | Wood?(decayed)' | - |  | 1,71 | 3235 | - | - | 181 |  |
| 6 | Erampart revetting timber? | 1963 | 4 | ${ }^{3}$ | - | - | 'Slight traces of timber' | - | 2 | - | - | - | - | 19 | S0 |
| 6 | Erampart revetting timber? | 1964 | 44.D2 | $\tau$ | 15 | - | Timber | Associated with grey clay |  | - | - | - | - | 32 |  |
| 6 | Erampart revetting timber? | 1954 | 20.18 | - | 12 | $10^{\circ}$ | Tascine';' a bundle of rustcoloured wattles. resembling a fascine | Associated witha series of pegs on $W$ side, at 1 'intervals |  | 2,230 | 324 | - | - | 180 |  |


| No | Descriptiow Y | Years) | Tr | 2 | w | $D$ | Comewnts | Related Features | Phase | Refs | Centert W\% | Finds | Page 0 | $\begin{aligned} & P \\ & n \end{aligned}$ | $\begin{aligned} & \text { Fig } \\ & \text { nis } \end{aligned}$ |
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| 7 | Eampart spread | 1963 | 44 | - | $620{ }^{\prime}$ | 5 | Turf, soil, burnt material; Antonine rampart'; 'reused clay' | - | ab | - | 3167-8 | BQ63, CG63:. DP63, HL63, $14 \mathrm{M6J}$ | $=$ | 39 | 50 |
| 7 | Erampart spread | 1964 | 4,C/D | - | 622' | $2^{\prime}$ | Dirty brownish-yellow clay with turf streaks'; 'grey clay with brown clay with carbon coetent'; 'yellow clay';'greenish yellow clay and s\|and?| with small cobbles' | - |  | - | 3095-3110 | IA64?. <br> QN-4? <br> PK-4 | - | $\begin{aligned} & 32 \\ & 44 \end{aligned}$ |  |
| 7 | Erampart spread | 1965 | 44, H/J | = | 19 | 5 | 'Rorizontal layers of dark brown soil yellow clay and dark yellow sand': 'yellow clay'; light blue/grey clay' | - |  | = | $\begin{gathered} 3121, \\ 3124-36, \\ 3149, \\ 3159-61 \end{gathered}$ | $\begin{aligned} & \text { BJ65, } \\ & \text { B165, } \\ & \text { EJ65, } \\ & \text { EV65?, } \\ & \text { FV65? } \end{aligned}$ | - | 40 |  |
| 7 | Erampart spread | 1956 | 20 | - | $21^{\prime}$ | 61\% ${ }^{\circ}$ | 'Dirty clay'z'dirty soil' | - |  | - | $\begin{aligned} & 3224, \\ & 3226 \end{aligned}$ | = | - | 151 |  |
| 7 | Erampart spread | 1955 | 20, 11 | - | $17^{7}$ | 3 | "Mixed grey and bright oeange material'; 'yellow clay';'grey clay' | - |  | 1,74 | 3269-71 | - | - | 183 |  |
| 7 | Erampart spread | 1955 | 20.1 | - | 19 | ¢ $216^{\circ}$ | Grey clay with yellow streaks and small stones | - |  | - | 3291 | - | - | 193 |  |
| 7 | Erampart spread | 1955 | 20 | - | $>15$ | c3'6 | 'Grey clay with yellow and rust-coloured streaks' | - |  | - | 3206 | - | - | 194 |  |
| 7 | Erampart spread | 1954 | 20.1 | - | 320 | $42^{\prime}$ | Rampart materialmainly grey clay with nusty lines' | - |  | - | $\begin{aligned} & 3132 \\ & 3343 \end{aligned}$ | - | - | $\begin{aligned} & 157, \\ & 180 \end{aligned}$ |  |
| 7 | Erampart spread | 1966 | 20.Egate | $214^{\prime}$ | - | $6^{-2}$ | Grey with ochre flecks and some pebbles'; <br> 'fampart material'; 'yelllow clay' | - |  | - | 3187-8 | HA66. HС66. HD66, H766, HX66? IS66, $\mathrm{KV} / 66$ | $\begin{aligned} & 4 \cdot 34 \\ & 4 \cdot 39 \end{aligned}$ | 450 |  |
| 8 | Erampart bailding. E wall | 1956 | 20 | = | $16^{*}$ | $2^{\prime}$ | 'Heavy clay and cobble foundation' | $=$ | PF | $=$ | 324 | - | - | 181 | Notill |
| 8 | Erampart building, E wall | 1955 | 20,11 | - | $y$ | 3 | 'Wood clay and cobble foundation of building (Antonine II) found canted over westwards and then takencout' | - |  | 1,69 | 3253 | - | - | 163 |  |
| 9 | Erampart building, W wal | V 1956 | 20 | - | $z$ | 2 | 'Wall; clay and cobble' | - | PF | - | 3217 | - | - | 151 | Notill |
| 9 | Erampart building, W wall | - 1955 | 20, II | - | 3 | 3 | 'Clay and cobble foundation and clay of Antoninel stone wat | - |  | - | 3279 | - | - | 153 |  |


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## 7 Excavations in other areas

## Introduction

Excavations between the two wars succeeded in locating a number of isolated features within the central area apparently belonging to both the fort and post-fort phases (see Fig 52). Since only small areas could be examined, however, a fairly confused picture has been built up and it is often difficult to discriminate between stone buildings of phase IVb of the fort and those of the post-fort phases.

In the West Compound, the remains of a large building (at least 19.81 m ( 65 ft ) long) beneath the small administrative block (Site 45) were interpreted by Richmond as Antonine, on the basis of the pottery evidence, and he commented on their resemblance to a barrack block (Richmond and Birley 1940, 111), although admitting that the evidence for such an identification was far from conclusive. He also noted the east-west road and its associated drain beneath Sites 47 and 40 N (ibid, 110, section IV), although whether this belonged to the secondary fort or was later is not clear. Richmond also recorded traces of Antonine structures beneath Site 4 (Temple 6; Richmond 1943, 219-21).

Examination of the East Compound produced two parallel clay and cobble foundations running northsouth, beneath the north-east corner of the compound (Richmond 1943, 218, fig 1). Stone walls of the phase IV fort and traces of the earliest military occupation were found (ibid, 218-9, fig 1). The headquarters building in the East Compound (Site 43) was examined in 1946, and this revealed details of the phase IVa (timber) and IVb (stone) fort. Some of the wattle-and-daub walls survived in good condition (Richmond and Gillam 1950, 168-72).

## Site 11

Site 11 was the focus of much of the post-war investigation of Corbridge, and both courtyard and surrounding ranges of rooms were examined in detail. The objective was to trace the history of the forts that lay beneath it, but the evidence relating to this large structure itself is worth considering.

The plan of the building is has not been substantially amended in work on the remains which underlay it, but in at least one instance traces of clay and cobble foundations within the East Range hint at partition walls (Section 183, Fig 53). It is not clear whether these were completed and then robbed, or never finished at all, but the latter may seem preferable.

Excavations in the courtyard of Site 11, particularly in the area of the fort principia and practorium, tell a remarkably consistent story about the stratigraphy of the courtyard: a distinctive layer of 'mason's chippings' lies above two compacted levels of gravel and another that contained burnt material. This gravel metalling was noted by Knowles and Forster (1909, 341), who recorded that it covered the whole
courtyard, with the exception of those portions of the principia which had not been demolished along with the rest of the fort.

Some structural details of Site 11 were examined, however, largely with the aid of sections across the east and south ranges. In the north-east corner, the subsoil is so close to the surface that no construction trench appears to have been needed, the clay and cobble foundations being laid directly onto it (eg Section 183, Fig 53). It has already been mentioned (above p 67) that levelling down was common practice in the northern half of Site 11 throughout the Roman period, so this north-east corner may have been considerably higher before the construction of the building. Elsewhere, construction trenches appear in sections (eg Section 115, Fig 20), although they were not always spotted and recorded by the excavators (eg Section 186, Fig 53).

The normal foundation of Site 11 was clay and cobble, sometimes incorporating large river boulders (Section 188, Fig 53), but in a few cases existing foundations of earlier buildings were utilised. This occurred in the east range, where the practorium had been reduced to its clay and cobble foundations, and the grander layout of Site 11 rested directly on top of them. In the north-west of the site, another stone building (Table 4, components 141-3) was reduced to its foundations and two of its north-south walls were exploited as foundations for the walls of rooms $5 / 6 \mathrm{a}$ and $6 \mathrm{~b} / 7$ of the north range. As a result, there is visible subsidence of the main north range walls on each side of the reused foundations.
Excavations in 1957 and 1958 in rooms 0 and 1 of the north range produced large amounts of pottery that appeared to be associated with a depression beneath the foundations of Site 11 itself (Birley 1959, 20).

In the south range, rooms 5 to 10 (but excluding the entrance passage) were investigated in order to explore the remains of the fort. Details of their upper levels were recorded only sketchily in the process of excavation, and little was added to what is already known from the first examination of these rooms.

## Site 9

## (Figs 54-7; Table 6)

Site 9 was first explored by Forster and Knowles in 1908, when some of the post-fort structures were revealed. Two trenches were re-opened in 1980, in advance of the construction of the new site museum; in the southernmost (trench 1) post-fort remains were better preserved.

The most recent excavations produced evidence of what were probably three phases of post-fort occupation. The first of these was represented by a rectangular timber-framed and clay-lined tank or soakaway (component 8), only two sides of which survived.

More is known of the second phase, which appears to have been industrial in character. A hearth (component 7) was situated on top of the old tank or soakaway and this was made of clay, reddened by burning, and included a number of small holes or pits


Fig 52 Plan showing location of other excazated areas (scale 1:800)

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Fig 53 Sections 183, 186, 188, 201, 213 (scale 1:50)


Fig 54 Site 9 (1980), first (left), second (centre), and third (right) post-fort phases (satle 1:200)
a


C
$\square$


Fig 59 West Compound araz. All phases plan (scale 1:200)

## Site 4

(Fig 58)
The 1961 excavation on this site, also known as Temple 6, produced evidence for one north-south and one east-west post-trench, although no suggestion of phasing was recovered and, because the precise position of this trench is unknown, no alignment with other structures can be deduced in this area.
Surviving plans of the 1961 excavation (Fig 58) show two circular pits (d) 0.91 m (3ft) in diameter lined with small stones, whilst above these were the remains of a flagged hearth (c). In 1976, three small trenches were opened in order to examine the 'destruction deposit', but virtually the entire area examined was disturbed by earlier excavation trenches.


Fig 58 Plan of the 1961 excanation on Site 4 (precise location unknown). Amalgamated from plans PI 6, 7, and 11, drawn above a level of mason's chippings. No written records of this examation survive in the Corbridge archive: a Ferrous gravel underlying Stanegate; b [Modern intrusions); c Hearth; $d$ Pits lined with small stones (scale 1:200)

## The West Compound

## (Figs 59-60; Table 7)

The most important of the problem-solving excavations was the series of trenches (of 1956, 1960 and 1962) located in the West Compound, running south from Site 40 N and 47 . These were primarily designed to investigate the supposed line of the southern defences of the fort.

As has been discussed elsewhere (above, p96), the 1956 trench succeeded in isolating both rampart and more northerly ditch, but it also revealed two east-west post-trenches belonging to the phase la fort, one (component 32 ) being 0.61 m ( 2 ft ) wide and 0.91 m ( 3 ft ) deep, the other (component 33), only some 0.91 m (3ft) south of it, being 0.30 m (1ft) wide and 0.61 m ( 2 ft ) deep. A further slot (component 4) may have been for a sleeper beam and pegholes. These clearly demonstrated that the earliest military occupation of the site was overlain by the southern defences (see Section 200, Fig 45). Interestingly, they can be compared with the phase la trench located by Birley and Richmond in 1937 (1948, 256, fig 3) underneath the rampart, on the western side of the road between the compounds. Later post-trenches were also found in 1956, although the limited nature of the excavations makes it very difficult to allocate these to known phases. A trench cut through the rampart (component 3 ) may belong to phases II or III.

In 1960, traces of two post-trenches were revealed (components 12 and 14) but it is not known to which
phase they belong. The 1962 trench produced further east-west post-trenches belonging to the fort and, whilst it is possible to relate them stratigraphically, they cannot be allocated to specific phases with any certainty (Section 201, Fig 53).

These trenches in the West Compound, which revealed details of the underlying forts, also produced slight remains of the later occupation which pre-dated the compound itself and these were largely concerned with east-west roads, although one east-west wall foundation (probably of phase IV) was found in 1960, running beneath Site 40 .

## The inter-compound area

## (Fig 61; Table 8)

Excavation between the compounds in 1973, on the line of the via practoria of the secondary fort, revealed a north-south post trench (component 2), presumably the end wall of a building in the eastern half of the practentura. It was associated with a number of peg or small postholes. An east-west feature (component 1) appears to be a wall associated with the phase I fort, and is on the line of the gateway in the Ib defences, detected by Richmond (Birley and Richmond 1938, 256-7). The construction trench for a wall (component 3) might be associated with the phase IVb occupation, again forming an end wall.

The two trenches clearly illustrated successive road surfaces of the tia practoria of the secondary fort (Section 213, Fig 53), retained when the fort was demolished and apparently continuing in use as a major throughfare throughout the life of the compounds until the uniting wall was placed across its junction with the Stanegate, although relating specific surfaces to known phases was not possible.

## Sites 20, 44 and Temple 3

(Figs 62-8; Tables 9-10)
Investigation of the defences of the second fort in 1956 under Site 20 (Fig 62) also produced evidence for buildings of the primary occupation. Three north-south post-trenches were examined (components 1, 2, and 4) as well as a pit (component 3), the phasing of which was not clear.

In 1971, an area covering at least two earlier (1953 and 1955) excavation trenches (Gillam and Richmond 1959, 59-77) was re-opened and extended and the stone building there re-examined (Fig 63). The north section of this new trench apparently (notebook 9:15) resembled very closely that published for 1955 (Gilliam and Richmond 1959, fig 2), although the build-up of roads (loc cit, H, J, R, S, T) was not in evidence, nor was the 'Flavian sleeper trench' (loc cit, Y). Small patches of bright red material and charcoal under the rampart material of the secondary fort indicated phase I destruction, whilst above the rampart was a layer of small cobbles and gravel. The main stone wall in the trench (Fig 63, b) was rebuilt once in the Antonine period (c), before being covered by a 'destruction deposit'. The north-south wall (d) is that found elsewhere by Richmond and Gillam
a


C


Fig 59 West Compound area. All phases plan (scale 1:200)


Fig 60 West Compound arar. Component location plan (scale 1:400)


Fig 61 The street befuren the compounds. Plan of 'Street $1^{\prime}$ and 'Street 2' (scale 1:200)


Fig 62 Site 20 (1956) plan (scale 1:200)


Fig 63 Excavation north of Site 20 in 1971. Taken from plan PI 116, dated 16 Iuly 1971: a All phases; $b$ 'Antonine II wall original build. Clay and cobble foundation only' (west) and "course above foundation' (east); c 'Ant II rebuild. Wall set in yellow clay'; d 'Severan wall'; e 'Post 3rd century destruction building' (scale 1:200)



Fig 66 Temple 3/Site 44 area. Post-fort II phase plan (scale 1:200)


Fig 67 Temple 3/Site 44 area. Component location plan (scale 1:400)
(1955, 242-6, fig 2) and may have continued further north, traces of it having been removed by earlier excavations. It was dated by Richmond to the Severan period and clearly pre-dated Site 20 itself, the remains of which can still be seen.

Under Temple 3, there were some post-trenches (components 1-3 and 6) and a pit (component 5), at least one of which probably belonged to the period of the secondary fort (component 1 contained disturbed material from the destruction of the primary fort).

Excavations in the area of Site 44 and Temple 3 revealed substantial traces of earlier post-fort stone structures which appear to pre-date the East Compound. Components 8, 9, and 10 (Fig 65) formed one end of a rectangular stone structure, 3.66 m wide and at least 2.13 m long ( $12 \times 7 \mathrm{ft}$ ) on an apparent east-west axis; this alignment is suggested by two walls (components 11 and 12) which seem to have post-dated it, forming an extension of at least 3.66 m ( 12 ft ) to the existing building. This extended form of the structure had a minimum length of 6.71 m ( 22 ft ), but component 22 may also be part of it, in which case the overall east-west dimension would have been at least 10.97 m ( 36 ft ). Component 23 forms the return for component 22 and was at least 14.63 m (48ft) long. Two walls (components 24 and 25 ) form an angle to the south of component 22 and, once again, may be part of one large structure. Component 25 is the same wall as one of two found by Richmond (1943, 218, fig 1), passing below Site 44 and the 'schola' and incorporated in the foundations of the wall of the East Compound.

There is one major north-south drain (component 7), associated with, and to the west of, a road which appears to post-date the buildings which have just been under consideration but still pre-dates Temple 3 (and, possibly, Site 44). A further drain (component


Fig 68 Temple 3/Site 44 arca. Component relationship table
16), heading in a north-westerly direction, was associated with a road surface near the main east-west street ('Stanegate').

Various other fragmentary walls (components 14, 15 , and 26 ) were located, but little sense can be made of them.

Within Site 44 itself, and possibly contemporary with it, there was a circular stone structure (component 19) and paved stone surface, both inside and out. Immediately to the east of the structure was a small, rectangular stone trough (component 21) and, to the north-east, two upright stone slabs (component 20) with the appearance of a threshold of some kind. There was no evidence of burning associated with the structure, so the initial identification as an oven cannot be substantiated.

| No | Description | Yearis) | Tr | 1. | W | $D$ | Comments | Relatedfeatures | Phase | Refs | Content nes | Finds | Pagr M | $\begin{aligned} & P 7 \\ & n o \end{aligned}$ | Fow ms |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\mathrm{N}-\mathrm{S}_{\text {wall }}$ | 1980 | Site9, 1 | $>51{ }^{\prime}$ | $24^{*}$ | - | 'Made up of both roughly Gashioned and well finished facingstones. . . Clay and rubble core 2 courses above footings' | Flag footings (12, 219), constructicen trensh $\text { (292), flags }(48,49)$ | PF2 | - | 5, 13, 17 | - | * | Pan 2 | 54 |
| 2 | E-W wall | 1980 | Sise 9, 1 | > $15{ }^{\prime}$ | 2'2-2'5 | - | "All s.stome. May be that smaller facers of upper course are later rebuild. Upper course of small s.stone facers on south side only' | Censtruction trench (278) | PF 2 | = | 8, 33 | $\begin{gathered} B 150, \\ \text { CC80. } \\ 1280 \end{gathered}$ | - | Ptan 2 | 54 |
| 3 | E-W foundation | 1980 | Site 9, 1 | 176 | $28^{\circ}$ | $=$ | Yellowish grey, sticky clay, few river cobbles' 'foundation clay for an E-W wall' | Construction trench (291) | PF2 | - | 19 | EK80. <br> Itso. <br> INs0 | - | Man 2 | 54 |
| 4 | N -S foundation | 1980 | Site9,1 | >46\% ${ }^{\circ}$ | 654 | - | Orange yellow grey streaks; dlay; no of river cobbles' | Backtilled construction trensh (206) | PF 2 | - | 280 | 1490 1R80. IT80, /G80 | - | - | 54 |
| 5 | Well? | 1950 | Site9, 1 | 5 | 518 | $7^{\prime} 6^{\prime \prime}$ | Well, one thickness roughly shaped blocks; s. stone';'irregular construction'; 'small scoop at very botlom' | - | PF2 | - | $\begin{gathered} 3.4,14,56 \\ 57 \end{gathered}$ | ALSO, <br> AMso, <br> AV80, <br> BA8O, <br> AQ80, <br> AW80, <br> CV80. <br> DSso. <br> LESO | - | Man 2 | 54 |
| 6 | Hearth | 1950 | Site9, 1 | $84^{7}$ | $5 \cdot$ | $\cdots$ | 'Dirty yellow clay's' the channel WO4 seems to run thro. and underneath the clay forming a tunnel' | Stone lised tlue beneath hearth; apparently sever used (no burning) | PF1 | - | $\begin{gathered} 288,25 \mathrm{k}, \\ 304,311 . \\ 300 \end{gathered}$ | MEZOO. <br> NL® 0 | - | $\begin{gathered} \text { Pans } 23 \\ 24 \end{gathered}$ | 54/35 |
| 7 | Hearth | 1950 | Site9, 1 | 34 | $5^{\prime}$ | - | 'Small concentration of burnt red clay and unburnt yelbow clay'; 'clay pale greyish yellow with patches of harder orange red-both fired and unfired' | - | PF1 | - | $\begin{gathered} 78,260,261 . \\ 314 \end{gathered}$ | NX90 | - | $\begin{gathered} \text { Pans } 12 . \\ 14 \end{gathered}$ | 54 |
| 8 | Tank? | 1980 | Site9, 1 | 210 | $r^{\prime}$ | $=$ | 'Rect clay tank: made up of twolines of clay Scm wide'; "greyish brown silty material with darker patches' | - | PF1 | - | 80, 343, 344 | OFso. <br> OLso | - | - | 54 |
| 9 | Pit | 1980 | Site9.1 | $46^{\circ}$ | $>$ | 9 | Cobble/rublle surfacethis could be the top of the pit'; 'pit dug intorampart'; dirty brown loam (leose till) | - | PF1 | - | $\begin{gathered} 266,269 \\ 275 \end{gathered}$ | $\begin{gathered} \text { KBs0, } \\ \text { K7s0 } \end{gathered}$ | - | - | Not ill |


| No | Dssriptiow | Yeers) | Tr | $L$ | w | D | Comoments | Related Features | Phese | Refs | $\begin{gathered} \text { Context } \\ \text { mss } \end{gathered}$ | Finds | $\begin{aligned} & \text { Page } \\ & m o \end{aligned}$ | $\underset{n}{p}$ | $\begin{aligned} & \mathrm{Fig} \\ & \mathrm{mos} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | N -Strench | 1950 | Site9, 1 | 7 | $1^{\prime}$ | - | 'Narrow shallow trench' | - | PF1 | - | 3212, 339 | - | - | Plan 16 | 54 |
| 11 | N -S fow of stakeholes | 1950 | Site9,1 | 118 | 34 | $r$ | 7 poss pholes' | Diams $2-3$; in 2 lines | PF1 | - | 340 | - | - | Plan 16 | 54 |
| 12 | N -S Frow of postholes | 1950 | Site9,1 | $9 \%$ | - | F | 'Toss p.holes: some indicated by several stones standing on end as packing':'dk. greyish brown | Diams 1'1* | PF1 | - | 302 | - | - | Plan 16 | 54 |
| 13 | E-W slots | 1950 | Site9, 1 | >4'6 | 3 | - | 'Narrow slots. ., filled with greyish brown loam and traces of gravel' | Nail fragment | PF1 | - | 295 | - | - | Plan 19 | 54 |
| 14 | Oven | 1950 | Site9,1 | $6 \%$ | $>7^{\prime}$ | - | Wall of irregular sandstone blocks and flags and still yellow clay burnt redon inside';'remains of oven/furnace: roughly rect. with lead off rumning east' | Burnt clay, burnt threshold stopes (374) | PF1 | - | $\begin{gathered} 364,365, \\ 366,370, \\ 371.372, \\ 374 \end{gathered}$ | - | - | Plan 32 | 54 |
| 15 | $\mathrm{N}-\mathrm{S}_{\text {grater }}$ | 1980 | Site9, 2 | 34 | 6 | - | 'Remains of flagged surface. . . indluding one gutterstone |  | PF2 | - | 177 | - | - | Tan 28 | 4 |
| 16 | E-W gutter | 1590 | Site9, 2 | 79 | $6-8$ | - | Largeblecks of sandstone with chamnel cut in top' | 3blocks | PF2 | - | 154 | - | - | Pan 3 | 54 |
| 17 | N -Slinear features | 1980 | Site9,1 | 134 | 8 | - | Thin band of pebbles running N - - ' | 6stakeholes | PFIP | - | 289 | - | - | Plan 2\% | 54 |


| No | Description | Yearss) | Tr | 2 | w | D | Comments | Reletedfuetures | Phese | Refs | Centeat $n \phi y$ | Finds | $\begin{aligned} & \text { Page } \\ & \text { nos } \end{aligned}$ | $\underset{\text { Nos }}{P}$ | $\begin{aligned} & \mathrm{Fig} \\ & \mathrm{mos} \end{aligned}$ |
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| 1 | N -S post-trench | 1956 | Site 47 | $6^{\prime}$ | $\mathrm{ma}^{\circ}$ | - | 'Trajanic sleeper trenches showing up clearly in surface of thin layer of orangesand; visibleatove and below this layer, in section' | - | U | - | - | - | - | 45 | 59\% |
| 2 | E-W post-trench | 1956 | Site 47 | $2^{*}$ | ${ }^{6}$ | - | 'TTrajanic sleeper trenches showing up clearly in surface of thin layer of orange sand; visableatove and below this layer, in section' | Cat through road surface | U | - | - | - | - | 45 | 926 |
| 3 | E-W post trench | 1956 | Site 47 | $6^{4}$ | T-1 | - | TTrajanic slecper trenches showing up clearly in surface of thin layer of orange sand; visable alove and below this layer, in section' | Cat through read surface | U | - | 3530 | - | - | 45 | $50 \%$ |
| 4 | E-W pest-trench | 1956 | Site 47 | 4 | nor | - | 'Trajanic sleeper trenches showing up clearly in surface of thin layer of orange sand; visable atove and below this layer, in section' | - | 1a | - | 3542 | - | - | 45 | 59 |
| 5 | N-Spost-trench | 1956 | Site 47 | 4 | w | - | 'Trajanic slecper trenches showing up clearly in surface of thin layer of orange sand; visable atove and below thislayer, in section' | - | 1a | - | - | - | - | 45 | 59. |
| 6 | We? | 1960 | Site 47 N | > ${ }^{\prime}$ | > ${ }^{\prime}$ | = | Shallow depression and burnt daba and chafcoal | - | U | - | - | $\begin{aligned} & M X 60 ? \\ & \text { OLe0 } \end{aligned}$ | - | 50 | Not ill |
| 7 | E-W post-trench | 1960 | Site 47 N | 28 | 8 | - | Slot and dark brown filling containing flecks of charcoal and clay | - | U | - | - | MD60' | - | so | 59\% |
| 8 | E-W post-trench | 1960 | Site 47N | ${ }^{3}$ | $A^{\prime}$ | - | Slot and reddish gravel filling' | - | U | - | - | NL60 | - | 50 | - |
| 9 | E-W post-trench? | 1900 | Site 47 N | $16^{*}$ | 18 | - | Stained area under later wall (possibly burnt material from posts afound)' | - | U | - | - | N/60? | - | 50 | 596 |
| 10 | E-W post-treesh | 1960 | Site 47\% | 3 | 12 | - | Slot and reddish gravel filling containing pockets of clay and lumps of charcoal' | - | U | - | - | - | - | so | 59b |

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| No | Descriptiow | Yearts | Tr | $t$ | w | D | Comments | Reletedfestures | Phase | Refs | Context nes | Finds | $\begin{aligned} & \text { Page } \\ & \text { nos } \end{aligned}$ | $\underset{\text { PI }}{\text { PI }}$ | $\underset{\text { nes }}{\text { Fig }}$ |
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| 1 | E-W post-trench | 1903 | $\begin{aligned} & \text { Sereet } \\ & 2 \end{aligned}$ | $5^{\prime} 6^{\prime \prime}$ | 14 | - | 'Clay cap on trencth'; 'sand gravel fill at trench edge' | Clay strip is to wide | 1 | - | - | - | - | 330 | 61 |
| 2 | N-Spont-trench | 1973 | Stereet <br> 1 | 15 | - | - | 'Earth'; 'mised gravel sand andclay | 13 small postholes. diame $2^{2}$ | 2-4 | - | - |  | - | 309 | 61 |
| 2 | N-Spost-trench? | 1973 | $\begin{aligned} & \text { Street } \\ & 2 \end{aligned}$ | 15 | - | - | Tebbly fill' ; 'miked sand. gravel, day and cobble' | 1 posthole, $\mathrm{f}^{\text {- }}$ square |  | - | - | BP73 | - | 330 |  |
| 3 | N -Sclay foundation | 1973 | Street $1$ | $>10$ | >10 ${ }^{\prime}$ | - | 'Clay edge to wall trench' | - | 2-4 |  | - | - | - | 399 | 61 |
| 4 | N-Sdrain | 1973 | $\begin{aligned} & \text { Street } \\ & 2 \end{aligned}$ | $17^{\prime}$ | 1 | 27 | 'Culvert'; 'large sandstose slabs and soeme pebtles' | - | U | - | - | $\begin{aligned} & A[73, \\ & A X 73, \\ & B D 73 \end{aligned}$ | - | 330 | 61 |
| 5 | N -Sdrain | 1973 | $\begin{aligned} & \text { Street } \\ & 1 \end{aligned}$ | 18 | $14^{*}$ | $>6^{*}$ | - | - | U | - | - | $\begin{aligned} & \text { AH73, } \\ & \text { BROB } \end{aligned}$ | - | 39 | 61 |
| 5 | N -Sdrain | 1973 | $\begin{aligned} & \text { Street } \\ & 2 \end{aligned}$ | $18^{\prime}$ | $2-2 \%$ | >9 | 'Large sandstone slabs and somepebbles' | - |  | - | - | $\begin{aligned} & \mathrm{BE77}, \\ & \mathrm{BSO7} \end{aligned}$ | - | 330 |  |



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| gravel＇ |  |

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Table 9：Site 20 component table

| No | Description | Yesris） | Tr |
| :--- | :--- | :--- | :--- |
| 1 | N－Spost－trench | 1956 | Sise20 |
| 2 | N－Spost－trench | 1956 | Sise20 |
| 3 | Pit | 1956 | Site 20 |
| 4 | N－Spost－trench | 1956 | Site 20 |
|  |  |  |  |
| 5 | N－Spost－trench？ | 1956 | Site20 |


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|  | \＃ | \％ | 3 | 8 | 发昜 | 会 | 咼 | 或感 | $\frac{7}{7}$ | 年号 | 8 | 8 |
|  | 憲范 | $\begin{aligned} & 9 \\ & 8 \end{aligned}$ | $\underset{\sim}{4}$ | $\mathrm{N}$ | \％ | $\underset{\sim}{*}$ | 4 | 送劳 | $\underset{\sim}{*}$ | $\vec{\pi}$ |  |  |
|  | $\frac{\pi}{4}$ | 1 | 1 | ＇ | 感空 |  | 1 | $\frac{83}{2}$ | 究等 | $\frac{8}{2}$ | 1 | $\frac{3}{2}$ |
|  | $\begin{aligned} & \text { H } \\ & \frac{H}{E} \\ & 0 \end{aligned}$ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|  | $\underset{\&}{g}$ | 1 | ！ | 1 | 1 | 1 | 1 | 1 | 1 | ， | 1 | 1 |
|  | $\frac{\frac{\pi}{2}}{2}$ | I | 7 | I | I | I | I | 世 |  |  |  |  |
|  | $\begin{aligned} & \frac{5}{v} \\ & \frac{2}{2} \\ & \frac{2}{2} \\ & \frac{3}{3} \\ & \hline \end{aligned}$ | 1 | 1 | 1 | 1 | ＊ | $\begin{aligned} & \frac{3}{8} \\ & \frac{1}{4} \\ & \frac{8}{\mathrm{E}} \end{aligned}$ | $\begin{aligned} & \frac{6}{c} \\ & \frac{0}{c} \\ & \frac{t}{t} \\ & \frac{6}{6} \\ & 0 \end{aligned}$ |  |  | 1 | 1 |
|  | 意 E E |  |  |  |  |  |  | $\begin{aligned} & 5 \\ & \end{aligned}$ | 1 | 1 | $\begin{aligned} & \text { ᄃ } \\ & \frac{1}{4} \end{aligned}$ |  |
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| $8$ $\because$ | F | $\stackrel{N}{E}_{\underset{H}{E}}^{8}$ | $\stackrel{N}{E}_{8}$ | $\underset{E}{E}$ | ${\underset{N ゙}{E}}_{N}^{n}$ | ${ }_{E}^{E}$ | $\stackrel{\underset{\mid c}{E}}{\underset{\sim}{8}}$ | E | $\stackrel{N}{E}_{8}$ | ${\underset{E}{E}}_{0}$ | $\stackrel{\text { en }}{\underline{1}}$ | ${ }_{6}^{m}$ |
| $\begin{aligned} & \text { E } \\ & \text { E } \\ & \frac{\mathbb{E}}{4} \end{aligned}$ | $\frac{3}{2}$ | 解 | $\frac{8}{2}$ | $\frac{8}{8}$ | $\frac{8}{8}$ | $\frac{8}{3}$ | $\frac{8}{2}$ | $\frac{8}{2}$ | $\frac{3}{3}$ | $\frac{8}{8}$ | $\frac{8}{2}$ | $\stackrel{\text { r }}{+}$ |
| $\begin{aligned} & \underset{\sim}{3} \\ & \stackrel{y}{n} \\ & \ddot{b} \end{aligned}$ | $\begin{aligned} & \frac{5}{5} \\ & \frac{2}{2} \\ & \frac{5}{5} \\ & \frac{5}{2} \end{aligned}$ | $\begin{aligned} & \frac{\pi}{6} \\ & \frac{1}{4} \\ & \frac{1}{2} \\ & \frac{3}{3} \end{aligned}$ | $\frac{6}{E}$ <br> $\frac{5}{2}$ <br> $\frac{8}{2}$ <br> 3 | $\begin{aligned} & \frac{8}{2} \\ & \frac{1}{2} \\ & \frac{1}{6} \\ & \frac{0}{2} \\ & 2 \end{aligned}$ | $E$ | E | $\begin{aligned} & \frac{5}{8} \\ & \frac{6}{4} \\ & \frac{1}{2} \\ & \frac{4}{2} \end{aligned}$ | $\begin{aligned} & \frac{6}{4} \\ & \frac{5}{4} \\ & \frac{1}{2} \end{aligned}$ | $\begin{aligned} & \frac{E}{2} \\ & \frac{5}{4} \\ & \frac{1}{2} \end{aligned}$ | $\begin{aligned} & \frac{6}{2} \\ & \frac{5}{5} \\ & \mathbf{4} \\ & \mathbf{z} \end{aligned}$ | $\begin{aligned} & \frac{5}{2} \\ & \frac{5}{5} \\ & \text { n } \end{aligned}$ | $\begin{aligned} & \frac{5}{2} \\ & \frac{5}{4} \\ & \frac{n}{2} \end{aligned}$ |
| $\stackrel{\stackrel{0}{17}}{6}$ | 2 | － | ＊ | $m$ | $\cdots$ | $\cdots$ | $\bullet$ | ＊ | ＊ | ＊ | n | N |


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Well-made wall. 4 courses
high. Face regular and
even'
Well-made wall 4 courses
high. Face regular and even' Wall is of fragmentary nature and extremely
rough, consists of one course of stones lying on
flat stones, then clay and

Wall of very jumbled Wall of very jumbled
character. Possibly due to
old excavation. Somme of
stonework is well dressed. stonework is well dressed,
and presented a fairly even
face

Dark grey-black soil with
much building debris")
dark grey soul (decayed
wettable matter), a few
bones and sherds and
'Flat broken senall slabs';
'small broken, flat slabs 'small broken, flat slabs
laid on clay, with no stones
covering them'

Wall (clay bonded stones)'
'Gutter channel filled
with day over sand'

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Table 10 continued

## No Description <br> 8 E-W wall

## 9 N-S wall <br> N-Swall

12 E-W wall
$E$
14 N-S wall?
$\frac{5}{4}$
$\frac{5}{4}$
$\frac{4}{n}$
2
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## 8 General discussion

## The structural history

## The reconstruction plans

The reconstruction plans of the fort at Corbridge offered here (Figs 69-74) should not be viewed as any more than possible interpretations. For obvious reasons, which have been outlined in detail in the Introduction (see above, p 4) there is uncertainty about several aspects of the plans of individual buildings and their component parts. The detailed plans should therefore be consulted and opinions formed on the basis of the reader's own assessment of the evidence. The reconstruction plans are offered purely as an indication of what the fort may have looked like at each given phase, they help to emphasise how little is known about the fort and underline difficulties involved in defining the evolving patterns of its occupation.

## Earlier occupation of the area

The realisation that the Red House site was the location of the first of the military installations at Corbridge was soon followed by an opportunity to excavate it in advance of the A69 Corbridge by-pass scheme (Hanson et al 1979). A large fort, interpreted by the excavators as a supply base, was found, containing a number of open-ended structures thought to be for storage. The datable material suggested that it belonged in the Flavian period, probably during the governorship of Gn lulius Agricola (ibid 84) and connected with his campaigns in the north. The construction of the A69 also made it possible to examine a Roman camp at Bishop Rigg (see Fig 2) (Jobey 1979), but see above, Chapter 2, where this identification is doubted.
The rampart and ditches beneath the two compounds are the only defences that can be associated with the primary fort with any confidence. The rampart lying between two V -shaped ditches (the 'Outer' and the 'Sanitary') to the north and east of the site was considered by Forster and Knowles ( 1915,237 , followed by Salway 1965,57 ) to belong to the later town. However, its style of construction clay on a cobble foundation with kerbs - is more suggestive of a military character and it may belong in the Flavian period. It follows the course of the 'Outer' ditch and may therefore be associated with it. It is possible that other military sites may lie in the immediate locality, and this rampart and ditch system could form part of the southern defences of an irregularly-shaped fort lying to the north of the modern road, under Corchester Towers and the Corchester Playing Field. Moreover, the so-called north gate (ibid 58, following Forster and Knowles 1915, 239), appears to have been nothing more than rubble makeup beneath 'Dere Street' on a waterlogged part of the site (Forster and Knowles 1914, 236).

The primary fort: phase la
(Fig 69)
The fact that a new fort was built at Corbridge after the Red House base had been abandoned probably demonstrates the importance of Corbridge as a crossing point of the Tyne (Jones 1975, 46). When a fort site had to be replaced, it appears to have been a fairly common practice to move it to a new location that might be anything up to a few kilometres from its predecessor, perhaps exploiting another favourable site, or sometimes to avoid the drawbacks of the old one (ibid 48). The position chosen for the new fort at Corbridge was on the edge of the south-facing scarp of the river terrace, overlooking the later (Roman) bridging point.

When Forster was excavating at Corbridge before the First World War, he was certainly aware of the presence of a late first or very early second century military base, a view confirmed in his eyes by the discovery of a number of ditches, although rendered perplexing by their number and location. He wrote to Haverfield that he believed at least one fort to lie to the east of the excavated areas (in a letter dated 28th August 1914: 'the new area is certainly working out in favour of there having been, if not an early fort, at least an early settlement on that part of the site'), thinking that the two parallel north-south ditches belonged to its western defences.

Later, Richmond associated the rampart and ditches running from east to west beneath the later military compounds with the southern defences of an early, in his view Flavian, fort (Birley and Richmond 1938, 257). However, this view caused a number of problems if the fort was to be interpreted along standard lines. When Gillam dismissed the defences beneath the compounds, he saw no reason why the first phase establishment could not lie directly below the later forts and restored it accordingly in his paper on the forts (1977). Moreover, the large courtyard building located beneath the later principia could now also be suggested as having fulfilled a similar function.

Unfortunately, the evidence gives us good reason to suppose that the primary fort did not conform to its successors' plan or extent. First, Forster commented on the spread of early material (notably pottery and coins), and that it was heaviest to the east of the area currently exposed to view. This was one reason why he thought the primary fort must lie further to the east; in a letter to Haverfield of 26 September 1914, on a diagram of the area excavated that year, he noted 'all over the site dug in 1914 Trajanic pottery ( $90-110 \mathrm{AD}$ [sic]), not Agricolan - a little 29 , much $37^{\circ}$. Secondly, there was evidence of burning associated with early material in the areas explored in the pre-war campaigns (see Table 11). It is noteworthy that the hoard of coins which is thought to have a direct bearing on the date of the primary fort was found associated with a burnt deposit, but it should be remembered that it was found at a depth of only 0.51 m (20in) (Forster and Knowles 1915, 247-8) and not 'at a low level' as Gillam $(1977,56)$ stated. All of the other early material


$$
\Gamma_{-}^{h}
$$

Fig 69 Reconstructed plan of the primary fort. Phase la (scale 1:800)
comes from a depth of between 1.50 m and 2.10 m (5-7ft) below the pre-war surface, and in this area sub-soil was found some 1.22 m ( 4 ft ) down (Forster and Knowles 1915, 247).

## Table 11: Possible evidence for the primary fort from outside the Guardianship site

| Site | Evidence | Refs |
| :---: | :---: | :---: |
| 8 | Early pottery associated with post- |  |
|  | holes | 1,198 |
| 14 | Pit with early samian and pottery | 2, 227-8 |
| 21 | Pit with early samian | 2, 200-1 |
| 23E | Two rubbish pits, 3 ft deep. Early pottery and glass (RP1). RP2 reached | 3,245 |
|  | 18 ft in below surface as much as 23 ft 6in deep. Early pottery |  |
| 28 | Pit, 7 ft 6 in deep from surface and | 4,149 |
|  | 5 ft 6 in deep ( 13 ft to bottom |  |
| 32 | 'Bottom level' | 4, 152 |
| 36 | Clay and cobble foundation | 4, 158 |
| 36 |  | 4, 171-2 |
|  | Early pottery |  |
| 61 | South end. Pit, extending to 16 ft | 3,243 |
|  | below surface. Early pottery and coins. |  |
|  | Top of pit, 6 ft below surface, covered by clay |  |
| Earea | South end. At depth of only 20 in , | 3,247 |
|  | group of coins found together and | 8,250-4 |
|  |  |  |

## "References

1 Forster and Knowles 1911
2 Forster and Knowles 1910
3 Forster and Knowles 1915
4 Forster and Knowles 1912

## The plan

The 'hendquarters building' (Building a)
The phase I building beneath the later headquarters buildings was larger than its successors - some $31 \times 45 \mathrm{~m}$ in all probability, if it is assumed that a similar line was taken by the via principalis of both the primary and secondary forts. Previous reconstructions of this building have assumed it to be similar to the smaller principia at Pen Llystyn (Hogg 1969) and Fendoch (Richmond and Mclntyre 1939, 122-7), but not enough of it has been excavated to permit of any certainty. It is, at the same time, smaller by about 5 m in both breadth and presumed length than the headquarters building of Rottweil III (Planck 1975, 64), which would have had similar proportions if the estimated length for the Corbridge building is correct. However, nothing conclusively characteristic of a principia can be identified from the plans, particularly since the areas where the rear range might be located are either complicated by later activity and subsequent levelling (the north end of
the building) or unexplored (the rooms in the western half of the south range of Site 11).

If it is accepted that Building a was a principia, there does not appear to be any objective method of assessing which way the fort faced, unless it is assumed that it anticipated its successors and faced south, towards the river crossing (the presumed reason for its existence).

## The 'hospital' or store building (Building b)

The interpretation of this structure as a hospital is based on comparisons with legionary valetudinaria (Gillam and Tait 1971, 8; Richmond and Mclntyre 1939, 132-4). This was used by Davies (1970) to interpret the Corbridge Hoard in a medical context, but the Hoard has also suggested the function of the building as a workshop (Daniels 1968, 126; AllasonJones and Bishop 1988). More recently, comparison with store buildings in Rome and elsewhere led the excavators of Red House, finding that they had similar building, to propose storage as the chief purpose of structures of this plan (Hanson et al 1979. 78-9).

Other buildings of a similar nature are known from a number of sites, in both timber and stone (Hanson et al 1979, fig 24; Milne 1985, figs 43 and 44). A stone building of this type has been found at Corbridge (phase IV) to the west of the principia of the secondary fort (Richmond and Gillam 1952, 241-3 and fig 2; see below), whilst another such stone building existed at Rottweil, and formed part of the so-called mansio complex within the area of the former Kastell III (Rusch 1981, 75 and Gesamtplan). This structure, like its timber counterpart at Corbridge, has two of its walls extended, in this case to embrace a courtyard to one side. A larger version of this type of building, this time in timber, was found in Neuss, below building 53, which itself may be a later stone version of the earlier structure (Muller 1984, Abb 35).

Examination of Roman storage facilities in general shows that the phase I building at Corbridge shares many characteristics with them and, in the absence of conclusive evidence that it served as a hospital or workshop, its proximity to the phase I granary probably argues for its identification as a store building.

## The granary (building c)

It was indicated earlier (Chapter 3) that there is a great deal of uncertainty attached to the precise dimensions of the granary of the primary fort. Granaries based on ten, 18 , or even 21 parallel sleeper beam trenches have been suggested as possible in the available space. Various attempts have been made to estimate the capacities of granaries and one of the most recent (Manning 1975, 115-18) suggested a capacity of storing food supplies for a year for 984 men for the phase I granary at Corbridge. Taking the three alternative lengths outlined previously, Manning's formula can be used to suggest a holding capacity for yearly rations for 501,1030 , and 1230 men respectively for the granaries of the three possible lengths.

## Building d

To the west of Building a, Richmond (Richmond and Gillam 1953, fig 7) found elements of a building to the north of the later stone granaries. The presence of the granaries makes it unlikely that any more of this structure will ever be revealed, but if this is indeed part of the central range of the primary fort, then it is certainly one candidate for the practorium. No attempt at reconstruction has been made in Fig 69 for obvious reasons.

## Buildinge

North of Building d, beyond a narrow road (Richmond and Gillam 1953, fig 3) lay what has been seen as a barrack building. The evidence is, however, by no means conclusive. Whilst it would certainly be possible to reconstruct the identified fragments of this building in a number of ways, Fig 69 follows the traditional interpretation.

## Buildingf

This may in fact represent more than one building, but will be treated as one here. At the southernmost extremity is the large tank, north of which lies the long rectangular structure, oriented east-west. At the western end of this there is a similar structure, this time aligned north-south. Whilst these may be separate buildings, they could equally be parts of one large building.

## Building 8

East of the granary, two post-trenches of this period were located which must belong to another, otherwise undetected, building.

## Buildingh

The northernmost ditch of the early southern defences cut the remains of this structure, circumstantially associated with the la fort, and which was also covered by the rampart.

## Interpretation

The phase la remains at Corbridge appears to represent the central range of a fort that was broader than its successor, although its northern and southern limits are unkown. It will be clear from the discussion in Chapter 6 that some at least of the ditches to the north were early, although their precise relationship with the la fort is unknown. To the south, the scarp of the terrace will have limited the southernmost extent of the defences. It is possible that the Inner Ditch related to this phase, if the Outer Ditch belonged with the rampart immediately north of it; alternatively, the Sanitary Ditch may belong with the Ia fort. However, if the Inner Ditch were taken as the northern extent and suggests the
minimum area to the east included, then the phase la fort may have had an area of at least 5.2ha (13 acres) within the ramparts. If this were the case, then it will have fallen into an intermediate category of fortification size larger than the 'standard' auxiliary cohort-sized fort, but smaller than a legionary fortress (such establishments have tended to become known as 'vexillation fortresses' - Frere and St Joseph 1974, 6-7).

If the pair of ditches visible on aerial photographs (Fig 5.H) relate to this fort, then the area could be as great as 6.5 ha ( 16 acres) within the ramparts.

## The primary fort: phase Ib

(Fig 70)
There is a certain amount of evidence to indicate that the primary fort underwent some modifications during the course of its life. These include the possible replacement of some elements of the post-trench constructed corridor building ('the hospital') with sleeper beams. Elsewhere, completely new sleeper beam buildings replaced post-trench constructed ones of a different plan. However, the large 'headquarters' building and the barracks do not appear to show any signs of such changes.

If the remains of Building h formed part of the la fort, then it may well be that the defences beneath the later military compounds are to be associated with these alterations. The reduction in area of military establishments has been recognised at a number of sites and is usually thought to originate with a reduction in the size of the garrison. Obvious examples of this practice include Longthorpe (Frere and St Joseph 1974, 8) and Great Casterton (Todd 1973, 27). The optimum size of a fortification for a given number of men of various troop-types was recognized by Vegetius (Epit rei mil III,8) and 'Hyginus' (De mun castr, passim) and could have been the reason behind such reductions. It may be that the initiation of phase Ib marked a change in garrison, or possibly a reduction in the size of the original force.

All this begs the question of the nature of the garrison in this period. There are no clues as to the nature of the original garrisoning force at Corbridge, other than the possible association of the tombstone of Flavinus (RIB 1172) from Hexham with this phase. It has been argued that the unit to which the signifer belonged, the ala Petriana, did not receive the title 'civium Romanorum' or milliary status before AD 98 (Birley 1966, 56). This has been seen as suggesting a date in the Flavian period for the unit being at Corbridge, although it must be said that the association of Flavinus with the site at Corbridge is by no means certain.

The primary fort was finally dismantled and burnt, an act witnessed by many instances of charred timber and the characteristic and widespread layer of burnt daub and charcoal. There is no need to attribute its destruction to enemy action; the arguments for dismantling being standard military practice have been set out elsewhere (cf Hanson 1978, 302-5; Bishop 1986, 721-2).


Fig 70 Reconstructed plan of the primary fort. Phase Ib (scale 1:800)

## Buildingj

This structure was located in the section placed across the Stanegate by Richmond in 1938. Consisting of a north-south beam slot bordered by peg holes and crossed at right-angles by a further slot (Birley and Richmond 1938, fig 4), its method of construction resembles that of other buildings of phase Ib (such as Building k), as well as the peg holes located in 1909 (Forster and Knowles 1910, 215; Birley and Richmond 1938, 257). If this does represent a building immediately to the north of the phase lb south gate, then it is a curious position in which to place it.

## Buildingk

Located immediately to the south of Building b, part of which it appears to replace, the function of this building is unclear, although it is constructed using the beamslot and peg technique.

## Interpretation

The most obvious change to the la layout is the appearance of defences running across the southern part of the central area. If Building a is a principia, then these defences will have removed the presumed practentura, but a change in the function of this area of the fort may explain the appearance of Building $j$, in the middle of what may have been the via principalis.

The two ditches to the east may also belong to this reduction, since they contain late first century material and seem to meet the Inner Ditch at right angles. The identification of one of the rubbish pits found in 1907, RP5, as a pre-Hadrianic ditch (Richmond and Gillam 1952, 253-4) may well provide a western inner ditch for the reduced primary fort. If this was indeed so, then the phase Ib fort may have had an area of about 2ha ( 5 acres) within the ramparts. It may be noted that one of the possible ditches visible on aerial photographs to the southwest of the central area (Fig 5.B) appears to align with RP5.

## The secondary fort: phase II

(Fig 71)
Phase II marks the establishment of the secondary fort at Corbridge. Laid out as southward-facing, with an east-west dimension of 121 m ( 397 ft ) within the ramparts, this establishment more closely resembles traditional cohort forts. The north-south measurement is unknown, but there are indications (largely derived from aerial photography: Fig 5.A) that it should be something in the region of 220 m ( 740 ft ), giving a ratio of $1.8: 1$ for the fort shape and an area of around 2.7 ha ( 6.7 acres). If the so-called 'Stanegate system' (Breeze 1982, 68-72) was a strategic reality, then this fort may well have formed part of it, although the fact that it faced south, not north as might be expected for a 'defensive' fort, must not be overlooked.

As is the case with all phases of the secondary fort,
the central range has been explored in some detail. This is known to have consisted of the principia and two corridor buildings, one large and one small, that we may presume to have been used for storage. Little is known about the western half of the central range, since exploration beneath the later stone granaries has been severely limited, but Richmond recovered traces of a granary constructed on large free-standing posts (associated with beam slots).

The longer of the two storage buildings in the eastern half of the latera practorii may have been mirrored to the north of the presumed line of the via quintana, for one of the barrack blocks in the northern part of the courtyard of Site 11 does not appear to have any partitions associated with its northern half, although it must be stressed that the damage inflicted upon it by levelling in both Roman and modern times means that certainty is impossible.

At least three barrack blocks are known to the north-west of the central range, in the retentura. Unfortunately, since neither the number of contubernia nor the total length of the buildings is known, speculation on garrison size is rather unproductive.
The coincidence of the rare type of rampart construction occurring at both Corbridge and Rottweil raises the question of whether they had any other features in common. The Rottweil rampart had vertical turf walls bonded by timber strapping, with vertical supports sunk into the subsoil (Planck 1975, Beilage 5). It has already been noted that Richmond found large posts sunk through the rampart into the subsoil during excavations in Site 20 (above, Chapter 6).

Phase II certainly saw the first of the two phases of gate timbers attested for the eastern defences of the secondary fort, but the relationship between the timbers of the east and west gates is unclear (it will be remembered that those of the east gate are square in section, those to the west round). It is curious that the east and west gates do not appear to be on the same alignment, if the location plan of Richmond's trench (Gillam and Richmond 1959, fig 4) is accurate, so that there may have been a dog-leg in the via principalis of the secondary fort.

The burning of the primary fort meant that post-trenches belonging to the phase II fort usually contained burnt matter within their fill. In the areas investigated, the method of construction seems to have been exclusively by post-in-trench.

## The plan

## The principia (Building a)

The phase II principia measured 24 m by 37 m $(79 \mathrm{ft} \times 121 \mathrm{ft})$. It is possible that the aedes of phase II projected in a similar fashion to that of the later stone building, although there is no proof of this. Such a characteristic is paralleled at sites in Britain and on the continent. It has not yet been found in the (stone) Hadrianic phase of any of the main forts along Hadrian's Wall, but is known at Gelligaer (but in stone - Jarrett 1969, fig 85.5). Projecting timber ades,


Fig 71 Reconstructed plan of the secondary fort. Phase II (scale 1:800)
on the other hand, are rare, although periods 2 and 3 at Kunzing have this feature (Schonberger 1975, 42, 44 , and $A b b 9$ ), as does one of the two timber principia at Hofheim (Ritterling 1913, Abb 10).

## Building b

This, the smaller of the two corridor buildings to the east of the principia, may have been intended for storage. There is a close parallel, of the same period but constructed in stone, from Wiesbaden (Ritterling 1909, 31, Taf II, building a) and this is nearly identical in size. Another building of similar dimensions, with only one internal partition, is known from Fendoch (Richmond and McIntyre 1939, 137 and fig 2). Both of these are within the latera practorii of their respective forts. The possible association of this structure with the Corbridge Hoard has already been noted (see Allason-Jones and Bishop 1988).

## Building c

This may well be another type of store building, since it lies within the central range of the phase II fort. A similar structure existed at Pen Llystyn (Hogg 1969, fig 19), although without the unusually long rooms. It is worth noting that the Corbridge building might have been more complex than the simple row of rooms fronted by a corridor reconstructed here, although there is not much available room north of the presumed line of the via principulis on this side of the fort.

## The granaries (Building d)

Excavation to the north of the stone granaries in 1952 produced evidence of post-built granaries (Richmond and Gillam 1953, 220, fig 8; of Johnson 1983, 145). Given that only one side of the building, presumably orientated east-west, was located, it is difficult to say anything about the capacity of the phase II granaries. The area to the west of the principia could accommodate two equal granaries of $20.73 \times 17.07 \mathrm{~m}$ $(68 \times 56 \mathrm{ft})$ but it could equally have held the praetorium and one granary. Gillam $(1977,59)$ suggested that there may have been a building between the principia and the granaries, but no evidence of this is mentioned in the publication of the excavations beneath the aqueduct (Richmond and Gillam 1952, 241-3).

## The barracks (Buildings e-j)

Gillam (1977, 59-60) reconstructed the barracks of this phase as having ten contubernia each, but it has not been felt possible to follow this in the reconstruction offered here. The known partitions in Building e, for example, do not appear to have been regularly spaced. Thus, whilst it is possible to anticipate eight contubernia in this building, these will have had differing widths. Building i, on the other hand, seems to have regularly spaced partitions - in this case, if the lengths of the barrack buildings are taken as more or less constant, as many as eleven contubernia might be estimated. Clearly, there is little point in pursuing this exercise, given the impoverished state of our
knowledge of the barracks of this phase, but it does serve to warn against using Corbridge as an example of typical barrack accommodation (cf Johnson 1983, 173).

Building $k$
Located in 1956, this may represent part of one of the barrack blocks in the praetentura of this phase, but no estimates of length, breadth, or available accommodation are possible.

## The practorium

There are only two possible locations for the practorium in the central range, one being in the eastern half, to the east of Building $b$ and north of Building c, whilst the other would have been to the south of the granary in the western half. No evidence exists for either location, but the former area was not so completely devastated by later activity that at least some trace of the building would have survived (contra Gillam and Tait 1971, 16).

## The secondary fort: phase III

## (Fig 72)

The end of phase II did not see the complete destruction of the fort at Corbridge, since the defences probably remained in commission and the principia was left standing. If it is assumed that the change from phase II to phase III is synonymous with a change in garrison, then the new force may have occupied the old fort before beginning to change it, much as legio XI Claudia did when it occupied Vindonissa after XXI Rapax had left (Hartmann 1986, 74-5).

Within the central range, the principia was left largely unaltered. Certainly, the colonnade around the courtyard was renewed, but the main structural elements appear to have continued in use, although the addition of a stone aedes should belong to this phase. Even so, it was constructed around the timber framework of the phase II shrine. To the east, two granaries aligned east-west were inserted. No indication was found of loading platforms to the west of them, but there was ample space left for manoeuvring vehicles.

The barrack blocks were rebuilt to a new plan, probably reflecting the different accommodation needs of the new garrison, but not enough is known about these buildings to allow any speculation about the number of contubernia or the likely identity of their occupiers.

Where known, the method of construction, as with phase II, was post-in-trench. The fill of trenches, especially within the area of the courtyard of Site 11, was usually slightly less contaminated with destruction material from the primary fort than was the case with phase II, but it was not as clean as fill of the first period.

The end of phase III may have been associated with some limited burning, particularly at the west end of the granaries, but there is no evidence for wholesale destruction. The principia at least was probably left


Fig 72 Reconstructed plan of the scoondary fort. Phase III (scale 1:800)
standing when the phase III garrison abandoned the site, perhaps implying no gap between one unit leaving and the next arriving. It has been suggested (Gillam 1977, 63-4) that the phase III fort was abandoned fairly quickly after construction in favour of Halton Chesters. This assertion, usually associated with the suggestion of a 'caretaker garrison' seems mainly to derive from the notion that Hadrian's Wall would render full occupation of the site unnecessary (cf Richmond and Gillam 1952, 250-1; idem 1953, 234; idem 1955, 234). However, no evidence can be cited in favour of either case from either the coins or the pottery reports, but if the main concern of Corbridge really was the river crossing, then the Wall would be an irrelevance.

## The plan

## The principia (Building a)

The phase III principia was basically the same building as its immediate predecessor. It is not clear why the building should have been retained, unless it was because it was in a good enough state not to require replacing. However, the fact that a rapid change between the phase II and III garrison seems to be implied, may mean that it was impractical to demolish and then rebuild the principia which was, after all, central to the operation of the fort and its garrison.

## The granaries (Buildings band c)

Manning (1975, chart 4) has already considered the likely capacity of these granaries, but using the seventeen-trench form of the building; he concluded that together they could hold rations for 1044 man years of grain. Our slightly reduced granaries could hold rations for only 843 man years. Unloading was presumably accomplished at the western end, given the distance between these buildings and the contemporary principia.

## Building d

The published reconstruction of this building (Gillam and Tait 1971, fig 6; Gillam 1977, fig 4) cannot be substantiated from the excavated evidence. Comparison with structural remains that are visible in section suggests that many of the reconstructed elements ought to have survived in this area, had they originally existed. Some sort of storage building would probably be appropriate here, but the extent can only be guessed.

## The barracks (Buildings e-j)

Building $e$ is confused and difficult to rationalise, but Building f seems to hint at eight contubernia. Building i , on the other hand, to judge from the spacing of the recovered contubernia (and assuming it to mirror Buildings e and f), could have accommodated ten contubernia.

Building $k$
Like Building $k$ in phase II (see above), this probably represents a fragment of a barrack building in the practentura.

## The praetorium

It seems likely that the phase III practorium was situated to the west of the principia, although no traces have been recorded during the excavations under the aqueduct.

## The secondary fort: phase IV a

(Fig 73)
This phase saw the erection of the first complete buildings in stone within the secondary fort, although, as was the case in many forts on the Antonine limes in Germany and Raetia, probably only the buildings in the central range utilised stone, the barracks being of timber again. The prototypes of the twin stone granaries, oriented north-south, in the western latera practorii probably belong to this phase, if they are to be associated with the two inscriptions found re-used in their successors (RIB 1147-8; Birley 1936). These records imply construction work in AD 139/40 by legio II Augusta. They ought to refer to buildings in the central range, since they are monumental in nature, so the granaries seem reasonable candidates.

The principia was now constructed with stone footings, but the phase II/III building was apparently used as a model for the ground plan and the stone aedes was incorporated. A post-trench building, assumed to be the practorium, was added to the east and, to the south of that, a series of transverse stone walls may have marked the beginnings of another granary orientated east-west. This latter project was not completed however and a revised design begun.
Timber buildings of this phase seem to have been constructed using both post-in-trench and sleeper beam techniques, as well as the stone structures.

## The plan

## The principia (Building a)

In some places, the clay and cobble foundations of this building incorporated uprights from the phase II/III principia, suggesting that construction of the new, stone structure followed soon after the (presumably partial) demolition of its timber predecessor. Its ground-plan also follows that of the earlier building, although it seems to have been skewed slightly to the north-west.

## The 'praetorium' (Building b)

The fragmentary structure to the east of the principia is usually assumed to be the practorium of this phase, but once again, insufficient is known of its plan to enable anything useful to be said about it.


Fig 73 Reconstructed plan of the secondary fort. Phase IVa (scale 1:800)

## Building $c$

Apparently intended as a store building this structure underwent a number of changes in what must have been a comparatively short time. The reconstructed plan shows the initial stage in the sequence of activity here.

## Building d

Not enough is known about this building to allow anything to be said about its shape or size and it would be unwise to follow Gillam's (1977, 66) identification of it as an administrative block without more evidence from which to judge.

## The western granary (Building e)

Gillam hypothesised $(1977,67)$ that the IVa granaries may have been of timber, based on the evidence of stakeholes along the western side of the eastern granary (Richmond and Gillam 1950, pl XI). The stone building inscriptions (RIB 1147-8) would seem to cast doubt upon this interpretation and it may be that the stakeholes are associated with the first stone granaries. At the north end, what is presumably the foundation for a loading platform was identified (Richmond and Gillam 1952, 239-41). Gentry (1976, 71) suggested that these granaries may have been partially timbered structures. She also noted that the positions of the re-used inscriptions may have related to their original locations (over the entrances to the respective buildings). This would place construction of Building e in the latter part of AD 139 (if it was initiated upon Lollius Urbicus' arrival in that year).

## The eastern granary (Building f)

Only the west wall of this building is known and no loading platform has been located. Both this and Building e were constructed by legio II Augusta and this structure may belong to the first half of AD 140.

## Building g

This design of corridor building is familiar from the primary fort. It is probably a store building - the arguments against it being a hospital or workshop (or rather the lack of evidence for it having fulfilled either of these roles) having already been explored (see above). Reconstructed as having twenty rooms, it is only marginally larger than the earlier timber structure. There were a series of stakeholes along the sides of the stone walls (Richmond and Gillam 1952, 242-3) which were thought to relate to a particular method of plastering the building (loc cit).

## The barracks (Buildings h-m)

Only one barrack, Building h, is known in any detail, and even here no contubernium has had more than one partition recovered. It is possible to suggest eight contubernia on the basis of the presumed spacing of the partitions and the length of the structure.

## Building $n$

An Antonine timber barrack building was located by Richmond beneath the headquarters building of the East Compound (Richmond and Gillam 1950, 168 74), but this is the only accommodation in the practentura of the phase IVa fort which can be identified.

## The secondary fort: phase IVb

(Fig 74)
The relationship between phases IVa and IVb was not the same as that between phases Ia and Ib ; in fact, it was probably closer to that of phase II to phase III a large-scale restructuring of the site, whilst retaining certain elements of its predecessor.

This phase saw the replacement of the timber barracks of the previous garrison with stone footings. In the retentura, these only survive as clay and cobble foundations in a few places and have been almost completely removed by the levelling of Site 11. The structure now identified as the practorium was built in the eastern part of the central range.

The Antonine phases of the fort are particularly interesting, in that their combination of timber and stone construction parallels a number of sites on the German and Raetian limes, as well as (with the exceptions of Balmuildy and Castlecary) on the Antonine Wall (Hanson and Maxwell 1983, 86-93). It is certainly curious that Corbridge did not receive a complete rebuild in stone at some point, although this may be just one more indicator of the contiguity of occupation on the site, as much as changing fashions in fort design. Phase IVb, which has stone buildings and turf and timber defences, can be compared with the two Antonine forts at Birrens (Robertson 1975, 78-94).

An inscribed fragment (RIB 1132), possibly from a statue base, records the presence of legio VI Victrix under Iulius Verus (c 155-9) so this ought to belong in phase IVb.

## The plan

## The principia (Building a)

Richmond saw the different type of building stone used on the west wall, located in room 3 of the west range of Site 11, as being a later reconstruction of the phase IVa building completely in stone (Richmond and Gillam 1952, 244) and Gillam compared the style of construction with that of the 'Commanding Officer's House' $(1977,70)$.

## The praetorium ('Commanding Officer's House')

(Building b)
Despite its name and traditional identification, there is little to enable this building conclusively to be labelled as a practorium. There are certain similarities with other structures of this type, notably the Antonine practorium at Mumrills, where two comparable square rooms can be seen in the plan


Fig 74 Reconstructed plan of the secondary fort. Phasc IVb (scale 1:800)
(MacDonald and Curle 1929, 442-3, fig 35, rooms 5 and 7).

## The drain (c)

This feature, supposedly an east-west drain with sumps, is problematical. A drain of these dimensions, running well to the north of the line of the via principalis, seems unlikely and it may well be that an alternative explanation is called for. Gillam suggested that poor drainage resulting from the clay packing placed on top of the phase III granaries necessitated its construction (Gillam and Tait 1971, 25-6), but it is conceivable that the rubble-filled 'sumps' were intended as foundations for a colonnade fronting the abandoned store building (Building c of phase IVa) and that this was abandoned before completion. It is interesting, though not particularly informative, that human remains (a skull) were found in the most easterly located sump.

## The barracks (Buildings $d-f$ )

Only Building d survives to any extent, $g-i$ having apparently been completely removed by levelling. No two adjacent contubernia partitions survive, but it is possible to reconstruct eight contubernia on the meagre evidence of two intact partitions.

## Post-fort

In many ways, the succession of forts (with a few exceptions) imposed a readily identifiable sequence upon the archaeological record. The same is not true of the post-fort remains, however. The concentration on specific areas during the campaign of excavations, notably Site 11 and Temple $3 /$ Site 44, without attempting to link them (the only trench across the 'Stanegate' in recent times was that opened by Richmond before the Second World War - Birley and Richmond 1938, figs 3 and 4). Thus the absence of any knowledge of the inter-relationship of excavated areas poses acute problems in the post-fort phases, when there is no unifying sequence.

Prime amongst these is the question of the destruction level or levels so frequently discussed. There was often an element of confusion in the excavation records over the identification of 'destruction' levels, many occurrences of charcoalrich layers being termed 'industrial'. It must be stressed that the highly ambiguous nature of much of the excavation documentation has made it impossible to establish either the true nature of these deposits or whether they are all the result of the same event.

Inscriptions record the presence of a legionary vexillation (RIB 1149: legio XX Valeria Victrix) under Calpurnius Agricola, carrying out construction work in the latter part of 163, whilst legio VI Victrix was present at some point between 162-8 (RIB 1137). The inscribed pediment from the fountain may be taken to indicate military involvement in its construction (RIB 1164-5), and presumably at least one of the new stone granaries (Brassington 1975, 74-5). Another
stone (RIB 1128) has been restored so as to name cohors I Fidae Vardullorum, dating to AD 161-9 at the earliest; Gillam (1977, 72) attempted to fit the presence of this unit within the occupancy of phase IVb, but this is by no means certain.

Simpson has made a strong case for dating the termination of construction of Site 11 around AD 163 (1974, 332) but the fact that the whole area later occupied by that building was covered by a sequence consisting of lime (or mortar?), compacted gravel, and then traces of charcoal-rich contexts in some parts adds a new dimension to this phase of the site. This may well have been done by way of preparation for the new monumental structure, once the site had been levelled, but this is not clear from the evidence.

Evidence for industrial activity in the first post-fort phase is widespread: ovens and hearths on Site 9, with timber structures associated with them, are paralleled on Site 20, whilst the charcoal-rich deposits on Site 44 may also belong in this context. A timber structure was inserted above the Antonine barrack building immediately north of the twin granaries and this too was associated with a hearth. We may wonder if this activity is to be connected with the re-use of the ades of the principia, with its huts and further evidence for industrial processes.

The post-fort activity attested by the post-war excavations raises many questions: given the abandonment of the Antonine fort in the middle of the second century, what was the nature of the subsequent military presence recorded by inscriptions? Industrial activity is in evidence at several points, so was this associated in some way with the construction of a new project (which included Site 11)? If so, what was the nature of this project?

## Severan and later

It is apparent from the pottery that little of this period was left untouched by the time the post-war series of excavations were undertaken. The levelling of Site 11 in the 1930s is reflected in the sections within the courtyard, where there appears to be little, if anything, later than the second century.

On Site 9, a stone strip-building replaced the earlier industrial activity; this is one of the few areas excavated in recent years to have produced evidence later than the beginning of the third century, so is potentially very important in any exploration of the continuity of settlement at Corbridge. In fact, since the two compounds and Site 11 occupy the bulk of the central area, Site 9 is the only representative of the many structures visible on the air photographs (see Fig 5) which has been examined using modern techniques, although Forster and Knowles explored a number of similar sites (including Site 9 itself) before the First World War (Fig 3). It is important to remember that the Corbridge we see now, and that explored by the recent programme of excavations, is not necessarily a representative sample of the original ancient site.

## The dating of the phases

The dating of the phases used here has not altered substantially since Gillam's (1977) interim consideration of the forts at Corbridge. The fort phasing, the dates normally associated with these phases, and the evidence for them is set out in Table 12.

Table 12: The evidence for the dating of the fort at Corbridge

| Phase la c86- | Earliest date suggested by a) the 'retreat decision' (Frere 1978, 137 with note 20 and b) the samian vessel (below Chapter 11) from the post-trench of the building beneath Site 11 . |
| :---: | :---: |
| Phase Ib $-c 103$ | Terminal date deduced from burnt hoard of coins of 1914 and a single find (Gillam 1977, 56). |
| Phase II c 105-c22 | The earliest date derives from a coin found under the east rampart on Site 20 (Richmond and Gillam 1955, 230-1). |
| Phase III c 122-39 | Circumstantially associated with the first phase of Hadrian's Wall |
| Phase IVa 139-c58 | Rebuilt in stone, associated with first phase of Antonine Wall. Building inscriptions provide construction dates of 139-40 (RIB 1147-48 |
| Phase IVb c 158-c63 | Second phase of activity on Antonine Wall itself suggests date of beginning of phase; terminal date possibly suggested by inscription of Calpurnius Agricola (RIB 1149). |

The one difference between this scheme and that offered by Gillam and others is that there does not appear to be any evidence for the postulated transferral to Halton Chesters (contra Gillam 1977, 63-4). Any notions of a 'caretaker garrison' or the like are unsubstantiated and, to all intents and purposes, the transition between phases III and IVa is like those for II/III and IVa/IVb; there is no reason to doubt continuity.

Phasing the post-fort remains is more difficult: since there is no way of relating these across the various areas investigated, this must be done in relative (rather than absolute) terms. Thus, on Site 11, there are seemingly two clear phases following
the demolition of the fort - one marked by the deposition of the lime and hard-packed gravel, and the other indicated by the 'mason's chippings'. It has always been assumed that these 'chippings' were associated with the construction of Site 11 itself, but since they occur elsewhere at Corbridge, they are more likely simply to be indicative of stoneworking on site. It would therefore be unwise to link all ocurrences of chippings with the construction of that one central building.

## Conclusions

Even though excavations were carried out continually from 1947 to 1973, our knowledge of Roman Corbridge is still sadly deficient. The chronological framework remains substantially unchanged and is largely dependent upon various historical 'pegs' in the story of the occupation of northern Britain. Inevitably, the fort at Corbridge has been viewed as affected by, if not actually part of, the frontier systems of Hadrian's and the Antonine Walls, as well as with the earlier 'system' associated with the Stanegate. It seems clear that the site at Corbridge was a nodal point in Roman military thinking, but it is important to recall that other considerations, most notably the crossing point of the Tyne, may have played their part in making the site so desirable.

A number of military bases are now known in the immediate vicinity and the primary and secondary forts at Corbridge must be viewed in the context of Roman occupation of this important area. It is likely that guarding the river crossing remained an important aspect of the function of Corbridge during the later first and early second centuries, but the abandonment of the secondary fort at some point around the middle of the second century AD implies that Roman perceptions of their strategic needs had changed. It is evident, however, that although the fort is demolished, a military presence is maintained and construction work undertaken. If the construction of Site 11 is to be associated with this post-fort phase, then the function of Corbridge had certainly altered radically. Regardless of whether it was a store-building, legionary principia, or forum, the heterodox nature of this structure underlines this change. The various burnt deposits thought to date to around this time may have been due to barbarian incursion and hostile action, but could equally well be put down to any one of a number of other, less dramatic reasons.

The construction of the compounds at Corbridge seems to have been a continuation of a new, changed role for the site and marks a transition, still imperfectly understood, to the large civilian settlement which is evident from the excavations before the First World War excavations and the results of aerial photography. Unfortunately, this later phase in the life of Roman Corbridge was only occasionally glimpsed in the more recent campaign of excavations, it being abundantly clear that stratified material from the third and fourth centuries was removed in many places during the early excavations and consolidation within the central area. Moreover, the evidence of air
photography (see above, Chapter 2 ) would seem to indicate that plough damage may have achieved much the same effect over an even greater portion of the site. This is particularly unfortunate, in the light of the indications that the settlement appears to have flourished in the latter part of the Roman period. This would suggest that those areas of the site now under pasture are of the greatest archaeological value and potentially of great importance in any future understanding of the later history of Roman Corbridge.

## 9 The coins

## by PJ Casey

The coins in this catalogue are presented so that reference can be made to them in a number of ways:
1 Coins by issuer. This list presents the formal numismatic catalogue of the finds. These items have been recovered from the site records by running a computer comparison between items listed in the excavation records and the catalogue of more than 8000 coins recovered from the site since excavations began in the first decade of the century. A copy of the complete site catalogue is deposited in Corbridge Museum, in the Department of Archaeology at the University of Newcastle upon Tyne, and with English Heritage in London. The number assigned to each coin is that which it bears in the site catalogue. Details about the find locations, as recorded in the site books, are also included. Normally the condition of the individual coins would be recorded, but, because of the circumstances of the compilation of this report from the site catalogue, this has not been possible.
2 Index to location. This lists the contexts of the coins by reference to numbered sites and to other contexts established during the course of the excavations.
31980 site finds. These have been treated separately from the main catalogue. They are listed by issuer and present stratigraphical details including the finds group and context number. The condition of wear has been noted, the conventions used being:
$\mathrm{UW}=$ Unworn. No sign of circulation wear
$\mathrm{SW}=$ Slightly worn. Some abrasion of the highest elements of the coin
$\mathrm{W}=$ Worn. Considerable abrasion of the highest parts of the coin
$\mathrm{VW}=$ Very worn. Detail flattened and the legends abraded
EW = Extremely worn. Details of design and legends reduced to shadows or removed entirely
$\mathrm{C}=$ Corroded
$\mathrm{NSU}=$ Not struck up
It should be noted that the assessment of condition is a subjective judgement and has no absolute chronological significance.

## Cataloguing conventions

1 Single quotation marks around the name of an issuer indicates that the coin is a counterfeit or copy issued in this name.
2 In dating copies a plus sign ( + ) indicates an uncertain date of issue after the prototype was issued. In terms of current numismatic opinion radiate copies ( $273+$ ) can be assigned to the years 273-86. Constantinian copies ( $330+$ ) were produced in the period 341-6 during an hiatus in the regular coin supply.
3 Mints. Coins issued after 286 normally bear a
mintmark. The mints represented in this catalogue are abbreviated as follows: AR - Arles, LG Lugdunum, TR - Trier.

All coins down to the issues of 330 are catalogued by reference to Mattingly and Sydenham (1923-67). Post-330 issues are catalogued by reference to Carson ef al (1960). The two parts of this work are further designated HK (part 1) and CK (part 2).

## Discussion

The coins from the excavations of 1947-73 are only a fraction of the $8000+$ coins which have been found at Corbridge. Most of the finds survive and comment is based upon the site record as a whole.

The overall picture of numismatic activity demonstrates that Corbridge, in common with other military sites reflects the relative wealth of the garrisons in comparison to slowly evolving civil sites in the first and second centuries. This is reflected in a coin loss pattern which is strong in early imperial aes and silver issues. In contrast civil sites are normally weakly represented in this period. However, Corbridge shows a reversal of the expected trend in the fourth century, and perhaps earlier, with a pattern of coin losses which is exactly similar to that of mature towns elsewhere in Britain. It is not possible with confidence to say, on numismatic grounds, how far back the change in function and status of the site implied by the coin pattern can be extended. The problem is that it is only when the effects of the annona militaris on the pay structure of the army comes into operation that a change in deposit patterns in forts allows a military/civilian functional contrast to be established. The relatively slight representation of fourth century coinage in the present list is the result of clearance of the upper site levels in earlier excavation campaigns as well as of the strategy of seeking information from earlier deposits pursued by more recent excavators. It is not characteristic of the site as a whole.

The longevity of the first and second century coinage in currency use makes it an imperfect tool, by itself, with which to speculate about occupation or garrison patterns. The decline in production, or supply, of bronze and copper coinage which starts in the middle of the reign of Antoninus Pius and which deprives Britain of virtually all base metal coinage after the reign of Commodus, ensures that the very abundant issues of the Flavians, especially asses, and of Trajan and Hadrian, especially sestertii, had a life which extended into the middle of the third century. The condition of these coins at Corbridge, where overwhelmingly specimens are very worn, emphasises this point.

Normally base metal coins remained in circulation in the place of their initial deposit (Kraay 1956) but with the changing pattern of garrisons associated with movements on the frontiers we would expect that a good deal of transportation of even small denomination coinage took place into and out of individual military sites. It would be improper, in these circumstances, to use the coins of individual reigns as an index of site activity representative of the period of the issue of the coins since we may very
well not have a true fossilised record of the coin resident on the site in that period and which has been redistributed into the generalised coin population of the site through later periods of its use. The poor coin records of the frontier area forts do not yet permit the statistically valid inter-site comparisons which are needed to derive the sort of information discussed above.

A striking feature of the present list, of the Corbridge coinage as a whole, and of deposits associated with other military sites, is the high representation of Severan silver. The phenomenon of large numbers of valuable coins becoming available for loss indicates that a very large volume of such coinage must have been in circulation. This probably reflects high prevailing commodity prices in Britain as well as the pay rises granted to the army by Severus and Caracalla. The subsequent debasement of the silver coinage and concomitant withdrawal of earlier, less base, issues in the middle of the third century probably means that the Severan losses actually took place quite soon after the coins entered circulation and certainly in the first quarter of the third century. A number of Severan coins from Corbridge emanate from eastern mints, especially Laodicaea ad Mare, which may indicate that troops
who had served in the east were transferred to Britain after the defeat of Albinus or were brought west to serve in the later Severan campaigns in the north.

The two hoards found in the post-war excavations raises to four the number of second century hoards from the site. Two of these hoards are, ostensibly, of Hadrianic date and two are of the reign of Antoninus Pius. Lest it be thought that these hoards can be associated with specific events attested by historical sources, it is worth pointing out that they are all of disparate terminal dates. Hoard 11 (this report) terminates with an unworn coin of Hadrian dating to 119-22. The Hadrianic hoard found in 1911 on Site 28 (Hoard 10) ended with an issue of 125-8 which suggests that Hadrianic activity continued into the period when forts had already been established on the Wall itself.

Of the Antonine hoards the cache of 160 aurci recovered from Site 29 (Hoard 5) closed with an unworn coin issued in 158/9. The date of the closing coin of Hoard 7 of the present report is given by RIC as 145-61, conservatively dating the issue only within the period of Pius' fourth consulship. On the basis of hoard evidence a date of 147 has been advanced for this issue by other authorities (Strack 1937).

## Table 13: Corbridge coins, 1947-73: coin list by issuer and period

Record numbers refer to the full catalogue for the site


Table 13 continued

| No | Isswer | Denomination | Type | $R i f$ | Date |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 114 | Vespasian | As | Illeg |  | 69-79 |
| 129 | Vespasian | Denarins | Illeg |  | 69-79 |
| 131 | Vespasian | Dupondius | Illeg |  | 69-79 |
| 132 | Vespasian | Dupondius | Fleg |  | 69-79 |
| 133 | Vespasian | Dupondius | Illeg |  | 69-79 |
| 135 | Vespasian | Denaries | \#leg |  | 69-79 |
| 137 | Vespasian | Dupondins | Illeg |  | 69-79 |
| 139 | Vespasian | Dupondins | Eleg |  | 69-79 |
| 171 | Vespasian | As | Illeg |  | 69-79 |
| 182 | Vespasian | As | Eleg |  | 69-79 |
| 184 | Vespasian | Denarius | Obv IMP CAES AVG (retrograde) Rev__TR P COS PP (Fem fig std D) |  | 69-79 |
| 187 | Vespasian | As | Ileg |  | 69-79 |
| 187a | Vespasian | As | Illeg |  | 69-79 |
| 203 | Vespasian/Titus | As | Illeg |  | 69-81 |
| 209 | Vespasian/Titus | As | Illeg |  | 69-81 |
| 213 | Vespasian | Aurews | Oby IMP CAES VESP AVG PM COS UW Rev VIC AVG | 51 | 72-3 |
| 258 | Titus | Sestertius | Illeg |  | 79-81 |
| 296 | Domitian | As | Hleg |  | 81-96 |
| 297 | Domitian | As | Illeg |  | 81-96 |
| 298 | Domitian | Dupondins/As | Fleg |  | 81-96 |
| 303 | Domitian | As | Illeg |  | 81-96 |
| 304 | Domitian | Sestertius | llieg |  | 81-96 |
| 309 | Domitian | As | Illeg |  | 81-96 |
| 316 | Domitian | Sestertius | Illeg |  | 81-96 |
| 318 | Domitian | Sesfertias | Illeg |  | 81-96 |
| 319 | Domitian | Dupondius | Otrv Illeg <br> Rev FORTVNAE AVGVSTI SC |  | 81-96 |
| 328 | Domitian | As | 1 lleg |  | 81-96 |
| 344 | Domitian | As | Heg |  | 81-96 |
| No | Find locatiow and |  | No | Find location and date |  |
| 114 | Site 12, 1968 |  | 209 | T3, Temple 3, 1967 |  |
| 129 | Site 7, EGranary |  | 213 | Site 11, Below lay. cobbles, d 4'W side clay, 1970 |  |
| 131 | Site 59 E?, EGate |  | 258 | Site 11, 1988 |  |
| 132 | Site 4, 1948 |  | 296 | Site 11, 1959 |  |
| 133 | Site 70, E-W Road |  | $297$ | Site 20, 1949 |  |
| 135 | Site 7/10, N of Gr | $\text { es, } 1948$ | $298$ | T3, Temple 3, 1967 |  |
| 137 | Site 11, Topsoil, |  | $303$ | Site 40? Trench Nof workshop 1 and 2, 1947 |  |
| 139 | Site 11, S Range R | 1966 | 304 | Site 12, 1947 |  |
| 171 | Site 10, W Granary | $48$ | $309$ | Nend of box aqueduct, 1948 |  |
| 182 | $\text { 'Tip', } 1947$ |  | 316 | Site 11, Chamber E2 topsoil. AF70, 1970 |  |
| 184 | Site 11, E of, 1950 |  | $318$ | Site 7/10, N of granaries, 1947 |  |
| 187 | Site 11, 1956. NM |  | $319$ | Site 12, Baulk W $1 / 2,1968$ |  |
| 187A | Site 4, AZ76, 1976 |  | $328$ | Site 7/10, granaries, 1948 |  |
| 203 | 12B, 1948 |  | $334$ | Site 12, N of, 1947 |  |

## Table 13 continued

| No | Isswer | Denomination | Type | Ref? | Date |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 344 | Domitian | Dupoudins | Illeg |  | 81-96 |
| 358 | Domitian | Sestertius | Illeg |  | $81-96$ |
| 378 | Domitian | Dupondins | Obv Illeg <br> Rev FORTVNAE AVGVSTISC |  | 81-96 |
| 380 | Domitian | Denarims | Illeg |  | $81-96$ |
| 384 | Domitian | As | Eleg |  | 81-96 |
| 398 | Domitian | As | Obv Illeg <br> Rev FIDEI PVBLICAESC | 325 | 86 |
| 414 | Domitian | As | Obv Illeg <br> Rev FORTVNAE AVGVSTISC | 394 | 90-1 |
| 421 | Domitian | Denarims | Obv IMP CAES DOMIT AVG GERM PM TRP XMII Rev IMP XXIII COS XVI CENS PPP | 180 | $93-4$ |
| 432 | Nerva | As | ObV IMP NERVA CAES AVG PM TRP. Rev CONCORDUA EXERCITVM | as 53 | 96-7 |
| 437 | Nerva | Dupondius | Illeg |  | $96-8$ |
| 438 | Nerva | Dupondius | Obv Illeg <br> Rev (Fortuna std I holding cornucopiae) |  | $96-8$ |
| 443 | Nerva | As | Obv_cos mPP <br> Rev FORTVNA AVGVST SC | 83 | \%-8 |
| 450 | Nerva | Dupondins | Obv IMP NERVA CAES AVG PM TRP. Rev UBERTAS PVBUCA - SC | as 65 | 9-8 |
| 461 | Nerva | Denarins | Obv IMP NERVA CAES AVG PM TRP COS m PP Rev CONCORDLA EXERCTTVM | 15 | 97 |
| 478 | Trajan | Denarius | Obv IMP TRALANO AVG GER DAC PM TRP COS V PP Rev SPQR OPTIMO PRINCIPI | 202 | 103-4 |
| 485 | Trajan | Dupondins | Obv [iMP CAES NERVAE TRALANO AVG GER DAC PM TRP COS V PP] Rev SPQR OPTMMO PRINCIPI - SC | 531 | 103-11 |
| 487 | Trajan | Sestertias | Obv IMP CAES NERVAE TRAIANO AVG GER DAC PM TRP COS V PP Rev SPQR OPTMMO PRINCIPI SC | 534 | 103-11 |
| 500 | Trajan | Denarius | Obv IMP TRUANO AVG GER DAC PM TRP COS V PP Rev SPQR OPTMMO PRINCIPI (Virtus I) | 202 | 103-11 |
| 515 | Trajan | As | Obv IMP CAES NERVAE TRAIANO AVG GER DAC PM TRP COS VPP Rev SPQR OPTMMO PRINCIPI - SC | 497 | 103-11 |
| 554 | Trajan | As | Otrv Illeg <br> Rev SPQR OPTIMO PRINCIPISC | 545 | 103-11 |
| 597 | Trajan | Sestertias | IIleg |  | 98-117 |
| 603 | Trajan | Sestertios | Illeg |  | 98-117 |


| No | Find location and date | No | Find location and date |
| :---: | :---: | :---: | :---: |
| 344 | Site 12C, 1947 | 443 | Site 4W, 1961 |
| 358 | Site 11, Spoil heap, 1968 | 450 | Site 12, 1947 |
| 378 | Site 4W, 1961 | 461 | Site 11, South Range Rm 6 NW Sq, 1967 |
| 380 | Site 11, 1959 | 478 | Site 11, HQ. T6, 1967 |
| 384 | Site T1, Temple 1, 1947 | 485 | Site 12, 1947 |
| 398 | Site 11, 1958 | 487 | Site 12, W 5, 1968 |
| 414 | Site 12B, 1947 | 500 | Site 39, N of. (27) Burning. NW corner, CO70, 1970 |
| 421 | T3, Temple 3, 1967 | 515 | Site 11, Trench W of 11, topsoil, 1947 |
| 432 | East Gate, 1966 | 554 | Nolocation, 1960 |
| 437 | Site 11, 1961 | 597 | Site 12, 1947 |
| 438 | Site 4, 1961 | 603 | Site 20, 1949 |

Table 13 continued


Table 13 continued

| No | Issuct | Denomination | Type | Ref | Date |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 782 | Hadrian | Sestertius | Obv IMP TRALANVS HADRIANVS. <br> Rev Illeg |  | 117-38 |
| 784 | Hadrian | Dupondius | Illeg |  | 117-38 |
| 803 | Hadrian | As | tlleg |  | 117-38 |
| 809 | Hadrian | Sestertins | Illeg |  | 117-38 |
| 812 | Hadrian | Denariss | Obv Illeg <br> Rev (Reclining river figure) |  | 117-38 |
| 821 | Hadrian | Dupondizs | Illeg |  | 117-38 |
| 825 | Hadrian | As | tlleg |  | 117-38 |
| 865 | Hadrian | Sestertius | 目eg |  | 117-38 |
| 876 | Hadrian | As | Illeg |  | 117-38 |
| 887 | Hadrian | Sestertins | Hleg |  | 117-38 |
| 887a | Hadrian | As/Duponftus | 罒eg |  | 117-38 |
| 901 | Hadrian | Dupondius | Obv IMP CAES TRAIANVS HADRUANVS AVG PM TRP COS m Rev VIRTVTI AVGVSTISC | 605 | 119-21 |
| 933 | Hadrian | Denarics | Obv HADRIANVS AVGVSTVS <br> Rev COS II | 154 | 125-8 |
| 954 | Hadrian | Sestertins | Obv HADRLANVS AVGVSTVS <br> Rev FELICITATI AYG COS WPP SC | 706 | 132-4 |
| 957 | Hadrian | Denarius | Obv HADRIANVS AVG COS II PP Rev FELICITAS AVG | 233 | 134-8 |
| 1006 | Sabina | As | Illeg | Hadrian- | 136-8 |
| 1087 | Antoninus Pius | As | Obv ANTONINVS AVG PIVS PP Rev TR POT COS IISC | 698 | 140-4 |
| 1120 | Antoninus Pius | Denarius | Obv ANTONINVS AVG PVS PP TRP XVI <br> Rev COS 뻬 | 222 | 152-3 |
| 1141 | Antoninus Pius | Dupondius | Obv ANTONINVS AVG PIVS PP TRP XVII Rev LIBERTAS COS IW - SC | 933 | 154-5 |
| 1178 | Faustina I (Ant Pius) | Sestertius | Illeg |  | 138-61 |
| 1182 | Faustina I (Ant Pius) | Sestertius | Illeg |  | 138-61 |
| 1227 | Faustina I <br> (Ant Pius) | Denarius | Obv DIVA FAVSTINA <br> Rev AETERNITAS SC | $\begin{gathered} \text { (A Pius) } \\ 1155 \end{gathered}$ | 141-61 |
| 1232 | Faustina I <br> (Ant Pius) | Denarius | Illeg |  | 141-61 |


| No | Find locatiow and dete |
| :--- | :--- |
| 782 | Site 11 W Range, Room 8, 1959 |
| 784 | Nend boxaqueduct, 1948 |
| 803 | Site 12A Heap, 1947 |
| 809 | Nend of boxaqueduct, 1948 |
| 812 | Site 11, 1958 |
| 821 | Nend boxaqueduct, 1948 |
| 825 | W compound, 1962 |
| 865 | T1, Temple 1, 1947 |
| 876 | Lover rev Staneg SW comer 11, 1947 |
| 887 | Site 7, Nof E Granary, 1949 |
| 887 A | Site 4, BD76, 1976 |

No Find location and date
901 Site 11, Foundations 1956 N M of Ants
933 Site11ERange E. DQ53, 1953
954 T3, Temple 3Sq. B3, 1967
957 Site 44, DY53, 1953
1006 Site 10, W of W Granary, 1948
1087 Site 4, 1948
1120 Site 20, Trench IB, 1954
1141 Site 11 ERange E, CU53, 1953
1178 Site 10, W of W Granary, 1948
1182 Site 74, N end box aqueduct, 1948
1227 Site 11, C553, 1953
1232 Site 20, Trench IB, below 2nd burnt lay BD, 1954

Table 13 continued

| No | Isswer | Denowination | Type | Rtf | Dute |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1234 | Faustina I <br> (Ant Pius) | Sestertius | Obv dIVA FAVSTINA Rev Illeg |  | 141-61 |
| 1257 | Faustina II (Ant Pius) | As | Obv FAVSTINA AVG ANTONINV AVG PWF Rev Illeg | (A Pius)- | 161 |
| 1293 | M Aurelius | Denarius | Illeg |  | 161-80 |
| 1416 | Septimius Severus | Denarlus | Itleg |  | 193-211 |
| 1426 | Septimius Severus | Denarius | Illeg |  | 193-211 |
| 1435 | Septimius Severus | Denarius | Obv IMP CAE L SEP SEV PERT AVG COSI Rev SPQR OPTIMO PFINCIF | 415 | 194-5 |
| 1479 | Julia Domna | Denariss | Illeg |  | 193-217 |
| 1482 | Julia Domna | Demarius | Illeg |  | 193-217 |
| 1519 | Caracalla | Demarins | Obv Illeg <br> Rev FELKCITAS AVGG | 127 | 210-6 |
| 1543 | Geta | Demarins | Illeg |  | 198-210 |
| 1544 | Geta | Demarins | Obv P SEPT GETA CAES PONT Rev Illeg |  | 198-210 |
| 1549 | Geta | Derarius | Obv P SEPT GETA CAES PONT <br> Rev felucitas pvbuca | 9a | 200-2 |
| 1550 | Geta | Denarims | Obv P SEPT GETA CAESAR PONT <br> Rev SECVITT IMPERII | 20 | 200-22 |
| 1562 | Elagabalus | Denarias | Obv IMP CAES M AVR ANTONINVS AVG Rev SALVS ANTONINI AVG | 140 | 218-22 |
| 1613 | Severus Alexander | Denarius | Obv IMP C AVR SEV ALEXAND AVG Rev PM TRP VI COS $\\|$ PP | 61 | 227 |
| 1674 | Gallienus (Joint reign) | Antonimianus | Obv IMP GALLENVS PFAVG <br> Rev VICTORLA GERM | 175 | 257-8 |
| $1677$ | Gallienus (Sole reign) | Anfoninianus | Obv llleg <br> Rev PAXAVG |  | 253-68 |
| 1750 | Gallienus | Antoximianxs | Obv GALLIENVS AVG Rev VBERITASAVG | 287var | 258-68 |
| 1787 | Gallienus | Antowinianss | Obv GALLIENVS AVG <br> Rev dIANAE CONS AVG | 182 | 258-68 |
| 1861 | Gallienus | Antominamas | Obv GALLIENVS AVG <br> Rev AEQVITASAVG | 159 | 258-68 |
| 1888 | Gallienus | Anforimians | llleg |  | 258-68 |
| 1938 | Gallienus | Anfonimians | 回eg |  | 258-68 |
| 2033 | Claudius II | Antoninianus | Obv IMP CLAVDIVSAVG <br> Rev FIDES MUTVM | 38 | 268-70 |

No Find location and date

1234 Site 7/10N, of Granaries, 1947
1257 Site 20 Trench IB, 1954
1293 Site 11, SESqRm6, 1967
1416 Site 10, W of W Granary, 1948
1426 ?, 1949
1435 ? 1949
1479 Nolocation, 1949
1482 Site 10, W of W Granary, 1948
1519 Nolocation, 1949
1543 Nolocation, 1949
1544 ?, 1949

Table 13 continued


Table 13 continued

| No | Issucr | Demomination | Typx | Ref | Date |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3052 | Tetricus 1 | Antominiamus | Illeg |  | 270-3 |
| 3054 | Tetricus I | Antoniniamus | Obv llleg <br> Rev HMLARTASAVG | 7981 | 270-3 |
| 3149 | Tetricus I | Antoninismus | Illeg |  | 270-3 |
| 3252 | Tetricus F | Antoniniamus | Obv Illeg <br> Rev salvsayg | 121/4 | $273+$ |
| 3274 | Tetricus F | Antoxiniamus | Obv ..TET_ <br> Rev (Victory adv I) |  | $273+$ |
| 3396 | Tetricus II | Antoviniamus | Illeg |  | 270-3 |
| 3423 | Tetricus II | Antoniniamus | Obv IMP TETRUCVS. <br> Rev Illeg |  | 270-3 |
| 3443 | Tetricus | Antoxiniamus | Illeg |  | 270-3 |
| 3509 | Tetricus II | Antoniniamus | Obv CPV ESV TETAUCVS CAES Rev SPES PVBLCA | 272 | 270-3 |
| 3540 | Tetricus II' | Antoniniamus | llleg |  | $273+$ |
| 3605 | Radiate copy | Antominimms | lileg |  | $273+$ |
| 3759 | Radiate copy | Antominiarnas | Illeg |  | $273+$ |
| 3660 | Radiate copy | Antominianus | Illeg |  | $273+$ |
| 3692 | Radiate copy | Antominiames | llieg |  | $273+$ |
| 3961 | Radiate copy | Antominiamas | llieg |  | $273+$ |
| 3979 | Radiate copy | Antoriniamas | Obv Illeg <br> Rev (Fortuna with rudder in I hd standing I) |  | $273+$ |
| 4069 | Probus | 'Aurclianus' | Obv IMP C PNOBVS PFAVG Rev Illeg |  | 276-82 |
| 4153 | Carausius | 'Aurclarms' | Illeg |  | 286-93 |
| 4157 | Carausius | 'Aurchanas' | Hileg |  | 286-93 |
| $4256$ | Constantius I. Caes | Mint: Lg | Obv CONSTANTVY NOB CAES <br> Rev GENIO POPV.UROMANI | $\stackrel{\text { as }}{\text { 6LG39a }}$ | 298-305 |
| 4566 | Constantine I |  | Obv VRAS ROMA <br> Rev (Wolf and twins) | as HK51 | 330-5 |
| 4573 | Constantine I |  | Otrv VRBS ROMA <br> Rev (Wolf and twins) | as HK51 | 330-5 |
| 4670 | Constantine I | Mint Tr | Otv URBS ROMA <br> Rev (Wolf and twins) | HK51 | 330-5 |
| 4815 | Constantine I |  | Obv CONSTANTINOPOUS <br> Rev (Victory on prow) |  | 330-5 |


| No | Find location and date |
| :--- | :--- |
| 3052 | Site 8, Road, 1949 |
| 3054 | Site 39, Sof, Rd Surface, 1947 |
| 3149 | Rd surface Sof Granaries, 1947 |
| 3252 | N front of S1. 1956 |
| 3274 | EW Road, 1949 |
| 3396 | Site 40, N of, 1968 |
| 3423 | ?, 1965 |
| 3443 | Found on site, 1970 |
| 3509 | Site 12, N of, 1947 |
| 5340 | Site 20, 1949 |
| 3605 | Rd surface Sof Granaries, 1947 |
| 3659 | Site 20, 1949 |

No Find location and date
3660 Site 7/10E of Granaries, 196?
3692 Site7/10E of Granaries, 196?
3961 Rd levels, 1952
3979 Nolocation, 1961
4069 Site 7/10, Eof Granaries, 1965
4153 Site 20, 1949
4157 Site 11, 1959
4256 Site 12, Nof 1947
4566 Found on site, 1970
4573 Nolocation, 1960
4670 Site 39, Sof, Rd surface S of 39, 1947
4815 Site 12, 1947

Table 13 continued

| No | Isswer | Denomination | Type | Ref? | Date |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4844 | Constantine I |  | Obv CONSTANTINOPOUS <br> Rev (Victory on prow) |  | $330-5$ |
| 4928 | Constantine I | Mint: Tr | Obv CONSTANTINOPOUS <br> Rev (Victory on prow) | HK52 | 330-5 |
| 5076 | Constantine I |  | Obv CONSTANTINVS MAX AVG <br> Rev GLORIA EXERCITVS (1 std) | HK231 | 335-7 |
| 5136 | 'Constantine I' |  | Obv VRAS ROMA <br> Rev (Wolf and twins) | copy as HiK51 | 341-6 |
| 5217 | 'Constantine I' |  | Obv VRAS ROMA <br> Rev (Victory on prow) | copy as HK52 | 341-6 |
| 5237 | Constantine I, posth |  | Obv (Veiled hd) <br> Rev (Quadriga) | as HK245 | 337-41 |
| 5409 | Constantine I, Caes |  | Obv CONSTANTINVS IVN NOB C <br> Rev GLORIA EXERCITVS (2 stds) | as HK49 | 330-5 |
| 5418 | Constantine II, Caes | Mint: L. | Obv FLIVL CONSTANTINVS NOB C Rev GLOR-IA EXEAC-ITVS (2 stds) | HK198 | 330-5 |
| 5425 | Constantine II, Caes |  | Obv CONSTANTINVS IVN NC Rev GLORIA EXERCITVS (2 stds) | as HK82 | 330-5 |
| 5638 | Constans, Caes |  | Obv Illeg <br> Rev GLORIA EXERCITVS (2 stds) | as HK- | 330-5 |
| 6067 | Constans | Mint: Tr | Obv FL IVL CONSTANS AVG <br> Rev GLORLA EXERCITVS (1 std) | HK127 | 337-41 |
| 6107 | Constans | Mint: Tr | Obv CONSTANS_-PFAVG <br> Rev GLONI-A EXER-CITVS (1 std) | HK133 | 337-41 |
| 6195 | Constantius II | Mint: Ar | Obv CONSTANTL-VS PFAVG <br> Rev VICTORIAE DD AVGG QNN | HK444 | 346-8 |
| 6303 | Constantius II |  | Obv CONSTANTIVS AVG <br> Rev GLORIA EXERCITVS (1 std) | as HK126 | 337-41 |
| 6340 | 'Constantius II' |  | Obv Illeg <br> Rev FEL TEMP REPARATIO (FH 2) | copy as CK70 | $348+$ |
| 6341 | 'Constantius II' |  | Obv Illeg <br> Rev FEL TEMP REPARATIO (FH2) $\dagger$ | copy as CK70 | $348+$ |
| 6346 | 'Constantius II' |  | Obv Illeg <br> Rev FEL TEMP REPARATIO (FH) $\dagger$ | copy as CK47 | $348+$ |
| 6523 | House of Constantine |  | Obv Illeg (hd laur cuir right) <br> Rev GLORUA EXEACITVS (2 stds) | as HK - | 330-5 |
| 6603 | House of Constantine |  | Obv Illeg <br> Rev GLORUA EXERCITVS (2 stds) | HK- | 330-5 |
| 6630 | 'House of Constantine' |  | Obv Illeg <br> Rev GLORJA EXERCITVS ( 1 std) | copy as HK127 | 335-41 |


| No | Find locition and date |
| :--- | :--- |
| 4844 | E-W Rd, 1949 |
| 4928 | Site 12, Nof 1947 |
| 5076 | No location, 1960 |
| 5136 | RdSof Granaries, 1947 |
| 5217 | Site 12, Nof, 1947 |
| 5237 | Rd levels, 1952 |
| 5409 | No location, 1959 |
| 5418 | ?, 1960 |
| 5425 | Site 11, NW, 1960 |
| 5638 | Nolocation, 1961 |

No Find location and date
6067 Site 11, N, 1961
6107 E of Aqueduct. Topsoil, 1947
6195 Site 11, W of, 1947
6303 Rd surface, 1962
6340 Site 20, 1949
6341 Site 20, 1949
6346 Site 11, 1947
6523 Site 11, Commandant's house, 1960
6603 Site 20, 1949
6630 Nolocation, 1959

Table 13 continued

| No | Issucr | Denomination | Tyse | Rrf | Dute |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 6705 | House of Constantine |  | Obv Illeg <br> Rev GLORIA EXERCITVS (1 std) | as HK - | 335-41 |
| 6727 | House of Constantine |  | Obv Illeg <br> Rev GLORLA EXERCITVS (1 std) | as HK- | 335-41 |
| 6745 | House of Constantine | Mint Ar | Obv Illeg <br> Rev GLORIA EXERCITVS (1 std) | as HK419 | $337-41$ |
| 6814 | Magnentius | Mint Lg | Obv DN MAGNEN.TVYS PFAVG <br> Rev VICTORIAE DO NN AVG ET CAE | CK217 | 351-3 |
| 7579 | Gratian | Mint Ar | Obv DN GRATLANVS AVGG AVG <br> Rev GLORIA NO-VI SAECVU | CK529 | $367-75$ |
| 7690 | Illegible | As |  |  | C1-2 |
| 7694 | Blegible | Destrius |  |  | C1-2 |
| 7696 | Illegible | Denarias |  |  | C1-2 |
| 7719 | Hegible | Dupondius |  |  | C1-2 |
| 7734 | Illegible | As |  |  | C1-2 |
| 7735 | Mlegible | As |  |  | C1-2 |
| 7738 | \#legible | As |  |  | C1-2 |
| 7755 | Illegible | As |  |  | C1-2 |
| 7758 | Illegible | As |  |  | C1-2 |
| 7760 | Ilegible | As |  |  | C1-2 |
| 7762 | Itiegible | As |  |  | C1-2 |
| 7764 | Illegible | Deraarius |  |  | C1-2 |
| 77643 | Illegible | As |  |  | C1-2 |
| 7770 | Illegible | As |  |  | C1 |
| 7770a | allegible | As |  |  | Cl |
| 7990 | Illegible radiate |  |  |  | C3 |
| 8069 | Illegible radiate |  |  |  | C3 |
| 7814 | Illegible | A |  |  | C3-4 |
| 7828 | Illegible | A |  |  | C3-4 |
| 7852 | Illegible | A |  |  | C3-4 |
| 7878 | Illegible | 寿 |  |  | C3-4 |
| 7880 | Illegible | E |  |  | C3-4 |

No Find locition and date
6705 ?, 1968
6727 Site 11, Eof, 1950
6745 Stanegate surface, 1961
6814 E Wall of SH (sic), 1966
7579 R.d surface S of W Granary, 1947
7690 NMus of Ants, 1956
7694 Site 7/10, N of Granaries, 1948
7696 Site 20, Trench IB, below 2nd burnt layer BD, 1954
7719 Site 11, 1967
7734 Site 12, 1947
7735 NMus of Ants, 195t
7738 Site 47, Spoil heap, 1956. N Mus of Ants

No Find location and date
7745 Site 20, 1949
7758 T1, Temple 1, 1947
7760 Site 20B, Robber trench, 1956. Mus of Ants
7762 Site 4 W, 1961
7764 Nolocation, 1959
7764A Site 4, A276, 1976
7770 Site 12, 1947
7770 A Site 4, B176, 1976
7814 Site 7/10, Granaries, 1948
7828 Site 11, Forum, 1959
7852 W end box aqueduct, 1948
7878 Rd surface E Compound, 1949
7880 ?, 1962

## Table 13 continued

| No Isswer | Denowinatiow Type | Ref Date |
| :---: | :---: | :---: |
| 7899 Illegible | E | C3-4 |
| 7917 Illegible | E | C3-4 |
| 7990 Illegible radiate |  | C3 |
| 8069 Illegible radiate |  | C3 |
| 8182 Illegible | E | C4 |
| 8205 Illegible | $\boldsymbol{A}$ | C4 |

No Find location and date
7899 Late Rd level, 1949
7917 Site 12, N of, 1947
7990 Water trench N, 1965

No Find location and date
8069 Site 8 Near, 1949
8182 Eofbox aqueduct, 1947
8205 Site 20, 1949
$\dagger$ Small nodule copies up to 9 mm diameter

- References

CK Carson, Hill and Kent Part I 1960
HK Carson, Hill and Kent Part II 1960
CR Crawford 1974

## Table 14: Hoard 11

Six denarii found on excavations at Site 11c in 1965, in a baulk between trenches U and $\mathrm{V}, 3^{\prime} 2^{\prime \prime}$ from the surface and $3^{\prime} 2^{\prime}$ from the north side in clay-gravel below masons chippings

| No | Sssucr | Denomination | Type | Ref | Date |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Vespasian | Denerius | Obv IMP CAES VESP AVG CENS Rev PONTIF MAXIM | 65 | 73 |
| 2 | Domitian Caesar | Denarias | Obv CAESAR AVG F - DOMITIANVS leg begins lower r (Laur r) Rev COS $灬 \mathrm{~m}$ (Minerva adv r hldg shield and spr, stgon prow) | New variety | 74 |
| 3 | Domitian Augustus | Denarias | Obv IMP CAES DOMIT AVG GERM PM TRPV Rev IMP XII COS XII CENS PPP | 80 | 86 |
| 4 | Domitian Augustus | Denatriss | Obv IMP CAES DOMIT AVG GERM PM TRPV Rev IMP XII COS XII CENS PPP | 81 | 86 |
| 5 | Hadrian | Denariss | Obv IMP CAESAR TRALANHADRIANVSAVG Rev PM TRP COS W | 78c | 119-22 |
| 6 | Hadrian | Demarius | Obv IMP CAESAR TRALAN HADRLANVSAVG Rev PM TRP COSW(in ex) SAL AVG | 137 a | 119-22 |

## Table 15: Hoard 7

A hoard of 12 denarii found on Site 11, E range, trench M (clay layer below topsoil) in 1969

| No | Isower | Denomination | Type | $R c f$ | Date |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Vespasian | Denarius | Tlleg | 37 | 72-3 |
| 2 | Vespasian | Deratrias | Obv IMP CAESAR VESPASIANVS AVG Rev PON MAX TRP COS VI | 90 | 75 |
| 3 | Trajan | Denarius | Obv IMP TRAIANO AVG GER DAC PM TRP Rev COS V PP SPQR OPTIMO PRINC-PIET | 104 | 103-11 |
| 4 | Trajan | Denarius | Obv IMP TRAIANO AVG GER DAC PM TRP Rev COS V PP SPQR OPTMMO PRINC | 129 | 103-11 |
| 5 | Trajan | Denarius | Obv TRALANO AVG GER DAC PM TRP <br> Rev COS V PP SPQR OPTIMO PRINC-DAC CAP | \% | 103-11 |
| 6 | Trajan | Denarius | Obv IMP TRWANO AVG GER DAC PM TRP Rev COS V PP SPQR OPTIMO PRINC | 115 | 103-11 |
| 7 | Hadrian | Denarims | Obv HADALANVS AVGVSTVS <br> Rev COS III | 178 | 103-11 |
| 8 | Hadrian | Denarins | Obv HADPIANVS AVGVSTVS <br> Rev COS II | 165 | 125-8 |
| 9 | Hadrian | Denarias | Obv IMP CAESAR TRALAN HADRIANVS AVG Rev PM TRP COS II-FORT RED | 41a | 118 |
| 10 | Sabina | Denarins | Obv SABINA AVGVSTA HADRIANI AVG PP Rev CONCOR-DIA AVG | 3988 | 117-38 |
| 11 | Sabina | Denarins | Obv SABINA AVGVSTA HADRIANI AVG PP (hd I) <br> Rev CONCOR-DIA AVG | 398d | 117-38 |
| 12 | Antoninus Pius | Denarius | Obv ANTONINVS AVG PIVS PP <br> Rev COS III | 137 | 145-61 |

Table 16: Index to Corbridge coins catalogue numbers by find date

| Find date | Catalog | e nos |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1947 | 63 | 109 | 129 | 182 | 303 | 304 | 318 | 334 | 344 |
|  | 384 | 414 | 450 | 485 | 515 | 597 | 613 | 618 | 649 |
|  | 688 | 755 | 803 | 865 | 876 | 1234 | 1550 | 1861 | 2035 |
|  | 2251 | 2332 | 2369 | 2810 | 2893 | 3054 | 3149 | 3509 | 3605 |
|  | 4256 | 4670 | 4815 | 4928 | 5136 | 5217 | 6107 | 6195 | 6346 |
|  | 7579 | 7734 | 7758 | 7770 | 7917 | 8182 |  |  |  |
| 1948 | 132 | 135 | 171 | 203 | 309 | 328 | 631 | 636 | 641 |
|  | 668 | 784 | 809 | 821 | 1106 | 1087 | 1178 | 1182 | 1416 |
|  | 1482 | 2033 | 7694 | 7814 | 7852 |  |  |  |  |
| 1949 | 76 | 133 | 297 | 603 | 629 | 701 | 887 | 1426 | 1435 |
|  | 1479 | 1519 | 1543 | 1544 | 1549 | 1562 | 1613 | 1888 | 2525 |
|  | 2617 | 2629 | 2660 | 2994 | 3052 | 3274 | 3540 | 3659 | 4153 |
|  | 4844 | 6340 | 6341 | 6603 | 7755 | 7878 | 7899 | 8069 | 8205 |
| 1950 | 184 | 6727 |  |  |  |  |  |  |  |
| 1952 | 3048 | 3961 | 5237 |  |  |  |  |  |  |
| 1953 | 104 | 665 | 933 | 957 | 1141 | 1227 |  |  |  |
| 1954 | $\begin{array}{r} 639 \\ 7696 \end{array}$ | 651 | 666 | 712 | 736 | 1120 | 1232 | 1257 | 1674 |
| 1956 | 107 | 187 | 737 | 901 | 3252 | 7690 | 7735 | 7738 | 7760 |
| 1958 | 67 | 258 | 398 | 610 | 731 | 812 |  |  |  |


| Find date | Catalog | nos |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1959 | $\begin{array}{r} 137 \\ 7764 \end{array}$ | $\begin{array}{r} 296 \\ 7828 \end{array}$ | 380 | 615 | 782 | 2848 | 4157 | 5409 | 6630 |
| 1960 | $\begin{array}{r} 554 \\ 5425 \end{array}$ | $\begin{array}{r} 614 \\ 6523 \end{array}$ | 2240 | 2425 | 2440 | 2633 | 4573 | 5076 | 5418 |
| 1961 | 378 | 437 | 438 | 443 | 3979 | 5638 | 6067 | 6745 | 7762 |
| 1962 | 69 | 72 | 106 | 825 | 1787 | 2981 | 3011 | 6303 | 7880 |
| 1965 | 3423 | 4069 | 7990 |  |  |  |  |  |  |
| 1966 | $\begin{array}{r} 28 \\ 1677 \end{array}$ | $\begin{array}{r} 80 \\ 2512 \end{array}$ | $\begin{array}{r} 105 \\ 2673 \end{array}$ | $\begin{array}{r} 131 \\ 3050 \end{array}$ | $\begin{array}{r} 139 \\ 6814 \end{array}$ | 432 | 622 | 715 | 735 |
| 1967 | $\begin{array}{r} 209 \\ 1293 \end{array}$ | $\begin{array}{r} 298 \\ 1750 \end{array}$ | $\begin{array}{r} 421 \\ 7719 \end{array}$ | 461 | 478 | 606 | 672 | 774 | 954 |
| 1968 | 114 | 319 | 358 | 487 | 3396 | 6705 |  |  |  |
| 196? | 2116 | 3660 | 3692 |  |  |  |  |  |  |
| 1970 | 213 | 316 | 500 | 1938 | 3443 | 4566 |  |  |  |
| 1976 | 187A | 887A | 764 A | 770A |  |  |  |  |  |

## Table 17: Index to Corbridge coin catalogue by find location

| Lecation | Catalogue | Nos |  |  |  |  | Lecation | Catalogue | Nos |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unprovenanced or Unstratified | 76 | 182 | 554 | 614 | 701 | 1426 | 208 | 7760 |  |  |  |  |  |
|  | 1435 | 1479 | 1519 | 1543 | 1544 | 1549 |  |  |  |  |  |  |  |
|  | 1938 | 2035 | 2240 | 2425 | 2512 | 2525 | 39 | 500 | 3054 | 4670 |  |  |  |
|  | 2633 | 2673 | 2848 | 3050 | 3252 | 3423 |  |  |  |  |  |  |  |
|  | 3443 | 3961 | 3979 | 4566 | 4573 | 5076 | 40 | 303 | 3396 |  |  |  |  |
|  | 5409 | 5418 | 5638 | 6630 | 6705 | 7738 |  |  |  |  |  |  |  |
|  | 7764 | 7880 |  |  |  |  | 44 | 665 | 712 | 957 |  |  |  |
| 4 | 132 | 187 A | 378 | 438 | 443 | 668 | 47 | 1562 |  |  |  |  |  |
|  | 887A | 1087 | 7762 | 7764A | 7770A |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 59 | 131 |  |  |  |  |  |
| 7 | 129 | 887 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | Aqueduct, NEnd | 30 | 631 | 784 | 809 | 821 | 1182 |
| 710 | 63 | 135 | 318 | 328 | 636 | 1234 |  | 6107 | 7852 | 8182 |  |  |  |
|  | 3660 | 3692 | 4069 | 7694 | 7814 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | EWall of SH | 6814 |  |  |  |  |  |
| 8 | 1888 | 2660 | 3052 | 8069 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | East Gate | 28 |  |  |  |  |  |
| 10 | 171 | 1006 | 1178 | 1416 | 1482 | 2981 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | Gateway E | 432 | 2251 | 7878 |  |  |  |
| 11 | 67 | 69 | 72 | 104 | 105 | 137 | Compound |  |  |  |  |  |  |
|  | 139 | 184 | 187 | 213 | 258 | 296 |  |  |  |  |  |  |  |
|  | 316 | 358 | 380 | 398 | 437 | 461 | Late Road Level | 7899 |  |  |  |  |  |
|  | 478 | 575 | 606 | 610 | 615 | 672 |  |  |  |  |  |  |  |
|  | 715 | 731 | 735 | 737 | 755 | 774 | Road E of Aqueduct | 1550 |  |  |  |  |  |
|  | 782 | 812 | 901 | 933 | 1141 | 1227 |  |  |  |  |  |  |  |
|  | 1293 | 1750 | 2033 | 2369 | 2440 | 3011 | Road Levels 1952 | 3048 | 5237 |  |  |  |  |
|  | 4157 | 5425 | 6067 | 6195 | 6346 | 6523 |  |  |  |  |  |  |  |
|  | 6727 | 7719 | 7828 |  |  |  | Road surface 1962 | 6303 |  |  |  |  |  |
| 12 | 109 | 114 | 304 | 319 | 334 | 450 | Stanegate | 133 | 876 | 2629 | 2810 | 3149 | 3274 |
|  | 485 | 487 | 597 | 613 | 618 | 649 |  | 3605 | 4844 | 5136 | 7579 | 6745 |  |
|  | 1861 | 2332 | 3509 | 4256 | 4815 | 4928 |  |  |  |  |  |  |  |
|  | 5217 | 7734 | 7770 | 7917 |  |  | T1 (Temple 1) | 384 | 688 | 865 | 7758 |  |  |
| 12A | 641 | 803 |  |  |  |  | T3 (Temple 3) | 80 | 209 | 298 | 421 | 954 | 1677 |
| 12B | 203 | 414 |  |  |  |  | Trench W of muscum | 2116 |  |  |  |  |  |
| 12C | 344 | 2893 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | Water Trench N | 7990 |  |  |  |  |  |
| 20 | 107 | 297 | 603 | 629 | 639 | 651 |  |  |  |  |  |  |  |
|  | 666 | 736 | 1120 | 1232 | 1257 | 1613 | West Compound | 106 | 622 | 825 | 1787 |  |  |
|  | 1674 | 2617 | 2994 | 3540 | 3659 | 4153 |  |  |  |  |  |  |  |
|  | 6340 | 6341 | 6603 | 7755 | 76\% | 8205 |  |  |  |  |  |  |  |

## Table 18: Coins found on Site 9 in 1980

| No | Issuer | Denominatian | Type | Ref | Date | Condir* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | M Antonius | Denarius | Obv [ANT AVG MVIR RPC] Rev [LEG.] | CR544/- | BC 31 | EW/EW |
| 2 | Titus/Domitian | As | Illeg |  | 79-81 | EW/EW |
| 3 | Titus/Domitian | As | Hileg |  | 79-81 | EW/EW |
| 4 | Domitian | As | Illeg |  | 81-98 | EW/EW |
| 5 | Nerva | Denarius | Obv IMP NERVA CAES [AVG PM TR POT II] Rev COSIIPATER PATRUAE | 34 | 98 | SW/SW |
| 6 | Trajan | Denarims | Obv IMP TRUANO AVG GER DAC PM TRP Rev COS VPP SPQR OPTIMO PRINCIDANVIVS | 100 | 103-11 | W/W |
| 7 | Trajan | Denarius | Obv IMP TRAU[ANO AVG GER DAC PM TRP COS _JPP Rev llleg | 225 | 104-11 | W/SW |
| 8 | Trajan | Sestertios | Illeg |  | 98-117 | W/C |
| 9 | Hadrian | Sestertins | Illeg |  | 117-38 | EW/EW |
| 10 | Hadrian | As | Illeg | as 805 | 134-8 | W/W |
| 11 | Antoninus Pios | As | Obv ANTONINVSAVG PIVS PP TRP XVW Rev BRITANNIA COS II-SC | 934 | 154-5 | SW/SW |
| 12 | Antoninus Pios | Denarias | Obv ANTONINV AVG PIVS PP IMP [I] Rev TR POT $[\times X O] \operatorname{COS}$ 川 | 274 | 157-81 | W/W |
| 13 | Faustina I, deified | Sestertius | Obv [DIVA] AVGVSTA FAVSTINA Rev PIETASAVG-SC | 1192a | $141+$ | W/W |
| 14 | Faustina I, deified | Dupondius | Obv DIVA Favstina RevaEternitas-sc | 1164 | $141+$ | SW/W |
| 15 | MAurelius | Denarins | Illeg |  | 161-80 | C/C |
| 16 | Faustina II | Dupondius | 困eg |  | 146-61 | SW/C |
| 17 | Septimius Severus | Denarims | Obv L SEPT SEVPERTAVGIMP [VIU] Rev [PAOFECTIOAVG] | 494 | 197 | UW/UW |
| 18 | 'Septimius Severus' | Denarius plated | Illeg |  | $193+$ | C/C |
| 19 | Julia Maesa | Denarius | Obv MLA MAESA AVG Rev PVDICITLA | 268 | 218-22 | UW/UW |
| 20 | Severus Alexander | Denarius | Obv IMP CMAVR SEVALEXAND AVG Rev PM TAP COS PP | 11 | 222 | SW/SW |
| 21 | Valerian | Antowimanns Mule | Obv IMP [CPUC] VALEFUAN/VS.AVG] Rev [PIE]TASAVGVSTAE | Rev O. <br> Severa 131 | 253-8 | UW/SW |
| 22 | Gallienus | Antominames | Obv [GALLENVSAVG] <br> Rev Illeg |  | 253-68 | C/C |


| No | SF mo | Finds grown | Contex | No | SF no | Finds groap | Context |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 268 | IG | 236 | 12 | 272 | IV | 225 |
| 2 | 211 | $G D$ | 22 | 13 | 347 | HH | 246 |
| 3 | 083 | CB | 28 | 14 | 289 | IF | 225 |
| 4 | 371 | NO | 272 | 15 | 217 | GO | 231 |
| 5 | 399 | $O Q$ | 31 | 16 | 132 | DG | topsoil |
| 6 | 326 | 4 | 266 | 17 | 063 | BA | 14 |
| 7 | 389 | OS | 367 | 18 | 134 | DH | topsoil |
| 8 | 358 | MR | 168 | 19 | 096 | CC | topsoil |
| 9 | 412 | unstratified |  | 20 | 195 | FR | 225 |
| 10 | 170 | EO | 209 | 21 | 116 | Cl | 101 |
| 11 | 347 | MM | 308 | 22 | 1406 | unstratified? |  |

Table 18 continued

| No | Isswer | Denomination | Type |  | Ref | Dute | Condir* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 23 | Claudius II | Antoninionws | Obvimp C ClavDivs avg <br> Rev LiAERTAVG |  | 62 | 268-70 | W/w |
| 24 | Tetricus I | Antonimianms | Obv llleg <br> Rev [SALVSAVG] |  | 121 | 270-3 | $\mathrm{C} / \mathrm{C}$ |
| 25 | Tetricus 1 | Antoninianns | Obv IMP TE[TRNCVS PFAVG] $\operatorname{Rev}$ [PAXAVG] |  | 101 | 270-3 | SW/C |
| 26 | Tetricus 1 | Antonimianms | Illeg |  |  | 270-3 | Cl |
| 27 | Tetricus I | Antoninianms | Illeg |  |  | 270-3 | $C C$ |
| 28 | Tetricus I | Anfoninianns | Ileg |  |  | 270-3 | $\mathrm{C} / \mathrm{C}$ |
| 29 | Tetricus I | Anforimiantes | Obv [IMP CTETRUCVS PFAVG] Rev HIUARTAS [AVG] |  | 76 | 270-3 | W/SW |
| 30 | Tetricus ! | Antoninianus | Obv [MPP TETAU[CVS PFAVG] Rev [HILARJTASAV[G] |  | 77 | 270-3 | W/W |
| 31 | Tetricus ${ }^{\text {P }}$ | Antoninianus | Obv [-TET]RJCVS PF[AVG] RevPAXAVG |  | copy as $100 / 1$ | $273+$ | UW/W |
| 32 | Tetricus II | Antoninianus | Illeg |  |  | 270-3 | W/NSU |
| 33 | Tetricus II | Antorinientes | Obv CPIV [ESV TETRICVS CAES] <br> Rev [SPES] PV[BUCA] |  | 272 | 270-3 | SW/SW |
| 34 | Radiate copy | Antoninianus | Illeg |  | copy as - | $273+$ | UW/NSU |
| 35 | Radiate copy | Antoninianus | Illeg |  | copy as - | $273+$ | CC |
| 36 | Radiate copy | Antoninianus | Illeg |  | copy as - | $273+$ | CC |
| 37 | Radiate copy | Antoninianus | Illeg |  | copy as- | $273+$ | CW |
| 38 | Constantine I |  | 1 lleg |  |  | 310-18 | CC |
| 39 | Constantine I |  | Obv IMP CONSTANTINVS PFAVG Rev SOU INVIC.TOCOMITI |  | 7LN5 | 313-14 | W/SW |
| 40 | Constantine I |  | Obv CONSTAN-TINVSAVG Rev PROVIDEN-TIAE AVGG |  | 7TR504 | 327-8 | UW/UW |
| 41 | Constantine I |  | Obv VRBSROMA <br> Rev (Wolf and twins) |  | HK65 | 330-5 | SW/SW |
| 42 | Constantine I |  | Obv Vhbs ROMA <br> Rev (Wolf and twins) |  | HK51 | 330-5 | W/W |
| 43 | Constantine 1 |  | Otv VRBS ROMA Rev (Wolf and twins) |  | HK51 | 330-5 | UW/UW |
| 44 | Crispus |  | Obv CRISPVS NOB CAES Rev BEATA TRAN-QVIUTAS |  | 71R167 | 322-3 | C/C |
| No | SF no | Finds group | Context No | SF mo | Finds group | Context |  |
| 23 | 185 | FI | 141 | 039 | AK | topsoil |  |
| 24 | $066$ | $B B$ | $\text { topsoil } \quad 35$ | $043$ | $\begin{aligned} & A K \\ & A N \end{aligned}$ | $\begin{array}{r} 1 \end{array}$ |  |
| 25 | 115 | CT | 102 $36$ | $089$ | $C E$ | 101 |  |
| 26 | ? | unstratified |  | 279 | IM | 164 |  |
| 27 | 051 | $A O$ | topsoil 38 | 077 | BZ |  |  |
| 28 | 194 | FR | 225 | 087 | CE | topsoil <br> 101 |  |
| 29 | 088 | CE | 101 $40$ | $062$ | $A J$ | topsoil |  |
| 30 | 069 | BH | topsoil $41$ | $324$ | Li | 172 |  |
| 31 | 036 | A) | 1 - 42 | 255 | HT | 101 |  |
| 32 | 044 | $A N$ | $1 \quad 43$ | 011 | $A B$ |  | 1 |
| 33 | 030 | Al | topsoil 44 | 323 | 4 | 172 |  |

## Table 18 continued

| No | Isswer | Denomination | Type | Ref | Dafe | Condiat |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 45 | 'Constantine II, Caes' |  | Otr Illeg <br> Rev [Gloria Exercitys] | HK- | 341-6 | SW/C |
| 46 | Constans |  | Obv CONSTAN-SPFAVG <br> Rev VICTORIAE DD AVGG QNN | HK257 | 346-8 | UW/C |
| 47 | Constans |  | Obv [CONSTAN.SPFAVG] Rev VICTORIAE DD AVGG QNN | HK459 | 346-8 | W/W |
| 48 | Constans |  | Obv CONSTAN-SPFAVG <br> Rev VICTORIAE DD AVGG QNN | HK140a | 346-8 | UW/UW |
| 49 | Constans |  | Obv DN CONSTA-NS PFAVG Rev FEL TEMP REPARATIO | CK41 | 348-50 | W/SE |
| 50 | 'Constantius II' |  | Obv [DN CONSTANTL-NVS PFAVG] Rev (FEL TEMP REPARATIO] | copy as CK76 | $353+$ | $\mathrm{C} / \mathrm{C}$ |
| 51 | 'House of Constantine' |  | Obvilleg <br> Rev [GLOR-IA EXERC-ITVS] | copy as HK88 | 341-6 | C/C |
| 52 | 'House of Constantine' |  | Obv llleg <br> Rev [GLOR-IA EXERC-ITVS] | copy as HK72 | 341-6 | CC |
| 53 | 'House of Constantine' |  | Obv [DNMAGNEN-TNS PFAVG] <br> Rev [VICTORIAE DD NN AVGET CAES] | copy as HK72 | 341-6 | CC |
| 54 | 'Magnentius' |  | Obv [DNMAGNEN-TIVSPFAVG] <br> Rev VICTORIAE DO NNAVGETCAES] | copy as CK58 | $351+$ | W/UW |
| 55 | Valentinian I |  | Obv DN VALENTINI-ANVS PFAVG Rev Glorla romanorvm | CK326 | 364-75 | W/W |
| 56 | Gratian |  | Obv DN GRATIA-NVS PFAVG <br> Rev SECVIITAS REIPVBUCAE | CK726 | 367-75 | W/W |
| 57 | Arcadius |  | Obv DNARCADIVS PFAVG Rev VICTORIA AV[GGG] | CK164 | 388-92 | UWIUW |
| 58 | House of Theodosius |  | Obv Illeg <br> Rev [VICTORIA AVGGG] | as CK162 | 388-95 | C/C |
| 59 | Illegible | Dupondius |  |  | C1-2 | EW/EW |
| 60 | Hegible | Denarins |  |  | C2-3 | CR |


| No | SF no | Finds group | Context | No | SF mo | Finds group | Context |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 45 | 082 |  |  | 53 | 059 | unstratified |  |
| 46 | 060 | AU | topsoil | 54 | 061 | AUI | topsoil |
| 47 | 050 | AO | topsoil | 55 | 199 | FS | 240 |
| 48 | 407a |  |  | 56 | 037 | A) | 1 |
| 49 | 067 | BB | topsoil | 57 | 042 | AN | 1 |
| 50 | 070 | BH | topsoil | 58 | 090 | CE | 101 |
| 51 | 018 |  |  | 59 | 020 | AF | topsoil |
| 52 | 058 | $A P$ | 9 | 60 | 049 | AM | 3 |

*References
CK Carson, Hill and Kent Part I 1960
HK Carson, Hill and Kent Part II 1960
CR Crawford 1974
** Condition
UW Unworn
SW Slightly worn
W Worn
EW Extremely worn
C Corroded
NSU Not struck up

## 10 The small finds

by L Allason-Jones, with contributions by JBayley, J N Dore, M Henig, A Liddon, and J Rackham

Where known, the finds group and Corbridge Museum accession number of each object are given at the end of its description. In some cases, however, objects had not been accessioned at the time of writing, whilst some others had separated from their original finds groups; if any indication of the original provenance survives, it is incorporated within quotation marks.

## 1 Silver

1 (Fig 75) Large, incomplete finger ring. The shank is decorated with five incised lines, which splay to end in a row of dots below each shoulder. The shoulders are plain, but their area is delineated by incised lines. The centre plate has a series of incised concentric circles enclosing an oval beaded border around the incised letters DEO MEI or MER, arranged in two lines. The letters have serifs and there is a line of shallow dots under the letters DEO, probably intended as a line guide rather than as decoration. The silver is impure and contains a small proportion of zinc, gold, and copper. The central panel shows traces of gilding.

The ring has some slight damage near the final letter, making it uncertain whether it is an $R$ or an $I$. If an $R$, it may be an abbreviation of Mercury, but it is more likely that an $I$ is intended, giving a dedication To my god'. The shape of the ring is quite common in the third and fourth centuries, with two examples from the Waterton Collection at the Victoria and Albert Museum dated to the fourth and fifth centuries (Oman 1961, nos 155 and 156). The quality of the work on these examples and others suggests that the inscriptions were scratched on at point of sale on the customer's instructions. In this case, the customer may have been a Christian, as DEO MEI is more commonly used in Christian contexts.

Internal diameter: 18 mm , width across centre: 12 mm GASO

2 (Fig 75) Small finger ring with the face divided into eight rectangular facets.

An eight-facetted ring with each facet shaped to a lozenge is known from Coventina's Well, (AllasonJones and McKay 1985, no 31). Late second century.

Internal diameter: 17 mm , width: 2 mm , thickness: 7 mm CB80

3 (Fig 75) Short pin with a globular head and a double disc neck. The short shank is circular in section and is only shaped at the end.

Length: 28 mm OQ60 (75.3768)

## 2 Copper alloy

1 (Fig 76) Top section of a brass brooch of the 'Hod Hill' type, with the head rolled forward to hold an axial bar. The neck tapers to the rectangular shallow bow, which is decorated with a single notched median rib. The pin, catchplate, and foot are missing.

This type is well-known on the Continent as early as the first century BC, but only appeared in Britain in the middle of the first century AD , dying out well before the end of that century. It is almost unknown in the north. Cf Riha 1979, Type 5.12.2. See also Hawkes and Hull 1947, 323 for an extensive list of parallels from Southern England and the Continent.

Length: 30 mm , width: 18 mm NO60 (75.3945)
2 (Fig 76) Curved rod of circular section, expanding to its centre with one splayed end. This may be the bow from a simple bow brooch such as Riha's Type 1.6 (1979). Late first century AD.

Length: 44 mm , thickness: 2.5 mm BW67 (75.3399)
3 (Fig 76) Curved rod of oval section - the bow from a simple bow brooch as above.

Length: 28 mm , width: 2.5 mm BV80
4 (Fig 76) Simple bow brooch with a fine ovalsectioned bow which is coiled at one end to provide the spring and pin, now missing, and beaten at the other to create a plain catchplate. There is iron corrosion at the spring, suggesting that the bronze pin may have been repaired with iron at some stage. The bow has a very sharp curve and the only decoration is a lightly incised line separating the catchplate from the foot.


Fig 75 Small finds, objects of silver (scale 1:1)


Fig 76 Small finds, objects of copper alloy (scale 1:1)

Riha 1979, Type 1.6; Almgren 1923, no 15; Böhme 1972, Type 14; Jobst 1975, Type 9; Ettlinger 1973, Type 4. See also Hod Hill: Brailsford 1962, fig 7, C18-21.

Length: 51 mm , width of bow: 2 mm , thickness of bow: 2.5 mm DK52 (75.4614)

5 (Fig 76) Bow brooch of leaded bronze with a thick sharply angled bow. The head has short arms forming the front of a cylindrical springcase and is decorated with vertical incised bands. The loop of the spring passes through a tapered rib, which is cast in one with the bow, but gives the impression of a rod projecting forward from the top of the head, which is the more typical form of this type. The catchplate has a large triangle cut from the centre and has a very short turnover. The hinge pin is iron. Part of the spring and pin are missing.

Cf Camerton: Wedlake 1958, fig 50.8, which is dated to post AD 90 and gives parallels at Colchester and Bredon Hill as well as Wroxeter and Richborough.

Length: 49 mm , width across head: 22 mm , length of catchplate: $18 \mathrm{~mm} \quad$ FM70 $(75.3614)$

6 (Fig 76) Bronze bow brooch with a splayed head ending in a ridged plate with short arms decorated with incised vertical lines. The bow is triangular in section, with a small countersunk median rib and raised tear-shaped motifs on either side. The splayed foot and the catchplate are broken and the sprung pin is missing.

This brooch appears to be a variant on the Polden Hill type and can be paralleled at Buckton: Stanford 1968, fig 17.1, dated by Hull to AD 80-150. A brooch from York has similar motifs on the bow protruding through gilding (pers comm D B Feather).

Length: 48 mm , width across head: 15 mm , width of bow: 4.5 mm , length of catchplate: 11 mm BO68 (75.3466)

7 (Fig 76) Zoomorphic bronze brooch in the form of a hippocamp. The body of the horse is set with dark blue enamel with dots of ?white enamel outlined by metal rings. The eye was also decorated with enamel but none now survives. The fanned tail is decorated with white enamel and has a projecting loop for a chain. The hinged pin is set behind the tail and the broken catchplate behind the front leg.

This brooch falls within the series of plate brooches of zoomorphic form with champlevé enamel motifs which Mackreth has dated to the second to third century (Mackreth forthcoming). Such brooches are of continental manufacture, see Riha 1979, Taf 67.1743; Taf 68.1744.

Length: 31 mm , height: 23 mm GK69
8 (Fig 76) Almost complete fantail brooch of (leaded) bronze with champlevé enamel of red lozenges and white triangles in separate cells. Above the fantail is a lozenge-shaped plate with a concentric ring of bluey-green enamel around a dot of red. The head is a small bar and is insignificant in comparison to the tail and plate. The head loop is missing as is the tip of the hinged pin.

This brooch type is commonly found in the Midlands but rarely in the north. The only two examples known from Hadrian's Wall are, unfortunately, unprovenanced: Museum of Antiquities, Newcastle: 1984.11, and Tullie House Museum, Carlisle: 27-1926-164; cf Rudston: Stead 1980, 95, no 14.

Length: 42 mm , width of tail: 18 mm , width of head: 15 mm , length of catchplate turnover: 10 mm KH67 (75.3399)

9 (Fig 76) Fantail brooch of (leaded) bronze with a panel of (?)green triangles and white lozenges in separate cells on the foot, which also has an incised marginal line. A deeply ribbed tapered area leads to a lugged circular plate which has a concentric design of white or blue enamel. The arms of the head are short with vertical ribs at the ends. The pin is hinged and lacking its tip. The catchplate is plain and missing the turnover.

Length: 36 mm , width of head: 14 mm , width of tail: 13 mm GW66 (75.3341)

10 (Fig 76) Small bronze trumpet brooch with a tiny head. The shank expands to a double groove before developing into an exaggerated rib decorated with vertical grooves, which projects forward, the back running parallel to the edge of the broken catchplate. Three grooves then separate the waist from the lower shank. The pin was found separately, made from a thick strip with the edges nipped together.

Length of brooch: 36 mm , width of head: 10 mm , width across waist: 10 mm , length of pin: 38 mm HJ69 (75.3547)

11 (Fig 76) Trumpet brooch with a tight angular decoration of acanthus leaves all round the centre of the bow. The small head flattens out slightly around the edge. The bow is very narrow and oval in section but becomes triangular in section at the incomplete catchplate. The foot is cylindrical, made in one with the brooch and is decorated with raised edges and milled vertical lines. This form of decoration is repeated on the band which confines the wire headloop. The spring and headloop both pass through a lug protruding from the back of the head. Most of the pin is missing.

Brooches of this type (Collingwood and Richmond 1969, Type Rii) are well-known in the north of England in the late first-early second century AD. A close parallel can be seen from South Shields (Allason-Jones in Miket 1983, fig 75.137).

Length: 65 mm , width across head: 18 mm , width of foot: 8 mm HL68 (75.3462)

12 (Fig 76) Incomplete brass brooch with a small trumpet head decorated across the top and down the centre line with beaded silver wire attached with lead-tin solder. There are further strips of beaded silver wire around the edge of the fantail and over the deep half dome centre plate. The head and the fantail are both further decorated with bosses made from beaded silver wire wound into spirals. The spring and pin are held low down at the back below


Fig 77 Small finds, objects of copper alloy (sate 1:1)
a projecting loop which is hidden behind a small triangular head plate. The catchplate is squared at the base and deep in proportion to the brooch. The pin is incomplete.

This appears to be a variant on the small brooches with granular decoration already known from Corbridge (Forster and Knowles 1911, fig 26.186). See also references to the type in Wedlake 1958, 221, no 11c.

Length: 33 mm , width across head: 11 mm , depth of catchplate: 8 mm DA69

13 Very fragmentary and corroded gunmetal penannular brooch of circular section, with globular terminals set on disc necks. See Fowler 1960, Type A 3 , dated to first century AD. Fowler cites two examples already known from Corbridge. (Not illustrated)

Diameter: 23 mm , thickness: 2 mm /B59 (75.3945)
14 (Fig 77) Very small bronze/gunmetal penannular brooch with milled knobbed terminals and a circular-sectioned shank. See Fowler 1960, Type A2, dated to first-fourth century AD with four examples already known from Corbridge.

Diameter: 21 mm , thickness: 1.5 mm OE68 (75.3467)
15 (Fig 77) Penannular brooch in two fragments, with globular terminals set on disc necks. The turnover of the pin survives wrapped around the circular-sectioned shank. Fowler 1960, Type A3, see above.

Diameter: 24 mm , thickness: 2.5 mm EK71 (75.2275)
16 (Fig 77) Penannular brooch with globular terminals on disc necks. The distorted wrap-around pin survives. Fowler 1960, Type A3.

Diameter: 26 mm , thickness of terminals: 4 mm FK69 (75.3548)

17 (Fig 77) Very small gunmetal penannular brooch with folded-back zoomorphic terminals. The complete pin survives, wrapped around the ovalsectioned shank. The terminals have been carved, rather than moulded. Fowler 1960, Type E1.

Diameter: 21 mm , length of pin: 23 mm , thickness of shank: 1.5 mm DC80

18 Fragment of a penannular brooch with a globular terminal and oval-sectioned shank. See Fowler 1960, Type A1. (Not illustrated)

Length: 26 mm , thickness: 2 mm HF67 (75.3399)
19 (Fig 77) Incomplete penannular brooch with one milled knobbed terminal surviving. Circularsectioned shank. Fowler 1960, Type A2.

See above No 14. IH80
20 (Fig 77) Circular brooch with a domed face and hollow back, set with alternate blue and red enamel triangles arranged in circles. The catchplate and hinge are set behind projecting plates; there is a third lug on the margin between these two, and there was almost certainly a fourth on the other, damaged, side.

The centre of the boss is countersunk and the face has a marginal channel. The pin is missing.

This form of enamelled disc brooch is found throughout Britain with a suggested date in the late second century AD. See Wedlake 1958, 232, nos 59 and 60; Collingwood and Richmond 1969, fig 106.102; Riha 1979, Taf 60.1595.

Diameter: 22 mm Unprovenanced (75.3916)
21 (Fig 77) Gunmetal disc brooch with a raised rim which has a stamped scalloped effect on the inner edge. Inside this is a field filled with blue enamel which surrounds a second ring, of red enamel with reserved metal dots. An inner raised ring encloses a short knob which is pierced through by a small circular hole. A similar brooch from Coventina's Well, Carrawburgh (Allason-Jones and McKay 1985, no 43) has a black glass inset held within the inner ring - the knob may therefore act as a key to such an inset or as a grip for a separate stud. The catchplate is broken and the pin is missing, although the two lugs which held the spring are still in position. There is a quantity of iron corrosion on the back. Cf Ravenglass: Olivier in Potter 1979, 67, no 5; Newstead: Curle 1911, pl LXXXIX, nos 1, 6.

Diameter: 37 mm , length of catchplate: 14 mm , thickness of disc: 1.5 mm GM68 $(75.3468)$

22 (Fig 77) Small disc brooch with an outer band of enamel, possibly white originally but now pale green. Towards the centre there is a band of blue enamel with raised metal spots protruding through the enamel. At the centre itself there is a small circular trough which may have held enamel or a glass inset. The catchplate and hinge survive but not the pin.

This is a smaller version of a brooch type which is well known in the Wall area. An unpublished example is known from earlier excavations at Corbridge (Corstopitum Museum 75.484). See Al-lason-Jones and McKay 1985, no 42.

Diameter: 24 mm , length of catchplate: 8 mm 'Site $44^{\prime}(75.3916)$

23 Fragment of a plain disc brooch with a rolled edge. The plate rises to a shallow peak in the centre. (Not illustrated)

No measurements possible FI56
24 (Fig 77) Distorted leaded gunmetal disc brooch with a central cone, hollow at the back, with a globular rivet attached separately to the peak. The cone is surrounded by a milled ring. The outer edge is raised, with six lugs projecting outwards at regular intervals. On the back a very small catchplate survives, as does part of the two-lugged hinge, both hidden behind the projecting lugs.

Examples of the type are known from the amphitheatre at Caerleon (Wheeler and Wheeler 1928, fig 14.20) and from a Flavian grave at Winchester (Ant / 47, (1967), 229, fig 4.14). There is some discrepancy of opinion as to the date of these brooches. Ettlinger (1973, Taf 15, no 10, Type 50) suggested that production began in the early second


Fig 78 Small finds, objects of copper alloy (scale 1:1)
century, whilst Riha puts their appearance earlier in the late first century AD (1979, Type 7.11).
Diameter: 25 mm , thickness of plate: 1.5 mm , total height: 9 mm , length of catchplate: 5 mm MH67 (75.3400)

25 (Fig 77) Copper disc brooch with a raised rim. The face is plain and tinned, and gives no indication of having contained enamel. The hinged pin and catchplate are complete.
Diameter: 30.5 mm , length of catchplate: 11 mm , length of pin: $30 \mathrm{~mm} \quad$ 'Site 44 ' $(75.3916)$

26 (Fig 77) Brooch of brass/gunmetal with an openwork peltate head. The square-sectioned leg projects from a bar at the base of the head and has a series of silver foil knobs soldered down the sides, and a rectangular beaded strip down the front. The head has a single silver foil knob in the centre, and traces of silver foil are still visible soldered, with lead-tin alloy, to the base of the head and the end of the leg. The face of the head shows signs of enamelling and the rims may also have been silvered. Of the catchplate and hinge only scars survive.

This would appear to be an 'up-market' version of the simple pelta-and-leg brooch, which Collingwood and Richmond (1969) saw representing the union between their type Sii and the plate brooches and datable to the middle and late second century. See Allason-Jones and Miket 1984, 3.154, for continental parallels.

Length: 31 mm , width of pelta: 18 mm , length of catchplate: 9 mm NK80

27 (Fig 77) Very small brass knee brooch with a narrow hollow bow. The fan head is decorated with a crescent which has held enamel, whilst the bow has spots of lead-tin solder on either side of the median rib, presumably to hold silver foil in position, although only a small trace of silver survives. On the back, the incomplete pin is held in a double lug hinge by an iron hinge pin. The bow ends in a triangular splayed foot with a short catchplate, the turnover of which is missing. A small hole at the base of the foot may have held an attachment, but is more likely to have been a casting flaw.

This is an unusual version of the knee brooch type which was common on the German frontier in the late second century. Less elegant examples are already known from Corbridge and other fort sites in the area. Close parallels are known from Kirkby Thore (unpublished) and Traprain Law: Royal Scottish Museum GVM 39. See also Almgren 1923, nos 246-7; Bohme 1972, Type 19-20; Ettlinger 1973, Type 53; Jobst 1975, Type 13; Riha 1979, Type 3.12.

Length: 30 mm , width of head: 11 mm , width of foot: 4.5 mm , length of catchplate: 4.5 mm AV70 (75.3613)

28 (Fig 77) Splayed head of a knee brooch with a blue enamel crescent. See No 27 above.

Width: $17 \mathrm{~mm} \quad$ 'Site 44 ' $(75.3917)$
29 (Fig 77) Heavily tinned leaded bronze knee brooch, with a bulbous hollow knee and a cylindrical
spring case. The spring and pin are missing. The bow tapers sharply before splaying into a small foot.

Although knee brooches are known from Corbridge the other examples all have fanned heads as above and it would appear that, in general, cylindrical heads are less common in the north than the fanned type.

Length: 31mm, width of head: 16 mm , width of foot: 6 mm , length of catchplate: 7 mm FQ68 (75.3461)

30 (Fig 77) Rectangular hollow springcase from a brooch. A wide rib runs across the lower edge separating it from the strip bow.

Length: 18 mm , width: 25 mm BZ80
31 (Fig 77) Short rod with a globular terminal. Separate terminal knob from a large crossbow brooch of fourth century date. See Clarke 1979, 257-63

Length: 36 mm , width of head: 13 mm EH80
32 (Fig 77) Copper alloy sphere similar to above. Separate terminal knob from a large crossbow brooch with part of the iron rod surviving.

Length: 11 mm , thickness: 11 mm BB71 (75.2275)
33 Tiny fragment of a bow brooch incorporating the top of the bow, and part of one arm. (Not illustrated)
Length: 14mm BC69 (75.3550)
34 Bow and foot of a bow brooch. The bow is of solid semi-oval section whilst the foot is long with a rounded terminal and convex face. No trace of the catchplate or pin survives. (Not illustrated)

Length: 35 mm , maximum width: 7 mm EQ65
35 Coiled spring from a brooch. (Not illustrated) Length: 22 mm ET65

36 Wire headloop from a brooch. (Not illustrated) Length: 18 mm FN65

37 (Fig 78) Incomplete rod with baluster moulding. The shank is tightly covered by coiled wire. Arm of a brooch, cf Holzhausen: ORL 6, Taf VII, no 2.
Length: 45 mm , maximum thickness: 7 mm MA64 (75.3303)

38 (Fig 78) Pear-shaped foot from a small bow brooch with a pronounced heel. No trace of the catchplate survives.
Length: 24 mm HB80
39 Small corroded catchplate from a brooch with a side opening. See Riha 1979, catchplate type q. (Not illustrated)

Length: $\mathbf{2 5 m m}$ QF64 (75.3303)
40 Catchplate and part of the splayed foot of a (?)knee brooch. (Not illustrated) Length: 14mm BP60 (75.3947)
41 (Fig 78) Catchplate and foot of a gunmetal bow brooch. The foot is splayed and circular with ribbed decoration. See Riha 1979, catchplate type 1.

Length: $19 \mathrm{~mm} \quad$ IZ67 (75.3400)

42 (Fig 78) Very corroded brooch spring of nine coils.

Width: 18 mm , thickness: $10 \mathrm{~mm} \quad H X 67$ (75.3400)
43 (Fig 78) Circular-sectioned brooch pin with three coils of the spring surviving.
Length: 36 mm , thickness of wire: 2 mm HC57 (75.2378)

44 Fragment of a trumpet brooch hinge with pin attached. (Not illustrated)

Length of pin: 27 mm 'Site 44 ' $(75.3917)$
45 (Fig 78) Spring and wire head-loop from a trumpet brooch.

Width: 15 mm , height: 22 mm 'Site 44 ' $(75.3917)$
46 (Fig 78) Tapering curved strip of rectangular section, curled over a copper alloy rod at one end. Buckle pin or fragment of a bow brooch.

Length: 38 mm , width: $4 \mathrm{~mm} \quad / H 62(75.3952)$
47 (Fig 78) Curved strip with a loop projecting into the curve at one end. The strip expands at the very end to a smaller but thicker loop at right angles to the first and containing an iron pin. The strip is triangular in section with notches down the apex. (?)Fragment of buckle or brooch.

Length: 36 mm , width: 6 mm WV47 (75.3769)
48 Brooch pin of tapering oval section with a wide circular loop at the end. (Not illustrated)

Length: 27 mm FN69 (75.3548)
49 Very corroded T-shaped head from a brooch, possibly a Langton Down type. (Not illustrated)

Width: 28 mm FY65
50 Thick curved strip. (Not illustrated)
Length: 35 mm , width: 26 mm , thickness: 2 mm EH69 (75.3554)

51 Fragment of curved strip with a raised flat rim. Possibly the rim of a vessel of 50 mm diameter. (Not illustrated)

CN65
52 Fragment of a brooch - all that survives is the hinged pin and the splayed head, which is decorated with four wedge-shaped panels of white enamel. A large plate of irregular shape is attached to this head, but is too corroded to distinguish shape or design. (Not illustrated)
Total length: 31mm GK69 (75.3552)
53 (Fig 78) Two circular cups mounted on bunshaped blocks and connected by a strip rivetted to each block by a disc-headed rivet. The cups and blocks are both decorated with vertical grooves and are divided by discs of an alloy with a higher tin content. The cups may have contained glass insets. Possibly from a brooch.

Length: 31mm, diameter of cups: 7mm GN69 (75.3548)

54 (Fig 78) Finger ring with a thin oval-sectioned shank expanding to a flat panel, which holds an oval blue glass inset. The glass has decayed to the extent where it is impossible to say whether it was incised. See Henig 1978, Type III. Second to third century.

Internal diameter: 15 mm , inset: $10 \times 5 \mathrm{~mm}$ GG57 (75.2378)

55 (Fig 78) Incomplete finger ring with an ovalsectioned shank, which expands sharply to contain an oval inset, now missing. (Henig 1978, Type XIII).

Inset: $8 \times 6 \mathrm{~mm} \quad$ AZ62 $(75.3950)$
56 (Fig 78) Spiral of rectangular-sectioned wire expanding to a broken terminal. Distorted. Finger or hair ring. Cf Colchester: Crummy 1983, no 1739, dated AD 60-100.

Approximate diameter: 18 mm , width: 1.5 mm , thickness: $1.5-3.5 \mathrm{~mm} \quad$ AX67 (75.3399)

57 (Fig 78) Finger ring of oval section, with a fragment of a rectangular openwork key for a lever lock projecting from one edge.

Such rings were popular in the second and third centuries for use with jewellery caskets, of AllasonJones and Miket 1984, 3.348-3.352 and Verulamium: Waugh and Goodburn in Frere 1984, 49, no 163.

Internal diameter: 28 mm , width of shank: 2 mm , thickness of shank: 2.5 mm , length of bit: 17 mm DN80

58 (Fig 78) Small finger ring with an oval-sectioned shank expanding to enclose a lozenge-shaped field of turquoise blue enamel with four reserved bronze dots arranged in a diamond motif. Cf Rudston: Stead 1980, fig 63, no 26, which has a similar arrangement of dots set in orange enamel.

Internal diameter: 16 mm , field: $10 \times 5.5 \mathrm{~mm} / \mathrm{N} 80$
59 (Fig 78) Curved hollow rod of oval section. Possibly a fragment of a bracelet. The absence of bracelets from Corbridge is noticeable, compared to the quantities found on other military sites in the area.

Length: 44 mm , width: 4 mm , thickness: 3 mm AA67 (75.3399)

60 Distorted length of bracelet of semi-oval section with a continuous beaded motif along the outer face. (Not illustrated)

Length: 75 mm HL65
61 (Fig 78) Thin strip with beaded decoration along one face.

Length: 27 mm , width: 3 mm , thickness: 2 mm GF69
62 (Fig 78) Distorted copper alloy strip with rounded ends. Type 1 earring. (Allason-Jones 1984).

Length: 52 mm , width: 2 mm AO80
63 (Fig 78) Oval-sectioned penannular earring of tinned copper alloy. The section flattens towards one end. (Allason-Jones 1984, Type 2. Cf Colchester: Crummy 1983, no 1796, с AD 320-450; Eastby: Ashmolean Museum, Passmore Collection).

Length: 28 mm GW80


Fig 79 Small finds, objects of copper alloy (scale 1:1)

64 (Fig 78) Incomplete sealbox in the form of an acorn. The convex lid is decorated with a single transverse rib. An iron pin is still in position in the projecting hinge. The surface has been tinned or silvered. Cf an example from Colchester which has additional punched dot decoration and was found in a post-Roman context (Crummy 1983, no 2517). The base of a similar box was found in a context dated to AD $61-c 75$ (Crummy 1983, no 2516).

Length: 28 mm , total height: 8 mm , width: 17 mm BL64 (75.2275)

65 (Fig 78) Leaf-shaped sealbox lid. The enamelled face has an outer ring of red champlevé enamel with an inner motif of turquoise enamel surrounding a raised metal cross. Very corroded and decayed. Second to third century $A D$.

Length: 30 mm , width: 21 mm DD67 (75.3400)
66 (Fig 78) Base of a lozenge-shaped sealbox pierced by four circular holes, 3 mm in diameter.
Length: 30 mm , width: 20 mm ' 1968 unstratified' (75.3469)

67 (Fig 78) Complete sealbox of lozenge shape, with a concentric raised block decorated with turquoise enamel dots set in an orange enamelled field. The base has three circular holes 2.5 mm in diameter and the seal can still be seen in situ through these holes. Traces of string were discovered in two of the holes, as well as on the hinge and along the lid, and are presumably the remains of the string used to attach the box to the documents or bundle. The hinge pin is of iron. Although lozenge-shaped seal boxes are well known in the second to third centuries the decorative motif is unusual and can be compared more easily with the enamelled finger ring No 58 above. Second to third century AD.

Length: 34 mm , width: 24 mm , height: 10 mm IQ80
68 (Fig 78) Lid of a circular sealbox. The central circular field is filled with dark green and white streaked glass. The outer ring field has ten alternate wedges of mid green and a design in blue/red millefiori of a red and blue floret set in white. Only part of the catch and lip survive.
Diameter: 20 mm 'Site 44' (75.3916)
69 (Fig 78) Fragment of the base and hinge of a circular seal box.

Height: 6 mm 'Site 44' $(75.3917)$
70 (Fig 79) Hollow terminal ending in a discnecked globe. The body of the terminal is decorated with deep groove-and-rib motifs.

Length: 42 mm , diameter: $15 \mathrm{~mm} \quad 1169$ (75.3547)
71 (Fig 79) Baluster-moulded terminal with a groove around the domed head. A fragment of the circular-sectioned iron shank survives. See AllasonJones and Miket 1984, 3.733-6.

Height: 19 mm , diameter: 16 mm FL65
72 (Fig 79) Baluster-moulded terminal with a disc head and an oval-sectioned shank.

Length: 31 mm , diameter: 14 mm GM68

73 (Fig 79) Rectangular lock-bolt. The thickness of the piece tapers away from the shank. The cut-outs are arranged in a decorative pattern. The handle appears to have been roughly snapped off during manufacture and has not been worn down during use. There is also no sign of wear around the cut-outs, suggesting that the lock-bolt was either never used or only to a limited degree.

Length: 90 mm , width: 15 mm , thickness: 7 mm DK52 (75.4614)

74 (Fig 79) Much corroded and incomplete key handle of an elaborate type based on three open circles. The shank is rectangular in section and baluster-moulded (cf South Shields: Allason-Jones and Miket 1984, 3.347).

Length: 34 mm , maximum width: 20 mm , maximum thickness: 6 mm 'Site 44' (75.3917)

75 (Fig 79) Rectangular lock escutcheon with slightly tapered sides. There is a small rounded projection from the top and the keyhole has been cut out of the centre, not moulded. A similar escutcheon was found at the Agricolan supply base at Red House, Corbridge (Allason-Jones 1979, 62 and fig 21.4). See also Saalburg (Jacobi 1897, 477 and fig 76.11 and 17).

Length: 44 mm , width: 24 mm , thickness: 4 mm FM65

76 (Fig 79) Rectangular openwork knife or razor handle. The central open rectangle contains a baluster-moulded bar and there is space for a second. One end has an oval suspension loop projecting from a raised transverse rib. The other end is incomplete, but retains part of the cutaway plate split to take the iron knife blade, which was held in position by three rivets, two of which survive.

See Waugh and Goodburn 1972, fig 35.75 for a more complete handle, lavishly decorated with impressed circles from Verulamium, AD 85-105. Also Colchester: Crummy 1984, nos 2938 and 2939, from contexts dating c AD 75-250

Length: 60 mm , width: 14 mm , thickness: 14 mm OT80
77 Square-sectioned rod hooked at one end. Possibly a distorted and corroded handle. (Not illustrated) Length: 76 mm , thickness: 3 mm Cl69

78 (Fig 79) Small handle of rectangular section tapering to the terminals. In the centre there is a bead-and-reel motif. Possibly a helmet handle (cf South Shields: Allason-Jones and Miket 1984, 3.413).

Total width: 75 mm , thickness: 5 mm 'Site 44 ' (75.3917)

79 Rectangular-sectioned handle lacking both ends. (Not illustrated)

Length: 92 mm , thickness: 7 mm Temple 3 B6 1968'
80 (Fig 79) Small handle of circular section tapering to the looped terminals, one of which survives and retains its iron rivet.

Total width: 55 mm , maximum thickness: 6 mm 'Site $44^{\prime}(75.3917)$


Fig 80 Small finds, objects of copper alloy (scale 1:1)

81 (Fig 79) Small handle of lozenge section tapering to beaded terminals.

Total width: 53 mm , thickness: 4 mm 'Site 44 ' (75.3917)

82 (Fig 79) Rectangular handle, open in the centre and ending in a splayed terminal. An iron rod passes through the terminal and traces of iron remain in the central void.

Length: 39 mm , width: 11.5 mm , thickness: 9 mm OK80

83 (Fig 80) Three fragments of a copper alloy rod of circular section. One fragment ends in a pierced disc, the hole square but very corroded. Possibly the arm of a pair of dividers. See Allason-Jones and Miket 1984, 3.485-492.

Lengths: $36 \mathrm{~mm}, 20 \mathrm{~mm}, 31 \mathrm{~mm}$ ' 1952 S extension of Temples I and II' (75.4615)

84 (Fig 80) Incomplete and distorted medical or toilet implement with a circular-sectioned shank tapering to an angled disc head.

Two examples are already known from Corbridge: Corstopitum Museum 75.460 and 75.458 ; of South Shields: Allason-Jones and Miket 1984, 3.458, for local and other British parallels, and Milne 1907, 77 for their medical use.

Length: 78 mm , thickness: 2.5 mm IP68 $(75.3464)$
85 Hexagonal-sectioned rod tapering to both ends. Possibly the shaft of a medical probe or traction hook. (Not illustrated)

Length: 70 mm , thickness: 2 mm KO68 (75.3455)
86 (Fig 80) Medical or toilet implement similar to above, with a circular-sectioned shank tapering to a sharp point at one end and an angled disc head at the other.

Length: 125 mm , thickness: 2.25 mm , width of head: 3 mm EC80

87 (Fig 80) Incomplete leaf-shaped nail-cleaner with a ridge-decorated neck. The long point has snapped off, just as the incised line running from the neck widens to a groove. The loop is also missing (cf Hod Hill: Brailsford 1962, 160).

Length: 30 mm , width: 18 mm , thickness: 2 mm FB70 (75.3613)

88 (Fig 80) Small conical bell with two lightly incised lines near the loop, which is lozenge-shaped externally and pear-shaped internally. Most of the clapper is missing but corrosion traces suggest it was of iron.

Diameter: 35 mm , height: 25 mm BC52 (75.4614)
89 (Fig 80) Three fragments of a bell similar to above decorated with two shallow lines around the rim. The alloy has a high tin content, which is to be expected in bell metal, but it also contains a quantity of lead, which is unusual and may be the cause of the slate grey colour of the patina.

Diameter: 55 mm approximately DT52

90 (Fig 80) Small incomplete bell, which splays markedly and then finishes in a straight wall. A hole across the top retains fragments of the iron clapper.

Diameter: 19 mm , height: 12 mm 'Site 44 ' $(75.3917$ )
91 Several fragments of copper alloy plate with bevelled straight edges. Both faces are tinned or silvered and one is highly polished. One fragment has a right angle corner suggesting the (?)mirror was either rectangular or square in shape. See LloydMorgan 1981, 3. (Not illustrated)

Thickness: 1.5 mm DB62 $(75.3951)$
92 Triangular fragment of copper alloy with one highly polished face, the other roughly pitted. Possibly a mirror fragment. (Not illustrated)

Length: 28 mm , thickness: 1 mm FU64 (75.3303)
93 (Fig 80) Globular hollow bead or collar.
Diameter: 17 mm , height: 18 mm /E51 ( 75.3769 )

94 (Fig 80) Long barrel-shaped hollow bead or collar with the outer face cut to six facets. Incomplete. Length: 35 mm , width: 10 mm LN64 (75.3303)

95 (Fig 80) Hollow tube tapering slightly to one end, which is decorated by several incised bands. The wider end has a series of ribs and grooves and shows traces of silvering. The wider end is countersunk, but broken all round, and it may have expanded into a mouth piece; (cf Verulamium: Waugh and Goodburn 1972, fig 40.129; and Great Chesterford: Webster 1960 , no 104).

Length: 165 mm , width: $10-14 \mathrm{~mm}$ Al66 (75.3340)
96 Small circular ferrule with a flat base. (Not illustrated)

Diameter: 11 mm , height: 9 mm 'Site 44 ' $(75.3917)$
97 (Fig 80) Tapered strip of shallow V-section. The widest end has an iron rivet through it, holding a copper alloy plate onto both faces.

Length: 55 mm , width: 12 mm , thickness: 1.5 mm IL67 (75.3399)

98 (Fig 80) Curved plate with concave ends, both decorated with two lateral grooves on the slightly convex upper face. Lead-tin alloy on the back would appear to attach this plate to another copper alloy object.

Length: 40 mm , width: 16 mm Ol67 (75.3400)
99 (Fig 81) Fragments of an armpurse with parts of the lid and a rod hinge surviving. One end has a rectangular hole $6 \times 4 \mathrm{~mm}$ to take the fastening clip. At both ends there are three roughly scored lines on the base.

Birley (1963) divided armpurses into those with an expanding handle and those with a rigid handle. Unfortunately this example lacks any trace of a handle and so cannot be assigned to a type and thus dated. For a general discussion and parallels see Birley 1963 and Allason-Jones and Miket 1984, 3.722.

Length: 100 mm GH55 $(75.3941)$


Fig 81 Small finds, objects of copper alloy (scale 1:1)


Fig 82 Small finds, objects of copper alloy (scale 1:1)

100 (Fig 81) Strip with one end curled. Broken clip from an armpurse.

Length: 38 mm , width: 6 mm , thickness: 1 mm EP68 (75.3461)

101 (Fig 81) Circular mount shaped to represent a lion's head with the mane filling the circle. A hole has been drilled on either side of the jaws. The back is hollow with two square-sectioned shanks 'tied' together to form an attachment. Lion heads were popular motifs in the Roman Empire appearing on samian, mortaria etc.

Copper alloy mounts are particularly common on furniture and chests: see Menzel 1966, Tafn 54 and 55.

Diameter: 33 mm , height: $15 \mathrm{~mm} \quad \mathrm{CZ} 68$ (75.3455)

102 (Fig 81) Rectangular plate pierced by twelve circular holes arranged in three rows. A second plate with a scalloped edge and two large circular holes (diameter: 10 mm ) is riveted onto the base plate by six domed rivets. Buckle plate of a late and sub-Roman type not common outside Britain; (cf Hawkes and Dunning 1961, figs 17 and 18; Goodall in Hurst 1979, fig 57.72)

Length: 49 mm , width: 38 mm Unprovenanced (75.2275)

103 (Fig 81) Base of a jug handle shaped stylistically to represent a vine leaf with incised scallops around the edge and a herring-bone motif down the centre. Three large holes (diameters: $6 \mathrm{~mm}, 6 \mathrm{~mm}$, 9 mm ), arranged in a triangle, provide the method of attachment. The plate curved to fit the body of its host vessel. The plain rod handle projects from a heel; cf Intercissa: Alfolldi ef al 1957, pl XXXIX.8; 217.17, from Building 8; and a rather squat jug in Nijmegen Museum: Boesterd 1956, no 258.

Height: 88 mm , maximum width: 38 mm JB66 (75.3360)

104 Out-turned rim fragment of a plain bowl. (Not illustrated)

Diameter: $170 \mathrm{~mm} \quad$ BC52 (75.4614)
105 (Fig 82) Fragment of the out-turned rim of a large bowl.

Diameter: 132 mm approximately $\quad B C 52(75.4614)$
106 (Fig 82) Large handle of circular section, lacking both terminals.

Length: 86 mm , thickness: 4 mm HC57 (75.2378)
107 Fragment of distorted copper alloy which expands at one edge. (?)Beaded rim of a vessel. (Not illustrated)

Length: $39 \mathrm{~mm} \quad$ CL62 (75.3952)
108 (Fig 82) Annular ring of semi-oval section with a fragment of copper alloy strip hooked on. Possibly part of a bucket escutcheon.

Diameter: 22 mm , width: 3 mm , thickness: 3.5 mm , length of hook: 21 mm EX68 (75.3455)

109 Three fragments of an annular ring of semi-oval section. (Not illustrated)

Diameter: 22 mm , width: 2.5 mm , thickness: 3.25 mm FN69

110 (Fig 82) Fragment of a (?)bell with two widely spaced incised lines running across the face.

Diameter: $50 \mathrm{~mm} \quad H S 70(75.3618)$
111 (Fig 82) Rod of semicircular section with a hook projecting from a ridge-and-groove neck. Two shanks project from the back and the end is rounded. Junction loop from harness.

Length: $55 \mathrm{~mm} \quad \mid X 67(75.3400)$
112 Loop from a piece similar to above. (Not illustrated)

Length: $15 \mathrm{~mm} \quad E B 66(75.3341)$
113 Loop from a small leaf-shaped apron pendant. (Not illustrated)

Length: $13 \mathrm{~mm} \quad$ LS66 (75.3341)
114 (Fig 82) Rectangular strap mount with a globular terminal. The face is silvered and two ribs run across one end. Two shanks project from the back; cf Verulamium: Waugh and Goodburn in Frere 1984, fig 11.80, AD 140-50.

Length: 45 mm , width: 8 mm 'Site 11 courtyard, cast' 1964 (75.3303)

115 (Fig 82) Fragment of a battered strap mount similar to above, with a globular terminal and back shanks.

Length: 28 mm , width: 7 mm , height: 7 mm HF70 (75.3618)

116 (Fig 82) Fragment of a strap mount whose body expands around a circular hole which has held a domed rivet. The end is globular, with deeply ridged decoration above cf Cirencester: Webster 1982, fig 39.129.

Length: 32 mm , width: 14 mm , thickness: 5 mm IF68 (75.3437)

117 (Fig 82) Fragment of an strap mount similar to above.

Length: 40 mm , width: 14 mm GB67
118 End of a leaf-shaped strap mount with bulbous terminal. (Not illustrated)

Such strap mounts are well known in the area (see Allason-Jones and Miket 1984, 3.660) and they appear on Robinson's reconstruction of the Corbridge Type A armour (1975, pl VI).

Length: $17 \mathrm{~mm} \quad 1060(75.3947)$
119 (Fig 82) Cruciform hollow strap distributor, the openings only wide enough to take straps less than 9 mm wide. The arms are semi-oval in section.

Length: 28 mm , width: 27 mm EK57 (75.2378)
120 (Fig 82) Fragment of an undecorated terret. A wide oval plate separates the semi-oval-sectioned hoop from the rectangular-sectioned central panel.


Fig 83 Small finds, objects of copper alloy (scale 1:1)

For a discussion of dating, types, and methods of use of terrets see M MacGregor 1976, 38ff. A parallel example is already known from Corbridge (Corstopitum Museum 75.1336).
Length: 42 mm KG68 (75.3450)
121 (Fig 82) Large crescentic harness pendant, with the hanging ring cast in one with the incomplete plate. The outer face is convex, the inner concave, of Kastell Hofheim: ORL 29, no 3; Wiesbaden: ORL 31, no 41; Osterburcken: Oldenstein 1976, Taf 44.436; Faimingen: Oldenstein 1976, Taf 45.444.
Width: 54 mm , height: 59 mm BW52 (75.4614)
122 (Fig 83) Incomplete crescentic harness pendant similar to above but much smaller; cf Newstead: Curle 1911, pl LXXIV. 4.
Length: 15 mm , width: $26 \mathrm{~mm} \quad / H 68$ (75.3461)
123 (Fig 83) Junction loop from harness. Such fittings were used to link separate leather harness straps, either four as at Lincoln (Webster 1949, pl Xa) or three (Hawkes and Hull 1947, 339). See AllasonJones and Miket 1984 for a list of all the local parallels.
Length: $28 \mathrm{~mm} \quad F Q 59(75.3944)$
124 (Fig 83) Junction loop from harness, similar to above but more complete, showing ridge-and-groove moulding and circular holes arranged in pairs.
Length: 46 mm , width: 16 mm LQ68 (75.3465)
125 (Fig 83) Fragment of a hooked plate with a single rivet projecting from the back. This is too fragmentary to identify with certainty as a strap mount, baldric clip, or a bucket escutcheon.

Length: 30 mm , width: 13 mm KD80?
126 (Fig 83) Rod of semicircular section, flattening to a hook at one end which curves back. Two shanks project from the back, one ending in a domed washer and holding fragments of leather.
Length: 30 mm , width: 3.5 mm , diameter: 8 mm KU68 (75.3462)

127 (Fig 83) Three dimensional toggle of the 'dumb-bell' type with domed ends and ridged necks. Dumb-bell buttons are commonly found in the north of England and Gillam, in 1961, referred to them in support of his suggested inter-Wall school of metalworking, (M MacGregor 1976, 134). MacGregor (ibid) has suggested a late first to possibly third century date. An example of this type is already known from Corbridge (Corstopitum Museum 75.205).

Length: 18 mm , thickness: 11 mm CG57 (75.2378)
128 (Fig 83) Three dimensional toggle of the dumb-bell type similar to above but with conical ends.

Length: 16 mm , thickness: 11 mm IM64 (75.3303)
129 (Fig 83) Three dimensional toggle of the dumb-bell type similar to above with globular ends and well ridged necks.

Length: 18 mm , thickness: 8 mm 1068 (75.3466)

130 Triangular-sectioned rod with a bifurcated curved shank. Possibly the broken loop from a button-and-loop fastener. (Not illustrated)
Length: 23 mm IK59 (75.3944)
131 (Fig 83) Button-and-loop fastener with a triangular loop and an open 'teardrop' button. This would appear to be a hybrid between Wild's Class II, which consists of an open ring, and Class III (1970a), which has a solid teardrop shape.
An example from Middlebie, Dumfriesshire, is similar but has enamelled motifs top and bottom, instead of the plain ribs. Other examples are listed by Wild (1970a, catalogue nos 30, 41, 46). Early second century AD .
Length: 49 mm , width of hoop: 17 mm , width of button: 25 mm ' 1968 Site 12 W4' (75.3461)

132 (Fig 83) Button-and-loop fastener with a triangular loop fitting inside the small hollow domed button. This would appear to have much in common with the double boss style, regarded by Gillam as common in north Britain in the early second century although the closest parallel is from an Iron Age B context at Glastonbury (Wild 1970a, catalogue no 5).
Length: 29 mm , diameter of button: 13 mm EJ 68 (75.3451)

133 (Fig 83) Small button-and-loop fastener with a triangular button and a very fine loop which mirrors the shape of the button. This fastener does not correspond to any of Wild's classes (1970a), although the fineness of the loop and head may suggest an affinity with the Vindonissa type (Class VIII), in which case it could be dated to the first century $A D$.
Length: 32 mm , maximum width: 12 mm GN69 (75.3547)

134 (Fig 83) Button-and-loop fastener with a roughly triangular loop and a double hollow boss button. There is a pronounced rib between the bosses on the outer face. Wild Class I (1970a), Gillam Type A (1958). This type has its origins in the Iron Age although its appearance at Brough-under-Stainmore (Gillam 1958, 80) and at Corbridge suggests that it continued in use into the Flavian period.
Width: 28 mm , length: 27 mm , total thickness: 20 mm '1971 Site 11 SR RM10 pit' (75.2275)

135 (Fig 83) Teardrop button from a button-andloop fastener. Wild Class III (1970a), Gillam Type B (1958). Parallels suggest that this type is common from Antonine contexts. An example is already known from Corbridge (Gillam 1958, 80). See Wild 1970a and Allason-Jones and Miket 1984, 3.585 for parallels.
Length: 20 mm AX80
136 (Fig 83) Teardrop stud with a rectangular loop projecting from the back. In the centre there is a dot of blue enamel with a concentric ring of decayed enamel of another colour around it.
Although clearly a mount this piece has much in common with the teardrop button-and-loop fasteners of Wild's Class III (1970a). Similar studs are known


Fig 84 Small finds, objects of copper alloy (scale 1:1)
from Middlebie, Dumfriesshire, and York (M MacGregor 1976, fig 8.1 and 2).

Length: 31 mm , width: 17 mm DT67 $(75.3399)$
137 (Fig 83) Leaded bronze disc with two square loops across the back, one of which is missing. Two small lugs project from the back, each pierced by a circular hole to take a pendant. The face is dished with a central boss rivetted into position, surrounded by an incised concentric circle. The edge is bevelled and silver foil has been soldered onto the face with a lead-tin alloy. Harness strap pendant attachment.
Diameter: $33 \mathrm{~mm} \quad F Y 70(75.3617)$
138 (Fig 83) Several very small rectangular armour scales with rounded ends, held together with copper alloy wire which passes through circular holes arranged in pairs.

Each scale is $13 \times 8 \mathrm{~mm} \quad$ OG68 (75.3455)
139 (Fig 83) Small parcel of very small armour scales, each with rounded ends and eight holes arranged in four groups of two. The scales are fastened together with copper alloy wire. The sheet, which could measure 150 mm square approximately when unfolded, has been tightly folded into a small rectangular parcel, probably in preparation for remelting.
Several similar parcels were found in a metalworking area at Piercebridge (Allason-Jones in Large and Scott forthcoming).
(Scales) length: 17 mm , width: 7 mm 'Site 44 ' (75.3917)

140 (Fig 84) Small square buckle with one edge expanding to a point. The pin has been made by folding a metal strip to a taper and wrapping one end around one edge of the buckle. The upper face has chamfered edges and is countersunk to take the pin.

Length: 23 mm , width: 20 mm , length of pin: 21 mm CB80

141 (Fig 84) Oval buckle of strip section, with looped terminals set at right angles to the shank.

Total width: 27 mm , thickness: 0.5 mm Site $4^{\prime}$ (75.3917)

142 (Fig 84) Buckle with concave, diamond-sectioned sides ending in globular terminals and cylindrical hinge loops.

Length: 27 mm , width: $34 \mathrm{~mm} \quad B / 69(75.3546)$
143 (Fig 84) Small D-shaped buckle of oval section with expanded ends enclosing a circular hole through which the iron hinge pin passes. The buckle pin is also held by the iron rod, the remainder of which is hidden by a folded strip of copper alloy pierced to take a rivet, of Verulamium: Waugh and Goodburn in Frere 1984, fig $11.75 \mathrm{AD} \mathrm{240-300} ,\mathrm{and} \mathrm{76}$, 375-80).

Length: 17 mm , width: 18 mm , plate length: 22 mm , plate width: $11 \mathrm{~mm} \quad \operatorname{KE67}(75.3398)$

144 (Fig 84) Plate folded over an incomplete iron ring and held in position by two rivets. No sign of a buckle pin.

Length: 16 mm , diameter of ring: 17 mm KK68 (75.3463)

145 (Fig 84) Fragment of a copper alloy buckle with a sheet of copper alloy wrapped around the hinge pin, the ends of which pass through the arms of the buckle. The pin, which is rectangular in section, is still in position. The belt plate appears to have a notched edge.
Length: 12 mm , width: 22 mm ' 1970 unstratified' (75.3622)

146 (Fig 84) Three central bars of enamelled belt plates. Two are complete, with three ovals of blue enamel separated by baluster-moulded bars with flat backs; of the third, only two ovals remain. Similar plates, but with confronting boars' heads, are known from South Shields (Allason-Jones and Miket 1984, 3.10 and 3.11 ) and an example from Corbridge, lacking the central bar, was published by Henry (1933, fig 39.7; see also nos 2,3 , and 5 for similar bars). For other examples see Allason-Jones and Miket (1984, 94-5). Few come from securely dated contexts, but a late second to early third century date is suggested.

Length: 37 mm , width: 9 mm 1967 unprovenanced
147 (Fig 84) Oval dagger or knife guard with a rectangular hole to take the tang; cf Lankhills: Clarke 1979, G81.69; G443.602.

Length: 20 mm , width: 14 mm , thickness: 1 mm WV47 (75.3769)

148 (Fig 84) Incomplete lozenge-shaped dagger or knife guard with a countersunk rectangular hole to take the tang as above.

Length: 22 mm , width: 18 mm , thickness: 0.5 mm Unprovenanced (75.2378)

149 (Fig 84) Incomplete dagger or knife guard with curved edges and blunt ends. The edges are notched. In the centre is a large rectangular hole to take the tang.

Length: 16 mm , width: 10 mm , thickness: 1 mm HY59 (75.3945)

150 (Fig 84) Oval plate with a rectangular hole in the centre. Knife guard.

Plate: $24 \times 11 \mathrm{~mm}$, hole: $3 \times 3.5 \mathrm{~mm}{ }^{\prime}$ Site $44^{\prime}(75.3917$ )
151 (Fig 84) Globular chape from a dagger sheath holding two lengths of U-sectioned binding; cf Verulamium: Waugh and Goodburn in Frere 1984, fig 11.71, described as a 'chape probably from a sword scabbard of the 'Pompeii' type', AD 44-58, with short discussion.

Length: 32 mm , width of end: 15 mm KX66 (75.3341)

152 (Fig 84) L-shaped binding which encloses a wider sheet of iron with a disc-headed rivet passing through both and held by a lozenge-shaped washer on the back. A second piece of copper alloy binding fits under the first.

Length: $46 \mathrm{~mm} \quad$ A052 (75.4614)


Fig 85 Small finds, objects of copper alloy (scale 1:1)

153 (Fig 84) Spur, incomplete but probably a rivet spur. The rectangular-sectioned shank expands to a wide central area, to which a prick with a bulbous base has been added separately. See Shortt 1959, 61-76.
Diameter of prick: 14.5 mm , total surviving height: 40 mm FB68 (75.3459)

154 (Fig 84) Heel spur with worn prick and curled ends. This simple type of spur has several parallels in Poland dated to AD 180 (Godlowski 1984, 327-50, Abb 3, no 13; Abb 4, nos 28-30; Abb 5, no 10). However, there are no parallels known in the north of England, so the appearance of two at Corbridge may indicate the presence of a particular unit with Eastern European antecedents.

Length: 57 mm , width: 7 mm KG68 (75.3450)
155 Heel spur of a similar type to above but with a more conical prick. The curled ends have more pronounced knobbed terminals. (Not illustrated)
Length: 58 mm , width: 9 mm KG68 (75.3450)
156 (Fig 85) Strip with a curved bevelled edge broken at both ends and along the inner curve. Possibly a flange from a helmet.
Length: 82 mm , width: 17 mm , thickness: 1 mm MW80

157 (Fig 85) Incomplete strip with raised parallel edges and a wide median rib. One end is broken whilst the other ends in a short lip. Possibly a helmet decoration. See Robinson 1975, fig 82.
Length: 35 mm , width: 9 mm , thickness: 2.5 mm HN63 (75.3954)

158 (Fig 85) Strap end of circular section with baluster-moulded neck and triangular loop.

A similar strap end is already known from Corbridge (Corstopitum Museum 75.606). See Oldenstein 1976, Taf 36 for a discussion of the type.

Length: 42 mm , width of loop: 1 mm , thickness: 5 mm ER57 (75.2378)

159 (Fig 85) Strap with a small oval plate at one end pierced by a rough centrally placed hole. The other end has a larger incomplete oval pierced by a small square hole. The shaft is chamfered on one face.

Length: 46mm HC57 (75.2378)
160 (Fig 85) Strip of roughly rectangular shape with one end cut in two curves with a 4 mm diameter hole in the centre and a 1.5 mm diameter hole in each corner. The other end appears to have been shaped the same way but one corner has been cut away later.

Length: 50 mm , width: 21 mm , thickness: 0.5 mm NE64 (75.3303)

161 (Fig 85) Strip which thickens to provide an oval-sectioned loop. One end is pierced by a 3 mm circular hole.

Length: 55 mm , height: 23 mm , width: 7 mm CF65

162 (Fig 85) Tapering strip broken across a circular hole at both ends. Incised marginal lines run along both edges, but not for the whole length. A dimple at one end suggests that an attempt was made to drill another hole.
Length: 52 mm , width: $7-8 \mathrm{~mm}$, thickness: 1 mm HD68 (75.3451)

163 (Fig 85) Right-angle bracket of hemispherical section. One end is missing, the other ends in a leaf-shaped terminal with notched edge and a small circular hole in the centre; cf Fishbourne: Cunliffe 1971, fig 54.199; Kastell Hofheim: ORL 29, Taf VIII. 11.

Length: 86 mm , width: 10.5 mm , thickness: 4.5 mm BS71 (75.2275)

164 (Fig 85) Angle bracket tapering to the terminals, both of which have broken across a circular rivet hole 2.5 mm diameter.

Total length: 63 mm , width: 19 mm , thickness: 1 mm ME8O

165 (Fig 85) End of a steelyard with two suspension loops for the provision of different fulcra to weigh heavy and light objects. The head is decorated on one face with a saltire cross between pairs of transverse lines. One edge of the head also has groups of crosses and lines which must be decorative as they are wrongly placed to be used for measurements. The shank is oval in section and has a series of grooves placed at regular intervals, possibly indicating ounces. The letters $I V$ are scratched on the back near this edge. Fragments of loops survive but only one shows the ends wrapped around to secure the hook. See Crummy 1983, no 2508 and Frere 1984, 57 , no 210 for a discussion of the way such a steelyard could work.
Length: 62 mm , width 17 mm , length of surviving hook: 40 mm BW52 (75.4614)

166 Incomplete steelyard. The bar or shank is oval in section and has the letters $X V, V$, and $X$ incised roughly on one face whilst the other has pairs of transverse grooves. See above. (Not illustrated)
Length: 88mm EM68 (75.3461)
167 Three dimensional phallic pendant with a large ring of rectangular section projecting from the back. Such pendants are common in Roman military contexts and, with the matching studs (see below), are usually associated with harness and served as symbols of good luck; cf Allason-Jones and Miket 1984, 3.586, and Green 1978, 71. (Not illustrated)

Length: 39 mm , width: 21 mm , diameter of ring: 16 mm DK66 (75.4289)

168 (Fig 85) Cast phallic stud with very angular modelling. Two circular-sectioned shanks project from the back, both with hammered ends.

An example is already known from Corbridge: Corstopitum Museum 75.624. Cf South Shields: Allason-Jones and Miket 1984, 3.588.

Length: 28 mm , width: 14 mm , height: 12 mm K/68 (75.3454)


Fig 86 Small finds, objects of copper alloy (scale 1:1)

169 (Fig 85) Three dimensional phallus flattened at the back. A circular hole ( 3 mm diameter) has been drilled centrally, which may suggest that this is a pendant, although the flattened back implies a stud.

Length: 34 mm , maximum width: 21 mm , maximum thickness: 6 mm 'Site $44^{\prime}(75.3917)$

170 (Fig 85) Incomplete pendant of crescentic shape, modelled on the front and flat on the back. One end is shaped to represent a phallus, whilst the other takes the form of a stylized clenched fist. Such pendants were worn to ward off the Evil Eye, the clenched fist being an ancient talisman which continued in use in Britain into the post-medieval period.
They are usually fashioned in bone, although bronze examples are known used as pendants or handles: eg Newstead: Curle 1911, pl LXXVII. 2 and 3, and Wallsend: Allason-Jones forthcoming L15 23 1533.

Width: 34 mm , height: 15 mm , thickness: 5 mm HF70 (75.3618)

171 (Fig 86) Openwork mount pierced by a single circular hole ( 2 mm diameter). The notch above suggests that it may be part of an elaborate belt fitting of the type known in the military areas of Britain and the Rhineland in the late second to early third century. However, although the general type is well known, it is rare to find exact parallels, as each seems to have been individually made in a clay mould which would be destroyed during manufacture.
Length: 47 mm , thickness: 2 mm HC68 (75.3462)
172 Incomplete peltate end of a rectangular openwork belt mount. A fragment of the fretwork has become dislodged from the central panel and is now attached by corrosion products to the end. One centrally placed shank projects from the back. This type is dated to the late second to early third century (Oldenstein 1976, 193-7); cf South Shields: AllasonJones in Miket 1983, fig 69.36. (Not illustrated)
Length: 13 mm , width: 21 mm ' 1968 Site 12 W1/2' (75.3458)

173 (Fig 86) Fragment of a rectangular openwork belt plate with a disc-headed shank projecting from the back; cf South Shields: Allason-Jones and Miket 1984, 3.811.
Width: 22 mm , total height: 5 mm 'Site $44^{\prime}(75.3917)$
174 (Fig 86) Long openwork stud with rounded ends. Two short shanks project from the back.
Length: 48 mm , width: 17 mm , height: 6 mm 'Site $44^{\prime}$ (75.3917)

175 Two fragments of an openwork stud - one shank survives; of Allason-Jones and Miket 1984, 3.776 and 3.780 . (Not illustrated)

Length: 23 mm ER65
176 Fragment of an openwork rectangular mount with a shank projecting from the back. (Not illustrated)
Width: 17 mm , thickness: 1 mm BC69 (75.3550)

177 Several fragments of openwork. (Not illustrated)

Length: 26 mm /K65

## 178 Fragment of openwork. (Not illustrated) Length: 15 mm /A65

179 (Fig 86) Rectangular stud, with a chequerboard design of millefiori enamel of plain turquoise squares alternating with squares of $5 \times 5$ black and yellow canes sunk into the face. Two disc-headed studs project from the back, only one of which survives in its entirety. A parallel is already known from Corbridge: Corstopitum Museum 75.597.

Length: 38 mm , width: 20 mm , height: 9 mm AV67 (75.3399)

180 (Fig 86) Disc stud with stamped crescents around the edge, enclosing two concentric fields with traces of enamel round an enamelled centre described by J Bayley as follows, 'centre: traces of blue with white central spot,inner ring: enamel with sockets of inset enamel spots, outer ring: traces of blue'.
A circular scar on the reverse indicates that this is a stud and not a brooch, such as a similar disc from Coventina's Well (Allason-Jones and MacKay 1985, no 43 ). It is possible that this stud is a product of the northern school of enamelling (Collingwood 1930), which was active in the second to third centuries AD.

Diameter: 24 mm , thickness: 1.5 mm MK68 (75.3465)

181 (Fig 86) Disc stud with the face divided by wedge-shaped blocks of enamel juxtaposed, which create a cruciform effect around the central roundel. The centre contains orange enamel, whilst the arms of the cross have turquoise enamel with red in the voids.
Although the type is well known on the northern frontier (see Britannia, V, 1974, 160) this example is unusual in that the edge is notched all round, a feature paralleled at Verulamium: Waugh and Goodburn 1972, fig 37.96, AD 150-55/60.

Diameter: 13 mm , height: 1 mm ' 1968 Site 12 Square $3^{\prime}$ (75.3456)

182 (Fig 86) Small disc stud with the face divided into two fields. The inner circle contains orange enamel, whilst the outer ring is divided into alternate wedges of turquoise and another colour, now olive green. The edge has been decoratively notched, as on No 181 above. Suggested date second to third century AD .

Diameter: 10 mm , thickness: 1 mm IT80

183 (Fig 86) Disc stud with turned back edges. The face has a circular rib dividing it into two fields which probably held millefiori enamel. A central dimple marks the position of the short tapering shank on the reverse.

Similar studs are known from South Shields, Housesteads, and Chesters: Allason-Jones and Miket 1984, 3.4.

Diameter: 37 mm , height: 9 mm 'Site 44 ' $(75.3916)$

184 (Fig 86) Square stud with a bevelled edge. In the centre, there is a square of red, blue, and white millefiori enamel, much corroded. A short tapering circular-sectioned shank projects from the back.

Length: 14.5 mm , width: 15 mm , height: 6 mm KD80?

185 (Fig 86) Disc stud with a high central rib which may have held an inset. Two concentric grooves surround this rib. Two shanks project from the back. This type of stud may be related to the disc brooches with glass insets which, although popular on the other forts in the area, do not seem to have appealed to the population of Corbridge. See Allason-Jones and Miket 1984, 3.138.

Diameter: 31 mm , height: 11 mm 'Site 44 ' (75.3916)
186 (Fig 86) Disc stud of similar type to above with two disc-headed shanks projecting from the back.

Diameter: 31 mm , height: $9 \mathrm{~mm}{ }^{\prime}$ 'Site 44 ' (75.3916)
187 (Fig 86) Very small disc stud with the convex face divided by concentric ribs. Traces of niello survive in the hollows. A wide tapering shank projects from the back.

Niello has been described by La Niece as a 'black material composed of one or more metal sulphides which is inlaid or fused into a recess in metal'. It first became popular in the first century AD although the technique may have been known before (1983, 279-97). In Roman Britain, it is mostly used on military equipment and harness in the early period, before appearing on luxury tableware towards the end of the third century. It is unusual to find niello used on small objects such as this stud and those below, as the technique's effect relies on the contrast between the black of the niello and the surrounding metal. It is also unusual to find niello used in the north of England. The only other piece known from Hadrian's Wall is a tiger stud from Walker (Antiq ). 49, 1969, 394-5).

Diameter: 7 mm , height: 5 mm HD59 (75.3944)
188 (Fig 86) Small disc stud similar to above with a nielloed ring around the central boss.

Diameter: 6.5 mm , height: 6 mm MM60 $(75.3946)$
189 (Fig 86) Rectangular stud with a convex face and bulbous terminals. The face has seven transverse grooves, each filled with niello. Two short shanks project from the back.

Although this type of stud is well known on the northern frontiers of Britain and Germany, none of the previously known parallels have shown traces of niello so far. See Allason-Jones and Miket 1984, $3.877-8$ for British parallels and Oldenstein 1976, Taf 58 for German examples.

Length: 24 mm , width: 7 mm , height: 9 mm PB64 (75.3303)

190 (Fig 86) Rectangular stud similar to above, with the convex face crossed by thirteen transverse grooves filled with niello. The stud tapers slightly to the bulbous terminals. Two short shanks project from the back.

Length: 25 mm , width: 6.5 mm , height: 8 mm CE67 (75.3398)

191 (Fig 86) Rectangular stud similar to above with the convex face crossed by six transverse grooves filled with niello. The two disc-headed shanks which project from the back still hold fragments of leather.

Length: 25 mm , width: 7 mm , height: 11 mm CU71 (75.2275)

192 Rectangular stud similar to above with the convex face crossed by fourteen transverse grooves filled with niello. Two circular-sectioned shanks project from the hollow back. (Not illustrated)

Length: 38 mm , width: 7 mm , height: 11 mm PB64 (75.624)

193 (Fig 86) Long mount with convex face with fourteen transverse grooves, each filled with niello. At the top, there is a long hook divided from the shank by baluster-moulding, whilst the end has a bulbous terminal. Two short shanks project from the back.

Length: 50 mm , width: 9 mm CK69 (75.3553)
194 Fragment of a very corroded hooked mount similar to above. (Not illustrated)

Length: 38 mm , width: 6 mm CR69
195 (Fig 86) Cruciform mount with a single centrally placed shank projecting from the back. The centre is domed and each arm has two transverse grooves across its convex face, all filled with niello. The three surviving arms end in bulbous terminals. The similarity between this mount and the rectangular studs above might suggest that they formed part of a set. A more complete example is known from Cirencester (Webster 1982, fig 37.113).

Length and width: 32 mm , height: 22 mm HC68 (75.3462)

196 (Fig 86) Rectangular buckle plate with two shanks projecting from the back. The face is decorated with three 'tears' of niello.

Width: 30 mm , length: 19 mm OG68 (75.3455)
197 (Fig 86) Vine leaf pendant, very corroded, but with traces of silver sheet attached to the face with lead-tin alloy; of Newstead: Curle 1911, pl LXXIV. 5 and 7.

Length: 37 mm , width: 30 mm , thickness: 1 mm FU66 (75.3341)

198 (Fig 87) Vine leaf pendant similar to above, but in better condition. The metal is leaded gunmetal with silver plating on one face.

Length: 40 mm , width: 39 mm , thickness: 2 mm OW67 (75.3393)

199 (Fig 87) Fragments of a mount with a ring attachment. The end is bulbous and the shape seems to reflect the vine leaf of the above pendants.

Length: 16 mm , width: 16 mm , diameter of ring: $11 \mathrm{~mm} / Y 63(75.3955)$

200 (Fig 87) Incomplete mount with an hexagonal double rib and milled groove frame. From one edge of the frame projects a decorative terminal of which only one encircled boss survives. The whole of the face has been covered by a white metal plate with repousse decoration - the main hexagonal panel containing a human bust with draperies showing at the neck and over the shoulder. It is not clear whether the figure is male or female. The repousse plate is attached with lead-tin solder. XRF has failed to detect any silver in the plate, although tin and zinc are both present. A rectangular loop projects vertically from the back.

Although circular studs with raised portraits are well known throughout the Roman Empire (see Waugh and Goodburn 1972, 45, no 138, and Ulbert 1971), this stud appears to have its closest parallel in a stud from South Shields (Allason-Jones in Miket 1983, fig 70.44), where parallels to the type are discussed. The South Shields example is dated to the first century AD.

Length: 24 mm , height: 11 mm BD59
201 (Fig 87) Circular openwork stud with trumpetpattern motifs in pairs, rather than the more common threes. Two short shanks project from the back cf South Shields: Allason-Jones and Miket 1984, 3.778; Dura Europos: Rostovtzeff et al, 1949, pl I.1.

Diameter: 26 mm , height: 12 mm AD80
202 (Fig 87) Disc stud with an openwork eightspoked wheel motif in the centre. The spokes and the surrounding rib are set higher than the rest of the stud. Two disc-headed studs project from the back, which is decorated with a marginal groove. The face has a central dimple.

Wheel studs and brooches are associated with the Celtic worship of Taranis, whose cult was particularly popular in the second century. A wheel brooch is already known from Corbridge (Green 1978, 18, pl 46).

Diameter 32 mm , height: 9 mm HA80

203 (Fig 87) Fragment of a rectangular stud with a raised central bar and a beaded border. The surviving end has a crescentic projection and two shanks project from the back.

Length: 27 mm , width: $10.5 \mathrm{~mm} \quad / 180$
204 (Fig 87) Elliptical stud with one splayed end. The other end has a trilobate projection decorated with incised ring-and-dot motifs. The centre of the mount is raised and emphasized by a marginal line of incised dots. Two shanks project from the back of South Shields: Allason-Jones and Miket 1984, 3.882; Weissenburg: Oldenstein 1976, Taf 35.284-5.

Length: 35 mm , width: 11 mm 'SE Comp $V W$ ' (75.3771)

205 Incomplete elliptical stud similar to above. (Not illustrated)

Length: 36 mm , width: 11.5 mm , height: 11 mm Unprovenanced

206 (Fig 87) Disc stud with a wide rectangular shank broken across its pierced end. The face is convex and has been moulded with deep radiating lines which result in a scalloped edge of Neckarburken: Oldenstein 1976, Taf 46.483.

Diameter: 22 mm , height: 19 mm , width of shank: 6 mm , thickness of shank: 4 mm DY68 (75.3460)

207 (Fig 87) Small domed stud with deeply scored lines radiating from the centre and resulting in a scalloped edge. A short disc-headed shank projects from the back of Butzbach: Oldenstein 1976, Taf 46.483.

Diameter: 12 mm , height: 8 mm MR80
208 (Fig 87) Disc-headed stud with notches cut round the edge. Short curved shank of oval section of South Shields: Allason-Jones and Miket 1984, 3.885.

Diameter: 24 mm , height: 14 mm LD80
209 Fragment of a disc stud head similar to above. (Not illustrated)

Diameter: 30 mm approximatelyIM80
210 (Fig 87) Disc stud with a rectangular loop across the back.

Diameter: 29 mm , height: 9 mm 'Site 44' (75.3916)
211 Circular armour stud with a central boss and marginal groove of Robinson 1975, fig 83. (Not illustrated)

Diameter: 20 mm QT64 (75.3303)
212 Circular stud head in fragments, with a dimple or a hole in the centre cf Robinson 1975, fig 83. (Not illustrated)

Diameter: 22 mm approximately IG80
213 Disc stud with lead-tin alloy on under face. There is no trace of a shank. The slightly convex upper face has incised marginal lines and is disfigured by a large lump of lead corrosion. (Not illustrated)
Diameter: $35 \mathrm{~mm} \quad$ BY52 (75.4614)
214 Corroded disc head from a stud with a fragment of the square-sectioned shank. (Not illustrated)
Diameter: 18 mm approximately LT63 $(75.3953)$
215 Very corroded disc head from a stud. (Not illustrated)

Diameter: 15mm LZ64 (75.3956)
216 Fragment of a disc head from a stud. (Not illustrated)

Diameter: $19 \mathrm{~mm} \quad$ MY64 (75.3303)
217 Tiny disc head from a stud. (Not illustrated)
Diameter: 5 mm '1966 Site 11' (75.3341)
218 (Fig 87) Incomplete lozenge-shaped plate with a globular-headed rivet through it.

Length: 15 mm , height: 10 mm DC68 (75.3463)


Fig 87 Small finds, objects of copper alloy (scale 1:1)

219 (Fig 87) Corroded disc with three wide concentric grooves around a central dot. No method of attachment. Possibly a small mirror, although not obviously polished. See Lloyd-Morgan 1977, 335-8.

Diameter: 42 mm , thickness: 1 mm CD70 (75.3617)
220 (Fig 87) Large flanged hollow domed stud with two squat shanks projecting from the back of the flange.

Diameter: 37 mm , total height: 19 mm 'Site 44 ' (75.3917)

221 Disc stud with a short circular-sectioned shank. A shallow marginal rib runs around the underside. (Not illustrated)
Diameter: 23 mm , height: 9 mm FM70 (75.3614)
222 Incomplete square plate pierced by two discheaded rivets. (Not illustrated)

Length: 19mm EB61 (75.3949)
223 (Fig 87) Disc stud head. The circular-sectioned shank appears to pass through the head. (Not illustrated)
Diameter: $16 \mathrm{~mm} \quad$ EP71 $(75.2275)$
224 Disc-headed stud with a curved circular-sectioned shank. (Not illustrated)

Diameter: 20 mm , height: 13 mm , thickness of shank: 3 mm DU80

225 Circular stud with turned back edge and circular-sectioned shank. (Not illustrated)

Diameter: $15 \mathrm{~mm} \quad$ JX64 (75.3303)
226 (Fig 87) Stud similar to above.
Diameter: 16 mm , height: $4 \mathrm{~mm} \quad I \gamma 70(75.3619)$
227 (Fig 87) Incomplete mount with a convex circular head and a rectangular loop projecting from the back.

Length: 15 mm , height: $11 \mathrm{~mm} \quad A Q 67(75.3398)$
228 Hollow flanged dome stud with a short sharp shank. (Not illustrated)

Diameter: 19 mm EA52 (75.4617)
229 (Fig 87) Hollow domed stud with a thin tapering shank.

Diameter: 13mm, height: 13 mm IX59 (75.3944)
230 Incomplete domed stud with a tapering circular-sectioned shank. (Not illustrated)

Length: $10 \mathrm{~mm} \quad A Q 66$ (75.3341)
231 (Fig 88) Large hollow domed stud with a disc-headed shank.
Diameter: 47 mm , height: 19 mm DF80
232 (Fig 88) Large hollow dome with a small dimple in the centre. No obvious means of attachment.

Diameter: 63 mm , height: 19 mm FR80

233 Hollow domed stud with lead-tin infill. No sign of a shank. The head has been tinned on both faces. (Not illustrated)

Diameter: 31 mm BW52 (75.4614)
234 Shallow conical stud head. (Not illustrated)
Diameter: 10 mm BL64 (75.3303)
235 Shallow conical solid stud head with a short oval-sectioned shank. (Not illustrated)
Diameter: 22 mm , height: 9 mm GR66 (75.3341)
236 (Fig 88) Hollow domed head with the shank torn out, leaving a large hole.

Diameter: 31 mm E/68
237 Double disc-headed stud with an incised dot on both faces and traces of lead on one cf Oldenstein 1976, Taf 47. (Not illustrated)

Diameter: 20 mm , height: 15 mm FB70 $(75.3613)$
238 Iron disc stud with a bronze disc attached to the head. None of the square-sectioned shank remains. (Not illustrated)
Diameter: $28 \mathrm{~mm} \quad$ IY62 (75.3950)
239 Iron disc-headed stud with a copper alloy disc attached to the head as above. (Not illustrated)

Diameter: 25 mm DE66 (75.3341)
240 Iron disc-headed stud with a copper alloy disc attached to the head as above. (Not illustrated)

Diameter: 25 mm MC68 (75.3460)
241 (Fig 88) Hollow domed stud with a single incised line. The iron shank has been attached with lead-tin alloy.

Diameter: 13 mm , height: 8 mm G070 (75.3614)
242 Hollow domed stud head with lead-tin infill. (Not illustrated)

Diameter: 30 mm approximately FG80
243 (Fig 88) Half of a disc with a central circular hole with a marginal grooved rib around the hole and the main edge.

Diameter: 43 mm , thickness: 2 mm MM66 (75.3341)
244 (Fig 88) Incomplete rectangular mount pierced by two circular-sectioned rivets, one of which holds a square washer.
Length: 43 mm , width: 18 mm , total thickness: 6 mm AF55 (75.3941)

245 Solid conical stud head. (Not illustrated)
Diameter: 9 mm , height: 5 mm IM64 $(75.3303)$
246 Hollow hemisphere with a central hole, 4 mm diameter. (Not illustrated)

Diameter: 20 mm , height: 11 mm 'Site 44' (75.3917)
247 Rectangular-sectioned rod which has broken across a split, probably the eye of a needle. (Not illustrated)
Length: 51 mm , thickness: 2 mm /W62 (75.3952)


Fig 88 Small finds, objects of copper alloy (salle 1:1)

248 Tapering needle of circular section, broken across the eye. (Not illustrated)

Length: 53 mm , thickness: 2.5 mm EP66 $(75.3398)$
249 Distorted needle of circular section broken at the point and across the eye. (Not illustrated)

Length: 60 mm , thickness: 2 mm FM70 (75.3614)
250 (Fig 88) Distorted needle of circular section, broken across the countersunk eye.

Length: 109 mm , thickness: 2 mm CC80
251 Incomplete needle of oval section, in several fragments, with a long oval head and countersunk eye. (Not illustrated)

Total length: $102 \mathrm{~mm} \quad$ CL69 (75.3553)
252 Fragmentary needle of rectangular section with a long head and a countersunk rectangular eye. (Not illustrated)

Length: 138 mm CL69
253 Fragment of the baluster-moulded head of a pin with a circular-sectioned shank. (Not illustrated)

Length: 20 mm , thickness: $3 \mathrm{~mm} / \mathrm{G} 58$ (75.3943)
254 Globular head of a bronze pin. (Not illustrated) Length: 12 mm FT61 (75.3848)

255 Fragment of a corroded pin with a circularsectioned shank and a globular head. (Not illustrated)

Length: $15 \mathrm{~mm} \quad$ DS62 (75.3951)
256 Globular head from a pin or nail with a circular-sectioned shank. (Not illustrated)

Length: 9 mm , diameter of head: 8 mm IW63 (75.3954)

257 Small globular pinhead. (Not illustrated)
Diameter: 7mm FL65
258 Small globular pinhead. (Not illustrated)
Diameter: 7mm FL65
259 Fragment of an oval-sectioned rod expanding to a thicker rectangular section at one end. Possibly part of a pin. (Not illustrated)

Length: 9 mm , thickness: 3 mm EY67 (75.3400)
260 Circular-sectioned rod. (Not illustrated)
Length: 52 mm , thickness: 2 mm IU55
261 (Fig 88) Very small pin with a globular head.
Similar pins, made by twisting bronze wire around one end to form a head, have been found on several Roman forts in the north of England, but rarely in a datable context, although a quantity was found at Piercebridge in a medieval context (Allason-Jones in Large and Scott forthcoming). In the south, they are known in thirteenth and fourteenth century contexts (Hurst 1979, 111, no 41; Clarke and Carter 1977, 289, no 19) and are known to have continued in production throughout the sixteenth and seventeenth centuries.

Length: 28 mm CF80

262 (Fig 88) Incomplete pin of oval section with a small domed disc head. The shank has passed through a copper alloy collar or bead which is rammed up against the head giving a globular effect.

Length: 58 mm , diameter of collar: 10 mm , thickness: 3 mm NZ80

263 Three fragments of fine tapering rod of circular section, from a pin or needle. (Not illustrated)

Length: 26 mm CO64 $(75.3303)$
264 Rectangular-sectioned tapering shank. (Not illustrated)

Length: 36 mm , width: 5 mm , thickness: 4 mm EN65
265 Pointed end of needle or pin of circular section. (Not illustrated)

Length: 20 mm , thickness: $2.5 \mathrm{~mm}{ }^{\prime} 1960^{\prime}$ unprovenanced (75.3947)

266 Fragment of a pin or needle. (Not illustrated)
Length: $31 \mathrm{~mm} \quad A B 66$ (75.3341)
267 (Fig 88) Circular-sectioned rod distorted and lacking both ends. Possibly a pin or needle.

Length: 70 mm , thickness: 3 mm HA80
268 (Fig 88) Distorted circular-sectioned copper alloy rod lacking both ends. Possibly a pin or needle.

Length: 77 mm , thickness: 2.5 mm GR80
269 Two fragments of tapering copper alloy rod. Possibly a pin or needle. (Not illustrated)

Lengths: $16 \mathrm{~mm}, 7 \mathrm{~mm}$, thickness: 1.5 mm HY80
270 Hollow shank of a tack which has been made by rolling a copper alloy sheet and hammering one end into a flat head. This method of making tacks or rivets appears to have been common in the fourth century and is particularly prevalent at Piercebridge fort (Allason-Jones in Large and Scott forthcoming). (Not illustrated)

Length: 14 mm GC58 $(75.3943)$
271 Small rivet with a hammered flat head. (Not illustrated)
Length: 11 mm , width: of head: 3 mm HQ60 (75.3946)

272 (Fig 88) Nail with a solid domed head, a nipped neck and a square-sectioned shank.

Length: 20 mm , diameter of head: 7 mm GP63 (75.3953)

273 Small tack lacking its head. (Not illustrated)
Length: 10 mm IN63 (75.3955)
274 Solid domed head of a nail similar to No 272. (Not illustrated)

Diameter of head: $7 \mathrm{~mm} \quad / 564(75.3303)$
275 (Fig 88) Nail with a solid domed head and a short tapering shank.

Length: 14 mm , diameter of head: 11 mm JH68 (75.3447)

276 Shank of a tack. (Not illustrated)
Length: 13.5 mm EU68 (75.3454)
277 Shank of square-sectioned tack. (Not illustrated)

Length: 11 mm G/68 (75.3455)
278 Nail with globular head and a roughly shaped shank. (Not illustrated)

Length: 27 mm , diameter of head: 8 mm CE80
279 (Fig 88) Nail with a globular head and square-sectioned shank.

Length: 25 mm , diameter of head: 8 mm C/80
280 (Fig 88) Small tack with a globular head and a roughly shaped shank.

Length: 18 mm , diameter of head: 4 mm CQ80
281 (Fig 88) Globular head and nipped neck of a small nail.

Length: 9 mm , diameter of head: 5 mm ED80
282 (Fig 88) Tiny tack with a disc head.
Length: 12 mm OD80

## Copper alloy rings

283 Oval section. (Not illustrated)
Diameter: 63 mm , width: 6 mm DN55 (75.3942)
284 Oval section. (Not illustrated)
Diameter: 21 mm , width: 2.5 mm , thickness: 3 mm EK55 (75.3941)

2855 Sem -oval section. (Not illustrated)
Diameter: 27 mm , width: 3 mm , thickness: 4 mm CY58 (75.3943)

286 Oval section. (Not illustrated)
Diameter: 20 mm , width: 1.5 mm , thickness: 2 mm Al60 (75.3945)

287 Rectangular section. (Not illustrated)
Diameter: 16 mm , width: 1.5 mm , thickness: 3 mm
'1960' unprovenanced (75.3947)
288 Rectangular section. (Not illustrated)
Diameter: 21 mm , width: 3 mm , thickness: 4 mm KF60 (75.3947)

289 Oval section. (Not illustrated)
Diameter: 36 mm , width: 6 mm , thickness: 5 mm FF61 (75.3848)

290 Oval section. (Not illustrated)
Diameter: 40 mm , thickness: 5 mm LR64 (75.3303)
291 Circular section. (Not illustrated)
Diameter: 25 mm , thickness: 3.5 mm MA64 (75.3303)
292 Triangular section. (Not illustrated)
Diameter: 24mm NI64 (75.3303)

293 Semicircular section. (Not illustrated)
Diameter: 18 mm , width: 1.5 mm , thickness: 2 mm
PU64 (75.3303)
294 Circular section. (Not illustrated)
Diameter: 19 mm , thickness: 2 mm DH66 (75.3341)
295 Oval section. (Not illustrated)
Diameter: 20 mm , width: 2 mm , thickness: 3 mm NU66 (75.3341)

296 Oval section. (Not illustrated)
Diameter: 19 mm , width: 2 mm , thickness: 2.5 mm A066 (75.3341)

297 Oval section. (Not illustrated)
Diameter: 25 mm , width: 3 mm , thickness: 3 mm EQ68 (75.3460)

298 Circular section. (Not illustrated)
Diameter: 29 mm , width: 4 mm ' 1968 Site 12 E3' (75.3456)

299 Oval section. (Not illustrated)
Width: 2 mm , thickness: 2.5 mm KI68 (75.3450)
300 Circular section, penannular. (Not illustrated)
Diameter: 24 mm , thickness: 2 mm BD68 (75.3454)
301 Semicircular section, penannular. (Not illustrated)

Diameter: 20 mm , width: 2 mm , thickness: 3 mm GJ68 (75.3455)

302 Fragment of a ring of triangular section. (Not illustrated)

Length: 18 mm , width: 4 mm , thick 3 mm BC69 (75.3550)

303 Two fragments of an oval-sectioned ring. (Not illustrated)
Diameter: 30 mm , width: 5 mm , thickness: 5 mm FT69 (75.3554)

304 Fragment of a ring of semicircular section. (Not illustrated)

Diameter: 19 mm , width: 1 mm , thickness: 2 mm BM69 (75.3553)

305 Oval-sectioned ring in two fragments. (Not illustrated)

Diameter: 14mm FN69 (75.3548)
306 Oval section. (Not illustrated)
Diameter: 21.5 mm , width: 3.5 mm , thickness: 4 mm BA76

307 D-section with a deep groove across the section. (Not illustrated)

Diameter: 22 mm , width: 3 mm , thickness: 3 mm FQ80

308 Oval section, penannular. (Not iilustrated) Diameter: 19 mm , width: 2 mm FR80

309 D-section. (Not illustrated)
Diameter: 27 mm , width: 2.5 mm , thickness: 4 mm GR80

310 Loop made from a substantial copper alloy strip, tapering in section towards the ends. (Not illustrated)
Length: 30 mm , width: 6 mm Unprovenanced (75.2275)

311 (Fig 88) Loop or split pin of circular section, tapering and flattening to the terminals.
Length: 24 mm , thickness: 2 mm AK55 (75.3942)
312 (Fig 89) Loop or split pin, with a circularsectioned hoop set to one side of the rectangularsectioned arms.
Length: 31 mm , thickness: 3 mm E/58 (75.3943)
313 Rectangular-sectioned curved rod expanding at one end to a broken flat plate. Two transverse lines are incised above the plate. Possibly part of a handle. (Not illustrated)

Length: $40 \mathrm{~mm} \quad / G 66(75.3341)$
314 Fragment of a curved strip with tinning and score marks on the inside of the curve. (Not illustrated)

Length: $38 \mathrm{~mm} \quad$ CP69 (75.3553)
315 Incomplete rectangular strip with two rivets through. An oval rod with a looped end fits over one rivet. (Not illustrated)

Length of strip: 14 mm , length of rod: 28 mm Unprovenanced (75.3917)

## Binding

None of the fragments of binding described below are large enough, or contain the details required, to say whether they came from shields, scabbards, or any other piece of equipment.

316 Short fragment of U-sectioned tubing or binding pierced by two circular holes. (Not illustrated)

Length: 21 mm QO64 (75.3767)

## 317 Squashed length of U-sectioned binding. (Not illustrated) <br> Length: 39 mm GI65

318 (Fig 89) Several fragments of binding with the edges overlapping. Some pieces of mineral-replaced wood survive in section. The fragments are curved, but this is unlikely to be the original shape.

Width: 7 mm , thickness: $0.5 \mathrm{~mm} \quad / R 67(75.3399)$
319 U-sectioned curved binding expanding towards one end. (Not illustrated)

Length: 69 mm , width: 12 mm , thickness of sheet: 0.5 mm FR70 (75.3615)

[^4]321 Two fragments of curved sheet with tinning on the inner face. (Not illustrated)

Thickness: 1 mm CP69
322 Length of U-sectioned binding. (Not illustrated) Length: 27 mm , width: 9 mm GASO

323 Fragment of tube or binding. (Not illustrated) Length: 31 mm CO69

## Sheets, plates, etc

324 (Fig 89) Length of circular-sectioned wire, loosely looped at one end.

Length: 50 mm , thickness: 0.5 mm CB80
325 Oval-sectioned length of wire. (Not illustrated) Length: 30 mm , thickness: 2.5 mm , width: 3 mm ES65

326 Two lengths of rectangular-sectioned wire. (Not illustrated)

Length: 33 mm , length: 42 mm FM65
327 Loop of rectangular-sectioned wire. (Not illustrated)

Length: 29 mm CO65
328 (Fig 89) Incomplete heavy block with a wide median rib. The surviving end is concave. The back is very uneven and appears to have been stuck to a backing.

Length: 23 mm , width: 24 mm , thickness: 8 mm AF53 (75.3940)

329 (Fig 89) Triangular plate with slightly curved edges and pierced through the centre with a rectangular hole.

Length: 30 mm , width: 18 mm , hole: $2 \times 2 \mathrm{~mm}$ LO66 (75.3341)

330 Rectangular strip with a small circular hole drilled through near the centre. (Not illustrated)

Length: 41 mm , width: 8 mm , thickness: 1 mm , diameter of hole: $3 \mathrm{~mm} \quad$ HF70 $(75.3618)$

331 Rod of rectangular section which terminates in a rounded wedge shape, which is slightly hollow. (Not illustrated)

Length: 17 mm , width: 14 mm , thickness: 5 mm HF70 (75.3614)

332 (?)Hollow domed washer with a large circular hole in the centre. (Not illustrated)

Diameter: 30 mm , height: 6 mm , diameter of hole: $9 \mathrm{~mm} \quad E / 68$ (75.3451)

333 (Fig 89) Fragment of a washer with one convex face.

Diameter: 37 mm , width: 5 mm , thickness: 2 mm AP80


Fig 89 Small finds, objects of copper alloy (scale 1:1)

334 (Fig 89) Several fragments of undulating sheet, some pieces with curved edges and two pierced by circular holes.

Thickness: 0.5 mm , diameter of holes: 4 mm MR80
335 Fragment of thin sheet. (Not illustrated)
Length: 22 mm , width: 13 mm , thickness: 0.5 mm FM65

336 Fragment of a disc. (Not illustrated)
Diameter: 23 mm , thickness: 1 mm BE63 (75.3954)
337 Disc with backturned edges, possibly cap. (Not illustrated)

Diameter: 19mm DU63 $(75.3955)$
338 Larger, very corroded disc, possibly head of stud. (Not illustrated)

Diameter: 50 mm , thickness: 1.5 mm EL64 (75.3303)
339 Disc. (Not illustrated)
Diameter: 30 mm , thickness: 0.5 mm ' 1966 East Gate' (75.3341)

340 Incomplete disc. (Not illustrated)
Diameter: 30 mm , thickness: 1.5 mm HI68 (75.3457)
341 Thick disc. (Not illustrated)
Diameter: 26 mm , thickness: 2 mm EM70 (75.3613)
342 Fragment of a sheet with two straight edges and one cut away. There is a 2 mm circular hole piercing one angle and a second hole is cut by a broken edge. (Not illustrated)

Length: 27 mm , width: 24 mm , thickness: 0.25 mm EM70 (75.3613)

343 Corroded sheet. (Not illustrated)
Thickness: 0.5 mm HI55 (75.3941)
344 Several corroded sheets of copper alloy. (Not illustrated)

Thickness: 0.5 mm DG55 (75.3941)
345 Flange from a domed plaque, pierced in one corner. (Not illustrated)

Length: 31 mm , thickness: 3 mm E/58 (75.3943)
346 Folded rectangular sheet. (Not illustrated) Length: 18 mm , thickness: $4 \mathrm{~mm} / \mathrm{G} 8$ (75.3943)

347 Irregularly shaped sheet. (Not illustrated)
Length: 36 mm , width: 33 mm , thickness: 1.5 mm IW59 (75.3946)

348 Very corroded thin sheet. (Not illustrated) Thickness: 0.5 mm GK59 (75.3944)

349 Fragment of a large circular domed plate. (Not illustrated)

Diameter: 98 mm , thickness: 1 mm IN60 (75.3945)
350 Rectangular plate folded in half. (Not illustrated)
Length: 22 mm , width: 18 mm , total thickness: 4 mm Cl60 (75.3945)

351 Very thin sheet with some holes deliberately pierced and some the result of corrosion. (Not illustrated)

Length: 47 mm , thickness; 0.25 mm LK63 (75.3953)
352 Several fragments of sheet one of which has been folded in half. (Not illustrated)

Length: 25 mm , thickness: 0.5 mm AH63 (75.3954)
353 Triangular plate. (Not illustrated)
Length: 16 mm , thickness: 0.5 mm IZ64 (75.3303)
354 Triangular plate. (Not illustrated)
Length: 35 mm , width: 18 mm , thickness: 1 mm CF64 (75.3303)

355 (Fig 89) Large rectangular sheet folded over three times.

Length: 58 mm , width: 36 mm , thickness: 0.7 mm IG67 (75.3399)

356 Rectangular plate. (Not illustrated)
Length: 23 mm , width: 12 mm , thickness: 4 mm KP67 (75.3399)

357 Irregularly shaped sheet. (Not illustrated)
Thickness: 1mm EO70 (75.3615)
358 Irregularly shaped sheet. (Not illustrated)
Thickness: 1mm EO70 (75.3615)
359 Irregularly shaped sheet. (Not illustrated)
Thickness: 1mm ET70 (75.3615)
360 Irregularly shaped sheet. (Not illustrated) Thickness: 1mm FF70 (75.3615)

361 Curved sheet heavily tinned or silvered. (Not illustrated)

Length: $29 \mathrm{~mm} \quad I T 70(75.3619)$
362 Irregularly shaped sheet. (Not illustrated)
Length: 41 mm ; thickness: 1 mm BK70 (75.3617)
363 Three fragments of sheet with iron corrosion on one face. (Not illustrated)

Thickness: $1 \mathrm{~mm} \quad 1 O 70(75.3610)$
364 (Fig 89) Rectangular sheet. The two surviving corners are rounded. The surface appears to have been hammered with a tool with a rounded end. Traces of white metal plating on one face.

Length: 70 mm , width: 32 mm , thickness: 0.5 mm FI80

365 Slightly curved sheet with two diverging straight edges. Plated at the narrower end with a tin rich lead-tin alloy. The copper alloy contains zinc and a small amount of lead and tin. (Not illustrated)

Length: 37 mm , width: 20 mm , thickness: 0.5 mm FN8O

366 Strip. (Not illustrated)
Length: 30 mm , width: 9 mm , thickness: 0.5 mm BB59 (75.3946)

367 Tapering strip. (Not illustrated)
Length: 40 mm , width: $12-17 \mathrm{~mm}$, thickness: 1 mm FZ59 (75.3944)

368 Short strip of curved section. (Not illustrated)
Length: 30 mm , width: 11 mm , thickness: 1.5 mm GM60 (75.3946)

369 Strip. (Not illustrated)
Length: 63 mm , width: 7 mm , thickness: 1 mm DD63 (75.3954)

370 Small U-shaped clip made from a cut strip. (Not illustrated)

Length: 12mm FU64 (75.3303)
371 Strip folded several times. (Not illustrated)
Length: 32 mm , width: 6 mm FG64 (75.3303)
372 Strip expanding to one end. (Not illustrated)
Length: 20 mm , width: $5-6 \mathrm{~mm}$, thickness: 1 mm CG67 (75.3399)

373 Strip with tapering edges. (Not illustrated)
Length: 37 mm , width: $9-11 \mathrm{~mm}$, thickness: 0.5 mm EM68 (75.3461)

374 Curved thick strip. (Not illustrated)
Length: 40 mm , width: 11 mm , thickness: 4 mm HI70 (75.3618)

375 Tapering strip with the narrower end split as though broken across a rivet hole. The other end is more obviously broken. (Not illustrated)
Length: 77 mm , width: 9 mm , thickness: 1.5 mm AA80

376 Strip curled and with varying width. (Not illustrated)

Length: 28 mm , width: 7 mm , thickness: 0.5 mm CE80

377 (Fig 89) Hammered strip with both ends folded to a tube, but in opposing directions.
Length: 41 mm , width: 9 mm , thickness: 0.5 mm FT80

378 Fragment of a strip folded in half. (Not illustrated)

Length: 20 mm , width: 10 mm OS 80
379 (Fig 89) Rectangular bar, slightly tapering to one end. The wider end has a bevelled rectangle cut out of one corner.
Length: 74 mm , width: $16-18.5 \mathrm{~mm}$, thickness: 3.5 mm NN80

380 Rod ending in a hook. Oval section. (Not illustrated)
Length: 52 mm , thickness: 7 mm ' $1952^{\prime}$ unprovenanced (75.4618)

381 Two fragments of corroded rod of circular section. (Not illustrated)
Length: 35 mm , thickness: 3 mm GE59 (75.3946)

382 S-shaped rod of oval section. (Not illustrated)
Length: 39 mm , thickness: 3 mm DP63 (75.3953)
383 Fragment of a rod of circular section. (Not illustrated)
Length: 32 mm CH66(75.3341)
384 Fine rod of square section. (Not illustrated)
Length: 27 mm , thickness: 1 mm HD70 (75.3616)
385 Fragment of a thin wire of circular section. (Not illustrated)

Length: 22 mm , thickness: 1.5 mm DK80
386 Rod of circular section. (Not illustrated)
Length: 22 mm , width: 2 mm , thickness: 2 mm LB80
387 Rod of circular section tapering to one end. (Not illustrated)

Length: 35 mm , width: 2 mm , thickness: 2 mm LB80
388 Rod of oval section with a median groove down two sides. (Not illustrated)

Length: 29 mm , width: 4 mm , thickness: 2 mm LB80
389 Rod of oval section with a median groove down two sides. (Not illustrated)

Length: 23 mm , width: 2.5 mm , thickness: 2 mm LB80
390 (Fig 89) Curved rod of rectangular section, tapering in width and thickness at one end.

Length: 109 mm , width: $4.5-5.5 \mathrm{~mm}$ OQ80
391 Rod of circular section, in three fragments. (Not illustrated)

Length: 111 mm , thickness: 4 mm BH76
392 Casting waste. (Not illustrated)
'1952' unprovenanced (75.4614)
393 (Fig 89) Flawed casting.
CM58 (75.3943)

## Unidentified copper alloy items

DAS2 (75.4613): CF52 (75.4613); CY52 (75.4614): DKS2 (75.4614): BW52(75.4614); BW52 (75.4614); EQ71 (75.2275); FT71 (75.2275); IV71 (75.2275); DB71 (75.2275); EV71 (75.2275); CA52 (75.2275); CC52 (75.4615); OR52 (75.4615); DP57 (75.2378); GH57 (75.2378); NL68 (75.3455); GX68 (75.3455); FE68 (75.3460); EQ68 (75.3460); ET68 (75.3464); FW68 (75.3464); BWV64 (75.3956); HN64 (75.3956); EH62 (75.3950); FU68 (75.3451); BV68 (75.3451); EN68 (75.3457); '1968 Site 12 E2' (75.3453); LK68 (75.3455); FB68 (75.3459); HB68 (75.3499); GO68 (75.3488); LO67 (75.3393); LY67 (75.3393); NV67 (75.3393); PD67 (75.3393); OE67 (75.3393); OF67 (75.3393); OS67 (75.3393); CI59 (75.3769); D/64 (75.3303); EE64 (75.3303); GY64 (75.3303); EX64 (75.3303); EM64 (75.3303); CH64 (75.3303); IM63 (75.3955); GW63 (75.3955); DH68 (75.3465); EO68 (75.3466); '1966 E Gate' (75.3341); EY66 (75.3341); EN66 (75.3341); NK64 (75.3303); DU64 (75.3303); ED61; EV61; PD64 (75.3303): HN64 (75.3303); DR61 (75.3848); CM61 (75.3848); AD61 (75.3848); BT61 (75.3848); ED61 (75.3848); FE61 (75.3848); CL61 (75.3848); CM61 (75.3848); CC61 (75.3949); BE61 (75.3949); BO61 (75.3949); BE61 (75.3949); DZ61 (75.3949); '1961 Site 11' (75.3949); '1961 Site 11' (75.3949); EO55 (75.3941); 1060 ( 75.394075 .3947 ); BF59 (75.3944); EF59 (75.3944); HF59 (75.3944); ZPS9 (75.3944); KQ60 (75.3945); E259 (75.3945); BV60 (75.3945); '1970 Site 11 spoillsurp' (75.3622); 1D66 (75.3341); IV66 (75.3341); IR66 (75.3341); HP66 (75.3341); FM66 (75.3341); HY70 (75.3618); FY70 (75.3617); CR70 (75.3617); KW66 (75.3341); MW66 (75.3341); MN66 (75.3341); IZ64 (75.3956); IX64 (75.3303); JX64 (75.3303); GW64 (75.3303); OZ64 (75.3303); ML.64 (75.3303); PB64 (75.3303); NH64 (75.3303); LQ64 (75.3303); LW64 (75.3303); MD64 (75.3303); H064 (75.3303); B067 (75.3399); EA67 (75.3399); HX67 (75.3400); HX67 (75.3400); HX67 (75.3400): EV67 (75.3400): FB67 (75.3400); GJ67 DAs0; AN80; CF50; KT80; CUB0; IQ80; GO80; GY80; IV80; NFs0; OS80; NSs0; CBs0; AN80; EN65; EF65; ES65; BX65; EK65; CH65; HX65; EZ65; FO65; CK65; CF65; GQ65

## 3 Iron

1 Oval inset of very decayed blue glass held in a fragment of a iron finger ring. Only the oval frame around the inset survives of the ring. (Not illustrated)

Inset: $15 \times 13 \mathrm{~mm}$ GR66 ( 75.3368 )
2 (Fig 90) Small, three-dimensional, stylized bird shaped like a duck but with a hooked beak and a spatulate tail, the feathers of which are indicated by roughly scored lines. The bird is perched on a square-sectioned shank which ends in a circularsectioned rod. There is no indication of eyes, but shallow notches on either side of the head indicate the join of the beak and face. Possibly decoration from a folding stool.

Length: 42 mm , total height: $\mathbf{4 6 m m}$ DC80
3 (Fig 90) Circular-sectioned stylus with a narrow spatulate blade on a square neck. Above the point, there is a band of incised cross-hatching and a brass collar between two deep grooves. The shank has several lightly incised rings. See Manning 1985, 85, Type 4; cf London: Wheeler 1930, pl XXIV. 2 which also has bands of decorative metal.

Length: 109 mm , width of spatula: 6 mm ER57 (75.2380)

4 (Fig 90) Triangular blade of a trowel with straight sides and rounded shoulders. The rec-tangular-sectioned tang is offset from the blade. See Manning 1976, fig 5, Type I.

Length: 149 mm , width: 74 mm , width of tang: 7 mm OL80

5 (Fig 90) Fragment of a flat hinge consisting of a bar with two curved arms projecting from one end. The bar is pierced by one rough rivet hole; cf Manning 1985, pl 58, R8 from Lakenheath: 'Late Roman'.

Length: 134 mm , maximum width: 48 mm , JL80
6 (Fig 90) Small leaf-shaped spearhead with straight edges. The blade is thicker in the centre, but does not have a clear rib. The closed socket is very short in proportion to the blade. First century AD. See Scott 1980, 333-43.

Length: 123 mm , diameter of socket: 12 mm , maximum width: 27 mm , length of entry: 72 mm BP72

7 (Fig 90) Very slim, leaf-shaped spearhead with curved edges and a short open socket. Scott (1980, 335): 'none of the surviving examples need date later than the early second century' although 'it is probable that they might yet be found in later contexts'.

Length: 160 mm , diameter of socket: 18 mm , maximum width: 25 mm , length of entry: 60 mm AJ80

8 (Fig 90) Very corroded open socket of a spearhead. The blade appears to have been leaf-shaped with a thickened centre rather than a rib. See Scott 1980, 337. Second to third century AD.

Length: 140 mm , diameter of socket: 15 mm , maximum width: 32 mm , length of entry: 70 mm IA80

9 Spearhead with a short leaf-shaped blade with curved edges and a median rib to the point on both faces. The long wide closed socket contains part of the shaft, made of ash (Fraxinus sp) of mature wood. (Not illustrated)

Length: 200 mm , diameter of socket: 13 mm , maximum width: 38 mm , length of entry: 27 mm IA80

10 (Fig 90) Leaf-shaped spearhead with curved edges and a long narrow point. The open socket was filled with small stone, suggesting that the shaft was not in position when the spearhead was deposited. See Scott 1980, 337. Second to third century AD.
Length: 220 mm , diameter of socket: 19 mm , maximum width: 42 mm , length of entry: 116 mm NU80

11 (Fig 90) Very small, straight-sided, low-angled spearhead with fragments of wood surviving in the socket. One face of the blade is convex, the other flat. The tip is missing.
Length: 112 mm , length of entry: 56 mm , maximum width of blade: 29 mm , diameter of socket: 15 mm Unprovenanced

12 (Fig 90) Leaf-shaped iron arrowhead with a socketed shank. Scott (1980, 339-41) questions whether such blades are arrowheads or light spearheads and continues 'they are found on a number of sites where there is evidence for late Roman occupation'.

Length: 85 mm , diameter of socket: 10 mm DZ80
13 (Fig 90) Small artillery bolt with a pyramidal head and an open socket which retains a rivet. For other such objects from Corbridge see Allason-Jones and Bishop 1988, 17-22, nos 51-3, 60-1, and 63.

Length: 43 mm , diameter of socket: 11 mm OC64 (75.4110)

14 (Fig 91) Very fine artillery bolt with an open socket and a long head of octagonal section. The point is damaged in a way which implies that it has been fired.

Length: 117 mm , diameter of socket: 14 mm , width of head: $15 \mathrm{~mm} \quad$ BI70 $(75.3600)$

15 (Fig 91) Catapult bolt with a pyramidal head and a long socket. Manning 1985, Type 1, pls 82 and 83.

Length: 97 mm , length of socket: 50 mm , maximum width: 18 mm Unprovenanced (Site 12?)

16 (Fig 91) Very large conical ferrule with traces of mineral replaced wood inside. See Manning 1985, 141 for a discussion of the use of ferrules with military and civilian parallels.

Length: 132 mm , diameter: 50 mm MO68 (75.392)
17 (Fig 91) Conical ferrule with a square rivet hole. Length: 77 mm , diameter of socket: 24 mm AX73

18 (Fig 91) Conical ferrule with a split socket. Fragments of ash (Fraxinus sp) of mature wood remain in the socket.

Length: 101 mm , diameter of socket: 34 mm /L80


Fig 90 Small finds, objects of iron (scale 1:2)


14


26


20


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0



Fig 91 Small finds, objects of iron (scale 1:2)

19 (Fig 91) Incomplete and badly corroded knife with a straight edge and a curved back. A very thin tang extends from the blade.

Length: 76 mm , maximum width: 15.5 mm AE68 (75.4036)

20 (Fig 91) Sheet of chain mail folded over to form a lump. It is estimated that if it could be unfolded it would make a piece about four inches square. The links are of iron except for two rows of copper alloy which appear to be a repair.
See Allason-Jones and Miket 1984, 5.74ff and Manning 1976, nos 46-50 for references to finds of chain mail in the north.

Diameter of links: 6 mm Unprovenanced (75.3410)
21 (Fig 91) Iron rod which fits into a tube at one end. The other end expands to form a curved hook which is broken although the end of the rod is complete. The whole is slightly curved.
Total length: 199 mm , width of tube: 9.5 mm , depth of hook: 28 mm GD68 $(75.4120)$

22 (Fig 91) Rectangular plate pierced by a discheaded rivet at the wider end, which has a D-shaped loop made by cutting a strip and curling it round, with the end resting against the back of the plate. Possibly a knife handle with hanging loop.

Length: 102 mm , maximum width: 31 mm BX80
23 (Fig 91) S-shaped rod with one end tightly curled. Pin from a large buckle.

Length: 65 mm WG70 (75.3602)
24 (Fig 91) L-shaped lift key with one tooth surviving. The shank is rectangular in section and incomplete. See Manning 1985, 90.

Length: 75 mm Unprovenanced $(75.2275$ )
25 (Fig 91) T-shaped lift key. The shank is rectangular in section and widens towards the broken end; cf Manning in Frere 1984, fig 41.81.

Length: 195 mm , width across teeth: 36 mm , maximum width across shank: 14 mm Unprovenanced

26 (Fig 91) Length of chain with double loop links.
Total length: 83 mm , length of loops: 35 mm , width of loops: 16 mm , thickness of loops: 5 mm 'Unprovenanced 9 $C^{\prime}$ (75.3920)

27 (Fig 91) Length of chain consisting of two links, one of oval shape, the other a figure of eight.
Total length: 80 mm , width of links: 19 mm , thickness of links: 5 mm 'Unprovenanced' $(75.3920)$

28 (Fig 91) Incomplete T-clamp.
Length: 55 mm , width across arms: 40 mm DE60 (75.4112)

29 (Fig 91) Rectangular fitting which expands around a central domed stud. The hollow back has traces of wood still in position.

Length: 39 mm , width: 19 mm , height: 8 mm HA64

30 (Fig 92) T-clamp with a very short shank which appears to be complete with a hammered end.

Length: 41 mm , width across arms: 41 mm DZ67 (75.4117)

31 Incomplete T-clamp. (Not illustrated)
Length: 60 mm EP68 (75.4118)
32 (Fig 92) Strip which has a rounded pierced end.
Length: 25 mm , width: 15 mm , thickness: 1 mm AH66 (75.4115)

33 Rectangular block broken across a curved end. (Not illustrated)

Length: 75 mm , width: 18 mm , thickness: 12 mm DV80

34 Double spiked loop. See Manning 1985, 130. (Not illustrated)

Length: 53 mm MK68 (75.3467)
35 Small open-sectioned ring in two halves. (Not illustrated)

Diameter: 14 mm , width: 3 mm , thickness: 2 mm BA60 (75.3945)

36 Oval-sectioned annular ring. (Not illustrated)
Diameter: 58 mm , width: 12 mm , thickness: 13 mm NK68

37 Ring of semicircular section. (Not illustrated)
Diameter: 33 mm , width: 4 mm , thickness: 5 mm 'Unprovenanced' (75.3920)

38 Ring of oval section. (Not illustrated)
Diameter: 50 mm , width: 5 mm , thickness: 6 mm 'Unprovenanced' ( 75.3920 )

39 Iron ring of oval section. (Not illustrated)
Diameter: 30 mm , width: 4 mm , thickness: 4 mm Unprovenanced (75.3920)

40 Iron rod of oval section. (Not illustrated)
Length: 57 mm , width: 4 mm , thickness: 3 mm OQ60 (75.3994)

41 Iron rod. (Not illustrated)
Length: 33mm KC66 (75.4116)
42 Iron rod of rectangular section bent to a right angle. (Not illustrated)

Length: $75 \mathrm{~mm} \quad$ AR67 $(75.4117)$
43 Large iron rod of square section. (Not illustrated) Length: $126 \mathrm{~mm} \quad A W 70(75.3599)$

44 Thin iron rod or pin of oval section. (Not illustrated)

Length: 52 mm , thickness: 3.5 mm FI70 (75.3608)
45 Iron strip tapering towards one end, with the other end twisted through two right angles. Possibly a modern window latch. (Not illustrated)

Length: $87 \mathrm{~mm} \quad$ AZ66 (75.4114)

46 Square-sectioned spike with an oval socket. (Not illustrated)

Length: 96 mm , maximum width: 16 mm 'Unprovenanced' (75.3920)

47 Iron nail with the disc head set to one side. (Not illustrated)
Length: 60 mm , width of head: 9 mm Unprovenanced (75.3920)

48 (Fig 92) Iron spike of twisted rectangular section with a hooked end which has a lower curved barb. Possibly a tent peg.

Length: 185 mm , width: 5 mm , thickness: 7 mm Unprovenanced (75.3920)

49 Tapering rectangular-sectioned spike with a loop at the top. (Not illustrated)

Length: 151 mm , maximum width: 11 mm , thickness: 10 mm Unprovenanced ( 75.3920 )

50 Rectangular-sectioned rod. (Not illustrated)
Length: 122 mm , width: 6 mm , thickness: 4 mm Unprovenanced (75.3920)

51 Rectangular-sectioned spike with a narrow curved top. (Not illustrated)

Length: 12.7 mm , thickness: 10 mm Unprovenanced (75.3920)

52 Tapering spike of rectangular section with a hooked top. (Not illustrated)

Length: 105 mm , width: 8 mm Unprovenanced (75.3920)

53 Tapering rectangular-sectioned spike. (Not illustrated)

Length: 98 mm , width: 10 mm , thickness: 8 mm Unprovenanced (75.3920)

54 Rectangular-sectioned rod. (Not illustrated)
Length: 108 mm , width: 7 mm Unprovenanced (75.3920)

55 Rectangular-sectioned rod. (Not illustrated)
Length: 133 mm , width: 7 mm , thickness: 5 mm Unprovenanced (75.3920)

56 Tapering rectangular-sectioned rod with a hooked point. (Not illustrated)

Length: 110 mm , maximum width: 8 mm Unprovenanced (75.3920)

57 Tapering rectangular-sectioned spike. (Not illustrated)

Length: 110 mm , width: 10 mm , thickness: 7 mm Unprovenanced (75.3920)

58 Tapering rectangular-sectioned spike. (Not illustrated)

Length: 103 mm , width: 6 mm , thickness: 5 mm Unprovenanced (75.3920)


59


Fig 92 Small finds, objects of iron (scale 1:2)

59 (Fig 92) Rectangular-sectioned spike which tapers to a point, but with a rectangular expansion halfway down the shank.

Length: 111 mm , width: 7 mm Unprovenanced (75.3920)

60 Rectangular-sectioned spike with a short socket at the wide end. (Not illustrated)

Length: 84 mm , maximum width: 16 mm AB76
61 Rectangular-sectioned rod tapering to a point. (Not illustrated)

Length: 198 mm , width: 8 mm , thickness: 7 mm BC76

62 Two fragments of wire. (Not illustrated) Lengths: $39 \mathrm{~mm}, 48 \mathrm{~mm}$, thickness: 1.5 mm BF76

Nails See microfiche M3D1-E1
63 Six hobnails. (Not illustrated) CE63 (75.2275)
64 Three hobnails. (Not illustrated) EQ60 (75.2275)
65 Five hobnails. (Not illustrated) ER65 (75.2275)
66 Five hobnails. (Not illustrated) ER62 (75.2275)
67 One hobnail. (Not illustrated) GI60 (75.2275)
68 Four hobnails. (Not illustrated) ER63 (75.2275)
69 Four hobnails. (Not illustrated) ER62 (75.2275)
70 Thirteen hobnails. (Not illustrated) GZ58 (75.2275)

71 Two hobnails. (Not illustrated) HZ57 (75.2380)
72 Two hobnails. (Not illustrated) FZ71 (75.2271)
73 Ten hobnails. (Not illustrated) CU61 (75.2275)
74 Fifteen hobnails. (Not illustrated) HT70 (75.3605)

## Unidentified

'1953 Site 20N hackfil' (75.2271): FR71 (75.2271): CU71 (75.2271): IE71 (75.2271): BD71 (75.2271): CS71 (75.2271): AL71 (75.2271); FC71 (75.2271): DK71 (75.2271): AM71 (75.2271); A/66 (75.2275); MK68 (75.3467); PB64 (75.3919): IZ64 (75.3918)

## 4 Lead

1 Oval lead sealing which has been shaped in a mould. The surfaces are too pitted to make out any impression. The fastening string ran through a groove on one face, passing through the seal to emerge along another groove on the opposing face.

Lead sealings are becoming increasingly common finds on Roman fort sites and were used by the authorities for sealing bales, boxes, and writing tablets. The largest groups are known from South Shields (Allason-Jones and Miket 1984, 8.1-37) and Brough-under-Stainmore (Richmond 1936, 104ff).

The sealings found at South Shields show that there are two distinct types. Those from Corbridge are of the first type, that is, oval in shape, pressed into shape in a mould, and impressed on one or both sides with an intaglio. (Not illustrated)

Length: 20 mm , width: 23.5 mm 1960 unprovenanced
2 Lead sealing made in an oval mould with an oval impression on one face in which the letters CAI..IVI can be made out. The other face is too pitted for the impression to be identified. A channel for the fastening string runs across one face and through the edge. (Not illustrated)

Impressions: $12 \times 15 \mathrm{~mm}$, and $18 \times 14 \mathrm{~mm} 1960 \mathrm{un}$ provenanced

3 Fragment of an oval or circular lead sealing. No measurements possible. (Not illustrated)

1960 unprovenanced
4 Two fragments of lead sealing. No measurements possible. (Not illustrated)

1960 unprovenanced
5 Lead sealing made in a mould with oval impressions on both faces. On one face are the letters $E T / \ldots / \mathrm{D}$ and on the other / .../AS. (Not illustrated)

Impressions: $15 \times 12 \mathrm{~mm}$, and $16 \times 12 \mathrm{~mm} 1960$ unprovenanced

6 Oval fragment of lead, possibly a sealing but with no impressed design. (Not illustrated)

Length: 21 mm , width: 15 mm QF64
7 Fragment of sealing without any impressed design. No measurements possible. (Not illustrated)

1967 unprovenanced
8 Very large thick cramp similar in appearance to a pottery cramp. Lentoid in shape, with two circularsectioned shanks projecting from the slightly curved underface. (Not illustrated)

Length: 56 mm , width: 17 mm , height: 19 mm BG73
9 (Fig 93) Plug which has filled an oval void with a beaded edge. The plug projects from an oval plate.

Plate: $70 \times 59 \mathrm{~mm}$, plug: $46 \times 34 \mathrm{~mm}$ GG54
10 Plug with a flat circular impression on one face. (Not illustrated)

Height: 7 mm , diameter of impression: 18 mm Unprovenanoed

11 Rough disc with impression on circular object. (Not illustrated)

Diameter of impression: 28 mm Unprovenanced
12 Large rectangular ingot or weight with flat faces and curved corners. (Not illustrated)

Length: 186 mm , width: 73 mm , thickness: 13 mm , weight: 1 kg Unprovenanoed

13 Flat oval weight. (Not illustrated)
Length: 28 mm , width: 25 mm , thickness: 12 mm , weight: 50 g IK65


Fig 93 Small finds, objects of lead and pewter (scale 1:2)

14 Bun-shaped weight. (Not illustrated)
Diameter: 29 mm , thickness: 15 mm , weight: 119 g Unprovenanced

15 (Fig 93) Large disc weight with convex sides. The base is flat with the loop of the iron strap visible. The upper face is sunken and is pierced twice by the iron strap.

Diameter: 62 mm , height: 30 mm , weight: 187 g Unprovenanced ('AA OI')

16 (Fig [190]) Biconical weight with flat top and base. No sign remains of the iron strap; of Coventina's Well: Allason-Jones and MacKay 1985, no 99. (Not illustrated)

Height: 44 mm , minimum diameter: 48 mm , maximum diameter: 58 mm , weight 1250 g CT54

17 Tapering ingot of rectangular section. (Not illustrated)

Length: 90 mm , width: $19-27 \mathrm{~mm}$, thickness: 18 mm , weight: 358 g Unprovenanced

18 Oval-sectioned lump with a rectangular-sectioned iron bar set into one end. Possibly an incomplete weight. (Not illustrated)

Height: 62 mm , width: 66 mm Unprovenanced
19 Large piece with a high rib running across the middle. The top of the wide rib has a series of oblique scored lines. (Not illustrated)

Length: 137 mm , width: 123 mm , height (including rib): 42 mm , width of rib: 41 mm CB72

20 Hemisphere completely covered with copper alloy sheeting with a square-sectioned iron shank cut into the base. (Not illustrated)

Diameter: 26 mm , height: 11 mm , shank: $7 \times 7 \mathrm{~mm}$ Unprovenanced

21 Circular base with a raised lip. The base rises to a 15 mm diameter circular hole in the centre. (Not illustrated)
Diameter: 78 mm , height: 32 mm , thickness of walls: 3 mm Unprovenanced

22 Rectangular strip curled to form a tubular bung. (Not illustrated)

Length: 31 mm , diameter: 15 mm , thickness of sheet: 4 mm BR72

23 Ring, roughly shaped around the edge. The back is flat, the face convex. (Not illustrated)

Internal diameter: 13 mm , height: 5 mm OG60
24 Rectangular ingot or weight with flat faces and rounded corners. (Not illustrated)

Length: 57 mm , width: 50 mm , thickness: 6 mm , weight: 180 g BT63

25 (Fig 93) Hollow knob with the domed top decorated with incised lines and grooves flaring from a central circle and ending in a scalloped edge. Possibly modern.

Height: $\mathbf{4 0 m m}$, diameter: 39 mm 1960 unprovenanced

26 Small circular cap of lead with a flat top. (Not illustrated)

Diameter: 17 mm , height: 9 mm HW70
27 (Fig 93) Rectangular block narrowing at one end, where it is pierced by a circular hole. One face has six bosses arranged along the edge.

Length: 94 mm , width: 30 mm , thickness: 18 mm NQ67

28 Incomplete double rectangular sheet with a rectangular hole surrounded by a circular washer mark. (Not illustrated)

Length: 56 mm , width: 42 mm , total thickness: 3 mm CY59

29 (Fig 93) Spool-shaped spacer.
Height: 34 mm , diameter 28 mm Unprovenanced
30 U-shaped loop made from an oval-sectioned rod widening as it rounds the curve. (Not illustrated)
Length: 29 mm , width across loop: 29 mm GG71
31 Thick oval-sectioned rod with one rounded end and one cleft end. (Not illustrated)

Length: 111 mm , maximum thickness: $16 \mathrm{~mm} / \mathrm{M} 52$
32 Long roughly oval-sectioned rod with a disc head and a rounded end. (Not illustrated)

Length: 60 mm CM59
33 (Fig 93) Rectangular-sectioned rod tapering slightly to one end, with a rough disc head.

Length: 140 mm , width: 7 mm , thickness: 10 mm Unprovenanced

34 Circular-sectioned rod showing twist marks. (Not illustrated)

Length: 65 mm , thickness: 8 mm 1960 unprovenanced
35 U -shaped loop formed from an oval-sectioned rod. (Not illustrated)

Length: 25 mm , width across loop: 18 mm , thickness: $7 \mathrm{~mm} \quad C A(2) 64$

36 Rod of roughly circular section. (Not illustrated) Length: 27 mm , thickness: 7 mm ED55

37 Thick sheet curled to form a tube squashed to rectangular section at one end. (Not illustrated)

Length: 57 mm , width: 15 mm , thickness: 13 mm AB73

38 (Fig 93) Roughly shaped sheet with two straight edges at right angles to each other. On both faces a square block projects at the end of an oblique rib.
Length: 90 mm , width: 85 mm , blocks: $24 \times 22 \times 11 \mathrm{~mm}$ and $21 \times 21 \times 15 \mathrm{~mm}$, width of rib: 10 mm Unprovenanced

39 Thick sheet of irregular shape, folded in half and then crumpled. (Not illustrated)

Thickness of sheet: 4 mm GP55

40 Lentoid plate, much corroded, with a shank projecting from one end. (Not illustrated)

Length: 108 mm Unprovenanced
41 Rectangular strip with one end cut to a point. (Not illustrated)

Length: 108 mm , width: 42 mm , thickness: 3 mm Unprovenanced

42 Irregularly shaped sheet with one straight edge. (Not illustrated)

Length: 137 mm , width: 88 mm , thickness: 3 mm JA70

43 Thin strip of trapezoidal section with splayed ends. (Not illustrated)

Length: 46 mm , width: 6 mm D/71
44 Distorted bundle of thin sheet. (Not illustrated) Thickness of sheet: 0.75 mm Unprovenanced

45 Rectangular block with a shank projecting from one edge. (Not illustrated)

Length: 66 mm , width: 18 mm , thickness: 9 mm 1960 umprovenanced

46 Rectangular strip folded over. (Not illustrated)
Total length: 60 mm , width: 14 mm , thickness: 1.5 mm HI70

47 Curved strip of roughly rectangular section. (Not illustrated)

Length: 81 mm , width: 13 mm , thickness: 11 mm GE67

48 Rectangular strip curled to form a long rod with one end nipped flat. (Not illustrated)

Length: 98 mm , width: 18 mm , thickness: 11 mm JQ67

## 49 Two strips. (Not illustrated) <br> Lengths: $48 \mathrm{~mm}, 43 \mathrm{~mm}$ BW65 <br> 50 Distorted sheet. (Not illustrated) Thickness: 1 mm CO65

51 Several fragments of sheet. (Not illustrated) Thickness: 1mm AK65

52 Fragment of sheet with two straight edges. (Not illustrated)

Length: 34 mm , width: 25 mm , thickness: 3 mm GY65

53 Fragment of sheet with one straight edge. (Not
illustrated)
Thickness: 3 mm GG65
54 Distorted sheet. (Not illustrated)
Thickness: 0.75 mm AT55
55 Triangular block. (Not illustrated)
Length:71mm IQ65

56 Sheet. (Not illustrated)
Thickness: 1.5 mm IH65
57 Double sheet of irregular shape. (Not illustrated) Total thickness: 5 mm CK65

58 Several sheets of lead of irregular shape. (Not illustrated)

Thickness: $2 \mathrm{~mm} \quad$ IZ65
59 Curved fragment. (Not illustrated) Length: 46 mm KK62

60 Sheet of roughly rectangular shape. (Not illustrated)

Length: 61 mm , width: 51 mm , thickness: $2 \mathrm{~mm} / \mathrm{G} 62$
61 Rectangular block of rectangular section which tapers towards one end. (Not illustrated)

Length: 54 mm , width: 11 mm , thickness: 8 mm EX59

62 Incomplete rectangular sheet. (Not illustrated) Length: 34 mm , width: 31 mm , thickness: 1 mm /C59

63 Sheet with one curved edge and two square holes cut through, each surrounded by a circular washer mark. (Not illustrated)

Length: 63 mm , thickness: 1 mm , holes: $5 \times 5.5 \mathrm{~mm}$ Unprovenanced ('A/37/50')

64 Strap tapering slightly to one end which has broken across a hole. The other end is roughly trimmed. The length curves through $90^{\circ}$. (Not illustrated)

Length: 125 mm , width: 27 mm , thickness: 5 mm DD59

65 Rectangular sheet with one long edge curled over. Both long edges have a series of rectangular holes of differing sizes punched along the edge. (Not illustrated)

Length: 109 mm , width: 66 mm , thickness 2 mm Unprovenanced ('A/37/50')

66 Long irregular sheet with an 18 mm circular hole cut out in the centre. (Not illustrated)

Thickness: 2.5 mm Unprovenanced
67 (Fig 93) Long distorted rectangular strip pierced by square holes along both long edges. Each hole is surrounded by a circular washer mark and is set $5-10 \mathrm{~mm}$ apart from its neighbour.
Length: 379 mm , width: 100 mm , holes: $3.5 \times 3.5 \mathrm{~mm}$ Unprovenanced

68 Long rectangular strip pierced by square holes along both long edges similar to above. Two of the holes still contain disc-headed iron studs or rivets and the spacing of the holes is designed to allow room to accommodate the heads. In the centre near one edge a sunken square hole, $30 \times 30 \mathrm{~mm}$, has been formed, apparently as secondary damage. (Not illustrated)
Length: 410 mm , width: 90 mm , thickness: 1.5 mm , diameter of disc heads: 15.5 mm Unprovenanced

69 Two fragments of rectangular strip pierced by several large rectangular holes placed in an oblique line. (Not illustrated)
Length: 127 mm , width: 48 mm , thickness: 2 mm , length: 50 mm , width: 37 mm , thickness: 4 mm , holes $6 \times 5 \mathrm{~mm}$ IZ 64

70 Distorted sheet with one edge folded over and several square holes punched through. (Not illustrated)

Thickness: 2 mm , holes: $3 \times 3 \mathrm{~mm}$ Unprovenanced
71 Sheet with two square holes cut through, both showing traces of iron corrosion. (Not illustrated)

Thickness: 1 mm , holes: $2 \times 2 \mathrm{~mm} 1967$ unprovenanced
72 Small disc, very pitted with two holes - probably the result of corrosion. (Not illustrated)

Diameter: 16 mm , thickness: 2 mm Unprovenanced
73 Disc. (Not illustrated)
Diameter: 36 mm , thickness: 4 mm Unprovenanced
74 Roughly circular disc. (Not illustrated)
Diameter: 31 mm , thickness: 2 mm Unprovenanced
75 Fragment of a disc. (Not illustrated)
Diameter: 18 mm , thickness: 2 mm 1960 unprovenanced

76 Fragment of a flat oval. (Not illustrated)
Length: 48 mm , width: 30 mm , thickness: 4 mm Unprovenanced (Site 39?)

77 Fragment of a large disc. (Not illustrated)
Thickness: 5 mm GE67
78 Quarter of a thin disc. (Not illustrated)
Diameter: 100 mm , thickness: 2 mm NK60
79 (Fig 93) Sheet which has been moulded into ribs and curves, giving the shape of a vessel with a pedestal base. The vessel shape is hollow at the back and has not been cut from the surrounding sheet.

Length: 59 mm CF52 (75.4614)
80 Rectangular strip of lead with two-thirds folded over. No rivet holes. (Not illustrated)
Length: 47 mm , width: 35 mm , thickness: 4 mm WK68 (75.3438)

81 Roughly circular, thick disc with an iron rivet through one edge. (Not illustrated)

Diameter: 33mm, thickness: 18 mm HU66 (75.3358)
82 (Fig 93) Lead filling from a copper alloy domed stud.
Diameter: $18 \mathrm{~mm} \quad$ AG76
83 Irregular strip. (Not illustrated)
Length: 51 mm , width: 5 mm ; thickness: 2 mm AF80

84 Plate of roughly triangular shape. (Not illustrated)

Length: 69 mm , width: 64 mm , thickness: 3 mm M/66 (75.3358)

85 Fragment of a curved plate, with a square hole with a surrounding circular impression punched through near a curved bevelled edge. (Not illustrated)
Length: 49 mm , width: 23 mm , thickness: 1 mm IZ66 (75.3359)

86 Distorted fragment of strip of rectangular section tapering to one end. (Not illustrated)
Length: 28 mm , maximum width: 6 mm , thickness: 2.5 mm IG66 (75.3359)

87 Thick circular disc with a square-sectioned iron rivet through the centre. The disc is very corroded and may be caulking from a bronze capped stud. See section 2 (above), Nos 233 and 242. (Not illustrated)

Diameter: 52 mm , thickness: 18 mm OC68 (75.3438)
88 Curved rod of rectangular section. (Not illustrated)

Length: 68 mm , width: 12 mm , thickness: 13 mm IF68 (75.3437)

89 Block of irregular shape. (Not illustrated)
Length: 25 mm , width: 22 mm , thickness: 15 mm LH68 (75.3437)

90 Rod or block of roughly oval section. (Not illustrated)

Length: 41 mm , width: 15 mm , thickness: 12 mm CH80

## Offcuts

FZ71 (length: 70 mm ); 1960 mpprocemanced; LZ60; AO67 (length: 53 mm , width: 14 mm , thickness: 4 mm ); /P60

## Waste

LU52; KC52; KL67; OK67; CO65; HO65; DP65; EN65; ES65; CZ65; DB65; CK65; ET65; ES65; GB64; EX64; DY64; KY63; JP61; AM60; IF59; BX59; JQ55; FG58; Unprocemanced (fan piocos)

## Unidentified

IK59 (75.3944); 1O68 (75.3438); GR66 (75.3358); M166 (75.3358); ES66 (75.3359); GN69 (75.3542); HS69 (75.3542); IK69 (75.3542); AF80; BT65 (75.3329)

## 5 Pewter

1 (Fig 93) Very decayed and 'exploded' disc of pewter. A disc-headed iron rivet, with a squaresectioned shank, passes through the centre. Possibly the lid of a flagon. The use of pewter for making plates and vessels during the Roman period was largely confined to Britain and is rare in the military north.

Diameter: 53mm OC68 (75.3438)

## 6 Glass

1 (Fig 94) Small fragment of an armlet of translucent greeny-blue (natural) glass, with a median rib of twisted blue and white glass cords. Triangular in section.

This is one of the group of armlets designated as Type 2 by Kilbride-Jones (1938, 372-7). Their distribution is closely grouped between the Antonine Wall and Hadrian's Wall, with single examples scattered down the western half of the country as far as Bristol. For local parallels see Allason-Jones and Miket 1984, 282-3.

Estimated internal diameter: 50 mm , width: 7 mm , thickness: 11 mm ME66 (75.4208)

2 (Fig 94) Fragment of an armlet of translucent ice-blue glass with a median rib of brown and white twisted cord, flanked on either side by a cobalt blue and white cord running in the opposite direction. Semicircular in section. As with the example above this is one of Kilbride-Jones' Type 2 (1938) but the use of brown and white cord in conjunction with the more common blue and white is unusual.
Estimated internal diameter: 60 mm , width: 9 mm , thickness: $10 \mathrm{~mm} \quad$ IZ66 (75.4208)

3 (Fig 94) Fragment of a large armlet of translucent cobalt blue glass, with a core of ice-blue. The armlet is semicircular in section with three median ribs of blue and white twisted glass cords running in alternate directions. The outer ribs show traces of yellow glass on the alternating white strands. A marvered white line runs along both edges. This is a particularly complex example of Kilbride-Jones' Type 2 (1938), which he suggested was manufactured in the latter part of the first century and the first half of the second.

Estimated internal diameter: 80 mm , width: 11 mm , thickness: $16 \mathrm{~mm} \quad$ BK71 (75.3642)

4 Fragment of an opaque mid-blue glass armlet of semicircular section. Plain white armlets (KilbrideJones 1938, Type 3A) are known, as are plain yellow examples (ibid, Type 3B), but such a dark blue armlet without decoration is so far without parallel in the north of England. (Not illustrated)

Internal diameter: 48 mm , width: 6 mm , thickness: 10 mm IV68 (75.3500)

5 (Fig 94) Fragment of a translucent streaky brown and dark green glass armlet. A thin white marginal line runs along both sides with an opaque white marvered trail in the centre. A single spot of blue and white swirled glass also survives on the outer face. Triangular in section. Two examples from Traprain Law have a similar base colour with white marvering but lack the extra blue and white swirled decoration (Kilbride-Jones 1938, 386).

Estimated internal diameter: 60 mm , width: 7 mm , thickness: 12 mm OD67 (75.4212)

6 (Fig 94) Very small opaque green glass barrel
bead. Such beads were found in quantities in fourth to fifth century contexts at Lankhills cemetery and Cirencester (Guido 1978, 97) but are unrecorded in the north.

Diameter: 5 mm , length: $3 \mathrm{~mm} \quad$ AOSO
7 Long barrel-shaped bead of opaque black glass. Probably not Roman. (Not illustrated)

Length: 11 mm , diameter: 5 mm ' 1968 Site $12 E$ topsoil' (75.3454)

Apart from the two beads mentioned above the only glass beads from the excavations under discussion are melon beads. Guido (1978, 100) has shown that the earliest melon beads in Britain are of Roman date and mostly come from Flavian and Antonine sites. They then disappear until post-Roman times. It is not, therefore, surprising that Corbridge should produce a large number of such beads although the lack of glass beads in general is inexplicable. All the beads listed below are of opaque turquoise blue glass except for No 18, which is of translucent cobalt blue glass. None are illustrated.

## 8 Thickness: 19mm $F Q 59$ (75.3710)

9 Complete. Diameter: 18 mm , thickness: 14 mm FV59 (75.3710)

10 Thickness: $18 \mathrm{~mm} \quad$ EB63 (75.3713)
11 Thickness: 13 mm , diameter: 15 mm GY63 (75.3713)
12 No complete measurement. M163 (75.3280)
13 Thickness: 20 mm , diameter: 25 mm QS64 (75.3713)
14 Thickness: 8 mm , diameter: 10 mm GD64 (75.3713)
15 Thickness: 18 mm , diameter: 22 mm AA64 (75.3713)
16 No complete measurement. NU66 (75.3364)
17 No complete measurement. EG66 (75.3364)
18 Thickness: 14 mm , diameter: 23 mm BG66 (75.3339)
19 Thickness: 10 mm , diameter: 14 mm OK67 (75.3386)
20 Thickness: 6 mm , diameter: 17 mm OK67 (75.3386)
21 No complete measurement JE67 (75.3387)
22 Thickness: 15 mm , diameter: 21 mm KT68 (75.3441)
23 Thickness: $11 \mathrm{~mm} \quad$ MH68 (75.3441)
24 Thickness: 12 mm , diameter: 15 mm GV80
25 Thickness: 14 mm , diameter: 19 mm IN80
26 Thickness: 7 mm , diameter: 10 mm 'Unprovenanced' (75.3920)


Fig 94 Small finds, objects of glass (scale 1:1)

The forts on Hadrian's Wall have produced many small bun-shaped glass discs which are usually identified as gaming counters. It is possible that similar discs found at Corbridge are also gaming counters, although they were mostly single finds. The majority are black or white, as are the counters used for ludus latrunculorum, but some are small and so not easy to handle, and a green example appears to have some adhesive on the back, suggesting that some, if not all, the Corbridge 'counters' may have been used as insets in rings or brooches.

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27 Black. (Not illustrated)
Diameter: 14 mm IS60 (75.3765)
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28 Black. (Not illustrated)
Diameter: 10 mm GN61 (75.3841)
29 Black. (Not illustrated)
Diameter: 18 mm CM64 (75.3841)
30 White. (Not illustrated)
Diameter: 16 mm MV66(75.3371)
31 Black. (Not illustrated)
Diameter: $15 \mathrm{~mm} \quad$ BY67 (75.3384)
32 White. (Not illustrated)
Diameter: $11 \mathrm{~mm} \quad$ NZ67 (75.3384)
33 Black. (Not illustrated)
Diameter: 12 mm DA67 (75.3384)

34 Black. (Not illustrated)
Diameter: 16 mm OH68 (75.3443)

35 White. (Not illustrated)
Diameter: 17 mm OH68 (75.3443)

36 (Fig 94) White.
Diameter: $15 \mathrm{~mm} \quad$ AE70 (75.3585)
37 Green with 'adhesive' on the back. (Not illustrated)

Diameter: $11 \mathrm{~mm} \quad$ CR70 (75.3564)
38 Black. (Not illustrated)
Diameter: 15mm GY71 (75.3629)

39 Dark blue. (Not illustrated)
Diameter: $13 \times 11 \mathrm{~mm}$ (oval) Unprovenanced (75.3839)

40 Black. (Not illustrated)
Diameter: 12.5 mm Unprovenanced (75.3839)
41 (Fig 94)Dark blue/black.
Diameter: 12 mm GS80

42 Natural glass bun-shaped inset with a sheet of copper alloy covering one face. (Not illustrated)

Diameter: 12 mm , height: 8 mm CV69 (75.3551)

## 7 Bone and antler

## (materials identified by James Rackham)

1 (Fig 95) Oval plate of bone or antler, pierced by four holes arranged in opposing pairs. One pair is rectangular with rounded corners ( $11 \times 7 \mathrm{~mm}$ ), the other triangular with curved edges, with the inner two edges continued as shallow grooves ( $5 \times 7 \mathrm{~mm}$ ). The holes are countersunk and the edge of the plate is very worn near one of the rectangular holes.

Length: 54 mm , width: 33 mm , thickness: 4 mm BT 64 (75.3721)

2 Fragment of a tubular cheekpiece, toggle, or slider, with rounded end. A long ovoid hole is cut through the centre to take a strap. One row of stamped ring-and-dot motifs survive. M MacGregor (1976), in describing metal examples, suggests a continental origin. First century AD. (Not illustrated) Length: 65 mm CO65

3 (Fig 95) Two bone cylinders cut from cow metacarpus, with a circular hole pierced through the wall of each. The sawn edges have been neatly shaped by lathe so that they are concave. Such cylinders have been identified as hinge sections and are common on Roman sites, although rarely found on military sites of the period in the north.

A full discussion can be found in MacGregor 1985, 203-5, and Waugh and Goodburn in Frere 1972, 149-50 (note in particular the example shown in fig 54.188).

Lengths: $27 \mathrm{~mm}, 26 \mathrm{~mm}$, diameter: 23 mm AR68 (75.3485)

4 (Fig 95) Bone rod of rectangular shape and section. Both ends have been cut down with a knife and then snapped off. The rod has been cut from the side of the radius of an ox, or possibly a horse, and the section trimmed on only three sides.

Length: 62 mm , width: 31 mm , thickness: 9 mm A/66 (75.3353)

5 (Fig 95) Oval lid cut from a trimmed antler burr, with nicks around the top edge continuing down the side, possibly in an attempt to suggest the original irregular edge of the burr. The disc is pierced by four circular holes arranged in a rectangle. Between the holes is a large stylized phallus undercut to provide a handle. A deep groove runs alongside the phallus.

Phalli on antler discs are common talismen in the Roman period and an example is already known from Corbridge (Green 1978, pl 139). MacGregor has put forward the view that antler itself had some special talismanic significance (1985, 107). Discs made of it are common throughout the period, though the one under discussion appears to have served a practical function on top of its talismanic qualities. This is suggested by the undercutting of the phallus - on the amulets the phallus is usually just shown in relief and by the four holes by which it was attached to a backing plate. An example from Malton is pierced by
two holes, but in a manner which suggests that they were used for suspension, as well as giving the appearance of eyes, thus turning the motif into a face (Green 1978, pl 140). The disc is also trimmed around the edge, implying that it was intended to fit a limited area: on the discoid amulets the original edge is deliberately left as a frame.

Length: 40 mm , width: 46 mm , height: 13 mm /R63 (75.3720)

6 (Fig 95) Neck of a tube cut from an antler tine. The edge is decorated with a wide groove between two incised parallel lines. The lower edge is bevelled and, although slightly irregular, could have been cut to shape.

Height: 14 mm , diameter: 14 mm , thickness: 3 mm JB64 (75.3721)

7 (Fig 95) Die cut from a very thick walled long bone shaft. The rather irregular sides have stamped ring-and-dot motifs indicating the numbers, those on opposing sides adding up to seven. Large dice are usually made from antler as it provides the most suitable material. In this case, the maker has taken advantage of a particularly solid piece of bone.

Length: 12.5 mm , width: 11 mm , thickness: 13 mm DY60 (75.3773)

8 (Fig 95) 'Dumb-bell' button cut from a long bone shaft. The carving does not continue all the way round. Although 'dumb-bell' buttons are more commonly found in bronze, bone examples are known, particularly in the north. M MacGregor (1976, 134) discusses both bronze and bone examples and suggests a late first to early third century date; cf South Shields: Allason-Jones and Miket 1984, 2.21.

Length: 18 mm , thickness: 7 mm CO60 (75.3771)
9 (Fig 95) Antler latch key of rectangular section with three teeth projecting at right angles. The handle is incomplete and may have been perforated like the example from South Shields (Allason-Jones and Miket 1984, 2.22). Nicks at the base of the teeth indicate that they were cut with a saw and the voids in between trimmed with a knife.
Such keys or latch-lifters are not common, although there are several from Chesters fort. For these examples and others of bone and wood see AllasonJones and Miket 1984, 2.22.

Length: 84 mm , maximum width including teeth: 19 mm , thickness: 4 mm FC68 (75.3486)

10 (Fig 95) Split long bone shaft trimmed to a rectangle, with a circular hole cut through the edge near one end. The same edge narrows by a series of steps. It has been suggested by Mr J Coulston (1985, 226) that the craftsmen began to cut an ear-lath for a composite bow, the circular hole being the knock, and then changed his mind because of the coarseness of the bone's structure and started to recut it as a latch-lifter of a similar type to above. This clearly was not successful either and the piece abandoned.

Length: 21 mm , width: 18 mm , thickness: 8 mm EU70 (75.3563)


Fig 95 Small finds, objects of bone and antler (scale 1:1)

11 (Fig 95) Fragment of a rectangular antler plate with a shallow convex plate, split from a red deer beam. A circular hole (diameter: 7 mm ) has been cut out of one edge 13 mm from the angular end. Saw marks and scoring in different alignments can be seen on the flat back, with some rasping below the knock on the convex face. There is also some longitudinal scoring near the fracture.

This is clearly part of an ear-lath (bow-stiffener) from a composite bow. The head is more angular than is commonly seen, although another ear-lath from Corbridge is very similar (Coulston 1985, 226). Ear-laths are fully discussed by Coulston (1985). See also MacGregor (1985, 155-8).

Length: 68 mm , width: 21 mm , thickness: 5 mm FR71 (75.3634)

12 (Fig 96) Incomplete bone ear-lath from a composite bow similar to above, but with the more common rounded head. Saw marks and scoring are evident on the flat back.

Length: 185 mm , width: 20 mm , thickness: 4 mm BT71 (75.3630)

13 (Fig 96) Fragment of a tubular antler handle decorated with two incised lines along the edge and a single line 16 mm from the end.

Length: $28 \mathrm{~mm} \quad$ AB60 (75.3396)
14 (Fig 96) Oval-sectioned shank of iron held in a trimmed, but otherwise undecorated, cylindrical antler handle.

Total length: 103 mm , length of handle: 51 mm , maximum diameter of handle: 21.5 mm Unprovenanced' (75.3920)

15 Antler tine which has been hollowed and trimmed to make a handle. Little attempt has been made to smooth the surface. Examples of this simple type are given by MacGregor $(1985,168)$ and they are common on Roman military sites in the north. (Not illustrated)
Length: 66 mm , thickness: 21 mm BT61 ( 75.3719 )
16 (Fig 96) Bone or antler knife handle made from two plates of plano-convex section, waisted in the middle with designs of oblique lines incised in the centre and at the ends on both sides. The two rivets pierced the handle between two scored parallel lines, although one rivet has been carelessly placed and impinges on one of the grooves. Traces of the iron tang survive between the plates. This is a common type as discussed by MacGregor and an example from London is very similar in appearance (1985, fig 88e).
Length: 45 mm , width: 21 mm , thickness: 11 mm Q/64 (75.3722)

17 Large handle fashioned from antler with the wider end slightly rounded. The other end has been cut off to leave a ridge. The face is roughly trimmed and a circular socket runs through the centre. This is a similar type to No 15 although clearly intended for a much larger implement. (Not illustrated)

Length: 68 mm , thickness: 36 mm GL65 (75.3328)

18 (Fig 96) Large antler handle made from the beam, rather than the tine, of a small animal. One end is rounded and has a wide runnel cut out, the other is cut across with a scored line emphasizing the 'rim'.

Length: 132 mm , thickness: 30 mm IU66 (75.3365)
19 (Fig 96) Bone or antler handle made from two plates of plano-convex section, tapering towards the blade. The faces are decorated with groups of stamped ring-and-dot motifs and panels of scored cross-hatching, with pairs of incised transverse lines. Two iron rivets secure the tang of the iron blade to the bone plates. The tang is not narrower than the blade, but simply continues the line right through the handle. For a discussion of the type see MacGregor 1985, 169.

Length: 95 mm , width: 17 mm , thickness: 15.5 mm HZ67 (75.3380)

20 (Fig 97) Antler handle made from the beam of a small animal. One end is rounded, the other cut straight across and hollowed to take a rectangularsectioned tang. The letters $I R$ have been cut at an angle near the latter end possibly to identify the owner.

Length: 103 mm , thickness: 23 mm ET68 (75.3480)
21 (Fig 97) Incomplete tubular tapering handle cut from a tine. The surface is decorated with incised concentric bands of cross-hatching and oblique lines. The decoration has been roughly applied so that some of the lines cross the lower ribs. The handle is pierced by one small circular rivet hole near the narrower end. There are traces of the iron tang inside.

Length: 46 mm , diameter: 19 mm EM68(75.3481)
22 Fragment of a ring sawn from an antler tine. (Not illustrated)

Diameter: 35 mm , width: 9 mm , thickness: 5 mm BG65 (75.3327)

23 Incomplete bone ring of oval section which is polished but undecorated. Possibly a hair ring. (Not illustrated)
External diameter: 29 mm , width: 6 mm , thickness: 9 mm A/66 (75.3369)

24 Ring sawn from an antler tine. The cut edges have been rubbed to remove the saw marks, but the outer face has not been trimmed. (Not illustrated)
Diameter: 53 mm , height: 18 mm HE68 (75.3445)

## Bone Counters

All the bone counters have been made from long bone shafts of large animals. See A MacGregor (1976, 2 ff and 1985, 132-3) for discussions on their manufacture and use. Turner (in Potter 1979, 76-9) gives a full discussion of the games which may have been played with such counters. The typology is taken from Kenyon (1948).


Fig 96 Small finds, objects of bone and antler (scale 1:1)

25 Bone counter with a flat face and a central dot. The bevelled back has the letters VI scratched on. The most common letters to appear on gaming counters are $X, V$ and $*$, but there is one example from the Ravenglass set which has been incised with VI (Turner in Potter 1979, 82, no 30). Type C. (Not illustrated)

Diameter: 16.5 mm , thickness: 3 mm IX59 (75.3840)
26 Bone counter with a flat face, central dot, and bevelled reverse. Type C. (Not illustrated)

Diameter: 18 mm , thickness: 3 mm DV61 (75.3840)
27 Small bone counter with a flat face, bevelled edge, and central dot. The back edge is also bevelled, but less so than the front. There is a scratched design on the reverse. Type C. (Not illustrated)

Diameter: 14.5 mm , thickness: 3 mm DH63 (75.3840)
28 Incomplete bone counter with flat faces. One face has a circular depression in the centre - too large to be a lathe stock centre-mark but too small for the usual dished face of a Type A counter. (Not illustrated)

Diameter: 20mm, thickness: $3 \mathrm{~mm} \quad / \mathrm{M} 63$ (75.3840)
29 Incomplete bone counter with a dished face and central dot. (Not illustrated)

Diameter: 18 mm , thickness: 3 mm Cl60 (75.3840)
30 Burnt bone counter with a dished face. There is a series of scratched crosses and lines on the reverse. Type A. (Not illustrated)

Diameter: 22mm, thickness: $4 \mathrm{~mm} \quad$ LP64 (75.3842)
31 Polished bone counter with a dished face. The bevelled reverse has three large dots of different sizes arranged in a triangle. Although dots are known on gaming counters, these tend to be on the convex face of plano-convex types in a similar fashion to the inlaid dots on glass counters: see Bateman 1861, 181 and Fig opposite, for a set of dot decorated counters. Type A. (Not illustrated)

Diameter: 22 mm , thickness: 4 mm 'Site $11 \mathrm{V7}$ ' (75.3840)

32 Bone counter with dished face and central dot. On the reverse is the motif $\underset{*}{ }$. Type A. (Not illustrated)

Diameter: 20 mm , thickness: 4 mm GY71 (75.3629)
33 Bone counter with bevelled edges on both faces. The upper face is decorated with incised concentric circles. Type B. (Not illustrated)

Diameter: 20.5 mm , thickness: 3 mm NF67 (75.3388)
34 (Fig 97) Bone counter with bevelled edges and a plain back. Concentric grooves are cut on the upper face, each deeper than the others as it nears the edge, giving the effect of the face rising in the centre. Type B.

Diameter: 16 mm , thickness: 3 mm OK67 (75.3389)

35 Bone counter with incised concentric circles around a central dot on the upper face. (Not illustrated)

Diameter: 21 mm , thickness: 2 mm BP68 (75.3482)
36 Bone counter with incised concentric circles and a bevelled edge on one face. Very worn. Type B. (Not illustrated)

Diameter: 21 mm , thickness: $2 \mathrm{~mm} \quad$ CA69 (75.3541)
37 Bone counter with incised concentric circles on one face. The groove nearest the edge is the deepest. Type B. (Not illustrated)

Diameter: 16 mm , thickness: 2 mm EO70 (75.3564)
38 Bone counter with incised concentric circles on one face. The reverse has the letter $V$ incised. Type B. (Not illustrated)

Diameter: 21 mm , thickness: 2 mm /T80

## Needles

All the needles are cut from long bone shafts of large animals.

39 (Fig 97) Incomplete needle of circular section with an oval eye.

Length: 62 mm DM58 (75.3716)
40 (Fig 97) Length of bone of hollow triangular section with an elliptical eye 27 mm long cut through one wall near the point. Possibly a netting needle.

Length: 73 mm PJ61 (75.3227)
41 Fragment of a needle broken at the point and across the eye. (Not illustrated)

Length: 30 mm , thickness: 4.5 mm LN64 (75.3727)
42 (Fig 97) Bone needle of oval section with a double eye set off centre. It would appear that the first attempt to drill a hole was unsuccessful and a second was added. The head and neck are slightly flatter than the shank and the head has been snapped off after turning and no attempt made to smooth down the scar.

Length: 127 mm , width: 6 mm , thickness: 4 mm BI67 (75.3391)

43 Fragment of a polished bone needle of subrectangular section which has broken across the eye. (Not illustrated)

Length: 55 mm , width: 5 mm , thickness: 3 mm All70 (75.3563)

## Pins

44 (Fig 97) Roughly carved pin made from a split antler beam. The head is cylindrical and pointed, and the shank is very thick.

Length: 94 mm DY59 $(75.3716)$
45 (Fig 97) Small bone pin, with a roughly facetted head which is wider than it is thick. The neck is very narrow. The circular-sectioned shank is hipped and


Fig 97 Small finds, objects of bone and antler (scale 1:1)
may have been resharpened. This pin and all those below have been carved from long bone shafts of large animals. Crummy 1979, Type 4, dated c 250 to late fourth to early fifth century. Allason-Jones and Miket 1984, Type C. See also MacGregor 1985, 117.

Length: 58 mm , thickness of head: 6 mm EC66 (75.3370)

46 (Fig 97) Incomplete bone pin with a roughly shaped circular-sectioned hipped shank and a cylindrical head with a rounded top. Allason-Jones and Miket 1984, Type B.

Length: 65 mm , width: 6 mm DB71 (75.3629)
47 (Fig 97) Incomplete bone pin with a tapering circular-sectioned shank and a globular head with two grooves around the neck.

Length: 85 mm DM58 $(75.3716)$
48 (Fig 97) Bone pin with a circular-sectioned shank and a roughly globular head. Crummy Type 3 (1979) dated to c 200 to late fourth to early fifth century. Allason-Jones and Miket 1984, Type A. See also MacGregor 1985, 117.

Length: 63 mm AP67 (75.3392)
49 (Fig 97) Incomplete bone pin of circular-section tapering from the neck. The head has roughly cut baluster-moulding.

Length: 63 mm EX70 (75.3565)
50 (Fig 97) Bone pin with a circular-sectioned hipped shank. The point is cut obliquely, instead of being sharpened to a point. The head is conical with a double groove around the neck. Crummy 1979, Type 2, dated to $c 50-200 / 250$. Allason-Jones and Miket 1984, Type E.

Length: 92 mm , thickness: 3 mm NI80
51 Incomplete bone pin with a conical head and a double groove around the neck. Circular-sectioned tapering shank. Crummy 1979, Type 2. Allason-Jones and Miket 1984, Type E. (Not illustrated)

Length: 32mm FG63 (75.3720)
52 Incomplete bone pin of tapering circular section with a conical head and a double groove around the neck. Crummy 1979, Type 2. Allason-Jones and Miket 1984, Type E. (Not illustrated)

Length: 37 mm , thickness: 3.5 mm IO67 (75.3393)
53 Incomplete bone pin with a circular-sectioned hipped shank and a conical head with a double groove around the neck. Crummy 1979, Type 2. Allason-Jones and Miket 1984, Type E. (Not illustrated)
Length: 35 mm , thickness: 4 mm FE67 (75.3393)
54 Incomplete bone pin of tapering circular section with a conical head and a double groove around the neck. Crummy 1979, Type 2. Allason-Jones and Miket 1984, Type E. (Not illustrated)

Length: 76mm CA67 (75.3392)

55 Bone pin of tapering circular section with a conical head and a double groove around the neck. Crummy 1979, Type 2. Allason-Jones and Miket 1984,
Type E. (Not illustrated)
Length: 97 mm /T67 (75.3392)
56 (Fig 97) Bone pin of tapering oval section with a conical head and a double groove around the neck. Crummy 1979, Type 2. Allason-Jones and Miket 1984, Type E.

Length: 56 mm , thickness: 3.5 mm NS68 (75.3484)
57 (Fig 97) Bone pin of tapering oval section with a conical head and a double groove around the neck. The pin is very short and may have been resharpened. Crummy 1979, Type 2. Allason-Jones and Miket 1984, Type E.

Length: 64 mm , thickness: 3.5 mm GL69 (75.3541)
58 Conical head of a bone pin with a double groove around the neck. Crummy 1979, Type 2. AllasonJones and Miket 1984, Type E. (Not illustrated)

Length: 36 mm , thickness: 5 mm AQ70 (75.3563)
59 (Fig 97) Incomplete bone pin of tapering circular section, with a conical head and a double groove around the neck. Crummy 1979, Type 2. Allason-Jones and Miket 1984, Type E.

Length: 66 mm , thickness: 3 mm HN80
60 (Fig 97) Incomplete bone pin of tapering circular section, with a conical head and a double groove around the neck. Crummy 1979, Type 2. Allason-Jones and Miket 1984, Type E.

Length: 44 mm , thickness: 3 mm OS80
61 (Fig 97) Bone pin of tapering circular section, with a plain head which has been shaped to a wedge by bevelling two sides.
Length: 63 mm , thickness: 4 mm ET68 (75.3484)
62 Bone pin of oval section with a pointed head. Crummy 1979, Type 1, dated to $c 70-200 / 250$. (Not illustrated)

Length: 75 mm , thickness: 4 mm BS71 (75.3629)
63 Large bone pin of tapering circular section with a pointed head. Crummy 1979, Type 1. (Not illustrated)

Length: 80 mm , thickness: 7 mm BP71 (75.3629)
64 (Fig 97) Circular-sectioned bone pin with a slightly bowed shank. The head has been cut obliquely.

Length: 94 mm , thickness: 3 mm MB80

## Fragments of pins or needles

65 (Not illustrated)
Length: 56 mm CE59 (75.3716)
66 (Not illustrated)
Length: 30 mm BA60 (75.3718)

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6 7 \text { (Not illustrated)}
    Length: 70mm CE64 (75.3721)
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6 8 ~ ( N o t ~ i l l u s t r a t e d )
```

6 8 ~ ( N o t ~ i l l u s t r a t e d )
Length: 59mm BW65 (75.3773)
Length: 59mm BW65 (75.3773)
69 (Not illustrated)
70 (Not illustrated)
Length: 59mm BS67 (75.3391)
71 (Not illustrated)
Length: 37mm FQ68 (75.3483)
72 (Not illustrated)
Length: 70mm EV68 (75.3483)
73 (Not illustrated)
Length: 48mm EM68 (75.3483)
74 (Not illustrated)
Length: 53mm GL68 (75.3483)
75 (Not illustrated)
Length: 65mm AD71 (75.3633)
76 (Not illustrated)
Length:9mm IK80
77 (Not illustrated)
Length: 13mm IK80
78 (Not illustrated)
Length:61mm LD80
79 (Not illustrated)
Length: 84mm MB80
80 (Not illustrated)
Length: 83mm 'Site XI NW'
81 (Not illustrated)
Length: 45mm * 31'

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\section*{Antler}

82 Sawn-off tip of a red deer antler tine. A groove has been cut across the tip and a short incised line across the tine 35 mm from the tip. (Not illustrated) Length: 77 mm CQ59 (75.3717)

83 Burr from red deer antler with the beam sawn off. (Not illustrated)

Diameter: 62 mm QB64 (75.3722)
84 Antler tine which has been cut round with a knife to remove it from the burr. The tip has been removed in the same way. (Not illustrated)

Length: 135 mm QF64 \((75.3723)\)
85 Sawn-off tip of a red deer antler tine. (Not illustrated)

Length: 34 mm FG64 (75.3721)

\section*{Bone waste}

86 Roughly circular piece of bone with four oblique lines cut onto one face. (Not illustrated)

Diameter: 48 mm NC80

\section*{8 Shale}

1 (Fig 98) Incomplete shale finger ring with a raised oval centre and grooves across the shoulders. The oval-sectioned shank tapers away from the shoulders. This is a common form of jet and shale finger ring, although the shoulders are more usually decorated with oblique lines, rather than straight transverse lines.

An undecorated example is known from Housesteads (Charlesworth 1961, 26, no 29, pl 2.5), whilst decorated rings are known from South Shields and Coventina's Well, Carrawburgh (ibid, 27, nos 46 and \(47, \mathrm{pl} 3.1\) and 2). These have been dated to the third to fourth century.

Internal diameter: 15 mm AS64 (75.3765)
2 (Fig 98) Fragment of a shale bracelet of rectangular section, with a row of oblique notches on either side of the outer edge giving an irregular chevron effect.

Two examples are known from the shale working 'factory' at South Shields (Allason-Jones and Miket 1984, 7.110-11), whilst their appearance at Silchester suggests that they were popular throughout Roman Britain (Lawson 1975, 254, nos 51 and 52).

Internal diameter: 42 mm , width: 4 mm , thickness: 6 mm EY67 (75.3379)

3 (Fig 98) Fragment of a shale armlet with deeply stamped ring-and-dot motifs along the outer face. The shank is semi-oval in section.
It is probable that this bracelet was manufactured at South Shields, as it is not a type which occurs anywhere other than the north of England (AllasonJones and Miket 1984, 7.114-15).

Internal diameter: 58 mm , width: 6 mm , thickness: 8 mm ET80

4 Very small fragment of a shale bracelet of oval section, apparently undecorated. (Not illustrated)

Surviving length: 17 mm , width: 5 mm , thickness: \(7 \mathrm{~mm} \quad\) LB63 (75.3765)

5 Fragment of a shale bracelet of triangular section, apparently undecorated. (Not illustrated)

Width: 7 mm , thickness: 9 mm EN66 (75.3367)
6 Very small fragment of a shale bracelet of oval section, apparently undecorated. (Not illustrated)

Internal diameter: 60 mm , width: 7 mm , thickness: 9 mm IK71 (75.3638)

\footnotetext{
7 Incomplete shale disc with a bevelled edge.
Probably a gaming counter. (Not illustrated)
Diameter: 41 mm , thickness: \(4 \mathrm{~mm} \quad\) EY67 (75.3378)
}


Fig 98 Small finds, objects of jet and shale (scale 1:1)

8 (Fig 98) Fragment of a semicircular shale bead, pierced by two large circular holes (diameter: 4 mm ).

Similar beads from Cologne are illustrated by Hagen (1937, Taf 26, Abb 1, C5.1), but examples from British sites are usually decorated along the edge. See South Shields: Allason-Jones and Miket 1984, 7.28, where parallels are cited.

Width: 2 mm , thickness: 3 mm /W80

\section*{9 Pottery Objects}

\section*{(fabrics identified by J N Dore)}

\section*{Terra sigillata discs}

1 Fragment of smudged ovolo. Dr 33. (Not illustrated)

Diameter: 33 mm , thickness: 8 mm Unprovenanced (75.3838)

2 Burnt Dr 37, East Gaulish. Rheinzabern? (Not illustrated)

Length: \(23 \times 19 \mathrm{~mm}\), thickness: 7 mm Unprovenanced (75.3838)

3 Body sherd of Dr 33. (Not illustrated)
Diameter: 20 mm , thickness: 4 mm Unprotenanced (75.3838)

4 Body sherd of East Gaulish. (Not illustrated) Diameter: 22 mm , thickness: 6.5 mm GG67 (75.3383)

5 Roughly shaped East Gaulish. (Not illustrated) Diameter: 16 mm , thickness: 8 mm AC80

6 Disc cut from a mortarium of cream fabric, with red and black mixed grits. Hartshill-Mancetter? (Not illustrated)

Diameter: 52 mm , thickness: 8 mm Unprovenanced (75.3830)

7 Large disc cut from base of cream ware flagon with buff slip. (Not illustrated)

Diameter: 45 mm , thickness: 9.5 mm Unprovenanced (75.3829)

8 Buffware body sherd. (Not illustrated)
Diameter: 25 mm , thickness; 4 mm 'Site 11 ' unprovenanced

9 Base of red ware vessel with quartz inclusions. Neatly cut. (Not illustrated)

Diameter: 61 mm , thickness: 6 mm WL47 (75.3837)
10 Roughly cut from red ware body sherd. (Not illustrated)

Diameter: 20 mm , thickness: 6 mm 'Site 11 ' \((75.3837\) )
11 Body sherd of red ware. (Not illustrated)
Diameter: 30 mm , thickness: 5 mm E051
12 Oval body sherd of red ware with buff outer face. (Not illustrated)

Diameter: 22 mm , thickness: \(4 \mathrm{~mm} \quad\) BG60
13 Red sandy ware body sherd. (Not illustrated) Diameter: 27 mm , thickness: 4 mm ES63

14 Body sherd of red fine fabric. (Not illustrated) Diameter: 22 mm , thickness: 6 mm 'Site 11' (75.3837)

15 Black burnished ware 2 body fragment, with burnished cross-hatching. (Not illustrated)

Diameter: 33 mm , thickness: 7 mm Unprovenanced (75.3836)

16 Sandy grey ware body sherd, much abraded. (Not illustrated)
Diameter: 32 mm , thickness: 5 mm DN53 (75.3836)
17 Black burnished ware 2 body sherd, cut to a triangle. (Not illustrated)

Width: 22 mm , thickness: 4 mm IO60 (75.3836)
18 Body sherd with burnished cross-hatching. (Not illustrated)

Diameter: 30 mm , thickness: 5 mm KO60
19 Incomplete grey ware base. (Not illustrated)
Diameter: 40 mm , thickness: 7 mm 'Unprovenanced'


Fig 99 Small finds, objects of pipeclay (scale 1:1)

\section*{Pipeclay}

20 (Fig 99) Large clay pipe bowl, with the letters TW stamped across the back seam within an oval frame. The relief moulded decoration consists of a left hand on one side and a heart filled with latticing on the other. No stem survives. Nineteenth century.

Height: 40 mm , diameter: 19 mm , thickness of walls: 2 mm BM80

Clay pipe stems were found in the following locations:

GS67 (75.3381); HF67 (75.3381); LLU67 (75.3381): AY68 (75.3436); CQ68 (75.3436); NS68 (75.3436); AA70 (75.3559); AB70 (75.3559); AE70 (75.3559); CT70 (75.3559); AA80; AD80; AF80; AG80; ANs0; BZ80; CAs0; CRs0; CY80; Djs0; DT80; EB80; ER80; EY80; GH80 (three examples): GQs0; GT80; HF80; HT80

21 (Fig 99) Fragment of a hollow figurine, showing part of the left torso of a male with a caduceus in his left hand and leaning against his left shoulder. Mercury. See Rouvier-Jeanlin 1972, nos 492-99, Type II, Group A - Mercury holding the caduceus on his left arm.

Height: 40 mm FN80
22 (Fig 99) Fragment of a pipeclay mother goddess figurine - only part of her back and the top of the basket chair survive. \(И\) is incised under the rim of
the chair. Pipeclay mother-goddess figurines are rarely found in the north of England. For general discussions see Jenkins 1957, 38 ff and Rouvier-Jeanlin 1972.

Height: 37 mm CA80
23 (Fig 99) Back of a hollow figurine of Venus with two strands of hair falling onto her shoulders. Her right hand is raised to touch her hair, the other hangs down by her side. Jenkins 1958, Type II. See Rouvier-jeanlin 1972 for a discussion of the type on the Continent and Allason-Jones and Miket 1984, 9.63 for local parallels.

Height: 40 mm HO80
24 Fragment of a figurine of Venus similar to above. (Not illustrated)

Length: 52mm CV65 (75.3322)

\section*{10 Stone}

\section*{(Not illustrated)}

1 Rectangular palette of green schist with bevelled edges. One edge has an incised line at an angle. Small palettes were used for mixing ointments and pigments. Their bevelled edges allowed them to slide into grooved metal containers.

See BJ CXI-CXII, 401; South Shields: Allason-Jones and Miket 1984, 12.68

Length: 46 mm , width: 29 mm , thickness: 7 mm FD60 (75.3754)

2 Corner of a square or rectangular stone block.
Length: 39 mm , width: 25 mm , thickness: 10 mm AL63 (75.3755)

3 Sandstone whetstone of rectangular shape and section with bevelled ends.

Length: 103 mm , width: 26 mm , thickness: 23 mm AE64 (75.3756)

4 Incomplete sandstone whetstone of rectangular shape and section.

Length: 73 mm , width: 22 mm , thickness: 16 mm Unprovenanced (75.3756)

5 Incomplete micaceous sandstone whetstone of rectangular shape and section, with a shallow groove at two opposing edges.

Length: 69 mm , width: 20 mm , thickness: 16 mm MH64 (75.3757)

6 Worn whetstone of rectangular shape and section, made from very crumbly sandstone.

Length: 93 mm , width: 26 mm , thickness: 13 mm GN65 (75.3326)

7 Sandstone whetstone of rectangular shape and oval section.

Length: 45 mm , width: 25 mm , thickness: 21 mm EK65 (75.3758)

8 Sandstone whetstone of triangular section with rounded tapering ends.

Length: 76 mm , width: 25 mm , thickness: 10 mm GR66 (75.3351)

9 Sandstone whetstone of rectangular shape and section, with three arcs scratched on one face.

Length: 103 mm , width: 25 mm , thickness: 19 mm EP66 (75.3349)

10 Incomplete micaceous sandstone whetstone of semicircular section.

Length: 82 mm , width: 24 mm , thickness: 16 mm BT66 (75.3349)

11 Sandstone whetstone of oval section and rectangular shape.
Length: 84 mm , width: 23 mm , thickness: 14 mm DQ67 (75.3395)

12 Possible whetstone of rectangular section and shape with rounded ends.
Length: 83 mm , width: 24 mm , thickness: 24 mm EX67

13 Incomplete whetstone of rectangular shape and section.
Length: 82 mm , width: 24 mm , thickness: 16 mm Unprovenanced (75.3439)

14 Sandstone whetstone of rectangular shape and section.

Length: 74 mm , width: 15 mm , thickness: 14 mm FG70 (75.4284)

15 Roughly shaped ovoid whetstone.
Length: 124 mm , width: 41 mm , thickness: 24 mm AA80

16 Incomplete sandstone whetstone of rectangular shape and section.

Length: 74 mm , width: 22 mm , thickness: 12 mm FZ80

17 Sandstone whetstone of rectangular shape and section.
Length: 76 mm , width: 20 mm , thickness: 15 mm HK80

18 Large disc of fine sandstone. Carefully cut.
Diameter: 67 mm , thickness: 4 mm Unprovenanced (75.3833)

19 Coarse sandstone disc.
Diameter: 50 mm , thickness: 12 mm Unprovenanced (75.3833)

20 Roughly cut sandstone disc.
Diameter: 52 mm , thickness: 10.5 mm Unprovenanced (75.3833)

21 Carefully cut sandstone disc with iron corrosion adhering.

Diameter: 38 mm , thickness: 10 mm Unprovenanced (75.3831)

22 Large disc of micaceous sandstone.
Diameter: 45 mm : thickness: 11 mm Unprovenanoed (75.3832)

23 Small counter of sandstone with convex faces.
Diameter: 21 mm , thickness: 8 mm Unprovenanced
24 Small micaceous sandstone disc.
Diameter: 25 mm , thickness: 6 mm Unprovenanced
25 Incomplete slate disc.
Diameter: 19 mm , thickness: \(1 \mathrm{~mm} \quad B O 60(75.3843)\)
26 Red sandstone disc with rounded edges.
Diameter: 31 mm , thickness: 9 mm AR67 (75.3385)
27 Oval sandstone disc with a rounded edge.
Length: 39 mm , width: 33 mm , thickness: 6 mm BZ67 (75.3390)

28 Sandstone disc.
Diameter: 17 mm , thickness: \(2 \mathrm{~mm} \quad\) CW70 (75.3564)
29 Stone disc with a shallow convex face.
Diameter: 14 mm , thickness: \(4 \mathrm{~mm} \quad H Y 70(75.3564)\)
30 Stone disc with rounded edges.
Diameter: 21 mm , thickness: 6 mm DT71 (75.3640)

31 Rough disc of red micaceous sandstone.
Diameter: 27 mm , thickness: 8 mm AH80
32 Incomplete disc of micaceous sandstone, with a circular hole, 5 mm in diameter, drilled off centre.

Diameter: 48 mm , thickness: \(5 \mathrm{~mm} \quad\) AS69 (75.3549)

\section*{11 Flint}

\section*{by A Liddon}

For the purposes of description all flints have been placed with the striking platform at the proximal end, dorsal surface upwards, unless otherwise stated. Measurements cited are the maximum length of the flake, measured from the striking platform in the direction in which it was struck, the maximum width at right angles to the length and the maximum thickness.

1 (Fig 100) Barbed and tanged arrowhead of grey-brown flint, finely flaked over both dorsal and ventral surfaces. One barb broken. Probably Late Neolithic/Early Bronze Age in date.

Length: 27 mm , width: ?; thickness: 4 mm IF67 (75.4279)

2 Thumbnail scraper of mottled grey flint, flaked over most of the dorsal surface. Only a small area of cortex remains adjacent to the striking platform. Probably of Bronze Age date. (Not illustrated)

Length: 17 mm , width: 23 mm , thickness: 8 mm HV65 (75.3320)

3 End scraper of grey-brown flint with slight patination. Cortex down right side. Part of the retouch has probably been removed by subsequent damage. (Not illustrated)

Length: 40 mm , width: 19 mm , thickness: 9 mm GJ54 (75.3766)

4 End scraper of brown mottled flint, struck from a very abraded pebble. The retouch is very rough. (Not illustrated)

Length: 40 mm , width: 21 mm , thickness: 11 mm YD47 (75.3321)

5 Knife and possible borer made on a blade of mottled grey flint. Proximal end broken off. Retouched down right side and around distal end to form point. (Not illustrated)

Length: 7 mm ; width: 16 mm , thickness: 6 mm PG67 (75.3376)


1


1


2

Fig 100 Small finds, objects of worked flint and wood (scale 1:1)


Fig 101 Intaglio

6 Irregular blade of light grey mottled flint with rough retouch on the right side. Very abraded. (Not illustrated)

Length: 41 mm , width: 15 mm , thickness: 9 mm DL65 (75.3320)

7 Blade of dark grey flint with probable wear marks on right side. (Not illustrated)

Length: 33mm, width: 10 mm , thickness: 4 mm /Z64 (75.3766)

8 Blade of grey mottled flint with possible wear marks on right side. (Not illustrated)
Length: 28 mm , width: 12 mm , thickness: 3 mm CK66 (75.3366)

9 Flake of orange flint with wear marks on right side. (Not illustrated)

Length: 22 mm , width: 12 mm , thickness: 3 mm OB67 (75.3376)

10 Broken blade of dark grey mottled flint with cortex down left side. (Not illustrated)

Length: ?; width: 10 mm , thickness: 5 mm HP63 (75.3766)

11 Broken blade of orange flint. (Not illustrated)
Length: ?; width: 11 mm , thickness: 3 mm KY63 (75.3766)

In addition there are twelve waste flakes showing no signs of use.

Most of the flints come from Roman contexts and are obviously residual. They may have accumulated over a considerable period of time and cannot, therefore, be considered as an assemblage. Although there are individual pieces which are diagnostic in type and can be assigned to a probable period, these cannot be used to date the collection as a whole.

\section*{12 Leather}

\section*{(Not illustrated)}

1 Irregular fragment of fine leather with no stitching or obvious edge.

Length: 29 mm CX64 (75.3772)
2 Fragment of leather with a slightly curved edge. Found with a lump of material made up of sand and insect pupae - possibly a spoor.

Length: 39 mm , width: 19 mm Q064

\section*{13 Wood}

1 (Fig 100) Fragment of a thick wooden circular block with a raised rim. One face is convex, the other concave. Possibly a lid or gaming piece. Oak (Quercus sp ).

Diameter: 32 mm , thickness: 11 mm EJ53 (75.3771)
2 (Fig 100) Two fragments of a circular turned
wooden lid with a domed centre and an incised ridge-and-groove motif separating the bevelled edge from the central dome. The under edge is cut away to leave a rest. Elm (Ulmus sp)?

Diameter: 52 mm , height: 15 mm QY64 \((75.3771)\)

\section*{14 Intaglio}

\section*{by M Henig}

1 (Fig 101) Red jasper intaglio. Flat oval with bevelled sides. Form F1. Mars holding spear and trophy marches towards the right (impression). Ground line. Chipped on edges. Considerable service wear.

Mars Gradivus is very commonly portrayed on gemstones (see Henig 1978, 194-5, nos 70-4 for examples and lists; also 289, no App 29, 293 no App 71, and 296, no App 86, the last of these a red jasper of about the same size as this gem from the York sewer).

The type may be related to that of the armed Romulus holding a trophy as shown on a late first century gem from Red House, near Corbridge (Henig 1978, 309, no App 156) and would have had a clear appeal to a Roman soldier.

The material (red jasper) points to a second century dating: no red jasper intagho comes from the Flavian levels of the bath house drain at Caerleon (Zienkiewicz 1986, 120-1). The style, with its broad grooves, is also Antonine. However, the degree of wear may imply that the gem was used for some time prior to loss. Two examples cut with this device are known from the bath house drain of the Classis Britannica fort at Dover, dating to the second century AD (Philp and Henig 1985, 463-5, nos 1 and 2, the former a red jasper).

Dimensions \(10 \mathrm{~mm} \times 7.5 \mathrm{~mm} \times 1.5 \mathrm{~mm} \quad\) BU61 (75.3764)

\section*{15 Examination and analysis of small finds from Corbridge}

\author{
by J Bayley
}

A group of brooches from the site were analysed qualitatively by X-ray fluorescence (XRF). The enamel decoration on a number of the brooches and on some other objects was examined in an attempt to define the colours originally used. The information has been incorporated into the entries.

Different brooch types tend to be made of different alloys while similar brooches usually have similar compositions (Bayley and Butcher 1981). Not all the brooches in this collection are of types where sufficient analyses have been done to provide an adequate data base for comparison. However, for those types where comparative data is available, the results are in agreement with those obtained from similar brooches from other sites. For example, most Hod Hill brooches are brass and Polden Hill brooches are leaded bronze, while brooches with applied silver foils are normally brass.

\section*{11 The pottery}

\section*{by J N Dore, with contributions by B Dickinson, B R Hartley, and K F Hartley}

\section*{The samian}

\section*{Introduction}

This report is organized under the following headings:

1 Catalogue of stamps by Brenda Dickinson and Brian Hartley
2 Decorated ware from the 1947-73 seasons
3 Decorated ware from the 1980 and 1976 seasons
4 Selected Dr 29's by Brenda Dickinson and Brian Hartley
5 Provenanced finds groups from the 1947-73 seasons (M4:C1)
6 Provenanced finds groups from the 1980 season (M4:D6)
Mention has already been made in the general introduction of the difficulty of establishing the provenance of finds groups from all but the most recent of the post-war excavations. This means that the amount of provenanced samian is small. The material included here is presented either because it comes from a finds group whose provenance can be unambiguously established or because it comes from a finds group which contained other material, most notably small finds, for which it might provide some kind of date.

Sections 5 and 6, shown on Microfiche 4:C1-D6, give an indication of the samian present in each of the selected finds groups.

\section*{Abbreviations}

The following abbreviations are used throughout this report:
\(\mathrm{D}=\) Déchelette 1904
\(\mathrm{Dr}=\) Dragendorff
\(\mathrm{O}=\) Oswald 1936-7
Ritt \(=\) Ritterling
Rogers \(=\) Rogers 1974
S and \(\mathrm{S}=\) Stanfield and Simpson 1958 (Central Gaulish Potters)

\section*{Chronology}

From study of both plain and decorated wares it is clear that a first century origin for the site is not in doubt. Beyond this, the main question which must be addressed is how early in the first century the foundation may be placed. The fragments of Dr 37 (section 2 no 2) from a post-trench of the earliest structure in the area of the principia which led to the discovery of the Red House fort, provide a firm
terminus post quem of AD 85 (at least) for that building. If the building formed part of the earliest fort on the site then the matter can be considered settled but this cannot be regarded as having been unequivocally proved, and it is therefore necessary to make a more general assessment of the samian assemblage from the site in order to try and answer the question.
During the preparation of this report a substantial proportion of all the extant samian from the site was examined. Most of the extant examples of Dr 29 were examined by Brenda Dickinson and Brian Hartley. Their report on selected fragments, including all the earliest examples, is presented in section 4. All the material known to come from the areas of the principia and the practorium was examined (see Table 19 for totals). While there is a small number of vessels of form 29 whose dated range falls wholly before the suggested start of occupation there are a number of factors which suggest that there can have been no substantial Roman occupation on the site at a date much before that given by the stratified fragments mentioned above. These are:

1 Plain-ware forms of pre-Flavian date (such as Ritterling 8, 9 and Dr 24/25) are almost entirely absent. The shape of the one sherd present (Ritt 8) clearly indicates its lateness.

2 The proportion of Dr 15/17 to Dr 18 is heavily in favour of the latter. In addition, the shape of the \(15 / 17 \mathrm{~s}\) should place them at the very end of that form's development, and the shape of the 18 s places them at a point of transition between a 'true' Dr 18 and a \(\operatorname{Dr} 18 / 31\). The number of Dr 18 s with the comparatively flat floor and upright wall, and the fabric and gloss so characteristic of Flavian vessels is small.

3 Among the decorated south Gaulish ware the number of Dr 29 s is greatly outweighed by Dr 37 s . Averaging figures for the site as a whole gives a ratio of c \(1: 9\) (sherds) and 1:27 (rim \%).

Totals of samian for the areas of the principia, the practorium and Site 9 (1980) are presented, broken down by form, in Table 19. Figures for certain 'date-sensitive' forms have been extracted and presented as histograms for the three areas in Fig 102; the values used are rim \%. The forms have been arranged to represent a progression of time from left to right. A subset of this data, representing the popular forms of the \(18-31\) series (columns 3-5) which cover the period late first to end of second century, was selected for significance testing by statistical methods. Significant differences were found to exist between the figures for these forms for all three areas of the site ( \(\kappa^{2}\) test, 0.01 level; both 'raw scores' and values standardised by proportion were tested).

If we assume a correlation between intensity of occupation and quantities of pottery recovered, the results from these tests allow two conclusions to be drawn. First, the values for Site 9 when compared with those for the principia and, particularly, those for the area of the praetorium are entirely consistent with

Table 19: Samian totals - upper no \(=\) nos of sherds, lower no \(=\) rim \%
\begin{tabular}{|c|c|c|c|}
\hline Forms & \(H Q\) & \begin{tabular}{l}
\(\mathrm{CO}_{s}\) \\
Howe
\end{tabular} & \[
\begin{array}{r}
\text { Site } 9 \\
(1980)
\end{array}
\] \\
\hline Unidentified & 198 & 736 & 144 \\
\hline \multirow[t]{2}{*}{Ritt 8} & & 1 & \\
\hline & & 20 & \\
\hline \multirow[t]{2}{*}{Dr 15/17} & 1 & 7 & \\
\hline & 6 & 41 & \\
\hline \multirow[t]{2}{*}{Dr 18} & 34 & 110 & 1 \\
\hline & 53 & 469 & 10 \\
\hline \multirow[t]{2}{*}{Dr 18R} & & 39 & \\
\hline & & 123 & \\
\hline \multirow[t]{2}{*}{Dr 29} & 4 & 35 & 1 \\
\hline & 2 & 12 & 5 \\
\hline Dr 29/37 & & 2 & \\
\hline \multirow[t]{2}{*}{Curle 11} & 5 & 23 & 1 \\
\hline & 11 & 60 & 3 \\
\hline \multirow[t]{2}{*}{Dr 35} & 3 & 10 & 2 \\
\hline & & 20 & 2 \\
\hline \multirow[t]{2}{*}{Dr 36} & 3 & 15 & 7 \\
\hline & 2 & 72 & 6 \\
\hline \multirow[t]{2}{*}{Dech 64} & 1 & 1 & \\
\hline & & 15 & \\
\hline \multirow[t]{2}{*}{Dech 72} & 1 & 1 & 6 \\
\hline & 11 & 7 & 20 \\
\hline \multirow[t]{2}{*}{Dr 18/31} & 28 & 83 & 19 \\
\hline & 63 & 275 & 61 \\
\hline \multirow[t]{2}{*}{Dr 18/31R} & 15 & 74 & 25 \\
\hline & 13 & 188 & 90 \\
\hline \multirow[t]{2}{*}{Dr 31} & 43 & 86 & 107 \\
\hline & 135 & 232 & 321 \\
\hline \multirow[t]{2}{*}{Dr 31R} & 43 & 99 & 85 \\
\hline & 82 & 283 & 273 \\
\hline \multirow[t]{2}{*}{Curle 15} & 1 & 3 & 2 \\
\hline & 7 & 15 & \\
\hline \multirow[t]{2}{*}{Dr 46} & 1 & 1 & 2 \\
\hline & 6 & 6 & \\
\hline Curle 21 & & & 1 \\
\hline Walters 79 & & & 10 \\
\hline \multirow[t]{2}{*}{Walters 80} & 1 & & 37 \\
\hline & 3 & & \\
\hline \multirow[t]{2}{*}{Dr 38} & 5 & 10 & 13 \\
\hline & 4 & 37 & 34 \\
\hline Dr 32 & & & 3 \\
\hline \multirow[t]{2}{*}{Dr 43} & 1 & 4 & 5 \\
\hline & 1 & 5 & 7 \\
\hline Dr 45 & 1 & 1 & 3 \\
\hline Unclassified mortaria & & 1 & \\
\hline \multirow[t]{2}{*}{Lud Bb} & & 1 & \\
\hline & & 32 & \\
\hline \multirow[t]{2}{*}{LudSp} & & 1 & \\
\hline & & 6 & \\
\hline \multirow[t]{2}{*}{Lud T} & & 1 & \\
\hline & & 7 & \\
\hline \multirow[t]{2}{*}{Dr 27} & 20 & 90 & 19 \\
\hline & 77 & 315 & 74 \\
\hline \multirow[t]{2}{*}{Dr 33} & 48 & 105 & 151 \\
\hline & 216 & 516 & 582 \\
\hline \multirow[t]{2}{*}{Dr 30} & 5 & 18 & 7 \\
\hline & 12 & 10 & 31 \\
\hline \multirow[t]{2}{*}{Dr 37} & 121 & 522 & 258 \\
\hline & 116 & 853 & 406 \\
\hline
\end{tabular}
a date shortly after the middle of the second century for the erection of the buildings of Site 9. Second, from the values for the practorium and principia complexes it is difficult to substantiate convincingly the idea that the scale of occupation of the site was reduced during the Hadrianic period, and the figures from the area of the practorium would seem to be directly at odds with such an idea. It should be pointed out, however, that there are significant differences between the values for the two areas and it is difficult to decide which of the two sets of values best represents occupation on the site. The function of the two areas may have some bearing on this. It could be argued that the pottery from a residential area such as the practorium complex should be taken as a more accurate indicator of intensity of occupation than that from the administrative, non-residential, principia complex.

\section*{The destruction deposit}

There has, in the past, been considerable controversy concerning certain burnt deposits found in a number of places on the site and sometimes interpreted as the traces of a general destruction which took place towards the end of the second century. The area


Fig 102 Totals of selected forms from the principia, aren of the praetorium, and Site 9
which is of most concern in this report is Site 44 and Temple 3 where oral tradition reports that extensive burnt deposits were found. Deficiencies in the documentary record have meant that little or none of the pottery associated with these levels can now be identified. Vessels No 28, 29, 36, 39, and 40 from the report on the decorated ware (section 3) can, however, be assigned with reasonable certainty to these deposits, and No 26 came from a level immediately under it.

In 1980, a small area of burnt deposit, preserved because it had subsided into the older rampart mass, was found in trench 2 (context 167). A small amount of decorated ware was recovered from the deposits and is described in section 3 (Nos 62, 63, 69, 70, and 80).

\section*{1 Samian potters' stamps from Corbridge}

\section*{by Brenda Dickinson and Brian Hartley}

Each entry gives: potter (i, ii, etc, where homonyms are involved), die number, form, reading of the stamp, pottery of origin, and discussion, followed by the excavation or pot number. Numbers in brackets beginning 75 refer to Corbridge Museum accession numbers.
\(a b\) and 'indicate:
a Stamp attested at the pottery in question.
b Not attested at the pottery in question, though other stamps of the potter are known there.
" Assigned to the pottery on the evidence of fabric, distribution, etc.
Letters in < > brackets complete the readings of stamps from broken dies. Letters in () brackets have not registered on the stamps in question.

1 Advocisus 1b 18/31R ADVOCIS!OF Lezoux. \({ }^{\text {b }}\) This is one of Advocisus's earlier stamps, as its use on form 18/31R attests, though it appears also on forms 79 and 80 . It occurs in a pit of cAD 150-60 at Alcester. Its range will be \(c \mathrm{AD} 155-85\), but the date of the dish is \(c\) AD 155-70. OZ62 \((75.3260)\) S213

2 Albanus 18d \(18.5 \mathrm{~B} /(\mathrm{N}]\) La Graufesenque.b An uncommon stamp of Albanus, for which there is no internal dating. Most of his output is early Flavian, but he occasionally stamped form 24 and is noted in Period II at Verulamium. c AD 60-85. JP61 S220

3 Albillus i 2 b 33 [ \(\wedge \mathrm{L}]\) BILLIM (retrograde) Lezoux. \({ }^{\text {b }}\) There are five examples of this stamp from a pottery shop at Corbridge (Forster 1908, 270, fig 10, with \(247-58\) ), found in association with vessels of mid to late Antonine Lezoux potters. Stamps from other dies occur at Chesters (2), Ilkley and Piercebridge (4). His forms include both 18/31R and 31R. с AD 155-200. GY80 S20

4 Albucianus 6 c 33 ALBVCIAN[I] Lezoux. \({ }^{\text {a }}\) "This occurs at forts in northern Britain such as Halton Chesters, Chesterholm and Malton reoccupied \(c \mathrm{AD}\) 160. There are several examples on forms 79, 79R and 80 , but also one on form 27. It is perhaps from one of his earlier dies. \(c\) AD 160-90. BP54 S276

5 Albucius ii 2a 31 ALBVCI-OFI Lezoux. \({ }^{\text {b }}\) Albucius ii's wares are common in Antonine Scotland and occur, to a lesser degree, on Hadrian's Wall and at hinterland forts. There is no site dating for this particular stamp. c AD 150-80. AR67 S335

6 Albucius ii 6 b 31 ALBVCI Lezoux. \({ }^{\text {a }}\) This stamp occurs in a burial at Rougham, Suffolk, with stamped vessels of Illiomarus ii of Lezoux and two potters whose careers began at Sinzig and ended at Colchester (Lipuca and Miccio vii). There is also an example from Balmuildy. It appears on forms 27,31R, 42 and 44. c AD 150-70. JX64 S324

7 Albusa 1a \(31 \wedge ん B V S[\wedge]\). This stamp occurs in a dump from a late Antonine kiln at Lezoux, and at Brancaster and South Shields. The die was used on forms 31, 31R, 33 and 79. с AD 170-200. JK80 S1

8 Attius ii 2a 27 ATTI•[MAN] Lezoux. \({ }^{\text {a }}\) Attius ii's site record includes the Saalburg Erdkastell (before AD 139 ) and Rhineland forts. He made forms 79 and 80, presumably after AD 160, but this stamp, used on forms \(18 / 13\) and 27 , will belong to the period \(c \mathrm{AD}\) 135-60. II70 S274

9 Aucella 3a 33 aVCIllhaM Lezoux. \({ }^{\text {c }}\) An almost complete vessel, though in pieces, probably slightly burnt. Aucella is not closely dated, though his forms and fabrics suggest an Antonine date. This particular stamp, used on forms 31 and 33, occurs at Chesterholm, and there are three other examples from Corbridge. AK67 S226

10 Banuus 3a 33 etc BANNVI-M Lezoux. \({ }^{\text {b }}\) A stamp used mainly on form 33, though known also on forms 31 and 80. It occurs at Binchester, Chesterholm and Malton. c AD 160-90. DK51 S272

11 Beliniccus i 11a 33 BELINICIM (retrograde) Lezoux. \({ }^{*}\) One of the latest stamps of a potter whose career began in the Trajanic period at Les Martres and ended at Lezoux. It is common in Antonine Scotland and there is an example from Halton Chesters. c AD 135-65. AV67 S319

12 Bio \(2 f^{\prime \prime} 27<>\mid>O F E C(1 ?) I\). The longest version of this stamp known to us, from La Graufesenque, is presumably itself from a broken die, since only the bottom foop of the B survives. It seems to end in -FECI , but there is an abnormally long space between \(C\) and the final letter, which may have contained an \(I\) and, if so, the final letter of this stamp was T. Bio made the pre-Flavian forms 24, Ritt 8 and Ritt 9 and his site record includes the Colchester pottery shops, destroyed in the Boudiccan burning, and a pit of c AD 50-60 at La Graufesenque. His wares are not
uncommon at Flavian foundations, however, and examples are noted from Carlisle, Castleford, Chester (3) and the Nijmegen fortress. The fabric and glaze of this piece suggest a date \(c\) AD 65-80. HK65 (75.2360) S211

13 Bonoxus 3b 18/31 BO[wOXS•F] (retrograde) in guide-lines, Lezoux. \({ }^{\text {b }}\) Most of Bonoxus's output consists of forms \(18 / 31,18 / 31 \mathrm{R}\) and 27 , though he occasionally stamped forms 79 and 80 . His stamps turn up in the Rhineland and at the Saalburg Erdkastell. This particular one, used on forms 18/31 and 27, probably belongs to the period \(c \mathrm{AD} 125-50\). HB55 S264

14 Borillus i 5 b 33 BO[RIMAIOF] Lezoux. \({ }^{*}\) There are many vessels with this stamp from Scotland. It occurs also in the late Antonine Aquincum Hoard and on forms 18/31R, 27 and 79/80. c AD 150-80. GE54 S268

15 Buccula 2a 33 BV.CCVLAF Les Martres-deVeyre. \({ }^{\text {c }}\) A stamp noted only on form 33s, with the exception of one form 38. This last suggests that Buccula was one of the later Les Martres potters, and further evidence is supplied by his use of form 80, and by a stamp from Birrens. \(c\) AD 130-65. OA, NK80 S2

16-17 Butturrus 2a 31; 33 [B]VTTVRRI; BVI Les Martres-de-Veyre. \({ }^{*}\) Butturrus was one of the later potters at Les Martres. Stamps from this, his only die, occur in the Verulamium second fire deposits (two, one burnt) and at Newstead. His forms include 18/31, 18/31R, 27, 33 and 79. с AD 130-65. OQ57 S289, PD60 S275

18 Calvus i 5118 OFCALV[I] La Graufesenque.b Calvus i's output is almost entirely Flavian, though he may have begun work in the later 60s. This stamp, noted from Castleford and Ilkley, falls within the range c AD 70-95. GX52 S259

19 Calvus i 5u 18R OFCA[LVI] La Graufesenque. \({ }^{\text {. }} \mathrm{A}\) stamp recorded from Caer Gai and Rottweil. c AD 70-95. EM, FB70 S244

20 Calvus i 5 ff 29 OF(.CA)LV[I La Graufesenque. \({ }^{*}\) Apart from one bowl of form 29, all the other examples of this stamp noted by us are on rouletted dishes. Its site record is entirely Flavian, and includes Newstead (2) and Camelon. c AD 70-85. See section 4, No 91 for further discussion. 48 LIV

21 Capellianus 1a 33 CAPELLIANI Lezoux." A stamp apparently used only on form 33, including eight others from Corbridge. The fabrics point to Antonine date, and examples from Halton Chesters (2) and South Shields suggest that the die was still in use after AD 160. PT80 S3

22 Caratillus 4b 31 CNG[^TILI•FE] Lezoux. \({ }^{\text {b }}\) Caratillus's stamps occur at Scottish forts (including Antonine I at Birrens) and South Shields. They are also in the late Antonine group from Pudding Pan Rock and a few early ones turn up in the Rhineland.

This particular stamp was used on forms 31, 33, and 80 , while others appear on forms 27 and 79. c AD 150-80. AL57 S298

23 Caratillus 6a 33 C \(\lambda\) R \(\lambda\) TILLII Lezoux. \({ }^{\text {b }}\) A stamp used mainly on form 33, though there is one example on form 31. For the potter's dating, see No 21, above. c AD 150-80. Gl69 (75.2977) S227

24 Caupirra 2a 31 [C/V.]PIRI-MM Lezoux.b This occurs in the Verulamium second fire deposits ahd at Benwell. It was used on forms 31 and 31R. One of his other stamps is in a group of samian from Astwick, Beds, with stamped vessels of mid to late Antonine Lezoux potters. His output includes forms 18/31R and 44/81. c AD 150-80. IK57 S306

25 Censor i 3b 18 OFC-EN La Graufesenque. \({ }^{\text {b }}\) This is a common stamp at Flavian foundations, including Camelon and Okarben, but it occurs also in the pre-Flavian cemeteries at Nijmegen. c AD 65-95. LA, MV60 S248

26 Censor i 3 g 29 OF.CEN La Graufesenque. \({ }^{\text {b }}\) One of Censor's less common stamps, used on plain ware and on bowls of form 29 with decoration typical of the period. c AD 70-85. See section 4, No 85 for further discussion. K1041 (75.1902)

27 Censorinus ii 4 a \(18 / 31\) R CESORIN[I] Lezoux. \({ }^{*}\) The use of this stamp on forms 79, 80, and 37 , with decoration related to that of Paternus v, suggests a range \(c \mathrm{AD} 155-85\), but the form of the dish belongs to the period c AD 155-75. MW80 S5

28-9 Cerialis ii 4a 33 (two, both burnt) CERIAL.M Lezoux. \({ }^{\text {b }}\) This stamp occurs in a burial at Riempst (Belgium), with stamped vessels of two Banassac potters and two early to mid Antonine Lezoux potters. The die was used on forms 18/31, 27 and Ludowici Tx. с AD 135-70. MZ64, CO, DB, DP, DZ65 S284; EB, MK68 S321

30 Cettus 3a 18/31 CETT[VS F] Les Martres-deVeyre. \({ }^{*}\) Cettus's plain forms show that he belonged to the later group of potters at Les Martres (cf Hartley 1972, 34). This stamp occurs at Balmuildy and Camelon. His decorated ware is common in Antonine Scotland and comparatively rare on Hadrian's Wall. c AD 135-60. GE68 S266

31 Consta(n)s i 1b 31 [CON]STAS-F. This is from a die used at both Heiligenberg and Rheinzabern, but its fabric does not indicate its origin clearly. The stamp occurs on forms 27 and 31. c AD 140-80. BF62 (75.2972) S225

32 Corisso la 18/31R [CORI]SSOK. A stamp from a die used at both Sinzig and Trier. It occurs on forms 18/31, 27, 31, and 33. Most of the stamps are from Lower Germany, with a few from Britain, including one from Chesterholm. Early to mid Antonine. CZ57 S288

33 Cosius Rufinus 5a 18 COSIRVFI La Graufesenque. \({ }^{\text {b }}\) This potter's output is entirely Flavian and the latest stamps recorded for him (from other dies) are from Newstead and Camelon. This particular stamp is apparently from one of his earlier dies, which was used on form 29. c AD 70-90. HV67 (75.2554) S204

34 Crestus la 18 OFCRECTI (retrograde) La Graufesenque. \({ }^{\text {b }}\) A stamp common at Flavian foundations, including Chesterholm and the Saalburg, and noted occasionally on form 29. c AD 75-95. HF70 S282

35 Crestus 2a 27 g OFCREST La Graufesenque.' The site record for this stamp includes Catterick, Binchester (2) and Cannstatt, and so its range will be much the same as the last. c AD 75-95. A/56 S252

36-7 Crobiso 1a 27? (burnt); \(18 / 31\) CROBIS:; CROBISOM Lezoux. \({ }^{\text {b }}\) This stamp was used on forms \(18 / 31,18 / 31 \mathrm{R}, 27,31,33\), and 38 . It is noted from Bothwellhaugh and Halton Chesters and is in Antonine I at Bearsden. \(c\) AD 140-70. DN57 S287; IV60 S279

38 Crobiso lb 27 (burnt) CROBIZOM Lezoux.* This stamp occurs on much the same range of forms as the last. c AD 140-70. BI57 S285

39 Decuminus i 3a \(18 / 31\) DE[CVMINII-M] Les Martres-de-Veyre. \({ }^{2}\) The forms of his dishes (18/31, 18/31R, and 31) and the occurrence of one of his other stamps at Cramond place Decuminus \(i\) in the Hadrianic-Antonine group of potters at Les Martres. DN67 (75.2552) S202

40 Decuminus i Incomplete 331 DIICVMINVS[ Les Martres-de-Veyre, \({ }^{\text {b }}\) No other examples of this stamp have been noted by us. For dating evidence, see above. PN64 S243

41 Divicatus 1a 33 [DIV]IC/TIM Lezoux. \({ }^{\text {b }}\) This was used mainly on form 33, though single examples of forms 27, 31, and 38(?) are noted. Antonine. MF59 S311

42 Divicatus 3 e 38 or 44 DIVICATVS Lezoux. \({ }^{b}\) Apart from a single example from Xanten, all the stamps noted by us from this die are in Britain. The forms include 33, 42, and 81. Stamps from his other dies occur at Bar Hill, Newstead, and Malton and there are several on form 18/31 in a group of burnt samian of the 140s at Castleford. His occasional use of form 79 suggests that he may still have been at work after AD 160. c AD 140-70. FQ55 S265

43 Doccalus 4a 18/31-31 [D]OCCNJF Lezoux. \({ }^{\text {b }}\) Doccalus apparently began his career at Les Martres-deVeyre and ended it at Lezoux. This is from a die used only at Lezoux, to judge by the fabrics. There are many examples from the Castleford pottery shop destroyed by fire in the 140 s, mainly on form 27 . His other stamps occur in the Rhineland, at Chesterholm and in an early Antonine pit at Alcester. c AD 135-50. HK67 (75.2553) S203

44 Drit- 1a 33 DRITIITI? (retrograde) Lezoux. © This potter's name may be Dritatus, but only DRIT- is clear on the examples noted by us. All are on form 33, including one from Kelvedon, which is Hadrianic or early Antonine in form, and another from Mumrills. A range c AD 130-60 is likely. GF64 \((75.3042) \mathrm{S} 231\)

45 Episus 1b 33 EPISIM Lezoux. © Only one other example of this stamp has been recorded by us, on form 33 from Carlisle. A stamp from another die is on forms 27 and \(81(?)\) in a group of burnt samian of c AD 140-50 at Castleford. c AD 130-55. AH55 S262

46 Ericus 1b 18/31R ER(ICI-M) Lezoux. \({ }^{\text {e }}\) This occurs at Camelon (2) and on forms 18/31, 18/31R, and 27. His stamps appear also in the Rhineland and in Period IID (after AD 150) at Verulamium. c AD 130-60. Bl67 (75.2552) S201

47 Evanus(?) 2a 27 IIVAN La Graufesenque. \({ }^{\text {© }}\) This is unlikely to be from a broken die of Silvanus, in view of the date, but the name Evanus is far from certain. The die was used on a range of forms including 24 and Ritt 8, and only the Corbridge stamp and one from the Nijmegen fortress suggest that it may still have been in use in the Flavian period. c AD 50-70/75. LA60 S337

48 Felicio iii 5a 37 (stamped inside the base, after moulding) CEFLICIO (retrograde) Montans.* This, though misspelt, is certainly from a die of the Felicio who worked at Montans in the second century. His stamps occur in Antonine Scotland and in a group of samian from St Catherine Coleman, London, which may well have been burnt in the second fire. This particular stamp is noted from Balmuildy and Old Kilpatrick. © AD 120-45. See section 3, No 46. NE80 S340

49 Felix ii 2c 18/31R 7EL••X•[F] Lezoux. \({ }^{\text {© }}\) This occurs at Carzield and Newstead and on forms 27 and 80 . Stamps from two of his other dies are in a group of burnt samian of the 140s at Castleford. c AD 140-70. KA64 S325

50 Festus iv \(6 e 18 / 31\) FESTVSF La Madeleine. \({ }^{\text {b }}\) So far this is the only example of this stamp noted in Britain, all the rest being in Lower Germany. A few of his other stamps reached eastern Britain and there is one from the Saalburg Erdkastell (before AD 139). c AD 130-60. OK80 S6

51 Flavius Germanus 9 a 27 g OFFLGER ( E and R overlapping) La Graufesenque. \({ }^{\text {b }}\) Flavius Germanus was one of the later La Graufesenque potters. His stamps turn up frequently at Domitianic foundations, such as Butzbach, Cannstatt and the Saalburg, though his occasional use of form 29 suggests that he began work before AD 85. c AD 80-110. IX, 1059 S 212

52 Flavius Germanus 9h 18/31 OFF̂GGER La Graufesenque. \({ }^{\text {b }}\) The form of this dish is Flavian-Trajanic. c AD 80-110. GM65 (75.2361) S214

53 Frontinus 1c \(15 / 17 \mathrm{R}\) or 18R OFFRO[N] NI ( F in the O) La Graufesenque.* This stamp was used mainly on rouletted dishes, but appears occasionally on decorated bowls, including form 29. It is noted from Bowes, Newstead, and Wilderspool. c AD 75-100. IE, MH66 (75.2618) S218

54 Geminus iv 1a 31 GEMINI La Madeleine. \({ }^{*}\) All the stamps from this die which we have noted are from Lower Germany, apart from one from South Shields and another probably from York. It was used on forms \(18 / 31,18 / 31 \mathrm{R}, 31\) and 33 . The form of the dish suggests early to mid Antonine date. CE51 5315

55 Genitor ii 5b 33 (burnt) GE[NITORF] Lezoux. \({ }^{*}\) A stamp occurring in a pottery shop at Corbridge, with stamped vessels of mid to late Antonine date (Forster 1908, 270, fig 10, with 247-58). It is known also from Chesterholm, Catterick, and Ebchester and was used on forms 31R and 79. с AD 160-200. IR55 S263

56-7 Gnatius ii 4 a 31 (burnt); 33 [GNATI]VS; [GN]ATIVS Lezoux. "There are many examples of this stamp in a pottery shop at Castleford destroyed by fire in the 140 s , and a few from the Rhineland. It was used on forms 18/31,27, and 81. c AD 130-55. BD52 S257; BT66 S245

58-9 Gongius 2 a 38 or 44 (burnt); \(18 / 31 \mathrm{JNGI} \cdot \mathrm{M}\); GONG[l-M] Lezoux. \({ }^{\text {© }}\) There are two stamps from this die from Camelon, one in Antonine I or primary Antonine II, and another from Old Kilpatrick. It was used on forms 18/31, 18/31R, and 27. Another stamp, from a die derived from this by surmoulage, is in a pit of the 150s at Alcester. c AD 140-70. CQ54 S271; CR63 S300

60 Habilis 4a 33 ^BILI-(M) Lezoux. \({ }^{*}\) This is from one of Habilis's earlier dies, used on form 18/31, rather than 31, and, probably, form 27. His other stamps appear on forms \(18 / 31 \mathrm{R}, 79,80\), Ludowici Tg and, occasionally, 27. His site record includes Benwell, South Shields, and Verulamium (in the Antonine fire deposits). His range will be c AD \(150-80\), with \(c \mathrm{AD}\) 150-65 for Die 4a. FV63 (75.2657) S219

61-2 Habilis 5a 31; 33 HAB[ILISF]; HABILIS[F] Lezoux." A stamp used on forms \(18 / 31 \mathrm{R}, 80\), and Ludowici Tg. c AD 150-80. H057 S307; A/66 S209
63 Icttiama(?) la 31 ICTTIAM [ \(\wedge\) ]. This occurs in a mid Antonine context at Lezoux, and at Bainbridge, and Benwell. It was used on both forms \(18 / 31 \mathrm{R}\) and 31R. It is not clear whether the stamp should be interpreted as the potter's name or as Icttia(e) ma(mu). c AD 155-85. GZ56 S253

64 Illiomarus ii 3a 31 [ILI]OMARIM Lezoux. \({ }^{\text {b }}\) ' Stamps of Illiomarus occur in burials at Rougham, Suffolk (see no 6) and Riempst, Belgium (see nos 28-9), at Chesters and on forms 27,31R, and 80. с AD 150-80. BH53 \((75.2657)\) S218

65 Indercillus 2a 33 INDERCILLI. Indercillus is known to have worked at Les Martres-de-Veyre, but some of his fabrics, includingall the ones associated with this stamp, seem to belong to the Lezoux range. The stamp occurs at Catterick (2), on form 27 and on form 33 from Exeter which, like the Corbridge piece, seems to be early Antonine. c AD 135-55. ZZ40 S327

66 T Iulius Apiastus (incomplete) \(18 / 31\) or (less probably) 18 ]T.API AS+ (retrograde) La Graufesenque. \({ }^{\text {b }}\) No other example of this stamp has been noted by us. The potter's decorated ware is FlavianTrajanic and a stamp, T.IVL.API, on form 27 from Okarben probably belongs to him. c AD 90-110. KF60 S247

67 Luppa ii la 33 L(V)PPAF Lezoux. \({ }^{*}\) A stamp noted in the Rhineland and at Camelon (2). It was used on forms \(18 / 31,18 / 31\) R, 27 , and 33 . His other stamps also occur in the Rhineland, and at Carzield. \(c \mathrm{AD}\) 130-55. GE54 S269

68 Macrinus ii \(6 \mathrm{a} 33 \mathrm{M} / \mathrm{CRINFE}\), (retrograde) Lezoux. \({ }^{b}\) Stamps of Macrinus ii occur in the Rhineland and in the lowest level of the Birdoswald Alley. This particular stamp is noted from-Bearsden. His commonest forms are 18/31, 18/31R, and 27. c AD 130-50. AC57 S297

69 Macrinus iii 7a 33 MACRINVS Lezoux. \({ }^{\text {. }}\) This stamp appears most often on form 33, but was used occasionally on forms \(18 / 31,31\), and 27 and, once, on an early variant of form 79. Stamps from other dies occur on forms 31 R, 79 and 80, and at Bainbridge and South Shields. c AD 150-80. BH62 (75.2954) S224

70 Marcus v 7a 31 MNRCIF Lezoux. \({ }^{\text {b }}\) Stamps from this die occur on Hadrian's Wall, at Newstead and in the late Antonine samian from Pudding Pan Rock. It was used on forms 31R and 79R. c AD 160-200. IF57 S303

71 Martius iii 3c 33 [लิA]RTIM Lezoux. \({ }^{\text {b }}\) A stamp used on forms \(18 / 31\) and 27 (2). Stamps from other dies, including one on an early variant of form 80 , occur in early to mid Antonine contexts at Lezoux. c AD 145-75. ER59 S339

72 Martius iv 1d \(79 \mathrm{etc}[\mathrm{M}]\) /RTIM Lezoux. \({ }^{\text {b }}\) One of Martius iv's less common stamps. His output includes forms 18/31R, 27, 80, and Ludowici Tx and his wares are noted from Brancaster (2), Malton, South Shields (2) and the Brougham cemetery (where the samian is predominantly late Antonine). The form of this dish suggests a date \(c\) AD 160-90. HZ80 S19

73 Mascellio i 4a 33 [MASCELL]IO Lezoux. \({ }^{\text {b }}\) Stamps from this and some of his other dies occur at northern forts reoccupied \(c \mathrm{AD} 160\), and 4a turns up in the late Antonine samian from Pudding Pan Rock. His forms include 31 (stamped with this die), 31R, and 79 R . c AD 160-200. G/69 S229

74 Maternianus i 3a 33 MATERANIINI Lezoux.* The site record for this stamp includes Benwell, Chesters, and Housesteads. It occurs in groups of late Antonine samian from Pudding Pan Rock and London (New Fresh Wharf). c AD 160-200. ZZ40 S328

75 Mattius ii 4b 33 [MAT]TIM Lezoux.* Mattius ii's stamps occur in Antonine Scotland, at Camelon, Mumrills, and Newstead. His forms include 18/31, \(18 / 31 \mathrm{R}, 27,38\) and \(79 / 80\). There is no internal dating for this particular stamp. c AD 140-70. BX57 S294

76 Maximinus i 2 a 38 or 44 MnXMIIMF Lezoux. \({ }^{\text {b }}\) A stamp current in the late Antonine period and noted from northern forts reoccupied \(c \mathrm{AD} \mathrm{160}\). It occurs in a burial at Sompting, Sussex, with stamped vessels of Lezoux and Rheinzabern potters and a scarcely worn coin of Geta as Caesar (Ainsworth and Radcliffe-Densham 1974, 312). One of his other stamps is known from Cramond. c AD 170-200. MK80 S7

77 Mox(s)ius iv 3a \(18 / 31 \mathrm{R}\) [MOXSIV]SF (retrograde and in guidelines) Trier. \({ }^{\text {b }}\) A stamp common in the Rhineland, but rare in Britain, though examples are noted from South Shields, York(?) and again from Corbridge. Its use on forms \(18 / 31,18 / 31\) R, and 27 suggests Hadrianic-Antonine date. CE57 S293

78 Moxius v 1a 31R [M]OXIMA Lezoux. \({ }^{b}\) This occurs at Bainbridge and South Shields and on the rims of decorated bowls in the styles of Do(v)eccus \(i\) (2) and Albucius ii or Paternus v. Other stamps appear on forms 79, 79R and 80. c AD 160-200. C058 S323

79 Muxtullus 1a 18/31R or 31R -MVXTIVLLI•M] Lezoux. \({ }^{\text {b }}\) A stamp from one of Muxtullus's later dies, noted from Catterick, Chester-le-Street (founded in the 160 s ) and in the Wroxeter gutter. It was used on both forms 18/31R and 31R. c AD 150-80. AF80 S8

80 Muxtullus 1b 33 (burnt) MVXTVLLIM Lezoux. \({ }^{\text {b }}\) An earlier stamp than the last. It occurs in groups of samian of the 140 s and 150 s from Castleford and Alcester, respectively, in Scotland and at Halton Chesters. It was used on forms 18/31, 18/31R, 27, 42 and, perhaps, an early variety of form 31R. c AD 135-60. ES66, ZZ40 S318, S329

81 Muxtullus 3a 38 or 44 [M]V+TVh[LL:] Lezoux. \({ }^{\text {b }}\) A stamp noted from Bainbridge, Benwell, Birdoswald (2), and Piercebridge, and so from one of his later dies. c AD 155-85. B/82 (75.2956) S222

82 Pass(i)enus 5a 29 OFP( \(\wedge 22) E N I\) La Graufesenque. \({ }^{\text {b }}\) This stamp was used only on form 29 . It is one of Pass(i)enus's latest, being relatively common at Flavian foundations, such as Caerleon (2), Carlisle (2), Chester, and the Nijmegen fortress (2). The decoration of the bowls suggests a date \(c \mathrm{AD} 70-80\). ET59 \((75.0054)\) S207

83 Pass(i)enus 24a 15/17R or 18R PASSENI[MA] (M and A overlapping) La Graufesenque. \({ }^{\text {a }}\) Another of Pass(i)enus's later stamps, noted from Chester (3),

York, and the Nijmegen fortress. c AD 65-80. HD52 S260

84 Patricius i 13b 27 P^TRIC[I] La Graufesenque.b There are many examples of this stamp from Flavian foundations, including Chesterholm, but it has also been recorded from the pre-Flavian cemeteries at Nijmegen. \(c\) AD 60-85. LA60 \$283

85 Patricius i \(17 e^{\prime} 27\) (burnt) \(\langle P>N T R|<C>\) La Graufesenque. \({ }^{\text {b }}\) This was used only on cups of form 27, some with footstand grooves. It occurs at Caerleon, Chester, and York. c AD 70-90. FC70 S331

86 Patricius ii 6a 18/31R P[^.T.R]I-CIMA Lezoux. \({ }^{\text {b }}\) Patricius ii's stamps occur at forts in the Rhineland and Antonine Scotland, in the Wroxeter forum destruction deposits and the Verulamium second fire, and at Malton and Housesteads. This particular stamp, not noted in any dated contexts, was used on forms 18/31R, 31R and 38. c \(\mathrm{AD} 140-70\). HV70 (75.2352) S208

87 Paullus iv 5a 33 PAVLIM Lezoux. \({ }^{\text {b }}\) This occurs in a burial at Riempst (see nos 28-9) and at Housesteads. It is commonest on form 33, but was also used on forms \(18 / 31\) and \(18 / 31\) R. Stamps from other dies appear on form 27 from a pottery shop at Castleford destroyed by fire in the 140 s . Die 5 a developed a scratch between A and V at an early stage, and this shows as a diagonal stroke on most of the impressions. c AD 135-70. IK57 S309

88 Paullus v 3d('?) 33 (burnt), ’AVM, IM Lezoux.b This stamp, and the other examples noted by us, from Wroxeter (2) and, again, from Corbridge, all have a loop instead of a full \(P\). This suggests that they are from a broken die. Paullus v's stamps appear on Hadrian's Wall, at Pennine forts and in late Antonine groups from London (New Fresh Wharf) and Pudding Pan Rock. c AD 160-200. GU52 P660 S256

89 Peculiaris i \(2 \mathrm{a} 18 / 31\) or 31 9ECVLIAR[ISF] Lezoux. \({ }^{\text {b }}\) The later of Peculiaris i's common stamps, used on forms 79 and 80 , as well as form 27. There are many examples from Scotland and others occur at Catterick and in the Verulamium second fire deposits. c AD 150-70. BU57, DI57 S295, S292

90 Primulus i \(4 \mathrm{~b} 15 / 17\) or 18 PRIM[VLI] La Graufesenque. \({ }^{\text {b }}\) This potter's output is mainly Flavian, with a few earlier pieces. The stamp is noted from Carlisle, Castleford, Zwammerdam (Period II) and the Nijmegen fortress and Ulpia Noviomagus sites. The die was in use before \(c \mathrm{AD} 75\), as evidenced by stamps from Aislingen and Burladingen. \(c \mathrm{AD} 70-85\). (This perhaps joins K2618). DA52 P650 S333

91 Quietus 2a 33 (burnt) QVIETVSF Rheinzabern.* A stamp noted from Chesters and on form 32. Antonine, probably after AD 150, RB64 S326

92 Quintus v 5a 31 QVINTIM Lezoux. * A stamp common on Hadrian's Wall and at hinterland forts. There are several examples from Pudding Pan Rock. The die was used on forms 31R, 79 and 79R. c AD 160-200. GC51 S316

93 Reburrus ii 3a 27(?) [REBVRRI]OFF. This occurs in mid Antonine contexts at Lezoux, in the Wroxeter forum destruction, at Bainbridge and, probably, Croy Hill. It was used on forms \(18 / 31 \mathrm{R}\) and \(27, c \mathrm{AD}\) 140-65. HR57 S303

94 Reburrus ii 4a 31 REBV(RRI)\&Or Lezoux. \({ }^{*}\) A stamp noted in Antonine fire deposits at Verulamium (2) and Worcester, both after AD 150. It occurs also at Great Chesters and on forms 18/31R, 27, 79, and 80. c AD 145-70. WJ47 S314

95 Reburrus ii 4 f 31 REBVRRI-OF Lezoux. \({ }^{\text {a }}\) There is no internal dating for this stamp. Reburrus's overall range is \(c \mathrm{AD} 140-70\). OB80 S 10

96 Reditus 3a 33 REDITI-M Lezoux. \({ }^{\text {c }}\) Reditus's stamps occur both at the Saalburg Erdkastell (before AD 139 ) and in a group of burnt samian of \(c \mathrm{AD} 170\) from Tác (Hungary). This particular stamp is known from Camelon and there are a few examples from the Rhineland. It appears on forms \(18 / 31\) and \(18 / 31\) R. c AD 135-60. BN54 S267

97 Regulus 11a 38 or 44 [REGV]LVS Lezoux. \({ }^{\text {a }}\) One of Regulus's less common stamps, noted on forms \(18 / 31\) and 27 ; he also made form 80 . His wares reached the Rhineland (presumably before \(c \mathrm{AD} 150\) ), Benwell, and Piercebridge. c AD 140-70. WF47 S313

98 Reogenus lb 31 [RII]OGENITMA. This occurs at Catterick and in mid Antonine contexts at Lezoux. It was used on forms \(15 / 31 \mathrm{R}, 27,31,31 \mathrm{R}\), and 79 R . c AD 150-80. FC70 S332

99 Restutus 3a 31 RIISIV[IVSt] Rheinzabern. \({ }^{*}\) There is little dating evidence for Restutus, though this particular stamp occurs in a group of samian from New Fresh Wharf, London, deposited in the early third century. His use of other stamps on form 32 suggests that he was not at work before AD 160 at the earliest. Late second or early third century. HX80 S17

100 Roppus ii 2a 18/31R ROP.VS, FE Les Martres-de-Veyre. \({ }^{3}\) This stamp appears on forms 15/17 (not normally made at Les Martres after the Trajanic period), 18/31, 18/31R, and 27 . It is noted from Catterick. Other stamps occur in the Saalburg Erdkastell and there are two (one burnt) in a group of burnt samian of the 140 s at Castleford, though here they are presumably residual. \(\mathrm{CAD} 105-30\). OC80 S11

101 Ruffus ii 1a 33(?) RVFFI-M[A] Lezoux. \({ }^{\text {c }}\) The site record for this stamp includes Cappuck, Newstead (3), and Castleford (where it is in a group ot burnt samian of the 140 s ). It was used on forms 18/31, \(18 / 31 \mathrm{R}, 27\), and 33 . His wares also reached the Rhineland, presumably before the middle of the second century. © AD 130-60. IV60 S280

102 Sabinus viii 8b 33 SABINI[M] Lezoux. \({ }^{\text {b }}\) Sabinus viii's use of forms 31R, 79R, and 80 and stamps recorded from Bainbridge and Piercebridge suggest mid to late Antonine date. This is one of his
less-common stamps. c AD 160-200. G/69 (75.2977)
103 Sacer-Vasil.. 1a' 27 SAC(ER-V)ASILF Les Mar-tres-de-Veyre.* This is from a die made, by surmoulage, from an impression of a slightly longer die on a pot. It occurs in the London second fire deposits. Trajanic. AA64, BF64 S230

104 Santianus 1a 33 SANTINNI-O.Y.C. Lezoux. \({ }^{4}\) The occurrence of this stamp on forms 31 R and 79 , and of others on form 80 , suggests that the die was not in use before AD 160. MG80 S13

105 Sanucius i 1a 31 [S/NNVC]IVSF Lezoux. \({ }^{\text {c }}\) A stamp noted from Benwell and Birrens and on form 31R. Mid to late Antonine. CV57 S291

106 Sarrutus la 33 OF.SARRVT La Graufesenque.* This stamp occurs at RiBtissen (before AD 75) and, occasionally, on bowls of form 29 with decoration typical of the period \(c \mathrm{AD} 70-85\). The latest example noted is from Butzbach. c AD 70-90. IH57 S308

107-8 Secundinus i 5a \(18 / 31 \mathrm{R}\) (sic); \(15 / 17 \mathrm{R}\) or \(18 / 31 \mathrm{R}\) ]INI; SECVNDINI La Graufesenque. \({ }^{\text {b }}\) The form of one of these dishes suggests Flavian-Trajanic date and this is supported by examples of the stamp from Cannstatt (2) and Okarben. His other stamps occur at the Saalburg (3) and in a group of late first or early second century samian from La Graufesenque. c AD 90-10. ER66 (75.2359) S210; GR, GB70 S215

109 Senila la 33 SENIIN-M Lezoux. \({ }^{\text {c }}\) One of Senila's later stamps, noted from Newstead and Binchester, and in a group of burnt samian of \(c \mathrm{AD} 170\) from Tác (Hungary). His earlier wares include decorated bowls in the style of the Quintilianus i group and forms 18/31 and 27. c AD 140-70. GA57 S286

110 Severianus ii 2a 31 [SEVERIAN]VSFE Rheinzabern. \({ }^{*}\) There is no close dating for this stamp, though its occurrence at Brancaster suggests that it may be third century. A Severianus, who may be this man, signed moulds at Rheinzabern which are stylistically among the latest products of the pottery. Second quarter of the third century? CV57 S290

111 Severus i-Pud.. \(3 a^{\prime} 15 / 17\) or 18 OF.SEVER + La Graufesenque. \({ }^{\text {b }}\) This is from a broken die which originally gave OF.SEVER-P. One of the potters is clearly Severus i, on the style of the lettering. PVD..., presumably Pudens, occurs with Severus on another stamp and it is reasonable to assume that he is represented here. This particular stamp occurs at Flavian foundations, such as Chester (3) and the Nijmegen fortress (3) and Ulpia Noviomagus sites. c AD 70-95. A/56 S255

112 Sextus v 2 a 33 SEXTIMAN Lezoux. \({ }^{\text {b }}\) Stamps of this potter occur on Hadrian's Wall, at hinterland forts and in the group from Pudding Pan Rock. His forms include 31R, 79, 80, and Ludowici TgR. This particular stamp is noted from Chesters. c AD 160-200. AV63 S300

113 Sextus v 5 b 33 (burnt) SIIXTI[-M] Lezoux. \({ }^{\text {a }}\) This is probably one of Sextus's earlier stamps, since it is recorded from Bothwellhaugh and on form 38 with an early type of footring. c AD 160-75. FY65, BW53, DB65 S246

114 Sulpicius 3a 15/17 or 18 OFSV[IPIC] La Graufesenque.* Stamps from several of Sulpicius's dies turn up at Domitianic foundations. This particular one is known from Okarben, Watercrook, and the Saalburg. c AD 90-110. HS5G S250

115 Suobnedo 2a 33 SVO[BNEDOF] Lezoux. * This was apparently always used on form 33 . Suobnedo also made form 31. Antonine. BF62 (75.2956) S221

116 Suobnus 2a 18/31R [SV]OBNI-M Les Martres-deVeyre.* Suobnus belonged to the later group of potters at Les Martres. This stamp is common in Scotland and is noted from Ardoch, Camelon (7), Mumrills, Newstead, and Rough Castle. c AD 130-60. AA63 S302

\section*{117 L Ter(tius?) Secundus 5a 18/31R} [L-TBR.SEC]VN.
This stamp occurs in a group of Flavian-Trajanic samian at La Graufesenque. It is also noted from Butzbach, Cannstatt, and the Saalburg (6). c AD 90-110. BP52 S258

118 Tigotalus 1a 31R TIG[OTANMM] Lezoux.* This stamp appears on the rims of decorated bowls in the styles of Albucius ii and Cinnamus ii. He also used it on form 79. c AD 150-80. AN66 (75.2366) S216

119 Tituro 1a 46 (Ludowici Bb ) TITVRONISOF Lezoux. \({ }^{\text {a }}\) This is common on Hadrian's Wall and at hinterland forts. There are many examples in a group of late Antonine samian from London (New Fresh Wharf) and five from the Wroxeter gutter. c AD 160-200. GC, ET70 S217

120 Titus iii 1c 31 [T]ITVS-FEC+ Lezoux. \({ }^{\text {b }}\) Titus's stamps occur at Mumrills, in a pit of the 150s at Alcester, and in a group of burnt samian of \(c\) AD 170 from Tác (Hungary). His output includes forms 31R and 38. This particular stamp, used on forms \(18 / 31\) and \(18 / 31\) R, probably belongs to the period \(c \mathrm{AD}\) 150-70. AR67 S22

121 Tribunus i 1a 33 TRIBVNI[M] Lubié. \({ }^{*}\) This is in very pale fabric with a red-brown matt glaze. The stamp was also used on form 38. Antonine. CC62 S223

122 Tullo/Tullus 3a 33 TVLLV[SF] Trier (a), Pont-des-Rèmes. \({ }^{\text {b }}\) A stamp noted from Newstead and Benwell. There are two other exmples from Corbridge. c AD 150-80. HC57 S304

123 Vagiro/Vagirus 7a 33 VAGIR[V] Lezoux. \({ }^{\text {© }}\) This stamp was used on forms 31 and 80 . He also stamped forms \(18 / 31\) and 27. c AD 145-75. BZ54 S277

124 Velox 2a 33 VELOXF Lezoux. ' A minor Central Gaulish potter, who made forms \(18 / 31\) R, 31, and Curle 23. This particular stamp occurs at Bishopton and another comes from Newstead. Early to mid Antonine. AC57 S296

125 Vitalis ii \(8 h^{\prime \prime} 15 / 17\) or 18 OF.VITA La Graufesenque. \({ }^{\text {b }}\) This is from the final version of a die which was modified twice. The original die was in use before AD 75 , on the evidence of a stamp from RiBtissen. Stamps from the earlier modified die come from Ribchester and Butzbach. There is no dating for the final version, but it will fall within the period c AD 75-95. IZ59 S281

126 Vitalis ii 8 i 27 OFVITA La Graufesenque. \({ }^{\text {a }}\) One of Vitalis ii's later stamps, noted from Cannstatt, Newstead (2), and the Saalburg (4). c AD 80-100. GY65 S320

127 Vitalis iii 2a 18/31 V[+ALIS]M•S•F. Les Martres-de- Veyre. \({ }^{\text {a }}\) This occurs in a burial at Bartlow, with stamped vessels of Flavian-Trajanic and Trajanic potters of La Graufesenque and Les Martres, respectively. Other examples are noted from the London second fire deposits (3) and Malton. c AD 100-25. GN70 (75.2363) S336

128 Vxopillus 4a 18/31R VXOPILLI-M Lezoux. \({ }^{\text {b }}\) This stamp turns up in a pit of the 150s at Alcester and in a group of burnt samian of c AD 170 from Tác (Hungary). It is also known from Newstead (2) and Benwell. c AD 150-70. DW80 S15

\section*{Decorated ware}

All the stamps are in the decoration, apart from the stamp of Divixtus which is upside-down below the decoration.

129 Cinnamus ii 4 b \(37 \mathrm{CINN}[\mathrm{AMIM}\) ] (retrograde) Lezoux. \({ }^{\text {b }}\) Decorated bowls with this stamp occur at Bar Hill and Newstead. c AD 150-80. GE51 S235

130-7 Cinnamus ii 5 b 30 (2); 37 (6) CINNAMI; ]NAMI; CINNAM[; CINN[; ]AMI; CINNAM[; ]NAMI; ]MI; CINNAMI (retrograde) Lezoux. \({ }^{\text {a }}\) Decorated bowls with this stamp occur on Hadrian's Wall, but are rather more numerous in Scotland. c AD 150-80. XLIV, K989, BV, EE, FD, GN65 S233 (burnt); EP, EV68 S242; DX, EO54 S234; GE51 S235; AJ57 S236; AG54 S237; AV57 S238; AB53 S239; BV53, CW, IM, KR, LM64 S241 (burnt after fracture)

138 Divixtus i 9d 37 DIV[IX•F] Lezoux. \({ }^{2}\) This stamp is common in Scotland, but is also noted from South Shields. c AD 150-80. DK, EY57 (75.2167) S240

139-40 Paternus v 7a 37 (2) P TERNFE (retrograde) Lezoux. \({ }^{*}\) There are no bowls with this stamp at any Scottish sites with a normal Antonine occupation, but it is not uncommon on Hadrian's Wall nor at hinterland forts, c AD 160-95. AV63 S232; GI80 S9

141 Avitus v la 37 AVITI.F (retrograde) Blickweiler ", known from Osterburken (AD 140+). Hadrianic-Antonine. See section 2, No 41. BM, CQ, DD, DN, DT, DX54, BV65, EZ67, BL68

142 Divixtus i 9d 30 DIVIX.F Lezoux *, common in Antonine Scotland very much less so on Hadrian's Wall c AD \(150-80\). This potter has made some of the later second century plain forms such as 31 R and 80 . See section 2, No 28. BV, ON, ER, FD, GH65, MK68, AF, AX, CO69

143 Attianus ii 37 [A]ttiani (retrograde) cursive below decoration Lezoux. \({ }^{2}\) His wares turn up on Hadrian's Wall and in Antonine Scotland, also in a group of burnt samian of C AD 140-50 at Castleford; c AD 125-45/50. See section 2, No 26. HA51, ES53. GW56

\section*{Illiterate}

144 VIVI(?) on form 27 g , La Graufesenque. ' Probably new when broken. Flavian or Flavian-Trajanic. LM80 21

145 III...III/(?) on form 27, Lezoux. \({ }^{\text {s }}\) Probably carly Antonine. ER59 S338

146 ]XIIXIIXI on form 31, Lezoux. \({ }^{\text {c }}\) Antonine. ZZ40 S330

147 JMII/N on form 33, East Gaulish. Just possibly a stamp of Menda, who worked at one of the Argonne factories. © AD 150-200. OM80 S16

148 An eight(?)-petalled rosette on form 46, Lezoux. \({ }^{\text {E }}\) Hadrianic or early Antonine. BX80 512

\section*{Unidentified}

149 B [ or D[ on form 15/17R, La Graufesenque.s Stamped off-centre, as if by Bassus i, for what it is worth. There is an angular facet below the rim, almost as on form 29. Probably Vespasianic. JP61 S249
\(150 \mathrm{~B} \cdot \mathrm{I}-(?)\) on form 27 g , La Graufesenque, \({ }^{\text {© Flavian. }}\) FQ69
\(151 \mathrm{C} \wedge\) Sthe on form 27 (very worn inside), La Graufesenque.‘ Flavian or Flavian-Trajanic. IS59 S273

152 ..VR.., retrograde (?), on form 27 g , La Graufesenque. \({ }^{\text {c }}\) Flavian-Trajanic. HV56 S254

153 ]CNT..[ on a dish, South or Central Gaulish. Late first or early second century. OM68 S312

154 ]TER[ (?) on form 18/31R, bored for a rivet, Central Gaulish. Trajanic or Hadrianic. DX52 S261

155 CVI[ on form 18/31 or 31, Lezoux. \({ }^{\text {C }}\) Hadrianic or early Antonine. EC53 S278

156 CNE on form 33, Lezoux. \({ }^{\text {c }}\) Antonine. AQ56 S251
157 AIM on form 33, Lezoux. \({ }^{\text {© }}\) Antonine. BM57 S299
158 SECVNDI[, retrograde, on form \(18 / 31\) R or 31 , Lezoux. \({ }^{\text {c }}\) Antonine. CM49 S322

159 C...CIM[ on form 18/31R or 31R, Lezoux. \({ }^{\text {c }}\) Antonine. HF80 S18

160 M[ on form 33 (burnt), Central Gaulish. Probably Antonine. MY67 (75.2553) S286

161 E.... I (?) on form 31, Lezoux. Possibly a stamp of Elvillus (from Die 1a). Worn under the centre of the base and on top of the high kick, as if it had been used after fracture as a child's top. Mid to late Antonine. /K65 (75.2364) S317

162 JINI on form 31R, Lezoux. ' Mid to late Antonine. GL54 S270

163 CN on form 80 or Ludowici Tx (burnt), Central Gaulish. Mid to late Antonine. IV67 S334

163a Form 33 or 46, is unstamped, but has a small ring incised round the centre of the base. Probably Central Gaulish and Antonine. K167 S205

\section*{2 Decorated ware from the 1947-73 seasons}

\section*{The principia}

1 (Fig 103) SG. Form 37. Ovolo is possibly that used by M Crestio and Crucuro. For double bordered festoon see Knorr 1952, Taf 20c. KT67

2 (Fig 103) SG. Form 37. Fragments now lost; drawing made from 35 mm colour transparency taken at time of excavation; seen by B R Hartley soon after excavation and dated not earlier than AD 85. BZ73

3 CG. Form 37. Ovolo: S and S fig 22.1 (Sacer), figure of lion below. (Not illustrated) BP67

4 (Fig 103) CG. Form 37. Ovolo: (?)Rogers B16, S and S fig 22.4 (Sacer); festoon: Rogers F40, likely to be Sacer. DY67

5 (Fig 103) CG. Form 37. Ovolo: (?)Rogers B24, S and S fig 24.1 (Docilis/Doccalus). CP67

6 ?CG. Form 37. Ovolo: (?)S and S fig 30.4 (Paternus). (Not illustrated) BP67

7 (Fig 103) CG. Form 37. Ovolo: (?)S and S fig 47.5 (Cinnamus). Bl67


Fig 103 Samian (scale 1:2)



15


17



Fig 104 Samian (scale 1:2)

\section*{The area of the praetorium}

8 (Fig 103) SG. Form 29. Upper frieze left-hand panel: lion leaping to left; right-hand panel: diagonal wavy lines and leaf tips; wavy line dividers with rosette terminals. Medial wreath of trifid leaves between bead rows. Lower frieze: part of undulating scroll. The general style and type of wreath suggest a date of AD 65-80. IZ65

9 (Fig 103) SG. Form 29. The scroll in the upper zone has tulip leaves, with stirrup leaves and birds (Hermet 1934, pl 28, 67) pointing in opposite directions, in both concavities. The lower zone has short, straight gadroons, over a basal wreath of overlapping (palmate?) leaves. The stirrup leaves are on a bowl from Camelon, stamped by Pass(i)enus and one is on bowls of form 37 in the Pompeii Hoard (Atkinson 1914, nos 57 and 63). The tulip leaf was used in the Neronian period, and appears on a bowl from London (Museum of London, formerly London Museum), with a basal stamp of Felix i, but from a signed mould of Modestus i. The fabric and glaze of the Corbridge piece are clearly Flavian, however. \(c\) AD 70-85. IW66

10 (Fig 104) SG. Form 37. Ovolo is a coarse three pronged one characteristic of the latest south Gaulish products. Main zone: undulating scroll: lower concavity is divided into two: (?)boar/bear to right between upright corded motifs; to left a festoon containing rosette tipped terminal between pendant 4-lobed leaves; upper concavity: large leaves; basal zone of S-shaped motifs. One of the latest pieces from Newstead (Curle 1911, 209 no 2) has the ovolo and pendant leaf. Gloss poor, relief good though the detail is smudged in places. \(\mathrm{AD} 90-110\). AK59

11 (Fig 104) SG. Form ?trans 29/37. Ovolo is very blurred: (?)double bordered, tongue with trifid tip, saltire below. GE59

12 (Fig 104) CG. Form 37. Fragment of frieze: undulating scroll containing small acanthus terminating bead row (Rogers K25-Drusus, S and S fig 4.9 - X3); the arrangement suggests a Trajanic-Hadrianic date. DR70

13 (Fig 104) CG. Form 37. Ovolo is (?)Rogers B23 - Secundinus III or B80 - Cettus); figure resting hand on shield is D 654; ?caduceus is Rogers Q78 Secundinus 1); trifid leaf below is Rogers G24 Condolus and X13); stylised leaf in right hand panel is Rogers G18 - Quintilianus, Secundinus I and others; bifid leaf terminating bead row is Rogers G292 - Quintilianus, P10. A Hadrianic date is likely and the fabric and gloss support this. GE59

14 (Fig 104) CG. Form 37. Ovolo: close to S and S fig 42.4 (small S). What can be seen of the rest of the decoration does not conflict with this. GM70

15 (Fig 104) (?)CG. Form 37. Ovolo: (?)S and S fig 13.2 - Butrio; tripod: Rogers Q16 - used by Butrio;
figure of Hercules and Cerberus: D 471 - used by Libertus and Butrio; for very similar arrangement cf S and S pl 60.679 - Butrio. AD 120-45. FH70

16 (Fig 104) CG. Form 37. Ovolo: Rogers B228, S and S fig 47.4; figure on left: D 545a. Ovolo is used by Quintilianus and the figure type by Illixo who is thought to have been associated with the group. Corded borders do not seem to appear on the work of the main potters of the group (Quintilianus, lanuaris, Paterclus) though they would be appropriate on the work of an associated potter, Laxtucissa. AD 130-60. AM63

17 (Fig 104) CG Form 37. Ovolo: Rogers B231, S and S fig 47.2 - Cinnamus. The tripod is a slight variation on Rogers Q43 used by several Antonine potters. AD 150-70. L/59

18 (Fig 104) CG. Form 37. Ovolo: Rogers B231, S and S fig 47.2 - Cinnamus; festoon: Rogers F40 Cinnamus. AD 150-70. AX63

19 (Fig 104) CG. Form 37. Ovolo: Rogers B143; brazier: Rogers Q58; Cinnamus. AD 150-70. FR70

\section*{The other areas from the 1947-73 seasons}

20 (Fig 104) SG. Form 37. Lower part of decoration showing seated doe in lower concavity of scroll, leaf tips below; large leaf tipped tendril occurs on work of Secundus (Knorr 1919, Taf 73). AD 75-95. FZ55

21 (Fig 104) SG. Form 37. The ovolo, triple bordered festoons, grass tufts and pendants all occur on a bowl from Newstead (Curle 1911, pl XLIII bottom). AD 90-110. FK56

22 (Fig 104) SG. Form 37. The generally poor execution suggests a late date. AD 90-110. KJ67

23 (Fig 104) CG. Form 37. Bifid motifs are Rogers G377, S and S fig 10.3; large poppy head terminal is Rogers G136; for similar style cf S and S pl 4.41 (X2). AD 100-20. GI56

24 (Fig 104) CG. Form 37. In place of the ovolo are a pair of opposed dolphins - cf S and S pl 11.133 (X3). AD 100-20. PK64

25 (Fig 105) CG. Form 37. Ovolo not visible; wavy line border; figures are Hercules and Cerberus: D 471; draped female : D 540; indistinct basal zone of small (?)branches; almost certainly by Butrio. AD 12045. HD58

26 (Fig 105) CG. Form 37. See section 1, No 143. HA51, ES53, GW56

27 (Fig 105) CG. Form 37. Ovolo: Rogers B105; seated man: D 534; general style suggests Paternus. BD54

28 (Fig 105) EG. Form 30. See section 1, No 142. BV, CN, ER, FD, GH65, MK68, AF, AX, CO69



Fig 106 Samian (scale 1:2)


Fig 107 Samian (scale 1:2)




29 (Fig 106) CG. Form 37. Ovolo: Rogers B143, S and S fig 47.3; large leaf: S and S fig 47.38; rosette in feathered circle: Rogers C98. For highly similar decorative arrangement cf S and S pl 162.60. BY52

30 (Fig 106) CG. Form 37. Ovolo: S and S fig 33.1 - Advocisus; intertwined leaves: S and S fig 33.5. AD 160-90. AT64

31 (Fig 106) CG. Form 37. Ovolo: Rogers B145, S and S fig 47.4-Cinnamus. HD58

32 (Fig 106) CG. Form 37. Figure of Mars similar to D 88. General style would suit Cinnamus. IN64, BC, DZ65

33 (Fig 106) CG. Form 37. Small brazier: Rogers Q59; large leaf: Rogers J1; probably Cinnamus. For style see S and S pl 161.51. Two sherds burnt, one not. MK68, CO69

34 (Fig 106) CG. Form 37. Figure: D 117; other details are Rogers H109, L11, U33 all used by Cinnamus. GZ, GK51, DO, PU64, BC65

35 (Fig 106) CG. Form 37. Figure is of Apollo; feathered leaf is Rogers U247. ?Cinnamus. CO65

36 (Fig 106) CG. Form 37. Ovolo: Rogers B223, S and S fig 47.1 - Cinnamus; festoon: Rogers F40. Figures: dancer: D 372 bis; warrior: D 110; lion: (?)D 736. Cinnamus. AD 155-75. IP, JP, JS, LM64, BV, CO, CZ, DB, DP65, KG67

37 (Fig 107) CG. Form 37. Ovolo: Rogers B143/4, S and S fig 47.1 - Cinnamus; Apollo and two horse chariot: (?)D 60b. For similar use of small leaves in field cf S and S pl 163.71; Cinnamus. GO51, JC52, \(B X, C H, D T, D X, E P, E R 54, A K, A J, C Q, H B 55, E Z\), FF67, AX68

38 (Fig 108) CG. Form 37. Ovolo: Rogers B145, S and S fig 47.4; stylised leaf: Rogers J1; cf S and S pl 161.51 also from Corbridge and possibly from the same bowl. BV, DD, EE65, AX69

39 (Fig 108) EG. Form 37. The main decorative scheme consists of a frieze of festoons containing opposed tendril and bud motifs. Probably a product of the La Madeleine factories, of Ricken 1934 Taf vii (no 51 is the tendril and bud motif). The bands of spirals between bead rows at the top and bottom of the decoration are used particularly at La Madeleine. CQ53, \(I M, K R, L M, L N 64, C O, D B, B P 65\)

40 (Fig 109) EG. Form 37. Probably La Madeleine, of Ricken 1934, Taf vii; figure: ibid no 97, pedestal: ibid no 28; mask: ibid no 70; S-shaped motif: ibid no 62; ovolo: ibid, c. IQ, JR64, CO, IV65

41 (Fig 109) EG. Form 37. Ovolo: Folzer 1913, Taf xxvii 326. The rest of the details can be found in Knorr and Sprater 1927. Probably two panels repeated: draped woman: Taf 72.20; Venus: Taf 72.13; both on pedestals: Taf 81.89 ; charyatid: Taf 77.7 or 8 ; Apollo:

Taf 74.6. See also section 1 No 141. BM, CQ, DD, DN, DT, DX54, BV65, EZ67, BL68

42 (Fig 110) (?)CG. Form 37. Detail blurred by poor execution. Ovolo is possibly that of Arcanus (Rogers B45, S and S fig 20) and the haphazard freestyle design is similar to S and S pl 78.7 ; the small animal at the top of the decoration appears to be a squirrel. The poorness of the execution, the fabric and certain details of the figure types suggest, however, that the piece may be east Gaulish. CL, DH67

\section*{3 Decorated ware from the 1980 and 1976 seasons}

43 (Fig 110) SG. Form 29. The use of alternating panels of leaf tips and animals in the upper frieze suggests a date of AD 65-80. 345

44 (Fig 110) SG. Form 37. Double bordered ovolo with trifid tongue; panelled decoration; dividers are too indistinct to be sure whether beaded or wavy line; leaves suspended from rosette terminals; in right hand panel female figure O 121. Style and execution suggest a date of AD 90-110. 263

45 (Fig 110) SG. Form 37. Double bordered ovolo with central projection and tongue with trifid tip; panelled decoration. For similar style of Knorr 1919, Taf 99b on a Dr 30 or Taf 57. 158

46 (Fig 110) SG. Form 37. Stamped CEFLICIO (retrograde) inside the base, after moulding. Felicio iii of Montans (see section 1, No 48 for a discussion of the date). The small ovolo, with tongue swelling at the end and bending to the left, is on bowls from Montans with stamps of Attillus iv, Malcio and Nomus, the first from a stamped mould, the others stamped after moulding. Each alternate panel contains a tulip leaf over a ram's horn motif. The intervening panels have: 1) a stag to right (D 857), over two rows of pointed leaf-tips and divided from them by a row of beads with a rosette at each end; 2) an arcade containing a bust. The basal wreath consists of chevrons and the panels are divided by double borders of beads. Another bowl of Felicio with this ovolo (also stamped in the base), has the arcade and perhaps the motifs in panel 1. This comes from one of the London second fire deposits and, though apparently unburnt, could be contemporary with the burnt material, in view of the groups of secondcentury Montans ware involved in the burning. (Details from Brenda Dickinson and Brian Hartley). 178

47 (Fig 110) SG. Form 37. The style and execution suggest a late date: c AD 80-100. 180

48 (Fig 110) CG. Form 37. Fragment from bottom of decoration showing part of two panels; in left, part of figure of Mercury; in right is panther (D 798); panels divided by bead rows with ring terminals; rings in field. Fabric suggests a Hadrianic-early Antonine date. Examples showing similar decorative


Fig 110 Samian (scale 1:2)
arrangement and motifs are S and S pl 76.31 (large S potter) and pl 89.16 (Drusus who also signed D 798). 59

49 (Fig 110) CG. Form 37. Double bordered ovolo with rosette tipped tongue which all but disappears into the ovolo: Rogers B262 (P15). ?Hadrianic-early Antonine. 59

50 (Fig 110) CG. Form 37. Decoration blurred, slip thick glossy pinkish orange ovolo much blurred small double bordered with rosette tipped tongue, probably: Rogers B14; panelled decoration: fragments of three panels - 1) contains double bordered festoon suspended from astragalus; 2) contains charyatid probably O 1201a; 3) contains double bordered medallion containing bird to right (D 1019). Almost certainly a piece by Sacer who uses this ovolo, the figure type D 1019 and the distinctive rows of slightly flattened beads. For similar use of D 1019 in double bordered festoon cf S and S pl 82.6. 161

51 (Fig 110) CG. Form 37. Double bordered ovolo, beaded tongue with splayed tip; figure type: O 1059; haphazard freestyle decoration with leaf tips in field. Ovolo may be small S potter - S and S fig 42.1 and leaf tip part of motif 6 . Hadrianic. 159

52 (Fig 110) CG. Form 37. Decoration, particularly ovolo, blurred - probably Rogers B14; bird in festoon is D 1018; potter is Sacer - may be from the same bowl as No 50; AD 125-50. 153

53 (Fig 110) CG. Form 37. Undulating scroll formed from two festoons linked by an astragalus; figure of Venus: D 175. For example of festoons used in this way of S and S pl 141.12 - small S potter, who also uses D 175; AD 135-60. 240

54 (Fig 110) CG. Form 30. Panelled decoration divided by rows of alternate large and small oval beads; animal to right is O 1500 ; trifid motif could be Rogers G97 used by Laxtucissa who also used this kind of bead row; cf S and S pl 97.7. 257

55 (Fig 110) CG. Form 37. Panelled decoration: large leaf: Rogers H60; spirals in field: Rogers S72; lion to left: D 766; all used by Cettus (small S potter) AD 135-60. 104

56 (Fig 110) CG. Form 37. Ovolo: Rogers B206; trifid: Rogers G159. Both these are used by Paternus, Censorinus, Laxtucissa. Laxtucissa is the most likely as he uses the fine bead row and rosettes: of S and S figure 27.11; AD 150-80. 234

57 (Fig 111) CG. Form 37. Ovolo: Rogers B206; Apollo holding laurel branch: D 55; dancer: D 210. Probably a piece by Laxtucissa who uses the ovolo, rosette and who signed figure type D 55; AD 150-80. 252

58 (Fig 111) CG. Form 37. Ovolo: Rogers B14 (Sacer). 173

59 (Fig 111) CG. Form 37. Bifid motif: Rogers G359 (Censorinus, Mammius and Quintilianus); closest trifid: Rogers G56 (Sacer); rosette: Rogers C281 used by Quintilianus amongst others; ovolo: probably Rogers B28 used by Quintilianus amongst others. 293

60 (Fig 111) CG. Form 37. Ovolo is possibly Rogers B31 used by X5 with a fine wavy line border below. S and S pl 57.12 shows the use of a winding scroll, as here, on a piece by X5; AD 125-45. 311

61 (Fig 111) CG. Form 37. Festoon: Rogers F41 used by a number of potters; bird: O 2250a. Fabric and style suggest a Hadrianic-early Antonine date and ovolo is very similar to that on S and S pl 92.13 and 16 - Docilis; AD 130-50. 293

62 (Fig 111) CG. Form 37. A curious arrangement of decorative elements; above a single bordered festoon suspended from an astragalus are two concentric medallions the inner containing a mask ( D 683); between the medallions are feathered circles (possibly Rogers E70); between the medallions and the festoons is a row of dots; to the lower left within a panel bordered by bead rows is a bird; to the upper right is a sphinx (D 496 used by Doeccus Banuus Attianus and Acaunissa). Second half of second century. 167

63 (Fig 111) CG. Form 37. Small double bordered ovolo with (?)corded tongue and (?)ring tip probably S and S fig 33.1 - Advocisus; fragments of bead rows and festoon suspended from astragalus. 167

64 (Fig 111) CG. Form 37. Showing part of single bordered festoon containing reclining female (D 309); borders are alternating round and oval beads; at right is part of standing male figure (?)D 338; beaded ring in field. Albucius uses both the borders and the figure type D 309. AD 150-90. 59

65 (Fig 111) CG. Form 37. Ovolo: Rogers B106 Paternus or Albucius; AD 150-90. 233

66 (Fig 111) CG. Form 37. Ovolo: Rogers B105; figure of Jupiter: D 3; bird possibly: O 2310 but see S and S pl 102.14 for its use in medallion. Use of this particular bead row with this ovolo suggests that the potter is Censorinus. AD 160-80. 247

67 (Fig 111) CG. Form 37. Lower part of decoration; charyatid probably: D 656; trifid motif: Rogers G73 ascribed to Rogers' potter X14 and used by Advocisus and X14; rabbit:(?)D 950a used by many potters. Advocisus uses the trifid motif and the fine beaded borders. 106

68 (Fig 111) CG. Form 37. Ovolo is probably Rogers B105 (Paternus or Albucius) - more likely Albucius with this bead row. AD 150-90. 308

69 (Fig 111) CG. Form 37. Ovolo: Rogers B107 used by Paternus or Albucius - bead row used here suggests Albucius. 167


Fig 111 Samian (scale 1:2)

70 (Fig 111) CG. Form 37. Double bordered ovolo with straight, possibly corded tongue; overstamping is evident on the bowl; ovolo: probably Rogers B143, S and S fig 47.3 - Cinnamus; mask is probably ibid D 675 used by Cinnamus amongst others. 167

71 (Fig 111) CG. Form 37. Part of two panels separated by bead rows with ring terminal shown. Left-hand panel contains large double bordered medallion containing seated Apollo playing lyre - D 52, O 83; corded cigar in field; Cinnamus uses D 52 , ring terminals and the corded cigar. 248

72 (Fig 111) CG. Form 37. Large leaf: Rogers J1, S and S fig 47.34 used by Cinnamus. 158

73 (Fig 111) CG. Form 37. Lower part of decoration; freestyle animal to left is possibly D 803, O 1549; leaf tips in field are part of S and S fig 47.5 used by Cinnamus; AD 150-70, 241

74 (Fig 111) CG. Form 37. Ovolo: (?)Rogers B144. Figure types: mask D 694; Victory O 819a; warrior D 103; panther D 799, O 1518. Almost certainly Cinnamus. AD 150-70. 257

75 (Fig 112) CG. Form 30. Tiered motif: Rogers Q27 used by Cinnamus, Banuus, and lustus. For similar decorative scheme on a \(\operatorname{Dr} 30 \mathrm{cf} \mathrm{S}\) and S pl 160.41. 246

76 (Fig 112) CG. Form 37. Ovolo: probably Rogers B143 (Cinnamus); charyatid: D 655a. 225

77 (Fig 112) CG. Form 37. Stag: D 847 used by Doeccus, Attianus, and Cinnamus. 272

78 (Fig 112) CG. Form 37. Large leaf: Rogers J1 used by Cinnamus; small leaf: Rogers J89 used by Attianus amongst others; bead row terminal is possibly bottom element of S and S fig 47.28. Almost certainly a piece by Cinnamus. 243

79 (Fig 112) CG. Form 37. Rosette: possibly Rogers C53 used by a number of potters; bird: D 1035; rabbit is D 950a used by a number of potters. Certainly Antonine, possibly by Cinnamus. 298

80 (Fig 112) CG. Form 37. Ovolo: Rogers B231Cinnamus; overstamping visible. 167


Fig 112 Samian (scale 1:2)


Fig 113 Samian (scale 1:2)

81 (Fig 112) CG. Form 37. Ovolo: Rogers B106 Paternus or Albucius. Gloss is very orange-yellow, piece covered with black deposit; AD 150-90, 234

82 (Fig 112) EG. Form 37. Large vessel, well fired fabric, glossy bright orange red slip. Clearly moulded double bordered ovolo with central projection and beaded or corded tongue with irregular tip. Probably a product of the Allier-Lavoye factories. 248

83 (Fig 112) EG. Form 37. Large double bordered ovolo with tongue with ring tip: Ricken and Fischer 1963, E39. Possibly the work of Janu(arius) I, cf Ricken and Ludowici 1948, Taf 3.16. Antonine. 252

84 (Fig 112) CG. Form 37. Ovolo: Rogers B105 used by Albucius, Censorinus, Laxtucissa, Mammius, and Paternus among others. Too little of the decoration remains for certain attribution. AR76. From the burnt deposit in trench 2, Site 4 (Temple 6) 1976.

\section*{4 Selected Dr 29s}

\section*{by Brenda Dickinson and Brian Hartley}

85 (Fig 113) Stamped OF.CEN inside the base (see section 1, No 26), after moulding. The upper zone consists of a scroll, with birds on tendrils (Hermet 1934, pl 28.61) and spirals ending in rosettes in the upper concavities. Rows of pointed leaf-tips alternate with fronds and spirals in the lower concavities. The lower zone has a sub-zone of palisades over a scroll. Birds on tendrils (as in the upper zone) are flanked by palmate leaves in the upper concavities. The lower concavities contain corded medallions, with alternating pairs of hares (probably O 2044 and its opposite) and birds (O 2249 and its opposite). Pairs of eight-petalled rosettes flank the medallions at the bottom. The most frequent parallels occur on bowls stamped by Calvus i, from York (palisades, medallion and upper zone scroll-tie) and Mandeure (bird on tendril, rosette and, probably, frond). A slightly larger version of the palmate leaf occurs on form 37 from a dump from one of Calvus's kilns at La Graufesenque. The medallion is also on bowls stamped by Pontus, in Period IIA/B at Verulamium (Hartley 1972, D 67, which has similar pairs of hares and birds), Coelus (Utrecht Museum, unprovenanced) and Vitalis ii (Millau Museum, from La Graufesenque). The palisades occur on form 37 from a stamped mould of Patricius i from London (Museum of London, formerly in London Museum) and are probably on form 29 from Vechten, stamped by Coelus (Knorr 1919, Taf 24E, with the hares). Censor's stamps occur on bowls in such a variety of styles that is it almost certain that he bought, rather than made moulds and this bowl is likely to be from a mould by Calvus, or an associate. c AD 7085. K1091 (75.1902)

86 (Fig 114) The upper zone includes a chevron festoon containing a spiral, with a bottle-bud pendant and five and six beaded rosettes. Below the central cordon is a zone of S-shaped gadroons. The festoon and six-petalled rosette are on a stamped bowl of Vitalis ii from Trier, perhaps with the same pendant, and another of his bowls, from Neuss (Knorr 1919, Taf 83D) has the festoon and spiral. The festoon is also on a bowl from Brecon, perhaps stamped by Pass(i)enus (Knorr 1952, Taf 77E). c AD 70-85. A13

87 (Fig 114) The upper zone includes a panel with dogs chasing hares (not closely identifiable), followed by a panel of rows of finely ribbed leaf-tips. The lower zone has straight gadroons. The leaf-tips are not those of Murranus, as suggested by Professor Birley (Birley and Richmond 1938, 282, 1), but are probably the ones on a bowl from Mainz stamped by Felix i (unpublished). Felix was mainly a Neronian potter, though there is evidence that he may have still been at work in the 70s. c AD 60-80. Chamber 2.5, west side \(11^{\prime} 6^{\prime}\) A11

88 (Fig 114) The upper zone includes a panel containing a doe (Hermet 1934, pl 27.33), pursued by a dog (ibid pl 26.14?), between panels of pointed leaf-tips. The lower zone consists of straight gadroons. Both animals, and probably the same leaf-tips, are on a bowl from La Graufesenque (Millau Museum) stamped by the Bassus i-Coelus firm, but this type of decoration was very common in the late Neronian and early Flavian periods, and the bowl cannot be attributed to a particular potter. c AD 65-80. XIV RP, DT

89 (Fig 114) Sealed in lowest level below north edge of Stanegate, in front of fountain (Richmond and Gillam 1953, 244, 2). Both concavities of the scroll in the upper zone contain tendrils with fronds, and spirals ending in six-petalled rosettes. There are smaller, blurred rosettes in the field. Below the central cordon is a straight wreath of palmate leaves. The basal zone consists of straight gadroons. The upper zone and wreath are on a bowl from the York fortress in a group of samian broken, while new, in the period \(c \mathrm{AD} 70-5\). The leaf is on stamped bowls of Calvus i from Neuss (Knorr 1919, Taf 17C) in a wreath and, separately, from York (with the blurred rosette) and Mandeure (with the frond). It is also on a bowl from Hitchin, stamped by Mommo. The frond is on a bowl from London (Museum of London, formerly Guildhall Museum), stamped by Vitalis ii. \(c\) AD 70-85. Cf D055, which is almost certainly from the same bowl. ' 48

90 (Fig 114) The scroll in the upper zone has a spiral ending in a six-beaded rosette in the upper concavity, with two other tendrils. The lower concavity is filled with leaf-tips (Richmond and Gillam 1953, 244, 4). The decoration is closely paralleled on two bowls in a group of samian from the York fortress broken, when new, in the period \(c\) AD 70-5, and the same date applies to the Corbridge piece. '48 A26 LIV


Fig 114 Samian (scale 1:2)
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0 \ldots \ldots \ldots{ }^{10} \mathrm{~cm}
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Fig 115 Samian (scale 1:2)

91 (Fig 115) Stamped OF(.CA)LVI (see section 1, No 20) Richmond and Gillam 1953, 242, 2). The scroll in the upper zone has trifid motifs in both concavities. The lower zone has short, straight gadroons over a zone of elliptical festoons, containing alternating pairs of Nile geese (Hermet 1934, pl 28.68) and other birds (probably O 2249 and its opposite). The upper zone is closely, if not exactly, paralleled on a bowl from Rheingônheim stamped by Meddillus (Ulbert 1969, Taf 5.2). This will have reached the site before AD 75 . There is also a similar zone, but with different lower concavities, on a bowl in a pit at Verulamium filled in the period \(c\) AD 65-80 (Hartley 1972, D21). The trifid motif is on form 29 s stamped by Coelus, from Vechten (Knorr 1919, Taf 24C) and Coelus, in association with Bassus i, from Neuss. It is on forms 30 and 37 in the style of Calvus i, from La Graufesenque and Camelon respectively. c AD 70-85. GX52

92 (Fig 114) The lower zone has a wreath of trifid plants with striated outer petals below the central cordon. The freestyle basal zone includes a fanshaped plant, composed of three impressions of a trifid motif (Hermet 1934, pl 14.46). This motif was used by several Flavian potters, but only Frontinus seems to have used both it and the wreath. It occurs on form 37 from Newstead (Curle 1911, 213, 5); the wreath is on form 37 from Canterbury. Both bowls are from stamped moulds. \(c\) AD 75-85. A057

93 (Fig 114) The upper zone includes rows of pointed leaf-tips. The lower zone consists of a scroll. The upper concavity contains four tendrils, including a fan-shaped plant between two ending in finelyribbed leaves (similar to Hermet 1934, pl 10.21). The leaf is very close to one used by Mommo on a bowl in the Pompeii Hoard (Atkinson 1914, no 16), but is probably slightly larger. The lower concavity contains a blurred central plant, a spiral attached to the scroll and a serrated lanceolate leaf placed diagonally at the bottom of the decoration. This is almost certainly from a Neronian mould, though the decoration is blurred, as if the mould had been in use for a long time, and the bowl itself could well be early Flavian. EL57

94 (Fig 114) Both zones of decoration contain partly impressed grass-tufts, rather different from those used by Mercator i and some of his contemporaries, and slightly reminiscent of the conventional rocks used by potters working in the tradition of Germanus i. The lower zone is freestyle, with a (?)dog to left. The wreath below the central cordon is made up of four-petalled motifs (similar to Hermet 1934, pl 12.65). c AD 75-85. GY68

95 (Fig 114) The lower concavity of the scroll in the lower zone contains an upright four-bladed plant (Hermet 1934, pl 14.81), with a tendril springing from its base at either side. The plant was in common use from the Flavian to the early Trajanic period, and occurs on both forms 29, stamped by a variety of potters, and 37. It appears on form 37 of Memor in
the Pompeii Hoard (Atkinson 1914, no 73). c AD 70-85. KС68

The lists of provenanced finds groups from the 1947-73 and 1980 seasons (M4:C1-D13) are ordered by year of excavation and, within each year, by finds group (for the 1947-73 seasons) or by context (for the 1980 season). The forms present in each group are noted. The sherd numbers are given in brackets. Where a stamped or decorated vessel is treated in the separate relevant section the catalogue numbers appear in the right hand columns. No indication of fabric (ie 'south', 'central' or 'east' Gaulish) has been given, as it is becoming increasingly apparent that classification, particularly of small plain-ware sherds, into areas of origin on the basis of fabric is not as simple as hitherto imagined. It was felt better to omit fabric subdivisions completely rather than present totals made on the basis of highly subjective judgements.

\section*{The coarseware}

\section*{Introduction}

The coarseware report is divided into two sections:
1 Coarseware from the 1953-73 seasons
2 Coarseware from the 1980 season.
The material in section 1 is presented as an ordered type series, while that in section 2 is in terms of excavated contexts. No attempt has been made to combine the two assemblages and rationalise their presentation in favour of one or other of the above methods. They were chosen to reflect the different ways in which the material was collected and processed and also to stress the different character of the two assemblages.

In the general introduction attention has been drawn to the difficulty of establishing the provenance of finds groups from all but the most recent post-war excavations. In addition the material has been moved several times since its excavation, and over the years its storage has been organised in a number of different ways. Consequently the amount of provenanced coarseware is extremely small and separating this material from the much larger corpus of poorly organised material has been a long and time consuming process. Material from certain seasons has never been found.

The pottery presented in section 1 (1953-73) (Table 21) has been selected either because it comes from a finds group whose provenance can be unambiguously established, or because it comes from a finds group which contains other material, normally small finds, for which it might provide a date. Selection of groups of pottery under the first criterion is quite likely to be approximately random, as it does not depend on the archaeological merits of the context but merely upon the state of its documentation. Selection under the second criterion may be less random, but, on the whole, the pottery presented in section 1 should represent an approximately random sample of the material recovered between 1953 and 1973.

Section 2, on the other hand, is a representative rather than a random sample of the pottery recovered in 1980. Its value lies in the fact that it comes from an established (if, at times, fragmented) stratified sequence which appears to run from the mid second to the late fourth century; this is the only such observed and fully recorded sequence from the whole site. Most of the material from trench 1 has been included. Only pottery from topsoil levels - mainly backfill from the 1909 season, which seems to have been cleared of pottery - has been excluded, though its inclusion would not have unduly distorted the relative proportions of different wares. This is the basis on which an assessment of the character of the two assemblages has been made.
The principal differences between the two assemblages can be summarised as follows. First, section 1 contains a much higher proportion of material which can be dated to the late first and early second century.

This is entirely consistent with the fact that the material in section 2 came from buildings which are not thought to have been erected until after the rampart upon which they were built was levelled shortly after the middle of the second century. Any material of late first or early second century date in section 2 is thus likely to be either residual or from earlier levels in the rampart, and ramparts themselves are seldom sources of large amounts of pottery. The fact that section 1 contains a much lower proportion of material which can be dated later than the end of the second century or beginning of the third is almost certainly related to the initial and subsequent stripping of the site during the period up to the beginning of the last war. By the beginning of the post-war seasons of excavation there was probably little stratigraphy of a date substantially later than the end of the second century, remaining on the site as a whole, and particularly in the area of Site 11 where most of the subsequent work was concentrated. Thus, the material in section 2 is all the more important for an understanding of the site.

\section*{Dating and chronology}

Types of Coarse Pottery Vessels in Northern Britain by J P Gillam remains the most useful reference work and extensive use has also been made of the recent publication of evidence from Vindolanda (Bidwell 1985). Some of the wares have been dated by reference to other publications. For Black Burnished ware 1 (BB1) the basis is Gillam 1976, supplemented by Bidwell 1985 on the question of the emergence of obtuse-angle cross-hatching and the 'scored line' on cooking pots. For Grey Burnished ware, the source is Gillam 1970 and Bidwell 1985, and for later beaker ware (Nene Valley) the source is Howe et al 1980.

The use of absolute figures to define date ranges for individual vessels or vessel types has been avoided as this implies a precision which will probably never be attainable; subdivisions of approximately a third of a century (ie 'early', 'middle' and 'late') have been used in preference. Each finds group or context containing datable vessels has been assigned a terminus post quem which is derived from, and equivalent to, the start of the date range of the latest datable vessel represented in the group or context. Here absolute figures have been used, although this should not be taken to imply that the precision attained is necessarily any greater than that for individual vessels. The stated limit is intended to be taken as a guideline of probability rather than as a statement of historical certainty.

Considering both assemblages as a whole and in isolation from the contextual evidence, the amount of pottery of first century date (particularly from 1953-73) strongly suggests that occupation of the site commenced in the second half of the first century,
but the exact date depends more on the absence of certain types than on their presence. Apart from a single sherd of Lyons Ware and a sherd of Claudian mortarium (which must be an anomaly unless a Claudian foundation for Corbridge is to be considered seriously) there are no vessels of manifestly pre-Flavian date known from the site. Beyond this the coarseware cannot, at present, offer any greater precision than that obtainable from the samian.

Neither can the evidence of the coarseware, at present, substantiate the idea that the site may not have been fully occupied during the Hadrianic period, since there is not enough quantitative comparative data available. All that can be said is that certain distinctive types of vessels, particularly those of BB1, which are normally assigned to the period in question, are certainly present in the assemblages.

\section*{Sherds of particular interest}

The first identified fragment of Lyons Ware from Corbridge is recorded in Table 21 (No 18) (confirmation from K T Greene); the ware is now known from Camelon, Corbridge and Newstead. However, the quantities are still so small as not to invalidate the conclusions of Greene (1979) on the date and distribution of the ware. A fragment of a mortarium of Claudian date is also recorded (No 134); its occurrence at the site cannot be explained except as a chance survival of an older vessel brought to the site from elsewhere. A fragment of what is probably Oxford Ware is also recorded (No 85).

\section*{The destruction deposit}

There has been considerable controversy over the years concerning burnt deposits found in a number of places on the site, which have been thought to represent a general destruction dating towards the end of the second century. A group of pottery associated with these deposits from the area to the north of the granaries was published in 1950 (Richmond and Gillam). Oral tradition reports the discovery of extensive burnt deposits in the area of Site 44 and Temple 3. Unfortunately deficiencies in the documentary records have meant that little or none of the pottery associated with these levels can now be identified.

In 1980 a small area of burnt deposits, preserved because it had subsided into the underlying rampart material, was found in trench 2 . Some coarseware was recovered from the deposits and this is included in section 2 (Nos 390-426). There is not a sufficient quantity to be able to make a fully valid comparison with the published material from the area to the north of the granaries but, nevertheless, all the types contained in the 1980 deposit also occur in the granaries deposit.

In 1976 an even smaller area of a burnt deposit was located on the west side of a small trench dug immediately to the west of the north-west corner of Site 4 (Temple 6). It is possible, though it cannot be proved, that this related to the other deposits already
discussed. Sherds from two coarseware vessels were recovered from this deposit and these together with sherds from a vessel from the context below the burnt deposit are included in the report (Nos 427-9).

\section*{Quantitative data}

Table 20a shows the overall quantities of rim sherds of different vessel classes in the two assemblages. The unit of measurement is length of rim, expressed as a percentage of the total circumference of the rim ( \(\mathrm{Rim} \%\) ). Certain of the vessel classes, most notably jars and cooking pots, and bowls and dishes, are broken down further into ware categories. No values are given for Early Wares 1-5 (EW 1-5) and for Grey Burnished Ware (GBW) for 1980 because this assemblage was processed first and these wares had not been defined as such at that time; in any case the amount of this early (ie late first to early second century) material in the 1980 assemblage is substantially less than that in the other assemblage.

The histogram (Fig 116) gives a graphical representation of the vessels in BB1 and BB2 from the two assemblages. The values (which are given on each bar) are rim percentages. Table 20 b shows these values arranged as a data matrix for the three variables ware, vessel type and assemblage. A program on Newcastle University's computer system (the GLIM package) was used to fit a variety of linear models to the data (on linear modelling in this context see, for example, Everitt 1977 and Wrigley 1985). The only model which adequately fitted the data (likelihood ratio approximating to \(x^{2}\) goodness of fit, . 01 level) was a complex one implying an association between each pair of variables which varies with the level of the third (the saturated or full model). In other words, the apparent variation in the data of Table 20b is significant, statistically speaking. Examination of models of a lower order than the saturated one and of the standardised residuals of the fitted values showed that much of the wide margin of deviance between the saturated model and one which included only the main effects of the three variables (a model equivalent to the hypothesis of mutual independence between the three variables) could be accounted for by an association between the variable-pair ware and vessel-type, and that the low scores for BB2, particularly in jars and cooking pots, were contributing greatly to this association.

A possible explanation for the particularly low values for jars/cooking pots in BB2 is apparent in the data in Table 20a though only for the 1953-73 assemblage where this fabric type was recorded. In GBW, jars/cooking pots show quite high values while those for bowls and dishes are much lower. This reverses the trend for BB2 in jars/cooking pots and bowls and dishes, where values are extremely low in the former and much higher in the latter. As a large proportion of the vessel forms in GBW were probably available at the same time as BB2, this may show that there was some kind of market relationship between the two wares. A rise in popularity in the forms of one ware led to a drop in popularity of the other.

\section*{2 Coarseware from the seasons 1953-73}

Within the catalogue for this section (Table 21), vessels have been grouped into vessel types on the basis of combined similarities of form and fabric and these types have been arranged in a sequence beginning with closed forms and progressing towards open forms. The characteristics of certain vessel types have enabled them to be subsumed into a broader classification of 'wares'.

Individual vessels are identified by a number prefixed by ' \(87 \%\), this number has been marked on the sherds, and the finds group code is given. The vessel diameter (in cm , measured at the outside of the rim), and the length of the rim (expressed as a percentage of the total circumference) follow. Figure numbers are given for illustrated vessels. The illustration number corresponds to the entry number.

Information on the size of the inclusions in the fabric is conveyed in terms of the overall texture of the inclusion suite. There are five texture categories, increasing in coarseness:
Texture \(1(\mathrm{~T} 1)\) = main fraction of inclusion suite not \(>0.1 \mathrm{~mm}\)
\(2(\mathrm{~T} 2)=\) not \(>0.2 \mathrm{~mm}\)
\(3(\mathrm{~T} 3)=\) not \(>0.5 \mathrm{~mm}\)
\(4(\mathrm{~T} 4)=\) not \(>1.0 \mathrm{~mm}\)
\(5(\mathrm{~T} 5)=>1 \mathrm{~mm}\)
The density of inclusions is categorised as either sparse or common. As the majority of the fabrics have inclusions of a common density, only sparseness has been noted in the catalogue. Vessel sections were examined under a \(\times 20\) binocular microscope with an eyepiece graticule, 10 mm square, graduated in mm . Inclusion density was judged to be sparse when one or more of the squares superimposed on the section were seen to contain no inclusions. No thin section examination of fabrics has been carried out so only a general indication of inclusion type can be given; types are listed in order of frequency.

The characteristics of the principal wares represented in the assemblage are described below.

\section*{Early Ware 1 (jars, bowls, and dishes)}

Hard, well fired pale orange yellow to pinkish yellow with surface a slightly deeper hue; inclusions: textures \(2,3,4\) and 5 (1:7:21:3 examples respectively), red iron and quartz with the former often outweighing the latter.

\section*{Early Ware 2 (jars and bowls)}

Hard, well fired pale grey with dark grey surface; inclusions: textures 3, 4 and 5 (7:11:1 examples respectively), dark grey grains (?iron) and quartz with the former outweighing the latter in c \(25 \%\) of the examples. The occurrence of the same vessel forms in wares 1 and 2 tends to confirm the impression that they are basically the same ware subjected to different firing conditions.

\section*{Early Ware 3 (jars and bowls)}

Quite soft (much softer than wares 1 and 2) pale grey with darker grey surface; inclusions: textures 2, 3 and 4 (1:3:5 examples respectively), sparse in over \(50 \%\) of examples, approximately equal proportions of dark grey grains (?iron) and quartz; 4 out of the 6 examples of jars in this ware showed evidence of 'rusticated' decoration.

\section*{Early Ware 4}

As Early Ware 3 but orange brown in colour; the colour difference between wares 3 and 4 is not as marked as that between wares 1 and 2 and possibly results from burning after firing.

\section*{Early Ware 5 (bowls)}

Hard, well fired pale grey with sharply defined dark grey core and even dark grey surface; inclusions: mainly texture 4 (in 4 out of the 5 examples), sparse in 1 example, approximately equal proportions of quartz and dark grey grains (?iron).

\section*{Early Beaker Ware}

Quite soft, orange pink to dull red, smooth orange pink surface; inclusions: texture 3 or 4 (2 examples of each), occasionally sparse, iron with some lime and quartz.

\section*{Later Beaker Ware (Nene Valley ware)}

Hard, well fired white with colour coating anything from orange brown through olive green to black; inclusions: mostly texture 1 ( 5 examples), occasionally texture 2 (1 example), sparse in 3 out of 6 examples, quartz with a little red iron and occasional lime.

\section*{Grey Burnished Ware (jars and bowls)}

Hard, well fired pale - medium grey with well burnished medium-dark grey surface; inclusions: textures 2,3 and 4 ( \(2: 14: 9\) examples respectively), sparse in 10 examples, quartz and grey grains of iron, the former usually in excess of the latter.

\section*{Black Burnished Ware 1 (BBl) (jars, bowls, and dishes)}

Hand-made, hard, well fired mostly dark grey-black but can range through shades of reddish brown, occasionally with a core in a contrasting shade of grey; surface dark grey-black, burnished in narrow horizontal strips ('facet burnished'); inclusions: textures: 2,3 and 4 (3:39:30 examples respectively). almost entirely sub-rounded quartz or quartzlike.

Black Burnished Ware 2 (BB2) (jars, bowls, and dishes)

Sub group 1: hard, well-fired, grey or reddish brown with core in contrasting shade of grey and sometimes a narrow sub surface margin in a contrasting shade of grey; glossy black or reddish grey evenly burnished surface; inclusions: textures: 2,3 and 4 (6:9:2 examples respectively), almost entirely sub-rounded quartz or quartzlike.

Sub group 2: Hard, well-fired, dark grey or black with dark grey-black evenly burnished surface; inclusions: textures 2,3 and 4 (1:3:2 examples respectively), sub-rounded quartz or quartzlike.

Table 20a: Coarseware - vessel class and fabric totals
Figures are rim percentages
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline & Amphonae & Flagons & NM]'s & \multicolumn{2}{|c|}{Beakers} & Rest \\
\hline 1963-73 & 117 & 287 & 40 & \[
\begin{gathered}
\text { EBW } \\
72
\end{gathered}
\] & \[
\begin{gathered}
\text { LBW } \\
81
\end{gathered}
\] & 193 \\
\hline 1980 (all) & 11 & 250 & 165 & & & 455 \\
\hline 1980 (tr 1) & 11 & 250 & 165 & & & 424 \\
\hline 1990 (tr 2) & & & & & & 31 \\
\hline
\end{tabular}

Jars and cooking pots
\begin{tabular}{lcccccccc} 
& EW1 & EW2 & EW3 & EW4 & GBW & BB1 & BB2 & Rest \\
\(1953-73\) & 338 & 165 & 74 & 55 & 400 & 326 & 27 & 10 \\
& & & & & & 398 \\
1980 (all) & & & & & & 385 & 108 & 1146 \\
1980 (tr 1) & & & & & 326 & 89 & 873 \\
1980 (tr 2) & & & & & 59 & 19 & 273
\end{tabular}

Bowls and dishes
\begin{tabular}{lcccccccc} 
& EW1 & EW2 & EW3 & EW5 & GBW & BB1 & BB2 & Rest \\
\(1953-73\) & 207 & 19 & 42 & 65 & 27 & 384 & 199 & 330 \\
1980 (all) & & & & & & 394 & 246 & 346 \\
1980 (tr 1) & & & & & & 325 & 197 & 336 \\
1990 (tr 2) & & & & & & 69 & 49 & 10
\end{tabular}
\begin{tabular}{lcccc} 
& Morfaria & \begin{tabular}{c} 
Lids \\
EW1
\end{tabular} & EW2 & Rest \\
\(1953-73\) & 226 & 48 & 12 & 60 \\
1980 (all) & 238 & & & 143 \\
1980 (tr1) & 221 & & & 143 \\
1980 (tr2) & 17 & & &
\end{tabular}

Table 20b
\begin{tabular}{|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multicolumn{2}{|c|}{1953-73} \\
\hline & BBI & BB2 \\
\hline Jarslooking pots & 326 & 37 \\
\hline Boulsidishes & 384 & 199 \\
\hline & \multicolumn{2}{|c|}{1980} \\
\hline & B81 & BB2 \\
\hline Jarskooking pots & 385 & 108 \\
\hline Bowlshlistors & 394 & 246 \\
\hline
\end{tabular}

JarsiCooking pots
Bowls and Dushes

Fig 116 Totals of vessel's in BB1 and BB2 from seasons 1953-73 and 1980
Table 21: Catalogue of coarseware from the 1953-73 seasons
\begin{tabular}{cl} 
Date & Comments \\
\begin{tabular}{cl} 
1st to early \\
2nd
\end{tabular} & \begin{tabular}{l} 
Probably 'Koan', cf Peacock and Williams \\
1986, Class 10
\end{tabular} \\
AD 90-140 & \begin{tabular}{l} 
Dressel 20. Stamped \(I I I\) ENNI IVL, with a \\
small diagonal leaf after the name, of
\end{tabular}
\end{tabular}
Gillam Type 10
Gillam Type 10
Gillam Type 10
Gillam Type 10
Gillam Type 15
Probably Bailey (1980) Type C


Inclusions
T3, lime, vitreous black grains, red
T3, lime, vitreous black grains, red
iron and quartz
T4, vitreous black grains, rock tragments and quartz
T3, quartz and red iron
T3, quartz, brownish iron and lime
T4, quartz, brownish iron and lime
T4, quartz
T3, quartz and brownish iron T1, sparse black and red grains T2, quartz T3, sparse, quartz and lime T3, sparse, quartz and red iron 12, quartz and black iron 12, quartz and black iron
T1, sparse, quartz and red iron
T2, sparse, red iron and quartz Not Small fragment showing part of the wick
ill hole in the nozzle and part of one volute; very pale pink, orange brown, black
colour coat


Pale red brown
 Orange brown
Very pale pinkish brown


\(\begin{array}{ll}7.5 & 25 \\ 117 & \text { Pale orange pink, smooth surface }\end{array}\)
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n
\(\stackrel{y}{\square}\)
colour coat

No \(\begin{array}{llll}\text { Reffrence } & \begin{array}{l}\text { Diam } \\ \text { Sitecode } \\ (\mathrm{cm})\end{array} \text { rim } & \text { Fig Doscriptiom }\end{array}\)
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Amphorae
\(1 \quad 87 / 76\) IP61
\(287 / 132 C 771\)
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U
\(\%\)
\(\%\)
87/103 AE66
87/174 HR56
5 87/69 CU61 87/119 IZ66

87/195 M/63
\(87 / 278\) BP60
6 87/36 GE59
\(7 \quad 87 / 219\) JX64
8 87/265 HX67
Lamp
9 87/294 Ml63
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
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\end{aligned}
\] & Description & Indusions & Date & Comments \\
\hline \multicolumn{9}{|l|}{Unguentarium} \\
\hline 10 & 87/298 FO59 & - & - & 117 & Orange brown & T3, quartz & - & - \\
\hline \multicolumn{9}{|l|}{Narrow mouthed jars} \\
\hline 11 & 87/232 OH64 & 13 & 25 & 117 & Mid grey, smoothed surface & T3, quartz & - & - \\
\hline 12 & \(87 / 261\) EY67 & 17 & 15 & 117 & Mid grey, dark grey surface & T3, quartz & - & - \\
\hline 13 & \(87 / 95\) CL64 & 10.5 & 16 & 117 & Mid grey, dark grey surface & T2, quartz & - & - \\
\hline \multicolumn{9}{|l|}{Beakers} \\
\hline 14 & 87164 PE60 & 11 & 30 & 117 & Mid grey, smooth surface & T4, sparse quartz and grey iron & Late lst to early 2 nd & - \\
\hline 15 & \begin{tabular}{l}
87/97 DT \\
DU, FB64
\end{tabular} & 12.5 & 30 & 117 & Early beaker ware & - & Late 1st to early 2nd & - \\
\hline 16 & 87/185 FA68 & 9 & 26 & - & Early beaker ware & - & Late 1st to early 2 nd & - \\
\hline & 87/243 B165 & 11 & 16 & - & Early beaker ware & - & Late 1st to early 2 nd & - \\
\hline & \(87 / 71\) DI, DU61 & ? & 10 & - & Orange pink, orange brown to black colour coat & T3, quartz and red iron & Late 1st to early 2nd & - \\
\hline & 877100 NK64 & 10 & 13 & - & Orange pink, black colour coat & T3, quartz & Late 1st to carly 2 nd & - \\
\hline 17 & 87/77 IP61 & 11 & 10 & 117 & Fine orange brown, dark grey margins, mid brown surface covered with flakes of golden mica c 0.5 mm in diam & T3, sparse, quartz, lime and platelike grains (?shell) & Late 1st & For a similar mica dusted vessel decorated with bosses, of Darling 1985, no 65 from Inchtuthil \\
\hline 18 & 87/26 D759 & 11 & 10 & 117 & Very pale cream, orange brown colour coat & T1, sparse, hardly any visible & - & Lyons ware, di Greene 1979, 13, there is not enough preserved to indicate the precise form \\
\hline 19 & 87/147 FR70 & ? & 10 & 117 & Orange brown, rouletted decoration & T3, quarts, lime and black iron & - & - \\
\hline 20 & 87/148 FR70 & 8 & 10 & 117 & Orange brown, thick white surface coating & T3, quartz and red iron & - & - \\
\hline 21 & 87198 GT64 & 7.5 & 25 & 117 & Dull pink, dark brown colour coat & T4, sparse, quartz and dark grey grains (Tliron) & - & - \\
\hline
\end{tabular}

\begin{tabular}{|c|c|}
\hline Date & Comments \\
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\hline Late 1st to early 2nd & - \\
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\hline 2nd half 2nd & Gillam Type 71 \\
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\begin{tabular}{|c|}
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\hline Rusticated decoration \\
\hline Rusticated decoration \\
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\hline Rusticated decoration \\
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\hline - \\
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\hline T3, sparse, black Piron and quartz T4, quartz and black iron \\
\hline T4, quartz and lime \\
\hline T3, sparse, quartz \\
\hline T3, quartz \\
\hline T4, sparse, quartz \\
\hline T4, quartz and red iron \\
\hline T4, quartz \\
\hline T3, quartz \\
\hline T4, quartz \\
\hline T2, sparse, quartz \\
\hline 13, quartz \\
\hline T2, sparse, quart2, red and black iron \\
\hline T1, sparse, quartz and white grains \\
\hline T3, sparse, dark grey grains, (Tiron) \\
\hline T4, black iron and quartz \\
\hline T4, black iron, quarts and lime \\
\hline T3, quartz \\
\hline
\end{tabular}

Diam \% Fix Description
\((\mathrm{cm})\) rim
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grey surface
- Dark grey, lighter surface \(=\pi\) * \(\because=\) \(0 \pm\) \(=\)
 Pale grey, dark grey core, smooth dark
grey surface Dark grey, smooth surface
Orange brown, pale brown core, smooth
surface -

117 Pale grey, darker surface
 117 Pale grey, darker surface 117 Pale grey, darker core, smooth dark grey surface \(\begin{array}{llllll}41 & 87 / 162 \text { GM70 } & 18 & 15 & 117 & \text { Mid grey, smooth darker surface } \\ 42 & 87 / 199 \text { GT64 } & 14 & 10 & \begin{array}{c}117 \\ \text { Very pale brown, pale grey core, } \\ \text { smooth surface }\end{array}\end{array}\) \(43 \quad 87 / 2101264\) 8
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\] & Description & Inslusions & Date & Comments \\
\hline 60 & 87/179 PP68 & 14 & 10 & - & BB1 & - & TLate 2nd to & - \\
\hline & 87/205 IV64 & 15 & 11 & 118 & BB1 - trace of cross-hatching at right-angle & - & early 3rd & - \\
\hline & 87/209 1264 & 15 & 10 & & BB1 & - & & - \\
\hline & 87/217/Q64 & 16 & 15 & - & BB1 & - & & - \\
\hline 61 & 87/246 BT65 & 14 & 19 & 118 & BB1 - obtuse angle cross-hatching, but no scored line at top of decorated zone & - & 1st half 3ed & - \\
\hline 62 & 87102 AD66 & 16 & 11 & 118 & BB1 & - & ?Early 3rd & - \\
\hline \multirow[t]{4}{*}{63} & 87/16LZ67 & 11 & 10 & - & BB1-cross-hatched decoration & - & 2nd & - \\
\hline & 87153 GC70 & ? & 5 & 118 & BB1 - diagonal line decoration & - & & - \\
\hline & 87/234 PB64 & ? & 3 & - & BB1 - cross-hatched decoration & - & & - \\
\hline & 87/262 EY67 & 10 & 6 & - & BB1 & - & & - \\
\hline \multirow[t]{3}{*}{64} & \(87 / 15\) LV67 & 14 & 8 & - & BB1 & - & Early to mid 2nd & - \\
\hline & 87/109 A/66 & 12 & 10 & - & BB1 & - & & - \\
\hline & 87/237 PK64 & 13 & 15 & 118 & BB1 & - & & - \\
\hline \multirow[t]{5}{*}{65} & 87/80 PW61 & 14 & 7 & 118 & B82-subgroup 1 & - & Late 2nd to & - \\
\hline & 87/89 GL62 & 14 & 20 & 118 & BB2-sub group 1 & - & early 3rd & - \\
\hline & 87/161 GM70 & ? & 5 & - & BB2-subgroup 1 & - & & - \\
\hline & 87142 FH70 & 14 & 17 & - & BB2-subgroup 2 & - & & - \\
\hline & \(87 / 170\) AA55 & 14 & 15 & - & BB2-subgroup 2 & - & & - \\
\hline 66 & 87/266 HX67 & 16 & 6 & 118 & Dales Type, pale grey, rough dark grey surface & T4, quartz and dark grey grains (7iron) & Late 3rd to early 4th & cfloughlin 1977 \\
\hline 67 & 87/140 EX70 & 14 & 10 & 118 & 7BB2-medium grey, red brown margins, dark grey surface & T3, quartz & Mid 3rd & Gillam Type 151; cf Bidwell 1985, 177 \\
\hline 68 & 87/146 FI70 & 16 & 10 & 118 & Huntcliff Type-black & T4, quartz and angular grains of calcite & Late 4th & - \\
\hline \multicolumn{9}{|l|}{Bowls and dishes} \\
\hline \multirow[t]{6}{*}{69} & 87/3 HO65 & 25 & 13 & - & Early Ware 1 & & Late 1st to & \\
\hline & \(87 / 25\) DV59 & 29 & 8 & - & Early Ware 1 & - & carly 2nd & - \\
\hline & 87/60 IX59 & 22 & 8 & - & Early Ware 1 & - & & - \\
\hline & 87/61 IX59 & 22 & 13 & - & Early Ware 1 & - & & - \\
\hline & 87129 DC70 & 29 & 32 & 118 & Early Ware 1 & - & & - \\
\hline & \(87 / 241\) QO64 & 23 & 8 & - & Early Ware 1 & - & & - \\
\hline \multirow[t]{2}{*}{70} & \(87 / 47\) GE59 & 21 & 13 & - & Pale grey, dark grey surface & T4, quartz and brown grains (Piron) & & - \\
\hline & 87130 BG70 & 23 & 45 & 118 & Pale grey, smooth dark grey surface & T4, quartz & early 2 nd & - \\
\hline \multirow[t]{4}{*}{71} & \(87 / 114\) CL66 & ? & 5 & - & Early Ware 3 & - & Late lst to & - \\
\hline & \(87 / 177\) DB66 & 19 & 12 & - & Early Ware 3 & - & early 2nd & - \\
\hline & \(87 / 173\) HN56 & 26 & 12 & 118 & Early Ware 3 & - & & - \\
\hline & 871186 FA68 & 15 & 13 & - & Early Ware 3 & - & &  \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 72 & 87/46 GE59 & 22 & 11 & & Very pale pink & T4, red iron and quartz & Late 1st to & - \\
\hline & \[
\begin{aligned}
& 87 / 52 \text { /W59 } \\
& \text { AO61 }
\end{aligned}
\] & 23 & 14 & & Early Ware 5 & - & early 2nd & - \\
\hline & 87/79 P/61 & 22 & 12 & - & Early Ware 5 & - & & - \\
\hline & 87/116 DB66 & 21 & 10 & - & Early Ware 5 & - & & - \\
\hline & 87/128 AY70 & 24 & 22 & 118 & Early Ware 5 & - & & - \\
\hline & 87/240 QK64 & 20 & 7 & - & Early Ware 5 & - & & - \\
\hline 73 & 87/82 DZ62 & 18 & 18 & - & Early Ware 1 & - & Late 1st to & - \\
\hline & \(87 / 96\) DF64 & 20 & ? & - & Early Ware 1 & - & carly 2nd & - \\
\hline & \(87 / 23\) CES9 & 19 & 8 & - & Early Ware 2 & - & & - \\
\hline & 87/192 D873 & 19 & 11 & 118 & Early Ware 2 & - - & & - \\
\hline & \(87 / 78\) PB61 & 20 & 17 & - & Pale grey, darker grey surface & T3, quartz & & - \\
\hline 74 & 87/45 GE59 & 19 & 13 & - & Medium grey & T3, quartz & Late 1st to & - \\
\hline & 87/255 E165 & 18 & 32 & 119 & Medium grey & T3, quartz & early 2nd & - \\
\hline 75 & 87/28 DZ59 & 22 & 8 & 119 & Early Ware 1 & - & Late 1st to carly 2nd & - \\
\hline 76 & 87/83 DZ62 & ? & 5 & 119 & Brownish red & T3, quartz and red iron & Late ist to carly 2nd & - \\
\hline 77 & 87/123 LE66 & ? & 2 & 119 & Orange brown & T5, quartz and red iron & ?Late 1st to carly 2nd & - \\
\hline 78 & 87/274 MP67 & 25 & 13 & 119 & Orange yellow, pink core & T4, quartz and red iron & ?Late 1st to early 2 nd & - \\
\hline 79 & 87/48 GE59 & ? & 10 & 119 & Red brown, pink wet-smoothed surface & T3, sparse, quartz & ?Late 1st to carly 2nd & Possibly a product of the Brampton pottery, of Hird 1977, no 229 from Vindolanda; the absence of these distinctive vessels from the Red House Fort (Hanson ef al 1979) and previously published early levels at Corbridge (Richmond and Gillam 1953), together with their frequent occurrence in the levels of periods II and III at Vindolanda (op cit) may indicate a Trajanic date \\
\hline 80 & \[
\begin{aligned}
& 87 / 127 \mathrm{DX}, \\
& \text { EX67 }
\end{aligned}
\] & 16 & 8 & 119 & Orange pink, off-white core & T4, red iron and quartz & - & - \\
\hline 81 & \[
\begin{aligned}
& 87 / 260 \text { DD67 } \\
& 87 / 269 \mathrm{HZ} 27
\end{aligned}
\] & \[
\begin{aligned}
& 18 \\
& ?
\end{aligned}
\] & \[
\begin{gathered}
10 \\
5
\end{gathered}
\] & \[
119
\] & Orange yellow, smoothed surface Orange pink, pale brown core & 13, quartz and red iron T3, red iron and quartz &  & E \\
\hline 82 & 87/50 GES9 & 24 & 12 & 119 & Greyish white, pale yellow surface & T3, quartz and red ifon & - & Gillam Type 192, cf also Weodfield 1965, \(26 a\) nos 17 and 18, from Turret 26a; the contexts of these examples suggests a Hadrianic date (those published by Woodfield had been modified and re-used) but the type has also been found at Camelon where it could be 1st century. (V Maxfield's excavations, unpublished) \\
\hline 83 & 87/29 DZ59 & 23 & 5 & 119 & Very pale pink, thin patchy well wom reddish brown slip & T4, quartz and red iron & - & - \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{7}{*}{72} & 87/46 GE59 & 22 & 11 & - & Very pale pink & T4, red iron and quartz & Late 1st to & - \\
\hline & 87/52 /W59 & 23 & 14 & - & Early Ware 5 & & early 2nd & - \\
\hline & A061 & & & & & & & \\
\hline & \(87 / 79\) P161 & 22 & 12 & - & Early Ware 5 & - & & - \\
\hline & 87/116 DB66 & 21 & 10 & - & Early Ware 5 & - & & - \\
\hline & 87128 AY70 & 24 & 22 & 118 & Early Ware 5 & - & & - \\
\hline & 87/240 QK64 & 20 & 7 & - & Early Ware 5 & - & & - \\
\hline \multirow[t]{5}{*}{73} & 87/82 DZ62 & 18 & 18 & - & Early Ware 1 & - & Late 1st to & - \\
\hline & 87/96 DF64 & 20 & ? & - & Early Ware 1 & - & carly 2nd & - \\
\hline & \(87 / 23\) CES9 & 19 & 8 & - & Early Ware 2 & - & & - \\
\hline & 87/192 D873 & 19 & 11 & 118 & Early Ware 2 & - & & - \\
\hline & \(87 / 78\) PB61 & 20 & 17 & - & Pale grey, darker grey surface & T3, quartz & & - \\
\hline \multirow[t]{2}{*}{74} & 87/45 GE59 & 19 & 13 & - & Medium grey & T3, quartz & Late 1st to & - \\
\hline & 87/255 E165 & 18 & 32 & 119 & Medium grey & T3, quartz & early 2nd & - \\
\hline 75 & 87/28 DZ59 & 22 & 8 & 119 & Early Ware I & - & Late 1st to carly 2nd & - \\
\hline 76 & 87/83 DZ62 & ? & 5 & 119 & Brownish red & T3, quartz and red iron & Late 1st to carly 2nd & - \\
\hline 77 & 87/123 LE66 & ? & 2 & 119 & Orange brown & T5, quartz and red iron & ?Late 1st to carly 2nd & - \\
\hline 78 & 87/274 MP67 & 25 & 13 & 119 & Orange yellow, pink core & T4, quartz and red iron & ?Late 1st to early 2nd & - \\
\hline 79 & 87/48 GE59 & \(?\) & 10 & 119 & Red brown, pink wet-smoothed surface & T3, sparse, quartz & ?Late 1st to carly 2nd & Possibly a product of the Brampton pottery, of Hird 1977, no 229 from Vindolanda; the absence of these distinctive vessels from the Red House Fort (Hanson ef al 1979) and previously published early levels at Corbridge (Richmond and Gillam 1953), together with their frequent occurrence in the levels of periods II and III at Vindolanda (op cit) may indicate a Trajanic date \\
\hline 80 & \[
\begin{aligned}
& 87 / 127 \mathrm{DX}, \\
& \text { EX67 }
\end{aligned}
\] & 16 & 8 & 119 & Orange pink, off-white core & T4, red iron and quartz & - & - \\
\hline 81 & \[
\begin{aligned}
& 87 / 260 \text { DD67 } \\
& 87069 H \nabla 67
\end{aligned}
\] & \(\stackrel{18}{?}\) & \[
\begin{aligned}
& 10 \\
& 5
\end{aligned}
\] & \[
119
\] & Orange yellow, smoothed surface Orange pink, pale brown core & T3, quartz and red iron T3, red iron and quartz & Z & I \\
\hline 82 & 87/50 GES9 & 24 & 12 & 119 & Greyish white, pale yellow surface & T3, quartz and red iron & - & Gillam Type 192, of also Woodfield 1965, 26a nos 17 and 18, from Turret 26a; the contexts of these examples suggests a Hadrianic date (those published by Woodfield had been modified and re-used) but the type has also been found at Camelon (V Maxfield's excavations, unpublished) where it could be lst century. \\
\hline 83 & 87/29 DZ59 & 23 & 5 & 119 & Very pale pink, thin patchy well wom reddish brown slip & T4, quartz and red iron & - & - \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 72 & 87/46 GE59 & 22 & 11 & & Very pale pink & T4, red iron and quartz & Late 1st to & - \\
\hline & 87/52 /W59 & 23 & 14 & - & Early Ware 5 & - & early 2nd & - \\
\hline & 87779 P161 & 22 & 12 & - & Early Ware 5 & - & & - \\
\hline & 87/116 DB66 & 21 & 10 & - & Early Ware 5 & - & & - \\
\hline & 87/128 AY70 & 24 & 22 & 118 & Early Ware 5 & - & & - \\
\hline & 87/240 QK64 & 20 & 7 & - & Early Ware 5 & - & & - \\
\hline 73 & 87/82 DZ62 & 18 & 18 & - & Early Ware 1 & - & Late 1st to & - \\
\hline & 8796 DF64 & 20 & ? & - & Early Ware 1 & - & carly 2nd & - \\
\hline & \(87 / 23\) CES9 & 19 & 8 & - & Early Ware 2 & - & & - \\
\hline & 87/192 D873 & 19 & 11 & 118 & Early Ware 2 & T3, - - & & - \\
\hline & \(87 / 78\) PB61 & 20 & 17 & & Pale grey, darker grey surface & T3, quartz & & - \\
\hline 74 & 87/45 GE59 & 19 & 13 & - & Medium grey & T3, quartz & Late 1st to & - \\
\hline & 87/255 E165 & 18 & 32 & 119 & Medium grey & T3, quartz & early 2 nd & - \\
\hline 75 & \(87 / 28\) DZ59 & 22 & 8 & 119 & Early Ware 1 & - & Late lst to carly 2 nd & - \\
\hline 76 & 87/83 DZ62 & ? & 5 & 119 & Brownish red & T3, quartz and red iron & Late 1st to carly 2nd & - \\
\hline 77 & 87/123 LE66 & ? & 2 & 119 & Orange brown & T5, quartz and red iron & ?Late 1st to carly 2 nd & - \\
\hline 78 & \(87 / 274 \mathrm{MPG7}\) & 25 & 13 & 119 & Orange yellow, pink core & T4, quartz and red iron & Late 1st to early 2nd & - \\
\hline 79 & 87/48 GE59 & ? & 10 & 119 & Red brown, pink wet-smoothed surface & T3, sparse, quartz & ?Late 1st to carly 2nd & Possibly a product of the Brampton pottery, of Hird 1977, no 229 from Vindolanda; the absence of these distinctive vessels from the Red House Fort (Hanson ef al 1979) and previously published early levels at Corbridge (Richmond and Gillam 1953), together with their frequent occurrence in the levels of periods II and III at Vindolanda (op cit) may indicate a Trajanic date \\
\hline 80 & \[
{ }_{E X 67}^{87 / 127 \mathrm{DX},}
\] & 16 & 8 & 119 & Orange pink, off-white core & T4, red iron and quartz & - & - \\
\hline 81 & \[
\begin{aligned}
& 87 / 260 \text { DD67 } \\
& 87 / 269 \text { HZ67 }
\end{aligned}
\] & \[
\begin{gathered}
18 \\
?
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\] & \[
\begin{gathered}
10 \\
5
\end{gathered}
\] & \[
119
\] & Orange yellow, smoothed surface Orange pink, pale brown core & 13, quartz and red iron T3, red iron and quartz &  & Z \\
\hline 82 & 87/50 GE59 & 24 & 12 & 119 & Greyish white, pale yellow surface & T3, quartz and red iron & - & Gillam Type 192, cf also Woodfeld 1965, 26 a nos 17 and 18, from Turret 26a; the contexts of these examples suggests a Hadrianic date (those published by Woodfield had been modified and re-used) but the type has also been found at Camelon (V Maxfield's excavations, unpublished) where it could be 1st century. \\
\hline 83 & 87/29 DZ59 & 23 & 5 & 119 & Very pale pink, thin patchy well wom reddish brown slip & T4, quartz and red iron & - & - \\
\hline
\end{tabular}
Gillam Type 192, of also Woodfeld 1965 ,
\(26 a \operatorname{nos} 17\) and 18 , from Turret \(26 a ;\) the 26a nos 17 and 18 , from Turret 26a; the Hadrianic date (those published by Woodfield had been modified and re-used) but the type has also been found at Camelon (V Maxield's excavations, unpublished) where it could be 1st century.
\begin{tabular}{|c|c|}
\hline Date & Comments \\
\hline - & Probably a Brampton product, for references and discussion see 79 \\
\hline Mid 3rd to 4th & Probably a product of the Oxford potteries; © Young 1977, Type 51 \\
\hline - & - \\
\hline - & - \\
\hline Late 1st & The fabric is probably ultimately derived from Terra Nigra \\
\hline - & - \\
\hline - & - \\
\hline Late 1st to early 2nd & Gillam Type 304 \\
\hline \multirow[t]{4}{*}{Late 1st to early 2nd} & - \\
\hline & - \\
\hline & - \\
\hline & - \\
\hline Late 1st to early 2nd & - \\
\hline - & - \\
\hline TLate 3ed to 4th & Not a particularly datable form; it is by no means certain that the use of these dark calcite gritted fabrics is an exclusively late (ie later 3rd to 4th century) phenomenon \\
\hline \multirow[t]{4}{*}{Early to mid 2nd} & - \\
\hline & - \\
\hline & - \\
\hline & - \\
\hline Mid 2nd & - \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline No & Reforence Site colde & \[
\underset{(\mathrm{cm})}{\text { Diam }}
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& \% \\
& \text { rim }
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\] & \[
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& \text { Fig } \\
& \mathrm{No}
\end{aligned}
\] & Description & Inclusions \\
\hline 84 & 877991564 & 18 & 20 & 119 & Dark grey, pale grey core, smoothed medium grey surface & T3, quartz \\
\hline 85 & 87/293/R63 & 19 & 12 & 119 & Orange brown, thin dark grey core, orange red slip & T1, black and red grains \\
\hline 86 & 87/87 FW62 \(87 / 238\) PU64 & \[
\begin{aligned}
& 17 \\
& 17
\end{aligned}
\] & \[
\begin{aligned}
& 25 \\
& 20
\end{aligned}
\] & 119 & \begin{tabular}{l}
Pale pink \\
Pale brown, pinkish cream surface
\end{tabular} & T1, red and black grains T2, black grains and quartz \\
\hline 87 & 87/152 GC70 & 14 & 6 & 119 & Dark grey, pale grey margins, smooth micaceous dark grey surface & T2, quartz \\
\hline 88 & 87/1 CH65 & 16 & 10 & 119 & Medium grey, burnished surface & T2, sparse, quartz and dark grey grains, (Tiron) \\
\hline & 87/17 ML67 & ? & 2 & - & Mid grey, black surface & T4, dark grey iron and quartz \\
\hline 89 & \[
\begin{aligned}
& 87 / 67 \mathrm{CP}, \mathrm{DI} \\
& D U 61
\end{aligned}
\] & 18.5 & 28 & 119 & Early Ware 1 & - \\
\hline & \(87 / 84\) DZ62 & ? & 5 & - & Early Ware 1 & - \\
\hline & 87/124 LF66 & ? & 5 & - & Early Ware 1 & \\
\hline & 87/299 FL59 & ? & 5 & - & Early Ware 1 & - \\
\hline 90 & \[
\begin{aligned}
& 87 / 31 \text { DV, DX } \\
& \text { EM59 }
\end{aligned}
\] & ? & 5 & - & Early Ware 1 & - \\
\hline & \(87 / 49\) GE59 & 24.5 & 40 & 119 & Early Ware 1 & - \\
\hline & 87/122 LE66 & 23 & 4 & - & Early Ware 1 & - \\
\hline 91 & 87/11 BZ67 & 26 & 6 & 119 & Orange brown, pale grey core, reddish brown micaceous slip & T4, red iron and quartz \\
\hline 92 & 87/287 MD60 & 16 & 15 & 119 & Black, mid brownish grey margins, smooth black surface & T3, well rounded quartz \\
\hline 93 & 87/282 IS60 & 17 & 8 & 119 & Mid grey & T3, quartz and black iron \\
\hline 94 & 87/14 GS67 & 24 & 4 & 119 & Hand made, black, smoothed surface & T5, angular calcite and quartz \\
\hline 95 & 87/136 ET70 & 22 & 8 & - & BB1 & - \\
\hline & 87/182 BP68 & 18 & 7 & - & BBI - cross-hatched decoration & - \\
\hline & \(87 / 226\) KA64 & 21 & 11 & - & BB1 & - \\
\hline & \(87 / 230\) NQ64 & 24 & 13 & 119 & BB1-cross-hatched decoration & - \\
\hline & 87/271 1Z67 & 21 & 11 & - & BB1 & - \\
\hline 96 & \[
87 / 98 \text { FGG4 }
\] & 20 & 15 & - & Grey burnished ware & - \\
\hline & 87/207 IV64 & 20 & 10 & - & BB1-cross-hatched decoration & - \\
\hline & 87/292/R63 & 24 & 11 & 119 & BB1 - cross-hatched decoration & - \\
\hline
\end{tabular}
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\(\frac{n}{3}\)
8
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\(\frac{5}{4}\)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
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\end{aligned}
\] & \(\frac{8}{2} \frac{\square}{2}\) &  \\
\hline
\end{tabular}
T3，quartz
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[t]{4}{*}{97} & 87／181 BP68 & 18 & 10 & － & B81－cross－hatched decoration \\
\hline & 87／197 E153 & 19 & 26 & 119 & B81－overlapping chevron decoration \\
\hline & \(87 / 263\) FE67 & 23 & 12 & － & B81－overlapping chevron decoration \\
\hline & 87／264 GG67 & ？ & 6 & － & B81 \\
\hline \multirow[t]{6}{*}{98} & 87／172 EK55 & 21.5 & 28 & 119 & B81 \\
\hline & 87／200 G764 & 23 & 9 & － & B81－overlapping chevron decoration \\
\hline & 87／250 BW65 & 21 & 8 & － & － \\
\hline & 87／251 BW65 & ？ & 5 & － & BB1－cross－hatched decoration \\
\hline & 87／291 EH63 & 20 & 8 & － & BB1－cross－hatched decoration \\
\hline & 87／296 DY59 & 18 & 10 & － & BB1－cross－hatched decoration \\
\hline \multirow[t]{6}{*}{99} & 87／4 AQ66 & 21 & 11 & ． & BB1－cross－hatched decoration \\
\hline & 87／178 BK70 & ？ & 5 & － & B81 \\
\hline & 87／201 G764 & 22 & 10 & 119 & B81－overlapping chevron decoration \\
\hline & 87／206 IV64 & 23 & 6 & － & B81－overlapping chevron decoration \\
\hline & \(87 / 236\) P164 & ？ & 5 & － & 881 \\
\hline & 87／267 HX67 & ？ & 5 & － & BB1－cross－hatched decoration \\
\hline \multirow[t]{8}{*}{100} & 8777 AW66 & ？ & 5 & － & B81 \\
\hline & 87／143 FH70 & 19 & 7 & － & B81 \\
\hline & 87／155 GC70 & 19 & 10 & － & B81 \\
\hline & \(87 / 223\)／X64 & 18 & 7 & － & BB1－cross－hatched decoration \\
\hline & 87／288 AV63 & ？ & 5 & － & B81 \\
\hline & 87／177 A470 & 17 & 7 & － & Grey burnished ware－cross－hatched decoration \\
\hline & 87／289 AV63 & 21 & 5 & － & Grey burnished ware \\
\hline & 87／104 AE66 & ？ & 5 & － & Mid grey，smooth surface \\
\hline 101 & 87／158 GF70 & 17 & 12 & 119 & B81－cross－hatched decoration \\
\hline \multirow[t]{11}{*}{102} & 87／10 B767 & 16 & 7 & － & BB1－cross－hatched decoration \\
\hline & 87／111 A／66 & 22 & 10 & － & BB1－cross－hatched decoration \\
\hline & 87／134 EO70 & ？ & 4 & － & B81 \\
\hline & 87／167 GW70 & 20 & 6 & － & B81 \\
\hline & 87／183 8P68 & 17 & 9 & 120 & BB1－cross－hatched decoration \\
\hline & 87／184 BP68 & 19 & 6 & － & B81－cross－hatched decoration \\
\hline & 87／202 G764 & ？ & 5 & － & B81－cross－hatched decoration \\
\hline & 87／213 IZ64 & ？ & 2 & － & B81－cross－hatched decoration \\
\hline & 87／252 BW65 & ？ & 5 & － & B81－cross－hatched decoration \\
\hline & 87／254 CY65 & 18 & 8 & － & B81－cross－hatched decoration \\
\hline & 87／268 HZ67 & 22 & 5 & － & BB1－cross－hatched decoration \\
\hline \multirow[t]{2}{*}{103} & 87／121 KZ66 & 17 & 5 & － & BB1－overlapping chevron decoration \\
\hline & 87／2121764 & 25 & 6 & 120 & BB1－cross－hatched decoration \\
\hline \multirow[t]{3}{*}{104} & 87／149 FR70 & ？ & 5 & － & B81－intersecting arc decoration \\
\hline & 87／168 GW70 & 24 & 6 & － & BB1－intersecting are decoration \\
\hline & \(87 / 247\) BT65 & ？ & 5 & 120 & BB1－intersecting arc decoration \\
\hline \multirow[t]{6}{*}{105} & 87／105 AE66 & ？ & 5 & － & BB2－sub group 1 \\
\hline & 87／107 АН66 & 26 & 42 & 120 & BB2－sub group 1，cross－hatched decoration \\
\hline & \(87 / 137\) ET70 & 19 & 15 & － & BB2－sub group 1，cross－hatched decoration \\
\hline & 87／138 ET70 & ？ & 5 & － & B82－sub group 1，cross－hatched \\
\hline & & & & & decoration \\
\hline & \(87 / 139\) E170 & 18 & 7 & － & BB2－sub group 1，cross－hatched decoration \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline No & Reference Site code & \[
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& \text { Fig } \\
& \text { No }
\end{aligned}
\] & Description & Inclusions \\
\hline & 87/163 GM70 & 18 & 8 & - & BB2-subgroup 1, cross-hatched decoration & \\
\hline & 87/169 GW70 & ? & 5 & - & BB2-sub group 1, cross-hatched decoration & \\
\hline & 87/233OU64 & ? & 5 & - & BE2-sub group 1, cross-hatched decoration & \\
\hline 406 & 87/258 GN65 & ? & 2 & 120 & Orange yellow, grey core, smooth pale grey surface, cross-hatched decoration & T1, quartz and red grains (Tiron) \\
\hline \multirow[t]{3}{*}{107} & 87/20 BR59 & 28 & 7 & - & BB2-sub group 1, cross-hatched decoration & - \\
\hline & 87/290 AV63 & 25 & 12 & - & BB2-sub group 1, diagonal line decoration & - \\
\hline & 87/297 DH59 & 21 & 31 & 120 & BB2-sub group 2 , grouped cross-hatched decoration & - \\
\hline 108 & 87/211 1Z64 & 18 & 5 & 120 & B82-subgroup 2 & - \\
\hline 109 & 87/171 AASS & 20 & 8 & 120 & BB2-sub group 1 & - \\
\hline \multirow[t]{3}{*}{110} & 87/5AQ66 & ? & 5 & - & BB2-sub group 2, intersecting arc decoration & - \\
\hline & 87/108 AH66 & ? & 5 & 120 & BB2-sub group 2 & - \\
\hline & 87/112 A/66 & ? & 5 & - & BB2-subgroup 2 & - \\
\hline \multirow[t]{3}{*}{111} & 87/164 GM70 & 18 & 7 & 120 & \({ }^{\text {28B2-pale grey, smooth mid grey surface }}\) & T4, quartz \\
\hline & 87/176 HR56 & 18 & 7 & 120 & 7BB2-mid grey, pale grey margins, dark grey surface & T3, quartz and dark grey (7iron) \\
\hline & 87/248 BT65 & 21 & 7 & 120 & ?BB2-mid grey, pale grey margins, dark grey surface & T4, quartz \\
\hline \multicolumn{7}{|l|}{Lids} \\
\hline 112 & 87/24 CES9 & 20 & 11 & 120 & Early Ware 1 & - \\
\hline 113 & 87/35 F159 & 19 & 12 & 120 & Early Ware 2 & - \\
\hline 114 & 87/68 CP61 & 16 & 12 & 120 & Early Ware 1 & - \\
\hline 115 & 87/85 DZ62 & 20 & 10 & 120 & Early Ware 1 & - \\
\hline 116 & 87/242 QO64 & 21 & 8 & 120 & Early Ware 1 & - \\
\hline 117 & 87/253 BW66 & 8.5 & 25 & 120 & Pinkish orange, smooth paler surface & T1, quartz \\
\hline 118 & 87/259 GN65 & 14 & 7 & 120 & Orange pink, silky pale brown surface & T2, sparse quartz (hardly anything visible) \\
\hline 119 & 87/275 NR67 & 23 & 10 & 120 & Pale grey, dark grey surface & T3, sparse quartz \\
\hline 120 & 87/285 KF60 & 12.5 & 18 & 120 & Pale grey & T3, sparse, quartz \\
\hline 121 & 87/295 M163 & 14 & 7 & 120 & Early Ware 1 & - \\
\hline 122 & 87/301 MP60 & 8.5 & 19 & 120 & Very pale brown & T3, sparse, quartz (hardly anything visi- \\
\hline
\end{tabular}
\[
\begin{gathered}
\text { Date } \\
- \\
- \\
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\text { Late 2nd to } \\
\text { early 3rd }
\end{gathered} \begin{gathered}
\text { Late 2nd to } \\
\text { mid 3rd }
\end{gathered}
\]
Comments


Fig 117 Coarseware (scale 1:4)


Fig 118 Coarseware (scale 1:4)


Fig 119 Coarseware (scale 1:4)


Fig 120 Coarseware (salle 1:4)

Mortaria from the 1953-73 seasons
by KF Hartley

\section*{Stamped Vessels}

123 (Fig 120) Flange fragment in pale orangebrown fabric. Frequent quartz and very occasional grey inclusions, usually tiny but some ill-sorted. Surface paler than fabric. The fragmentary stamp is from one of at least nine dies used by Anaus. A maximum of 94 mortaria have been recorded for him, five from sites in Scotland: 26 from sites on Hadrian's Wall, 38 from Corbridge and 35 from other sites mostly in the north-east of England.

The distribution of his work points to a workshop in north-eastern England, probably at Corbridge. The fabric commonly used by Anaus differs from that produced by Satu(rninus), Cudrenus and Sulloniacus who also worked at Corbridge though Sulloniacus did very occasionally use a similar one. Although Anaus's activity probably spanned a period when both of the frontiers were in commission, his distribution on Hadrianic Wall fort sites is by far the more important. His rim profiles do not indicate a date late in the second century and activity within the period AD 120-70 is certain, perhaps c AD 120-160.
(Other Corbridge Anaus stamps are DN54: AH59: HA52/FB686: AE56: ML60) BV64 (M501)

124 (Fig 120) Diam 22 cm . Fine-textured, brownish-buff fabric, fired almost to cream at the surface, with brownish slip. Fairly ill-sorted, quartz, red-brown and occasional black inclusions. The trituration grit consists of transparent and milky quartz, red-brown sandstone, blackish and possibly flint fragments. The stamp is from one of the eight dies of Austinus who probably started his working life at Wilderspool and moved to the Carlisle region, perhaps even having a workshop in Scotland where 18 of his 50 recorded mortaria have been found. His activity was certainly within the period AD 120-65 and this example will certainly be later than AD 125 or so, since it is not attributable to Wilderspool.
(Another stamp marked EA 13 from Corbridge) Bl67 (M505)

125 (Fig 120) Diam 27 cm . Several fragments from a heavily worn mortarium in hard, fine-textured creamy white fabric. Moderate quartz and occasional red-brown inclusions: trituration grit consists of blackish and red-brown refired pottery. The stamp, BRVS, is from one of the seven dies of Bruscius, who worked in the Mancetter-Hartshill potteries where he shared one kiln with the better known potter lunius (see No 128). Nineteen of his mortaria are known from sites in England and at least six from Antonine deposits in Scotland. The stamps from Scotland together with his association with lunius suggest a date of AD 140-70 for his activity. Site XI SR R5 BK67 (75.2547) (M506)

126 (Fig 120) Diam 30cm. Hard, pale brown fabric with pinker core, possibly with a cream slip but the
upper surface of the flange is fired to grey. Frequent, ill-sorted, transparent and milky quartz with very occasional slag inclusions: all the surviving trituration grit is quartz. The fragmentary stamp is from the same die as two others, from Nether Denton and Vindolanda (Bidwell 1985, 184, nos 2 and 295, fig 76.4; residual). All are fragmentary but the stamp is probably retrograde, beginning COR or COh; the Corbridge example is the most complete. The rim profiles would fit a date within the period AD 100-40. His workshop may be assumed to have been in northern England. EN68 (75.4173) (M502)

127 (Fig 120) Diam 730 cm . Drab, greyish-cream fabric with slightly powdery feel and some fairly ill-sorted quartz, ? flint, red-brown and black inclusions: trituration grit included translucent and opaque quartz. The fragmentary stamp is from a die which gives DVBETAVS retrograde (Hull 1963, fig 60.3). His other die gives the name Dubitatus. Hull recorded a total of ten stamps from the Colchester kilns where he worked; his other mortaria are now recorded from Cannons Mill, Bishop's Stortford; Colchester (2); Corbridge (2); London; Mucking; Prittlewell, Essex; and Verulamium. He probably worked within the period AD 140-80. AV63 (M504A)

128 (Fig 120) Diam 32 cm . A heavily worn mortarium in hard, fine-textured fabric, originally cream but burnt to pale greyish-cream and to dark grey in places before fracture. Few tiny quartz and yellowish, iron-stained inclusions: a few vesicular black and red-brown trituration grits survive. The stamp which reads IVNVE is from one of the 19 dies of Iunius. Kilns of his have been found at Mancetter and Hartshill in Warwickshire and more than a hundred of his mortaria have been recorded from sites throughout England with only one example in Scotland, from Castlecary. His work occurs in those Pennine forts believed to have been unoccupied c AD 120-60. He was one of the most prolific of the second-century Mancetter-Hartshill potters, and this fact combined with his virtual absence from Scotland suggests that his main activity post-dates the occupation of Scotland. He was also one of a small number of Warwickshire potters stamping mortaria, who introduced new, near hammerhead, rim profiles which became usual in the third century. The evidence points to a date c AD 155-85. AV63: HO63: LK63: KW63 (75.3271) (M504)

129 (Fig 120) Diam 27 cm . A very heavily worn mortarium in cream fabric. Fairly ill-sorted quartz (up to 0.5 mm ) and fewer red-brown, rounded inclusions; trituration grit includes red-brown sandstone and quartz. The incompletely impressed stamp reads MA!! the last letter being uncertain though \(R\) seems likely. Stamps of a potter, whose name can be assumed to be Marcus, have been found at Corbridge (Birley and Gillam 1948, no 32), but none of those stamps give more than JRCVS and they cannot be assumed to be the same die. Furthermore, those mortaria are in totally different fabric from this
example and it is, therefore, necessary to regard them as the work of another potter until further evidence decides the issue.
The fabric of this mortarium points to manufacture at Corbridge and the rim profile would fit a date in the mid-second century. CC58 \((75.4596) \mathrm{U} / \mathrm{S}(\mathrm{M} 509)\)

130 (Fig 120) Diam c 27 cm . Granular, brownishcream fabric. Abundant, well-sorted, translucent quartz and rare black and red-brown inclusions; trituration grit of flint and quartz. The stamp is from one of at least three dies used by Moricamulus who worked in the extensive potteries in the Brockley Hill-Radlett area south of Verulamium. Two other mortaria of his are known from Corbridge (S360/S356 and DB55). More than 50 of his mortaria are known from sites in England and Wales. A stamp from Richborough is from a pit-filling dated \(\mathrm{AD} 80-90\) (Bushe-Fox 1949, 249, no 26A) and a date of AD 70-110 would best fit his work. \(L X 66\) (75.2622) M507

131 (Fig 120) Diam 25 cm . Hard, orange-brown fabric with grey core in rim and cream slip. Frequent ill-sorted quartz and very occasional red-brown and black inclusions; trituration grit consists of transparent and opaque white quartz, red-brown sandstone and iron slag. The stamp \(] N D[\) is from the only die of Secundua who worked at Rossington Bridge, Doncaster, where he was an associate of Sarrius in his northern workshop. His stamp has been recorded there with Sarrius's on the same mortarium but he did stamp some mortaria independently. The only two mortaria with Secundua's stamp, found away from the kiln-site, are both from Corbridge, and have only his name on the fragments (see Birley and Gillam 1948, no 50, where Secundua's stamp has been wrongly conflated with ]VRVS stamps; see 133). This workshop can be dated within the period AD 140-70. HC57 (M510)

132 (Fig 120) Diam c 38 cm . Slightly coarse greyishwhite fabric with dark blue-grey core and buff-cream slip. Ill-sorted, quartz and red sandstone inclusions; the trituration grit is similar. The mortarium has been very well-finished and smoothed on the rim and has a finely moulded spout. The internal surface has concentric scoring at irregular intervals. There is no visible sign of wear on the large piece surviving. Both of the potter's stamps survive; these are from one of the eight dies of a man whose name can be restored as SVLLONIAC(us). His mortaria are recorded from Corbridge ( \(28-46\) vessels to judge from the number of stamps); Carlisle (2); Ebchester; and Vindolanda. His fabric and trituration grit resemble that used by Satu(rninus) whose die was found at Corbridge and the distribution clearly supports manufacture there. It has often been assumed that SVLLONIAC- represented the place-name Sulloniacae (Brockley Hill) where there was a pottery which was especially important for the production of mortaria c AD 60-130 (Hartley 1976). There is, however, no evidence to support this and names derived from place-names are common enough. It might be conjectured that Sulloniacus might have been born at Sullaniacae or
have come from there but he certainly did not stamp mortaria there with the name Sulloniac-. The die used on this mortarium has an added interest in having an extra name in tiny letters above the main name, ?A \(\sqsupset \exists ? R\) ?; this was first recognized and interpreted as perhaps Regalis, by Professor E B Birley (Birley and Richmond 1938, 280, fig 12). This must be the name of the man who made the die and since the quality is not good enough to suggest a professional diemaker, one may reasonably assume that he worked for Sulloniacus.

One stamp from Corbridge (BJ59) is recorded from a pre-Hadrianic level and two from the Antonine II flooring of the Severan principia, East Compound; (others are HN52; AH63; ZP59; GL59/FH59; EQ64; and \(V V-^{*}\) ) and the rim profiles fit manufacture within the period AD 100-40. This example should be earlier than AD 130 and the concentric scoring supports a date early in the second century. GA52; DG52; FA52 (84.4834) (M508)

133 (Fig 120) Diam c 31 cm . A worn mortarium in micaceous, pink fabric, fired to cream on the outside surfaces and with a greyish-cream core in the rim only. Few quartz and brown inclusions visible at \(\times 10\) magnification: the trituration grit consists of redbrown sandstone, transparent quartz and softish cream material which does not react with HCl . There are traces of a brownish-buff slip. The incomplete potter's stamp impressed vertically down the collar reads ]VR[. Four other stamps from the same die are known, all from Corbridge (including one marked HH62). The potter's name clearly ended in Jurus but as yet no stamp shows the beginning of his name (Birley and Gillam 1948, 190 and fig 2, nos 50 i and ii) his stamps are wrongly equated here with those of Secundua of Rossington Bridge; see below 131). The fabric, distribution and the similarity of his rim profiles to those of Bellicus permit attribution to a workshop at Corbridge, c AD 155-90. FW62 (75.3797) (M503)

\section*{Unstamped vessels}

134 (Fig 121) Diam 27 cm . Fine-grained, hard, brownish-cream fabric. Frequent very tiny quartz and few blackish or red-brown inclusions; probably never had any trituration grits. A wall-sided mortarium typical of mortaria made in the Claudian period (cf Hawkes and Hull 1947, fig 53.11). This example is likely to have been imported, perhaps from the Rhineland. The latest date at which this type could reasonably be expected to be available in Britain is \(c\) AD65. They were, however, very well-made and with care would have lasted a long time. (A second fragment from the same or a similar mortarium from the same context was seen at the site museum several years ago). /O59 87/302
135.1 (Fig 121) Diam 39 cm . Rim \(25 \%\). Very pale yellow fabric. Inclusions up to 1 mm diam, red iron, quartz, ?limestone, ?flint and black grains; some ?flint grit up to 3 mm on flange. Gillam Type 238. AD 70-100. DT65 87/303


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Fig 121 Coarseware (scale 1:4)

2 Diam ? Rim 5\%. (Not illustrated) IB64 87/304
3 Diam 33 cm . Rim \(8 \%\).(Not illustrated) HF70 87/305
4 Diam ? Rim 5\%. (Not illustrated) HF70 87/306
136 (Fig 121) Diam 31cm. Rim \(8 \%\). Pale yellowish cream, occasional flint grit on flange. Quartz and a little red iron inclusions (up to 0.5 mm diam). Verulamium region. AD 70-110. FZ66 87/307

137 Diam? Rim 5\%. White fabric. Quartz inclusions (up to 0.5 mm ). Trituration grit includes quartz \(3-5 \mathrm{~mm}\) diam. Verulamium region. AD 70-130. (Not illustrated) HF70 87/308

138 (Fig 121) Diam 28-9cm. Hard, pinkish-cream fabric fired to cream at the surfaces. Moderate, ill-sorted quartz and red-brown inclusions. Trituration grit consists of quartz and red-brown sandstone. This mortarium has a distinctive and recognisable rim profile. The type has a widespread but sparse distribution in England. It is likely to be an import from the Rhineland and may well be first century in date. An unpublished example was recorded from Pit 145 at Richborough; Bushe-Fox dated the filling of this pit to AD 75-100. (Another Corbridge fragment, possibly from the same vessel but more likely to be from a different one was seen at the site museum some years ago - marked IO59). AX61 87/309 (M512)

139 (Fig 121) Diam 33cm (approx). Two joining fragments from a very worn mortarium in basically fine-textured, pale brown fabric. Moderate ill-sorted quartz and red-brown inclusions. The trituration grit consists almost entirely of opaque white quartz with very occasional red-brown fragments. There is a matt orange-brown slip on the exterior and the side and base have been smoothed or polished. An unusual mortarium, probably imported from the Rhineland. There is no good evidence to date it but it would probably fit the Antonine period better than any other. HN62 87/310 (M525)

140 (Fig 121) Diam 31cm. Rim 40\%. Very pale cream fabric with orange-yellow slip. Sparse quartz and red iron inclusions (up to 1 mm diam). Quartz trituration grits. Manufactured in north-east England, possibly at Corbridge. Very early second century. GU68 87/311

141 (Fig 121) Diam 27 cm . Rim \(18 \%\). Pale orange fabric with darker surface. Red iron and quartz inclusions (up to 1 mm diam). Occasional quartz trituration grits \(c 3 \mathrm{~mm}\) diam. Northern England. c AD 100-30. BG70 87/312

142 (Fig 121) Diam 24 cm . Rim 12\%. Burnt fabric. Quartz inclusions (up to 0.2 mm ). Possibly manufactured in northern England. AD 100-40. PJ64 87/313

143 (Fig 121) Diam 26 cm . Three fragments, not joining, from a well-worn mortarium in orange-
brown fabric. Texture made coarse, almost granular, by the frequent ill-sorted quartz and occasional iron slag inclusions. The surviving trituration grit is all quartz and there are traces of a self-coloured slip. The fabric and trituration grit point to manufacture in northern England and the vessel is in fact quite similar to No 126 . It may be from a workshop where mortaria were not stamped and it can be attributed to the period AD 80-140. BC, CN, MM64 87/314 (M517, M522, M523)

144 (Fig 121) Very hard, well fired orange brown fabric with grey core. Sparse quartz inclusions (up to 1 mm diam). Northern England, Hadrianic-early Antonine. DY62 87/312

145 (Fig 121) Diam 27 cm . Rim \(13 \%\). White fabric with pale yellow cream surface. Sparse inclusions of red iron and quartz (up to 0.2 mm ). From HartshillMancetter kilns. AD 140-80. CB64 87/316

146 (Fig 121) Diam 27 cm . Rim \(15 \%\). Pale yellow fabric with orange-yellow surface. Quartz and red iron inclusions (up to 0.5 mm diam). Manufactured in the Corbridge area by Bellicus. AD 155-85. FI70 87/317

147 (Fig 121) Diam 31cm. Rim 3\%. Orange brown fabric, dark red slip. Quartz inclusions (up to 0.5 mm ). Raetian. AD 140-200. FH70 87/144

148 (Fig 121) Diam 40 cm (approx). Three joining fragments making up half of a worn mortarium in hard orange-brown fabric. Moderate inclusions (fairly well-sorted quartz and larger (up to 3 mm ) dark red-brown material). The mixed trituration grit consists of quartz, red sandstone, other red-brown and hard black material. It has a thick matt orange-brown slip, the outside has been trimmed carefully and the whole vessel polished or burnished. The flange has been decorated all the way round with an intricate, spiral-type design, which has three major components, picked out in cream paint. The spout has deliberate impressions made in each 'nostril' and there is a large circle or 'eye' cut into the flange and picked out in cream to each side of the spout.

This intricate type of design is most unusual but representing the spout as a muzzle, often with 'eyes' to each side, is not unknown. The intention is usually to represent a pig's head though, as in this instance, it is often very formally done. The mortarium is undoubtedly an import from the Rhineland and is probably to be dated within the period AD 140-200. The practice of using the spout in this way is best attested in a workshop at Soller, Kr Düren but they have not published any mortaria in this fabric and it is likely to be from some other Rhineland workshop. FS70 87/318 (M529)

149 (Fig 121) Diam ? Rim 5\%. White fabric with pale yellow surface. Sparse quartz and red iron inclusions; texture 3. Hammer-headed type from Hartshill-Mancetter. Third century. IN60 87/300.

\section*{2 Coarseware from the 1980 season}

In the catalogue for this section vessels are grouped by excavated context and, within each context, by vessel class. Finds-group codes and context numbers are given in brackets after the description of the context. Each entry contains a fabric description followed by the diameter of the vessel in centimetres and then by the rim length expressed as a percentage of the total circumference and abbreviated \(\mathrm{R} \%\). Correspondences between contexts and vessels are given after the catalogue. Illustrations numbers are the same as the entry numbers.

\section*{Catalogue}

Highest rampart material (possibly disturbed) (NQ, LY, ON) (300, 345, 368) Group TPQ: AD 120

150 (Fig 122) Fine, pale grey micaceous fabric, thin dark grey core, smooth dark grey surface, probably once burnished. Diameter \(7.5 \mathrm{~cm}, 25 \%\)

151 (Fig 122) Finely granular pale blue grey, smoothed darker grey surface. Diameter \(18 \mathrm{~cm}, 11 \%\)

152 (Fig 122) Fabric as No 151. Diameter 12.5 cm , \(30 \%\)

153 (Fig 122) BB1. Diameter \(12 \mathrm{~cm}, 19 \%\). Early-mid second century

154 (Fig 122) Coarse black friable with inclusions of shell, fine grained rock fragments and quartz. Diameter \(18 \mathrm{~cm}, 21 \%\). Late first to early second century

155 (Fig 122) Gritty pale orange. Diameter 30 cm (inside rim), 6\%, Late first to early second century

156 (Fig 122) Granular pale pinkish orange, paler core. Rounded quartzlike inclusions

Also from these levels: 3 wall sherds BB1 cooking pot showing decoration of intersecting groups of three parallel scored lines; one wall sherd in sandy grey ware with rusticated decoration.

\section*{Features in rampart}

Rampart soakaway (NY, OO, OQ) (331) Group TPQ: AD 80

157 (Fig 122) Granular pale grey, gritty surface. Diameter \(11.5 \mathrm{~cm}, 17 \%\)

158 (Fig 122) Sandy pale grey, darker grey core, black surface. Diameter \(13.5 \mathrm{~cm}, 27 \%\). ?Late first to early second century

Rampart in trench 2 (DN) (103)
159 (Fig 122) Sandy pale orange. Quartz and orange grog inclusions

Disturbed rampart top (IJ, JW, IX, LA, LI, LK, LV, MC, MO, NB, NI, NN, OI) (84, 266, 267, 270, 279, 298, 319, 333) Group TPQ: AD 160

160 (Fig 122) Sandy orange brown. Diameter \(6.5 \mathrm{~cm}, 35 \%\). Mid 2nd century

161 (Fig 122) Sandy medium grey fabric, darker smoothed surface. Diameter \(13.5 \mathrm{~cm}, 52 \%\). ?Early to mid second century

162 (Fig 122) Fabric as 161. Diameter \(15.5 \mathrm{~cm}, 40 \%\). Early to mid second century

163 (Fig 122) Sandy grey, black burnished surface. Diameter \(12.5 \mathrm{~cm}, 78 \%\). Early to mid second century

164 (Fig 122) BB1. Diameter 18 cm (internal), \(9 \%\). Mid second century

165 (Fig 122) BB1. Diameter \(19 \mathrm{~cm}, 10 \%\). Mid second century

166 (Fig 122) Hard brownish orange, smoothed surface. Diameter 23 cm (internal), \(10 \%\). Late first to early second century

167 (Fig 122) BB1. Diameter 20cm, 10\%. Mid to late second century

168 (Fig 122) BB1. Diameter \(20 \mathrm{~cm}, 5 \%\). Mid to late second century

169 (Fig 122) Granular grey, darker grey surface. Diameter \(16 \mathrm{~cm}, 7 \%\). ?Late first to early second century

170 (Fig 122) BB1. Diameter \(5.5 \mathrm{~cm}, 17 \%\)
171 (Fig 122) Fine pale grey, dark grey to black surface. Diameter \(18 \mathrm{~cm}, 11 \%\)

172 (Fig 122) Hard sandy dark grey. Diameter 15 cm , \(25 \%\)

173 (Fig 122) Sandy orange, cream wash. Red and quartz trituration grits. Diameter \(28.5 \mathrm{~cm}, 12 \%\)

174 (Fig 122) Orange pink, slightly greyer core, cream slip. Multicoloured trituration grit c \(1-4 \mathrm{~mm}\). Diameter 22 cm (internal), \(25 \%\)

175 (Fig 122) Quite fine cream, pinkish orange core. Mostly black and white trituration grit \(0.5-\) 3 mm , extending up to the bead and over the flange. Diameter ?, 2\%. Probably Mrs Hartley's Group I - cf Hartley 1977.

Also in this context were found grey ware sherds with rusticated decoration, and sherds from cooking pots in BB2, some decorated with "grouped crosshatching'.


Fig 122 Coarseware (scale 1:4)

\section*{Levels later than rampart but before second stone building (to south of building)}

Cobbles over disturbed numpart (KJ) (268) Group TPQ; AD 160

176 (Fig 122) Fine pale blue-grey, smooth dark grey to black surface. Diameter \(8.5 \mathrm{~cm}, 18 \%\)

177 (Fig 122) Hard, quite fine medium grey, grey burnished surface. Diameter \(13.5 \mathrm{~cm}, 15 \%\). Second half second century

178 (Fig 123) Sandy dark orange, grey core, dirty orange surface. Angular white quartz trituration grit \(1.5-6 \mathrm{~mm}\). Diameter \(30 \mathrm{~cm}, 2 \%\)

Make-up or levelling below flags (JE, JN, JW) (253, 254, 267) Group TPQ: AD 200

179 (Fig 123) Fine off-white, grey core, medium grey surface. One handled. Diameter \(13 \mathrm{~cm}, 16 \%\)

180 (Fig 123) Sandy pale orange, smoothed surface. Diameter \(15 \mathrm{~cm}, 10 \%\). Early to mid second century

181 (Fig 123) Granular grey, burnished surface. Diameter \(13 \mathrm{~cm}, 15 \%\). Mid to late second century

182 (Fig 123) BB2. Diameter \(16 \mathrm{~cm}, 11 \%\). Mid second to early third century.

Also from this level: wall sherd BB1 cooking pot with obtuse angle cross-hatching but no scored line; wall sherd of calcite gritted ware; wall sherd rough-cast beaker in orange fabric with brown colour coat.

Soil below flags (IE, IH) (251) Group TPQ: AD 160
183 (Fig 123) Granular dark red, grey core, black ?slipped surface. Diameter \(14 \mathrm{~cm}, 6 \%\)

184 BB2 - 'laminar fabric' with silvery slip on rim. Diameter \(17 \mathrm{~cm}, 6 \%\). (Not illustrated)

185 (Fig 123) BB2 - granular dark grey, white margins, dark grey surface. Diameter \(26 \mathrm{~cm}, 10 \%\). Late second to early third century.

186 (Fig 123) Dull, granular brown, dark grey core, brown surface. Diameter \(18 \mathrm{~cm}, 10 \%\)

The overall ratio of \(\mathrm{BB} 2: \mathrm{BB} 1\) in terms of total sherds from this level was approximately \(6: 2\).

Foundations of second stone building (BK, HI, HL, HU, \(H V, H X, H Z, I L, I O, I N)(19,50,215)\) Group TPQ: \(A D\) 240

187 (Fig 123) Fine, white, black burnished surface. Diameter \(10.5 \mathrm{~cm}, 20 \%\)

189 (Fig 123) BB1. Diameter ?, 4\%. Mid third century.

190 (Fig 123) Granular dark grey. Diameter 12 cm , \(9 \%\). ?Third century

191 (Fig 123) Quite fine pale grey, smoothed grey surface. Diameter \(11.5 \mathrm{~cm}, 10 \%\)

192 (Fig 123) ?BB2 - sandy dark grey, black core, grey burnished surface. Diameter \(24 \mathrm{~cm}, 7 \%\). Mid second to early third century

193 (Fig 123) Granular dark grey, burnished grey surface. Diameter \(22 \mathrm{~cm}, 7 \%\)

Also from this level: wall sherd from an indented beaker in fine orange fabric with irridescent black colour coat; wall sherd from a large globular vessel in dull pink rough-cast fabric.

\section*{To north of second stone building}

Pit in disturbed rampart top (KS, LC) (281) Group TPQ: AD 160

194 (Fig 123) BB1, probably originally with handle. Diameter \(8.5 \mathrm{~cm}, 10 \%\). Second century

195 Granular black, black burnished surface. Diameter \(15 \mathrm{~cm}, 5 \%\). (Not illustrated)

196 (Fig 123) BB1. Diameter \(16.5 \mathrm{~cm}, 23 \%\). Late second century

197 (Fig 123) Sandy pale grey, black surface
Pit in disturled rampart top(KR, LB) (282)
Four wall sherds of coarseware including BB1.
?Early furmace (OS) (367)
Five sherds of coarseware, possibly all of preHadrianic date.

Loam under cobbles (KG, KM, KT). (274) Group TPQ: AD 150

198 (Fig 123) Granular pinkish orange, buff core, black burnished surface. Diameter \(15 \mathrm{~cm}, 9 \%\). Second century

199 (Fig 123) Hard sandy micaceous dark grey, black burnished surface. Diameter \(19 \mathrm{~cm}, 21 \%\). ?Second half second century

200 (Fig 123) Hard sandy brownish orange, smoothed surface. Diameter \(20 \mathrm{~cm}, 15 \%\). ?Mid second century

Also from this level: a number of base sherds from a dish in BB1.

188 (Fig 123) BB1. Diameter \(14 \mathrm{~cm}, 26 \%\)
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Fig 123 Coarseware (scale 1:4)

\section*{Furnace (NZ) (329) Group TPQ: AD 100}

201 (Fig 123) Granular grey, grey burnished surface. Diameter \(12 \mathrm{~cm}, 8 \%\)

202 (Fig 123) Fine very pale cream, pale yellowishcream surface wash. Black and white (flint) trituration grit \(1-4 \mathrm{~mm}\) starting \(c 1.5 \mathrm{~mm}\) below bottom of bead. Diameter \(34 \mathrm{~cm}, 60 \%\). Stamped VIATOR FECIT; AD 100-40

\section*{Clay floor of furnace (MZ, NU) (311) Group TPQ: AD 100}

203 (Fig 123) Sandy pale grey, paler core, dark grey-black surface. Diameter \(17 \mathrm{~cm}, 11 \%\). ?First half second century

204 (Fig 123) Sandy off-white, black surface. Diameter \(13.5 \mathrm{~cm}, 10 \%\)

Cobble and rubble make-up (FX, JU, KL, KP) (59) Group TPQ: AD 140

205 Joining sherds from No 199. 27\%. Second half second century. (Not illustrated)

206 (Fig 123) BB1. Diameter \(20.5 \mathrm{~cm}, 11 \%\). Mid to late second century

207 (Fig 123) BB1. Diameter \(20.5 \mathrm{~cm}, 7 \%\). Mid second century

208 (Fig 123) Granular pale grey, dark grey burnished surface

209 (Fig 123) Hard sandy orange brown, cream slip. Mostly red and white trituration grits \(1-4 \mathrm{~mm}\) starting \(c 20 \mathrm{~mm}\) below bead. Diameter \(27 \mathrm{~cm}, 8 \%\). AD 130-170

210 (Fig 123) Fine cream with pale yellow slip. Red, black and a little white, angular trituration grits, \(1-4 \mathrm{~mm}\). Stamped LOCCI VI[BI] retrograde; AD 140-80

Rubble and cobble make-up (ED, EF) (60) Group TPQ: AD 150

211 (Fig 124) Micaceous granular dark grey, black surface. Diameter \(14 \mathrm{~cm}, 7 \%\)

212 (Fig 124) BB1. Diameter \(13 \mathrm{~cm}, 7 \%\). Early to mid second century

213 (Fig 124) Granular grey, grey burnished surface. Diameter \(20 \mathrm{~cm}, 5 \%\). Mid second to early third century

214 (Fig 124) BB1. Diameter 20cm, 7\%. Late second century

215 (Fig 124) Sandy very pale cream, almost no grit (?worn smooth). Diameter \(28.5 \mathrm{~cm}, 25 \%\). Mrs Hartley comments: slightly burnt and heavily worn.

Form slightly unusual and possibly derived from East Anglia. Probably made in the north-east in the mid second century.

Levelling under flags 6 (FL, FO, FQ, GD, HE) (222) Group TPQ: AD 100

216 (Fig 124) Micaceous sandy pale grey, dark grey core, black surface

217 (Fig 124) Fine orange, brown slip on top and outside of rim. Raetian/Wilderspool type. AD 100-60

Loam under drains (IV, KK, LD) (263) Group TPQ: AD 140

218 (Fig 124) Hard sandy grey burnished. Diameter \(16.5 \mathrm{~cm}, 27 \%\);. ?Late first to early second century

219 (Fig 124) Fine orange brown, mica rich slip, 'rough casting' with coarse particles (?clay) under slip. Diameter \(12 \mathrm{~cm}, 35 \%\). Mid to late second century

220 (Fig 124) Quite fine medium grey. Wall sherds from this group with rusticated decoration are likely to be from the same vessel. Diameter \(13 \mathrm{~cm}, 10 \%\). AD 70-120

221 (Fig 124) BB1. Diameter \(21 \mathrm{~cm}, 9 \%\). Mid second century

222 (Fig 124) BB2. Diameter \(15 \mathrm{~cm}, 39 \%\). Mid second to carly third century

\section*{Bottom fill of well (DS) (57) Group TPQ: AD 150}

223 (Fig 124) Quite fine black, pale grey margins, dark grey burnished surface. 'Grouped cross-hatching' decoration. Diameter \(10 \mathrm{~cm}, 35 \%\). ?Early to mid second century

224 (Fig 124) Granular grey, grey burnished surface. Diameter \(13.5 \mathrm{~cm}, 13 \%\). ?Second half of second century

\section*{Structure of well (LE) (4) Group TPQ: AD 140}

225 (Fig 124) BB1, wavy line decoration on neck. Diameter \(13 \mathrm{~cm}, 8 \%\). Early to mid second century

226 (Fig 124) Sandy brownish grey, smoothed black surface. Diameter \(12.5 \mathrm{~cm}, 13 \%\). Early to mid second century

227 (Fig 124) Sandy orange brown, brown core, smoothed surface. Diameter \(21 \mathrm{~cm}, 10 \%\). Early to mid second century

228 (Fig 124) BB1. Diameter \(18 \mathrm{~cm}, 3 \%\). Mid second to early third century


Fig 124 Coarseware (scale 1:4)

Lower fill of well (AQ, AW, BA, CV) (14) Group TPQ: AD 160

229 (Fig 124) BB2. Mid second to early third century

Also from this level: a sherd of the same vessel as No 223; wall sherd of flat rimmed bowl in BB1; various wall sherds of beakers in fine white fabric with dark colour coats.

Upper fill of well (AL, AM, AV) (3) Group TPQ: AD 250
230 (Fig 124) Hand made gritty dark grey. Diameter \(20 \mathrm{~cm}, 7 \%\). Second half third to fourth century

231 (Fig 124) Quite fine medium grey fabric, pale grey margins, dark grey burnished surface. Mid second century

232 (Fig 124) BB1. Diameter \(15 \mathrm{~cm}, 5 \%\). ?Third century

Also from this level: a wall sherd from a jar or cooking pot in calcite gritted fabric.

\section*{Inside stone buildings, south of 1909 excavation trench}

Loam (LL, LU, MB, ME, OD) (293) Group TPQ: AD 140
233 (Fig 124) Granular grey, black surface. Diameter \(14.5 \mathrm{~cm}, 15 \%\)

234 (Fig 124) BB1, wavy line decoration on neck. Diameter \(10 \mathrm{~cm}, 12 \%\). Early to mid second century

235 (Fig 124) BB1. Diameter \(19 \mathrm{~cm}, 9 \%\). Mid second to early third century

236 Very fine hard white, drab brown slip on upper surface. Mrs Hartley comments: fabric as No 202; closely similar but probably from a different vessel. Lower Nene Valley. AD 90-140. (Not illustrated)

237 (Fig 124) Sandy grey
Also from this level: a wall sherd in grey ware with rusticated decoration

Cobbles and Loam (JP, KE, KO, KX, LG) \((258,276)\) Group TPQ: AD 160

238 (Fig 124) BB2. Diameter \(13.5 \mathrm{~cm}, 18 \%\). Mid second to early third century

239 (Fig 124) Sandy orange yellow. Diameter \(11 \mathrm{~cm}, 6 \%\), ?Second century

240 (Fig 124) BB1. Diameter \(14 \mathrm{~cm}, 25 \%\). Mid second century

241 (Fig 124) BB2. Diameter \(22 \mathrm{~cm}, 6 \%\). Mid second to early third century

242 (Fig 124) BB1. Diameter \(20 \mathrm{~cm}, 10 \%\). Mid second to early third century

243 (Fig 125) Fine white, highly micaceous orangebrown colour coat. Diameter \(17 \mathrm{~cm}, 7 \%\). Late second century at the earliest, possibly much later.

244 (Fig 125) Sandy orange brown, smoothed surface. Late second century at the earliest, possibly much later.

245 (Fig 125) Sandy black, white margins, black burnished surface. Diameter \(19 \mathrm{~cm}, 11 \%\). Mid second century

\section*{Cobbles (JS, JY) (257) Group TPQ: AD 160}

246 (Fig 125) Fine orange, smoothed surface. Diameter \(4.5 \mathrm{~cm}, 100 \%\). ?Second century onwards

247 (Fig 125) Fine white, black colour coat. Diameter \(8 \mathrm{~cm}, 8 \%\). Late second to mid third century

248 (Fig 125) BB2. Diameter \(24 \mathrm{~cm}, 3 \%\). Late second to mid third century

Also from this level: rim sherd from No 239.

Burnt loam and clay (HB, IK, IS, JB) (252) Group TPQ: AD 200

249 (Fig 125) Sandy grey, smooth dark grey surface. Diameter \(14 \mathrm{~cm}, 19 \%\). ?Early to mid second century

250 (Fig 125) BB2. Diameter \(15 \mathrm{~cm}, 16 \%\). Mid second to early third century

251 (Fig 125) BB1. Diameter 18cm, 11\%. ?Early third century, possibly much later

252 (Fig 125) Granular grey. Diameter \(20 \mathrm{~cm}, 11 \%\). Mid second century

253 (Fig 125) BB1. Diameter 20cm, 3\%. ?Late second to mid third century

254 (Fig 125) BB1. Diameter ?, 2\%. Mid second century

255 (Fig 125) Granular grey, grey facet-burnished surface. Diameter \(17 \mathrm{~cm}, 8 \%\). Mid second to early third century

256 (Fig 125) Fine white, darker core. No grits surviving. Diameter \(25 \mathrm{~cm}, 8 \%\). 150-220

\section*{Soil (IP, HY) (248) Grout TPQ: AD 200}

257 (Fig 125) BB1. Diameter \(15 \mathrm{~cm}, 18 \%\). Late second century

258 (Fig 125) Granular pale grey, black surface. Diameter \(18 \mathrm{~cm}, 14 \%\). Early to mid third century


Fig 125 Coarseware (scale 1:4)

259 (Fig 125) BB1. ?Early to mid second century
260 (Fig 125) BB2. Diameter \(22 \mathrm{~cm}, 6 \%\). Mid second to early third century

261 (Fig 125) BB1. Diameter \(20 \mathrm{~cm}, 5 \%\). Mid second to mid third century

262 (Fig 125) Very pale sandy cream. Diameter \(8 \mathrm{~cm}, 14 \%\)

Also from this level: wall sherd from the lid of a 'Castor Box' - fine white, pinkish core, colour coat: orange (out), black (in).

\section*{Flags (JT) (243) Group TPQ: AD 140}

263 (Fig 125) Sandy pinkish brown, black burnished surface. Diameter \(14 \mathrm{~cm}, 20 \%\)

264 (Fig 125) Sandy medium grey. Diameter 10 cm , 9\%

265 (Fig 125) BB1. Diameter \(21 \mathrm{~cm}, 13 \%\). Mid second century

\section*{Loam (GF, IG, IQ, ILI, LN) (236) Group TPQ: AD 160}

266 (Fig 125) Fine very pale yellow, black colour coat, trace of decoration en barbotine. ?Second half second century

267 (Fig 125) Sandy grey, darker grey surface. Diameter \(16 \mathrm{~cm}, 12 \%\)

268 (Fig 125) BB1. Diameter 8cm, 15\%. Second century

269 (Fig 125) BB1. Diameter \(11 \mathrm{~cm}, 23 \%\). Early to mid second century

270 (Fig 125) BB1. Diameter \(13.5 \mathrm{~cm}, 20 \%\). Mid to late second century

271 (Fig 125) Sandy medium grey. Diameter 13 cm , \(7 \%\). ?Mid second century

272 (Fig 125) Fine grey, polished surface. Diameter \(9 \mathrm{~cm} .19 \%\). ?Second half of second century

273 (Fig 125) BB1. Diameter \(15 \mathrm{~cm}, 5 \%\). ?Late second century

274 (Fig 125) Sandy orange, burnished surface. Diameter \(22 \mathrm{~cm}, 8 \%\)

275 (Fig 125) Sandy grey, darker core. Diameter \(20 \mathrm{~cm}, 2 \%\)

Also from this level: wall sherd from an indented beaker with scale pattern decoration, fine white, black colour coat.

Clay, flags etc (FY, GA, GM, GO, GR, GS, GY, HA, HD, HM) (231, 233, 234, 241, 242) Group TPQ: AD 250

276 (Fig 125) Sandy yellowish cream. Diameter \(6 \mathrm{~cm}, 16 \%\). Mid to late second century

277 (Fig 125) Fine white, black colour coat. Diameter \(8.5 \mathrm{~cm}, 20 \%\). ?First half third century

278 (Fig 125) Fine white, pinkish purple colour coat over vegetable motifs applied en barbotine. Diameter \(9 \mathrm{~cm}, 7 \%\). Late second to third century

279 (Fig 126) Very pale yellow, black colour coat. Diameter \(10 \mathrm{~cm}, 9 \%\). Late second century onwards

280 (Fig 126) Fine white, black colour coat. Diameter \(11.5 \mathrm{~cm}, 5 \%\). Late second to mid third century

281 (Fig 126) Fine very pale yellow, orange colour coat. Diameter \(4 \mathrm{~cm}, 10 \%\)

282 (Fig 126) BB1. Diameter \(14 \mathrm{~cm}, 6 \%\). Mid second century

283 (Fig 126) BB1. Diameter ?, 3\%, ?Early third century, possibly much later

284 (Fig 126) Granular black, white margins, rough dark grey surface. Diameter \(13.5 \mathrm{~cm}, 20 \%\). Mid third to fourth century

285 (Fig 126) Sandy medium grey, dark grey surface. Diameter \(18 \mathrm{~cm}, 6 \%\)

286 (Fig 126) Granular dark grey, rough surface. Diameter \(16 \mathrm{~cm}, 14 \%\). Early to mid third century

287 (Fig 126) Sandy black, rough surface. Diameter \(14.5 \mathrm{~cm}, 25 \%\). Second half third to fourth century

288 (Fig 126) Sandy pale grey, dull orange brown surface. Diameter \(15 \mathrm{~cm}, 23 \%\). ?Late second century onwards

289 (Fig 126) BB2. Diameter 20cm, 13\%. First half third century

290 (Fig 126) BB1. Diameter \(21 \mathrm{~cm}, 4 \%\). Late second to early third century

291 (Fig 126) Sandy white. Late third to fourth century

292 (Fig 126) Quite fine pale pink, highly micaceous cream surface

293 (Fig 126) BB1. Diameter 18cm, 10\%. Late third century onwards

294 (Fig 126) BB2. Diameter \(29 \mathrm{~cm}, 7 \%\). First half third century. Two other similar examples like 201 diameter \(22 \mathrm{~cm}, 13 \%\); diameter \(21 \mathrm{~cm}, 13 \%\)


Fig 126 Coarsetoare (scale 1:4)

295 (Fig 126) Sandy medium grey, black burnished surface. Diameter \(22 \mathrm{~cm}, 8 \%\). Mid to late second century

296 (Fig 126) Fine pale grey, medium grey core, dark grey burnished surface. Diameter \(21 \mathrm{~cm}, 2 \%\). Mid second to early third century

297 (Fig 126) BB1. Diameter 20 cm, 4\%. Mid second century

298 (Fig 126) Sandy very pale cream, yellow slip on upper flange and bead. Mostly red trituration grits, all c 1mm; 140-200

Flags (FS, FZ, GI, HI) (240) Group TPQ: AD 260
299 (Fig 126) Fine orange yellow, orange slip over rough casting. Diameter \(7.5 \mathrm{~cm}, 29 \%\). ?Late second century

300 (Fig 126) Fine white, orange brown-black colour coat. Diameter \(8 \mathrm{~cm}, 16 \%\). ?First half third century

301 (Fig 126) Granular dark grey with light grey margins and dark grey-black surface. Diameter 15 cm , \(15 \%\)

302 (Fig 126) Sandy grey, dull orange core, rough grey surface. Diameter \(10.5 \mathrm{~cm}, 17 \%\)

303 (Fig 126) Granular grey, burnished. Diameter \(12 \mathrm{~cm}, 25 \%\). Late second to carly third century

304 (Fig 126) Sandy grey with paler grey margins and black surface. Diameter \(21 \mathrm{~cm}, 22 \%\). ?Late second century

305 (Fig 126) Granular grey, smoothed surface. Diameter \(21 \mathrm{~cm}, 12 \%\). ?Late second century

306 (Fig 126) BB1. Diameter \(17 \mathrm{~cm}, 9 \%\). Mid to late second century

307 (Fig 126) BB2. Diameter \(17 \mathrm{~cm}, 9 \%\). Mid second to early third century

308 (Fig 126) BB2. Diameter \(22 \mathrm{~cm}, 7 \%\). Mid second to early third century

309 (Fig 126) BB2. Diameter \(23 \mathrm{~cm}, 7 \%\). Mid second to early third century

310 (Fig 126) BB1. Diameter \(27 \mathrm{~cm}, 5 \%\). Late third century onwards

311 (Fig 126) Sandy orange with smoothed surface.

Levelling (EK) (64) Group TPQ: AD 350
312 (Fig 127) Sandy grey, dark grey surface. Diameter \(19 \mathrm{~cm}, 11 \%\)

313 (Fig 127) Sandy grey, black smoothed surface. Diameter \(15 \mathrm{~cm}, 3 \%\)

314 (Fig 127) Black, calcite gritted. Diameter 18 cm \(7 \%\). Probably a 'Huntcliff Type' cooking pot, in which case second half of fourth century.

Levelling, make-up (EB, EH, EJ) (17) Group TPQ: AD 200
315 (Fig 127) Fine white, dark brown-black colour coat. Diameter \(10 \mathrm{~cm}, 11 \%\). Late second to mid third century

316 (Fig 127) Sandy off-white, smoothed surface (?originally mica dusted). Diameter \(13 \mathrm{~cm}, 12 \%\)

317 (Fig 127) BB2. Diameter \(12 \mathrm{~cm}, 9 \%-5\) other rim sherds similar to this - total \(\mathrm{R} \%=40\). Mid second to mid third century

318 (Fig 127) BB2. Diameter \(17 \mathrm{~cm}, 26 \%\). Mid second to early third century

319 (Fig 127) Sandy grey, burnished surface. Diameter \(17 \mathrm{~cm} 9 \%\). ?Third century

320 (Fig 127) Sandy dark grey, black smoothed surface. Diameter \(18 \mathrm{~cm}, 6 \%\). ?Third century

Cobbles (MA) (294) Group TPQ: AD 150
321 (Fig 127) Fine orange yellow, yellow core, purplish brown outer surface (?once rough cast and mica dusted). Diameter \(14 \mathrm{~cm}, 39 \%\). Second century

322 (Fig 127) Sandy greyish brown, smoothed grey surface. Diameter \(12.5 \mathrm{~cm}, 43 \%\). Second half second century

Lowest fill of abortive west wall of second stone building (FR, GG, G), GP, GX, IV, JF, JU) \((59,225)\) Group TPQ: AD 240

323 Rim sherd of Dr form 20 amphora in sandy orange buff fabric. Diameter \(21 \mathrm{~cm}, 11 \%\). (Not illustrated)

324 (Fig 127) Fine white, dark brown-black colour coat. Diameter \(19 \mathrm{~cm}, 20 \%\). Late second to mid third century

325 (Fig 127) Fine white, dark brown-black colour coat. Diameter \(10 \mathrm{~cm}, 19 \%\). Mid third century

326 (Fig 127) Fine white, colour coat: black (in), orange-brown (out). Diameter \(15 \mathrm{~cm}, 19 \%\). Late second to mid third century

327 (Fig 127) Sandy dirty grey, pale grey core, grey burnished surface. Diameter \(7.5 \mathrm{~cm}, 31 \%\)

328 (Fig 127) Fine orange, grey core, smoothed surface. Diameter \(10 \mathrm{~cm}, 6 \%\)


Fig 127 Coarseware (scale 1:4)

329 (Fig 127) BB1. Diameter \(11 \mathrm{~cm}, 17 \%\). ?Second century

330 (Fig 127) BB1. Diameter \(15 \mathrm{~cm}, 32 \%\). Mid to late third century

331 (Fig 127) BB1. Diameter \(16 \mathrm{~cm}, 10 \%\). Late second century onwards

332 (Fig 127) BB1. Diameter \(16 \mathrm{~cm}, 19 \%\). Late second century onwards

333 (Fig 127) Sandy red, black burnished surface. Diameter \(14 \mathrm{~cm}, 26 \%\)

334 (Fig 127) Granular grey with black burnished surface. Diameter \(16 \mathrm{~cm}, 26 \%\)

335 (Fig 127) Sandy grey, burnished surface. Diameter \(14 \mathrm{~cm}, 15 \%\)

336 (Fig 127) Granular dark grey, banded orange and grey surface. Diameter \(17 \mathrm{~cm}, 10 \%\). First half third century

337 (Fig 127) Granular grey, burnished surface. Diameter \(15 \mathrm{~cm}, 12 \%\)

338 (Fig 127) Fine grey burnished. Diameter 21 cm , \(19 \%\). ?Second half third century onwards

339 (Fig 127) Sandy grey, burnished surface. Diameter \(28 \mathrm{~cm}, 20 \%\)

340 (Fig 127) Micaceous sandy grey. Diameter \(27 \mathrm{~cm}, 12 \%\)

341 (Fig 127) BB1. Diameter \(30 \mathrm{~cm}, 8 \%\). Mid to late third century

342 (Fig 127) BB1. Diameter \(20 \mathrm{~cm}, 5 \%\). Mid to late third century

343 (Fig 127) Granular grey, pale grey core with red margins, burnished surface. Diameter 20 cm , \(14 \%\), ?Mid to late third century

344 (Fig 127) Granular grey, burnished surface. Diameter \(24 \mathrm{~cm}, 16 \%\)

345 (Fig 127) BB1. Diameter \(15 \mathrm{~cm}, 7 \%\). ?Late second century

346 (Fig 127) BB1. Diameter \(24 \mathrm{~cm}, 9 \%\). Mid to late second century

347 (Fig 128) BB1. Diameter \(23 \mathrm{~cm}, 7 \%\). Early third century onwards

348 (Fig 128) BB1. Diameter \(27 \mathrm{~cm}, 6 \%\). Early third century onwards

349 (Fig 128) BB1. Diameter \(19 \mathrm{~cm}, 8 \%\). Late second century

350 (Fig 128) BB1. Diameter \(27 \mathrm{~cm}, 6 \%\). Late second century

351 (Fig 128) BB1. Diameter \(20 \mathrm{~cm}, 8 \%\). ?Late second century

352 (Fig 128) BB1. Diameter \(20 \mathrm{~cm}, 7 \%\). Late second century

353 (Fig 128) BB1. Diameter \(23 \mathrm{~cm}, 9 \%\). Late second century

354 (Fig 128) BB1. Diameter \(22 \mathrm{~cm}, 2 \%\). Early third century onwards

355 (Fig 128) BB1. Diameter? 2\%. Late second century

356 (Fig 128) BB1. Diameter \(26 \mathrm{~cm}, 9 \%\). Early third century onwards

357 (Fig 127) BB2. Diameter \(18 \mathrm{~cm}, 8 \%\). Late second to mid third century

358 (Fig 128) BB2. Diameter \(23 \mathrm{~cm}, 7 \%\). Late second to mid third century

359 (Fig 128) Granular orange. Diameter \(27 \mathrm{~cm}, 7 \%\)
360 (Fig 128) Sandy pinkish orange, pinkish gold mica dusted surface. Diameter \(23 \mathrm{~cm}, 12 \%\)

361 (Fig 128) Fine white, pale yellow slip. Angular black trituration grits \(c 2 \mathrm{~mm}\). First half third century

362 (Fig 128) Fine white. First half third century
Also from this level: wall sherd from an indented globular beaker in fine orange fabric with irridescent black colour coat ('Rhenish Ware'); wall sherd from a beaker in fine white fabric with black colour coat and white slip decoration over the colour coat.

\section*{Backfill (EM) (206)}

363 (Fig 128) Sandy cream. Diameter \(6.5 \mathrm{~cm}, 28 \%\)
364 (Fig 128) Sandy grey, darker grey surface. Diameter \(15 \mathrm{~cm}, 12 \%\)

\section*{Backfill (EE) (62) Group TPQ: AD 240}

365 (Fig 128) Sandy grey, darker grey surface. Diameter \(26 \mathrm{~cm}, 2 \%\)

366 (Fig 128) BB1. Diameter \(25 \mathrm{~cm}, 8 \%\). Mid to late third century

Backfill (GZ, HK, IX) (247) Group TPQ: AD 200
367 (Fig 128) BB1. Diameter \(20 \mathrm{~cm}, 7 \%\). Early to mid second century

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Fig 128 Coarseware (scale 1:4)

368 (Fig 128) Sandy grey, burnished surface. Diameter 21 cm , \(33 \%\). Mid second to early third century

369 (Fig 128) Fine white. Angular red and black trituration grits c 1.5 mm . A Hartshill-Mancetter product. AD 200-60

Inside stone buildings but north of 1909 excavation trench
Mixed loam and furnace debris (MM, NA, ND, NI) (308)
Group TPQ: AD 160
370 (Fig 128) Sandy orange pink, pale brown surface. Diameter \(7.5 \mathrm{~cm}, 56 \%\)

371 (Fig 128) Sandy pinkish orange, cream surface. Diameter \(6.5 \mathrm{~cm}, 27 \%\)

372 (Fig 128) Fine white, brownish bronze colour coat over rough casting. Diameter \(8.5 \mathrm{~cm}, 29 \%\). Late second century

373 (Fig 128) Fine white, pinkish purple colour coat. Diameter \(9 \mathrm{~cm}, 10 \%\). Late second to mid third century

374 (Fig 128) Fine white, black colour coat, rough cast. Diameter \(7 \mathrm{~cm}, 15 \%\). Late second to mid third century

375 (Fig 128) BB1. Diameter \(15 \mathrm{~cm}, 10 \%\). Early to mid second century

376 (Fig 128) BB1. Diameter \(16 \mathrm{~cm}, 17 \%\). Mid to late second century

377 (Fig 128) Granular burnished grey. Diameter \(12 \mathrm{~cm}, 17 \%\). Second half second century

378 (Fig 128) Soft sandy grey, black surface (burnt). Late first to early second century

379 (Fig 129) BB1. Diameter \(18 \mathrm{~cm}, 13 \%\). Mid second century

380 (Fig 129) BB1. Diameter \(20 \mathrm{~cm}, 9 \%\). Mid to late second century

381 (Fig 129) Sandy orange, cream yellow slip. Mostly red and white trituration grits, c 1.5 mm . Diameter \(29 \mathrm{~cm}, 16 \%\).AD 130-65

382 (Fig 129) Orange brown, white slip. Diameter \(7.5 \mathrm{~cm}, 40 \%\)

Loam and pebbles (NH) (325)
383 (Fig 129) Quite fine orange brown, grey core, smoothed surface. Diameter \(17 \mathrm{~cm}, 4 \%\)

Burnt material (MD, MG) (307) Group TPQ: AD 140
384 Micaceous sandy pale brown, no trituration
grits showing. Diameter \(28 \mathrm{~cm}, 6 \%\). Mrs Hartley comments: possibly Norfolk. Antonine. (Not illustrated)

385 (Fig 129) Micaceous sandy pinkish red, pale yellow core. Diameter \(9 \mathrm{~cm}, 29 \%\)

386 (Fig 129) Sandy medium grey, pale grey core, dark grey surface. Diameter \(17 \mathrm{~cm}, 6 \%\)

\section*{Rubble (MT) (309)}

387 (Fig 129) Sandy orange pink, yellow core, yellowish cream slip. Diameter \(33 \mathrm{~cm}, 11 \%\). Early to mid second century

Surface associated with first stone building (KF, KQ) (44)
Group TPQ: AD 140
388 (Fig 129) BB1. Diameter \(18 \mathrm{~cm}, 7 \%\)
389 (Fig 129) BB1. Diameter \(20 \mathrm{~cm}, 6 \%\). Mid second century

\section*{Trench 2}

Lover fill of circular foature (OR) (179) Group TPQ: AD 160

390 (Fig 129) Fine pale grey, pale orange core and shiny black colour coat. Diameter \(9 \mathrm{~cm}, 11 \%\). Late second to mid third century

391 (Fig 129) Granular grey with black burnished surface. Diameter \(12 \mathrm{~cm}, 16 \%\). Second half of second century

392 (Fig 129) BB2. Mid second to early third century

Loam and charcoal fill of circular fcature (JA, LS, OK, OM) (167) Group TPQ:AD 160

393 (Fig 129) Fine white, dark brown colour coat, rough cast surface. Diameter \(5.5 \mathrm{~cm}, 20 \%\). Second half of second century

394 (Fig 129) BB1. Wavy line on neck. Diameter \(17 \mathrm{~cm}, 13 \%\). Early to mid second century

395 (Fig 129) BB1. Wavy line on neck. Diameter \(14 \mathrm{~cm}, 5 \%\)

396 (Fig 129) BB1. Diameter \(14 \mathrm{~cm}, 27 \%\). Mid second century

397 BB1. Diameter \(14 \mathrm{~cm}, 14 \%\). Mid second century. (Not illustrated)

398 (Fig 129) Granular grey burnished. Diameter \(18 \mathrm{~cm}, 17 \%\). Second half of second century

399 (Fig 129) Granular grey burnished. Diameter \(15 \mathrm{~cm}, 15 \%\). Mid second century


Fig 129 Coarscware (scale 1:4)

400 (Fig 129) Pale grey, orange brown core, dark grey-black surface. Diameter \(11.5 \mathrm{~cm}, 100 \%\). Second half of second century

401 (Fig 129) As 400. Diameter \(12.5 \mathrm{~cm}, 33 \%\). Second half of second century

402 (Fig 129) Sandy grey burnished. Diameter \(14.5 \mathrm{~cm}, 11 \%\). Second half of second century

403 (Fig 129) Granular pale grey, burnished surface. Second half of second century

404 Dark grey, pale grey core, burnished surface. Diameter \(11.5 \mathrm{~cm}, 18 \%\). (Not illustrated)

405 (Fig 129) Sandy grey burnished. Diameter \(11.5 \mathrm{~cm}, 22 \%\). Second half of second century

406 (Fig 129) Granular grey burnished. Diameter \(12.5 \mathrm{~cm}, 10 \%\). Second half of second century

407 (Fig 129) Granular grey burnished. Diameter \(11 \mathrm{~cm}, 17 \%\). Second half of second century

408 (Fig 129) Granular brownish grey, ligher grey core, burnished surface. Diameter \(12 \mathrm{~cm}, 4 \%\)

409 (Fig 129) BB2. Diameter \(17 \mathrm{~cm}, 12 \%\). Mid second to mid third century

410 (Fig 129) BB2. Diameter \(17 \mathrm{~cm}, 7 \%\). Mid second to mid third century

411 (Fig 129) BB1. Diameter \(21 \mathrm{~cm}, 10 \%\). Mid to late second century

412 (Fig 129) BB1. Diameter \(21 \mathrm{~cm}, 10 \%\). Mid to late second century

413 (Fig 129) BB1. Diameter 22cm, 11\%. Mid second century

414 (Fig 129) BB1. Diameter \(20 \mathrm{~cm}, 7 \%\). Mid to late second century

415 (Fig 129) BB1. Diameter \(17 \mathrm{~cm}, 6 \%\). Mid to late second century

416 (Fig 129) BB1. Diameter \(23 \mathrm{~cm}, 4 \%\). Mid to late second century

417 (Fig 130) BB1. Diameter \(18 \mathrm{~cm}, 11 \%\). Mid second century

418 (Fig 130) BB1. Diameter \(20 \mathrm{~cm}, 7 \%\). Mid second century

419 (Fig 130) Granular grey, paler burnished surface. Diameter \(20 \mathrm{~cm}, 3 \%\). Mid second century



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Fig 130 Coarsecoare (scale 1:4)

420 (Fig 130) BB2. Diameter \(21 \mathrm{~cm}, 17 \%\). Mid second to early third century

421 BB2. Diameter \(20 \mathrm{~cm}, 10 \%\). Late second to early third century. (Not illustrated)

422 (Fig 130) BB2. Late second to early third century

423 (Fig 130) BB2. Diameter \(18 \mathrm{~cm}, 5 \%\). Mid second to early third century

424 (Fig 130) Fine orange yellow, smoothed surface, blackened at rim. Diameter \(30 \mathrm{~cm}, 7 \%\)

425 (Fig 130) Granular orange red. No trituration grit visible. Diameter \(29 \mathrm{~cm}, 7 \%\). AD 120-65

426 (Fig 130) Sandy pinkish orange, cream slip. Diameter \(28 \mathrm{~cm}, 10 \%\). AD 110-70

Also from this level: wall sherds from a large beaker in fine slightly pinkish white fabric with orange brown colour coat and rough cast surface; wall sherds from a beaker in very fine micaceous pale orange fabric with grey margins and black metallic colour coat ('Rhenish Ware').

\section*{Stamped mortaria from the 1980 season}

\section*{by KF Hartley}

202 (Fig 123) Diameter 30 cm . Hard, fine-textured cream fabric with no inclusions visible at \(\times 10\) magnification. Trituration grit probably included iron slag. The two line stamp reading VIATOR/FECIT, when complete, is from one of several dies used by a pottery called Viator who was working in the lower Nene valley. Stamps from the same die have been recorded from Bainbridge and Ilkley and stamps from three other dies, certainly attributable to the same man and the same source are known from Ashton, Northants (2); Bourne, Lincs; Castleford; Castor (2); Hambleden Villa; Lancaster; Ribchester and Water Newton. Such dating evidence as there is, is consistent with AD 100-40 for his activity. Thirty-six stamps from at least eight other dies, giving Viator, are recorded on mortaria in fabrics suggesting at least four other sources outside the Nene valley. Viator was a common name and more than one potter may have been involved but the mortaria, though showing diversity in rim form, could perhaps all fit within the period \(\mathrm{AD} 90-140\).

210 (Fig 123) Diameter 32 cm . Very hard cream fabric with darker surface. Fine quartz and occasional red-brown and black inclusions. Blackish trituration grit. The retrograde potter's stamp is from a die which gives LOCCIVIBI, when complete. Loccius Vibius worked in the Mancetter-Hartshill potteries where one of his kilns has been excavated (at

Mancetter). Other stamps of his are now known in England from Barnsley Park, Glos; Castleford; Cirencester; Corbridge ( 9 , including one marked VQ*; High Cross; Leicester (2); Little Chester; Margidunum; Ribchester; Shenstone; Stanground, near Whittlesey; Tiddington; Watercrook; Wroxeter; and York ( \(3+1\) without provenance); and in Scotland from Ardoch (2); and Inveresk. His presence in Scotland indicates an Antonine date and his rim profiles would support a date within the period \(c \mathrm{AD}\) 135-65.

\section*{Material from the 1976 season}

\section*{From the burnt material in trench 2, Site 4, Temple 6}

427 (Fig 130) Mid grey, micaceous dark grey, facet burnished surface. Quartz and dark grey (?iron) inclusions up to 1 mm in diameter. Diameter 13 cm , \(35 \%\). Mid to late second century. AR76

428 (Fig 130) Pale grey, darker grey core, facet burnished surface. Subangular quartzlike inclusions up to 1 mm in diameter. Close to but possibly not BB1. Diameter c \(25 \mathrm{~cm}, 4 \%\). Mid to late second century. AR76

Also from this context were two wall sherds from a large beaker in white fabric with a glossy black colour coat, and two wall sherds from a cooking pot in BB2.

From immediately belowburnt material in trench 2, Site 4, Temple 6

429 (Fig 130) BB1. Diameter \(24 \mathrm{~cm}, 11 \%\). Possibly as early as late first century (cf Bidwell 1977). BF76

\section*{12 Roman glass from Corbridge}

\author{
by D Allen
}

The assemblage under discussion comprises about 700 fragments of glass. The great majority is natural blue-green in colour: 624 fragments, of which 380 are from bottles, and 84 are window glass. There are 46 coloured fragments: 16 pale green, 11 yellow/green, 10 olive green or brownish green, four amber, two polychrome blue and white, one dark blue, one opaque bright blue and one black. 58 fragments are of colourless glass.

Whilst much of the glass comes from containers (Nos 18-31), brought to the site primarily for the liquids they once held, a good range of the tableware is also represented, some items being quite fine. Amongst these are the mould-blown beaker fragment (No 2), the ?chain handle fragment (No 4) and the facet-cut bowl (No 36).

Nearly all the glass seems to fit easily into a date range spanning the later first and second centuries, exceptions being No 17 and No 46, which probably belong later. The assemblage is fairly typical of this period, containing a high percentage of blue-green bottles, several examples of long-necked jugs and globular jars, and a range of colourless beakers and bowls decorated with indents, facet- and linearcutting, and simple trails.

All the window glass is of the cast matt/glossy variety, in use to about AD 300 (Boon 1966).

\section*{1 Blue-green and coloured}

\section*{Cast and ground}

1 (Fig 131) Fragment from the side of a pillarmoulded bowl of blue-green glass. Cast, rotarypolished within, ribs fire-polished. Part of one rib extant. EA56 \((75.4188)\)
a Fragment similar. (Not illustrated) (75.4233)
Blue-green pillar-moulded bowls were produced until some time within the Flavian period, and represent one of the commonest recognisable glass finds of the first century, with some survival into the early second century. Possible methods of manufacture (by casting in a ribbed mould, or by pressing the glass whilst still hot with a disc-shaped tool with gaps through which the ribs were formed) have been discussed recently with reference to fragments from Inchtuthil (Price 1985, 304-5, no 1).

\section*{Mould-blown}

2 (Fig 131) Fragment, probably from the lower side of the beaker, of amber glass. Mould-blown; extant design comprises a framed lotus bud set in a diamond trellis. CH59 (75.4195)

This represents a group of vessels with a mould-
blown design variously described as 'tear', 'almond knob' or 'lotus-bud' decoration. The commonest vessel form is a tall, straight-sided beaker (cf La Baume and Salomonson 1976, 36-7, nos 66-8, Farbtaf IV), but, using the same basic mould, variations such as an amphorisk in the Loffler Collection (op cit 37, no 69, Farbtaf IV) and a rhyton in the British Museum (Harden of al 1968,55 , no 66 ) were made by more elaborate finishing procedures. The decoration itself varies, with lotus buds sometimes free-standing, often framed, occasionally alternating with circular bosses, or quite frequently set in a diamond trellis, as here. Berger, discussing examples from Vindonissa, defined five decorative variants, of which this is his type c , and he dated the group as a whote to the period AD 70-100 (1960, 52-4, nos 129-36, pls 8 and 19). British finds have scattered distribution: fragments of the same decorative variant as this Corbridge piece include examples of pale yellowgreen glass from a context of AD 67-9618 at Berkeley Street, Gloucester (Price, Cool and Allen forthcoming) and from Redcross Street, Leicester (Jewry Wall Museum), one of dark blue glass from Bath (unpublished), and a blue-green piece from Ilchester (Price 1982, fig 112/2). Examples of other variants have come from Verulamium (Charlesworth 1972, 196, nos 2,4, 6 and 5, fig 74.3), Chester (unpublished) and York (Harden 1962, 136, fig 88).

\section*{Blown: polychrome}

3 (Fig 131) Fragment of dark blue glass with opaque white blobs marvered flush with outer surface. Part of two optic-blown ribs extant. IA56 (75.4188)
a Two more fragments, similar to above but thinner. (Not illustrated) DX58 \((75.4194)\)

Glass of this type was popular during the first half of the first century AD, and was used for a wide variety of vessel types. It has been discussed with reference to an amphorisk and a globular jug from a late Tiberian grave at Kempten Keckweise in Germany (Mackensen 1978, 252, grave 191, Farbtaf and pl 72), and it seems likely that the main manufacturing centre was within the Po Valley region. Fragments are quite often found on pre-Flavian sites in Britain, such as Camulodunum (Harden 1947, 295-6, nos 23-30, pl LXXXVII), Bagendon (Harden 1961, 200, no 3) and Kingsholm, Gloucester (Price and Cool 1985, 46, nos 17-19, fig 17). Some, however, clearly survived into the later first century and beyond: a complete bath-flask came from a context of AD 80-90 at Richborough (Harden et al 1968, 58, no 78) and there is a fragment from a second century deposit at Exeter (Charlesworth 1979, 228, no TS72 (521)).

\section*{Blown: monochrome}

\section*{Jugs and jars}

4 (Fig 131) Small fragment, apparently the twisted strand of a handle, opaque royal blue glass, adhering


Fig 131 Glass vessels, Nos 1-27 (scale 1:2)
to vessel wall of the same colour. \(A Q 70(75.3585)\)
The shape of this small fragment suggests that it came from a type of handle popular particularly during the third century, formed by taking two separate strands of glass and either nipping them together at intervals to form a 'chain' (cf a jug from Cologne, Fremersdorf 1961, 57, pl 111). Such handle fragments are not uncommonly found in Britain, but are usually colourless, or occasionally pale green or blue-green. No brightly coloured examples are known to me. Some of the vessels decorated with snake-thread trails, produced in the Cologne region and extremely popular during the late second and third centuries, had various handles and other moulded strands of coloured glass, particularly opaque yellow and opaque blue. However, these were usually applied to colourless vessels, and are therefore not really comparable with this piece.

5 (Fig 131) Lower handle fragment of blue-green glass. Flat-sectioned handle with raised central rib, pinched once at base above break, perhaps originally extending further into decorated tail. BC69 (75.3521)

6 (Fig 131) Lower handle fragment, olive-green glass, probably slightly burnt: surfaces very streaky and iridescent. Flat-sectioned handle with raised central rib, expanding at base to grip vessel wall; one edge extant, decorated with one 'pinch'. DB65 (75.3911)
a Small handle fragment, as above, with raised central rib, blue-green glass. (Not illustrated) CG65 (75.4207)
b Small handle fragment, as above. (Not illustrated) DZ80
c Small handle fragment, as above. (Not illustrated) JE80

7 (Fig 131) Fragment of the pinched tail from beneath a jug handle, blue-green glass. LISO
a Pinched tail fragment similar to above, dark brownish-green glass. (Not illustrated) AQ70 (75.3585)

8 (Fig 131) Fragments of a cylindrical neck with constriction at its base, blue-green glass. LLSO

9 (Fig 131) Rim fragment of a jar of olive-green glass; folded inward and downward then outward and downward, forming hollow collar. Diameter of rim 9cm BZ67 (75.4211)
a Similar rim, folded outward and downward, diameter \(c 9.5 \mathrm{~cm}\); blue-green glass. (Not illustrated) BR65 (75.4207)
b Similar rim, folded inward and downward then outward and downward, then flattened, diameter \(c\) 11 cm ; pale blue-green glass. (Not illustrated) EE68 (75.3488)

10 (Fig 131) Base fragment of a jar or jug of blue-green glass. Pushed-in open base-ring, diameter c 8 cm . AS63 (75.4202)
a Fragment similar, greenish-brown glass, diameter base-ring \(c 9.5 \mathrm{~cm}\). (Not illustrated) \(D R 68\) ( 75.3496 )

Fragments 5-10 are all most likely to represent a group of long-necked jugs and globular jars, closely related to each other in colour range, decoration, and body and base shape, so that fragments of the latter cannot be assigned with certainty to either vessel type (Price 1978, 74). They were made in the Seine-Rhine region, and most were produced during the period AD 65-125/30. However, some manufacture may have spanned the second half of the first and first half of the second centuries. Finds are very common on British sites, and a number have been listed recently in the discussion of fragments from Doncaster (Allen 1986, 103-4, nos 1-6, fig 24).

11 (Fig 131) Complete ointment jar of blue-green. Rounded conical body, flattened base with central pontil mark; rim folded outward, upward and inward, forming horizontal lip. Height 3.8 cm , diameter of rim 4 cm , diameter of base 2.5 cm . FP80

Small jars, made as containers for ointments and pastes, many of them probably cosmetics, occur in a variety of shapes and sizes throughout the Roman period. Close parallels for this one, with its rounded conical body, have come from a grave of AD 100-25 at Rosmeer in Belgium (Roosens and Vanderhoeven 1955, 7, no 19 fig 2 ) and from a stone coffin in the Railway Cemetery at York (Harden 1962, 140, fig 89), suggesting that the type may have been fairly long-lived.

\section*{Bowls and beakers}

12 (Fig 131) Rim fragment of a bowl of blue-green glass. Rim folded outward and downward, forming hollow tube, diameter \(c 20 \mathrm{~cm}\) HL66 ( 75.4208 )

Bowls with folded rims occur throughout the Roman period, but were particularly popular as a form with cylindrical body and solid base-ring during the later first and earlier second centuries. It was made in both a shallow version (cf Goethert-Polaschek 1977, 24-2, form 9, nos 52-3, pl 30 from Trier) and as a deep vessel (Harden et al 1968, 84, no 110 from Faversham, Kent), the latter being the more common.

13 (Fig 131) Three joining rim and side fragments of a bowl (or jar?) of blue-green glass. Rim firerounded and thickened and turned outward, sides expand downward; self-coloured spiral trail applied beneath rim. Diameter of rim c 10.5 cm HZ67 (75.4213)

No parallel has been found for this fragment, and its original form remains a mystery at present.

14 (Fig 131) Rim fragment of a bowl of blue-green glass. Vertical rim, fire-rounded and thickened, diameter \(c 16 \mathrm{~cm} \quad\) Al80
a Rim fragment similar to above, blue-green glass, diameter \(c 10 \mathrm{~cm}\) BT66 (75.3339)
b Rim fragment, similar to above, blue-green glass, diameter c \(20 \mathrm{~cm} \quad A Q 70(75.3585)\)

15 (Fig 131) Rim fragment of a beaker of bluegreen glass. Rim outflared, broken off and roughly ground, horizontal wheel-incised lines beneath. Diameter of rim c \(8 \mathrm{~cm} \quad\) AH80

16 (Fig 131) Base fragment of blue-green glass. Pushed-in solid base-ring, base rises to low dome slightly off-centre, pontil-mark beneath. Diameter of base-ring c 5.5 cm BR65 (75.4207)

None of Nos 14-16 is sufficiently diagnostic to enable detailed identification or dating. No 16 may be from a beaker, but it could equally represent some sort of jug or flask.

17 (Fig 131) Rim fragment of a beaker of pale yellow-green glass. Rim outflared, broken off flat and roughly ground; band of horizontal wheel-incised lines beneath. Diameter of rim c \(7 \mathrm{~cm} \quad\) Bl67 (75.4211)

The colour and finish of this fragment suggest that it belongs to the fourth century, when yellow-green glass took over from blue-green for commoner wares. The original form of the piece is most likely to have been a truncated-conical beaker, which was very popular at that time, and has been discussed with reference to examples from graves of the later fourth century at Lankhills, Winchester (Harden 1979, 213-15, Class II, fig 27).

\section*{Flasks and unguent bottles}

18 (Fig 131) Rim fragment, probably of a flask, of streaky blue-green glass. Uneven rim, outflared and fire-rounded and thickened, diameter \(c 3.5 \mathrm{~cm}\) LH80

19 (Fig 131) Rim fragment, probably of a flask, of streaky and bubbly blue-green glass. Funnel-shaped rim, fire-rounded and thickened, diameter \(c\) 5 cm AHSO

20 (Fig 131) Rim fragment of an unguent bottle of blue-green glass; whitish iridescent surfaces. Rim folded outward, upward and inward, diameter \(c\) 2 cm AT64 (75.4204)

21 (Fig 131) Neck fragment, probably of a flask, blue-green glass with many elongated bubbles. Roughly cylindrical neck, expanding slightly downward, diameter \(c 2 \mathrm{~cm} \quad A R 63\) (75.4201)

22 (Fig 131) Base fragment of an unguent bottle or small flask, extremely bubbly blue-green glass. Apparently globular body, base pushed in to low dome at centre. Maximum body diameter \(c\) \(4.5 \mathrm{~cm} \quad\) BS56 ( 75.4188 )

23 (Fig 131) Base fragment of an unguent bottle of
blue-green glass. Apparently rounded conical body, slightly concave base, maximum diameter 3.2 cm LE64 (75.3909)

Fragments \(17-23\) represent a variety of glass containers for oils, perfumes and other liquids. Insufficient remains of any of them to identify their precise vessel form, but all appear to have been rather carelessly made, using low quality, bubbly and streaky metal, and they were presumably intended to be useful rather than beautiful.

24 (Fig 131) Base fragment of a flask, or possibly a jug, of blue-green glass. Slightly concave base, with fine self-coloured trail spiralling from near centre, partly obscured by pontil-mark HH65 \((75,4206)\)
This fragment may well be the base of a globular bath-flask (lsings 1957, 78-9, form 61), a vessel type quite often decorated with spiral trails. Most trailed examples appear to belong to the second and earlier third centuries, but one has come from a mid to late first century grave at Trier (Goethert-Polaschek, 1977, 228 , no 1365 , pl \(11.122,62,360\) ) and there is a fragment from a third to fourth century context at Exeter (Charlesworth 1979, 228, no 35, fig 71). It may alternatively represent some form of jug, like an example from second to third century contexts at Verulamium (Charlesworth 1972, 204, no viii.3, fig 76.24).

\section*{Bottles}

25 (Fig 131) Fragment of a large, angular, threeribbed handle of blue-green glass, probably from a bottle. AP67 (75.4211)

26 (Fig 131) Base fragment of a square bottle of blue-green glass. Extant design comprises the letter 'S' surrounded by a circle. DT80

27 (Fig 131) Base fragment of a square bottle of blue-green glass; patchy flaking whitish iridescence. Extant design comprises part of a circle surrounded by a square, with radiating lines between them. JK80

28 (Fig 132) Fragment of a square bottle base of blue-green glass. Extant design comprises part of two concentric circles and a right-angle in one corner. LM68 (75.3498)

29 (Fig 132) Fragment of a square bottle base of blue-green glass. Extant design comprises a rightangle and part of another line. BV68 (75.3508)

30 (Fig 132) Base fragment of a prismatic bottle of blue-green glass. Extant design comprises a straight line with two arcs adjoining it. CW67 (75.4211)

31 (Fig 132) Base fragment of a prismatic bottle of blue-green glass. Extant design comprises two concentric circles with internal curved lines. M/68 (75.3505)


Fig 132 Glass vessels, Nos 28-46 (scale 1:2)

Most Roman glass assemblages found in Britain contain a high percentage of blue-green, mouldblown bottle fragments, and this is no exception: out of a total of about 700 fragments, nearly 400 belong to this category. These vessels were produced in large quantities during the first two centuries AD for containing and transporting a wide range of liquids (Charlesworth 1966). Body shapes vary, with associated differences in date range. All were introduced during the second half of the first century, but the cylindrical bottle disappears after the Trajanic period, whilst the square continued throughout the second century and possibly into the third. Hexagonal bottles were less common, and went out of use from the second quarter of the second century. Of this Corbridge group, 144 fragments are indeterminate (ie mostly rim, neck, handle or shoulder fragments), 22 are from cylindrical vessels and 274 from prismatic, of which 38 were certainly square, and only one certainly hexagonal.
All prismatic bottles bear trade-marks in relief on their bases. These occur in a very wide variety of designs, some of which are illustrated as Nos 26-31 here.

\section*{2 Colourless}

\section*{Cast and ground}

32 (Fig 132) Rim fragment of a bowl or plate of buff-colourless glass. Cast; all surfaces rotary-polished. Very little rim curvature on extan fragment: vessel may originally have been oval. DE64 (75.3909)

Cast and ground plate and bowls were made in bright colours in pre-Flavian times, and were copied in colourless glass during the Flavian and Trajanic periods, disappearing from use c AD 150 . Variations occur in rim shape, some having an overhang as here, others missing this feature; sometimes facet-cut decoration was added to rim and outer surfaces, and occasionally carved handles were included as rim features. Rim fragments similar to No 32 are quite commonly found in Britain, for example at Maryport, Cumbria (Price 1976, 49-51, no 1, fig 9), sites in Gloucester (Charlesworth 1974, 74-6, nos 4-5, fig 29; Price 1980a, 111, no 1, fig 17) and at Caerwent (Boon 1972-3, 116, no 19, fig 2). It is just possible that this Corbridge vessel may originally have been oval, and this would make it slightly more unusual, though not unique: a fragmentary, decorated example has come from Trier (Goethert-Polaschek 1977, 25, form 11, no 55 , fig \(5, \mathrm{pl} 30\) ).

\section*{Blown}

33 (Fig 132) Rim fragment of a beaker of colourless glass. Rim and outer surface cut and rotary-polished: horizontal ridge beneath rim, beneath which is a hollow-ground band, then a zone of decoration of which parts of two oval-topped facets survive. Diameter of rim c \(9 \mathrm{~cm} \quad H Y 65(75.4206)\)

34 (Fig 132) Body fragment, colourless glass. Facet-cut: part of three apparently diamond-shaped facets extant. IY \(66(75.4208)\)

35 (Fig 132) Crumbled fragments from the base of a beaker of colourless glass; moulded and rotarypolished base-ring, diameter \(c 4.5 \mathrm{~cm}\) GZ69 (75.3524)

Fragments \(33-5\) represent a group of facet-cut beakers popular during the Flavian and Trajanic periods, discussed by Oliver (1984). Whilst belonging to the 'luxury' category of glass tableware, they are quite commonly found on British sites, particularly those of a military nature - about fifteen, for example, have come from Caerleon, and there are more fragments from the same general group amongst earlier finds from Corbridge (Charlesworth 1959, 42, fig 3.7 and 3.8 ). These vessels often weather very badly, shattering and crumbling as No 35 here has done, and this must be as a result of the composition of the glass rather than burial conditions.

36 (Fig 132) Four fragments, some joining, of a shallow bowl of colourless glass. Outer surface facet-cut and rotary-ground, extant part comprising (from the top): two horizontal hollow-ground ridges, beneath which is a band of alternating broad and narrow oval facets radiating from the centre, then another horizontal hollow-ground ridge surrounding the central basal design. Of this, part of three drop-shaped facets remain, again radiating from the centre, alternating with small circular facets each with three broad cut lines radiating from them, and a small nick on their outermost edges. Diameter of widest part of body c 19 cm DW59; DN59 \((75.4195)\)

Bowls with a simple, rounded profile and elaborate, well-executed facet-cut decoration such as this were made in both a shallow and a deep form from about the middle of the second century to the earlier fourth century. The style of decoration varies. Bowls of the later second century are often dominated by rows of oval facets on sides and base (eg a shallow vessel from a grave of AD 140-90 at Ospringe, Kent: Whiting et al 1931, 34-5, pl XXXII. 340; a deeper bowl from a pit of AD 155-65 at Park Street, Towcester: Price 1980b, 63-4, no 1, fig 14), whereas those of the third and earlier fourth centuries tend to have more geometric cutting, as here (cf Goethert-Polaschek 1977, 29f, form 15a, nos 71, 74, 77-9, fig 7, pls 31-2 for examples from Trier). However, a shallow bowl fragment with geometric facet-cutting from a context of AD 140-70 at Verulamium (Verulamium Museum acc no 81.1515 ) shows that there is no clear distinction of design type with date. A piece providing a parallel for the pattern on no. 36 also comes from Verulamium, from a well dated by Wheeler to AD 160-90, though this may not necessarily be accurate for the whole feature (Verulamium Museum acc no 81.2430). This is a vessel base fragment which also bears alternating broad and narrow oval facets in a row radiating from the centre. The central basal design is, however, different, comprising a star-like pattern.

37 (Fig 132) Two joining body fragments of a beaker of buff-colourless glass. Entire outer surface rotary-polished, with horizontal hollow-ground ridge around upper body, lower body carinated, with another hollow-ground ridge above base. Diameter at upper ridge \(c 11 \mathrm{~cm}\) GT69 (75.4217); GZ69 (75.3524)

38 (Fig 132) Rim fragment of a beaker of colourless glass, now cloudy and opaque with patches of flaking iridescence. Rim outflared and ground smooth; horizontal hollow-ground ridge around upper body. Diameter of rim c \(10 \mathrm{~cm} \quad D Q 71(75.3645)\)

39 (Fig 132) Rim fragment of a beaker of colourless glass. Rim outflared, broken off and ground smooth, horizontal wheel-cut line beneath. Diameter of rim \(c\) 8 cm LB64 (75.4204)

40 (Fig 132) Rim fragment of a beaker of colourless glass. Rim outflared, broken off and ground smooth, two horizontal wheel-cut lines beneath, another two further down side. Diameter of rim c 8 cm LB64 (75.4204)
a Rim fragment similar to above, with three wheel-cut lines beneath rim, another further down side. Diameter of rim c 8 cm (Not illustrated) RT56 (75.4188)

Fragments \(37-40\) a all belong to a broad group of colourless beakers, often decorated with horizontal wheel-cut lines or ridges, which were popular from the Flavian period throughout the second century. Body shapes vary: some were carinated, like No 36 (and probably No 37, since this is the form most often bearing hollow-ground ridges). Fragments similar to these have been found in contexts dated AD 75-100 and AD 100-275 at Fishbourne (Harden and Price 1971, 347-9, nos 53 and 58, figs 139-40), AD 125-60 at Lower Thames Street, London (Jones 1980, 86, no 435, fig 89) and in association with finds of Hadrianic date at Jenkins Field, Caerleon (unpublished). Truncated-conical beakers decorated with wheel-cut lines were also popular during the second century, and it is to this group that fragments 39-40a probably belong. Dated examples include a rim fragment of AD 129-139/42 from Housesteads (Charlesworth 1971, 35, fig 7), and one of AD 155-65 from Park Street, Towcester (Price 1980b, 64, no 5, fig 14).

41 (Fig 132) Base fragment of a beaker of colourless glass. Part of one oval indent extant on lower body, pushed in whilst the glass was still warm and pliable; pushed-in tubular base-ring, diameter \(c\) \(4 \mathrm{~cm} \quad F 071\) (75.3644)

Most colourless beakers with base-rings and indented bodies appear to date to the later first and second centuries. Two, dated mid first century and AD 50-80 respectively, have come from Richborough (Bushe-Fox 1926, 49, pl XIX.8; Radford 1932, 85, no 61, pl XV), and an example from Housesteads is dated AD128-139/40 (Charlesworth 1971, 35-6, fig 6).

The type probably lasted into the third century, as shown by a complete vessel from a stone coffin found at York (Harden 1962, 140, pl 66, no HG180).

42 (Fig 132) One rim fragment and three base fragments of a cup of colourless glass; surfaces iridescent. Rim turned slightly outward and firerounded and thickened, horizontal self-coloured trail beneath; cylindrical body, with another horizontal trail where angle changes towards base; base flattened and thickened, with one applied coil base-ring extant - central base missing. Diameter of rime 9 cm AH66 (75.4208)
a Rim fragment similar to above, diameter \(c 10 \mathrm{~cm}\). (Not illustrated) DG80

This is one of the commonest cup forms of the second century. It is sometimes called the 'Baldock' type, after a complete specimen from a grave at Baldock, Herts (Percival Westell 1931, 275-6, no 4828, fig 6). These vessels are closely related to the cylindrical cups with vertical rims discussed below with reference to no 43 , both usually having two concentric base-rings. No 44 may therefore come from a cup of either form. The Baldock variant appears to be a little earlier in date-span, covering much of the second century, but rarely surviving into the third. Three examples were found in substantially complete condition in a deposit of AD 128-39/42 at Housesteads (Charlesworth 1971, 346, figs 1-3).

43 (Fig 132) Seven rim and side fragments of a cup of colourless glass. Vertical rim, fire-rounded and thickened; cylindrical body. Diameter of rim \(c\) 8 cm CV80

44 (Fig 132) Base fragment of a cup of colourless glass. Pushed-in solid base-ring, diameter c 4 cm , concentric inner base-ring formed from an applied coil CX80

Plain cylindrical cups of this type were very common during the second and early third centuries. Thirty to forty' specimens have already been recorded amongst earlier finds from Corbridge (Bulmer 1955, 128), and there are more than fifty, for example, from Verulamium, and about forty from Caerleon.

45 (Fig 132) Base fragment of a vessel of colourless glass. Pushed-in tubular base-ring, diameter \(5.2 \mathrm{~cm} \quad\) BC62 (75.4199)

This may be the outer base-ring of a cylindrical cup as discussed above, or it could be from any of a wide variety of vessel types.

46 (Fig 132) Three fragments probably from the shoulder of a cylindrical flask, jug or bottle or colourless glass. One horizontal wheel-incised line extant around body. Diameter of body c 7.2 cm :HN58; HW58 (75.4194)

This could be from any of a range of cylindrical colourless containers in use from the later second to fourth centuries.

\section*{Summary}

The Roman site at Corbridge lies some 2.5 Roman miles \((4 \mathrm{~km})\) to the south of Hadrian's Wall in Northumberland, at the point in the Tyne valley where Dere Street crosses the river. It is situated on a gravel river terrace overlooking the site of the Roman bridge. The site was first explored by excavation in the period 1906-14, revealing a walled military area (the East and West Compounds), a large courtyard building (Site 11), two large granaries, and the remains of large numbers of other structures, showing that the site was a town of some substance during the latter part of the Roman occupation of Britain. The central area was generously presented to the nation by the landowner in 1933, and consolidation work by the Ministry of Works was preceded by a campaign of excavation in the period 1934-40 by Ian Richmond and Eric Birley.

Between 1946 and 1973, further excavations were carried out on the Roman site at Corbridge, initially purely for research purposes, but then, from 1956 onwards, as part of a training programme run by the University of Durham for both undergraduate and extramural students. These excavations concentrated on the series of forts that lie below the remains currently on display. Finally, in 1980, in advance of the construction of a new site museum, John Dore and John Gillam were able to carry out an examination of a small area over the west rampart of the fort, later occupied by buildings of the third and fourth century town.

This volume concentrates on the results of the excavations of 1947-80, but also makes use of, and reconsiders, relevant material from earlier work. An introductory chapter provides a summary of previous work on the site and of the development of the interpretation of the site. It then moves on to outline the many special difficulties which are associated with the exploration of Roman Corbridge and describes how an attempt has been made to minimise these problems in the present study. The second chapter provides brief geological details of the surrounding area, before a major new consideration of the aerial photographic evidence for the site.

There then follows a series of chapters examining the structural evidence from the areas excavated. Beginning with the principia, then moving on to the practorium, barracks, defences, and the other areas, each section examines the development of an area phase by phase. Using the main stratigraphic evidence surviving - sections drawn by the excavators and by students as practice - a reconsideration of the traditional view of the forts at Corbridge is offered. The structural descriptions, culled from site notebooks, sections, plans, and occasionally previously published material, are presented in the form of component tables, and the relationships between major structural components recorded in diagrams, along with an assessment of the value of each piece of stratigraphic evidence. The text is accompanied by phase plans illustrating the development of each area.

It is is now thought that, whilst the basic
chronological framework, carefully refined over the years by lan Richmond, Eric Birley, and John Gillam, is sound, some minor details can be added and former hypotheses discounted. It seems likely that there was no partial abandonment between phase III and phase IVa as was once thought, whilst the two linear depressions which run below the later military compounds which were proposed as natural gullies, military ditches, and latterly subsidence on either side of a road, can now be reinstated as military ditches dating to the phase Ib fort. Moreover, the complicated system of ditches, associated with a rampart, to the north-east of the first excavations, are shown to be unlikely to belong to the defences of the later town and probably relate to early military activity on the site. Re-examination of the records relating to the fort rampart show that it was not renewed at the beginning of every phase and that what had always been thought to be levelling up was in fact the material from the final destruction and levelling of the defences of the fort. The rampart shows traces of adaptation to particular conditions prevailing on different parts of the site, particularly in the type of foundations used for it, whilst a possible ascensus was identified near the east gate.

A series of specialist reports examine the coin evidence, small finds, coarsewares, samian, and glass from the site. However, because of the vast body of material excavated from Corbridge over the years, only material which is stratified or of especial interest is included, most of it deriving from the excavations of 1947-80. A report on the contents of the Corbridge Hoard of armour and other items has already been published (Allason-Jones and Bishop 1988).

The conclusion explores the new understanding of the earlier phases of occupation of Roman Corbridge, in the light of the results of the recent excavations. The primary fort is shown to be much larger than any of its successors in phase la, but is then reduced in size in phase Ib , and finally dismantled and burnt. The secondary fort, probably built around AD 105, then passes through a sequence of modifications (phases II, III, IVa, IVb), acquiring first a stone sacellum, then a central range of stone, finally all major buildings being rebuilt in stone, although the turf and timber defences were retained throughout the life of the fort. The secondary fort was abandoned around AD 163 , and although the principia survived in part, the defences and most of the internal buildings were demolished. The central area was levelled with a gravel spread and work begun upon the great courtyard building, Site 11. Meanwhile, on the remains of the levelled ramparts, industrial activity is indicated by a number of hearths and burnt deposits.

It was not possible to say anything new about the so-called destruction deposit of the later second century, given the nature of the evidence and the techniques of excavation employed. However, it was clear that little material survived from after the end of the second century, due to earlier excavations and levelling, except beneath the new museum building.
In order that the reader may consult the prime stratigraphical evidence, the microfiches include copies of the section drawings from the corpus
produced over the years, along with their associated context descriptions. These are supplemented by lists of the coarsewares, samian, and iron nails. The contents of the microfiches are rendered easily accessible to the researcher by a series of indexes at the end of the book.

\section*{Résumé}

Le site Romain à Corbridge se trouve à quelques 2.5 milles Romaines ( 4 km ) au sud de la muraille de Hadrien en Northumberland, au point dans la Vallée Tyne ou le chemin Dere croise la Rivière. Il est situé sur une terrasse de gravelle à côté du fleuve en surplomb de l'emplacement du pont Romain. Le site a été premièrement exploré par des fouilles entre la période 1906-1914, et celles ciont revelés une surface militaire entourée de murs (les enceintes de l'est et ouest), un grand bátiment avec cour (Site 11), deux vastes greniers, et les vestiges d'un grand nombre d'autres structures, qui montrent que le site a été une ville d'une certaine importance pendant la dernière partie de l'occupation Romaine de Grande-Bretagne. La région centrale fut généreusement offerte à la nation par le propriétaire foncier en 1933, et l'ouvrage de consolidation par le Ministère de Travaux a été precédé par une campagne de fouilles entre la période 1934-1940 par lan Richmond et Eric Birley.

Entre 1946 et 1973 des fouilles additionelles ont été faites sur le site Romain de Corbridge au debut seulement pour la recherche, mais ensuite, à partir de 1956 comme une partie d'un programme d'entrainement dirigé par l'Université de Durham pour les étudiants poursuivant un diplome en archéologie et aussi en dehors de cette programme. Ces fouilles se concentrèrent sur la série de forts qui se trouve au-dessous des vestiges qui sont actuellement en exposition. Finalement, en 1980, avant de la construction d'un nouveau musée sur le site, John Dore and John Gillam ont été capables de mettre à execution une étude d'un petit secteur situé au dessus de rempart a l'ouest du fort, qui fut plus tard occupé par les edifices de la ville des troisième et quatrième siècles.
Cette ouvrage se concentre sur les résultats des fouilles de 1947-1980 mais utilise et reconsidére aussi les matièraux des travaux précédents. Un chapitre introductif fournit un sommaire d'oeuvres antérieures sur le site et du développement de l'interprétation quel on en fit. L'ouvrage souligne ensuite les difficultés associées à l'exploration du Corbridge Romain et décrit comment on essayait de minimiser ces problèmes dans la presente êtude. Le deuxième chapitre fournit les détails géologiques brefs de l'aire environnant, avant qu'une majeure nouvelle considération des photographies aériennes du site.

Il s'en suite une série de chapitres qui examinent l'evidence structurale des surfaces fouillées. En commençant par le bátiment du quartier général, puis continuant par la maison de l'officier de commandement, les casernes, les défenses, ainsi que d'autres secteurs, chaque partie examine le développement d'un région phase par phase. En utilisant les ressources stratigraphiques principales qui ont survécus - des sections dessinées par les fouilleurs ainsi que les étudiants pour l'entrainement - il est possible de pourvoir une nouvelle interprétation des vues traditionelles concernant les forts de Corbridge. Les descriptions structurelles prises des rapports de fouilles, les sections, les plans, et parfois l'information déjà publiée, sont presentés comme les tables des parties. Les rapports entre les majeures parties structurelles sont notés dans les figures, avec une évaluation de chaque partie de témoignage stratigraphique obtenue. Le texte est accompagné par differentes successions de plans avec les phases qui illustrent le développement de chaque secteur.

On pense maintenant que, bien que la chronologie de base, établie avec soin sur plusieurs années par Ian Richmond, Eric Birley et John Gillam, soit solide, quelques détails mineurs peuvent étre ajoutés et quelques hypothèses repudiés. Il semble probable qu'il \(n^{\prime} y\) avait pas d'abandonnement partiel du site entre les phases III et IVa comme on le pensait autrefois. Les deux dépressions lineaires qui courent sous les ensembles militaires ultérieurs qui ont été successivement proposées comme des ravines naturelles, ou les tranchées militaires, et quià une époque plus tardive apparaissent de chaque côté d'une route, peuvent maintenant être rétablies comme des tranchées militaires datant de la phase Ib du fort. De plus, le system compliqué des tranchées, associes à un rampart situé au nord-est des premières fouilles, n'appartient probablement pas aux defenses de la ville plus récentes et est probablement en relation avec des activités militaires moins récentes sur le site. Une ré-examination des informations obtenues sur le rampart du fort montre qu'il ne fut pas renouvellé au debut de chaque phase et ce que l'on pensait autrefois être un réadjustement du niveau, était en fait le reste de la destruction et nivellement finale des defenses du fort. Le rampart montre quiil fut adapté à des situations particulières dans des secteurs differentes du site, particulièrement en le type de fondations qui y fut utilisé, alors qu'un ascensus possible fut identifié près de la porte est.
Une série de rapports specialisés examine les trouvailles monetaires, let petits objects, les fabriques, la terre sigillée, et de verre trouvés sur le site. Cependant, à cause de la grande quantité de matériel decouverte à Corbridge, seulement le matériel que I'on peut mettre en liason avec la stratigraphie, ou qui est de quelque intérét, est inclus ici (matériel provenant des fouilles de 1947 à 1980). Un rapport sur les pièces d'armures et autre pièces a déja été publié (Allason-Jones et Bishop, 1988).

La conclusion de ce rapport explore la nouvelle comprehension des phases plus anciennes de la Corbridge Romaine que nous avons, a la lueur des résultats qui sont obtenues récemment. Le fort
original semble être plus large que ses successeurs de la phase la, mais il est ensuite reduit durant la phase Ib , puis finalement démoli et brulé. Le fort secondaire, construit probablement aux alentours de 105 après Jésus-Christ endura une succession de modifications (phases II, III, IVa, IVB) comprenant une sacellum de pierre, puis une rangée centrale en pierre, et finalement tous les bátiments importants furent construits dans ce méme matérial, bien que les défenses en terre et en bois ont étés conservées durant la vie du fort. Le fort secondaire fut abandonné aux alentours de 163 après Jésus-Christ et bien que les quartiers généraux survécurent en partie, les defenses et la plúpart des bátiments interieurs furent demoliés. L'aire centrale fut aplanié avec du gravier et les constructions commencèrent sur la grande cour du bátiment, Site 11. Entretemps, sur les ruines aplanies du rempart, une activité industrielle prit place comme l'indiquent un grand nombre de fours et surfaces brulées.

Il n'a été pas possible de dire quoique ce soit de nouveau sur le soi-disant niveau de destruction du deuxième siècle, en raison de la caractère des preuves et les méthodes de fouilles utilisées. Cependant, il a été évident que peu de matérial reste à cause des fouilles et aplanissement plus tôt, sauf sous le nouveau bátiment du musée.

Pour que le lecteur puisse consulter l'information statigraphique de base, les microfiches comportent des copies des dessins de sections provenant du corpus produit ces dernières années, ainsi que les descriptions associés à leur contexte. Celles ci sont completées par des listes de fabriques, terre sigillée, et clous de fer. Le contenu des microfiches est rendu facilement accessible au chercheur par une serie d'indices á la fin du livre.

\section*{Zusammenfassung}

Die römische Fundstelle Corbridge befindet sich ungefähr 2.5 römische Meilen südlich des Hadrianswalles in Northumberland. Sie liegt an dem Punkt im Tynetal, wo die römische Fernstraße Dere Street den Fluß uberquert auf einer Terrasse aus Flußschotter oberhalb der Position der rōmischen Brücke. Die ersten Untersuchungen der Fundstätte durch Ausgrabungen fanden in der Zeit zwischen 1906 und 1914 statt. Sie ergaben ein umwehrtes militärisches Areal (die östlichen und westlichen Lager, ein großes Gebăude mit Innenhof (Fundstelle 11), zwei große Kornspeicher und die Uberreste einer Reihe von weiteren Anlagen, die anzeigen, daß die Fundstelle eine Stadt von einer gewissen Bedeutung während der ausgehenden Jahre der römischen Okkupation Britanniens gewesen war. Der Grundbesitzer ūberschrieb 1933 das Hauptareal an die Nation und den Sicherungsarbeiten durch das Ministry of Works ging eine Reihe von Ausgrabungen in der Zeit von 1934-40, durchgeführt von lan Richmond und Eric Birley, voraus.

Zwischen 1946 und 1973 fanden weitere Ausgrabungen auf der romischen Fundstelle in Corbridge statt. Diese dienten anfanglich ausschließlich Forschungszwecken, wurden dann aber seit 1956 als Teil des Studienprogrammes der Universität Durham für die Ausbildung von Studenten und den Teilnehmern von Abendkursen weitergeführt. Die Ausgrabungen konzentrierten sich auf die Kastellfolge, die den jetzt sichtbaren Uberresten vorausging. Abschließend waren John Dore und John Gillam 1980 in der Lage vor dem Bau des neuen Museumsgebaudes ein kleines Areal, das den westlichen Wall des Kastells einfaßte und später durch die Stadt des 3 . und 4. Jahrhunderts ūberbaut wurde, zu untersuchen.

Das Hauptgewicht in diesem Band ist auf die Ergebnisse der Ausgrabungen, die in der Zeit von 1947-80 durchgefūhrt wurden, konzentriert. Aber relevantes Material aus früheren Untersuchungen wird ebenfalls herangezogen und neu betrachtet. In einem einführenden Kapitel werden eine Zusammenfassung der vorhergehenden Arbeiten auf der Fundstelle sowie der Entwicklung in der Interpretation der Fundstelle vorgelegt. Weiterhin befaßt sich diese Einführung mit einer Übersicht der spezifischen Schwierigkeiten, die sich im Zusammenhang mit der Untersuchung des rōmischen Corbridge ergaben und beschreibt ferner die Bestrebungen mit denen versucht wurde diese Probleme in der vorliegenden Studie einzuschränken. Das zweite Kapitel enthält eine kurzgefaßte geologische Einführung in das umliegende Gelände bevor es sich mit einer eingehenden neuen Auswertung der Luftaufnahmen für die Fundstelle befaßt.
Darauf folgt eine Reihe von Kapiteln, in denen die Auswertung des strukturellen Befundes für die Ausgegrabenen Areale besprochen wird. Diese Auswertung beginnt mit dem Stabsgebăude (principia) und setzt sich dann mit der Betrachtung des Kommandantenhauses (practorium), der Mannschaftsbaracken, der Verteidigungsanlagen und anderer Gebiete fort. Jeder Abschnitt verfolgt die Entwicklung des jeweiligen Gebietes Phase bei Phase. Eine Neubetrachtung der bisher gehaltenen Vorstellung über die Kastelle in Corbridge wird mit Hilfe des wichtigsten überkommenen stratigraphischen Befundes Profile, die von den Ausgrabern und von Studenten zu Ubungszwecken aufgezeichnet worden waren - vorgelegt. Die Beschreibungen struktureller Elemente, die Grabungsnotizen, Profilen, Plänen und gelegentlich früher publiziertem Material entnommen wurden, werden in Tabellenform vorgelegt. Die Beziehungen zwischen den Hauptbauteilen werden in Diagrammen dargestellt, zusammen mit einer Einschätzung des Aussagewertes des jeweiligen stratigraphischen Befundes. Der Text wird von Phasenplănen begleitet, die die Entwicklung des jeweiligen Areals aufzeigen. Die akzeptierte Ansicht ist heute, daß obwohl die grundlegende Chronologie, die mit großer Sorgfalt von Ian Richmond, Eric Birley und John Gillam uber die Jahre hin ausgearbeitet worden war, wohlbegründet ist, können einige gerinfugige Details hinzugefügt und frühere Hypothesen verworfen werden. Es erscheint jetzt wahrscheinlich, daB im

Gegensatz zu früheren Annahmen zwischen den Phasen III und IVa keine teilweise Aufgabe stattgefunden hat. Die zwei linearen Vertiefungen, die unter den späteren militärischen Lagern verlaufend erst als natürliche Wasserrinnen, dann als militärische Grabenanlagen und später als Bodensenkungen auf beiden Seiten einer Straße angesehen wurden, können jedoch jetzt wieder als militärische Grabenanlagen des Kastells der Phase Ib eingestuft werden. Andererseits wurde jedoch festgestellt, daB das komplizierte Grabensystem, das mit einem Erdwall nordöstlich der ersten Ausgrabungsstelle in Verbindung steht, nicht zu den Verteidigungsanlagen der spāteren Stadt gehört, sondern, daß es sich dabei vielmehr höchstwahrscheinlich um frühe militärische Nutzung der Fundstelle handelt.

Eine nochmalige Überprüfung der Aufzeichnungen, die sich auf den Wall des Kastells beziehen, hat gezeigt, daB er nicht zu Beginn einer jeden Phase erneuert wurde, und daß das, was bisher immer für Neuaufschuttung gehalten worden war, in Wirklichkeit das Material der entgültigen Zerstörung und Einebnung der Verteidigungsanlagen des Kastells darstellt. Der Wall weist Anzeichen für besondere Anpassungen an die jeweiligen Bodenbedingungen, die an verschiedenen Stellen der Fundstelle vorherrschen auf. Dies zeigt sich besonders in den Bauweisen, die für die Fundamente verwendet wurden, während in der Nahe des Osttores ein möglicher ascensus festgestellt werden konnte.

Eine Reihe von Spezialberichten untersucht den Mūnzbefund, die Kleinfunde, die Gebrauchskeramik, die Terra-sigillata und die Glasfunde. Da jedoch das Material, das über die Jahre hin in Corbridge ergraben wurde zu ungeheurem Umfang angewachsen ist, werden nur jene Funde, die stratigraphisch gesichert oder von besonderem Interesse sind, erwähnt. Diese Funde stammen meistens aus den Ausgrabungen der Zeit von 1947 bis 1980. Ein Bericht uber den Hortfund in Corbridge, der Rūstungsteile und andere Gegenstānde enthielt, ist bereits veroffentlicht worden (Allason-Jones und Bishop 1988).

In der abschließenden Betrachtung wird eine neue Deutung der frühen Phasen in der Besitznahme des römischen Corbridge im Lichte der Ergebnisse aus den jüngsten Ausgrabungen versucht. Es zeigt sich, daß das ursprüngliche Kastell in seiner Phase la von größerer Ausdehnung gewesen ist als alle seine Nachfolger, und daB schon in Phase Ib sein Areal reduziert worden war. Es wurde dann letztlich abgebaut und niedergebrannt. Das Nachfolgekastell, wahrscheinlich um 105 n Chr erbaut, geht durch eine Folge von Modifikationen (Phasen II, III, IVa, IVb) wobei es zuerst ein steinernes sacellum erhălt, dann die zentrale Gebäudegruppe und endlich alle wichtigen Gebăude in Stein neuerbaut werden. Die Rasensoden- und Holzverteidigungsanlage wurde jedoch während der gesamten Lebensdauer des Kastells beibehalten. Das Nachfolgekastell wurde um 163 n Chr aufgegeben, und obwohl das Stabsgebäude teilweise weiterbestand, wurden die Verteidigungsanlagen und die meisten internen Bauten abgerissen. Das Kerngebiet wurde eingeebnet und mit Schotter aufgeschưttet, worauf die Bauarbeiten an dem
groken Gebäude mit Innenhof (Grabungsstelle 11) begannen. Zur selben Zeit wiesen eine Anzahl von Herdstellen und Brandablagerungen auf den Überresten des eingeebneten Walles auf handwerkliche Betätigung hin.
Es ist unmöglich neue Angaben über den sogenannten Abbruchshorizont des spăten zweiten Jahrhunderts zu machen, wenn man die Beschaffenheit des Befundes und die angewandten Ausgrabungstechniken in Betracht zieht. Es war jedoch offensichtlich, daß auf Grund früherer Ausgrabungen und Einebnungsarbeiten, sehr wenig Material aus der Zeit nach dem Ende des 2 Jahrhunderts überdauert hat. Eine Ausnahme besteht unter dem neuen Museumsgebäude.
Damit der Leser den originalen stratigraphischen Befund im wesentlich konsultieren kann, befinden sich unter den Mikrofichen Aufnahmen der Profile, zusammen mit den dazugehörigen Beschreibungen, aus der Sammlung, die über die Jahre hin aufgebaut wurde. Diese werden ergänzt durch Aufstellungen der Gebrauchskeramik, der Terra-sigillata und der eisernen Nagel. Der Inhalt der Mikrofiche ist dank einer Reihe von Indexen am Ende des Buches für den Forscher leicht zugänglich.

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\section*{Indexes to microfiche}

\section*{Context Number Index}

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\section*{Finds group index}

This index will permit the reader to ascertain the phase of a given finds group, as well as identifying any components with which it might be associated and locating within the main body of this report any finds belonging to it. This is also an index to the section of the microfiche containing the verbatim descriptions of the provenances of the groups. Note that context numbers associated with the finds groups are also included on the microfiche.

A number of conventions have been used in providing the phasing details for the finds groups, and these may be interpreted as follows:

\section*{- Unstratified or unprovenanced}

1 Stratified in an identifiable phase
1-2 Stratified, but precise phase uncertain
1? Some doubt about the identification of the finds group
PR Pre-Roman
1-4 The phases of the fort
4 Belongs in either 4 a or 4 b
\(4 \mathrm{a} / \mathrm{b}\) Modifications carried out south of area of the praetorium
PF Post-fort (precise phase uncertain)
PF1 Primary post-fort phase
PF2 Secondary post-fort phase
PF3 Tertiary post-fort phase
Where no indication of phase is given, then it may be taken that there are too many uncertainties or ambiguities to allow an objective judgement of the phasing

The abbreviations used in the finds concordance are as follows:
col Chapter 9 (coins), Table 13
co2 Chapter 9, Table 14
co3 Chapter 9, Table 15
co4 Chapter 9, Table 18
sf1 Chapter 10 (small finds), section 1 (silver)
sf2 Chapter 10, section 2 (copper alloy)
sf3 Chapter 10, section 3 (iron)
sf4 Chapter 10, section 4 (lead)
sf5 Chapter 10, section 5 (pewter)
sf6 Chapter 10, section 6 (glass)
sf7 Chapter 10, section 7 (bone and antler)
sf8 Chapter 10, section 8 (shale)
sf9 Chapter 10, section 9 (pottery objects)
sf10 Chapter 10, section 10 (stone)
sf11 Chapter 10 , section 11 (flint)
sf13 Chapter 10, section 13 (wood)
sa1 Chapter 11 (pottery), part 1, section 2 (samian stamps)
sa2 Chapter 11, section 3 (decorated samian 194773)
sa3 Chapter 11, section 4 (decorated samian 1976, 1980)
cw1 Chapter 11, part 2, section 2 (coarseware 1953-73)
cw2 Chapter 11, section 3 (coarseware 1980)
g11 Chapter 12 (glass), section 1
g12 Chapter 12 , section 2
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\hline WV47 & & & & 2:A4 & s2247; 147 \\
\hline YD47 & & & & 2:E14 & \\
\hline BN48 & & & & 2:A4 & \\
\hline EO51 & PF1? & & & 2:A4 & sf9/11 \\
\hline JE51 & & & & 2:A4 & 5¢293 \\
\hline AO52 & & & & 2:A4 & s¢2152 \\
\hline BC52 & & & & 2:A4 & st2-88; 104-5 \\
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\hline CU52 & 2-3 & & & 2:A4 & \\
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\hline DK52 & & & & 2:A4 & s124;73 \\
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\hline EA52 & 1? & & & 2:A4 & 512/228 \\
\hline EC52 & 1b & 5 & 32 & 2.A4 & \\
\hline EL52 & 1b & 5 & 32 & 2 A 4 & \\
\hline FY52 & 1b & 5 & 32 & 2.A4 & \\
\hline F252 & 1b & 5 & 32 & 2.A5 & \\
\hline HD52 & 1b & 5 & 32 & 2-A5 & sal/83 \\
\hline JM52 & 1b & 5 & 32 & 2.A5 & sf4/31 \\
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\hline KC52 & & & & 2.A5 & \\
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\hline LO52 & PR-1 & & & 2.A5 & \\
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\hline AF54 & - & & & 2:A5 & \(\operatorname{col/1674}\) \\
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\] & \[
\begin{aligned}
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& \text { CD59 }
\end{aligned}
\] & 4b-PF & & & 2:A11 & 562367 \\
\hline HV57 & 27 & & & 2:A8 & & GE59 & & & & 2:A11 & sf2381; sa211; 13; cw1/6; \\
\hline HZ57 & & & & 2:A8 & s 9371 & & & & & & 28-31; 34; 36; 70; 72; 74; \\
\hline ID57 & 2-PF & & & 2:A8 & & & & & & & 79;82;90 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Growip & Phase & Table & Comp No & MF pageno & Finds & Group & Phase & Table & \[
\begin{gathered}
\text { Comp } \\
\text { No }
\end{gathered}
\] & MF pageno & Finds \\
\hline \multirow[t]{2}{*}{GF59} & \multirow[t]{2}{*}{1-3} & \multirow[t]{2}{*}{3
3} & \multirow[t]{2}{*}{\[
\frac{2}{67}
\]} & \multicolumn{2}{|l|}{2:A11} & \multicolumn{2}{|l|}{MS60} & & & 2:A14 & \\
\hline & & & & 2:A11 & & MV60 & 1-4a & 6 & 11 & 2:A14 & sal/25 \\
\hline GK59 & - & & & 2:A11 & 512348 & MW60 & 1-4.a & 6 & 11 & 2:A14 & \\
\hline GP59 & \multirow[t]{2}{*}{4b-PF} & & & 2:A12 & & MX60 & & 6 & 6 & 2:A14 & \\
\hline GR59 & & & & 2:A12 & & NA60 & & 4 & 121 & 2:A14 & \\
\hline GT59 & PF & & & 2:A12 & & NH60 & 1-4.a & 6 & 11 & 2:A14 & \\
\hline GV59 & 3 & 4 & 98 & 2:A12 & & NJ60 & 1-4a & 6 & 8 & 2:A14 & \\
\hline HA59 & 3 & 4 & 95 & 2:A12 & & NK60 & - & & & 2:A14 & si4/78 \\
\hline HD59 & & & & 2:A12 & 5 21.187 & NL60 & 1-4.a & 6 & 8 & 2:A14 & \\
\hline HF59 & & & & 2:A12 & & NO60 & 4.a & 6 & 116 & 2:B1 & sf21 \\
\hline H159 & 2? & 4 & 94 & 2:A12 & & OA60 & & 4 & 123 & 2:B1 & \\
\hline HM59 & 4 & 4 & 93 & 2:A12 & & OE60 & & 6 & 6 & 2:B1 & \\
\hline HY59 & & & & 2:A12 & sf2149 & OG60 & & & & 2:B1 & sf4/23 \\
\hline HZ59 & & & & 2:A12 & & Ol60 & 1-4a & 6 & 11 & 2:B1 & \\
\hline LA59 & & & & 2:A12 & & Oj60 & 1-4a & 6 & 11 & 2-B1 & \\
\hline IB59 & 3 & & & 2:A12 & & OOt0 & 1? & 4 & 119 & 2.B1 & \\
\hline IC59 & 3 & & & 2:A12 & & OQ60 & & & & 2:B1 & sf1/3;3/40 \\
\hline ID59 & & & & 2:A12 & & OW60 & & & & 2.B1 & \\
\hline IE59 & 3 & 4 & 98 & 2:A12 & & PC60 & 4 & & & 2.B1 & \\
\hline IF59 & - & & & 2:A12 & & AD61 & & & & 2.B1 & \\
\hline IK59 & - & & & 2-A12 & sf2/130 & AM61 & - & & & 2-B1 & \\
\hline f159 & 3? & 4 & 98 & 2-A12 & & AR61 & 4a-PF? & & & 2-B1 & \\
\hline IV59 & 3 & 4 & 94 & 2.A12 & & AS61 & 4a-PF? & & & 2-B1 & \\
\hline TV59 & \multirow[t]{4}{*}{} & & & 2-A12 & s2/347; cw1/31 & AX61 & 4b & & & 2.B1 & cw1/138 \\
\hline \multirow[t]{2}{*}{IX59} & & \multicolumn{3}{|r|}{\multirow[t]{2}{*}{2-A12}} & sf2/229, 7/25; sal/51; cwl/ & BB61 & 3 ? & & & 2-B1 & \\
\hline & & & & & 30-1; 33; 37; 69 & BC61 & 4a-PF? & & & 2.B1 & \\
\hline JB59 & & & & 2:A12 & s. \(2 / 13\) & BE61 & & & & 2.B1 & \\
\hline 1-59 & & & & 2:A13 & sf4/62 & B061 & & & & 2.B1 & \\
\hline 1059 & 4b-PF & & & 2:A13 & & BT61 & - & & & 2.B1 & sf7/15 \\
\hline JR59 & 4b-PF? & & & 2.A13 & & BLI61 & & & & 2.E14 & \\
\hline /W59 & PR-1 & & & 2-A13 & cw1/72 & BV61 & - & & & 2:B1 & \\
\hline 459 & 4a? & & & 2:A13 & sa217 & CG61 & & & & 2:B1 & \\
\hline LM59 & \multirow[t]{3}{*}{-} & & & 2:A13 & & CH61 & - & & & 2.B1 & \\
\hline ZP59 & & & & 2:A13 & & Cl. 61 & & & & 2.B1 & \\
\hline Z259 & & & & 2:A13 & & CM61 & & & & 2.B1 & \\
\hline AB60 & - & & & 2:A13 & sf7/13 & CP61 & 4 & & & 2.B1 & cw1/28-9,89; 114 \\
\hline A160 & - & & & 2:A13 & \(512 / 286\) & CU61 & 4.3 & & & 2.B1 & sf3/73;cw1/4-5;30 \\
\hline AM60 & - & & & 2:A13 & & DA61 & 4 & & & 2.B2 & \\
\hline BA60 & \multirow[t]{3}{*}{-} & & & 2:A13 & sf3/35 & D61 & 4 & & & 2.B2 & cw1/16; 89 \\
\hline BG60 & & & & 2:A13 & sf9/12 & DR61 & & & & 2.B2 & \\
\hline BM60 & & & & 2:A13 & & D561 & 3 & & & 2.82 & \\
\hline B060 & - & & & 2:A13 & sf10/25 & DT61 & 4 a ? & & & 2.B2 & \\
\hline BP60 & \multirow[t]{2}{*}{PF 2} & & & 2:A13 & 5f240; cwl 5 & DtL61 & 3 & 3 & 61 & 2:B2 & cw1/16; 89 \\
\hline BV60 & & & & 2:A13 & & DV61 & & & & 2-B2 & s.77/26 \\
\hline C560 & \multirow[t]{6}{*}{-} & & & 2:A13 & S12350; 7/29 & DW61 & 4a? & & & 2.B2 & \\
\hline CO60 & & & & 2:A13 & s77/8; cw \(1 / 34\) & D761 & & & & 2-B2 & \\
\hline DE60 & & & & 2:A13 & \(563 / 28\) & EA61 & \(4 ?\) & & & 2-B2 & cwl/38 \\
\hline DY60 & & & & 2:A13 & s67/7 & EB61 & - & & & 2.B2 & s12/222 \\
\hline EP60 & & & & 2:A13 & & EC61 & \(4 a^{7}\) & & & 2.182 & cw1/29 \\
\hline EQ60 & & & & 2:A13 & 56364 & ED61 & & & & 2.B2 & \\
\hline FD60 & \multirow[t]{17}{*}{-} & & & 2:A13 & sf10/ & EF61 & PF? & & & 2-B2 & \\
\hline Gl60 & & & & 2:A13 & sf3.67 & E161 & - & & & 2.B2 & \\
\hline GM60 & & & & 2:A13 & 542368 & E061 & 4a-PF? & & & 2-B2 & \\
\hline HQ60 & & & & 2.A13 & s/2271 & EQ61 & 4 ? & & & 2.B2 & \\
\hline 1 F 60 & & & & 2:A13 & & ER61 & 4a & & & 2.B2 & \\
\hline IN60 & & & & 2.A14 & 562349, cw 1/149 & EV61 & PF? & & & 2.82 & \\
\hline 1060 & & & & 2.A14 & sf9617 & EZ61 & 4 a & & & 2.182 & \\
\hline 1060 & & & & 2-A14 & & FA61 & 43 & & & 2-B2 & cw1/31 \\
\hline IS60 & & & & 2-A14 & sf627; cw1/31; 49-50;93 & FE61 & & & & 2-B2 & \\
\hline IU60 & & & & 2-A14 & sf2118 & FF61 & PF? & & & 2.B2 & s 12.289 \\
\hline JL60 & & & & 2-A14 & & FK61 & 4b & & & 2.182 & \\
\hline JP60 & & & & \(2 \cdot \mathrm{Al4}\) & & FL61 & 4b & & & 2-B2 & \\
\hline KF60 & & & & 2:A14 & sf2288; sal/66; cw 1/33; 51; & FT61 & & & & 2-B2 & sf2/254 \\
\hline & & & & & 120 & GN61 & & & & 2.B2 & 566/28 \\
\hline K060 & & & & 2:A14 & 599.18 & IP61 & 2-IPF & & & 2.83 & cw1/1:17 \\
\hline KQ60 & & & & 2:A14 & & P661 & & & & 2. B 3 & sal/2; 146 \\
\hline KX60 & & & & 2:A14 & & OS61 & & 4 & 184 & 2-183 & \\
\hline LW60 & 1-4a & 6 & 11 & 2:A14 & cw1/52 & OT61 & & 4 & 184 & 2-B3 & \\
\hline LX60 & 1-4a & 6 & 11 & 2:A14 & & OV61 & & 4 & 184 & 2-B3 & \\
\hline LY60 & \multirow[t]{2}{*}{1-4a} & 6 & 11 & 2:A14 & & PA61 & & 4 & 184 & 2-B3 & \\
\hline LZ60 & & & & 2:A14 & & PB61 & 1 & 3 & 1 & 2-B3 & cw1/73 \\
\hline MD60 & \multirow[t]{2}{*}{2-4a} & 6 & 7 & 2:A14 & cw1/92 & PG61 & & 4 & 184 & 2.83 & \\
\hline MM60 & & & & 2:A14 & 512188 & P/61 & 1-4a & & & 2-B3 & sf7/40;cw1/72 \\
\hline MN60 & \multirow[t]{3}{*}{1} & & & 2:A14 & & PK61 & & 4 & 184 & 2-83 & \\
\hline MO60 & & & & 2:A14 & & PN61 & & 4 & 184 & 2-183 & \\
\hline MP60 & & 4 & 121 & 2:A14 & cw1/122 & PO61 & & 4 & 184 & 2-83 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Group & Phase & Table & Comp No & MF pageno & Finds & Group & Plase & Tatke & & MF pageno & Finds \\
\hline PS61 & & 4 & 184 & 2:B3 & & BN63 & PF? & & & 2:86 & \\
\hline PV61 & 1b? & & & 2:B3 & & BP63 & 4b & & & 2:B6 & \\
\hline PW61 & 2-PF & & & 2.B3 & cw1/65 & \({ }^{8063}\) & PF & 5 & 7 & 2:B6 & \\
\hline PZ61 & & 4 & 184 & 2:B3 & & BT63 & PF & & & 2:86 & 81424 \\
\hline QG61 & & 4 & 184 & 2.E3 & & BLI63 & PF & & & 2:86 & \\
\hline A 262 & PF? & & & 2:83 & sf2/55 & CA63 & PF & & & \(2: 86\) & \\
\hline BC62 & - & & & 2.E3 & \(\mathrm{g} 12 / 45\) & CE63 & & & & \(2: 86\) & s6363 \\
\hline BK62 & & & & 2-B3 & & CG63 & PF? & & & 2:B6 & \\
\hline B062 & & & & 2.83 & & Cl63 & PF & & & 2:86 & \\
\hline CL62 & & & & 2-B3 & sf2/107 & C163 & PF & & & 2:86 & \\
\hline CN62 & 2-PF & & & 2-B3 & & CK63 & PF & & & 2:B6 & \\
\hline DB62 & & & & 2:B3 & s 9291 & CQ63 & PF & & & 2:86 & \\
\hline DG62 & & & & 2.83 & & C763 & PF & & & 2:B6 & \\
\hline DH62 & \(1-4\) ? & 6 & 16 & 2.E3 & & CW63 & PF & & & 2:B6 & \\
\hline D. 62 & & & & 2:E3 & & DC63 & 4 b & & & 2:86 & \\
\hline DM62 & & & & 2.B3 & & DD63 & 4 a & & & \(2: 86\) & 512/369 \\
\hline DQ62 & & & & 2.B3 & & DF63 & PF1? & & & 2:B6 & \\
\hline DS62 & & & & 2:B3 & sf2/255 & DH63 & & & & 2:B6 & 5f7/27 \\
\hline DW62 & & & & 2-B4 & & D)63 & 4 b & & & 2:86 & \\
\hline DY62 & & & & 2-B4 & cw1/144 & DP63 & PF & 5 & 7 & 2:B6 & s62/382 \\
\hline DZ62 & 4a-PF & & & 2.B4 & cw1/29;73;76;89; 115 & DR63 & 4a/b & & & 2:B6 & \\
\hline EH62 & 1-4? & 6 & 16 & 2-B4 & & DU63 & - & & & 2:B7 & 562337 \\
\hline E/62 & 1-4? & 6 & 16 & 2-B4 & & DX63 & 4a/b & & & 2:87 & \\
\hline ER62 & & & & 2.B4 & & DY63 & \(2-4\) & 5 & 4 & 2:87 & \\
\hline FB62 & & & & 2.B4 & & DZ63 & PF & 9 & 19 & 2:B7 & \\
\hline Fl62 & 1-4? & 6 & 16 & 2.B4 & & EB63 & 4 ab & & & 2:B7 & st6/10 \\
\hline F]62 & 1-4? & 6 & 16 & 2.B4 & & EH63 & 1-4? & & & 2:87 & cw1/98 \\
\hline FM62 & & & & 2.B4 & & E063 & 4 a b & & & 2: 87 & \\
\hline F062 & PF & & & 2.B4 & cw1/33 & ER63 & 4? & & & 2:87 & sf3/68 \\
\hline FP62 & PF & & & 2-B4 & & ES63 & - & & & 2:87 & sf9/13 \\
\hline FW62 & PF & & & 2-B4 & cw1/86 & EV63 & PF & 9 & 19 & 2:B7 & \\
\hline GK62 & & & & 2.B4 & & FG63 & - & & & 2:187 & s97/51 \\
\hline GL62 & PF ? & & & 2.B4 & cw1/4;65 & FR63 & 2-PF & & & 2:87 & \\
\hline GM62 & 4b-PF & & & 2.B4 & & Fl163 & PF & 9 & 20 & 2:187 & cw136 \\
\hline GN62 & PF & & & 2.B4 & & FW63 & 2-PF & & & 2.87 & \\
\hline GR62 & PF1 & & & 2.B4 & & GE63 & PF & 9 & 21 & 2.87 & \\
\hline GS62 & PF2 & & & 2-B4 & & GL63 & 2-PF & & & 2.87 & \\
\hline HN62 & 4b-PF & & & 2-B4 & cw1/139 & GP63 & - & & & 2.87 & sf2/272 \\
\hline HQ62 & 1-PF & & & 2.84 & & GQ63 & 2-PF & & & 2.87 & \\
\hline IB62 & 4b-PF & & & 2-184 & & GT63 & 2-3 & 4 & 149 & 2.87 & \\
\hline IF62 & 1-PF & & & 2-B4 & & GW63 & & & & 2.87 & \\
\hline IH62 & & & & 2.184 & 562/46 & GY63 & - & & & 2.87 & sf6/11 \\
\hline I162 & & & & 2-B4 & & H) 63 & 2 & 5 & 4 & 2.187 & \\
\hline IX62 & & & & 2-B4 & & HL. 63 & PF & 5 & 7 & 2.157 & \\
\hline IY62 & & & & 2.B5 & 512/238 & HM63 & PF & 5 & 7 & 2-187 & \\
\hline 1062 & 4b-PF & & & 2.85 & & HN63 & & & & 2-B7 & sf2/157 \\
\hline 1 1962 & & & & 2.85 & 594/60 & HP63 & & & & 2.E14 & \\
\hline 1P62 & PF1 & & & 2.85 & & IB63 & 2-3 & 4 & 149 & 2.83 & \\
\hline JW62 & & & & 2.B5 & sf2/247 & [M63 & & & & 2.188 & \\
\hline 1X62 & & & & 2:B5 & & IN63 & - & & & 2.188 & sf2/273 \\
\hline KH62 & 2 & 3 & 39 & 2:B5 & & 1063 & PF? & & & 2.188 & \\
\hline KI62 & \(4 b\) ? & & & 2:B5 & & 1763 & PF1 & & & 2-188 & \\
\hline KK62 & & & & 2:B5 & 864/59 & TW63 & 4b-PF & & & 2-B8 & sf2/256 \\
\hline LA62 & 3 & 3 & 68 & 2:85 & & IY63 & PF? & & & \(2 \cdot \mathrm{B8}\) & \\
\hline LB62 & 3 & & & 2:B5 & & /G63 & 2-3 & 4 & 149 & 2.185 & \\
\hline LO62 & 3 & 3 & 68 & 2:B5 & cw1/29 & 1263 & 4 a & & & 2-B8 & \\
\hline LP62 & 3 & & & 2:B5 & & [M63 & - & & & 2-B8 & 577/28 \\
\hline LQ62 & 2 & 3 & 40 & 2:85 & & 1063 & PF & & & 2-B8 & \\
\hline LW62 & PF? & & & 2:B5 & & JP63 & PF & & & 2.185 & \\
\hline L762 & & & & 2:B5 & & 1063 & PF & & & 2.188 & \\
\hline AB63 & - & & & 2:B5 & & /R63 & - & & & 2-B8 & sf7/5;cw 1/85;96 \\
\hline AD63 & - & & & 2:B5 & & /Y63 & & & & 2.B8 & sf2199 \\
\hline AH63 & PF & & & 2:B5 & 512352 & /263 & IF & & & 2.85 & \\
\hline AK63 & PF & & & 2:B5 & & KC63 & PF & & & 2:88 & \\
\hline AL63 & - & & & 2:B5 & 5 1102 & KL63 & 2-3 & 4 & 150 & 2:B5 & \\
\hline AM63 & PF & & & 2:B5 & sa2/16 & KX63 & 2 & & & 2.B8 & \\
\hline AP63 & - & & & 2:85 & & KY63 & PF & 9 & 19 & 2:B8 & sf11/11 \\
\hline AR63 & - & & & 2:B5 & & LR63 & 17F & & & 2:B8 & sf84 \\
\hline A563 & - & & & 2:B5 & g11/10;21 & LE63 & 4? & & & 2:B8 & \\
\hline AT63 & - & & & 2:B5 & & LF63 & 2-3 & 4 & 149 & 2:B8 & \\
\hline AV63 & 4b-PF? & & & 2:B5 & \[
\begin{aligned}
& \mathrm{sa1} / 112 ; 139-40 ; \mathrm{cw} 1 / 100 \text {; } \\
& 107
\end{aligned}
\] & L.763
L.K63 & 2-3 & 4 & 154 & 2:B6
2:B6 & s¢2/351 \\
\hline AX63 & - & & & 2:85 & sa2/18 & LM63 & PF? & & & 2:B9 & \\
\hline BE63 & PF & & & 2:85 & 512336 & LQ63 & PF & 4 & 142 & 2:B9 & \\
\hline BG63 & BC & & & 2:85 & & LT63 & & & & 2:B9 & sf2/214 \\
\hline BH63 & PF & & & 2:86 & & LLU63 & PF? & 9 & 19 & 2:B9 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Group & Plase & Table & \[
\begin{gathered}
\text { Comp } \\
\mathrm{No}
\end{gathered}
\] & \begin{tabular}{l}
MF \\
pugeno
\end{tabular} & Finds & Groter & Phatse & Takle & & MF pageno & Finds \\
\hline LV63 & 2-4 & & & 2:B9 & & GB64 & & & & 2.811 & \\
\hline LX63 & PF1? & 4 & 141 & 2:B9 & & GD64 & & & & 2.811 & sf6/14;0w1/22 \\
\hline MC63 & 2-3? & 4 & 150 & 2.B9 & & CG6t & 1 & & & 2. 81811 & \\
\hline ME63 & 2-3? & 4 & 149 & 2:89 & & GT64 & PF? & & & 2:811 & cw1/21; 42;98-9, 102 \\
\hline M163 & & & & 2:B9 & sf6/12;cw1/9; 121 & GU64 & PF & & & 2:811 & \\
\hline M/63 & PF1 & 9 & 19 & 2:B9 & cwl/5 & GW64 & & & & 2:812 & \\
\hline MN63 & 2 & 5 & 2 & 2:B9 & & GY64 & 43 & & & 2:812 & \\
\hline AA64 & - & & & 2:B9 & sf6/15; sal/103 & HA64 & & & & 2:812 & s63/29 \\
\hline AE 64 & \(=\) & & & 2:B9 & sf103 & H/64 & 4. & & & 2:B12 & \\
\hline AF64 & - & & & 2:B9 & & HM64 & 43 & & & 2:B12 & \\
\hline A/64 & - & & & 2:B9 & & HN64 & & & & 2:1812 & \\
\hline AK64 & - & & & 2:B9 & & HO64 & PF & & & 2:812 & \\
\hline AL64 & - & & & 2:B9 & & HV64 & 1 & & & 2:B12 & \\
\hline AS64 & - & & & 2:B9 & sf81 & HW64 & 2-4 & & & 2:B12 & \\
\hline AT64 & & & & 2:B9 & sa230; g11/20 & la64 & PF? & 5 & 7 & 2:812 & \\
\hline AUCS & - & & & 2:B9 & & IB6A & 4a? & & & 2:B12 & cw1/135 \\
\hline AV64 & 4 b & & & 2:B9 & & IE64 & PF & & & 2:812 & \\
\hline B864 & PF1 & & & 2:B9 & & 1M64 & & & & 2:812 & sf2 128 , 245; sal/130-7; \\
\hline BC64 & & & & 2.B9 & cw1/143 & & & & & & sa2/39 \\
\hline BD64 & - & & & 2:B9 & & 1Q64 & 1 b ? & & & 2:812 & \\
\hline BE64 & - & & & 2:B9 & & IR64 & 4 b ? & & & 2:812 & \\
\hline BF64 & - & & & 2.199 & sal/103 & 1564 & 1 & 3 & 22 & 2:812 & cw1/84 \\
\hline BL64 & & & & 2.89 & sf2/64;234 & IT64 & 4 a b & & & 2:812 & \\
\hline BM64 & - & & & 2.B9 & & IV64 & PF? & & & 2:812 & cw1 \(55 ; 60 ; 96 ; 99\) \\
\hline B064 & PF2? & & & 2:B10 & & IZ64 & & & & 2:812 & sf2/353; 4 69; \(\mathrm{cwl}^{\prime} / 43\); 55; \\
\hline BS64 & PF? & & & 2.810 & & & & & & & 60, 102; \\
\hline BT64 & 4 a & & & 2.810 & st7/1;cw1/39 & & & & & & 103; 108 \\
\hline BV64 & PF1 & & & 2.810 & & JB64 & - & & & 2:812 & s9776 \\
\hline BW64 & & & & 2:810 & & 1-64 & \(1 ?\) & & & 2:812 & \\
\hline BX64 & - & & & 2.810 & & 1064 & 1-3 & & & 2:812 & \\
\hline BZ64 & PF2? & & & 2.810 & & JE64 & 2-4 & & & 2:812 & \\
\hline CA64 & & & & 2:B10 & sf4/35 & JK64 & - & & & 2:812 & \\
\hline CB64 & & & & 2-B10 & cw1/145 & 1264 & - & & & 2:812 & \\
\hline CE64 & PF? & & & 2.B10 & cw1/55,59 & /N64 & & & & 2:E14 & \\
\hline CF64 & PF? & & & 2.810 & sf2/354;cw1/55 & \(1 \mathrm{C}_{64}\) & PF & & & 2:812 & sa2/40; cw \(1 / 53\); 56-7;60 \\
\hline CC6t & PF1 & & & 2.810 & & 1564 & 4-PF? & & & 2:812 & sti2/274; sa \(2 / 36 ; \mathrm{cw} 1 / 22\) \\
\hline CH64 & & & & 2.810 & & JX64 & PF & & & 2:812 & sf2/225; sa1/6; cw 1/7;25; \\
\hline CK64 & 4 & & & 2.B10 & & & & & & & 31; 33; 100 \\
\hline CL6t & 4a? & & & \(2 \mathrm{B10}\) & cw1/13 & KA64 & 4-PF? & & & 2:812 & sal/49;cw1/26; 55;95 \\
\hline CM64 & & & & 2:B10 & sf6/29 & KC64 & & & & 2:812 & \\
\hline CN64 & PF ? & & & 2:B10 & cw 1/143 & KD64 & \(4 b ?\) & & & 2:812 & \\
\hline CO64 & & & & 2:B10 & sf2/263 & KF64 & & & & 2:813 & \\
\hline CS64 & PF1 & & & 2.B10 & & KG64 & - & & & 2:813 & \\
\hline CT64 & PF2 & & & 2:B10 & & KR64 & 4-PF? & & & 2:813 & sal/130-7;2/39 \\
\hline CX64 & & & & 2.E14 & & KT64 & 4a? & & & 2:813 & \\
\hline DAG4 & PFI & & & 2810 & & KL64 & - & & & 2:813 & \\
\hline DC64 & PFI? & & & 2.810 & & LB64 & PF & & & 2:813 & g1240 \\
\hline DE64 & PF & & & 2.810 & gl232 & LE64 & 1-4 & & & 2:813 & g11/23 \\
\hline DF64 & 4a? & & & 2.810 & cw1/73 & LF64 & 2-PF & & & 2:813 & \\
\hline DG64 & 4a & & & 2.810 & & LM64 & 4-PF & & & 2:813 & sal/130-7;2/36; 39 \\
\hline DH64 & PF1? & & & 2-810 & & LN64 & 4-PF & & & 2:813 & sf2/94;7/41; sa2232;39 \\
\hline D) 64 & & & & 2:810 & & LP64 & & & & 2:813 & s/7/30; cw1/59 \\
\hline DN64 & PF1 & & & 2:811 & & LQCA & & & & 2:813 & \\
\hline DR64 & 4a & & & 2-811 & & LR64 & & & & 2:813 & sf2/290 \\
\hline DS64 & PF1 & & & 2.811 & & LS64 & & & & 2:813 & \\
\hline DT64 & 4 a b & & & 2:811 & cw1/15 & LT64 & & & & 2:813 & \\
\hline DUEA & PF1 & & & 2:811 & cw1/15 & LLI64 & 2-PF & & & 2:813 & \\
\hline DY64 & & & & 2:81 & & LV64 & 2-3? & & & 2:813 & \\
\hline EB64 & PF & & & 2:811 & & LW64 & & & & 2:813 & \\
\hline EE64 & PF1? & & & 2:811 & & L264 & & & & 2:813 & st2/215 \\
\hline EG64 & & & & 2:811 & & MA64 & & & & 2:813 & st2/37;291 \\
\hline EH64 & PF & & & 2:811 & & MD64 & & & & 2:813 & \\
\hline EL64 & & & & 2-811 & sf2/338 & M HEf & & & & 2:813 & 56105 \\
\hline EM64 & - & & & 2-811 & & ML64 & & & & 2:813 & \\
\hline EN64 & & & & 2-811 & & MM64 & PF & & & 2:813 & cw1/143 \\
\hline EQ64 & 4. & & & 2:811 & & MN64 & PF1 & & & 2:813 & \\
\hline EX64 & & & & 2:B11 & & MW64 & PF & & & 2:813 & \\
\hline E264 & & & & 2:B11 & & MX64 & PF & & & 2:813 & \\
\hline FB64 & \(4 \mathrm{a} / \mathrm{b}\) & & & 2:B11 & cw1/15 & MY64 & - & & & 2:813 & 512/316 \\
\hline FG64 & & & & 2:B11 & sश/371:cw1/96 & MZ64 & & & & 2:813 & sal/28-9 \\
\hline FH64 & 4a & & & 2:B11 & & NB64 & 4b & & & 2:B14 & \\
\hline Fl64 & 4a? & & & 2:B11 & & NE64 & & & & 2:814 & 5 2160 \\
\hline FN64 & 1 & & & 2:B11 & & NF64 & PF & & & 2:B14 & \\
\hline FP64 & & & & 2:811 & & NH64 & & & & 2:814 & \\
\hline FR64 & 4 b & & & 2:811 & & N764 & PFF & & & 2:B14 & sf2/292; cwl/55 \\
\hline FU64 & & & & 2:B11 & 56292;370 & NK64 & 4 b & & & 2:814 & cw1/16 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Group & Plase & Table & Comp No & MF pagem & Finds & Group & Prase & Tatle & Comp No & MF pageno & Finds \\
\hline NP64 & PF & & & 2:B14 & & EE65 & - & & & 2.C2 & sal/130-7; 2/38 \\
\hline NQ64 & PF & & & 2:B14 & cw1/95 & EF65 & & & & \(2 . \mathrm{C} 2\) & \\
\hline NX64 & & & & 2:B14 & & EH65 & PF & & & \(2 . \mathrm{C} 2\) & \\
\hline OB64 & 4 b & & & 2:B14 & cw1/33 & E165 & PF & 5 & 7 & 2.C2 & cw1/74 \\
\hline OC64 & & & & 2:B14 & sf3/13 & E665 & 1 & & & 2.C2 & \\
\hline OHCA & PF? & & & 2:B14 & cw1/11;27 & EK65 & 2-4 & & & 2.C2 & sf107 \\
\hline OK64 & PF? & & & 2:B14 & & EM65 & - & & & 2:C2 & \\
\hline OR64 & PFI? & & & 2:B14 & & EN65 & & & & 2:C3 & si2264 \\
\hline OU64 & PF? & & & 2:B14 & cw1/105 & EQ65 & & & & 2:C3 & 512/34 \\
\hline OZ64 & & & & 2:B14 & & ER65 & - & & & 2:C3 & st2/175; 3 65; sa1/162; 2/28 \\
\hline PB64 & PF & & & 2:B14 & sf2189, 192;cw1/63 & ES65 & & & & 2:C3 & st2/325 \\
\hline PC64 & \(4 b\) & & & 2:B14 & & ET65 & & & & 2:C3 & s 2235 \\
\hline PD64 & & & & 2:B14 & & EV65 & PF? & 5 & 7 & \(2 . \mathrm{C} 3\) & cw1/30 \\
\hline PG64 & 2 & & & 2:B14 & & EW65 & 1 & & & \(2 . C 3\) & \\
\hline PJ64 & 2-PF & & & 2:B14 & cw1/34;99;142 & EZ65 & - & & & 2:C3 & \\
\hline PK64 & PF? & 5 & 7 & 2:B14 & sa2/24;cw1/64 & FK65 & PF? & & & 2:C3 & \\
\hline & & 9 & 23 & 2:814 & & FL65 & & & & 2:C3 & sf271; 257 -8 \\
\hline PL64 & 4 b ? & & & 2:814 & & FM65 & - & & & 2.C3 & sf275; 326; 335 \\
\hline PM64 & PF? & & & 2:814 & & FN65 & & & & 2 C 3 & sf236 \\
\hline PU64 & & & & 2:B14 & sf2/293; sa2/34;cw1/86 & FO65 & & & & 2 C 3 & \\
\hline QB64 & & & & 2:B14 & & FV65 & PF? & 5 & 7 & 2 C 3 & \\
\hline QF64 & PF & & & 2:814 & 512/39;46 & FY65 & & & & 2 C 3 & sf249; sal/113 \\
\hline QH64 & 2 & 5 & 2 & 2:B14 & & GD65 & & & & 2 C 3 & \\
\hline Q/64 & 2-4 & & & 2:B14 & s87/16 & GE65 & 1 ? & & & 2 C 3 & \\
\hline QK64 & PF ? & 5 & 7 & \(2 \cdot \mathrm{Cl}\) & cw1/72 & GG65 & & & & 2 C 3 & s14/53 \\
\hline QO64 & 2 & & & 2 Cl & s12/316; 12/2; cw 1/69;116 & G165 & & & & 2 C 3 & \\
\hline QR64 & PF & & & \(2 . \mathrm{Cl}\) & & GL65 & = & & & \(2 . C 3\) & sf7/17 \\
\hline QS64 & & & & \({ }_{2}^{2} \mathrm{Cl}\) & st6/13 & GN65 & & & & 2 C 3 & sf106; sal/130-7;cw1/57; \\
\hline QT64 & - & & & 2 Cl & s12/211 & & & & & & 106; 118 \\
\hline QV64 & 2-4 & & & 2 Cl & & G065 & & & & 2.C3 & \\
\hline QW64 & 2 & & & 2 Cl & & GQ65 & & & & 2.C3 & \\
\hline QY64 & - & & & 2 Cl & sf13/2 & GY65 & & & & 2:C3 & co21-6; sf4/52; sal/126; \\
\hline AD65 & & & & 2 Cl & & & & & & & cw1/53 \\
\hline AH65 & = & & & \(2 . \mathrm{Cl}\) & & HC65 & 2-3? & & & 2:C3 & cw1/69 \\
\hline AK65 & & & & 2 Cl & 564/51 & HE65 & 1-2 & 5 & 1 & 2:C3 & \\
\hline AM65 & PF2 & & & 2 Cl & & HF65 & 2 & 5 & 2 & 2:C3 & \\
\hline AQ65 & - & & & 2:Cl & & HH65 & - & & & 2:C3 & g11/24 \\
\hline AT65 & PF2 & & & 2 Cl & & H]65 & & & & 2:C3 & \\
\hline AL65 & PF1 & & & 2 Cl & & HL65 & & & & 2:C3 & 56260 \\
\hline AX65 & - & & & 2 Cl & & H065 & 2-3? & & & 2:C3 & cwl/69 \\
\hline BD65 & - & & & \(2 \cdot \mathrm{Cl}\) & & HV65 & 2-3? & & & 2.C3 & sf11/2 \\
\hline BG65 & PF1? & & & 2 Cl & st7/22 & HX65 & & & & 2.C3 & \\
\hline BH65 & & & & \(2 . \mathrm{Cl}\) & & HY65 & & & & 2.C4 & g12/33 \\
\hline B765 & PF & 5 & 7 & 2 Cl & cw1/16;57 & ID65 & & & & 2.C4 & \\
\hline B]65 & PF & 5 & 7 & 2:Cl & & IH65 & & & & \(2 . \mathrm{C} 4\) & sf4/56 \\
\hline BK65 & PF1 & & & \(2 \cdot \mathrm{Cl}\) & cw1/22 & IK65 & & & & 2.C4 & s64/13 \\
\hline BM65 & 3-PF1 & & & 2 Cl & & IN65 & 1-2 & & & 2.C4 & \\
\hline BO65 & PF1 & & & 2 Cl & & 1065 & 2 & 5 & 4 & \(2 . \mathrm{C4}\) & \\
\hline BP65 & PF1 & & & 2 Cl & sal2/39 & 1065 & 2-3? & & & \(2 . \mathrm{C4}\) & sf4.55 \\
\hline BR65 & - & & & 2 Cl & gl1/9x; 16 & IV65 & - & & & 2 C 4 & sa2 40 \\
\hline B765 & & & & \(2 \cdot \mathrm{Cl}\) & cw1/61; 104; 111 & IZ65 & 1 & & & 2 C 4 & sf4/58; sa 28 \\
\hline BU65 & = & & & \(2 \cdot \mathrm{Cl}\) & & /A65 & 43 & & & 2 C 4 & Sf2178 \\
\hline BW65 & & & & 2:Cl & 564/49; cwl/4;98; 102; 117 & |K65 & - & & & \(2 . \mathrm{C} 4\) & sf2/177; sal/158 \\
\hline BX65 & - & & & \(2 . \mathrm{C} 2\) & & AA66 & - & & & \(2 \mathrm{C4}\) & \\
\hline CB65 & - & & & \(2 . \mathrm{C} 2\) & & AB66 & - & & & 2 C 4 & 5f2/266 \\
\hline CF65 & & & & \(2 . \mathrm{C} 2\) & st2161 & AC66 & - & & & 2 C 4 & \\
\hline CG65 & & & & 2:C2 & glliba & AD66 & PF2? & & & \(2 . \mathrm{C} 4\) & cw1/62 \\
\hline CH65 & & & & \({ }_{2} \mathbf{C}\) C2 & (w1/88 & AE66 & PF2? & & & \(2 . \mathrm{C4}\) & cw1/4; 100; 105 \\
\hline CK65 & & & & 2.C2 & st4/57 & AF66 & - & & & \(2 . \mathrm{C4}\) & \\
\hline CN65 & & & & 2.C2 & st2/51; sal/162;2/28 & AG66 & - & & & 2.C4 & \\
\hline CO65 & & & & 2.C2 & sf2/327; 4/50; 7/2; sal/28-9; & AH66 & & & & 2 C 4 & sf3/32;cw1/55; 105; 110 \\
\hline & & & & & 2/35; 36; 39-40 & Al66 & PF2 & & & \(2 . \mathrm{C} 4\) & st2/95 \\
\hline CV65 & & & & \({ }_{2}{ }^{\text {C2 }}\) & sF9/24; cw1/102 & A)66 & PF2 & & & \(2 . \mathrm{C4}\) & sf7/4; 23; sa1/61-2 \\
\hline C265 & & & & 2.C2 & sa2/36 & AM66 & - & & & 2:C4 & \\
\hline D865 & & & & 2:C2 & sal/28-9;113;2/36,39; & A066 & - & & & \(2 . \mathrm{C} 4\) & st2/296 \\
\hline & & & & & gl1/6 & AP66 & = & & & 2.C4 & \\
\hline DC65 & PF & & & \(2 . \mathrm{C} 2\) & & AQ66 & & & & 2.C4 & sf2230; cw1/53;99;110 \\
\hline DH65 & - & & & 2.C2 & & AS66 & - & & & 2.C4 & \\
\hline DV65 & 1 & 2 & 1 & \(2 . C 2\) & & AV66 & PF2 & & & 2.C4 & \\
\hline DL65 & & & & 2:E14 & & AW66 & 4. & & & 2.C4 & cw1/100 \\
\hline DM65 & 1-4? & & & 2.C2 & & AX66 & PF & & & \(2 . \mathrm{C} 4\) & \\
\hline D065 & 4 & & & \(2 . \mathrm{C} 2\) & & AZ66 & & & & \(2 . \mathrm{C4}\) & sf345 \\
\hline DP65 & PF & & & \(2 . \mathrm{C} 2\) & sa1/28-9;2/36 & BC66 & - & & & \(2 . \mathrm{C4}\) & \\
\hline DR65 & - & & & \(2 . \mathrm{C} 2\) & & BE66 & PF1? & & & \(2 . \mathrm{C4}\) & \\
\hline DT65 & PF & 9 & 25 & \(2 . \mathrm{C} 2\) & cw1/135 & BF66 & - & & & \(2 \mathrm{C4}\) & \\
\hline DU65 & 1-4? & & & 2 C 2 & & BC66 & PF2 & & & 2 C 5 & sf6/18 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline Group & Phase & Table & \[
\begin{aligned}
& \text { Comp MF } \\
& \text { No pugeno }
\end{aligned}
\] & Finds & Group & Prase & Talke & Comp No & \begin{tabular}{l}
MF \\
pageno
\end{tabular} & Finds \\
\hline BH66 & & & 2.65 & & GE66 & & & & 2.C7 & \\
\hline BJ66 & PF & & \(2 . C 5\) & & G066 & & & & \(2 \mathrm{C7}\) & \\
\hline BK66 & PF2 & & \(2 . \mathrm{C5}\) & & GR66 & & & & \(2 . C 8\) & sf2/235;3/1;108 \\
\hline BL66 & 2-PF & & \(2 . \mathrm{CS}\) & & GV66 & 4 & 3 & 92 & 2.C8 & \\
\hline BM66 & & & \(2 . \mathrm{C5}\) & & GWV66 & & & & 2.C8 & sf29 \\
\hline BS66 & 2-PF & & \(2 . C 5\) & & HA66 & & 5 & 7 & 2.C8 & \\
\hline BT66 & - & & \(2 . \mathrm{C} 5\) & sf10/10; sal/36-7;gl1/13 & H:C66 & & 5 & 7 & 2.C8 & \\
\hline BUL66 & 2-PF & & \(2 . \mathrm{C} 5\) & & HD66 & 4-PF & 5 & 7 & 2.C8 & \\
\hline BV66 & & & \(2 . \mathrm{C} 5\) & & HE66 & & & & 2.C8 & \\
\hline BY66 & PF1 & & \(2 \cdot \mathrm{C} 5\) & & HIE6 & & 2 & 57 & 2:C8 & \\
\hline B766 & & & \(2 . \mathrm{C} 5\) & cw1/35 & H766 & = & 2 & 29 & 2:C8 & \\
\hline CA66 & PF1 & & 2 C 5 & & H166 & 1-4 & & & 2:C8 & g11/12 \\
\hline CC66 & - & & \(2 \mathrm{C5}\) & & HN66 & & & & 2:C8 & cw1/30 \\
\hline CE66 & PF1 & & \(2 . \mathrm{C5}\) & & HP66 & & & & 2.C8 & \\
\hline CF66 & PF1 & & \(2 . \mathrm{C5}\) & & HR66 & PF & & & 2.C8 & \\
\hline CG66 & - & & \(2 . \mathrm{C5}\) & & H566 & 1-4? & 2 & 78 & 2:C8 & \\
\hline CH66 & & & \(2 . \mathrm{C5}\) & 5f2/383 & HT66 & 2-4 & 5 & 7 & 2:C8 & \\
\hline CK66 & 1 ? & & \(2 . \mathrm{C} 5\) & sf118 & H256 & & & & 2:C8 & 56481 \\
\hline CL66 & PF1 & & \(2 . \mathrm{C} 5\) & cw1/33;71 & HX66 & \(2-4\) ? & 5 & 7 & 2:C8 & \\
\hline CM66 & PF1 & & 2.C5 & cwl/3 & IB66 & 1-3 & & & 2:C8 & \\
\hline CN66 & PF1 & & 2.C5 & & ID66 & & & & 2:C8 & \\
\hline CO66 & PF1 & & \(2 . \mathrm{C} 5\) & & IF66 & 1-4 & & & 2:C8 & \\
\hline CP66 & PF1 & & 2.C5 & & 1G66 & - & & & 2:C8 & \$4486 \\
\hline CQ66 & PF & & \(2 . \mathrm{C} 5\) & & H266 & & 2 & 29 & \(2 . \mathrm{C8}\) & \\
\hline CS66 & PF1 & & 2 C 5 & & IR66 & & & & 2:C8 & \\
\hline CU66 & PF1 & & \(2 . \mathrm{C5}\) & & 1566 & \(2-4 ?\) & 5 & 7 & 2:C8 & \\
\hline CV66 & - & & \(2 . \mathrm{C} 6\) & & 12166 & & & & 2:C9 & st7/18 \\
\hline CY66 & PF1 & & 2:C6 & & IV66 & & & & 2.C9 & \\
\hline C766 & - & & 2.C6 & & 7N66 & & & & 2:C9 & 5329 \\
\hline DB66 & PF1 & & 2.C6 & cw1/71-2 & IY66 & & & & 2:C9 & g12/34 \\
\hline DC66 & PF1 & & 2.C6 & & 1266 & & & & 2:C9 & 5t485;6/2; cw \(1 / 3\) \\
\hline DD66 & & 2 & 58 2.C6 & & JB66 & & & & 2:C9 & s¢2103 \\
\hline DE66 & & & \(2 . \mathrm{C} 6\) & 512239 & 10t6 & & & & 2:C9 & \\
\hline DG66 & PF1 & & \(2 . \mathrm{C} 6\) & & IE66 & & 2 & 59 & 2:C9 & \\
\hline DH66 & & & \(2 . \mathrm{C} 6\) & 512294 & IF66 & & & & 2:C9 & \\
\hline D]66 & 1-3 & & \(2 . \mathrm{C} 6\) & & 1/666 & & & & 2:C9 & \$¢2313 \\
\hline DK66 & PF1 & & 2.C6 & 512167 & \# 766 & & & & 2:C9 & \\
\hline DR66 & 1 & & 2:C6 & & /K66 & \(1-4\) ? & 2 & 78 & 2:C9 & \\
\hline DUE6 & - & & \(2 . \mathrm{C} 6\) & & [M66 & & & & 2:C9 & \\
\hline DX66 & PF & & \({ }_{2} 2 . \mathrm{C} 6\) & & JP66 & 1-4? & 2 & 78 & 2:C9 & \\
\hline DY66 & & 2 & 63 2:C6 & & IR66 & 3 & 2 & 25 & 2:C9 & \\
\hline EA66 & PF2 & & 2 C 6 & & 1766 & & & & 2:C9 & \\
\hline EB66 & & & \(2 . \mathrm{C} 6\) & s12112 & 1466 & & 2 & 59 & 2:C9 & \\
\hline EC66 & - & & \(2 . \mathrm{C} 6\) & st745 & \({ }^{1} \times 66\) & 2-PF & & & 2:C9 & \\
\hline EE66 & 2-PF & & \(2 . \mathrm{C6}\) & & IY66 & 3 & 2 & 25 & 2.C9 & \\
\hline EF66 & - & & 2:C6 & & 1266 & - & & & 2:C9 & \\
\hline EG66 & & & 2.C6 & st6/17 & KA66 & PF2 & & & 2:C9 & \\
\hline E166 & PF2 & & 2.C6 & & KC66 & & & & 2:C9 & 563/41; \({ }^{\text {cw } 1 / 24}\) \\
\hline EJ66 & & & 2.C6 & & KDE6 & & & & \(2 \cdot \mathrm{C9}\) & \\
\hline EK66 & - & & 2:C6 & & KE66 & PF2 & & & 2:C9 & \\
\hline EL66 & - & & \(2 . \mathrm{C} 6\) & & KL66 & & & & 2:C9 & \\
\hline EM66 & 2-3 & & \(2 . \mathrm{C} 6\) & & KN66 & - & & & 2:C9 & \\
\hline EN66 & & & \(2 . C 7\) & sf8/5 & K066 & & & & 2 C 9 & \\
\hline EO66 & 4 & & \(2 . C 7\) & & KR66 & 4 & & & \(2 \cdot \mathrm{C} 9\) & \\
\hline EP66 & & & 2.C7 & 5¢2248;109 & KLIE6 & 1-4 & & & 2.C10 & \\
\hline ES66 & 2-3? & & \(2 \mathrm{C7}\) & sal.80 & KV66 & 2-4 & 5 & 7 & 2.C10 & \\
\hline EY66 & & & \(2 \cdot \mathrm{C7}\) & & KVV66 & - & & & 2.C10 & \\
\hline EZ66 & 1-4 & & \(2 \cdot \mathrm{C7}\) & & KX66 & & & & 2.C10 & sf2/151 \\
\hline FD66 & PF2? & & \(2 \cdot \mathrm{C7}\) & & KY66 & 1-4 & & & \(2 \cdot \mathrm{Cl0}\) & \\
\hline FE66 & 2-PF & & 2.C7 & & K766 & PF2 & & & 2.C10 & cev1/103 \\
\hline FF66 & - & & 2.67 & & LA66 & PR & & & 2.C10 & \\
\hline FG66 & PF2? & & 2.C7 & & L.B66 & PR & & & 2.C10 & \\
\hline FH66 & - & & 2.C7 & & LC66 & PR-1 & & & \(2 . \mathrm{Cl0}\) & \\
\hline FJ66 & - & & 2.C7 & & LD66 & - & & & \(2 . \mathrm{Cl0}\) & \\
\hline FK66 & - & & 2.C7 & & LE66 & 1-4 & & & 2.C10 & cw1/77;90 \\
\hline FM66 & & & 2.C7 & & LF66 & 1-4 & & & \(2 \mathrm{Cl0}\) & cw189 \\
\hline FN66 & 2-3? & & 2:C7 & & LH66 & 1-4 & & & \(2 \mathrm{Cl0}\) & \\
\hline FP66 & 1-4 & & 2.C7 & & L.566 & 1-4 & & & 2:C10 & \\
\hline FQ66 & - & & 2.C7 & & L.J66 & 1-PF1 & & & 2:C10 & \\
\hline FT66 & PF & & 2:C7 & & L.K66 & 1-PF1 & & & 2.Cl0 & cw154 \\
\hline FU66 & 1-4? & 2 & \(78 \quad 2: C 7\) & s22197 & LM66 & 1-4? & & & \(2 . \mathrm{Cl0}\) & \\
\hline FV66 & - & & 2.C7 & & L066 & & & & 2.C10 & 562329 \\
\hline FW66 & & & 2.C7 & & L066 & PR-1 & & & 2.C10 & \\
\hline FX66 & & & 2.C7 & & 1.566 & & & & 2.C10 & sf2/113 \\
\hline FY66 & 1-4 & & 2:C7 & & LT66 & & & & 2.C10 & \\
\hline FZ66 & 1-4? & & 2.67 & cw1/136 & LV66 & 1-PF1 & & & 2:C10 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline Group & Phase & Table & \[
\begin{aligned}
& \text { Comp MF } \\
& \text { No pgeno }
\end{aligned}
\] & Fiouts & Group & Phase & Tatke & Comp No & MF pageno & Finds \\
\hline LW66 & PR-1 & & 2:C10 & & DM67 & 4. & & & 2 Cl 3 & \\
\hline LX66 & 1-4 & & 2.C10 & & DN67 & & & & 2 Cl 3 & sal/39 \\
\hline LY66 & 1-PF1 & & \(2 . \mathrm{C} 10\) & & D067 & - & & & \(2 . \mathrm{Cl} 3\) & \\
\hline LZ66 & - & & 2.C10 & & DP67 & PF1 & & & 2:C13 & \\
\hline MB66 & & & \(2 . \mathrm{C} 10\) & & DQ67 & & & & 2:C13 & sf10/11 \\
\hline MC66 & PR-4 & & \(2 \cdot \mathrm{Cl1}\) & & DT67 & PF & & & 2.C13 & sf2/136 \\
\hline ME66 & & & \(2 \mathrm{Cl1}\) & sf6/1;cw1/33 & DY67 & & & & 2:C13 & sal24 \\
\hline M H 66 & 1-4 & & \(2 \mathrm{Cl1}\) & sal/53 & D267 & 4a-PF & & & 2:C13 & sf3/30;cw1/40 \\
\hline MI66 & & & 2.C11 & & EA67 & & & & 2:C13 & \\
\hline M/66 & & & 2:C11 & 564/34 & EK67 & & & & 2:C13 & \\
\hline MM66 & 1-PF1 & 2 & 60 2:C11 & 512/243 & EP67 & 4 a & & & 2:C13 & \\
\hline MN66 & & & 2:C11 & & EW67 & & & & 2:C13 & \\
\hline MQ66 & & 2 & 59 2:C11 & & EX67 & & & & 2:C13 & sf10/12;cw1/40 \\
\hline MR66 & - & & 2:C11 & & EY67 & & & & 2:C13 & sf2/259;8/2;7; cw1/12;63 \\
\hline MT66 & 2 & & 2.C11 & & FE67 & & & & 2:C13 & sf7/53;cw1/97 \\
\hline MV66 & 1 & & 2:C11 & 566/30 & FH67 & - & & & 2:C13 & \\
\hline MW66 & & & 2:C11 & & F167 & - & & & 2:C13 & \\
\hline NA66 & 1-4 & & 2:C11 & & F167 & & & & 2:C13 & \\
\hline NG66 & PF & & 2:C11 & & FP67 & & & & 2:C13 & \\
\hline NL66 & PF & & 2.C11 & & FS67 & & 2 & 66 & 2:C14 & \\
\hline NR66 & 2-PF & & 2:C11 & & FW67 & & & & 2:C14 & \\
\hline NU66 & & 2 & 20.2 C 11 & s/2/295;6/16 & GB67 & & & & \({ }_{2} \mathrm{C} 14\) & 512/117 \\
\hline NV66 & 1-4 & & 2:C11 & & GD67 & & & & 2:C14 & \\
\hline AA67 & & & 2.C11 & 5f259 & GE67 & & & & 2:C14 & 564/47;77 \\
\hline AB67 & - & & 2.C11 & & GF67 & - & & & 2:C14 & \\
\hline A 1667 & - & & \(2 . \mathrm{Cl1}\) & & GG67 & & & & 2:C14 & 5f9/4;cw1/97 \\
\hline A167 & & & 2:C11 & & GH67 & 2 & 3 & 43 & 2:C14 & \\
\hline AK67 & PF2? & & 2:C11 & sal/9 & GS67 & - & & & 2:C14 & cw194 \\
\hline AP67 & & & 2:C11 & sf7/48;g11/25 & GT67 & & & & 2:C14 & \\
\hline AQ67 & PF2 & & \(2 \cdot \mathrm{C} 11\) & sf2227 & GV67 & \(1 \mathrm{~b}-4 \mathrm{a}\) ? & & & 2:C14 & \\
\hline AR67 & - & & \(2 . \mathrm{Cl1}\) & s¢3/42; 1026; sal/5; 120 & GW67 & 4a? & & & \(2 . \mathrm{C} 14\) & \\
\hline AS67 & PF2 & & \(2 . \mathrm{Cl1}\) & & GY67 & 4a? & & & 2:C14 & \\
\hline AU67 & & & \(2 . \mathrm{Cl1}\) & & HC67 & - & & & 2:C14 & \\
\hline AV67 & & & \(2 . \mathrm{Cl1}\) & sf2/179; sal/11 & HD67 & - & & & 2:C14 & \\
\hline AX67 & - & & \(2 . \mathrm{Cl1}\) & sf256 & HE67 & - & & & 2:C14 & \\
\hline BC67 & - & & \(2 . \mathrm{Cl1}\) & & HF67 & & & & 2:C14 & sf218 \\
\hline BH67 & - & & 2 Cl 2 & & H]67 & 3 & & & 2:C14 & \\
\hline BJ67 & - & & 2 Cl 2 & \(\mathrm{sif/42}\) sal/46; 27\% gll/17 & H067 & 4 a ? & & 73 & 2:C14 & \\
\hline B167 & & & 2 Cl 2 & & HV67 & 3-4a & 3 & 92 & 2:C14 & sal/33 \\
\hline BL67 & PF2 & & 2 Cl 2 & & HX67 & & & & 2:C14 & sf2/42; cwl/8;66;99 \\
\hline BN67 & - & & \({ }_{2} \mathrm{Cl} 12\) & & \(\mathrm{HZ67}^{\text {H2 }}\) & & & & 2:C14 & sf7/19, cwl/81; 102;gll/13 \\
\hline B067 & & & 2 Cl 2 & & IC67 & 4 b ? & 2 & 46 & \({ }_{2} \mathrm{C} 14\) & \\
\hline BP67 & PF1 & & \(2 \cdot \mathrm{Cl2}\) & sa23;6 & \({ }^{1567}\) & & & & \({ }_{2}\) 2:C14 & 5611/1 \\
\hline BR67 & PF? & & \({ }_{2} \mathrm{Cl}^{2}\) & & IG67 & & & & 2:C14 & 512/355 \\
\hline BS67 & - & & 2 Cl 2 & & 11667 & 3? & 2 & 66 & 2:C14 & 56297 \\
\hline BT67 & 1-PF1 & & \(2 . \mathrm{Cl} 2\) & cw1/102 & 1067 & & & & 2:C14 & 567/52 \\
\hline BV67 & PF2 & & 2 Cl 2 & & 1067 & & & & 2:C14 & \\
\hline BW67 & 1-PF1 & & 2 Cl 2 & \(\mathrm{s} 2 / 2\) & W667 & & 9 & 14 & 2:C14 & \\
\hline BX67 & - & & 2 Cl 2 & & IX67 & & 9 & 14 & 2:D1 & \\
\hline BY67 & PF2 & & 2 Cl 2 & sf6/31 & IZ67 & & & & 2:D1 & s62/41;cw1/45;95 \\
\hline B267 & PF? & & \({ }_{2} \mathrm{Cl} 12\) & sf10/27;cw1/91;g119 & JA67 & 2 & 3 & 43 & 2:D1 & \\
\hline CA67 & - & & 2 Cl 2 & sF734 & JE67 & & 2 & 66 & 2:D1 & 866/21 \\
\hline CC67 & \(1-\mathrm{PF} 1\) & & \(2 \mathrm{Cl12}\) & & M667 & & 2 & 18 & 2:D1 & \\
\hline CD67 & \(P F ?\) & & 2 Cl 2 & & 1067 & & & & 2:D1 & 564/48 \\
\hline CE67 & & & 2 Cl 2 & sf2/190 & JR67 & - & & & 2D1 & \\
\hline CG67 & & & 2 Cl 2 & s12/372 & TT67 & & & & 2.D1 & sf7/45 \\
\hline CH67 & PF1 & & \(2 . \mathrm{Cl} 2\) & & 1V67 & \(3 ?\) & & & 2D1 & \\
\hline \(\mathrm{CPF67}^{\text {CR }}\) & 1-PF1 & & 2 Cl 2 & cw1/55 & \({ }^{1} \times 667\) & & & & 2-D1 & sf2/100; 111 \\
\hline CK67 & - & & 2 Cl 2 & & KE67 & & & & 2.D1 & sf2/143 \\
\hline CL67 & PF? & & 2 Cl 2 & sa2/42 & K/67 & & & & 2.D1 & sf28:5a2/22 \\
\hline CM67 & & & \(2 \cdot \mathrm{Cl} 2\) & & KL67 & & & & 2.D1 & \\
\hline CN67 & PF1 & & \(2 . \mathrm{Cl} 2\) & & KP67 & & & & 2.D1 & sf2/366 \\
\hline CP67 & PF & & 2 Cl 2 & sa2/5 & KQ67 & 4 & & & 2-D1 & \\
\hline CQ67 & PF & & 2 Cl 2 & & KX67 & & 9 & 13 & 2:D1 & cw1/46 \\
\hline CT67 & PF & & \(2 . \mathrm{Cl} 2\) & & K767 & - & & & 2.D1 & \\
\hline CU167 & PF? & & 2 Cl 2 & & L.667 & - & & & 2:D1 & \\
\hline CV67 & & & \(2 . \mathrm{Cl} 2\) & cw1/57 & LC67 & - & & & 2:D1 & \\
\hline CW67 & PF? & & 2 Cl 2 & gl1/30 & LD67 & PF2 & & & 2:D1 & \\
\hline CX67 & PF1 & & \(2 \mathrm{Cl13}\) & & 467 & - & & & 2:D1 & \\
\hline CY67 & PF1 & & \(2 \mathrm{Cl13}\) & & 467 & PF2? & & & 2:D1 & \\
\hline C267 & PF? & & 2 Cl 3 & & 1067 & & & & 2:D1 & \\
\hline DA67 & PF? & & \(2 \mathrm{Cl13}\) & sf6/33 & LQ67 & \(4 a^{?}\) & & & 2:D1 & \\
\hline DB67 & PF? & & \(2 \cdot \mathrm{Cl} 3\) & & LS67 & & 9 & 13 & 2:D1 & \\
\hline DD67 & & & \(2 . \mathrm{Cl} 3\) & sf265;cw1/81 & LU67 & - & & & 2:D1 & \\
\hline DH67 & PF & & 2.C13 & sa2/42 & LV67 & PFI & & & 2:D1 & cw1/64 \\
\hline DL67 & 4 & 2 & 45 2:Cl3 & & LW67 & PF2 & & & 2:D1 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Group & Phase & TaNle & \[
\begin{gathered}
\text { Comp } \\
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\] & MF pugemo & Fionds & Growp & Phase & Tatbe & \[
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\text { Comp } \\
\text { No }
\end{gathered}
\] & MF pagren & Finds \\
\hline LW67 & PFI? & & & 2-D1 & & FE68 & 4b & & & 2:D4 & \\
\hline LY67 & & & & 2.D1 & & FQ68 & PF? & & & 2:D4 & 842/29 \\
\hline 1267 & PF2 & & & 2.D1 & cw1/63 & TU68 & & & & 2.D4 & \\
\hline MC67 & PF1 & & & 2.D2 & & FW68 & & & & 2:D4 & \\
\hline MD67 & PFI & & & 2.D2 & & GC68 & - & & & 2.D4 & \\
\hline MF67 & & 9 & 13 & 2.D2 & cw1/53 & GD68 & & & & \(2 \mathrm{D4}\) & s/3/21 \\
\hline MG67 & \(4 a ?\) & & & 2.D2 & & GH68 & 4b & & & \(2 \mathrm{D4}\) & \\
\hline M \(\mathrm{H}_{67} 7\) & & & & 2.D2 & sf224 & Gl68 & PF? & & & \(2 \mathrm{D4}\) & \\
\hline M/67 & 3-PF? & & & 2.D2 & & G168 & 4 b & & & \(2 \mathrm{D4}\) & sf2/277;301 \\
\hline ML67 & 3-PF & & & 2.D2 & cw1/31;88 & GL68 & - & & & 2.D4 & \\
\hline M N67 & 4? & & & 2.D2 & & GM6S & & & & \(2 \mathrm{D4}\) & sf221;72 \\
\hline MP67 & 1-4 & 9 & 13 & 2.D2 & cw1/78 & G068 & & & & \(2 \mathrm{D4}\) & \\
\hline MR67 & & 9 & 7 & 2:D2 & & GU68 & IF & & & 2 D 4 & cw 1/140 \\
\hline MV67 & & & & 2.D2 & & GX68 & 4b & & & 2-D4 & \\
\hline MW67 & 4b & 2 & 44 & 2:D2 & & HA68 & 4 b & 4 & 35 & \(2 \mathrm{D4}\) & \\
\hline MX67 & \(3 ?\) & 2 & 68 & 2.D2 & cw1/33 & HB68 & \(4 b\) & & & 2 DS & cw1/57;59 \\
\hline NA67 & 4 & 2 & 11 & 2:D2 & & HC68 & - & & & 2.D5 & sf2/171; 195 \\
\hline NB67 & 4b? & 2 & 44 & 2:D2 & & HD68 & \(4 b\) & & & 2.D5 & sf2/162 \\
\hline NC67 & 4 b ? & 2 & 44 & 2.D2 & & HE68 & 4b & 4 & 37 & 2.D5 & sf7/24 \\
\hline NF67 & & & & 2:D2 & s57/33 & H168 & 1-4a & & & 2.D5 & sf2/340 \\
\hline NQ67 & & & & 2:D2 & 54427 & HL68 & & & & 2.D5 & sf2/11 \\
\hline NR67 & & 9 & 13 & 2:D2 & cw1/19 & HT68 & 4-PF? & & & 2:D5 & \\
\hline NV67 & 4 b ? & 2 & 44 & 2:D2 & & HW6s & 4b-PF & 4 & 35 & 2.D5 & \\
\hline N267 & & 2 & 68 & 2:D2 & st6/32 & HY68 & PF & & & 2.D5 & \\
\hline O867 & 1-3? & & & 2:D2 & sf11/9 & IE68 & PF & & & \(2 . \mathrm{D5}\) & \\
\hline OD67 & 2 & & & 2:D2 & sf6/5 & IF68 & - & & & 2.D5 & sf2116; 488 \\
\hline OE67 & & & & 2:D2 & & IK68 & 4-PF & & & 2.D5 & \\
\hline OF67 & & & & 2:D2 & & 1068 & & & & 2.D5 & sf2/129 \\
\hline O167 & & & & 2:D2 & 51298 & IP68 & & & & 2:D5 & s.284 \\
\hline 0167 & 4 a & 2 & 44 & 2:D2 & & IS68 & 4-PF? & 9 & 7 & 2.D5 & \\
\hline OK67 & & & & 2:D3 & st6/19-20;7/34 & IT6s & PF & & & 2.D5 & \\
\hline 0567 & & & & 2:D3 & & IL6S & PT & & & 2.D5 & \\
\hline OW67 & & & & 2:D3 & 512198 & IV68 & PF & & & 2.D5 & s16/4 \\
\hline PB67 & 2 & 2 & 12 & 2:D3 & & IW68 & 1-PF & & & 2.D5 & \\
\hline PD67 & & & & 2:D3 & & JD68 & PF & & & 2.05 & \\
\hline PG67 & 1-4? & & & 2:D3 & sf11/5 & JH68 & PF & & & 2.D5 & sf2/122; 275 \\
\hline AE68 & - & & & 2:D3 & st3/19 & 1068 & PF & 9 & 7 & 2.D5 & \\
\hline AR68 & - & & & 2:D3 & \(547 / 3\) & JP68 & PF & 9 & 7 & 2:D5 & \\
\hline AY6S & - & & & 2:03 & & F568 & PF & & & 2.D5 & \\
\hline BD68 & - & & & 2:D3 & 5\$2300 & \({ }^{\text {J }}\) ( 688 & PF & 4 & 53 & 2:D6 & \\
\hline B168 & & & & 2:D3 & & [268 & PF & 4 & 53 & 2:D6 & \\
\hline BK68 & PF & & & 2:D3 & & KB6 & P7 & 4 & 53 & 2:D6 & \\
\hline BL68 & & & & 2.D3 & sal/161;241 & KC68 & PF & & & 2.D6 & sa395 \\
\hline B068 & & & & 2:D3 & s226; cw-1/47 & KD68 & 4-PF & 9 & 7 & 2:D6 & \\
\hline BP68 & PF & & & 2:D3 & sf7/35; cw 1/55, 60-95,97; & KE68 & 1-PF & & & 2:D6 & cw1/33 \\
\hline & & & & & 102 & KG68 & PF? & & & \(2 . \mathrm{D6}\) & sf2 \(120 ; 154-5\) \\
\hline BLA6s & & & & 2:D3 & & K168 & - & & & 2.156 & sf2/299 \\
\hline BV68 & & & & 2:D3 & g11/29 & K/68 & & & & 2.D6 & sf2/168 \\
\hline BZ68 & PF & & & 2:D3 & & KK68 & & & & 2:E14 & \\
\hline CA68 & PF & & & 2:D3 & cw1/48 & K068 & 1-PF & & & 2:D6 & sf285 \\
\hline CQ68 & & & & 2:D3 & & K768 & 1-PF & & & 2:D6 & sf6/22 \\
\hline C268 & & & & 2:D3 & 592101 & KU6 6 & PF & 4 & 53 & 2:D6 & sf2126 \\
\hline DC68 & & & & 2.D3 & 512/218 & KV69 & PF & 4 & 53 & 2:D6 & \\
\hline DG68 & - & & & 2:D3 & & KW68 & - & & & 2:D6 & \\
\hline DH68 & & & & 2:D3 & & KX68 & PF? & & & 2:D6 & \\
\hline DR68 & 1-PF & & & 2:D3 & gl1/10a & KY68 & 1-PF & & & 2:D6 & \\
\hline DV68 & PF? & & & 2:D3 & & LE68 & PF & 4 & 53 & 2:D6 & \\
\hline DY68 & PF & & & 2:D3 & s 22006 & LF68 & PF? & & & 2:D6 & \\
\hline DZ68 & PF & & & 2:D3 & & LG68 & PF & & & 2.06 & \\
\hline EC68 & & & & 2:D3 & & LH68 & - & & & 2:D6 & 81489 \\
\hline EE68 & & & & 2:D3 & g11/5b & LK68 & & & & 2:D6 & \\
\hline E/68 & PF & & & 2:D3 & S2/132; 236, 332 & LM68 & PF & & & 2:D6 & 811/28 \\
\hline EM6S & - & & & 2:D3 & sf2166; 373,7/21 & L068 & & & & 2:D6 & 512124 \\
\hline EN68 & & & & 2:D3 & & L 668 & & 9 & 5 & 2:D6 & \\
\hline E068 & & & & 2:D4 & & MC68 & 2-3? & & & 2:D6 & 5¢2/240 \\
\hline EP68 & PF & & & 2:D4 & s12100; 3/31;sal/130-7 & MD68 & PF? & & & 2:D6 & \\
\hline EQ68 & PF & & & 2:D4 & 512/297 & MF68 & 4b-PF & 4 & 55 & 2:D6 & \\
\hline ER6\% & PF & & & 2:D4 & & M 168 & 1 ? & & & 2:D6 & st6/23 \\
\hline ET68 & - & & & 2:D4 & 567/20;61 & M 168 & PF & 4 & 53 & 2:D6 & glt/31 \\
\hline EU68 & PF & & & 2:D4 & s12/276 & MK68 & - & & & 2:D7 & sf2 180; 3/34; sal/162; 2/28; \\
\hline EV68 & PF & & & 2:D4 & sa1/130-7 & & & & & & 33 \\
\hline EW68 & 4 b & & & 2:D4 & & MM6 \({ }^{\text {d }}\) & 2? & 4 & 64 & 2:D7 & \\
\hline EX68 & & & & 2:D4 & sf2108 & MO68 & 4 b & 4 & 55 & \(2: D 7\) & sf3/16 \\
\hline FA68 & 2-4 & & & 2:D4 & cw1/16;71 & MP68 & ab? & & & 2:D7 & \\
\hline FB68 & & & & 2:D4 & sf2153 & MR68 & PF & & & 2:D7 & \\
\hline FC68 & - & & & 2:D4 & sf79 & MT68 & PF & & & \(2: \mathrm{D} 7\) & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Growp & Phase & Tahk & Cowp
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\] & \begin{tabular}{l}
MF \\
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\end{tabular} & Finds & Group & Platse & Tatle & \[
\begin{gathered}
\text { Cowp } \\
\mathrm{No}
\end{gathered}
\] & \begin{tabular}{l}
MF \\
pageno
\end{tabular} & Finds \\
\hline MW68 & 4. & 4 & 33 & \(2 \cdot 107\) & & GV69 & PF? & & & 2.D9 & \\
\hline MZ68 & 3? & 4 & 61 & \(2 \cdot 107\) & & G269 & - & & & 2:D10 & g12/35; 37 \\
\hline NB68 & T F & 4 & 53 & 2.D7 & & HC69 & 4-PF & & & 2:D10 & \\
\hline NC68 & PF & 4 & 53 & 2.D7 & & HF69 & 1b & 4 & 77 & 2:D10 & \\
\hline ND68 & & 9 & 5 & 2:D7 & & H/69 & & & & 2:D10 & 5 61210 \\
\hline NH68 & 4b & 4 & 35 & 2:D7 & & HR69 & \(1 ?\) & & & 2:D10 & \\
\hline NI68 & 43 & & & 2:D7 & & HS69 & 1 & & & 2:D10 & \\
\hline NK68 & & & & 2:D7 & 563/36 & HT69 & 1 & 4 & 77 & 2:D10 & \\
\hline NL68 & 3 ? & 4 & 61 & 2:D7 & & HX69 & 1-4 & 4 & 61 & 2:D10 & \\
\hline N068 & - & & & 2:D7 & & HY69 & 4 & 4 & 60 & 2:D10 & \\
\hline NQ68 & \(4 b\) & 4 & 55 & 2:D7 & & HZ69 & 1 & 4 & 77 & 2:D10 & \\
\hline NS68 & - & & & 2:D7 & 587/56 & 1B69 & 1-PF & & & 2:D10 & \\
\hline NV68 & PF & 4 & 53 & 2:D7 & & 1D69 & 1 ? & 9 & 4 & 2:D10 & \\
\hline NW68 & \(2-4 b\) & 4 & 54 & 2:D7 & & 1669 & 1? & 9 & 4 & 2:D10 & \\
\hline OC68 & & & & 2:D7 & 51487; 5/1 & 1569 & & & & 2:D10 & 81270 \\
\hline OE68 & & & & 2:D7 & s1214 & 1K69 & & & & 2:D10 & \\
\hline OC68 & & & & 2:D7 & sโ2138; 196 & AA70 & - & & & 2:D10 & \\
\hline OH68 & & 9 & 5 & 2:D7 & 566/34-5 & AB70 & - & & & 2:D10 & \\
\hline O/68 & & 9 & 5 & 2:D7 & & AET0 & - & & & 2:D10 & st6/36 \\
\hline A569 & & & & 2:D7 & sf1032 & AG70 & 4-PF & & & 2:D10 & \\
\hline A 469 & PF & 4 & 57 & 2:D7 & & A 1770 & PF & & & 2:D10 & \\
\hline BC69 & PF & 4 & 57 & 2:D7 & sf233; 176; 302; gl1/5 & AM70 & 4-PF? & & & 2:D10 & col/213 \\
\hline BJ69 & & & & 2:D7 & s6142 & AQ70 & - & & & 2:D10 & sf7/58; gll/4;7a; 14b \\
\hline BM69 & & & & 2:D8 & 512304 & ALI70 & \(\stackrel{-}{\square}\) & & & 2:D10 & sf7/43: \(\mathrm{cwl}^{\text {1/100 }}\) \\
\hline BN69 & PF & 4 & 57 & 2:D8 & & AV70 & PF & & & 2:D10 & s¢2.27 \\
\hline B069 & PF & & & 2:D8 & & AW70 & - & & & 2:D10 & S1343 \\
\hline BP69 & PF & & & 2.D8 & & AX70 & & & & 2:D10 & \\
\hline BS69 & PF & & & 2:D8 & & AY70 & 3 & 3 & 62 & 2:D10 & cw1/72 \\
\hline BW69 & PF & & & 2:D8 & & B870 & 4 & & & 2:D11 & \\
\hline CA69 & & & & 2:D8 & 567/36 & BC70 & 4-PF? & & & 2:D11 & \\
\hline CG69 & PF? & 4 & 57 & 2:D8 & & BG70 & \(4 b\) & & & 2:D11 & cw1/70; 141 \\
\hline CH69 & PF? & & & 2:D8 & & BH7\% & 4 & & & 2:D11 & \\
\hline Cl69 & PF & & & 2:D8 & s¢277 & B7\% & 4 & & & 2:D11 & 56314 \\
\hline CK69 & & & & 2:D8 & s62/193 & BK70 & - & & & 2:D11 & sf2362; cwl199 \\
\hline CL69 & 4-PF & & & 2:D8 & 5®252 & B070 & 4 & & & 2:D11 & \\
\hline CO69 & & & & 2:E14 & & BP70 & 4. & & & 2:D11 & \\
\hline CP69 & & & & 2:D8 & s2/314;321 & BR70 & 1-2? & & & 2:D11 & \\
\hline CR69 & & & & 2:E14 & & BW70 & 4 & & & 2:D11 & \\
\hline CT69 & 4-PF & & & 2:D8 & & BX70 & 4 & & & 2:D11 & \\
\hline CV69 & & & & 2:D8 & sf642 & CA70 & 4 & & & 2:D11 & \\
\hline CX69 & PF & 4 & 57 & 2:D8 & & CD70 & PF & & & 2:D11 & s¢2/219 \\
\hline CY69 & PF & 4 & 57 & 2:D8 & & Cl70 & & & & 2:D11 & \\
\hline DA69 & & & & 2:E14 & & C170 & 4b-PF & & & 2:D11 & \\
\hline D869 & PF? & & & 2:D8 & & CK7O & 43 & & & 2:D11 & \\
\hline DD69 & 4-PF & & & 2:D8 & & CL70 & 4 & & & 2:D11 & \\
\hline DG69 & 4-PF & & & 2:D8 & & CR70 & PF & & & 2:D11 & st637 \\
\hline DJ69 & PF? & & & 2:D8 & & CT70 & & & & 2:Dtt & \\
\hline DK69 & 4-PF & & & 2:D8 & & CV70 & 4? & & & 2:D11 & \\
\hline EF69 & 4-PF & & & 2:D8 & & CW70 & 4 a & & & 2:D12 & sf1028 \\
\hline EH69 & & & & 2:D8 & 56250 & DC70 & 4 a & & & 2:D12 & cwl/69 \\
\hline El69 & 4a-PF & & & 2:D8 & & DD70 & 3 & 3 & 62 & 2:D12 & \\
\hline EP69 & 2-4 & & & 2:D8 & & DE70 & 4? & & & 2:D12 & \\
\hline EQ69 & 2-PF? & & & 2.D9 & & DM70 & 4 & & & 2:D12 & \(\mathrm{cw} 1 / 31\) \\
\hline ES69 & 2-4 & & & 2:59 & & DR70 & 4b-PF & & & 2:D12 & sa2/12 \\
\hline ET69 & & 9 & 7 & 2:D9 & & DS70 & 1 & & & 2:D12 & \\
\hline EX69 & 4-PF & & & 2:D9 & & DT70 & 4? & & & 2:D12 & \\
\hline FE69 & 2-PF & & & 2:D9 & & EH7O & 4-PF & & & 2:D12 & \\
\hline F169 & 2-PF & 9 & 7 & 2:59 & & EM70 & & & & 2:D12 & sf2342; sal/19 \\
\hline FK69 & PF & 4 & 57 & 2:D9 & sf2/16 & EO70 & & & & 2:D12 & sf2/357-8; 7/37;cw 1/57; \\
\hline FN69 & 1b & & & 2:D9 & sf248; 109,305 & & & & & & 102 \\
\hline FO69 & 4 b ? & 4 & 59 & 2:D9 & & EP70 & 3 & 3 & 62 & 2:D12 & \\
\hline FR69 & 2-PF & & & 2:D9 & & ER70 & 4 & & & 2:D12 & \\
\hline FS69 & 3 & & & 2:D9 & & ET70 & & & & 2:012 & st2359; sal/119; cw1/35: \\
\hline T69 & & & & 2.59 & s12/303 & & & & & & 95: 105 \\
\hline FU69 & 1b & & & 2:D9 & & EUTO & - & & & 2:D12 & \(5 \mathrm{5F} 710\) \\
\hline FV69 & \(4 b\) & 4 & 59 & 2:D9 & & EX7O & & & & 2:D12 & s7749; cw 1/38;67 \\
\hline FW69 & lb & & & 2:D9 & & F870 & & & & 2.012 & si287; 237; sal19 \\
\hline GF69 & & & & 2:D9 & st261 & FF70 & - & & & 2:D12 & Sโ2360 \\
\hline GK69 & & & & 2:D9 & s¢27;52 & FG70 & & & & 2.D12 & sf1014 \\
\hline GL69 & & & & 2:D9 & 5 F 757 & FH70 & & & & \(2 . \mathrm{D} 12\) & sa215; cwl/65; 100; 147 \\
\hline GN69 & & & & 2:D9 & sf253; 133 & \(F 170\) & & & & 2.012 & si344; cw 1/35;68; 146 \\
\hline GO69 & Ib & & & 2:D9 & & 1770 & PF2? & & & 2:D12 & \\
\hline GP69 & 1 & & & 2:D9 & & FL70 & 4 & & & 2.D12 & \\
\hline GR69 & 4b-PF & 4 & 59 & 2:D9 & & FM70 & & & & 2.D12 & sf25; 221; \(249 ; \mathrm{cw1/31}\) \\
\hline G569 & 2-4a & & & 2:D9 & & FO70 & 4 & & & 2.012 & \\
\hline GT69 & PF? & & & 2:D9 & g12/37 & \(\mathrm{FQ70}\) & 4 & & & 2:D12 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline Group & Plase & Table & \begin{tabular}{l}
Comp MF \\
No pageno
\end{tabular} & Fimds & Group & Phase & Tahle & Cown No & MF pageno & Finds \\
\hline FR70 & PF2? & & 2:D12 & \[
\begin{aligned}
& \mathrm{s} / 2 / 319 ; \mathrm{sa} 219 ; \mathrm{cw} 1 / 19-20 ; \\
& 104
\end{aligned}
\] & \[
\begin{aligned}
& \text { IE71 } \\
& \text { II71 }
\end{aligned}
\] & 4.3 & & & \[
\begin{aligned}
& 2: E 1 \\
& 2: E 1
\end{aligned}
\] & \\
\hline FS70 & PF2 & & 2:D12 & cw1/148 & I771 & 4.3 & & & 2:E1 & \\
\hline FV70 & PF2 & & 2:D12 & & [K7] & 4.a & & & 2:E1 & sf86 \\
\hline FY70 & & & 2:D13 & 512137 & [L7\% & 2-3 & 2 & 20 & 2:E1 & \\
\hline GC70 & PF2 & & 2:D13 & sa1/119;cw1/53-5; 58;63;
\[
87 ; 100
\] & IN71
IO71 & 2-3 & 2 & 20 & 2:E1 & \\
\hline GF70 & PF2? & & 2:D13 & cw1/22; 55; 58; 101 & IV71 & & & & 2.E1 & \\
\hline GK70 & 4a? & & 2:D13 & & AC72 & & & & 2.E1 & \\
\hline GL70 & & & 2:D13 & cw1/34 & AY72 & PF? & & & 2.E1 & \\
\hline GM70 & PE2? & & 2:D13 & \[
\begin{aligned}
& \mathrm{sa} 2 / 4 ; \mathrm{cw} 1 / 22 ; 65 ; 87 ; 105 \text {; } \\
& 111
\end{aligned}
\] & \[
\begin{aligned}
& B G 72 \\
& B[72
\end{aligned}
\] & \[
\begin{aligned}
& \text { IF } \\
& \text { PF }
\end{aligned}
\] & & & 2.E1 & \\
\hline GO70 & & & 2:D13 & sश2241 & BLJ2 & PF? & & & 2:E2 & \\
\hline G770 & PF2 & & 2:D13 & cw1/22; 58 & BP72 & - & & & 2:E2 & s43.6 \\
\hline GW70 & & & 2:013 & cw1/102; 104-5 & BR72 & & & & 2:E2 & 54422 \\
\hline 6X70 & 4a? & & 2:D13 & & CB72 & & & & 2:E2 & 54419 \\
\hline HB70 & & & 2:D13 & & CE72 & & 2 & 2 & 2:E2 & \\
\hline HD70 & & & 2:D13 & 512384 & CK72 & 1-4 & & & 2:E2 & \\
\hline HF70 & & & 2:D13 & sf2/15; 170,330-1; sal/34; & CP72 & PF & & & 2:E2 & \\
\hline & & & & cw1/135; 137 & AB73 & - & & & 2:E2 & 564/37 \\
\hline H5\% & & & 2:D13 & sf2374;4/46 & AF73 & PF & & & 2:E2 & \\
\hline HK70 & 2-PF1 & & 2:D13 & & AH73 & 4b-PF? & 7 & 5 & 2:E2 & \\
\hline HS70 & & & 2:D13 & sf2110 & Al73 & 4b-PF & 7 & 4 & 2:E2 & \\
\hline HT70 & & & 2:D13 & sf374 & AX73 & \(4 \mathrm{~b}-\mathrm{PF}\) ? & 7 & 4 & 2:E2 & sf3/17 \\
\hline HW70 & 1b? & & 2:D13 & s4426 & B873 & \(4 \mathrm{Ab}-\mathrm{PF}\) ? & 7 & 5 & 2:E2 & \\
\hline H17\% & 3 & & 2:D13 & 511029 & BD73 & 4b-PF? & 7 & 4 & 2:E2 & \\
\hline 1470 & PF2 & & 2:D13 & & BG73 & & & & 2:E2 & 5448 \\
\hline 1070 & & & 2:D13 & 512363 & BP73 & & 7 & 2 & 2:E2 & \\
\hline 1770 & & & 2:D13 & 512361 & BR73 & 4b-PF? & 7 & 5 & 2:E2 & \\
\hline IY70 & & & 2:D13 & 512226 & B573 & \(4 \mathrm{~b}-\mathrm{PF}\) ? & 7 & 5 & 2:E2 & cw1/31; 58 \\
\hline JA70 & & & 2:D13 & 56442 & B273 & & 2 & 1 & 2:E2 & sa2/2 \\
\hline WG70 & & & 2:D13 & sf3/23 & CA73 & & 7 & 2 & 2:E2 & \\
\hline AD71 & = & & 2:D13 & & CG73 & \(2-4\) & 7 & 2 & 2:E2 & \\
\hline AL.71 & & & 2:D13 & & C773 & & 2 & 1 & 2:E2 & \\
\hline AM71 & & & 2:D13 & & Cl73 & 2-4 & 7 & 2 & 2:E2 & \\
\hline AP71 & PF2 & & 2:D14 & & CO73 & 2-4 & 7 & 2 & 2:E2 & \\
\hline AX71 & PF2 & & 2:D14 & & CU73 & 2-3 & 7 & 2 & 2:E2 & \\
\hline RB71 & & & 2:D14 & 51232 & CW73 & 1a? & 4 & 219 & 2:E2 & \\
\hline BD71 & & & 2:D14 & & DA73 & & 4 & 218 & 2:E3 & \\
\hline BK71 & & & 2:D14 & 3663 & DB73 & 2-4a & 7 & 2 & 2:E3 & cw1/73 \\
\hline BP71 & & & 2:D14 & s67,63 & DE73 & 1a? & 4 & 219 & 2:E3 & \\
\hline BS71 & & & 2:D14 & 512163;762 & AB76 & & & & 2:E3 & 5f360 \\
\hline BT71 & & & 2:D14 & 5¢7/12 & AG76 & & & & 2:E3 & sf482 \\
\hline BY71 & PFI & & 2:D14 & & AY76 & & & & 2:E3 & \\
\hline CD71 & PF2 & & 2:D14 & & BA76 & & & & 2 E 3 & 512/306 \\
\hline CF71 & PF1 & & 2:D14 & & BC76 & & & & 2:E3 & sf361 \\
\hline CS71 & & & 2:D14 & & BF76 & & & & 2:E3 & ธf362; cw 2 429 \\
\hline CT71 & PF1 & & 2:D14 & cwi/2 & BH76 & & & & 2:E3 & sf2391 \\
\hline CU71 & & & 2:D14 & sโ2191 & A.Ast & - & & & 2:E3 & sf2/375; 10.15 \\
\hline CW71 & PF & & 2:D14 & & AB50 & - & & & 2.E3 & cot/43 \\
\hline DB71 & - & & 2:D14 & st7.46 & AC80 & - & & & 2:E3 & sf95 \\
\hline DF7 & PF1 & & 2:D14 & s6443 & ADe0 & & & & 2 E 3 & sf2/201 \\
\hline DQ7t & PF1 & & 2.D14 & g1238 & AE50 & = & & & 2 E 3 & \\
\hline DT71 & & & 2:D14 & 5f1030 & AFso & - & & & 2.E3 & co4/39; 54483 sal/79 \\
\hline DV71 & & & 2:D14 & & AC80 & - & & & 2.E3 & \\
\hline EK71 & & & 2.D14 & sf215 & A/180 & - & & & 2 E 3 & sfto31; git/15; 19 \\
\hline EQ71 & & & 2:D14 & & ALEO & - & & & 2 E 3 & cot33, gll/14 \\
\hline EP7I & 4 b ? & & 2:D14 & 562223 & A/30 & - & & & 2-53 & co431; \(40 ; 56 ; 5637\) \\
\hline EV71 & & & 2:D14 & & AK8O & - & & & 2:E3 & cot/34 \\
\hline FA71 & \(2-4 ?\) & & 2:D14 & & ALSO & PF3 & 10 & 5 & 2.15 & Cw2230-2 \\
\hline FC71 & & & 2:E1 & & AMR0 & P13 & 10 & 5 & 2:E3 & coti60;cw \(2230-2\) \\
\hline FE71 & - & & 2:E1 & & ANso & - & & & 2:E3 & Co432; 35; 57 \\
\hline FM71 & & 2 & 33 2:E1 & & AO80 & - & & & 2:E3 & c0427; 47; 42 262;66 \\
\hline FO71 & & & 2:E1 & g1242 & AP*O & - & & & 2:E3 & cot52:50333 \\
\hline FR71 & - & & 2:E1 & 59711 & AQ50 & & & & 2:E3 & cw2/229 \\
\hline FT71 & & & 2:E1 & & AT30 & - & & & 2:E3 & \\
\hline FZ71 & 2-4? & & 2:E1 & 56372 & A4*) & - & & & 2:E3 & 604 \(46 ; 54\) \\
\hline GD71 & 4? & 2 & \(33 \mathrm{2:E1}\) & & AVs0 & PF3 & 10 & 5 & 2:E3 & \(502 / 230-2\) \\
\hline GG71 & - & & 2:E1 & 36430 & AW* & & 10 & 5 & 2:153 & 5012229 \\
\hline GP71 & 4a & 2 & 33 2:E1 & & AX80 & - & & & 2:E3 & 5 52135 \\
\hline GY71 & PR? & & 2:E1 & st6/38;7/32 & AY80 & - & & & 2:E4 & \\
\hline HC71 & & & 2:E1 & & A280 & & & & 2:E4 & \\
\hline HF71 & 4a & 2 & 33 2:E1 & & B.420 & PF3 & 10 & 5 & 2:E4 & cot17; 522229 \\
\hline HK71 & 2-4? & & 2:E1 & & BREO & - & & & 2:E4 & \(\operatorname{co4} 24 ; 49\) \\
\hline HP71 & 2-3 & & 2:E1 & & BCSO & - & & & 2:E4 & \\
\hline HZ71 & 4 a & & 2:E1 & & BDso & - & & & 2:E4 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Group & Phese & Table & \[
\begin{aligned}
& \text { Comp MF } \\
& \text { No pugeno }
\end{aligned}
\] & Finfs & Group & Platse & Tatle & \[
\begin{aligned}
& \text { Coup MF } \\
& \text { No pagemo }
\end{aligned}
\] & Finds \\
\hline BESO & - & & 2.E4 & & EG80 & & & 2:E6 & \\
\hline BF80 & \(=\) & & 2:E4 & & EHSO & PF3 & & 2:E6 & s¢231; cw2/315-20 \\
\hline BGSO & & & 2.E4 & & E「iol & PF3 & & 2:E6 & cw2/315-20 \\
\hline BH80 & - & & 2.E4 & \(604 / 30 ; 50\) & EK80 & PF3 & & 2:E6 & (w2312-14 \\
\hline B150 & & & 2.E4 & & ELso & - & & 2:E6 & \\
\hline B/80 & & 10 & 2 2:E4 & & EM80 & PF3 & & \(2 \cdot \mathrm{E} 6\) & cw2/363-4 \\
\hline BK80 & PF3 & 10 & 3 2:E4 & cw2/187-93 & ENS0 & PF3 & & 2.E6 & \\
\hline BLSO & & & 2.E4 & & EOso & & & 2 E6 & 60410 \\
\hline BMS0 & & & 2.E4 & s.920 & EP30 & [PF3 & & 2.E6 & \\
\hline BN80 & - & & 2.E4 & & ER80 & & & 2.E6 & \\
\hline BO90 & PF3 & & 2 E 4 & & ES80 & & & 2 E 6 & \\
\hline BP80 & & & 2 E 4 & & ET80 & & & 2 E 6 & sf83 \\
\hline BQ80 & - & & 2 E 4 & & EVs0 & - & & 2.E6 & \\
\hline BR80 & = & & 2 E 4 & & EY80 & & & 2.E6 & \\
\hline BS80 & & & 2 E 4 & & FBEO & - & & \(2 . \mathrm{E} 6\) & \\
\hline ET80 & & & 2 E 4 & & FC80 & - & & 2.E6 & \\
\hline BV80 & - & & 2 E 4 & sf2/3 & FDso & _ & & 2.E6 & \\
\hline BW80 & = & & 2-E4 & & FESO & - & & 2.E6 & \\
\hline BX80 & - & & 2.E4 & sf322: sal/145 & FGSO & & & 2.E6 & Sf2/242 \\
\hline BY80 & - & & 2 E 4 & & Fliso & & & 2.E6 & cot/23 \\
\hline BZ80 & - & & 2 E 4 & co4/38; 51230 & F190 & - & & 2:E6 & S12364 \\
\hline CA80 & - & & 2.E4 & sf9,22 & FKSO & - & & 2:E6 & \\
\hline CB80 & - & & 2.E4 & cot3; sf1/2;2140; 324 & FLso & PF3 & & 2.E6 & cw2216-17 \\
\hline CC80 & - & & 2.E4 & co4/19,sf2/250 & FM80 & & & 2.E6 & \\
\hline CDso & - & & 2.E4 & & FN80 & & & 2.E6 & sโ235;921 \\
\hline CE80 & - & & 2.E4 & co4/29,36; 39,58; \(\mathrm{sf} 2 / 278\); & FO80 & PF3 & & 2:E6 & \[
\mathrm{cw} 2 / 216-17
\] \\
\hline & & & & \[
376
\] & FP* & & & 2:E7 & gl1/11 \\
\hline CF80 & * & & 2.E4 & 5f2261 & FQ80 & PF3 & & 2:E7 & sf2/307; cw \(2 / 216-17\) \\
\hline CG80 & - & & 2.E4 & S¢2/320 & FRSo & PF3 & & \(2: E 7\) & \(\operatorname{co4} / 20 ; 28 ; 5 \mathrm{f} 2 / 232 ; 308\); \\
\hline CH50 & - & & 2E4 & 514/90 & & & & & \[
\mathrm{cw} 2 / 323-62
\] \\
\hline Cl80 & & & 2.E4 & & FS80 & PF3 & & 2:E7 & co4/55; cw2/299-311 \\
\hline Cl90 & - & & 2.E4 & sf2279 & F780 & & & 2:E7 & sf2377 \\
\hline CK80 & - & & 2:ES & & FW80 & PF3 & & 2:E7 & \\
\hline CLso & - & & 2:E5 & & FX80 & PF3 & & 2:E7 & cw2/205-10 \\
\hline COs0 & - & & 2:E5 & & FY80 & PF3 & & 2:E7 & cw2/276-98 \\
\hline CP80 & - & & 2:E5 & & F280 & PF3 & & 2:E7 & sf1016; cw 2 299-311 \\
\hline CO80 & = & & 2.E5 & sf2/280 & GA80 & PF3 & & 2:E7 & sf1/1;2/322;cw2/276-98 \\
\hline CR80 & - & & 2.E5 & & GCso & PF3 & 10 & 2 2:E7 & \\
\hline CS50 & - & & \(2 . \mathrm{E5}\) & & GDso & PF3 & & 2:E7 & \(\cot / 2 ; \mathrm{cw} 2 / 216-17\) \\
\hline CT80 & - & & 2.E5 & \(604 / 25\) & GE80 & PF3 & & 2:E7 & \\
\hline Cuso & - & & 2.E5 & \(604 / 21\) & GF80 & PF3 & & 2:E7 & cw2/266-75 \\
\hline CV80 & PF3 & 10 & 5 2.E5 & \(\mathrm{cw} 2 / 229, \mathrm{gl} 243\) & GG80 & PF3 & & 2:E7 & cw2/323-62 \\
\hline CW80 & - & & 2.E5 & & CHISO & - & & 2:E7 & \\
\hline CX80 & PF3 & & 2.E5 & \(\mathrm{gl}^{1244}\) & GI80 & PF3 & & 2:E7 & sa1/139-40; cw \(2 / 299-311\) \\
\hline Crso & - & & 2.ES & & G)80 & PF3 & & 2:E7 & cw2/323-62 \\
\hline DA80 & & & 2.E5 & & GK80 & & & 2:E7 & \\
\hline DBEO & - & & 2.E5 & & GL. 80 & & & 2:E7 & \\
\hline DC80 & - & & 2.E5 & sf2/17;3/2 & GM80 & PF 3 & & 2:E7 & cw2/276-98 \\
\hline DD80 & - & & 2.E5 & & GN80 & & & 2:E7 & \\
\hline DE80 & = & & 2.E5 & & GO80 & PF 3 & & 2:E7 & cot/15, cw \(2276-98\) \\
\hline DF80 & - & & 2.E5 & st2/231 & GP50 & PF3 & & 2:E7 & cw2/323-62 \\
\hline DG80 & - & & 2 ES & co4/16;g12/42a & GQ80 & - & & 2:E7 & \\
\hline DH80 & - & & 2.E5 & cot/18 & GR80 & PF3 & & 2:E7 & sf2268: 309, cw2276-98 \\
\hline D180 & = & & 2 E5 & & GS80 & PF3 & & 2:E7 & sf641;cw2/276-98 \\
\hline D150 & - & & 2.E5 & & GT30 & & & 2.E7 & \\
\hline DK80 & - & & 2.E5 & 512/385 & Gltso & & & 2:E8 & \\
\hline DLso & - & & 2.ES & & GV80 & & & 2:E8 & st624 \\
\hline DM80 & - & & \({ }^{2} \mathrm{ES}\) & & GV80 & & & 2.E8 & sf263 \\
\hline DN80 & 2-PF & & 2.E5 & sf2/57;cw2/159 & GX80 & PF3 & & 2.Es & (w2/323-62 \\
\hline DO80 & & & 2.E5 & & GYso & PF3 & & 2:Es & sal/3, cw \(2 / 276-98\) \\
\hline DP90 & & & 2.E5 & & GZ80 & PF3 & & 2:E8 & cw2/367-9 \\
\hline DQ80 & - & & 2.E5 & & HASO & PF3 & & 2:E8 & sf2/202; 267;cw2/276-98 \\
\hline DR80 & - & & 2.E5 & & HBEO & PF3 & & 2:E8 & sf238; cw2/249-56 \\
\hline DS80 & PF3 & 10 & 5 2.E5 & cw2/223-4 & HC80 & PF3 & & 2:E8 & \\
\hline DT80 & - & & 2.E5 & g11/26 & HD80 & PF3 & & 2:E8 & cw2276-98 \\
\hline DUS0 & & & 2.E5 & S52.224 & HE8O & PF3 & & 2:E8 & cw2216-17 \\
\hline DV80 & & & 2.E5 & sf3/33 & HFSO & - & & 2.E8 & sal/156 \\
\hline DW\% & - & & 2.E5 & sal/128 & HH80 & & & 2:E8 & co4/13 \\
\hline DX80 & & & 2.E5 & & Hfso & PF 3 & & 2:E8 & cw2/299-311 \\
\hline DY80 & & & 2.E6 & & HISO & PF3 & & 2:E8 & cw2 187-93 \\
\hline DZ80 & - & & 2.E6 & sf3/12;gl1/6b & HK80 & PF3 & & 2:ES & sf1017;cw2/367-9 \\
\hline EBSO & TF3 & & \(2 . \mathrm{E6}\) & cw \(2 / 315-20\) & HLS 80 & PF3 & & 2:E8 & cw2 187-93 \\
\hline EC80 & & & 2. E 6 & si286 & HM80 & PF3 & & 2.ES & cw2/276-98 \\
\hline ED90 & PF3 & & 2.:6 & sf2/281;cw2/211-15 & HN80 & & & 2.ES & sf7/59 \\
\hline EESO & PF3 & & 2.E6 & cw2/365-6 & HO80 & & & 2:ES & sf923 \\
\hline EFSO & PF3 & & 2.:6 & cw2/211-15 & HPSO & & & 2.ES & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Growp & Phase & Takle & Comp
\[
\mathrm{No}^{\circ}
\] & MF pageno & Finds & Group & Phase & Tatve & Cowp No & MF figene & Finds \\
\hline HQso & & & & 2:E8 & & LC80 & PF2 & & & 2:E10 & cw2194-7 \\
\hline HR80 & & & & 2:E8 & & LD89 & PF3 & & & 2:E10 & st2/208;cw2/218-22 \\
\hline HSSO & & & & 2:E8 & & LESO & & 10 & 5 & 2:E10 & cw2/225-8 \\
\hline HT80 & - & & & 2:E8 & cot42 & LFs0 & & & & 2:E10 & \\
\hline Huso & PF3 & & & 2:E8 & cw2 187-93 & LG80 & PF3 & & & 2:E10 & cw2/238-45 \\
\hline HV80 & PF3 & & & 2:E8 & cw2187-93 & LH80 & PF2 & & & 2:E10 & gl1/18 \\
\hline HW880 & PF3 & & & 2:E8 & & L.180 & & & & 2.E10 & cot/41; 44; \(\mathrm{g}^{11 / 7}\) \\
\hline HX80 & PF3 & & & 2:E8 & sal199, \({ }^{\text {cw }} 21878\)-93 & 1.180 & PF1-2 & & & 2-E11 & cot 6;cw2 160-75 \\
\hline HY80 & PF3 & & & 2:E8 & s \(12 / 269\);cw \(2 / 257-62\) & L.K80 & PF1-2 & & & 2EII & cw2/160-75 \\
\hline HZ80 & PF3 & & & 2:E8 & sal/72;cw2/187-93 & L. 150 & & & & 2E11 & cw2/233-7;gl1/8 \\
\hline IA80 & & & & 2:E8 & sf3/8-9 & LM80 & & & & 2E11 & sal/141 \\
\hline IB80 & & & & 2:E9 & & LN80 & PF3 & & & 2E11 & \(\mathrm{cw}^{2} / 266-75\) \\
\hline IES 0 & PF3 & & & 2:E9 & cw2183-6 & LO80 & & & & 2.E11 & \\
\hline IG80 & PF3 & & & 2.E9 & cot/1; 5f2212;cw2/266-75 & L.P90 & PF2 & & & 2E11 & \\
\hline IH80 & PF3 & & & 2.E9 & sf2/19, cw \(2183-6\) & LQ80 & & & & 2E11 & \\
\hline [180 & PF3 & & & 2.E9 & & LRb0 & & & & 2E11 & \\
\hline /180 & PF3 & 10 & 4 & 2.E9 & & LL530 & & & & 2.E11 & cw2/213-7 \\
\hline IK. 80 & PF3 & & & 2.E9 & cw2/249-56 & LVso & PF1-2 & & & 2E11 & cw2/160-75 \\
\hline IL. 80 & PF3 & 10 & 3 & 2.E9 & cw2/187-93 & L.W80 & PF1-2 & & & 2E11 & \\
\hline 1M30 & & & & 2.E9 & co4/37; sโ2/209 & LX80 & & & & 2EII & \\
\hline IN80 & PF3 & 10 & 3 & 2.E9 & s66/25;cw \(2 / 187-93\) & LY80 & 2-4b & & & 2E11 & cw2/150-6 \\
\hline NO80 & PF3 & & & 2.E9 & cw2/187-93 & MA80 & PF3 & & & 2E11 & cw2/321-2 \\
\hline IP90 & PF3 & & & 2:E9 & cw \(2 / 257-62\) & MB30 & & & & 2E11 & st7/64:cw2/233-7 \\
\hline 1Q80 & PF3 & & & 2:E9 & sf267\%cw2/266-75 & MC80 & PF1-2 & & & 2.E11 & cw2160-75 \\
\hline IR80 & PF3 & 10 & 4 & 2:E9 & & MDs0 & PF2-3 & & & 2:E11 & cw2/354-6 \\
\hline IS80 & PF3 & & & 2:E9 & cw2/249-56 & MES0 & & & & 2.E11 & sf2/164;cw2/233-7 \\
\hline ITs0 & PF3 & 10 & 4 & 2:E9 & sf2182 & MF80 & & & & 2.E11 & \\
\hline ItL30 & PF3 & & & 2:E9 & cw \(2266-75\) & MGs0 & PF2-3 & & & 2:E11 & sal/104; cw2/384-6 \\
\hline IV80 & PF3 & & & 2:E9 & co4/12:cw \(2 / 323-62\) & MIso & PF2 & & & 2.E11 & \\
\hline IW80 & & & & 2:E9 & Sf88 & M/80 & & & & 2.E11 & \\
\hline IX80 & PF3 & & & 2:E9 & cw2367-9 & MK80 & & & & 2:E11 & sal/76 \\
\hline IY80 & PF3 & & & 2:E9 & & MLSo & PF2 & & & 2:E11 & \\
\hline 1280 & & 10 & 2 & 2:E9 & & MM80 & PF2 & & & 2:E11 & cot/11 \\
\hline JA80 & & & & 2:E9 & cw2/393-426 & MNso & & & & 2E11 & cw2/370-82 \\
\hline 1880 & PF3 & & & 2:E9 & cw2/249-56 & M0so & PF1-2 & & & 2E11 & cw2/160-75 \\
\hline JC80 & & & & 2:E9 & & MP50 & & & & 2E11 & \\
\hline jD80 & & & & 2:E9 & & MQ80 & & & & 2.E11 & \\
\hline JE80 & PF3 & & & 2:E9 & cw2179-82: gll 6 c & MR80 & & & & 2.E12 & cot/8; 542207; 334 \\
\hline JF80 & PF3 & & & 2:E9 & cot-14;cw2/323-62 & MSso & & & & 2:E12 & \\
\hline /G80 & PF3 & 10 & 4 & 2:E9 & & MT80 & PF2-3 & & & 2:E12 & cw2/387 \\
\hline 1780 & & & & 2:E9 & st2/203 & MLIso & & & & 2E12 & \\
\hline 1780 & PF1-2 & & & 2:E9 & cw2 160-75 & MVs0 & & & & 2.E12 & \\
\hline JK80 & PF3 & & & 2:E9 & sal/7;g11/27 & MV80 & & & & 2:E12 & sf2156; sal/27 \\
\hline JLS0 & & & & 2:E9 & sf3/5; 18 & MX80 & & & & 2.E12 & \\
\hline M M 80 & & & & 2:E9 & & MY80 & & & & 2.E12 & \\
\hline [N30 & PF3 & & & 2.E9 & \(51258 ; \mathrm{cw} 2179-82\) & MZ80 & PF2 & 10 & 6 & 2:E12 & cw2/203-4 \\
\hline IP30 & PF3 & & & 2.E9 & cw2238-45 & NAS0 & PF2 & & & 2.E12 & cw2/370-82 \\
\hline JCso & & & & 2.E9 & & NB80 & PF1-2 & & & 2:E12 & cw2/160-75 \\
\hline JS80 & PF3 & & & 2:E10 & cw2246-8 & NC30 & & & & 2:E12 & \\
\hline TT80 & PF3 & & & 2:E10 & s47/38, cw \(2 / 263-5\) & NDst & PF2 & & & 2:E12 & cw2/370-82 \\
\hline JUSO & PF3 & & & 2.E10 & cw2205-10,323-62 & NESO & & & & 2.E12 & sal/48 \\
\hline [V80 & IPF3 & & & 2.E10 & cw2218-22 & NF80 & & & & 2.E12 & \\
\hline W880 & PF3 & & & 2.E10 & cw2/160-75; 179-82 & NC80 & & & & 2-E12 & \\
\hline J \(\mathrm{X80}\) & PF1-2 & & & 2.E10 & cw 2 160-75 & NH80 & PF2-3 & & & 2.E12 & cw 2383 \\
\hline IYso & PF3 & & & 2.E10 & cw2246-8 & NT80 & PF1-2 & & & 2:E12 & sf7/50; cw \(2 / 160-75\) \\
\hline 1780 & PF2 & & & 2.E10 & & N/80 & PF2 & & & 2:E12 & cw2/370-82 \\
\hline KA80 & & & & 2.E10 & & NK80 & & & & 2:E12 & sf2/26; sal/15 \\
\hline KB80 & PF3 & 10 & 9 & 2:E10 & & NL. 80 & & & & 2.E12 & \\
\hline KD80 & & & & 2.E10 & sf2/125;184 & NM50 & & & & 2.E12 & \\
\hline KFSO & PF3 & & & 2:E10 & cw23888-9 & NN80 & PF1-2 & & & 2.E12 & sf2379;cw2/160-75 \\
\hline KG80 & PF2 & & & 2.E10 & cw2/19\%-200 & NOs0 & & & & 2:E12 & coi/4 \\
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\hline K180 & PF3 & 10 & 9 & 2:E10 & cw \(2176-8\) & NR80 & & & & 2:E12 & \\
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\hline
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ig 3 The excavations of 1906-14. This plan has been produced from the series trawn by \(W\) H Knowles and published in
Archaeologia Aeliana for the years 1907-15. On the whole, no serious problems were experienced in joining the variou



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Fig 5 Plan of the immediate arca around the Roman sitt at Corbridge, incorponating information gained from excaution
and acrial recomnaisunce. It is based upon a photogrammetric survey by \(A\) Hull and includes additional information from
and acrial recomaisance. It is lased upon a photogrammetric survey by A Hull and inciudes additional information from
the RCHME, WH Knowles plans (Fig 3), and the DCES survey of the Guardianship Site (Fis 4). Savec 1:2500


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Fig 30 The lurrucks in the retentura. Phase IVa plan (sale 1:200)




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Front cover
View of the central part of the Corbridge site.```


[^0]:    722
    773

[^1]:    －References
    1 Richmond and Gillom 1955 2 Gilmmand an Tait 1971
    3 Gllam 1977

[^2]:    Phase I Various buildings, including one barrack? Demolition
    Phase II Timber barracks (post-trench)
    Phase III Timber barracks (post-trench)
    Phase IVa Timber barracks (beam-slot)
    Phase IVb Timber barracks (stone dwarf walls) Abandonment
    Post-fort Rectangular building with stone foundations

[^3]:    ＂Referreces
    1 Gillam and Richmoend 1999
    2 Richmend and Gillam 1955
    3 Richmend and Gillam 1950
    Richmond and Gillam 1950
    Birley and Richmond 1938
    Birley and Richmond 1938
    Forster and Knowles 1913
    Forster and Knowles 1911
    Forster and Knowles 1911
    Forster and Knowles 1914
    8 Forster and Knowles 1910
    9 Forster and Knowles 1915

[^4]:    320 Sheet rolled into a tube. (Not illustrated)
    Length: 44 mm , width: 5 mm CG80

