
Proceedings of the Cambridge Antiquarian Society

(incorporating the Cambs and Hunts Archaeological
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EDITORIAL

This volume of the *Proceedings of the Cambridge Antiquarian Society* is the first by a new editor. I would like to thank, both the previous editor, Sarah Bendall, and the present officers and council members for their support and assistance.

Alert readers will observe that the style has been changed somewhat to simplify it and to bring it in line with the more usual modern practice,

This volume is predominantly archaeological. It is my hope that forthcoming volumes will also include papers of wider interest. I encourage our members — and others interested in Cambridgeshire — to submit papers with the kind of material they would like to read.

THE LIBRARY

Members of the C.A.S. are reminded that, by agreement with the University of Cambridge, they are entitled to read in the Haddon Library, Faculty of Archaeology and Anthropology, Downing St. The Library holds a large number of British and foreign serials exchanged for the *Proceedings of the Cambridge Antiquarian Society*, together with a wide range of archaeological and topographical books. Intending readers should apply to the Faculty Librarian, Mr Aidan Baker, and for access to, or information about, specialised collections to the Society's Librarian Dr J.D. Pickles, The Old Schools, Trinity Lane.

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Excavation of a Roman Site near Wimpole, Cambs., 1989

Wendy Horton, Gavin Lucas & Gerald A. Wait

Summary

A Roman settlement site was investigated on the National Trust estate of Wimpole, north of the junction of the A14 (now A1198) and the A603, in advance of a road improvement scheme. Archaeological remains were found along the A14 Roman road (Ermine Street) which appear to comprise part of a ribbon settlement. A series of substantial ditches were revealed forming rectangular enclosures, interpreted as paddocks, garden plots, and small domestic enclosures. A cobbled surface was interpreted as a yard surface. A large volume of pottery, including high quality table ware was recovered, as well as quantities of animal bones. An Anglo-Saxon burial of the sixth century AD appears to represent the last phase of occupation of the site (Fig. 1).

Introduction

In 1988 a proposal was made by Cambridgeshire County Council Department of Transport to replace the staggered junctions of the A14, A603 and B1042, with a roundabout (Fig. 2). The scheme was accepted, but would cut across a corner of the National Trust Wimpole estate where previous archaeological fieldwork had recorded a probable Roman site. Consequently an assessment and further excavations by the Cambridgeshire County Council Archaeology Office were arranged in advance of construction work.

Setting

The geology of the area is grey boulder clay, on the north slope of the shallow valley formed

by the River Cam or Rhee. The river passes below the A14 under Arrington bridge, immediately south of the junction of the A14 and A603. The clay subsoil made excavations in the very dry summer of 1988 very difficult.

Known Archaeology

In 1986, Dr Peter Wade-Martins carried out a Survey of the Wimpole Estate for the National Trust. He recorded a scatter of Roman pottery suggestive of a settlement along the A14 Ermine Street north of the junction with the A603. In a subsequent fieldwalking survey carried out by Dr G. Wait in 1988, further Roman material was recovered, confirming the presence of a site.

A Roman occupation site located along both sides of the A14 at Arrington bridge has been known for some years. It was discovered and investigated by very limited trial trenching by Roland Parker in 1972, who interpreted the site as a posting station. It is now a Scheduled Ancient Monument. Further Roman material was found just north of this site in the grounds of Wimpole Lodge by E.H. Warner in 1936 (the lodge is in the south-east corner of the A14/A603 junction, see Fig. 2). Taken together this distribution of Roman remains along Ermine Street would seem to suggest a ribbon settlement.

Strategy of Fieldwork

Fieldwork was carried out in two phases — the first consisting of trial trenches, and a second phase of area excavation based on the results of the trial trenches.

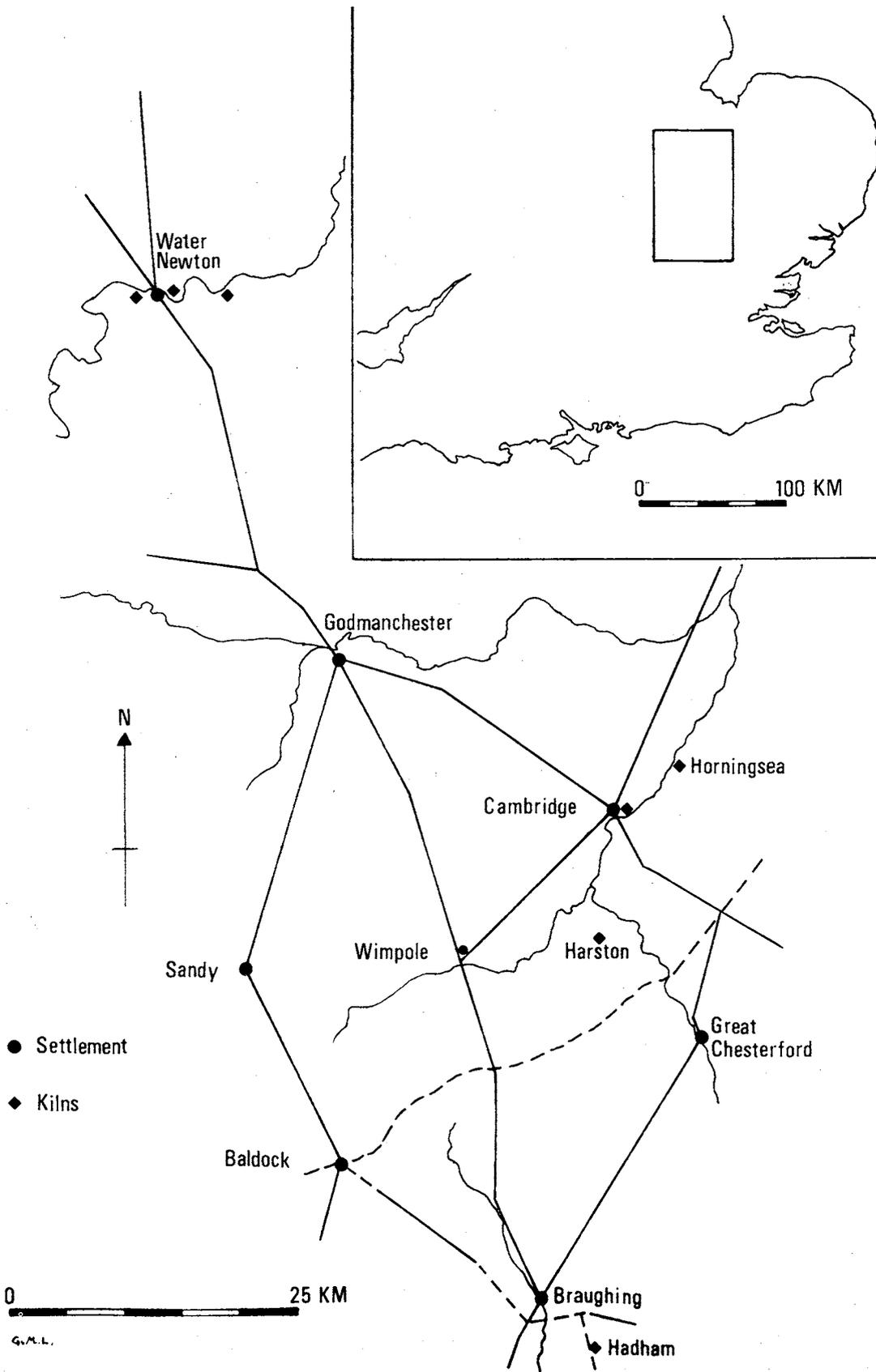


Figure 1. Location of Wimpole in relation to Roman road network.

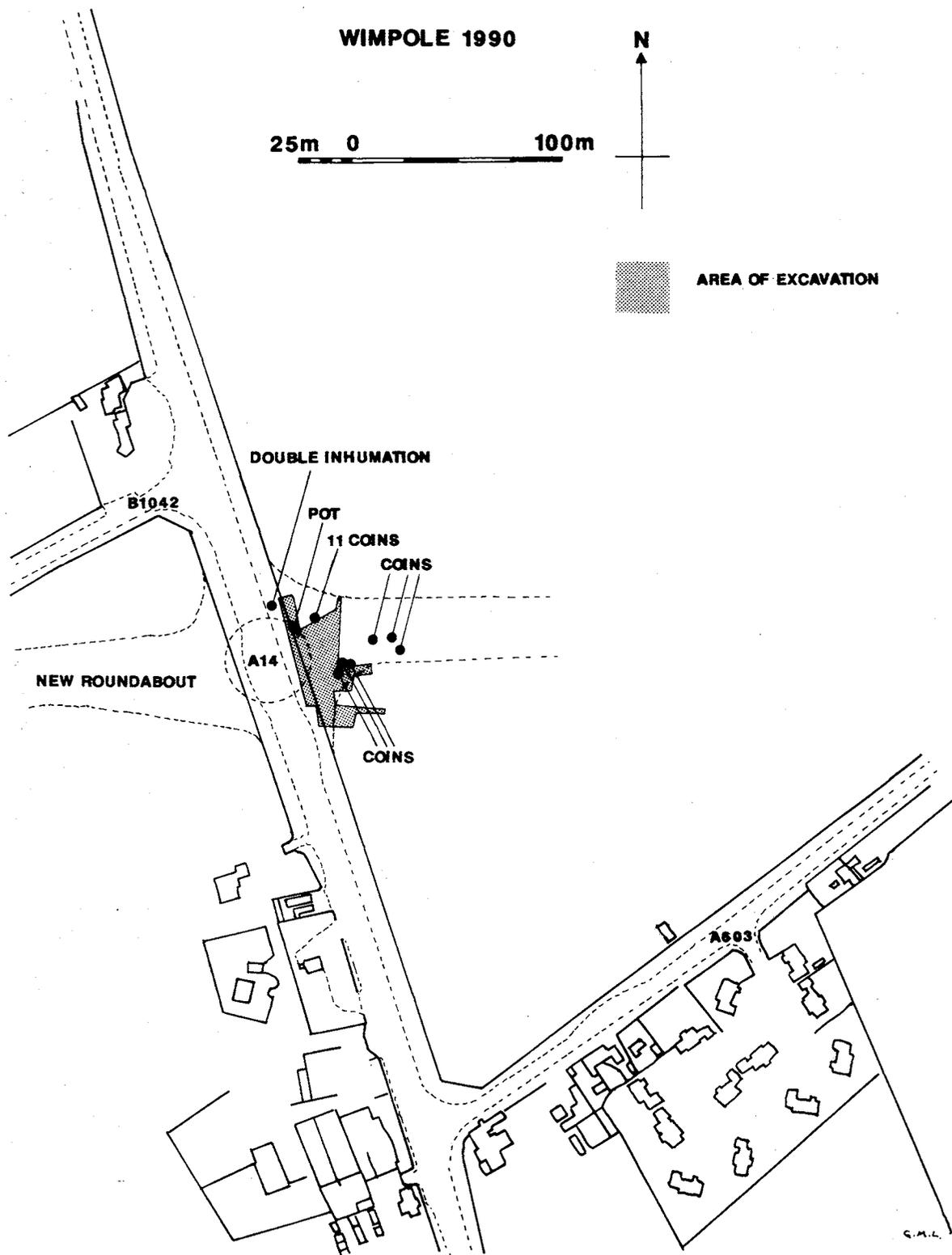


Figure 2. Plan of excavations 1989 and watching brief 1990.

Stage 1

The first phase involved the digging of five trial trenches each 2 × 50 metres. Only Trench 1, nearest the A14, contained any archaeological features. This trench was enlarged, revealing a number of ditches and a cobbled surface. Sample sections were excavated, showing that Roman pottery and animal bones were common in all the features.

Stage 2

The site was subsequently enlarged to allow an area excavation of the Roman remains where they would be destroyed by the planned roundabout (see Fig. 3). One goal was to get as close as feasible to the A14, as it was thought that Roman buildings would be located along the road, but a large post-medieval ditch prevented this, and quite probably destroyed such buildings.

The Excavation

The excavations revealed a Roman settlement site of five phases, followed by an Anglo-Saxon presence of uncertain nature. The following discussion is synthetic, based upon information from the archaeological features and the specialist analyses reported in the appendices below.

Phase 1 circa AD 180–200 (Fig. 3–4)

Thirteen features have been identified to Phase 1, creating an enclosure system. These include the cobbled surface [138], the small gully [110], gullies [190], [192], [166], [120–70], [116–124], [151], [176] and [194] and a small pit [197]. Feature [161] may be either an elongated pit or a short length of ditch, in either case its sharply pointed butt-end contained an ox skull. The deposition of animal skulls on settlement sites is well documented (Wait 1985: 122–53) and may represent a form of animal sacrifice. No clear layout or pattern is discernable. The cobbled 'surface' [138] is not easily interpretable. Its top surface was somewhat irregular and undulating. It was comprised of a wide variety of types of materials, including many fragments of quernstones (some from Derbyshire and others from Somerset), flint cobbles, and tile and brick. The most difficult aspect to explain is the origin of the approximately 30 cm of clayey-loam which

overlay the cobbles if the cobbles had formed a yard surface. That these did form a Roman yard surface is suggested by the later layer [105] which accumulated over the cobbles. It is possible that the cobbles are the surviving remains of some form of foundation, the upper layers of which have been destroyed by robbing and ploughing.

Gully [110] was unusually straight, approximately 0.5 m wide and 0.2 m deep, and was traced for 12 m across the site. Its purpose is not known. Gullies [190] and [192] were located below a disturbed deposit [176]. They appear to branch from a common stem, and are both about 0.6 m wide and 0.2 m deep. Neither extended far enough to be visible in section.

Phase 1 pottery was dominated by storage jars, fine grey ware from either Hadham or Horningsea, sandy grey wares from Horningsea, locally produced grey colour-coated wares, and Nene Valley products. The features of Phase 1 contained 48 small finds. These included a bronze brooch of Hod Hill type (c. AD 45–75) and a sheet bronze strigil, both from ditch [172].

Phase 2 circa AD 240–300 (Fig. 5)

Phase 2 involved the initial creation of the system of enclosures, demarcated by ditches. The ditches [120–70], [153–122] and [116–124] form two very narrow enclosures or trackways — the layout makes their purpose obscure. The short length of ditch [182] may have formed an enclosure east of [114] and north of [134]. Ditch [155] appears to skirt, and thus form a southern edge to, the cobbled area [138] and [105]. Ditch [155] was later recut by the small gully [194]. It is likely that ditch [163] in its earliest form was created during this phase as the back (eastern) boundary of the site. Gully [118–86] is cut into the top of the Phase 4 ditch [129], which in turn perpetuated the line of the phase 2 ditch [122–53]. During this phase layer [105] accumulated over the Phase 1 cobbles at the southern end of the site. Gully [172] varied from 0.8 to 1.35 m wide and was 0.3 m deep, and uniquely on this site contained a great quantity of mussel shells and the greatest density of potsherds of any feature. The excavated sections do not provide any firm evidence for the presence of banks, hedges or fences along the ditches, though one or the other is likely to have been present. This phase appears to involve a northward expansion of the site.

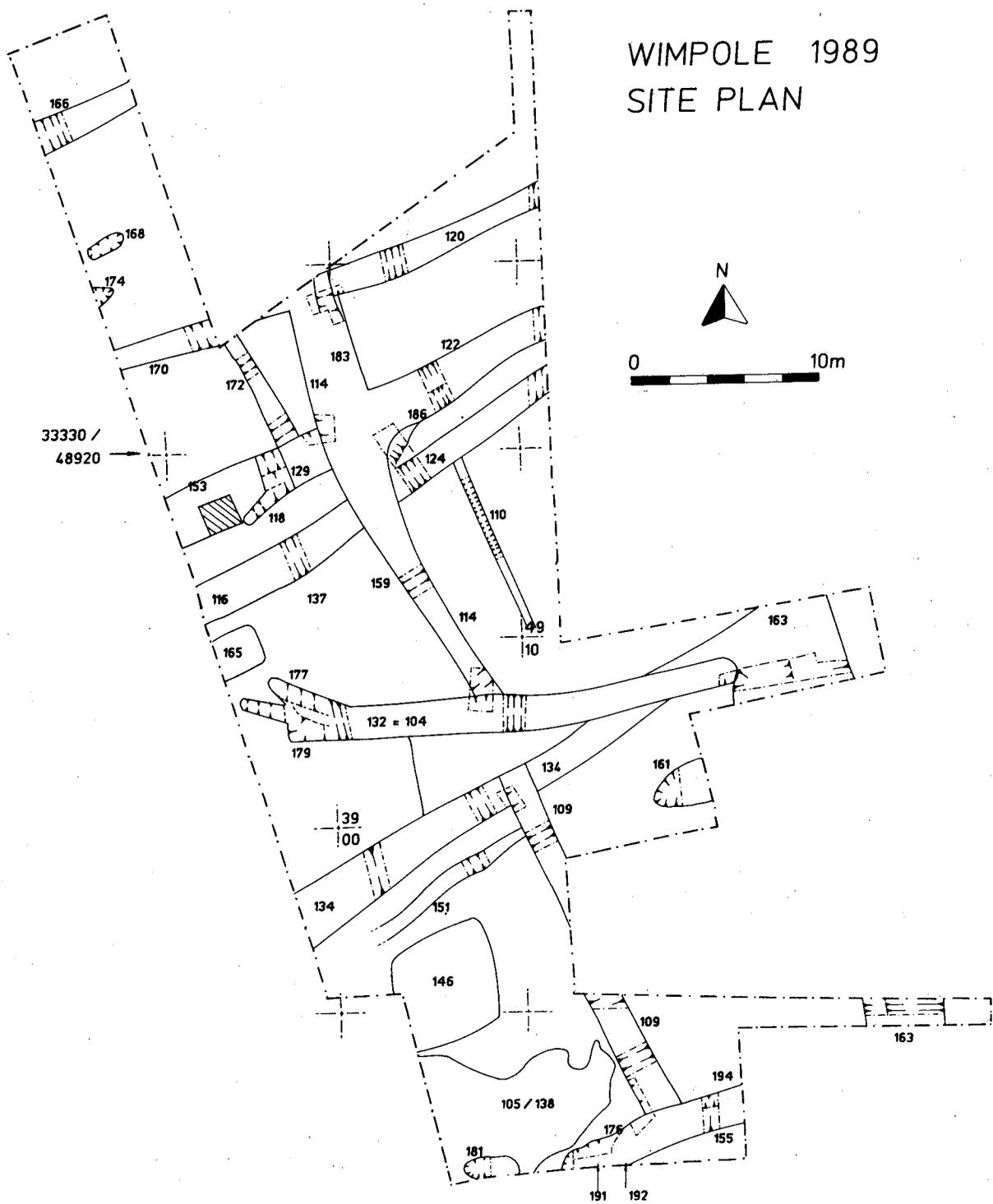


Figure 3. Wimpole 1989 site plan, features of all phases shown.

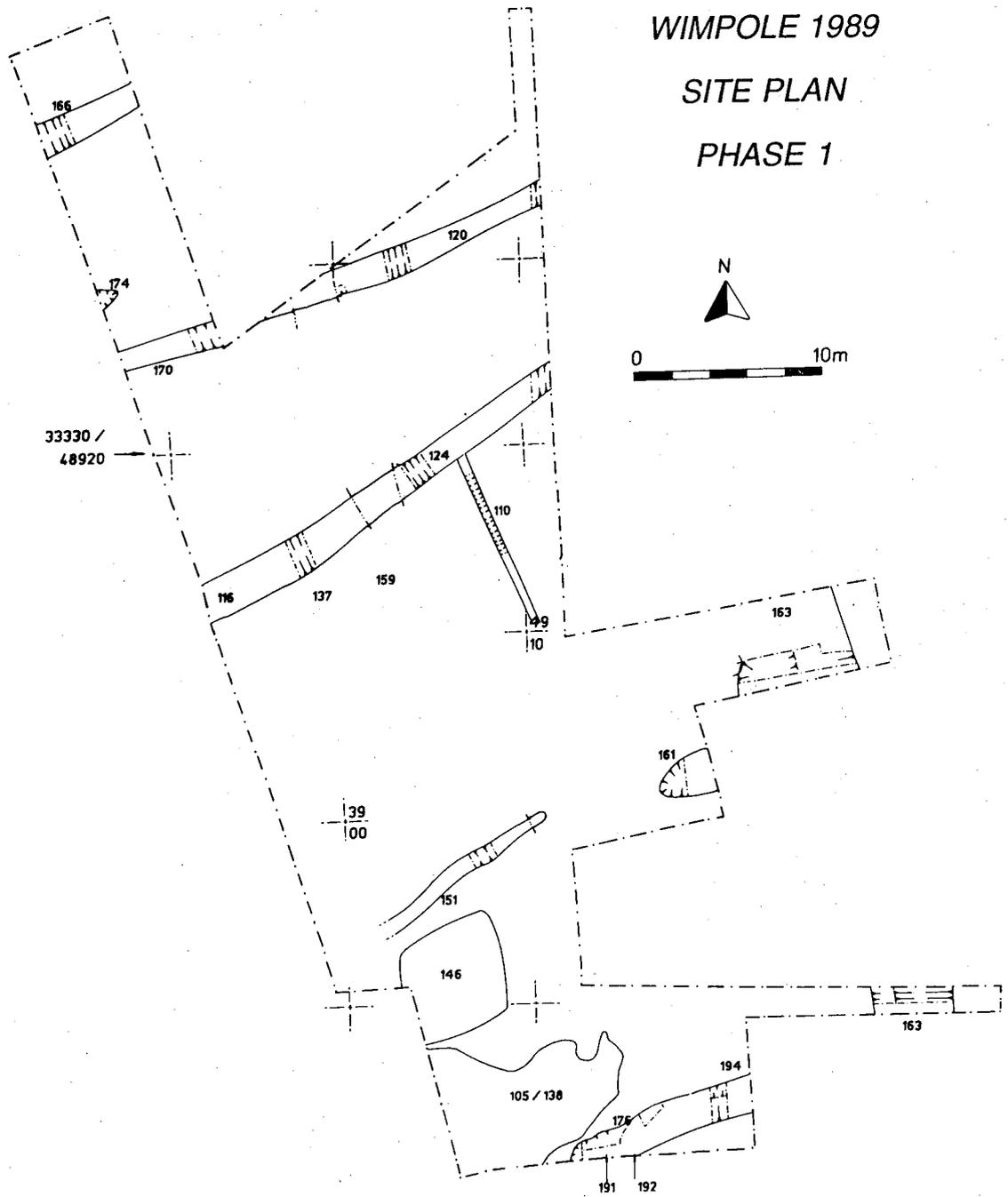


Figure 4. Wimpole 1989, Phase 1 features.

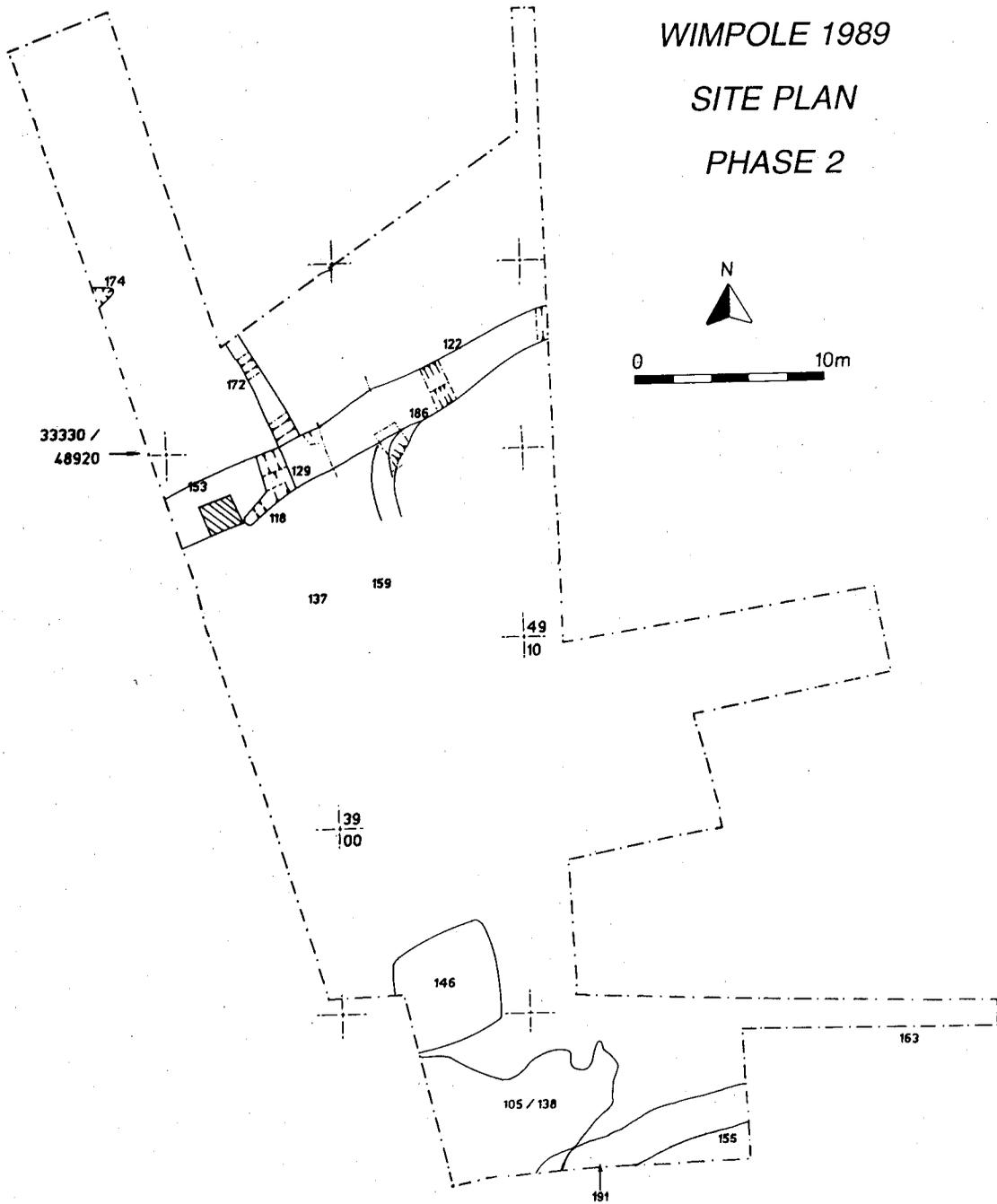


Figure 5. Wimpole 1989, Phase 2 features.

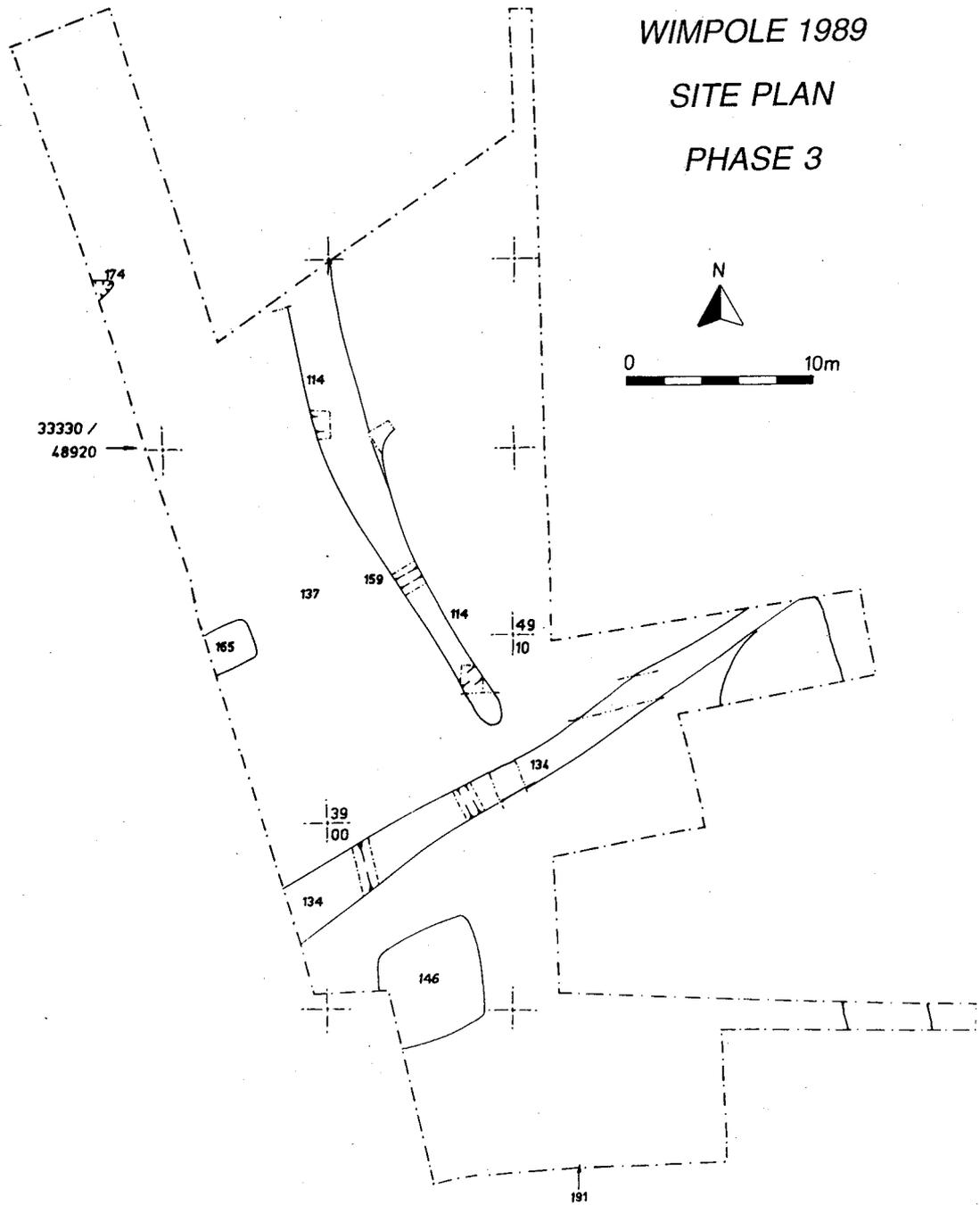


Figure 6. Wimpole 1989, Phase 3 features.

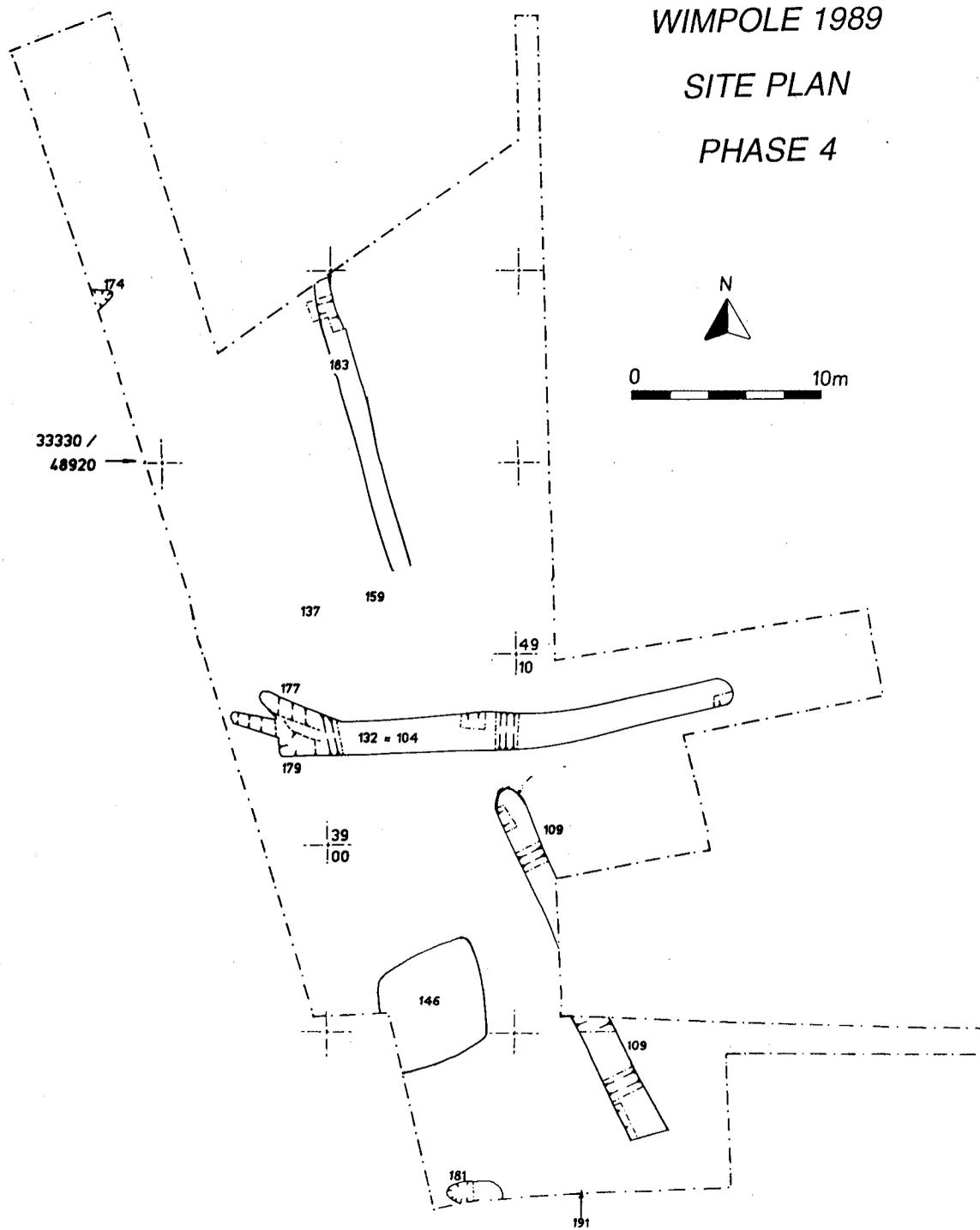


Figure 7. Wimpole 1989, Phase 4 features.

The ditches are generally 1.8 to 2.2 m wide and 0.8 to 1.0 m deep, with rounded bases and convex sides. The fills usually comprise two or three layers of mid to dark grey clayey loam with occasional small flint pebbles and fragments of charcoal. The upper layers, especially along the west edge of site, were frequently darker and softer in texture.

Phase 2 contexts contained 44 small finds. These included 26 nails, hobnails, a tool socket and a chisel, six fragments from glass vessels, a bronze knife, and 11 coins. During Phase 2 Nene Valley pottery appears to decrease in importance, while Hadham kiln grey and orange wares are prominent, and Black Burnished Ware I from Dorset is also common. Horningsea sandy grey wares are increasingly common. There were five iron objects, two hobnails, fragments of glass vessels, eighteen quernstone fragments (with Millstone grit being the most common), and a variety of other types of worked stone fragments.

Phase 3 circa AD 300–360 (Figs. 3–6)

Phase 3 marked a revised pattern of ditched enclosures. Ditch [114] cuts across the two earlier narrow enclosures/trackways, running parallel to the Roman road. It ended about three metres north of ditch [134] (the butt-end was cut through by the later Phase 4 ditches [104] and [177]), apparently forming an entrance between two enclosures. It is likely that ditch [163] was maintained as a boundary during this phase. Ditches [114] and [134] were both about 2.0 m wide and between 0.8 and 1.0 m deep, with convex sides and rounded bottoms. Again no evidence for either banks or hedges was observed.

The Phase 3 contexts contained 72 small finds. This includes some 53 nails, many fragmentary iron objects, fragments of glass vessels, a fragment of a bronze jewellery chain, and 18 coins (14 from ditch [114]). Phase 3 pottery again sees a drop in numbers of Nene Valley products, while Hadham wares remain common, and Black Burnished Ware II from the Thames estuary replaces the earlier Dorset BBI Ware. Local grey colour-coated wares are very common, as are Horningsea sandy grey wares and storage jars.

Phase 4 after circa AD 360 (Figs. 3–7)

This phase is a reorganization of the basic enclosure layout established in Phase 3.

Ditches [103–9] and [104–32] again form enclosures with a gap or entrance in the centre of the site. Further north, ditch [183] demarcates other smaller enclosures. Similarly gullies [177] and [179] are cut into the top of [104], though in this case they could not be traced in the excavated section 'a' of [104]. Feature [181] was an irregular pit cut through the cobbled surface, while [188] was a post-hole likewise cut into the cobbles. The large ditch [163] (varying from 4.3 to 6.4 m wide and 0.78 m deep) probably formed the eastward edge of the settlement. This ditch was recut on at least one occasion (and probably twice) and had a fill notably browner in colour and with many more pebbles and cobbles than was common in the other ditches on site.

Phase 4 contexts contained 63 small finds. These include many more nails, hobnails, and a reaping hook all of iron, a bronze cosmetic spatula, quernstones, and 25 coins (of which 14 are from [161] and 7 from [104]). The pottery of Phase 4 shows a dramatic resurgence in the quantities from the Nene Valley production centres. BBII from the Thames estuary is very common, as are Hadham wares, local colour-coats and Horningsea products.

Phase 5 Anglo-Saxon (sixth century AD) (Figs. 3–9)

A feature [168] was revealed to be an isolated burial, lying between two E–W ditches, [166] and [170], and in particular, parallel with [166] and 5 m to the south of it. The skeleton was found in an extended position, lying on its back and facing east. The head, at the west end, lay on its left side, pointing slightly downwards. The spine was curved at the top. The right arm was straight and parallel with the side of the body. The left arm was bent and crossed the hip. The legs lay up against the south edge of the burial pit with the right lower leg just crossing the left lower leg. The feet were packed hard against the end of the grave. In the same burial pit, about 15 cm west of the skull was a lower jaw and teeth plus a few vertebrae of another individual. The origin of these is unknown.

Some diagnostic artefacts were found with the body; an annular bronze brooch lay on the right clavicle, although the pin was missing. Above the left clavicle was a group of iron nails or pins, which were difficult to discern. Two bronze wrist clasps were found, one on the right arm and one by the left hand. Perhaps the most exciting find was

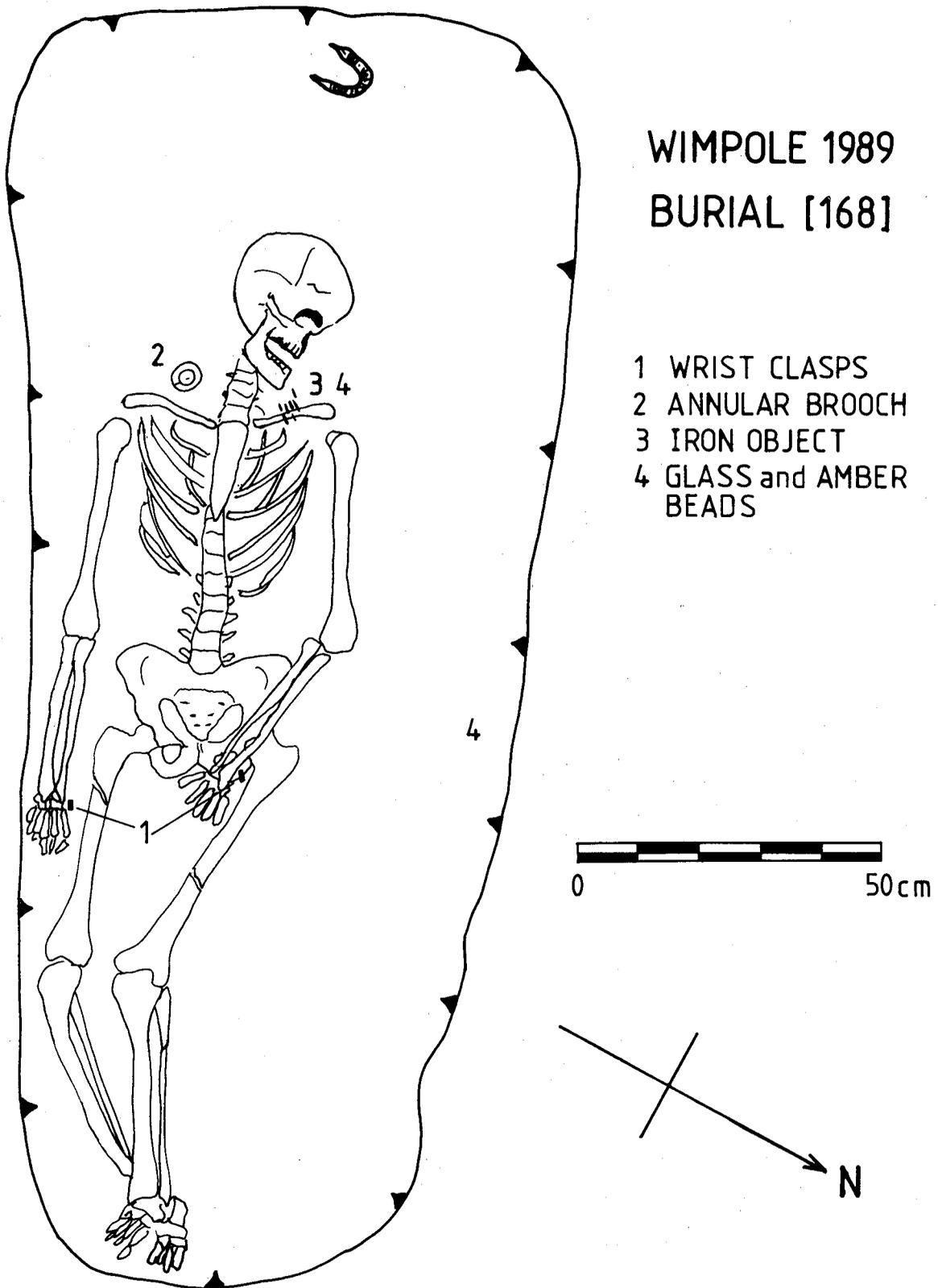


Figure 8. Anglo-Saxon burial [168].

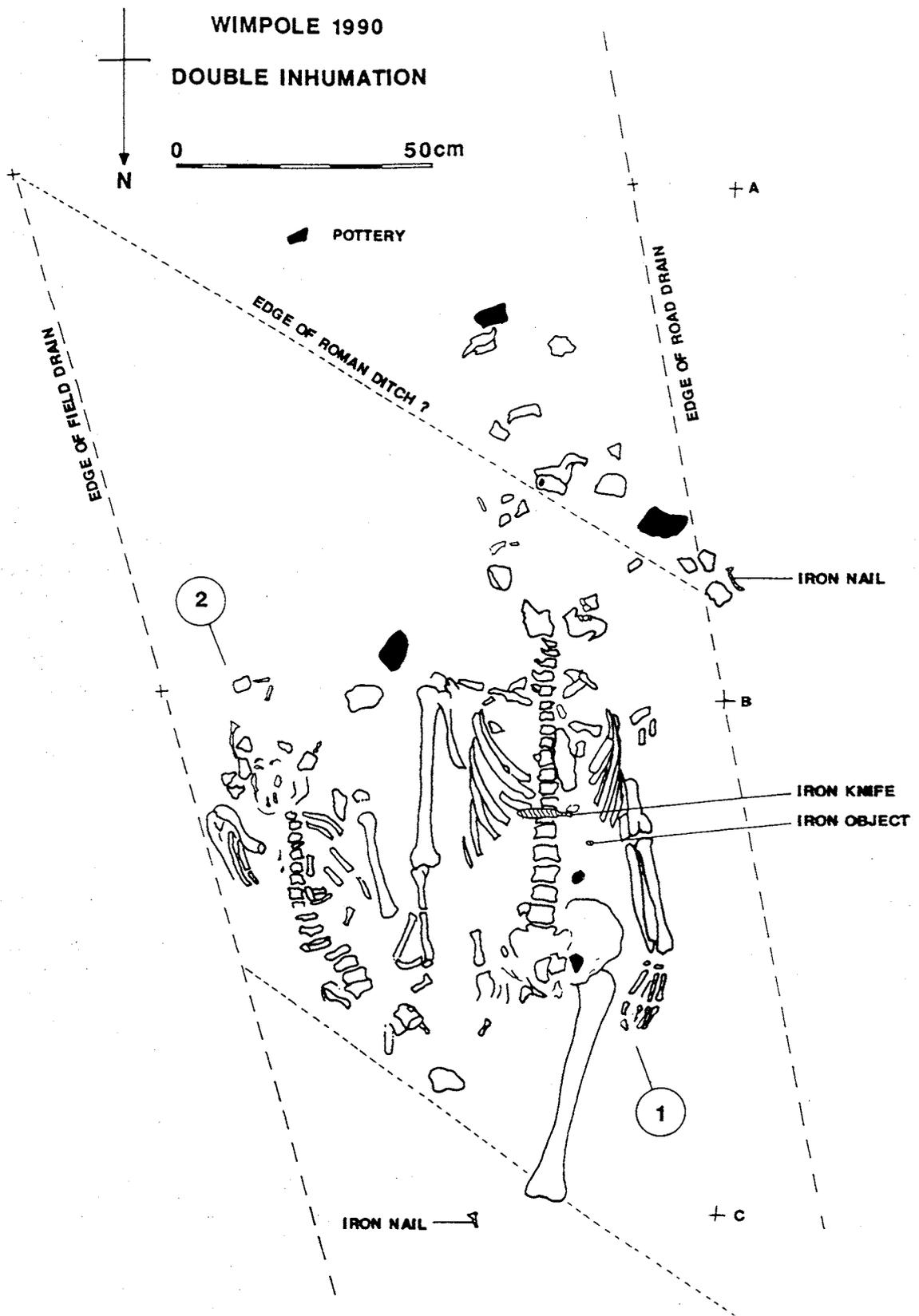


Figure 9. The 1990 watching brief burials.

a large, glass, biconical bead found below one of the neck vertebra. It is coral pink in colour with yellow and green/grey stripes. Another glass bead, black and in the form of a flattened sphere with a white swirling pattern was found underneath the additional jaw at the west end of the burial pit. Further beads appeared along the north edge of the pit. They occurred in two clumps around the mid-point of the edge and were all deep orange amber, except for one of yellow glass. The amber beads varied considerably in size and shape. Three bronze coins were found in the fill as well as various iron nails and fittings and some pot sherds. The nature of the fill was much the same as elsewhere on the site; mid-brown, hard clay, containing frequent pebbles. At the bottom, underneath the skeleton was a thin layer of pebbles or gravel. It has been stated (Dr C. Hills, pers. comm.) that the beads and metalwork found with the body date to the sixth century AD. Since the body was laid out parallel to a Roman ditch, it is likely that the ditch was still visible on the ground when the individual was buried, and there may have been continuity of settlement from the late Roman (early fifth century) to the sixth century AD, a particularly interesting possibility. The Roman coins and potsherds found in the fill must have been redeposited.

Miscellaneous Features

A deposit [146] was revealed just north of the cobbled surface [138], which contains building debris. It covers an area approximately 5 m square and passes beyond the western boundary of excavation. A small section was dug through the deposit, which was found to be approximately 40 cm deep. It comprised a mixture of clay and sand (70:30), with a mottled appearance, which included mid-brown, light brown, yellow, grey and

black. It contained frequent flecks of charcoal and occasional small fragments of pink mortar, tile, pottery, bone and pieces of brown material which may be daub. This deposit suggests that there were once houses not too far away, perhaps to the west of the excavation.

An area approximately 4 by 4 m between ditches [104] and [116] on the west side of the excavation was found to contain frequent flecks and fragments of mortar, ash, tile and pottery in dark grey to black clay. This [165] can also be interpreted as building debris but it is not entirely clear whether this is the bottom of the topsoil, or a separate deposit.

The Watching Brief 1990 (Figs. 9-10)

Between February and March 1990 a watching brief was carried out during stripping of topsoil in areas adjacent to the 1989 excavations and along the new route. The conditions were poor, with heavy rain flooding the site, and recovery was thereby restricted. Previously, a metal-detectorist had found 17 Roman coins and the top rim of an unusually large storage jar, from the Alice Holt production centre in Hampshire (a bead rimmed storage jar type 4.45, c. AD 350-420: Lyne & Jefferies 1979), all probably found on or immediately adjacent to the excavation area (see Fig. 3). No features were observed along either of the new road routes, but a double inhumation was discovered during trenching for a new road drain.

The double burial was located just beyond the northwest end of the site, approximately 7 m northwest of the single inhumation excavated [168]. The burial had been disturbed by construction machinery, and probably by modern ditches along its east and west sides. The burials were probably placed in a shallow ditch about 1.6 m wide and 0.2 m deep, with a fill of mid-grey to yellow-brown clay loam, with Roman pottery,

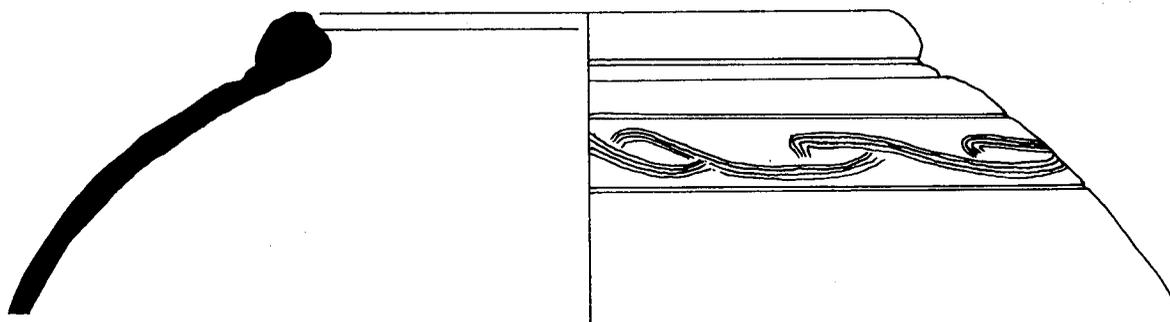


Figure 10. Rim of Alice Holt storage jar.

tile, shell and charcoal (this is probably ditch [166] of Phase 2).

The two skeletons were parallel, oriented north-south, and were probably extended (Fig. 10), though the poor preservation of [2] prevents certainty. No grave goods were present with [2], but [1] had an iron knife under the spine and another unidentifiable iron object.

There is no association with burial [168] except proximity: the orientations are different and the grave goods do not suggest any relationship. The burial of individuals in or along field ditches did occur during the mid and late Roman periods (as at Godmanchester: see Wait 1992, and Wait 1985: 83-120, further discussion below).

Discussion

This particular excavation covers a small part of a much larger Roman site which stretches for over 1 km along Ermine Street. The settlement straddles a Roman road junction, that of Ermine Street and Akeman Street and could be termed a ribbon settlement. Settlements such as these are not uncommon at major road junctions (Salway 1981: 573-614).

The site excavated was located in the path of the proposed roadworks, and is therefore an arbitrary sample of the settlement (exactly as at Hibaldstow: Smith 1987: 60). No buildings were found, but it can be inferred from deposits of building debris and domestic refuse that they were located nearby. The latter deposits, including ash, mortar, charcoal, daub and large volumes of pottery were particularly dense along the west side of the site. There were few finds of any kind along the outer (east) boundary of the site, which suggests that this was distant from the dwelling areas. Ermine Street itself is thought to lie directly beneath the A14, and there could well be room for a row of houses between the site and the road. Another possible location for houses is to the south of the site, beyond the cobbled surface found during the excavation. Dr Wade-Martins mentioned in his survey that evidence for a settlement was seen approximately between the site and the junction.

The area investigated is therefore a peripheral area; it comprises a series of roughly rectangular field enclosures of five phases. An entrance between enclosures can be seen at one point. It is likely that they comprised

paddocks for animals, garden plots or house plots. Settlement plots at other Roman roadside settlements are of various sizes and shapes, but a fairly consistent depth of plot from the roadside of c. 40-45 m can be observed (Smith 1987: 22-33). The distance from the presumed road (under the modern A14) to the back boundary ditch [163] is about 40 m.

Ermine Street, linking Lincoln and the north with London, was a major line of communication in the Roman period, well-travelled by officials. Such official travellers would change horses regularly on journeys, and the most important would stay overnight in a *mansio*, which provided luxurious accommodation. Roland Parker has interpreted the site (from his excavations at Arrington Bridge, unpublished manuscripts, 1973) as a *mansio*, although his excavation records do not suggest anything of the sort. It is assumed that he was speculating on the general nature of the site, and it is true that such a building could lie on a yet unexcavated part of the site. That there were well-made buildings on the site is not disputed. Part of a building with stone foundations was excavated in the grounds of Wimpole Lodge in 1936 by E.H. Lee Warner and there are frequent finds of tile, stone, mortar and plaster in many of the features on the site. His major findings were cobbled surfaces, similar to those found in this investigation, lined with ditches. There is a much more likely example of a *mansio* 23 km up Ermine street in Godmanchester, a quadrangular building with tessellated and mosaic pavements (published by Green 1975). The site investigated here at Wimpole, might otherwise centre on a horse changing station or *Mutatio*, which does not have the official accommodation facility, or it could be a more informal horse changing station (see Smith 1987: 17-19). Stables should be fairly large substantial buildings, but are notoriously difficult to identify. Based on more recent analogies, a stable might be 9 m wide by 30 m long to house 30-40 horses, an appropriate complement to a *mutatio* (Smith 1987: 17-19; Wells 1977).

The cobbled surface on the site may be interpreted as having an equestrian function. It may have been an outside yard, or even part of a stable complex. R. Finch Smith (1987: 17) makes some interesting comments on stables and notes that 'they can only be recognized with certainty . . . when they were provided with internal drainage gullies'.

A rough, but indestructible type of flooring is also likely. Many other internal features of stables would be insubstantial and would not survive in the archaeological record. The superstructure would probably be a construction of wood, which might not leave any trace either. At Wimpole, the cobbled surface at the south end of the site is rough, but substantial. It is slightly raised, but slopes down towards gullies and ditches to the east and south. The small gullies south of the cobbles and underlying layer [176], have been interpreted as drainage channels, while one of the functions of the two larger ditches, one immediately south of the gullies and the other lining the east side of the cobbles, might have been for drainage too. No traces of a superstructure, or of any internal stable fittings were found. The cobbled surfaces and gullies found by Roland Parker were very similar and may have had a similar function.

The site as a whole is over 1 km long, and narrow, possibly not extending more than 50 m behind the road on each side. It could be termed a ribbon settlement and its shape certainly suggests that the reason for its existence was the road. Its location at the junction with Akeman Street would have brought more traffic. It is worth pointing out that a division of settlements into smaller 'roadside settlements' and larger 'small towns' is an arbitrary one — Smith classifies Godmanchester as a roadside settlement (1987: 182; though with appropriate definitions, 1987: 1) while its excavator considers it a small town (Green 1975).

This configuration is typical for roadside settlements. The nature and functions of such settlements remains elusive despite a recent review of all the available evidence (Smith 1987; Salway 1981: 573–614). Some general points may however be relevant. Roadside settlements may have been focused on agricultural activities (Catsgore is an excellent example: Leech 1982), but they also seem to have fulfilled several other roles as well. Some were focused on other industries (e.g. pottery production, as at Stibbington: Wild 1973) but most contained evidence for a variety of industries and crafts practised on a small scale (iron working at Ashton: Hadman & Upex 1975; 1977; bronze working at Wilderspool: Frere 1977: 385; glass making at Catsgore: Leech 1982: 132–3 where an itinerant glass-maker may have operated: Price 1978: 70, 125); bone and lead working may have been almost universal on

rural sites as at Claydon Pike: Wait & Hedges in Miles & Palmer forth.; as might leather working as at Bath: Ambrose 1979: 102–22; Maltby 1979). A market function, serving a limited hinterland, is also very likely (Smith 1987: 67–85) although the documentation of this function is notoriously difficult. Convincing shops have been identified at St Albans (Frere 1972) and Colchester (Hull 1958: 153–4, 198–202). Literary and epigraphic evidence suggests a much wider occurrence of markets (Macmullen 1970) and market squares associated with courtyard buildings have been postulated at Braughing (Todd 1970: 123) though other interpretations are possible (Partridge 1975; Rodwell 1980).

The faunal remains from the excavations were analysed as a single collection, so it is impossible to determine any changes in animal husbandry through time. Cattle were probably the most numerous animals kept, and were usually kept until mature and then butchered somewhere off the excavated area. Horses were unusually common, and some at least were skinned if not butchered. Sheep and goat were undifferentiated, and there was a marked predominance of non-meat bearing bones on site, suggesting that primary butchery occurred on or very nearby the excavated area. Most of the sheep were butchered when adult, and this may be used to argue that they were kept both for their wool and for their meat. Wilson suggests (below) that the absence of meat-bearing bones may indicate that mutton was exported from the site. Other animals present include pigs, dogs (with much evidence of gnawed bones), chickens, and geese. Both native oysters and mussels were imported from the sea for consumption on the site.

Roadside settlements included nearly every form of building known from Roman Britain, but it is clear that the more elaborate features such as mosaics, tessellated floors, and hypocausts were much less common than in either villas or the larger 'small towns' and *civitas capitales* (Smith 1987: 86–90). In sum, the roadside settlements appear to be analogous to the generally small, agriculturally based hamlets and villages of later periods, some developing specialisations to fill local needs.

Burials and cemeteries are both standard elements of roadside settlements. Individual burials or small clusters of burials frequently occur aligned with either the side or rear boundary ditches of house plots, such

as at Catsgore (Leech 1982:8, 14, 17) and Ilchester (Leach 1982: 11, 62, fig. 35), and Smith (1987: 115–17) discusses others. Such burials appear to be most common in later periods such as the fourth century. More formal cemeteries, where they have been located, occur behind the rear boundaries of settlements or elsewhere (as at Queensmill near Dorchester-on-Thames: Harman *et al.* 1978; and Braughing's Skeleton Green: Wells 1981; Partridge 1977). As mentioned above, the depths of roadside plots varies but rarely exceeds 50 m, and burials at a greater distance would be missed in many excavations (including this one!). Romano-Celtic temples may also have been a component in some settlements (Rodwell 1980).

Summary

The relatively small-scale excavations undertaken in advance of roadworks have produced some information on the previously poorly understood Roman settlement at Wimpole Lodge/Arrington Bridge. The settlement seems to have had its origin in its position on the Roman road Ermine Street, probably in the late second or early third century. It evolved through several phases with different structural configurations, and although ultimately stretching for several kilometres along the Roman road (not all necessarily occupied contemporaneously) there is no evidence for social wealth or elaboration. The site did nonetheless function within the larger world of Roman Britain, receiving pottery from a number of sources including Gaul, and quernstones from Derbyshire and Somerset. There is limited evidence for several crafts being practiced, including blacksmithing, leatherworking and bone-working, but present evidence would suggest that the basis of subsistence for most of the inhabitants was farming, with cattle prominent, horses unusually numerous, and sheep and pigs both present. The Roman settlement certainly continued into the fifth century. The latest feature on the site is an Anglo-Saxon burial of the sixth century, suggesting that this site could shed light on the still poorly understood sub-Roman period between the departure of the Roman legions and the establishment of the earliest Anglo-Saxon kingdoms (Bassett 1989). Both the excavations reported here, and recent fieldwalking evidence suggest that parts of this site would amply repay any further opportunities for investigation.

Acknowledgements

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The Pottery from the Excavation of the Roman Site at Wimpole, Cambs., 1989

By Gavin Lucas

Introduction

Pottery was the most abundant artefact recovered from the site, over 100 kg from stratified contexts alone; all the stratified material was examined, the sherds sorted by fabric, then counted and weighed for each context. Evrep was calculated on the basis of minimum number of vessels from rims (though liable to under-representation). A hand lens ($\times 10$ magnification) was used to facilitate description of the fabrics after sorting by eye. Almost certainly there will have been a degree of error in the sorting process, but given the time, resources, quantity of material and limitations of fabric analysis, this is entirely unavoidable (Darling 1989).

The Pottery

A brief description is given for each fabric with selected forms numbered for cross-reference with the illustrations; context numbers are given in square brackets after each form (Figs. 11–16).

Fine Wares

Samian (*Terra Sigillata*)

Most of the Samian (c. 60%) came from the cobbled surface (contexts [105] and [138]); practically all the sherds are abraded and quite small. On the basis of fabric (distinctly micaceous, mid to pale pinkish-brown), 90% of the Samian appears to derive from Central Gaul, probably Lezoux, the rest from Eastern Gaul; there does not seem to be any South Gaul Samian. Most of the forms were plain, and only four makers' stamps were found (footring with edges carefully chipped off — gaming piece?). The maker's stamp reads MARTIAN (?) from Lezoux [138]; footring with the stamp of the 'Potter of the Rosette' from Les Martres-de-Veyre [105]; footring fragment with half a maker's stamp ending in ...FIC [138]; footring fragment of Black Samian reading MERCATOR (?) [118]. Except for the mortarium, all forms are cups and bowls. FORMS: Drag.27 [104], [105], Drag.31 [105], Drag.33 [105], [116], [138], Drag.35 [105], [114], [172], Drag.37 [105] (encircled gladiator (?) and thin wavy line border), [165] (sherd with tassled ovolos similar

to those of Attianus from Lezoux), Drag.38 [128], [161], Drag.45 [105].

Nene Valley Colour-coated Ware

A major industry throughout the Roman period, though it was only during the later third century that large-scale distribution started with a corresponding increase in the range of colour-coated vessels copying earlier greyware forms or Samian. Most of the vessels in this assemblage are fourth-century dishes and bowls, and the few beakers present are almost all equally late. The fabric is predominantly a fine and hard buff-white with occasional calcareous inclusions and medium-sized quartzite grains and black and red ironstone particles. Sometimes the colour is pale grey, but more interestingly, oxidised fabrics with a distinctly orange colour occur and may have been intentional. Over a quarter of the fine wares were from the Nene Valley. Most of the vessel types are shallow bowls, with open jars, beakers, flagons and lids also represented. Apart from these forms, there were a few interesting sherds, one obviously from a hunt cup [172] and another with a naked male figure [122]. Both probably date to the second/early third century. Also one sherd was found in Romano-Saxon style with a moulded boss [177], which probably dates to the late fourth/fifth century. FORMS: 1 [124], 2 [163], 17 [122], 42 [114], 52 [132], 53 [132], 54 [132], 55 [103], 56 [179].

Nene Valley Grey Ware

Not common on the site — fabric as for the colour-coated wares (white to buff/grey) with a grey slip. FORMS: 57 [177].

Harston Red Colour-coated Ware

Only recently discovered, a kiln site at Harston was producing fine colour-coated vessels and mortaria in the Oxford tradition in the early-mid fourth century, possibly from a migrant potter (Pullinger & Young 1981). However, there is a likelihood that coarsewares were also being manufactured there, although the evidence is not as clear. The fabric of the colour-coated vessels is a fine, smooth pinkish-buff/cream, though it can be a red-orange and confusion with the Nene Valley oxidised fabrics might occur without careful examination. All the forms are bowls or open jars; Young types: C44/55 [132], C18 [132], and C81 [179].

Oxfordshire Red Colour-coated Ware

Like the Nene Valley Ware, a major fine ware industry leaped into wide-scale distribution

from the mid-third century onwards with a range of colour-coated vessels, and is extensively dealt with by Young (1977). The fabric is fine and smooth, red-brown to orange-brown (sometimes with a grey to buff core), with abundant mica and very fine sand, and very occasional coarse, irregular limestone and medium-sized black and red particles (ironstone?). Most vessels are bowls; Young types C78 [118], [122], C51 [132], C55 [129], and C45 [129]. Also present was a colour-coated mortaria with angular flange; Young type C100, fourth century [114], [168]. FORMS: 58(C52) [179], 59(C77) [177], [118].

Parchment Ware

Probably Oxfordshire — fine white fabric with red paint. Not common.

Red Painted Ware

Fairly coarse orange fabric with grey core, moderate medium-sized sub-angular quartzite and very occasional larger inclusions of angular flint, grog and limestone. Only one vessel was identified which is of a very archaic form and has a white colour-coat and red-painted decoration. It is probably a local ware, and early. FORMS: 19 [105].

Hadham Red Ware

The kilns at Hadham appear to have been productive since the late second century, but wide-scale distribution only began later reaching a peak in the mid-fourth century with a range of fine wares including imitation Samian and Romano-Saxon style decorated vessels. A fine orange to red-orange fabric, sometimes with a grey core, abundant fine sand and black ironstone particles, sparse to moderate mica, and occasional medium-sized sub-angular translucent quartzite grains. Self-coloured slip and frequently burnished with linear-horizontal strokes. Most of the vessels are bowls, with some jars. Several interesting sherds were also recovered, one was a base that had been trimmed to a disc and perforated slightly off-centre [103]; two sherds with Romano-Saxon motifs, one with girth grooves and diagonal slashes, Roberts type x.1 [132], probably later fourth century, and the other, a boss with a dimple in, Roberts type x.21 [132]. Also a vestigial reeded handle was found that would have been applied to a flagon or jug but no longer functional since it is flattened [177]. FORMS: 3 [122], 18 [118], 20 [118], 43 [114], 44 [114], 60 [177], 61(A.30) [177].

Hadham Grey Ware

The fabric, surface finish and decoration, and range of forms are very similar to the Hadham Red Ware, except in grey instead of orange colour. Practically all vessels are bowls or open jars. Two other interesting sherds (not illustrated) were from a bowl with Romano-Saxon motifs of bosses and six-dimple triangles (Roberts type x.14 [177]), and a sherd with bounded rouletting [177]. FORMS: 4 [138], 21 [155], 45 [134], 62 [177], 63 [132], 64(A.20) [104], 65 [177].

Grey Colour-coated Ware

A fine buff fabric, though varying from pale grey to pinkish cream, with sparse to moderate mica and moderate medium-sized grains of translucent, sub-angular quartzite, and with occasional coarser inclusions of limestone, grog and angular flint. Surface covered with a pale to dark grey colour-coat. It is probably from a local source, but does not appear to resemble anything from known kiln sites. Most vessels are bowls with some dishes and jars. FORMS: 46 [114], 66 [177], 67 [177], 68 [177], 69 [177].

East Gaulish? Colour-coat

A few sherds appear to derive from the East Gaul, in two fabrics — one in very fine and hard, clean white fabric, probably from Cologne, and another in an equally fine and hard sandwich of dark red and grey, probably from Trier; both with dark colour-coats. Their similarity to fine colour-coated vessels from the Nene Valley or Colchester must also be considered as an alternative source.

Coarse Wares

BB1

Coarse dark grey to black fabric with a thin reddish-brown layer just beneath the surface; abundant rounded to sub-angular 'milky' quartzite grains; handmade and burnished with lattice or wavy-line decoration. The original product was made in Wareham-Poole, Dorset, though BB1 wares also appear to have been manufactured elsewhere such as Rossington Bridge, Yorkshire and the Lincoln Racecourse kilns. The source of the Wimpole BB1 is probably from Dorset. All forms are either bowls, including a Gillam type G330 [179], or dishes. FORMS: 22(G329) [172], 23(G225) [105], 70(G228) [128].

BB2

A moderately coarse to fine red-brown to

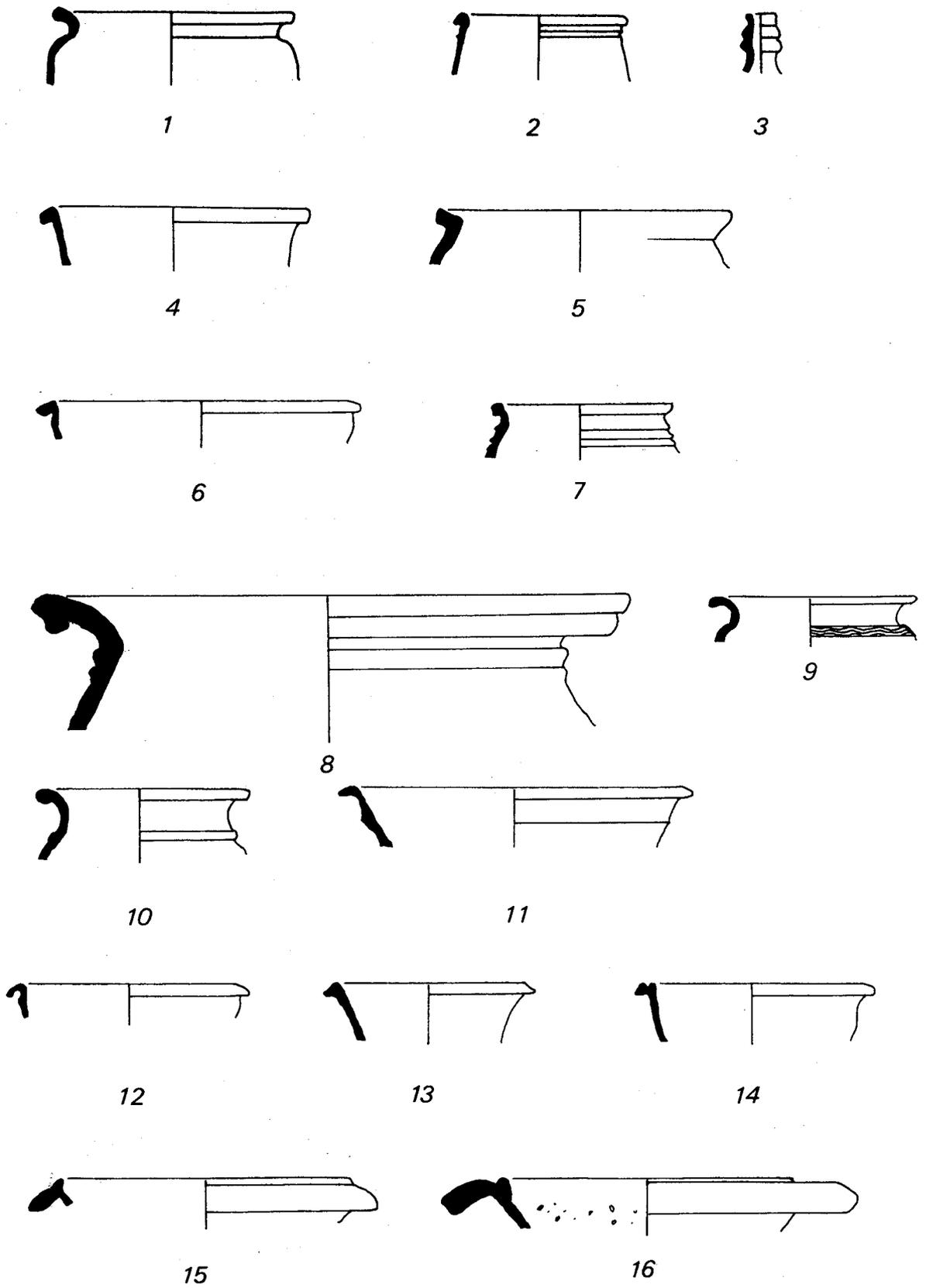


Figure 11. Pottery forms.

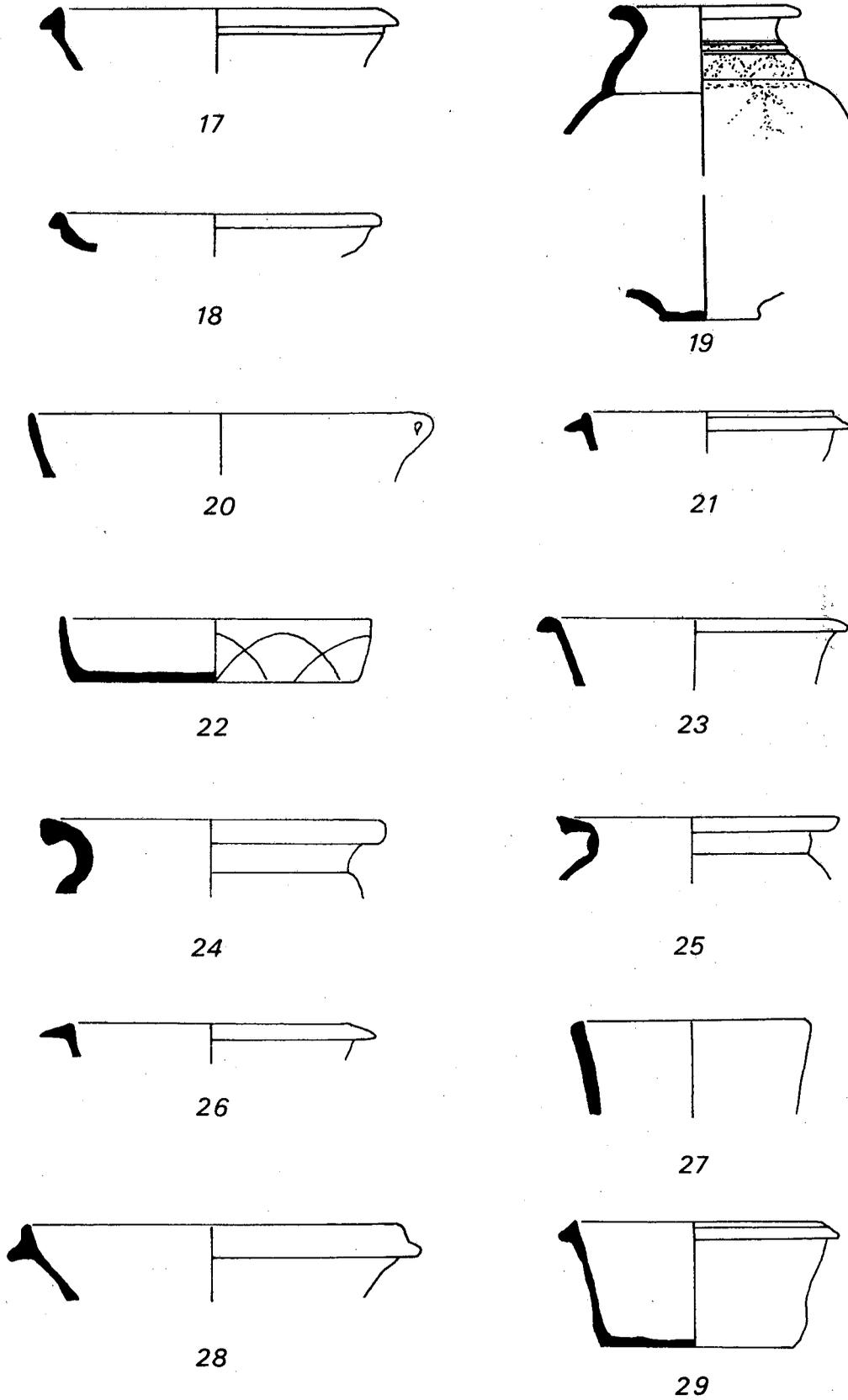


Figure 12. Pottery forms.

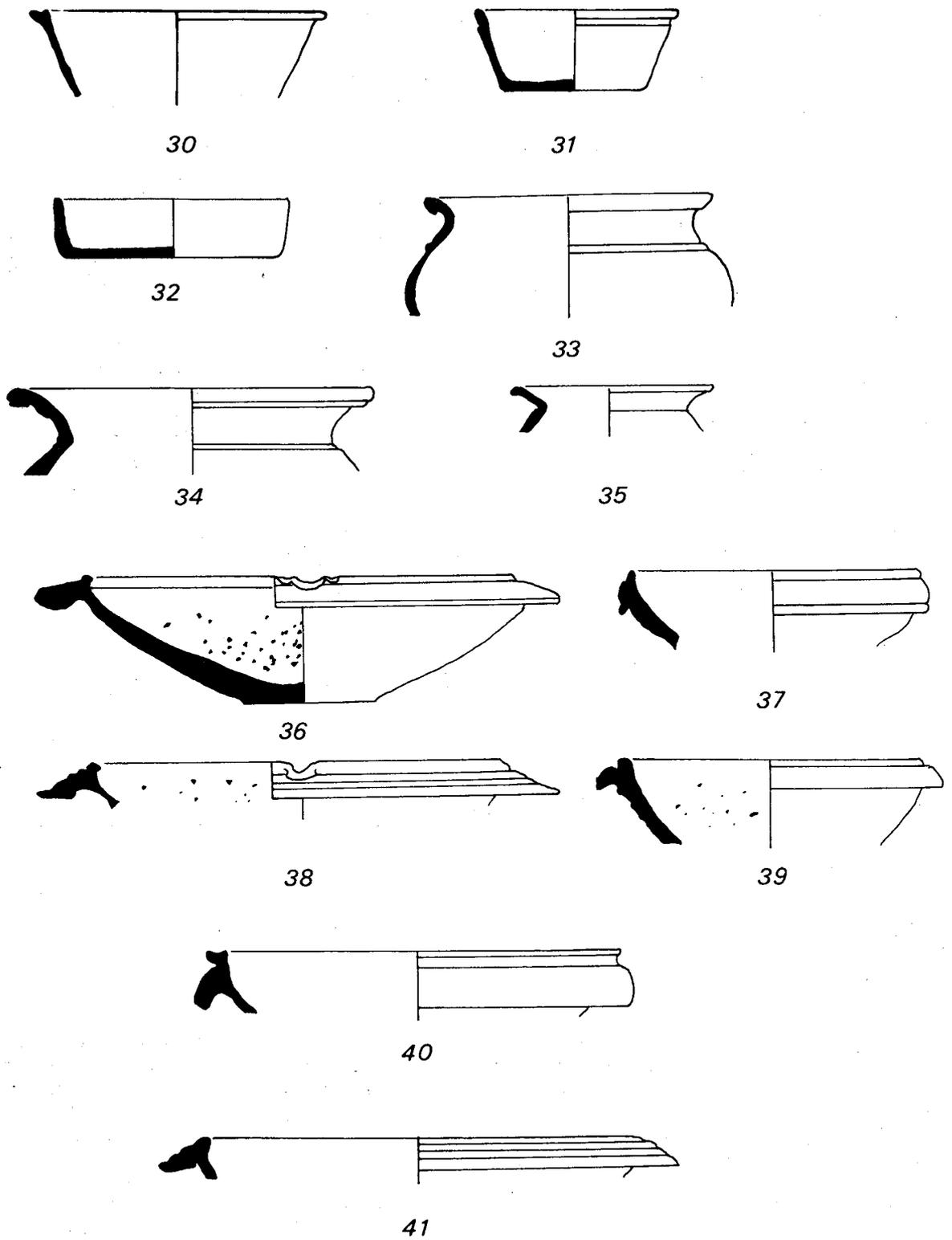


Figure 13. Pottery forms.

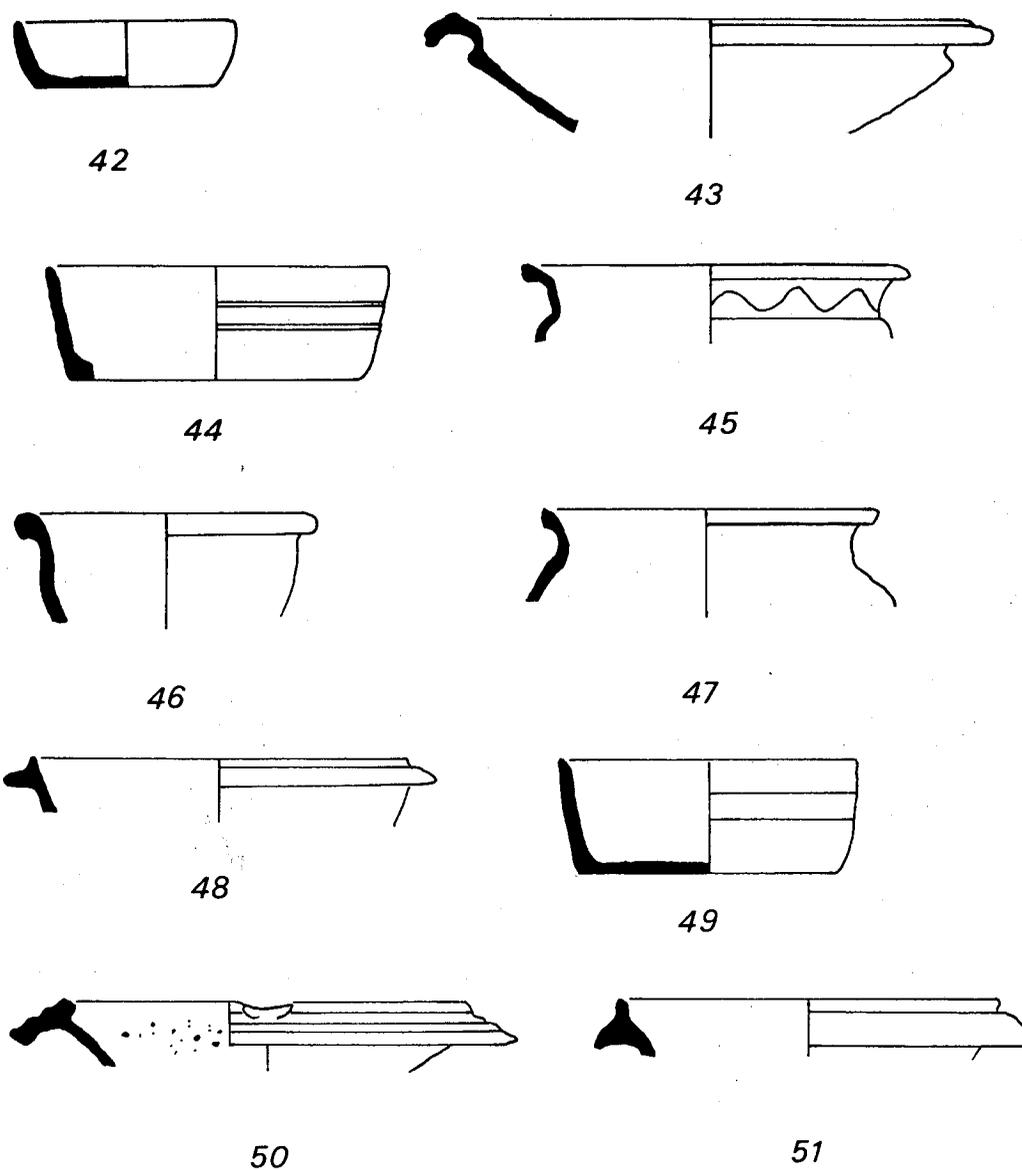


Figure 14. Pottery forms.

black fabric, sometimes with a grey-buff core, with abundant mica and fine sand, and occasional medium-sized quartzite grains and grog; lattice decoration and burnished to a silky finish. Probably from kilns in Essex. All bowls or jars, including Gillam types G225 and G331. FORMS: 71 [177], 72(G142) [177], 75 [177].

Shell-tempered Ware

Soft brown to orange fabric with a dark grey core, sparse mica, moderate fine sand, occasional grog and abundant coarsely crushed fossil shell. The vessels are predominantly wide-mouthed jars with square, everted rims,

often undercut, and a few bowls. This is a characteristic of late Roman ware, though there are some earlier beaded jars in the assemblage. The sources of shell-tempered ware are not well known, though it is thought that the Nene Valley was producing them on the basis of a Trajanic kiln, though other sources such as Harrold, in Bedfordshire are possible (*cf.* Going 1987: 10). It is more than likely that this fabric derives from more than one source. In feature [172], there were two large bases that had been trimmed to discs and perforated. FORMS: 5 [138], 24 [105], 25 [105], [122], 26 [172], 27 [105], 28 [105], 47 [134], 74 [177].

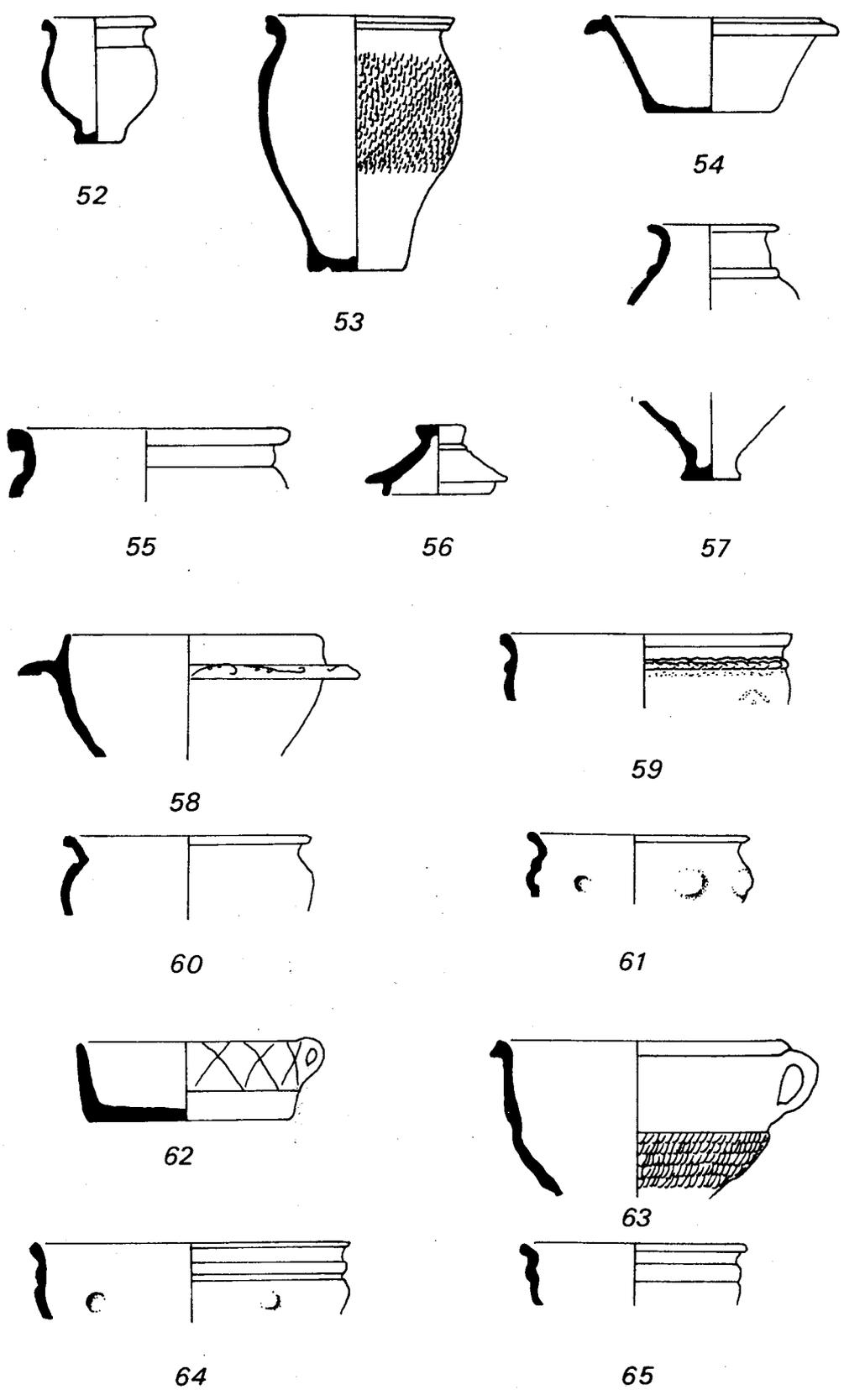


Figure 15. Pottery forms.

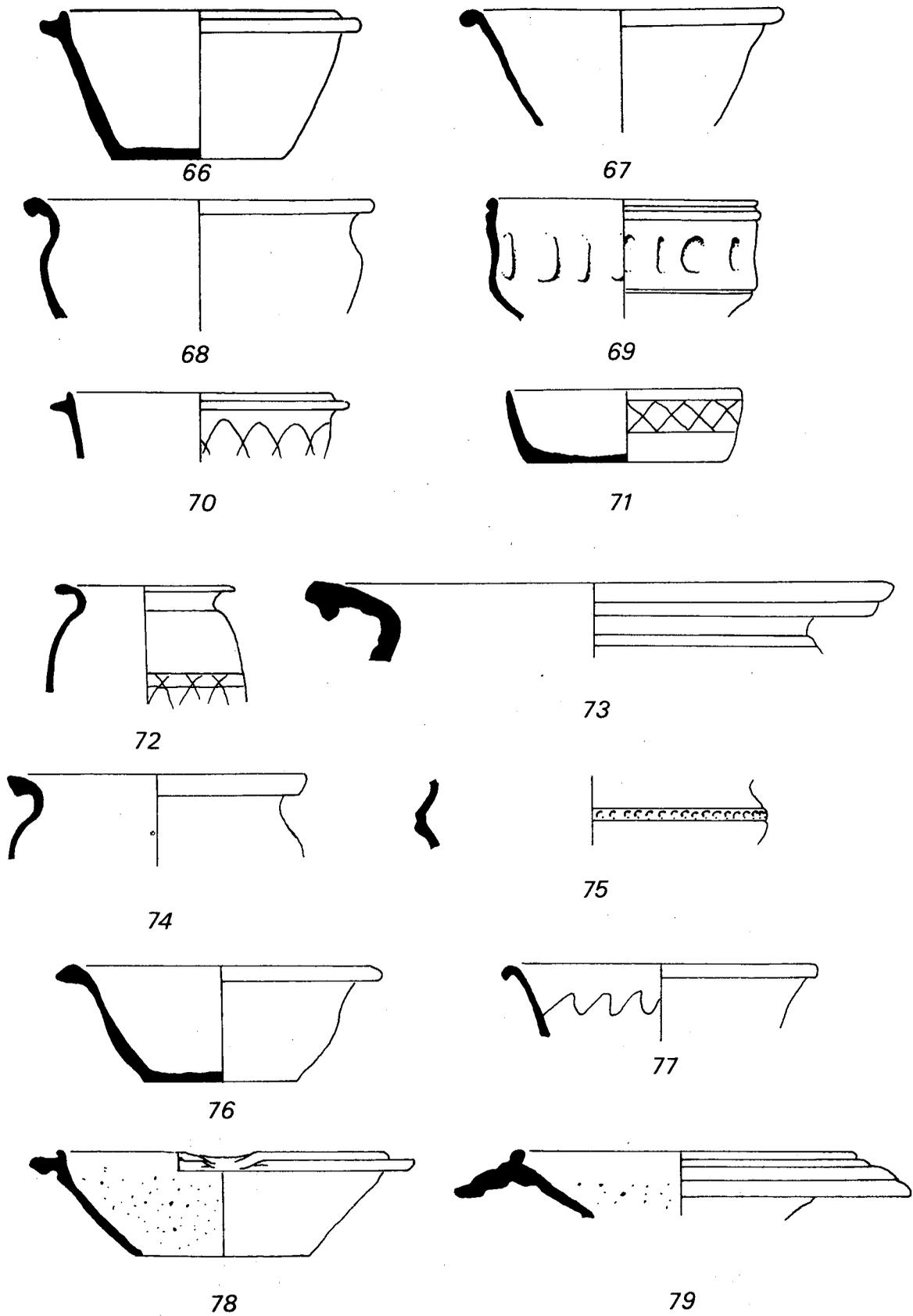


Figure 16. Pottery forms.

Sandy Grey Wares

Between 30 and 40% of all the pottery consisted of a sandy grey ware which exhibited a similar fabric, finish and forms, although clearly local coarseware fabrics are often notoriously difficult to differentiate and source. Quite a hard fabric with moderate mica, abundant medium to coarse grains of translucent, sub-angular quartzite, and occasional coarse inclusions of grog, limestone and angular flint. The surface of the vessel is almost invariably reduced to a grey colour and covered with black to dark grey slip over most the exterior and just below the rim of the interior, and less commonly, there is burnishing. The chief variability is due to the firing, producing buff, orange-brown, oxidised with a grey core, and all grey fabrics. Whether these differences are intentional or relevant is another problem. Much of this ware almost certainly comes from the Horningsea kilns, which produced the usual general range of kitchen ware vessels, although its most distinctive form is the large storage jar with a cordoned rim, and obliquely slashed base, which here, occurs mainly in the oxidised fabrics, and is often white-slipped and combed. The life-span of these kilns has generally been underestimated — the presence of these wares in such late contexts demonstrates that the kilns were active probably from the second century onwards. Bowls and jars are the commonest forms and more or less in equal proportions, with some dishes and lids and storage jars in lesser quantities. In feature [177], a grey fabric base has been perforated. FORMS: 6 [138], 7 [138], 8 [138], [163], 10 [163], 11 [176], 29 [172], 30 [153], 31 [172], 32 [122], [172], 33 [172], 34 [153], 48 [114], 49 [114], 73 [103], 76 [177], 77 [177].

Grog-tempered Ware

Only few sherds of very coarse manufacture were recovered (less than 1% of the total), probably from vessels produced on or near the settlement at Wimpole. The fabric is a hard, brown-grey, tempered with coarse particles of ironstone, quartzite and grog, with a very rough and uneven finish. It seems to occur mainly in the later contexts, and is either residual Iron Age or Late Roman/Early Saxon. Unfortunately no forms were recovered for this fabric.

Flint-gritted Ware

As rare as the coarse handmade ware, this seems to have mainly consisted of thick-walled vessels, and is perhaps also hand-

made. The fabric is a very hard, red-brown, tempered with coarsely crushed angular flint and shell. It seems to occur mainly in the later contexts, with a peak in the early fourth century. There are no forms for this fabric.

Grass-tempered Ware

A fine, grey fabric with frequent fine sand temper, occasional coarse sub-angular quartzite and sparse mica, with some coarse organic (grass or straw) matter. All thick sherds, probably storage jars. No forms — rare and probably late.

Fine Grey Ware

A hard, pale grey fabric, often with a buff surface, with abundant fine sand and tiny ironstone particles, sparse mica and occasional coarser grains of sub-angular quartzite. Usually covered with a self-coloured slip, though also occasionally with black or white paint. Possibly from Essex. Vessels are chiefly jars and bowls, in similar amounts. In feature [103], there is a base trimmed to a disc but not perforated. FORMS: 9 [138], [163], 12 [138], 13 [197], 14 [138], [163], 35 [105].

*Amphorae***South Spanish (Baetican)**

A fine-textured, pink-red to orange-pink fabric with frequent fine to moderate sub-angular quartzite grains, and moderate finely ground calcite. Quite thick sherds, almost certainly from Dressel 20, though no forms were recovered.

*Mortaria***Nene Valley Mortaria**

a) Hard creamy white or orange fabric with black ironstone trituration grits. FORMS: 15 [138], 36 [172], 38 [153], 50 [114].

b) Hard orange fabric with grey core, tempered with frequent medium to coarse quartzite grains and occasional limestone and flint, black ironstone trituration grits and yellow-slipped. Although much coarser than the typical Nene Valley mortaria, the trituration grits, form and slip, are all distinctive of the Nene Valley. If not made in the Nene Valley itself, perhaps by a local potter copying Nene Valley styles? FORMS: 79 [177].

Oxfordshire Mortaria

Hard, creamy white to pink fabric with distinctive multi-coloured quartzite trituration grits. Includes Young type M17 [166]. FORMS: 78(M22) [132], [177].

Table 1. The number, weight, evrep and percentage of sherds for each ware.

	Sherd Count	%	Sherd Wt.	%	Evrep	%
Fine Wares						
Samian	195	2.2	1560	1.6	12	2.2
E. Gaulish	29	0.3	148	0.2	2	0.4
Nene Valley	1020	11.7	7937	7.7	41	7.5
Harston CC	38	0.4	220	0.2	7	1.3
Oxford CC	155	1.8	1221	1.0	11	2.0
Grey CC	209	2.4	2603	2.5	27	5.0
Hadham Red	541	6.2	5473	5.2	32	5.8
Hadham Grey	383	4.4	3435	3.3	62	11.4
Coarse Wares						
BB1	128	1.5	1525	1.5	6	1.1
BB2	79	0.9	1255	1.2	19	3.5
Fine Grey	1234	14.2	11,245	11.0	71	13.1
Shell-temp.	1303	15.0	18,531	18.0	104	19.1
Sandy Grey	3083	35.4	37,659	37.3	161	29.6
Grog-temp.	74	0.8	830	0.7	0	0.0
Flint-grit.	40	0.5	778	0.7	0	0.0
Amphora						
Baetican	49	0.6	1225	1.2	0	0.0
Mortaria						
Nene Valley	36	0.4	1630	1.6	16	2.9
Oxfordshire	16	0.2	780	0.7	4	0.7
Verulamium	3	0.2	95	0.2	3	0.6
Others	9	0.1	250	0.2	6	1.1
Total	8699	99.7	101,292	100.0	544	107.3

Table 2. Incidence of fabrics and forms by phase, based on evrep.

PHASES	I		II		III		IV	
	AD 180-240		240-300		300-360		360+	
FABRICS								
Samian	3	(3%)	7	(4%)	1	(2%)	1	(0.5%)
E. Gaul	0	(0%)	1	(0.6%)	0	(0%)	1	(0.5%)
Nene Valley	4	(4%)	8	(4%)	8	(14%)	20	(10%)
Hadham Red	5	(5%)	6	(2%)	8	(14%)	15	(8%)
Hadham Grey	3	(3%)	8	(4%)	8	(14%)	30	(15%)
Oxford CC	0	(0%)	6	(3%)	0	(0%)	4	(2%)
Harston CC	0	(0%)	0	(0%)	0	(0%)	6	(3%)
Grey CC	0	(0%)	13	(7%)	1	(2%)	16	(8%)
Fine Grey	20	(22%)	27	(15%)	3	(5%)	17	(9%)
Sandy Grey	35	(37%)	61	(35%)	17	(30%)	39	(20%)
BB1	0	(0%)	2	(1%)	0	(0%)	2	(1%)
BB2	0	(0%)	4	(2%)	1	(2%)	12	(6%)
Shell-temp.	20	(22%)	32	(18%)	9	(16%)	34	(17%)
FORMS								
Cups	2	(2%)	4	(2%)	1	(2%)	1	(0.4%)
Beakers	2	(2%)	5	(3%)	2	(3%)	1	(0.4%)
Jars	43	(48%)	85	(46%)	24	(40%)	113	(52%)
Bowls	27	(29%)	50	(27%)	17	(28%)	59	(27%)
Dishes	5	(5%)	14	(8%)	9	(15%)	23	(11%)
Lids	2	(2%)	7	(4%)	2	(3%)	1	(1%)
Flagons	1	(1%)	1	(0.5%)	0	(0%)	1	(0.5%)
Storage Jars	8	(9%)	7	(4%)	1	(2%)	3	(1%)
Mortaria	2	(2%)	10	(5%)	4	(7%)	13	(6%)

Verulamium Mortaria

a) Hard creamy white to pink with a grey core with white quartzite and flint trituration grit. FORMS: 40 [155].

b) A fine but granular fabric with abundant medium-sized grains of sub-angular quartz and occasional ironstone particles. Pale grey with buff exterior, gritted with crushed medium-sized grey and red flint. Potters stamp on form 16 reads CIIII/VICII; these letters may in fact be the herringbone stamp typical of Colchester mortaria. FORMS: 16 [194].

Colchester Mortaria

Hard and coarse yellow-buff fabric with abundant medium to coarse, multicoloured quartzite and ironstone particles and gritted all over with white quartzite and angular flint. FORMS: 37 [105].

Unsorted Mortaria

A fine but granular fabric, abundantly tempered with medium-sized rounded to sub-angular, translucent quartzite grains, and occasional angular limestone and flint. Trituration grit, when present, is a dull grey or black ironstone. The colour varies from pink-orange through pink-buff to pink-grey, occasionally with a black core. It is probably of local fairly manufacture (*cf.* Nene Valley fabric b above). Includes an incipient hammerhead type [179]. FORMS: 39 [105], 41 [105], 51 [134].

Discussion

The ceramic assemblage from Wimpole offers a glimpse at the range of wares and vessels from a small roadside settlement in the later Roman period; the overall ratio of fine to coarsewares is about 1:3, and 90% of the vessels are bowls, jars and dishes, with beakers, cups and flagons making up less than 10%. Based on independent ceramic phasing, the assemblage has been divided into four periods.

Phase I. c. AD 180–240

The earliest phase has three fine wares, almost all coming from either Hadham or the Nene Valley; these production centres dominate the finewares throughout the life of the site, particularly Hadham. Samian is also present in a small amount. Of the coarse wares, sandy grey wares predominate, chiefly from Horningsea while Fine Grey Ware and the Shell-tempered fabric are present in about equal pro-

portions. Most vessel types are represented, except platters which do not occur at all, and jars and bowls dominate the assemblage, and to a lesser extent, storage jars.

Phase II. c. AD 240–300

The later third century sees a huge rise in pottery on the site by at least double the amount in the previous phase. Also new fabric types occur. With the fine wares, the usual sources are still present, with Hadham still dominating, but the arrival of Oxfordshire colour-coated vessels appear to give some competition with the Nene Valley products. Black Burnished Ware also occurs for the first time, both BB1 from Dorset, and BB2, probably from Essex, the latter of which is twice as common. Another new fabric is the Grey Colour-coated Ware, probably from a fairly local source in Cambridgeshire. The other grey wares all decline slightly, while the shell-tempered fabric increases its percentage of the coarse wares, at their expense. In this period jars rise slightly, particularly the open type, though the large storage jars drop by a half, while dishes, mortaria and lids all show a slight but marked increase as a proportion of the overall assemblage.

Phase III. c. AD 300–360

The early fourth century sees a very sharp drop in ceramic activity, to lower than the levels in Phase I. The main victim of this decline seems to be the coarse wares, for the fine wares rise to compose nearly half of the total assemblage, although Oxfordshire products are no longer present, neither BB1, suggesting that the more distant exporters could not maintain a market here at this time. Of the more local coarse wares, the Fine Grey Ware fabric shows the greatest fall, of a half, while shell-tempered fabrics show some increase. The sandy grey wares, from Horningsea, maintain a fairly consistent dominance of the coarse ware assemblage, though overall they have shown a gradual decline since Phase I. Jars show a decrease, while dishes continue to increase as do mortaria while storage jars have dropped to a minimal presence.

Phase IV. c. AD 360+

The final phase on the site sees a resurgence of activity back to the level of Phase II.

Oxfordshire products and BB1 return to the site, and red colour-coated fine wares from the nearby kiln at Harston make a presence. Also, from an unstratified context, came a large storage jar from Alice Holt in Surrey. Hadham though, still dominates the fine ware market, followed by the Nene Valley, which no longer seems threatened by the Oxfordshire products. Fine wares in general maintain a quite high percentage of the assemblage compared to the first two phases. The grey colour-coated ware remains at a similar amount, though BB2 has a quite dramatic increase on its previous peak. The other coarse grey wares never quite recover their third-century levels, and the sandy grey ware reaches its lowest levels ever, practically in equal amounts now to the shell-tempered fabrics. On the other hand, in terms of vessel types, jars do show a revival, back to their former levels, particularly open jars, while storage jars remain negligible. Dishes, mortaria and lids drop.

Summary c. AD 180–360+

The collection of pottery from the Roman settlement at Wimpole has shown some interesting patterns; the first is the fluctuation of quantities of pottery on the site over time, with quite minimal presence in Phases I and III, in distinction to Phases II and IV. Relating these to the stratigraphic phasing indicates that the periods of low ceramic activity are associated with the highest feature activity in terms of ditches etc.. If the ceramic activity can be taken as an indicator of economic activity on the site, then it might suggest that the site was used for dumping during more prosperous times, with field systems further out, while at others, field ditches/boundaries came closer up to the settlement. Recent work in trade patterns in Roman Britain suggests a cyclical movement of booms and troughs (Going 1992); this pattern is visible too if the total number of settlements is looked at over time, with peak density in Cambridgeshire occurring in the Antonine, later third, and mid-fourth centuries AD (Elrington & Wilkes 1978). These periods match the peaks in Going's cycles. They also match the peaks at Wimpole, Phases II and IV occurring in the later third and mid-fourth centuries AD.

One of the consequences of this cycle relates to problems of dating pottery — Going suggests that in the troughs, there will be less pottery, and a higher proportion of residual

material, more worn — indeed, the pottery forms may be longer-lived. All of this could cause problems when trying to date assemblages. Curiously enough, although the Wimpole assemblage does show increases in quantities during 'booms', the greatest date variation of the pottery also occurs in these phases (ie. II & IV). This, however, may be due to the fact that most of the features in these phases are in fact re-cuts of earlier ditches, which would entail a high degree of contamination. Residual pottery is always a problem, and perhaps the most secure way of taking this into account is noting the degree of use wear and repair on vessels. Unfortunately this was not carried out in this case.

If we look at the sources of the pottery over time, most of it would seem to come in to Wimpole from within a 50–60 km radius, except during the boom phases, when Dorset BB1, Oxfordshire colour-coated wares and Alice Holt are also present. Otherwise, c. 80% of the fine wares appear to derive from Hadham or the Nene Valley, which lie at opposite ends of the main north-south Roman road, Hadham Ware being perhaps twice as common, and closer to Wimpole by c. 20 km than the Nene Valley. Also, if we look at the ratio of red to grey coloured fine wares, we find that in Phase I red wares are three times more common, but by phase II, they have equalled, and by the final phase, greywares are twice as more common than the redwares. Turning to the coarse wares, these are much harder to source, but if most of the sandy grey wares derive from Horningsea, c. 25 km distant on the main road to Cambridge, then they account for half, though this drops to nearly a third by the final phase. Fine grey ware shows a similar decline over time. Conversely, shell-tempered fabrics, which probably come from a number of sources, including Harrold in Bedfordshire (c. 40 km away) for the later material, show a steady rise over the period.

Over time, in terms of fabrics/wares, there does seem to be a noticeable shift from preference for red fine wares to grey fine wares, and from grey coarse wares to orange shell-tempered coarse wares. It is as though there is a certain avoidance of mixing categories here between special and everyday pottery vessels, in that it was deemed wrong to have the same coloured fine ware as your everyday ware. Whether it was the preference for grey fine wares which forced a switch to the shell-tempered coarse wares or vice versa

is difficult to say, but the data does indicate that the former change earlier. In general, for all phases, one might also say that fine wares tend to come from sources over c. 40 km distant, while coarse wares from within c. 40 km.

Looking now at vessel types, jars dominate the assemblage, but show a slight decline over time until a revival in the final phase; however, in particular, open type jars show a steady increase over time, while large storage jars show just the opposite. Open vessels in general, such as dishes and mortaria show an increase, peaking in the early fourth century. Bowls, cups and beakers are by far the most stable types, showing very little variation as part of the assemblage through time. Lids are strongest in the later third and early fourth century.

Six cases of re-use of vessels were noticed, all of bases. Three variations were identified, though they may represent three stages of one process. One example of a base fragment with a perforation at the bottom was recovered; three examples of bases trimmed to discs with central perforations were found, and finally two examples of unperforated but trimmed bases. The original vessel seems to be irrelevant (except perhaps size) to their re-use, as these were found on fine ware and coarse ware alike. Examples come from both the earliest and latest contexts. Possibly they are lids, but gaming pieces may be more likely.

A study of the pottery from Wimpole has shown some interesting patterns, some local and others more widespread; it is hoped that similar work in the future on Roman pottery, particularly in the Cambridge region, may corroborate or extend them; little has been done on distribution and chronology for this area, particularly for the local wares such as Horningsea, and it is hoped that future excavators can lend the time and resources to this undeveloped field.

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The Human Burial [168]

By Tristan Wilson

The human skeleton recovered during the excavation was complete *in situ* (Fig. 8). Unfortunately the clayey nature of the subsoil modified this situation. None of the long bones were recovered whole, many of the more fragile anatomical elements were reduced to fragments and many of the smaller bones were lost completely.

This caused particular problems when it came to sexing the skeleton. The most reliable distinctions between male and female are usually to be found on the pelvis. However the fragmentary pelvis failed to produce any clear-cut result. Instead indications of sex were derived from the jaw and skull. The conclusion reached was that the individual was female, which would tend to be corroborated by the nature of the grave goods.

Ageing the body proved less problematical. The vertebral column was of particular use. The cervical vertebrae are the most mobile in the spine and the neck region thus tends to be the first part of the spine to be modified with old age. In this case no such modifications had taken place, the cervical vertebral articular facets being in good condition. The lower lumbar vertebrae, however, exhibit pathological changes consistent with a fairly arduous life. Therefore it is suggested that death took place at some point during middle age.

Although ageing by attrition on the teeth is viewed warily, this evidence tends to support the spinal observations. All the molars show patterns ranging from moderate to extreme wear. Three chronic abscesses would have made any chewing action extremely painful, if not impossible. These are in the upper left anterior molar, the lower left anterior molar and lower left second molar. Alveolar bone recession occurred in both the maxilla and the mandible. This involved the lowering of the jaw bone around the roots of the teeth, leaving progressively more and more of the roots exposed.

To summarise, the complete inhumation from Wimpole was probably a middle-aged adult female who performed some kind of physically strenuous labour.

The other adult human remains were extremely fragmentary and incomplete. Context 122C (an east/west ditch) revealed a human mandible and context 124 (an east/west gully) produced a large amount of typically

spongy human bone, little of which was identifiable.

The following neonatal material was recovered; one humerus, five tibiae, one pelvic fragment, three femorae and a fibula. The tibiae point to a minimum of three individuals as having been present. A metrical investigation showed that the bone belonged to very young infants, probably newly born.

The Skeletal Material from the Watching Brief

By Corinne Duhig

Post mortem disturbance had intermingled adjacent parts of two principal skeletons: that of a mature adult man lacking only the feet, and the remains of an adolescent with both lower legs and feet missing. There were also two femoral fragments from two further adults individuals. Some bones were much broken, notably the skulls, but their robust condition facilitated reconstruction (Fig. 9).

Skeleton 1

Features of skull, pelvis, sacrum, and long bones all enabled this individual to be identified as male. His age could not be closely determined, and can only be placed in the category 'mature adult': the condition of the pubic symphysis is that of the Suchy-Brooks stage VI, which covers a range from mid-adulthood to old age; the dental wear conforms to Brothwell's third stage, 35-45 years; the minor arthritic in the spine suggest an age of more than 35 years. Four long bones were complete, and could be measured for an estimation of stature. However the variation of height estimates obtained was too great (6.2 cm) to provide a useful figure. Leg bones are known to provide closer approximations to actual height, so it is suggested that the height of this individual was probably at the lower end of the range, around 170-71 cm.

Apart from the slight signs of degenerative arthritis in the spine, shown in osteophytic 'lipping' of three of the vertebrae, the other evidence of heavy manual work causing disc degeneration (Schmorl's nodes on three thoracic vertebrae), this man appears to have been, at least skeletally, healthy. His teeth are less so: two teeth had been lost before his death, with severe recession of the gums

around them resulting from inflammation. The wear on the molars is considerable and slightly unusual, and might show the habit of tooth grinding (bruxism), either as a cause or a result of the evident malocclusion. One first molar had been worn down so far as to expose the root canal and had, unsurprisingly, developed an abscess.

Skeleton 2

Almost all the upper part of this skeleton was preserved, but the lower part of the left femur and both lower legs and feet were missing. The skeleton is that of an immature individual, in which all the long bone epiphyses are unfused, the third molars unerupted, showing that the age was less than 18 years, and the absence of wear on the second molars would suggest that it was not long since erupted, at approximately the twelfth year.

Other Bones

A left femur and part of a right femur, both adult, were mixed with the bones of the other skeletons. They were not a pair, and so indicate the presence of two other individuals. Also present were a few rib fragments which could not be attributed to either of the 'complete' skeletons, and which might belong to one of these additional adults.

The Faunal Remains from Wimpole Hall

By Tristan Wilson

The excavations at Wimpole Hall produced 19 boxes of bone. The stratified bone sample consists of the following mammalian species: cow, horse, sheep/goat, pig, dog, roe deer and hare. Chicken, goose and amphibian remains are also represented. Human material was recovered in the form of one complete adult inhumation plus bones from at least one other adult and partial neonatal burials.

Levels of bone preservation on the site were fair, though an appreciable number of contexts included skeletal elements covered in a concrete-like accretion, which tended to make identification difficult. A good indicator of preservation is the ratio of the number of proximal to distal humeri frag-

ments. Distal humeri survive better than proximal humeri since the latter are more spongy in nature and have a higher specific gravity.

Most of the contexts yielded easily identifiable bone, since bone fragments of less than 5 cm in length rarely occurred. This was most likely due to the lack of implementation of a sieving programme due to pressures of time.

This lack of sieving will also have generated another bias pointed out by Payne (1975: 7-17). Even conscientious excavators will tend to miss smaller bones thus producing a bias towards large mammals like cow and horse, whilst sheep, goats, small mammals, birds, fish, amphibians may be under-represented. This may have been further exacerbated by the clayey conditions on the site.

Methodology

The methodology employed in examining any faunal deposit will depend on two areas of consideration: first what sort of information is to be extracted from the bone sample. A very basic example being what did the local population eat? Others are concerned with both temporal and spatial variations. For example how, if at all, does animal utilisation change through time and also whether different areas of the site were used for different aspects of animal exploitation at any one time. The second consideration is that of resources available to the analyst. This essentially involves consideration of information potentially available in a bone assemblage against the difficulty involved in extracting it. Quite often there is little point in examining every single fragment since the relatively small amount of information thus derived would be extremely expensive in terms of time and money.

Obviously a balance has to be achieved. With the Wimpole material this balance was achieved by looking in each context for a certain range of anatomical indicators. These bones were concentrated on since they could readily be fitted into a scheme of carcass utilisation. For example the scapula, humerus, pelvis, radius and femur can be viewed as the main meat-bearing elements, whilst phalanges, particularly of cattle, are often used to produce glue. For any bone to be recorded it had to be at least 50% present. The elements chosen were; horn-core, jaw, glenoid of the scapula, proximal and distal

humerus, distal radius, distal metacarpal, first phalange, acetabulum of the pelvis, distal femur, distal tibia, distal metatarsal, and radial carpal astragalus.

It was felt that by looking for these particular skeletal elements a good overview of the site could be achieved in the limited time available. This would give a clear picture of species present and also indicate possible variations through time and space.

The overall results can be seen in Table 4, with incidences of gnawing and butchery in Tables 5 and 6. It should be noted that no estimate of minimum numbers of individuals will be attempted since the small sample size would preclude any degree of accuracy. It is also appropriate to mention temporal and lateral variation at this point. All the indicators were plotted by phase and site location. From this it was hoped that temporal and spatial variations would be visible. Unfortunately no real patterning was seen. To a certain extent this can be linked to the relatively small assemblage size. It was therefore decided to examine the assemblage as a single body of material in order to derive as much information as possible.

Cow

In terms of indicators, cattle are the most common species found on the site. An attempt was made to see if the cattle bone represented meat-bearing or non-meat-bearing elements. The scapula, humerus, pelvis, radius and femur were regarded as the main meat bearing bones (though it must be remembered that in certain butchery techniques the scapula and pelvis are treated as waste). Mandibles, metapodia, distal tibiae and phalanges were taken as non-meat-bearing. The numbers of metapodia and phalanges were weighted to take into account their skeletal frequencies. The following results were obtained.

1. meat-bearing bones	54
2. non-meat-bearing bones	34

This is a very coarse index, taking no account of phasing or lateral variation, but it nevertheless points to a distinct bias towards meat-bearing bone. Two possible explanations for this may be postulated. Firstly the animals could have been slaughtered elsewhere, with the lower legs being removed prior to the carcasses being brought on site. Alternatively butchery could have taken place

on or near the site with the skulls and lower limb bones being taken off the site (or at least outside the area of excavation) for disposal. Realistically both possibilities may well have happened, since rarely, if indeed ever, does Man pursue one exploitation or utilisation strategy in total isolation of others. Whilst suggesting an emphasis on meat-bearing elements, it should also be remembered that non-meat-bearing bones are in evidence on the site, such as the ox skull from context 161. Also butchery marks should be noted in this context. The horn core which exhibits butchery has cut marks in the form of horizontal cuts around the base of the core. These are diagnostic of horn removal. Horn was a widely worked industrial raw material, being used in the production of containers, knife-handles and combs.

Other butchery marks occur on both meat- and non-meat-bearing elements. On bones such as the radius these cuts are most probably linked with meat removal. The marks on the scapulae and pelves too are most likely connected with meat removal, though some could be the result of disarticulation of the joint. Disarticulation could also account for the marks which appear on the astragalus and the calcaneus. The metapodials, phalanges and tibia are bones which have minimal quantities of meat on them, so the marks visible on them are not generally thought of as being connected with meat removal but more with skinning.

The butchery marks and distribution of skeletal elements on the site show that the cattle were being exploited in a variety of ways. This, presumably, shows an attempt to utilise the carcasses to the full thus ensuring as little waste as possible.

Only eight cattle mandibles were recovered and, of these, five had complete molar rows. Using Grant's method of relative age estimation (Grant 1982) these produce mandible wear stages of 30, 42, 46, 51, and 56. The remaining three jaws with incomplete molar rows had mandible wear stages of 27, 30-31, and 39. This would suggest an older rather than a younger population, though this is obviously a very small sample.

Horse

For the size and period of occupation of the site, the horse remains comprise a surprisingly large proportion of the total assemblage. Also of interest are the butchery marks which

appear on two of the bones. These were in the form of small knife cuts. One tibia had two small incisions towards the distal epiphysis, with one near the proximal end, whilst a metacarpal had two horizontal incisions, again distally. For the same reasons as have been outlined relating to the cow metapodials, tibia and phalanges, these marks are most likely related to skinning activities.

Only three horse jaws were recorded in the assemblage. This again represents rather too small a sample to be of particular use. The three gave ages of 11–13, 10–13 and 12–17 years using Levine's method of horse age estimation based on tooth crown height measurements (Levine 1982).

Sheep/Goat

Sheep and goat remains are notoriously difficult to differentiate. Many ways have been devised, for example by measurement on the metacarpal distal epiphysis but the sample size precluded any such exercise being performed. Payne's distinction of juvenile sheep and goats based on the mandibular second and third deciduous molars was attempted on four mandibles (Payne 1985). These four jaws revealed three sheep and one goat. The remaining sample was treated as sheep/goat.

A similar exercise of meat- to non-meat-bearing elements as that performed with the cow bone produced the following results.

1. meat-bearing bones	6
2. non-meat-bearing bones	62

This shows a very distinct bias towards non-meat-bearing elements, which contrasts markedly with the cow remains. This could be explained almost in reverse terms to those used for the cow, namely that the site represents a primary butchery area with the main meat-bearing elements removed elsewhere. Alternatively, the site could have been a dump for the non-meat-bearing bone from carcasses butchered elsewhere. Again, as with the cattle, both strategies are likely to have been pursued simultaneously.

However, as pointed out above, it must be remembered that differential recovery will tend to bias an assemblage such as this so as to result in the underrepresentation of sheep/goat remains as compared to the larger

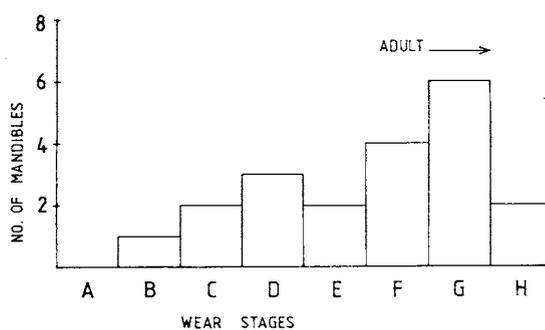


Figure 17. Histogram of sheep/goat mandibles.

mammals such as cow and horse.

Within the group of non-meat-bearing elements is a sizeable group of thirty-five mandibles. With these it was possible to produce a histogram of age at which death occurred based on Payne's tooth eruption and wear pattern scheme (Payne 1982). Only the twenty mandibles which could be assigned to a specific stage were used.

As can be seen, a peak occurs at stage 'G', with a lesser one at 'D'. The kill-off pattern of adult animals (stage 'F' onwards) is most likely representing a combination of slaughter for meat and for wool, two strategies which are likely to have been followed simultaneously. The smaller peak between 'C' and 'D' represents sub-adults and can be related to meat too, possibly in the form of lamb.

The sheep/goat remains thus show a combination of exploitation strategies. The lack of meat-bearing elements remains something of an enigma, until one notes the shell deposits discussed below. These, presumably were transported a reasonable distance from their marine collection points. Given the existence of such transport it would not be unreasonable to postulate a reciprocal movement of meat from the Wimpole area.

Other Large Mammals

Little can be said of the pig, dog and roe deer remains, other than to note their existence on the site, since the numbers involved are so small. That dogs were reasonably active in the area is also witnessed by the frequencies of gnawing which occurred on the site.

The Bird Bone

The following avian elements were recorded.

Chicken

Tarsometatarsus	5
Tibiotarsus	5
Femur	8
Carpometacarpus	1
Radius	3

Goose

First phalange	1
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Unfortunately all that can be said of these bones is that they point to the exploitation of chicken and goose on the site. The bird bone will have suffered from differential recovery in much the same way as the sheep/goat discussed above.

Amphibian and Shell Remains

Three main types of molluscs were recovered from the site. 885 upper and lower valves of the native oyster, of which 475 were complete halves (with over 75% of the valve being present), were the largest group. Also present were 190 mussel valves (of which 108 were

complete) and 54 land snails (mostly *Cepaea nemoralis* which generally inhabit areas such as woods and hedges). Of these, 10 were complete. In addition one cockle shell was recorded.

Amphibian remains were seen in the form of 6 bones. As with the bird bone these would have suffered particularly from differential recovery.

Conclusion

The faunal remains from the Wimpole Hall excavation include the following species human, cattle, sheep, goat, horse, pig, dog, roe deer, chicken, goose and amphibian. Of the animal bone indicators, cattle are the most common. These exhibit a marked bias towards the meat-bearing elements of the carcass. Sheep/goat bones are also relatively abundant, though these show a greater emphasis on non-meat-bearing elements. Horse bone is the third most numerous species on the site.

I would like to acknowledge the invaluable assistance of Dr Luff and I. Mainland.

Table 3. *Humeri bone fragment counts of the main domesticates.*

	cow	sheep/goat	horse
proximal humerus	5 (38%)	0 (0%)	1 (20%)
distal humerus	8 (62%)	1 (100%)	4 (80%)
Total	13 (100%)	1 (100%)	5 (100%)

Table 4. *Frequencies of anatomical indicators recorded according to species.*

	cow	horse	sheep/goat	pig
horn-core	6	0	0	0
jaw	8	3	35	2
scapula	24	4	1	1
proximal humerus	5	1	0	0
distal humerus	8	4	1	0
distal radius	8	3	2	1
radial carpal	1	6	0	0
distal metacarpal	11	7	6	0
first phalange	33	7	4	0
pelvis	6	7	1	0
distal femur	3	4	1	0
distal tibia	8	6	13	0
distal metatarsal	3	5	3	0
astragalus	12	3	2	0
metapodials	10	2	1	1
Total	146	62	70	5

Table 5. Frequencies of butchery marks by species.

	cow	horse	horse/cow	sheep/goat	roe deer	Total
horn-core	1	0	0	1	0	2
jaw	3	0	0	0	0	3
scapula	3	0	1	2	0	6
humerus	0	0	1	0	0	1
radius	0	0	0	2	0	2
metacarpal	3	1	0	1	0	5
first phalange	1	0	0	0	0	1
pelvis	2	1	1	0	1	5
femur	0	0	1	0	0	1
tibia	1	1	0	0	0	2
astragalus	2	0	0	0	0	2
calcaneus	1	0	0	0	0	1
Total	17	3	4	6	1	35

Table 6. Frequencies of gnawing by species and anatomical element.

	cow	horse	horse/cow	sheep/goat	pig	roe deer	Total
scapula	3	2	2	1	1	0	9
humerus	2	0	2	0	0	0	4
radius	2	0	0	5	0	0	7
metacarpal	8	1	0	3	0	0	12
first phalange	4	0	0	0	0	0	4
pelvis	0	0	1	0	0	1	2
femur	1	0	1	0	0	0	2
tibia	0	1	0	0	0	0	1
metatarsal	8	0	0	6	0	0	14
astragalus	1	0	0	0	0	0	1
calcaneus	7	1	0	2	0	0	10
Total	36	5	6	17	1	1	70

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The Small Finds

By Gerald A. Wait

Introduction

A total of 411 small finds were recovered from the 1989 excavations at Wimpole (see catalogue below). Due to the relatively small scale of the excavations no clear patterns of distribution of objects across the site were observed, and therefore the assemblage will be discussed as a whole. However, it is interesting to note that some 29% of the objects came from unphased contexts, a reflection of the efficacy of a cooperative group of metal-detectorists who worked with the excavation team (Figs. 18–22). The Anglo-Saxon burial will be discussed separately (Fig. 23).

Dress and Personal Ornaments

Compared with other Roman settlement sites, unusually few objects of dress or personal ornaments were recorded. These include a single Hod Hill type brooch c. 45–75 AD (158) and two ball-headed pins (162, 400) which could be second or third century (all three of bronze). Small find 384 is a strigil of sheet bronze, and number 385 is a tiny pair of links from a necklace, while 407 is a badly damaged belt buckle, and 72 is a cosmetic spatula. Other objects include a possible bracelet of iron (9; unusually large), a razor (412) and 78 hobnails. To these latter should be added a pair of iron boot heel-plates with hobnailed rivets (87). There are three fragments of rather crude bone clothing pins (78, 137, 402) and a button (57) all of bone.

Domestic Objects

A wider variety of objects from a domestic context were recovered. In bronze these include fragments of sheet trim from a vessel (81, 406). In iron a variety of fragments of plate and other fittings may be included here, as well as rods, strips, and rings. Object 52 is probably a strap handle off a bucket, and 404 is a section from a hoop around a staved vessel. There are several fragments of knife blades (none sufficiently well preserved to allow identification of type). A single straight key to a bob-spring padlock (375) probably derives from a door. Also from a door are fragments of two strap hinges and hinge pins (368, 374). There were nails in a variety of sizes ranging from 3 cm long to huge nail/

spikes 16–18 cm long (a total of 211 nails and 4 spikes). Two fragments of lead cramp from windows indicate a glass window nearby. Many fragments of both brick and roof and floor tiles were recovered, but have not been studied due to lack of resources. Numerous small and usually abraded fragments of glass vessels were recovered, all of colourless or blue-green glass. A fairly large number of fragments from quern stones may be considered in a domestic context. Most were from a secondary deposit in the cobbled surface where they were reused after being broken. None were large enough for certainty, but the wear surfaces are consistent with rotary querns, and undoubtedly represent grinding of grain in individual households.

Agriculture and Animal Husbandry

Surprisingly few objects can be classified as pertaining to either agriculture or animal husbandry, especially considering that this part of the site appeared to be gardens or paddocks beside and behind houses. Some of the many large unidentifiable plates and fragments of iron may represent iron tools and fittings. Object 124 appears to be a fragmentary tool socket. The single reaping hook (127) is nearly complete but is, unusually, socketed rather than tanged. A small series of retaining or linch pins (156, 171, 199; looped head) complete the selection. An unusual object (175) may be part of a hipposandal.

Craft and Industry

There are no indications of any industrial processes on site. Small-scale craft may be represented by the leatherworker's slicker (387; used in curing and tanning hides). Also of iron is a single iron chisel (152) probably for woodworking. The rather crude bone pins may be of local manufacture. A single spindle-whorl (386) was recovered. Lead dribble was not uncommon, and a single pot-rivet for repairing a broken pot (118) indicate small simple lead melting. A more elaborate process involving firing in a furnace to high temperatures is indicated by the 'waste'. Some of this appears to be iron slag from smithing operations (101, 112, 123, 139, 170) while the rest should be called 'furnace lining reaction product' (FLRP in catalogue) and derives from any operation involving a furnace at high temperatures (such as pottery firing, iron smithing, bronze smithing, glass melting etc.)

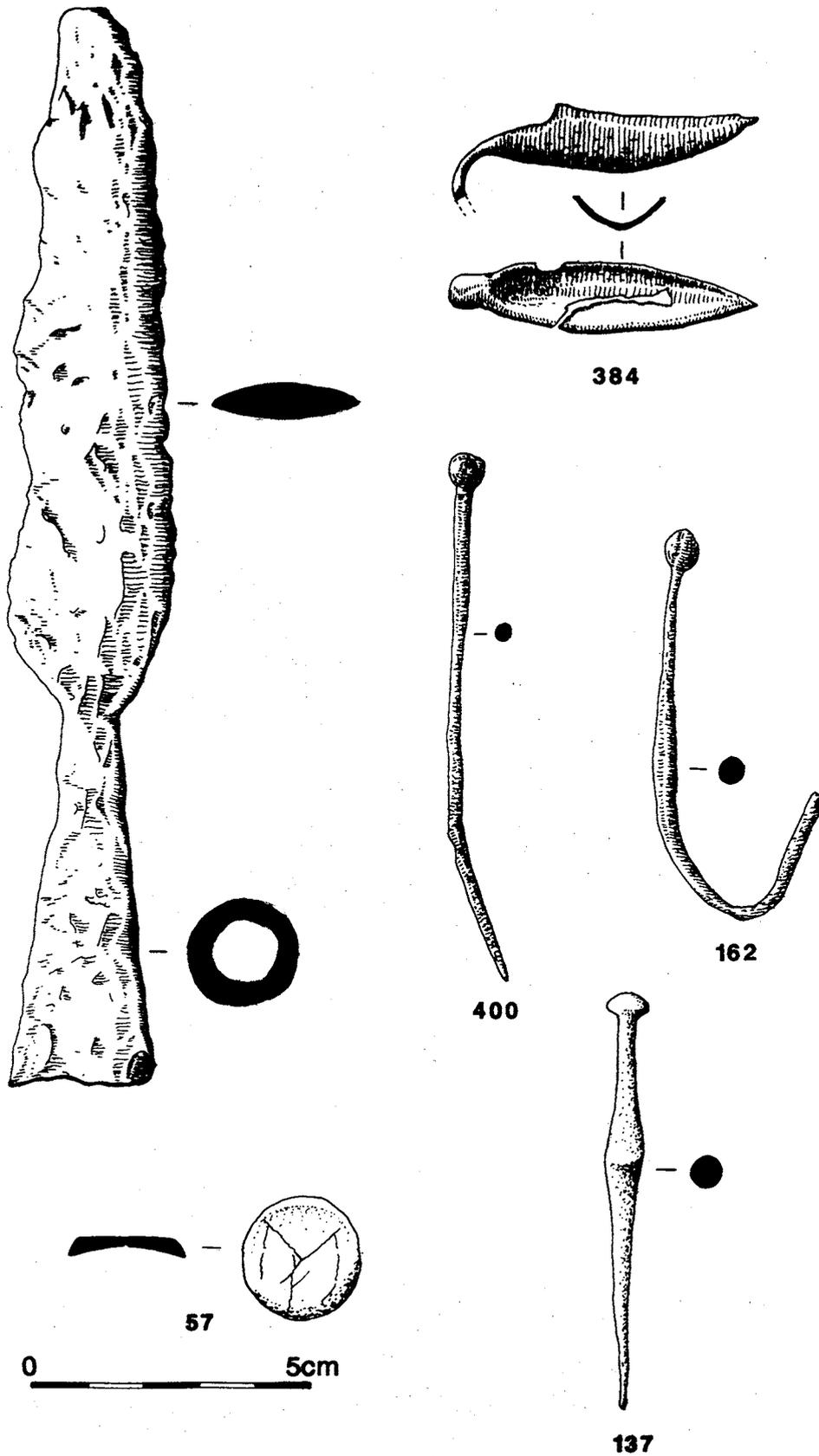


Figure 18. Small finds.

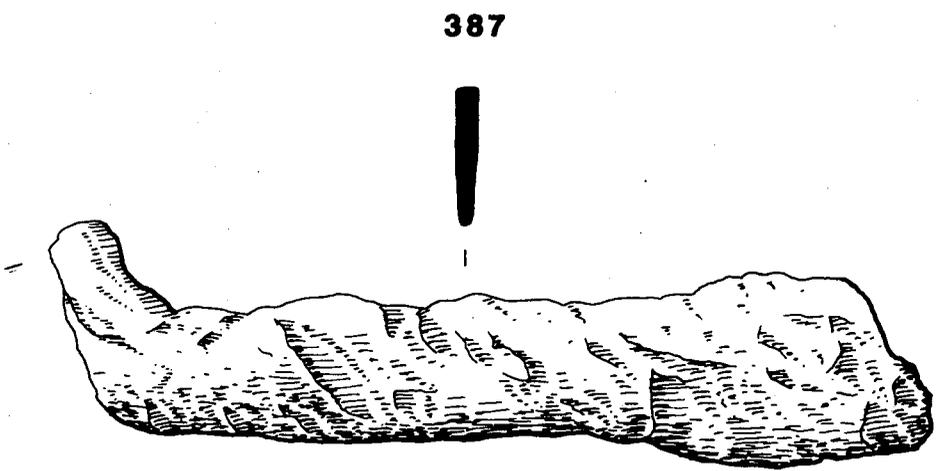
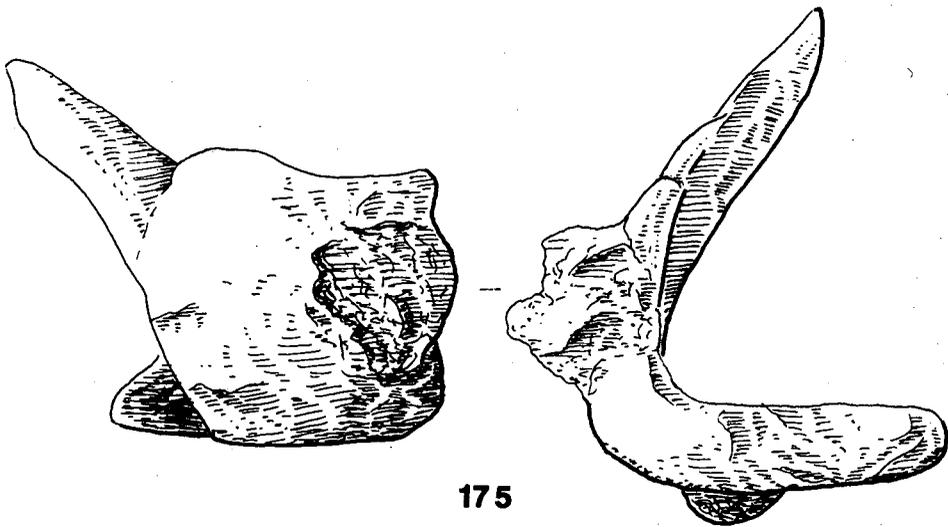
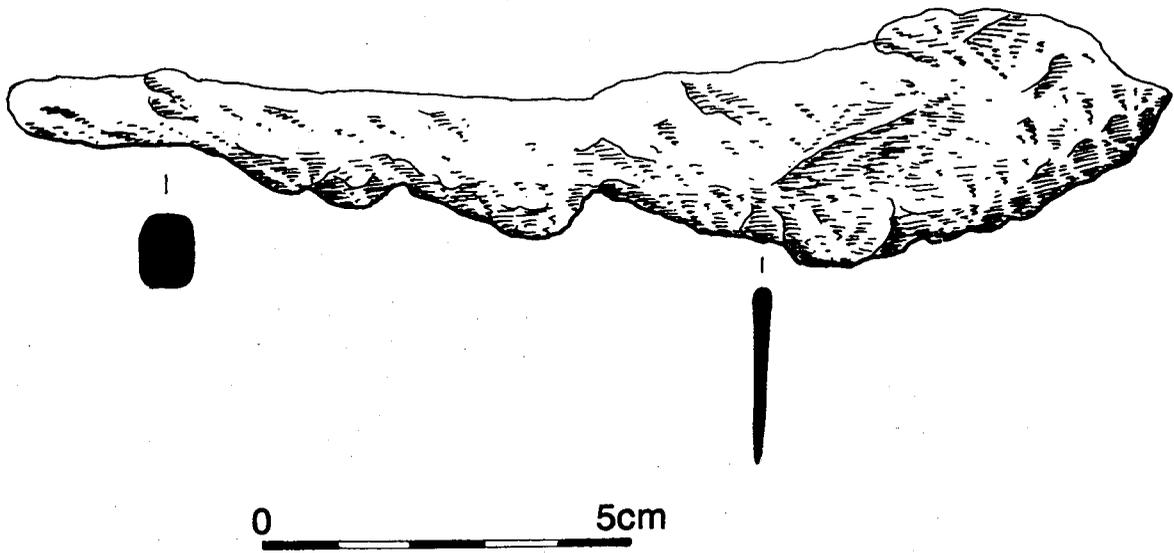
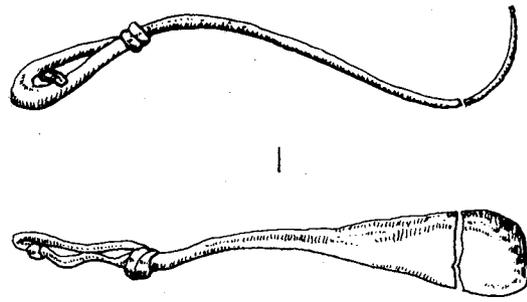
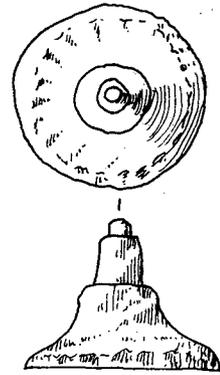


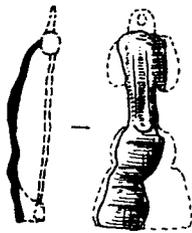
Figure 19. Small finds.



72



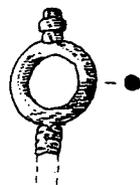
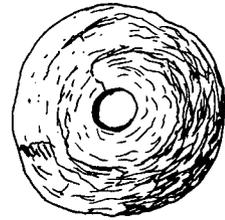
142



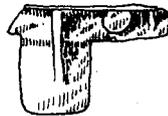
158



386



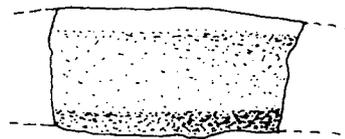
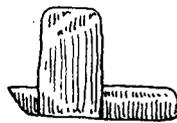
168



198



385



409

0 5cm

Figure 20. Small finds.

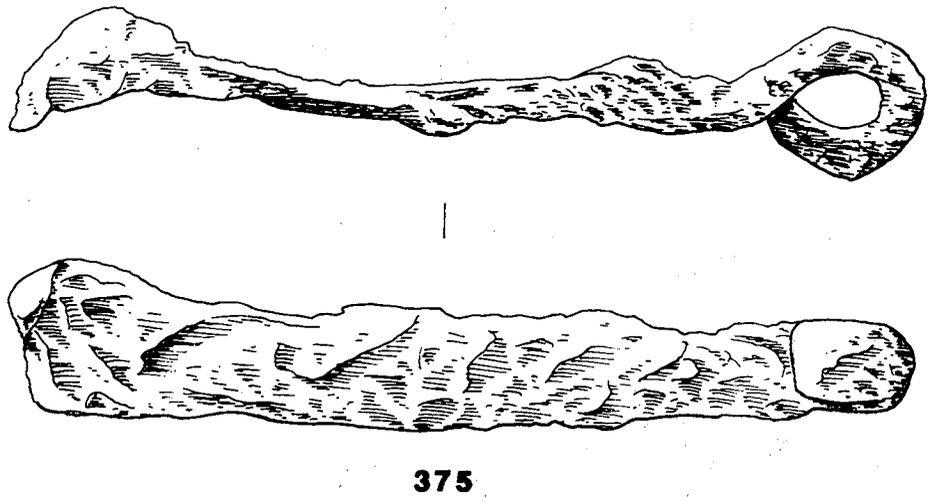
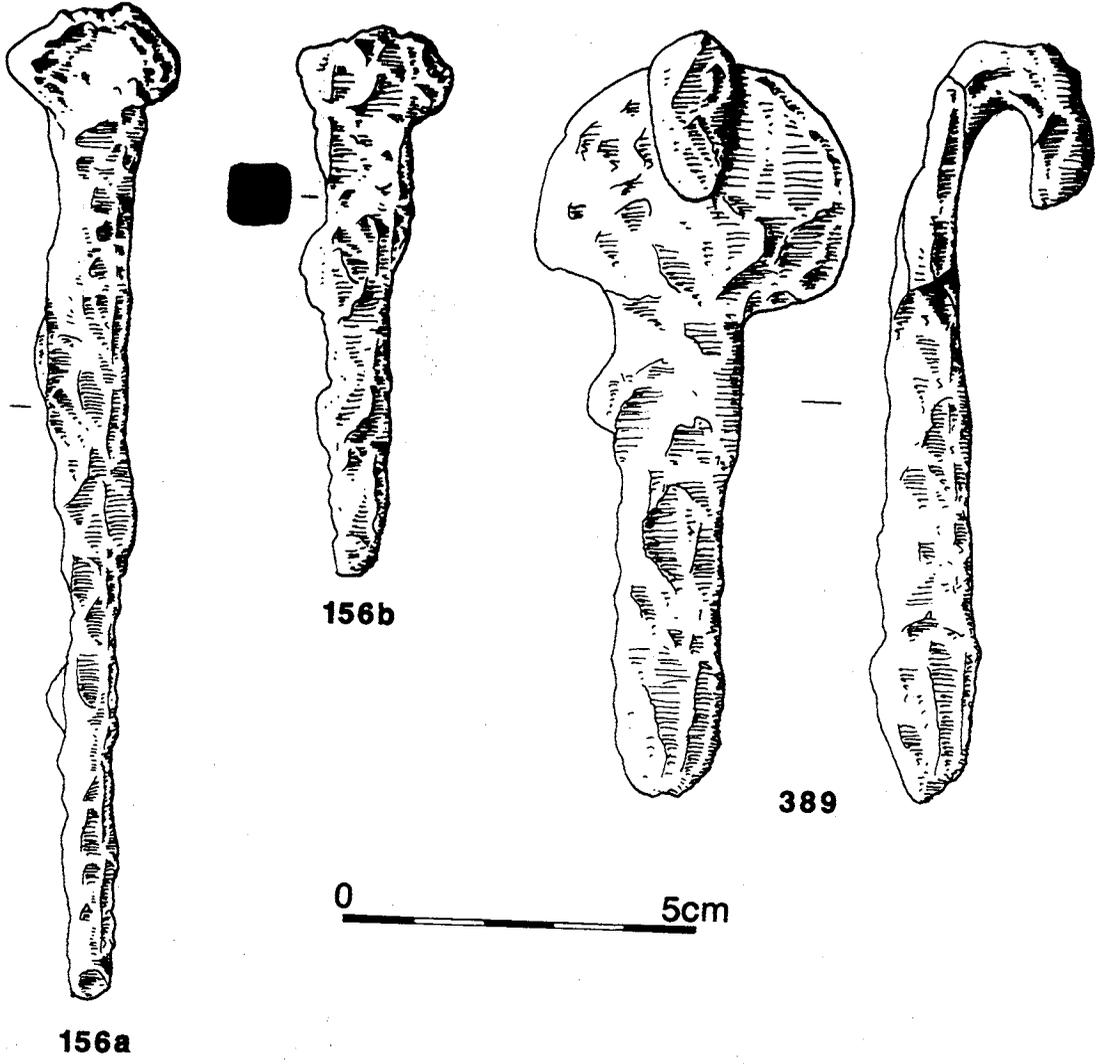
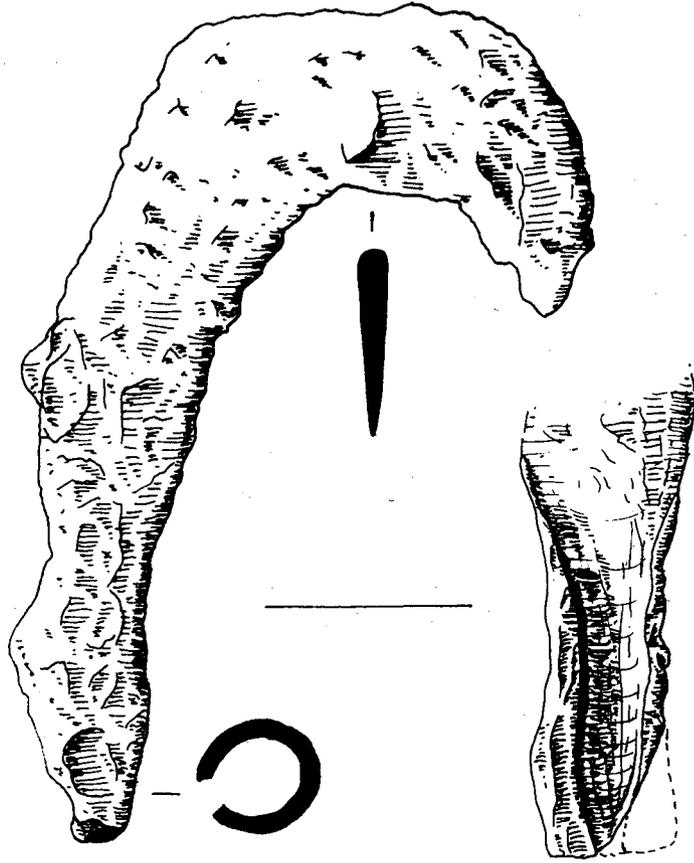
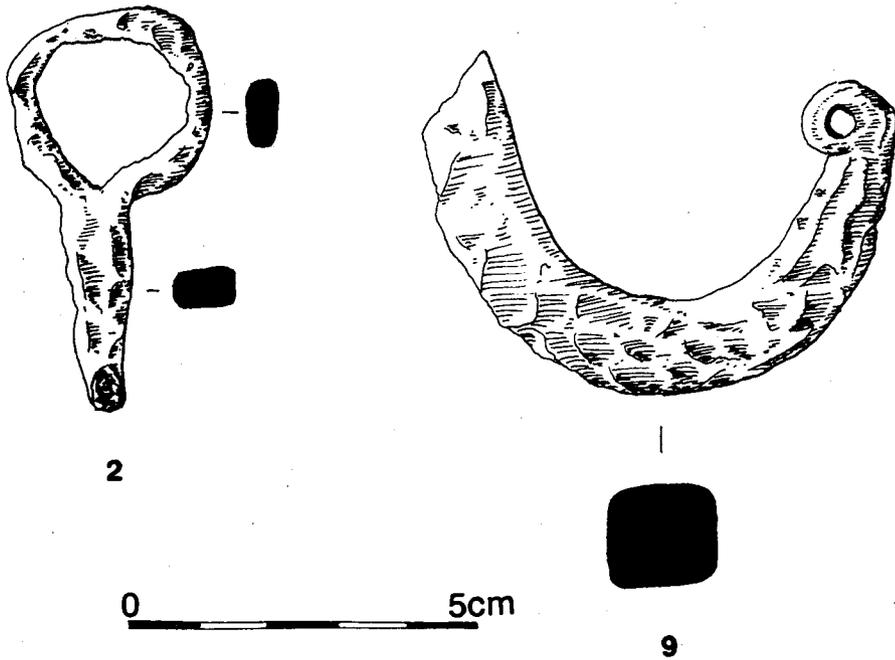


Figure 21. Small finds.



127



2

0 5cm

9

Figure 22. Small finds.

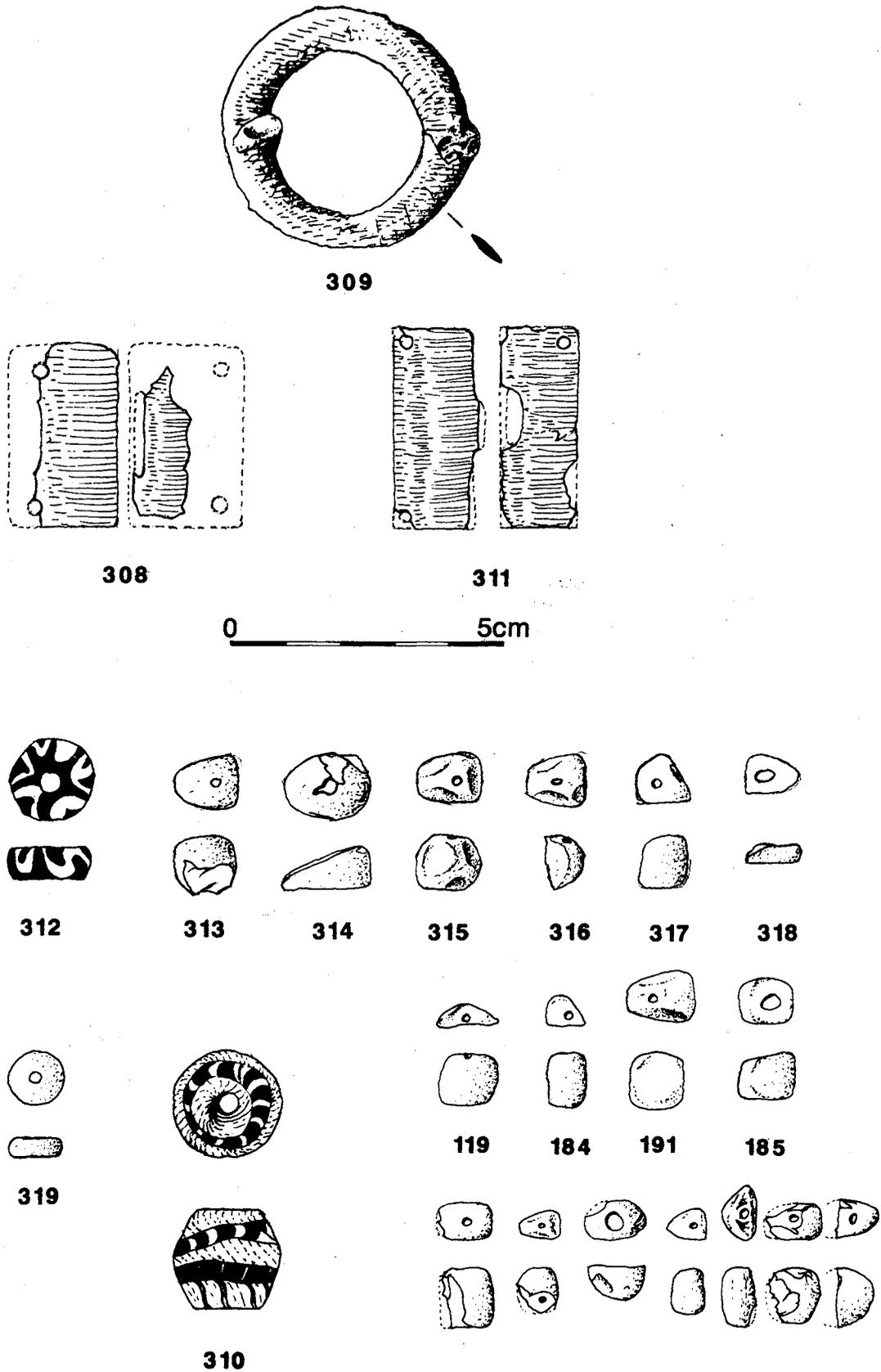


Figure 23. Anglo-Saxon burial [168] small finds.

Evidence of Trade

The small finds collection is in general very rural and parochial in nature. Virtually none of the objects need have originated more than a few miles away, although the raw materials such as bronze and iron may have been from more distant areas. The quern stones are the only exceptions to this generalization (and see the pottery report by Lucas). The identifiable quern fragments derive from three sources: Old Red Sandstone (from the Mendip Hills or south Wales?), Millstone Grit (from Derbyshire or Staffordshire) and from the Neidermendig lava quern production centre in the German Rhineland. Curiously, the more locally produced puddingstone querns (from Bedfordshire and Hertfordshire) do not appear in this collection, while the other three sources are of course well known as major producers in the first to third centuries.

The Coins

There were a total of 114 coins recovered during the excavations, of which 58 are identifiable or at least datable (identifications courtesy of K. Butcher and Celia Honeycombe, of the Fitzwilliam Museum, Cambridge). While there are no coins of great intrinsic interest, the collection as a whole is very useful. The date range begins with Domitian (81-96) and ends with Honorius/Arcadius (390-400). Within this span the distribution of coins by periods of issue is close to that of small towns/rural sites generally (eg. Reece 1972). The distribution by date periods of the identified coins is given below (Table 7).

Table 7. *The Wimpole coins by date periods.*

	No.	%
-AD 41	-	-
41-54	-	-
54-69	-	-
69-96	1	1.7
96-117	1	1.7
117-38	2	3.4
138-61	3	5.1
161-80	-	-
180-92	-	-
193-222	-	-
222-38	-	-
238-59	1	1.7
259-75	4	6.9
275-94	5	8.6
294-317	-	-
317-30	2	3.4
330-48	15	25.8
348-64	10	17.2
364-78	12	20.6
378-88	-	-
388-402	2	3.4

The Anglo-Saxon Burial

The Anglo-Saxon burial [168] which marks the last use of the site contained 18 beads of amber and two of glass. One glass bead is biconical in shape, pink in colour with yellow and green/grey stripes. The second glass bead is a flattened sphere of black glass with a swirling white pattern. On the right shoulder was a bronze plate annular brooch, while a small group of iron objects comprising an iron brooch occurred on the left shoulder. These objects all appear to date to the sixth century AD.

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Theses: Mark Campbell, 'The changing residential patterns in Toronto, 1880-1910' (unpubl. M.A. thesis, University of Toronto 1971).

Articles: K.R. Dark, 'Archaeological survey at Sidney Sussex College, Cambridge, 1984', *Proceedings of the Cambridge Antiquarian Society* 74 (1985) pp.81-4.

Chapters in books: John Patten, 'Changing occupational structures in the East Anglian countryside, 1500-1700', in H.S.A. Fox and R.A. Butlin (eds), *Change in the Countryside: Essays on Rural England, 1500-1900* (London 1979) pp.103-21.

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