

WAVENDON GATE

A Late Iron Age and Roman settlement in Milton Keynes

R J Williams, P J Hart and A T L Williams



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WAVENDON GATE

A LATE IRON AGE AND ROMAN SETTLEMENT
IN MILTON KEYNES

by

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All photographs were taken by unit staff except for Plate 1, which has been kindly provided by Mike Farley of Buckinghamshire County Museum. Typing of the report was undertaken by Emma Jones and by Leena Lindholm-White who, as Unit Administrator ensured the efficient and cost-effective administration of the excavation. Bob Zeepvat provided editorial support.

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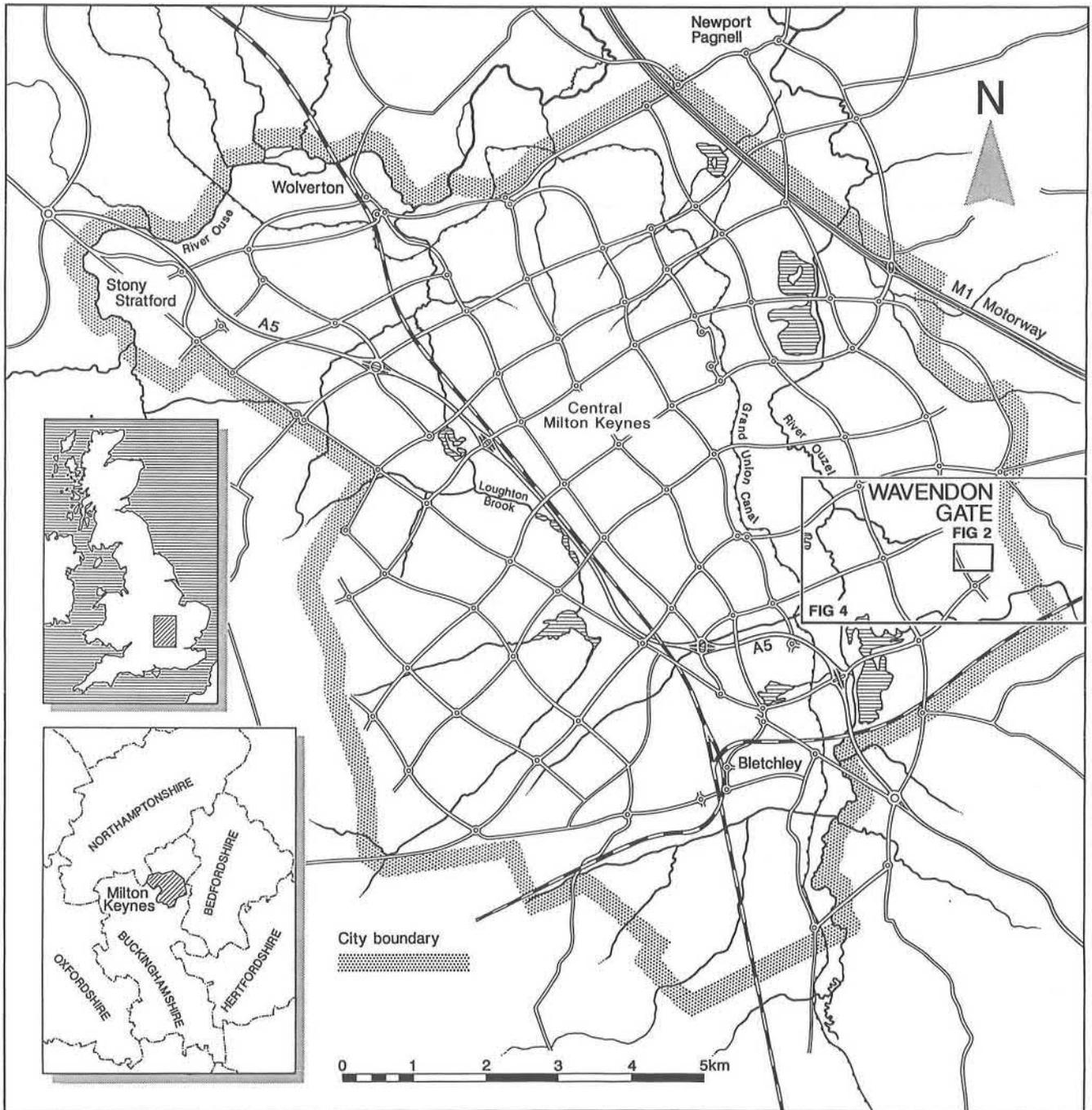


Figure 1: Site location plan.

INTRODUCTION

The site lies in the north-east corner of the parish of Walton (centred around SP 903369), 4 km north-east of Bletchley and 3 km east of Central Milton Keynes (Fig. 1). It lies approximately midway between the villages of Wavendon and Walton, straddling the line of the former road (Fig. 4), which has been renamed Walton End (Fig. 2).

Discovery/Watching Brief

In January 1980, as part of a fieldwalking programme covering the south-east corner of Milton Keynes, a scatter of Romano-British material was plotted across several fields to the north of the Walton to Wavendon road. This was subsequently found to approximate to the excavated area. However, it also stretched further west towards Walton village, although by the time of the excavation this area had been destroyed by the road cutting for Tongwell Street (Fig. 2). Most of the pottery picked up during the field survey was of first to second-century date and the Sites and Monuments entry specifically emphasises the presence of pottery of similar type to that found in the Caldecotte Kiln (Marney 1989, 95). In addition, at least six handmade Saxon pottery sherds were collected from the field surface over what was eventually identified as Enclosure 33 (Fig. 46). An evaluation was proposed for the 1982 or 1983 seasons, but more pressing excavation commitments elsewhere in Milton Keynes, coupled with diminishing funding, forced these plans to be cancelled.

In March 1988 Gordon Heritage, an enthusiastic local metal detectorist, reported the discovery of Roman artefacts along the stripped line of Isaacson Drive in the Wavendon Gate gridsquare (Fig. 2). An immediate site visit confirmed that these artefacts had derived from Roman cremations, at least one of which had been interred within a large glass bottle.

Over the following days, with the aid of Caroline Skinner, one of the Unit's finds assistants, and Gordon Heritage, an area 25 × 20 m along the line of the road corridor was cleared of the rutted overburden. Twelve Roman cremations were located, recorded and lifted under very difficult conditions. In addition, what at first appeared to be a large black amorphous loamy area along the rutted road surface was identified as the top of a substantial ditch (Ditch 15, p.29). A series of carefully positioned machine dug trenches defined the ditch as being at least 130 m long north-east to south-west.

They also showed that it had formed the northern side of a substantial ditched enclosure (Enclosure 275, p.27) of early Roman date, and that the upper part of the ditch was filled with an early Saxon soil containing large quantities of animal bone and pottery. A square pit (Pit 25, p.91) containing large fragments of grass-tempered early Saxon pottery was also located in the cleared area.

Evaluation

From this watching brief it was apparent that the discoveries within the 30-m wide road corridor represented only a small part of a much larger site. It was also evident that this corresponded with the field scatter recorded in 1980. Since the areas to either side of the road were in an advanced stage of planning for a large housing development, Milton Keynes Development Corporation provided extra funding for a three month long evaluation. This was carried out between June and August 1988, with the assistance of Caoimhe O'Brien.

A series of machine trenches (Fig. 2, T1–T27 and T39–T40), spaced at 20 m intervals and aligned at an approximate 45° angle to the projected line of the Roman enclosure ditch, were dug across the arable fields to either side of Isaacson Drive. Approximately 300 square metres was also stripped of topsoil to the immediate south of the cremation cemetery (Fig. 2). Whilst this failed to reveal any more cremations, it exposed more of Ditch 590/591 and also Inhumation 942, which was carefully covered and backfilled in anticipation of excavation in 1989.

In the intervening months between the discovery and the evaluation, Gordon Heritage discovered possible evidence of the site's extension to the south of the existing Wavendon to Walton road. This was mainly in the form of small metalwork items, including a silver *denarius* of Vespasian, and a shallow pit (Cremation 21) containing small quantities of burnt bone (p.48). Although fieldwalking of the ploughed field failed to reveal any definite traces of settlement, a further series of trial trenches (Fig. 2, T28–T38) were dug to the south of the old road to investigate these discoveries.

During the course of the evaluation, over two thousand metres of 1.5 m wide trenches were dug using a JCB 3CX. So many features were located in the trenches to the north of the old road that it was only possible with the time and resources available to plan all the visible features and, wherever possible, remove finds from the top fills of the

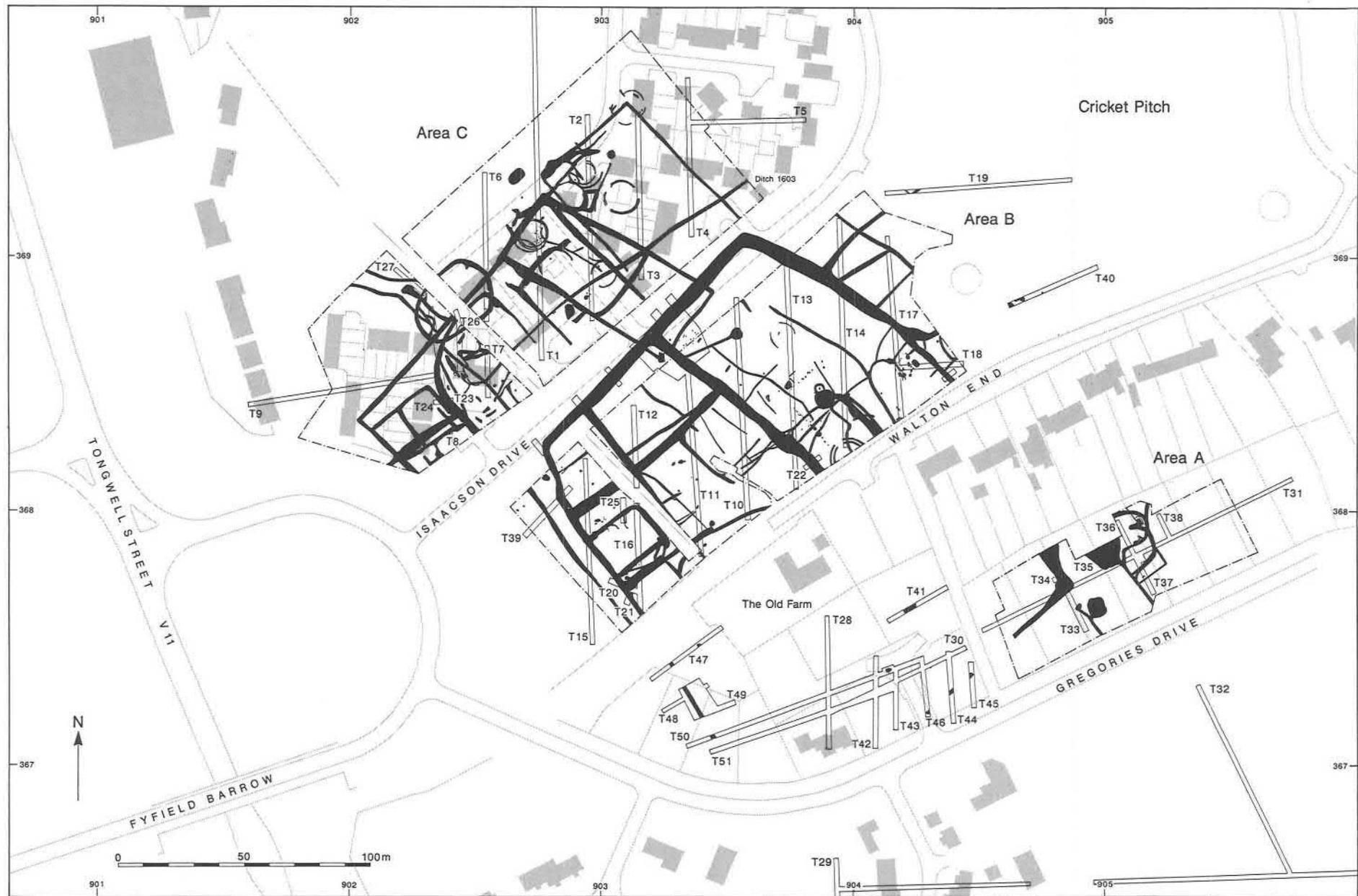


Figure 2: Composite plan of features of all periods showing excavated areas and trial trenches.

features. Only a small proportion of the pits, ditches and post holes could be excavated and fully recorded, priority being given to burials and structural features. A metal detector survey of the trenches and spoil heaps by Gordon Heritage provided useful additional dating evidence, mainly in the form of Roman bronze coinage.

The evaluation confirmed the existence, and defined the extent, of a very large ditched Roman enclosure extending to the south of the Wavendon to Walton road. The enclosure contained a palimpsest of ditches and substantial traces of occupation. It also revealed the possible existence of a late Roman inhumation cemetery, in the area between Isaacson Drive and Gregories Drive. Perhaps the most unexpected discovery was that of a large late Iron Age settlement, containing a number of penannular drainage ditches, to the north-west of Isaacson Drive. It also corroborated the existence of features of Saxon date, and suggested that Saxon buildings might have survived on the site.

Excavation

Following an appraisal of the results of the evaluation, a decision was taken to mount a full excavation between April and November 1989. Over twenty field technicians and four supervisory staff were employed, helped by a number of volunteers.

An area of almost 35,000 square metres (Plate 1) was stripped of topsoil using a large 360° tracked excavator and Moxey dump trucks. Three distinct sub-sites were created (Fig. 2): **Area A**, to the south of the Wavendon to Walton road, **Area B**, between the Wavendon to Walton road and the newly constructed Isaacson Drive and **Area C**, to the north of Isaacson Drive. It proved impossible to clean all of these areas by hoeing in the normal way but, as a less than satisfactory alternative, some areas were shovel-scraped and a smaller wheeled excavator was used to remove excess topsoil and the residue of the medieval furrows. As the surface of the subsoil weathered considerably during the excavation, it is unlikely that any significant features were overlooked as a result of this policy. More conventional and thorough cleaning of specified sub-areas, for example around the pit complex and pottery kilns, was carried out as required. All features were sectioned by hand, apart from the more substantial ditches and Pit 835/Hollow 900. These were excavated by a Kubota mini-excavator, operated by one of the excavation team.

The excavation had been scheduled to finish at the end of September 1989. Under ideal conditions, a site of this size and complexity would demand a season far longer than the six months permitted by the development programme. Ironically, the collapse of the housing market meant that, by September, the development which had prompted the excavation had been deferred. The limited funds then available did not allow the Unit to take full advantage of this, and only one extra month of work, with

a very small team, was possible. Furthermore, two-thirds of the way through the excavation, constraints on time and staff necessitated the virtual abandonment of the extreme western side of Area C, covering part of the late Iron Age settlement.

In January 1990 a number of additional machine trenches (Fig. 2, T41–T51) were dug across the area to the west of Area A and to the south of Area B. These located the southern extension of the west side and the south side of Enclosure 275. More importantly, they confirmed that few features had existed in this area or, if they had had not survived the rigours of later ploughing. A trench across the farm yard to the east of 'The Old Farm' (Fig. 2) was abandoned when it was found that the entire area had been heavily disturbed.

On completion of the excavation the deep features were backfilled for safety reasons, but most of the excavated areas remained open. Construction commenced in the summer of 1990 and at the time of writing (November 1993), only a small part of Area B remains undeveloped. Because of the 'piecemeal' nature of the subsequent development it was considered both unrewarding and an unproductive use of resources to carry out a further watching brief during the building work. However, with the endorsement of the Archaeology Unit, a number of metal detectorists were given permission to detect during development. This resulted in the discovery of the important Roman votive hoard (p.113), which included three copper-alloy wheels, and the wheel-headed pin (p.116).

Techniques

The recording system used was that devised by the Central Excavation Unit (Jeffries 1977) including later amendments which allowed the records to be entered onto a database using the 'Delilah' programme devised by English Heritage. This is stored in the Level III archive and a copy is held within the National Archaeological Record of the Royal Commission on the Historical Monuments of England. Throughout the watching brief, evaluation and excavation a continuous sequence of context numbers was used. At times it was necessary to give two or more overall context numbers to what subsequently turned out to be a single feature. In such cases, only the earlier context number has been used in the text.

The soil descriptions were those devised by Limbrey (1975) and a Munsell soil colour chart was used to give consistency to colour descriptions. Not all layers and lenses were given a separate number, since it was often found impracticable to do so. Subsidiary context numbers within certain features were used mainly when it was necessary to differentiate finds from clearly defined layers. Therefore many layers were only recorded on annotated section drawings. The conventions used for the soil descriptions in section drawings are shown in Fig. 3, apart from those used on the more complex sections, to which separate keys have been attached.



Plate 1: Aerial view of the excavation.

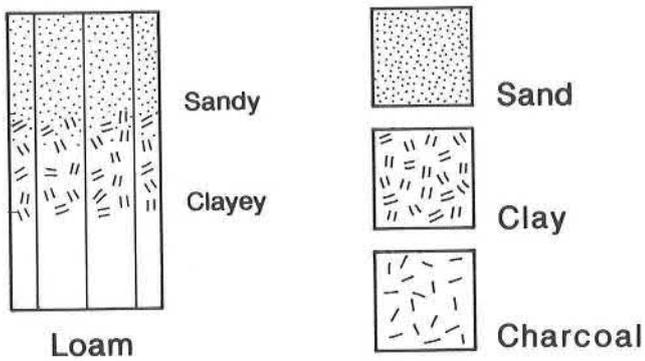


Figure 3: Key to conventions used in the section drawings.

A thorough environmental sampling strategy, based on water flotation, was also implemented for the recovery of carbonized plant remains. Where waterlogged features

were encountered additional samples were taken for the recovery of macroscopic plant remains, pollen, coleoptera and wood. A programme of wet sieving for residue analysis was also undertaken, but the only benefit considered to have accrued from this was the recovery of small animal remains. Few small artefacts were recovered in this manner and the pottery found was almost invariably very small undiagnostic sherds.

As part of the Milton Keynes Archaeology Unit's proactive policy of working with metal detector users, considerable use was made of metal detectors by skilled operators, during both the topsoil stripping operation and the excavation. In particular, the entire contents of the large waterlogged Pit 835 were scanned for small metal items, since it proved almost impossible to distinguish them by the naked eye among the black organic silt.

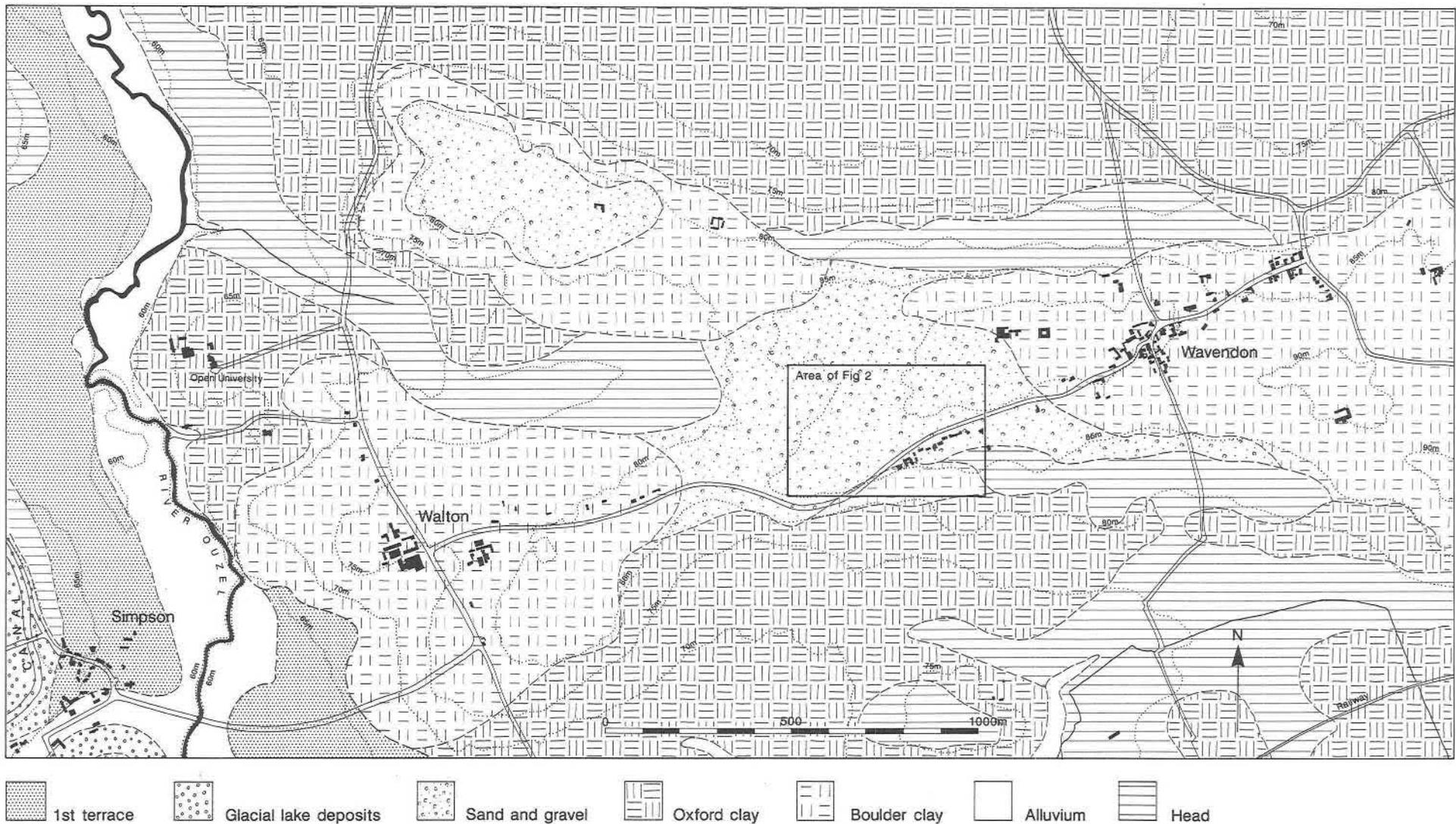


Figure 4: Geology and topography.

GEOLOGY AND TOPOGRAPHY

The excavated area is situated between the 85 and 90 m OD contours on a slight east to west ridge (Fig. 4) which projects from higher ground in Bedfordshire to the east. Towards its west end this ridge divides, forming two distinct spurs overlooking the flood plain of the River Ouzel to the west. The northern part of the main Roman Enclosure 275 (Fig. 2 Area B) lies along the crest of this low ridge, with the Iron Age settlement located on the northern downslope. The southern part of the enclosure, including Area A (Fig. 2), lies on the downslope to the south, which then drops away more sharply to the Caldecotte Brook less than 1 km away.

The land to the north of the ridge is comparatively flat. To the south-east, beyond the Caldecotte Brook (Fig. 51), the ground rises steeply to 170 m OD to the Woburn Heights, which form a prominent feature of this part of Milton Keynes and north Buckinghamshire/south-west Bedfordshire. To the west of the site the area is dominated by the valley of the River Ouzel, which flows northwards to meet the River Ouse at Newport Pagnell (Fig. 1).

To both the north and the south of the east to west ridge the geology is dominated by Oxford clay and to a lesser extent by Head deposits. To the west, the Ouzel valley consists of a sequence of lighter alluvial and terrace deposits. The

ridge itself is for the most part formed of Boulder clay, but with two distinct areas of Glacial sand and gravel. One overlies the end of the northernmost spur, but an even larger deposit coincides with the Wavendon Gate Iron Age and Roman settlement. The location of the settlement on this deposit is unlikely to be coincidental. The site's position would have been chosen to combine the advantages of occupying and cultivating the lighter free-draining soils with a slightly elevated situation in an otherwise fairly flat landscape.

The Ordnance Survey shows the entire area of the settlement to have overlain the sand and gravel, but the excavation demonstrated that the thickness and quality of this glacial deposit were not constant. The sides of the large Roman Pit 835 indicated that good quality clay could be obtained at a relatively shallow depth, and the bases of most of the deeper ditches had been dug through clay of varying quality.

Apart from surface water collected within the settlement, the nearest significant year-round source would have been the River Ouzel, 2 km to the west. The smaller Caldecotte Brook, less than 1 km to the south, may have been more substantial formerly, and could have been used as an additional seasonal water supply.

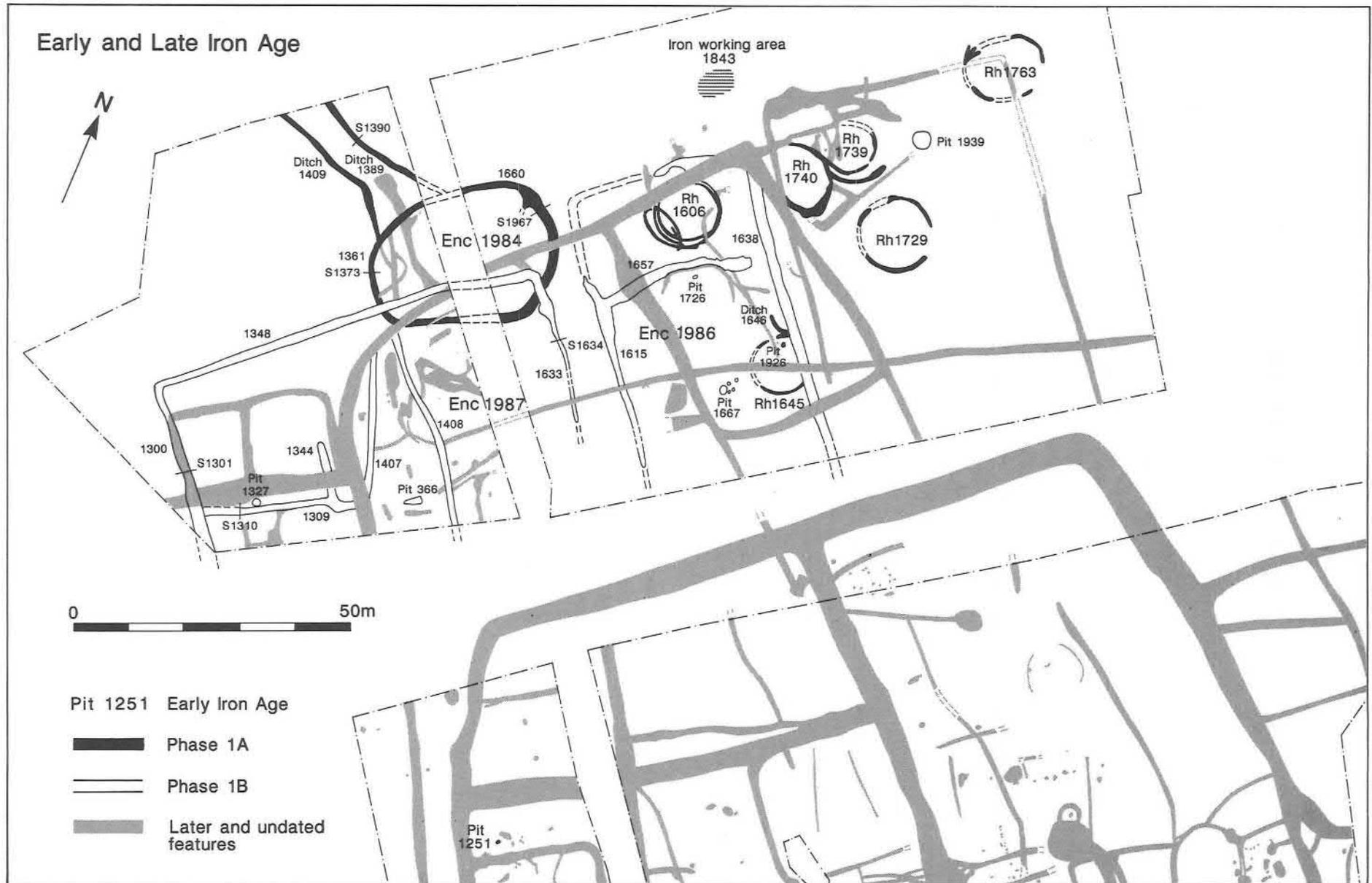


Figure 5: Phase plan - early Iron Age and late Iron Age phases 1a and 1b.

THE EXCAVATION

PRE-IRON AGE ACTIVITY

The excavated area was devoid of any features earlier than an isolated Late Bronze Age/Early Iron Age pit (1251), which predated the later Iron Age activity by several centuries. Early artefacts were also very scarce, with only a flint scraper and three blades recovered as residual finds from the fills of Iron Age and Roman features (p.167). This paucity of flints from the excavated site is supported by the discovery of only a single blade core on the field surface during the 1980 field survey (p.3). This lack of

earlier prehistoric activity is all the more surprising, given the site's location on a gravel subsoil (Fig. 4). However, it may have resulted from its position, almost 2 km to the west of the River Ouzel. There is certainly a greater concentration of single worked flints and small scatters nearer to the river, and the possible remains of a dispersed Bronze Age hoard was discovered during construction work near Walton village, 1.5 km to the east.

IRON AGE SETTLEMENT

With the exception of early Iron Age Pit 1251, all the other pre-Roman features are of comparatively late Iron Age date, probably no earlier than the second or third centuries BC. These included a number of large rectilinear enclosures, several smaller ditches, the remains of eight penannular roundhouse ditches and a relatively small number of postholes and pits. No occupation layers survived, presumably having been ploughed out in the medieval or post-medieval periods. Similarly, the remains of banks which may have been associated with many of the more substantial ditches, had also entirely disappeared. It is probable that most of the more ephemeral features such as small gullies,

pits, postholes and hearths were also lost in this process.

As is often the case on sites of periods where the pottery cannot be precisely dated, and where there is very little stratigraphy, few definite statements can be made about the interpretation and phasing of the settlement. Despite this, an attempt has been made, based on a combination of limited stratigraphic, physical and ceramic dating evidence, to interpret the sometimes complex pattern of features as a clear sequence of phases. In some instances, the data may be susceptible to an alternative interpretation; that set out here is the one which appears most logical to the excavators.

Early Iron Age (Fig. 5)

Pit 1251

This small isolated pit, sited to the immediate south of pottery Kiln 400 in the western part of Area B, was over 40 m to the south of the main Iron Age settlement in Area C (Fig. 5). Although part of the pit had been destroyed by a field drain, it must have been originally oval, 750 x 550 mm across and 250 mm deep, with steep sides and a flat base (Fig. 6). The dark grey silty loam fill contained several large stones and 870 g of pottery (p.170), including one almost complete vessel (Fig. 99.1) and large fragments of several others (Fig. 99.2-9). This pottery is of distinctly different type to the remainder of the pre-Roman pottery found on the site, and is almost certainly of early Iron Age date.

The only other finds, apart from a very small quantity of animal bone, were a perforated dog's maxillary canine tooth (Fig. 75.104) and a complete human mandible, probably male, (p.236). The association of a pendant with a partial human burial, together with a number of pottery vessels indicates that the deposit probably had ritual con-

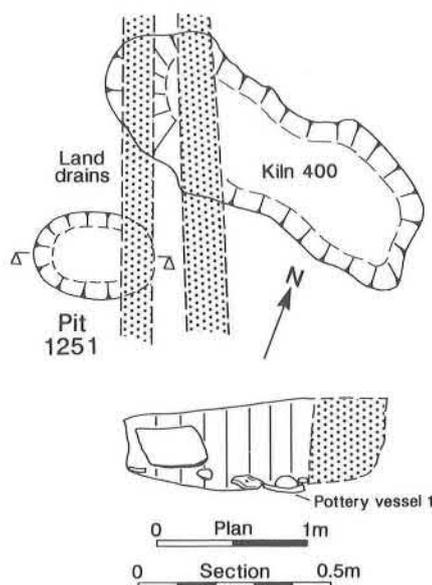


Figure 6: Plan and section of Pit 1251.

notations. Numerous individual bones, usually buried in pits, were found at Danebury (Walker 1984), and the incidence of human remains and their association with religious and mortuary practices on Iron Age sites has been the subject of detailed study by Waite (1986), Whimster (1981) and Wilson (1981). The discovery of a single bone, in this instance part of the head, is a comparatively common occurrence, and fits into Whimster's category of in-

dividual bones and Waite's category 5 or 6 (skull and individual bones). Furthermore, Wilson (*ibid.*, 147) has noted that isolated fragmentary or complete skulls and mandibles tend to be found more frequently in early Iron Age contexts, and Waite (*ibid.*, 98) has commented that in the early Iron Age human remains occur more frequently in perimeter locations around sites. The deposit in Pit 1251 appears to correspond with both observations.

Late Iron Age: Phase 1A (Fig. 5)

Enclosure 1984

This oval enclosure, 34 m long and 24 m wide (Fig. 5), was the earliest major feature on the site. It had been cut by Ditches 1348, 1408 and 1633 of the Phase 1B Enclosure 1987 and by Ditch 1383 of Phase 2A. This stratigraphic relationship is also supported by the pottery evidence (p.170)

The size and shape of the ditch varied from as little as 780 mm wide and 430 mm deep on the west side (Fig. 7 S1373) to 2.3 m wide and 900 mm deep (Fig. 7 S1967) on the east side. However, since a large field boundary divided the two halves of the enclosure this disparity may have resulted from differential plough damage.

On the north-eastern edge of the enclosure there was slight evidence for a recut, much smaller than the original ditch. This recut was not apparent in any other sections of the ditch. Although very little of the ditch was excavated it seemed to be continuous, with no identifiable breaks. Its association with the 'droveway' (below) formed by Ditches 1389 and 1409, suggests that its entrance was originally located in the west side.

Ditches 1389/1409

These two parallel ditches, aligned north-west to south-east, ran for over 27 m from the north edge of the excavation towards Enclosure 1984 (Fig. 5). They averaged c.6 m apart for the first 20 m, before diverging to 13 m at their intersection with the enclosure.

Ditch 1389 was c.1 m wide and 500 mm deep with a U-shaped profile (Fig. 7 S1390), and contained a dark yellowish brown plastic silty clay loam. Its intersection with the enclosure was obscured by the unexcavated baulk of the hedgeline. Ditch 1409 was not excavated, but was of similar width on the stripped surface and appeared to project for a short distance into the interior of the enclosure. The apparent lack of an entrance may indicate that Enclosure 1984 was of a slightly earlier phase. The drove-way may have been added subsequently, at which time the intervening section of ditch must have been backfilled to form an entrance.

Enclosure 1984 and the drove-way, taken together, are remarkably similar to the class of Iron Age enclosures commonly known as 'banjo' enclosures. These were originally recognized in Wessex and first studied in detail by Perry (1972), and have now been identified across much of Britain and the continent (Hingley 1984, 73). In many instances the drove-way ditches join a linear ditch at right angles. Had this been the case at Wavendon Gate it would have been beyond the limits of the excavated and trenched areas. Whilst it was originally believed that these enclosures were designed principally to aid the collection, selection and temporary corralling of cattle (Cunliffe 1975, 160), it is now thought that they may have served more complex functions (Hingley 1984, 74). In Wessex, where this type of enclosure is best represented, they first appear in the middle Iron Age and continued certainly into the final years of the first millennium BC (Cunliffe 1984). Such a date range corresponds well with the phasing of the Wavendon Gate example, based on the available stratigraphic and ceramic evidence.

The Roundhouses (Fig. 8)

At least six annular or penannular ditches and segments of several others were located to the east of Enclosure 1984, in the eastern part of Area C (Fig. 5). Whilst some were

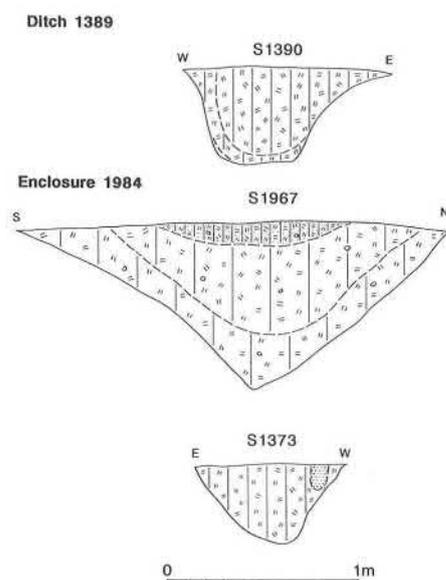


Figure 7: Sections of Enclosure 1984 and Ditch 1389.

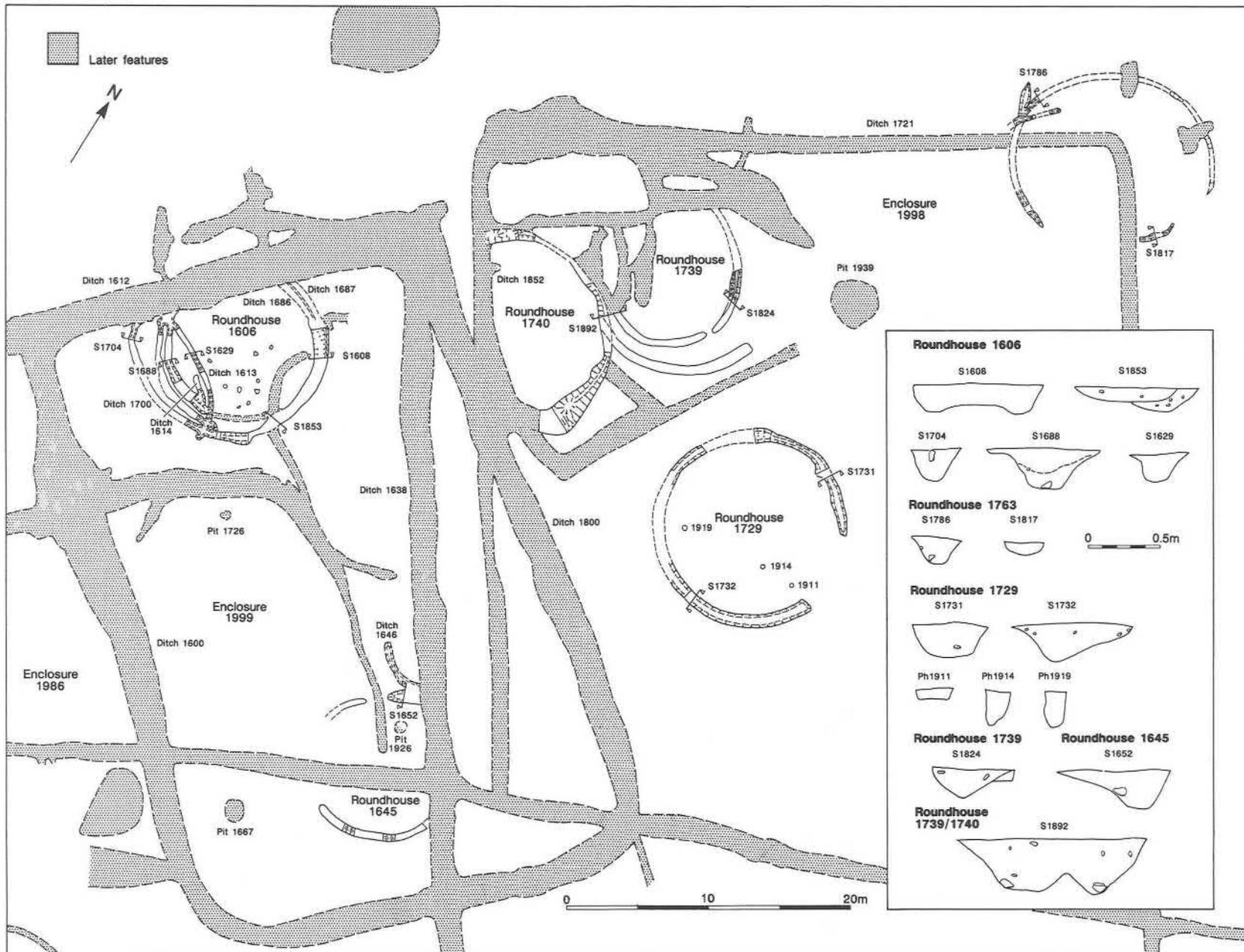


Figure 8: Plans and sections of roundhouses.

located within ditched enclosures, in most instances this is believed to have been coincidental. The pottery (p.171) and stratigraphic evidence indicates that most if not all of the roundhouses (Fig. 8) predated the rectilinear enclosure system of Phases 1B, 2A and 2B. Consequently some of the buildings may have been contemporary with the 'banjo' Enclosure 1984.

Roundhouse 1606

This roundhouse, located within the northern division of Enclosure 1986 (Fig. 8), consisted of two concentric penannular ditches, 1687 (outer) and 1686 (inner), with internal diameters of 11.5 and 10.5 m respectively. Whilst the ditches could have been contemporary it is more likely that one of them was a recut. The outer ditch (1687) averaged 450 mm wide, whilst the inner ditch (1686) varied between 500 and 900 mm wide. The space between the two ranged from 200 to 400 mm wide, and both ditches averaged 250 mm deep and had U-shaped profiles.

A 4 m-wide entrance in the outer ditch was located on the south side, although the eastern terminal had been removed by Ditch 1622. The inner ditch extended across the entrance, perhaps indicating a realignment of the doorway or even a rebuild of the roundhouse. The north-west side of the ditch had been destroyed by the north end of Enclosure 1999 (Ditch 1612).

To the south-west side a 14 m long arc of another ditch (1700) of similar proportions (Fig. 8) may have been another recut of the original penannular ditch. This ditch had been cut by Ditch 1612 and also by Ditch 1613 (below) which was part of another roundhouse ditch.

A group of nine postholes, ranging from 300 to 160 mm in diameter and 10 to 160 mm deep, was situated within this penannular ditch. Since no other postholes were located outside the ditch, despite careful cleaning of the adjacent stripped surfaces, it is probable that they were contemporary with Roundhouse 1606. However, their random arrangement and spacing makes it unlikely that they are the remains of structural timbers.

Roundhouse 1613/1614

Cutting across the south-west side of Roundhouse 1606 were the remains of two segments of concentric ditch (1613 and 1614) approximately 250 mm apart (Fig. 8). Ditch 1613 was 10.5 m long and had been cut at its northern end by Ditch 1612. At its north end, it was 260 mm wide and 150 mm deep, decreasing to 150 mm wide and 50 mm deep at the southern end where it terminated. Ditch 1614 was of similar proportions to 1613 but was only 2.7 m long, extending northwards from the southern side of 1686 and terminating at its north end. The relationship of these ditches with Ditch 1686 was not clear, though their fills were sufficiently distinctive to determine that they were later than Roundhouse 1606. The west side of this roundhouse had been completely destroyed by Ditch 1600.

Roundhouse 1645

This penannular ditch with an internal diameter of 9.5 m was sited 20 m to the south-west of Roundhouse 1606 (Fig. 8). The ditch was insubstantial, especially on its southern edge, and most of the western side had been lost completely. The southern section was 50 mm deep and 140 mm wide with sides sloping in

at 45°. The only other part of the ditch which was satisfactorily identified was the eastern terminal of a north-west facing entrance. At this rounded terminal the ditch was 700 mm wide and 250 mm deep. The opposing terminal was difficult to distinguish but an unexcavated stain on the stripped surface gave a conjectural width of only 1.5 m. The presence of an entrance elsewhere on the east or even west sides cannot be ruled out.

The central position of 1645 within the northern 'bay' of Enclosure 1999 may indicate that the enclosure and the building were contemporary, although there is no stratigraphic evidence to support this conjecture. The east side of the ditch had been destroyed by the eastern side of Enclosure 1986 (Ditch 1638), and a post-medieval ditch (1603) ran east-west across the interior of the building. The eastern terminal had been cut by Roundhouse 1646 (below).

Within and to the eastern side of the entrance was a small pit (1926) containing a concentration of burnt matter. Another larger pit (1667) was located 6.5 m to the west of this roundhouse. Both pits (p.18) could have been contemporary with this building, but the pottery evidence suggests that they belong with the subsequent Phase 1B features. The only find of any note from this building was part of a perforated oven plate (Fig. 86.148).

Roundhouse 1646

This 4.5 m-long arc of ditch (Fig. 8) may have been part of a larger penannular drainage ditch, no more of which was located. The ditch was between 240 and 300 mm wide and up to 60 mm deep. The northern end of the ditch terminated, suggesting that the original entrance may have been in the west side of the building. Its fill contained a relatively large concentration of animal bone in comparison with the other penannular ditches, but no pottery or other finds.

Roundhouse 1729

This penannular ditch, with an internal diameter of 12.5 m, was sited 25 m to the east of Roundhouse 1606 and 20 m north of Roundhouse 1645 (Fig. 8). The ditch varied between 600 and 750 mm wide and averaged 250 mm deep, with sides sloping in at 60° to a flat bottom 450 mm wide. The eastern and western sides had been badly disturbed by medieval furrows, but a 5 m-wide entrance with clearly defined terminals was found in the east side. The fill of the ditch was dark greyish-brown sticky silty clay, with few coarse components apart from a concentration of pottery sherds in the north terminal.

Three small postholes (1911, 1914 and 1919), 280, 190 and 140 mm in diameter and 80, 400 and 240 mm deep respectively, survived within the confines of the ditch (Fig. 8). None contained any dateable finds, nor did their configuration suggest an obvious relationship with any internal circular structure.

Roundhouse 1739

This penannular ditch, approximately midway between Roundhouses 1606 and 1763 (Fig. 8), had a projected internal diameter of c.9 m. Its north-west side had been severely damaged by a group of ditches and pits probably associated with the much later Enclosure 1998. The ditch was between 1.0 and 1.2 m wide and up to 390 mm deep. A 500 mm-wide gap in the south-east

side represented the remains of the original entrance, which had been subsequently overcut when the ditch had been cleaned out. The remains of the north terminal was just visible in the east side (Fig. 8 S1824, giving an original entrance width of *c.*3.5 m.

A cut at the intersection with Roundhouse 1740 (Fig. 8 S1892) demonstrated that Roundhouse 1739 was the earlier of the two. An unexcavated arc of ditch, approximately 1 m to the south of this ditch, was almost certainly a later recut of the primary ditch.

Roundhouse 1740

To the immediate south-west of and postdating Roundhouse 1739 was the remains of another annular/penannular ditch (Fig. 8) with a projected internal diameter of at least 12.5 m. Only the eastern half of this structure had survived, the west side having been destroyed by Ditches 1852, 1800 and 1638 of Enclosures 1998, 1999 and 1986 respectively. Much of the north part of the ditch had also been disturbed by a group of later ditches. The surviving arc of the ditch had a V-shaped profile, ranged from 350 to 650 mm wide and averaged 350 mm deep. No internal features were recorded and no entrance could be found.

In terms of artefacts this penannular ditch was by far the most productive of any of the Iron Age roundhouses or enclosures. From it were recovered a perforated bone needle (Fig. 75.105), part of a triangular clay weight (not ill.), and a higher than average quantity of pottery (p.171). It also contained a small amount of fired daub (p.142), comparatively rare on this site, and the remains of what has been interpreted as a large clay oven cover (Fig. 86.150). Interestingly, part of a perforated oven plate (p.142) was found nearby in the fill of Roundhouse Ditch 1739.

Roundhouse 1763

Sited equidistant from and 20 m to the north of Roundhouses 1729 and 1739 (Fig. 8) was the remains of another insubstantial annular/penannular ditch, with an internal diameter of *c.*11 m. The ditch was never more than 200 mm deep and as shallow as 35 mm in places. Its width varied between 250 and 360 mm. Much of the ditch had been destroyed by medieval furrows on the east and west sides, leaving many gaps in its circumference and making the identification of the entrance impossible. Several later amorphous hollows and the north-east corner of the later Enclosure 1998 had also disturbed much of the ditch.

Roundhouses – Discussion

The six penannular/annular ditches and parts of at least two others were all poorly preserved. Whether this was a true reflection of their original shallow depth and general small proportions, or a result of later plough damage is

uncertain, although it is probably a combination of both factors. In no instance is there any reason to suppose that the ditches had functioned as anything other than drainage channels. Whether these surrounded domestic structures, byres or even stacks of animal feed or haystacks is impossible to determine. Only Roundhouses 1606 and 1729 contained any postholes, and it is doubtful if any of these were components of any internal structures. The lack of internal features is a common characteristic of Iron Age buildings in this region, where it is believed that the use of mass building materials, such as turf or cob, was more commonplace than timber posts with wattle infill (Williams 1993, 28). This observation is supported by the absence of any significant quantity of burnt daub.

'Roundhouses' of this general type have been excavated in abundance elsewhere (Knight 1984; Allen *et al.* 1984; Rodwell 1978) and have been discussed in detail in connection with those excavated more locally at Pennyland (Williams 1993, 27–28) and Bancroft (Williams and Zeepvat 1994 50–51). Unfortunately the Wavendon Gate group adds little further to the understanding of Iron Age structures, reflecting the limited time expended in their excavation, and their poor survival.

Like most of those excavated elsewhere in Milton Keynes and further afield, this group of roundhouse ditches exhibit a degree of uniformity in their proportions, ranging in diameter from *c.*9 to 12.5 m. Most were too poorly preserved to establish accurately either the size or orientation of the entrances. However, in at least one instance (Roundhouse 1645) it has been suggested that the entrance was in the north side, a position which is very unusual in structures of this type.

The dating of the roundhouses is equally problematical, although it has been suggested that they all date to the earliest Phase 1A period, contemporary with or very slightly later than Enclosure 1984. They cannot all have been contemporary, since at least three had been constructed over earlier buildings. It is probable that only one, or two at the most, stood at any one time. Alternatively, it is feasible that several of the roundhouses stood within some of the rectangular ditched enclosures, eg. Roundhouse 1645 inside Enclosure 1999 and Roundhouse 1606 inside Enclosure 1986. As has been emphasized elsewhere in the report, there is no evidence, either stratigraphic or ceramic, to corroborate such a conjecture.

Late Iron Age: Phase 1B (Fig. 5)

Enclosure 1986 (Fig. 9)

This rectangular enclosure, aligned on a north-west to south-east axis, was sited immediately east of the Phase 1A Enclosure 1984 (Fig. 9). It was not recognized as a distinct feature until the completion of the excavation.

Consequently a number of questions concerning its overall size and form remain unanswered.

Ditches 1638 and 1615 (Fig. 9) represent the surviving west and east sides respectively, giving a width of 30 m.

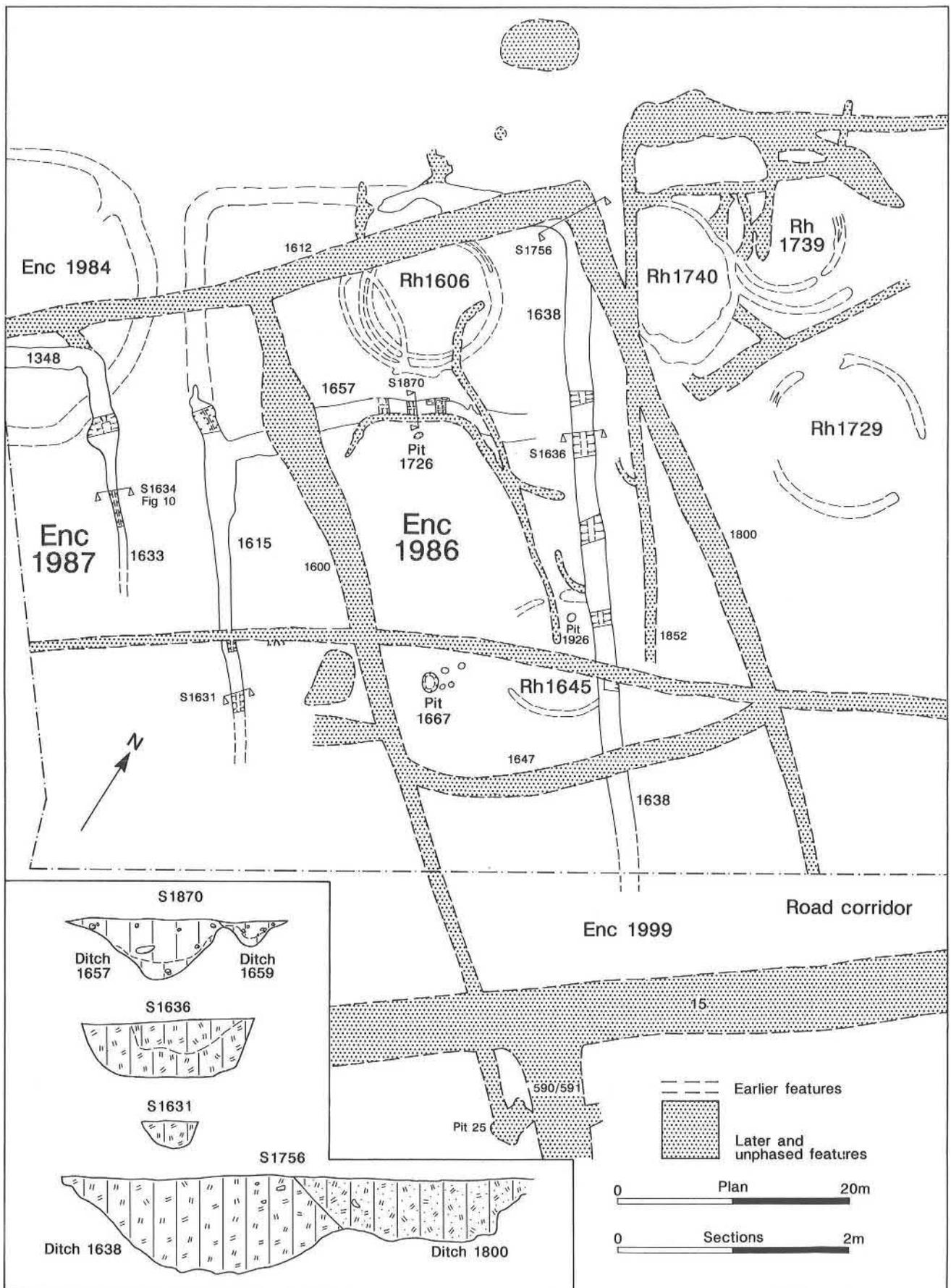


Figure 9: Plan and sections of Enclosure 1986.

Only the eastern end of the ditch forming the north side could be located and the south end was probably lost when the road corridor was scraped. The southern ends of both side ditches petered out, making any estimation of the enclosure's total length difficult, although it must have been at least 57 m and probably nearer 70 m long. Ditch 1657 formed a subdivision 30 m long and 16 m wide across the north end, with a 3 m-wide entrance between Ditch 1638 and its eastern terminal.

Ditch 1615 consisted of a 31.5 m length of poorly preserved ditch, at the northern end of which Ditch 1657 projected to the east. The junction of the two was not excavated, making it impossible to establish whether the division formed by Ditch 1657 was a primary element of the enclosure or a later addition. Although the whole of 1615 was undoubtedly a single ditch, its character varied considerably along its length. At its southern end it was 500 mm wide and 200 mm deep (Fig. 9 S1631), whereas towards the north end it was up to 1.8 m wide and shallower. The consistent shallowness of the ditch, presumably as a result of plough damage, explains why it petered out to nothing at both north and south ends. Little pottery was found in the fill of the ditch, and the only artefact was part of a triangular clay weight (p.140).

The east side of the enclosure, formed by Ditch 1638 (Fig. 9), was both more substantial and more complete than that to the west. It cut across Roundhouses 1645 and 1646, but had itself been cut by Ditches 1647 and 1800 (Fig. 9 S1756), which formed the east side of, and a division across, the Phase 2A Enclosure 1999 respectively. Its proportions were consistent, with a flat bottomed U-shaped profile 500 mm deep and 1.5 m wide (Fig. 9 S1636) widening out only in the north-east corner.

The east to west division formed by Ditch 1657, 1.4 m wide and 500 mm deep, was of similar proportions to Ditch 1638 but had a more pronounced V-shaped cross-section (Fig. 9 S1870). It had been cut by Ditch 1600, which formed the west side of Enclosure 1999, and also by the smaller Ditch 1675.

Although Roundhouse 1606 falls neatly within the northern division of this enclosure, there is no stratigraphic evidence to establish whether this is coincidental. The pottery is also insufficiently diagnostic to suggest anything other than that the enclosure and building are of the same general phase. The only other possible internal features are Pits 1667, 1726 and 1926 (p.18).

Enclosure 1987

Sited 7 m to the west of, and on a similar alignment to, Enclosure 1986 was this even larger enclosure (1987) 70 × 40+ m across (Fig. 5). The north end (Ditch 1348) and the east (Ditch 1633) and west (Ditch 1300) sides were excavated, but the south side had undoubtedly been destroyed during the construction of the road. In addition, at least three internal ditches (1344, 1407 and 1408) aligned

roughly north to south and a single ditch (1309) aligned east to west, may have been the remains of internal divisions. No entrance was located, although the loss of the entire south end and part of the east side leaves plenty of scope for one or more entrances to have existed.

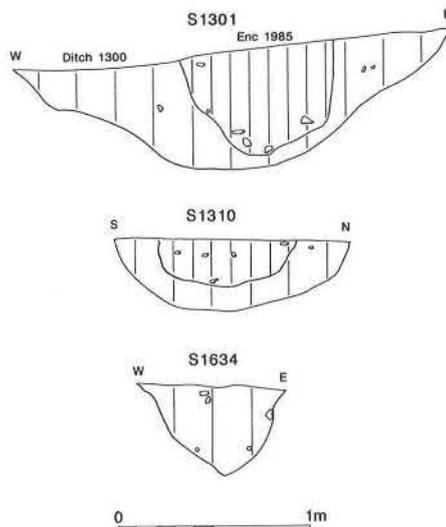


Figure 10: Sections of Enclosure 1987.

Only one section was excavated across the north end of the ditch which was found to be 1.6 m wide and 500 mm deep with a U-shaped profile. The west side was slightly more substantial, being over 2 m wide in places and up to 600 mm deep. Section 1301 (Fig. 10) shows that the much smaller Enclosure 1985 was of later date. The east side was even narrower at 800 mm wide and only 470 mm deep (Fig. 10 S1634). Of the internal divisions only Ditch 1309 was excavated (Fig. 10 S1310), and was found to be of similar proportions to the north end.

Although this enclosure was overlaid by the Phase 2A Enclosure 1985 and the associated Ditch 1383, it was later than Phase 1A Enclosure 1984. The only possible internal features, with the exception of the ditched divisions, were a number of unexcavated small ditches and amorphous pits in the eastern part, and Pits 1327 and 1366 (below). As with Enclosure 1986, pottery was not abundant and the only artefact of note was a worked animal rib (Fig. 75.106) of uncertain function.

The Pits (Fig. 11)

Pit 1327

This sub-rectangular pit, 900 × 800 mm across and 150 mm deep, aligned north-east to south-west, was located on the northern edge of Ditch 1309 (Fig. 5). The fill consisted of a dark yellowish brown firm loam with some charcoal fragments. In

places there was a bright orange burnt clay lining which had been partially removed by a recut of the pit.

Pit 1366

Sited 30 m to the east of Pit 1327 (Fig. 5) was a larger pit, 3 m long and 700 mm to 1.3 m wide with the sides sloping steeply to a flat bottom 280 mm deep. Although, unlike Pit 1327, there was no evidence of burning of the pit sides, the loamy charcoal fill contained a high concentration of fragments of fired clay. Several pieces were clearly the abraded remains of burnt daub (Fig. 86.146) with wattle impressions.

Pit 1667

This oval pit, located 5 m to the west of Roundhouse 1645 (Fig. 9), was 1.63 × 1.37 m across and 470 mm deep, with a flat bottom and very steep sides. It contained two quite distinct layers. The upper fill was a very dark grey silty loam with frequent charcoal fragments, containing a high proportion of amorphous fired clay and burnt daub (p.142) as well as a fragment of circular fired clay plate (Fig. 86.147). The lower fill consisted of a yellowish brown plastic silty clay with little burnt material. The absence of any *in situ* burning precludes the feature's use as a hearth so it must have fulfilled some other function. It had been backfilled with a 'rubbish' deposit before any significant weathering of the sides could occur.

Pit 1726

This small bowl-shaped pit, 650 × 490 mm across and 165 mm deep (Fig. 11), was 6 m south of Roundhouse 1606, close to the south edge of Ditch 1657 (Fig. 9). It contained a very dark greyish brown silty clay fill, with frequent burnt clay and charcoal fragments, but with no evidence of any *in situ* burning.

Pit 1926

This shallow bowl-shaped circular pit, 600 mm in diameter and 150 mm deep (Fig. 11), was very similar to Pit 1726, 20 m to the north-west (Fig. 9). The fill was a very dark greyish brown to black friable burnt soil, with a very high charcoal content and some burnt daub fragments and limestone chips. Its location in the entrance to Roundhouse 1645 makes it improbable that the two were contemporary, and it is more likely that it was associated with Enclosure 1986, within which it was also located.

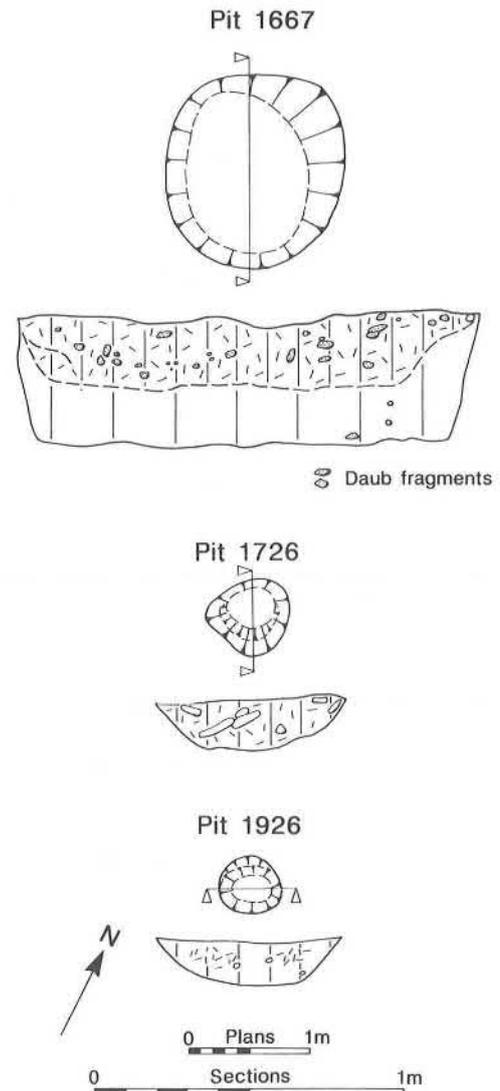


Figure 11: Plans and sections of Pits 1667, 1726, and 1926.

Pit 1939

Lying between Roundhouses 1739 and 1763 (Fig. 5), this was the largest Iron Age pit on the site. It was oval, 3.45 × 3.15 m across and up to 1.1 m deep, with a 1.2 m-wide flat shelf on its east side at a depth of 400 mm. The fill was a very dark greyish brown friable silty clay containing an above average quantity of handmade late Iron Age pottery.

Late Iron Age/Belgic: Phase 2A (Fig. 12)

Enclosure 1999 (Fig. 13)

Overlying Enclosure 1986, but on a slightly different alignment and probably representing a replacement, was another rectangular enclosure 75 m long and 30 m wide (Fig. 13). A single ditched division (Ditch 1647) across its width had created two bays of unequal size, 45 × 30 and 26 × 30 m across. The eastern side of the enclosure had been cut by the slightly later Phase 2B Enclosure 1998, and the south end was overlain by the northern ditch (15) of the major Roman Enclosure 275, established in the mid first

century AD. Post-medieval Ditch 1603 also ran across the line of the enclosure. Most of the south end of the enclosure had been destroyed during the road construction. However, two ditches (Fig. 13 and 27) which were recorded during the watching brief closely coincide with the projected west side and south-west corner of this enclosure.

Whilst the north end of this enclosure was demonstrably later than Roundhouse 1606, Roundhouse 1645 was lo-

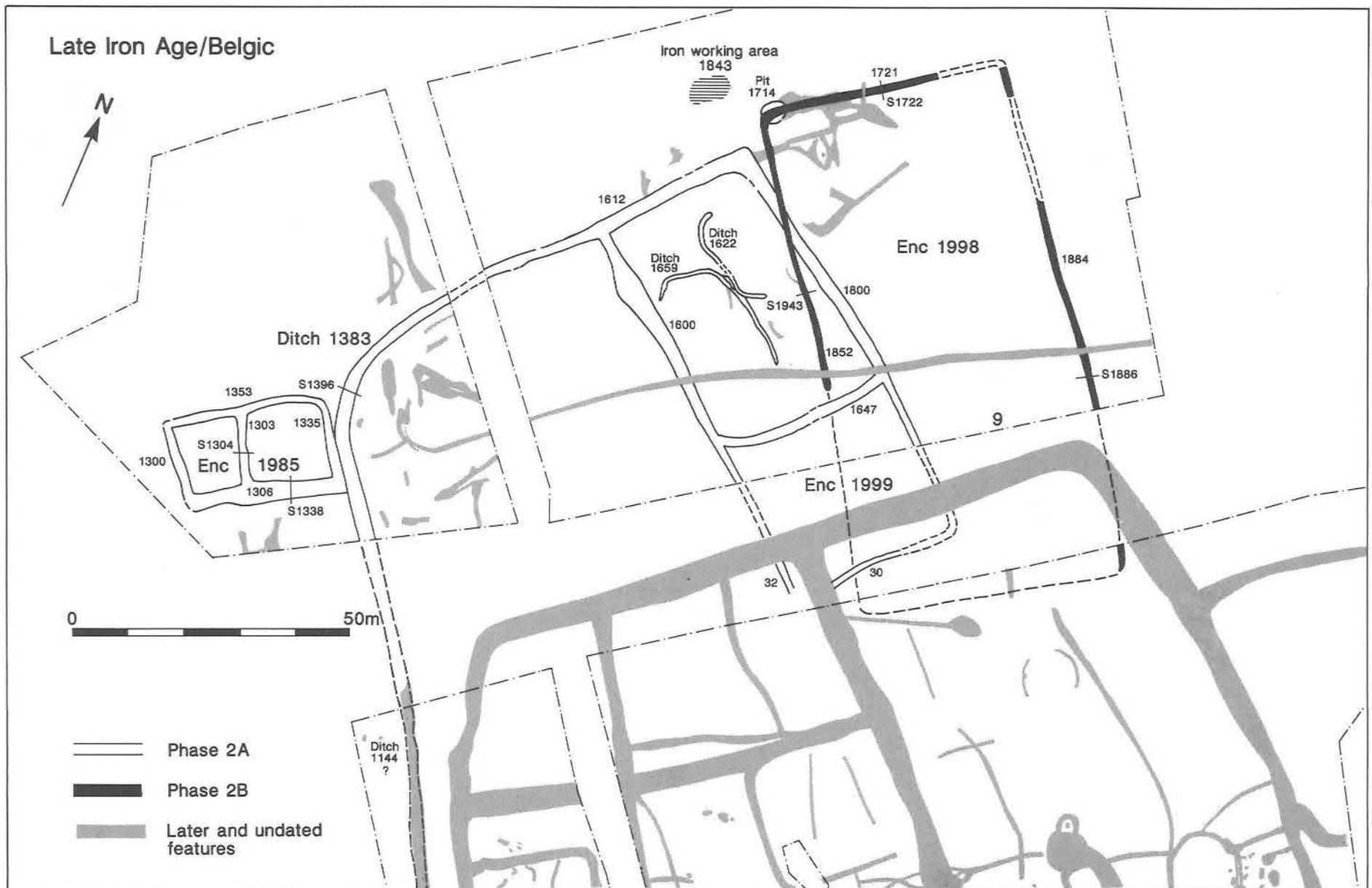


Figure 12: Phase plan - late Iron Age/Belgic phases 2a and 2b.

cated neatly within the northern bay. Two smaller ditches (1622 and 1659) may have been additional, but more irregular, divisions within the northern part of the enclosure. Since the south end of Ditch 1659 projected into the interior of Roundhouse 1645 they cannot have been contemporary, perhaps providing further evidence that the roundhouse was earlier and its location inside this enclosure entirely coincidental.

As would be expected with an enclosure over 200 m in circuit, the ditch varied both in proportions and fill, averaging 1.8 to 2.5 m wide and 1 m deep with a V-shaped cross-section (Fig. 13 S1601, S1616 and S1873). Section 1601 (Fig. 13) indicates that at least one recut occurred on the west side while another section nearer the north-west corner (S1965) indicates that the ditch may have been recut as many as four times. The cross Ditch 1647 was of similar proportions (Fig. 13 S1749), but with a narrow channel in its base. The precise relationship between this ditch and the side ditches (1600 and 1800) was not established. However, the two ends of 1647 curve slightly to the north as they join the sides of the enclosure, suggesting that 1647 represented the southern boundary of a pre-existing smaller enclosure. Consequently the southern part of this enclosure may have been a later addition.

Sediment analysis of Section 1659 (p.270) across the west side demonstrated that the fill was consistent with a slowly silting ditch and adjacent bank. The composition of the extreme upper layers, at a time when the ditch would have been little more than a hollow in the surface, indicates that occupation in the immediate vicinity had ceased. This observation supports the view that by the first century AD the focus of occupation had shifted to the south, with the creation of the even more substantial Enclosure 275 and the virtual abandonment of the earlier settlement in Area C.

Ditches 1622 and 1659

These two irregular shaped ditches formed smaller subdivisions within the northern part of Enclosure 1999 (Fig. 13).

Ditch 1622 was 21.5 m long and consisted of a straight central section 11.5 m long aligned broadly north-west to south-east. At the south end it turned through 50° and terminated after 5 m. The north end also turned, but in a gentler curve. The entire ditch was very shallow being nowhere more than 150 mm deep (Fig. 13 S1678).

Ditch 1659 was of similar proportions (Fig. 13 S1665) and was also sinuous, with several twists and turns in a total length of approximately 34 m.

Both ditches ran side by side and parallel to the long sides of Enclosure 1999 for at least 8 m. However, both their function and relationship to Enclosure 1999 are in some doubt. They certainly postdated Enclosure 1986, since Ditch 1659 had been cut the silted-up remains of Ditch 1657 (Fig. 9 S1870), but whether they were contemporary with Enclosure 1999 is impossible to establish with any certainty.

Ditch 1383

The northern ditch (1612) of Enclosure 1999 extended further south-west for over 50 m (where it has been termed Ditch 1383 for ease of reference), before turning in a gentle curve to the south-east (Fig. 12). Although the ditch had been destroyed during the construction of the road (the working width of which at this point was 30 m) it may have continued further south as Ditch 1144. This ditch, described elsewhere in this report (p.33), may have been first dug during this very late Iron Age phase. If this was

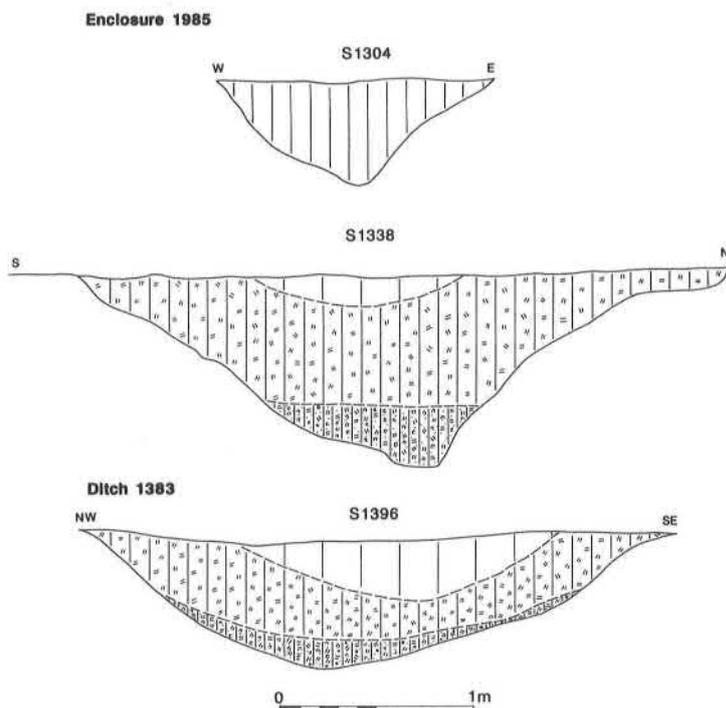


Figure 14: Sections of Enclosures 1985 and Ditch 1383.

the case then the area bounded by Ditch 1383/1144 would have been at least 60 m wide and over 100 m long.

Very little of this ditch was excavated but, halfway along, it was almost 3 m wide though only 700 mm deep, with a shallow U-shaped profile (Fig. 14 S1396). Apart from the earlier ditched boundaries few other features were found inside the area bounded by this ditch. A group of amorphous pits and short lengths of ditch in the west side were not excavated and remain undated.

Enclosure 1985

To the immediate west of and abutting Ditch 1383 was a smaller rectangular enclosure (1985), 26 × 13 m across, aligned north-east to south-west (Fig. 12). This enclosure, bounded by Ditches 1300, 1306, 1335 and 1353 had been further subdivided by Ditch 1303. No entrance was located, but very little of the ditch was excavated and a small causeway may easily have escaped attention. No internal features were noted. The ditch varied considerably in size from 3.4 m wide and 1.0 m deep on the south side (Fig. 14 S1338) to less than 1 m wide and 600 mm deep on the west side (Fig. 10 S1301), where it had utilized and been cut through the pre-existing west side of the earlier Enclosure 1987. The central division (Fig. 14 S1304) was of similar proportions to the west side, and the north and east sides were of comparable width on the stripped surface but remained unexcavated.

During the trial trenching of the west side of Area C a small copper-alloy decorative roundel (Fig. 60.37) was recovered from the surface of a large ditch. While it is probable that it was found in the fill of the east side of this enclosure, its proximity to Ditch 1383 was such that it also

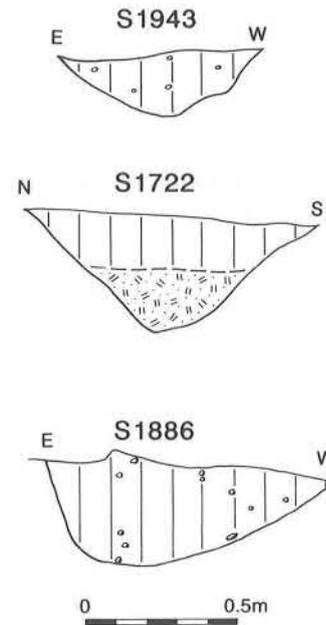


Figure 15: Sections of Enclosure 1998.

could have derived from the top of that ditch. The articulated burial of a foal, possibly a ritual deposit (p.224), was found in the upper fill at the intersection of ditches 1300 and 1306 (Plate 23).

Although very little can be said about Enclosure 1985 and the area enclosed by Ditch 1383, it is clear that together they represent a replacement of the earlier Enclosure 1987, much as Enclosure 1999 replaced Enclosure 1986, but on a slightly different alignment.

Late Iron Age/Belgic: Phase 2B (Fig. 12)

Enclosure 1998

Cutting across the east side of Enclosure 1999 was the latest of the enclosures within Area C (Fig. 12). This rectangular area was 44 m wide and at least 65 m long, the south end having been destroyed during road building. The remains of a short length of ditch protruding from the north edge of Area B coincided with the projected line of the east side (Ditch 1884) of the enclosure. This may indicate that the enclosure had been as long as 100 m, although no trace of the south end could be found.

Stratigraphically this enclosure was shown to post-date the Phase 2A Enclosure 1999 and therefore by implication Enclosure 1986, although its alignment had followed that of the Phase 1B enclosure system. The phasing of this

sequence, with Enclosure 1998 being the final enclosure in Area C, is also supported by the ceramic evidence (p.174).

For the most part 1998 was far less substantial than the earlier enclosure ditches, averaging only 900 mm wide and 400 mm deep (Fig. 15 S1722 and S1886). In places it was even more insubstantial (Fig. 15 S1943), and in the north-east corner it had disappeared entirely.

Although Roundhouses 1739 and 1729 were inside the enclosure, this is coincidental; Roundhouses 1740 and 1763 were unquestionably earlier. Apart from a cluster of unexcavated and therefore undated features in the north-west corner, the only other internal feature was Pit 1939 (p.18), also thought to relate to an earlier phase.

Unphased

Iron-Working Area 1843

A small iron-working area was found to the north of the Iron Age enclosures, immediately west of the north-east corner of Enclosure 1998 (Fig. 12). It consisted of the remains of a small hearth or furnace base (1843) and a depression (1846) in the subsoil filled with slag, probably the base of a larger ploughed-out dump.

The hearth or furnace base (1843) survived as an oval bowl-shaped depression 1.0 m × 740 mm across and 100 mm deep. The sides had been discoloured as a result of intense burning and it was filled with a compact layer of slag with very little soil matrix. The depression (1846) was amorphous, c.5.4 × 2.1 m across and only 60 mm deep on

average, although the base was very irregular. It was filled by a dump of smelting slag in a charcoally loam matrix. Only part of this feature was excavated; 23 kg of slag was removed from it. Examination of the slag (p.167) has shown it to be a smelting slag, although it is impossible to determine whether the burnt pit was the remains of a contemporary furnace.

Unfortunately no dating evidence was associated with either the hearth/furnace base or the depression. Consequently, the date of the industrial area is impossible to establish, and could be equally Iron Age or Roman. Whatever its date, it had been located some distance from the main occupation area.

Iron Age – Discussion

Chronology

Iron Age occupation at Wavendon Gate falls into two periods, with no evidence of continuity between. Pit 1251, sited some distance away from the later Iron Age activity to the north, is dated on pottery evidence to the earlier Iron Age. The nature of its contents indicates a specialised, possibly ritual, function which has been discussed elsewhere (p.11). The total absence of any contemporary features makes the significance of this isolated pit difficult to assess, but it is difficult to believe that contemporary occupation was ever far away.

The first archaeologically identifiable occupation of the site does not occur until the later years of the first millennium BC. Dating of this phase is also entirely reliant upon the pottery along with a very few metal artefacts of broadly late La Tène type, such as the small decorative roundel (Fig. 60.37), knobbed bracelet (Fig. 58.12), toggle (Fig. 61.50) and the wheel-headed pin (Fig. 66.62). In addition, a single coin of Cunobelin (Appendix I.1) was found re-deposited in the fill of the slightly later Enclosure 275. Dating of the pottery has been discussed at length elsewhere (p.169ff), but there is no reason to believe that it dates to much earlier than the first century BC. The inclusion of a number of wheel-thrown pieces and several distinctive later forms demonstrates that what has been termed “late Iron Age” also encompasses what is frequently referred to as “Belgic”. This phase of the settlement continued unbroken until the immediate post-conquest period, at which time the small rectilinear enclosures to the north were replaced by the more substantial and imposing Enclosure 275.

Settlement Form and Development

Phasing of the later Iron Age settlement, which is almost entirely restricted to the excavated Area C (Fig. 2), is made difficult by an absence of closely dateable or diagnostic pottery vessels, and by the difficulties of accurately estab-

lishing stratigraphic relationships between ditches with near-identical fills. However, two main phases, 1 (Fig. 5) and 2 (Fig. 12), have been postulated, broadly dating to the pre-Belgic first century BC and the Belgic early first century AD respectively. As with most sites of this type such divisions, which may appear on plan to be clear cut, are probably no more than forced visualisations, and undoubtedly there would have been significant overlap between the succeeding phases. In particular it is probable that some of the features which have been allocated to Phase 1A, most notably the ‘banjo’ Enclosure 1984 and some of the roundhouses, may belong to a slightly earlier period and could perhaps be more correctly termed “middle Iron Age”.

The first period of occupation consisted of a cluster of unenclosed roundhouses, perhaps associated with a small ‘banjo’-type enclosure. The very small number of contemporary features associated with this phase suggests that it was comparatively short-lived. Small settlements of this form, generally referred to as being of unenclosed ‘open’ type (Knight 1984, 169 and Hingley 1984, 74), have been widely recognised in Southern Britain. More locally, examples of this type have been found 4 km to the north-east at Salford, Beds. (Clarke 1991, 13–15) and at Bancroft, 9 km to the north-west (Williams and Zeepvat 1994, 43ff).

Towards the end of the first millennium BC this rather haphazard scatter of buildings was replaced by a regular arrangement of rectangular enclosures. These appear to have undergone almost continual renewal by frequent re-cutting of their surrounding ditches. They were also replaced by others on slightly differing alignments and in some cases were enlarged, as suggested for the south-east end of Enclosure 1999. The ditches defining the various enclosures of Phases 1B, 2A and 2B ranged from the relatively substantial, up to 1.5 m deep, to very slight, as exemplified by Enclosures 1999 and 1998 respectively.

While the ditches may have played an important role in both lowering ground water levels and removing surface run-off, they would almost certainly have been accompanied by banks and/or hedges and fences to keep stock either in or out, depending on the function of each enclosure. Several of the enclosures, notably Enclosures 1986, 1999 and 1998, each contained at least one roundhouse. However, it proved impossible to demonstrate that any of the enclosures and buildings were contemporary, although in some cases this seems quite probable.

The establishment in the late Iron Age of small, often comparatively ephemeral, rectangular enclosures, perhaps better described as paddocks, is a commonly noted phenomenon in this region. It is particularly well illustrated in the Upper Thames Valley (Hingley and Miles 1984, 65) where similar groups of enclosures are frequently found on aerial photographs. A particularly close analogy can be drawn with the Cat's Water subsite at Fengate (Pryor 1984, fig. 18) where a remarkably similar arrangement of enclosures was also formed over a more open middle Iron Age settlement. This more nucleated and structured use of space is also evident in the very late Iron Age and Belgic phases at Odell, Beds. (Dix 1980; 1981) and more locally at Bancroft (Williams and Zeepvat 1994) and North Furzton (Williams and Hart, forthcoming). It is rarely apparent what social, economic or perhaps 'political' pressures provided the stimulus to create such well-defined areas. However, a rapidly expanding population and over-exploitation of the land may have created social stress, precipitating increased regulation of the landscape. At Wavendon Gate it is clear that these small rectilinear enclosures were only the precursors of the much larger first-century AD Enclosure 275, which resulted from the economic improvements brought about by 'Romanization'.

The almost complete absence of pottery or other artefacts dating to much later than the mid first century in the upper fills of the earlier enclosure ditches indicates that the focus of occupation shifted to the south. That the earlier settlement was abandoned also appears to be verified by the phosphate analysis of Ditch 1600. A progressive reduction of phosphate levels in the upper layers has been interpreted as evidence of a reduction in land use intensity, associated with the abandonment of adjacent occupation areas.

Buildings and Other Features

The remains of at least six annular or penannular ditches were found, mainly sited towards the east end of Area C, and a brief discussion of their type appears elsewhere (p.15). By analogy with much better preserved examples excavated both elsewhere in the region (Allen *et al.* 1984) and more locally at Pennyland (Williams 1993, 27–28) and Bancroft (Williams and Zeepvat 1994, 43ff) it may be assumed that at least some were drainage ditches around circular timber buildings. None of the Wavendon Gate examples contained convincing evidence of internal struc-

tural supports. Consequently, it is probable that any internal buildings had either been constructed of small stakes, which had not penetrated the subsoil, or used a mass walling technique such as turf or cob walls. The scarcity of burnt wall daub appears to support the latter supposition.

The limited dating evidence suggests that most of these possible circular buildings date to the earlier phase of occupation. Since there can be little doubt that domestic occupation continued throughout the Belgic into the early Roman period, it is probable that many later buildings remained unrecognized. It is generally believed (Rodwell 1978) that there may have been a shift to rectangular buildings of timber-framed construction without surrounding drainage ditches during the later Iron Age. Equally, however, the simple act of discontinuing the excavation of drainage ditches around circular structures would, at Wavendon Gate, have had the same apparent effect in the archaeological record. The discovery of a circular drainage ditch (783) of mid first-century date within Enclosure 275 supports the view that the Iron Age circular building tradition continued at Wavendon Gate.

Apart from the ditched enclosures and roundhouse drainage ditches, few other features deserve mention. Several smaller ditches may have subdivided the enclosures but there were few other boundary ditches. The notable exceptions were Ditches 1390 and 1409, which formed part of a trackway associated with the 'banjo' enclosure. Pits, postholes and other ephemeral features, such as hearths, were also uncommon. Whether this is a true reflection of their original scarcity or of their destruction by later agricultural practices is difficult to determine. Interestingly, there were no examples of the clay-lined pits which are a recurrent feature on the earlier and middle Iron Age sites of the region (Williams 1993, 38–39; Allen *et al.* 1984, 94).

Economy

The faunal remains, whilst not abundant, provide a useful indicator of the Iron Age husbandry practices. More importantly they have added to an increasing corpus of zooarchaeological evidence, and form a useful comparative group for other sites of this period in the Milton Keynes area and beyond.

Total frequency and minimum number analyses have shown that cattle were the main domesticated on the site in the later Iron Age, sheep being of only secondary importance. A preponderance of cattle is a feature of this region in direct contrast with much of the rest of southern England including the Upper Thames Valley, which has for this period perhaps been studied more intensively than elsewhere in the country (Grant 1984a). However, whilst the ratio of cattle to sheep is comparable with other local sites, such as Pennyland (Holmes 1993), a different husbandry regime was undoubtedly practised at Wavendon Gate. Most of the cattle had been killed and butchered

when they were fully mature, well past their optimal age for meat production. This suggests that dairying was not important and that cattle were kept for other purposes, perhaps as draught animals, only being killed to supplement the diet when they were no longer useful as working beasts.

Horse numbers are also comparatively low on the site, and pig numbers were even lower than on many other local Iron Age sites. The discovery of the burial of a neonatal foal in Enclosure 1985 may indicate on-site horse breeding. The discovery of a single red deer bone and no other wild animal or fowl bones demonstrates that the diet of the Iron Age inhabitants was not supplemented by hunting to any significant degree.

The implication that cattle were used as draught animals and that sheep were kept only in small numbers suggests that arable cultivation of the surrounding fields was more important than stock rearing. The limited evidence of the Iron Age plant remains, whilst insufficient to substantiate this hypothesis, does indicate that arable crops were cultivated on a range of soil types, all of which would have been available around the settlement. Arable cultivation was focused on the production of spelt wheat in particular, although there is some evidence that bread wheat and barley were also grown.

Very little concerning the everyday life and other non-agricultural activities can be deduced from the Iron Age finds. A single bone bodkin (Fig. 75.105) and several triangular clay loomweights (p.140) are perhaps indicative of small-scale textile production. Several fired clay plates and, more unusually, a large fragment of a clay oven were probably used for cooking rather than for any pyrotechnical craft activity. Since the large deposit of iron smelting slag and its associated hearth, sited to the north of Enclosure 1999, could not be dated, it is as likely to have been of Roman as of Iron Age date.

Burial and Ritual

No burials of conclusively Iron Age date were found, although it is possible that some of the unurned cremations found in Area C were of this period. It may also be significant that, unlike the earlier Iron Age sites at Pennyland and Hartigans, no human remains thought to have been scattered through the practice of excarnation were found at Wavendon Gate. The only human bone found was the complete mandible buried in Pit 1251, which dates to a much earlier period than the main period of occupation; the significance of this has been discussed elsewhere (p.11).

The discovery of a carefully buried neonatal foal in the top of Enclosure Ditch 1985 hints at some form of ritual behaviour. Such deposits (Grant 1984b, 533–543) are a recurring theme, now recognised to be commonplace on Iron Age sites in Britain. Of greater interest is the bronze wheel-headed pin (Fig. 66.62) dated to the second century BC on stylistic analogies. In isolation, although a rare type, little significance can be attached to its discovery on a site of late Iron Age date. However, with the very strong evidence for a wheel-cult existing on the site in the Roman period (p.116) it is tempting to see this object as the precursor of the same solar cultic tradition.

Environment

The total absence of any Iron Age waterlogged deposits and the limited evidence of the charred plant remains limits any discussion of the contemporary local environment beyond the confines of the settlement. The very low pig numbers, together with the almost total absence of deer and other wild animals, hint at an intensively managed landscape, probably containing little woodland, with most trees either in very small stands or in hedgerows. Evidence from the few groups of charred plant remains, all of which were rich in seeds of arable weeds which thrive in regularly disturbed soils, supports this hypothesis.

Conclusion

There is nothing at Wavendon Gate to contradict the generally held belief that, by the end of the first millennium BC, most lowland areas were intensively occupied and farmed. Work in Milton Keynes over the last two decades (Williams 1993, 213–215) and elsewhere, including the Thames Valley (Hingley and Miles 1984), Wessex (Cunliffe 1984b) and the Nene and Ouse basins (Knight 1984), clearly illustrates that the landscape, which was undergoing reorganisation and modification, also saw the breakup of the traditional settlement pattern of the middle Iron Age as epitomized locally by the Pennyland and Hartigans sites (Williams 1993).

The degree to which geographical, socio-economic and perhaps even 'political' factors contributed towards these changes in the last two centuries of the first millennium BC is still poorly understood. The concept of tribal territories and settlement hierarchy has long been recognized, and it should be noted that Wavendon Gate is overlooked by the Danesborough hillfort on the Woburn Heights, 3 km to the south (Fig. 51). Hillforts are widely believed to have been centres of authority, based on elite residence, production and exchange mechanisms. In the case of Wavendon Gate it is impossible to determine whether it was ever within the hillfort's 'territory' or sphere of influence, since the date of the hillfort (Berry 1926) has never been accurately established.

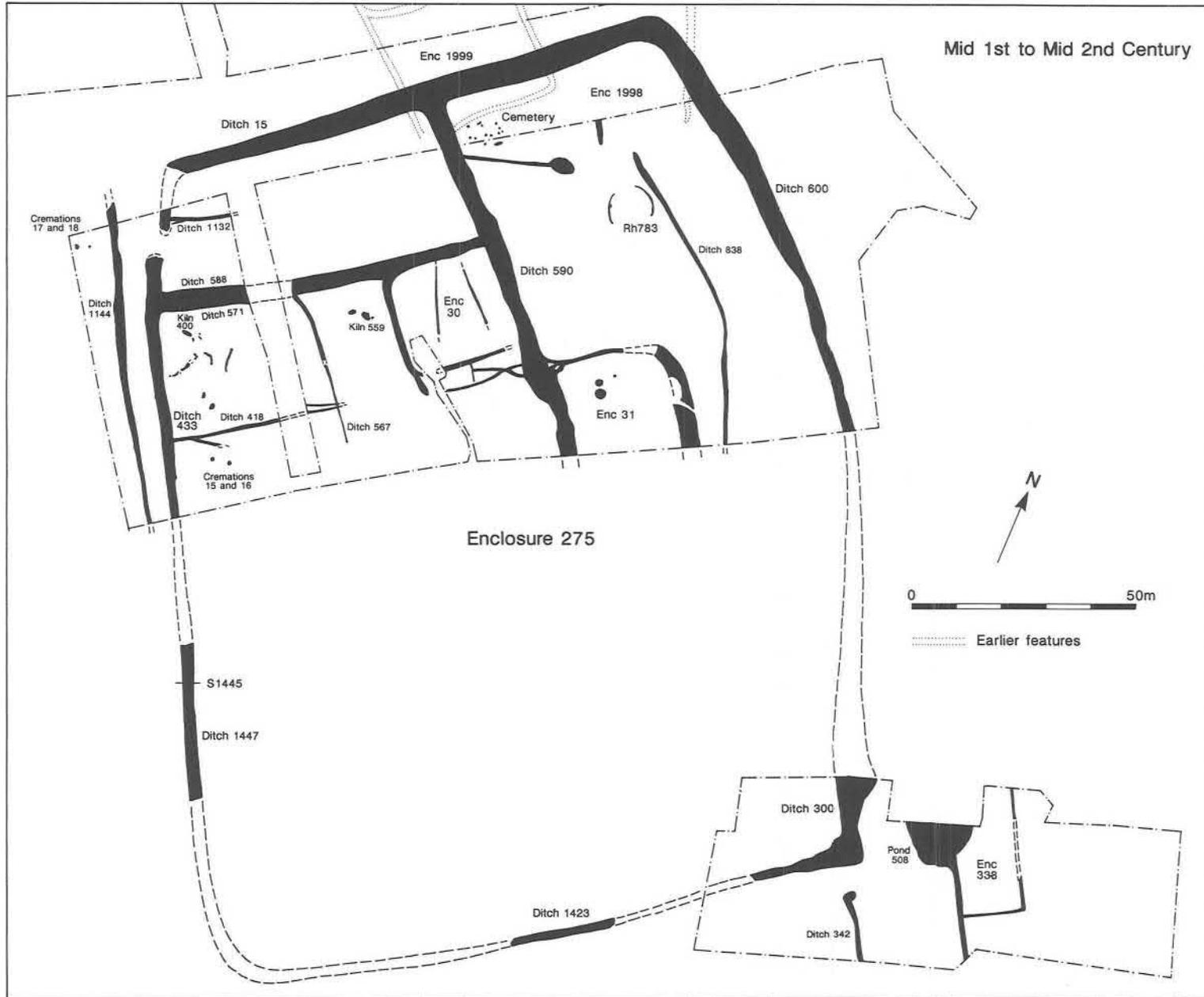


Figure 16: Phase plan - mid first to mid second century.

ROMAN SETTLEMENT

Mid First to Mid Second Century (Fig. 16)

Towards the middle of the first century AD the settlement shifted to the south from the site it had occupied for several hundred years. A large ditched enclosure (275) was excavated to form the perimeter around the relocated settlement (Fig. 16). This was subdivided on a north to south alignment by a large ditch (590) of similar proportions to the outer ditch. The area to the west of this division was further subdivided in an east to west direction between Ditches 590 and 433 by another substantial ditch (571/588). At least two smaller but equally well-defined enclosures (30 and 31) were subsequently created and a number of other smaller ditches were dug. These probably represented minor boundaries within the main enclosure, perhaps demarcating occupation areas from stockyards, gardens, etc. Only a single insubstantial structure (Roundhouse 783) was found in the eastern part of the enclosure, although other buildings had undoubtedly existed. Two pottery kilns had been constructed in the western part of the enclosure. Towards the end of this phase a small cemetery was positioned just inside the north side of the enclosure, in the angle between Ditches 15 and 590. Whilst no significant activity was found to have occurred outside the main enclosure to the north, on the site of the earlier settlement, there was evidence of agricultural activity outside its south-east corner.

Enclosure 275 (Figs 16 and 17)

This very large enclosure was rhomboidal, c.175 m wide at the south end, 135 m wide at the north end and 190 m long. It encompassed an area of about three hectares and the perimeter ditch was almost 700 m long, its excavation clearly representing a major undertaking for the community. The detailed nature of much of the early enclosure ditch is uncertain, owing to intermittent recutting over succeeding centuries, but it is clear that although it may have defined the core of the settlement, it was never intended to defend it. Whilst it was wide and relatively deep to the north and north-east (Ditches 15 and 600), it was slight to the west and south (Ditches 433, 1447 and 300), and over considerable lengths it proved difficult to trace. Possibly in these latter areas an accompanying bank, fence or hedgerow served the purpose of the substantial enclosure ditch. Limited evidence of features in the southern half of the enclosure, to the south of the old Wavendon Road, indicates that this area was never as intensively

utilised as that to the north. Indeed, it is possible that the line of the old Wavendon Road had followed another major boundary within the Romano-British settlement, which in this form has survived to the present day.

Slight evidence from the north of the eastern arm of the enclosure (Ditch 600) suggested that there had been an internal bank running along the edge of the ditch. An entrance towards the northern end of the west side (Ditch 433) had been partially obscured by recutting. The southern terminal of this entrance had been deepened to create a waterhole. Whilst this was the only entrance identified, the extensive recutting and loss of most of the south and much of the east and west sides means that evidence for other entrances had been destroyed.

During the trial trenching and the excavation, separate feature numbers were allocated to the individual lengths of ditch which have been interpreted subsequently as forming the four sides of Enclosure 275 (Fig. 16). These consist of Ditches 433 and 1447, forming the west side in Area B and to the south of the old Wavendon Road respectively, Ditch 15 the northern arm, destroyed by road construction, Ditch 600 forming the eastern side in Area B, and Ditch 301, interpreted as the south-east corner in Area A. To facilitate the description of such a large feature these numbers have been retained for the individual descriptions.

Ditch 433

With several internal boundary and enclosure ditches abutting its eastern edge, Ditch 433 formed the major western boundary of the settlement (Fig. 17). The presence of a probable drove-way (defined by Ditch 1144), possibly an earlier feature, immediately to the west, perhaps channelling livestock between settlement and field system, further emphasises this interpretation. The ditch ran on a constant north-west to south-east course, except for an eastward deviation in its line towards the north end of Area B, marking the location of an early entrance into the enclosure (Fig. 16). The southern terminal of this entrance (Fig. 18 S1199) had been deepened, probably towards the end of the first century, for use as a waterhole. As a result of the greater depth at this point, this was one of only three areas of the site to have contained sufficiently anaerobic conditions for waterlogged remains to have been preserved. These include two lacerated oak logs (p.262), probably used as chopping blocks, in Layer 1208. For most of its recorded length the primary ditch cut was less than 2 m wide and no more than 800 mm deep. However, it had been recut at least once (Fig. 18 S1064) prior to the fourth

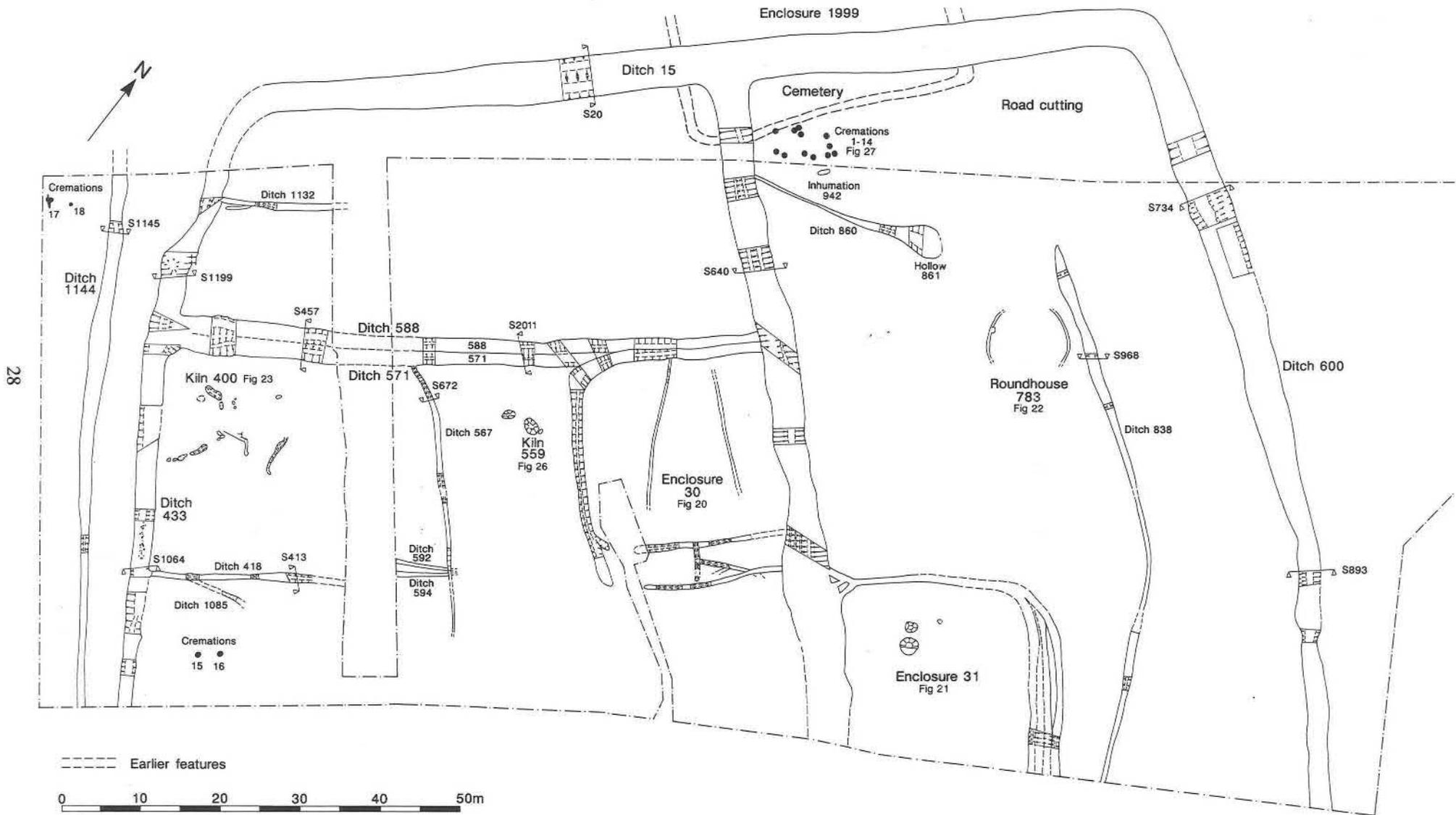


Figure 17: Plan of Enclosure 275 and internal divisions.

century, when it was recut again to form the west side (Ditch 475) of Enclosure 33 (p.75).

Beyond Area B to the north a definite link with Ditch 15 was never established, although Ditch 15 extended at least as far as the projected position of the enclosure's north-west corner. To the south of Area B, trial trenching (Fig. 2) subsequent to the 1989 excavation, located slight evidence for the continuation of the west side as Ditch 1447 (Fig. 16). The insubstantial nature of this ditch (Fig. 18 S1445), where exposed, certainly precludes it from ever having been a defensive boundary to the settlement.

Ditch 15

Work on the north arm of the enclosure ditch was restricted to trial trenching. A number of trenches were dug across the ditch, including two complete machine-cut sections, and a rectangular area of 360 square metres around the junction with Ditch 590/591 (Fig. 2) was cleared.

Running in a south-west to north-east direction the ditch kept to a reasonably straight course for a distance of 130 m (Fig. 17). At its east end it turned sharply to the south-east, continuing as Ditch 600. However, because of encroachment by road contractors, its junction to the west with Ditch 433 was not properly established.

55 m from its east end Ditch 15 was joined by Ditch 590/591 running in from the south at a right angle. The upper fills of both Ditches 15 and 590/591 consisted of a dark humic loam containing much bone, charcoal and Saxon pottery. This was a recurrent characteristic of the upper fills of the ditches in the north part of Enclosure 275. This layer effectively masked the relationship between the ditches. At the time of excavation it was felt that a slight widening of Ditch 15 to the east of the junction suggested that Ditches 590/591 may have been swinging round in that direction. However, this remains a debatable assumption as the machine-cut section to the east of the junction showed no obvious recut.

To the west of the intersection, Ditch 15 had been clearly recut. The machine-cut section (Fig. 18 S20) showed that an original ditch to the north, with a steep sided V-shaped profile *c.*2.4 m wide and 1.4 m deep, had been cut away by a parallel ditch to the south with a more rounded profile *c.*2 m wide and 1.2 m deep. The fill of both ditches consisted of an homogenous mid-brown clayey silt throughout, apart from a Saxon tertiary deposit overlying the southern recut.

Ditch 600

Forming the eastern arm of the enclosure, this ditch followed a south-east to north-west alignment across the eastern end of Area B (Fig. 17). Beyond the excavated area to the south of the old Wavendon Road it reappeared as Ditch 300 in Area A (Fig. 16). A number of ditches ran in from the east side, with Ditches 842 and 883 representing the north and south boundaries, respectively, of the later Roman Enclosure 32 (Fig. 45). The western ditch of this later enclosure had utilised the, at least partially, silted line of Ditch 600.

Of the five sections excavated across Ditch 600, Section 734 (Fig. 18), to the north of Enclosure 32, is particularly useful in demonstrating the complexity and longevity of this major boundary. A sequence of at least four recuts of the ditch are evident, spanning the mid first to late third centuries. This is

supported by the coin evidence, which ranges from a *sestertius* (Appendix I.18) of Marcus Aurelius (162-163) and two illegible first or second-century bronzes (Appendix I. 83 and 84) to coins of Constans (Appendix I.51) and Valens (Appendix I.65) of mid fourth-century date. The last two coins derived from the extreme upper layers of the ditch and were sealed by the Saxon layer (p.94). The original ditch was of indeterminate width but it was deep enough at 1.8 m to contain a primary fill of dark grey waterlogged clay (Layer 752). This layer merged into a lighter, clayey silt (Layer 768). The eastern side of this primary ditch had then been cut away by a shallower ditch only 1 m deep, filled with an homogenous yellow brown sandy clay loam (Layer 767). The western edge of the original ditch had also been entirely removed by a recut of similar proportions 1.4 m deep and, originally, about 3 m wide. This cut contained a primary fill of grey, sticky silty clay (Layer 751), overlain by a dark, yellowish brown sandy clay (Layer 750), merging into a greyer loam (Layer 749). It appears that much of the fill of this cut had been introduced from the west, possibly from a bank lying on the inside edge of the feature. It was impossible to determine the sequence of these two recuts as after both were filled, Ditch 600 was again recut, this time as a broad, 4 m-wide and 800 mm deep hollow. This was filled with a dark brown sandy clay loam (Layers 741 and 743), which also seem to have originated from the erosion of a bank on the west side. No pottery from this ditch was dated any later than the third century. The slight hollow was perhaps no more than 400 mm deep, allowing for the depth of a contemporary topsoil, and remained as a stable, well-drained hollow until it was filled by a 'refuse' deposit in the early Saxon period (p.94).

To the south of Section 734 Enclosure 32 had truncated the partially filled ditch for a distance of 44 m, but enough of the original cut had survived to determine that Ditch 600 diminished in size towards its south end. In Section 893 (Fig. 18) it had narrowed to no more than *c.*2.5 m wide and 1.3 m deep, and no evidence of the recuts seen in Section 734 was noted. Further south, beyond the junction with Ditch 883, the ditch extended beyond the area of excavation. No pottery later than the late second century was recovered from this area of the ditch.

The greater depth and complexity of the north end of this side of the enclosure is difficult to explain. It is possible that the periodic recutting or cleaning out of the ditch was intermittent along its course. It is equally likely that, whilst some recuts deviated from the line of the primary ditch, others may have entirely removed evidence of earlier cuts.

Ditch 300

Emerging from the northern edge of Area A (Figs 16 and 30) was an 'L'-shaped length of ditch, interpreted as the south-east corner of Enclosure 275, being the southern continuation of Ditch 600. Ditch 300 ran in a south-easterly direction for 19 m before turning through a right angle towards the south-west. It then ran for a distance of 18 m before petering out. Trial trenching west of Area A (Fig. 2), revealed the continuation of the south end of the enclosure (Fig. 16), although much of it and the junction with the west side of the enclosure (Ditch 433/1447) had been lost beneath the line of Gregories Drive (Fig. 2).

The north to south arm of Ditch 300 was a very substantial feature, up to 7 m wide and 1 m deep with steep irregular edges. The fill of the single excavated section was comparatively homogenous, although the exceptional proportions and shape of the ditch at this point indicated that it had either been regularly

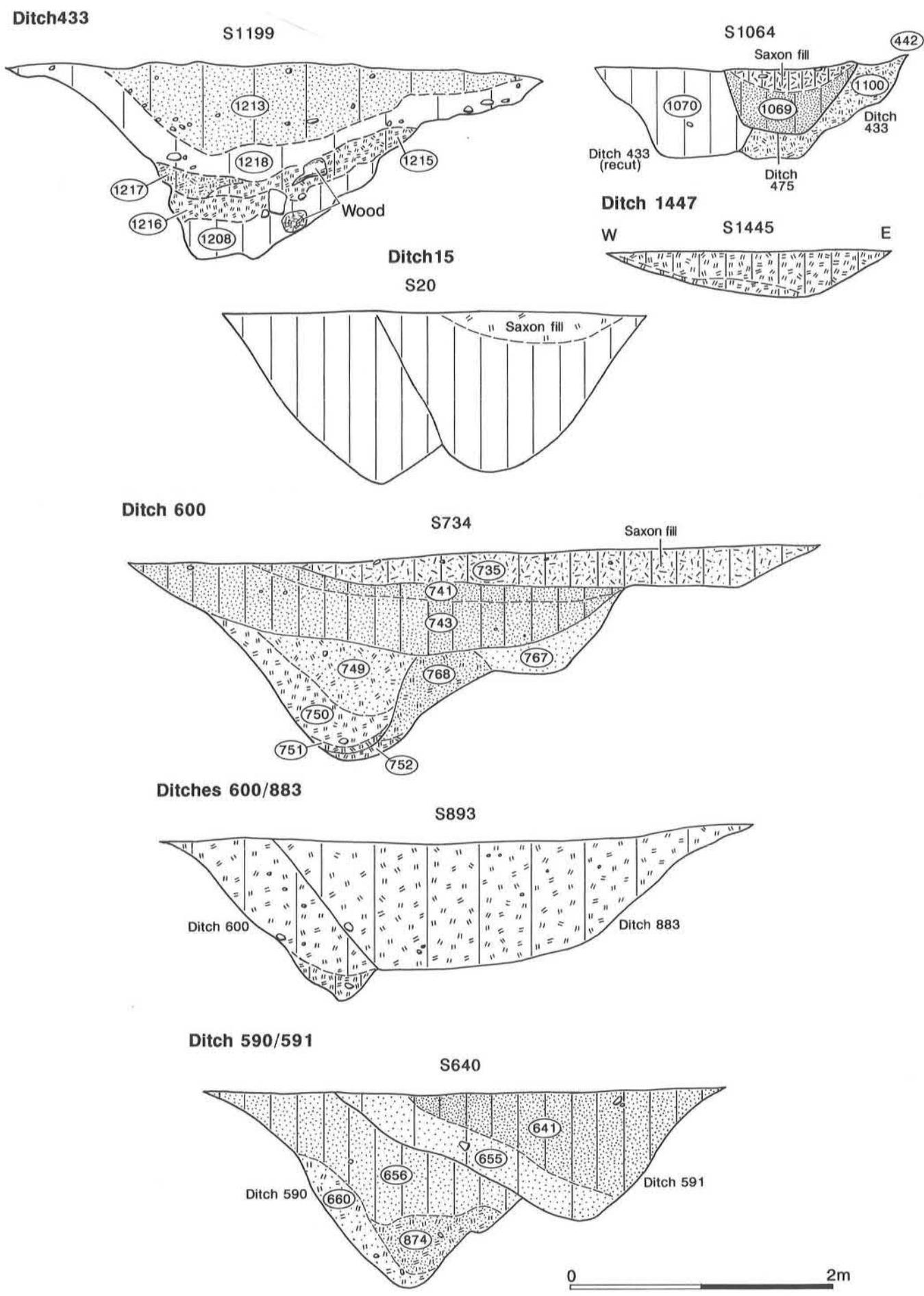


Figure 18: Sections of Enclosure Ditch 275.

recut or had been disturbed by an even larger feature. The southern ditch decreased constantly in width and eventually faded out towards the west. In this area there was evidence of a recut in the form of an original ditch, 1.0 to 1.2 m. wide and 500 mm deep, which had been superseded by a broad, flat-bottomed ditch or hollow only 200 mm deep.

Dating evidence from the eastern arm of Ditch 300 suggests that it remained open until the end of the second century, after which it had gradually filled.

Internal Ditched Divisions within Enclosure 275 (Fig. 17)

The northern half of Enclosure 275 had been further subdivided by two large ditches (590 and 571/588) and by several slighter ditches (418, 567, 836 etc). The narrower ditches, while undoubtedly acting as drainage ditches to clear surface water from the interior of the enclosure, must have been accompanied by more substantial above-ground features such as fences or hedges to have to have been of any use as effective barriers to animals. At least two smaller but well-defined enclosures (30 and 31) had also been created on either side of the main north to south division (Ditch 590). Whether the southern part of the enclosure's interior had also been subdivided in a similar manner is impossible to determine, since so little of the area to the south of the old Wavendon to Walton road was excavated.

Ditch 590

This substantial ditch, of similar proportions to the main outer enclosure ditch, divided the enclosure on a north to south line (Fig. 17). It was dug around the mid first century AD, and was almost certainly contemporary with the earliest cut of Enclosure 275. Later disturbance confused its line to the south of Area B and all trace of it had been lost to the south of the old Wavendon to Walton road. Most of its western side had also been destroyed by a third-century recut (Ditch 591, p.61). Differential filling within the ditch, with a predominance of material derived from the natural calcareous clay subsoil on the east side, showed quite clearly that a bank had originally existed on this side of the ditch. Ditches 571/588 were also broadly contemporary with or very slightly later than 590, with any water collecting in them emptying into this deeper feature. Enclosures 30 and 31 lay to the east and west sides of Ditch 590 respectively. Unfortunately the relationship with Enclosure 30 was destroyed by the later cutting of Ditch 591, and the intersection of the north side of Enclosure 31 with Ditch 590 was not excavated.

The ditch was up to 1.5 m deep with a steep-sided V-shaped cross-section (Fig. 18 S640) Because of the truncation of the west side by Ditch 591 its width was indeterminate, but assuming it was symmetrical, probably not less than 3 m. The fill consisted of a very shallow primary silt above which was a mottled clay (Layer 660) which had obviously originated from the eastern edge. Although intermittent, this layer was noted at frequent points and can probably be best interpreted as material eroding from a bank. Above this layer, the main body of the fill graded from a dark greyish-brown loamy sandy clay (Layer 656), possibly also partly derived from bank material, to a dark

brown sandy loam. The change was gradual, probably representing the slow stabilisation of the bank to the east. No recutting prior to the digging of 591 was evident.

The pottery evidence supports the suggestion that Ditch 590 was an original feature of Enclosure 275, probably cut around the mid first century AD. Since Ditch 591 was not dug until the third century this gives an indication of the likely lifespan of this major boundary. The three coins contained in its fill (Appendix I.1, 19 and 32), a bronze unit of Cunobelin (AD. 20-43), a *sestertius* of Marcus Aurelius (175) and an *antoninianus* of Claudius II (268-70) support this date range. A fragment of a polychrome glass vessel (Fig. 84.139) of first-century date was also found in the collapsed bank material, Layer 660 (Fig. 18 S640), towards the bottom of the ditch.

Ditches 571 and 588

These two ditches, the former a recut of the latter, ran in a roughly north-east to south-west line between Ditches 433 and 590 (Fig. 17).

It is clear that Ditches 571 and 588 formed a division within a pre-existing bay of Enclosure 275, although the exact relationships were lost as a result of the subsequent recutting of both 433 and 590. Both ditches were of near-identical proportions, between 2.0 and 2.4 m wide and 750 to 900 mm deep, diminishing in both width and depth towards their east ends at the junction with Ditch 590. The fills of the ditches were very similar to the calcareous clay subsoil. Together with the pattern of silting in Ditch 588, this may suggest partial backfilling or the collapse of an adjacent bank. The southernmost Ditch 571 maintained the line of Ditch 588, only cutting away its southern edge (Fig. 19 S2011), reinforcing the suggestion that a bank had existed on the north side of Ditch 588.

The primary ditch (588) cannot be earlier than the mid first century and, since the line of Ditch 571 was utilized by the north side of the later first-century Enclosure 30, neither ditch can have been in existence for more than forty to fifty years. The pottery recovered from both was no later than late first century and supports this assumption, as does the 'Aucissa' copper-alloy brooch (Fig. 57.9), of mid first-century date, found in Layer 737 of the primary Ditch 588.

Ditch 838

The eastern bay of Enclosure 275 had been further divided in a north to south direction by a well-defined ditch (838) which ran parallel to the east side (Ditch 600) of the enclosure before bending in a slight dog-leg towards Enclosure 31 (Fig. 17). At its north end it appeared to terminate 25 m short of the north side of the enclosure, although this may be the result of later plough disturbance. The north part of the ditch was wider than its south end, almost certainly because of a recut (Fig. 19 S968). The southern half of the ditch had been cut away by the west side of Ditch 847/2130 (Fig. 35) and by the east side of Enclosure 836 (Fig. 47) at an even later date. A single illegible coin (Appendix I.85) of first or second-century date was found in the fill of the ditch, towards the north end.

Ditch 860 and Hollow 861

Ditch 860 was a very shallow feature extending from Hollow 861 into Ditch 590 (Fig. 17). An examination of the levels suggests that the ditch had acted as an overflow channel for

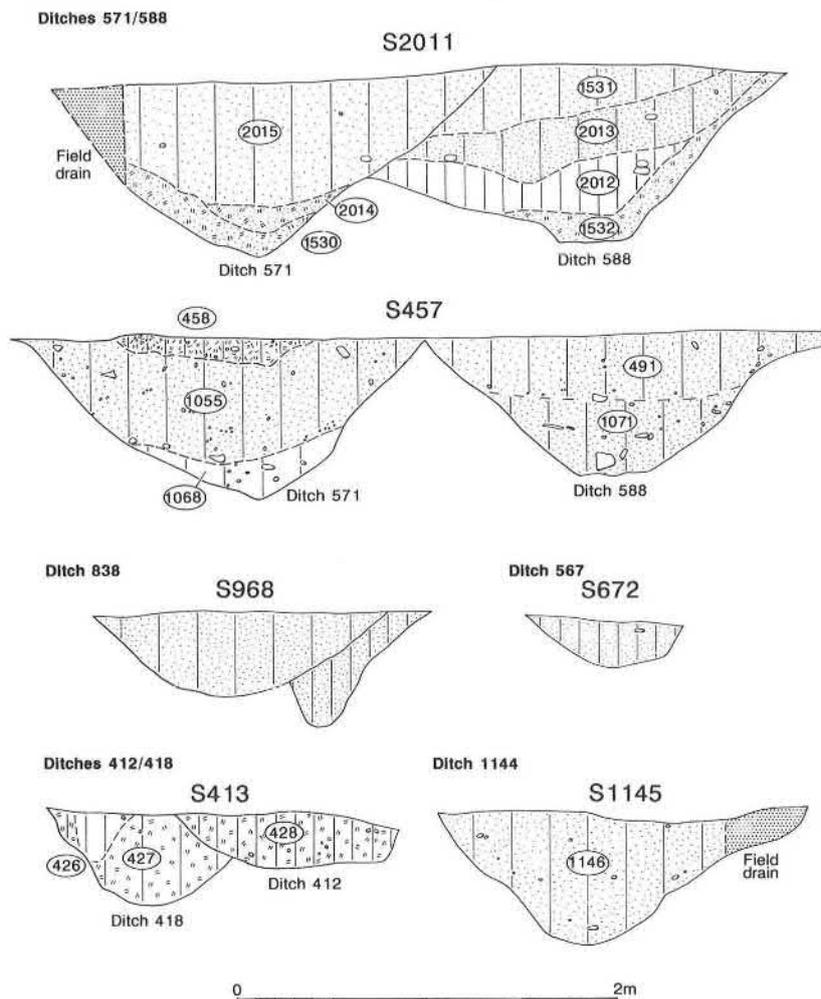


Figure 19: Sections of Ditch 1144 and internal ditched divisions within Enclosure 275.

Hollow 861, which may have been a sump associated with Roundhouse 783, only 10 m to the east.

Ditches 418 (592/594) and 1132

These two ditches ran in an easterly direction from the western side of Enclosure 275 (Ditch 433) across the western bay of the enclosure, on a parallel line to the much more substantial boundary Ditch 571/588 (Fig. 17).

Ditch 418 was up to 1 m wide and 500 mm deep, filled throughout with a dark greyish-brown loam soil (Fig. 19 S413). Although 20 m of the ditch was extant it had been badly damaged by later features. At its west end it had almost certainly abutted the earliest cut of Ditch 433. At its east end it had been almost entirely destroyed by a cluster of later ditches associated with Enclosure 33 (Fig. 46). It is likely that Ditch 418 continued beyond the hedge baulk as Ditch 594. This ditch and another of similar type (592), slightly further north, were not excavated but faded out 9 m beyond the hedge baulk as a result of later plough disturbance. Significantly, if this ditch line had originally extended further east it would have been on the same alignment as the southern boundary of Enclosure 30.

Ditch 1132 ran parallel with Ditch 418 but was 45 m further north. It was of similar proportions to Ditch 418, but only 14 m

survived to the west of the baulk with no visible extension beyond.

Ditch 567

This shallow ditch running on a north to south alignment in the west bay of the enclosure abutted Ditch 571/588 at its north end but faded out at its south end (Fig. 17). To the north, where it was better preserved, the ditch was up to 750 mm wide but only 200 mm deep, with a very open profile (Fig. 19 S672). Although it cut across the line of Ditches 592 and 594 it is possible that, in conjunction with Ditches 418 (594), 571/588 and 433, it had formed the east side of another enclosure, similar to the better preserved Enclosures 30 and 31 within the main Enclosure 275. If this interpretation is correct then it suggests that the west bay of Enclosure 275 had been subdivided into a series of rectangular small enclosures.

Ditch 1085

This feature, which ran diagonally from Ditch 418 to the south-east for 6 m (Fig. 17) before being truncated by Ditch 412, may in fact have been a palisade trench 200 mm deep and 500 mm in wide with steep, regular edges. It had an identical fill to Ditch 418 with which it was almost certainly contemporary.

Ditch 1144 (Fig. 17)

Apart from Cremations 17 and 18, Ditch 1144 was the most westerly feature in Area B. It ran on a north-west to south-east course parallel to and *c.*5 m west of Ditch 433 (Fig. 17). The north end had been lost in the road cutting. The south end extended beyond the south edge of Area B but was not located during the trenching to the south of the old Wavendon to Walton road (Fig. 2). The ditch had an intermittent U to V-shaped profile between 1 and 2 m wide and up to 600 mm deep (Fig. 19 S1145). Its fill was an homogenous dark brown sandy clay loam.

It is striking that all east to west boundary ditches terminated at Ditch 433, leaving the area between 433 and 1144 clear of features. This may suggest that 1144 defined the western edge of a track or droveway to the west side of Enclosure 275. The entrance through 433 to the north of Area B (and Fig. 16) would have allowed access into the enclosure for livestock. If arable fields had existed immediately to the west of Enclosure 275 channelling of livestock alongside the enclosure would have been a necessity.

The exact date of the ditch is uncertain. Although it contained predominantly first-century pottery, some third-century material was also recovered from its fill. Furthermore, its alignment matches that of the Late Iron Age phase 2A Ditch 1383 (Fig. 12) located further north in Area C. It is probable that Ditch 1144 was an important and long-lived boundary, perhaps originating in the later Iron Age, the alignment of which may well have influenced the positioning of Enclosure 275 when it was set out in the mid first century AD.

Enclosure 30 (Fig. 20)

Enclosure 30 was sited in the right angle formed by Ditches 571/588 and 590 (Fig. 20). two main phases of use can be recognised. As originally laid out the enclosure was rectangular in shape, 25 m north to south by a maximum of 28 m east to west, enclosing an area of *c.*700 square metres. To the east its boundary was formed by Ditch 590, although the relationship had been obscured by the later cutting of Ditch 591 to the west of 590. To the north, Ditch 571 appears to have been substantially filled prior to the establishment of this enclosure. Ditch 566, which formed its western and northern boundaries, had clearly cut away the fill of Ditch 571 whilst maintaining its alignment (Fig. 20 S697). Ditch 582 bounded the enclosure to the south, where there was a *c.*6 m-wide entrance in the south-west corner; the east terminal had been disturbed.

Ditch 566 was 900 mm deep and 1.4 m wide with a V-shaped cross section (Fig. 20 S2022 and S535). Very little of the fill of the ditch survived, apart from the west entrance terminal, having been cut away by its later replacement Ditch 533. Ditch 582 was less substantial, being no more than 500 mm deep and was 800 mm wide (Fig. 20 S617).

A subsequent refurbishment of the enclosure, in which the northern and western boundary ditch (566) was recut on the same alignment by Ditch 533 (Fig. 20 S2022 and S535), involved the extension of the enclosure by up to 5 m to the south. A new but even less substantial (Fig. 20 S653) southern boundary ditch (587) was dug and a new 4 m-wide entrance created in the south-west corner. A shorter length of ditch (584), which had cut (Fig. 20 S676) another very shallow gully (585) on a broadly similar alignment, may have been an intermediate phase in the expansion of the enclosure. Another small ditch (583) which ran transversely between Ditches 582 and 587 is more difficult to interpret, but was also of late first-century date. Ditch 586, which is of third-century date, could not have been directly related to the first-century enclosure. It may, however, indicate that a relict boundary, perhaps an eroded bank or hedgeline, had dictated its course.

The fill of Ditch 533 contained large quantities of charcoal, fired clay and pottery. This was mainly concentrated in the west side of the enclosure and had almost certainly derived from Kiln 559, which lay 6 m to the west. Since this material almost obliterated the line of the ditch it was probably only deposited after the enclosure had gone out of use. Three worked bone objects, two handles (Fig. 76.110 and Fig. 77.113) and a gouge (Fig. 77.116) were also found in Layer 522, plus a Belgian perforated base sherd (Fig. 85.143) used as a spindle whorl and part of a triangular clay weight (Ni, p.140), were found nearby.

The date of this enclosure was determined both from the pottery within its ditches, which ranged from mid first to early second century, and from its association with other features. It could not have been in use earlier than the partial filling of Ditch 571, at the earliest around the middle of the first century. Equally, the enclosure must have fallen into disuse by the early second century at the latest, because of the presence of freshly deposited pottery from Kiln 559, which is unlikely to have been in use much later than the very end of the first century.

There is little evidence that the enclosure defined an occupation area. The only internal features, two ephemeral gullies (564) and (565), may be remnants of palisade trenches which subdivided its interior, possibly for penning stock. The position of the entrance in one corner is also a common feature in enclosures used for stock, allowing animals to be 'funnelled' out.

Enclosure 31 (Fig. 21)

Obscured and truncated by Hollow 900 and cut away by Pits 835 and 833 and numerous ditches, Enclosure 31 was only recognised as a coherent pattern of ditches (Fig. 21) late in the excavation season. As a result, it proved impossible to expend any great amount of time on its excavation.

Located to the east of Ditch 590, Enclosure 31 extended beyond the area of excavation to the south, although it had been sub-rectangular in shape, measuring 22.5 m east to

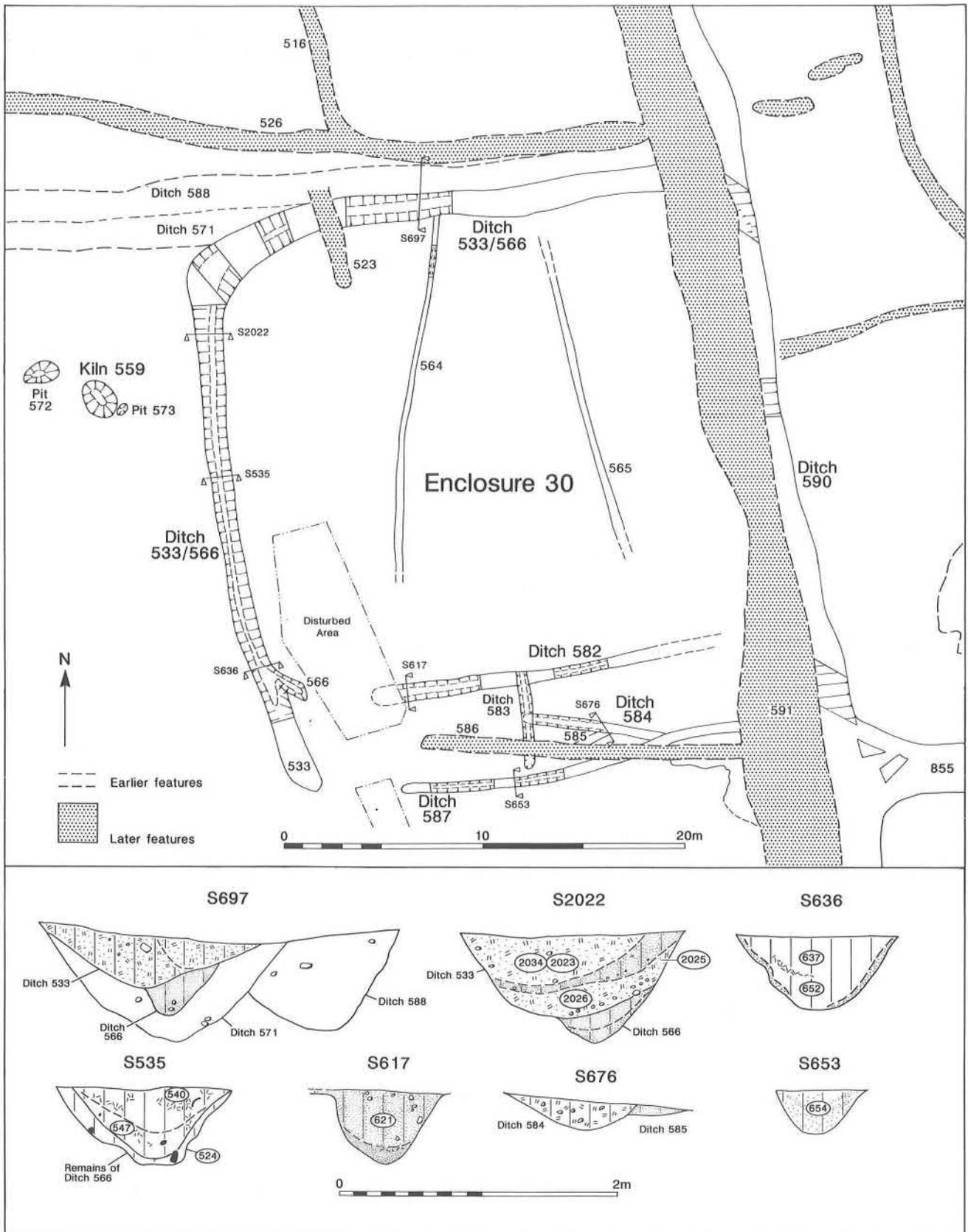


Figure 20: Plan and sections of Enclosure 30.

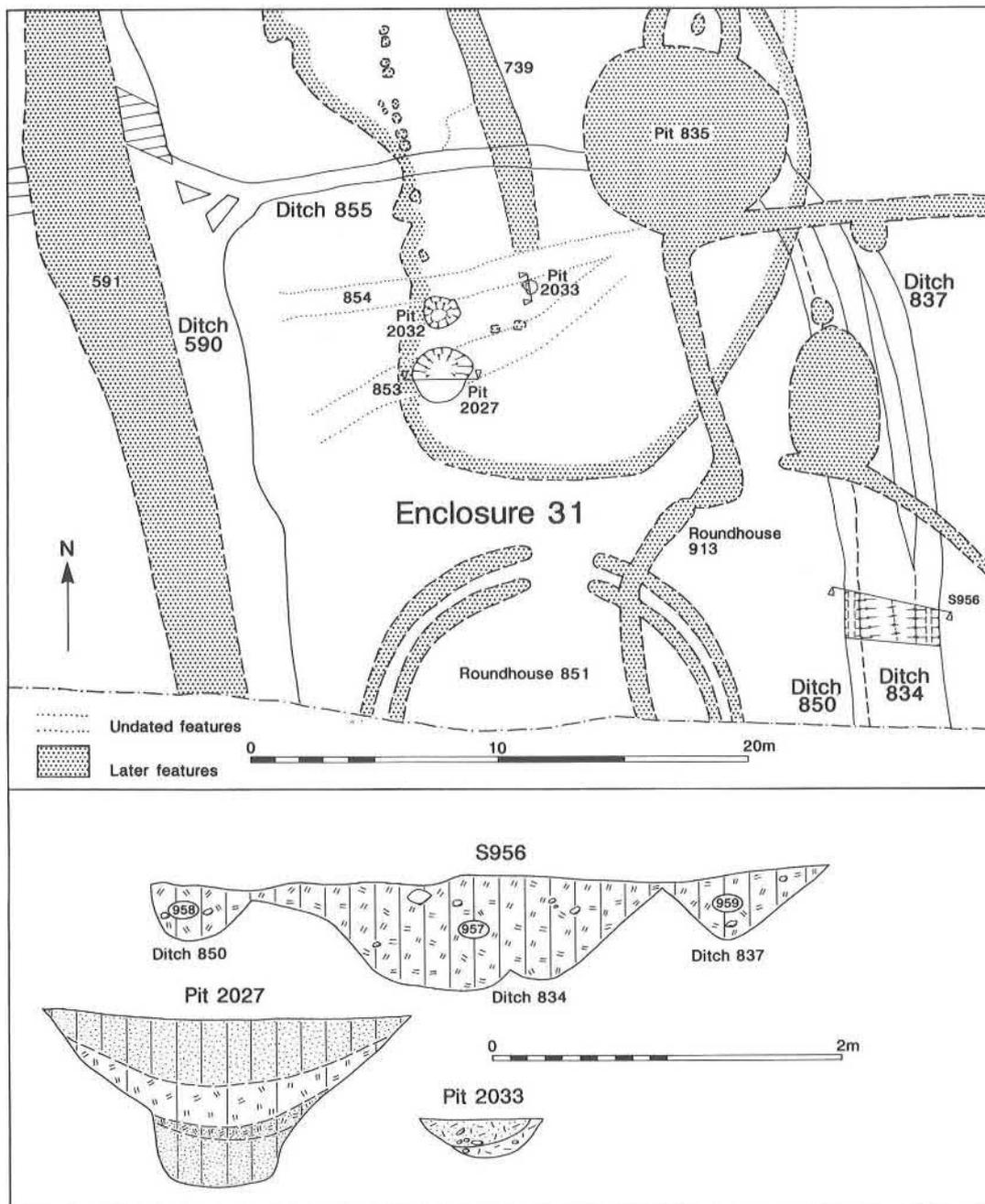


Figure 21: Plan and sections of Enclosure 31 and associated features.

west by an unknown distance north to south. As with Enclosure 30, it utilised Ditch 590 for one of its boundaries, in this case for its western side. Its eastern boundary consisted of a series of recut ditches (834, 837 and 850) which, towards the north-eastern angle of the enclosure, curved and merged before they were cut away by Pit 835. The northern boundary consisted of a shallow recut ditch (855), which survived to a maximum of 100 to 150 mm deep where it had been truncated by Hollow 900. To the west, beyond Hollow 900, it split into three discrete arms before its junction with Ditch 590, which was not excavated. The entrance to the enclosure was not located; it probably lay to the south, beyond the excavated area.

The recut ditches of the eastern boundary (834, 837 and 850), although sectioned at only one point, were carefully cleaned over their whole length. Although the excavated

section (Fig. 21 S956) failed to reveal any conclusive relationships between the ditches, the plan showed that Ditches 850 and 837 postdated the central Ditch 834. The former had a rounded profile 600 mm wide and the latter a straighter V-shaped profile 900 mm wide. Ditch 834, which was 650 mm deep and 2.30 m wide, had itself been recut on at least one occasion, accounting for its apparent greater width. Owing to the similarity of fills it was impossible to ascertain which was the earlier.

Dating evidence was scarce, consisting only of a mid second-century pottery jar lying in the base of Ditch 850. Such scant pottery evidence would have made dating the enclosure problematic, were it not for the evidence provided by a number of features which cut its levelled ditches. Most notably Pit 833, which cut the eastern boundary ditches, contained pottery up to late second cen-

tury in date. With the material noted from Ditch 850 this suggests that the enclosure was out of use by the mid second century. Their similarity of date and size and their symmetry around Ditch 590 suggests that Enclosures 30 and 31 formed part of a contemporary well-defined partitioning of the interior of Enclosure 275.

As with Enclosure 30, there is a distinct lack of evidence for domestic activity within the enclosure, and its interpretation as a livestock pen can again be postulated. The only possibly contemporary features were pits 2027, 2032, and 2033, none of which contained pottery.

Roundhouse 783 (Fig. 22)

A circular drainage gully, with an internal diameter of 9.5 m, had been centrally placed towards the north end of the eastern bay of Enclosure 275 (Fig. 16). It had been dug into the sandy clay subsoil to a maximum depth of 200 mm, giving an estimated original depth for the feature of only c.500 mm. It was nowhere more than 400 mm wide, and had a pronounced V-shaped profile. The gully was filled with a dark greyish-brown sandy loam with areas of sandy mottling, this latter derived from the erosion of its edges. There was no evidence for an entrance, which must

have been sited in the north or south sides but had been obliterated by medieval plough furrows.

The interior was notably devoid of any structural evidence. The only feature noted was a shallow irregular hollow (798), which contained much charcoal but no evidence of any *in situ* burning. Since it contained no dating evidence its association with the roundhouse is doubtful. Given the considerable disturbance caused by medieval ploughing the absence of other features, such as postholes or hearths, is not surprising.

Hollow 861, a shallow oval depression with an overflow channel (Ditch 861) running into Ditch 590 (p.31) and sited 10 m north-west of the gully, was of contemporary date. Ditch 838 (p.31), subdividing the eastern bay of the enclosure, came within 1.5 m of the east side of the drainage gully, although the exact relationship of the two is uncertain.

By analogy with similar features excavated at Wavendon Gate and elsewhere, it is probable that the gully had encircled a timber-built roundhouse, all evidence of which had also been destroyed by medieval ploughing.

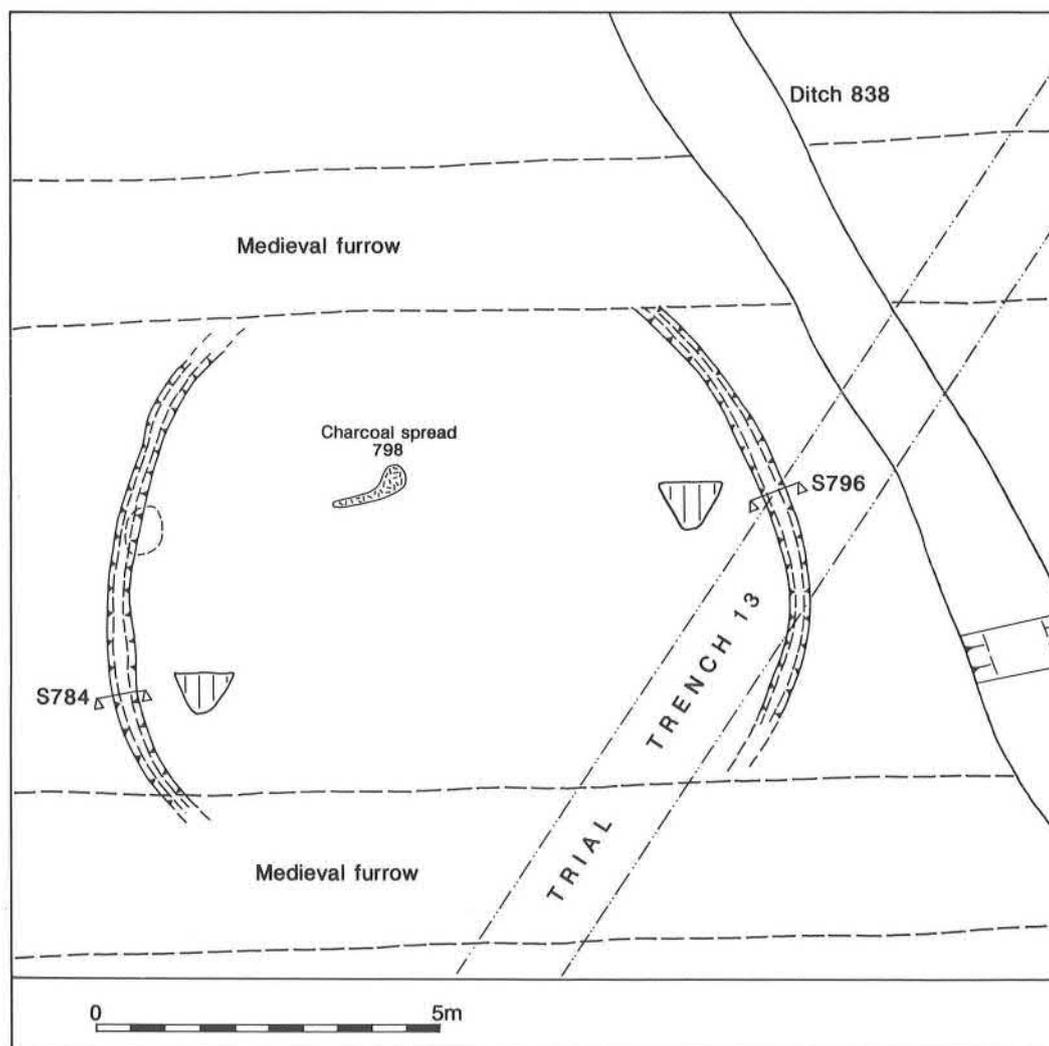


Figure 22: Plan and sections of Roundhouse 783.

An interesting aspect of this gully is its mid first-century AD date, as indicated by a small group of pottery (p.186 and Fig. 109.100). The evidence for the presence of a roundhouse dating to the 'Belgic' period is very important. Few buildings of this date have been found on early Roman sites elsewhere in the immediate region, and the discovery of Roundhouse 783 confirms the continuity of the Iron Age building tradition. Interestingly, the tradition of circular buildings surrounded by drainage channels, even seems to have continued on this particular site into the third and fourth centuries (Roundhouses 851/852 and 913, p.70 and 78). However, it is noticeable how small Roundhouse 783 must have been compared both to the Iron Age examples in Area C (p.15) and to the later Roman ones to the south.

Pottery Kilns 400 and 559

The remains of two mid first-century AD updraught kilns were found 40 m apart, immediately to the south of Ditch 571/588, both with flues towards their west ends. Kiln 400 was 5 m to the east of Ditch 433, the western arm of Enclosure 275, and Kiln 559 lay 5 m to the west of Enclosure 30 (Fig. 17). Despite their common ancestry (p.41), the kilns were dissimilar in form and structure, markedly so when one considers the essentially similar types of pottery that they produced (p.180 and Figs 104–106).

Kiln 400 (Figs 23 and 24)

Kiln 400 had been constructed in a purpose-dug hollow, cut some 240 mm into the clay subsoil (Fig. 23). As with Kiln 559 (below), considerable truncation had been caused by medieval ploughing, and an original cut at least 500 mm deep from the top of the contemporary Roman topsoil may be assumed. The hollow was 2.2 m long east to west by a maximum of width of 1 m north to south, with a slight constriction 900 mm from the western end (Plate 2). Although this narrowing almost certainly represented the junction between the flue and the stokehole, a modern land-drain running across the kiln at this point had succeeded in destroying any *in situ* evidence of the flue structure.

The furnace chamber was at least 1.5 m long, with steep sides lined with c.20 mm of clay. Around the walls, burning extended c.30 mm into the subsoil although the floor, which was unlined, was only slightly reddened. Lying symmetrically along its long axis were two 'slab' pedestals (151 and 152), set 200 to 210 mm apart and surviving substantially intact and to their original heights. Each of these pedestals, made from a rectangular block of clay c.700 mm long, 90 mm wide and 240 mm deep, had been prefabricated outside the kiln and then luted to the clay floor in an unfired state (p.144).

The stokehole was more irregular measuring 900 mm across on both axes and 200 mm deep. Unusually for such a feature, it may have been lined with clay. More significantly, it contained important evidence within its fill for the construction of the portable flue, in the form of part of a prefabricated arched structure,

The fill of both chamber and stokehole was a very amorphous mixture of clayey loam, below a more charcoally loam. Charcoal was not prevalent, and its relative sparsity within the kiln prob-

ably reflects the oxidised nature of the pottery produced, in which almost all the fuel would have been consumed in a non-reducing atmosphere. Interestingly a dump of pottery from Kiln 400 in Ditch 571 to the north included much burnt waste from the threshing of wheat (p.251), suggesting that this may have been the source of fuel for the kiln. Unlike Kiln 559, which contained only a small amount of fired clay within its fill, Kiln 400 contained over 77 kg (Table 6) of portable furniture and lining material (Fig. 23). Whilst this did not represent the entire *in situ* remains after the last firing, it appeared to be the remnants of furniture which had been used in this kiln, rather than a dump of material derived from elsewhere. A significant proportion of this furniture has proved useful in understanding the flooring arrangement within the kiln (p.144). Only a small amount of pottery was found in the fill (p.181 and Fig. 104.18–25).

Parts of at least nineteen untapered kiln bars, two larger wedge-shaped bars and twelve perforated setter/spacer rings were recovered from the fill of the kiln (Plate 2). Several fragments of both perforated and unperforated plates/slabs, what is probably the cheek of a cheek plate and at least two fragments of what have been interpreted as parts of a portable flue arch were also found. The untapered kiln bars (Fig. 87.153–156) would have sat in three transverse rows within the chamber (Fig. 24) with their outer ends resting on top of a ledge around the chamber walls. The two large wedge-shaped bars (Fig. 88.157 and 158), judging from their locations within the kiln, probably projected longitudinally from either end of the two slab pedestals, bridging the spaces between the flue and the rear of the kiln respectively. How the inner ends of these longitudinal bars were supported is more difficult to establish. It is possible that additional clay slabs had been placed transversely across the end of the two main pedestals (151 and 152) to support them. The remains of two large slabs (175 and 175a), the latter probably still in position, may have acted as additional underfloor supports. However, 175 seems to have been too long and, with its marked curvature and similarity in size to the pedestals, could have been the remains of a portable ledge around the outer wall (Swan 1984, 96, plate 30, fig. IX) which supported the ends of the bars. Although this arrangement has been recorded in a number of similar kilns, in Kiln 400 the distance between the pedestals and the kiln wall hardly seems sufficient to have required such an arrangement. Another thinner flat plate (170), found lying on edge in an upright position between pedestal 151 and the kiln wall, is equally difficult to interpret. If it was in its original position it may have provided additional underfloor support. However, it would have also have operated as a baffle or blockage to the even circulation of the hot gases, which would have been undesirable in a kiln of this type.

It is equally uncertain how the perforated setter/spacer rings (Fig. 89. 163–168), scattered along the length of the kiln, were used. Several possibilities are discussed in the fired clay report (p.148), but their dimensional regularity argues for their use in a very specific function, either spanning gaps between bars or acting as stacking aids between pots. As well as these round setters/spacers, fragments of four plates with multiple perforations (Fig. 90.171 and 172) were also found. None retained any original edges and their overall sizes remain uncertain, although they were probably also parts of the flooring arrangement.

Although largely destroyed by a land drain, several pieces of portable kiln furniture, almost certainly associated with the flue structure, were found in the fill of both chamber and stokehole. A rectangular plate (Fig. 90.169), found lying adjacent to the

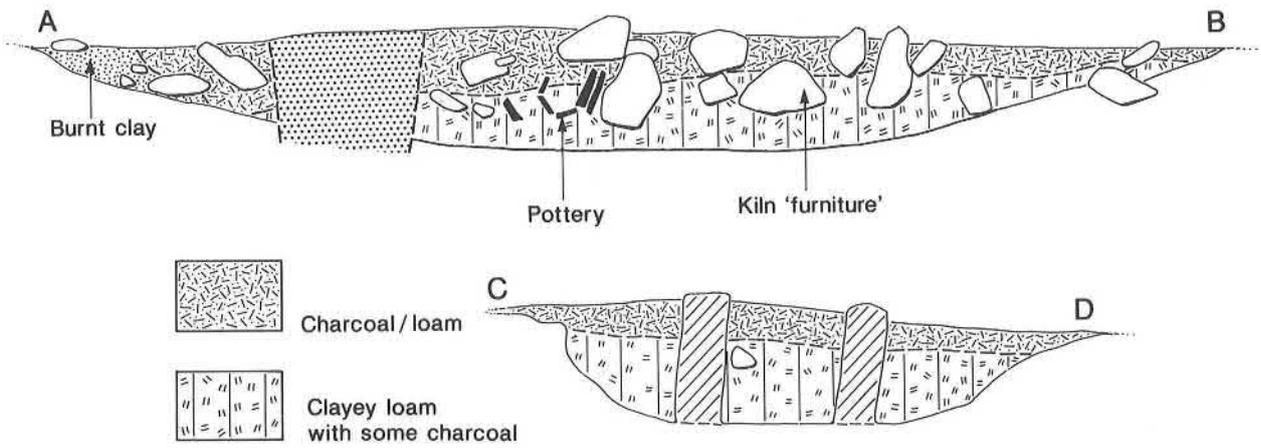
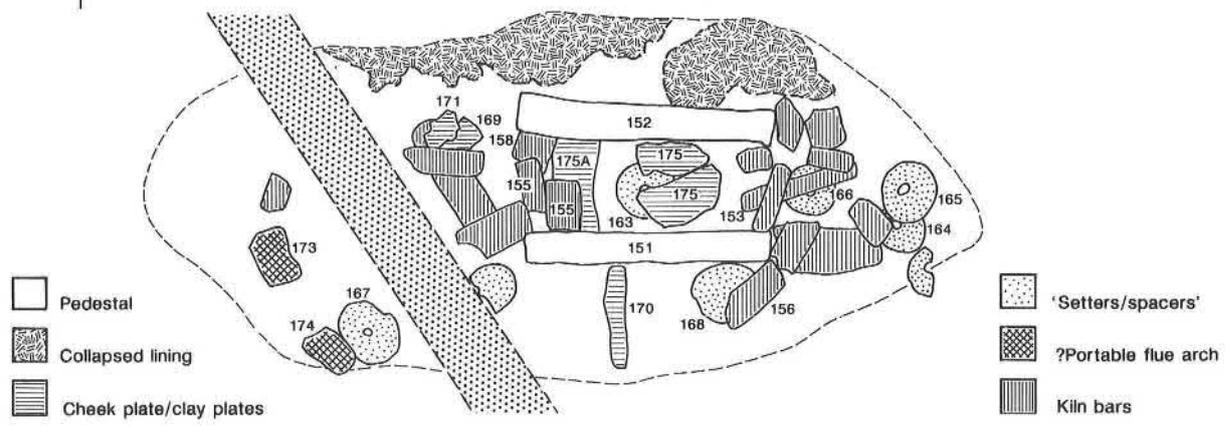
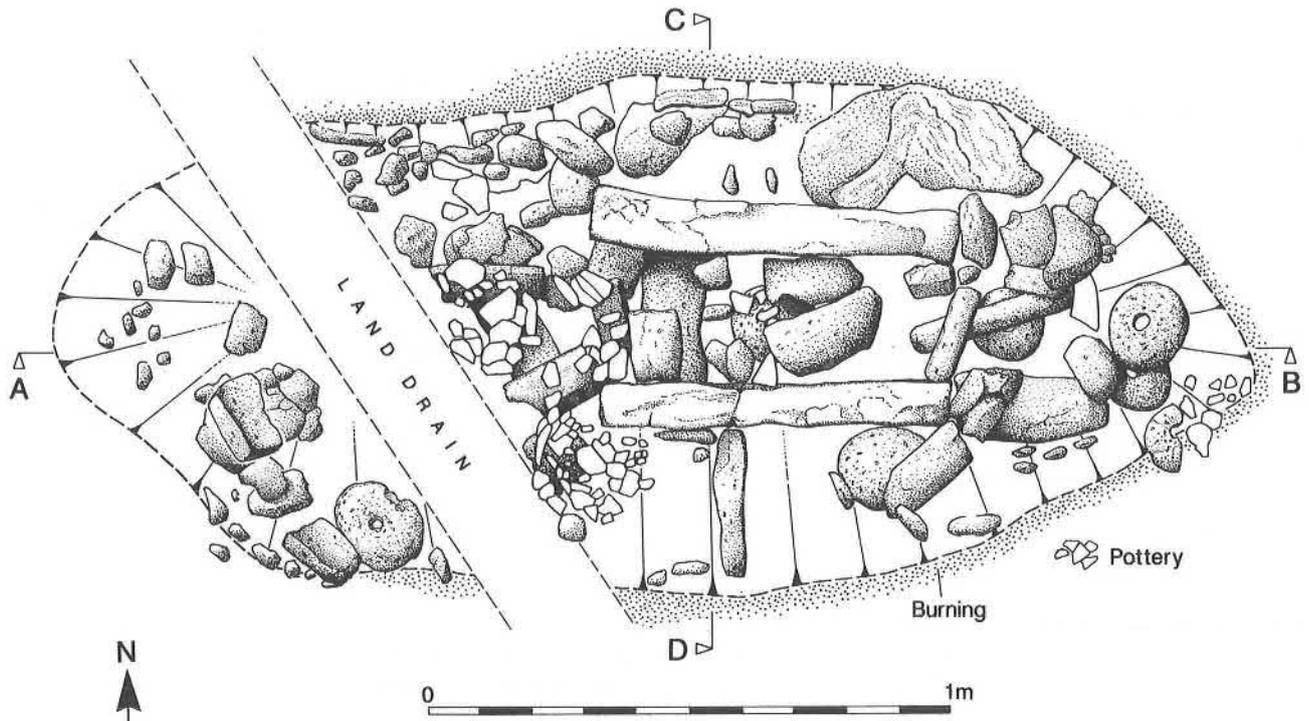


Figure 23: Plans and sections of Kiln 400.

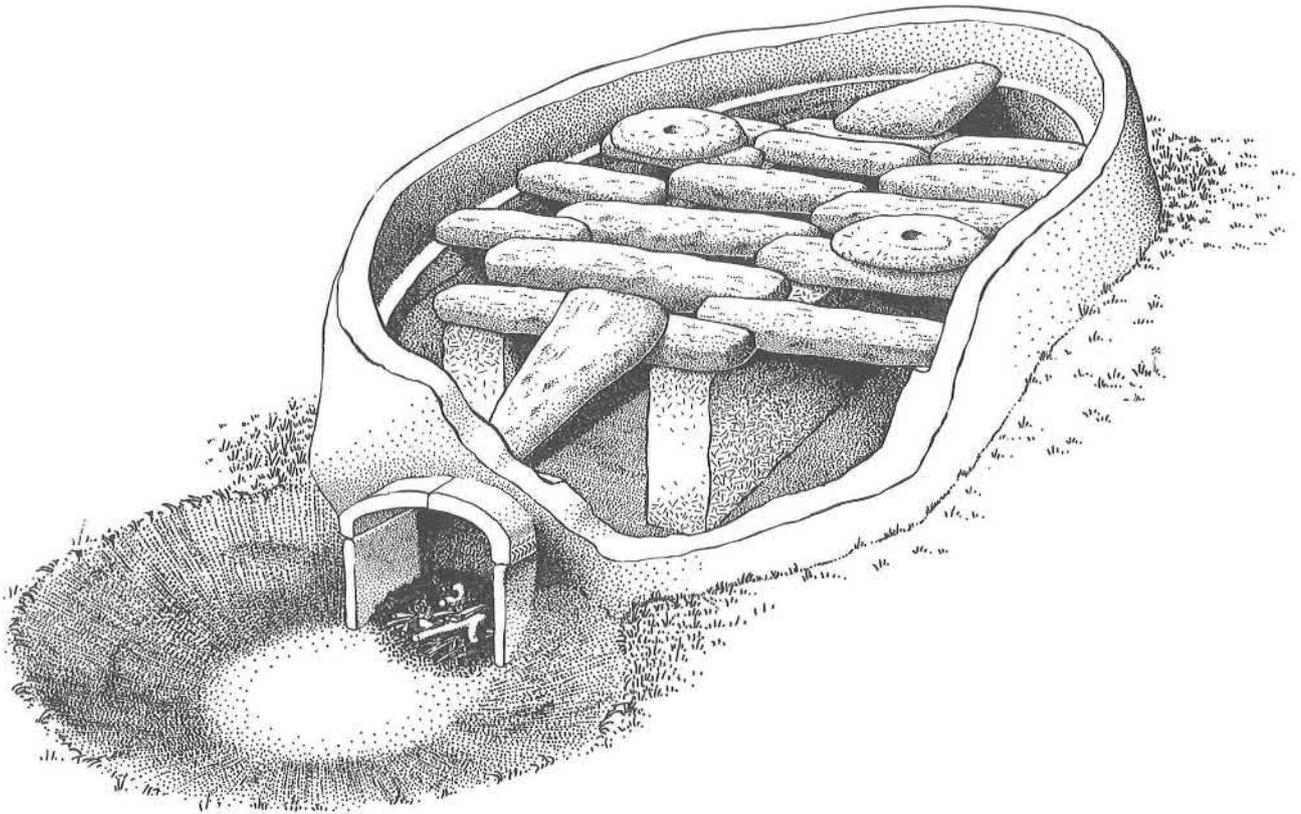


Figure 24: Reconstruction of Kiln 400.

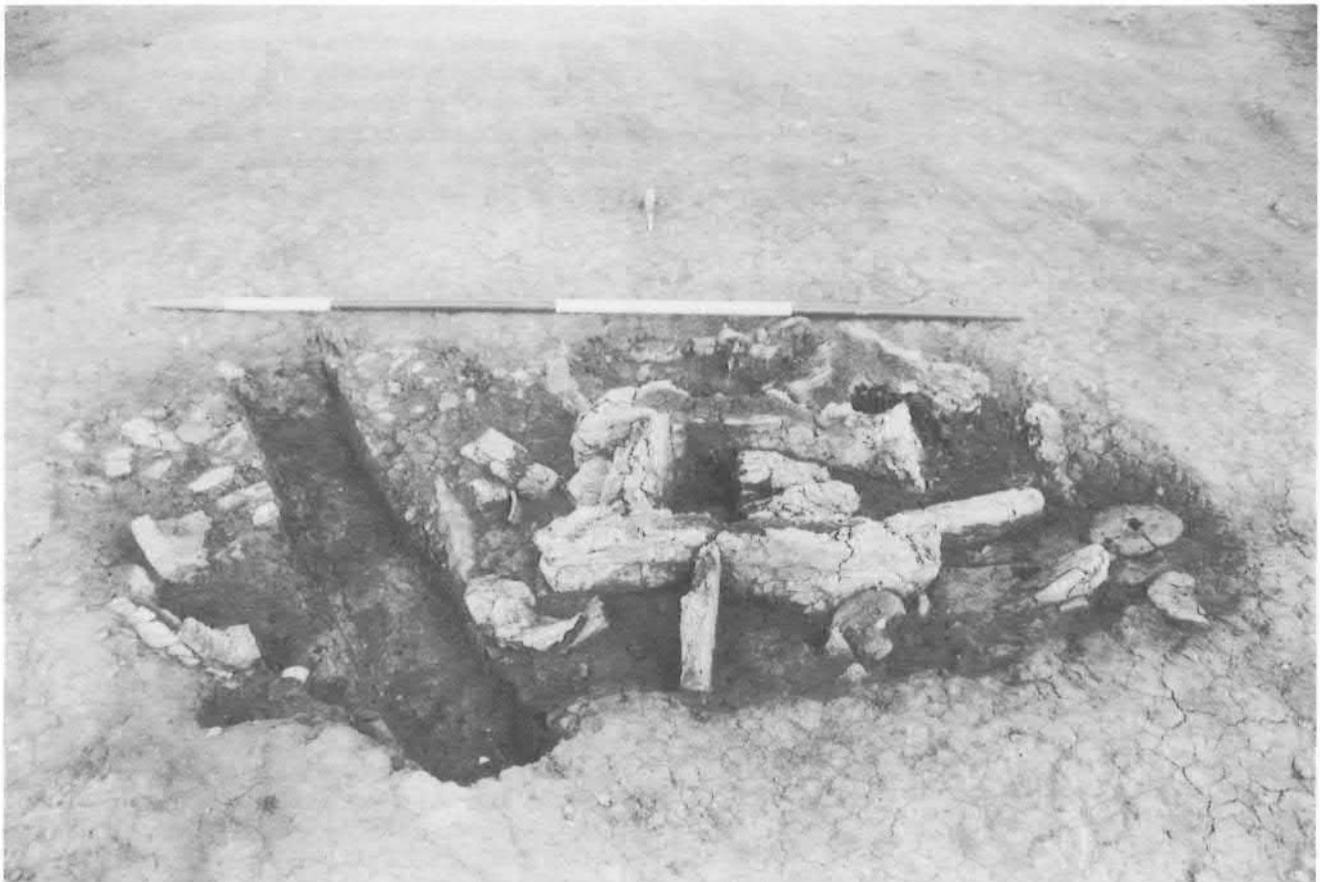


Plate 2: Kiln 400, partially excavated.

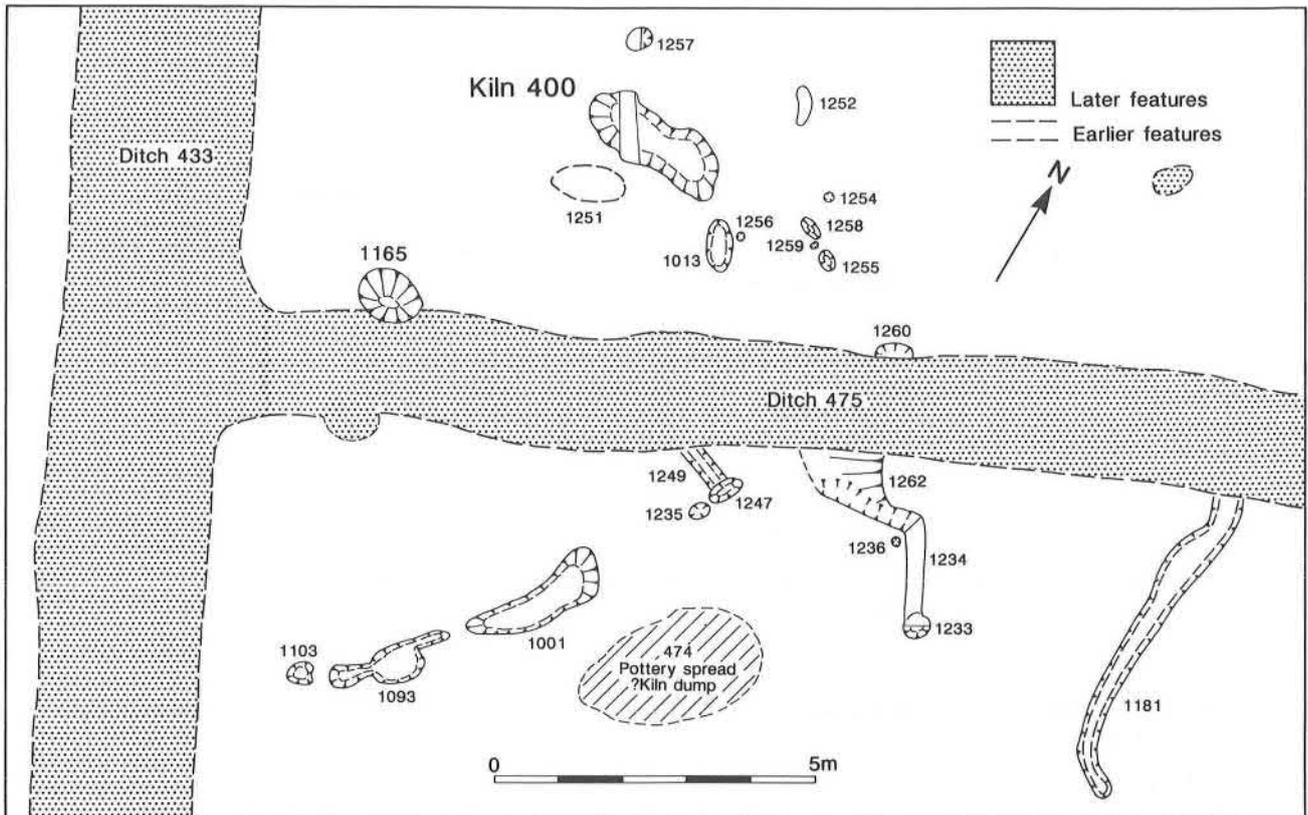


Figure 25: Plan of possible contemporary features associated with Kiln 400.

stokehole, displayed the effects of a higher temperature on one of its sides, and has been interpreted as a prefabricated cheek piece. In the stokehole itself, several pieces of very unusual decorated flue arch (Fig. 90.173 and 174) were also found (p.150).

The most problematic aspect of the kiln is that of its above-ground structure, in particular its roofing. Although partially sunken, this kiln's ancestry can be traced back to the above-surface late La Tène III types, and as such would have resulted in kilns with turf walls possibly coated internally with clay. These were probably temporary features, with even more ephemeral roofing, possibly consisting of waster sherds, turves and other materials which could have lain to hand to cover the pottery once loaded. Of course this description can be applied equally to the superstructure of Kiln 559.

Features associated with Kiln 400 (Fig. 25)

A group of badly truncated features (Fig. 25) including the bases of stakeholes, postholes, pits and gullies, lay in the vicinity of Kiln 400, and slightly to the south. Most of these features were either contemporary with, or only slightly later than, the kiln. Many contained quantities of fired clay, including fragments of kiln furniture, charcoal and in some cases, the distinctive 'Belgic' type pottery produced in the kiln, although no definite wasters were identified. The almost total absence of features of similar type and date elsewhere on the site strengthens the case for these features having been directly associated with pottery production. However, there is insufficient evidence to be more precise as to their exact functions.

Stakeholes 1254, 1256 and 1259 and Postholes/Pits 1013, 1252, 1255, 1257 and 1258 may have formed a flimsy structure around

Kiln 400, perhaps a wind break. Postholes 1103, 1233, 1235 and 1247 possibly in association with gullies 1001, 1093, 1234/1262 and 1249 formed another structure to the south of the pottery kiln. Disturbance in this area caused by the later Ditch 475 makes their interpretation difficult. A lone linear feature (1181) to the east, possibly the remains of a palisade trench, had similarly been disturbed by Ditch 475. Of an even more insubstantial nature was a very slight amorphous hollow (474), less than 10 m to the south of the kiln. This contained abundant fragments of fired clay and pottery in a charcoally matrix, and may have been the remains of a dump of kiln waste.

Kiln 559 (Fig. 26)

The hollow for this kiln, measuring 1.85 m east to west and 1.25 m north to south (Fig. 26), had also been cut 200 mm into the subsoil, again suggesting an original depth of around 500 mm. As a result of later plough action the floor of the furnace chamber had been destroyed. Roughly circular in plan, this chamber had an internal diameter of approximately 1.1 m. Although badly decayed, it was clear that the chamber wall had originally been faced with a c.20 mm-thick clay lining which ran into a natural clay base. These walls had been fire-hardened, and the heat discolouration had penetrated up to 200 mm into the subsoil. As in Kiln 400 the floor was relatively unburnt.

In the centre of the furnace chamber was an integral clay 'bol-lard' type pedestal (Plate 3) which survived to a height of 150 mm, but no true upper surface remained. It was roughly circular in plan, with a diameter of 400–420 mm, and had been placed in the chamber as an unfired mass of dirty green charcoally clay and then roughly shaped and smoothed. Although a 15–20 mm-thick skin of the pedestal had fired to a brownish grey colour, much of which had fallen away prior to excavation, the core was found to have remained green and unburnt.

The flue was relatively well preserved on its north side, with a smoothed clay wall which retained finger impressions. To the south the flue had almost completely fragmented and collapsed. Despite this it was clear that it had been 400 mm long and tapered from 800 mm wide by the chamber to 400 mm wide next to the stokehole. Rough fragmented cheek pieces had been inserted into the flue next to the chamber. Most of the stokehole had been lost as a result of later ploughing, and it must be assumed that it had been dug out only to the top of the contemporary Roman subsoil.

The fill of the kiln consisted of a silty clay loam, containing quantities of charcoal and small fragments of fired clay, above a more ashy layer. The final load had been entirely cleared from the kiln, as had the majority of its furniture, suggesting that it had been possibly re-used elsewhere in another unlocated kiln.

As mentioned above, the floor of the chamber had not survived and there was little evidence within the kiln to reconstruct its appearance. However, much kiln waste had been dumped into the nearby west ditch (533) of Enclosure 30 (p.33). It seems reasonable to assume, in the absence of any other kiln in the vicinity, that most of this refuse, including most of the pottery, (Fig. 105.28–50 and Fig. 106.51–62) had originated from Kiln 559. Among this waste was a distinctive type of kiln bar, identical in all respects to those found in a fragmentary state in Kiln 559. These bars (Fig. 88.159–161) were wedge-shaped, 380 mm long and tapered on all sides from *c.*120 to 60 mm wide and 70 to 40 mm thick (p.145). Kiln bars of these proportions would have formed an oven floor in the circular furnace chamber, where the gap between pedestal and chamber wall was at most 350 mm. Further fragmentary evidence for other portable kiln furniture also came from within the kiln and Ditch 533, including six perforated setters/spacers (p.148), indicating a close link between the two kilns.



Plate 3. Kiln 559, fully excavated.

Features associated with Kiln 559 (Fig. 26)

Only two contemporary features were located near the kiln (Fig. 26). Pit 572, less than 2 m to the west, was oval, measuring 1.65 m long and 750 mm wide and only 100 to 150 mm deep, and contained a homogenous sandy loam fill. After its infilling a bowl-shaped pit 600 mm across had been cut into its north end. This was filled with a charcoally loam containing pottery and daub derived from Kiln 559. Pit 573, to the immediate east of the kiln, was of similar proportions to the recut in Pit 572 and also contained much burnt material and pottery derived from the kiln. Whilst the purpose of Pit 573 and the recut pit in 572 is unclear, the size and shape of the primary cut of 571 is similar in form to that of Kiln 559, and can perhaps be interpreted as an unfinished example.

Derivation and Typology of the Pottery Kilns

It was noted at the beginning of the description of the two kilns that they shared a common ancestry. This is revealed in the use of portable bars and other clay furniture to create a raised oven floor, a technique which can be traced back to continental kiln prototypes of the late La Tène III period. These appeared around the late first century BC and early first century AD, being derived from simpler clamp firing techniques. There is evidence that these La Tène III kilns reached Britain before the Roman invasion of 43 AD (Jackson and Dix 1987, 53; Woods and Hastings 1984). Certainly by that time kilns of this type were producing 'Belgic' type pottery in an area of south-eastern England between the Thames (including the south side of its estuary) and the Trent, with a possible concentration in the valleys of those rivers draining into the Wash (Swan 1984, 14).

The greatest impetus to the expansion of these kilns, at least numerically, can be attributed to the vast market provided by the Roman army after the invasion. To the 'invaders' the 'Belgic' type wares produced in kilns of this form, were both the favoured and most familiar pottery. It is therefore not surprising that a number of pottery kilns (Caldecotte, Simpson, Walton and now Wavendon) should cluster around the market represented by the *Magiovinium* fort site near Bletchley (Woodfield 1977). It is likely that at least some elements of the 'Belgic' pottery industry were implanted into the Milton Keynes region rather than developing locally. Marney (1984, 96) has suggested that the wares from Kiln 1 at Caldecotte were produced by potters who had moved from the Hertfordshire region.

The two kilns at Wavendon, although having common origins, display variations of form, placing them within separate branches of that ancestry. This observation is based upon their distinctive shapes and the types of kiln bars and pedestals each possessed. Kiln 559, with a central integral bollard pedestal which either superseded or stabilised a portable pedestal would not be out of place if it were found in the Nene Valley. It straddles Woods' type III B and III C kilns (Woods 1974), having characteristics of many La Tène III derived kilns found in a broad area flanking the Wash.

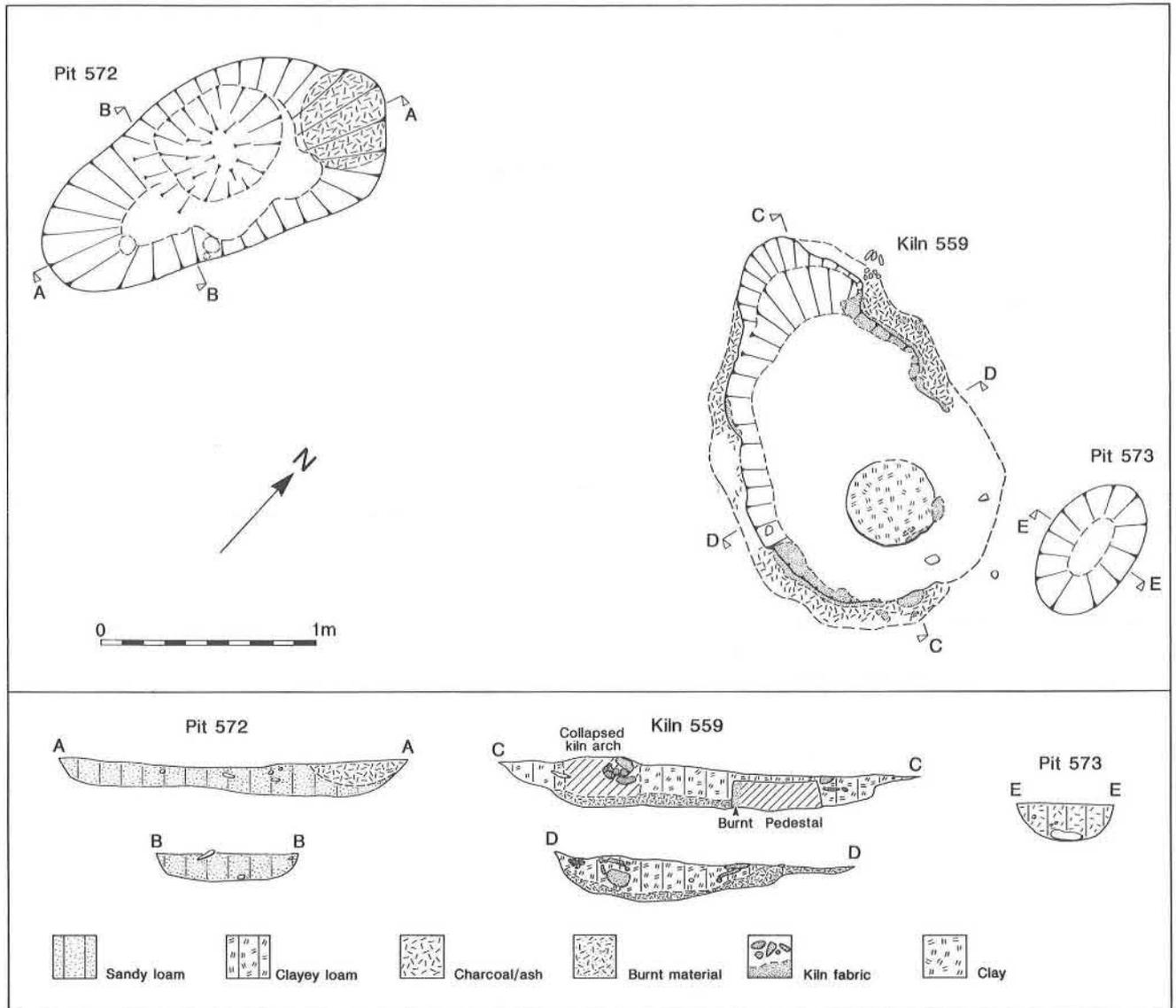


Figure 26: Plan and sections of Kiln 559 and associated pits.

Kiln 400 seems a little more exotic to the region in so far as its large slab pedestals and rectangular, untapered bars might suggest an association with either of two regional industries. The first of these, the Swanpool industry, lay to the south of the Thames estuary, and Kiln IV in this group (Swan 1984, 58) possessed very similar rectangular-profiled untapered bars and parallel pedestals. The other industry, characterised by Linwood type kilns (Swan 1984, 123) lay in the South Yorkshire, Lincolnshire and Leicestershire area, where a very similar arrangement of pedestals is to be seen alongside evidence for comparable blunt-ended kiln bars, seemingly in this area used only to span the gap between the pedestals and not between the pedestals and the chamber wall.

Despite these morphological similarities it is probable that any attempt to associate these regional types with Kiln 400 at Wavendon would prove fruitless, especially as understanding of the true regional distribution of these early kilns remains uncertain. Isolated kilns with pedestal arrangements not dissimilar to that in Kiln 400 are known from Spong Hill, Norfolk, (Swan 1984, 61) and in Kiln IV

at Wellingborough (Foster *et al.* 1977, fig. 4). Taken together with the evidence for 'Belgic bricks' at Prae Wood (Swan 1984, 61), which actually may have been kiln pedestals, this demonstrates a more widespread distribution of kilns of similar type to 400 than appears at first glance.

It is likely that the immediate origin of both kilns is the Hertfordshire area. The distinctive construction of each kiln may be no more meaningful than the preference of the individual potters who built them.

The Cemetery (Fig. 27)

Twelve cremations (C1–C12) and a single inhumation (942) were found in the north-west corner of the eastern bay of Enclosure 275, in the angle formed by Ditches 15 and 590 (Fig. 17). The cremations were clustered within an area 9 m long and 4 m wide. Inhumation 942 was 2 m south of the southernmost cremations (C7, 10 and 11). All the burials lay to the south of Ditch 30 (forming the south end of the late Iron Age Enclosure 1999) and to the north of the first-century Ditch 860 (Fig. 27). In the case of Ditch 30,

although it was probably silted up by the time of the burials, an accompanying bank or hedge may have formed a visible boundary to the cemetery. Similarly, Ditch 860 may have demarcated the cemetery to the south, but no eastern boundary was discernible.

All the cremations were found along the line of the modern road, which had been stripped of its topsoil by a combination of scrapers and tracked excavators. Consequently most had been badly disturbed, and it is probable that others had been removed entirely. The area was cleaned by a smaller excavator under archaeological supervision, but no further burials were found within the road corridor. Prior to the main excavation 300 square metres was stripped to the immediate south of the cremations, revealing Inhumation 942. No further cremations were located in this area, suggesting that the cemetery was comparatively small. Apart from later Saxon activity in the vicinity the only feature close to the cemetery was the small undated bowl-shaped Pit 31 (Fig. 27).

Whilst the cremations span the period between the very late first or early second century and the early third century AD, they are of predominantly second-century date (Table 21). The inhumation (942) contained a miniature jar of probable second-century date (p.186), although a C-14

date (p.270) suggests that the burial may have been as late as the third or even fourth centuries.

Cremation 1 (Fig. 28)

This cremation had been badly disturbed and consequently the exact positions of some of the grave-goods shown in Fig. 28 are conjectural. It consisted of a hexagonal blue-green glass bottle (Fig. 82.132) containing 400 g of adult cremated bone (p.234). Since only the base of the bottle was found *in situ* (the rest having been recovered from the nearby spoil heap), it is impossible to determine what proportion of the original contents this represents. A heavy Samian dish (Fig. 110. 109) lay immediately south of the bottle, and a miniature flask (107) and the foot-ring base of a bowl (108) were located to the east. Part of a small glass beaker/cup with wheel-cut lines (p.136, 133) was mixed up with the flask and bowl and a dark blue glass jug (Fig. 82.131), part of which still adhered to the corrosion product of the iron lamp (below), lay in the southern part of the grave. The dates for the three glass vessels, considered to be no later than mid second century (p.138), correspond closely with those for the pottery vessels. In particular, the Samian dish was made by *Crobiso* of Lezoux between 140 and 160 AD (p.197).

Apart from two small iron nails of Manning's type 1b and several small animal bones of indeterminate species, the only other grave contents were an iron lamp hanger and lamp (Fig. 71.79 and 80). Only part of the iron lamp remained *in situ*, the hanger

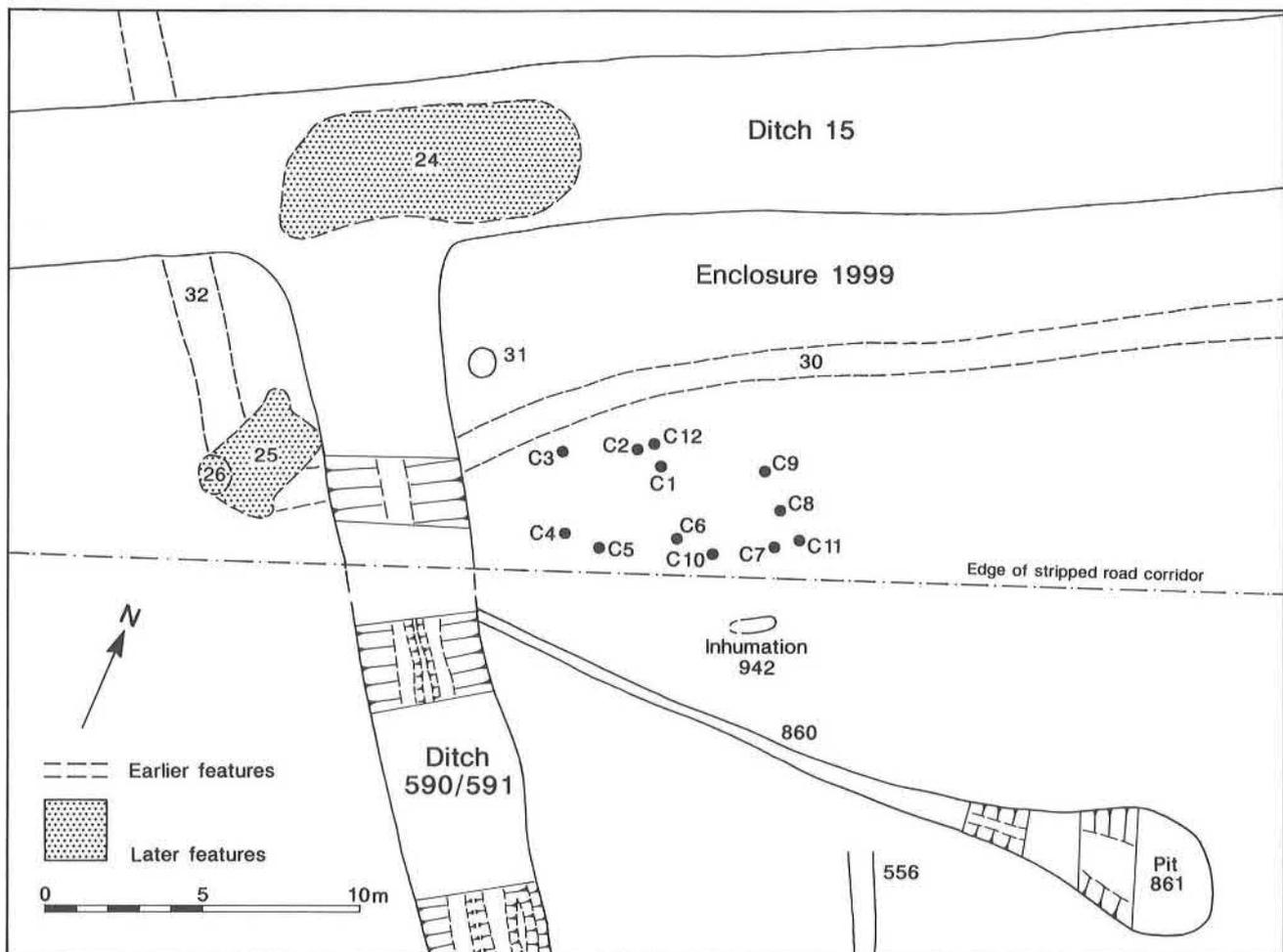


Figure 27: Plan of early Roman cemetery.

having been dragged to one side by a machine. Consequently the original position of the hanger, which is over 500 mm long, can only be conjectured. Furthermore the total absence of any visible grave cut makes it impossible to be certain that what was obviously a rich grave was not even more extensive (below).

Cremation 2

A repaired Samian dish (Fig. 110.110), made by *Sedatus* of Lezoux between 130 and 160 AD, was located less than 1 m to the north-west of Cremation 1 and c.500 mm south-west of Cremation 12. No associated artefacts or bone could be found and it is by no means certain that the vessel was *in situ*. Its proximity to Cremation 1 and the similar date range suggests that it may have derived from that cremation.

Cremation 3

This cremation was only located by a metal detector reading in the disturbed subsoil. It had been so badly disturbed that it was not even possible to determine the relative positions of any of the grave goods. It consisted of the base and body of a barrel beaker jar (Fig. 110.111) of mid to late first-century date, containing 490 g of cremated adult human bone (p.234) and a very small quantity of cremated animal bone of indeterminate type. The rim of a first-century butt beaker (Fig. 110.112), a complete samian dish (113) made by *Roppus* of Les Martres-de-Veyre between 110 and 140 AD, a globular glass jar (Fig. 83.134) and a glass unguent bottle (135) of late first to mid second-century date were also located close by. Mixed up with these vessels was the remains of a near complete, but badly fragmented, copper-alloy mirror (Fig. 62.51) and parts of a copper-alloy and iron lock plate from a wooden casket (Fig. 63.52–55). The dating of the accompanying vessels corresponds very closely with that suggested for the mirror (p.110) and the casket (p.111), indicating that the burial dates to the first half of the second century.

Cremation 4

A hollow in the subsoil, 50 mm deep and no more than 500 mm across, sited 3 m to the south of Cremation 3, contained the sherds of a badly fragmented first-century jar associated with a very small quantity of cremated bone.

Cremation 5

An oval depression, 600 × 500 mm across and 80 mm deep, was located 1 m to the east of Cremation 4. It contained the fragmented remains of two vessels of indeterminate form in pottery fabrics 1a and 46a. No bone was present.

Cremation 6 (Fig. 28)

A wide-mouthed bowl (Fig. 110.114) with an external rim diameter of 250 mm had been set into a pit only 300 mm across (Fig. 28). The lower half of the vessel, which had collapsed to one side, contained 800 g of adult human bone (p.234). A smaller high-shouldered jar (Fig. 110.115) had been placed on top of the cremated bone. The remains of a domed pottery lid (116) was found 200 mm to the south-east. This lid is almost certainly of earlier date and its association with the cremation is questionable. However, with an internal diameter of 260 mm, this lid would have fitted well over the bowl, the dome giving adequate

clearance for the jar standing above the bowl rim. The level of the cremated bone in the bowl was below the disturbance, indicating that little if any had been lost.

Cremation 7

The base of a Nene Valley colour-coated beaker of second-century or later date was associated with a spread of 23 g of human cremated bone (p.234).

Cremation 8 (Fig. 28)

A square pit, 450 mm across and 100 mm deep (Fig. 28), contained the lower part of an ovoid jar (Fig. 110.118), a small bowl (119) copying a Samian form 37 and a fine Oxford ware one-handed flask (120). Surprisingly, 450 g of adult human cremated bone had been placed in the bowl rather than the much larger jar. A single iron nail of Manning's type 1b was found amongst the cremated bone. Unlike most of the other cremations, where the grave contents covered the entire area of the grave cut, in this case the northern part of the square grave was entirely empty. This is also almost certainly the latest cremation in the group, dating to the early third century or later.

Cremation 9 (Fig. 28)

A grey sandy-ware second-century jar (Fig. 110.121) with a maximum girth diameter of 190 mm had been placed in a 270 mm diameter circular pit (Fig. 28). 620 g of adult human cremated bone (p.234) was found inside, although some of the contents of the vessel had undoubtedly been lost when the upper part of the jar had been ploughed or stripped away.

Cremation 10

A scatter of 40 g of probable adult human cremated bone (p.234) was located on the stripped surface between Cremations 6 and 7. Whether this was the remains of a separate burial or the disturbed contents of one of the others is impossible to determine.

Cremation 11

The base of a second-century jar of indeterminate form (Fig. 110.122) was found in a slight depression in the subsoil between Cremations 7 and 8. Since there was no accompanying cremated bone the identification of this feature as a cremation must be questionable.

Cremation 12/13

The base of a second-century or later poppyhead beaker (Fig. 111.123), recorded as Cremation 12 and containing cremated human bone and two iron nails, was found in a slight depression near Cremations 1 and 2. The remains of a shattered glass cup or beaker (p.139, 136), of probable second or early third-century date, was found adjacent to the pot. Part of a form 42 Samian vessel of Flavian date (AD 69–96) was found nearby. At the time of excavation this was thought to have derived from this burial. However, the discrepancy in dating between this and the pottery and glass beakers makes this association unlikely. The side of a poppyhead beaker containing cremated bone and an iron nail, found on the spoilheap, was recorded as Cremation 13. Only

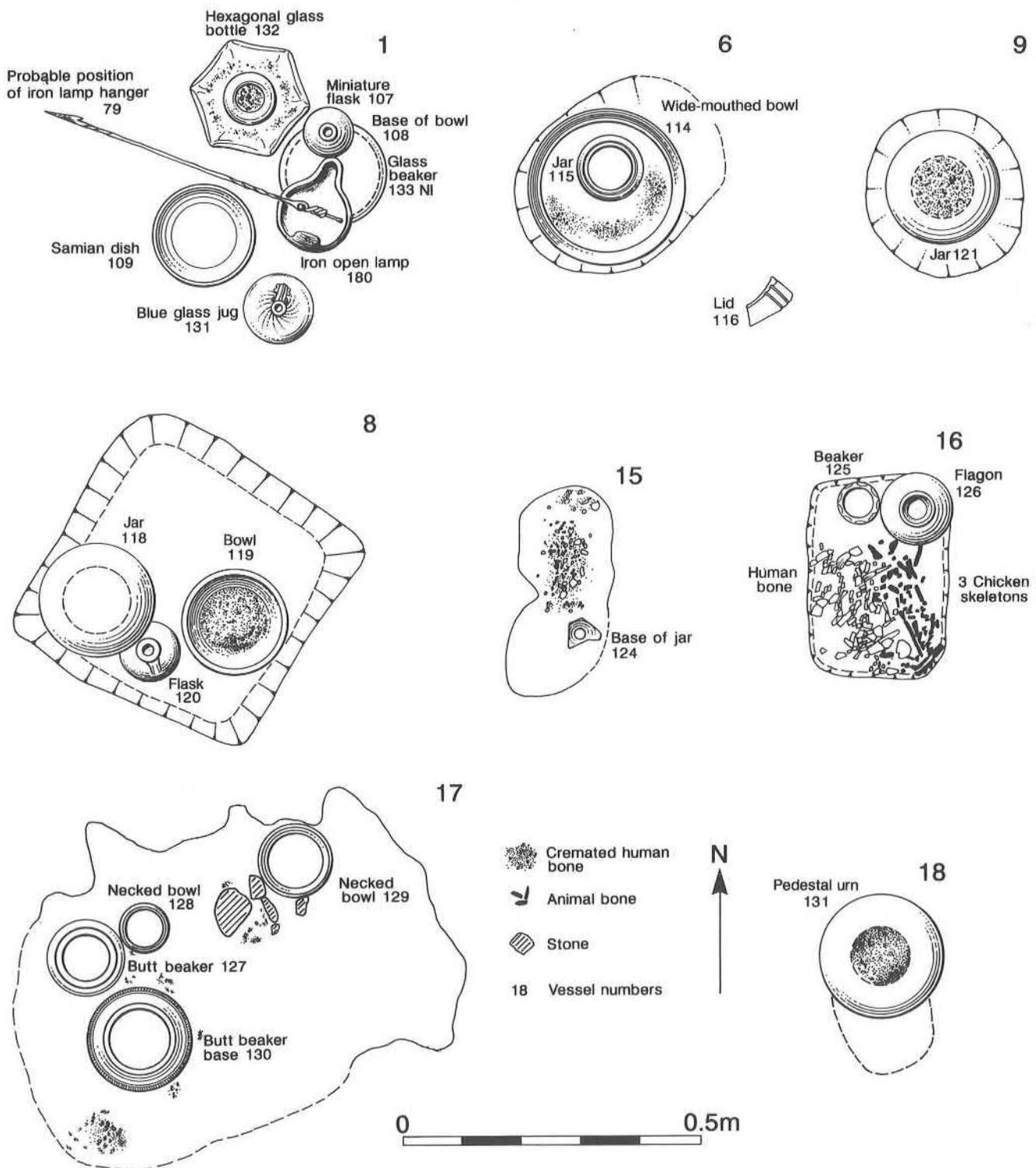


Figure 28: Plans/reconstructions of Cremations 1, 6, 8, 9, 15, 16, 17 and 18.

during the post-excavation process was it realised that the two parts joined, and consequently represented a single burial. A total of 140 g of adult human cremated bone (p.234) and two Manning type 1b and one type 3 iron nails were contained in this burial.

Inhumation 942 (Fig. 29)

A single inhumation of an adult (p.236) had been placed in a shallow grave on a north-east to south-west alignment between the cremations and Ditch 860 (Fig. 27). The grave cut was 1.77 m long and 650 mm wide, although it had been almost entirely obliterated at the south-west end, and the lower legs of the skeleton had been lost (Fig. 29). The skeleton, with the head at the north-east end, lay supine in an extended position with its arms lying straight down its sides (Plate 4). A miniature pottery jar (Fig. 111.132) had been placed in the grave in an upright position to the left of the skull. At least nine small iron coffin nails were scattered around the outside of the grave. That the body had been buried in a coffin is further suggested by the disposition of the bones which were too dispersed to have been contained within a shroud.

A C-14 date (p.270), using the human bone, provided a date of 1676 ± 46 BP which calibrates to 244–440 AD at the two-sigma range. This suggests that the inhumation post-dated most if not all of the cremations. Its position next to the cremation cemetery suggests that the position of the earlier burials had either been marked in some way, or that the site was still known to the relatives of the deceased.

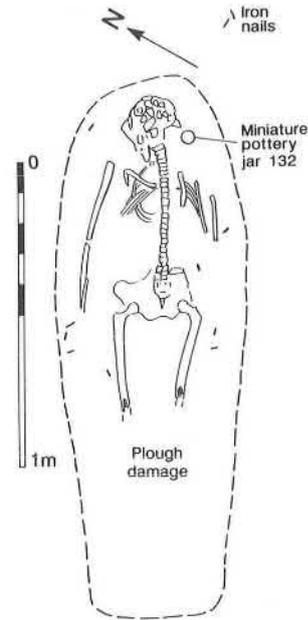


Figure 29: Inhumation 942.



Plate 4: Inhumation 942 after removal of pottery vessel 132.

Other Burials

In addition to the main cemetery described above and the three later Roman inhumations in Area A (p.80), eight human cremations of probable first and second-century date were found scattered across the site. Two unurned cremations (14 and 20), consisting only of concentrations of human bone, and an urned cremation (19) were found to the north of Enclosure 275 in Area C. Two pairs of urned cremations (15/16 and 17/18) were found to the east and west, respectively, of the western ditch (433) of Enclosure 275 (Fig. 16). A pit (Cremation 21) containing cremated human remains was also found during the construction of Gregorys Drive, to the west of Area A.

Cremation 14

A shallow circular pit, 400 mm across and 40 mm deep, contained 150 g of adult human bone (p.234) and a small iron nail of indeterminate type. The pit was located towards the south end of Trench 6 (Fig. 2), just inside the Iron Age Enclosure 1984, although this relationship is certainly coincidental.

Cremation 15 (Fig. 28)

An elongated dark stain on the stripped surface, 350 × 150 mm across and 25 mm deep, in the angle between Ditches 433 and 418 (Fig. 17) contained a very badly disturbed cremation. All that remained was the base of a small second-century jar (Fig. 111.124), 100 g of cremated human bone (p.234) and three iron nails of Mannings type 1b, spread to the immediate north.

Cremation 16 (Fig. 28)

Sited 1.3 m to the east of Cremation 15 was another small but much better preserved cremation. A rectangular pit, 350 × 250 mm across and 25 to 50 mm deep and aligned north to south (Fig. 28), contained a fine indented mica-gilded beaker in an eggshell fabric (Fig. 111.125) and a ring-necked flagon (126). 400 g of cremated adult human bone (p.234) was spread across the south-western part of the pit, and the remains of three chicken skeletons (p.232) had been carefully placed between the pots in the north side and the cremated bone (Plate 5). The two pottery vessels are unlikely to date from any later than the very late first century AD. Since it is probable that this burial and Cremation 15 were broadly contemporary this may indicate that the suggested date for the small jar in the other burial is incorrect.

Cremation 17 (Fig. 28)

This cremation, sited 60 m north of Cremations 15 and 16 but lying outside Enclosure 275 (Fig. 17) had been badly disturbed by later ploughing. No grave cut could be distinguished, but four badly fragmented pots and a spread of cremated bone was found in an amorphous area 700 × 500 mm across (Plate 6). The four vessels, consisting of a decorated butt beaker (Fig. 111.127), two small necked bowls (128 and 129) and a smaller undecorated butt beaker (130) were all of first-century date. Only 170 g of cremated adult human bone (p.235) was collected and it was impossible to establish if it had been contained originally in one or more of the pots.



Plate 5: Cremation 16, showing the three unburnt chicken skeletons to the right.

Cremation 18 (Fig. 28)

Found less than 1 m to the east of Cremation 17 (Fig. 17) was the base and lower body of a first-century cordoned pedestal urn (Fig. 111.131), probably originally set in a small pit (Fig. 28). Only 40 g of cremated bone of a probable adult (p.235) remained inside the urn.



Plate 6: Cremation 17, showing plough disturbance.

Cremation 19

The badly fragmented remains of a first-century jar containing 50 g of cremated human bone (p.235) was found in a very shallow pit just inside the north-east corner of the late Iron Age Enclosure 1998 in Area C.

Cremation 20

A small circular pit, 400 mm across but only 50 mm deep, to the north of the late Iron Age Enclosure 1985 in Area C, contained 25 g of cremated immature human bone (p.235) in a very charcoally matrix. There were no associated finds. This probable burial was sited only 34 m to the west of the similar Cremation 14.

Cremation 21

During topsoil stripping for the construction of Gregories Drive to the west of Area A (Fig. 2) a shallow irregular pit was noted dug into the clay subsoil. The pit was 1.9 m long and 800 mm wide and contained a dark grey clay fill containing burnt matter including charcoal, fragments of fired clay and small pieces of burnt bone. It was only possible under the circumstances to dig a small section, which showed that the pit was up to 180 mm deep, and to remove a sample of the fill for later analysis. When this sample was washed through a sieve, 235 g of cremated human bone was recovered (p.235), almost certainly derived from a single adult. Whilst the dimensions of the pit are comparable with those of an adult inhumation grave its contents are puzzling. That the pit was intended to receive a cremation burial seems unlikely. Alternatively, the total absence of any localized burning seems to preclude its interpretation as the base of a funeral pyre. Furthermore, the comparatively large size of the individual pieces of bone, compared to the other cremations, makes it unlikely that the bone was simply discarded after the human bone had been collected from the ashes of a funeral pyre.

Burial Discussion

Unlike the first-century cremation cemetery at Bancroft (Williams and Zeepvat 1994, 63ff), 8 km to the north-west, the Wavendon Gate burials are on the whole poorly preserved. Consequently, so many uncertainties exist concerning the disposition of the grave-goods that any discussion must be very carefully considered. However, a number of observations can be made concerning burial practices on the site during the first two centuries AD.

The discrete cemetery, consisting of twelve cremations (1–12/13) and a single inhumation (942) within the north side of Enclosure 275, was not established until the early part of the second century. It then appears to have received burials until the later part of that century or the very early third the very period when the cremation rite was generally giving way to that of inhumation. The discovery of the single inhumation, probably dating to the third century, emphasises this change in burial custom. Furthermore, the cessation of burials in this part of the site at this period indicates that a new cemetery must have been established elsewhere, since the settlement existed throughout the remainder of the Roman period.

The discovery of at least five definite first-century cremations (15, 16, 17, 18 and 19) and three possible ones (14, 20 and 21), scattered across the site, suggests that until the establishment of the main second-century cemetery, the placement of the burials was more random. The only common factor appears to be that they were all sited some distance from the main focus of domestic occupation. The corollary to this is that, given the often difficult circumstances of excavation, many other isolated cremations may have been missed. The reason for the establishment of a cemetery can only be surmised, but it is as likely to have resulted from the changing social circumstances of the inhabitants of the settlement, as from any religious motivation.

With the first-century burials having been so dispersed it is difficult to recognize any patterns. It is equally impossible to establish whether the predominantly second-century cremation cemetery contained a full cross-section of the local community, selected family groups or even a certain stratum of society. The range, from the obviously rich graves of Cremations 1 and 3 to the very modest ones of 6 and 9, might suggest the first. The absence of any infants or juveniles may indicate that the Wavendon Gate inhabitants had a healthy childhood. However, since low numbers of juveniles is a recurring pattern (Williams and Zeepvat 1994, 72), even amongst much larger cremation groups, it is more likely that younger people were accorded a different form of burial, perhaps elsewhere on the site. Since so few of the cremated remains could be sexed or even aged beyond being described as adult it is impossible to consider the population structure of the group.

Since in only two cases is it reasonably certain that the entire cremated remains had survived, it is impossible to consider the question of fragmentation and collection of the cremated bones. In the predominantly second-century cemetery most if not all of the human remains had been placed in pottery or ceramic vessels. Owing to the damage and probable loss of some grave contents it is difficult to determine any patterns in the types of containers or accessory vessels used. None of the burial groups is particularly exotic for the second century in terms of the quantity and type of grave goods. Locally produced pottery predominated, although wares from the other major regional manufacturing centres in the Nene Valley, Oxford and *Verulamium* area are all represented. Three samian vessels also accompanied two or perhaps three burials (Cremations 1, 2 and 3), undoubtedly the richest in the group. Interestingly, one dish (110) had been heavily repaired with a partial lead side. This use of old and worn-out vessels is a commonly noted phenomenon in Roman graves, and has been discussed in connection with the earlier group at Bancroft (Williams and Zeepvat 1994, 71). Glass vessels, at least one of which was a continental import from the Seine-Rhine region, accompanied three burials (Cremations 1, 3 and 12).

Apart from the inclusion of accessory vessels of pottery or glass, only Cremations 1 and 3 contained any additional

grave goods in the form of an iron lamp (79) and a copper-alloy mirror (51) respectively. The inclusion of a mirror in a cremation burial is by no means unusual (Philpott 1991, 182–183), and undoubtedly harks back to the late Iron Age La Tène period, when over half of the known mirrors are from burials (Farley 1983, 295–6). At the King Harry Lane site six simple disc mirrors, all of post-conquest date, accompanied first-century cremations (Stead and Rigby 1989, 103).

Inclusion of a lamp, in this case a hanging lamp, was also commonly practised by the Romans, and has been discussed by Alcock (1980, 60–61) and Philpott (1991, 191–194). It has been suggested that the lamps provided light for the deceased on their way to the underworld, made them feel at home in their new surroundings and served as a link between the living and the dead. Philpott (*op.cit.*) has also noted that there is a good correlation between the quality of the lamp and the richness of the accompanying furniture, and hence presumably the wealth of the individual. This observation is endorsed by the quality of the grave-goods in Cremation 1.

Another item of considerable interest was the remains of an iron and copper-alloy lock-plate, almost certainly from a wooden casket (p. 111), found in Cremation 3. This grave had evidently been well appointed, containing two glass vessels including an unguent bottle, a samian dish, two pottery beakers, one of which contained the human remains, and the copper-alloy mirror. Unfortunately it had been so badly disturbed that it was impossible to determine whether all of the grave goods had been buried inside the box or whether the box was simply an accessory. Apart from the remains of the lock plate the only other structural components were a number of iron nails. No other metal fittings such as hinges or binding strips were located, although it is unlikely that any of these would have been missed since the area was checked by a metal detector. Casket burials have been considered in detail by Borrill (1981, 304–321) in connection with those excavated at the Skeleton Green cemetery. More recently, several others from Baldock (Stead and Rigby 1986) have been published. The Wavendon Gate example fits well within the proposed date bracket for burials of this type, and also supports the probability that they were associated with the burial of wealthy individuals.

The inclusion of animal bones, both cremated and as joints of meat, is also a frequent occurrence in Roman cremations. Considerable work remains to be done before any fashions, temporal, regional, social, etc can be determined and the Wavendon Gate group adds little to the advancement of this study. The inclusion of the three chicken skeletons in Cremation 16 is more unusual. At the Puckeridge cemetery Calvin Wells (Partridge 1981, 302) suggested that bird bones only occurred with female burials. Unfortunately it proved impossible to determine the sex of Cremation 16.

The presence of a single inhumation (942) of unremarkable type within the cemetery permits few meaningful observations to be made. The inclusion of a single pottery vessel, as compared to the completely unfurnished later graves (p.82), may simply reflect differences in local funerary customs.

Features in Area A (Fig. 30)

A series of features of a non-domestic nature, positioned immediately beyond the south-east corner of Enclosure 275 (Ditch 300), were a constant feature of the Romano-British settlement from the first century onwards. (Fig. 16).

Ditch 352/334

Ditch 352 ran on a north-west to south-east line across area A (Fig. 30). Originating in the first century AD, the ditch was recut successively over the next three centuries, serving as the western boundary of a series of enclosures, of which the earliest was Enclosure 338 (below).

To the north, Ditch 352 divided into two arms, with Ditch 334 deviating to the west immediately before both features either ran into or were interrupted by Pond 508. It is uncertain whether either ditch ran beyond this feature, as further excavation to the north was prevented by the presence of modern housing. It is also unknown how far south Ditch 352 extended. Pond 508 also seems to have been a long-lived feature, although insufficient excavation was undertaken to establish its function and date. Ditch 352 had been badly truncated by a medieval furrow which ran along the same course as the ditch. Surviving to only 500 mm deep, the ditch would have originally been over 1 m deep and 1.40 m wide. It was filled with an homogenous grey brown loam, probably the product of a prolonged period of silting. Ditch 334 would have been up to 900 mm deep and contained a very similar fill to 352, making it impossible to determine the stratigraphic relationship between the two.

Enclosure 338

This rectangular enclosure, 14 m wide and at least 25 m long, utilised the pre-existing Ditch 352 as its eastern boundary. It predated Enclosures 306 and 307, being cut by them (Fig. 30). However, its relationship with Pond 508 remains uncertain. That the east side of Ditch 338 remained parallel to the presumed course of Ditch 352 beyond the north side of Pond 508 suggests that the pond only encroached upon the enclosure subsequent to its main period of use.

The ditch was insubstantial, surviving as a cut 200 mm deep and 700 mm wide (Fig. 30 S379 and S382) dug into the clay subsoil and filled with a medium yellowish-brown sandy silt. The fills of later enclosure ditches in this area were notably different, all containing a proportion of charcoal in their matrix, derived from Corndriers 378 and 505.

The small quantity of pottery retrieved from the ditch was of early second-century date, suggesting that the enclosure had

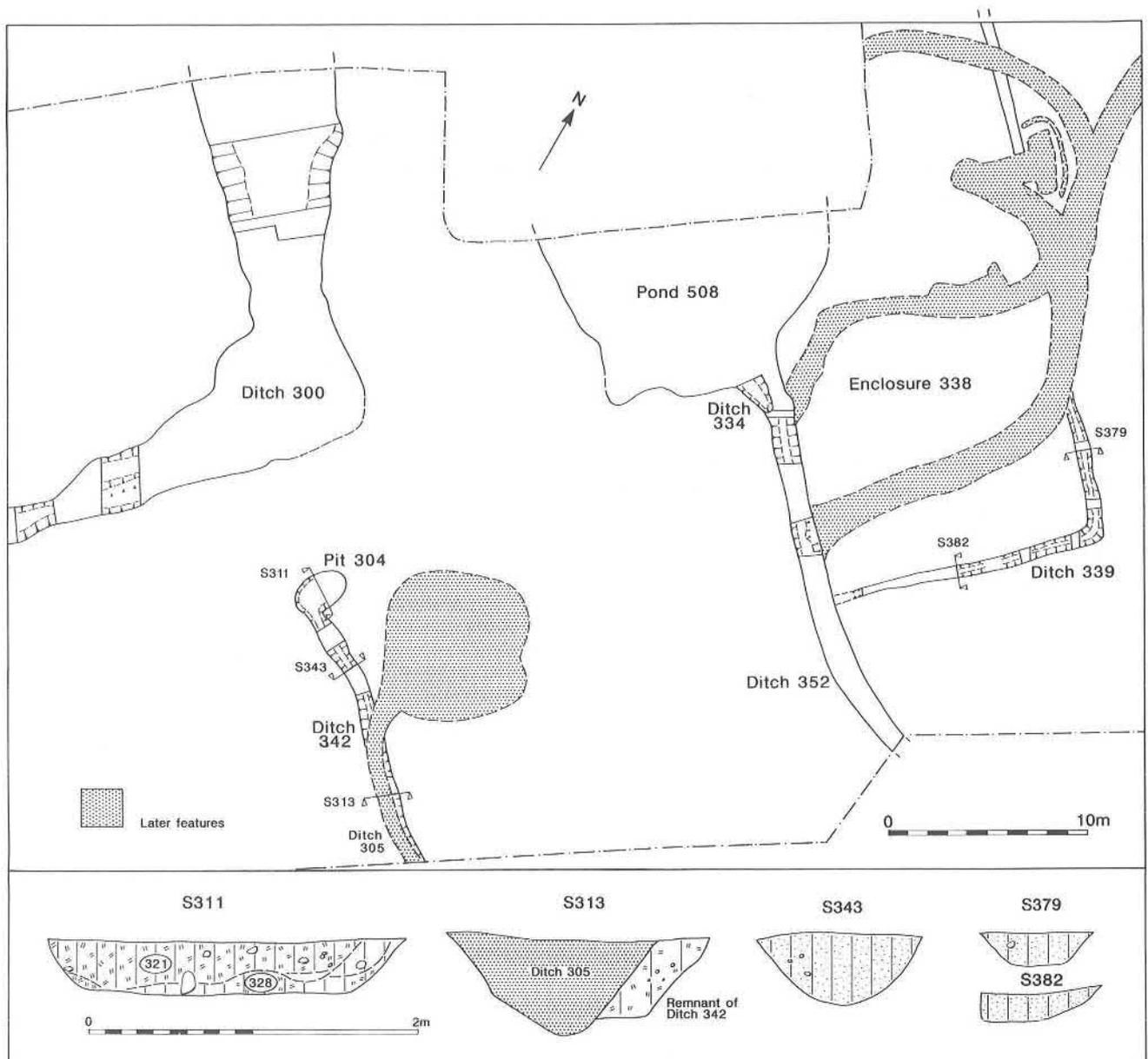


Figure 30: Area A. Mid first to mid second-century features.

been in use in the first century AD, and had fallen into disuse early in the second. This is consistent with the dating evidence for the later Enclosure 306. No contemporary features lay within the excavated portion of the enclosure, making it difficult to determine its function. The insignificant nature of the ditch, and the lack of any evidence for it having contained a palisade, suggests that it was never intended used to contain livestock.

Pit 304 and Ditch 342

Ditch 342 ran 21 m to the west of Ditch 352 on a similar if rather more meandering course. The northern terminal of the ditch broadened into an oval pit (304), clearly contemporary with the ditch. It is possible, given the proximity of the main enclosure ditch (300) 6 m to the north, that the area between Ditches 342

and 352 was used as an enclosure. This suggests that 352, or a branch of it, returned westwards and joined the main enclosure ditch somewhere in the unexcavated area to the north, and similarly to the south to link up with Ditch 342.

Pit 304 was oval, 2.60 × 1.65 m across, with steep sides and a flat base 200 mm deep (Fig. 30 S311). Although Ditch 342 had been cut away for some of its length by a the later Ditch 305, which ran on the same alignment, it could clearly be seen that 342 had a rounded profile with a maximum depth of 450 mm and was, on average, 1.1 m wide (Fig. 30 S313/S343). The fills of the ditch and the pit were comparable consisting of a dark grey/brown clayey silt, although towards its bottom Pit 304 also contained a dark grey clayey primary silt (Layer 328). The dating evidence suggests that both the pit and the ditch had fallen out of use sometime in the second century AD.

Later Second to Early Third Century (Fig. 31)

The major boundary ditches of Enclosure 275, originally dug during the middle of the first century, continued to silt up during the second century. No pottery later than the second century was recovered from the fill of the primary cuts. Wholesale recutting on a major scale in the third century (p.61) and more localized cleaning out in the fourth century (p.75) almost certainly obliterated evidence of any intermediate recutting of these ditches, which may have occurred during the second century. The complex Section 734 (Fig. 18) across the east side (Ditch 600) of the enclosure indicates that it had been necessary to clean out the ditch to a limited extent. However, it proved impossible to establish accurately any such sequence around the entire perimeter of the enclosure. Therefore it is highly probable that the ditch, albeit partially silted up, along with any accompanying bank/fence/hedge continued to demarcate the main areas of occupation/activity within the enclosure throughout this phase (Fig. 31).

Enclosure 31 had certainly fallen out of use by the mid second century and Enclosure 30 possibly a little earlier, as its western Ditch 533 had been substantially backfilled with waste from pottery Kiln 559. The drainage Gully around Roundhouse 783 exhibited no recutting, and it is likely that this and any associated structure had already fallen into disuse by the late first century. The major internal ditched divisions within the enclosure, including Ditch 590, also display evidence of infilling during the late first and second centuries.

A number of new features are, however, dateable to the later part of the second century (Fig. 31). These include new boundary Ditches 512 and 406, Hollow 900, which may have been associated with cattle stalling, and the pit complex to the east, possibly associated with a structure bounded by Ditch 847. Agricultural activity, in the form of an enclosed corndrier, was taking place outside the enclosure to the south-east. There is no evidence, other than circumstantial in the form of household refuse, for any domestic occupation within the enclosure. The cremation cemetery previously described (p.43) continued to receive burials until the end of this phase, including the only inhumation (942).

Ditch 512 (Fig. 31)

This new ditch divided the western bay of Enclosure 275 into two, on a north-south axis (Fig. 31). To the north it must have butted Ditch 15, although the intersection had been destroyed during road stripping. To the south, its

course became increasingly indeterminate, in that it gradually ran into a north-south baulk, left to protect a mature hedge. Although the ditch was lost in this baulk some 18 m short of the southern edge of the excavation, a gap in the hedge to the extreme south of the area allowed a trench to be cut through the baulk at right angles. The ditch was located in this trench and seen to be continuing on the same alignment. What happened to the ditch beyond Area B to the south is not clear; certainly no trace of it was found during subsequent limited trial trenching in that area during 1990.

To the north the ditch was steep-sided with a flat base (Fig. 32 S638) nearly 1 m deep and 1.5 m wide. To the south it diminished greatly in both width and depth. The fill of the ditch was divisible into two broad bands; a yellowish-brown loam to the bottom, merging into an upper fill of dark brown loam. At several points to the west, however, there was a distinctive band of olive-brown silty clay, possibly representing the remnants of the fill of an earlier cut of the ditch, or perhaps the remains of a collapsed bank.

Ditch 512 was clearly later than Ditches 571 and 588, cutting them at a right angle. It had originally been dug around the middle to later second century, and was overlain to the west by its successor, Ditch 513 (p.61).

Ditch 406 (Fig. 31)

The new westernmost bay of Enclosure 275, as formed by Ditch 512 to the east and Ditch 433 to the west, was further divided on an east-west line by Ditch 406 (Fig. 31). The new ditch was a substantial feature, about 1.4 m wide and 800 mm deep with a steep-sided 'U'-shaped flat bottomed profile (Fig. 32 S422). Its junction with Ditch 433 to the west had been lost in a later recut of Ditch 433, and its intersection with Ditch 512 lay beneath the baulk.

Hollow 900 (Fig. 33)

This shallow, kidney-shaped hollow was first noted as an amorphous spread of dark silty loam on the stripped surface next to Ditch 590 (Fig. 31) in the eastern bay of Enclosure 275. It overlies the north side of the completely levelled Enclosure 31 (Fig. 33) and was located to the west of the pit complex (p.56). In spite of careful cleaning it did not appear that the spread was made up of discrete features, although it had been severely truncated by three medieval plough furrows. As a result the entire area was divided into six segments to either side of a north to south

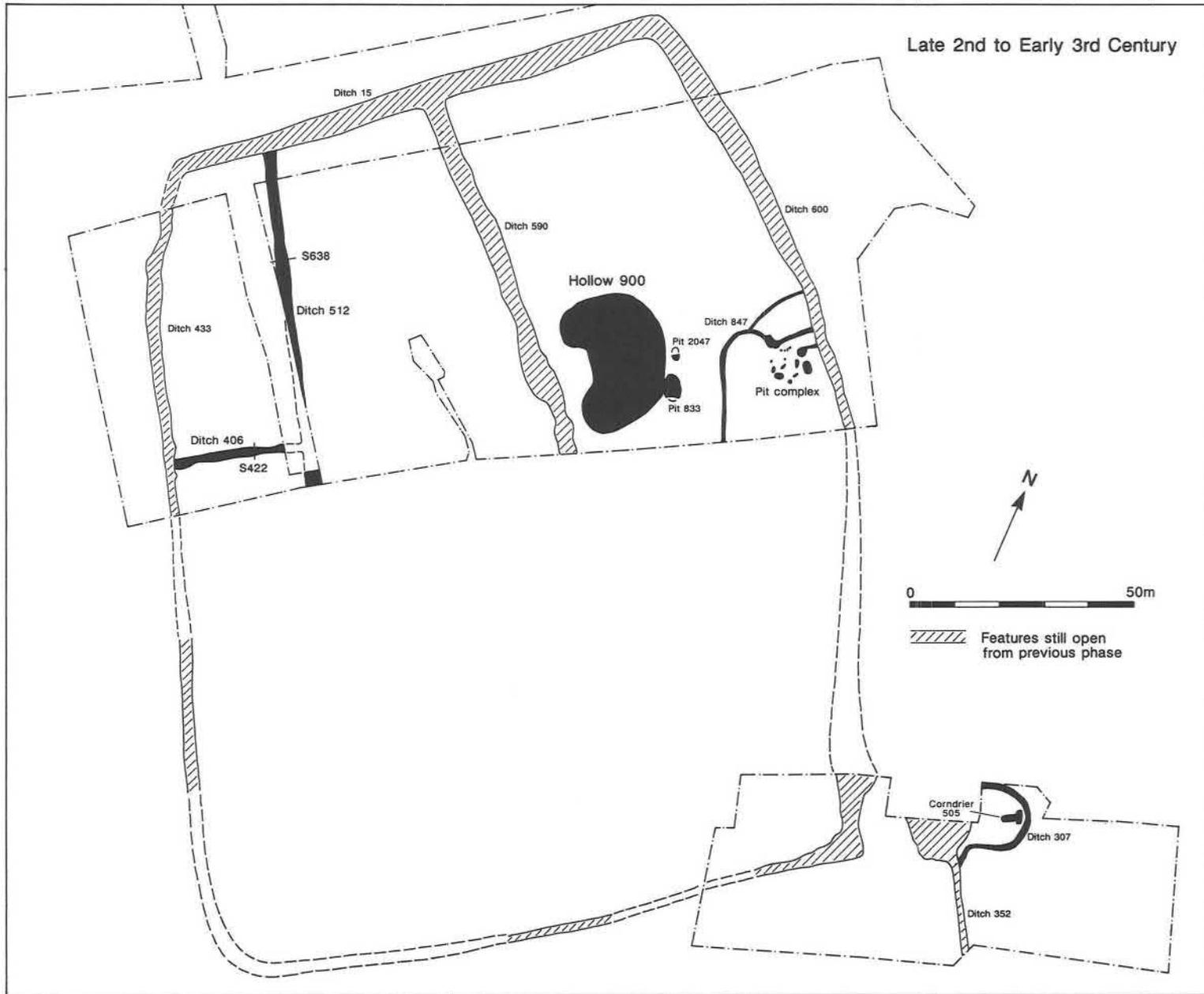


Figure 31: Phase plan – late second to early third century.

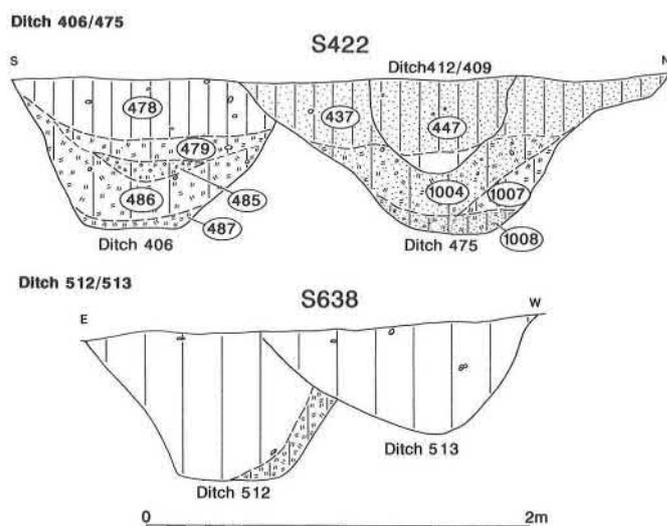


Figure 32: Sections of Ditches 512 and 406.

line. Owing to its large proportions some segments, including that (902) containing Pit 835, were excavated in arbitrary layers by a tracked mini-excavator.

The hollow had been dug into the sandy calcareous clay subsoil to a maximum depth of 400 mm, which probably represents an original depth of at least 700 mm. It was approximately 36 m long north to south and 27 m east to west, covering an area of over 900 square metres. To the north, the hollow had quite a sharp but irregularly sloping edge. To the east and west, its edges were marked only by the onset of its loamy fill. To the south, owing to the presence of Roundhouses 851 and 913 and the build-up of soils associated with them, the exact extent of 900 was uncertain, but it had probably run-out just short of them. The base of the hollow was flattish with no major irregularities.

The whole feature had a primary fill (Layer 740/887), c.180 to 200 mm deep, of medium to dark brown sandy silty loam (Fig. 34). This was quite probably introduced into the hollow through both natural silting processes and, over such a large area no doubt, by the actions of both humans and animals. Subsequent to this build-up there was a distinct break in the soil horizon during which time the stony Layer 832, associated with Roundhouse 851 to the south (p.70), had been spread across the partially silted south end of the hollow. From this same level Ditch 739 probably contemporary with and on the same alignment as Ditch 838 (p.31), had been cut. It had been levelled prior to the introduction of the second and final layer of soil (Layer 738/756) into the hollow. This layer was characterised by its greater quantity of smallish stones, notably absent from the lower fill. A line of postholes down the west edge of the hollow may be early Saxon in date (p.92). The significance of a thin truncated band of gravel lying between the two main soil horizons remains uncertain.

Although an extensive feature, Hollow 900 had an uncomplicated history. Pottery from its primary silt indicates that it was dug out sometime during the second half of the second century, and its location over Enclosure 31 confirms this dating. Two late second-century samian sherds (Fig. 114.44), found at the interface of Layers 756 and 887, provide a useful *terminus ante quem* for the initial silting of the hollow. It then slowly silted up over the ensuing 250 years. Since the upper levels of the hollow had been disturbed through ploughing, the date of its final levelling is very tentative. Roman pottery from the uppermost level was predominantly later third to fourth century in date. Fourteen Roman coins were also found in the hollow (Appendix I) broadly spanning the feature's period of silting, ranging from an *as* (Appendix I.6) of Trajan (103–11) to a late third-century radiate (Appendix I.90). It also contained thirty-three samian sherds (Appendix IV) of varying dates, most of which must have been residual.

Apart from the coins and pottery, the loamy fill of the hollow was also found to contain a number of other artefacts, including a bone pin/peg (Fig. 76.107), a bone offcut (Fig. 77.117), a large piece of a worked antler beam (Fig. 78.120) and the neck of a first-century glass jug, reworked as a tool (Fig. 84.137).

Few other features were associated with this hollow with the exception of Pits 833 and 2047, which may have been outliers of the more extensive pit complex (p.56) to the east of the hollow. Pit 835 certainly post-dated the initial excavation of the hollow, although the latter must have been evident in the ground surface when the large pit was dug. For this reason it is impossible stratigraphically (Fig. 34) to demonstrate their exact relationship and the upper layers of the pit (Layers 905/906) are identical to the second period of fill in the hollow (Layer 738/756).

The interpretation of the function of this exceptionally large feature remains somewhat problematic. Its primary

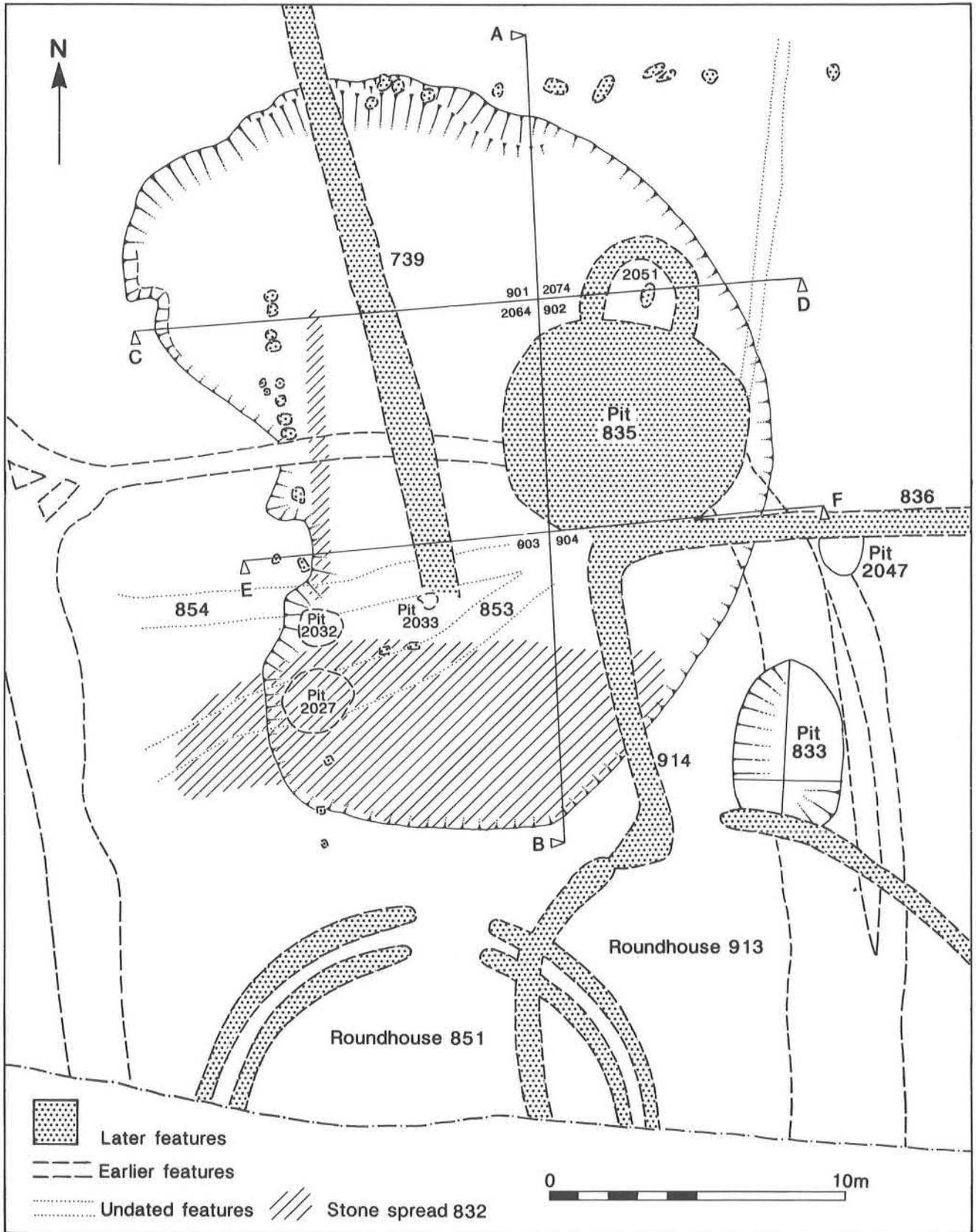


Figure 33: Plan of Hollow 900.

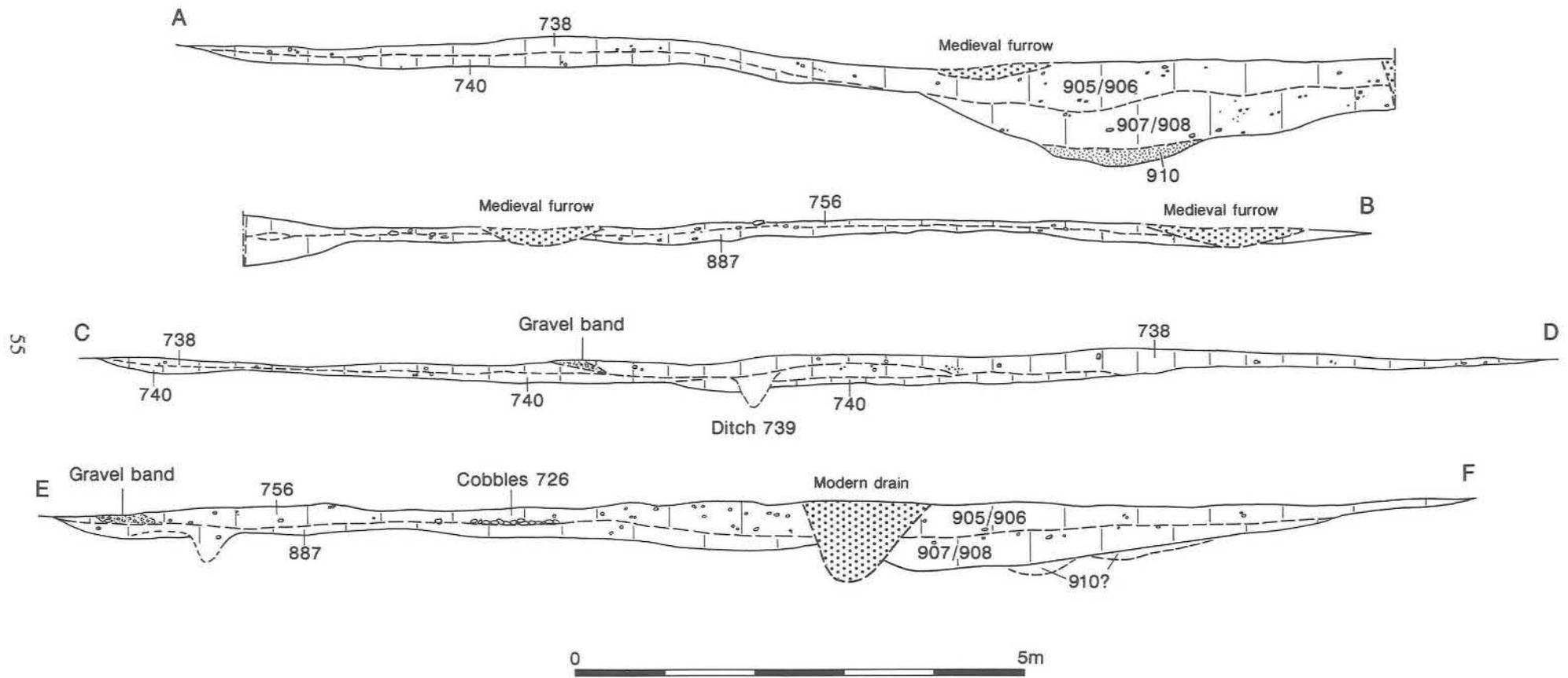


Figure 34: Sections of Hollow 900.

purpose may have been as a borrow pit for the extraction of the clay. However, if so it is difficult to imagine for what purpose such a large volume of clay would have been required. An alternative and perhaps more likely function may have been as a crew-yard, in which the cattle would have churned up the ground in a restricted area during overwintering or periodic stalling. Straw would have been spread in the morass so created and the resultant mix periodically dug out and spread on arable fields as a very valuable manure. This would have resulted in the eventual hollowing-out of the yard as some of the subsoil would undoubtedly have been removed with each cleaning. Although no yard boundaries were evident, temporary wattle structures would have sufficed, as would a hedge.

Crew-yards of this type have been recognised in medieval villages (Beresford 1975, 13–18) but such structures are not mentioned by Applebaum (1972) in his comprehensive study of agricultural usages in Roman Britain. However, a close parallel can be drawn with a feature of similar type and date excavated within a large ditched enclosure at Werrington in Cambridgeshire (Mackreth 1988, 77–80). Based on the Werrington figures, which are themselves based on those at Barton Blount and Goltho (Beresford 1975), a crew-yard the size of that at Wavendon could have held at least sixty beasts.

Pit 833

This shallow oval pit, 5.0 × 3.5 m across and no more than 150 mm deep, was sited to the south-east of Hollow 900 (Fig. 33). Its physical relationships, overlying the ditches forming the east side of Enclosure 31 but having been cut by the east terminal of Roundhouse 913, indicate that it may have been contemporary with Hollow 900. It contained a very dark grey loam with numerous patches of charcoal and unfired clay, and a small assemblage of late second-century pottery.

Pit Complex (Fig. 35)

A cluster of pits and postholes to the south-east of area B (Fig. 31) formed a near contemporary group, in use from around the mid second to early third centuries. The group covered an area of only 25 square metres (Fig. 35) bounded by the eastern arm (Ditch 600) of Enclosure 275 to the east and Ditch 846 to the north. It is likely that a structure, possibly a roundhouse associated with Ditch 847, had constrained the spread of the pits to the west. Probably the majority of the pits, given the consistency of their fills and the range of pottery forms (Fig. 103.8–17), were levelled at the same time. This occurred during the early third century, perhaps during a refurbishment of the structure bounded by Ditch 847 to the west.

The function of the pits is uncertain, but the inclusion of significant quantities of fired and green clay dumped into some of them is of interest. It has been suggested this may have been associated with pottery production (p.142), although this material was almost certainly residual.

Pit 848

This pit, the largest of the group, was sub-rectangular in plan 4.2 m north to south by 2.4 m east to west (Fig. 35). The sides sloped in at c.45° to a flattish base which was 1.1 m deep at the north and 950 mm deep at the south end. The fill consisted of three very distinctive horizons. The lower band consisted of a primary silt which had formed mainly in the deeper northern end of the pit and merged into a layer (939/940) of dark brown sandy loam. Overlying this was a lens of charcoal and pottery which had tumbled in from both the northern and southern edges of the pit. Sealing this lower fill was a 700 mm thick deposit of clay (layers 888/889), introduced into the pit as a series of three distinct dumps tipped in from its southern edge. The first was a dark yellow-brown sandy clay, the second a siltier grey loamy clay, and the final most extensive dump a very pure light olive-grey clay which had been trampled to form a very irregular but horizontal surface some 500 mm beneath contemporary ground level. The upper fill of the pit (Layer 915/916) had almost immediately succeeded the dumping of the clay. It consisted of an amorphous dark brown sandy loam, with pottery and fragments of chalk, flint and ironstone throughout its matrix. This too was almost certainly a dump and was identical to the fill of most of the other pits in the group, with the exception of Pit 807.

Nearly 4.5 kg of pottery was found in the pit. The lower layer, beneath the dumped clay, contained material of late second to early third century date. The upper layer, above the dumped clay, besides having a little residual first-century material, also contained pottery dated predominantly to the mid to late second century. The secondary fill of the pit, the clay dump, contained pottery (1.9 kg) exclusively of late first to early second century in date. A possible explanation for this inversion in the dating of the pottery sequence is that the clay represented the remains of a dump, which had been dug in the first century possibly for use in pottery production. This clay had been used subsequently to level the already disused and partly silted pit. It is interesting to note that part of a kiln bar (Fig. 88. 162), of different type to those used in either Kiln 400 or 559, was found in Layer 916, and another of similar type was found nearby in the fill of Ditch 600 (p.148). These bars, although fragmentary, were very similar to those used in the second century Kiln II at Caldecotte. The topmost 500 mm had then been back-filled with a dark greyish-brown mottled loam with varying quantities of sand, charcoal, pottery and bone dispersed throughout the matrix. This tertiary upper fill was identical to that in most of the other pits in the group, and probably represents a developed Roman topsoil which had been pushed into the pits to level them. It is likely that the latest pottery from these pits, dated to the early third century, is a reasonable reflection of the date that they were levelled.

Pits 769, 928, 932, 2066, 2102, 2103 and 2104

This cluster of pits, sited to the west of Pit 848 (Fig. 35), were all ovoid or sub-rectangular, up to 2 × 1 m across in the case of Pit 932. With the exception of 2103 and 2104, which had been severely truncated, most were between 200 and 300 mm deep. All were filled with the same dark greyish-brown redeposited loam as was found in the top of Pit 848, with no visible stratigraphy. Most contained significant amounts of pottery of second-century date. Pit 2066 had been cut by Ditches 936 and 2121, the former of which contained pottery dating to the early fourth century, giving a *terminus ante quem* for the whole group.

Pit 807

This pit stands alone in the pit group owing to its distinctive fill. It is possible that it had fallen out of use earlier than the others and had largely silted up prior to the general backfilling evident throughout the other features. It was circular in plan, 900 mm in

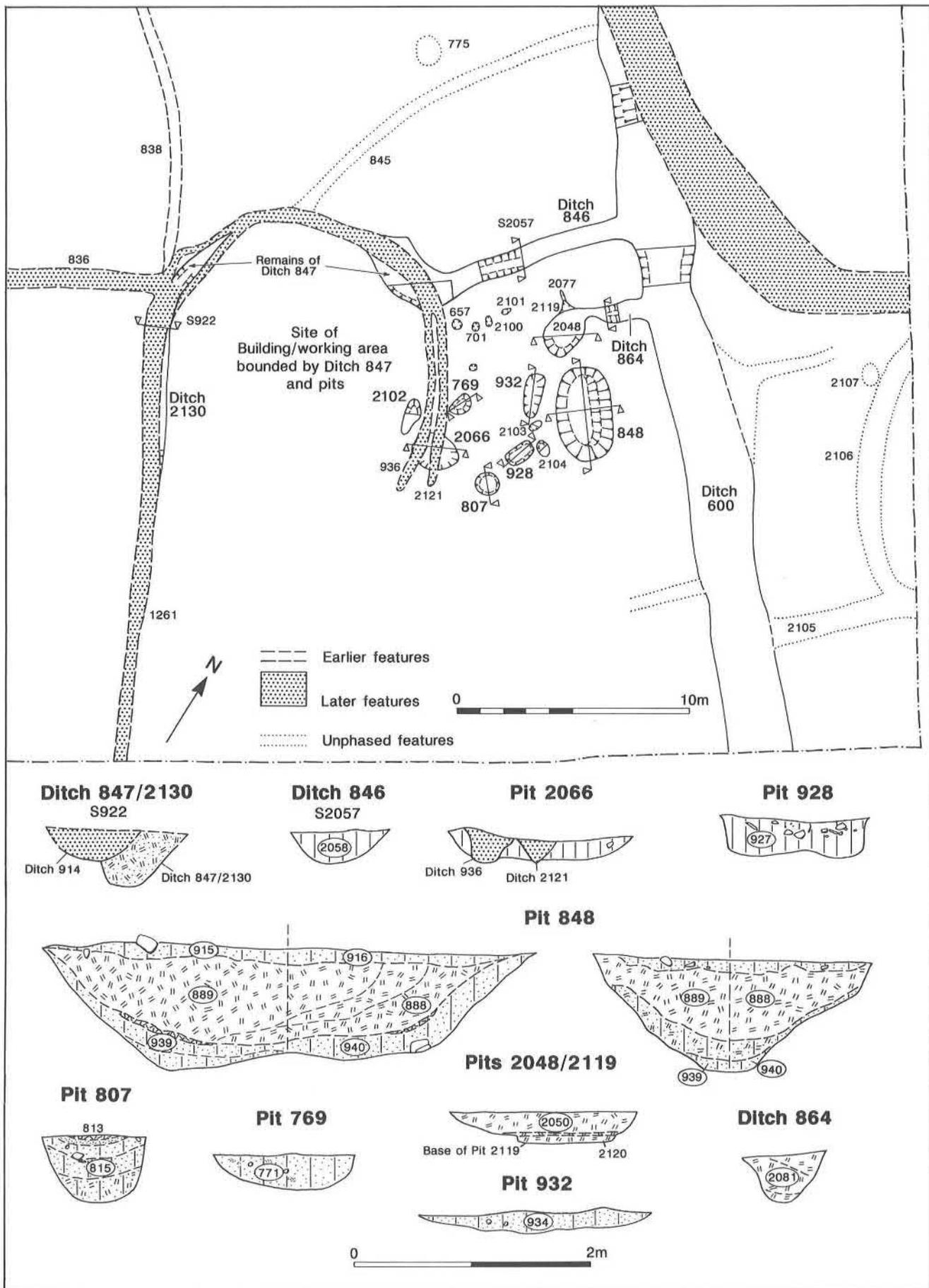


Figure 35: Plan and sections of the pit complex.

diameter and 600 mm deep, with steep sides and a saucer-shaped bottom (Fig. 35). When first revealed, a circular patch of dark charcoally loam in the centre of the pit looked very much like a post-pipe. This was found to be ephemeral and had been caused by the truncation of the top of the pit. Most of the fill of the pit consisted of a medium to dark brown sandy gritty loam, which became slightly clayier towards the bottom, interleaved with a number of sandy lenses. The fill of this pit, apart from the charcoally layer at the top, was indicative of slow periodic silting, with occasional pieces of pottery and stone etc. entering through human or animal action. The pottery, from late first to second century, suggests that it fell into disuse prior to the rest of the pits.

Slot 2077, Pits 2119 and 2048 and Ditch 864

A group of intercutting features lay between the pits described above and Ditch 846 (Fig. 35). The earliest feature of the series was Slot 2077, which measured 450 mm long by 150 mm wide and 100 mm deep. Running into the north-west angle of Pit 2119, it is uncertain whether it had held a timber supporting that side of the pit or whether it had stood alone. Its fill contained numerous neonatal horse bones (p.225), none of which were articulated, in a brown sandy loam matrix. Pit 2119 had been almost completely cut away by Pit 2048 and Ditch 864. What remained of this feature showed that it had been a square pit 1 m across and 300 mm deep. Its walls were nearly vertical, and it had been lined with an olive-brown clay 10 to 20 mm thick. There was no evidence of any timber or wattle lining. The pit had been backfilled with a greyish-brown clay which included a number of charcoally lenses.

Pit 2048 was 2 m in diameter and only 200 mm deep. It was filled throughout with a light olive-grey clay, very similar to the upper dump of clay in Pit 848. Ditch 864, a steep-sided feature 700 mm wide and 400 mm deep, had a layered fill consisting of a primary silt overlain by a dark grey-brown loam, probably the same soil as that noted in many of the pits above. To the top of this layer a yellow clay mottle became evident. There was no evidence of intercutting between the fills of Pit 2048 and Ditch 864, and the clay which had been used to backfill the pit ran for some distance along the top of the ditch.

Postholes 657, 701, 2100 and 2101

This group of four circular postholes between 150 and 300 mm across and up to 240 mm deep lay to the north-west of the pit group (Fig. 35). They formed no coherent pattern.

Ditches 846, 847 and 2130

Ditches 846 and 847 (Fig. 35) were contemporary features, together intended both to lower the level of groundwater and to prevent surface water draining downslope to the south. To the east, Ditch 846 drained into the residual hollow which was all that remained of Ditch 600 by this period. To the west, Ditch 847 ran in a shallow arc towards the earlier boundary Ditch 838. Although difficult to prove, it is believed that Ditch 847 had either utilised the southern end of Ditch 838, or that the ditch had been recut (defined as Ditch 2130 in Fig. 35) and continued south beyond the excavated area.

Ditches 846 and 847 were both between 800 mm and 1 m wide and c.500 mm deep, and contained very similar fills, consisting of a brown sandy loam with discrete lenses of clay mottling and gravel. 846 was bowl-shaped (Fig. 35 S2057), whereas 847 was more angular and straight-sided (Fig. 35 S922). The small amount of dating material recovered from both ditches suggests that they had been contemporary with the pit complex, possibly

having been backfilled at the same time in the early to mid third century.

The semi-circular curve of Ditch 847, the constriction of the pit complex to the east and Ditch 2130 to the west, in conjunction with the large amounts of pottery from the fill of these pits is suggestive of domestic occupation or even a working area in the blank space between. This assumption is reinforced by the long-lived nature of the surrounding drainage ditch, with Ditch 847 being replaced later by Ditches 936/2121 (p.79) in the later third or fourth centuries.

Features in Area A (Fig. 36)

Ditch 307

Ditch 307 formed the boundary of the earlier of two D-shaped enclosures which were appended to the eastern edge of Ditch 352 (Fig. 36). It overlay the earlier rectangular Enclosure 338, and was eventually replaced by Ditch 306 and overlain by Corndrier 378 (p.72). The presence of Pond 508 adjacent to the enclosure may account for the rather awkward curve of Ditch 307 respecting a pre-existing feature, just north of the intersection with Ditch 352 at its south end. The north-west side of the enclosure ditch was not excavated, being beyond the area available for excavation. But no entrance was found, it was probably located in the north side, like that in Ditch 306. The only internal feature was Corndrier 505, which lay very close to the eastern edge of the enclosure, precluding the presence of any internal bank.

Ditch 307 was quite insubstantial, never more than 400 mm deep and 1 m wide. With a general fall to the south it would have functioned as a drain flowing into Ditch 352, lowering the level of ground water within the enclosure. The ditch was filled with a greyish-brown loamy silt, for nine metres from its junction with Ditch 352. Further to the north its upper fill contained increasing quantities of charcoal, almost certainly representing dumping of ash and other waste from the later Corndrier 378. A thin layer of poorly laid cobbles (393) lying across the top of the silted-up ditch to the west of Corndrier 378 was also clearly related to this later feature. The pottery from Ditch 307 suggests that the enclosure and corndrier were in use during the later second century, but had fallen into disuse by the early third century. The only artefacts of note were a copper-alloy toilet spoon (Fig. 58.19) and sewing needle (Fig. 59.21) from Layers 349 and 325 respectively (Fig. 36. S316).

Corndrier 505

This 'T' shaped corndrier lay on a south-west to north-east axis within, the contemporary Enclosure 307 (Fig. 36). It overlay Ditch 338 and had been cut away at its south-western stokehole end by the ditch of the succeeding Enclosure 306. Immediately to the east of the corndrier there was evidence for an associated flimsy stakehole structure within Slot 506 (below).

Although the removal of the stokehole by Ditch 306 prevented the length of the corndrier being accurately established, its one-metre width means that it cannot have been any more than 5 m long. The longitudinal flue was c.3 m long and a constant 1.5 m wide. The cross-flue, 1 m wide to the north of the main channel, narrowed to 700 mm at the south end and was 3.20 m long. Considerably truncated, the corndrier survived to a maximum of only 200 mm deep. There was no evidence for any *in situ* stone lining. There was no apparent fire reddening to the natural clay edges of the flue.

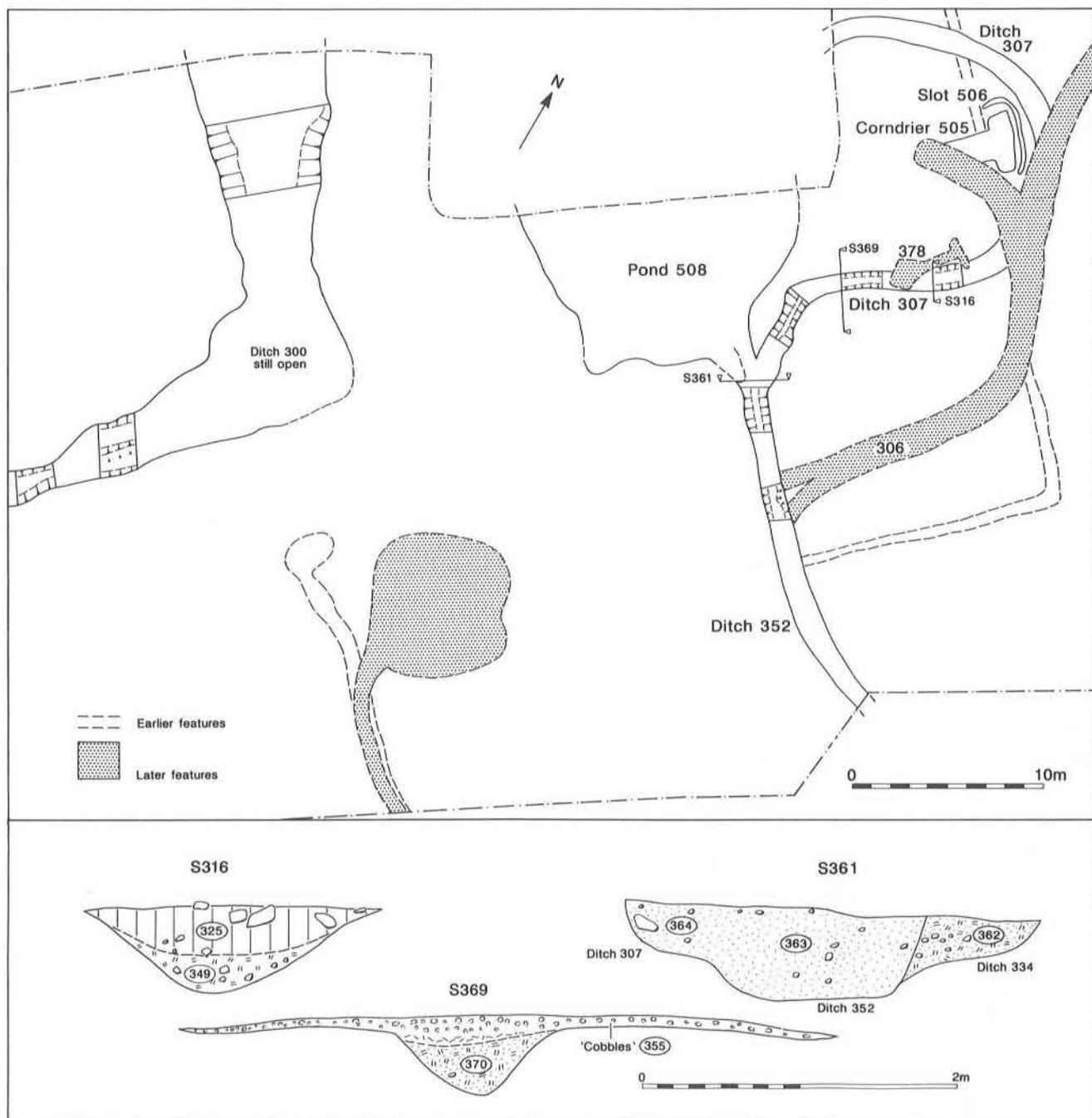


Figure 36: Area A. Late second to early third-century features.

The primary fill of the corndrier, up to 60 mm deep throughout, was a sandy loam discoloured to a dark purple red shade by burning. This matrix contained a considerable amount of charcoal, and also a quantity of daub. This did not give the impression of having been burnt *in-situ*, but rather had the character of a tumble or dump, especially as no reddening was noted on the clay walls of the corndrier. It seems that the original ash deposit must have been raked out. Overlying this was a layer of clean, light olive-brown clay, presumably introduced as a levelling deposit to tidy up the area prior to further use, and which probably originated as spoil from the excavation of Ditch 306. Perhaps significantly, a large sandstone block 150 × 600 mm lay at the bottom of this layer. No dating evidence was recovered from the corndrier. Analysis of the fill of the feature (p.251) indicates that it had been used for parching/drying spelt wheat.

Slot 506

Curving around the north and east of the corndrier's cross-flue was an ephemeral slot 4.5 m long and 200 to 300 mm wide (Fig. 36). It did not appear to continue to the south of the flue, but may have been lost in that area through truncation. Symmetrically positioned 1 m either side of the centre line of the longitudinal flue, two roughly circular expansions in the slot c.300 mm in diameter may be interpreted as postholes. The slot was filled with a medium brown clayey loam, the postholes containing a slightly darker fill.

As the traces of this structure were so flimsy, any attempt at interpretation would be conjectural in the extreme; suffice to say that the evidence suggests some kind of a wattle or hurdle arrangement had been constructed at the cross-flue end of the corndrier.

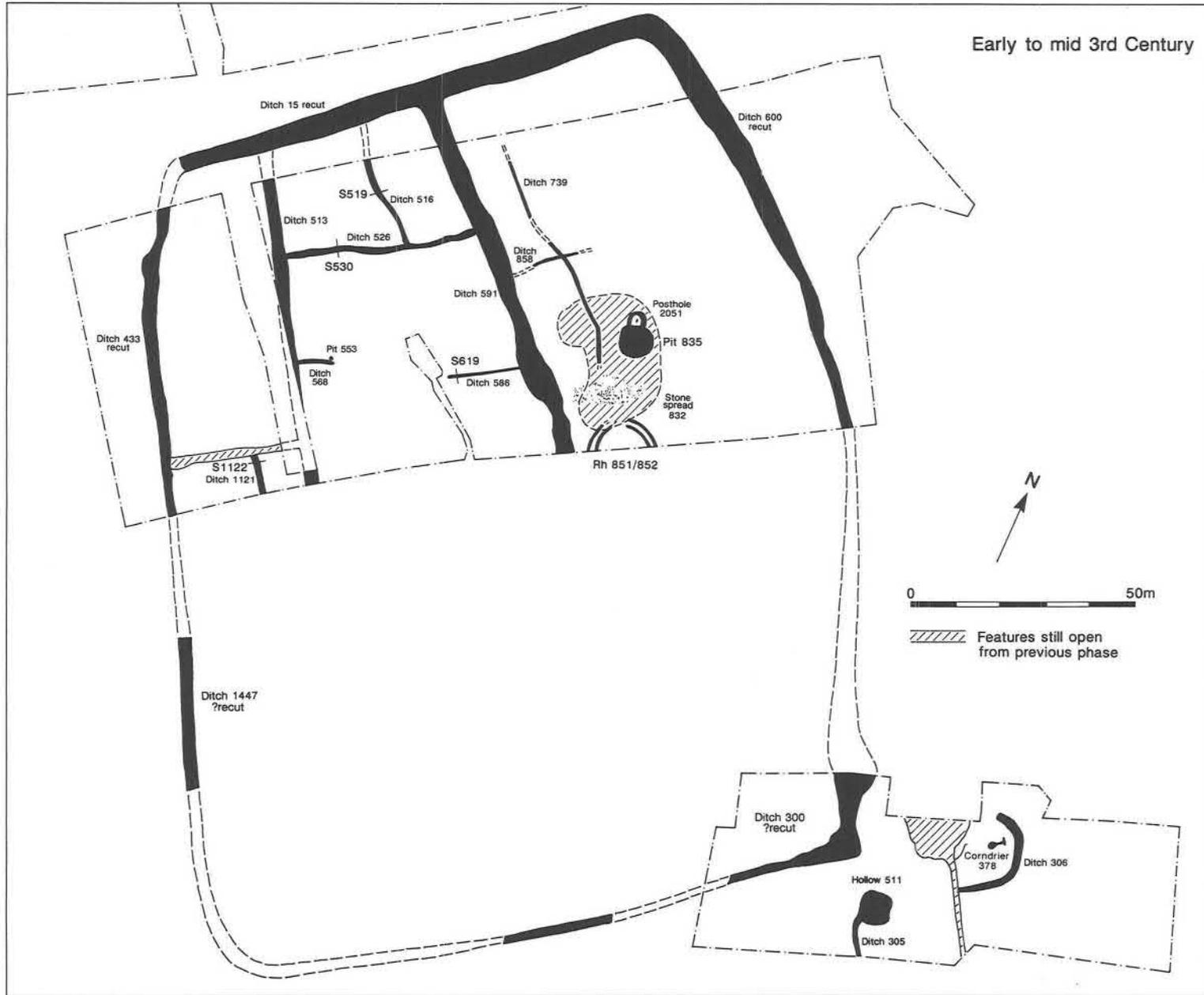


Figure 37: Phase plan - early to mid third century.

Early to Mid Third Century (Fig. 37)

The first half of the third century saw a limited refurbishment of the settlement, discernible in both the recutting of the outer ditches of Enclosure 275 and the major division Ditch 590. The other substantial internal boundary Ditch 512, created in the previous phase, was also of sufficient importance to have been totally recut as Ditch 513. A pattern of minor ditches, possibly field boundaries, was inserted across the settlement. There was also evidence for the continuation of domestic occupation in the form of Roundhouse 851/852 and a cobbled area to its north although, as in the previous phase, structures were elusive. The most unusual feature was a very large pit (835) and a stone-packed posthole (2051) containing a foundation deposit, excavated within the partially silted-up Hollow 900. Together with another possible votive deposit of horse bones found in Ditch 513, these may be evidence of religious activity in the settlement during this period.

Outside the enclosure, to the south-east, the earlier Corndrier 505 and associated enclosure were replaced by another corndrier (378), once again contained within a small ditched enclosure (306).

Enclosure 275 (Fig. 37)

The individual ditched components of this enclosure have been previously described in detail (p.27–33). The northern arm, Ditch 15 (Fig. 18 S20), and the western arm, Ditch 433 (Fig. 18 S1064) each exhibit at least one major recut of similar proportions to the primary cut. In each instance, to judge from the albeit limited evidence of the pottery, these occurred before the middle of the third century. In the latter case the line of the ditch was reused in the fourth century as the western side (Ditch 475) of Enclosure 33 (p.75). The eastern arm of the enclosure (Ditch 600) was even more complex (Fig. 18 S734), having been recut at least twice in the intervening period between its original excavation in the mid first century and its recutting in the third century. The sequence of these replacements is complicated by much of the original line of Ditch 600 having been cut away (Fig. 18 S893) in the fourth century when its course was utilized as the western boundary of Enclosure 32 (p.75).

The south-eastern corner of the enclosure (Ditch 300) also revealed at least one recut. Most of the southern and the western (Ditch 1447) sides to the south of area B were so insubstantial (Fig. 18 S1445) that it was impossible to determine whether their ditches had been recut at any point in their history.

Ditch 591 (Fig.37)

This ditch, the successor of Ditch 590 (p.31), formed a major longitudinal division across Enclosure 275 (Fig. 37). Although cut on the same alignment as the earlier ditch, it shifted its course to the west, cutting away that side of Ditch 590 completely (Fig. 18 S640). This movement resulted in the loss of many physical relationships between the earlier ditch (590) and its contemporary features. Ditch 591 was comparable in width to Ditch 590, around 3 m wide, but slightly shallower, averaging 1 m deep. It was asymmetrical in profile with a gentler slope on its west side, where the fill of the earlier ditch had been less resistant to weathering.

The ditch was filled with a primary layer of yellowish-brown loamy silt which merged to its east with a layer of mottled clay loam (Layer 655). This had entered the ditch exclusively from that side, possibly indicating the presence of an eroding bank against the eastern edge of the ditch. This layer built up to around 300 mm thick before the bank seems to have stabilised and probably grassed over. From then on the ditch filled symmetrically with a dark yellowish-brown sandy loam (Layer 641).

The pottery from Ditch 591 indicates that it was cut in the early to mid third century, possibly during a period of general renovation and re-establishment within the settlement. A mid fourth-century *folliis* (Appendix I.46) from Layer 641 (Fig. 18 S640), in the upper part of the ditch, indicates that it was still partially open into the fourth century. The presence of early Saxon pottery in its upper 300 mm of fill indicates that it was not totally levelled until well into the sixth century.

Ditch 513 (Fig.37)

This ditch post-dated, but ran on the same course as, Ditch 512 (Figs 31 and 37). It kept towards the western side of the latter except to the north, where it overlay it entirely, leaving only 300 mm of the bottom of the earlier ditch surviving.

Its profile was rounded and varied considerably in width and depth, from 1.5 to 2.2 m and from 400 mm to 850 mm respectively, being more substantial to the north. It contained a relatively homogenous fill, consisting of a yellow to grey-brown loamy silt lower fill which graduated slowly into an upper fill of dark brown loam (Fig. 32 S638). Although it contained much residual material of second-century date, derived from Ditch 512, it also con-

tained pottery of third and fourth-century date, suggesting that it had been cut not too long after 512 had been levelled in the early third century, and was itself not entirely filled until well into the following century.

At the north end of the ditch in Cut 514 two skulls and a long bone of a horse had been laid transversely within the upper Layer 515 of the ditch (Plate 7). Only 7 m to the south, in Cut 527, another horse skull had been laid in a similar position within Layer 625. Whilst caution must be exercised in the interpretation of this group of animal remains, it is possible that they represent a votive deposit. This possibility is strengthened by the fact that they date to approximately the same period as the wooden 'Taranis wheel' (p.155), found in the nearby Pit 835 (p.64), and the cockerel foundation deposit in Posthole 2051. Interestingly, an articulated sheep burial (Plate 8) was also found deposited in Pit 553 (p.226), only 8 m to the east of Ditch 513.

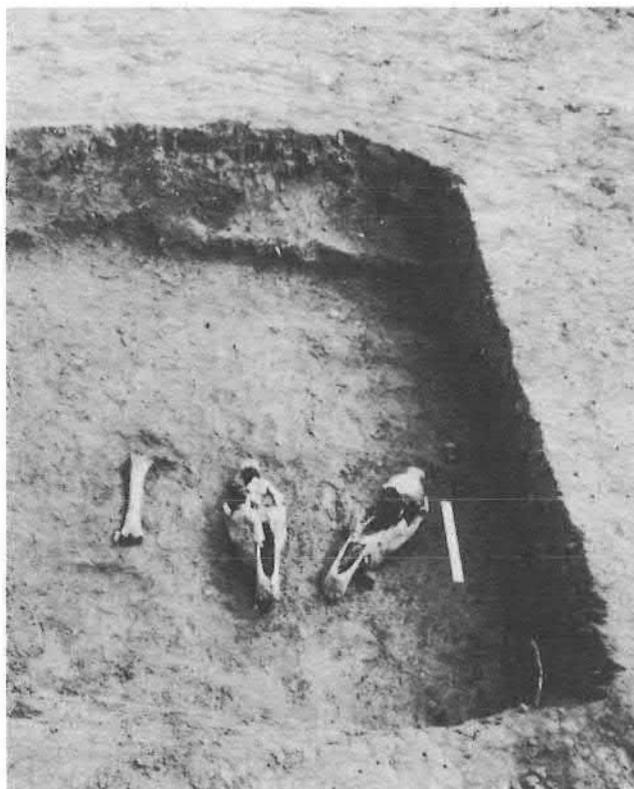


Plate 7: Horse skulls and tibia lying across the upper part of Ditch 513.

The following report on the horse skulls has been contributed by Dr Miranda Green.

It is not impossible that these animal remains were a ritual deposit: horse-skulls were deliberately placed at the bottom of disused corn-storage pits at Danebury (Cunliffe 1986, 155–171). Horses were placed under the threshold of a third-century AD basilical shrine at Bourton Grounds, Bucks. (Green 1976, 179). What is interesting in respect of the Wavendon site is that the horse was closely linked to the solar cult in later prehistoric and Roman-Celtic Europe

(Green 1991, 116–119). Indeed this connection is a phenomenon which may be traced in many Indo-European religions, including those of India, Persia, Greece and Rome. The Spartans and Rhodians sacrificed horses to the sun, as did the Persians. Common to all Indo-European solar religion was the image of the sun incarnate travelling across the sky pulled by swift horses in a solar chariot. The Danish Trundholm 'sun-chariot', which dates to about 1300 BC, is a cogent example of this perception: this is a bronze model wagon carrying a gilded sun-disc, drawn by a slender bronze horse (Glob 1974, 99–125; Sandars 1968, 213–5; Green 1991, fig. 45).

The deposit of horse-skulls at Wavendon Gate may have nothing whatsoever to do with the solar cult suggested by the wooden (p.155; 91.178) and bronze (p.113; Fig. 64.56–57 and Fig. 65.58) wheel-symbols. If they do represent ritual activity, they could instead be associated with warfare or prestige, both common religious associations for the horse in Celtic Europe (Green 1992). They may even have been offerings to the horse-goddess Epona, though there is no direct evidence that horses were sacrificed to her. The Iron Age sanctuary of Gournay-sur-Aronde (Oise) produced a great deal of evidence for animal-ritual, including the interment of seven mature horses in the sacred enclosure-ditch (Brunaux 1988). Another pre-Roman sanctuary, at Ribemont-sur-Ancre (Somme) contained a curious 'ossuary' made of the long-bones of humans and horses (Meniel 1987). Finds like this represent cults which had no link with solar veneration. However, the finding on the same site of horse-skulls and wheel-symbols may be significant.

Smaller Subdividing Ditches of Enclosure 275 (Fig. 37)

During this phase there is some evidence to indicate that much of the interior of Enclosure 275 was divided into a series of rectilinear enclosures of varying proportions. There is no reason to see these features as anything other than minor divisions perhaps defining stockyards, gardens or even small intensively cultivated fields. This is particularly so within the enclosure to the west of Ditch 591, which contained little if any evidence of domestic occupation. Any gaps in the system may well have been closed by hedgelines, fences or temporary hurdles, evidence for which is obviously no longer extant.

Ditch 526

This shallow U-shaped ditch ran on a roughly east to west alignment between Ditches 513 and 591 (Fig. 37), on a very similar line to the earlier Ditches 571 and 588, perhaps following a still-surviving earthwork or hedgeline. It remained fairly constant at 1 m wide and 400 mm deep throughout (Fig. 38 S530). It had been recut on one or possibly more occasions. The precise stratigraphic relationship of Ditch 526 to Ditches 513 and 591 remained unclear during excavation, but as it respected their line it can be assumed to have post-dated their cutting. This assumption is confirmed by the pottery recovered from its contemporary Ditch 516, which had been cut in the early third century.

Ditch 516

Ditch 516 ran into Ditch 526 from the north at an approximate right-angle, presumably also having connected at its northern end with the recut Ditch 15 (Fig. 37). It was 550 mm wide with steep uneroded edges and an angular bottom 400 mm deep (Fig. 38 S519). These characteristics, and slight evidence for lateral disturbance within its fill, suggest it may have held a palisade.

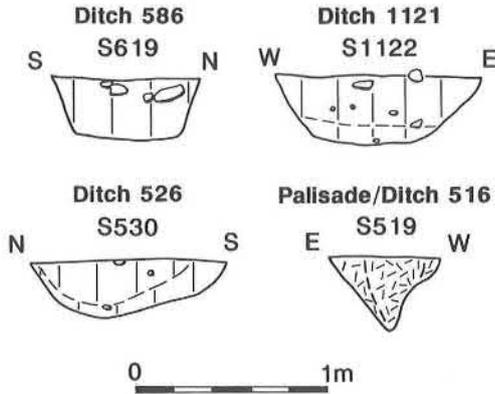


Figure 38: Sections of Ditches 516, 526, 586 and 1121.

Ditches 586 and 568

Although considerably post-dating Enclosure 30 (p.33), Ditch 586 followed the line of its southern boundary, presumably respecting the line of a relict hedge or earthwork associated with the disused enclosure (Figs 20 and 37). The ditch averaged 800 mm wide and 300 mm deep, with steep sides and a flat base (Fig. 38 S619). Pottery from the ditch dates it to the third century. Whether it had any relationship with Ditch 568 to the west, running in from 513, other than a similar alignment and identical

proportions is unknown. Certainly, both ditches were of approximately similar date.

Ditch 1121

Ditch 1121 ran into the earlier Ditch 406 (p.51) from the south (Fig. 37). It may have been associated with a possible recut (Fig. 38 S422) noted in the fill of this latter ditch.

Ditch 858

Ditch 858 probably ran across the whole bay of the enclosure between Ditches 591 and 600. It was very slight, and was not noted until the end of the excavation was imminent. Consequently it proved impossible to examine or even check its true extent. It can only have been a very minor boundary, thought to date to this period.

Ditch 739

The only excavation of this ditch occurred within the area of Hollow 900 (p.51) where it was seen to have cut through the partially silted-up hollow but to have been sealed (Fig. 34) by its later infill. Consequently this ditch must be of third-century date.

Pit 553

This amorphous pit, 650 × 350 mm across and only 100 to 150 mm deep, contained the burial of a sheep (p.226) and was located only 8 m east of Ditch 513 (Fig. 37). The hole had not been large enough to take the extended carcass, which consequently had been placed in head first and then 'wound' into the hole with its hind legs overlying its head (Plate 8). The upper part of the deposit had been truncated



Plate 8: Articulated sheep burial in Pit 553, after removal of the limbs.

by later ploughing. Whilst this summary form of burial might suggest the speedy clearance of a diseased animal, such occurrences are rare. Consequently a ritual deposition cannot be ruled out, especially considering its proximity to the deposit of horse skulls in Ditch 513 (p.62). Unfortunately there was no dating evidence, and the placing of this feature within this phase is entirely conjectural.

Pit 835 (Figs 39 and 40)

Located in the eastern bay of Enclosure 275 c.20 m to the north of Roundhouse 851/852 (Fig. 37) Pit 835 had been dug through the partially filled remains of Hollow 900. It had been cut into a friable calcareous clay subsoil as a shallow, round-bottomed cone (Figs 39 and 40) just over 3

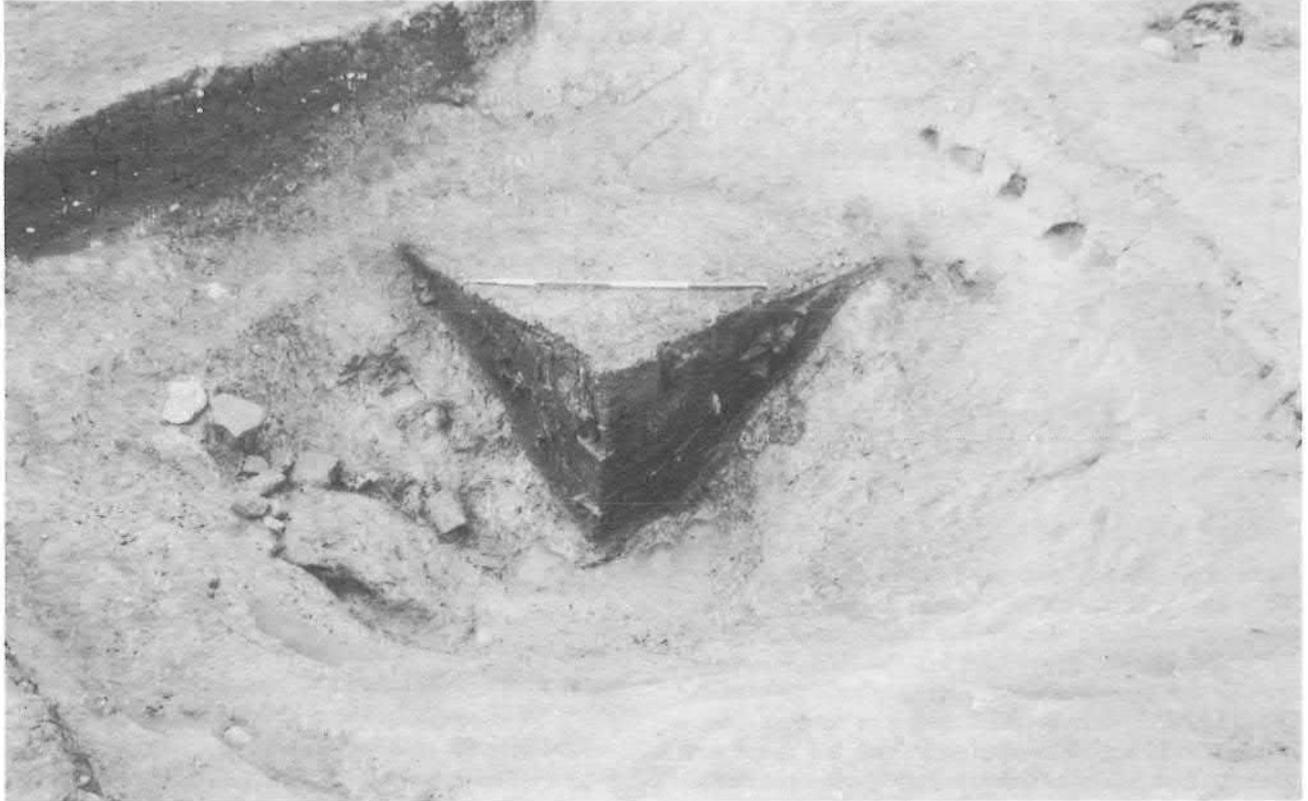


Plate 9: Pit 835 with one quadrant of the waterlogged levels remaining. The stone 'steps' are to the left and 'Slots' 2053–2056 and Posthole 2051 are clearly visible to the right.

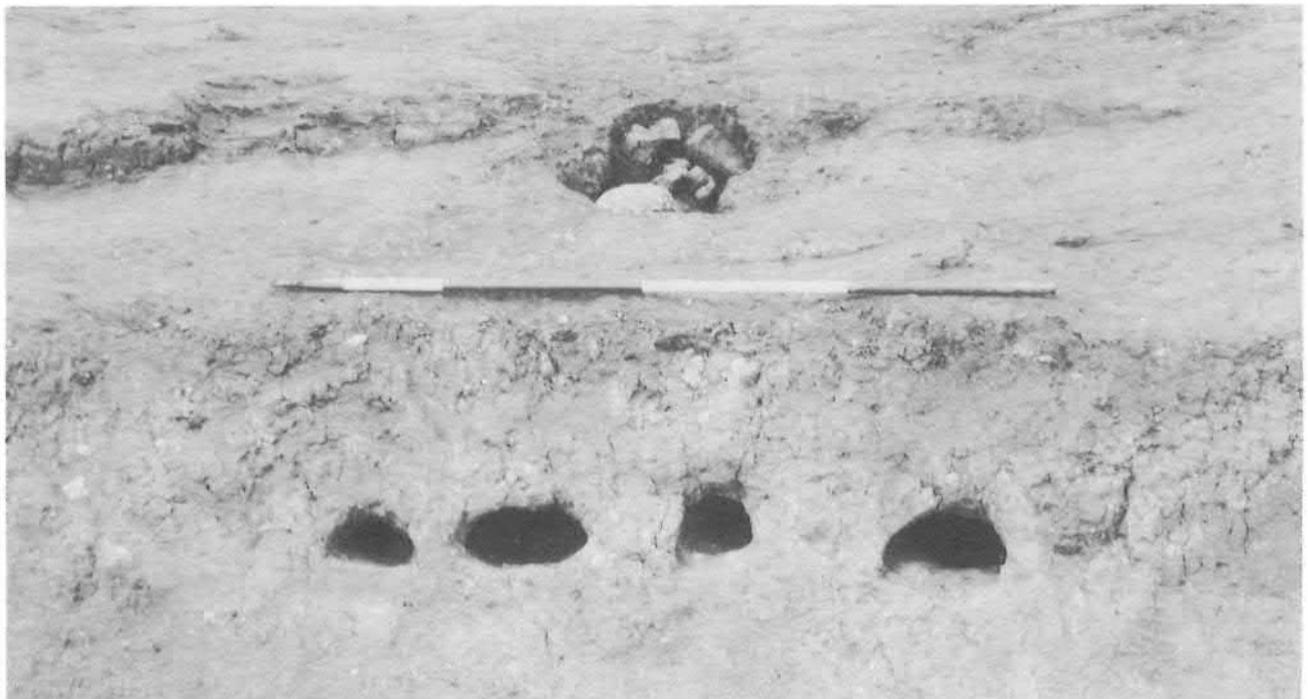


Plate 10: Timber 'Slots' 2053–2056, cut into the north face of Pit 835, with Posthole 2051 to the rear.

m deep and with a diameter of 7 m at its upper lip (Plate 9). The north and east faces of the pit were markedly steeper at 45° than those to the south and west, which were at 30°. At its shallowest point, in the south-west side, what appeared to be a tumble or scatter of large stones had been deposited in the pit (Plate 9). During excavation a more intelligible pattern emerged, suggesting that the stones had been used as crude steps facilitating movement into and out of the pit.

In the steep north face of the pit (Plate 10) four equidistant semi-circular slots (2053–2056), all flat-bottomed, had been cut in a horizontal line some 500 mm below the lip of the pit (Fig. 39), penetrating between 250 and 450 mm into the face (Fig. 40). Each may have contained a split timber, although no evidence to confirm this was found. The function of any horizontal timbers held in these slots is uncertain, but they may have been associated with Posthole 2051 and Ditch 2074. No other cut features were located in the pit. However, beyond its northern lip lay a shallow penannular ditch (2074) encircling a stone-packed posthole (2051). The relationship between these two features and the pit is discussed in more detail elsewhere (p.68), but it is thought that the posthole and surrounding ditch, although slightly postdating the digging of the pit, were broadly contemporary with much of its period of use.

The fill of Pit 835 can be readily divided into two main horizons (Fig. 40): the lower waterlogged layers, characterised by their high organic content, and the upper non-waterlogged amorphous loamy fill. Most of the upper part of the pit was removed mechanically by a mini-excavator in six arbitrary spits (Layers 905–910), during the excavation of Hollow 900, before the existence of the pit was recognised. This fill was a very dark grey loam which graduated towards a slightly more clayey matrix (Layer 929) at its junction with the waterlogged levels beneath.

Once the area of the pit had been defined, the lower waterlogged fill was divided into four equal quadrants (Fig. 39 828, 829, 830 and 831). Opposing Quadrants 828 and 829 were excavated first to establish the depth of the pit and the quality of anaerobic preservation within it. All the spoil removed from these quadrants was wet-sieved and significant finds were three-dimensionally recorded. The sections of the remaining quadrants 830 and 831 were cleaned, drawn and the remaining fill was subsequently removed in stratigraphic sequence. Although the waterlogged fill of the pit may be subdivided into discrete layers, its general character remained fairly constant, consisting of a very dark greyish-brown clayey silt containing varying amounts of organic matter and 'dumped' material, much of which lay in distinct tip lines. The primary fill of the feature contained a more clayey layer derived from the rapid erosion of the sides of the pit, which were quite loose and friable, before its stabilisation by vegetation.

The preservation of organic remains in these waterlogged layers was very full, allowing successful sampling for pollen (p.256ff), seeds and other macroscopic plant remains (p.236ff) and insects (p.258ff). However, the bulk of

the organic material consisted of twigs and branches most of which seem to have been lopped, probably with an axe or hedging hook, and summarily dumped in the pit (p.261). Most of this derived from the felling of the nearby ash tree (p.162), although a number of other tree species were also represented, including oak, willow, elder and hazel (p.264 and Tables 48 and 49). A number of pieces of worked wood (p.158; Table 47) were also recovered lying in distinct tip lines. This material consisted of many differing types of object, including a piece of a mortised 'box' side (Fig. 93.180), several lengths of weatherboard with nails still attached (Fig. 94.192–195), a broken portion of a writing tablet (Fig. 92.179) and most notably a finely carved wheel symbol (Fig. 91.178; Plate 22). The function of this piece remains obscure but may be associated with the Celtic god Taranis, the native equivalent of the Roman Jupiter (p.155). Other organic or partially organic items included the remains of four hobnailed shoes (Figs 96.198 and 97.199) and the head of an iron leaf-shaped socketed spear with part of its wooden shaft still in place (Fig. 68.65). Near the bottom of the pit (Plate 11) lay a 1.35 m long section of a large ash tree-trunk (Fig. 95.197) with evidence of the felling marks at the lower end. Unfortunately its upper end had rotted away above the level of organic preservation.



Plate 11: Ash tree trunk 197 lying at the base of the stone 'steps' in Pit 835.

Although the pit did not contain great quantities of pottery (p.186), three nearly complete east Midlands burnished wide-mouthed jars (Fig. 108.76–78) were found in close association at the foot of the crude stepping stones (Figs 39 and 40). Close by lay an almost complete Nene-Valley or Oxford ware pear-shaped flagon (Fig. 108.75). The re-

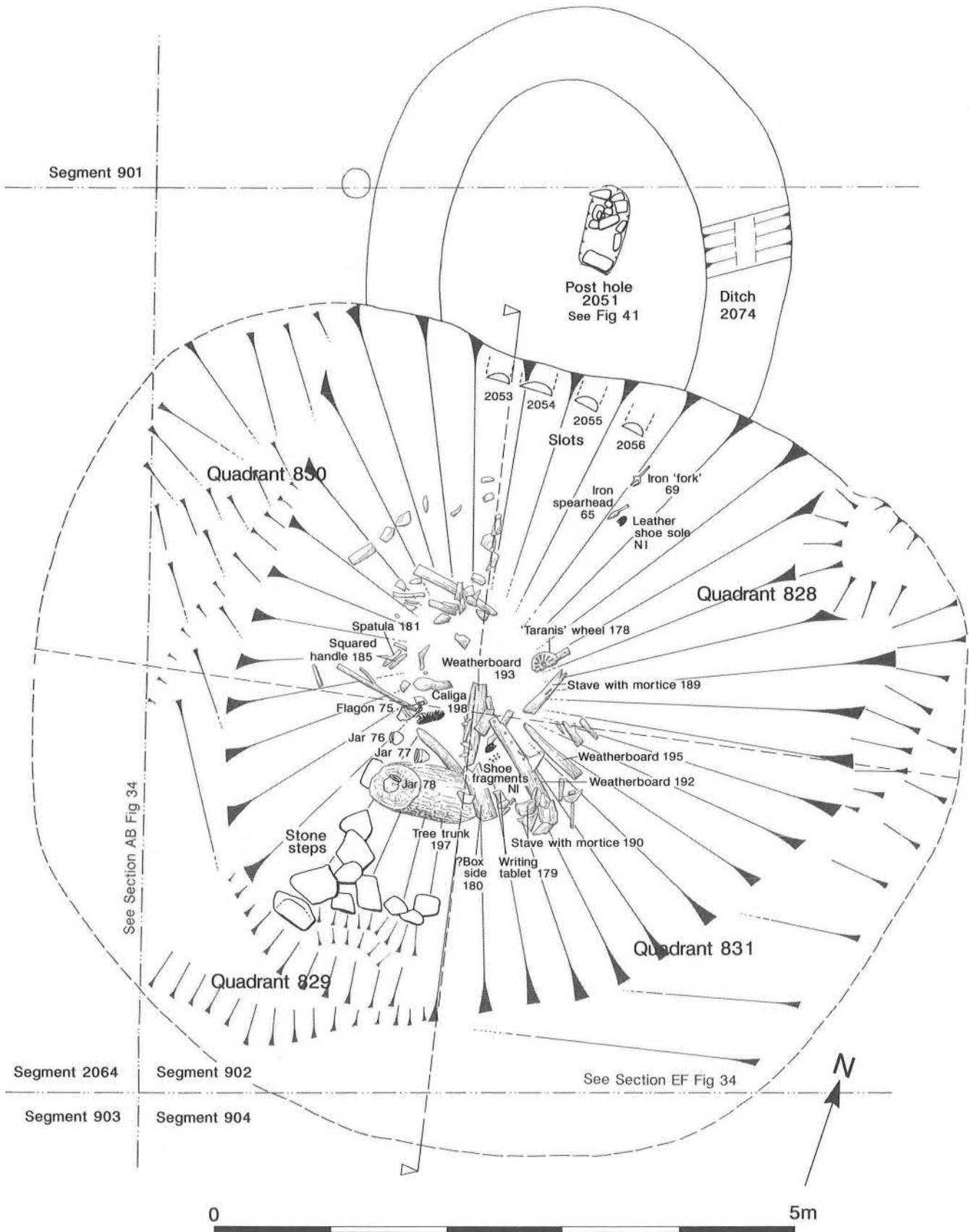


Figure 39: Plan of Pit 835 with plot of wood and other artefacts.

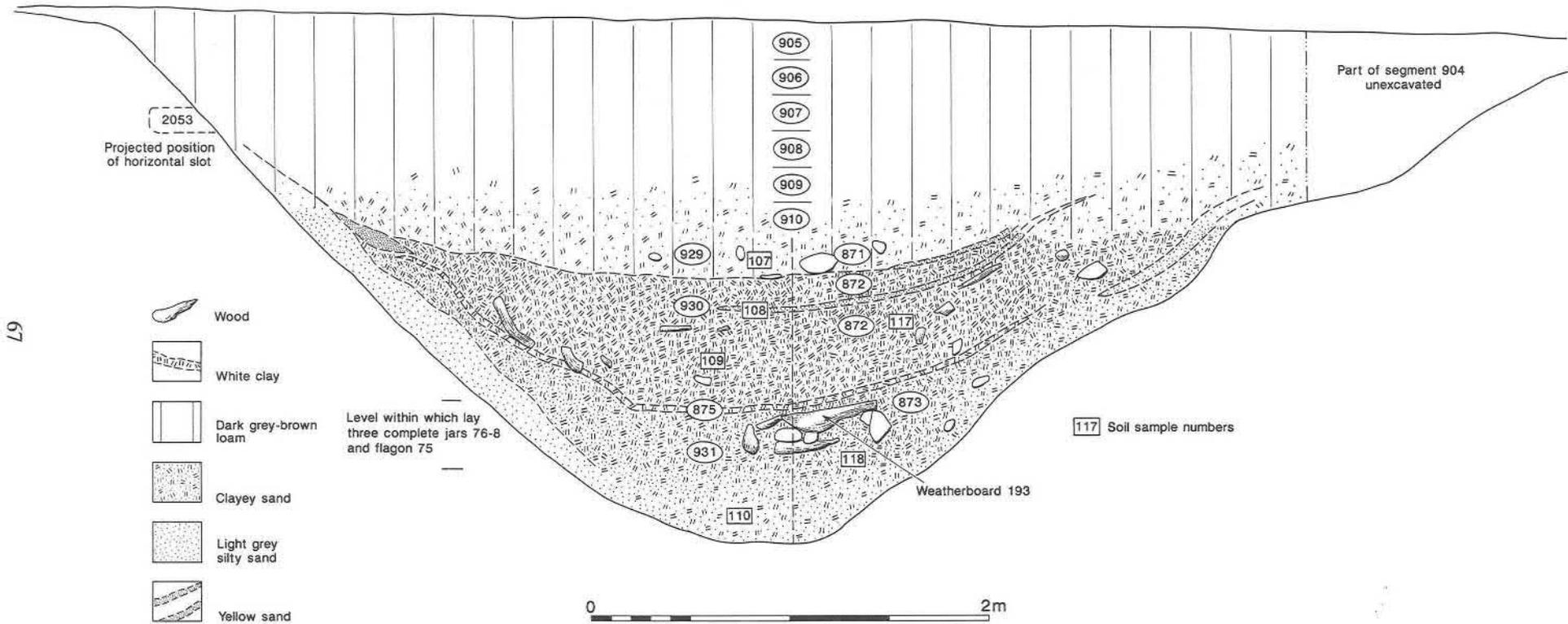


Figure 40: Section across Pit 835.

mainder of the pottery from the pit (Fig. 108.79–97) suggests a date for its excavation around the early to mid third century, and slow silting up throughout the rest of that century and into the fourth. Several Saxon sherds were found in the upper tertiary fill. Sixteen small samian sherds (Appendix IV), most of which were residual, were found in the upper Layers 905–911. The middle and upper loamy fill also contained a number of artefacts including a bone peg (Fig. 76.109), bone handle (Fig. 76.111), stone sharpening block (Fig. 98.203), iron three-pronged fork (Fig. 69.69), sawn horn core (Fig. 78.119) and a lead weight/spindle whorl (Fig. 74.96) from Layers, 871, 909, 908, 908, 905 and 905, respectively. Given the size of the feature it is certainly not unreasonable to surmise that it remained open as a distinct hollow for several centuries.

Posthole 2051 and Ditch 2074 (Fig. 41)

Beyond the northern lip of Pit 835 (Fig. 39) a horseshoe-shaped ditch (2074) *c.*2.2 × 2.5 m across, which was only 100 mm deep and 700 mm wide, ‘encircled’ a stone-packed posthole (2051). Whether the ditch had originally been complete or open-sided is impossible to determine, but if the ditch was contemporary with the posthole then it must have been dug when the pit was extant. The shallowness of the ditch was undoubtedly magnified by its having been dug through the partly silted up remains of Hollow 900.

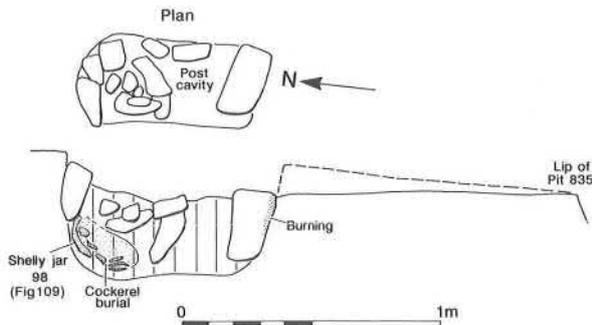


Figure 41: Plan and section of Posthole 2051.

Posthole 2051 lay 1 m to the north of the northern lip of Pit 835 (Fig. 39; Plates 9 and 10). It was sub-rectangular in shape, 800 × 350 mm across and up to 500 mm deep (Fig. 41), oriented with its long axis north to south. A large rectangular limestone block had been placed against its southern face. Evidence of fire reddening on one side suggests that the stone had been reused. A number of stones had been deposited in the northern end of the posthole (Plate 12). Beneath these (Plate 13) and perhaps even broken by them was an almost complete shelly ware ovoid jar (Fig. 109.98) and part of a late third-century flanged bowl (99). Mixed with the remains of these vessels was the part carcass of a cockerel (p.232), the significance of which is discussed below. A stone-free area in the middle of the posthole, *c.*250 mm square (Plate 12), marked the original position of a square timber post, the function of which has been considered below.

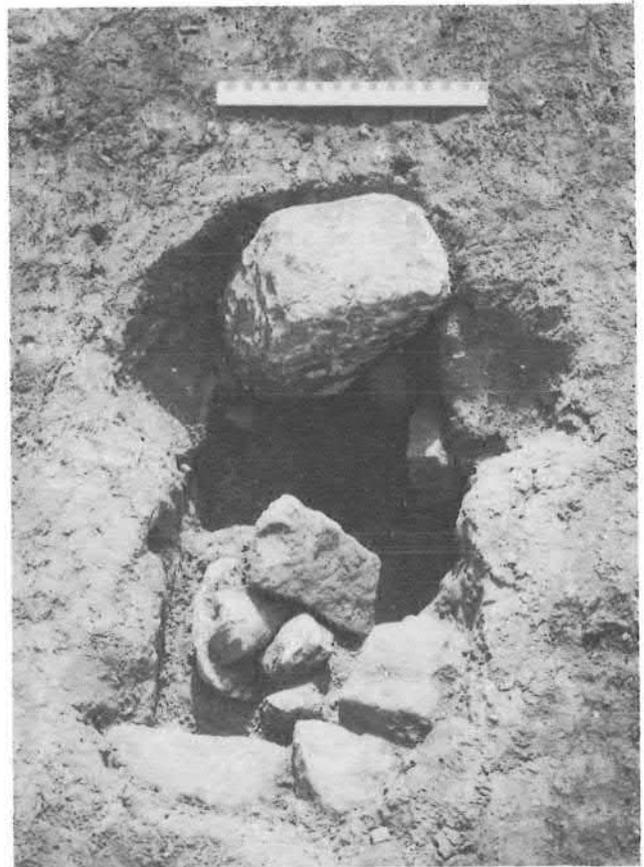


Plate 12: Posthole 2051 with post-pipe fill removed.



Plate 13: Ovoid jar 98 lying in base of Posthole 2051 with part of the cockerel burial visible beneath.

The following report on the cockerel burial has been contributed by Dr Miranda Green

That the timber post set into Posthole 2051 may have possessed a ritual function is suggested by the presence of what may have been a foundation-sacrifice. The deposit consisted of fifteen bones of an adult cockerel. The bone report (p.232) makes it clear that the skeleton does not represent the remains of a meal. Instead, it appears that the

bird was killed and its bones de-fleshed and disarticulated prior to its final deposition. This treatment of the cockerel suggests the result of ritual behaviour, not dissimilar to that evidenced by the deposits in some of the disused grain storage pits at Danebury in Hampshire, where partial animal-bodies were interred, perhaps as thank-offerings to the infernal gods for keeping the corn safe (Cunliffe 1986, 155–171). At Wavendon, the deposition of a cockerel may represent an offering to the chthonic (underworld) powers made before the erection of a cult-post, to which the wooden wheel found in the adjoining pit may have been fastened, as a symbol of the sun-god (below).

The choice of a cockerel may or may not be significant: cockerels were sacred to Mercury and, at Bancroft villa, the cult of Mercury is represented by marble and bronze images of the bird (Williams and Zeepvat 1994, 321). However, the choice may have been dictated equally by the need to select an animal small enough to fit into the posthole in its pot, but which was at the same time indicative of a real sacrifice of a creature which could have been eaten, and which thus reflected an economic loss to the community (Green 1992, 92–127). It is interesting that Julius Caesar (*de Bello Gallico V, 12*) mentions that the Britons shunned the flesh of chickens, although there is archaeological evidence for their consumption in the late Iron Age and Roman periods. In northern Gaul, as at Tartigny (Oise), chickens frequently occur in graves, sometimes in company with geese (Meniel 1989, 87–97). Although these birds are not particularly common as sacrificial offerings in sanctuaries, they do occur at such shrines as Mirebeau in Burgundy (Meniel 1987, 101–143) and Uley in Gloucestershire (Woodward 1992, 75).

Pit 835 – Discussion

The main question concerning Pit 835 and its associated features, Posthole 2051 and Ditch 2074, must be that of their original use. The effort involved in removing several tonnes of a heavy clay subsoil, from what would become a 3 m deep by 7 m diameter relatively steep-sided pit, would have been very considerable. No one reason for this being carried out is immediately apparent, although several hypotheses are considered below.

A Borrow or Quarry Pit

There is no evidence for pottery production at Wavendon during the third century necessitating the extraction of clay. The postulated presence of roundhouses immediately to the south of the pit, in the later Roman period might suggest that clay was needed for use in their wattle and daub construction. There is, however, no evidence that any of these buildings utilised clay in their construction, and burnt daub is conspicuously absent. The presence of fragments of weatherboard in the pit tends to argue against that form of construction, as does the coleopteran evidence, which indicates that timber structures stood near the pit (p.260). Even if clay was used as a building material the quantity of clay extracted seems to have been disproportionate to the quantities required.

The character of the pit itself also tends to argue against what would have been, by necessity, long and piecemeal extraction of clay to refurbish constantly decaying buildings. Its profile is quite regular, as if dug out over a short time span, and there is certainly no sign of differential extraction to exploit better veins of clay in the somewhat variable geology in the face of the pit.

Although Slots 2053–2056 could be interpreted as some form of platform used to lift clay from the pit, this seems unlikely. Furthermore, access into the pit would have been much easier on its shallower southern side, facilitated by the stepping stones.

A Pond or Waterhole

Pollen analysis from the lower fill of the pit (p.256) indicates that, within a short time of its excavation it contained a body of still water, inhabited by duckweed and many other water and mud dwelling plants. The combined evidence of the pollen, coleopteran and plant remains suggests that there was much weedy disturbed ground beyond the margins of the pit, possibly including annually cultivated areas. Moreover, the macroscopic plant remains of a variety of 'kitchen garden' plants were found, including black mustard, coriander, celery, caper spurge and summer savory together with cherry, plum and bullace. Obviously, these plants would require careful tending and watering. It is possible that the pit was used as a pond to provide a means of irrigating domestic plants. Certainly, access was provided down to what must have been a fluctuating water level in the bottom of the pit by means of the crude stone steps.

It is not improbable then that the primary function of the pit may have been as a waterhole, although, admittedly of a rather grandiose scale. The evidence for horticulture in the immediate vicinity implies the availability of considerable quantities of water over the summer months. Additionally, only one other pond or water-hole was identified on the site and that probably dates to the first century. Although the pit was too deep and steep-sided to have been used as a direct waterhole for livestock, the steps would have allowed human access and water could have been bucketed into drinking troughs. If this multiple usage had been foreseen, the scale of the pit may well have been the natural outcome.

A Ritual Pit

As mentioned above the pit, once dug, soon filled with a body of standing water. That the Romano-Celtic people saw bodies of water as potential religious foci is equally indisputable. Water was both the life source and means of cleansing, practically and ritualistically. It also follows an obvious cyclical progress; falling from the sky as rain and absorbed by the earth before rising from springs and rivers, eventually to fall again. It has an independent 'life' and 'spirit' easily linked to birth, death and subsequent rebirth. Cult sites devoted to these attributes can be seen, for

instance, at Llyn Cerrig Bach, a small coastal lake on Anglesey, where much obviously votive material had been deposited, probably in the first century AD (Fox 1946) and in the shrine to the Goddess Sequana at the source of the Seine (Deys 1971).

It may seem rather hasty to suggest that Pit 835 initially had any such religious or votive connotations for the inhabitants of the Wavendon Gate settlement. However, it is certainly not impossible that merely because it was a body of water, and also a relatively deep pit, (deep holes in themselves being seen in Celtic mythology as prime points of access to the "underworld"), it may eventually, whatever its original purpose, have been seen as such. One possible pointer to this is the discovery within the pit of a finely carved wooden wheel symbol 172 mm in diameter (p.155), a "solar disc", probably to be associated with the Sky God Jupiter/Taranis. Certainly aquatic and solar symbolism was strongly linked in European prehistory. The fact that it lay within what was essentially a rubbish deposit may point to it having been a casual discard or, alternatively, it could have been cast into the water as a final act of consecration. Either way, ritual association with the pool cannot be ruled out. There are numerous cases of 'ritual rubbish' deposited in pits and wells in south east England in the first centuries BC and AD (Ross 1968).

There is then the possibility that the pit may have represented a primary or a secondary religious focus. The wheel is the only obviously 'votive' object. There is little other material evidence to suggest a ritual function, although the spearhead could be considered as a possibility as could the three complete jars and flagon. In particular coinage, an item which appears in considerable quantities at votive sites such as Coventina's Well at Carrawburgh (Allason-Jones and McKay 1985), is notable for its complete absence from the lower fill of the pit.

Whilst the exact relationship of the pit with Posthole 2051 and its surrounding ditch remains uncertain, it is indisputable that the pit was open when the post was erected. The presence of the bones of a cockerel in the packing of the posthole points towards some type of sanctified feature around which Ditch 2074 may have defined an immediate sacred area. The post undoubtedly stood in isolation and did not form part of any structure. One interpretation is that it held some form of totemic symbol, akin to the Jupiter columns, known from elsewhere in Britain and north-western Europe during the Roman period, albeit on a much smaller scale. The presence of the wooden 'Taranis wheel' from the fill of Pit 835 might even be seen as a surviving fragment from this feature.

Although these differing hypotheses as to the use of the pit can be put forward, it has to be concluded that there is insufficient evidence to accept any one with any great certainty. Equally, none of the ideas is completely exclusive of any other.

Roundhouse 851/2 (Fig. 42)

Two concentric penannular ditches ran beyond the area of excavation to the south of Pit 835 (Fig. 42). The diameter of the larger outer ditch (851) can be estimated at 17 m and the smaller inner ditch (852) at 14 m. Both ditches had entrances c.4.5 m wide to the north. Ditch 851 had a rounded profile 550 mm wide and 350 mm deep (Fig. 42 S954), and was filled with a dark grey-brown loam which contained pottery up to mid third century in date (Fig. 109.101-106). Ditch 852 was very poorly defined, but had a similar profile to 851 and a brown silty clay fill.

Although obviously associated, it was impossible to determine whether these two concentric ditches were contemporary. The penannular ditches probably enclosed a building of some type, evidence for the structure or foundations of which was absent from the excavated portion of the area they encircled. Of course if a timber structure had been of a segmental sill-beam construction then no trace would be expected to have survived.

Stone Spread 832 (Fig. 42)

Lying to the north of Roundhouse 851/852 (Fig. 42) was an amorphous spread of disturbed and scattered limestone and cobbles (Plate 14). This spread overlay the primary fill of the southern part of Hollow 900 (p.51) and was overlaid by the upper fill of the same feature (Fig. 34). Although vague alignments of stones were noted, none seemed to form a coherent pattern apart from two concentrations (210 and 736), both of which appear to have survived because they had subsided into the fills of earlier pits.

It is possible that the scatter represents the remnants of a hard-standing between Pit 835 and Roundhouse 851/852, which must have been broadly contemporary. The disturbed nature of the scatter is probably a reflection of the value and consequent robbing of usable stone from redundant features in an area of clay geology where stone is scarce. It had also suffered from later plough disturbance. The stone does not appear to represent the vestiges of a structure, although with the evident later dispersal by ploughing, this is not impossible.

Mixed with the stone was a significant quantity of pottery as well as a number of artefacts, probably discarded as refuse. These included an iron drill bit (Fig. 69.67), an iron chisel (Fig. 69.71), five lengths of iron strapping (Fig. 73.83-85, 87 and Ni), two bone knife handles, one of which had been carved in the form of a human leg (Fig. 76.107 and 114), the rim of a glass beaker (fig. 84.138) and a whetstone (Fig. 98.202).

A slight gravel band ran northward from 210. It was of an indeterminate nature but, interestingly, seems to have aligned with the later posthole alignment 2151 (Fig. 54). A grouping of postholes (555) consisting of six postholes (2030, 2035, 2037, 2039, 2043 and 2045), all of similar type and square in plan, formed an 'L'-shape outside the entrance to Roundhouse 851/852. Their relationship to the

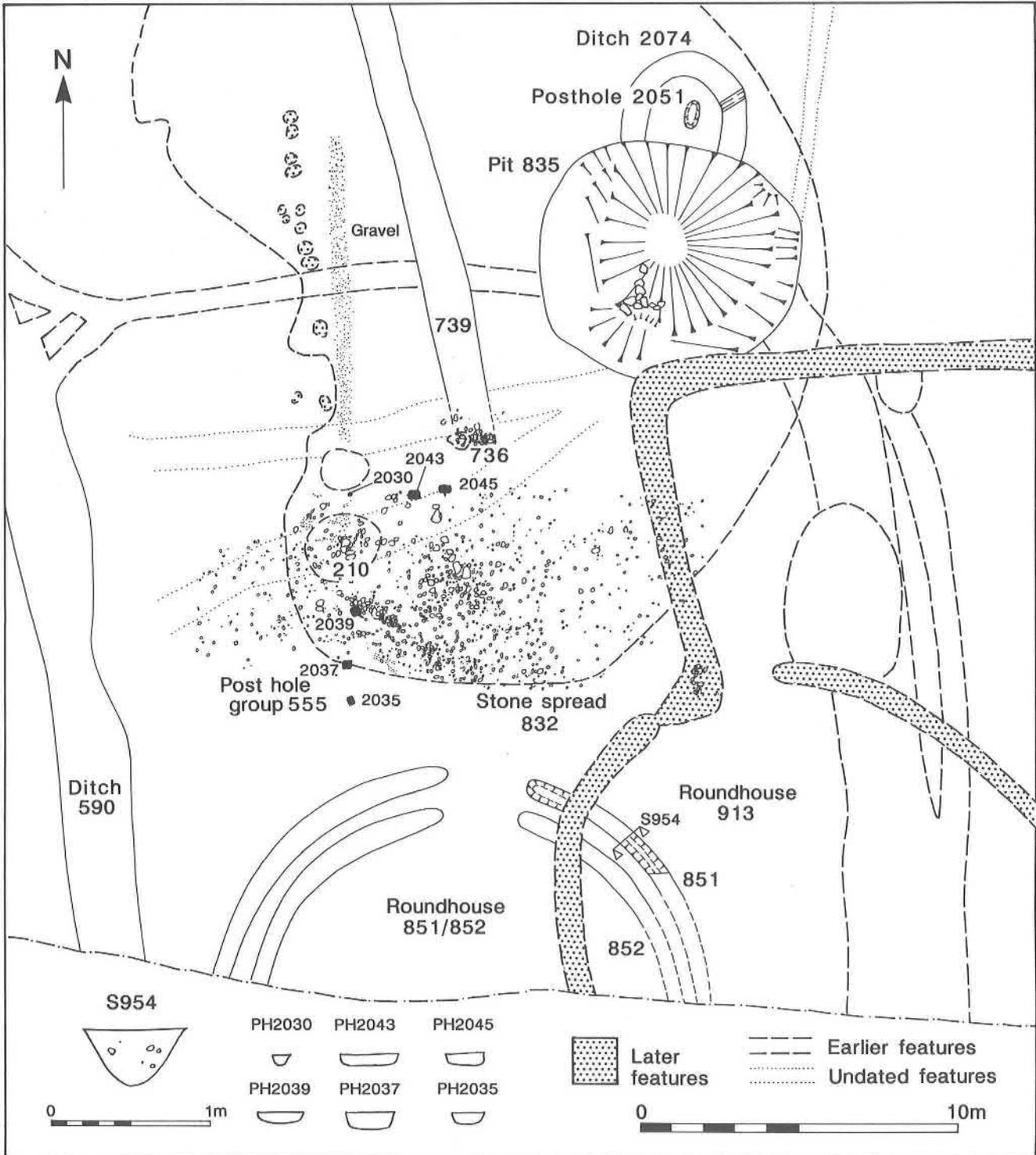


Figure 42: Plan and sections of Roundhouse 851/852, Stone-spread 832, Posthole Group 555 and Pit 835.



Plate 14: Stone spread 832.

stone spread was impossible to determine and their inclusion in this phase is speculative. It is just as possible that they were associated with the later Roundhouse 913 to the south-east, since none of them produced any conclusive dating evidence.

Features in Area A (Fig. 43)

Ditch 306

This enclosure ditch post-dated and replaced the second-century Enclosure 307, cutting away part of its ditch and also the stokehole of Corndrier 505 which 307 had encircled. Ditch 340 (p.80) had subsequently utilised the course, and cut away one edge, of Ditch 306 for a distance of 20 m before branching to the north away from the disused enclosure.

Ditch 306 retained the use of Ditch 352 for its west side (Fig. 43). Assuming that Pond 508 was still open at that time, which is not certain, the entrance in the north side would have been 6 m wide. It enclosed an area of *c.*170 square metres. The ditch varied in profile, from steep-sided and flat-bottomed on its south side (Fig. 43 S315 to more V-shaped near its terminal (Fig. 43 S373), averaging 700 mm deep and 1.80 m wide. Corndrier 378 had been constructed inside the enclosure, in this case with an associated cobbled area (355). Like the earlier enclosure ditch, Ditch 306 showed a fall towards 352 which would have facilitated drainage around the corndrier.

The fill of the ditch can be divided into two very clearly differentiated bands. Its primary fill consisted of a matrix of sandy loam with lenses and lumps of calcareous clay, running into the ditch from outside the enclosure. This layer was overlain by a dark

grey-brown sandy loam containing much charcoal which sloped into the ditch from the inside of the enclosure. It seems likely that the sequence represents the initial erosion of an external bank into the ditch. The fill was finally sealed by charcoal derived from Corndrier 378, probably only after the enclosure was no longer used.

No pottery from the ditch was later than the early fourth century, the majority being third century like that found in Corndrier 378, suggesting that both features fell out of use by the end of the third century.

Corndrier 378 (Fig. 44)

Corndrier 378 partially overlay Ditch 307 (Fig. 43), with its long axis running north-east to south-west, the stokehole at its south-west end (Plate 15). It lay inside and was undoubtedly contemporary with Enclosure Ditch 306. Like its predecessor it was 'T' shaped, 3.85 m. long and consisted of a stokehole 1.4 × 1.6 m across and a flue 1.9 m long which was 700 mm wide next to the stokehole but flared to 900 mm wide at the cross-flue. This was 2.3 m long, and varied between 400 and 500 mm wide (Fig. 44). It had been reduced in depth by medieval ploughing to an even shallower feature than Corndrier 505, surviving to little more than 150 mm deep, and had been bisected by a medieval furrow.

As with Corndrier 505, there was little evidence for any original stone lining apart from, in this case, some sandstone fragments in the northern arm of the cross-flue, which did not form any readily intelligible pattern. Additionally, one large sandstone block, 100 × 180 mm across, lay at the eastern end of the stokehole. The natural clay edges of the longitudinal flue had

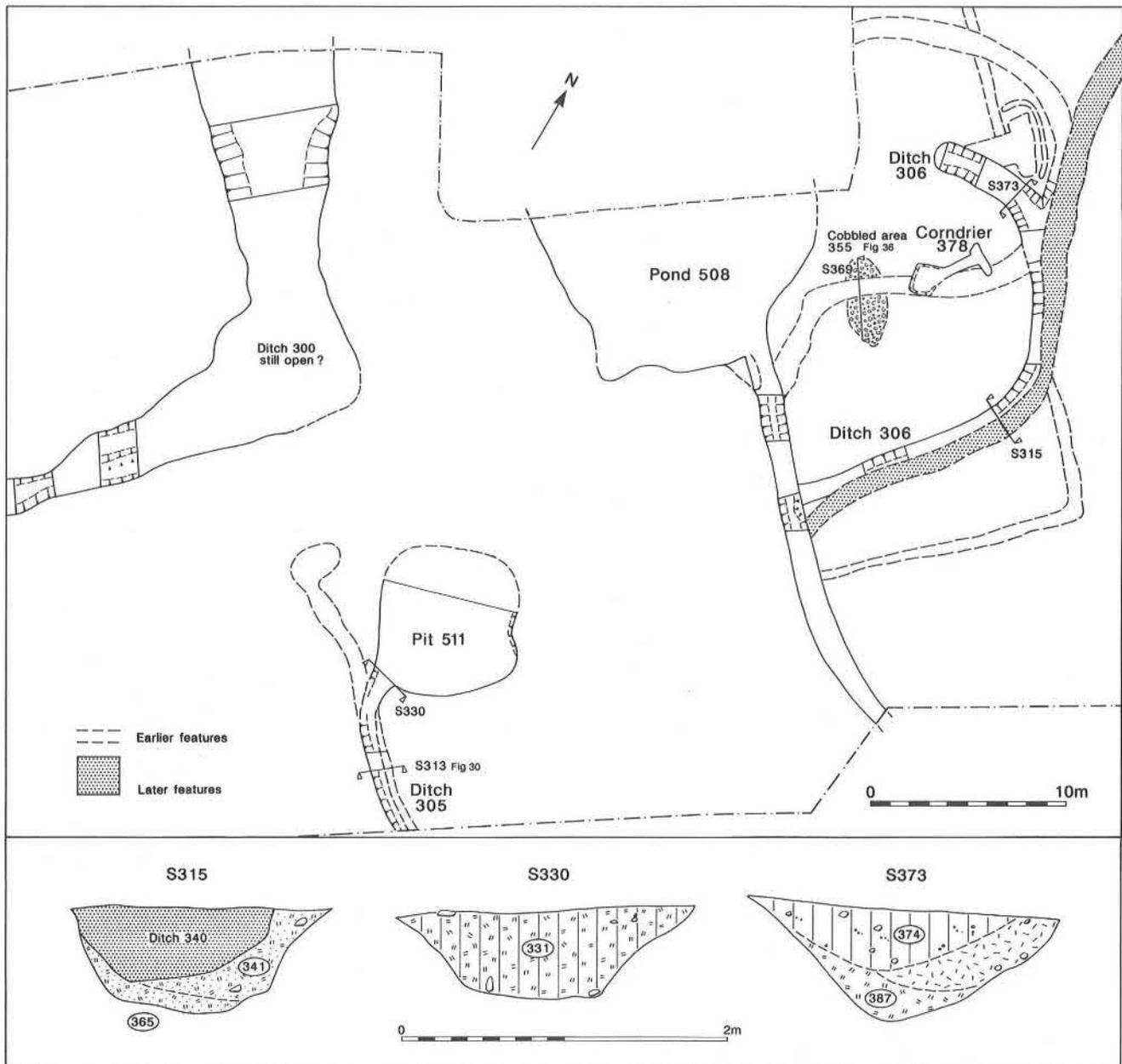


Figure 43: Area A. Early to mid third century.

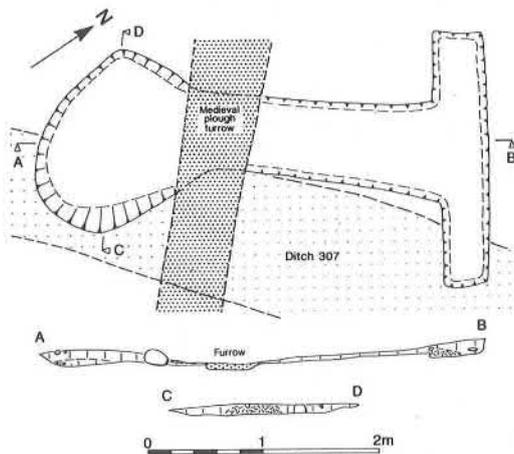


Figure 44: Plan and sections of Corndrier 378.

been slightly reddened by fire throughout its length, particularly at the stokehole end.

The fill of the corndrier varied along its length. At the stokehole it contained a dark greyish-brown sandy loam with a large quantity of charcoal in its matrix. The volume of charcoal diminished along the length of the longitudinal flue and the cross-flue contained a dark clayey loam with little charcoal. Underlying this material in the cross-flue and running from its western edge was a tip line or lens of a mottled orange/black friable clayey material containing some fragments of sandstone, obviously burnt but not apparently *in situ*. It is possible that this material represented some of the tumbled superstructure of the drier. The pottery recovered from the corndrier suggests that it was probably out of use by the late third century. Analysis of the carbonized contents of the structure (p.252) indicate that it contained fine waste material from the processing of spelt wheat. The only artefact of note from the fill of the corndrier was part of the iron blade of a scythe of Great Chesterford type (Fig. 69.68).



Plate 15: Corndrier 378, part excavated, overlying Ditch 307.

Although morphologically the two Wavendon corndriers are similar to the five others previously excavated in Milton Keynes (Mynard 1987, 33, 39 and 43–45) neither, as excavated, contained any stone lining. Corndrier 505 may well originally have contained such a lining, as is suggested by the greater width of its longitudinal flue when compared to the stone examples. This, along with the absence of any reddening of the flue walls, could indicate that all the stone, apart perhaps from the lone sandstone block within its fill, had been robbed from the feature once it had fallen into disuse. The reddening along the clay walls of the flue of Corndrier 378, along with its narrowness, suggests that it had never been lined in stone.

Cobbled Area 355

One metre to the west of Corndrier 378 (Fig. 43), a spread of pebbly sandy loam overlay the silted-up remains of Ditch 307 (Fig. 36 S369). Irregular in shape, its maximum dimensions were 4.5 m north to south by 3 m east to west. It is uncertain whether it was contemporary with Corndrier 378, but certainly post-dated Ditch 307. It may have been a working surface or hollow associated with the use of Corndrier 378, perhaps involved with the processing of wheat prior to its drying.

Pit 511 and Ditch 305

To the south of Enclosure Ditch 306 was an irregular depression, around 7.5 m across and no more than 300 mm deep (Fig. 43). Whether it was anything other than a shallow pond or muddy depression is uncertain, although it appears to have replaced the earlier arrangement of Ditch 342 draining Pit 304 (p.50). It was drained to the south by Ditch 305 which ran into the earlier Ditch 342, the line of which it utilised. It then drained towards the south-east beyond the area of excavation. Ditch 305 was flat-bottomed and steep-sided with a maximum depth of 400 mm and an average width of 1.20 m (Fig. 43 S330).

The fills throughout the hollow and the ditch were variants of a clayey silt. The pottery from these features, despite contamination from the earlier Ditch 342, indicates that Pit 511 and Ditch 305 had been in use, for whatever purpose, during the third century.

Late Third and Fourth Centuries (Fig. 45)

Throughout the later third and possibly for much of the fourth century the site remained occupied, although the intensity seems to have declined, or else its focus shifted. Whilst the incidence of fourth-century coin loss is high, representing almost half of the total assemblage from the site (Table 3), this is generally considered to be an inaccurate reflection of the level of activity at any given site. The quantity of pottery almost certainly provides a truer representation of the degree of domestic activity, and pottery of this late date is very much in the minority at Wavendon Gate.

It is likely that one certain building, (Roundhouse 912) and another possible one, bounded by Ditches 936/2121, date to the earlier part of this phase (late third century), continuing the focus of domestic activity in the eastern bay of Enclosure 275. The amount of fourth-century pottery and coinage in the upper layers of Pit 835, which must still have been a large hollow in the contemporary surface, further emphasises this observation. However, it is doubtful if Enclosure 275 was more than a denuded earthwork by the fourth century, no longer fulfilling its earlier function. Two mid to late fourth-century coins (Appendix I. 63 and 73) from the upper fill of Ditch 433 to the south of Enclosure 33 suggest that it was, however, still a visible earthwork. No further divisions were created within its confines, and no features appear to have respected its alignment, other than the two late enclosures (32 and 33) which reused its silted-up course. The area of agricultural activity outside the south-west corner of the enclosure assumed an entirely new function with the burial of at least three bodies (p.80), and quite possibly many others which have since disappeared.

Enclosure 32 (Fig. 45)

The interpretation of this feature is somewhat speculative, since its eastern side lay beyond the excavated area, having been found only in trial Trench 19 (Fig. 2). If correctly interpreted as an enclosure, c.50 m wide and up to 64 m long, then it had been appended to Enclosure 275, and made use of the silted-up course of its east side (Ditch 600). It enclosed an area of approximately one third of a hectare (Fig. 45). Its northern ditch (842) had a rounded U-shaped profile up to 3 m wide and up to 1 m deep. The southern arm of the enclosure (Ditch 883), which ran eastwards from the course of Ditch 600, was of similar width but shallower, at only 700 mm deep (Fig. 48 S886). The west side of the enclosure was more substantial (Fig. 18 S893), although this had undoubtedly resulted from

having been dug through the less resistant silts of Ditch 600. The east side was not excavated: neither were several smaller internal ditches (Fig. 2) which may have been contemporary.

Very little diagnostic pottery was found in the few sections excavated across this enclosure. However, an irregular *foliis* (Appendix I.50) dated 330–40, from the fill of Ditch 883 where it deviated from the course of Ditch 600, is useful as dating evidence. Stratigraphically Ditch 883 post-dated the early third-century major recut of Enclosure 275, and it was still partially open into the fifth and sixth centuries, as demonstrated by the quantity of early Saxon pottery (p.94) in its upper fill.

Enclosure 33 (Fig. 46)

A square enclosure, c.21 m across and covering an area of almost 450 square metres, had been appended to the inner eastern side (Ditch 433) of Enclosure 275 (Fig. 45). As with Enclosure 32 the boundary ditch of Enclosure 275 must still have been of sufficient proportions to have made it worth utilising, minimising the amount of digging required. The north and east arms of the enclosure were newly dug, both averaging 2 m wide and 700 mm deep (Fig. 46 S416 and S1037), although their profiles varied. The west and south arms both coincided with earlier features, almost certainly intentionally, as noted above. The south side ran parallel with and had cut away (Fig. 46) the north side of the earlier third-century Ditch 406. This relationship was demonstrated in Section 422 (Fig. 32) where the ditch was also found to be over 2 m wide and 800 mm deep. Its western side was lost for most of its length in a confusion of earlier recuts of Ditch 433, although in one section (Fig. 18 S1064), towards its south end, it was visible as a U-shaped cut 1 m wide and 500 mm deep. Its apparently lesser proportions along this side may have been due to an existing hedge/bank, related to the earlier Ditch 433, having provided the main barrier.

The fill of the ditch varied around its course, but generally consisted of a clayey primary silt and a darker more loamy secondary silt. In places, particularly at its south-west corner and at several points along its east side, a tertiary layer of charcoally loam containing early Saxon pottery (p.94) was visible.

An original entrance c.4 m wide was located in the south-east corner. At some stage during its use, Ditches 409 and 412 were cut across the enclosure entrance. At least one of

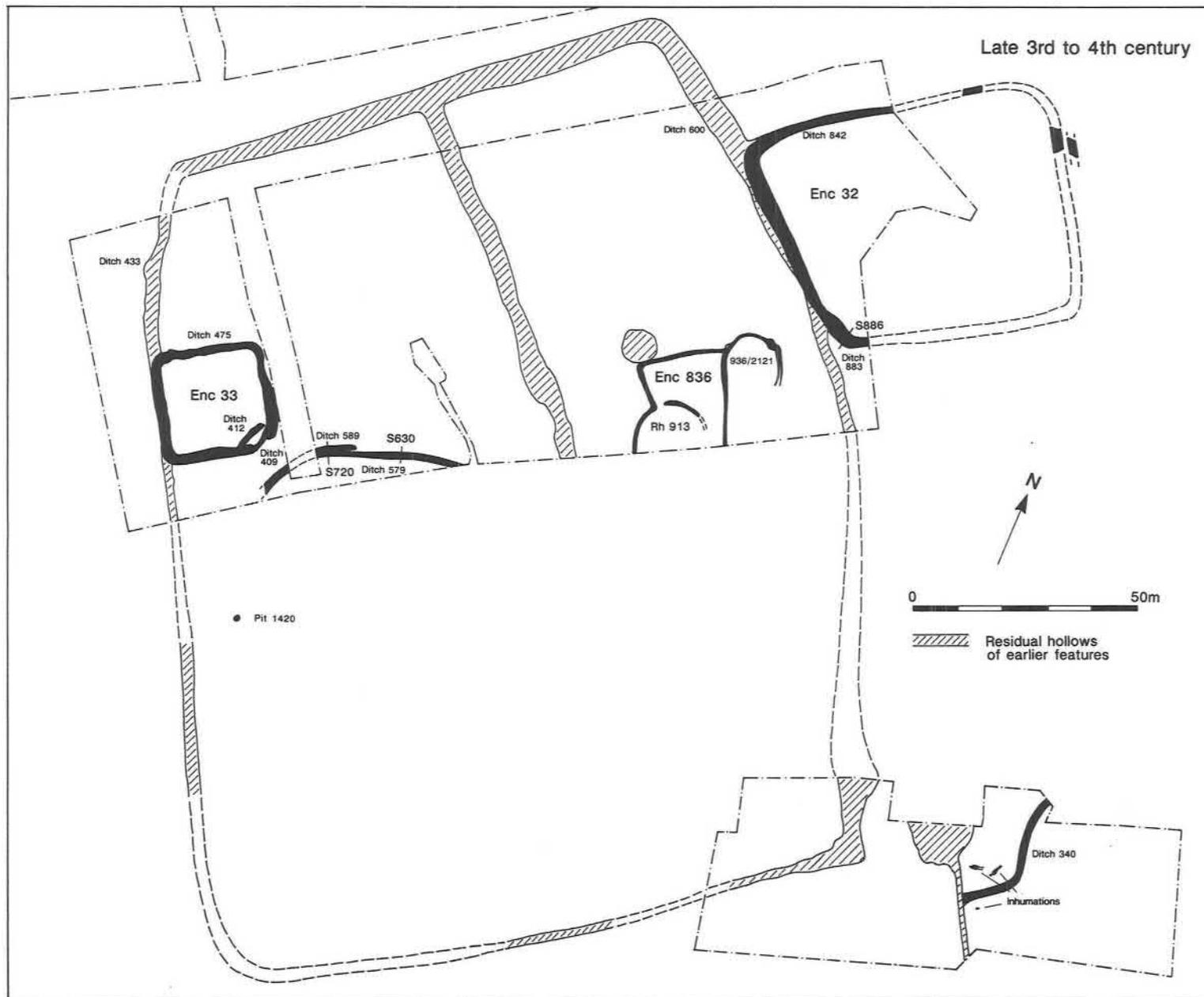


Figure 45: Phase plan - late third to fourth century.

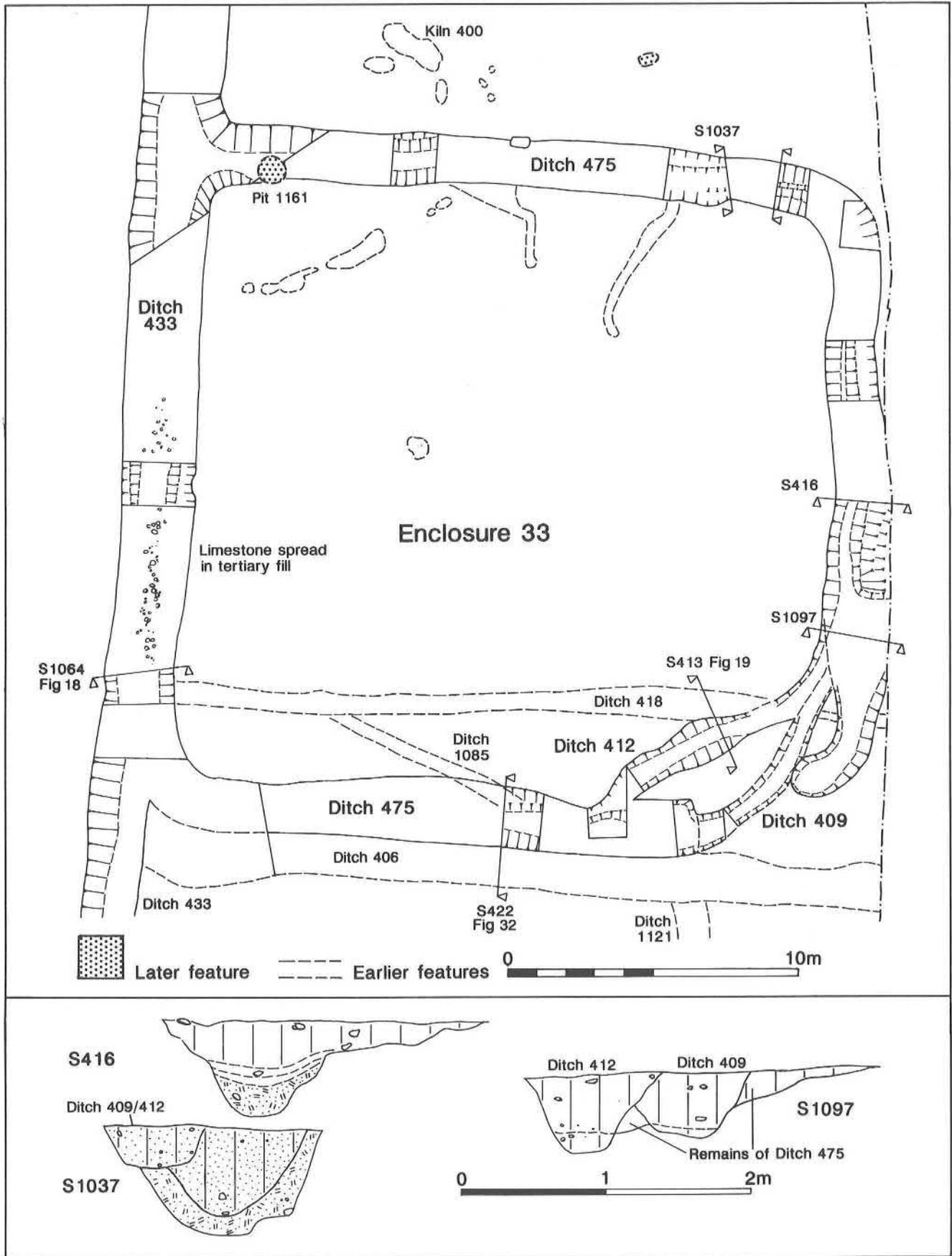


Figure 46: Plan and sections of Enclosure 33.

these ditches (it was impossible to distinguish which) was visible in the east side of the ditch in Section 1097, in the south side in Section 422 (Fig. 32) and quite possibly in the north side in Section 1037 (Fig.46). These less substantial ditches may have been later recuts of the entire enclosure, at a time at which the entrance was also presumably repositioned. No contemporary internal features were found, but the entrance in the corner may indicate that its primary function was to contain livestock.

The late Roman date of this enclosure can be reasonably established by its stratigraphic relationships, having cut both Ditch 406 and the third-century recut of Ditch 433. It had also been cut by the early Saxon Pit 1161 (Fig. 46). Its primary and secondary fills contained significant amounts of fourth-century pottery (including a complete ellipsoid jar [Fig. 103.1]), two fourth-century coins (Appendix I.57

and 106) and an interesting late Roman peacock-inscribed strap end (Fig. 67.64), which was found in the same layer (1041) as Coin 106 and very close to Jar 17. A significant amount of Saxon pottery (Fig. 116) and antler working waste (p.94) was found in the upper fill of the ditch, indicating that it had remained open well into the fifth and sixth centuries.

Roundhouse 913 (Fig. 47)

The eastern side of Roundhouse 851/852 had been cut by another penannular ditch with a projected diameter of c.13 m (Fig. 47). The west side ran beyond the excavated area and the east side faded out 8 m short of the south side of Area B. A 4 m-wide entrance was located in the north-west side. To the west of this entrance the ditch had a flat bottomed V-shaped profile (Fig. 47 S950) 800 mm wide

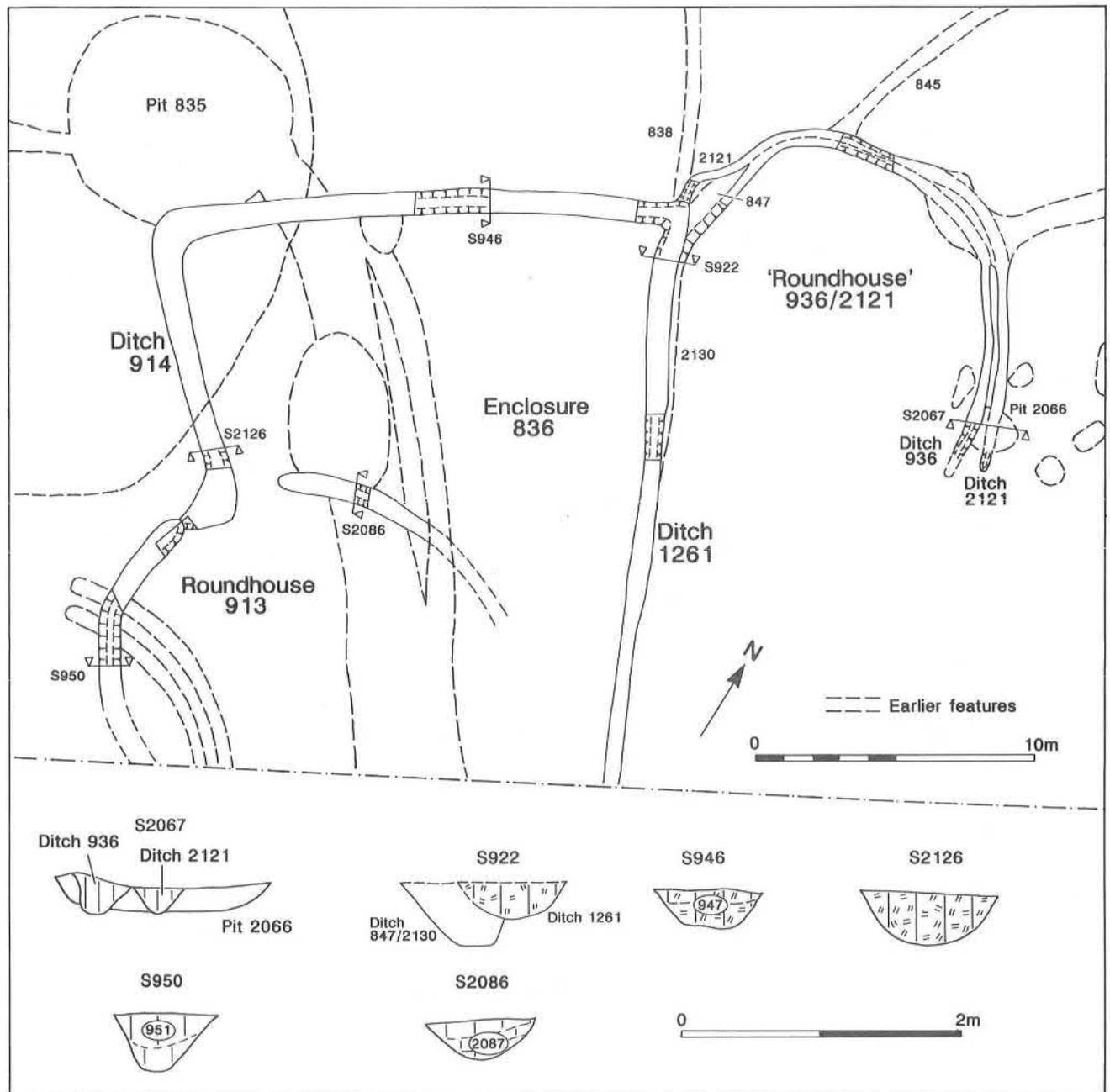


Figure 47: Plan of Roundhouses 913 and 936/2121 and Enclosure 836.

and 400 mm deep. To the east the ditch became shallower (Fig. 47 S2086) before entirely disappearing. Its fill was an homogenous dark grey-brown loam containing a single coin (Appendix I.69) of Valens (364–78). The south end of Ditch 914, forming the west side of Enclosure 836, butted against the west entrance terminal, further reducing the width of the entrance to 1.8 m. The exact relationship of these two ditches was impossible to determine, but it is unlikely that Enclosure 836 predated Roundhouse 913. It is equally possible that a building within the latter no longer existed, but that its drainage ditch was still extant when the enclosure was created. Like Roundhouse 851/852, which this feature almost certainly replaced, no internal features, structural or otherwise, could be found.

Ditches 936 and 2121 (Fig. 47)

Superimposed over Ditch 847, although running to the south beyond the junction of that ditch and Ditch 846, Ditches 936 and 2121 formed a rather angular and irregular arc of a circle (Fig. 47). To the south-east the terminals of both ditches were quite regular and distinct. Towards their north-west ends both ditches connected with the north-east corner of Enclosure 836 (below), the east side (Ditch 1261) of this enclosure having formed the west side of the 'roundhouse' ditch. This configuration of ditches left a 10 m-wide gap in the south side.

The inner ditch (936) averaged 400 mm wide and 300 mm deep, with steep sides and a flat base. The outer gully (2121), although of a similar profile to 936, was narrower, at only 300 mm wide, and shallower, at 250 mm deep. Any such difference is likely to be meaningless in functional terms since both were relatively small. Both contained a similar brown sandy loam fill, and at no point was it possible to determine any sequence of digging. To the south-west both ditches cut Pit 2066 (Fig. 47 S2067) which was part of the earlier pit complex possibly associated with the earlier Ditch 847. Since these pits had been backfilled in the early to mid third century, this provides a useful *terminus ante quem* for the two small ditches. A small amount of fourth-century pottery in Ditch 936 suggests that these two ditches had been open until sometime in that century.

There is little tangible evidence for any building having been located within the area demarcated either by Ditches 936/2121 or the earlier Ditch 847. However, the prolonged use of this part of Enclosure 275 suggests that the area surrounded by the various ditches was important for at least two centuries.

Enclosure 836 (Fig. 47)

Lying between Roundhouse 913 and the possible roundhouse delineated by Ditches 936/2121 was a small enclosure c.16 m long and 9 m wide at its west end. Its north and west sides were formed by Ditch 914 and its east side by Ditch 1261. The latter ditch ran on the same alignment as, and had replaced (Fig. 47 S922), the earlier boundary

Ditch 2130 (p.58). No south side as such existed; the north side of Roundhouse 913 may have closed this off. The ditch had an open U-shaped profile averaging 850 mm wide and 400 mm deep (Fig. 47 S922, S946 and S2126), and was filled with an homogenous dark silty loam.

Whether this enclosure had formed an ancillary area associated with Roundhouse 913 is uncertain, although as it contained pottery of mid fourth-century date, it was one of the latest Roman features in this part of the enclosure.

Ditches 579 and 589 (Fig. 45)

This pair of curving ditches ran on an approximately east-west course to the south side of Area B (Fig. 45). At its east end Ditch 579 emerged from the southern edge of excavation and ran into the hedge baulk. Ditch 589 ran parallel with and had cut away the north side (Fig. 48 S720) of Ditch 579, but terminated 9 m to the east of the baulk. To the west of the baulk only one ditch cut was visible but, since no excavation took place, it was impossible to determine whether it was 579 or 589.

Given the very limited visible extent of both ditches it would be pointless to speculate on their function. Both contained fourth-century pottery as well as large amounts of earlier residual material, including a surprisingly large proportion of Samian (Appendix IV) and two second-century coins (Appendix I.13 and 80). It is possible that Ditch 579 may have existed at an earlier phase, since several possible recuts were distinguishable in Section 630 (Fig. 48) towards its east end.

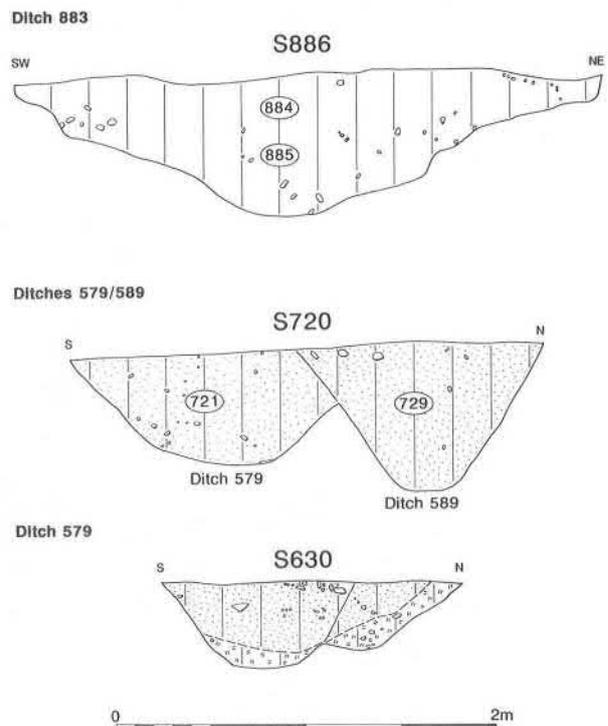


Figure 48: Section of Ditches 883 (Enclosure 32) and 579/589.

Pit 1420 (Fig. 45)

An isolated fourth-century pit was located in Trench 47 (Fig. 2) during the evaluation of the area to the south of Area B and to the west of Area A. The pit was only partially revealed, but was up to 900 mm across and 280 mm deep with a flat base. In addition to a small quantity of fourth-century pottery, it also produced an enamelled copper-alloy seal-box lid (Fig. 60. 40).

Features in Area A (Fig. 49)

Ditch 340

Running into the area of excavation from the north, Ditch 340 met the infilled course of Ditch 306 (Fig. 49) and ran along it cutting away the east and south sides of Ditch 306 until just before its junction with Ditch 352, where it veered to the south. Ditch 340 was relatively shallow, averaging only 500 mm deep, with a rounded profile which varied in width from 1 m (Fig. 49 S314) to 1.6 m wide (Fig. 49 S373). It was filled with a brown sandy clay, not dissimilar to the subsoil into which it had been cut, but with little sign of any domestic refuse in its fill. The course of the ditch suggests that it was taking the easiest route towards Ditch 352 which must still have been kept open.



Plate 16: Inhumation 211 lying along Trial trench 31, with Inhumation 213 to the rear.

The very small quantity of pottery from the ditch was clearly residual. That it had cut Ditch 306, which contained pottery up to late third century in date, suggests that Ditch 340 had been in use into the fourth century. The only possible associated features were the remains of three burials (Inhumations 211 and 213 and Skull 215). Since only two of these were within the area bounded by Ditches 352 and 340, it is difficult to see any obvious relationship, even though the burials and the ditch may have been contemporary.

Burials (Fig. 50)

Inhumation 211

This skeleton was found lying longitudinally along Trial Trench 31 (Fig. 49). It lay at the interface of the cultivated arable ploughsoil and the gravelly clay, at a depth of only 300 mm. It was also sited on the top of one of the medieval plough ridges, which were relatively pronounced in this part of the site. It lay supine in a fully extended position on a south-west to north-east alignment, with the head at the south-west end (Fig. 50). The right arm lay across the stomach and the left arm appeared to lie beneath the rib cage, although owing to the damage to the bones this observation is more speculative. Many of the bones were in a fragmentary state having been both plough-damaged and then scraped longitudinally during the trial-trenching operation (Plate 16) by a mechanical excavator.

Whilst the sex of the individual was impossible to determine, it was undoubtedly the burial of an aged individual displaying the characteristics of degenerative disease on many of the bones (p.235). The remains of two possible iron coffin nails were found in close proximity to the skeleton, but no grave cut was distinguishable and there were no associated finds to date the period of burial.

Inhumation 213

This burial was also located during the machine excavation of Trial Trench 31, 3 m to the east of Inhumation 211 (Fig. 49), at which time the left femur was dislodged. The trench was subsequently enlarged to expose the entire skeleton and allow its proper excavation. This grave too was only 280–300 mm deep and, with the more careful excavation of the head end, it could be seen to have suffered plough damage. It lay supine in a fully extended position on a north to south alignment, with the head at the south end (Fig. 50). The arms were crossed over the stomach/pelvic area with the left hand lying over the right forearm (Plate 17).

This was also the burial of an adult, possibly a male (p.236). The skeleton was lying in the remains of a shallow grave cut 1.75 m x 450 mm across. Two iron coffin nails were found around the periphery of the cut, but their exact positions were not plotted.

A Carbon 14 determination on the human bone gave a calibrated date of 1616±49 BP (UB-3467) which gives a calibrated range of AD 266–550 at the two sigma range (p.270), and confirms the burials to be of late Roman or perhaps even early Saxon date.

Skull 215

During the machine excavation of Trench 37 (Fig. 49) a human skull and four cervical vertebrae were revealed approximately 8 m south-east of the other two inhumations. The position of the

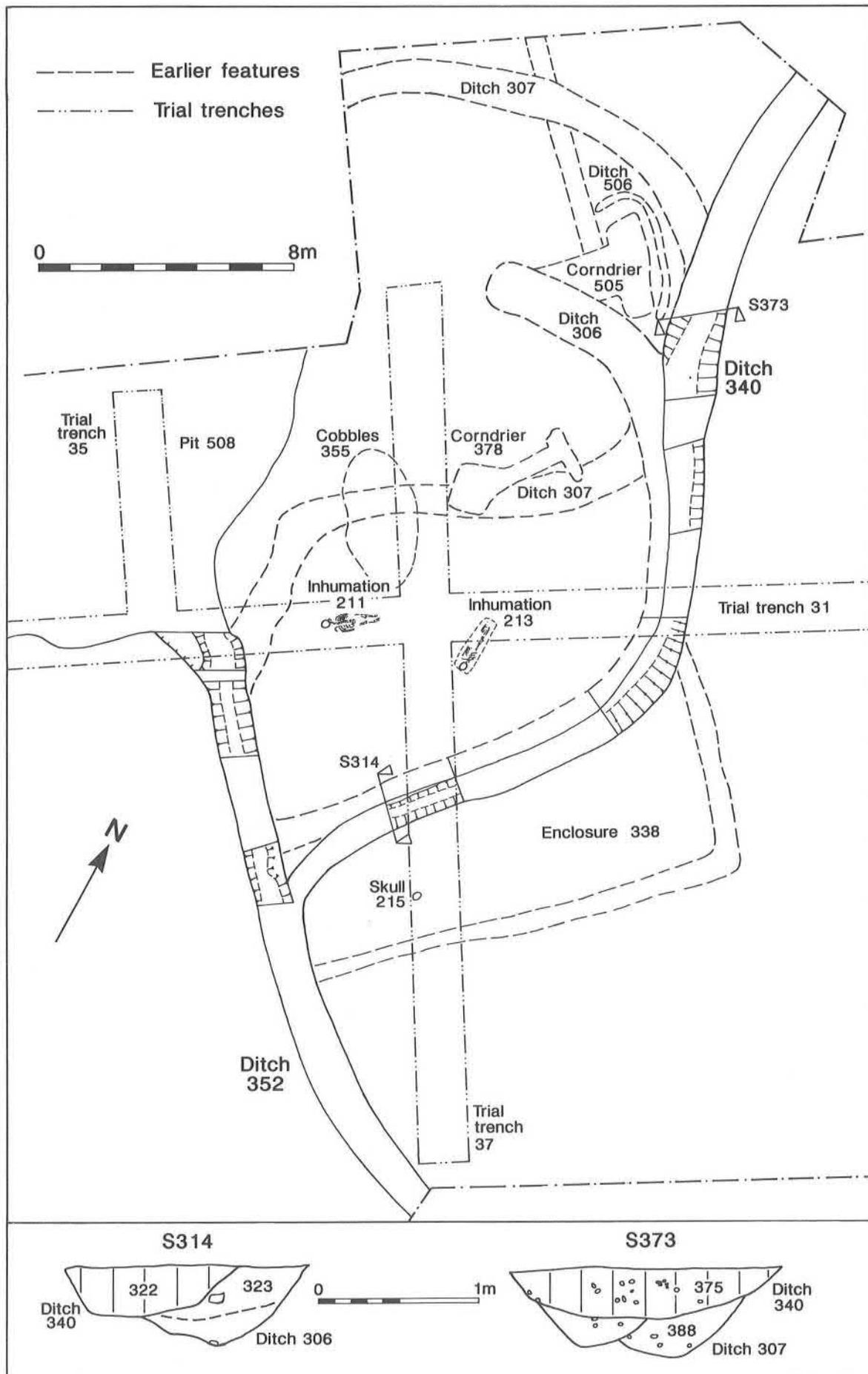


Figure 49: Area A. Late third to fourth century.

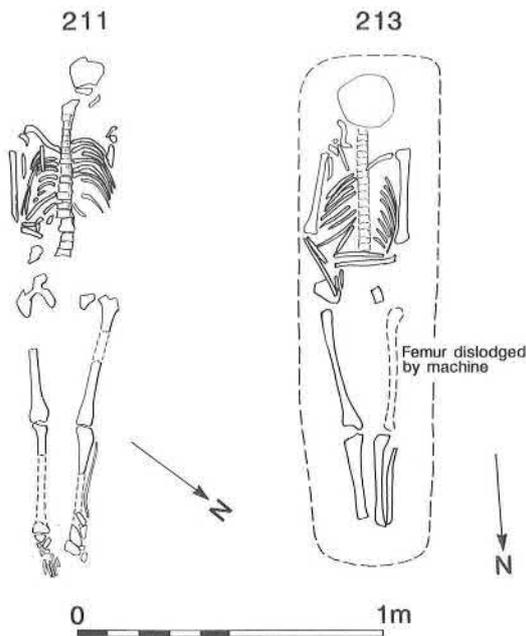


Figure 50: Inhumations 211 and 213.

remaining vertebrae in relation to that of the skull indicated that the body had been aligned approximately north to south, with the skull at the south end. The skull was identified as that of a relatively old adult, perhaps a male (p.236).

Burial – Discussion

The existence of three inhumations barely justifies the use of the term cemetery, but the former existence of other burials in the area cannot be discounted. That the two nearly complete inhumations had been plough-damaged, and that only the skull of the third had survived, may be indicative of the very shallow depth of their burial. It is, however, most unlikely that an articulated human body could have been buried originally in a grave less than 500 mm deep. This can only signify that the graves were either dug through pre-existing positive earthworks, such as a bank or mound, or more likely that substantial loss of subsoil has occurred since the time of burial. This latter possibility seems to be supported by the relatively shallow depth of survival of Enclosure Ditch 275 to the south of the Wavendon road where the ground dropped away more sharply than to the north.

At the time of excavation the ‘style’ of burial, together with the lack of any grave goods, was taken to suggest that they were of late Roman date. The subsequent C-14 date, whilst broadly confirming this supposition, does allow for the possibility that they are of sub-Roman or even early



Plate 17: Inhumation 213 with grave cut visible.

Saxon date. The total absence of any corroborative evidence or stratigraphic relationships make it impossible to be more certain. The north to south alignment, with the head at the south end, is commonly found in both late Roman and early Saxon burials.

If the burials date to the fourth century then it is possible that they were associated with Ditch 340 (p.80). It was certainly noticeable that little domestic refuse had been deposited in this ditch, and is perhaps a further indication that what had earlier been the site of agricultural activity was used as a cemetery in the later Roman period.

Roman Discussion

Settlement Pattern

Wavendon Gate is situated on a slight ridge 2 km east of the River Ouzel and 3 km north of the Woburn Heights, which although now mostly wooded were formerly dominated by heathland. The landscape to the west of the site has been intensively investigated in recent years during the construction of Milton Keynes, revealing a dense pattern of Roman settlements (Mynard 1987, 6–18). However, to the east in west Bedfordshire the settlement pattern is much sparser. Whilst this is probably due to a lack of detailed archaeological fieldwork (Simco 1984, 21), it has also been suggested (Dix 1981) that the area could have been given over to horse breeding and training, which would have required large open areas of grassland.

To the west of the site, the Ouzel Valley was densely settled at comparatively regular intervals (Fig. 51), in a manner similar to many other river valleys such as the Ouse (Simco 1984), the Upper Thames (Lambrick and Robinson 1979) and Nene (Taylor 1975). A slight anomaly, noted by Zeepvat *et al.* (1994, 51) in the report on the nearby site at Caldecotte, is the apparently greater density of settlements to the east of the river, for which it is difficult to find a rational explanation. Whilst the Wavendon Gate site is further from the river than many other contemporary sites, this probably enabled the occupants to exploit an even greater variety of soils and habitats, reflected in the broad economic base of the settlement, as suggested by both the faunal and floral remains.

Wavendon Gate was sited only 3.5 km north of the Roman town of *Magiovinium* (Neal 1987), which was perhaps no more than an hour's walking distance away. There can be little doubt that this small town, and the fort which preceded it, would have provided both a ready market and a source of specialist goods for the many local rural settlements within its immediate catchment area, such as Wavendon Gate.

Settlement Form and Development

About the middle of the first century AD a major rearrangement of the settlement was undertaken, with the creation of a large ditched enclosure c.170 × 150 m across, enclosing almost three hectares. The site of the later Iron Age settlement to the north was abandoned, and the new enclosure only partially overlay the previously occupied area. The creation of large enclosed areas by means of substantial ditches and banks is a commonly occurring phenomenon in lowland Roman Britain in the second half of the first century. Numerous close parallels can be cited

including Gorhambury, Herts. (Neal *et al.* 1990), Barton Court Farm, Oxon. (Miles 1984), Odell, Beds. (Dix 1980; 1981) and more locally at Bancroft (Williams and Zeepvat 1994). In many instances, including all those referred to above, the new enclosures were superimposed over the existing Iron Age/Belgic occupation areas. At other sites, such as Werrington, Cambs. (Mackreth 1988), rather than digging a new enclosure ditch the pre-existing Iron Age earthworks were reused.

Why the new enclosure at Wavendon Gate should, purposely or otherwise, have avoided the site of the earlier settlement is difficult to ascertain. There seems to have been no topographic advantage to moving such a short distance to the south. The decision may have been taken to build on a clear site, avoiding what would undoubtedly have been a confusion of old banks, partially infilled ditches and perhaps even derelict buildings. If this simple explanation is correct, it is in stark contrast to many other sites where the same area was repeatedly used. The hypothesis at Gorhambury (Neal 1990, 89) that such reforms might have been socially unacceptable is not manifested by the evidence at Wavendon Gate. That a conscious decision was taken to shift the settlement might even be taken to suggest that there was a change in ownership at this time, although all the other possible indicators suggest a degree of continuity.

The enclosure ditch was subjected to periodic recutting and remained open as a major boundary until at least the early fourth century, when a number of smaller enclosures were appended to it. Throughout the first to third centuries the enclosure was the centre for both domestic occupation and a range of farming and horticultural activities. Apart from the numerous small internal divisions, which were frequently realigned or replaced, the enclosure was subdivided at the outset by a major ditch (590/591) into two unequal 'bays'. These two areas appear to have been used for different purposes, principally as a farmyard/working area to the west and for domestic activities to the east. The functional division of enclosures is not uncommon, and is evident at both Barton Court Farm (Miles 1984) and Gorhambury (Neal *et al.* 1990), and to a lesser extent at Odell (Dix 1981).

The few buildings recognised were all located in the eastern half of the enclosure. Furthermore, the spatial distribution of artefacts and the phosphate analysis of the ditch silts suggests that domestic activity was more concentrated to the east of the central ditched division. The evidence of

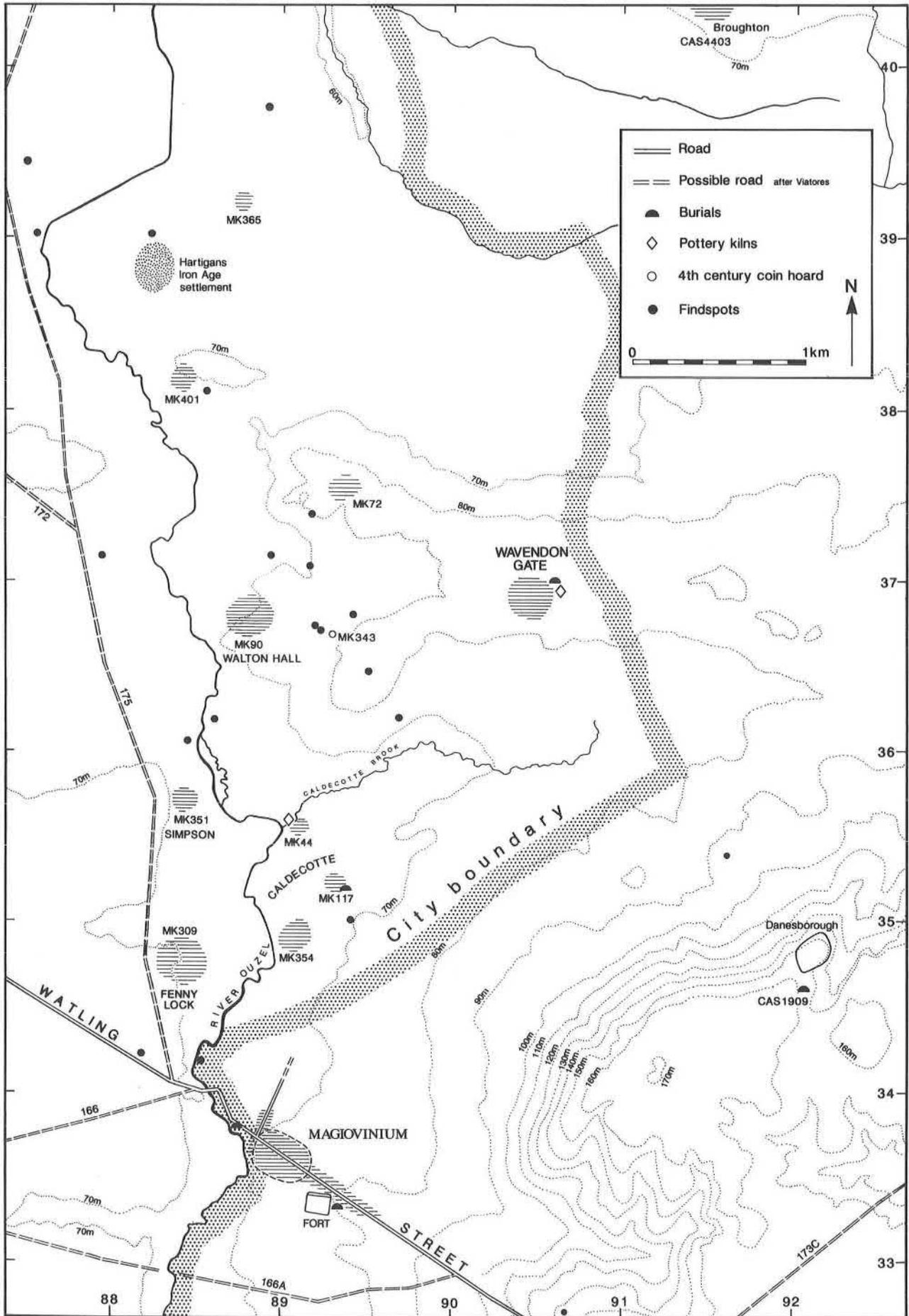


Figure 51: Distribution of Roman sites in the area.

the plant remains and the coleoptera from the third-century Pit 835 indicate that, in addition to the buildings, there was a vegetable garden in the eastern bay. The absence of any foul organic matter in the pit signifies that, in the third century at least, animals were not kept nearby. However, the suggestion that Hollow 900 may have been a crew-yard for stalling dairy cattle in the later second century and that Posthole 2051 may have been associated with ritual activities in the third century, demonstrates that the eastern bay was not entirely given over to domestic occupation and related activities.

No buildings were located in the western 'bay', which in the first century contained the two pottery kilns and presumably the potters workshop, since this is unlikely to have been far removed from the kilns. Throughout the earlier and middle part of the Roman period this 'bay' was subdivided by small ditches into a rectilinear pattern of smaller enclosures, paddocks or animal pens. It is highly likely that these ditches, which would undoubtedly have aided drainage of the interior, were also accompanied by low banks, slight evidence of which was recorded in the ditch fills. The combined environmental evidence also strongly suggests that hedges grew in or around the enclosure, and it is logical to assume that these followed the lines of the ditched divisions.

The siting of a trackway to one side of the enclosure at Wavendon also occurs at Barton Court Farm, Gorhambury and Odell, and seems to have been a common arrangement for funnelling stock into the enclosures from surrounding fields.

Whilst excavation was mainly concentrated on the enclosure, the absence of Roman features to the north in Area C, and in the trial trenches to the south and east, suggests that open fields existed beyond the edge of the enclosure. The only exception was a cereal processing area, consisting of two corn-drying ovens of second and third-century date outside the south-east corner of the enclosure, each contained within a small enclosure. The location of what was probably a very smoky and smelly activity away from the main occupation area was also noted locally at Bancroft (Williams and Zeepvat 1994, 83) and Wood Corner (Mynard 1987, 45) where corndriers were located, 300 and 250 m respectively, away from living areas.

There is no reason to believe that there was a break in continuity between the late Iron Age/Belgic and the early Roman settlement. The economic basis of both was little different, and it seems unlikely that there was any change in the inhabitants. Most of the physical changes resulted from the increasing assimilation of, and the general economic stimulus created by, 'Romanization', a process which had begun in the pre-conquest period, but which obviously accelerated after AD 43. The close proximity of Wavendon Gate to the developing urban centre at *Magiovinium* would have provided adequate opportunities for the occupants of the site to have come into contact with

new customs and ideas, and probably subsequently to have incorporated them into their lives and working practices. The creation of the cremation cemetery and the manner of burial is one obvious example of this phenomenon.

The success and prosperity of the settlement and its general development through time might be expected to reflect that of other rural sites in the region. The settlement's comparative affluence in the later first and second centuries, a time of prosperity throughout southern Britain, compares well with many local sites such as Bancroft (Williams and Zeepvat 1994). The close proximity to *Magiovinium* with access to a major road should not be underestimated in this respect.

The end of the second century is widely recognised as a watershed between an early period of expanding rural settlement and a later period of settlement stasis (Mynard 1987, 100), followed by a revival in the later third century and a more general period of resurgence and prosperity throughout the fourth century. The evidence for later second and third-century occupation in the Milton Keynes area is, however, conflicting. Though many sites thrived, others such as Bancroft (Williams and Zeepvat 1994) and more locally Caldecotte and Simpson (Zeepvat *et al.* 1994) were either abandoned or suffered severely curtailed domestic activity. Wavendon Gate appears little changed throughout the third century, apart from a possible change in its pastoral economy, with much greater emphasis on secondary products including milk and wool. In fact, the artefacts and environmental evidence from the third-century fill of Pit 835, along with the evidence of refurbishment on the site, seen in the extensive recutting of the enclosure ditches in the early third, indicate that the settlement positively thrived at this period.

Towards the end of the third and throughout the fourth century, whilst many sites, such as Bancroft, prospered and extra-mural expansion occurred at *Magiovinium* (Neal 1987), Wavendon Gate seems to have entered a period of decline. The charred plant remains indicate a decrease in cereal production, and the waterlogged remains from the latest fill of Pit 835 suggest that there was much more neglected ground than previously. Even the pattern of coin loss after 330 is low in comparison with other sites. This is also true of the later Roman pottery, which does not occur in the quantities expected on a prosperous settlement.

Buildings and Other Structures

With the exception of three 'circular' ditches (783, 851/852 and 913) which may have surrounded structures, domestic and agricultural buildings are conspicuously absent. From the general level of domestic activity it is certain that part of the enclosure, probably the eastern 'bay', was continuously occupied throughout most of the Roman period. Since only the northern half of the enclosure was excavated, it is possible that much of the occupation area remained undiscovered. The trial trench evidence

and the work in Area A does not, however, support this proposition.

The shortage of good quality building stone in the southern part of Milton Keynes not only affected the building methods used in the Roman period, but remained a problem until the widespread introduction of bricks in the early post-medieval period. Since timber-framed structures rarely require deep foundations, it is not surprising that no rectangular structures were located if this building technique was employed at Wavendon Gate. The discovery of a number of fragments of oak feather-edged weatherboard, oak planking and smaller structural components in the third-century Pit 835 confirms that timber buildings had existed on the site. It is also of interest to note that there was a sufficiently large number of woodworm beetles in the pit deposit to indicate that timber structures may also have stood nearby. Analysis of the small roundwood from the pit also indicates that oak, ash and trees of the Pomoideae group were being regularly coppiced, possibly for use in the construction of buildings.

None of the circular ditches contained any structural evidence, and it can only be surmised that they had originally encircled circular structures, presumably built of wood. Roman circular stone-founded buildings were common on Roman rural sites in the region, with numerous examples recorded at Stanwick, Northants. (Neal 1989) and Bancroft (Williams and Zeepvat 1994). Even where stone was in good supply, many such structures with stone foundations may still have had timber upper structures set on timber sills. Consequently, given the absence of building stone it is not surprising that no evidence of walls was located inside the ditches. At both Odell and Gorhambury circular timber structures continued to be constructed into the early Roman period, and Building 24 at Gorhambury (Neal *et al.* 1990, fig. 51) is a good example of how ephemeral both the drainage ditches and the internal walls may have been. The small circular Ditch 783, of mid first-century date, provides the link between the Iron Age timber roundhouse tradition and those of Roman date.

As is so frequently the case it is impossible to determine the function of any of the buildings which may have stood within the three 'circular' ditches (783, 851/852 and 913). With internal diameters of 9.5, 14/17 and c.13 m and allowing for a slight berm between any internal wall and the inner lip of the ditch, Roundhouse 783 is of average size, whereas the other two buildings fall into the upper range of excavated examples, based on the dimensions of recorded circular stone buildings (Williams and Zeepvat 1994, 207).

The only other structures of note were the pottery kilns and the corn-drying ovens, which have been discussed in detail after their respective descriptions. Whilst Kiln 400 contains some interesting features possibly suggestive of external design influence, Kiln 559 and both corn driers are of very basic forms, widespread across Southern Britain.

Economy

Husbandry Practices

Analysis of the Roman faunal remains from Wavendon Gate presents a very useful indication of the continuity of the husbandry pattern with the Iron Age settlement, and the subsequent changes which occurred in the Roman period. Even more importantly, the excavation has provided a comparative body of data for the other Roman sites in the area, most notably Bancroft (Levitan 1994; Holmes and Rielly 1994). The Wavendon Gate evidence contrasts with Bancroft, both for the little change in the cattle: sheep ratio and more widely for a general increase in cattle by the Roman period. Supported by the results of the wet-sieving programme, both the bone count and the minimum number analysis demonstrate an increase in sheep and a decline in cattle from the Iron Age to the first and second centuries, with sheep peaking in the second and third centuries.

While sheep numbers were consistently high, beef was still probably the most important component of the Roman diet, although its relative importance fluctuated. From the beginning of the Roman period an increase in the numbers of juvenile and immature cattle indicates a shift to meat production, with a consequent decrease in the importance of cattle for traction purposes. In the later second and third centuries there is a change to secondary products, probably dairying, which may even be related to the creation of a crew-yard (Hollow 900) for the temporary or permanent stalling of milking cows. In the later Roman period there is a return to an even more distinct emphasis on meat production.

In common with other contemporary assemblages the Roman cattle were generally taller and stockier than their late Iron Age counterparts. The butchery evidence also indicates a more wholesale, perhaps almost commercial, chopping-up of the carcasses rather than filleting. It has also been suggested that the cattle husbandry of the middle and later Roman periods switched to a more intensive, more specialised regime, possibly responding to changing market forces related to an increased demand for meat and other animal products.

Although there was a very small number of goats, represented entirely by horncores, the vast majority of the caprovids would have been sheep. In the first to second centuries and the third to fourth centuries the kill-off pattern indicates that they were kept mainly for meat. In the second to third century a change in age structure suggests greater emphasis on secondary products such as wool. Interestingly this occurs at the same time as the change to dairying in cattle.

Of the other major domesticates, horses occur in moderate abundance throughout the Roman period, and whilst bigger than their Iron Age predecessors are well within the range recorded on other contemporary sites. As in the Iron Age, there is some evidence in the form of neonatal and juvenile bones to suggest that horses were bred on the

settlement, and subsequently associated with ritual activities. It has been conjectured (Neal 1987, 23) that *Magiovinium* would have been a major centre for the supply and change of horses, reflected in a higher-than-average incidence of butchered carcasses of 'worn-out' horses. However, even if Wavendon Gate had been a supplier of horses to *Magiovinium* it is doubtful if this would be identifiable in the faunal remains.

Pigs occur in small numbers, only assuming slightly greater importance towards the end of the Roman period, and were generally killed prior to full skeletal maturity. Wild animals were rare, with the exception of a small number of red deer remains found in earlier contexts, and together with the low pig numbers suggest a lack of local woodland. Surprisingly, domestic fowl (chicken and goose), although used as grave offerings and as a foundation deposit, were also uncommon. Although their meat did not significantly augment the dietary needs of the community, the importance of eggs should not be underestimated (Ashdown 1993, 157).

The only other animals found in any quantity were dogs. These were all moderate to large 'breeds' and were most likely working dogs. No small lap dogs, which usually occur on the higher-status sites, were recorded. There is some evidence for the butchery of dogs, possibly reflecting the low esteem with which they were regarded.

Cultivation

The charred seeds and macroscopic plant remains present a comprehensive picture of the plants cultivated in and around the settlement and, as with the faunal remains, provide a useful comparison with the Bancroft plant assemblage (Pearson and Robinson 1994). The charred samples, particularly those of first to third-century date, are dominated by cereals with a background flora from a variety of habitats. Whilst the later Roman samples are few in number, there appears to have been a major reduction in cereal processing which corresponds with an increase in cattle rearing.

The cereals are dominated by spelt wheat, although barley is also present. The two second and third-century corn-drying ovens (505 and 378) were both used for the processing of spelt wheat, which had been stored in spikelet form in granaries, none of which were found. Corndrier 505 in particular contained cleaned spelt which had been charred during the parching/drying process prior to de-husking or milling. Surprisingly, few metal artefacts used in either cultivation or animal rearing were found, apart from a fragment of an iron scythe blade recovered from Corndrier 378.

In addition to the cereals, the wide range of other species indicates that a wide range of soil conditions and habitats continued to be cultivated throughout the Roman period. However, a reduction in the proportion of brome grasses

from the third century may indicate the increased exploitation of the heavier clay soils using deep ploughing techniques.

The waterlogged plant remains from the third-century infill of Pit 835 support the evidence of the charred remains but, more importantly, greatly increase the range of plants known to have been cultivated around the settlement. The discovery of black mustard, coriander, celery, caper spurge and summer savory, all described in classical literature as horticultural plants, indicate that there had been a garden near the pit. The incidence of weeds found on annually cultivated ground also supports this view, since it is unlikely that any cereal crops would have been grown within the main enclosure. The beetle fauna too, suggests there was much weedy disturbed ground, possibly including cultivated areas, around the pit, and the low incidence of dung feeding beetles confirms that domestic animals were not allowed near to it.

Garden plants require regular watering during the ripening season, and the pit may have been dug to supply a regular and relatively large volume of water during the summer. The discovery of a small three-pronged iron fork in the fill of the pit is of interest. Whilst such items are difficult to parallel in Roman contexts, its small size makes it more likely to have been used as a garden tool rather than a farm implement.

In addition to the horticultural data, there is also evidence in the form of bullace, plum and cherry remains to suggest that there may have been an orchard associated with the garden. Alternatively, these trees could have grown in the hedgerows which it has been suggested subdivided much of the interior of the enclosure.

The discovery of well-stocked gardens at both the 'palatial' villa at Bancroft and now at a rural settlement indicate that kitchen gardens were perhaps more commonplace than previously considered in all levels of Roman society.

Industrial and Craft Activities

In the later part of the first century the two pottery kilns would have been producing a substantial quantity of vessels in a wide range of different forms. Although only two kilns were located it is possible that others existed around the periphery of the settlement. There is also some slight evidence to indicate that a kiln may have been sited to the east of the enclosure in the second century. Both kilns produced vessels similar to those made in Kiln I at Caldecotte (Marney 1989, 95) and there is no reason to suppose that the two enterprises were not contemporary. The discovery of these kilns at Wavendon Gate and Caldecotte (Zeepvat *et al.* 1994, 46) and evidence of possible pottery production at Walton (Mynard 1987, 30) and Simpson (Zeepvat *et al.* 1994, 53) may indicate that a small-scale pottery industry flourished in the area. Apart from fulfilling the immediate needs of each site, the potters would have sup-

plied the recently established fort and town at *Magiovinium*. There can be little doubt that this town would have instigated, or at the very least stimulated, many local enterprises of which pottery production is the most archaeologically detectable.

Apart from the production of pottery in the first century, perhaps extending into the second century, there is little evidence for any other industrial or craft-related activities, other than at a handicraft level (Cleere 1982, 124). Iron smelting occurred to the north of the main Iron Age occupation. However, whether this was of late Iron Age or Roman date could not be established. If it were Roman, then its location away from the main area of domestic occupation, as with the corndriers, would be expected. Several unfinished artefacts of antler and animal bone and the small wooden items such as the spatula indicate small scale bone and wood working at a handicraft level.

Environment

The Wavendon Gate settlement was located within an intensively managed open environment. It has been suggested above that the economy was based on both the cultivation of spelt wheat and the rearing of, predominantly, sheep and cattle, although it is impossible to determine the balance between arable and pastoral. The waterlogged plant remains also suggest that both dry grassland and wet meadows existed not too far from the settlement, presumably grazed by domestic stock. The wood in Pit 835 indicates that there must have been some mixed deciduous woodland near the site, although it would also have been intensively managed, including coppicing, to supply both firewood and building timber for the settlement. The presence of willow/poplar in the pit also supports the suggestion that there was some wet meadowland or even marshy ground in the locality. All these observations are further supported by the almost total absence of the bones of wild animals and pigs, neither of which would have been either welcomed or encouraged within an intensively cultivated landscape.

Trade and Communication

The range of artefacts, recovered from all phases, while by no means unusual for a small rural settlement of this type, is nevertheless of interest. The comparatively high quality of certain items such as glass vessels, particularly in the earlier period, is undoubtedly an indicator of the status and comparative affluence of the inhabitants. Equally however, it could reflect the site's close proximity to and trading arrangements with the nearby town of *Magiovinium*. Agricultural surplus would have been taken to market there, and it is highly probable that high-quality commodities would have been purchased with the proceeds.

Magiovinium, which was situated both on the Watling Street and the River Ouzel, would have been a local source

of many widely-traded items. This is certainly reflected in the range of both regional and imported pottery, recovered in greater quantities during recent excavations (Parminter 1987, 93–96). Wares from Oxford, the Nene Valley, the Verulamium region and perhaps Essex were all found at Wavendon Gate, as were mortaria from both Northamptonshire and Warwickshire (Mancetter/Hartshill). In addition to the ubiquitous Samian wares, Terra Nigra vessels, a fine mica-gilded beaker and a lead-glazed St Remy cup, all imported from different areas of Gaul, were also found, mainly in early contexts. Rotary querns were widely traded in Roman Britain, and examples from both Hertfordshire and the Pennines had found their way to the site.

Glass vessels were not common at Wavendon Gate, having mainly been used as accessory containers with the cremations, but those found were of good quality, and include vessels made in the Seine-Rhine region. It is much more difficult to ascribe a source to many of the metal artefacts used on the site, but many objects such as the engraved strap ends, the mirror, casket, wheel models and the enamelled seal box lid were almost certainly made in specialised workshops elsewhere in the country.

The discovery of the seal box and more importantly the wooden writing tablets indicates that written communications entered the site. Whilst special conditions are required for the preservation of wooden writing tablets, it may be significant that these are the first find of their type in the area, although *styli* have been discovered previously at Bancroft villa. The writing tablets had been made of non-British softwoods although, since they were intended for reuse, they would have travelled widely before they eventually reached Wavendon Gate. In this respect the discovery of a seed of slender hare's ear, a plant usually found on salt marshes around the coastline, may have been mixed with other materials transported from the coast.

At a more local level there can be little doubt that there must have been regular contact between many of the contemporary settlements (Fig. 51). The similarity between the products of the Wavendon Gate and Caldecotte pottery kilns is striking. While this can be ascribed to many reasons it is probable that anyone travelling from Wavendon Gate to *Magiovinium* would have passed either through or very close by the Caldecotte settlement. Apart from the Watling Street the only other proven local route is one leaving *Magiovinium* in a northwards direction (Neal 1987). Although most of the others shown on Fig. 51, plotted by the Viatres (1964), are now disputed (Simco 1984, 78) the surrounding countryside would undoubtedly have been criss-crossed by numerous trackways, of which no trace has survived.

Burial and Religion

The discovery of the small cremation cemetery within the bounds of the main enclosure, while slightly unusual, is certainly not an uncommon feature of small rural Roman

settlements. Whilst the republican statutes which forbade burials within the boundary of towns or forts, such as at *Magiovinium*, were generally adhered to in urban situations, they were often disregarded at smaller native settlements. The cemetery, which was primarily of second-century date, has been discussed at length elsewhere (p.48ff). Although many of the graves had been disturbed it is clear that several of them were well appointed, reflecting both the social status of the deceased and the general affluence of the inhabitants of the settlement in the second century.

It has been argued in the burial discussion that until the early second century there was no clearly defined cemetery, and burials were interred in a more haphazard dispersed arrangement. The establishment of a cemetery, which may have received burials for a century or more, may have resulted from increased Roman influence and copying of practices seen at *Magiovinium*. The inclusion of one inhumation, probably the final burial in the group, reflects the widespread change in burial rites which occurred during the second century. This was also probably brought about by a change in fashion rather than any fundamental change in belief.

The three inhumations outside the south-east corner of the main enclosure almost certainly represent the remains of a later Roman cemetery. Whether this cemetery was the immediate successor to the cremation cemetery is impossible to determine. It is, however, more likely that the three burials date to the fourth century and that another cemetery of third-century date remains undiscovered. This is a commonly noted problem on Roman rural settlements, where inhumation cemeteries were frequently located some distance from the focus of occupation.

Unlike most Roman sites which produce little tangible evidence of supernatural beliefs, Wavendon Gate has provided a veritable wealth of cult objects and associated

features. The discovery of both a wooden solar wheel-motif in Pit 835 and a hoard of at least four bronze non-functional wheels suggests that a cult of the solar wheel associated with the Celtic thunder-god Taranis (equated with the Roman sky-god Jupiter) had existed in the settlement. The discovery of a late Iron Age wheel-headed pin suggests that the solar-cult may have had its beginnings in the late Iron Age.

Whilst the bronze items are almost certainly parts of ceremonial or ritual regalia, the wooden motif may have been attached to a large post, akin to the 'Jupiter-columns' found in north-east Gaul and the Rhineland. In this respect it should be noted that a hole for a single isolated large wooden post was found adjacent to the pit from which the wooden wheel-motif was recovered. A foundation deposit of an adult cockerel in the base of the posthole confirms its ritual significance. Other probable ritual deposits of animals mostly dating to the third century were also found. A group of horse skulls in Ditch 513 might be associated with the horse-goddess Epona. However, the horse was closely linked to the solar cult in later prehistoric and Romano-Celtic Europe, and may be additional evidence of solar veneration at Wavendon Gate.

In addition to the evidence of pagan beliefs the discovery of two bronze strap ends, engraved with depictions of peacocks, may be tentatively proposed as evidence of Christianity having been introduced on the site in later Roman period. The disposal of the wooden wheel-motif and the burial of the hoard could be interpreted as the ritual rite of passage between the destruction of the old and the introduction of the new. In this context the casting of the wooden wheel, and perhaps any other organic ritual regalia, into a watery context, together with the breaking up of the metal objects, a practice well documented in Celtic society (Fitzpatrick 1992), may represent a very deliberate ending of one period of supernatural belief contemporary with the introduction of Christianity.

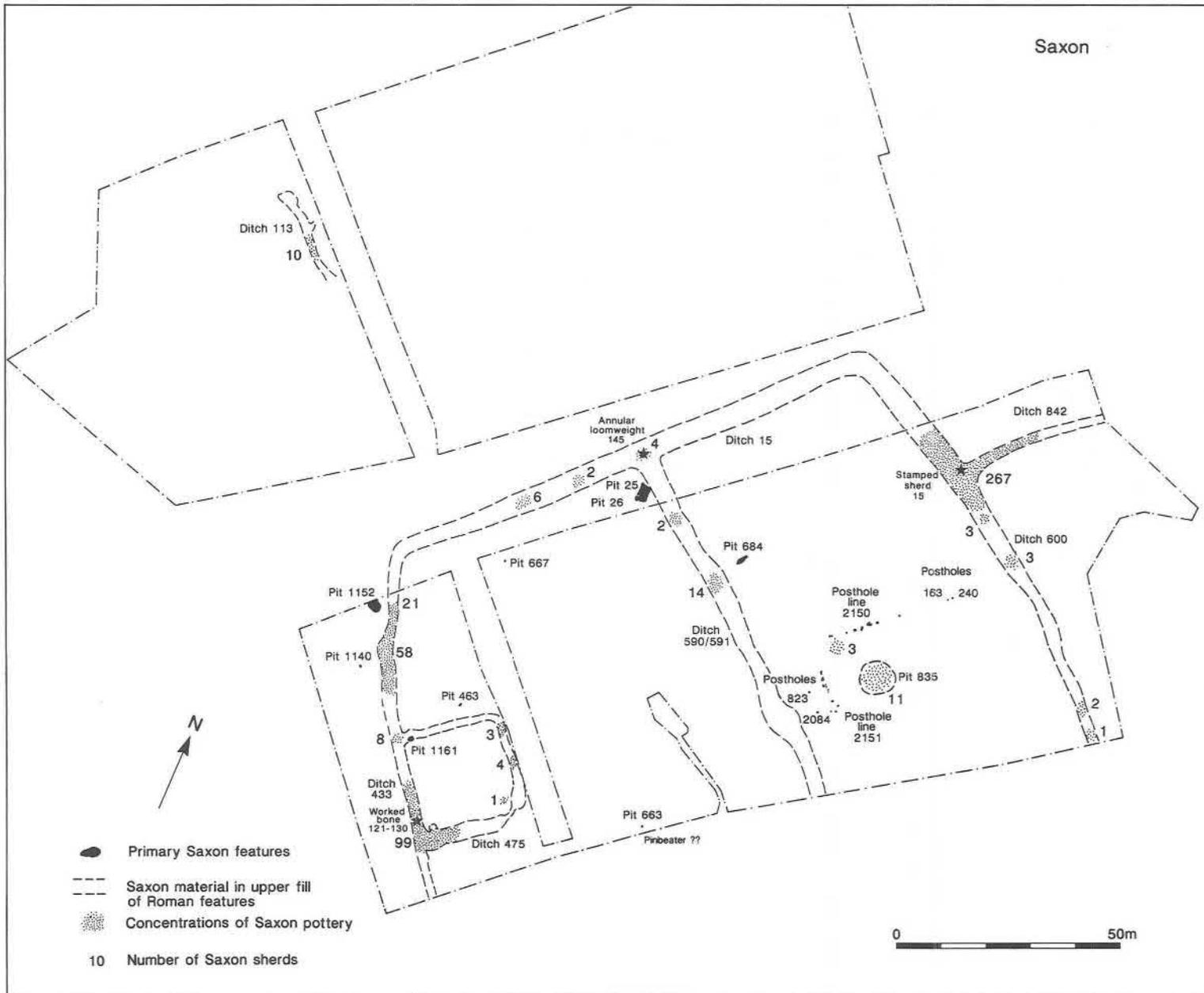


Figure 52: Phase plan - early Saxon.

EARLY SAXON ACTIVITY (Fig. 52)

The evidence for early Saxon activity at Wavendon Gate is limited to a small number of widely spread primary Saxon features and even more dispersed concentrations of Saxon domestic refuse (Fig. 52). This latter material was found predominantly in the uppermost fills of the late Roman features. Some of the artefacts may have been redeposited subsequently in these layers, but some of the material was undoubtedly deposited within the features during the Saxon period. The primary features are mostly small pits of one form or another. Linear features are entirely lacking; the partially silted-up Roman features presumably were used for drainage purposes wherever necessary. It is probable that the Saxon occupants had also reused the remaining hedgelines, banks or even fences as barriers, further reducing the need to dig more ditches.

Both the character of the artefacts discovered, including evidence of antler working (p.000ff), and the relatively large size of the individual sherds (p.000) are indicative of domestic occupation rather than purely transient activity. The pottery evidence suggests that occupation was short-lived during the sixth century. If this dating is correct, then there is unlikely to have been continuity of occupation on the site, the area being resettled some time after Roman occupation

ceased. Unfortunately no definite buildings were located, although the two lines of postholes (2150 and 2151) may be possible evidence of post-built structures or associated fence-lines. Several concentrations of artefacts in the top of the large Roman ditches may even indicate that some of these hollows were utilized as sunken featured buildings, although this could not be proved archaeologically.

Primary Saxon Pits (Fig. 53)

Pits 25/26

During the rescue excavation of the Roman cemetery, following the road stripping operation, a dark area of silt in the north-east corner of the western bay of Enclosure 275 was investigated. A roughly square pit (25), 2.5 m across, had been dug through the extreme west side of Ditch 590/591 (Figs 27 and 52). The pit had very steep sides which could only be traced to a depth of 900 mm owing to severe waterlogging. A slight projection in the south-east corner seemed to be contemporary, but another projection in the south-west side was found to have been a later circular pit (26) with a diameter of 850 mm and at least 900 mm deep. Pit 25 was filled with a khaki-brown gritty silt, whereas Pit 26 contained a greyer clayey silt with charcoal flecks. Both pits produced substantial quantities of early Saxon pottery (Table 22), including several particularly large joining sherds (Fig. 116.1 and 2). Pit 25 also contained a complete cattle skull.

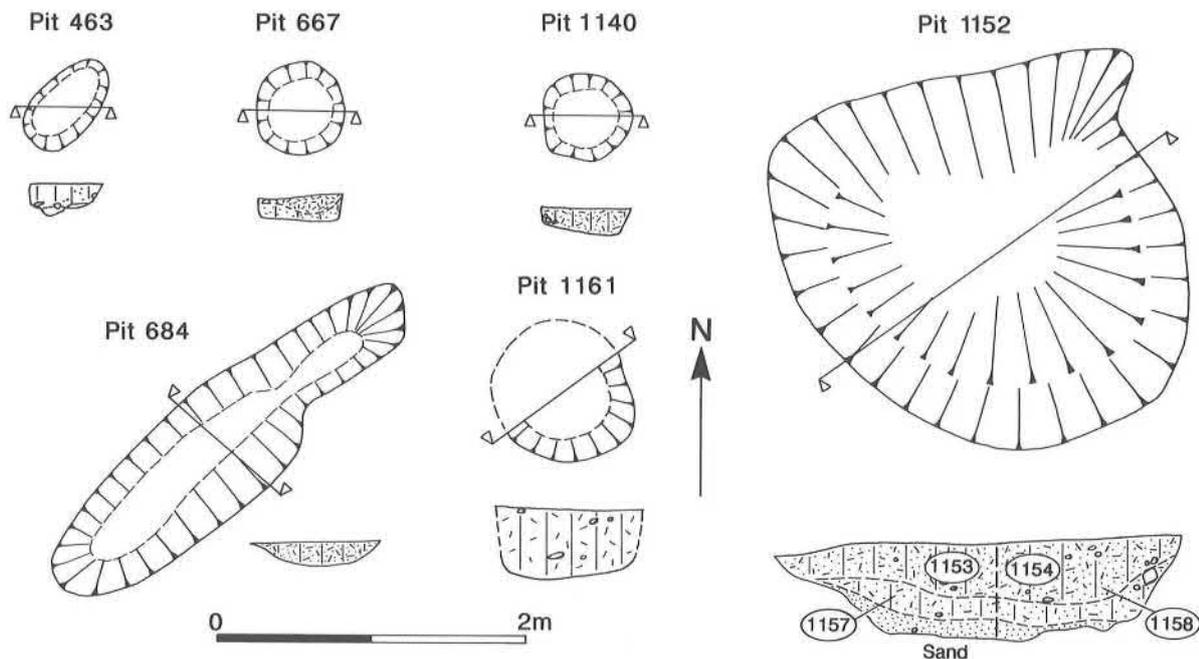


Figure 53: Plan and sections of Saxon Pits 463, 684, 667, 1140, 1152, and 1161.

Pit 463

Sited to the north of the late Roman Enclosure Ditch 475 (Fig. 52), this pit was oval, 600 × 400 mm across, with vertical sides 200 mm deep (Fig. 53). It was filled with a dark greyish-brown silty loam containing several fragments of burnt clay.

Pit 663

Although termed a pit, the very small proportions of this feature suggest that it may have been a posthole. However, despite clearing the immediate surrounding area to the south side of Area B (Fig. 52) no associated features could be found. Although this feature was only 110 mm in diameter and 100 mm deep it contained a complete bone pinbeater (Fig. 81.130) and a sherd of Saxon pottery.

Pit 667

This pit was sited in the northern part of the west bay of Enclosure 275, midway between Pits 25/26 and 1152 (Fig. 52). It was circular in plan, 550 mm diameter and 200 mm deep, with vertical sides (Fig. 53). A very burnt upper layer containing much charcoal, fire reddened clay and small stones had sealed a primary layer of medium brown sandy loam.

Pit 684

This elongated oval pit, 3 m long and a maximum of 800 mm wide (Fig. 53), was located approximately 25 m to the east of Pit 25, on the other side of Ditch 590/591 (Fig. 52). It was only 150 mm deep and had been severely truncated by later ploughing. It contained a dark brown sandy loam fill with frequent charcoal flecks, which was characteristic of the infill of most of the other Saxon features.

Pit 1140

Along with Pit 1152 this was the only other Saxon feature located outside the west side of Enclosure 275 (Fig. 52). It was of similar form to Pit 667, 600 mm diameter and 150 mm deep (Fig. 53), but contained only a single layer comprising a dark brown sandy loam with charcoal fragments.

Pit 1152

Sited on the north edge of Area B (Fig. 52) this pit was of similar size in plan to Pit 25 but was much shallower. It was roughly oval in shape, 3.0 × 2.5 m across, with a slight projection from the north-east side (Fig. 53) containing a higher proportion of charcoal than the rest of the fill. It had a broad flattish base, 600 mm deep with steep sides, and was filled with three distinct layers. The base was covered by a yellow sandy primary deposit, material derived from rapid weathering of the pit sides which had been dug through pockets of sand in the gravelly clay subsoil. Above this was a layer of dark greyish-brown sandy loam (Layers 1157 and 1158) sealed by an even thicker layer of dark grey more clayey silt (Layers 1153 and 1154) containing frequent charcoal fragments and fire-reddened clay pellets. In comparison to Pits 25/26, this pit contained a significantly smaller amount of Saxon pottery (Table 22).

Pit 1161

This was one of only two pits (the other being Pit 25/26) to have

been cut through Roman features. Whilst it contained no Saxon pottery, it had been cut through the upper fill of the north side of Enclosure 33 (Figs 46 and 52) and consequently must have been of Saxon or even later date. It was 850 mm in diameter and up to 500 mm deep (Fig. 53) and was filled with the dark brown sandy loam, so characteristic of the other Saxon features.

Posthole Alignments (Fig. 54)

Two posthole alignments (2150 and 2151) lay within the area of, and immediately adjacent to, Hollow 900 (Figs 52 and 54). Whilst the two alignments were at right angles to one another, it was impossible to establish any certain stratigraphical links between them and any other related features, particularly Hollow 900. Although no postholes were evident until subsoil was reached, the similarity of the fill of the postholes and the loamy soils of Hollow 900 cannot preclude their having cut that feature. Additionally, the almost complete lack of any meaningful dating evidence from the postholes (with the notable exception of 2084, see below) means that the suggested Saxon date for the two alignments is speculative. A brief description of each alignment is given below; detailed descriptions of individual postholes are recorded in the site archive.

Posthole Line 2150

This group comprised eleven postholes running for 16 m in a north-east to south-west alignment (Fig. 54). Seven of them lay immediately beyond the north-east edge of Hollow 900. Some of the postholes contained slight evidence for double post settings and several also contained packing stones. The size, shape and depth of the postholes varied considerably (Fig. 54) but they were mostly filled with a dark brown silty clay. No parallel line of postholes to either north or south was located, which might have indicated that they had represented one side of a structure. Although the presence of a medieval furrow to the north may have destroyed any trace of postholes to this side, it was felt that no such structure had existed because of the lack of any gable end timbers.

Posthole Line 2151

This line ran for a total of 10 m, at an almost exact right angle to Posthole Line 2150, down the west side of Hollow 900 (Fig. 54). It consisted of sixteen postholes, ten of which, to the north, were closely paired. Whether this represented a contemporary arrangement or the replacement of timbers was uncertain. The postholes in this grouping also varied in shape and size but are comparable in general appearance to those in Alignment 2150. On a parallel course, approximately 4 m west of the main alignment, were two more postholes, 823 and 2084, the latter containing a quantity of early Saxon pottery. It seems likely that they were associated with one another, given their very similar fills and dimensions.

Postholes 163 and 240

Approximately 10 m to the east of the most easterly of the postholes (978) in Alignment 2150 were two more postholes (Fig. 52). Both were located in Trench 14 during trial trenching (Fig. 52). They were of similar proportions to those in 2150 and contained an identical fill. Furthermore, Posthole 163 contained

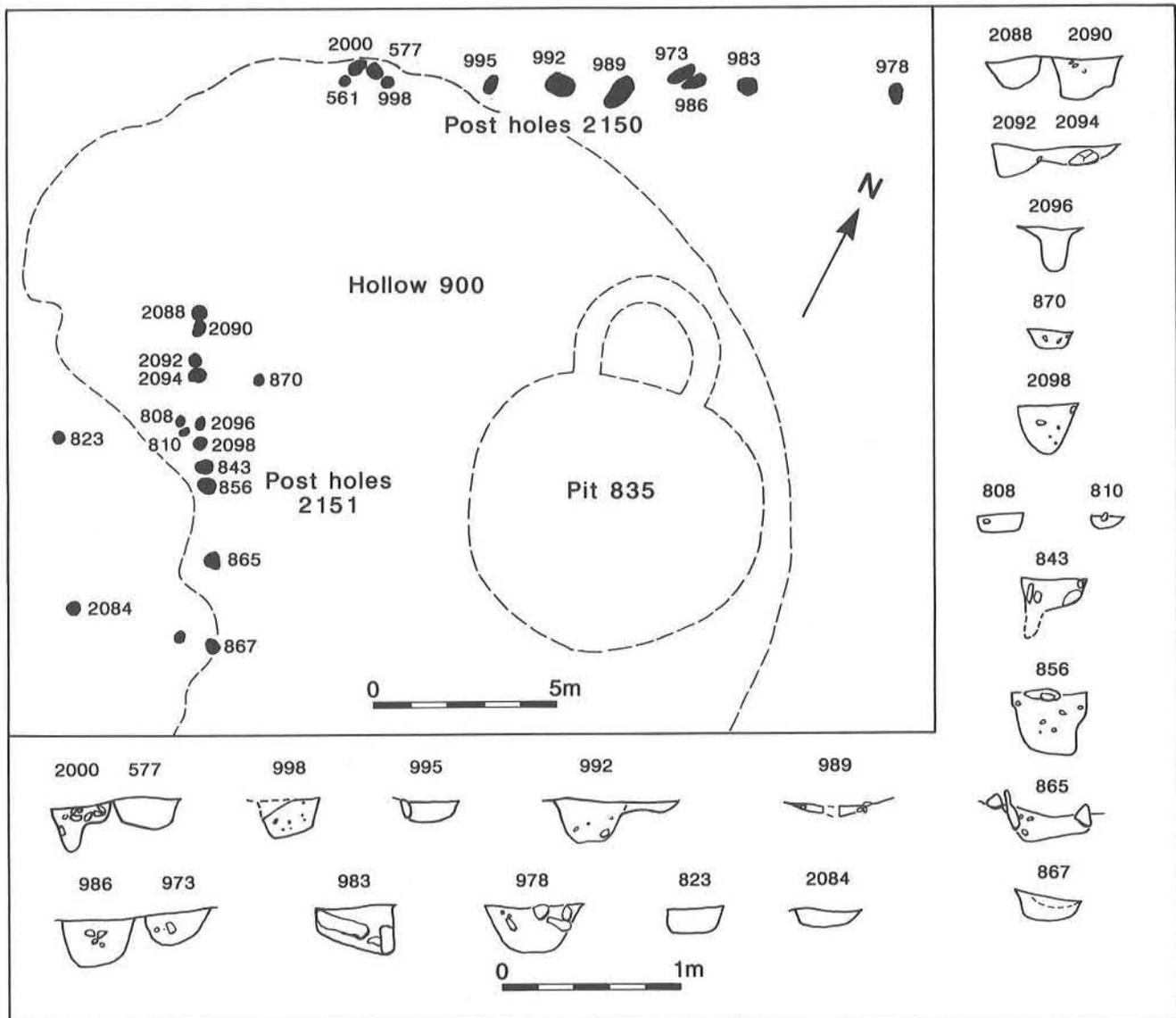


Figure 54: Plan and section of Posthole Lines 2150, 2151 and Postholes 823 and 2084.

a sherd of Saxon pottery. Whilst they were comparatively isolated, the similarity of their alignment with that of 2150 may indicate that the line of postholes was longer than first thought.

Postholes – Discussion

It is tempting to see Posthole groups 2150 and 2151, based on their plan alone, as a contemporary pattern. A very small quantity of pottery from both alignments clearly shows that they were not dug *before* the late second century, but there is no evidence to suggest a time after which they cannot have been dug. If they dated to the early third century, contemporary with Roundhouse 851 and the Posthole group 555 (Fig. 42 and p.000), then they perhaps functioned as a boundary to the north and west of the deep water-filled Pit 835. However, no similar alignment was located to the east of this pit. This interpretation is very tentative when viewed alongside the evidence for the one certain early Saxon posthole (2084) and one possible example (823), aligned with the main series of postholes in Group 2151, and also the Saxon Posthole 163, continuing the alignment of 2150.

In addition, the almost total absence of Roman postholes elsewhere, on what was an intensively occupied site, argues against them dating from the Roman period. Whilst none of the postholes in the two main alignments contained any Saxon pottery sherds, neither did they contain many of Roman date. Those that were found were small and abraded and certainly residual. Finally, the rather irregular arrangement and variable character of the postholes is more in keeping with those found on other early Saxon sites, than the commonly more well-defined and regularly spaced Roman examples.

If the suggestion that these postholes were of Saxon rather than of Roman date, is accepted it is still difficult to ascribe a function to them. If each line had formed one side of a timber post-built 'hall' it is difficult to explain the loss of the gable ends and other sides. Alternatively they may have been part of a fencing arrangement, perhaps making use of surviving earlier earthworks/fences/hedges to form the 'missing' sides.

Secondary Use of Earlier Features

Most of the larger features on the site, all of which had undoubtedly survived as hollows (Fig. 18 S1064, S20 and S734) in the Saxon ground surface, contained a dark charcoal-flecked tertiary silt containing early Saxon pottery, animal bone and other objects. It was also noticeable that even the more ephemeral later Roman features, such as the ditches forming Enclosures 32 and 33, contained Saxon material in their upper fills. There was, however, a notable absence of any Saxon finds from Area A, outside the main enclosure to the south-east. Only one feature, a probable ditch (113) in Area C to the north of the enclosure (Fig. 52), produced any Saxon finds. Whilst there were few features in Areas A and C which were of sufficient proportions to have been visible in the Saxon period, the absence of any primary Saxon features in either of these areas indicates that most early Saxon activity/occupation occurred in an around Enclosure 275.

The distribution of the pottery and other artefacts is illustrated graphically in Fig. 52. The actual numbers of pottery sherds have also been annotated since it was noted that there were distinct concentrations in the tops of certain ditches. Whilst the numbers of sherds to some extent reflect the distribution of excavated sections, it is felt that some of these concentrations may indicate discrete areas of Saxon activity. At the junction of Ditches 842 and 600, towards the north-east corner of Enclosure 275, there was a concentrated spread of over 250 individual sherds, including a stamped sherd (Fig. 116.15), a complete Saxon iron knife (Fig. 70.78) and an unusual glass-headed iron pin (Fig. 72.82) of possible Saxon date. The tertiary charcoally silt containing this material is clearly visible in Section 734 (Fig. 18) as a layer which extends beyond the eastern cut edge of the ditch. At the time of excavation it

was thought that this shallow layer might have represented the infill of one or more sunken featured buildings, which had utilized the partially filled hollow of the Roman ditch. Despite excavating several sections, both transverse and longitudinal, across the top of the ditch, it proved impossible to distinguish any rectangular cuts or configurations within the fill which might have represented the outlines of a building.

The other significant concentrations of Saxon material were at the intersection of the south side of Enclosure Ditch 475 and Ditch 433, and slightly further north along Ditch 433 (Fig. 52). Whilst the latter concentration consisted entirely of pottery, that to the south contained an important group of antler-working waste material (Figs 79.121 and 80.122–129 and p.130ff). The pottery and antler waste were also associated with a spread of limestone and ironstone blocks, some up to 150 mm across, down the centre of Ditch 433 (Fig. 46). Despite thorough examination of the upper layer of Ditch 433 at this point, it was impossible to distinguish any coherent pattern among the line of stones. Given the substantial amount of animal bone in the early Saxon tertiary silt of the ditch, it is probable that the material represents disposal and spreading of domestic and craft-related waste.

It is probable that Ditch 15, which formed the north side of Enclosure 275, had also contained concentrations of Saxon 'refuse', but most of the ditch was destroyed prior to the main excavation. Part of an annular fired clay loomweight (Fig. 85.145) of early type, was recovered from a particularly dark patch of silt at the intersection of Ditches 15 and 590/591. Considering the large proportions of Pit 835, its upper layers contained a comparatively smaller proportion of Saxon material than many of the ditches.

Saxon Discussion

Though there was a short period of Saxon activity on the site, mainly concentrated in and around the Roman Enclosure 275, it is difficult to determine both its exact form and its date. The pottery, which it has been suggested mainly belongs to the later part of the early Saxon period, indicates that the activity was principally confined to the sixth century. If this dating is accepted, then it must be assumed that there was little or no continuity between the Saxon occupation and the final indigenous Roman inhabitants on the site. Although breaks in settlement continuity occur at similar sites such as Odell, Beds. (Dix 1980, 17) at others, such as Bancroft villa (Williams and Zeepvat, 1994), occupation can be shown to have continued through the fifth and perhaps even into the sixth century. Apart from the pottery none of the other artefacts, such as the small long-brooch (Fig. 58.15), iron knife (Fig. 70.78) or bone/antler objects (Figs 79 and 80) are sufficiently diagnostic to either confirm or contradict the pottery dating evidence.

No definite Saxon buildings could be identified. It has, however, been suggested that sunken-featured buildings could have been constructed in the partially silted hollows of the earlier ditches, accounting for some of the high concentrations of artefacts (Fig. 52). Although it is difficult to find good parallels for this phenomenon, at Barton Court Farm (Miles 1884, 16), which in many respects is similar to the Wavendon Gate site, at least one Saxon building (188) had been cut into the corner of an Iron Age ditch. Another possible sunken-featured building (10) at Pennyland (Williams 1993, 68) had likewise used an earlier ditch line.

Apart from the two lines of postholes (2150 and 2151) no other contemporary postholes were identified. Ephemeral post-built structures can be, and frequently have been, missed on poorly excavated sites or those with difficult ground conditions. However, it is felt unlikely that any

such buildings were overlooked at Wavendon Gate, given the detailed level of excavation. Furthermore, the discovery of the two lines of postholes demonstrates that any other shallow Saxon features ought to have survived later plough damage. The two posthole lines, which are best interpreted as fence lines perhaps defining yards around buildings, are a common feature on early Saxon settlements. They can be very closely paralleled by an arrangement around Structure C at Barton Court Farm (Miles 1984, fig. 13), Line 1263 at Pennyland (Williams 1993, fig. 44) and more generally by post-built fences at Chalton (Champion 1977, 367) and Cowdery's Down (Millett and James 1983, 192–197) in Hampshire.

With the exception of the artefact concentrations, most of the remainder of the Saxon material derived either from the upper layers of the later Roman features, particularly Enclosure Ditch 275, or from a very small number of pits of diverse types (Fig. 52), widely spread across Enclosure 275.

The apparent absence of any structures, domestic or otherwise, is at odds with the volume of pottery and the range of artefacts, both of which are indicative of occupation rather than simply the disposal of material derived from elsewhere. This assumption is supported by the large average sherd size, comparable to that recorded on more obvious domestic occupation sites. Comparatively few other artefacts of Saxon date were recovered, but include a bone pin beater (Fig. 81.130) and part of an annular clay loomweight (Fig. 85.145), objects which are now ubiquitous finds on Saxon settlements and presumably indicate very small-scale textile production. Of greater interest is a concentration of antler and bone-working waste (Figs 79 and 80) found in the top of Ditch 433. Material of this type is increasingly being identified on early Saxon settlements, and its discovery at Wavendon Gate may be further

corroborative evidence that occupation was more than just a transient phase.

Unfortunately little can be deduced concerning the economic base of the Saxon community. The samples taken for charred plant remains were comparatively unproductive, containing no non-cereal remains. Whilst barley and bread-type wheat were present, their statistical validity is questionable. The faunal remains are equally suspect, given the very small numbers of bones. They do, however, suggest that there was little change from the Roman period in the proportions of the major domesticates, with the exception of pig, which appear more frequently at the expense of cattle. This is a commonly noted trend in Saxon assemblages, and presumably reflects the gradual increase in rough pasture and woodland.

In conclusion, the Saxon occupation at Wavendon Gate does not appear, on the evidence presented above, to have evolved out of the indigenous late Roman inhabitants. On the contrary the Saxons appear to have reoccupied what, by the sixth century, must have been an abandoned settlement. It is difficult to establish why what must have been the site of overgrown derelict buildings was once again chosen as the site of a new farmstead. The survival of the Roman fences and hedges may have been a contributory factor, and perhaps even explains the limited evidence of contemporary linear features. Certainly the establishment of small dispersed farming units in the sixth century is widely recognized, and typified locally by the Pennyland settlement (Williams 1993). It is equally difficult to conclude why what was probably a relatively short-lived period of occupation was also subsequently abandoned, although this also equates with the commonly noted phenomenon of the shift of settlement in the middle Saxon period.

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MEDIEVAL AND POST-MEDIEVAL FEATURES

Following the cessation of occupation on the site sometime in the later part of the early Saxon period, there is no evidence for any further activity until the creation of the medieval ridge-and-furrow system (Plate 1), and the subsequent post-medieval enclosure boundaries. The Walton to Wavendon road, which bisected the enclosure on a broadly east to west line, is almost certainly of medieval date. As early as the twelfth century the parish had a North and a South field (Croft and Mynard 1993, 168) and it is probable that this road formed the boundary between the two. It is possible that the road line had followed a relict Roman earthwork, which originally may have formed a division across Enclosure 275.

The Iron Age and Roman features were overlain by two separate patterns of medieval furrows. To the south of the Walton Road, furrows were aligned north-west to south-east at c.8.5 m centres. To the north of that road, furrows were aligned north-east to south-west, parallel with the road, at c.7.5 to 8 m centres. Over much of the site the furrows were still very pronounced and filled with a lighter leached loam, although they were barely visible on the field surface before the topsoil was removed. In places these furrows had entirely removed substantial parts of the more ephemeral Iron Age and Roman features, and had severely truncated the surviving depth of others. Much of the site had also been covered by several phases of nineteenth-century tubular ceramic land drains, mostly laid along the lines of the furrows.

There is no formal record of the enclosure of the parish, but it is believed to have been carried out by private treaty during the mid sixteenth century (Croft and Mynard 1993, 170). No early maps are known, and the only pre-Ordnance Survey map is the Tithe map of 1839. The excavated area to the north of the Walton road was known as *Far Field* and *Little Field*, and the area to the south as

Trumptions Close, Upper Trumptions and Great Ground. The hedgeline which ran at a right angle to the road, crossing the west side of Enclosure 275, is shown on the Tithe map and is almost certainly an enclosure boundary.

The only excavated post-Saxon feature was a linear ditch (1603) in Area C, containing two burnt hollows (1744 and 1922). Ditch 1603 ran in an east to west direction, on a broadly parallel line to that of the Walton road (Fig. 2). It cut across Iron Age enclosures 1986, 1987, 1998 and 1999 as well as a medieval furrow. At the east end it extended beyond the excavated area while the west end projected at least 15 m beyond the hedgeline but was not investigated further. It averaged just under 1 m wide and 400 mm deep, with a broad V-shaped profile. It was filled with a homogeneous dark brown clayey loam, almost certainly the result of natural silting. The only dating evidence contained in the fill consisted of two fragments of post-medieval tile. Two very similar sub-oval pits had been cut into Ditch 1603. Pit 1744, 4.9 × 1.1 m across and 360 mm deep, was situated at the point where Ditch 1603 cut across Ditch 1884. Pit 1922, 3.4 × 1.7 m wide and 410 mm deep, was 8 m to the east of the point where Ditch 1603 had cut Ditch 1800. Both pits had a similar fill, consisting of a brown friable sandy loam with patches of yellow clay. There were frequent patches of charcoal and burnt daub. No pottery was recovered from 1922, but 1744 produced a post-medieval group as well as some residual late Iron Age handmade sherds.

Although Ditch 1603 had cut across a medieval furrow it was on a broadly parallel alignment to the medieval field system, and may have been an early enclosure boundary division which was no longer extant by the early nineteenth century. The function of the pits is uncertain, but they may have been associated with the disposal of burnt organic agricultural waste.

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THE ARTEFACTS

INTRODUCTION

The Wavendon Gate excavation, whilst producing only a limited range of domestic items, yielded a small number of important and very unusual artefacts, several of which undoubtedly had religious connotations. These include a wooden wheel-shaped object on a shaft, as yet unparalleled in Europe (p.155ff), three bronze wheel models (p.113) and a bronze wheel-headed pin (p.116), all related to the Celtic thunder-god Taranis. Two bronze strap ends (p.116ff) inscribed with peacocks, which are frequently accorded a Christian interpretation, were also discovered.

Evidence of craft-related activities is almost entirely restricted to the manufacture of pottery in the first century, with the resultant wide range of kiln furniture (p.114ff). Virtually no materials related to the construction of buildings was discovered, with the exception of several lengths of wooden weatherboard (p.162).

The reports which follow cover most of the excavated objects in detail, ordered, where possible, by their material of manufacture. A full catalogue is retained in the site archive, available on microfiche through the National Archaeological Record of the Royal Commission on the Historical Monuments of England.

On site, objects were catalogued irrespective of type in a single numerical small finds sequence, on object record sheets based on those developed by the Central Excavation Unit. These sheets were subsequently entered into the 'Delilah' computer database system.

The conventions used in this volume for describing the various categories of finds are broadly similar to those used in other Milton Keynes reports (eg. Williams 1993; Williams and Zeepvat 1994). Following the description of each object are details of its site catalogue number, context number, provenance description (including the overall provenance number) and where possible the date range of the provenance. These are abbreviated, and can be translated as follows:

5123/348; Ditch 306: early – mid 3rd.

Object No.5123/Context 348; Context location: Context date.

It should be stressed that the phasing relates to the date of the context in which objects were found, and not to the date of the object.

Objects prefixed 'Ni' are not illustrated. Objects with a dash (-) in place of an object number were only isolated during the post-excavation phase. The following abbreviations are used in the text:

dia. diameter ext. exterior
g. grammes int. interior
th. thickness max. maximum

All measurements are given in metric units.

THE COINS

R. J. Zeepvat

Introduction

A total of 111 coins was recovered from Wavendon Gate, including metal detector finds, from both the site evaluation and subsequent excavation. The Iron Age and Roman coins total 109, with just two post-Roman issues present. A summary catalogue appears below, while a full catalogue is given in Appendix I.

Iron Age

A single Iron Age coin, a late bronze of Cunobelin, dated to AD. 20-43, was found in the top of Ditch 590/591.

Roman

108 Roman coins were recovered. Of these, thirty-two (29.6%) were illegible, eight being first and second-century *sestertii*, *asses* and *dupondii*, and twenty-four being small bronzes of the late third to fourth century. This percentage of illegible coins is compared with collections from other sites excavated in Milton Keynes in Table 1.

<i>Site</i>	<i>No. of coins</i>	<i>% illegible</i>
Bancroft villa	1037	10.3
Bancroft mausoleum	63	14.5
Wymbush	69	26.5
Wavendon Gate	108	29.6
Little Woolstone	65	30.8
Wood Corner	67	43.3

TABLE 1: Percentage of illegible coins as compared to other Roman sites in Milton Keynes

On all of these sites, the coin assemblages consist of material from both excavation and metal detecting, and it can be seen that the Wavendon Gate assemblage, though containing a higher percentage of illegible coins than Bancroft villa, falls into the middle range of sites with smaller assemblages. Although beyond the scope of this report, the reasons for this wide variation in the percentages of illegible coins found on rural sites warrant further study.

Turning to the seventy-seven identifiable coins forming the bulk of the assemblage, these are separated in Table 2 into chronological 'issue' periods (Reece 1972). In addition, the pattern of Roman coin loss from the Wavendon Gate collection is shown in the form of a histogram (Fig. 55).

Issue	Period	No.	%
I	(to AD41)	—	—
II	(41–69)	—	—
III	(69–96)	3	3.9
IV	(96–117)	2	2.6
V	(117–38)	5	6.5
VI	(138–61)	1	1.3
VIIa	(161–80)	9	11.7
VIIb	(180–93)	1	1.3
VIII	(193–222)	2	2.6
IXa	(222–38)	1	1.3
IXb	(238–59)	—	—
X	(259–75)	9	11.7
XI	(275–94)	6	7.8
XII	(294–317)	1	1.3
XIIIa	(317–30)	—	—
XIIIb	(330–48)	13	16.9
XIV	(348–64)	10	13.0
XVa	(364–78)	13	16.9
XVb	(378–88)	1	1.3
XVI	(388–402)	—	—
		77	
Iron Age		1	
1st-2nd cent.		8	
3rd-4th cent.		23	
Illegible		1	
Post-Roman		2	
TOTAL		112	

TABLE 2: Chronological summary of Wavendon Gate coins.

The coin list for the site does not open until AD. 69-79, when there are two coins of Vespasian, a *denarius* and an *as*, and ends in 378-83, with a single small bronze of Valentinian II. As can be seen in Fig. 55, the pattern of coin loss on the site falls into three distinct episodes; 69-192, 218-306, and 330-383. As the final issue period of each of these episodes ends with a single coin, it is possible to more closely define them as 69-180, 218-294, and 330-

Phase	No.	%
PHASE A (to AD 259)	24	31.2
PHASE B (259–294)	15	19.5
PHASE C (294–330)	1	1.3
PHASE D (330–402)	37	48.0

TABLE 3: Relative numbers of coins, separated into four phases.

378. These episodes of coin loss conform quite closely to three of the four main coin loss periods suggested by Reece (1984), and are illustrated in Table 3.

Phase A, in comparison with Reece (1972, fig. 1), shows noticeably higher rates of coin loss in periods V (117–38) and VIIa (161–80), while the rates for other periods between III and IXa fall within the suggested rates, and coins of the final period, IXb (238–59) are absent from the collection. On the basis of this evidence, the first major period of activity on the site can be dated to the late first to late second centuries. Given the relatively small size of the collection, the absence of period IXb coins should not necessarily be taken to indicate a break in activity on the site.

Coin numbers increase from all Romano-British sites after AD. 259, coinciding with the increase in availability of small module, base metal *antoniniani* in the province generally. This increase in coin loss reflects the availability of small *aes* coins for everyday transactions, unlike earlier years when small *aes* (AE3/4) did not circulate in Britain. The increased coin loss at Wavendon Gate in the late third century, though nearly 20% of the assemblage, is low by comparison with other British sites (Reece 1972, fig. 1).

The second 'gap' in the sequence of coin loss at Wavendon Gate occurred between 317–30 (period XIIIa). After 330 coin loss increased significantly, whilst remaining very low in comparison with other British sites (Reece, *op. cit.*) until 364–78 (period XVa), which accounts for 15% of the assemblage. Apart from a single coin of 378–88, coin loss ceases on the site after this period. It is interesting to note that the pattern of coin loss for phase D (330–402) closely parallels that found at Bancroft mausoleum, peaking in periods XIIIb and XVa, and not the more usual pattern from other British sites, including Bancroft villa, which peaks in period XIIIb and then gradually falls off over the following two periods. The reason for this discrepancy is uncertain; there were few features at Wavendon Gate that could be attributed to the fourth century, while at the mausoleum the only activities taking place at that time were connected with burial, and possibly religious worship (Williams and Zeepvat 1994).

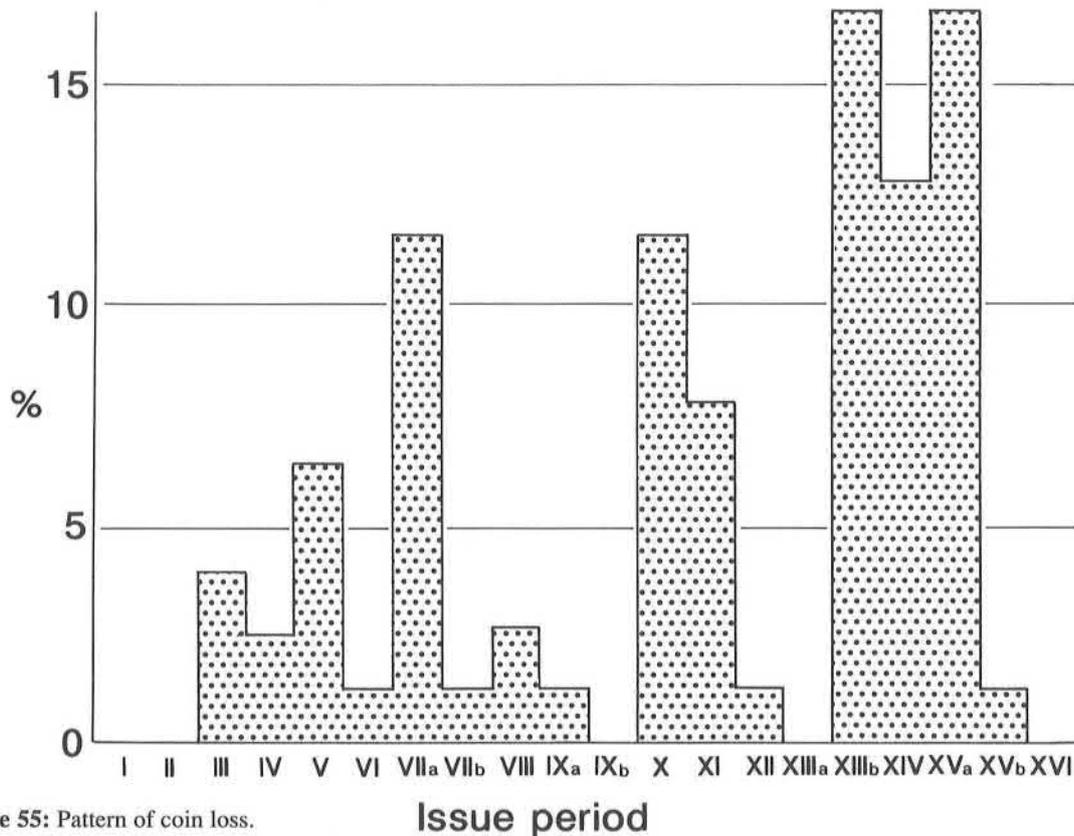


Figure 55: Pattern of coin loss.

Summary Catalogue

IRON AGE

1 Cunobelin

Mack: 246

PERIOD III, AD 69–96

2 VESPASIAN

RIC 2: 103, as 747

1 DOMITIAN

indet. *sestertius*

PERIOD IV, AD 96–117

2 TRAJAN

RIC 2: as 536, indet. *as*

PERIOD V, AD 117–138

4 HADRIAN

RIC 2: as 636, as 736, 2 indet. *sestertii*

1 Sabina

RIC 2: 1026

PERIOD VI, AD 138–161

1 ANTONINUS PIUS

indet. *sestertius*

PERIOD VIIa, AD 161–180

6 MARCUS AURELIUS

RIC 3: 1077, 4 indet. *sestertii*, indet. *as*

1 ANTONINUS PIUS(comm)

RIC 3: 1269

2 Faustina II

indet. *dupondii*

PERIOD VIIb, AD 180–193

1 COMMODUS

sestertius, provincial

1 ELAGABALUS

as, provincial

1 Julia Maesa

RIC 3: 421

PERIOD IXa, AD 222–238

1 GORDIAN III

RIC 4: 259a

PERIOD X, AD 259–275

1 GALLIENUS

RIC 5: 159

1 Salonina

RIC 5: 5

2 VICTORINUS

RIC 5: 67, indet. *antoninianus*

3 CLAUDIUS II

indet. *antoniniani*

1 TETRICUS I

RIC 5: 79

1 TETRICUS II

RIC 5: 232

PERIOD XI, AD 275–294

6 Barbarous radiates

Divo Claudio, Victorinus, Tetricus I – *Spes*, indet. illeg. (3)

PERIOD XII, AD 294–317

1 RIC 6, London

28b

PERIOD XIIIb, AD 330–348

3 HK1, Trier

52; H. of C., GE2; Cn., GE1

2 HK1, Lyons

196, VR

7 Uncertain mint:

H. of C., GE2 (2); H. of C., GE1 (2); VR (2); Cn., 2V (1)

1 Irregular:

Cp

PERIOD XIV, AD 348–364

1 HK2, Amiens

17

1 HK2, Trier

75

2 Uncertain mint:

Cn., FTR, FH

5 Irregular

Cs II, FTR, FH; H. of C., FTR, FH (4)

PERIOD XVa, AD 364–378

2 HK2, Lyons

282, 356

3 HK2, Arles

513; Valens, GR (2)

1 HK2, Siscia

H. of V., GR

7 Uncertain mint:

H. of V., GR (3); Valens, GR (1); Gratian, GR; H. of V., SR; Valens, SR

PERIOD XVb, AD 378–388

1 Uncertain mint:

VII, VOT/XV/MVLT/XX

OTHER ROMAN COINS

8 Illegible 1st – 2nd century

23 Illegible 3rd – 4th century

POST-ROMAN ITEMS

2 Charles I, Rose farthing tokens

REFERENCE WORKS CITED IN CATALOGUE

- RIC 1-6 Mattingly, H., Sydenham, E.A., Sutherland, C.H.V. and Carson, R.A.G., *Roman Imperial Coinage*, London (1923 ff.).
- HK1,2 Carson, R.A.G., Hill, P.V. and Kent, J.P.C., *Late Roman Bronze Coinage, AD 324-498*, London (1972).

ABBREVIATIONS USED

Cn	Constans	VR	<i>Vrbs Roma</i>
Cs II	Constantius II	2V	<i>Victoriae DD Avgg Q</i>
H. of C.	House of Constantine	NN	
H. of V.	House of Valentinian	FTR	<i>Fel Temp Reparatio</i>
Cp	<i>Constantinopolis</i>	FH	Fallen Horseman
GE2/1	<i>Gloria Exercitus</i> , 2 or standards	1GR	<i>Gloria Romanorum</i>
		SR	<i>Secvritas Reipvblicae</i>

THE BROOCHES (Figs. 56-57)

D.F. Mackreth

All the brooches are made from a copper alloy.

Colchester Derivatives

The first three brooches have or had their springs mounted in the Harlow system: an axis bar passes through the coils of the spring and the lower of two holes in a plate projecting behind the back of the bow, the chord is held in the upper hole.

- Each wing has a groove at its end. The plate behind the head is carried over the top as a cross-cut ridge. The bow is plain apart from two mouldings at the foot. The catch-plate is solid and has a line of rocker-arm ornament along the junction with the bow.
5066/188; intersection of Ditches 433 and 406: 1st - 3rd cent.
- The surviving wing has close-set vertical grooves. The bow has a step down each side and a strongly projecting aris down the middle. The lower bow is missing.
5176/1045; unstratified.
- The wings are plain. The plate behind the head is carried over the top to run as a ridge down the centre of the surviving upper part of the bow.
5104/34; unstratified.

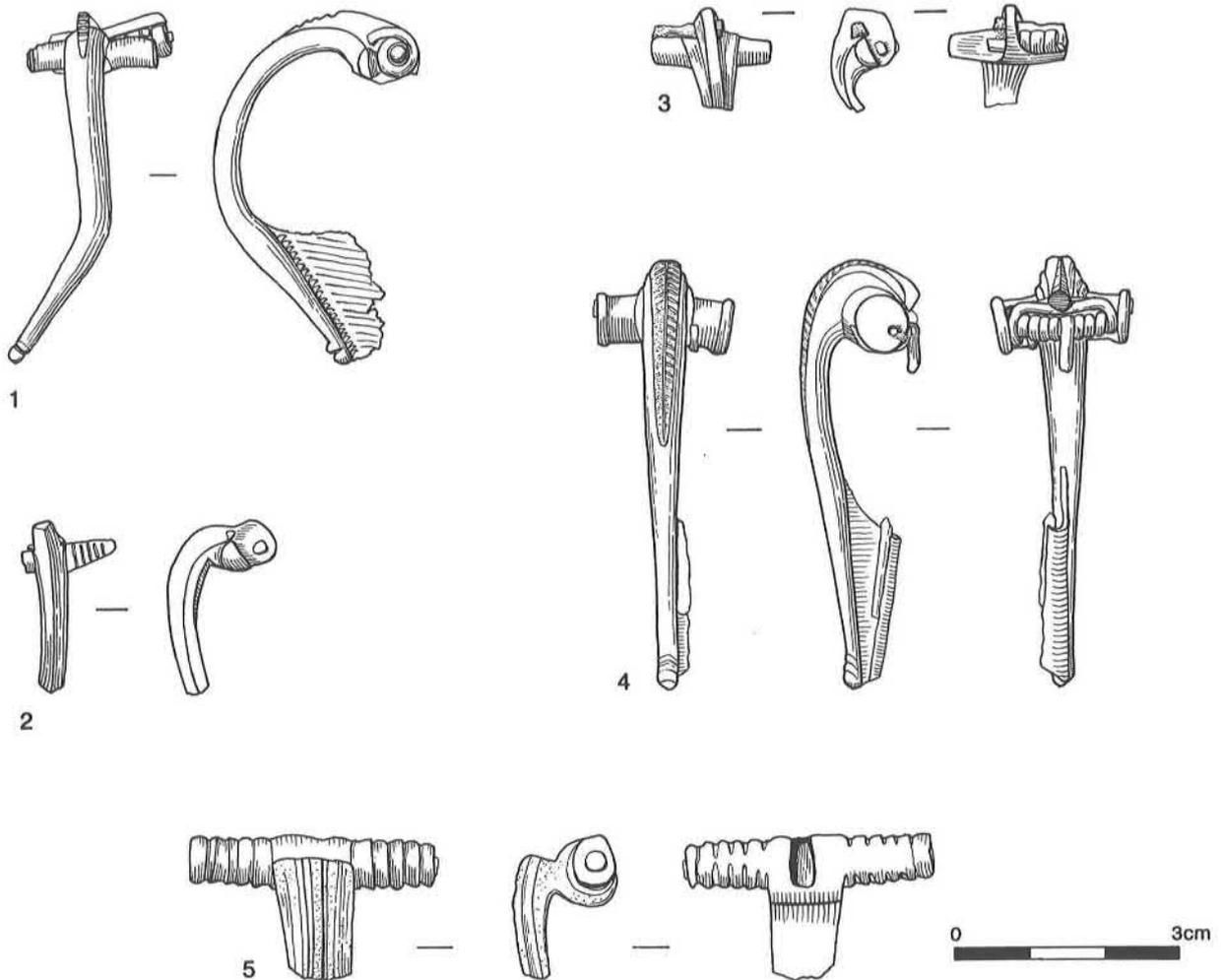


Figure 56: Copper-alloy brooches 1-5, scale 1:1.

The chief unifying feature here is the method of which the spring is held, and this is commonly found in south-east England where it directly follows the Colchester system. However, the placing of the hole for the chord over the wings is not so widespread and appears to belong to the north-western part of the overall distribution. Unfortunately, only one particular group in this variety has been isolated and that is largely undated. However, the foot-knob and the use of rocker-arm ornament along the junction of the catch-plate with the bow on Brooch 1 should show some degree of contemporaneity with Brooch 4. As for 2 and 3, neither shows any trait which must be early, and they probably date from the latter part of the first century into the second.

4 The spring is held in the Polden Hill manner: an axis bar through the coils of the spring is held in pierced plates at the ends of the wings, the chord is retained by the rearward-facing hook. Each wing has a single prominent moulding at its end. The junction of the bow with each wing is masked by a curved moulding springing from the wing. The upper bow has two beaded ridges down the centre of the upper

part. The rest is plain down to the two-part foot-knob.

5285/756; clean-off layer over Hollow 900; 4th cent.

A member of a large family made in the West Midlands; examples are found all over Roman Britain. The dating has recently been reviewed (Mackreth in Jackson and Potter, forthcoming) and the *floruit* runs from before 75 to 150/175. Those earlier than c.75 have no foot-knob, and those belonging to the end of the range were probably survivors in use.

5 The pin was hinged. Each wing has two buried ridges separated from each other and the bow by broad flutes. The wings are offset from the bow by an extension of the latter which runs under the wings. Only the upper bow is left and has a concave face down each side and an offset ridge down the middle.

5401/500; unstratified.

The style of the decorated wings is most commonly found in East Anglia and is a mark of a large proportion of

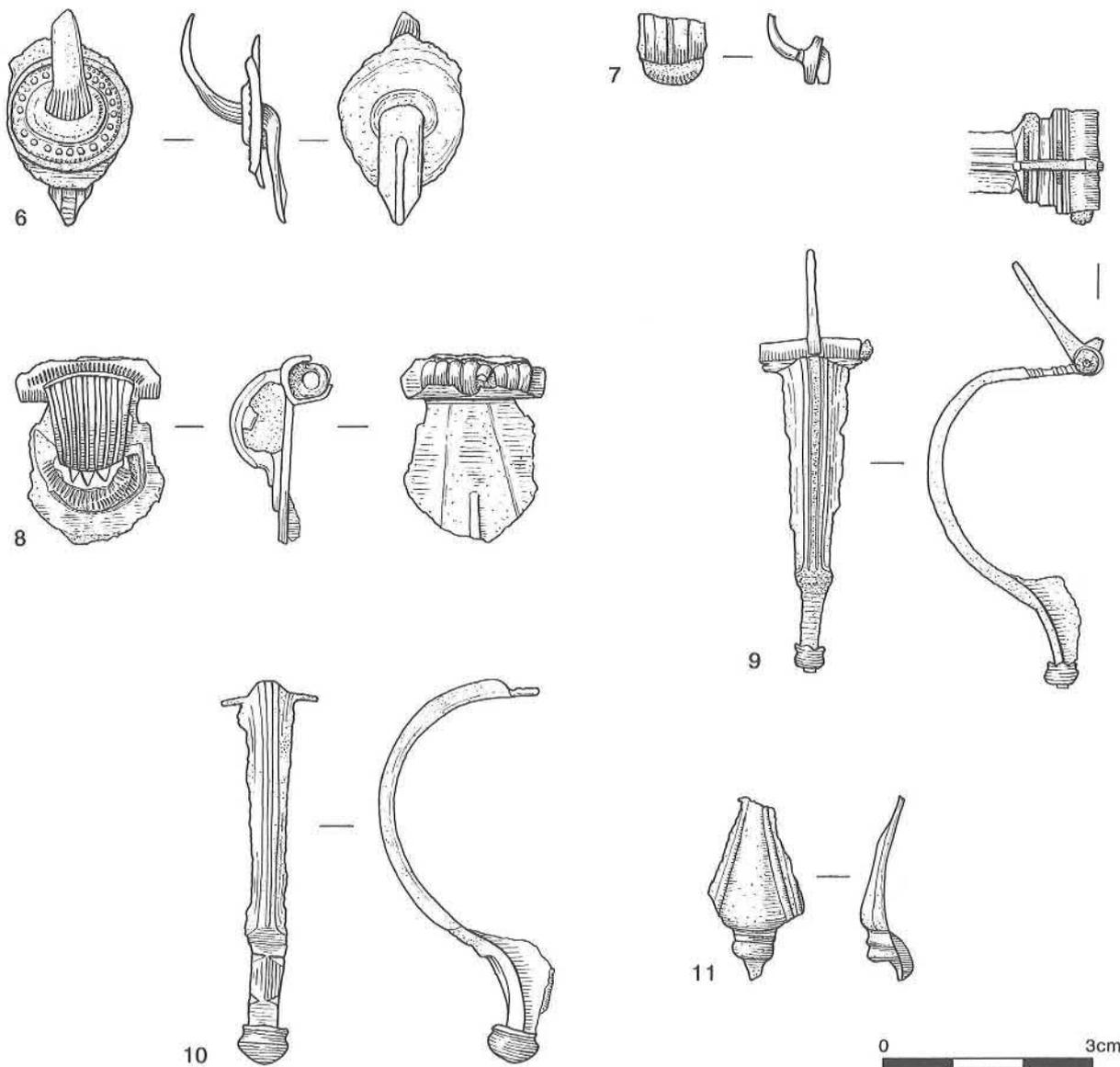


Figure 57: Copper-alloy brooches 6-11, scale 1:1.

brooches whose springs were held by a rearward-facing hook behind the head of the bow and a blob of solder behind the left-hand wing. These are firmly dated to before 60/65 (*ibid.*), but the ornamental trait is found on hinged pin-brooches also in East Anglia and the western margins of the Fens running up into Lincolnshire. Dating is exiguous, but there are no grounds at present for thinking that the style should be second century.

Late La Tène

6 The upper part of the bow, with the spring-fixing arrangement, is missing. The bow is too corroded for any decoration to be detected and issues from just above the centre of a disc. This is slightly oval with a plain area in the middle stepped up from a ring of circles edged on the outside with a band of what was probably intended to be beading. The outermost step appears to have had a chevron along it. The foot issues from the back of the disc and is bent down. What is left of its front face was fluted. The brooch had been cast as a straight strip with the disc at right angles to it and the profile was only formed when the decoration had been applied.

5031/34; unstratified.

7 All that survives is half the bow, the disc and the very top of the foot. The bow has three flutes with a fine groove between each and the edge. The disc is reduced to less than a semi-circle and what is left of the foot shows that the brooch was made the same way as Brooch 6.

5106/34; unstratified.

8 The spring case has a series of lines radiating from the bow on the front. The bow is fluted, only with deeper grooves between than those on Brooch 7. The disc has a central zone with three pendant triangular, feathered, stamps below the bow, then a double row of toothed stamps and a plain zone round that. The outer edge is lost. The toothed stamps possibly once secured the inner edge of a repoussé applied ornament. The fantail foot was part of the same plate as the disc.

5103/34; unstratified.

These three brooches are Rosettes and cover the middle range of the development of that type. Only the first, Brooch 6, stands near the beginning of the type and the loss of its head prevents us from seeing just how early it is. However, the style of the disc, its method of manufacture and the thin upper bow show that it is earlier than Brooch 7 and both are earlier than Brooch 8 which is part of a standard Rosette made in quantity. Discussion of an example from Baldock (Mackreth *in* Burleigh, forthcoming) of the kind of brooch represented on the coins of Criciru (Allen 1972) suggested that brooches like 6 here should belong to the middle of the second half of the first century BC, and those like 7 should date to the last two or three decades of the same century. The style of manufacture of the latter should predate any brooches of the form represented by Brooch 8 and the present example demonstrates that there was unlikely to have been a separate disc fitted after the basic form was created by forging, as there is no room for one. Turning to Brooch 8, these Rosettes may have come into being at the very end of the first

century BC and were in manufacture during Augustan and Tiberian times, the last survivors in use barely lasting beyond 40/45 AD. The final forms of Rosettes, those with hinged pins, are poor in quality and survivors-in-use are hardly later than 55/60.

Aucissa – Hod Hill

The following three brooches have or had the axis bars of their hinged pins housed in the rolled-over heads of their bows.

9 The head-plate has a sunken bead-row on each side of a flute which has a cut-out at each end. The upper bow has the usual sunken bead-row down the centre of the swelled front and a ridge down each side. The lower bow has a chamfer on each side and the usual separately-made foot-knob.

5252/737; Ditch 588: 1st cent.

10 Heavily corroded and without the head, this appears to be a repeat of Brooch 9.

5243/500; unstratified.

11 The head is lost along with the most of the lower bow and foot. The upper bow has a broad central swell expanding towards the bottom with two thinner mouldings on each side. The top of the lower bow has two cross-mouldings and the lower bow proper seems to have been thin.

5245/500; unstratified.

Both Brooches 9 and 10 appear to be ordinary Aucissas, neither betraying any sign of belonging to the early or middle stages of the development of the type. No Aucissa of the named variety appears to have been published from a pre-Conquest deposit, and the distribution in Britain shows that the last ones in use were entering the ground in the period 55/60 AD. The Hod Hill, similarly, has yet to be shown convincingly to have arrived before the conquest (Mackreth *in* Burleigh, forthcoming) and the type was ceasing to be used in the period 65/70, very few surviving beyond then.

COPPER-ALLOY OBJECTS (Figs 58–60)

Tora Hylton

Sixty-seven objects of copper alloy (counting the bronze 'smithing' hoard [p.113] as a single item) were recovered during the trial trenching operations and the excavation. A high proportion are unstratified having been found, often by means of a metal detector, in the topsoil which had been mechanically removed from the site. The total includes eleven Roman brooches which have been reported on separately by Don Mackreth (p.102ff). In addition, specialist contributions have been prepared on a toggle (p.110), two strap-ends engraved with peacock designs (p.116ff), two lion-headed studs (p.111), a mirror (p.110), a group of model wheels from a larger hoard (p.113) and a wheel-headed pin (p.116). The remaining forty-eight objects have been grouped according to function, where possible, briefly described and illustrated where necessary.

Bracelets (Fig. 58)

12 Terminal end of knobbed bracelet of late La Tène type (Cunliffe 1975, 146, fig. 10.15). Circular section widening out at regular intervals to form intermittent spherical knobs. Smaller than, but otherwise comparable to, the contemporary beaded torcs (MacGregor 1976, 97-99). Similar items have been found at Mount Batten, Plymouth (Fox 1958, plate 31.23). Length 60 mm, height 3-7 mm.

5400/500; unstratified.

13 Armlet/bracelet. Flat section, decorated with longitudinal grooves. A central ridge is flanked by two rows of close-set oblique incisions, each running in opposing directions giving the impression of twisting. Similar items have been found at Verulamium (Frere 1972, fig. 32.30-31; 1984, fig. 10.70), at Skeleton Green (Partridge 1981, fig. 54.9) where they have been dated to AD 75-105, and at Baldock (Stead

and Rigby 1986, 125, fig. 52.165) in a Neronian context. Length 47 mm, height 20 mm.

5203/500; unstratified.

14 Penannular bracelet fragment. Rounded 'D'-shaped cross-section widening out towards the terminal end. No evidence of surface decoration. Length 54 mm, height 5 mm.

5072/188; intersection of Ditches 406 and 433: 1st - 3rd cent.

Saxon Brooch (Fig.58)

15 Small long brooch fragment. Only part of the head, the perforated lug and part of the bow, with slight evidence of notched decoration, survives. The severe damage to the head makes it impossible either to identify it accurately or to assign it to either the primary or secondary types.

5107/34; unstratified.

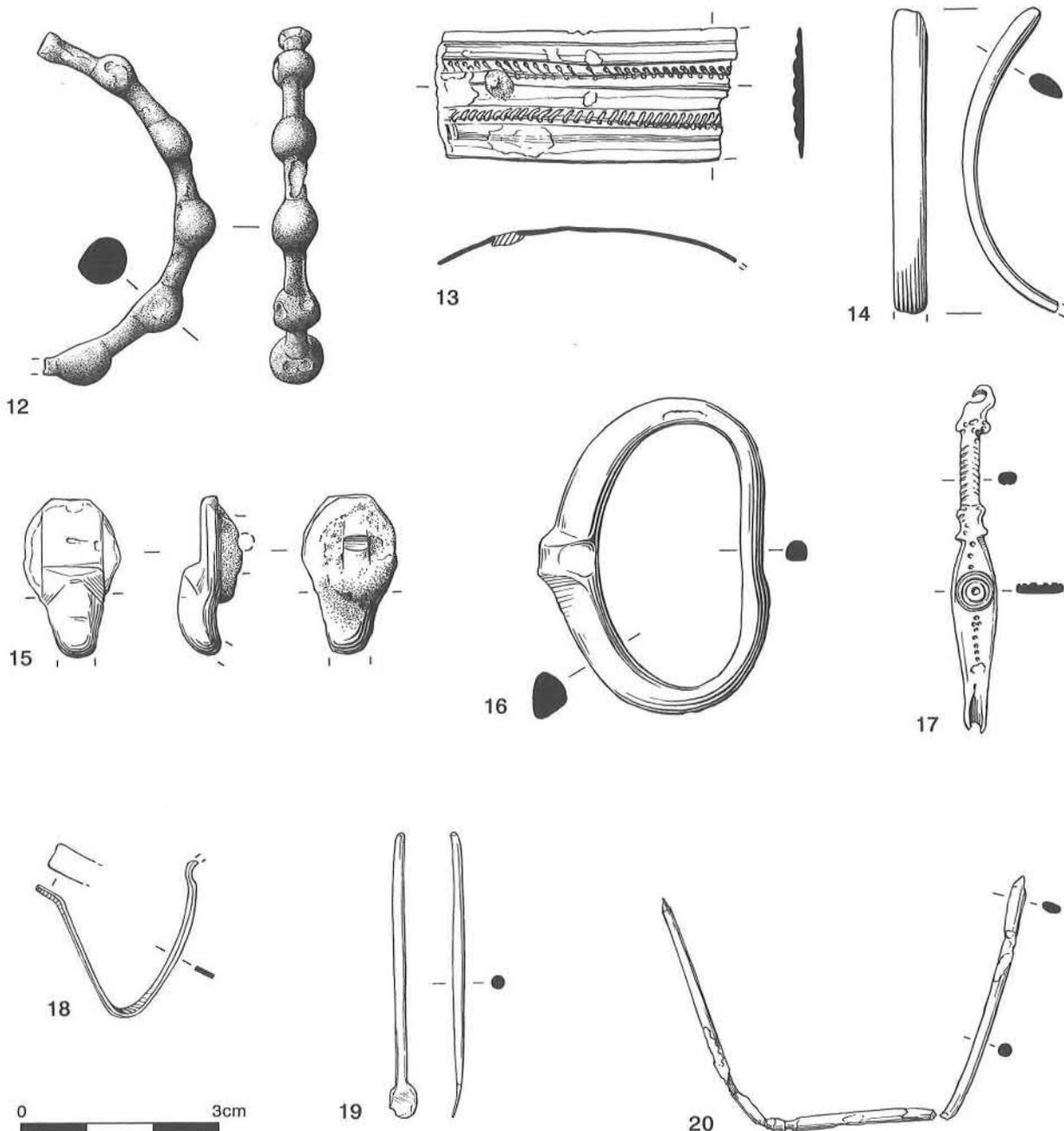


Figure 58: Copper-alloy bracelets 12-14; Saxon brooch 15; buckle 16; toilet articles 17-20, scale 1:1.

Brooches of this form mainly date to the fifth or sixth centuries and are evenly distributed across the Anglian region. Two other examples have been found locally at Bancroft (Williams and Zeepvat 1994, fig. 138.55a) and at Caldecotte (Zeepvat *et al.* 1994, fig. 58.8), both of which were also unstratified. The discovery of this object is not surprising, given the evidence of early Saxon activity (p.91)

Buckle (Fig.58)

- 16 Buckle loop. 'D'-shaped loop, widening out into a triangular section with a recessed notch for retaining the tongue. Possibly medieval.
5048/36; unstratified.

Toilet Articles (Fig. 58)

- 17 Nail cleaner. Flat section with the damaged suspension loop in the same plane. Divided into two zones by a projecting moulding on either side. The lower half is waisted towards the bifurcated tip. The division between the points continues on the upper surface of the blade with a longitudinal line of punched dots, broken only by a centrally placed double ring and dot motif. The upper zone between the blade and broken suspension loop is decorated with two rows of oblique incised grooves, giving the impression of twisting. This nail cleaner does not readily fit into the typology proposed by Crummy (1983, 57-58), although it is probably a variation of the type 2 nail cleaners with leaf-shaped blades. Length 52 mm.
5027/1; unstratified.
- 18 Tweezers. Broken and bent. Flat section widening out towards a flared blade. No evidence of decoration. Length 52 mm, max. width 4 mm.
5115/34; unstratified.
- 19 Toilet spoon. Not complete. Flat oval scoop, with circular-sectioned shaft. Length 44 mm, scoop width 4 mm.
5125/349; Ditch 307: late 2nd - early 3rd cent.
- 20 Toilet spoon handle? Tapered circular section. Bent with scoop missing. Length 102 mm.
5253/500; unstratified.

Needles and Pins (Fig.59)

- 21 Sewing needle of Crummy's (1983, 67) type 3 with a groove above and below the eye. This type is thought to date to the third and fourth centuries, which accords reasonably well with the date for the context in which this needle was found. Marked striations along the inner surface of the eye are probably tool marks signifying that the eye was cut by hand when cold, rather than cast in a mould. Length 131 mm, max. dia. 3 mm.
5122/325; Ditch 307: late 2nd - early 3rd cent.
- 22 Tapered shaft. Sub-rectangular section, tapered to a circular-sectioned point. Central groove running longitudinally on either side, possibly a casting seam. Length 120 mm.
5035/28; Pit 25: Saxon.
- 23 Pin head. Moulded decoration consisting of reel/bead/spool and slightly flattened sphere of Cool's (1990, 154) type 3.

Similar example from Colchester (Crummy 1983, fig. 27.467). Length 19 mm.

5121/300; unstratified.

- 24 Pin. Very worn spherical head. Decoration in the form of oblique incised grooves radiating round the head. At the base is a concentric incised groove from which the broken circular-sectioned shaft protrudes. Similar to Cool's (1990, 164) type 13 with multiple grooved head and a concave base. Length 16 mm, dia. of head 9 mm.
5037/34; unstratified.
- Ni Pin fragment. Circular section, tapering to a point. Length 30 mm.
5286/756; layer above Stone spread 832: 3rd - 4th cent.

Studs (Fig. 59)

- 25 Rosette shaped, slightly convex with recessed channels radiating from the centre forming a sun-burst motif. A broken iron tang protrudes from the underside. Dia. 30 mm.
5408/500; unstratified.
- 26 Squared hollow-cast head, in the form of two half cylinders separated by a central rib. A circular sectioned shank protrudes from the underside although the integral foot-disc is missing. An identical example was found at Verulamium (Frere 1984, fig. 17.145) and has been dated to the fourth century. Another similar example, but with three half cylinders, was found in a fourth-century context at Gorhambury (Neal *et al.* 1990, 126, fig. 125.175). Objects of this type with disc-shaped feet are generally thought to have been used as fasteners for textile or leather. Length 20 mm, width 20 mm.
5167/405; unstratified.
- 27 Hollow dome-headed, with a tapered square-section shaft. Length 15 mm, dia. of head 11 mm.
5033/34; unstratified.

Mounts and Fittings (Fig. 59)

- 28 Mount. Rosette shaped, slightly convex with recessed channels radiating from the centre forming a sun-burst motif. From the outer margins of the base protrude two large opposing projections, with remnants of iron tangs. Dia. 29 mm.
5405/500; unstratified.
- 29 Mount/belt attachment. Flat section, rectangular in shape with two projections on the underside. Upper surface badly corroded, with evidence of a worn incised decoration just visible. Similar to first-century example from Camerton (Jackson 1990, plate 4.44) and one of suggested military origin from Colchester (Crummy 1983, fig. 144.4181). Length 21.5 mm, width 13 mm.
5208/500; unstratified.
- 30 Mount. Dome-shaped head decorated with an incised concentric marginal groove. Two lugs, protruding from the underside, have been clenched over and may have attached the mount to a leather strap. Alternatively it may have been a looped boss, similar to one found at Camerton (Jackson 1990, plate 8.82) thought to be related to Wild's (1970, 140) class VI button-and-loop fasteners. Dia. 18 mm.
5187/405; unstratified.

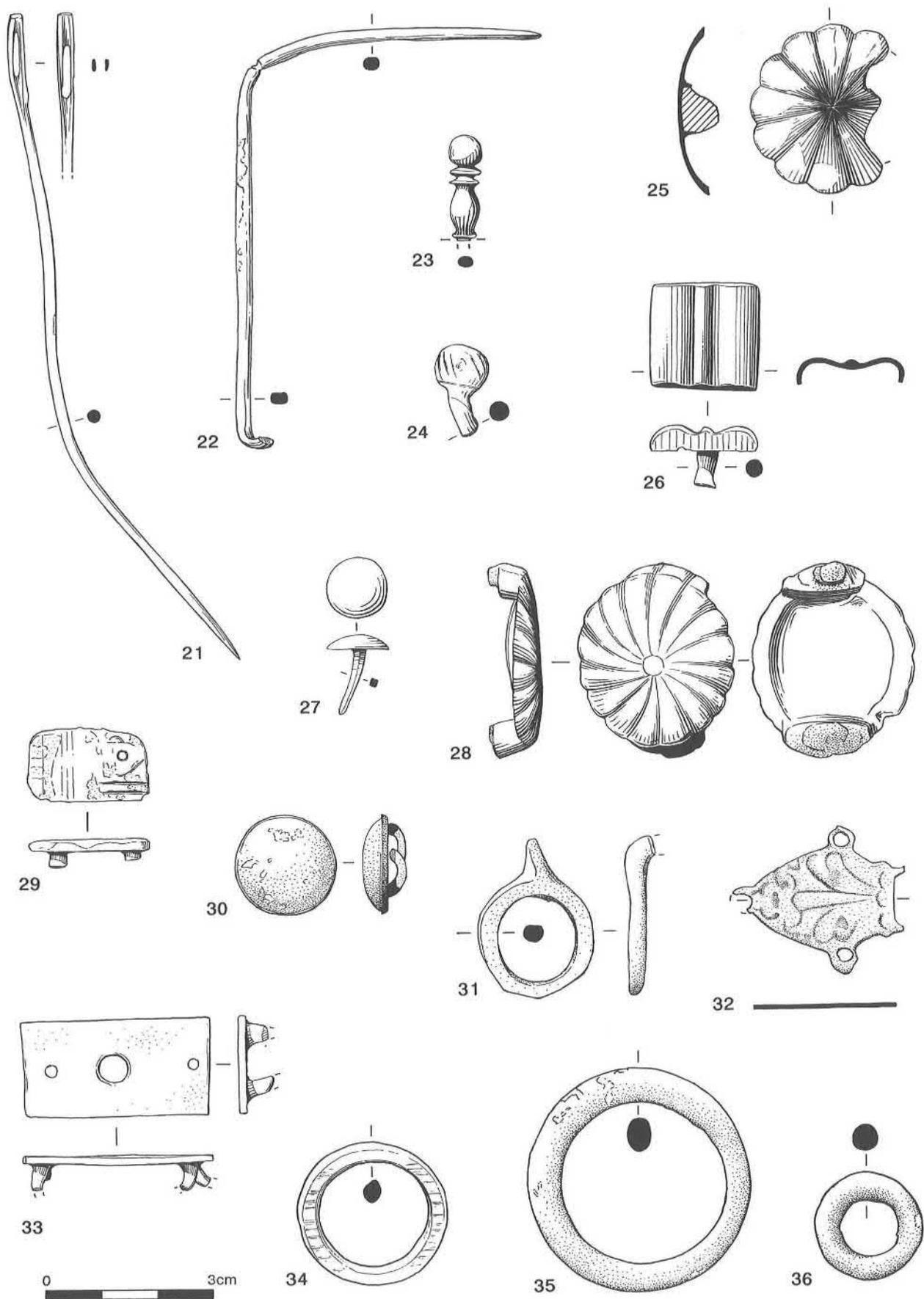


Figure 59: Copper-alloy needles/pins 21-24; studs 25-27; mounts/fittings 28-33; rings 34-36, scale 1:1.

- 31 Button-and-loop fastener. Uneven 'D'-section loop with broken right angled projection from one side. Insufficient survives to determine into which of Wild's (*ibid.*) classes it should be placed. Dia. 20 mm.

5082/34; unstratified.

- 32 Mount/belt attachment. Flat section, shield-shaped with three perforated lugs and decorated with an incised line motif. Possibly a belt hook of post-medieval date, almost identical to one found at Colchester (Crummy 1988, fig. 20.1778). Length 31 mm, width 26 mm.

5034/34; unstratified.

- 33 Strap-mount. Flat-sectioned rectangular plate, with one large central perforation flanked by two rivet holes, and bent projections on the underside at each corner. Very similar objects, some of which are decorated but without any perforations, were found at Camerton (Jackson 1990, plate 4.39–45). Rectangular mounts with four spikes on the underside are relatively common on Roman sites, particularly those with military associations. Length 33 mm, width 17 mm.

5131/579; Ditch 579: late 3rd – 4th cent.

Rings (Fig. 59)

- 34 Flattened oval section, worn. Possibly a harness fitting. Ext. dia. 26 mm.

5402/500; unstratified.

- 35 Uneven oval section, signs of abrasion on one side. Possibly a harness fitting. Ext. dia. 40 mm.

5226/500; unstratified.

- 36 Circular section and heavily proportioned. Function unknown. Dia. 18.5 mm.

5152/900; Hollow 900: 2nd – 3rd cent.

Miscellaneous Objects (Fig. 60)

- 37 Decorative ornament. Circular in shape with a thickened rim, a small central hole and an internal symmetrical openwork motif, made up of three sets of opposing comma-shaped voids. The oval balusters, formed between each pair of voids, are each decorated with a ring-and-dot motif. Three smaller examples are equally spaced around the outer border. Possibly part of a small disc brooch, but no obvious means of attachment is visible. Dia. 29.5 mm

5049/105; Ditch 1383/1335: late Iron Age – Phase 2A.

- 38 Boss. Convex shape with recessed central perforation and simple concentric mouldings. Function unknown. Dia. 27 mm.

5116/34; unstratified.

- 39 Harness junction/*phalera*. Cast fragment of ring with triangular section, the outer face being convex and the two inner sides concave. Attached to the outer surface is a squared loop with a sub-rectangular section, the edges are bevelled, one corner is missing. Almost certainly part of a strap-junction, perhaps related to Bishop's (1988) rare Type 6 external ring *phalerae*, which usually have four rings spaced around the circumference of the disc. This example bears a close resemblance to a more complete one with radiating openwork centre, and termed a 'martingale', from South Shields (Allason-Jones and Miket 1984, 202,

No.3.665). Ext. dia. 40 mm, width of loop 30 mm.

5123/348; Ditch 306: early – mid. 3rd cent.

- 40 Seal-box lid. Leaf-shaped with terminal knob missing, of Crummy's (1983, 104) type 4a, dated to the second and third centuries. The inner design consists of a heart filled with red enamel, enclosing a roundel filled with black or blue enamel. The field between the heart and the outer edge is also filled with black/blue enamel. In the outer field, on the long axis of the leaf, is a solid copper-alloy spot. A second spot is situated in the roundel, with a third sited in the lower part of the heart. The underside of the lid is recessed. Similar examples have been found at Richborough (Bushe-Fox 1949, plate XXXIV.77), Colchester (Crummy 1988, fig. 106.2523), Verulamium (Frere 1984, fig. 13.101) and Gorhambury (Neal *et al.* 1990, fig. 126.205). Length 34 mm, width 21 mm.

5419/1422; Pit 1420: late 3rd – 4th cent.

- 41 Knob/pommel. Concave top with a raised conical centre and cordons beneath. A square sectioned iron tang protrudes from the underside. Objects of this type are relatively common on Roman sites such as at Verulamium (Frere 1984, fig. 20.177), Fishbourne (Cunliffe 1971, fig. 46.118) and more locally at Bancroft (Williams and Zeepvat 1994, fig. 150.141 and Wood Corner (Mynard 1987, fig. 43.87). They are often interpreted as the heads of lock pins rather than furniture or box fittings. Length 36 mm, dia. 29 mm.

5296/755; Ditch 513: early – mid. 3rd cent.

- 42 Arm of equipoise balance. Circular section, with broken pierced lug protruding from one side. Length 42 mm.

5406/500; unstratified.

- 43 Dividers. Upper part only, made up of five sections hinged by a copper-alloy rivet. The uppermost section is in the form of a globe, around the lower part is a raised rib from which protrudes the arms of the dividers. Post-medieval? Length 24 mm.

5119/34; unstratified.

- 44 Hinge from a pair of wooden dividers. Made up of three evenly-spaced interleaved discs secured by a copper-alloy rivet. Protruding from each disc is a rectangular tab, between which the wood was attached by rivets, some of which survive. Post-medieval? Length 25 mm, width 7 mm.

5120/34; unstratified.

- 45 Cosmetic mortar pestle? Concave-sided triangular cross-section. Very heavily corroded with both ends broken. Even if this item has been correctly identified, insufficient survives to fit it into Jackson's (1985) typology of such items. Length 30 mm.

5339/848; Pit 848: late 2nd – early 3rd cent.

- 46 Split-spiked loop. Rectangular-sectioned parallel-sided strip with the ends bent outwards. Folded over to form a loop, within which is a corroded iron fragment. Although it is difficult to determine the function of this example, much larger objects of this exact form are commonly found made of iron and used as wall fixings. Smaller examples of copper-alloy and iron, similar to those from Burial 10 at Baldock (Stead and Rigby 1986, 75, fig. 33.5–6), have also been found in association with metal bound caskets, and are thought to have been used in a simple hinge arrangement. Length 21 mm.

5407/500; unstratified.

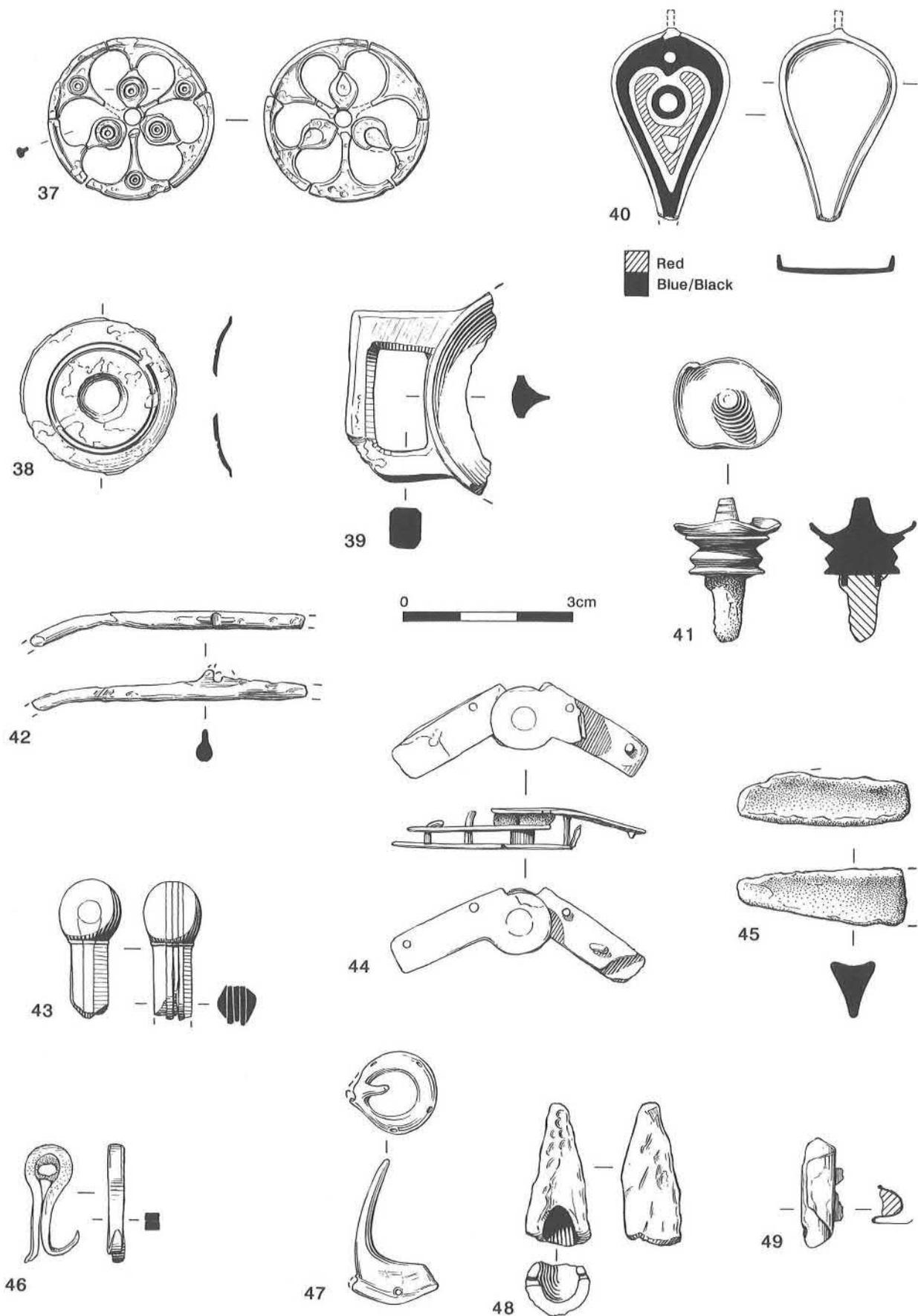


Figure 60: Copper-alloy miscellaneous objects 37-49, scale 1:1.

- 47 Cocks spur? Post-medieval.
5117/34; unstratified.
- 48 Conical-shaped object with rough exterior and smoothed recess at the base. Upstanding edges left by the recess show evidence of two opposing grooves, which may have retained a hinge pin. Possibly part of a device to attach limbs of a statuette to the torso similar to an example from Verulamium (Frere 1972, fig. 49.156) Length 24 mm, dia. 12 mm.
5118/34; unstratified.
- 49 Folded sheet containing fragment of iron. Compressed 'S'-shape but originally lozenge shaped. Such lozenge-shaped bronze sheets are commonly found on Roman sites, such as at Gadebridge (Neal 1974, fig. 59.104–106), and are believed to have been used in connection with split pins or rivets in leatherwork.
5105/34; unstratified.
- Ni Brooch pin. Square-sectioned loop, tapering to a circular section. Point missing. Length 26 mm.
5213/533; Ditch 533, Enclosure 30: 1st cent.
- Ni Rod fragment. Circular section, slightly curved. Length 26 mm.
5324/1708; Ditch 1612: late Iron age – Phase 2A.
- Ni Rod fragment. Circular section, broken at both ends. Possibly a spoon handle. Length 91 mm.
5230/623; Ditch 586: early – mid. 3rd cent.
- Ni Rod fragment. Rectangular section, bent to a right angle at one end, tapered to a point at the other. Length 26 mm.
-/34; unstratified.
- Ni Sheet fragment. Triangular shaped, no sign of decoration. Length 24 mm.
5269/743; Ditch 567: 1st – 2nd cent.
- Ni Crotal. Undecorated. Post-medieval.
5204/500; unstratified.
- Ni Nodule. Function unknown. Dimensions 32 × 9 mm.
5155/433; Ditch 433: 1st - 4th cent.
- Ni Nodule. Melted bronze object, impossible to identify. Length 34 mm.
5029/1; unstratified.
- Ni Fragment, rectangular in shape, tapered section, slightly waisted towards the centre. Broken at one end. Dimensions 25 × 8 × 5 mm.
5166/500; unstratified.

COPPER-ALLOY LOOPED TOGGLE (Fig. 61)

E. M. Jope

- 50 This small dumb-bell-shaped toggle is hollow-cast of copper-alloy, with a core presumably of sand with a little clay to bind it (now gone). The loop to take the thong or strap has been ingeniously formed as a strip bulging from the globose body, whereas on a similar but simpler example from Hengistbury the strap has not been bulged up (Bushe-Fox 1915, 61, pl.XXIX, 9). There is simple zig-zag leaf orna-

ment in low relief around the ends of the Wavendon toggle. Length 34 mm, dia. 11.5 mm.

5246/500; unstratified.

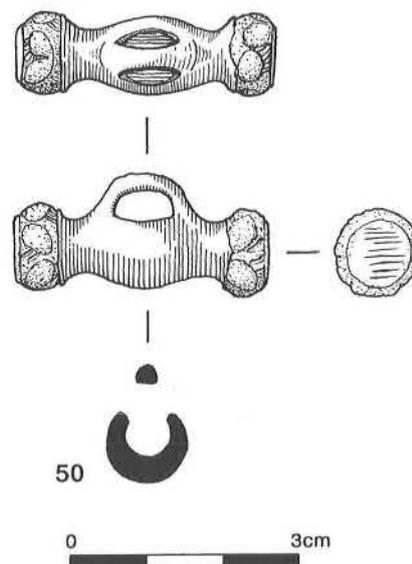


Figure 61: Copper-alloy looped toggle 50, scale 1:1.

This looped toggle is a variant, with more softly rounded ends, of these little gadgets for securing clothing, or attaching thongs or straps to fabric or leather, found mainly in southern Britain, notably on the Somerset marshland settlements. They seem to be of second to first-century BC. date, but the small piece from Hod Hill in Dorset with its slant set loop (Richmond 1968, 26–8, fig. 17a) shows that they are related to the general family of button-and-loop fasteners, still in current use well on into the Roman period in Britain (Gillam 1958; Wild 1920; Macgregor 1926, 129–36). This Hod Hill piece is associated with the filling of an early pit, but the evidence is difficult to interpret; at least the toggle should be no later than the first century BC.

It is not clear for what precise purpose these various devices were intended or used, as Bulleid and Gray (1911) observed eighty years ago; we have none recorded from specific contexts, such as burials, to help us on our way with such an enquiry. Appendix II lists other recorded looped toggles of Southern British type.

MIRROR (Fig. 62)

Glenys Lloyd-Morgan

- 51 The mirror, which consists of seventeen major pieces and four tiny fragments, can be reconstructed to give a rectangular plate, slightly convex on the reflecting side, with an irregular outline, and the loss of two of the corners. The reflecting side is finished and presents a dull greyish surface. The reverse has a slight bevel to the edge and has the characteristic unfinished, pocked and irregular surface which has suffered more than the outer face from patches of corrosion. The overall measurements are c.97 × 85 mm, and

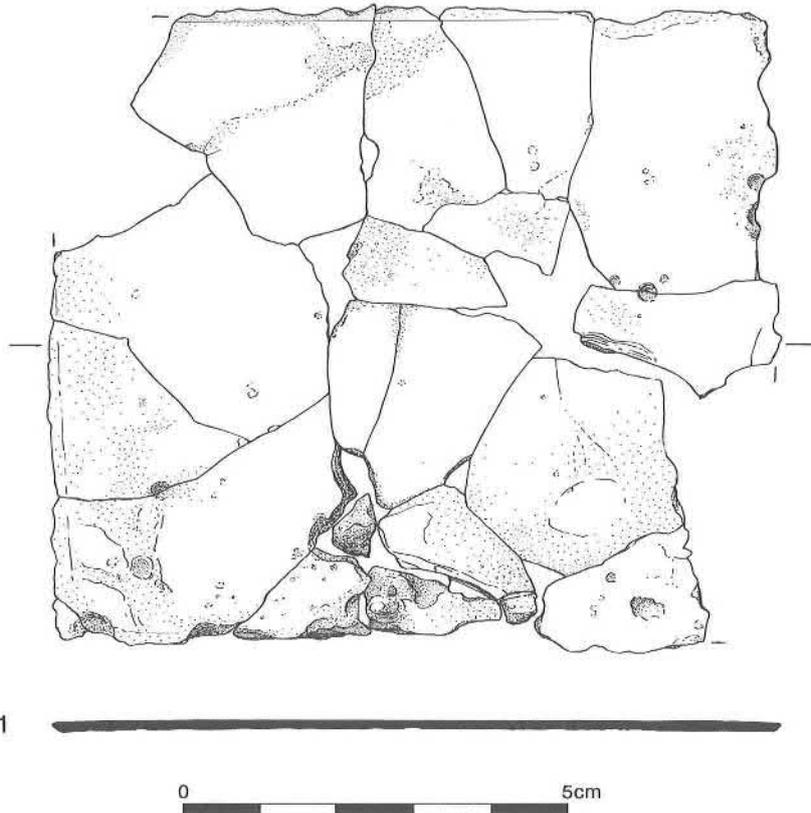


Figure 62: Copper-alloy mirror 51, scale 1:1.

it is *c.*1.6 mm thick at the end, and *c.*1.2 mm thick towards the centre, a variation which is not unknown from finds elsewhere.

The composition of the copper alloy is the usual high-percentage tin alloy with on average 20–25% tin, which can easily break giving clean fractures which are noticeable in this piece. It was used in the manufacture of the simpler forms of mirror, as well as in several types of hand mirror (Lloyd-Morgan 1978, 107).

5009/4; Cremation 3: early – mid 2nd cent.

It seems probable that many of the simple disc and rectangular mirrors were housed in wooden boxes, not only for ease of handling but also to protect the vulnerable metal from domestic accidents. Ward (1911, 263) appears to be the first British writer to suggest that rectangular mirrors ‘were fitted in the lids of toilet boxes’. Although evidence for that is doubtful, there are examples of mirrors encased in their own wooden boxes, such as that found at Towcester, Northants. (Lloyd-Morgan 1983, 106, fig. 38.44).

The use of mirror frames of wood and other materials can be witnessed by the final scene of the fresco in the eponymous hall in the Villa of the Mysteries, outside the Herculaneum Gate at Pompeii (Ward Perkins and Claridge 1976, item 204 scene X), which shows a cupid holding up a rectangular framed mirror to the Bride, who is having her hair dressed.

The rectangular mirrors are one of the most common types known throughout the Roman world (Lloyd-Morgan 1981,

3–20), and as the scene from the Villa of the Mysteries suggests, they are early in date. One fragment (SF No. HI 77 142, E21, 398, D40) from Hayling Island, Hants. (Downey, King and Soffe 1978, 6, 10; Downey, King and Soffe 1979, 6, 17) was found in the central pit of the Iron Age Temple with other votive gifts and has been dated to pre AD. 50. Another mirror (SF No.31/240 700/2392, 1633) from the Caerleon ‘Roman Gates’ excavation (D.R. Evans, pers. comm) came from a context dated to the end of the first century AD.

It is also interesting to note that another, damaged rectangular mirror (SF No. B85 BX3, 244) found during excavations at St Stephen’s cemetery, St Albans (Adrian Havercroft, pers. comm.) was said to have been found in a casket burial, ‘entangled with the lock plate’.

CASKET FITTINGS (Fig. 63)

Glenys Lloyd-Morgan

52 & 53 Two near-identical stylised lion-headed studs with neatly engraved details picked out, associated with an iron plate 54 and thirteen iron nails 55, were found close to the bronze mirror 51 (Fig. 62) in Cremation 3. The outer flanges have light radial lines suggesting the mane, with two eyes on the raised inner border. The pupils, indicated by dots, lie on either side of the triangular-shaped nose. The studs were cast and have iron pins inserted, which were originally consolidated by a lead solder. Both pieces are a little worn.

52 dia. 16.4–17.0 mm, height 15 mm.

53 dia. 15.3–16.5 mm, height 10.2 mm.

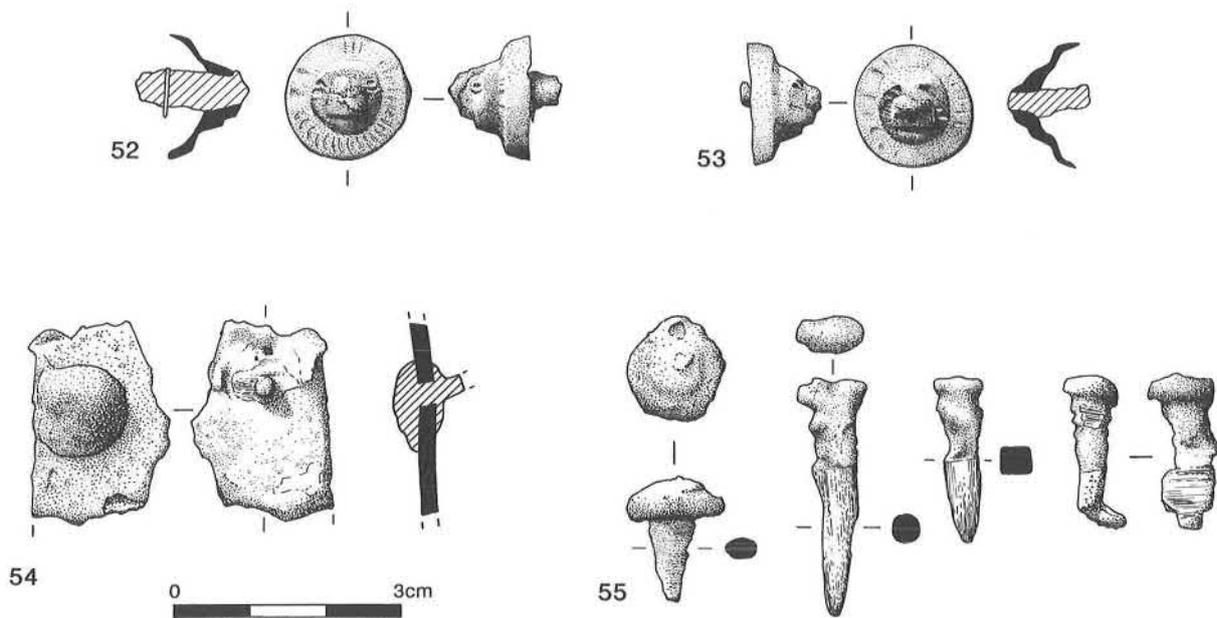


Figure 63: Copper-alloy and iron casket fittings 52-55, scale 1:1.

5009/4; Cremation 3: early - mid 2nd cent.

The use of lion-headed studs to ornament the lock plates of small chests or caskets has been discussed in connection with the finds from the cemetery at Skeleton Green, Herts. (Borrill 1981, 304-321, table XLVI). Amongst other, unpublished, finds from Britain are a chest from an excavation at Godmanchester (H.J.M. Green pers. comm.; Rankov 1982, 363) with the copper-alloy lock-plate decorated with lion-headed studs. Two studs from Chester (St Martin's Field 1964-5 SF No.46; Hunter Street School 1981 SF No.1600, from the central area of the fortress, dia. 18.2 mm) have also been recorded. Three lightweight pieces, which unlike those from Wavendon Gate are made of sheet metal, have been found at Doncaster (SF No. DQ171, dia. 27 mm), Piddington villa, Northants. (1981, SF No.149, dia. c.25 mm) and Alcester, Warwickshire (Birch Abbey excavations 1964-6, SF No. ALC 64 206 CA 168, dia. c.26.5 mm). Another of the heavier moulded examples, which closely parallels the Wavendon Gate pieces, has been found at Caerleon (Zienkiewicz 1986, 189, fig. 63.182, dia. 16 mm).

As might be expected, there are useful parallels from the continent, though sadly some examples from the older collections are not always provenanced. One such piece is now in the Museum Calvet, Avignon (Rolland 1965, 176 Cat. No.414, dia. 25 mm), and there are further examples of stylised lion masks, used not only as studs, but as decorative fittings in even larger scale from sites in the Rhineland. The studs from the collections in the museums at Trier and Bonn provide additional comparanda for the British finds. For Trier see Menzel 1966 *cf.* 66 no.154 *abb.* 19, dia. 19 mm inv. no. 9163 from Wasserbillig, Luxemburg; 66 no.155 *abb.* 20, dia. 20 mm inv. no. 04,390 from Trier, St Matthias; 67 no.156 *abb.* 21, dia. 18 mm

inv. no.38,1056 unprov.; 67 no.157 *abb.* 22, dia. 19 mm inv. no.38,1052b unprov.; 67 no.158 *abb.* 23, dia. 22 mm inv. no.38,1055 unprov.; For Bonn see Menzel 1986, 139 no.354 *Taf.* 131, dia. 20 mm inv. no.5317; 139 no.355 *Taf.* 131, dia. 20 mm inv. no.7928; 142 no.368 *Taf.* 132 dia. 18 mm, height 13 mm inv. no.6914; also a lighter, sheet-metal version 141 no.365 *Taf.* 132 dia. 28 mm inv. no.67260 all from Grimmlinghausen, Neuss. Other finds of elaborately decorated lock-plates, plaques and other casket fittings from sites in Gaul and the Rhineland might suggest that they provided one, if not the major, source of inspiration for the more modest examples from Roman Britain.

54 The fragment of iron sheeting which retains one original edge, and the slightly domed head of the nail or stud which had attached it to part of a wooden box can be paralleled by a plate from the Butt Road Cemetery at Colchester (Crummy 1983, 88-89, fig. 92. no.2222), in which the plate, with one end folded through 90°, has about four nails or rivets in position. It seems a little curious that it should be described as part of the reinforcement for the lid of the box, and it is more likely that it, and the Wavendon fragments, were backing plates for the locking arrangement of the box, placed discreetly on the inner face of the front of the casket.

5040/4; Cremation 3: early - mid 2nd cent.

55 Thirteen fragments of iron nails were also recovered, of which five have been illustrated. These include one with a domed head of identical type to that attached to the iron sheet 54, and four with smaller heads, one of which has had its shaft clenched. Some fragments of mineralised wood are also still attached to the decaying nail shaft. As with the Godmanchester and other caskets, it seems likely that the box was held together by iron nails at key points, most of which would have been concealed by decorative copper-alloy plaques and fittings. This would have produced an attractive but sturdy item for domestic use, which in some cases was utilised for a more melancholy event.

Although some lion-headed studs have been found in late contexts, as noted in the comparative study of the Skeleton Green finds (Borrill 1981), in this instance the association with a rectangular mirror, a type known to have been in circulation during the first century, plus the associated material, places this burial within the earliest years of the second century AD.

Acknowledgements

The writer wishes to thank the excavator Mr H.J.M. Green for making arrangements for her to inspect the Godmanchester chest at the Ancient Monuments Laboratory, Fortress House in June 1984, and Miss Jaqui Watson in the Laboratories for a discussion of the problems associated with its excavation and interpretation.

COPPER-ALLOY WHEEL MODELS (Figs 64–65)

Miranda Green

A small hoard of bronzework was found approximately 150 m north-west of Pit 835, in the vicinity of the late Iron Age Enclosure 1985 (Fig. 12). The hoard was discovered by a metal detector user, after completion of the excavation, in the spoil from a drainage trench during building work. No details are known of the hoard's context, although no ceramic or metal containing vessel was noted. The hoard consisted of the parts of at least four miniature wheels. Two are complete and relatively plain (56 and 57), one is very ornate but broken in antiquity (58a) and there are parts of a fourth wheel (58b, c and d) similar to the more ornate example. The hoard also included three 'studs' (only one ill. 59), a quantity of thin copper-alloy sheets (60a-d), some of which were decorated around their edges and had been broken, bent and cut in antiquity, two thicker cut fragments of sheet (only one ill. 61a) and a broken fragment of a faceted rod (61b).

The breakage and distortion of wheel 58a, the cutting up of the sheet and the inclusion of several fragments of scrap copper alloy suggests that the hoard was destined for melting down. This hypothesis seems to be supported by the inclusion of a number of copper-alloy 'globules' (not ill.) which had already been melted. Only a small selection of the smaller items in the hoard have been illustrated and the remaining pieces are shown in Plate 18.

56 & 57 The two simple wheel-models are virtually identical in size and form: the plainer one measures 75 × 72 mm max. dia., the other 72 × 73 mm. 56 is completely plain, with no decorative features, whereas 57 bears a continuous wavy line around the felloe. Both have four narrow spokes, simple naves and broad, circular-sectioned felloes.

58a The shape of the third wheel-model is distorted: its present

dimensions are 80 × 91 mm max. dia., and it had been broken in antiquity. This wheel has a broad, round-sectioned rim similar to the first two, but the spokes and nave take the form of a central diamond enclosing five roundels, with four further roundels joining the 'nave' to the felloe. None of the three appears to have had any practical function; they were not, for instance, part of model vehicles.

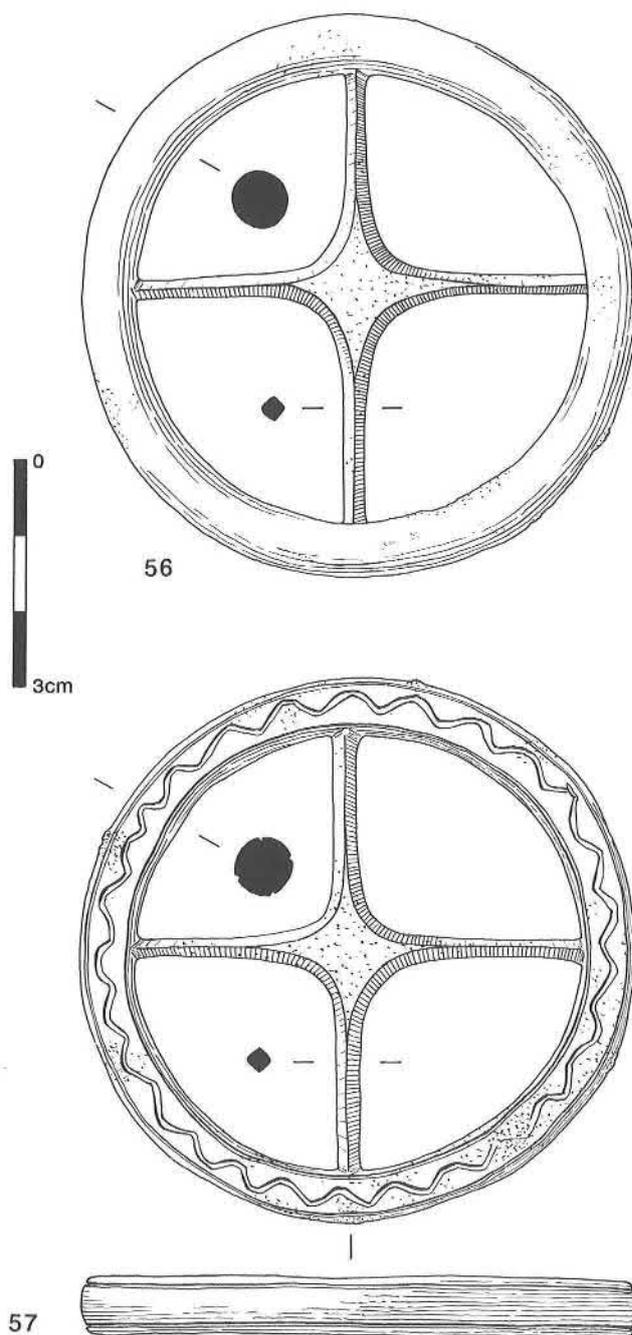


Figure 64: Copper-alloy 'wheels' 56-57, scale 1:1.

58b & c Two fragments of felloe and two sections of spokes, each made of two roundels, form part of at least one and perhaps two more wheels of almost identical type to 58a. The only difference is in the diameter of the rims, which has probably resulted from distortion when they were broken up. The back of the roundels are also more convex, with central indentations.

5436/500; unstratified.

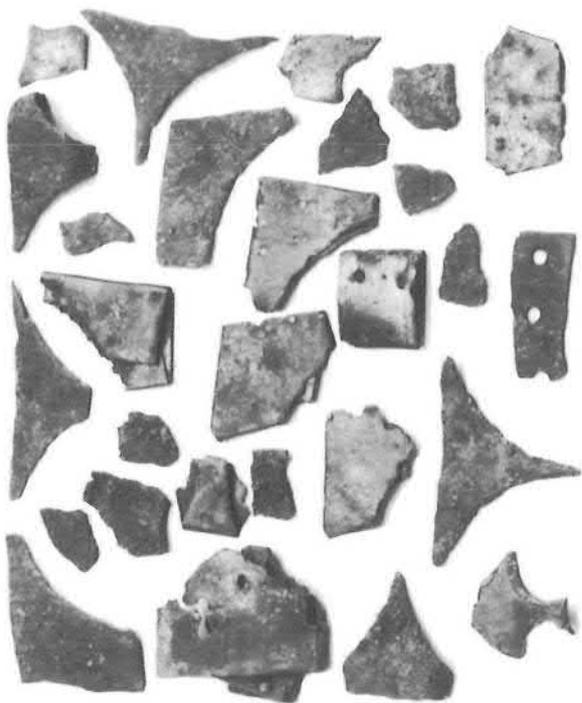


Plate 18: Hoard of copper-alloy items 56-61.

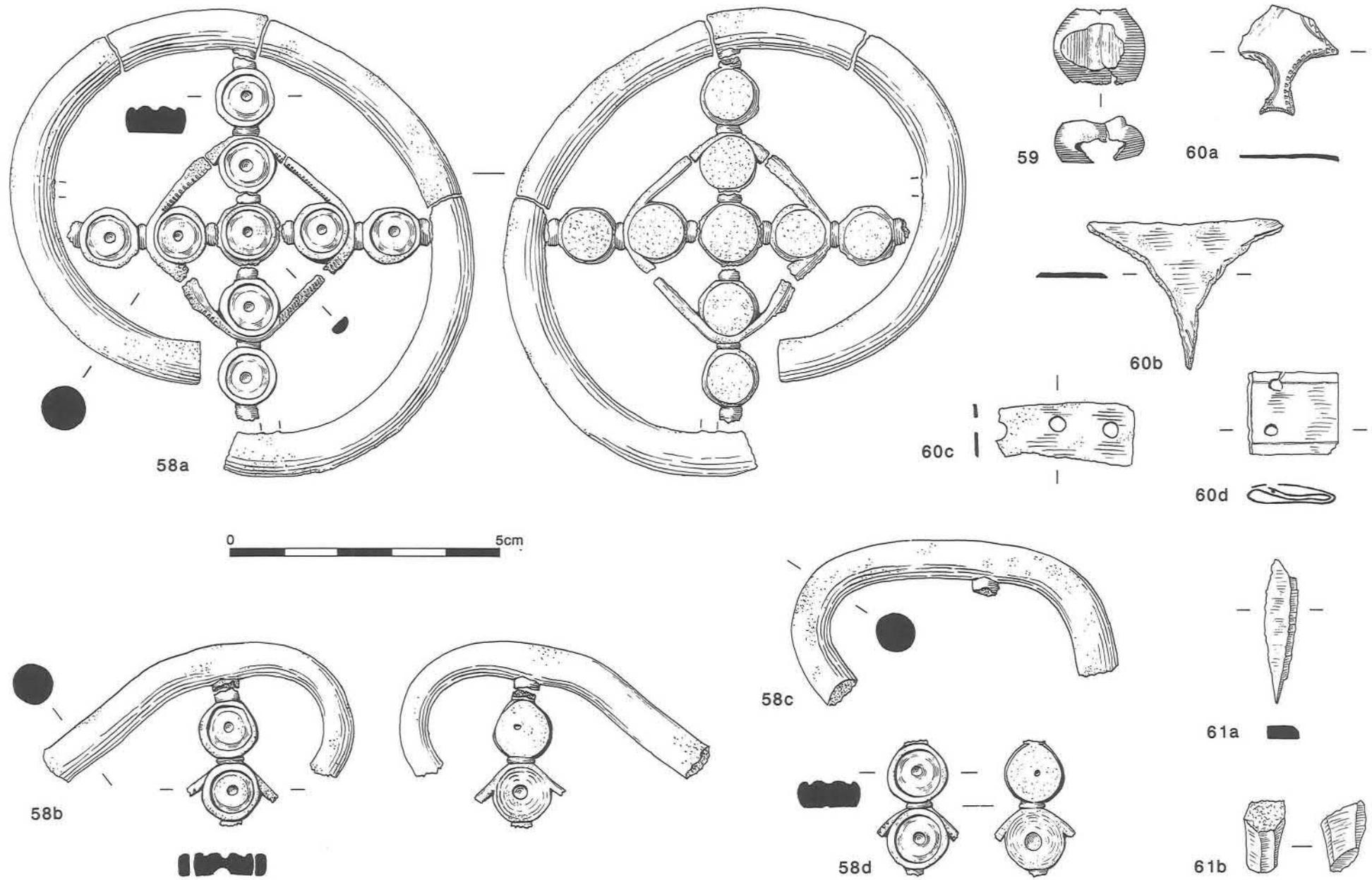


Figure 65: Copper-alloy wheels 58a-c; 'stud' 59; sheet 60a-d; scrap 61a-b, scale 1:1.

Although miniature wheels are a well-documented type of votive object in the Iron Age and Romano-Celtic periods (Green 1984, 45–102 and discussion of the wooden wheel p.155), the three Wavendon examples are unusual in being exceptionally large. The two plainer examples (56 and 57) have good parallels, similar models occurring, for instance, at the Iron Age *oppidum* of Stare Hradisko in Czechoslovakia (Green 1984, 34; Meduna 1970, 53, fig. 7); at the late Iron Age and early Romano-Celtic shrine at Lavoye, Meuse (Chenet 1919, figs 3 and 4); and at Romano-Celtic Autun in Burgundy (Drioux 1934, 52).

The ornateness of the third Wavendon model (58) is a feature more commonly found on wheel-shaped brooches than on true wheel-models. Knobs or roundels occur on several continental examples, including brooches from Trier (Green 1984, no. A46); Chalon-sur-Saône (Feugère 1977, 156, pl. 17); and Villeneuve d'Asq, Nord (Pietri 1973, 317, fig. 9).

Model wheels occur all over the Celtic world, clustering in Gaul, the Rhine and Danube regions, but also appearing in Britain, especially in the south and east. Many occur in such sacred contexts as Lavoye, Alesia (Le Gall 1985, 41–44) and Bourbonne-les-Bains (Chabouillet 1880–81, 15 ff). The inference is that they were solar symbols, offerings to the celestial powers (Green 1991, 86–107). A hoard of bronzes from Felmingham Hall in Norfolk included a wheel-model and a head of Jupiter (Gilbert 1978, 159–187), direct evidence of an association between wheel-models and the sky-cult. The symbols of the wheel on figurines and monuments of the Romano-Celtic sky/sun-good is unequivocal evidence of the celestial associations of this motif. In view of the discovery of the Wavendon wooden wheel (Fig. 91.178) so close by the models, it is at least highly probable that the wooden wheel on its tenon and the copper-alloy models were all associated with a solar cult which may have had a cult-centre at Wavendon Gate.

COPPER-ALLOY WHEEL-HEADED PIN (Fig. 66)

Miranda Green

Shortly after the completion of both the excavation and the housing development, a broken and bent wheel-headed bronze pin (Plate 19) was found by a metal detector user. The pin was discovered when topsoil was being replaced around the recently completed houses to the north of Isaacson Drive, at the south-west end of Area C (Fig. 2). Whilst its position approximates to that of the copper-alloy hoard (p.113), containing the wheels (Fig. 64.56–57; Fig. 65.58), it is now impossible to determine whether the pin originated from that hoard. Consequently the pin has been reported on separately.

62 Tapering and pointed shaft with a large wheel-shaped head. The 118 mm-long circular-sectioned shaft tapers evenly from 5 mm dia. near the head to a sharp point. It has been

violently bent and broken in antiquity. At the junction of the shaft and the head a shallow circular 'cup', 7 mm dia., may originally have held an inlay. The head is perfectly circular, 32 mm dia. and 6 to 7.5 mm thick. It consists of a felloe with a deep groove around the rim, four wide spokes and a 4 mm dia. hole for the nave. On both sides of the wheel the spokes and the felloe are recessed, probably also to receive an inlay. Irregular radial grooves within the groove around the felloe are almost certainly keying for the inlay. However, the more regular radial notching around the edge of the rim is clearly for decoration.

-/500; unstratified.

This pin belongs to a known later Iron Age type of swan's-neck pin. Usually the head is of open-ring form, but the wheel-headed sub-type also occurs. The closest parallel known to the writer is an example from Danes Graves in Yorkshire, which is associated with a cemetery belonging to the so-called 'Arras Culture', distinguished by its chariot burials. The Yorkshire pin is a bronze swan's-neck form with the ring-head in the form of a four-spoked and coral-inlaid wheel (Stead 1979, 77–78, fig. 30.3). The date of this pin is probably second century BC.

Bearing in mind the very strong evidence for wheel-symbolism at Wavendon Gate (Figs 64 and 65; and Fig. 91.178; it is tempting to see the presence of this pin as expressive of the same solar cultic tradition. There is abundant evidence from later prehistoric Europe, from the middle Bronze Age onwards, of jewellery such as pins, brooches and pendants which combined decorative and practical functions with religious symbolism (Green 1984, 15–43). The discovery of an Iron Age pin with its head in the form of a solar-wheel motif perhaps argues for the presence of devotees of the sun-cult at Wavendon Gate prior to the Roman period.

The fact that the pin has been so violently bent may mean that it was deliberately, and ritually, broken in antiquity, as a way of making the offering acceptable to the Otherworld.

PEACOCK STRAP-ENDS (Fig. 67)

C.F. Mawer

63 Incomplete copper-alloy strap-end, the butt having broken off in antiquity. The body is of an attenuated leaf-shape ending in a bicuspid tip with a short bevelled median groove; one point of the tip is missing (Plate 20). The existing length is 49 mm, max. width 12 mm and thickness 2 mm. The patina has sheared off one corner of the neck end (presumably at the time of discovery) and there is corrosion pitting towards the tip, but the decorative motif, a peacock, is virtually intact. The bird stands facing left. The outline of its body and tail is represented by short, consecutive strokes, with short straight strokes also employed for the three crest features, the well-modelled legs, and the hachuring on the wings. A single annular punch-mark forms the head, with a line of overlapping annular punching on breast and underparts, while arc-punching is used for both the beak and the tail; the incised line between wing and underparts is continued to the end of the tail, separating two opposed rows of vertical arc-punching, and the tip of the tail



Plate 19: Wheel-headed pin 62.

is indicated by three short rows of horizontal downward-facing arcs. In the field between the back of the peacock and a border of very fine dot-punching is another row of overlapping annular punch-marks. The back of the strap-end is plain apart from a small area of hammer-marks.

5039/1; unstratified.

- 64 Strap-end made of copper-alloy, the body having the same attenuated leaf-shape as 63, but while it too bears a median groove deepening towards the tip, the tip itself is not bicuspid (Plate 20). The butt is almost complete: there is a pronounced neck between body and butt-end, at the base of which are two asymmetrical lugs containing drilled holes of unequal depth; the butt-end is very slightly trapezoid, widening towards the top, which is missing. The existing length is 83 mm, existing butt width 16 mm, max. body width 14.5 mm and thickness 3 mm. The remains of a rivet hole in the broken edge of the butt-end indicate that originally there would have been three rivets passing through a strap to a rear attachment plate; only the central bottom rivet, of iron, now remains. At the back the bottom half of a thin copper-alloy attachment plate is still *in situ*, the top having sheared off in an oblique line, and between butt-end and plate what may be the remains of the leather strap can be seen. Before casting, the front of the butt-end was decorated with grooves parallel to the sides and with rudimentary 'chip-

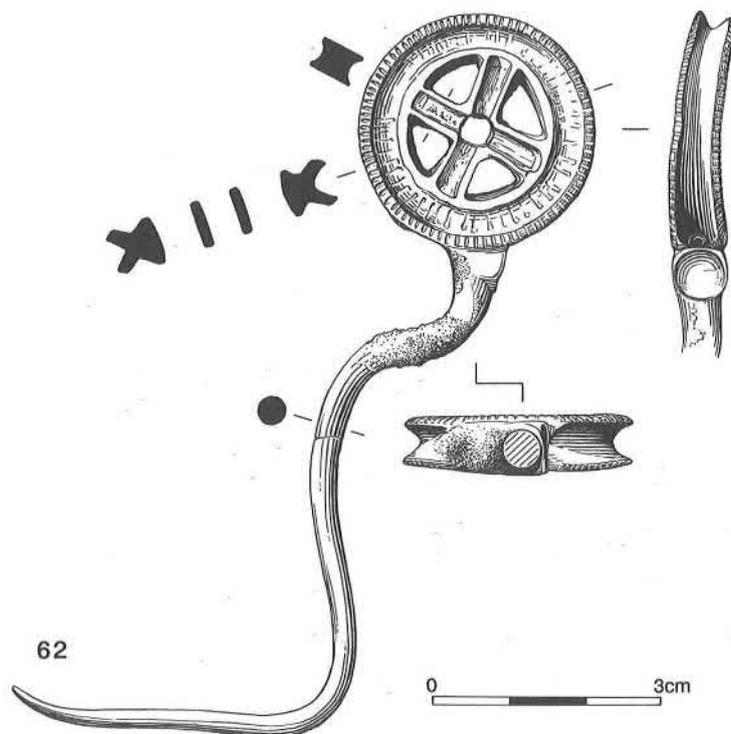


Figure 66: Copper-alloy wheel-headed pin 62, scale 1:1.

carving' around the edges. All subsequent decoration consists of short 'flecked' punching with longer consecutive cuts used to form continuous lines. A bird, possibly a peacock, stands facing right. The area near the lugs where one would expect to find its neck and head is damaged by corrosion. One of its legs consists of a single stroke while the other ends in three toes, and two lines extend from its back to form a rough wing. Vertical flecking is used to decorate the body and tail, overcutting the lower outline of the latter. The border appears to respect the bird motif; it consists of short flecks around the main body of the strap-end and a lighter, continuous line towards the tip. Below each lug a pair of short strokes is incised, while the neck between the lugs and butt-end bears two longer lines at a slight angle to the edges. The back of the strap-end is plain. The piece shows more wear than 63, but apart from the localized corroded area is in generally good condition. The context and associated finds suggest a fourth-century date for this piece.

5216/1041; Ditch 475, Enclosure 33: late 3rd – 4th cent.

Fork-tipped items such as these Wavendon Gate examples have usually been identified as nail-cleaners, even when the thickness of the metal or the schematic nature of the bifurcation makes such a function implausible. The conformation of the butt-end, when extant, can help to establish function more precisely. Where there is a suspension loop in the same plane as the body of the object it is indeed likely to have been a nail-cleaner, probably suspended from a chatelaine with other toilet objects. If, however, the loop is perpendicular to the body it may well have been attached to a hinged belt-plate in the manner of two fork-tipped strap-ends from Colchester, Essex (Crummy 1981, 12–14, fig. 15.3–4), while a rivetted butt, as displayed on

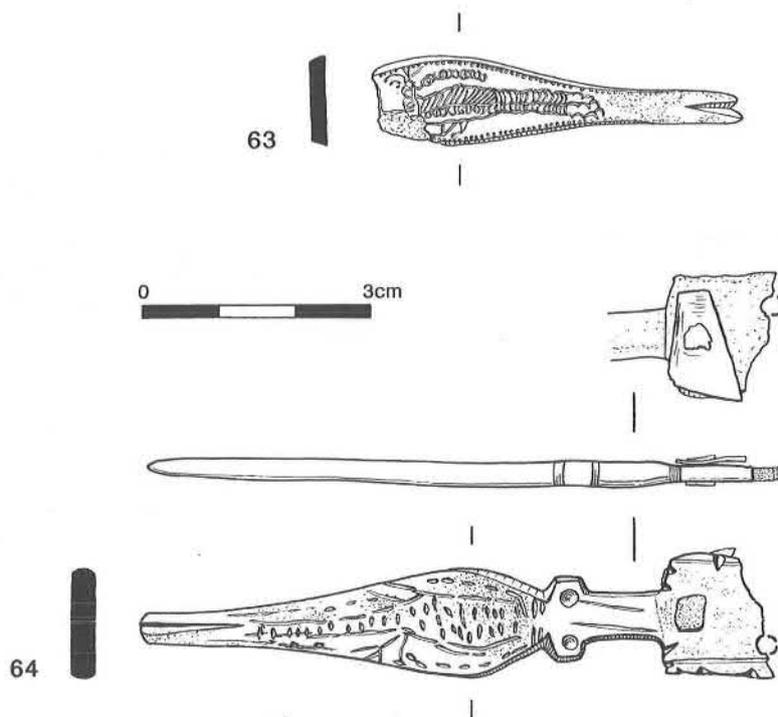


Figure 67: Copper-alloy 'peacock' strap-ends 63-64, scale 1:1.

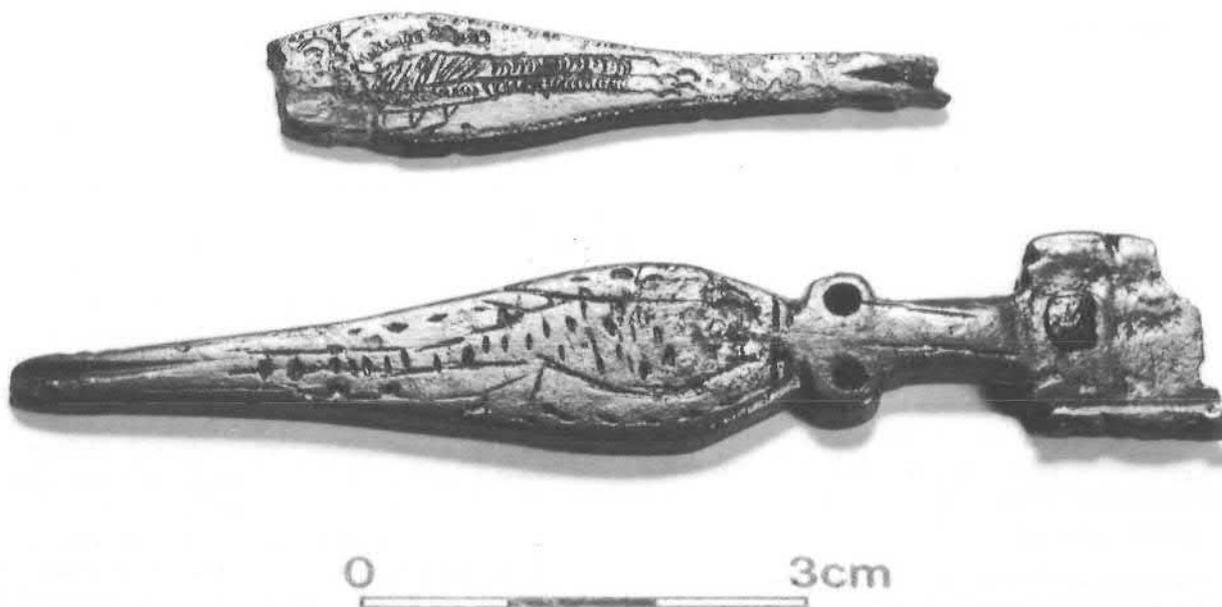


Plate 20: Peacock inscribed strap-ends 63 and 64.

64, can reasonably be assumed to indicate that the item was a terminal fixed directly to the free end of a narrow leather belt-strap. No doubt many fork-tipped strap-ends had a dual function, and the bicuspid form of the tip of 63 is certainly pronounced enough for it to have served, intentionally or incidentally, as a nail cleaner, but by the time 64 was produced the bifurcation had become merely conventional and non-functional. Furthermore, while 63 has no butt to aid categorisation, the presence of closely-related peacock motifs on unequivocal late Romano-British buckle-plates appears to make the identification of both 63

and 64 as belt-fittings quite feasible.

Strap-ends of the Wavendon Gate shape have come to be included in the group known as the 'Tortworth' type after an example from Avon associated stylistically (though not so far archaeologically) with buckles of Hawkes and Dunning Type I and consequently the late Romano-British narrow single-strap belt (Clarke 1979, 266-7, 281-2; Hawkes and Dunning 1961, 24, 41-50). These strap-ends have not been subject to systematic study and there is in fact a marked lack of homogeneity within the Tortworth

group as regards size, butt-type, shape of body, neck configuration and decorative techniques. A distinction should perhaps therefore be drawn between the exaggeratedly attenuated shape of the 'pure' Tortworth pieces and the more gentle leaf-shape of the Wavendon Gate examples. One of the Colchester strap-ends noted above, a leaf-shaped piece almost identical in size and form to **63** (Crummy 1981, fig. 15.4) was found associated not, indeed, with a dolphin buckle of the Hawkes and Dunning type but with a plain D-form buckle of Simpson's Group II (Simpson 1976, 195–6); furthermore, there is no intrinsic reason why similarly-shaped strap-ends should not have been attached to the narrow strap of a double-strap belt rather than a single-strap narrow belt. However, the plates bearing peacock motifs are all of the long and narrow shape found with buckles of Hawkes and Dunning Type I, so pending further analysis the peacock strap-ends will be regarded as being similarly associated. There has been much debate over the origin, dating and identity of the wearers of Type I buckles since Hawkes and Dunning's formative paper appeared in 1961 (eg. Hawkes 1974; Böhme 1986, 504–8), but on balance it seems likely that although examples have been found on the Continent this type is a purely insular creation, and that while some geometrically-decorated examples have been found in fifth-century Anglo-Saxon graves they exhibit so much wear that a date of manufacture in the second half of the fourth century seems most probable; a dating corroborated by the few peacock-engraved fittings for which there is evidence. The most important change in interpretation, however, has been the recognition that the practice of wearing belts in late Roman times was neither specifically military, nor male, nor even adult, and that Type I buckles were therefore not necessarily a component of a Romano-British version of the '*cingulum militiae*'. Hawkes (1974, 393; 1986, 68) now feels that their fragility implies they were female wear, but while **63** is certainly a delicate piece, **64**, the largest known to the author apart from the pure Tortworth type, is a solid and substantial item which would certainly not have seemed incongruous on a male. It remains to examine whether an assessment of the peacock motif itself may provide more significant clues as to ownership.

The peacock is by far the most common figurative motif on belt-fittings of this period and is outnumbered on Type I buckle-plates only by geometric designs. In addition to the Wavendon Gate finds it occurs singly on a strap-end from Orton Longueville, Cambs. (Hawkes 1976) and confronting a tree-of-life, either in pairs or with another creature/geometric motif, on a strap-end from Rivenhall, Essex (Tonnochy and Hawkes 1931) and buckle-plates from Cave's Inn/*Tripontium*, Warks. (Hawkes 1973), Harlow, Essex (Barlett 1987), Westerwanna, Germany (Böhme 1986, 508), Wortley, Glos. (Wilson 1986, 44 – a fragmentary example) and possibly from Stanwick, North Yorks. (British Museum 1923, 90 – where the provenance is assumed rather than attested). Although no chronological sequence can be established from the dating evidence available, stylistically it is clear that more than one artist or

workshop was involved in these representations. While the Wavendon Gate strap-ends share the same basic form, their technical and artistic differences are marked. The artist of **63** had a much wider range of techniques at his disposal and even if he had not seen a live peacock himself had a clear idea of how one should be depicted. The execution of the design was apparently flawed: the line of annular punch-marks above the peacock's back was presumably originally intended to be a third row of plumage rather than a garland or other free-standing motif such as the 'swastikas' on the *Tripontium* buckle-plate. It is the same length as the hachured wing below it and the peacocks on the related buckle-plates have three, not two, differentiated areas of plumage on the wing/body area, and a more 'hump-backed' profile than on this example. The execution of the motif of **64**, however, indicates that here the artist was not only less skilled but also unfamiliar with what he was attempting to portray. The long tail suggests that a peacock was the bird intended, but although the design is obliterated it appears that the artist had not left sufficient room to depict a neck or head – unless disproportionately small and backward-facing – let alone its main diagnostic feature, the occipital crest. There is a possibility that the missing head is provided zoomorphically by the lugs and neck of the strap-end, with the drilled holes forming the eyes and the oblique lines a rudimentary break (in which cases the resemblance to a peacock would be more tenuous). This, however, is a device normally associated with later items, for instance the zoomorphic terminals on the quoit brooch from Alfriston, Sussex (Evison 1965, pl. 15.a), and moreover the pairs of incisions beneath the lugs of **64** form an apparently intentional hiatus in the design. An erect wing as shown here is not common on depictions of peacocks but does occur on a pewter *tazza* from the Isle of Ely (Clarke 1931) and while the tail coverts, the secondary diagnostic feature, are not emphasised on **64**, the length of the tail suggests that an identification as a peacock can, with caution, be made. The fact that the two Wavendon Gate pieces were found in the same vicinity should not, however, be taken to imply that the rougher and less detailed **64** was simply a degenerate copy of **63**, and one should perhaps look instead for separate 'schools'. From the treatment of the tails alone it is possible to suggest particular relationships between the Cave's Inn and Wortley buckle-plates, with their evenly distributed arc-and-dot motifs, and between those from Stanwick and Westerwanna, where arc-punching is used both as a decorative border and to divide the tail into sections. Similar links can indeed be found for both the Wavendon Gate peacocks: the configuration of beak and crest and the opposed rows of arc-punching on the tail of **63** are also displayed on the Harlow buckle-plate, while the closest parallels for **64** are the vertical flecking on the tail and the overall schematic treatment of both the Rivenhall peacock, where the two ears in place of a crest display a comparable lack of awareness of the subject, and the admittedly more sophisticated bird on the strap-end from Orton Longueville. A relatively late date for these three last pieces is perhaps suggested by the fact that the punched flecking which they display often occurs on animals of the subsequent Quoit Brooch Style, where it may

have resulted from the keying of silver inlay as well as itself forming a decorative infill.

The peacock would have been a popular decorative motif regardless of any symbolic significance it possessed, owing not only to the beauty of its plumage but also to the distinctive shape of its outline: the choice of depicting the tail either in display or furred lends it to employment in a variety of compartments - circular, apsidal, oblong or triangular. It is therefore always possible that its adoption on the Wavendon Gate (and Orton Longueville) finds was due merely to the congruity of the outlines of peacock and strap-end, and it should be noted that the same can be said of the fish and the long serpent-like monster depicted on strap-ends from, respectively, Beadlam, North Yorks. (Stead 1971, 186) and Richborough, Kent (Bushe-Fox 1928, 46). Symbolic and mythological associations for the peacock are, however, abundant. In early times its beauty made it a natural attribute of Venus, but the assimilation of the eyes on its spread tail with the star-studded arc of the sky led to its more well-known association not only with Juno but also with the apotheosis of empresses. The annual loss and renewal of its tail coverts provided obvious analogies not only for spring but also for eternal life, rendering it appropriate both for the mystery cults and for Christianity, while the legendary incorruptibility of its flesh made it for the Christians a symbol of the resurrection of the body as well as the immortality of the soul. It occurs very early in Christian contexts, firstly in Catacomb paintings and later on sarcophagi, and its continued popularity in the post-Roman Christian era has predisposed many writers to assume a Christian significance for the fourth-century occurrences of the motif in Britain. The only unequivocally Christian instances, however, are the pewter *tazza* from the Isle of Ely already noted and a lost 'tin' vessel apparently of British provenance (CIL vii 1272), on both of which the peacock, representing the soul, is associated with the Chi-Rho monogram. The occurrences of the 'peacock and tree-of-life' motif on the belt-fittings already noted and on a tile from *Tripontium* (Tomlin 1981, 36) seem likely to be of Christian significance as the ancient, sacred tree-of-life had certainly entered Christian iconography by this time, although its assimilation with the vine means that a Bacchic connotation should not be completely dismissed; but the cantharus flanked by peacocks on a number of otherwise non-Christian mosaics most likely represented the life-giving Bacchic wine-cup rather than the Eucharistic chalice. Furthermore, the significance of the peacock's association with Orpheus must not be underestimated. It is one of the most common faunal motifs in the British Orpheus mosaics, but it appears to be more than a simple denizen of the Orphic paradise, being one of only five creatures (one missing) depicted at Brading, Isle of Wight (Smith 1983, pl. CCIII.1) and occurring in positions of equal prominence with Orpheus' main companion, the

dog or fox, both at Woodchester, Glos. (*ibid.*, pl. CCVI) and in the central roundel at Horkstow, Humberside (*ibid.*, pl. CCVIII.2). While a crypto-Christian significance can certainly be assigned to the representations of Orpheus in

the Catacombs, there is too much evidence in Britain for the continued flourishing of non-official religions throughout the fourth century for the British Orpheus mosaics and the creatures they display to be accorded a similar interpretation. The peacock was clearly a type of immortality for both pagans and Christians, but, like individual depictions of the cantharus, it was at the same time no doubt susceptible of a more generalised interpretation, and where, as on the Wavendon Gate strap-ends, there are no additional iconographic motifs, it is quite possible that a simple beneficent or apotropaic function was all that was intended.

However, the stylistic similarities between 63 and the Harlow buckle-plate peacocks do suggest that the depictions of individual peacocks on the Wavendon Gate strap-ends can reasonably be accorded the Christian interpretation which the 'peacock and tree-of-life' motif on the related belt-fittings seems to merit. This is corroborated by the fact that the majority of non-geometric motifs on late Roman belt-fittings throughout the Empire are either overtly Christian or capable of sustaining a Christian interpretation: for instance the *alpha* and *omega* on a buckle found at Traprain Law, Lothian (Curle 1923, 86-7], the *orans* and fish (Burger 1966, 111) and the postulated crypto-Christian Bellerophon motif (*ibid.*, 108) on two buckle-plates from Ságvár, Hungary and, on strap-ends of the same leaf-shaped form as the Wavendon Gate finds, the Beadlam fish already noted and - most significantly for this study - a fine and unambiguous Chi-Rho from Sandy, Beds (Mike Dawson, pers. comm.). While earlier Christians had been advised to restrict expressions of their faith to devices on rings, by the late fourth-century belt-fittings appear to have been, if not supplanting, then at least challenging this hegemony.

IRON OBJECTS (Figs 68-73)

Tora Hylton

The site produced only thirty-four pieces of iron, excluding nails, contained in fifteen different contexts. Of this number, six were unstratified metal detector finds found on the spoil heap during trial trenching. Most of the iron objects derived from the eastern side of Area B, which contained the greatest evidence of Roman occupation, with five items from the waterlogged Pit 835 and seven objects from the adjacent Stone spread 832. All iron was X-radiographed by the Royal Ordnance Laboratory, Aylesbury, prior to drawing.

Weaponry (Fig. 68)

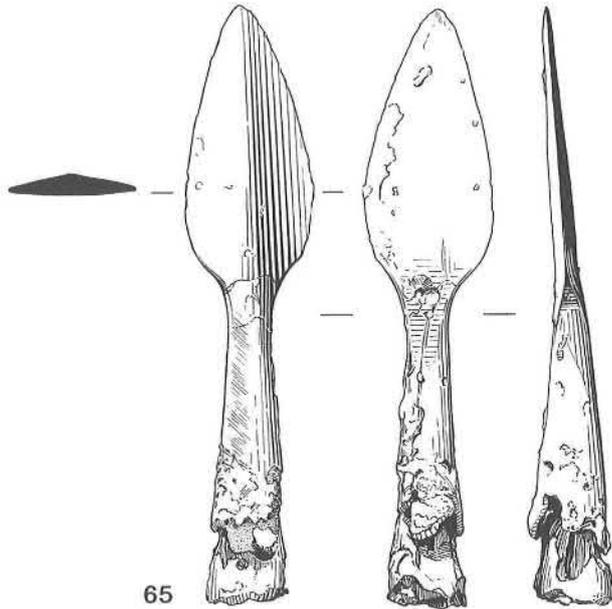
- 65 Spearhead. Leaf-shaped, with its maximum width (34 mm) about one quarter of the way along the blade. The blade is asymmetrical, with one shoulder more pronounced than the other. The cross-section is triangular with one side keeled and the other flat. This is a good example of Manning's (1985, 162) type 1A. The tapered socket, which is longer (79 mm) than the blade, has been welded closed. The

spearhead is in an extremely good state of preservation, with very little corrosion and the remnants of the wooden shaft still in the socket. Length of blade 72 mm, ext. dia. of socket 22 mm.

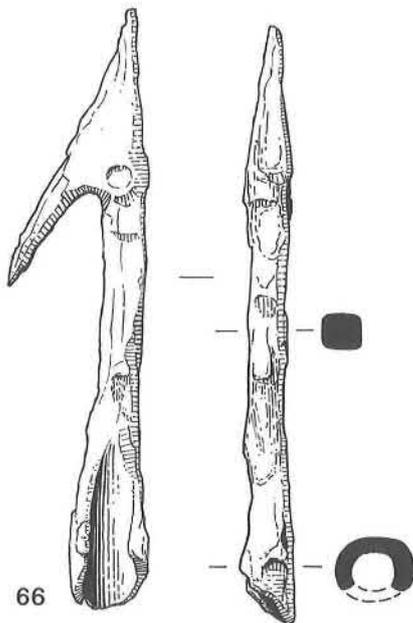
5254/911; waterlogged Pit 835: 3rd cent.

- 66 Barbed spearhead? Harpoon-like object, socketed with tapered square-sectioned shaft terminating in a single barb. Barbed spearheads, whilst rare in Roman Britain, have been recorded in small numbers in third and fourth-century contexts (Manning 1976, 20). However, in all cases there are barbs to either side of the point. Length 158 mm, length of barb 80 mm, ext. dia. of socket 21 mm.

5161/579; Ditch 579: late 3rd – 4th cent.



65



66



Figure 68: Iron weapons 65–66, scale 1:2.

Tools (Fig. 69)

- 67 Drillbit. Square-sectioned pointed bit-head tapering to a narrow stem, which has been bent, with well-preserved diamond-shaped tip. Length 134 mm, width 9 mm.

5287/756; Cleaning layer over Stone spread 832: 3rd – 4th cent.

- 68 Scythe blade fragment. Great Chesterford type (Manning 1985, 50), with gently curving narrow blade. The back is strengthened by a rim which projects on one side. Length 132 mm Width 20 mm.

5127/391; cleaning layer over Comdrier 378: 3rd cent.

- 69 Three-pronged fork. Rectangular-sectioned shaft and flatter tapered tang. Rectangular-sectioned pointed prongs, one of which is missing and the others are bent. The central prong has been forged from the same piece as the shaft. The side prongs have been formed from a separate piece. This has been bent and then joined to the shaft by means of hammer welding and a single rivet, which is clearly visible in the radiograph.

5235/908; Waterlogged Pit 835, upper fill: 3rd cent.

According to Rees (1979, 482–484), no three-pronged either lightweight or heavy forks, though occasionally found on the Continent, have been found in Britain, although two-pronged examples are not uncommon. One possible example was one found at Fishbourne (Cunliffe 1971, 135, fig. 60.51), although it is difficult from the description to determine whether the prongs are all in the same plane. In view of its small proportions, its date and association with horticultural plant remains, it is possible that this fork was used in the nearby vegetable garden rather than as a farming implement. Length 197 mm, width 64 mm.

- 70 Chisel? Tapered square-sectioned tang and short angled blade. Similar example found at Skeleton Green (Partridge 1981, 113, fig. 60, 67). Length 115 mm, width of blade 8 mm.

5383/894; Ditch 600, Enclosure 275: 2nd – 3rd cent.

- 71 Chisel? Tapered rectangular-sectioned tang, with short angled blade. Similar to 70. Length 86 mm, width of blade 10 mm.

5291/756; Cleaning layer over Stone spread 832: 3rd – 4th cent.

- 72 Mortice chisel? Heavy rectangular section, with the remains of a bevel at the tip. Slightly flared at the shoulders below a circular-sectioned tang. The exaggerated shoulders would have prevented the handle from splitting. Length 190 mm.

5205/500; Unstratified.

The following two objects (73 and 74) were found very close together in the waterlogged fill of Pit 835. Although at the time of excavation they were recorded as fitting together, no connection could be found following their conservation.

- 73 Leaf-shaped terminal end, with off-set rectangular-sectioned handle ? Length of blade 40 mm. Length of handle 110 mm.

5268a/730; waterlogged Pit 835: 3rd cent.

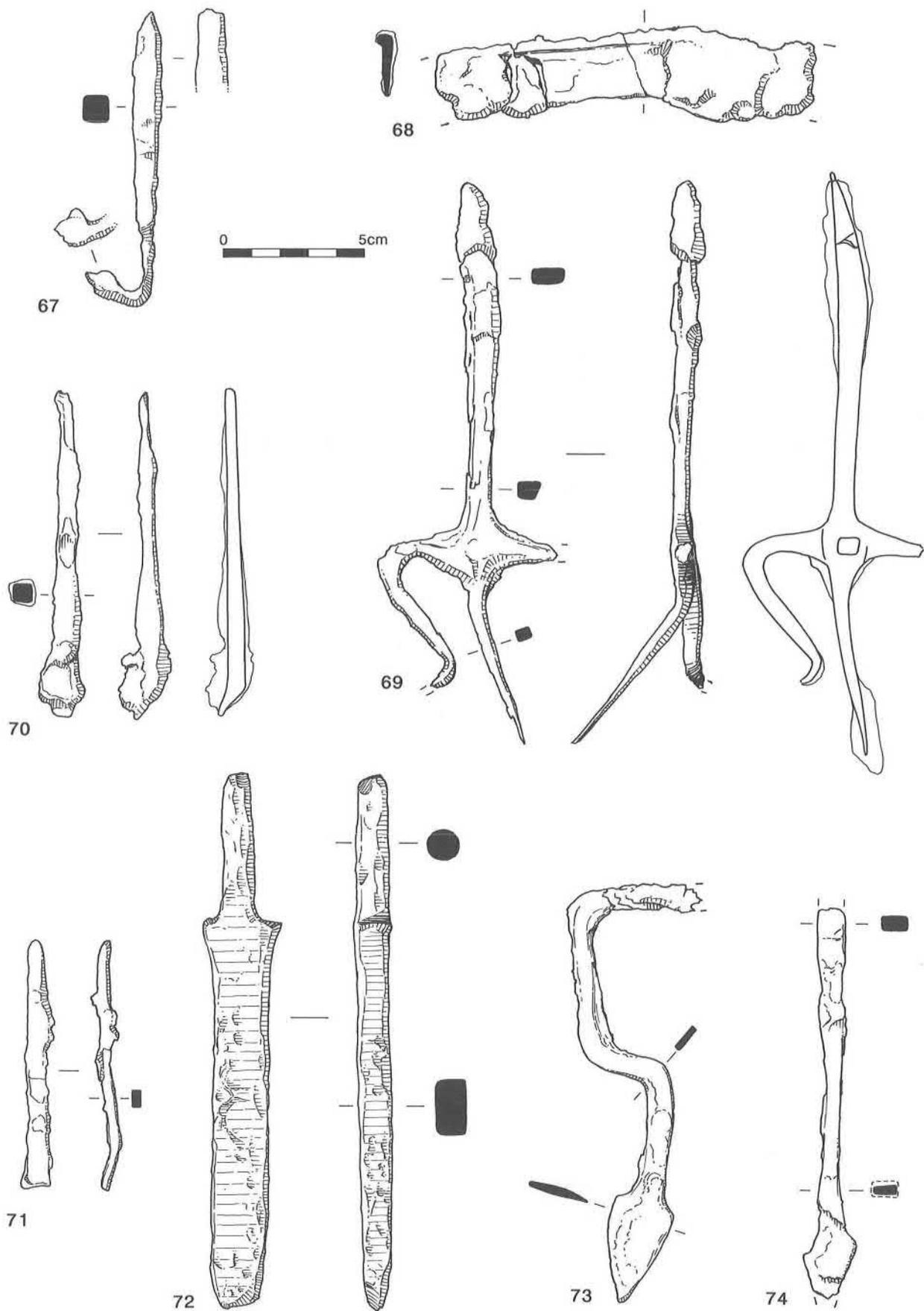


Figure 69: Iron tools 67-74, scale 1:2.

- 74 Rectangular-sectioned straight rod, with possible remains of a leaf-shaped terminal similar to 73. Length 138 mm.

5268b/730; waterlogged Pit 835: 3rd cent.

Knives (Fig. 70)

The site produced only four knives, three of which were incomplete. The one complete example (78) came from a Saxon context. Where possible Manning's (1985, fig. 28) knife classification has been used.

- 75 Incomplete, but with probable triangular-shaped blade. The back is straight and on the same alignment as the handle. Very similar to Manning's type 11b, (1985, 114, Q40), with a rod-like handle that terminates in a loop. Similar example found locally at Bancroft (Mynard 1987, 162, fig. 54.302). Length of blade 36 mm, length of handle 63 mm, blade width 24 mm.

5382/894; Ditch 600, Enclosure 275: 2nd – 3rd cent.

- 76 Tang and part of blade only. Similar to Manning's type 14 with the tang set midline to the straight-sided blade. Length of tang 25 mm, length of blade 25 mm, blade width 15 mm.

5221/905; waterlogged Pit 835, upper layer: 3rd cent.

- 77 Tang and part of blade only. Tapered square-sectioned iron tang, widening out towards a broad blade. Length of tang 46 mm, length of blade 35 mm, blade width 22+ mm.

5076a/500; unstratified.

- 78 Complete early Saxon knife. Tapering blade and back of Buckland type 1 (Evison 1987, 113), with pronounced shoulders and parallel-sided tang. Trace of a single line down one side of the back, similar to that on larger knife found at Pennyland (Williams 1993, fig. 55.24). Length 108 mm, blade length 66 mm, blade width 15 mm.

5162/600; Saxon fill of Ditch 600, Enclosure 275: Saxon.

Domestic Objects (Figs 71–72)

- 79 Lamp hanger. Formed of two parts; the upper section consists of a rectangular-sectioned rod, 455 mm long, which has been twisted in opposite directions to either side of a straight central section, similar to that on the shaft of a long pendant candle holder at Bancroft (Williams and Zeepvat 1994, fig. 159.204). At the pointed top a barb may be all that remains of an L-shaped hook, commonly found on hangers of this type. At the lower end is a well-formed loop with a circular cross-section. The lower section of the hanger consists of a 93 mm long looped swivel. Although heavily corroded, it too seems to have been formed of a circular-sectioned rod with a rounded terminal at the lower end. At the top, after passing through the loop of the upper section, it has been spirally wound around its stem. Total length 520 mm.

5006/2; Cremation 1: early to mid 2nd cent.

- 80 Open lamp. Shallow vertical-sided circular bowl with a pronounced 'spout'. Only the lower part of the handle, which may have had a stepped profile, survives at the back of the bowl. The entire arm which attached the bowl to the swivel of the hanger is missing. Bowl length 164 mm, dia. 127 mm, bowl height 30 mm.

5005/2; Cremation 1: early – mid 2nd cent.

Objects 79 and 80, although not found attached to one another, are clearly part of a single lamp deposited in Cremation 1, which is of mid second-century date. The deposition of lamps with burials is well documented, and has been discussed by Alcock (1980, 60–61) and Philpott (1991, 191–194) in some detail. The discovery of an iron lamp hanger firmly fixed into the side of a grave at Preston, Brighton (Kelly and Dudley 1981, 75) may even indicate that lamps were placed fully alight in burials.

Iron lamps of this general type are relatively common on Roman sites, and Manning (1985, 99–100) cites numerous British and Continental parallels. Open lamp 80 in particular is almost identical in form to two with stepped backs found in burials at Bayford, Kent (*ibid.*), both of which are also of mid second-century date. Another from Little Waltham, Essex (Drury 1978, 97, fig. 60.5.35) is also very similar to the Wavendon Gate example, although the exact date of burial in this example is less certain.

- 81 Buckle. Oval with circular-sectioned tongue and loop. Similar examples are known in Roman contexts, such as one at Shakenoak (Brodribb, 1972, 93, fig. 41, 191), but this example is probably post-Roman in date. Ext. dia. 52–44 mm, length of pin 50 mm.

5143/500; unstratified.

- 82 Glass-headed pin. Small heavily corroded shaft with a translucent light green glass head. The pin head appears to

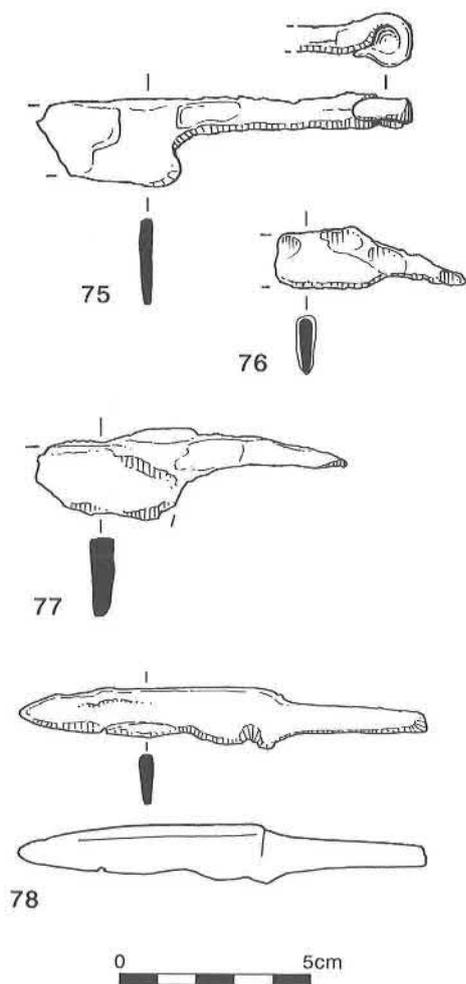


Figure 70: Iron knives 75-78, scale 1:2.

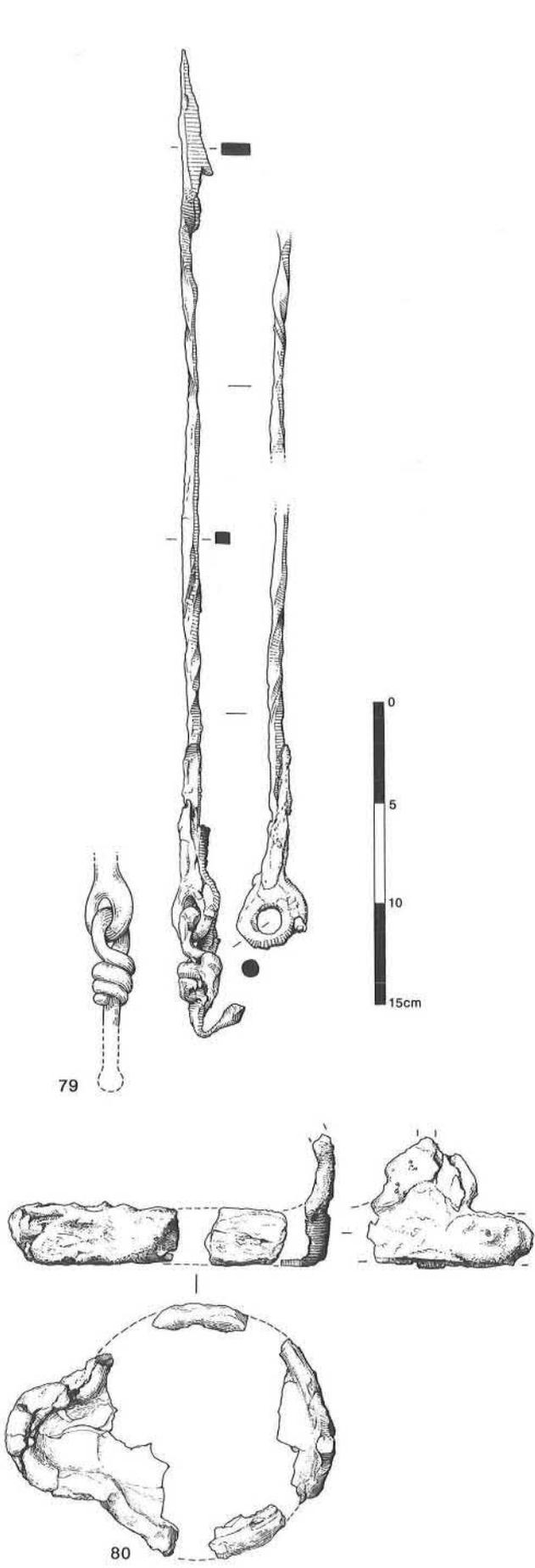


Figure 71: Iron lamphanger and open lamp 79-80.

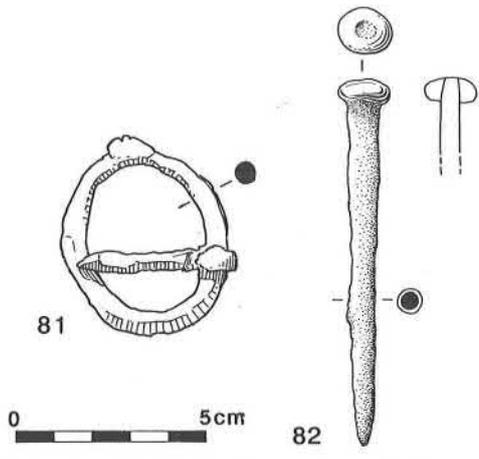


Figure 72: Iron buckle 81; glass-headed iron pin 82, scale 1:2.

have been manufactured either by winding a trail of glass around the head or by dipping the shaft into a globule of molten glass. In either case the molten glass has then been marvered to form a mushroom-shaped head in which the top of the shank is visible, but does not protrude. Length 98 mm, shaft dia. 4 mm, head dia. 14 mm.

5373/816; Saxon fill of Ditch 600: Saxon.

Glass-headed pins, whilst rare in Britain, are found in small numbers on Roman sites and have been categorized as Group 16 by Hilary Cool in her recent reappraisal of the typology of Roman metal hair pins, most of which are made of copper alloy. No pins of this type have yet been found in contexts earlier than the fourth century and where closely dated, like as those in Graves 323 and 351 in the Lankhills, Winchester cemetery (Clarke 1979, 315), they date to the second half of the century.

Whether the Wavendon Gate pin, which was found in an early Saxon context, was a residual object, an heirloom or actually of Saxon manufacture is uncertain. Examples of similar glass-headed pins have also been found in well-stratified Saxon contexts, including a 40 mm-long iron pin from Grave 157 in the Dover Buckland cemetery (Evison 1987, 84, fig. 61.157.3), two copper-alloy examples from Sunken-featured Buildings 19 and 59 at West Stow (Evison 1985, 75, fig. 277.2-3) and another with a copper-alloy shaft found at Cheddar (Rahtz 1979, 280, fig. 94.81) and support the probability that at least some of the pins were of Saxon manufacture. Pins of this type are also known from Irish early Christian contexts (Henderson 1984, 101-102).

Strapping/Binding (Fig. 73)

83 Parallel-sided with a rectangular section. A centrally placed circular perforation is flanked by square holes sited near the terminal ends, which are bent downwards. Length 181 mm, width 39 mm, th. 3 mm.

5283/756; cleaning layer over Stone spread 832: 3rd - 4th cent.

84 Parallel-sided fragment with a rectangular section. One circular hole and part of a squared hole remain at one end. Length 138 mm. width 32 mm.

5142/756; cleaning layer over Stone spread 832: 3rd - 4th cent.

- 85 Parallel-sided with a rectangular section. Two square-sectioned nails, 75 mm apart, protrude from the 'underside'. Length 132 mm, width 35 mm.
5360/887; cleaning layer over Stone spread 832: 3rd – 4th cent.
- 86 Slightly tapered with a rectangular section. Bent at one end with remains of a square perforation at the other. Length 66 mm, width 19–23 mm.
5386/679; unstratified.
- 87 Tapered rectangular strip, slightly bent at one end. Length 73 mm width 17–12 mm.
5381/756; Cleaning layer over Stone spread 832: 3rd – 4th cent.
- Ni Binding fragment. Parallel-sided, broken at both ends. Length 79 mm, width 8.5 mm.
5284/756; Cleaning layer over Stone spread 832: 3rd – 4th cent.
- Ni Binding fragment. Parallel-sided, flat sectioned, badly corroded. Length 260 mm, width 15 mm.
5074/141; Ditch 590/591: 2nd – 3rd cent.
- Ni Binding fragment. Flat sectioned, broken at one end. Length 31 mm, width 17 mm.
5139/500; unstratified.

Miscellanea (Fig. 73)

- 88 Ring. Circular sectioned, possibly with a lap joint. Int. dia. 32 mm.
5156/600; Ditch 600, Enclosure 275: 2nd – 3rd cent.
- 89 Handle ? Parallel-sided rectangular-sectioned strip. The terminal ends are slightly rounded with perforations centrally placed 10 mm in from each end. The central section is slightly raised, but not enough for a finger to pass beneath, unless whatever it was attached to was hollowed out. Post-medieval ? Length 127 mm, width 18 mm, th. 55 mm.
5076b/500; unstratified.
- 90 Hinge-pivot. Broken tapering rectangular section and circular-sectioned pivot arm. Similar examples found at Lullingsstone (Meates 1987, 109, fig. 52.320) and Gadebridge (Manning 1974, 176, fig. 75.524). Length 110 mm, pivot dia. 21 mm.
5189/600; Ditch 600, Enclosure 275: 2nd – 3rd cent.
- 91 Flat, rectangular-sectioned object with a central dome-headed rivet. Four rectangular-sectioned projections radiate from the centre. One tapers to a sharp point and the other three are broken. Possibly part of a window-grille of the star-shaped type (Manning 1985, 128), or even the side of a curb-bit of Manning's type 3 (1985, 69, plate VII). Length 115 mm, width 110 mm.
5371/2065; Ditch 842, Enclosure 32: late 3rd – 4th cent.
- 92 Bent rod. Square-sectioned rod fragment, tapered at one end to a chisel edge. Length 145 mm.
5345/600; Ditch 600, Enclosure 275: 2nd – 3rd cent.
- 93 Short length of bar with ring at one end. Possibly a knife handle of Manning's type 11b (1985, 114). Length 64 mm, width 18 mm.
5056/223; Ditch 590/591: 1st – 3rd cent.
- Ni Square-sectioned length of rod, badly corroded. Function unknown.
5067/176; Ditch 847: late 2nd – early 3rd cent.

Ni Circular-sectioned rod fragment. Length 158 mm, dia. 8 mm.

5202/500; unstratified.

IRON NAILS

Tora Hylton

A total of 122 iron nails were recovered from the evaluation and excavation; 116 from forty-five stratified Roman contexts and six unstratified (Table 4). 28% (32) derived from the inhumations and cremations, 37% (43) from Pit 835/Hollow 900 and 35% (41) from Enclosure 275 and associated contexts. The recognisable nails were classified using Manning's type series (Manning 1985, 134–137, fig. 32). No conservation work was undertaken, except for rudimentary cleaning to aid identification.

Seven of the twenty cremations produced a total of twenty-two nails, of which eleven were unidentifiable, including ten from the remains of a casket in Cremation 3 (p.112). However, it is likely that these ten nails were all type 8 dome-headed decorative nails similar to the only identifiable nail in this group (Fig. 63.55). Of the remaining identifiable examples, nine were type 1B (small with a flat round or rectangular head and square-sectioned shaft) with a single example of a type 3 with a T-shaped head. Ten coffin nails were found with the three inhumations, including eight from Inhumation 943. Of these, five are type 1A (similar to type 1B but much larger), two are type 1B and three are unidentifiable.

The largest number of nails (43) derived from the waterlogged Pit 835 and the shallow fill of Hollow 900. The pit produced eighteen nails, including twelve hobnails (type 10) associated with the leather *caliga* (Fig. 96.198), and three probable type 1B nails, still positioned in two fragments of weatherboard (Fig. 94. 192 and 193)

Enclosure 275 and associated contexts produced twenty-seven nails, of which types 1A and 1B were the predominant with fourteen examples, with two examples each of types 3 (spike-like), 5 (lacking any distinct head) and 8 (small with a domed head), one type 4 (L-shaped head) and six unidentifiable.

Even though the total number of nails recovered from the site seems remarkably low, the two most common types, 1A and 1B, make up nearly half the assemblage. The remaining types are mainly those used for specialist purposes, such as hobnails or the probable decorative nails used on the wooden casket. Perhaps the most significant discovery was the use of small type 1B nails to fix weatherboarding (p.162) to the frame of a building.

LEAD (Fig. 74)

Tora Hylton

Of the twelve items, only one was stratified, the others having been found during metal detector surveys over the topsoil and spoil heaps. Consequently items have only

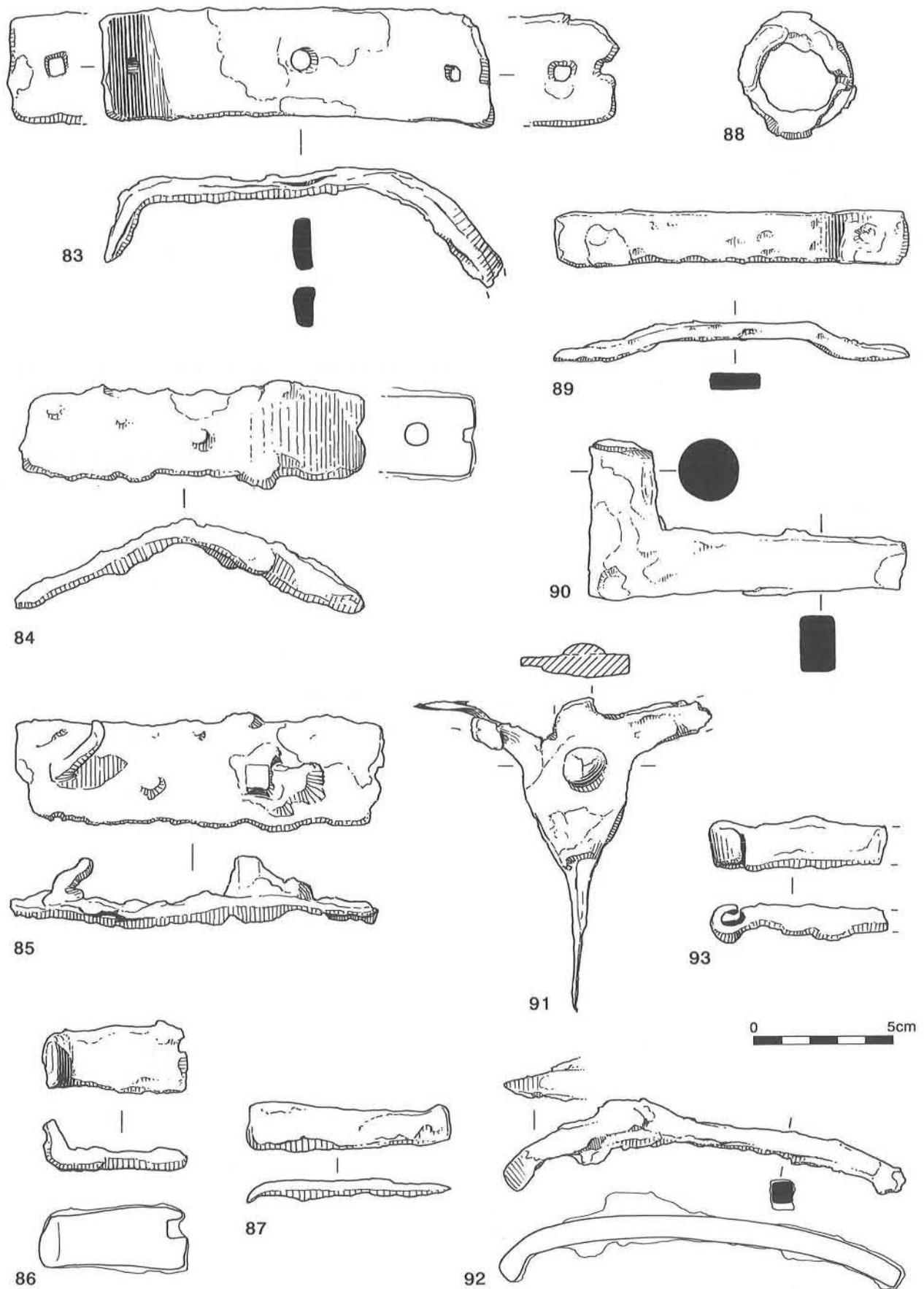


Figure 73: Iron strapping/binding 83-87; miscellaneous objects 88-93, scale 1:2.

Context	No. of Nails	IA				Nail Type														
		<70mm 150mm	70- 150mm	>150mm	Incom- plete	1B <70mm	1B 70- 150mm	1B >150mm	1B Incom- plete	2	3	4	5	6	7	8	9	10	?	
CREMATATIONS:																				
Crem. 1	2	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	
Crem. 3	11	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	10	
Crem. 8	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Crem. 12	3	-	-	-	-	1	-	-	1	-	1	-	-	-	-	-	-	-	-	
Crem. 13	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Crem. 14	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Crem. 15	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL	22	-	-	-	-	7	-	-	2	-	1	-	-	-	-	1	-	-	11	
INHUMATIONS:																				
211	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
213	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	
943	8	-	-	3	2	-	-	-	1	-	-	-	-	-	-	-	-	-	2	
TOTAL	10	-	-	3	2	-	-	-	2	-	-	-	-	-	-	-	-	-	3	
OTHER:																				
Pit 835/ Hollow 900	43	2	-	-	-	10	1	-	-	1	8	1	-	-	-	-	-	-	12	8
Enc. 275/ int. features	27	3	-	-	1	5	2	-	3	-	2	1	2	-	-	2	-	-	6	
Area A	14	4	-	-	-	2	-	-	3	1	-	-	1	-	-	-	-	-	3	
SITE TOTAL	116	9	-	3	3	24	3	-	10	2	11	2	3	-	-	3	-	12	31	
%		13				32				2	10	2	3	-	-	3	-	11	27	

TABLE 4: Incidence of different nail types (Manning 1985, fig. 32) by major features.

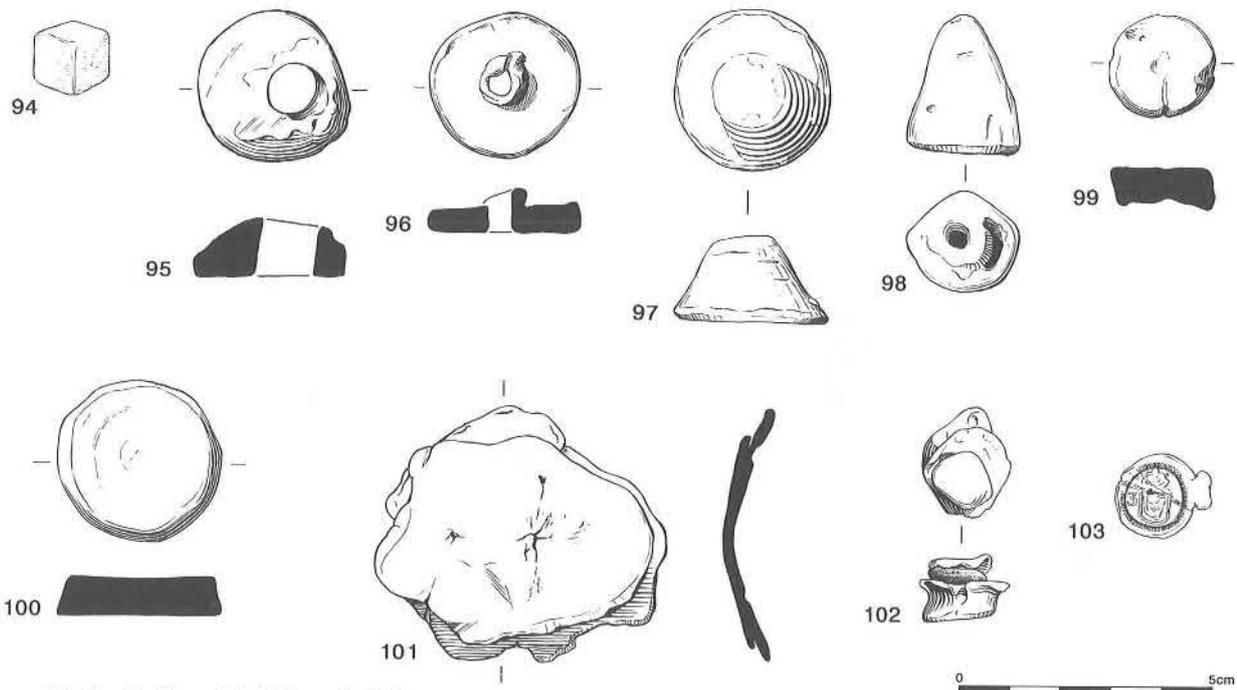


Figure 74: Lead objects 94-103, scale 2:3.

been listed and not grouped. In addition to the twelve objects described below a large fragment of lead had been used to repair the side of the samian platter 110 (Fig. 110) found in Cremation 2, presumably because the broken sherd had been lost in the period between its breakage and repair.

- 94 Die? Cubed, but with no evidence of face markings. Dimensions 11 × 11 × 11 mm.
5114/36; unstratified.
- 95 Spindle whorl/weight. Irregular flattened cone, with off-centre perforation. Dia. 29 mm
5081/500; unstratified.
- 96 Spindle whorl/weight. Disc with central perforation and irregular flange around one side of the perforation. Dia. 29 mm, depth 4 mm.
5222/905; upper fill of Pit 835: 3rd – 4th cent.
- 97 Conical weight with a flattened point. Dia. 32 mm, height 18 mm. Weight 80 g.
5421/1; unstratified.
- 98 Conical weight with a central depression in the base. Dia. 20 mm, height 28 mm. Weight 60 g.
5422/1; unstratified.
- 99 Counter. Disc-shaped with no markings. Dia. 20 mm, depth 8 mm.
5423/1; unstratified.
- 100 Counter. Disc-shaped with no markings. Dia. 32 mm, depth 7 mm.
5177/1045; unstratified.
- 101 Lead repair for pottery vessel. Dimensions 57 × 50 mm.
5038/1; unstratified.
- 102 Lead repair for pottery vessel with fragment of pot remaining. Dimensions 21 × 17 × 12 mm.
5420/1; unstratified.

103 Cloth seal. One half of a double seal, stamped with the impression of a shield with a harp inside and a crown above with the number three to the left, all set within a pelleted circle. Dia. 16.5 mm.

5036/34; unstratified.

Ni Sheet fragment. Function unknown. Length 24 mm, width 14 mm.

5247/500; unstratified.

Ni Sheet fragment. Crumpled, function unknown. Dimensions 53 × 48 mm.

5424/1; unstratified.

OBJECTS OF WORKED BONE AND ANTLER (Figs 75–81)

Twenty-seven objects of worked bone and antler were found in seventeen contexts within thirteen different features of early Iron Age (104), late Iron Age (105, 106), Roman (107–120) and early Saxon (121–130) date. Whilst many of the items are finished others, particularly those of Saxon date, are waste products from the manufacture of 'tools'. Identification of bone fragments to species level was made by Keith Dobney.

Iron Age (Fig. 75)

Tora Hylton

104 Perforated maxillary canine tooth of a dog (too small to have come from a wolf). Carefully drilled from both sides, possibly used as an amulet or part of a necklace. Found associated with a human mandible (p.236) and a near-complete pottery vessel (Fig. 99.1). An almost identical drilled tooth was found in an early Roman context at Baldock (Stead 1986, fig. 72.676). Length 41 mm.

5391/1263; Pit 1251: early Iron Age.

105 Needle. Sub-square-sectioned upper and circular-sectioned

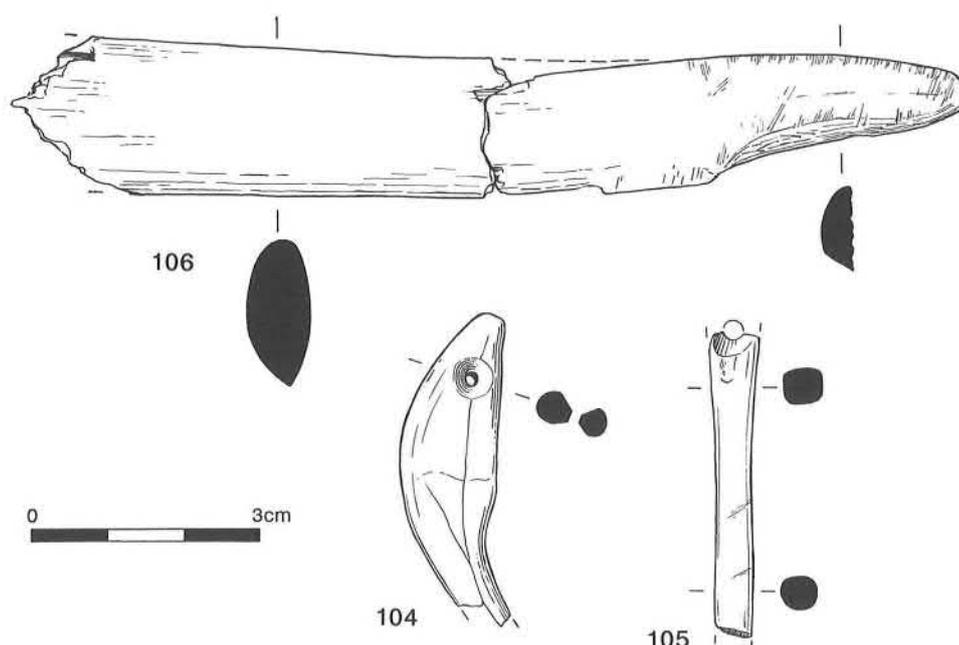


Figure 75: Iron Age worked bone objects 104-106, scale 1:1.

lower shaft with slight waisting near the middle. Both the point and the upper part of the perforation are missing. The large size of the item indicates that it was possibly a bodkin similar to the Danebury class 5 (Sellwood 1984, 381, fig. 7.32, 3.84). Length 39 mm, width 6.5–5.0 mm.

5430/1792; Roundhouse 1740: late Iron Age – Phase 1A.

106 Worked cow-sized rib fragment. One end has been cloven lengthways and a smooth rounded terminal has been formed with tapered edges. The other end is broken. There is considerable evidence of tiny transverse score marks on the outer edge of the rounded end. Length 125 mm, width 20 mm.

5356/1839; Ditch 1633, Enclosure 1987: late Iron Age – Phase 1A.

Ribs are a comparatively unusual bone to be used for making implements owing to their lack of robustness. At Danebury (Sellwood 1984, 395) five such objects made from split cattle-size rib bones were found. They displayed a variety of forms with several having pointed ends and all the complete examples had been perforated. Although their use as netting needles has been suggested the wear pattern on the Wavendon object is more indicative of its use as a modelling tool or burnisher.

Roman (Figs 76–78)

Tora Hylton

107 Bone foot. Finely carved piece, representing a left foot and ankle, which is broken at the calf. The sole of the foot is arched, giving the appearance of standing on tiptoe, the toes are defined by four incised grooves. At the back of the ankle is a longitudinal channelled recess containing a fragment of a larger piece of iron. Length of foot 19 mm, height 27 mm.

5274/756; cleaning layer over Stone spread 832: 3rd – 4th cent.

The function of this object is uncertain, but there is a strong possibility that it is the handle of a folding clasp knife, with the blade corroded into the groove at the back of the ankle. There are examples of bone handled iron clasp knives from Wroxeter and Great Chesterford, (Toynbee 1964, 360). An almost identical and more complete example (Moore 1988, 2) was purchased at Smyrna in 1873 and is on display in the British Museum (Reg. No. GR 1885.10–13.10). Roman folding knives are not particularly common in Britain, and the handles are more frequently made of bronze. It has recently been suggested that some clasp knives of delicate construction, such as the Wavendon Gate example, were actually toilet instruments, the *cultellus tonsorius* or “barber’s small knife” (Boon, 1991, 22–23). Since the handle depicts a human leg it also possible that it could have been used at a later date as a medical *ex-voto*.

108 Pin/peg. Flat topped with thick shaft, point missing. Similar example from Gadebridge (Neal 1974, 154, fig.67.303). Bone objects of this size and form have been termed pegs by Crummy (1983, 162), and may have served a variety of domestic purposes, including meat skewers or even for dressmaking. Length 52 mm, width 6 mm.

5295/756; cleaning layer over Hollow 900: 3rd – 4th cent.

109 Whittled bone. Roughly cut peg-shaped object, tapered and slightly bowed. Probably a roughout for a pin/peg. Evidence of primary usage or butchery marks are visible on one side, in the form of transverse score marks on the outer surface of the bone. Length 105 mm, width 12 mm.

5346/871; layer in waterlogged Pit 835: 3rd cent.

110 Handle. Proximal articular surface and shaft of equid metacarpal. The surface has been smoothed and the periphery of the joint surface has been trimmed. Length 68 mm, width 26 mm.

5418/522; Ditch 533, Enclosure 30: 1st cent.

111 Handle. Section of large red deer antler beam, broken at one end, sawn at the other. Within the beam core is the remnant of a squared iron tang. Similar example from Lullingstone (Meates, 1987, 100, fig. 45.259) Length 78 mm, dia. 34–36 mm.

5417/909; layer in waterlogged Pit 835: 3rd cent.

112 Handle. Large sheep metacarpal of uncertain type, broken at the distal end with the proximal articular surface cut off square and the shaft artificially hollowed. Length 108 mm, width 25 mm.

5429/747; Pit 575: 2nd – 3rd cent.

113 Handle. Immature sheep metatarsal with proximal joint surface artificially hollowed. Evidence of wear on anterior aspect of the shaft? Length 117 mm, width 17 mm.

5426/522; Ditch 533, Enclosure 30: 1st cent.

114 Handle. Caprovid tibia shaft with distal end chopped/cut, and clear evidence of transverse notching. Proximal end with evidence of notching and knife marks also. Length 134 mm, width 11–19 mm.

5428/756; cleaning layer over Stone spread 832: 3rd – 4th cent.

115 Worked item. Immature sheep metatarsal fragment, slightly waisted below the distal end of the shaft, perhaps as a result of wear. Proximal end missing. Function of object unknown. Length 81 mm, width 10 mm.

5433/1070; Ditch 433: 2nd – 4th cent.

116 Gouge. Broken caprovid tibia shaft fragment with oblique diagonal cut across the shaft, exposing the medullary canal. The outer edges of the cut have been trimmed. Length 56 mm, width 11 mm.

5427/522; Ditch 533, Enclosure 30: 1st cent.

117 Rectangular offcut from a long bone. Slightly tapered, edges trimmed. Length 35 mm, width 15 mm.

5431/918; Hollow 900: late 2nd – early 3rd cent.

118 Rectangular offcut with single longitudinal groove on both long sides. Length 30 mm, width 13 mm.

5432/1083; Ditch 412: late 3rd – 4th cent.

119 Horn core, sawn at the base and split down the middle. Length 97 mm.

5165/905; waterlogged Pit 835: 3rd cent.

120 Antler. Large section of beam with brow tine removed by sawing in a single direction and snapping the tine away when it was almost entirely sawn through. Trace of knife cuts on one side. Length 205 mm.

5379/2065; Hollow 900: Late 2nd – early 3rd cent.

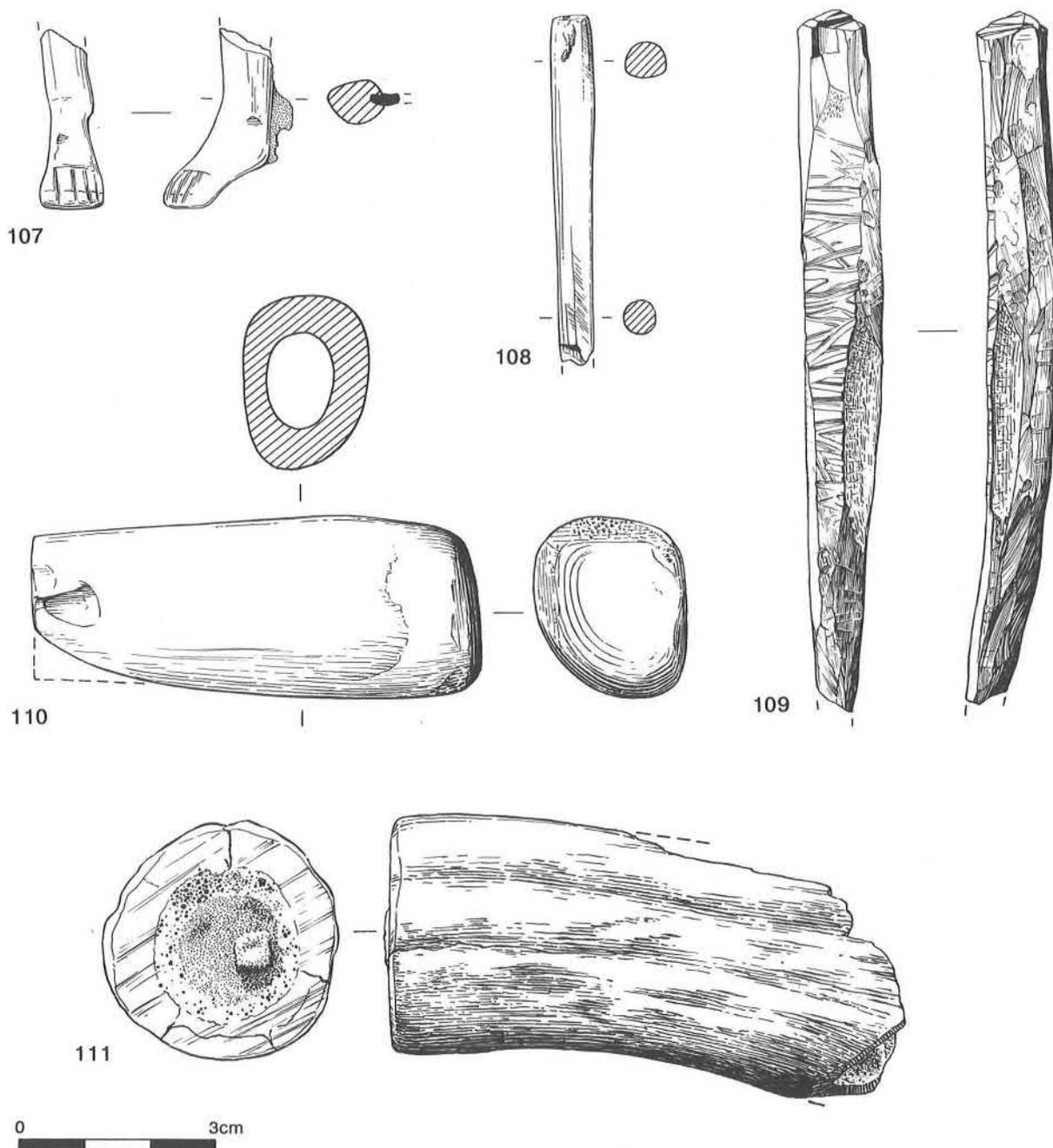


Figure 76: Roman worked bone objects 107-111, scale:1.

The small number of bone and antler objects of both late Iron Age and Roman date limits the discussion of bone/antler working, although, from the evidence of the unfinished peg (109) and the off-cuts (117 and 118) manufacturing was evidently taking place on the site. There are surprisingly few items of personal adornment; in particular there are no hairpins, so commonly found on settlements of this type. Most of the objects are associated with more utilitarian function, such as the handles (110-114), the exception being the decorative knife handle (107). It is widely recognized that good quality bone, and even more so antler, was considered a very useful commodity. It is therefore a little surprising that the large antler beam (120) should have been discarded as waste. This may of course reflect the relative abundance of the raw materials. The

distribution of the Roman objects, which cluster around Hollow 900 and Pit 835, is most likely a true reflection of the greater level of domestic activity in this part of Enclosure 275.

Early Saxon (Figs 79-81)

Ian Riddler

Nine fragments of antler waste (121-129) were found in the extreme upper tertiary silt of Ditch 433 where it had formed the western side of the late Roman Enclosure 339 (p.94). This group was associated with a concentration of early Saxon pottery (p.198) bone, charcoal and fragments of stone. The only finished object, a pinbeater (130), was

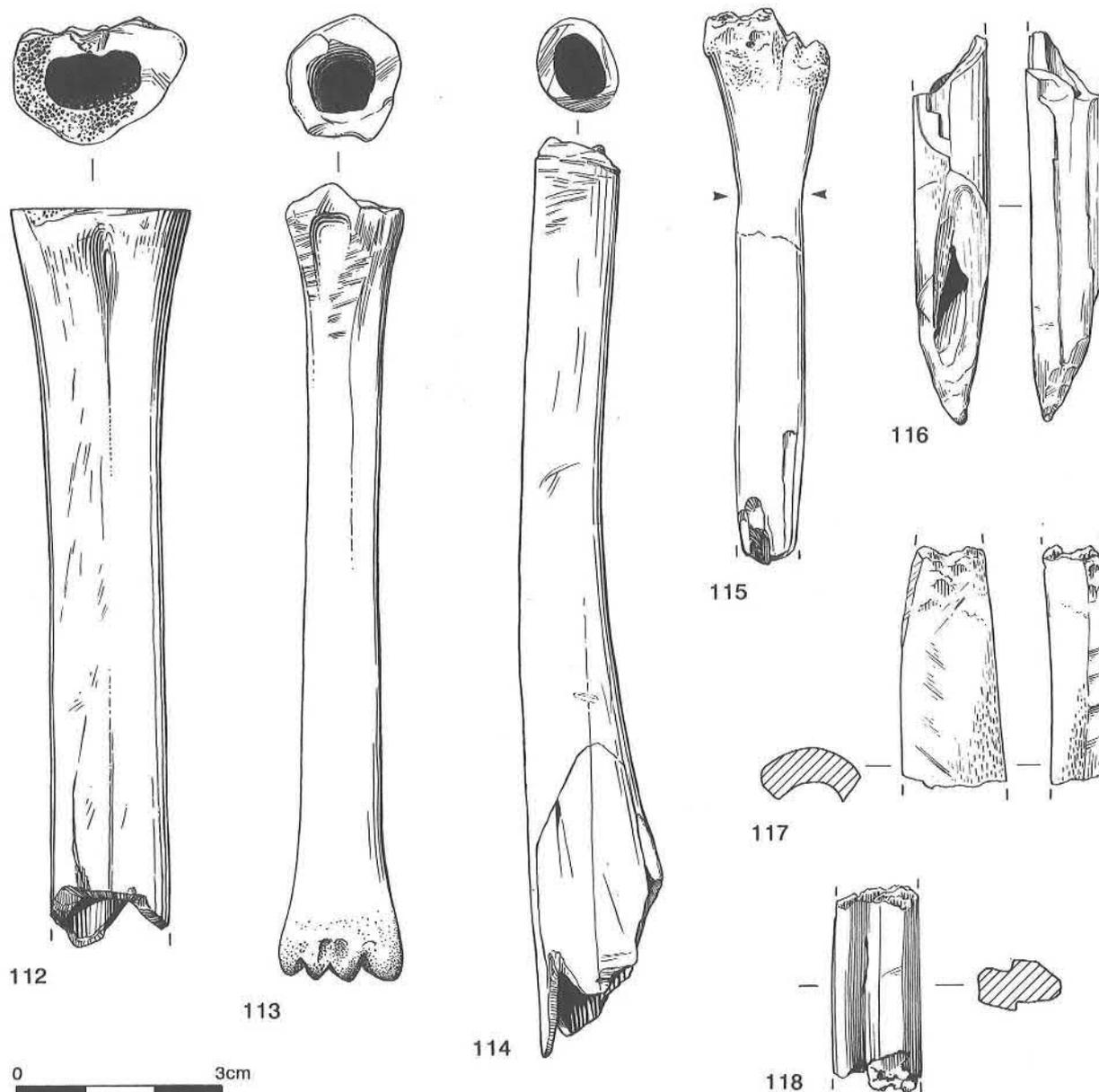


Figure 77: Roman worked bone objects 112-118, scale 1:1.

found in the fill of a small pit (663) sited 50 m to the east.

Antler Waste (Figs 79-80)

121 A naturally-shed red deer antler burr, sawn and split from the beam. A saw-trace 1.8-2.0 mm in width remains at the base of the beam. The brow tine has been removed by sawing into the surface from several directions, and fracturing the inner tissue.

5416a/1102; Ditch 433: Saxon.

122 The end of a tine, which has been removed from the antler by sawing into the cortile tissue from a number of directions.

5188a/442; Ditch 433: Saxon.

123 The end of a tine, sawn into the cortile tissue from a number of directions, and split from the antler.

5416b/1102; Ditch 433: Saxon.

124 A quadrant of surface tissue, sawn and split at one end.
5434/1102; Ditch 433: Saxon.

125 A broad section of surface tissue, sawn into the cortile tissue and split at both ends. A saw-trace, 1.7 mm in width, remains at one end. The size of the fragment suggests that it was cut from close to the burr.

5416c/1102; Ditch 433: Saxon.

126 A section of surface tissue, sawn and split at either end. The cortile tissue has been removed and the inner surface smoothed.

5188c/442; Ditch 433: Saxon.

127 A sawn and trimmed section of surface tissue. The inner surface has been smoothed, whilst the outer face is untouched.

5188b/442; Ditch 433: Saxon.

128 A section of surface tissue, sawn and split at one end and

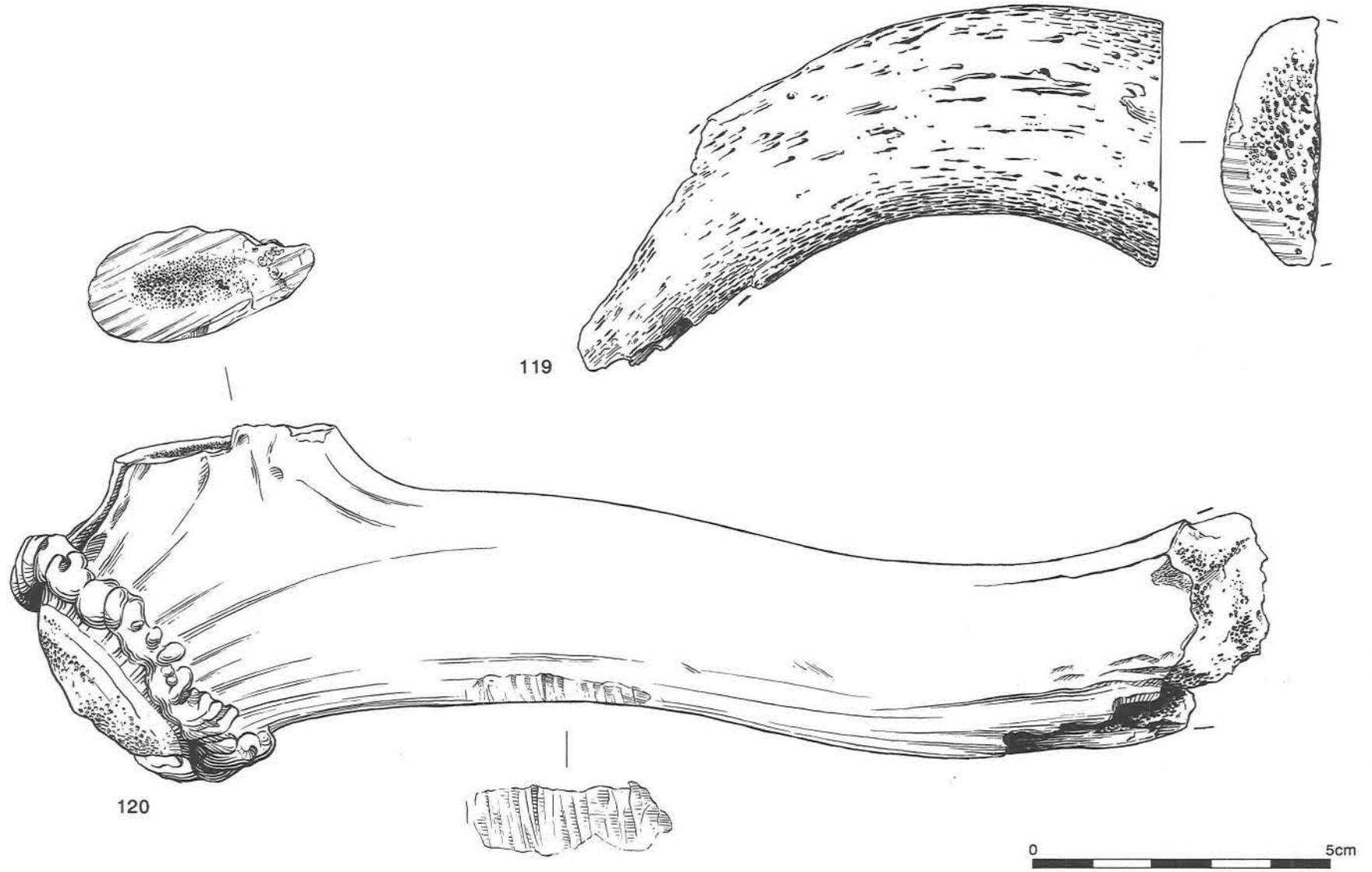


Figure 78: Roman horn-core 119; antler 120, scale 1:1.

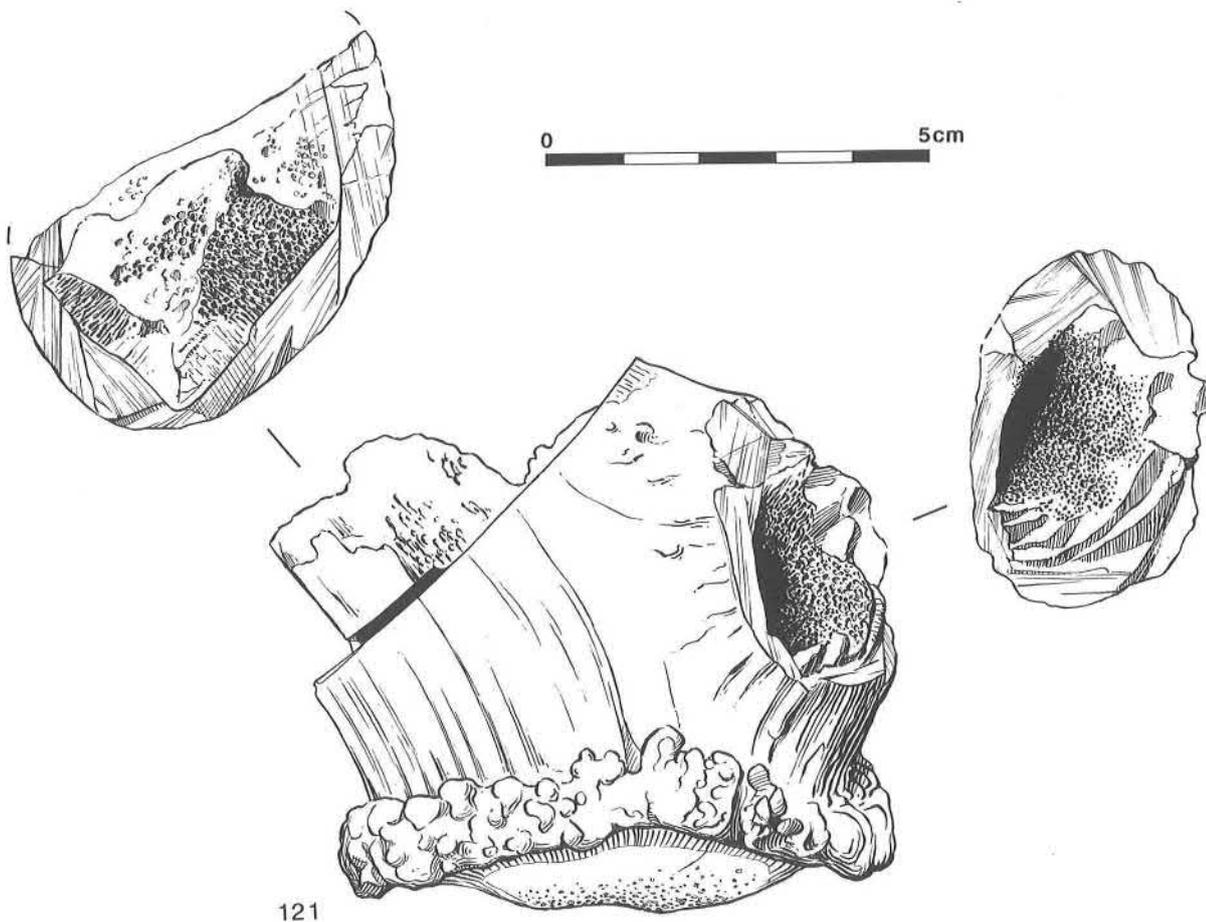


Figure 79: Early Saxon antler waste 121, scale 1:1.

fractured at the other. Both broad faces have been trimmed by knife.

5188d/442; Ditch 433: Saxon.

129 A length of roughly-shaped antler of triangular cross-section. The original surface has been smoothed by knife.

5435/1102; Ditch 433: Saxon.

One burr (121) provides a minimum estimate of the working of one antler. The burr, shed naturally by an adult red deer of appreciable size, illustrates the style of working which extends across the entire assemblage. It has been separated from the brow tine and beam by sawing into the outer surface from a number of different directions; the incisions left in the burr are 1.8 to 2.0 mm wide. The sawing progressed only as far as the cortile tissue, which was then snapped, leaving vestiges of core tissue.

The interest of the sawing and splitting technique lies in part in its restricted use. A similar technique was adopted at the early Anglo-Saxon sites of Abbots Worthy and Walton, and also at the Middle Saxon site of Fishergate at York; but elsewhere, as at Colchester and Hamwic, antler was sawn cleanly, and usually in a single direction (Riddler 1991 and forthcoming A; Farley 1976, 199, 204, figs 16.5 and 18.9; Rogers 1993; Crummy 1988, 88–90, fig. 98). At Mühlberg, also, the saw was widely used to provide cleanly-cut surfaces (Teichert

1984, *abb* 1–8).

The waste is mostly material discarded in the early stages of antler working, although the various pieces of surface tissue indicate later processes of the trimming of antler to prepared shapes. The burr (121) has been separated from the beam and the brow tine of the antler. There was no intention to adapt it for any further function and it was discarded. The tine ends (122 and 123) represent a similar process. The tines and crowns were sawn from the beam and the junctions of tine and beam were removed in order to leave relatively straight sections of beam. The sawing away of the curved ends of tines also provided straight sections of antler. Similar working techniques, intended to produce straight lengths of antler, are commonly seen on late Roman and early medieval sites (Teichert 1984, 115–7 and *abb* 3; Ulbricht 1978, 25–30 and *taf.* 6–17; Gostynska 1993, 133–4, fig. 1; Rogers 1993; Riddler forthcoming A).

Most of the surviving surface tissue can be attributed to beam rather than tine. A segment (125) has been sawn and snapped laterally at either end, leaving saw traces 1.7 mm in width. It was presumably sawn after the beam had been split longitudinally into a number of sections. This technique resembles that observed by Ulbricht at Haithabu and seen also at Hamwic, where beams were none the less split more evenly into quadrants, conceivably by utilising

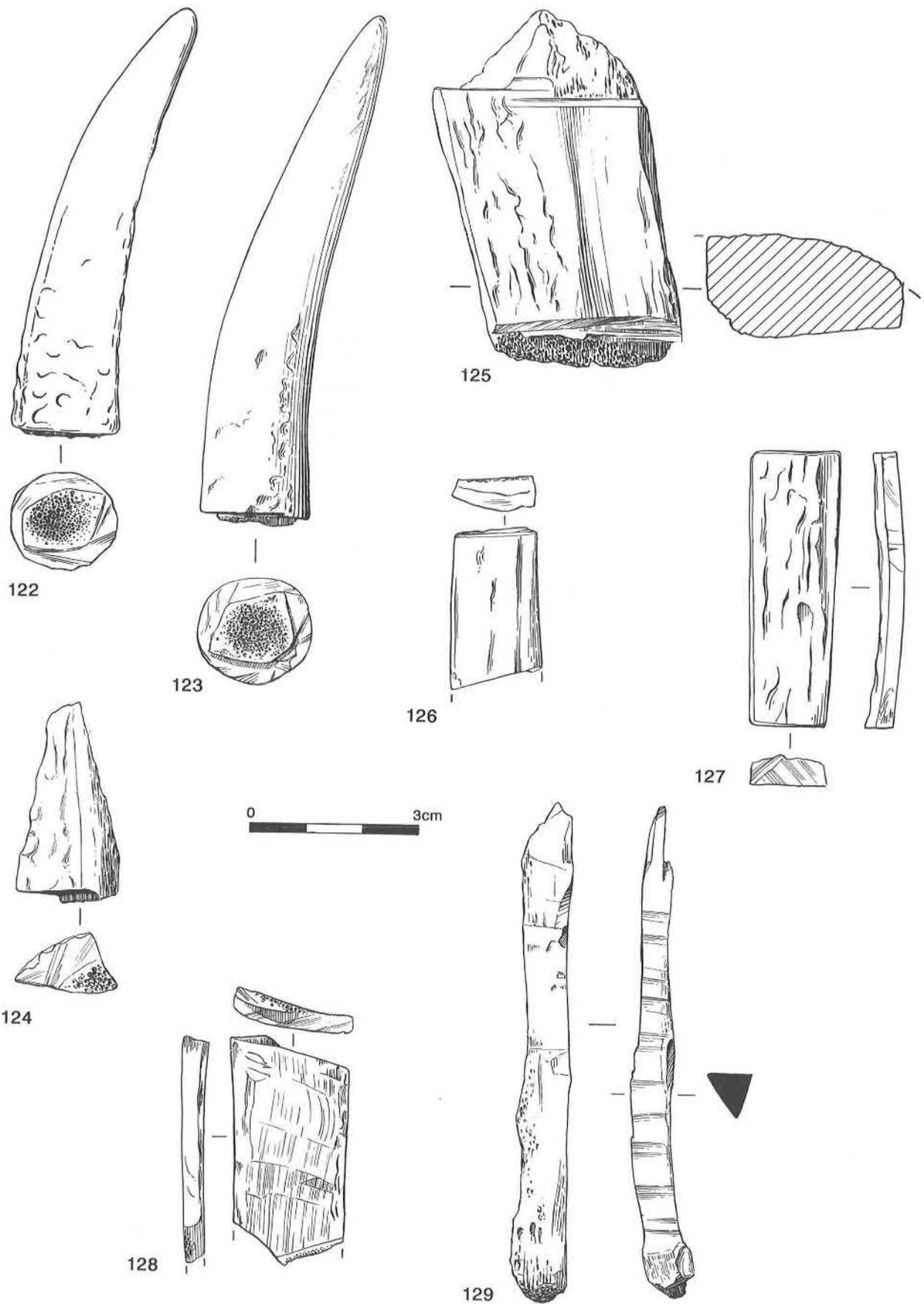


Figure 80: Early Saxon antler waste 122–129, scale 1:1.

sharpened tine ends as wedges (Ulbricht 1978, 50 and *taf.* 27; Ambrosiani 1981, 112, fig. 62; MacGregor 1985, 57, fig. 34). The quadrant of antler (124) resembles an offcut from the same process, whilst a number of sections of surface tissue (126-8) represent a later process of trimming and shaping after the cortile tissue has been separated from the antler.

Worked bone and antler waste has been recovered from a number of early Anglo-Saxon settlements, including Abbots Worthy, Aylesbury, Barton Court Farm, Colchester, Keston, Pennyland, Puddlehill, St. Mary Cray, Standlake, Sutton Courtenay, Walton and West Stow (Riddler 1991; Allen and Dalwood 1983, 17-18, fig. 12.3; De Hoog *in* Miles 1984, M5A13; Crummy 1988, 88-90, fig. 98; Philp 1973, 162, fig. 49.475; Riddler 1993, 119, fig. 62; Matthews and Hawkes 1985, 100; Hart 1984, 214; Stone 1858, 98-9; Leeds 1923, 160, pl. XXVIII, fig. 2Q, R; 1927, 64, pl. XII, fig. 2; 1947, 84, 88, pl. XXII, fig 1g; Farley 1976, 199, 204, figs 16.5 and 18.9; West 1985, 96 and 177-8). The quantities recovered are invariably small and are generally confined to red deer antler. The working of roe deer antler and of animal bone can usually be inferred only from the finished objects found on site and not from the waste itself, although a roe deer antler with slight traces of working came from Pennyland and another, apparently unworked, is recorded from St Mary Cray (Riddler 1993, fig. 62.74; Hart 1984, 214).

One of the few pieces of worked bone waste to have been retrieved from an early Anglo-Saxon context was discovered at Sutton Courtenay (Leeds 1927, pl. VII.2). Contemporary assemblages can be seen on the Continent at Grossjena, Quenstedt, Rheinau, Schaan and Mühlberg (Bicker 1936; Grimm 1931; Schmidt and York 1982; Vogt 1968, 644-5 and *taf.* I.2 - 14; Ettliger 1959, *taf.* 12-13; Teichert 1984; MacGregor 1985, 45-6). Generally, these also are small assemblages, although ninety-one burrs lay amidst 516 fragments of red deer antler at Mühlberg (Teichert 1984, 116).

To judge simply from the quantities of waste, production of antler objects was on a much smaller scale in the early Anglo-Saxon period than subsequently, where waste from pre-Viking trading centres extends to thousands of pieces of both bone and antler (Riddler forthcoming A; Rogers 1993). Equally, however, the relative lack of waste from early Anglo-Saxon settlement sites may also be a consequence both of poor survival conditions as at Mucking, for example (Jones and Jones 1975, 162), and of different attitudes to the disposal of industrial waste. In this respect it is significant to note that the antler waste from Wavendon Gate came from a ditch fill and not from rubbish pits. Pits are seen on early Anglo-Saxon settlement sites, but the density of pit digging never approaches that of Middle Saxon trading centres like Hamwic, London or York. Industrial waste may have been spread on to neighbouring fields and thereby lost to the archaeological record (Fasham and Whinney 1991, 76); ironically, at Wharram Percy the Anglo-Saxon period is the one era for which this

practice was not inferred from excavations (Beresford and Hurst 1990, 44). Moreover, antler has some value as a food and, when shed, is often eaten by rodents and by deer themselves; the same process may also have applied to antler waste (Putman 1988, 136).

The broad quantification of the scale of bone and antler working on rural early Anglo-Saxon sites is thereby rendered difficult, if not impossible. At present it is more important to note, in this respect, that small quantities of waste have been retrieved from most sites, alongside objects of bone and antler, and occasionally of ivory. The localised production of objects in both bone and antler can thus be envisaged, with elephant ivory obtained by import (*cf* Huggett 1988, 68; Riddler forthcoming B).

Pinbeater (Fig. 81)

130 A complete pinbeater of double-pointed form. It has a gently curved profile and oval section and was probably manufactured from antler. It has been polished and shows no signs of wear. Length 134 mm.

5239/664; Pit 663; Saxon.

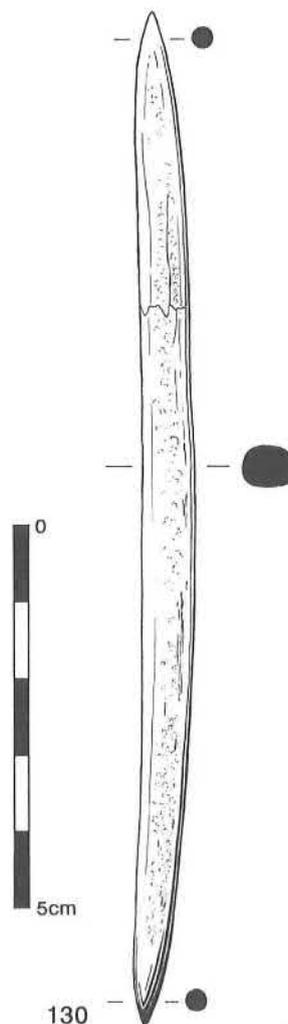


Figure 81: Early Saxon pinbeater 130, scale 1:1.

Denise Allen

Glass from the Cremations

Cremation 1 (Fig. 82)

131 Thirteen fragments of a jug of dark blue glass. Rim missing; long cylindrical neck, with a constriction at its base. Conical body, decorated with spiral optic-blown ribs; flattened, slightly concave base. Long, angular handle, flat-sectioned with a central raised rib, originally attached to vessel shoulder and to neck just below rim. Shoulder attachment bears scar which suggests it may have been elongated into a pincer tail. Dia. of neck 17 mm, dia. of base c.110 mm.

5007/2: early – mid. 2nd cent.

132 Fragmentary hexagonal bottle of blue-green glass. Base plain.

5001/2: early – mid. 2nd cent.

133 Fifteen very small body fragments of a vessel of colourless (Ni) glass. One concave fragment, probably from beneath the flaring rim of a beaker or cup, bears a single horizontal wheel-cut line. One other fragment bears part of a band of at least four horizontal wheel-cut lines.

5425/2: early – mid. 2nd cent.

These three glass vessels all represent forms in common everyday use during the later first and/or earlier second centuries.

The jug (131) belongs to a well-defined group which was made in the Seine-Rhine region from about AD.50 (Price 1978, 74). The jugs are characteristically long necked, with angular handles, often with the central rib extended into a pincer or nicked trail over the shoulder. The body may be conical, with or without a base-ring, or globular or discoid. Decoration is often in the form of optic blown ribs which may be vertical, spiralling, or nipped together. Colours range from blue-green to strong monochromes, of which dark blue is quite common. The variant represented here, with a conical body and slightly concave base, has been discussed in detail with reference to a dark blue jug from a burial of AD.70–95 at Grange Road, Winchester (Harden 1967, 238–40, fig. 7, pl. XLIIIa). Harden concluded that manufacture of the form had ceased by c.AD.125, but several examples more recently found in mid to later second-century contexts may suggest that some were made up until AD.150 (eg. Price 1987, 193ff, fig. 3.20, for a yellow green jug from a pit dated c.AD.160–70 at Felmongers, Harlow, Essex). However, a date this late in the series is most unlikely for this Wavendon Gate jug. Its dark blue colour occurs very commonly during the later first century, but becomes quite rare after the late Flavian/Trajanic period. It is therefore likely to have been made during the second half of the first or very early in the second century.

Blue-green mould-blown bottles (132) were extremely common during the second half of the first and the second centuries. They were used primarily as containers for a

Formerly described as 'stilettos' or spindles (Leeds 1923, 182–3; Holwerda 1930, 88), double-pointed pinbeaters are now generally interpreted as tools associated with weaving on a warp-weighted loom (Crowfoot *in* Dunning 1952, 50; Hoffmann 1964, 126–7 and 135–6). They occur in settlements throughout the Anglo-Saxon period, although it has been suggested that they were rarely deposited in graves before the seventh century (Matthews and Hawkes 1985, 100; Cook *in* Jackson and Ambrose 1978, 233). Early Anglo-Saxon examples are known from settlements at Abingdon, Abbots Worthy, Barton Court Farm, Chalton, Grimstone End, Harston, Keston, Neatham, Pennyland, Puddlehill, Shakenoak, Sutton Courtenay, Walton and West Stow (Avery and Brown 1972, 71, fig. 5.1; Riddler 1991, 47, fig. 36.31–2; De Hoog *in* Miles 1984, M5A9, fig. 93.6–8; Addyman, Leigh and Hughes 1972, 30, fig. 18; Brown, Knocker, Smedley and West 1954, 206, fig. 30c; Dunning 1952, 50, fig. 2.2; Philp 1973, 161, fig. 49.473; Millett and Graham 1986, 128; Riddler 1993, 117–9, fig. 61; Matthews and Hawkes 1985, 69, fig. 5; Brodribb, Hands and Walker 1972, figs 62–4; Leeds 1923, 156, pl. XXVIII.2e–k; 1927, pl. VII.2; 1947, 88, pl. XXII.i; Farley 1976, figs 16.6, 18.4, 22.3 and 25.2; West 1985, 181). Those from early Anglo-Saxon cemeteries include Kingston grave 299, Loveden Hill F267, Dover Buckland Grave 75, Wakerley II grave 10, and possibly Chessell Down grave 44, West Stow and Rainham (Faussett 1856, 91–3; Evison 1987, 112, fig. 38.75.5; Cook *in* Jackson and Ambrose 1978, 233, fig. 65.3; West 1985, fig. 272.9–10; Riddler forthcoming B; Arnold 1982, 26; Evison 1955, 170).

Two sizes of double-pointed pinbeater can be seen amidst the contents of the Kingston grave, and it has been suggested that objects of this type may have been manufactured for use in pairs (Riddler 1993, 117–9). Their lengths form a bimodal distribution with shorter pinbeaters of type A extending in length from 60 to 113 mm (and clustering about 90–110 mm) and larger examples of type B extending over 120 mm). The Wavendon pinbeater is 134 mm long and belongs to type B. The long and short pairing seen at Kingston grave 299, where a pinbeater of type A is accompanied by an example of type B, is echoed by pairs from the fills of sunken-featured buildings at Pennyland (SFB 39) and West Stow (SFB 37). Equally, however, it should be noted that most early Anglo-Saxon pinbeaters were retrieved as single items from sunken-featured buildings, ditches, pits and graves. The bimodal distribution of pinbeater lengths may, in fact, reflect nothing more than restrictions stemming from the choice of raw material in manufacture. If the shorter pinbeaters were produced from cattle metapodia, for example, their lengths could scarcely exceed 115–120 mm. The longer pinbeaters of type B, in contrast, may have been produced from cattle long bones or from antler. Unfinished pieces are occasionally retrieved, as at Pennyland, Shakenoak and Sutton Courtenay (Riddler 1993, fig. 61.66; Brodribb, Hands and Walker 1972, fig. 64.114 and 118; Leeds 1923, 169, pl. XXVIII.2j).

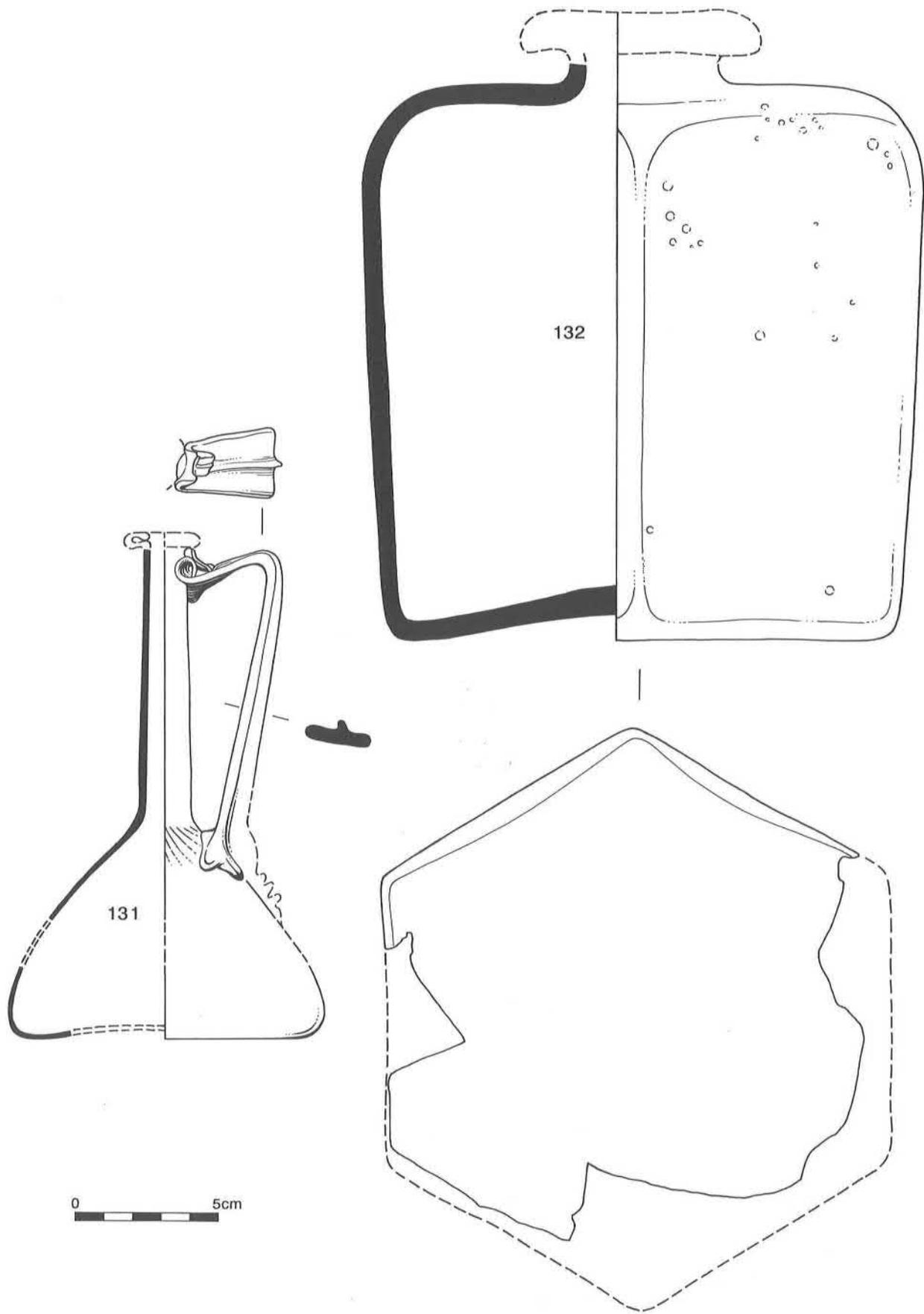


Figure 82: Glass jug 131 and hexagonal bottle 132, from Cremation 1, scale 1:2.

wide variety of liquids, but larger vessels were very often re-used as cinerary urns. Whilst sharing common features such as rim and handle forms, body shapes vary, as do their dates of manufacture. The square bottle was the commonest and the longest-lived, its production beginning before the middle of the first century, continuing throughout the second century and possibly into the third. Hexagonal bottles were less common, and had a much shorter life span, with production ceasing some time during the second quarter of the second century. One of the latest dated finds is a large hexagonal bottle from an inhumation burial at Huntingdon in Surrey, dated approximately to the reign of Hadrian by a coin in the skeleton's mouth (Jaffe 1978, 37.67c).

Most prismatic bottles, including the hexagons, have moulded trade-marks on their bases. These occur in great variety, but the commonest is varying numbers of concentric circles. Completely blank bases, as here (132), are rare although not unknown. There is a very similar hexagonal bottle from a burial at Barrow-on-Soar, Leicestershire (Jewry Wall Museum, Leicester accn no 41. 1867/1), and two more which are very slightly larger than 132, one from a burial at Colchester (Joslin Collection No. 446, Colchester and Essex Museum), the other from a pit at Brunton, Suffolk (Ipswich Museum accn No. L1948-109.1).

The tiny fragments of colourless glass (133) are most likely to have come from a beaker or cup. Although no rim fragments survive, one piece has the concave curve characteristic of the side immediately beneath the rim. Horizontal wheel-cut lines are often found here, and occur in further bands around the body. Colourless beakers and cups thus decorated were first made during the Flavian period, but occur in their greatest number and variety during the second century. Bodies may be cylindrical, conical, hemispherical, biconical or carinated, and base types are similarly widely variable. It is therefore impossible to identify the remains of 133 with any certainty.

The glassware from the burial as a group seems likely to belong to the end of the first or earlier years of the second century, but the heirloom factor could mean some delay in their deposition. The colourless fragments cannot be closely dated, but it seems very unlikely that 131 and 132 would have survived much past the mid second century.

Cremation 3 (Fig. 83)

134 Many fragments of a jar of blue-green glass; many bubbles and impurities within the metal. Irregular rim, folded inward and downward then outward and downward, forming a concave, tubular collar. Body globular, undecorated; pushed-in open base ring. Dia. of rim c.80 mm, dia. of base ring c.50 mm.

5024/4: early – mid. 2nd cent.

135 Fragmentary unguent bottle of blue-green glass. Rim missing, long cylindrical neck curving smoothly into conical body; concave base with pontil mark slightly off-centre on underside. Height surviving 90 mm, max. body dia. 48 mm.

5012/4: early – mid 2nd cent.

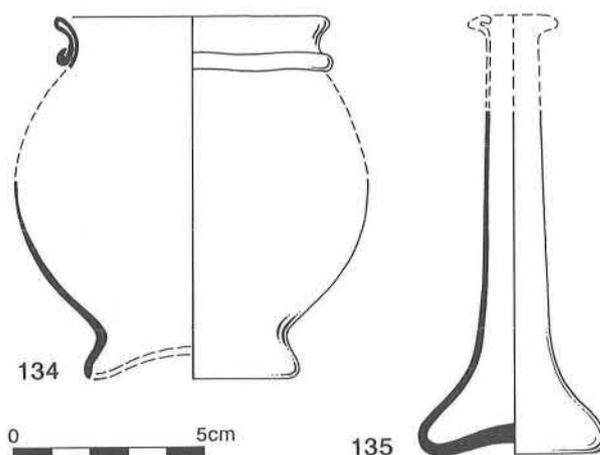


Figure 83: Glass jar 134 and unguent bottle 135, from Cremation 3, scale 1:2.

Globular jars of the form represented by 134 are closely related to the long-necked jugs discussed above with reference to 131 (Price 1978, 74). Both groups are commonly found on sites north of the Alps during the second half of the first and earlier second centuries, and there are strong physical similarities between the globular jug variant and the jars – indeed body and base fragments are often indistinguishable. The jars, like the jugs, were made in strong monochrome colours as well as blue-green glass, and were usually decorated with vertical optic blown ribs. A blue-green jar with unusually prominent ribs came from a burial of probable Flavian date at Thornborough, Bucks. (Price 1975, 21, fig. 10.3). Plain bodied jars like 134 are less common: blue-green examples include one from a Neronian context at Exeter (Charlesworth 1979, 227, No.23, fig. 70), one from Wroxeter (Clive House Museum, Shrewsbury, accn No. F75), and one from an early Flavian burial at Berlingen in Belgium (Roosens and Lux 1973, 22, no.1, fig. 15). A plain dark blue jar came from a grave at Trier containing a coin of Nero (Goethert-Polaschek 1977, 237, No.1408, pl. 6:69c).

Like the jugs, most of these jars belong to the Flavian, Trajanic and early Hadrianic periods, although production may have begun soon after the middle of the first century, and some use, if not manufacture, may have continued to about the middle of the second century. Those plain jars with contextual dating evidence suggest that they came early in the series. However, 134 is an exceptionally badly made vessel. Its thin walls and bubbly impure metal suggest a degraded version of the form, and this may be the reason that it was left undecorated. It is always tempting to see such vessels as locally made copies of imported forms, and in some cases there is strong evidence to support such a claim (eg. Price 1987 197-9, nos 33-4, fig. 4, for square bottles). It is interesting to note in this context that one of the few recognisable vessel forms amongst the contents of a pit of glass vessel production waste found at Sheepen, Colchester, was a collared jar rim of the type under discussion (Allen 1983, appendix 1, no.6). This material is dated to the mid to later second century.

The unguent bottle, **135**, belongs to a common type with a practical shape. The relatively small, conical body would provide stability, and a reservoir for the contents, and the long cylindrical neck would minimise evaporation. Called 'candlestick unguentaria' by Isings (1957, 97–9, form 82), they first appeared during the later first century, were most common during the Trajanic, Hadrianic and Antonine periods, and continued into the early third century. There is some indication that rim type changed with time: fire rounded rims seem to belong to the first century, whilst folded rims are more typical of the second. The rim of **135** is missing, but the pontil mark on its base is a strong indication that the rim was finished by folding.

These unguent bottles are often included in burials: two from St Stephen's cemetery at Verulamium are from graves of AD.130–40 and AD.80–160 respectively (Davey 1935, 252, fig. 27, no.38 and 264, fig. 27, no.155), and more recent finds from the same site include further examples (Allen forthcoming). Several more have come from graves in York, some of them with impressed stamps on their bases, most of them from cremations, but one from a stone coffin of probable third-century date (Harden 1966, 137–40, now HG154, HG36.1–2, HG16 and HG217, Pl. 66, fig. 89). Further published examples come from graves at Chichester (Down and Rule 1971, 105, burial 156a, fig. 5.24) and Colchester (Hull 1963, 144–6, fig. 79.7–8), the latter dated AD.190–210.

Cremation 12/13

136 103 very small fragments of a vessel of colourless glass. No (Ni) decoration is in evidence, but four fragments indicate the presence of a blown pad base ring.

5023/13: 2nd cent.

As with the tiny colourless fragments catalogued as **133**, it is impossible to identify this piece with any certainty. The presence of a blown pad base makes it likely that the vessel was a cup or beaker, although flasks were occasionally finished in this way. This base type is most characteristic of the second and early third centuries.

Glass from other Contexts (Fig. 84)

A further sixteen fragments of Roman glass and a single glass bead were found in various contexts. Of the vessels four are worthy of note (**137–140**). Two of the remaining indeterminate fragments from Ditch 526 and the fill of Hollow 900, are dark blue in colour, and therefore probably first century in date, two are pale yellow-green, and seven are blue-green, six of these having come from a single vessel.

137 Lower neck fragment of a jug of blue-green glass; many elongated bubbles and impurities within the metal. Neck originally cylindrical, with a construction at its base; sloping shoulder suggests body was conical. The fragment appears to have been worked for re-use, possibly as a

scraper, along the broken shoulder edge. Dia. of neck c.18 mm.

5266/730; fill of Hollow 900: late 2nd – early 3rd cent.

The original form of this piece is most likely to have been a conical jug of the type discussed with reference to **131**. This particular fragment is interesting in that it appears to have been deliberately worked for re-use as a simple tool. This is now being recognised more often amongst glass assemblages, and can probably best be interpreted as the fulfilment of an immediate need with an easily worked, readily available material. Simple blades fashioned from cylindrical bottle fragments were found at Prestatyn in North Wales, and other examples of glass fragment re-use are cited in a discussion of these (Allen 1989, 120–1, Nos 15–20, fig. 55).

138 Rim fragment of a ?beaker of pale green glass; pinhead bubbles within the metal. Rim outflared; fire rounded and thickened, dia. c.80 mm.

5288/756; Stone spread 832: 3rd – 4th cent.

Insufficient remains of this piece for close identification or dating.

139 Fragment of polychrome glass, cast and ground. Opaque yellow bits, and fewer, larger opaque red bits, set in an emerald green background.

5238/660; Ditch 590/: 1st – 2nd cent.

Cast polychrome glass of this type had gone out of production by the mid first century AD. Fragments are quite frequently found on British sites, not only in the south-east, but in Wales and the north, suggesting continuation of use for some years. The colour combination represented here is one of the most common (eg. Harden 1947, 294, No.4, pl.LXXXVII from Camulodunum; Price 1981, 151–2, No.1, fig. 66, from Whitton, S.Glamorgan).

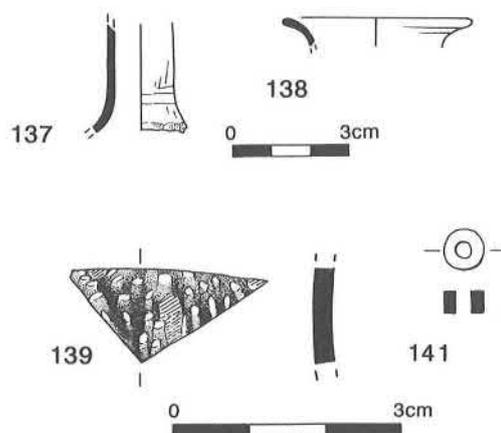


Figure 84: Roman glass fragments 137–138, scale 1:2; polychrome fragment 139; glass bead 141, scale 1:1.

140 Thick, flat body fragment of blue-green glass, almost certainly from a prismatic bottle.

5160/443; Ditch 475, Enclosure 33: late 3rd – 4th cent.

This fragment almost certainly represents the common blue-green bottles discussed above with reference to 132. It may have been square, hexagonal, rectangular or octagonal.

- 141 Opaque green cylinder bead. Dia. 5 mm, hole dia. 2 mm.
5170/1027; Ditch 412: late 3rd – 4th cent.

These are among the commonest types of glass bead found on Roman sites in Britain and were used throughout the entire Roman period and beyond, although they reached their maximum popularity after the third century (Guido 1978, 95).

POTTERY OBJECTS (Fig. 85)

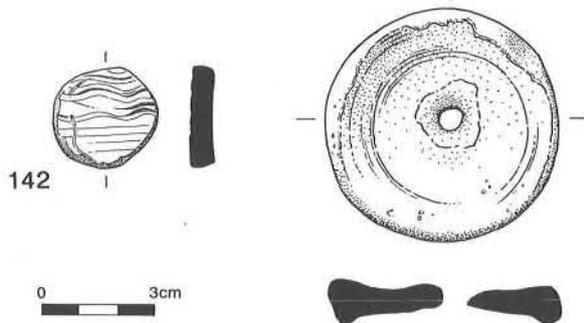
Tora Hylton

- 142 Counter. Made from decorated greyware sherd (fabric 14, Marney 1989) with a wavy groove motif and white slip, worked into a slightly convex roundel. For a discussion on the usage of pottery counters see Crummy (1983, 93). Dia. 26.5 mm, th. 5 mm.

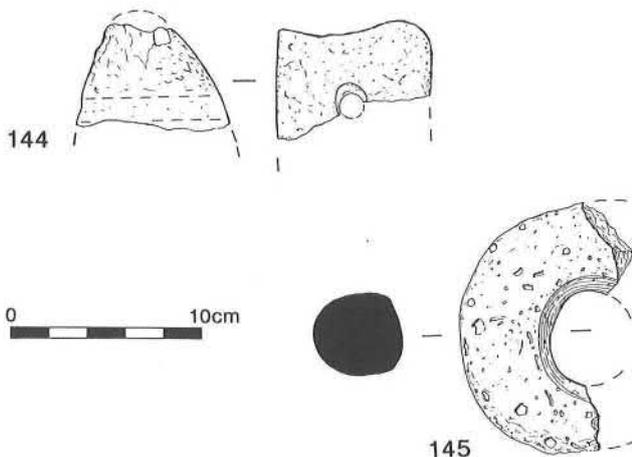
5070/1; unstratified.

- 143 Spindle whorl. Made from a Belgic base sherd (fabric 46, Marney 1989) with a drilled, well worn, central perforation. For a discussion on ceramic spindle whorls see Crummy (1983, 67). Dia. 61 mm, th. 12 mm.

5294/778; Ditch 533, Enclosure 30: 1st cent.



143



145

Figure 85: Pottery counter 142; pottery spindle whorl 143, scale 1:2, Iron Age weight 144; Saxon loomweight 145, scale 1:4.

CLAY WEIGHTS (Fig. 85)

Tora Hylton and R.J. Williams

Iron Age

- 144 Large fragment of the corner of a triangular weight of Danebury type 1 (Poole 1894, 403) made in clay fabric 8 (p.141). The surviving corner is rounded with a slightly waisted effect across its width and is pierced from side to side by a 15 mm dia. hole. The overall width of the weight at 76 mm falls within the upper range for weights of this type.

5292/1; unstratified, Area B.

- Ni Fragment of the corner of a triangular weight of Danebury type 2, (*ibid.*), made in clay fabric 8, and pierced through the triangular face by a 15 mm dia. hole, 50 mm below the apex of the weight.

8071/533; Ditch 533, Enclosure 30: 1st cent.

- Ni Part of the face and side of a triangular weight of Danebury type 1 made in clay fabric 7. Only the very vestiges of the side piercing surviving.

8211/1638; Ditch 1638, Enclosure 1986: late Iron Age – Phase 1B.

- Ni Fragments of two triangular weights of Danebury type 1, in fabrics 2 and 6 respectively with traces of single pierced holes up to 16 mm in diameter.

8124/533; Ditch 533/566, Enclosure 30: 1st cent.

8006/1740; Roundhouse 1740: late Iron Age – Phase 1A.

Triangular clay weights are commonly found on Iron Age sites, although the type 2 weight is much more uncommon. At Pennyland (Williams 1993, 121), six kilometres north-west of Wavendon Gate, fragments of five similar weights, mainly of type 1, were found in Middle Iron Age contexts. The potential uses of these weights have been more thoroughly discussed in the Danebury report (Poole 1984, 406) but an indoor use, probably connected with weaving, is the most likely interpretation.

It is interesting to note that at least two stratified examples of types 1 and 2 were found in Ditch 533/566, which is securely dated by kiln debris to the mid first century AD. If the weights are not residual then it clearly indicates the prolonged use of such types into the first century AD.

The use of four types (fabrics 2, 6, 7 and 8) of clay for the production of these simple, crude weights is perhaps indicative of the little regard given to such items. It would appear that no special mixture of clay was used, whatever came to hand at the time of manufacture fulfilled the function to which the weights were put.

Saxon

- 145 Half of an annular clay loomweight in clay fabric 3 (p.141). Fired orange on the outside with a black core. Crudely made with a D-shaped cross-section and a flattened underside. Ext. dia. 135 mm, hole dia. 45 mm.

8228/24; Saxon fill in top of Ditch 15, Enclosure 275: Saxon.

This loomweight is of the early annular type (Dunning *et al.* 1959, 23–24) It also compares closely to those found on the Pennyland early Saxon site (Williams 1993, 123).

FIRED CLAY (FIGS 86–90)

R.J. Williams and Tora Hylton

Introduction

Over 157 kg of fired clay, excluding weights (p.140) and kiln pedestals, was recovered from 229 contexts. Of this total, 75% (119.115 kg) derived from Kilns 400 and 559 and the associated dump in Ditch 533/566. Of the remainder, 16% was of Iron Age date, 82% of Roman date and only 2% of early Saxon date. Excluding the two kilns and the dump, the samples ranged in size from very small fragments/pellets weighing no more than 5 g to over 2 kg from Pit 848.

To deal with such a large and varied body of material the fired clay was subdivided into twelve object categories (excluding weights) and ten fabric types.

Object Categories

Kiln pedestals Integral bollard-type in Kiln 559 and double slab-type in Kiln 400.

Kiln bars Subdivided into untapered and wedge-shaped.

Circular kiln spacers Subdivided into single centrally pierced and unpierced.

Kiln cheek pieces

Plates Subdivided into unperforated rectangular plates, unperforated circular plates and perforated plates of uncertain shape. A wide range of types was found, serving different functions in both the Iron Age and Roman periods.

Portable flue roofing

Kiln lining

Oven covers

Wall daub

Fragments retaining one smoothed/finished surface

Fragments retaining two smoothed/finished surfaces

Amorphous fragments

Fabric Types

- Fabric 1* Buff to orange in colour, few sand inclusions, soft feel with smooth fracture.
- Fabric 2* Orange in colour. No sand inclusions but sparse limestone inclusions.
- Fabric 3* Buff exterior surface with darker core. Predominantly sand inclusions. Very abrasive feel.
- Fabric 4* Buff to orange. High percentage of sand giving it the appearance of a sandstone. Occasional chalk or larger stones in matrix.

- Fabric 5* Very similar to Fabric 3 but with larger grits.
- Fabric 6* Grey to buff colour. No apparent inclusions. Soft soapy feel.
- Fabric 7* Similar to Fabric 2 but with sand inclusions and occasional chalk and stones. More abrasive to touch.
- Fabric 8* Similar to Fabric 1 but even fewer sand inclusions and softer to touch. Some larger stone inclusions.
- Fabric 9* Unfired raw yellow/green clay.
- Fabric 10* Pinkish colour. Sparse sand inclusions with occasional small stones, ironstone fragments and chalk. Soft to touch.

In addition to cataloguing the entire assemblage by object and fabric type the results of this work were plotted spatially. Where any significant patterns emerged these have been commented upon in the relevant section of text.

Taking the assemblage as a whole the dominant fabric types are 2 and 7, which are very similar in appearance, and which account for 87% of all the fired clay. Fabric 8 accounts for a further 7% and the other seven fabrics make up the remaining 6%. The predominance of fabrics 2, 7 and to a lesser degree 8 is only apparent in the Roman and Saxon periods, although in the latter the totals are too small for any reliance to be placed on the statistics. In the Iron Age, whilst the overall quantity is small, the assemblage is dominated by Fabrics 4 and 5 representing a combined total of 66% of the Iron Age total (Table 5) with Fabrics 2 and 7 accounting for a further 18%.

The reason for this variation is not immediately apparent. Fabrics 2 and 7 almost certainly represent raw sandy clay dug up on the site to which nothing had been added. The other eight fabrics must have resulted from either natural variations within the sandy clay subsoil, or the deliberate addition of other matter. In either case this may, intentionally or otherwise, have made the raw clay more suitable for the purpose for which it was intended.

In the late Iron Age, Fabric 4 was predominantly used as wall daub and Fabric 5 was used almost entirely for the construction of an oven cover (Fig. 86.150).

The large volume of fired clay recovered from Kilns 400 and 559 must represent a significant but unknown proportion of the original total used in each kiln. By comparison, the small amounts found as residual matter in contexts of Iron Age, Roman and Saxon date, must represent a minute proportion of that originally used for structural, domestic and perhaps even industrial purposes. This observation is emphasized particularly by the insignificant proportions of wall daub; a material which in earlier periods is considered to have been the principal walling material.

Apart from the two kilns, only Pit 848 (p.56), to the east of Pit 835, contained a significantly large quantity of fired clay fragments together with a dump of yellow clay, a kiln bar, and a higher than average proportion of second-cen-

<i>Fabric</i>	<i>Wall Daub</i>	<i>Oven Cover</i>	<i>Oven Plates</i>	<i>Oven Plates (Perforated)</i>	<i>One Smooth Surface</i>	<i>Amorphous Pieces</i>	TOTAL
2	– –	– –	130 (100)	– –	385 (66)	380 (24)	895 (14)
3	– –	– –	– –	– –	155 (27)	– –	155 (3)
4	1685 (93)	– –	– –	270 (82)	– –	316 (20)	2271 (36)
5	– –	1800 (100)	– –	– –	– –	55 (3)	1855 (30)
7	– –	– –	– –	60 (18)	5 (<1)	210 (13)	275 (4)
8	120 (7)	– –	– –	– –	40 (7)	180 (11)	340 (5)
9	– –	– –	– –	– –	– –	460 (29)	460 (7)
TOTAL	1805	1800	130	330	585	1601	6251
%	29	29	2	5	9	26	–

TABLE 5: Weights (in grammes) and percentages (shown in parentheses) of different fabrics and categories of fired clay from Iron Age contexts (not including weights).

tery pottery. This association of raw clay stacked in a pit with probable kiln waste may indicate that the clay was intended for pottery production.

Iron Age Fired Clay (Fig. 86)

Only just over 6 kg of fired clay was recovered from Iron Age contexts (Table 5), of which 66% was in Fabrics 4 and 5. This compares to less than 3% in the same fabric from Roman contexts and virtually none from the two early Roman Pottery Kilns 400 and 559.

Apart from the triangular weights (p.140) only a limited number of categories were identified including wall daub, perforated and unperforated 'oven plates', and a possible oven structure/cover.

Wall Daub

Wall daub only occurred in Pits 1366 and 1667 and Roundhouse 1740, the latter group associated with the possible oven structure described below. Of the 1.805 kg recovered, 93% was in Fabric 4 and the remainder in Fabric 8. The daub (Fig. 86.146) from Pit 1366 was buff in colour and several fragments retained the impressions of horizontal rods, 14 to 20 mm in diameter, and several vertical sails up to 25 mm in diameter. The outer surfaces had been hand wiped, producing shallow parallel striations. Pit 1667 also contained a similar amount of daub fragments in a more orange colour but with fewer stick impressions. One large fragment retained traces of a cluster of three rods each up to 12 mm diameter and a single rod of similar proportions.

Unperforated Plate

Only a single unperforated circular clay plate (Fig. 86.147), 140 mm in diameter, was found in Pit 1667. At 20 mm thick and with a smoothed upper surface, moulded lower surface and upper rounded edge, it is very similar to one from a first-century AD context. Whilst in the latter case it is thought that the plate had been used in one of the kilns, the example from Pit 1667 is of too early a date and must have been used for some other purpose.

Unperforated clay plates of either circular or rectangular form are much rarer than their perforated counterparts on Iron Age sites. They have also rarely been found in sufficient quantity or in a situation which suggests any function. However, at Knowle Hill, Berkshire (Over 1974) they seem to have been associated with hearth debris and, whilst they could not have functioned as cooking plates, they may have served as level surfaces adjacent to the oven.

Perforated Oven Plates

Two fragments of perforated clay plates, conventionally associated with ovens and assumed to have formed level cooking platforms, were found. A small fragment (Fig. 86.148) from Roundhouse 1645, made in Fabric 4 was 43 mm thick with the remains of a large central perforation with a projected diameter of 140 mm. This type of plate compares quite closely with the Danebury Type 2 plates (Poole 1984, 118) where the central holes averaged 120 to 150 mm in diameter. In the case of 148 insufficient survived to indicate whether the large central hole had been surrounded by smaller closely spaced holes.

Another fragment from Roundhouse 1739 made in fabric 7

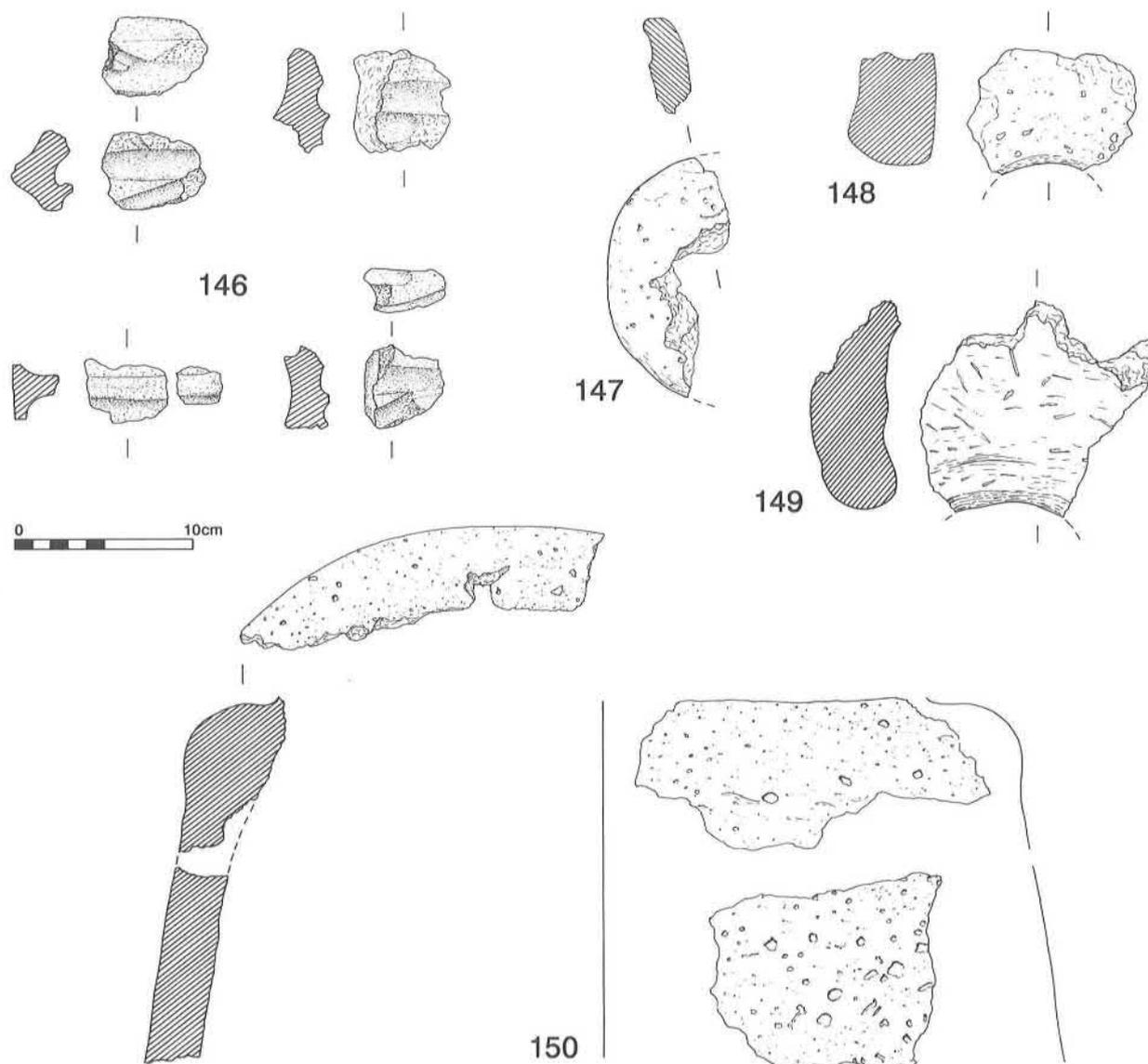


Figure 86: Iron Age daub 146; Iron Age objects of fired clay 147–150, scale 1:4.

retained only the remains of a single small perforation 28 mm in diameter. Insufficient survived to determine whether it was a Danebury Type 2 or perhaps a Type 1, where the whole plate was covered with small closely spaced holes.

Apart from these two stratified late Iron Age oven plates two fragments, thought to be of similar date and type, were found as residual items in Roman features. One fragment (Fig. 86.149), deposited in the fill of Enclosure Ditch 275, was of similar type to 148. The plate was 40 mm thick with a 130 mm diameter central hole and a projected original diameter for the whole plate of over 370 mm.

Oven Structure

The single largest concentration (1.80 kg) of fired clay in Fabric 5 (Fig. 86.150) was found lying in the upper layer of the ditch around Roundhouse 1740. The fragments have an evenly-fired oxidised smooth outer surface and a partially fired core, but no internal surface survives. Several fragments have a curvature with a projected outer diameter of 520 mm and one fragment has a well-formed biconical 'shoulder' with a projected outer diameter of 440 mm. Insufficient has survived to attempt a detailed reconstruction, but it is possible that they represent the remains

of a dome or even bell-shaped oven cover. A perforated circular plate with part of the outer wall surviving was found at Fengate (Pryor 1984, 168, fig.119, pl.18) and another domed superstructure has been recorded at Eldon's Seat, Dorset (Cunliffe and Phillipson 1968, 201, pl.IV). With the oven plates often averaging c.500 mm in diameter, the projected diameter of this oven conforms closely with these dimensions.

Few unequivocal oven covers have ever been identified; indeed, the use of such covers in conjunction with circular depressions and perforated plates has yet to be proven (Knight 1984, 161). However, it is generally recognised that in the case of the large perforated plates such covers would have been necessary to prevent the loss of too much heat (Poole 1984, 121).

Other Fragments

Only 585 g of fired clay with a smoothed surface and 1.601 kg of amorphous form derived from features of Iron Age date (Table 5). Only 10% of these fragments were in Fabric 4 which seems to have been the principal clay type used for wall daub and oven plates, and less than 2% in Fabric 5 which was entirely used in the construction of the oven structure/cover. Although it is dangerous to come to any major conclusions from such a small

group, this suggests that little of this fired clay derived from either structural usage or domestic ovens.

Pottery Kilns 400 and 559 and Ditch 533/566 (Figs 87–90)

Kiln 400 contained over 77 kg of fired clay (Table 6) and Kiln 559 and the associated dump in Ditch 533/566 produced a further 42 kg (Table 7). Apart from the large amount of clay they also produced a wide range of kiln furniture which is described in detail below.

Pedestals

Kiln 559 contained the poorly-preserved remains of an integral, circular, clay 'bollard' type pedestal 400 mm diameter (Plate 3). Kiln 400 contained what are generally referred to as 'slab-type' pedestals (Swan 1984, 59–61). Whilst the two pedestals (**151** and **152**, Plate 21) may have been prefabricated they would not have been portable as such since they had been luted to the clay base of the chamber. They were 720 mm and 680 mm long respectively and 90 mm wide and they had been carefully positioned parallel to one another, 230 mm apart, along the long axis of the kiln. One survived to a maximum height of 240 mm above the base of the chamber. The remains of the oxidised upper surface indicated that they would never have been more than 250 mm high. The extreme base of both slabs had only been partially fired, whilst the upper parts had been fired to a comparatively high temperature.

The use of twin pedestals has been noted in two other parts of England. In North Kent, and at the Slayhills Salting Kiln 3 in particular (Swan 1984, fig. ix 69), the use of the double slab pedestal was an early variant of the La Tène III type kilns. Perhaps an even closer analogy can be made with the 'Linwood

Type' kilns (Swan 1984, 122) found in the North and West Coritanian and South Parisian territories of the first and second centuries AD. No relationship has yet been established between the Coritanian and the North Kent types, although the Wavendon Gate kiln certainly has close affinities with both.

Kiln Bars

Both untapered and wedge-shaped kiln bars were found in varying quantities on the site, associated with Kilns 400 and 559 respectively. Apart from the bars removed from both kilns and the dump in Ditch 533/566, fragments were also found in other contemporary ditches. Unfortunately most of the isolated fragmentary bars were too small to identify accurately their exact type, although their identification as kiln bars was in most cases indisputable.

Untapered (Fig. 87)

The largest concentration of this type of bar was found in Kiln 400. Four almost complete bars (Fig. 87.153–156) and large fragments of at least fifteen others were recovered from the kiln chamber, flue and stoke pit. The bars were in the main crudely made with parallel sides and squared ends, although several exhibited a slight thinning towards one end. The bars had been primarily made (Table 6) in Fabric 7 (88%) with the remainder in Fabric 10 (9%) and Fabric 2 (3%). The use of different clays probably indicates nothing more than the continual replacement of broken bars with bars made from slightly differing clays.

The largest of the complete bars (**153**) was 370 mm long and the shortest (**154**) 320 mm long, with **155** and **156** being over 360 mm and 345 mm long respectively. Their widths ranged from 60 to 100 mm wide, with a mean of 82 mm. Furthermore, seventeen out of the nineteen were between 70 and 90 mm wide. Their thicknesses ranged from 44 to 75 mm with a mean of 55 mm,

Fabric	Kiln Bars	Two Smooth Faces ? Bars	Spacers	Unperforated Plates	Perforated Plates	Cheek Plates	Flue Roofing	Portable Furniture	Lining	TOTAL
2	740 (3)	125 (2)	850 (16)	– –	415 (28)	– –	3250 (100)	– –	13200 (43)	18580 (24)
7	24235 (89)	5930 (98)	4370 (84)	1800 (100)	1080 (72)	700 (100)	– –	250 (100)	17515 (56)	55880 (73)
8	– –	– –	– –	– –	– –	– –	– –	– –	165 (<1)	165 (<1)
9	– –	– –	– –	– –	– –	– –	– –	– –	90 (<1)	90 (<1)
10	2400 (9)	– –	– –	– –	– –	– –	– –	– –	– –	2400 (3)
SUB-TOTAL	27375	6055	5220	1800	1495	700	3250	250	30970	77115
TOTAL	33430		5220		3995		3250	250	30970	77115
%	43		7		5		4	<1	40	–

TABLE 6: Weights (in grammes) and percentages (shown in parentheses) of different fabrics and categories of fired clay from Kiln 400 (excluding pedestals).

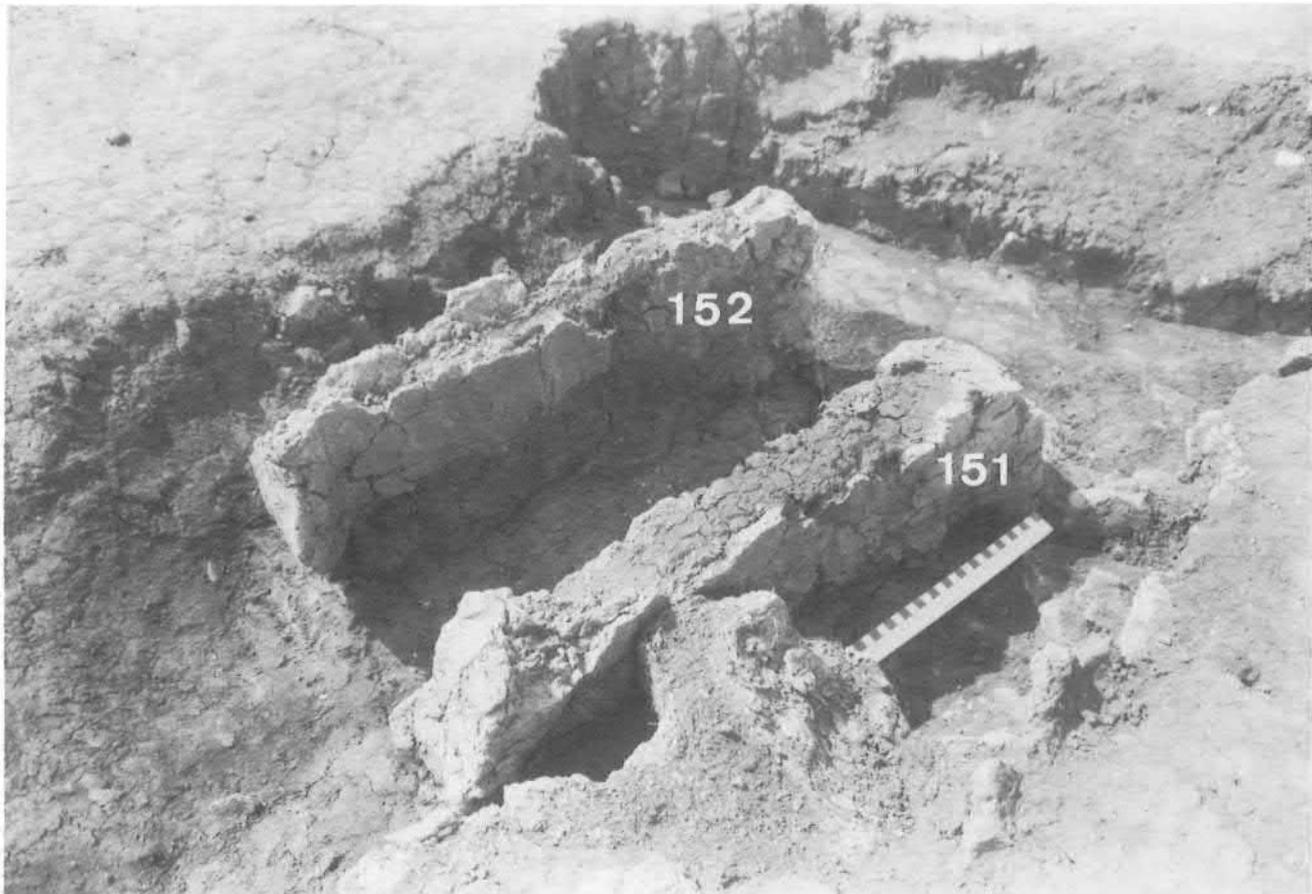


Plate 21: Kiln pedestals 151 and 152 *in situ*.

with eleven of the nineteen falling between 55 and 65 mm thick. This range may partly have resulted from the crudeness of their manufacture, although some bars would undoubtedly have been longer than others, to fit the configuration of the double slab pedestal arrangement. The width/thickness of each bar may also have been broadly proportional to its length.

The range of lengths is a subject which Swan (1984, 63) has commented upon. Kiln 400 is remarkably similar to the Slayhills example where it was also clearly shown that substantial differences in length were essential for a satisfactory arrangement in the chamber. In the case of Kiln 400 the shorter bars may have been used to span the area between the two slab pedestals, with a width of 325 mm centre to centre. The longer examples could have formed the floor between the pedestals and the surrounding ledge.

Wedge-shaped (Fig. 88)

This category of kiln bar can be further subdivided into what may be termed *large*, *standard* and *small* size. Two examples of the large type, both made in Fabric 7, were found in Kiln 400. The largest one (Fig. 88.157) whilst only 45 mm thick was at least 440 mm long. It tapered from 160 mm wide at the broken end to 65 mm at the complete narrow end. One side was slightly convex with rounded edges and the other was flat with crude impressions of the moulding process. The other large example (Fig. 88.158) was less complete but was 123 mm wide at the complete wide end and was also 45 mm thick. Both sides were flat and well finished, with squarer edges.

The interpretation of the function of these large bars is perhaps

helped by their relative positions within the kiln (Fig. 23). 157 was found lying between the rear end of the kiln chamber and the two slab pedestals. 158 was found in a similar position between the end of the pedestals and the projected location of the stoke-hole arch. In both cases these oversize bars may have provided additional lateral support for the smaller kiln bars at either end of the firing chamber. Their comparative thinness in relation to their projected length suggests that they required additional support in the form of one or more props beneath.

The standard type wedge-shaped bars, primarily made (Table 7) in Fabric 7 (78%) with the remainder in Fabrics 2 (15%) and 8 (6%), had been used in Kiln 559. Unfortunately only the remains of six bars, mostly in a fragmentary state, were recovered from the kiln. These ranged in width from 62 to 105 mm and in thickness from 40 to 58 mm. Whilst insufficient of any bar survived to prove unequivocally that they were of wedge-shaped form, they were identical to a larger group of broken wedge-shaped bars found dumped in Ditch 533/566. At least six of these bars were clearly of the tapering wedge-shaped form, of which three (Fig. 88.159–161) have been illustrated.

Three wide ends, 105, 115 and 120 mm wide, and two narrow ends, 62 and 65 mm wide, had survived. They ranged from 42 to 76 mm thick, although they survived in insufficient numbers to determine whether the bars tapered in thickness as well as in width. No complete bars had survived, although a projected length of at least 350 mm would have been required in Kiln 559 (p.41). The use of wedge-shaped kiln bars and additional floor supports has been widely recognised in conjunction with kilns of the central circular pedestal form (Swan 1984, 62). The wide end gave additional stability on the surrounding ledge and the narrow

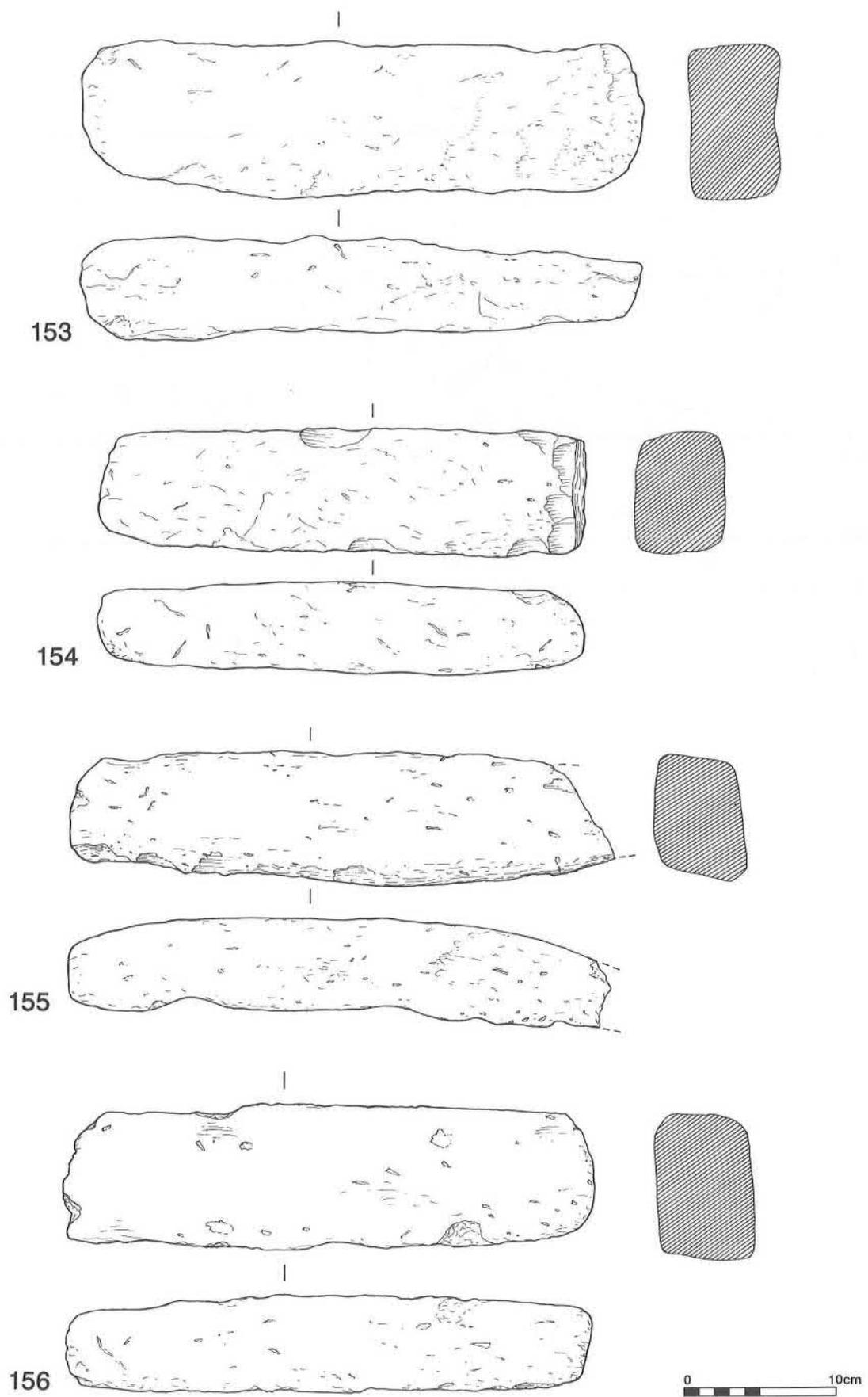


Figure 87: Untapered clay kiln bars 153–156, scale 1:4.

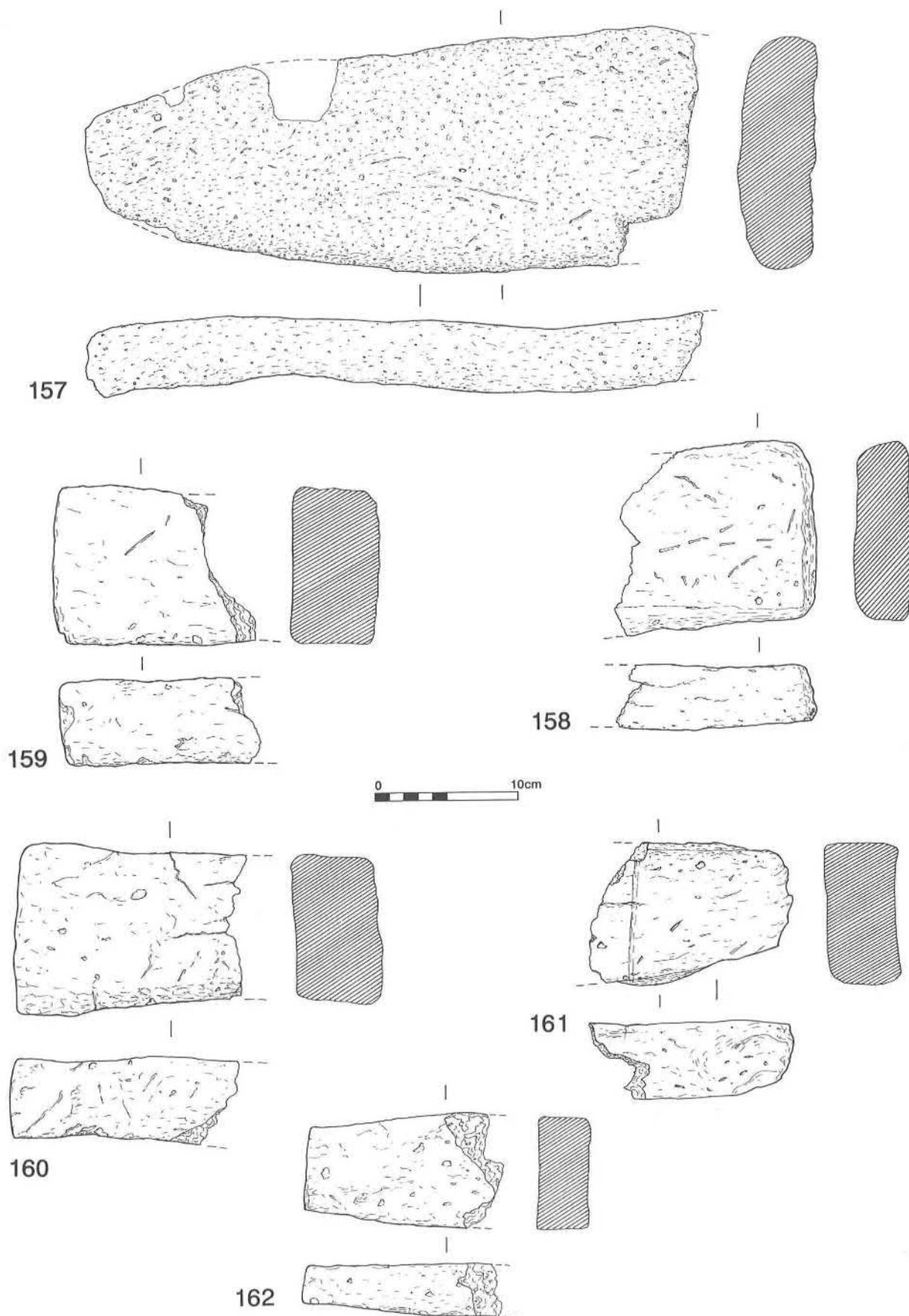


Figure 88: Wedge-shaped clay kiln bars 157–161; tapering cigar-shaped clay kiln bar 162, scale 1:4.

<i>Fabric</i>	<i>Kiln bars</i>	<i>Two smooth faces ?Bars</i>	<i>Spacers</i>	<i>Unperforated plates</i>	<i>Portable furniture</i>	<i>One smooth surface</i>	<i>Amorphous pieces</i>	<i>TOTAL</i>
1	–	–	–	–	–	–	10	10
	–	–	–	–	–	–	(<1)	(<1)
2	1700	930	40	480	–	3250	4995	11395
	(16)	(29)	(4)	(75)	–	(25)	(38)	(27)
4	–	–	–	–	–	–	40	40
	–	–	–	–	–	–	(<1)	(<1)
7	8510	1340	860	160	150	8605	6890	26515
	(78)	(42)	(96)	(25)	(100)	(67)	(52)	(63)
8	700	950	–	–	–	1030	1360	4040
	(6)	(30)	–	–	–	(8)	(10)	(9)
SUB-TOTAL	10910	3220	900	640	150	12885	13295	–
TOTAL	14130		900	640	150	26180		42000
%	34		2	2	<1	62		–

TABLE 7: Weights (in grammes) and percentages (shown in parentheses) of fabrics and categories of fired clay from Kiln 559 and Kiln Dump in Ditch 533/566 (excluding pedestal).

end left adequate room on the pedestal for all the ends.

Two examples of a distinctive small wedge-shaped type were also discovered, of which only **162** (Fig. 88) was of sufficient size to measure. It tapered from 76 mm wide, where it had broken, to 56 mm wide at the complete narrow end. At only 35 mm thick it was also the thinnest of all those found on the site. In appearance it was better formed, with more regular squared edges, than the bars from either Kilns 400 or 559. The two bars were found near one another in the fill of the east ditch (600) of Enclosure 275 and in Pit 848. Whilst both may have been residual in their respective contexts it may be significant that the associated pottery was of second-century date. Furthermore, both bars are very similar in form to those from the Caldecotte Kiln II, only 2 km to the south-west (Marney 1989 100–101; King 1994 [b], 181), which was also of second-century date. Since the contexts in which these bars were found post-date the use of Kilns 400 and 559, it is possible that another, later kiln had existed on the site, probably to the east of Enclosure 275.

Uncertain Form

Apart from the readily identifiable kiln bars described above, a further 6 kg of fragments of uncertain form was found in Kiln 400 and 3 kg in Kiln 559/Ditch 533/566. 11 kg of fragments representing at least thirty-three more bars was found in secondary contexts elsewhere on the site. Whilst all of these bars were too fragmentary to accurately define their type, there was nothing in their general form or fabric to indicate that they were different to the two main types described above.

No kiln bars were found in Areas A or C. They were entirely concentrated within Enclosure 275 and in the fills of the enclosure ditch itself. A small but significant number had been depos-

ited in the fills of several of the small pits in the pit complex (p.56), within the waterlogged Pit 835 and Hollow 900. In the case of the latter two groups the bars must have been redeposited several times, since in some instances they were found in third and fourth-century layers. There is no evidence, apart from the two very small wedge-shaped bars, to suggest that any of the kiln debris in post first-century contexts represents anything other than residual deposition.

Spacers (Fig. 89)

Although perforated clay plates were found both within Kiln 400 and elsewhere on the site, a particular category termed *spacers* has been isolated. These circular clay discs averaged 155 mm diameter and 25 mm thick with a small central perforation, 17 to 25 mm diameter. Most were found within the two kilns and Ditch 533/566, although several fragments were also found in Enclosure 275, but never more than 40 m away from either kiln.

Kiln 400 produced the largest concentration with six complete examples (Fig. 89.163–168) and fragments of at least six others. Their diameters ranged from 150 to 170 mm and their thicknesses from 23 to 37 mm. Considering the crudity of their manufacture they were comparatively uniform in outline and generally had one flattish side and one slightly convex side with a rounded upper edge. Most were made in Fabric 7 with the remainder in Fabric 2 (Table 6), closely resembling the fabrics of the kiln bars.

Apart from one spacer (**168**) they all had a central perforation with a slight collar on one side, made either with a stick or more likely a finger forced through the disc from one side only.

Kiln 559 also contained two fragmentary spacers in Fabric 7

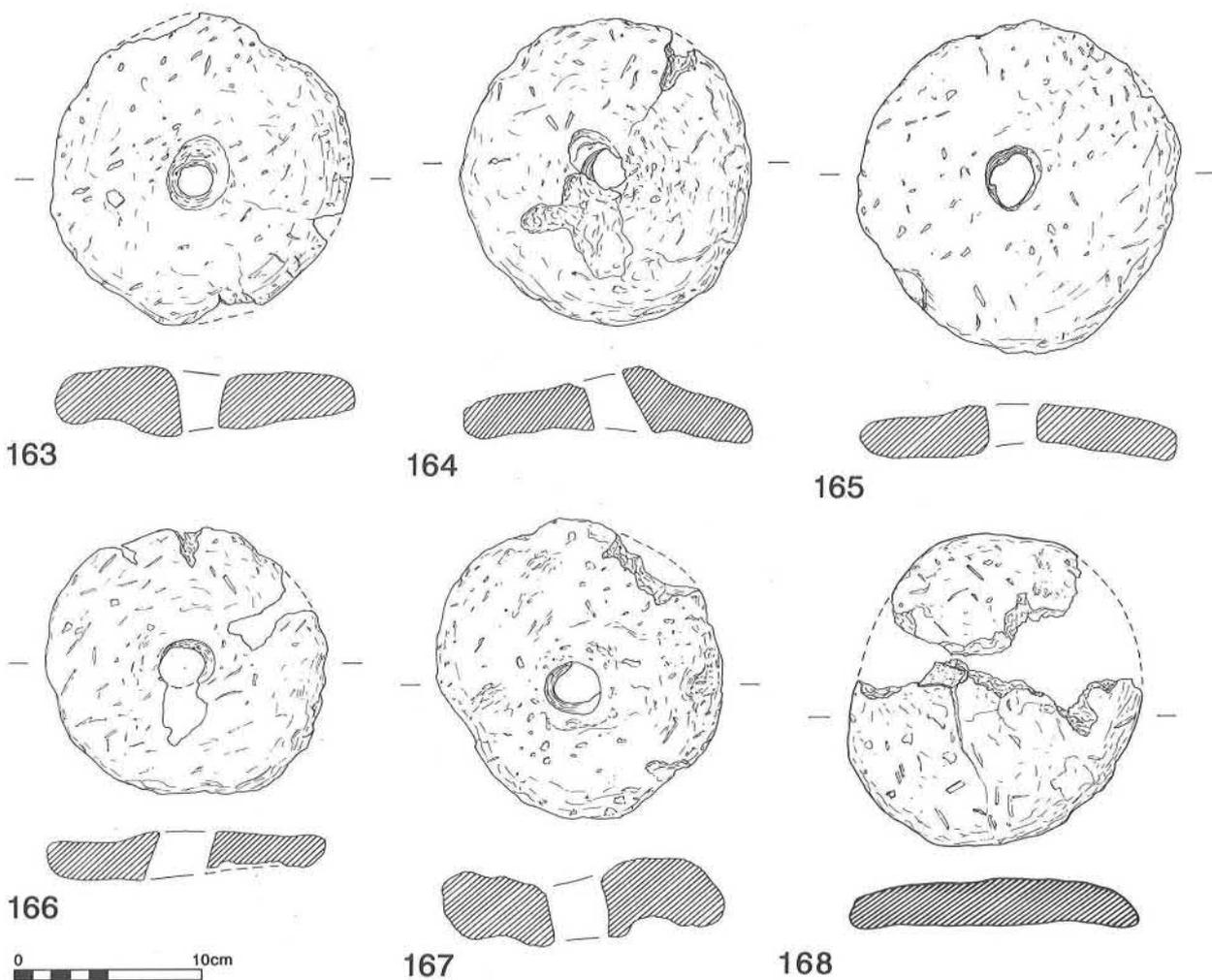


Figure 89: Clay kiln spacers 163–168, scale 1:4.

with hole diameters of c.18 mm. Ditch 533/566 produced fragments of at least four more also made in fabrics 2 and 7, two of which were slightly smaller both with diameters of 140 mm. Three other fragments, all made in Fabric 7, were also found within the fills of Enclosure Ditch 275 and in Pit 474 adjacent to Kiln 400.

The function of these spacers remains problematical. Unfortunately their relative positions within Kiln 400 gives no indication as to their function, since they were found mixed with the kiln bars in both the chamber and the stoke pit. However, several functions have been suggested for clay discs with a single central perforation (Swan 1984, 40, 65) including the following:

Dome plates – used to reinforce so-called temporary domed kiln superstructures.

Kiln pedestal levellers – placed on the top of a circular kiln pedestal to form an even surface to support the kiln bars.

Setters – used as stacking aids between layers of pots.

Floor plates – used in addition to the kiln bars to span the gaps between the bars.

In the few instances where perforated plates of comparable form to those from Wavendon Gate have been found, the evidence for their precise use is equally tenuous. Slightly smaller versions,

130 mm across, have been recorded from Highgate Wood (Swan 1984, 65), and slightly larger examples, 170 mm diameter, from Blandford Avenue, Kettering and Hardwick Park, Wellingborough (Woods 1974, 278). A single identical example was also found in Kiln I at Caldecotte (King 1994 [b], 179).

The use of prefabricated specialised dome plates has yet to be proven and similarly the use of such discs to aid the levelling of pedestals is, in the few instances where it has been noted, felt to have been a secondary function.

In nearly all cases where the discs have been found in kilns their use as stacking aids or as additional floor supports has been proposed. There is, however, little evidence to indicate if they were interchangeable or were primarily used for a single function.

Cheek-Pieces (Fig. 90)

The remains of a single flat rectangular plate, (Fig. 90.169) 205 × 110 mm across and 32 mm thick, made in Fabric 7, was found lying in the base of Kiln 400 adjacent to the stokehole end of the pedestals (Fig. 23). It was very well formed of uniform thickness with squared edges and rounded corners. One side had been carefully smoothed and had been subjected to a greater heat than the other.

Prefabricated portable cheek pieces are comparatively rare par-

ticularly in sunken kilns of the Wavendon Gate type, although a similar example was found in Kiln VI at Mile Road, Elstow, Beds (Swan 1984, 66). The recognition of this clay plate as a possible cheek-piece is strengthened by the presence of the prefabricated 'decorative' stokehole arch (below), which may have been supported on the edge of the cheek-piece.

Plates (Fig. 90)

A number of perforated and unperforated clay plates from Iron Age and Roman contexts have been described elsewhere in this report. Three distinctive types were also found within Kilns 400 and 559.

Unperforated Rectangular

A single large unperforated clay plate (Fig. 90.170), made in Fabric 7, 268 mm × 145 mm across and 44 mm thick, was found resting in an upright position in Kiln 400 between one pedestal and the edge of the kiln (Fig. 23, Plate 2). The plate had been well made with slightly rounded edges. Whether it was standing in its original position remains uncertain, as does its exact function.

Two thinner rectangular plates 27 and 33 mm thick with one smooth surface and one rough surface each, were also found in Ditch 533/566.

Unperforated Circular

Part of a circular clay plate, c.300 mm in diameter and 23 mm thick near the centre narrowing to 16 mm thick at the rounded upper edge, was also found in Ditch 533/566. Again the upper side had been smoothed and there was no evidence of any pierced holes.

Perforated

The remains of four perforated clay plates of uncertain shape (Fig. 90.171, 172 and Ni) and with no finished edges, ranging in thickness from 47 to 60 mm were, found in Kiln 400. The hole sizes measured 18, 35 and 60 mm across and 60 and 85 mm apart, indicating that at least two or more types were present. Their interpretation as yet another form of portable perforated plate used in conjunction with the circular spacers rather than as a vent-holed raised floor is probable. The use of multi-perforated large clay plates used in conjunction with kiln bars is comparatively rare, but was found in Kiln IV at Elstow, Beds. (Swan 1984, 65).

A note of caution should perhaps be introduced at this point. Perforated plates are commonly found in late Iron Age and early Roman contexts, in which they are interpreted as structural elements of domestic or industrial ovens. Since a number of such fragments were also found in other contemporary features, it is possible that some of the items deposited within the fill of the kiln were dumped from elsewhere. Consequently the association and use of these perforated plates within the kiln is not certain.

Flue Roofing (Fig. 90)

Two very large fragments (Fig. 90.173, 174) made in Fabric 2, and several smaller fragments of what has been interpreted as portable flue roofing, were found lying towards the rear of the stoke-pit in Kiln 400 (Fig. 23). Both illustrated fragments are curved across their widths with a slight curvature along their

length. They are very well made with a uniform thickness up to 40 mm, a smooth outer surface and rough inner surface and a single finished squared edge. 173 is decorated with a double herringbone row of thin triangular impressions, and 174 has a double row of similar impressions and a line of impressed crescents with an incised line between.

Portable prefabricated flue roofing (as opposed to clay plastered flues) is extremely rare. Cigar-shaped bars were found over the flue of the kiln at Weston Favell (Bunch and Corder 1954) and stone slab roofing is comparatively common after the first century (Swan 1984, 67). At Corby, Northants. (Thompson 1902) a version of curved clay arch bar was used. If these two clay objects have been correctly interpreted, then they demonstrate a degree of sophistication, in their construction, decoration and use, which may be unparalleled in Britain.

Lining (Fig. 90)

Kilns 400 and 559 both contained large amounts of collapsed partially-fired clay lining. Kiln 400 produced a total of nearly 31 kg and Kiln 559 over 17 kg. For the purposes of cataloguing, fragments with one smoothed face and amorphous fragments were separated (Tables 6 and 7).

Where similar material was found in residual contexts no such detailed description could be attached to the material. However, in the cases of both kilns most of it must represent clay smeared by hand around the kiln chamber and stoke pit. In both instances some was found still adhering to the sides of the kiln, often with clear evidence of the potter's finger marks.

Two fragments (Fig. 90.175 and Ni[175a, Fig. 23]) from Kiln 400 are of particular interest to the probable morphology of the kiln. Both were of very similar proportions to the two pedestals (151 and 152), but were slightly curved with a square upper edge 85 mm wide. One face is roughly smoothed with palm and finger marks evident and the other is rough. In cross-section the method of construction using large clay coils is clearly evident. They are similar in some respects to the freestanding integral ledge of the Slayhills Salting Kiln, Kent (Swan 1984, fig.IX) and the pre-curved lining blocks in the Lower Nene Valley kilns (*ibid.*, plate 30). Alternatively their relative locations within the kiln at either end of the pedestals (Fig 23) could indicate that they were additional underfloor supports (p.37).

Other portable furniture (Fig. 90)

A single irregular nodule of fired clay formed in the palm of a hand (Fig. 90.176) found in Kiln 400 may be the remains of a crude kiln prop. Similarly, another well-formed clay object (Fig. 90.177) from Ditch 533/566 may also have been used as a support.

Fired Clay From Other Roman Contexts

Over 31 kg of fired clay (Table 8) derived from contexts of Roman date (other than from the two kilns) of which 35% (10.908 kg) represented fragments of kiln bars, fragments with two smooth surfaces (thought to be the remains of kiln bars) and spacers. These have been discussed above and require no further comment. Of the remainder 62% (19.417 kg) were either amorphous or had a single smoothed surface and only 3% represented fragments of

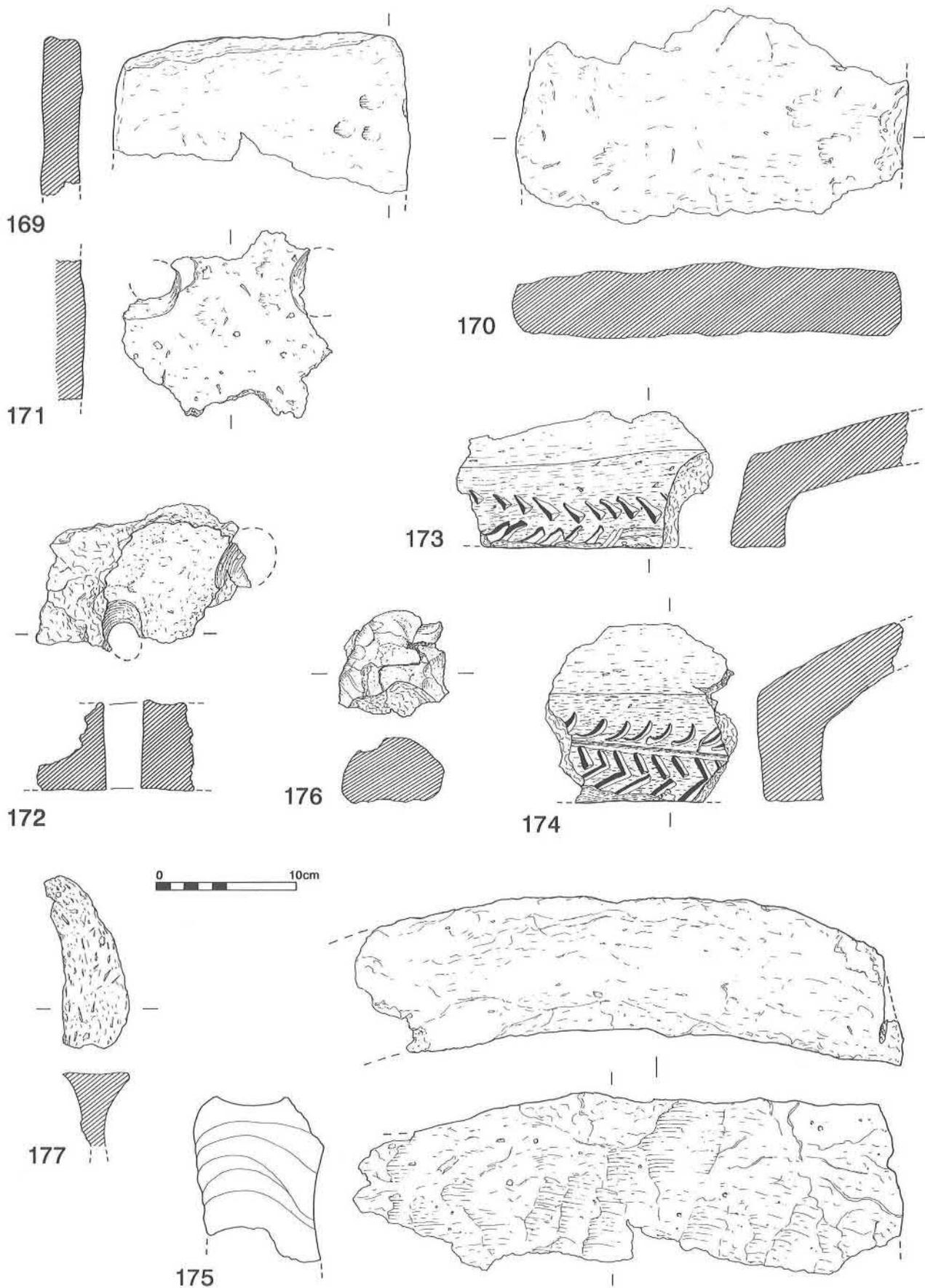


Figure 90: Clay cheek piece 169; plates 170–172; flue roofing 173–174; lining 175; props 176–177, scale 1:4.

<i>Fabric</i>	<i>Kiln bars</i>	<i>Spacers</i>	<i>Unperforated plates</i>	<i>Perforated plates</i>	<i>Wall daub</i>	<i>Two smooth surfaces</i>	<i>One smooth surface</i>	<i>Amorphous</i>	<i>TOTAL</i>
1	30 (<1)	– –	90 (25)	– –	– –	430 (11)	177 (3)	250 (2)	977 (3)
2	1400 (20)	– –	– –	500 (83)	– –	1085 (28)	2782 (42)	6055 (47)	11822 (38)
3	– –	– –	– –	– –	– –	– –	50 (<1)	520 (4)	570 (2)
4	– –	– –	– –	– –	235 (100)	– –	30 (<1)	320 (3)	585 (2)
5	– –	– –	– –	– –	– –	– –	310 (5)	– –	310 (1)
6	– –	– –	– –	– –	– –	– –	– –	33 (<1)	33 (<1)
7	4405 (64)	185 (100)	75 (20)	100 (17)	– –	1058 (28)	1859 (28)	2939 (23)	10621 (34)
8	1070 (16)	– –	200 (55)	– –	– –	1245 (33)	1412 (21)	2670 (21)	6597 (21)
10	– –	– –	– –	– –	– –	– –	– –	10 (<1)	10 (<1)
TOTAL	6905	185	365	600	235	3818	6620	12797	31525
%	22	<1	1	2	<1	12	21	41	–

TABLE 8: Weights (in grammes) and percentages (shown in parentheses) of different fabrics and categories of fired clay from all Roman contexts, excluding Kilns 400, 559 and dump in Ditch 533/566.

wall daub and unperforated or perforated clay plates. Several of the latter category have been dealt with as residual Iron Age objects.

Wall daub

Recognisable wall daub only occurred in Ditches 132, 533/566 and Pit 1386. All the daub (235 g) was in Fabric 4, a fabric which is otherwise hardly represented in the Roman period. The comparative absence of Roman wall daub combined with the few identifiable pieces made in Fabric 4, may indicate they are residual and of Iron Age date. Whether daub was ever used as a structural material in Roman buildings on the site must remain doubtful in the absence of any surviving burnt fragments.

Unperforated Circular Plates

A single fragment of an unperforated circular plate, 20 mm thick, with a diameter of 140 mm and a rounded upper edge, made in Fabric 8, was found in the fill of Enclosure Ditch 275. It is very similar to a late Iron Age example 147 and to the unperforated spacer 168 from Kiln 400.

Unperforated Rectangular plates

Two small fragments of rectangular clay plates, 24 and 32 mm thick, made in Fabrics 7 and 1 respectively, were found in Pit 848 and Ditch 590. Both were almost certainly residual in the extreme upper fills of each feature. Whilst neither was directly associated with any kiln waste, they may have originally derived from one or other of the kilns.

Perforated Plates

Two fragments of perforated clay plates (Fig. 86.149 and Ni) were found in Roman contexts. Both are thought to have been residual, of Iron Age date and have been described under the Iron Age section (p.142).

Other Fragments

62% (19,417 kg) of Roman fired clay was either amorphous or had a single flat side. In addition, 12% (3,818) retained two smooth surfaces at right angles to one another, and have been interpreted as kiln bars but kept separate for statistical purposes, since an element of doubt must remain.

ROMAN TILE

Tora Hylton and R.J. Williams

An examination of the distribution of these two forms of fired clay across the site shows significant concentrations around Kilns 400 and 559. The only features which contained a disproportionate quantity of this type of fired clay are Hollow 900 and Pit 848 and several of the other smaller surrounding pits.

The existence of fragments of kiln bar from both features has already been noted. In the case of Hollow 900 all the material must have been deposited several centuries after its initial use. With Pit 848 the existence of a kiln in the vicinity has already been proposed.

Fired Clay from Saxon Contexts

Only 865 g of fired clay was found in six separate contexts (Table 9), the largest single group being 200 g of amorphous fragments from the early Saxon tertiary fill of Enclosure 275. Clearly this amount is too small to allow any significant observations regarding the change in use of clay from the Roman to early Saxon periods.

<i>Fabric</i>	<i>One Smooth Surface</i>	<i>Amorphous Pieces</i>	<i>Two Smooth Surfaces</i>	<i>TOTAL</i>
1	55 (23)	— —	— —	55 (6)
2	20 (9)	160 (28)	50 (100)	230 (27)
3	140 (60)	— —	— —	140 (16)
7	20 (9)	400 (69)	— —	420 (49)
8	— —	20 (3)	— —	20 (2)
TOTAL	235	580	50	865
%	27	67	6	

TABLE 9: Weights (in grammes) and percentages (shown in parentheses) of different fabrics and categories of fired clay from Saxon contexts (not including the loomweight).

15.485 kg of tile was found in sixty-seven contexts from only thirty features. Owing to this low incidence all fragments were retained during excavation for later examination. The tile was sorted by weight into four main categories; *tegulae*, *imbrices*, structural tiles and miscellaneous. It was further divided into the five main fabric types (Table 10), as devised by R.J. Zeepvat for other Roman sites in Milton Keynes (Zeepvat 1987, 118–120), including the revised dating ranges as defined in the Bancroft tile report (Zeepvat 1994, 217) and summarised below.

<i>Fabric 1</i>	Shell-tempered. Early 2nd to early 3rd and late 3rd to 4th century.
<i>Fabric 2/3</i>	Sand tempered with varying amounts of fine and coarse sand. Orange colour with red, grey or buff core. 2nd century.
<i>Fabric 4</i>	Cream-coloured with sand and ironstone inclusions. Undated (very rare)
<i>Fabric 5</i>	Grog-tempered, pink to reddish orange in colour. Mid/late 2nd to 4th century.

The structural tile category combined both *pilae* and possible small sub-floor tiles. The miscellaneous category incorporated fragments too small for accurate identification. The high proportion (16%) of the latter category reflects the extremely fragmentary and often abraded nature of much of the tile.

The *tegulae* and structural tile categories constitute the bulk of the tile, 47% and 36% respectively as recorded by weight. *Imbrices* were almost negligible, representing less than 1% of the total. Two small fragments of possible box-flue tile (incorporated in the miscellaneous category), in Fabrics 1 and 2/3, were found in the upper layers of Enclosure 33. The shell-tempered fragment had a combed surface but insufficient remained to decipher the full pattern or to determine whether it fitted into the fourteen known types recorded elsewhere in Milton Keynes (Zeepvat 1987, fiche D9 fig. 1).

<i>Fabric</i>	<i>Tegulae</i>	<i>Imbrices</i>	<i>Structural</i>	<i>Misc.</i>	<i>TOTAL</i>
1	5670g 77%	—	—	510g 20%	6180g 40%
2/3	1250g 17%	60g 60%	5520g 100%	1705g 68%	8535g 55%
4	130g 2%	40g 40%	—	180g 7%	350g 2%
5	290g 4%	—	—	130g 5%	420g 3%
TOTAL	7340g 47%	100g <1%	5520g 36%	2525g 16%	15,485g

TABLE 10: Roman tile by fabric and type.

Fabrics 1 and 2/3 formed the bulk of the entire group, 40% and 55% respectively by weight. Fabrics 4, 5 and 6 were only present in insignificant amounts.

Table 10 shows that there was a relationship between fabric and tile type. All the structural tile was made of the second-century Fabric 2/3, whereas most of the *tegulae* (77%) were made in shell-tempered Fabric 1. Too few *imbrices* were found for any meaningful analysis to be worthwhile. In the miscellaneous category Fabric 2/3 predominated (68%), perhaps indicating that most of these were fragments of structural tiles.

The amount of tile recovered from the site in comparison to the volume of features excavated is extremely small. This small quantity, and the often poor condition of the pieces, overwhelmingly indicates that the tile was not used as a primary structural component in any of the buildings. To put the volume of recovered material into perspective, the weight of *tegulae* represents, at most, two complete examples.

Two other Roman sites in Milton Keynes, Wood Corner and Woughton, have produced similarly small quantities of tile, with 31.5 kg and 4.88 kg respectively (Zeepvat 1987). The amount of tile from Woughton was too small for statistical analysis, but that from Wood Corner exhibited a preponderance of *tegulae* (77%) with only 19% subfloor/*pilae*, 3% *imbrices* and 1% flue tile. Whilst the ratio of *tegulae* to structural tiles/*pilae* is different to that at Wavendon Gate, the very small number of *imbrices* is comparable. At Wood Corner the presence of other reused building materials led the excavator to speculate that the tile had been introduced onto the site as hardcore to consolidate yard surfaces and floors. At Wavendon Gate the absence of any other reused building materials makes this supposition unlikely. The dominance of flat types of tile, ie. *tegulae* and *pilae* over curved or angular tiles ie. *imbrices* and flue tiles is apparent, perhaps indicating that only flat pieces were required for specialised secondary functions. Were the entire assemblage to have resulted from the unintentional introduction of tile on to the site, then *imbrices* would have been represented in greater amounts.

The relative quantities of tiles of each fabric is also worthy of comment. Over half (55%) was in Fabric 2/3, which was only made in the second century, with most (39%) of the remainder in the shell-tempered Fabric 1, which was predominantly of either second or fourth-century date. It is very noticeable that grog-tempered tile (Fabric 5) only represents a very small proportion (3%) of the entire assemblage. On most sites which contain significant amounts of the shelly tile (Fabric 1), Fabric 5 is usually present in equal or slightly smaller proportions. The low incidence of grog-tempered tile may reflect the problems of analysis based on such small quantities. Alternatively, grog-tempered tile may not have been present in the building from which the tile found at Wavendon Gate had been salvaged for reuse.

The nearest Roman site which is known to have contained significant amounts of roof and structural tile is at Walton Hall (MK90) only 1.5 km to the west (Fig. 51). Since this site has never been excavated no comparison of the comparative tile and fabric types can be made with the small assemblage from Wavendon Gate.

Although the quantity of tile was insignificant, the various categories and fabric types were plotted across the site to determine any significant patterns. Area A, which was clearly some distance from the main occupation area, produced no tile. Area C, which contained no features later than the first century AD, also produced no tile. The distribution of tile across area B was comparatively even, although several groupings are worthy of note.

The lower and middle levels of Pit 835 contained a small but significant number of fragments predominantly of structural tile in Fabric 2/3. The upper part of the pit and Hollow 900, which were still open in the fourth century, contained mainly *tegulae* of the shelly type 1 and the few fragments of the grog-tempered type 5 that were found.

Most of the remainder of the tile derived from the fill of Enclosure Ditch 275, Ditch 590/591 and Enclosure 33. The tile from Enclosure 275 was predominantly in the early Fabric 2/3, with more structural fragments than *tegulae* and a smaller proportion of *tegulae* in Fabric 1. As ditch 590/591 had been dug in the first century but survived, following several recuts, into the fourth century, the tile data accords well with the excavated evidence. Enclosure 33 is one of the latest features on the site. The majority of the tile was the shell-tempered type 1 with *tegulae* predominating. This enclosure also produced the greatest concentration of tile fragments in relation to the volume of fill excavated.

WOODEN OBJECTS

Only three features, Pit 835, Ditch 600 and Ditch 433, contained sufficiently anaerobic waterlogged conditions for the survival of wooden objects and other organic matter. Most of the excavated wood consisted of 'twiggy' material, small unworked fragments, small roundwood or occasionally larger chopped stems. A more detailed description of this material appears on p.260ff together with a full discussion of woodland activities and management.

Pit 835, dating to the third century, was the only feature to contain any recognizable wooden artefacts (Table 47), most of which have been illustrated (Figs 91–95) and described below. Objects 178–183 and 192 have been freeze-dried. In most cases this has resulted in very little distortion or change to their appearance and only a shrinkage factor of c.3% of their original size. Where possible the original dimensions, prior to conservation, have been added in parentheses.

All identifications were made by Rowena Gale using a transmitted-light microscope at magnifications up to x400.

Wooden 'Wheel' (Fig. 91)

Miranda Green

178 Wheel-shaped object on a shaft, made from a single piece of oak, with damage to one side (Plate 22). The present dimensions of the wheel are 325 mm max. height, 172 mm max. diameter (of the wheel) and 42 mm thick. The shaft is 150 mm high, 74 to 82 mm wide and 19 to 25 mm thick, with a squared end. Although damaged, it appears to flare outwards across its width and taper in thickness towards the base. It is also stepped inwards on both sides about 20 mm down from the base of the wheel. 70 mm below the 'shoulders' is a rectangular hole, 9 × 7 mm, presumably for attachment, set roughly equidistant from the two vertical sides of the shaft.

The wheel itself has a central hole, c.23 mm diameter, in place of a nave or hub. It originally had twelve ogival spokes, leaving petal-shaped spaces between them. These had been cut out by drilling a series of holes (almost certainly with the same drill as for the central hole) around the rim and then by sawing inwards on both sides towards the hub. The waste had then been removed by a chisel and in several instances by additional radial saw-cuts. The felloe or rim is marked by a shallow chamfer averaging 11 mm wide, which extends towards the shoulders on the shaft. Both wheel and shaft are oblong in section, although considerable distortion has occurred across the width.

5241/911; Pit 835: 3rd cent.

This wooden object is, as far as I am aware, unique in form. The stepping and tenon/nail-hole shows that it was intended to be attached to something, perhaps a wooden post or a sceptre-mount. It is tempting to speculate that the wheel was once mounted on Post 2051 (p.68) and had perhaps fallen into Pit 835 or was cast in as a ritual act. The pit may have already been partially filled when the posthole was dug and if the wheel was fastened to the post, it could have fallen into the pit perhaps soon after the post was erected. Alternatively, the wheel may have been positioned elsewhere and was subsequently thrown into the water as a final act of consecration.

The Possible Significance of the Wheel

From as early as the Bronze Age in 'barbarian' (non-Mediterranean) Europe, communities venerated the sun, which they symbolised by the motif of the spoked wheel (Gimbutas 1965, 341–2; Green 1984; Green 1992). This may have been due largely to the physical resemblance between a wheel and the sun, but also because of the element of movement common to them both. The solar symbol could be represented in various ways in northern and temperate Europe: small model wheels (like the three other copper-alloy examples, Figs 64.56–57 and 65.58, found at Wavendon) were worn or carried as talismans, and were frequently buried with the dead, perhaps symbolically to illuminate the tomb. Sun-wheels were depicted on sheet-bronze vessels, often carried in a boat decorated with the heads of water-birds. The rock-art of Scandinavia and North Italy contains numerous solar motifs, including depictions of wheel-symbols supported on stalks or stands (Gelling and Davidson 1969, 9–27), an

image which brings the Wavendon wheel on its shaft to mind.

The solar wheel motif was equally important to the Iron Age communities of the later first millennium BC, and miniature wheels were still worn or interred with the dead. Representations of warriors wearing armour decorated with solar wheel amulets were carved in stone; examples of Celtic helmets and cuirasses thus adorned may be seen on the early first-century AD arch at Orange; and a stone warrior at Fox-Amphoux, also in southern Gaul, wears a large wheel-symbol on his chest as a protection against harm (Green 1991, 70–71, fig. 51). The assumption here is that the sun-sign was perceived as an apotropaic symbol, worn by soldiers to guard them in battle.

The tradition of representing solar gods in human form began during the later Iron Age. The Gundestrup Cauldron, found in a Danish peat-bog, probably dates to the second or first century BC (Kaul 1991). Although its probable place of manufacture was south-east Europe and despite its provenance, the iconography with which the cauldron was decorated contains a great deal of Celtic symbolism. On one of the outer plates, a god is depicted with a large wheel (Olmsted 1979). This may be the earliest representation of the Celtic sun-god (Green 1986, fig. 9). The earliest British depiction occurs on an Iron Age coin, dating to about AD 20, probably from the Midlands, although originally provenanced to Petersfield in Hampshire (Boon 1982, 276–82; Green 1991, fig. 79). The coin bears the motif of an antlered human head with a solar wheel between the antlers. The stag-god Cernunnos is identified by his antlers; this coin may attest the conflation of the images of Cernunnos and the sun-god.

The Roman occupation of Celtic Europe gave rise to the introduction of new religious and artistic traditions. Now, for the first time, there is unequivocal evidence of the link between the symbol of the wheel and the cult of the sky and sun. Altars decorated with Celtic wheel symbols were dedicated to the Roman sky-god Jupiter, at sites as far apart as Köln (*C.I.L.* XIII 8194) and Aigues-Mortes in Provence (Espérandieu 1924, 33, no. 121). Bronze figurines from, for example, Le Châtelet (Haute Marne) and Landouzy-la-Villa (Aisne) (Green 1984, cat. nos. C2, C3; Courcelle-Seneuil 1910, figs. 21, 22), depict the sky-god accompanied by his Roman emblems, such as the thunderbolt, or a dedication to Jupiter, but also by the Celtic solar wheel-motif.

The accepted link between the Celtic wheel-god and the thunder-god Taranis should be briefly examined. Taranis is mentioned by the Roman Poet Lucan (*Pharsalia* I, 444–446) as a great Celtic god encountered by Caesar's army in southern Gaul. The word 'Taranis' is a Celtic term for 'Thunderer'; seven altars dedicated either to Taranis (or a derivative name) alone or to Jupiter Taranis occur scattered throughout Celtic Europe (Green 1982, 37–44). Although Jupiter is linked with Taranis and with the Celtic solar wheel-god, there is no direct evidence that Taranis

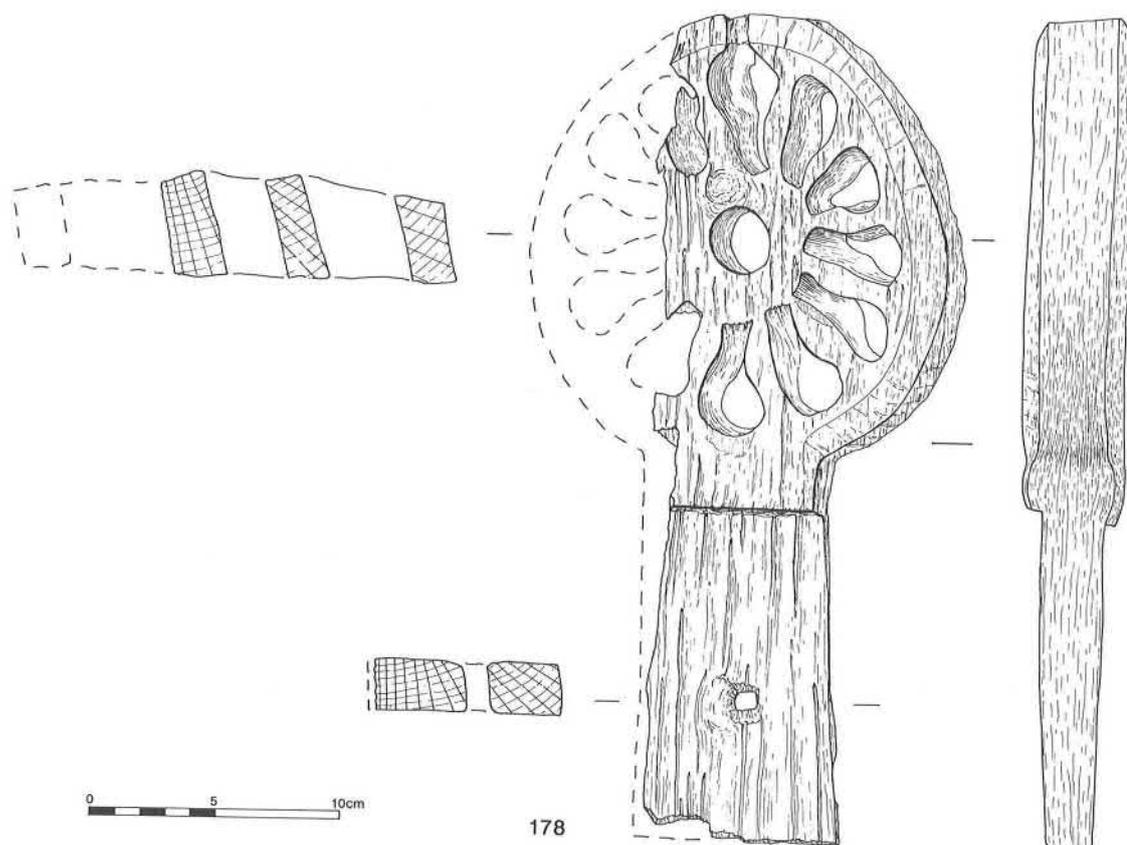


Figure 91: Wooden 'Taranis' wheel 178, *scale 1:3.*

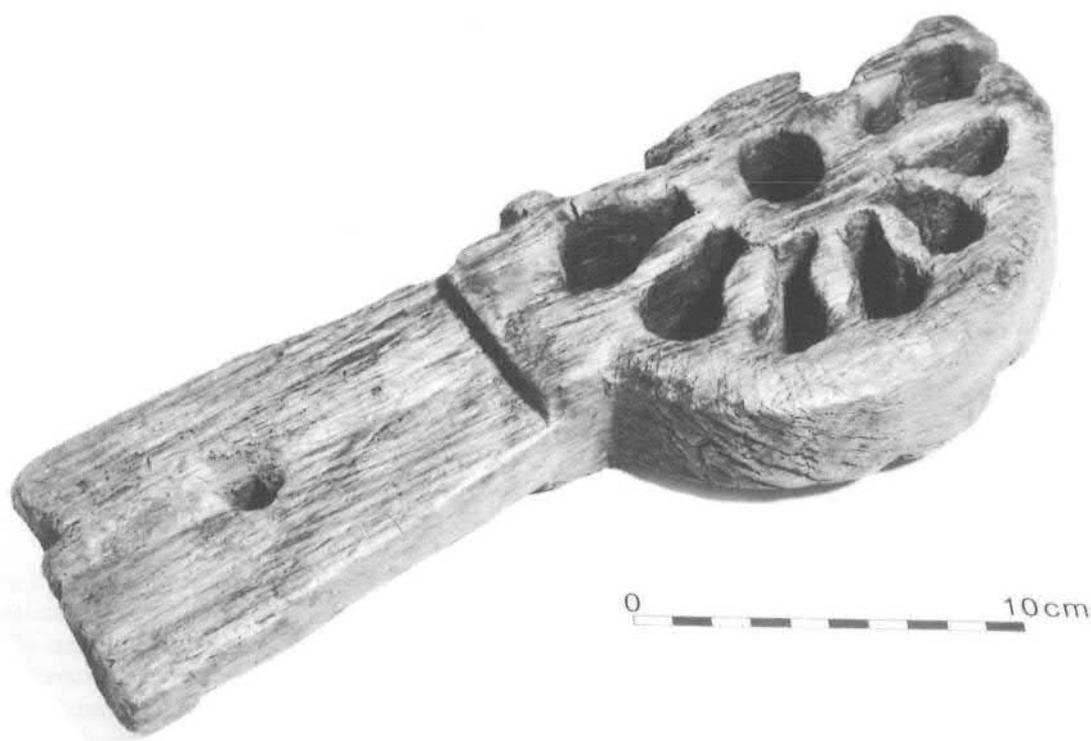


Plate 22: Wooden 'Taranis' wheel 178.

was himself a sun-god. The Roman Jupiter was all-powerful in the sky and, in the writer's opinion, the Celtic thunder-god Taranis was identified with Jupiter because of their common emblem of thunder. The sun-god was also conflated with the intrusive sky-god because Jupiter was perceived to be lord over all the heavens.

A distinctive group of monuments dating to the Romano-Celtic period are the 'Jupiter-columns', which occur mainly in north-east Gaul and the Rhineland. They are complex monuments, of which the most important constituents are a tall, tree-like column, sometimes decorated to simulate bark and foliage with, at the summit, a sculptured group which may either represent a Jupiter-like god seated on a throne or – more commonly – an equestrian god riding down a monster with a human torso but whose lower limbs take the form of serpents. The enthroned god is sometimes associated with a solar wheel, carved on the side of his chair (for example at Alzey in Germany: Espérandieu 7749; Green 1984, pl. LXV). Likewise, the celestial horseman may carry a wheel as if it were a shield (as at Obernburg in Germany: Kellner 1971, pl. 85; or Meaux in France: Gassies 1902, 287–297). The celestial association of these monuments is attested by the epigraphic dedications on the base of the columns, which allude to Jupiter and his consort Juno. The interpretation of the equestrian summit-group is generally that of the eternal, dualistic conflict between sky and underworld, light and darkness, day and night, summer and winter, good and evil (Green 1991, 133–137). Interestingly, there exists a Classical literary allusion to what may be Jupiter-columns: Valerius Flaccus (*Argonautica* VI, 89), speaking of the probably Celtic tribe of the Coralli, comments thus:

“...the serried Corallians left their banners; barbaric wheels are their emblems, and the shapes of swine with iron-coated backs, and broken columns, effigies of Jove”.

Certain items which may be termed ceremonial or ritual regalia appear to have been associated with the cult of the solar wheel-god. These include headdresses, necklaces, maces and sceptres, all of which may have been the property of priests. Allusion has already been made to the Celtic silver coin depicting the antlered god with the wheel-symbol between his antlers. This may represent the wearing of a wheel-surmounted headdress, and two such items of ceremonial head-gear have been discovered at the Wanborough Romano-Celtic temple in Surrey: two bronze chain-headdresses each with a large cast-bronze wheel at the top, made to be attached to a leather or cloth cap and worn, presumably on ceremonial occasions (Green 1991, fig. 80; Surrey Archaeological Society 1988, 16). Priests of the sun-cult may also have worn the gold and silver chain-headdresses hung with solar and lunar pendants found, for instance, at Dolaucothi in Dyfed (Nash-Williams 1950–52, 78–84) and at Newstead in Scotland (Curle 1911, no. 34, pl. 87). A bronze mace from Willingham Fen, Cambs. (Green 1991, 93, fig. 76) depicts the sun-god with his wheel, an eagle (emblem of

Jupiter), a triple-horned bull's head, a dolphin and a small chthonic being trampled beneath his foot, in a similar position of subjugation to the giant on the Jupiter-columns.

It is to the category of ceremonial or liturgical regalia that the Wavendon wheel appears to belong. The bevelled tenon, pierced with a hole, must mean that the wheel was originally attached to something, perhaps a larger wooden stake or post. It is perhaps significant that the pit in which the wheel was found was overlooked by the post in Posthole 2051, and it is by no means impossible that the post simulated a living tree, supporting the wheel, raising it as high as possible into the sky, just as the continental Jupiter-columns lifted the image of the sky-horseman high into his celestial element.

Whether or not the Wavendon wheel was originally attached to the post near Pit 835, the presence of water in that pit may well be significant. Aquatic and solar symbolism were strongly linked in European prehistory: during the Bronze Age of Central and Northern Europe, the solar wheel was recurrently associated with water-birds, particularly as decoration on sheet-bronze vessels, themselves containers for liquid (Pare 1989, 84, 97–98; Green 1991, 66–71). In Bronze Age Scandinavian rock-art, one of the most common combinations of image consists of the sun and ship (Green 1991, 74–81; Gelling and Davidson 1969, 49–52). In the Iron Age and Roman Celtic period, this link between water and the sun was maintained and intensified. Gaulish devotees cast miniature wheels as votive offerings into rivers, such as the Seine, Marne and Oise, or springs, like Bourbonne-les-Bains and Bolards (Green 1991, 119–121; 1984, nos. A67, A68, fig. 6; Thevenot 1948, 289–349; Chabouillet 1880–81, 15ff; Gaidoz 1885, 191–192). Great healing-cults grew up around thermal springs in the Romano-Celtic world, and many of these had a solar association. One of the aspects of the Graeco-Roman god Apollo was his role as a sun-god, and curative spring-sanctuaries in Gaul were often dedicated to him in his Celtic guise. Apollo Vindonnus (a Gaulish surname meaning 'Clear' or 'White') was venerated at the thermal shrine of Essarois in Burgundy (Thevenot 1968, 97ff). His image, which appears on the temple-pediment, is that of a radiate sun-god. The great spring temple of Sulis Minerva at Bath was dedicated to a native British goddess whose name 'Sulis' is philologically linked with the sun (Green 1991, 120–121).

The association between water and solar-symbolism is, on the face of it, obscure. But there is a clear celestial connection, in that both rain and sunlight emanate from the sky, and could be envisaged as within the control of the same supernatural force. In addition, both sun and water were rightly perceived as being life-forces, essential to fertility and the earth's abundance. Moreover, heat and water were both seen as purifiers, with properties of healing and regeneration. A further similarity between the sun and water is the ability of both not only to create life but also to destroy it.

The Wavendon wheel is a fascinating piece of evidence for Celtic religion with appears to bear witness to the cult of the sun among the Catuvellauni of North Buckinghamshire. The wooden wheel survived because of its water context, and the inference must be that wooden cult-objects like this may have been relatively common. We know of wooden images at such shrines as the first-century BC healing sanctuary to Sequana at *Fontes Sequanae* near Dijon. The Wavendon wheel does not appear to have had any practical function, and the inference must be that it is a religious object. But it is too large to have been a personal votive offering, and its clear evidence of attachment suggests that it was an item of ritual furniture, perhaps carried in processions, like the Willingham Fen mace, or, more likely, fastened high on a post to symbolise the power of the sun-god. It may have been sited quite deliberately so as to be close to water, creating a strong visual link between the two most important aspects of the natural life-force which was so central to the belief-systems of the pagan Celts.

Other Wooden Objects (Figs 92–95)

R.J. Williams

Writing Tablets (Fig. 92)

179 Single-sided writing tablet. Fragment of mid section with 10 mm wide and 1–1.5 mm deep, rims surviving at either end. Traces of wax evident towards the centre, but with no evidence for any writing either in the wax or as scratches in the wood surface. Made from either silver fir or cedar. Length 170 (173) mm, surviving width 42 (42) mm, th. of tablet 3 (3) mm, th. of rim 4 (4) mm.

5361/873; Pit 835: 3rd cent.

Ni A smaller but very similar fragment to 179 was found in Layer 911 of the same pit. This piece has been positively identified as made of silver fir (*abies* sp.). It is impossible to determine whether it was part of 179 or part of another tablet.

-/911; Pit 835: 3rd cent.

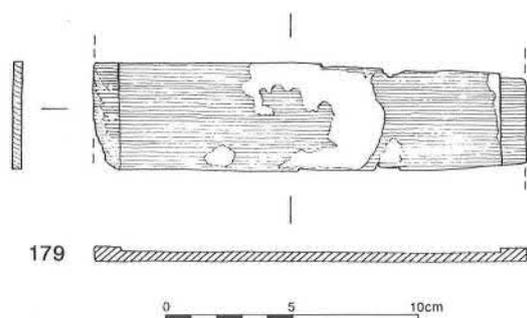


Figure 92: Wooden writing tablet 179, scale 1:3.

Wooden writing tablets are a comparatively common find in Roman waterlogged deposits, particularly from military and urban sites. The discovery of one or perhaps even two, in a third-century context at Wavendon Gate, from what must have been a small rural farmstead indicates how

widespread such methods of communication had become. The site's close proximity to the town of *Magiovinium*, only 3 km to the south-west, may have been a contributory factor. The Wavendon Gate example is of the commonest single-sided type and, when compared to a small group from Carlisle (Caruana 1992, 68–70, tab. 7), is larger than average. Whilst both fragments were probably made from silver fir, which is the commonest wood used for such items, tablets have been recorded made from a wide variety of other woods (p.264).

Domestic/Craft-related objects (Fig. 93)

180a Rectangular oak 'plank'. Tangentially cut from a bole with a minimum diameter of 250 mm and probably much larger. The uniformity of thickness and the squareness of the remaining end suggests that it had been sawn from the bole, although no tooth marks are evident. The sharpness of the edges and the smoothness of the surface indicates that a plane, or perhaps a shave of some type, had been used to finish the object. Both long edges and one end are complete, but the other end is badly damaged and the object may originally have been much longer. One corner of the complete end has been removed by a single axe cut and part of the surface has been damaged by two shallower cuts. These cuts are discordant with such a carefully made item, and may have occurred some time after it had been made. There is also evidence of furniture beetle infestation in several places.

Two mortice holes and a single rectangular peg hole are aligned equidistant from the squared end. Both mortice holes are 24 mm long and a maximum of 9 mm wide and had been made by drilling two 9 mm diameter holes, 6 mm apart. The waste between the drilled holes had then been removed by a chisel, but not to the full diameter of the holes, giving a 'toggle-shaped' appearance. 12 mm below the lowest mortice hole is another hole, 9 x 7 mm across, probably made with the same drill but having distorted during conservation. Had a similar hole existed in the other corner it would have been removed by the axe cut (above). A much larger rectangular socket, 24 mm wide and at least 27 mm long, cut by a chisel, survives at the damaged end. Surviving length 423 (444) mm, width 145 (148) mm, th. 18–20 mm.

5347/873; Pit 835: 3rd cent.

180b Ash peg/tenon. At the time of excavation two small fragments of wood were found inside the small mortice holes. One piece fragmented on removal but the other (180b) was found to be 36 mm long, 23 mm wide and up to 6 mm thick. This fragment has, however, significantly shrunk and distorted during the freeze-drying process.

5347/873; Pit 835: 3rd cent.

This wooden object is unlike any of the others recovered from the pit in that it is too well made and too small to have been a structural timber. However, unlike 181, 182, 183 (below) which are complete artefacts, 180 must have formed part of a much larger object. It is tempting to see it as part of a piece of furniture or even the side of a box. Its uniformity of thickness and the squareness of its end all support the suggestion that it was very carefully made and intended to be seen. The means of attaching it by carefully made pegs to an adjoining piece is further evidence of its

careful construction. The use of ash as opposed to oak for the pegs is interesting. The contrast in colour may even have been intended as decoration if the peg ends had been visible in the finished object.

181 Spatula/tool. Made from the wood of the Pomoideae group (hawthorn/apple/pear/whitebeam/rowan/wild service). It has been whittled from a much larger piece rather than made from a piece of roundwood of the appropriate size. The handle end is oval in cross section with several longitudinal facets. The butt end is finished with two cuts at *c.*70° to the longitudinal axis. The blade, which represents slightly less than half of the tool's overall length, has been carefully fashioned by the removal of several longitudinal facets to give a narrow rectangular cross-section. Another shorter facet across the full width of the blade has produced a wedge-shaped end. Length 258 (265) mm, blade width 40 (39) mm, blade th. 9 mm.

5363/873; Pit 835: 3rd cent.

Spatulae, spoons and scoops, made in a variety of shapes and sizes, are known on early historic sites (Earwood 1993, 115) with numerous examples found in Ireland, such as that from Loch Glashan crannog (*ibid.*, 116).

181 bears a resemblance to an unidentified Roman example, which has a similar but longer blade and a narrower handle (most of which is missing), found at Carlisle (Caruana 1992, 74, fig. 13.20). Objects of this general type have also been recorded in the early Flavian Fort at Annetwell (*ibid.*); their function remains unknown.

Another spatula of different type was found at Bancroft villa (King 1994 [a], 363), also made from the wood of the Pomoideae group. This wood is hard, strong and close grained and is particularly suitable for small tools and handles. The exact use of this object, which appears to be complete, is uncertain, although it is possible that it was used in a craft-related activity, for example as a flax beater (Earwood 1993, 128), or as a kitchen utensil.

182 Spatula/tent peg. Rectangular-sectioned object, with a point formed by bevelling one edge only. At the blunt end there is a change in grain direction caused by a knot running obliquely across its width. This end is also abraded, and it is impossible to establish whether the object was originally any longer. It is well made from oak, with evidence of all the corners having been slightly chamfered. Length 183 (188) mm, width 31 (32) mm, th. 16 (17) mm.

5349/873; Pit 835: 3rd cent.

Although made from oak, this object is not dissimilar from the blade of spatula **181**, and its handle may be missing. Alternatively, it bears a resemblance in both shape and proportions to the lower half of Roman tent pegs of the tapered-head variety (Caruana 1992, 70–72, fig. 12), which are also generally rectangular in cross-section. The surviving length of **182** corresponds very closely with that of the lower half (below the notch) of those recorded by Caruana (*ibid.*), which average 330–380 mm in total length.

183 Peg. Made from a length of roundwood of cherry or

blackthorn, having had the bark removed and whittled into an oval cross section. The head is rounded with slight evidence of burring to one side, perhaps as a result of having been struck with a mallet. 75 mm below the head, two axe or knife cuts have been made from opposing sides to form shoulders. The waste has then been removed to form a rectangular shaft, 25 × 12 mm across, which is poorly preserved and has lost its end. Length 146 (150) mm.

5350/873; Pit 835: 3rd cent.

184 Rod. Oval cross-section, 30 × 20 mm across, with both ends broken. Made of oak which has been cut from a larger radially sawn or cleft piece. The surface is well smoothed. Length 75 mm.

-/911; Pit 835: 3rd cent.

185 Rod. Rectangular cross-section, made from ash roundwood which has been trimmed on all four sides. Both ends are broken, but it appears to be flaring out at one end. Length 108 (111) mm, width 26–30 mm, th. 19–27 mm.

5389/930; Pit 835: 3rd cent.

186 Rod. Elongated oval cross-section, 33 × 13 mm across, made from a radially sawn/cleft larger piece of slow growing oak. Both ends broken. Length 156 mm.

-/911; Pit 835: 3rd cent.

Objects **184–186** are all well made and have been finished with sharp tools to produce smooth surfaces. Whilst they are all clearly parts of larger items, it is impossible to be more precise as to their original function. Having been made from oak and ash, both of which are very durable woods, it is tempting to suggest that they may have been tool handles.

187 Faceted knob. Made from a short section of roundwood of willow or poplar which has had its bark removed, but has otherwise not been reduced across its diameter. Although poorly preserved, both ends exhibit numerous facets made by chopping with a small tool, probably an axe. It may have been the waste product from trimming a longer stem for an unknown purpose. Dia. 63 mm, length 48 mm.

5387/930; Pit 835: 3rd cent.

188 Rod. Length of maple stem with slight curvature towards the top, and with the bark removed. When found it was at least 588 mm long although one fragment was subsequently lost (surviving length 486 mm). The top expands with slight evidence of facets where it was either removed from the bole or was subsequently trimmed. Dia. 20 to 44 mm.

5351/873; Pit 835: 3rd cent.

'Structural' Timbers (Fig. 94)

189 Stave. Made from a tangentially cut oak stem, which has been trimmed with a side axe to a flat, roughly rectangular, cross-section. One edge has been further trimmed to form a slight keel. The surviving end is square and has probably been sawn. It has also been reduced in thickness by further trimming on one side only. The keeled edge has also been removed by a shallow axe cut at this end. A well-made rectangular mortice hole, 78 × 24 mm across with evidence of chisel marks, survives at the damaged end. The slight curvature has resulted from the grain having been carefully followed during trimming so as not to weaken the objects lateral strength. There is some evidence of furniture beetle

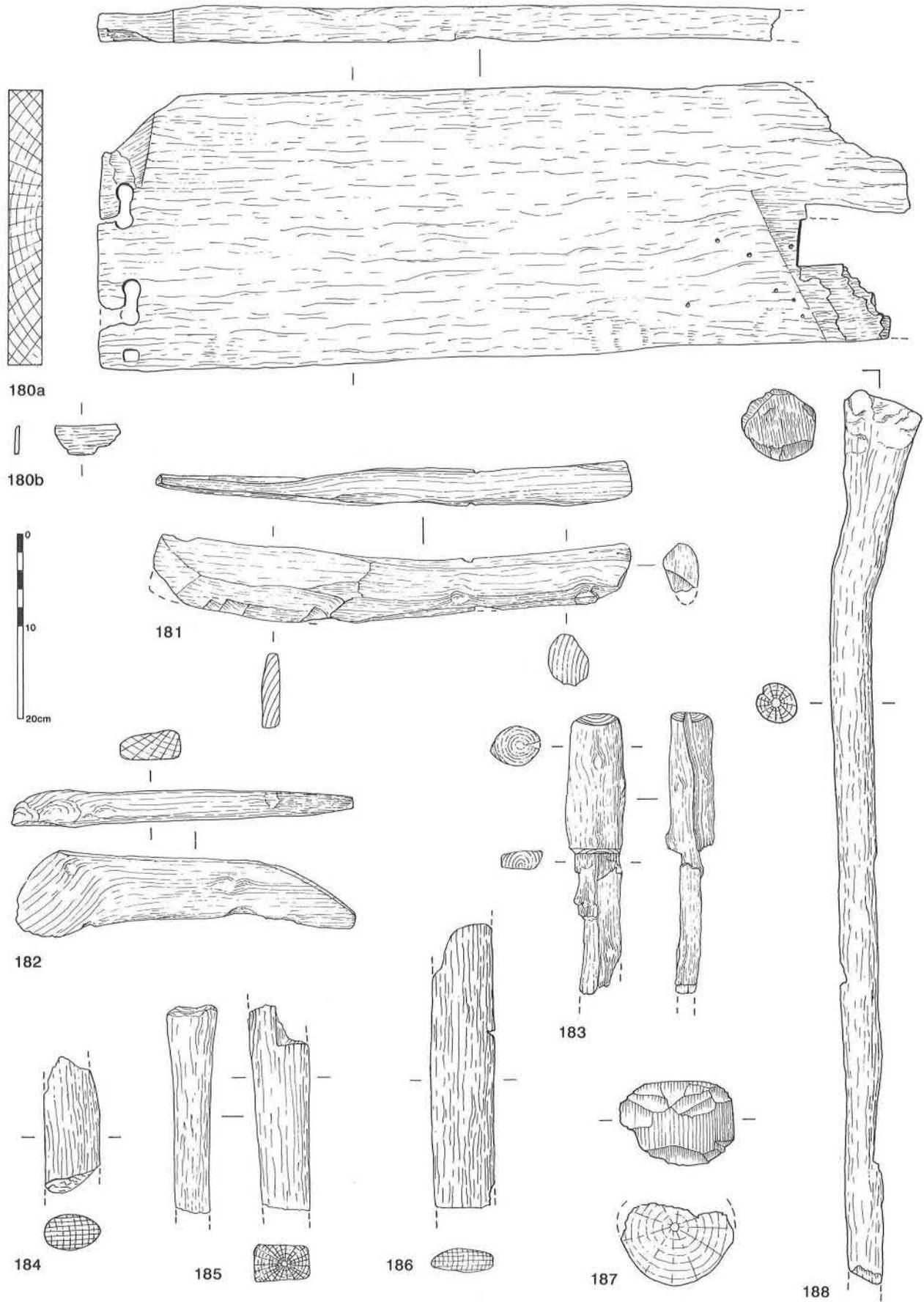


Figure 93: Wooden 'plank' 180; 'spatulae' 181–182; peg 183; rods 184–186; faceted knob 187; rod 188, scale 1:3.

infestation around the mortice hole. Length 756 mm, width 78 mm, th. 42 mm.

5362/873; Pit 835: 3rd cent.

190 Stave. Made from a halved oak stem, which has been trimmed to a flattened cross-section, with some sapwood still present. One end is squared, probably sawn, and the other is damaged. Some evidence of furniture beetle infestation. This fragment is of almost identical proportions to the finished end of 189, also having been reduced in thickness to form a tapered end. Length 384 mm, width 84 mm, th. 33 mm.

-/911; Pit 835: 3rd cent.

191 Stave. Made from tangentially cut oak stem trimmed to a rectangular cross-section, 84 x 38 mm across. Both ends are damaged but a rectangular mortice hole, 60 x 30 mm across and of similar proportions to that in 189, survives intact in the centre. The corners of the mortice hole are rounded exhibiting evidence of the waste having been removed by drilling at least two holes abreast. This use of 'auguring-out' of the mortice ends, which was common in medieval carpentry, is very uncommon in excavated Roman timbers from London (Goodburn 1991, 198). Length 440 mm.

5240/911; Pit 835: 3rd cent.

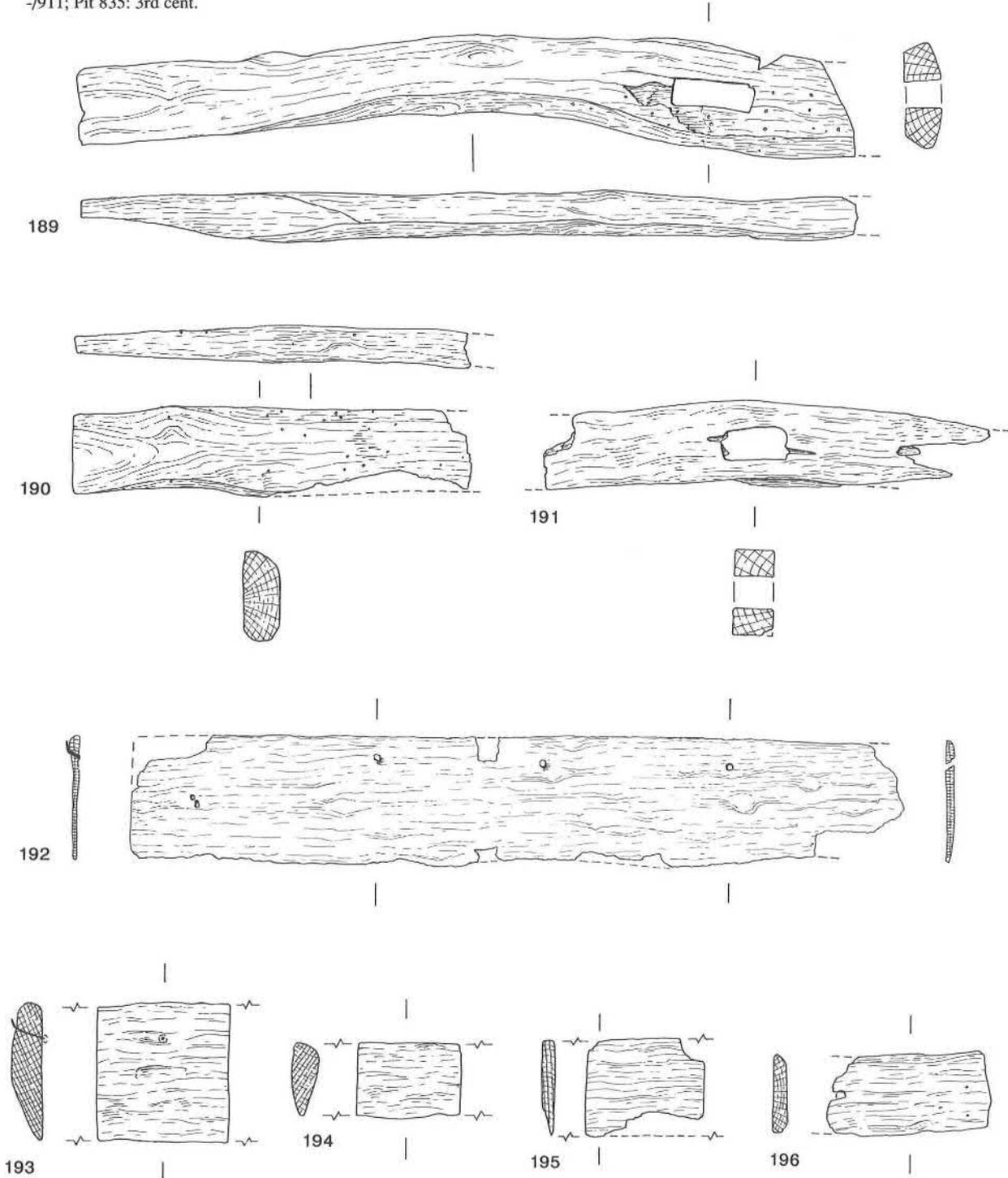


Figure 94: Wooden staves 189–191; weatherboard/planks 192–196, scale 1:6.

Objects **189–191** could be interpreted as structural timbers, although their dimensions (corresponding in modern terms to 3" × 1½") seems too slight for them to have been anything other than infill between more substantial timbers. They are also too crude to have formed parts of furniture but it is possible that they may have been used in the construction of a cart.

192 Weatherboard. Made from radially cleft oak with a very narrow, slightly tapering, cross-section in which the medullary rays are parallel with the flat surfaces. Cut from a bole with a diameter of at least 260 mm. There is no obvious evidence of additional axe or adze trimming, although this is likely to have been necessary with rough riven timber. One end has been sawn squarely across but the other end is damaged.

Three nail holes, spaced 156 and 174 mm apart, in which the nails had been driven in at approximately 45° angles to the surface, are set back 24 mm from the thicker upper edge. Two closely-spaced nail holes also survive in the centre of the board, 60 mm in from the sawn end. Two of the upper holes contain complete pointed iron nails, 28 and 20 mm long, both of which have been clenched in an upward direction. Their heads are heavily corroded and are probably incomplete, but they are likely to have originally been of the round-headed type. (Manning 1985, 134–137). Surviving length 750 (750) mm, width 125 (128) mm, th. 3–8 mm.

5337/873; Pit 835: 3rd cent.

193 Plank (only cross-section and sample of side illustrated). Cut from oak heartwood with thirty-seven rings evident. Both ends have been damaged, but the surviving portion has even parallel edges with an average width of 145 mm. It has a roughly rectangular cross-section with a maximum thickness near the centre of 30 mm. One side is bevelled forming a wedge-shaped edge. Although the medullary rays run obliquely across the width, the plank was probably riven rather than sawn from the bole. The flat side is very level with slight ripple marks as a result of having either been adzed or trimmed with a side axe. A single iron nail, also with its head missing, and of similar type to those in **192** had been driven through the plank from the flat side at a slight angle approximately half way along its length and 30 mm in from the thickest edge. Length 750 mm, width 145 mm.

5348/873; Pit 835: 3rd cent.

194 Plank (only cross-section and sample of side illustrated). Cut from fast grown oak heartwood with only twenty rings evident, and with the medullary rays lying at an angle across its width like **193**. Tapers from 75 to 55 mm wide with a narrow wedge-shaped cross-section up to 27 mm thick. Both ends are damaged and there is no evidence of saw or axe cuts. Length 630 mm.

5353/873; Pit 835: 3rd cent.

195 Plank/weatherboard (only cross-section and sample of side illustrated). Badly damaged, 300 mm long, fragment with a very thin wedge-shaped cross-section. It is very similar to, but narrower than, **192** having been radially cleft from an oak bole.

-/873; Pit 835: 3rd cent.

196 Plank. Tangentially cut from an ash bole with thin plano-

convex cross-section. One roughly squared end survives. The other end is damaged, although there is the remains of a single 40 mm diameter nail hole, centrally placed across its width. Length 156 mm, width 84 mm, thickness 13 mm.

-/873; Pit 835: 3rd cent.

Objects **192–196** can all be described as planks or boards and perhaps more correctly, **192** and **195** should be termed feather-edged weatherboard. Fragments **193** and **194** may also be examples of the latter, although they seem rather thick and may have been used as poor quality butt-edged boarding. **192–195** are all made of oak, a wood which was particularly suitable for this type of building technique because of its riving qualities and general durability. Several other shorter lengths of oak planks/boards were also found in Pit 835 (Table 47), none of which are sufficiently complete to be worthwhile describing. Fragment **196**, which was made of ash, is more likely to have been a small plank.

Weatherboard **192**, although incomplete, is particularly interesting as the nailing arrangement survives. This indicates that whatever it was attached to had vertical battens c.230 mm apart (assuming that the boards were fixed horizontally). It is very thin, no more than 8 mm thick, which demonstrates the skill of the carpenter. It is also comparatively narrow, no more than 125 mm (5") wide, and it is not dissimilar to the vertical cladding used in modern fencing. Its slight scantling suggests that it was used on a building of small proportions.

In London (Goodburn 1991, 202–202) most of the excavated wooden cladding is made of tangentially sawn oak, laid edge to edge, and cleft oak planking is very much in the minority. It is also apparent that the Wavendon Gate pieces, if correctly interpreted as weatherboarding, are considerably narrower than those used on Roman buildings in London, the recorded widths of which range from 200 to 350 mm wide, and 20 to 30 mm thick. A well-preserved timber building recently excavated at Pumsaint, Dyfed (Burnham and Burnham 1991, 203–207) was found to have been clad with edge to edge planking between 190 and 270 mm wide and 10 mm thick.

Ash Tree (Fig. 95)

197 Bole of ash tree. This 1.25 length of tree trunk was found lying at a 45° angle across the lower part of Pit 835 (Plate 11). Both ends are very abraded and rotten, although much of the bark had survived. A 50 mm thick section was removed for dendrochronological dating, which unfortunately proved impossible when it was identified as an ash tree. Two sides are covered with axe cuts between 40 and 45° to the longitudinal axis of the trunk. Although most of the cuts overlap several complete impressions are visible, indicating the use of a reasonably square-edged axe with a blade width of up to 100 mm. The bole was irregular in cross-section with the heart almost certainly off centre. At the time of felling it was c.110 years old and was up to 650 mm in diameter.

5309/733; Pit 835: 3rd cent.

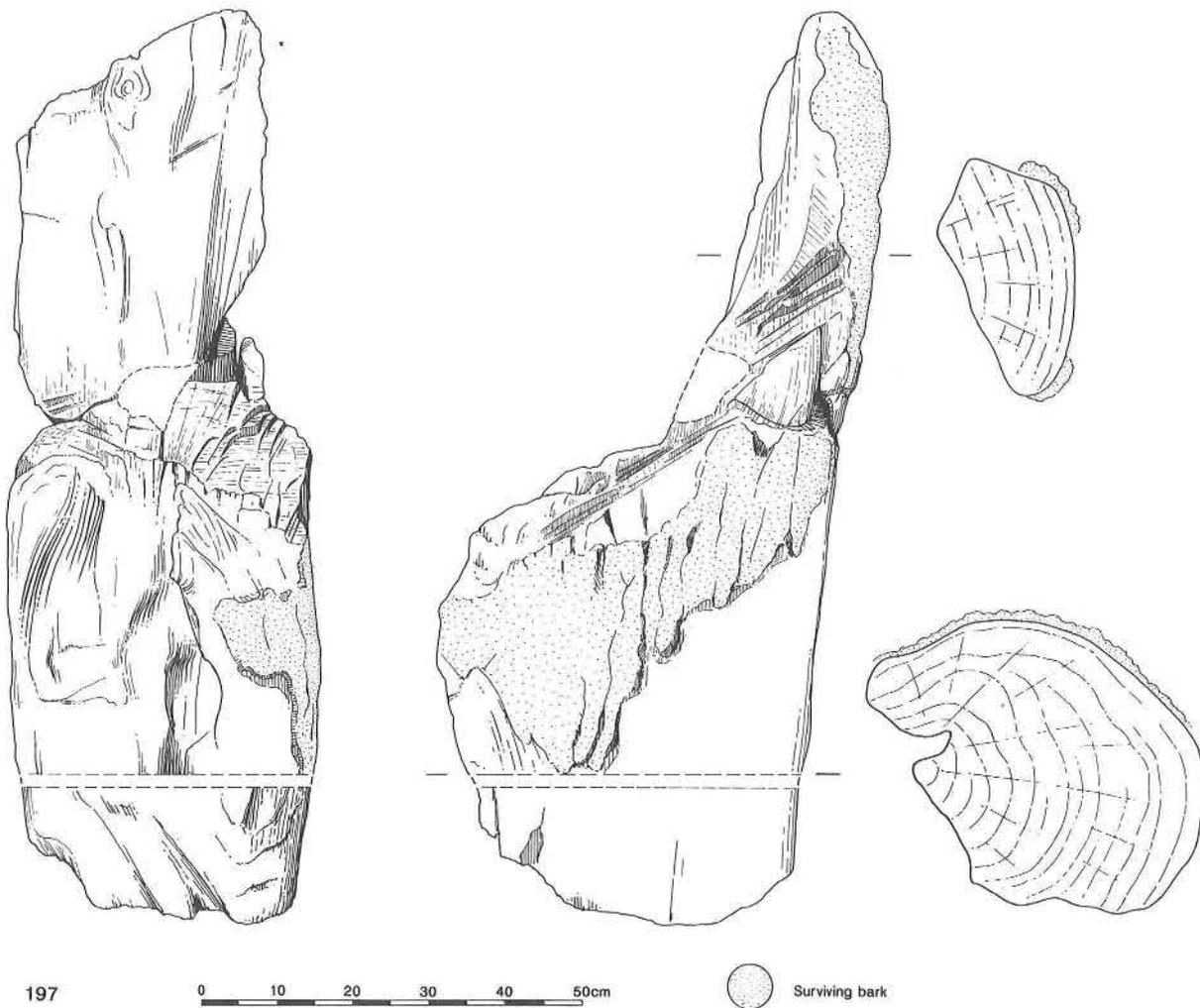


Figure 95: Ash tree-trunk 197.

This large timber is either the remains of the base of a tree after felling, in which case the lower root arrangement has been lost, or the remains of the lower end of the felled trunk. The stepped configuration is consistent with the tree having been felled by cutting a deep V-shaped notch in one side, and the tree partially splitting longitudinally when it eventually toppled over. There is no evidence for a smaller notch on the opposing side, a technique commonly used to ensure that the tree would fall in a particular direction.

There is a substantial body of environmental evidence (p.256 and p.258) to indicate that an ash tree had stood very close to Pit 835. There is no reason to assume that the excavated section 197 was not the remains of part of that tree which, when eventually felled, was dumped or deposited in the pit. Numerous ash wood chips, either from the felling or subsequent conversion or trimming, were also found in the fill of the pit (p.261).

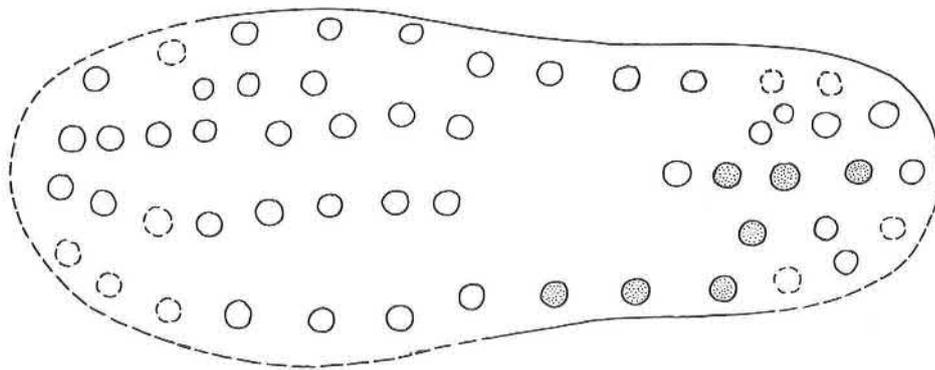
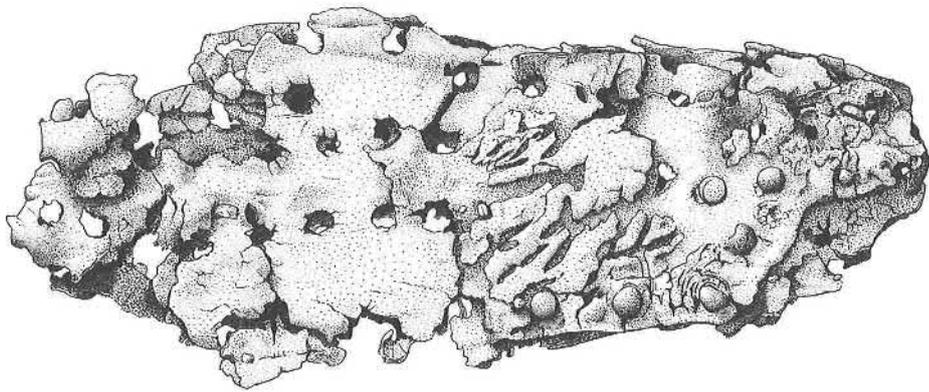
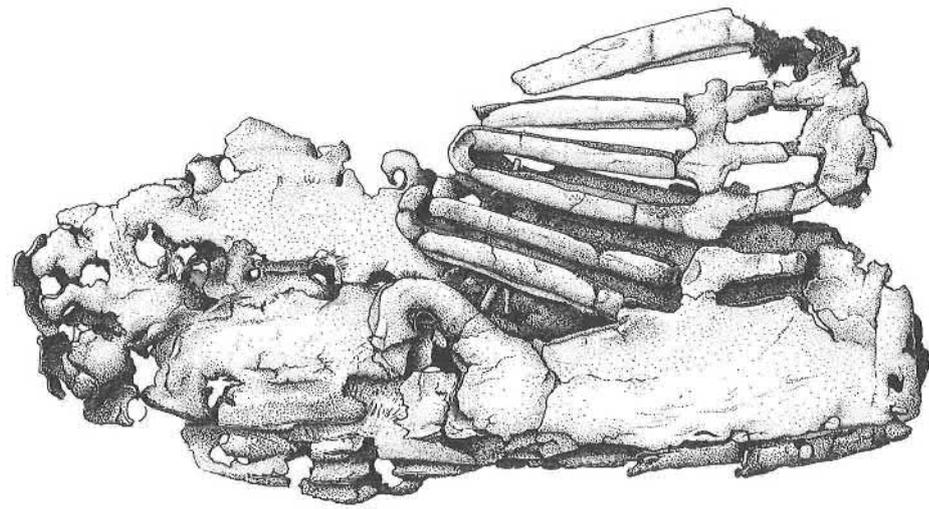
LEATHER SHOES (Figs 96–97)

June Swann

All the leather, with the exception of two of the thongs on 198, appears to be cattle-hide, made up grain out.

198 Part of 'caliga' style sandal boot, man's size. Present length 240 mm, 95 mm across tread. Sole of five or six layers, including part of the upper continued above the two lower soles. Part of a 2 mm thong (of ?gut) holds the layers together near the centre, but it was not possible to trace it further. Toe incomplete, but it may be for a right foot, although little shaped. Sole layers rivetted together with probably a single row round the edge, with two rows in centre of forepart, with a short row (?3) each side at the joint; also five nails in a cross design at the seat. Some nails are still *in situ*, while those detached have the curved shank of rivets knocked in against an iron last. Heads vary from 7–10 mm diameter, while those uncorroded are of the circular-with-shoulder type (Rhodes 1980, fig. 60). Upper remains consist of a left backpart, about 145 mm long, with solid golosh at the bottom 17 mm high at the waist, rising to 35 mm towards the back seam. There is about 15 mm wide solid section adjacent to the back seam, with semi-circular curves at the cut-outs. There are remains of a 2 mm thong for the back seam, now incomplete. Present height of leg about 100 mm. The rest of the leg is cut into horizontal sandalled loops with one vertical triangular loop (and broken fragments of a second) at the waist, for centre front lacing.

There are finer stitch holes, at 7 mm length, near the heel bottom edge on the inside, which may be part of the lasting margin, or for attaching a low stiffener, though the remain-



Surviving nails ●

198 0 5 10cm

Figure 96: Leather caliga style sandal boot 198, scale 1:2.

ing leather shows no impression for the latter. The surviving design is consistent with a second-century date, and would have formed a comparatively sturdy boot for country wear.

5297/783; fill of waterlogged Pit 835: 3rd cent.

- Ni Fragments of shoe sole (and ?part upper). Neither original width length, nor number of layers can now be determined. Drawing before conservation measures 162 mm × 87 mm. One fragment of thong remains to indicate thonging together of the sole layers. The two larger pieces of one of the sole layers has quite close nailing at 10–12 mm spacing. One large-headed (10 mm) hobnail remains *in situ* and two more complete examples (9 and 11 mm) have the bent shank of rivets.

Of a possible upper, there is only one partly delaminated fragment, with large stitch or thong holes with centres at 7 mm.

5256/911; fill of waterlogged Pit 835: 3rd cent.

- 199 Heel seat and part waist of sole unit, consisting of at least three layers. There is a line of thonging, 3 mm wide, up the centre, with impressions of a fork into two about 40 mm from the seat end. There is thicker reinforcement round the edges, and holes (now in random pattern, indicating possible repairs) suggest that the sole was originally also riveted around the edge, with at least one hole towards the centre waist. The narrowness (30 mm) of the seat suggests it may be from a child's shoe. The curved section drawn before conservation, now detached and set vertically, shows no indication of being part of an upper unless of moccasin construction sandalled between two sole layers, which if so, with the overall length now *c.*150 mm, would certainly be for a child.

5370/930; fill of waterlogged Pit 835: 3rd cent.

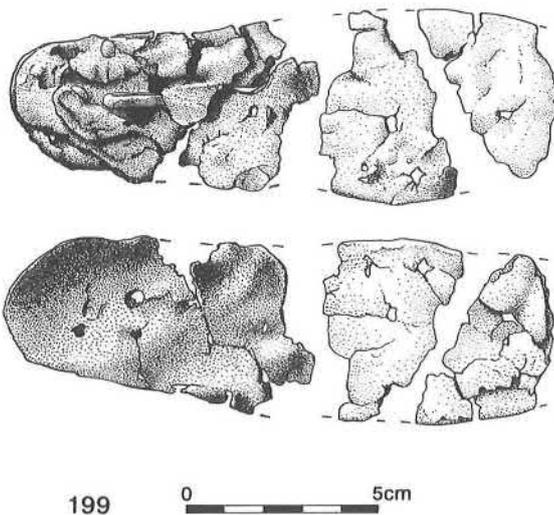


Figure 97: Leather child's shoe 199, scale 1:2.

- Ni Two fragments: (i) with parts of three holes, as made by shoe hobnails. (ii) with one similar hole.

5365/873; fill of waterlogged Pit 835: 3rd cent.

WORKED STONE (Fig. 98)

Tora Hylton

Fourteen worked stone objects were found during the excavations at Wavendon Gate. With the exception of the jet bead 204, these items can be divided into two groups; quernstones and sharpening stones. Identification of the rock types was made possible with the help of John Watson, of the Department of Earth Sciences, Open University, Milton Keynes.

Quernstones

200 Upper stone, Hertfordshire puddingstone. Worn surface. Max. depth 98 mm, dia. 240 mm.

5307/500; unstratified.

201 Upper stone, Hertfordshire puddingstone. Grinding surface broken away. Max. depth 126 mm, dia. 280 mm.

5352/500; unstratified.

Ni Fragment of Hertfordshire puddingstone. Smooth grinding surface. Max. depth 64 mm.

5080/149; Ditch 475, Enclosure 33: late 3rd – 4th cent.

Ni Upper stone, millstone grit. Smooth grinding surface. Max. depth 74 mm.

5078/229; Pit 142: 1st – 4th cent.

Ni Upper stone, millstone grit, from Derbyshire or Staffordshire. Max. depth 47 mm.

5409/651; Ditch 579: late 3rd – 4th cent.

Ni Fragment of coarse millstone grit, made up of sedimented immature quartz grains. From Pennines, Derbyshire. Depth 70 mm.

5411/911; upper layer of Pit 835: 3rd- 4th cent.

Ni Lower stone, coarse variety of millstone grit, probably originating in the Pennines. Smoothed surface showing no evidence of grooves. Depth 47 mm.

5412/500; unstratified.

Ni Lower stone, coarse millstone grit type conglomerate. Wedge-shaped section, smooth surface. Max. depth 74 mm.

5413/500; unstratified.

Ni Upper stone, variety of millstone grit containing fragments of black chert. Worn surface, no evidence of grooving. Max. depth 73 mm.

5168/877; Ditch 588: 1st cent.

Ni Upper stone, quartz-rich gritstone, originating in Derbyshire. Smooth grinding surface, upper surface showing evidence of a large central recess. Max. depth 55 mm.

5169/490; Ditch 406: late 2nd – early 3rd cent.

Sharpening Stones

202 Whetstone. Fine grain micaceous sandstone. Length 84 mm, width 24 mm, depth 12 mm.

5366/960; Stone spread 832: 3rd – 4th cent.

203 Large piece of micaceous grit stone, used as a sharpening block. Incised grooves very much in evidence on one corner and polished area on one side.

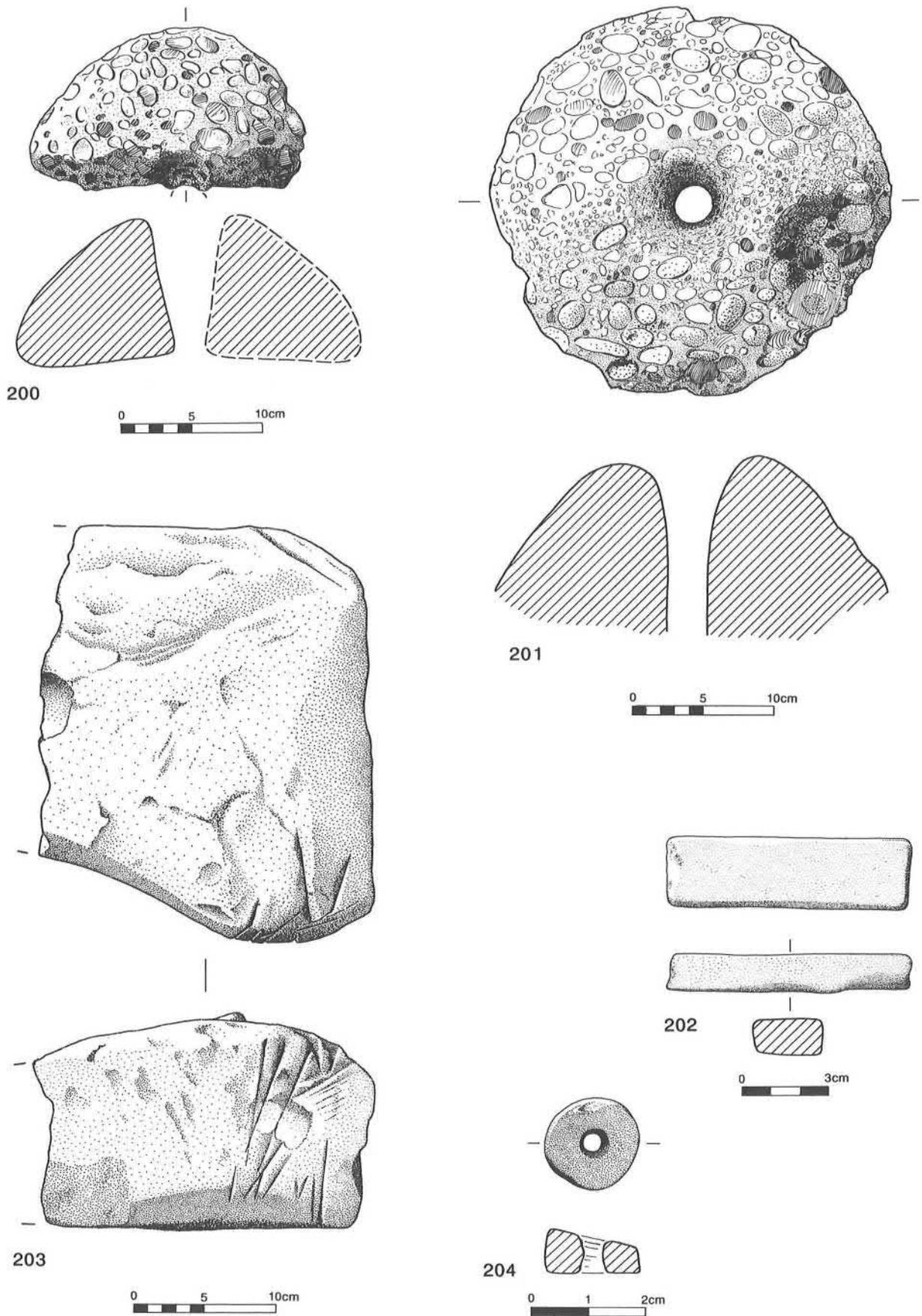


Figure 98: Quernstones 200–201, scale 1:1; whetstone 202, scale 1:2; sharpening stone 203, scale 1:2; jet bead 204, scale 1:1.

5414/908; upper fill of Pit 835: 3rd – 4th cent.

Ni Two fragments of basalt (from Leicestershire). Burnt and worn possibly used for sharpening implements.

5410/1112; Ditch 475, Enclosure 33: late 3rd – 4th cent.

Bead

204 Jet bead. Sub-circular with trapezoidal section. The central perforation which has been drilled from both sides leaving concentric grooves on the inner surface. Dia. 16 mm, height 4.5–8.5 mm.

5251/679; Unstratified.

Of the fourteen stone objects, quernstone fragments predominated, these having been made from two sedimentary rock types; Hertfordshire puddingstone and gritstone. The former is a conglomerate of flint pebbles of varying sizes in a siliceous matrix. Three examples were found of which only one fragment was stratified in the fill of the late Roman Enclosure 33. Seven examples of the latter produced a diverse assemblage of gritstone types, each with differing components. Gritstone is a term usually applied to sandstones with coarse, angular grains that cut with a ragged fracture. Millstone grit is not local, and taking into consideration the number of examples, it is unlikely that they all derived from erratics. An active trade must therefore be considered, the nearest source being the Pennines, Derbyshire and Staffordshire. Here millstone grit was actively quarried, and with the accessibility of Watling Street trade would have been relatively easy. Other sites in the area have also showed a predominance of these two quern types.

The sharpening stones were of differing rock types, all possibly erratics with the exception of the whetstone. This was a metamorphosed siltstone, of fine quality, which would produce a good finish. Not being typical of this area, there is a strong possibility that it was traded some distance.

WORKED FLINT

R. J. Williams

Only four worked flints were recovered during both the trial trenching operations and the excavation, despite an intensive wet-sieving programme during the latter. The only tool was a small unstratified discoidal scraper made

from a broad flake with steep retouching at the distal end. One complete, one broken and one retouched blade were found in the fills of Roman Ditches 516 and 456 and Iron Age Ditch 1600 respectively. The blade from Ditch 1600 was heavily retouched down both edges and may have been used as a simple knife. The retouched and the broken blade were made from a honey-coloured flint, whereas the other blade and the scraper were made in the locally more common grey flint. None showed any significant degree of patination.

This dearth of worked flints and the total absence of any features earlier than the early Iron Age Pit 1251 (p.11) clearly suggests that little, if any, pre-Iron Age activity occurred in the immediate area of the site. This is in direct contrast to at least three of the other Iron Age sites elsewhere in Milton Keynes at Pennyland and Hartigans (Williams 1993) and Bancroft (Williams and Zeepvat 1994), all of which produced large quantities of debitage and a number of tools indicative of earlier phases of activity.

SLAG

Gerry McDonnell

Authors Note: With the exception of over 23 kg recovered from Context 1846, to the north of the late Iron Age Enclosures 1986 and 1999, slag was virtually non-existent on the site. Only seven other contexts of late Iron Age and Roman date produced insignificant amounts. This comparative absence is supported by the results of the wet-sieving programme which failed to identify any further slag deposits.

The slag recovered from Context 1846 (p.23) was smelting slag. The slag had a high apparent density, ie. it was not heavily vesicular, and had some flowed, almost ropy surfaces. It lacked the classic ropy upper surface of tap slag, and therefore had not achieved free-running viscosity.

A second feature, Context 1843 (p.23), associated with 1846 has been proposed as the furnace base. However, it is difficult to identify such structures, since most of a furnace is a superstructure above ground. The survival of recognisable furnace structures is not common, and most interpretations rely on the correct identification of the slag.

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THE POTTERY

IRON AGE POTTERY (Figs 99–101)

Sheila M. Elsdon

This report deals with the Iron Age pottery from the northern part of the site (Area C) and from a separate earlier pit (1251), in the western part of Area B. The total assemblage is not large, consisting of 10.346 kg from Area C, 870 g from Pit 1251 and 2.133 kg of unstratified material and residual sherds in Roman features. There are few complete profiles, and many of the groups have clearly suffered from problems of disturbance and later re-deposition. A further problem is the probable continuance of earlier vessel forms into the later phase, a common occurrence on rural sites of this period. The exception is the material from Pit 1251 (p.11). This pottery is of early Iron Age date, and thus distinct from all the rest. It seems to be a discrete and relatively undisturbed group, as the individual sherds are large and there is one almost complete pot. It could all have been deposited at the same time.

Close examination of the pottery (with the exception of that from Pit 1251) suggests that it falls into two distinct groups, Belgic and pre-Belgic. The pre-Belgic group, **PHASE 1A**, embraces the oval Enclosure 1984 and the seven Roundhouses (1606, 1613, 1645, 1729, 1739, 1740, and 1763). There is a proviso that Enclosure 1984 and by inference Ditches 1389 and 1409 could be earlier features, but there is very little pottery to use as evidence; just one large handled jar (10).

An intermediate group, **PHASE 1B**, is suggested by the relatively large group of pottery from Enclosures 1986 and Enclosure 1987 and a number of pits including 1366, 1667 and 1939. The pottery is mainly pre-Belgic, as in Phase 1A, but two Belgic forms appear.

Both the pottery and the stratigraphic evidence confirms that the sequence of enclosures consisting of Enclosure 1999 and Ditch 1383 and the more tentative Enclosure 1985 are of a later Belgic period, **PHASE 2A**, and that Enclosure 1998 representing **PHASE 2B** is the latest pre-Roman feature on the site.

Fabrics

by Yvonne Parminter

The pottery was divided into seventeen different fabrics. These were based on those used in the Iron Age pottery report for Bancroft (Knight 1994, 383), although at Bancroft the fabrics were further subdivided into five groups. The fabric descriptions are as follows.

- 901 Shell-tempered fabric with soft surfaces and abundant angular and sub-rounded shell inclusions ranging up to 1.5 mm throughout the fabric, together with sparse sub-angular quartz and traces of shelly limestones.
- 902 Smooth soft-surfaced fabric, generally dark grey in colour but can be buff. In section the fabric shows moderate amounts of visible shell, both rounded and angular, as well as a similar pattern of quartz; a small percentage of rounded grog and a scatter of feldspar, iron oxide and mudstone.
- 910 A soft-surfaced fabric containing sparse angular flint, considerable quartz and traces of mica, feldspar and red iron. In section the fracture has a laminated appearance.
- 913 Thick heavy fabric with soft surfaces, grey in colour and used for larger vessels. The core shows moderate shell and shelly limestone inclusions with some quartz, quartzite and an occasional flint fragment.
- 918 A hard loose-textured coarse fabric containing visible black rounded clay lumps, with iron oxide, feldspar and mica in a basic shell and sandy mix.
- 919/922 A fabric with red-brown surfaces and black-grey core, mostly sandy with some shell and limestone inclusions, together with traces of mica and feldspar.
- 925 Grey-black fabric throughout, hard and well made with burnished exterior. The core shows a mixture of fairly coarse and irregular quartz particles and larger angular amorphous inclusions.
- 926 A soft fabric with leathery partially oxidised surfaces, reddish-brown or brown in colour. The section shows laminated layers of large angular particles of grog or mudstone and smaller quartz.
- 927 Harsh black-grey fabric with abundant fine and coarse flint inclusions visible throughout the uneven fracture and on the surfaces. The flint is very angular and varies in size from very fine to pieces up to 2 mm.
- 928 Sandy fabric, harsh to touch, loose and poorly made with oxidised surfaces and grey core. The section shows very fine fossil shell throughout with large (5 mm) lumps of a soft red conglomerate visible in an uneven fracture.
- 929 Very hard sandy fabric with partially oxidised surfaces, some quartz in the section, degraded shell and larger flint pieces, also some rounded pebbly inclusions (2 mm).
- 930 Black-grey fabric with finely burnished surfaces hard and well made, fairly dense section with quartz pieces, specks of shell and carbonized remains of organic material.
- 931 Fine mid-grey sandy fabric with a core showing mixed, well sorted fine quartz throughout with some traces of shell, mica flecks and smudgy carbonized remains of organic material, generally grey-black with buff margins on both surfaces.
- 932 Buff-red surfaces with laminated appearance in a smooth dense core, some small quartz and linear carbonized material.

- 933 Crude coarse mid-grey fabric, harsh and sandy to touch with visible soft red iron inclusions (5 mm) and a scatter of larger rounded shell pieces but the whole core shows fine fossil shell with many linear pieces (2 mm).
- 934 Smooth micaceous sandy fabric with reddish-brown surfaces and a mid-grey core, all the inclusions are fine evenly sized quartz grains with an occasional larger linear shell piece.
- 935 Sandy buff-red fabric, one colour throughout, with a linear mix in the core of cream and red swirls, some smudgy red iron and specks of shell.

Early Iron Age

Pit 1251

This is a distinct assemblage. The main fabric, making up 60% of the total in the pit is one with profuse, fine crushed, shell filler. One type is dark grey with a burnished finish and the other has buff to light brown surfaces and a grey core. It is visibly different from the other Iron Age fabrics in the main assemblage, but could be related to Fabrics 933 or 901. The remainder of the pottery had been made in Fabrics 925 (20%), 927 (10%) and 932 (10%).

This group belongs to an earlier phase of activity on the site than the main assemblage, and can be loosely designated as early Iron Age. The local parallels are with pottery from Bradwell Abbey Barn (Niblett 1974, fig. 4.1-7) and Bancroft (Knight 1994, 388). Further afield in Buckinghamshire there are affinities with Ivinghoe Beacon (Cotton and Frere 1968) and Pitstone Hill (Waugh 1968). In the Upper Thames Valley there are similarities to pottery from Long Wittenham, Standlake and Kirklington (Harding 1972). These pots fall within Harding's (1972) 'angular ceramic' phase which is contemporary with continental early La Tène, fifth to third centuries BC, but hard to date with accuracy. The important point for this small pit group is that it represents a distinct and earlier phase than the rest of the Iron Age pottery which is fairly late.

Catalogue (Fig. 99)

- 1 Fab 933/901: Open bowl with rounded profile. There are parallels at Ivinghoe Beacon and Pitstone Hill (Cotton and Frere 1968; Waugh 1968). The bowl is not as angular as those from Long Wittenham in the Upper Thames Valley (Harding 1972, pl. 50), but it is in the same tradition.
- 2 Fab 933/901: Two non-joining sherds in a very fine, dark grey fabric with profuse fine crushed shell. The surface is smoothed to burnished. There are short wide vertical grooves on the almost angular shoulder. This vessel is closer to the Chinnor pottery.
- 3,4 and 5 Fab 933/901: Sherds from similar vessels to 2, but in a buff, non-burnished fabric.
- 6 Fab 927: Jar with finger-nail decoration on the rim and flat base. Dark grey fabric with profuse, fine crushed shell filler. This is nearer to the Ivinghoe Beacon pottery.
- 7 Fab 933/901: Rim sherd of jar with shallow bead. Buff coloured, shelly fabric.
- 8 Fab 925: Several sherds of large jar with finger impressions on the shoulder. Many parallels in the Upper Thames Valley, eg. Standlake and Kirklington (Harding 1972, pls 47 and 48).
- 9 Fab 925: Jar with rounded base like those at Hunsbury (Fell 1936, fig. 9.CP5). Rounded bases of this type are also found at Bancroft (Knight 1994) on concertina type bowls.

Pre-Belgic: Phase 1A

Slack and rounded forms predominate and all vessels are hand-made.

Enclosure 1984

There is very little pottery, probably all from one handled jar (10) made in Fabric 913. The handles are separately made and fixed by means of a plug into the body of the pot.

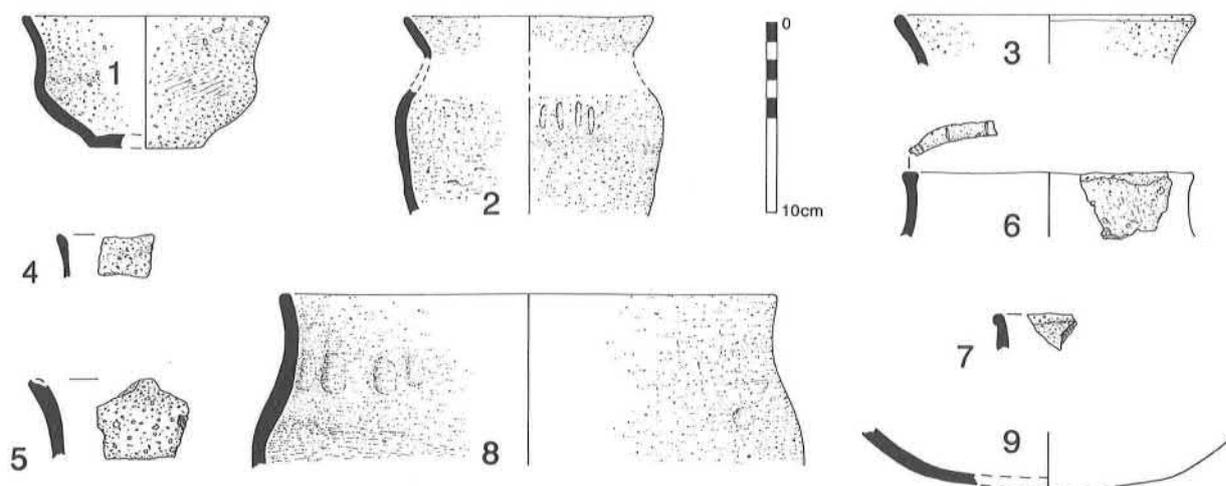


Figure 99: Early Iron Age pottery 1-9, from Pit 1251, scale 1:4.

The Roundhouses

This group consists of seven broadly contemporary circular structures of the same phase or a little later than Enclosure 1884. The main diagnostic pieces from each group have been listed.

Roundhouses 1606 and 1613

Hand-made slack-shouldered jars, some with finger impressions on the rim (**11** and **13**); Fabric 926.

Coarse ware sherds with vertical finger smoothing; Fabrics 913 and 926.

Globular bowls with embryonic bead rims; Fabric 925.

Rounded out-turned rims; Fabrics 925 and 926.

Fabric 913 is predominant.

Roundhouse 1645

Body sherds from rounded forms and crude base (**21**); Fabric 919.

Fabric 913 is predominant.

Roundhouse 1729

Hand-made, rounded, thick-walled jars with upright or in-turned rims (**14** and **16**); Fabrics 930 and 932.

Slack-shouldered jars with rounded rims similar to **11**; Fabrics 926 and 932.

Bead rim jar with groove (**15**); Fabric 925.

Fabric 926 is predominant.

Roundhouses 1739 and 1740

Hand-made, thick-walled, ovoid jars similar to **14**; Fabric 919.

Slack-shouldered jars with rounded, slightly out-turned rims similar to **11** (some have cabled rims, **12**); Fabric 919

Jar with perforated base; three or more perforations (**17**); Fabric 930.

Fine, thin jar with everted rim and rounded body (**18**); Fabric 932.

Roundhouse 1763

Ovoid jar with out-turned rim similar to **16**; Fabric 926.

Slack-shouldered jar similar to **11**, with finger impressions on the rim; Fabric 932.

Base of jar of rounded form (**20**); Fabric 919.

Fabric 926 is predominant.

Catalogue (Fig. 100)

- 10 Fab 913: Separately made handle with plug and body sherd
Enclosure 1984; layer 1964.

- 11 Fab 926: Slack-shouldered jar with diagonal striations on the body.

Roundhouse 1613; layer 1710.

- 12 Fab 926: Slack-shouldered jar with finger impressions on rim.

Roundhouse 1740; layer 1869.

- 13 Fab 926: Slack-shouldered jar with widely spaced finger impressions on rim and vertical smoothing marks on body.

Roundhouse 1606; layers 1611/1609.

- 14 Fab 930: Thick-walled globular jar.

Roundhouse 1729; layer 1733.

- 15 Fab 925: Rounded jar with groove in rim.

Roundhouse 1729; layer 1902.

- 16 Fab 932: Rounded jar with upright rim.

Roundhouse 1729; layer 1735.

- 17 Fab 930: Perforated flat base with three holes.

Roundhouse 1739; layer 1835.

- 18 Fab 932: Jar with flattened out-turned rim.

Roundhouses 1739/1740; layer 1894.

- 19 Fab 932: Rim sherd, either upright or everted.

Roundhouse 1740; layer 1876.

- 20 Fab 919: Base of jar with rounded profile.

Roundhouse 1740; layer 1791.

- 21 Fab 919: Base of jar with marked finger indentations.

Roundhouse 1645; layer 248.

Pre-Belgic: Phase 1B

Enclosures 1986, 1987 and Associated Pits

This is the largest group of pottery and it is probably a little earlier in date than the groups from Enclosures 1985 and 1999. Ovoid jars (similar to **14**) and rounded jars with everted rims (similar to **18**) are well represented, but other styles (**26–29**) start to appear. All the pottery is hand-made.

The main forms in this group are as follows:

Plain, thick-walled ovoid jars similar to **14**; Fabric 934.

Everted rim jar with rounded shoulders similar to **18**; Fabrics 926 and 930.

Jar with slack profile and embryonic bead rim (**22**); Fabric 926.

Ovoid jar with finger-nail impressions on the rim (**23**); Fabric 913.

Base of rounded jar (**24**); Fabric 932.

Splayed base of rounded jar (**25**); Fabric 902.

Several sherds with scoring; deep, shallow and criss-cross; Fabrics 913 and 919.

But also present are:

Base of a jar with regular combing (**26**); Fabric 925.

Open bowls as represented by **27**; Fabric 901.



Figure 100: Pre-Belgic pottery 10–30, Phases 1a and 1b, scale 1:4.

Rounded jars or bowls of 'Belgic' type (28 and 29); Fabrics 925 and 902.

These last three forms represent the later pottery types which start to appear in this group of ditches. The proportions of the various fabrics are different from those in Phase 1A as Fabric 919 predominates.

Catalogue (Fig. 100)

22 Fab 926: Jar with slack profile and embryonic bead rim.
Unstratified.

- 23 Fab 913: Ovoid jar with finger-nail impressions on the rim.
Pit 1667; layer 56.
- 24 Fab 932: Base of rounded jar.
Pit 1366; layer 1369.
- 25 Fab 902: Splayed base of rounded jar.
Pit 1366; layer 1369.
- 26 Fab 925: Base of jar with regular combing.
Ditch 1348; layer 1407.
- 27 Fab 901: Open bowl.
Ditch 1348; layer 1407.

- 28 Fab 930: Open bowl with groove on rim and wide perforation or deep finger impression.
Unstratified.
- 29 Fab 902: Rounded 'Belgic' type jar with everted rim.
Pit 1939; layer 1941.
- 30 Fab 925: Rounded jar with everted rim.
Ditch 1132; residual sherd in layer 1135.

Belgic: Phase 2A

Enclosures 1985 and 1999 and Ditch 1383

The large rounded jars and slack-shouldered forms of the earlier phase are poorly represented in these groups and can be assumed to be re-deposited during the disturbance caused by the construction of the new enclosures. Late Iron Age forms predominate in these three pottery groups, and some pottery is wheel-made.

The main forms in these groups are as follows:

A few ovoid and rounded jars similar to **16** and **18**; Fabric 932.

Small necked jars and bowls (**31–33**); Fabrics 925 and 930.

Large storage jars (**35**), some decorated with finger-nail impressions on the shoulder and regular scoring below (**34**); Fabric 925.

Large jars with regular shoulder cordons; Fabrics 925 and 930, probably wheel-made.

Large rolled rim storage jars; Fabric 926.

Globular cordoned jars similar to those from Saffron Gardens, Bletchley (Waugh 1974, fig. 10, 102); Fabric 926, wheel-made.

Jars and bowls with slashed rims (**36** and **37**); Fabric 925.
Foot-ring bases (**38**); Fabrics 925 and 926.
Open bowls similar to **27**; Fabric 926.
Platters (**39** and **40**); Fabrics 930 and 932.
Globular bowls with bead rims(**41**); Fabric 925.
Grooved chevron ? decoration; Fabric 926.
Sherds with regular combing; Fabrics 913 and 926.
The predominant fabrics in these three pottery groups are 925 and 926.

Catalogue (Fig. 101)

- 31 Fab 930: Rim of small necked jar.
Enclosure 1999; layer 1708.
- 32 Fab 930: Rim sherd of necked jar.
Enclosure 1999; layer 1602.
- 33 Fab 925: Necked jar.
Residual sherd in Ditch 533; layer 826.
- 34 Fab 925: Sherd of large jar with finger-nail impressions on shoulder above regular scoring.
Enclosure 1999; layer 107.
- 35 Fab 925: Body sherd of large jar with incised arc decoration on shoulder above regular curved combing.
Unstratified.
- 36 Fab 925: Sharply everted rim sherd with regular finger-nail impressions, probably wheel-made.
Ditch 1383; layer 1699.
- 37 Fab 925: Rim sherd of large globular jar with finger-nail impressions on the outside, probably wheel-made.
Enclosure 1999; layer 107.

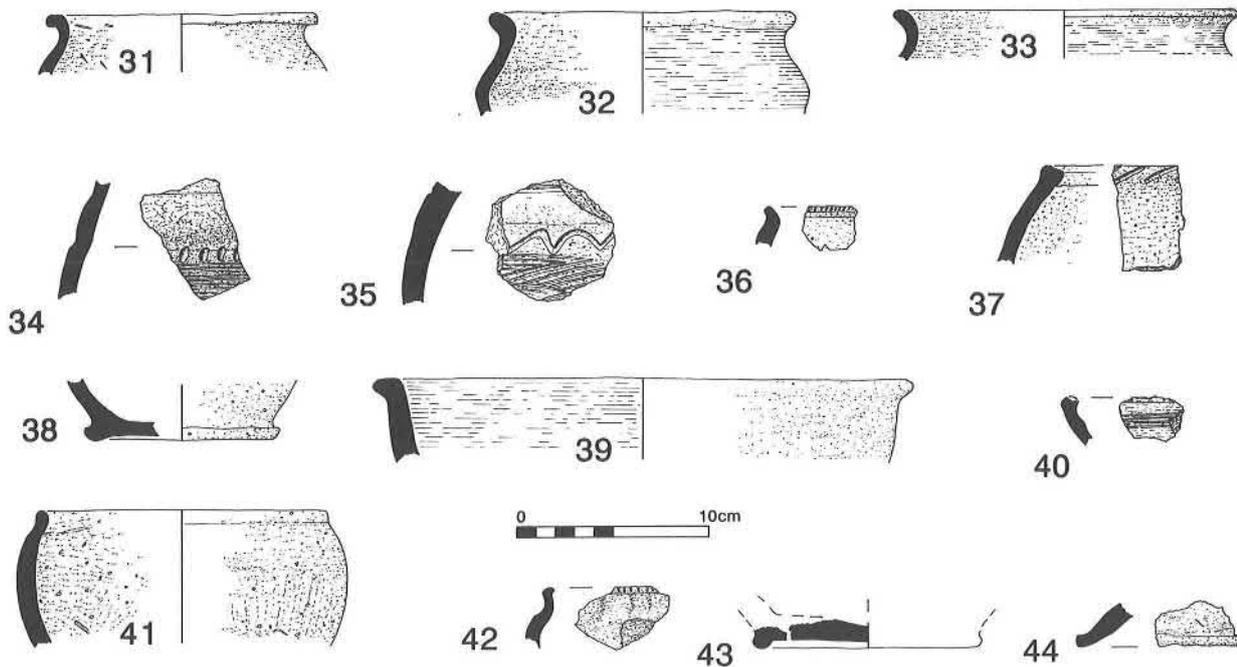


Figure 101: 'Belgic' pottery 31–44, Phases 2a and 2b, scale 1:4.

38 Fab 926: Foot-ring base.

Unstratified.

39 Fab 930: Rim sherd of wheel-made platter.

Enclosure 1985; layer 1305.

Three similar sherds were found in layers 1718, 107 and 1334 of Pit 1714, Ditch 1612 and Ditch 1306 (Enclosure 1985) respectively.

40 Fab 930: Rim sherd of wheel-made platter.

Enclosure 1985; layer 1347.

41 Fab 925: Globular bowl with bead rim.

Enclosure 1999; layer 1694.

Belgic: Phase 2B

Enclosure 1998

In this small group of pottery there are two sherds of grog-tempered ware one of which is part of a wheel-made foot-ring jar (43). The grog-tempered fabric has a hard red surface with a grey core and is unlike any of the other Iron Age fabrics, but is closer to Marney's (1989, 190) Fabric 46. There are also straight-sided flanged bowls similar to 39. Some sherds have regular scoring. But there is also one hand-made jar with finger-nail decoration on the rim (42) and two slack-shouldered jars similar to 16 and one handle similar to 10. These last can safely be regarded as redeposited in this Late Iron Age assemblage, which clearly represents the final phase of the site.

A lid made in Fabric 930 (44) dating to this phase was found unstratified.

Catalogue (Fig. 101)

42 Fab 913: Rim sherd of hand-made rounded jar with finger nail decoration on the rim.

Enclosure 1998; layer 1637.

43 Fab 46 (Marney 1989): Sherd of wheel-made foot-ring jar.

Enclosure 1998; layer 1694.

44 Fab 930: Lid.

Unstratified

Discussion

Fabrics

Table 11 sets out details of fabrics by group and phase. A general analysis based on the details given in the table shows that in each of the four phases the main fabrics were as follows:

Phase 1A Fabrics 926 (25%), 930 (18%), 913 (17%) and 919 (17%).

Phase 1B Fabrics 919 (27%), 926 (16%), 902, 925, 932 (11% each) and 934 (9%).

Phase 2A Fabrics 925 (32%), 926 (36%), 930 (8%) and 919(7%).

Phase 2B Fabric 925 (81%), all other fabrics are negligible.

Thus Fabric 925 seems to be the latest on the site.

The range of fabrics compares closely with North Furzton (Knight, forthcoming) and Bancroft (Knight 1994). At the time of writing work on these sites was still in progress, and it will be interesting to see if similar trends emerge.

Forms

The following is a summary of the principal vessel types in use during the late Iron Age phases at Wavendon Gate.

Phase 1

Large ovoid jars with handles. The handles are separately made with a core which is plugged into the side of the vessel (10). There is a similar jar from Leckhamstead (Waugh 1974, fig. 11.16) and there are handles of the same type from Sherington and Tyringham (Waugh 1974, 390). The Leckhamstead jar has been reconstructed on analogy with the large handled jars from the Hunsbury Hill Fort (Fell 1936, fig. 7.L.7,L.3.)

Slack-shouldered jars with slightly everted rim and with or without finger impressions/cabbling on rim. Oblique or vertical striations on body (11, 13, 16 and 23). This is a type of jar which seems to be wide spread in the area and there are examples (Waugh 1974, fig. 11.9 and 15) illustrated from Gayhurst and Leckhamstead. This is the most frequent form at Wavendon and the surfaces are either smoothed or burnished.

Rounded jars with tapered with slightly everted rims (15) similar to those from Ivinghoe Beacon (Cotton and Frere 1968, fig. 18.75) and Aldwick, Barley (Cra'ster 1961, eg. fig. 8.5).

Globular jars (14). This example is similar to a jar from Hunsbury (Fell 1936, fig. 8.LC 5) and there are globular jars of the same general type from Wilbury Hill (Applebaum 1949, eg. fig. 9.29) and Aldwick, Barley (Cra'ster 1961, eg. fig. 8.76). Plain barrel jars are also found in the Upper Thames Valley at Frilford (Harding 1972, pl. 60.B etc.)

Jars with perforated bases (17). At Hunsbury there are twelve or more examples, mostly with one or three holes. The illustrated example (Fell 1936, fig. 11.B3) is an exception.

Rounded jars with shallow bead rims (22).

Rounded bowls with short necks (18, 20 and 25). Similar jars are found at Tyringham (Waugh 1974, fig. 11.10). These can also be paralleled at Hunsbury, Breedon on the Hill and Frilford (*ibid.*, 389).

All these forms can be paralleled in mid and north Buckinghamshire sites such as Tyringham, Sherington, Gayhurst and Leckhamstead and also at Hunsbury in

Fabric Enc.	PHASE 1A						PHASE 1A Total	PHASE 1B Total	PHASE 2A Total	PHASE 2B Total	Total per fabric	%
	Rh. 1984	Rh. 1613	Rh. 1729	Rh. 1739/40	Rh. 1763	Rh. 1645						
901	-	-	-	-	5	-	15(1)	65(3)	-	-	85	1
902	-	50	-	5	10	10	85(3)	210(11)	75(3)	-	360	4
910	-	-	-	10	-	-	10(-)	-	-	-	10	-
913	125	235	-	25	-	135	520(17)	35(2)	115(5)	130(6)	800	8
918	-	-	-	-	-	-	-	-	5(-)	-	5	-
919	-	25	30	325	50	80	510(17)	525(27)	160(7)	105(5)	1280	13
925	-	85	45	25	-	-	155(5)	220(11)	760(32)	1861(81)	2996	31
926	30	126	310	110	195	-	771(25)	296(15)	838(35)	160(7)	2056	21
927	-	-	-	-	-	-	-	30(2)	10(-)	-	40	-
928	-	-	-	-	-	-	-	3(-)	25(1)	-	25	-
929	-	10	-	290	15	-	315(10)	50(3)	25(1)	35(1)	425	4
930	-	25	75	370	75	-	545(18)	130(7)	190(8)	10(-)	875	9
931	-	-	-	-	-	-	-	-	56(2)	-	50	-
932	-	25	-	35	50	20	130(4)	220(11)	80(3)	-	430	4
933	-	-	-	-	-	-	-	63(2)	10(-)	-	40	-
934	-	-	-	30	-	-	30(1)	170(9)	-	-	200	4
935	-	-	-	-	5	-	5(-)	-	-	-	5	-
TOTAL	155	581	460	1225	400	250	3071	1925	2405	2301	9702	
% for phases							31	20	25	24	-	

All weights in grammes.

Figures in brackets show percentage of each fabric represented in each phase.

TABLE 11: Quantity and percentage of fabrics from each main phase, and total for the site.

Northants. This type of pre-Belgic, hand-made pottery is almost impossible to date precisely without more information from large excavated assemblages. Hand-made pots do continue into the Belgic period, but this group is pre-Belgic, probably dating to around the mid first century BC. or a little later.

Intermediate Phase 1B

Small, rounded, hand-made bowl (29). This is a new form which is possibly inspired by wheel-made Belgic pottery seen in nearby markets. Bead rims, regular vertical combing and open bowls also appear (26 and 27).

Phase 2

Necked jars (31 and 32). Similar vessels appear at Saffron Gardens (Waugh 1974, fig. 5.37 etc.).

Large storage jars (34), finger decoration on shoulder and regular combing below. Similar jars found at Saffron Gardens (Waugh 1974, eg. fig. 6.50) and Baldock, Herts. (Stead and Rigby 1986, fig. 111.98). First century AD.

Globular jars with cabling on rim (37). Similar examples at Baldock (*ibid.* fig. 116.142). Early to mid first century AD.

Everted rim jars with cabling (36). Similar to examples at Baldock (Stead and Rigby 1986, eg. fig. 117.157); early to mid first century AD. This form of decoration also appears

in earlier stratified groups at Baldock, (*ibid.* eg. fig. 105.10) dating to the mid first century BC.

Platters (40). Similar examples found at Fenny Stratford (Waugh 1974 fig. 12.26).

Flanged dishes (39). Common in late Iron Age assemblages.

Conclusion

Following the detailed analysis of the various forms and fabrics the following dates may be assigned to the four phases of late Iron Age occupation recognized at Wavendon Gate

Phase 1A Mid first century BC. or a little later.

Phase 1B Intermediate.

Phase 2A Early to mid first century AD.

Phase 2B Mid first century AD.

This site has close affinities with a number of others, shortly to be published, in the immediate area. The North Furzton site (Williams, forthcoming), also principally dating to the later Iron Age, has material remains comparable to the bulk of the finds from Wavendon Gate. The Bancroft site (Williams and Zeepvat 1994) has angular vessels with flaring rims and rounded bases and vessels with dimple decoration on the shoulder both of which characteristics

were found in the early Iron Age Pit 1251. Similar pottery from Bradwell Abbey Barn is already published (Niblett 1974). The pottery from Hartigans [MK 19] (Knight 1993) is possibly somewhat earlier as there are more pots with finger decoration on the rim. The pottery from Pennyland (Knight 1993) has both rounded and angular forms with some finger decoration as well as scratched decoration but it is broadly similar to that at Hartigans, and could fall into an early Iron Age bracket. A still earlier phase is present at the Hartigans sites MK 23 and 223 (Williams 1993, 191). From MK 23 there are radiocarbon dates of 840 ± 80 bc and 840 ± 70 bc which puts it into a late Bronze Age/early Iron Age bracket.

Within the Milton Keynes area a broad sequence of settlements can now be discerned, starting with the Hartigans sites MK 23 and MK 223, dating to the first half of the first millennium BC. These are followed by Hartigans (MK 19) and Pennyland. Next come the Early Iron Age sites at Bancroft and Bradwell Abbey Barn which are closely related to Pit 1251 at Wavendon Gate. Last in the sequence are North Furzton and the main occupation at Wavendon Gate which are both later in the Iron Age.

THE ROMAN COARSE POTTERY

Yvonne Parminter

Introduction

Over 274 kg of Roman pottery (excluding samian p.196 and mortaria p.195), consisting of more than 12,000 sherds, was recovered from the trial evaluation and the excavation. Of this total over half is of Belgic type, together with significant quantities of later first and early second-century Romanised wares. Over most of the site there is a general decline from the later second to early third onwards, the exception being the waterlogged Pit 835 and Hollow 900, which contained vessels from the later first to the fourth centuries.

In the context of this pottery report the term "Belgic" has been used to define a generic style of pottery, broadly covering the middle and second half of the first century AD. This is as opposed to the use of the term in the report on the Iron Age pottery above, in which it has been used to describe the immediate pre-conquest period.

The pottery assemblage was catalogued by recording fabric, form, dimensions, weight, decoration and other relevant information on coding sheets. This information was then entered onto a computer data base (employing dBase III software) which was used to provide statistical data.

In order to maintain continuity with Pauline Marney's work (Marney 1989) on Roman pottery from other sites in Milton Keynes, the same fabric series was used. However, some new fabrics, which were recognized during cataloguing of the assemblage, have been fitted into or added to the existing numerical system. These have been summarized in

Appendix III, although no original Milton Keynes fabric descriptions have been repeated, except where new forms were identified in previously recorded fabrics. Wherever possible the Belgic vessels were assigned Isobel Thompson's form types (Thompson 1982).

The main fabrics have been presented as a percentage of the site total, by both weight and by count, in Table 12. Some fine wares and imported fabrics were too few in number to be recorded here. These have been amalgamated and appear under local and traded wares in Table 13, which compares the main wares in broad groups by sherd count.

<i>Fabric group</i>	<i>Total wt.(g)</i>	<i>Total % wt.</i>	<i>Total count</i>	<i>Total % count</i>
1	35634	13.00	1770	14.66
2	13438	4.90	760	6.29
3	9440	3.44	561	4.64
4	2820	1.02	59	0.48
5	310	0.11	14	0.11
6	1245	0.45	103	0.85
8	310	0.11	17	0.14
9	13480	4.91	1067	8.83
12	400	0.14	20	0.16
14	2116	0.77	211	1.74
15	40	0.01	4	0.03
17	560	0.20	97	0.80
18	1765	0.64	209	1.73
22	2760	1.00	17	0.14
24	1145	0.41	99	0.81
25	245	0.08	24	0.19
26	95	0.03	5	0.04
28	1625	0.59	102	0.84
32	125	0.04	34	0.28
34	275	0.10	31	0.25
35	330	0.12	53	0.43
36	105	0.03	15	0.12
37	630	0.22	41	0.33
41	1360	0.49	172	1.42
42	140	0.05	4	0.03
43	555	0.20	30	0.24
45	1105	0.40	77	0.63
46	161684	58.99	4974	41.20
47	15608	5.69	1121	9.28
54	56	0.02	6	0.04
56	135	0.04	21	0.17
57	2465	0.89	213	1.76
61	705	0.25	64	0.52
63	30	0.01	4	0.03
64	285	0.10	17	0.14
66	330	0.12	8	0.06
69	115	0.04	16	0.13
70	500	0.18	21	0.17
86	100	0.03	11	0.09
TOTAL	274.066 kg		12,072	

TABLE 12: Individual fabric groups as a percentage of the site total by weight and count.

<i>Fabric/Ware group</i>	<i>Count</i>	<i>% Total count</i>
Shell-tempered wares	1770	14.79%
Pink grogged wares	760	6.34%
Grey sandy wares	714	5.96%
Mortaria	59	0.49%
Oxford wares	215	1.79%
Imported fine wares	29	0.24%
Local terra nigra copies	2	0.01%
Black burnished wares	17	0.14%
Local black wares	1131	9.44%
Lower Nene Valley wares	140	0.30%
Upper Nene/Northants wares	314	2.62%
Verulamium wares	170	1.41%
'London' wares	18	0.15%
Northants & misc. painted wares	5	0.04%
Misc. white wares	39	0.32%
Amphorae	17	0.14%
Colchester colour coated wares	9	0.07%
Misc. oxidised wares	198	1.63%
Mica gilded wares	31	0.25%
Hadham wares	56	0.46%
Misc. sandy reduced ware (42 and 51)	10	0.08%
'Belgic' fine shelly ware (1c)	27	0.22%
'Belgic' grogged wares	5284	44.12%
Local/Caldecotte wares	1121	9.36%

TABLE 13: Comparison of the percentages of grouped local and traded wares by rim and sherd count.

This table demonstrates the predominance of Belgic grogged wares and shelly wares, followed in the later first and early second century by the local Caldecotte Kiln 2 fabrics, and subsequently by local grey and black wares. Pink grogged ware sherds, group fabric 2, were present in contexts with Nene Valley late second-century wares and continued into the third and fourth century with Hadham and Oxford oxidised vessels.

The general distribution of pottery from the major features on the site, as a percentage of their total by weight and count, is shown in Table 14. This demonstrates that Enclosure 275, its internal ditched divisions, Kiln 559 (including the dump in Enclosure 30) and Hollow 900 contained the bulk of the pottery. Perhaps surprisingly, the very large Pit 835, which was totally excavated, contained a comparatively small proportion of the total pottery recovered from the site.

A more detailed account is given of certain key groups, including the two Belgic kilns (400 and 559) and their assumable products from nearby dumping areas, the cremations, Inhumation 942, Pit 835, the pit complex, and the roundhouse ditches. Only a small selection of the pottery from these key groups is illustrated in Figs 102–112. A full descriptive catalogue of the 133 illustrated pieces appears at the end of the report. Most of the remaining pottery derived from small pits, soil spreads and enclosure ditches. The latter in particular had been subjected to frequent

<i>Feature</i>	<i>% Total weight</i>	<i>% Total count</i>
Enclosure 306 - Area A	0.96	1.11
Enclosure 307 - Area A	0.77	1.23
Corndriers 378 & 505 - Area A	0.10	0.24
Enclosure 338 - Area A	0.01	0.02
Undefined features - Area A	1.14	1.28
Enclosure 275	17.54	13.90
Ditched divis. in Enc. 275	24.52	28.47
Pit complex east of Pit 835	4.99	5.51
Misc. features in Enc. 275	11.83	11.51
Kiln 400	1.30	2.10
Kiln 559 and Enc. 30.	17.23	14.26
Pit 835	4.27	2.81
Hollow 900	14.09	16.27
Roundhouse 783	0.18	0.17
Roundhouse 851	0.73	0.77
Roundhouse 913	0.13	0.23

TABLE 14: Distribution of pottery from the major features as a percentage of their total by weight and count.

recutting resulting in such intermixing of layers and finds that few sealed contexts could be trusted to yield uncontaminated data. Considering Pauline Marney's comprehensive work on local Roman and Belgic wares (Marney 1989), together with her more recent work on the Bancroft villa and mausoleum sites (Marney 1994), it was considered unrewarding to make further detailed analyses of the more poorly defined groups at Wavendon Gate.

The Belgic groups have been compared, where appropriate, with those from relevant nearby sites, including Saffron Gardens (Waugh *et al.* 1974), Caldecotte Kiln 1 (Marney 1989), *Magiovinium* (Neal 1987) and Bourton Grounds, Thornborough (Johnson 1975).

The Belgic Wares

Most of the Belgic vessels were in grogged fabric group 46 with brown/red or red/orange surfaces but some heavier, and possibly earlier, types were greyish/black. In Table 15, a comparison has been made with the common range of vessel forms from zones 7 and 8 (Thompson 1982). These two zones in particular pertain to Wavendon Gate, which lies on the border of influence from the Hertfordshire/Chiltern area as well as north Buckinghamshire/south Northamptonshire. Zones present are: Hertfordshire and the Chilterns-zone 7, Northwest zone 8, as well as forms common to all zones. Certain forms including forms B1–5; C1–2; D1–3; G5–2 are an indication of a post-conquest date or later.

First century Belgic Fabric 56 was one of the more uncommon fabrics. Found sparsely at Buckinghamshire sites such as Saffron Gardens, *Magiovinium* and Bancroft villa, it was more frequent at Wavendon Gate. Forms were beakers and small jars, a butt beaker and a carinated cup/bowl. Altogether twenty-two sherds and rims were found. Fabric 54 was represented by a single jar and a few scattered sherds.

Pedestal bases

A- 1(4), 2<(1), 3(1), 4(4), 5<(6), 6(1), 7(1), 8(1)

Fine ware jars

B1- 1(9), 2*(1), 4*(11), 5(6)

B2- 2(2), 3(2), 4(2),

B3- 1(10), 2(6), 4(5), 5(5), 6*+(9), 8(6), 9(3), 10(2)

B4- 1(1)

B5- 1(1), 2(1), 3(2), 4(1), 5(2)

Coarse ware jars

C1- 2<(2), 4(1)

C3 (3)

C5- 1*+(14), 2*+(7), 3*(1)

C6- 1(70)

C7* (1)

C8- 1(1)

Bowls

D1- 3(1)

D2- 3(8)

D3- 4(1)

Cups

E1- 1+(5), 2<*(4), 3(1)

E2- 1(3)

E3- 6+(1), 7*+(3)

Copies of Gallo-Belgic & Roman import. forms

G1- 3*(4), 4(3), 11(1)

G2- 1(2), 2(1), 3(3)

G3- 4(2)

G4*+ (5)

G5- 1(5), 2(3), 4(3), 5(2), 6+(2)

Lids

L- 5(2), 8(3), 9(1), 10(1)

< Vessels normally found in Zone 1 – North-east Essex

* Vessels normally found in Zone 7 – Herts and Chilterns

+ Vessels normally found in Zone 8 – Northwest

Vessel numbers shown in parentheses

TABLE 15: Forms (Thompson 1982) present in Belgic grogged and other first-century fabrics from Enclosure 275, the internal divisions, Enclosure 30 and the pit complex.

Feature	Fabric Number							
	1a	2g	3a	9a	45	46a	47a	57
Enclosure 275	8 & 4*	1	3	–	–	4	2	–
Ditched divs. in Enc. 275	14 & 1*	–	2	2	2	2	10	–
Pit complex	28	–	3	3	8	3	6	1
Misc feats. within Enc. 275	16	–	3	13	–	2	6	–
Enclosure 30	20 & 4*	–	–	–	1 & 2*	3 & 5*	–	2
Pit 835	1	–	1	–	–	–	2	–
Hollow 900	3	3	1	17	–	3	–	–
Enclosure 1985	1 & 2*	–	–	–	–	2 & 1*	–	–
TOTAL	91 & 11*	4	13	35	11 & 2*	19 & 6*	26	3

* jar with slashed rim

The incidence of ledged jars in eight fabrics, ranging from first-century shell and grogged wares to sandier types in the second century, is shown in Table 16. The majority of simple ledged jars and those with slashed rims were in Fabrics 1a and 46a and were more numerous in the main enclosure ditches and Enclosure 30. Thompson's dating for zone 8 ledged jars with slashed rims indicates that they are most likely to be post-conquest in date. Those found in Hollow 900 continued the form in local fabric groups 3, 9 and 47 to the later second century.

There were many similarities, both in form and fabric, to vessels from the other sites used for comparison. The noticeable exception was the large hollow-cordoned girth beaker, Thompson's (1982) form G4-13, which appeared only in a devolved form at Wavendon Gate. At Saffron Gardens, Thornborough and *Magiovinium* these vessels were technically very fine. Thompson considers the form to be more typically from zone 7, of mid first-century date and that the large templated vessels were a Buckinghamshire phenomenon. Their absence at Wavendon Gate may reflect the differences between these local sites in date, status and market demands. Both Caldecotte and Wavendon Gate were small rural settlements and must have been affected by their close proximity to *Magiovinium*, a growing semi-urban site on Watling Street. The importance of *Magiovinium* as a market centre with access to a major road system must have rapidly superseded the value of the Belgic site at Saffron Gardens on the River Ouzel. Both the opportunities offered by an expanding urban trading area and the consequent economic advantages may have encouraged small local enterprises. The similarity of the vessel range at the Caldecotte and Wavendon kiln sites may indicate local initiative in response to local demand, but could equally suggest that specific vessel types were ordered by agents for re-sale.

In Table 17 the first-century fabrics have been listed as percentages of their combined total by weight and count. All fabrics in the first-century Fabric 46 group have been amalgamated and treated as one. In Table 18 the individual

TABLE 16: Incidence of ledged jars in eight fabrics from the major features.

Fabric	Weight (g)	Count	% Weight	% Count
45	1250	81	1.31%	1.52%
46	91104	4974	95.49%	93.47%
51	80	6	0.08%	0.11%
54	56	6	0.05%	0.11%
56	155	22	0.16%	0.41%
57	2465	213	2.58%	4.00%
64	285	17	0.29%	0.31%
84	10	2	0.01%	0.03%
TOTAL 95.405 kg		5,321		

TABLE 17: First-century fabrics as a percentage of their total by weight and count.

fabrics within the Fabric 46 group from the entire site are listed as a percentage of their total by weight and count. The suggested date ranges for each sub-division follows those proposed by Marney (1989). These tables clearly demonstrate that Fabrics 46a, 46da and 46m were the major mid first-century Belgic fabrics. The later more sandy types, often containing finer or more visible grog inclusions, continued into the late first/early second century, when Fabric 47 vessels first appeared. These were often still Belgic in form and with characteristic but devolved detail.

The Later Wares (Figs 102–103)

Forms similar to those from Caldecotte Kiln 2 (Marney 1989) also appear at Wavendon Gate, together with a

Fabric	Date Range	% Total Weight	% Total Count
46a	1st century	77.47%	70.97%
46da	Early-mid 1st	1.12%	1.47%
46g	1st-mid 2nd	0.08%	0.12%
46j	Late 1st-early/mid 2nd	0.05%	0.02%
46k	Mid 1st-early 2nd?	4.27%	6.20%
46m	Early post-conquest	11.70%	14.16%
46n	Mid 1st-early 2nd?	0.19%	0.18%
46p	Mid 1st-mid 2nd?	3.72%	6.38%
46qr	Late 1st-mid 2nd?	1.35%	0.48%

TABLE 18: Incidence of the individual fabrics in the 46 group from the whole site as a percentage of their total by weight and count.

substantial growth in both local black (Fabric 3) and grey (Fabric 9) wares. The number of jars from the major features similar to Caldecotte Kiln 2 products, made in Fabrics 3gj, 3k, 3n, 9g/12, 9xy and Fabric group 47, are shown in Table 19 and a selection has been illustrated in Fig. 102.1–7. While they appear in the late first century, their *floruit* was undoubtedly in the second century. The table confirms the concentration of second-century jars in Hollow 900.

Earlier forms continued in these fabrics and included four jars with grooved and cordoned necks and shoulders from Enclosure 30, two carinated bowls in Layer 651 of Ditch 579 and Layer 888 in Pit 848 and a girth beaker and barrel

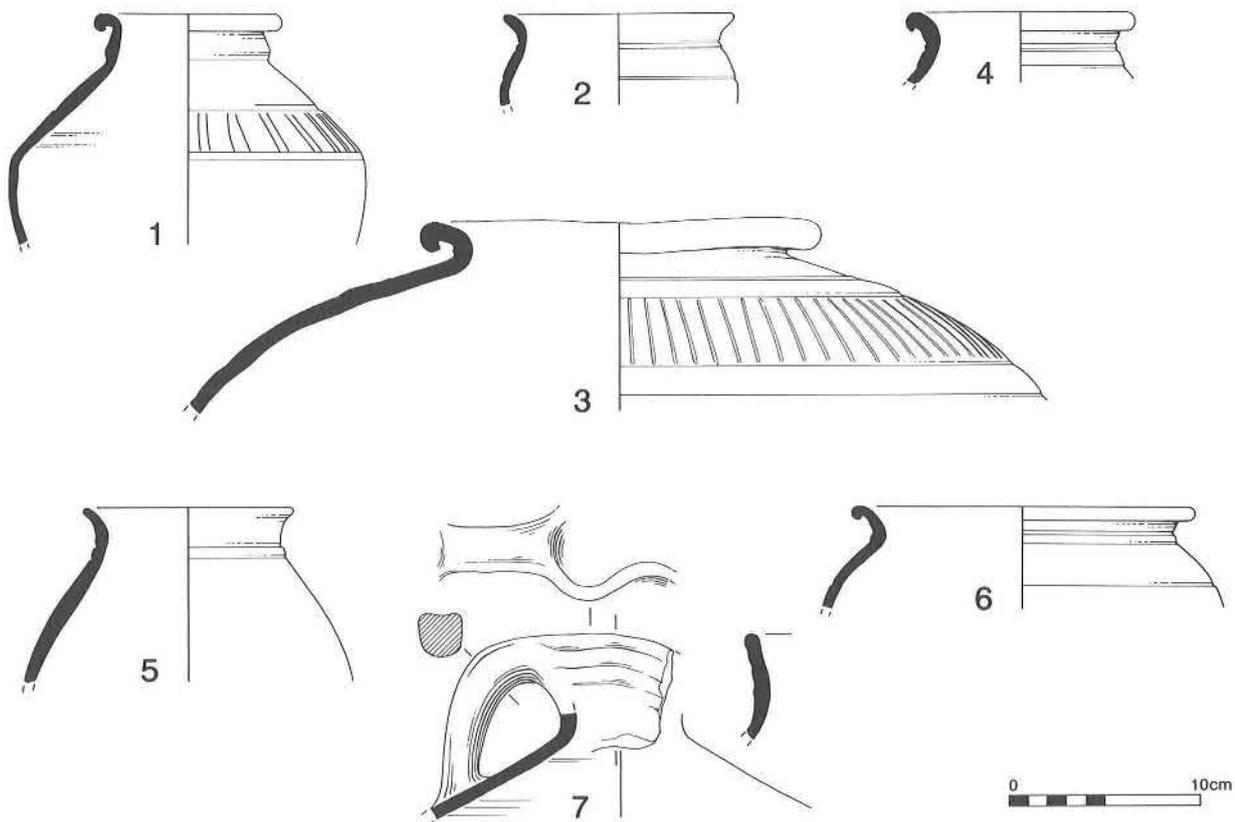


Figure 102: Roman Fabric 47 group – jar forms 1–7, scale 1:4.

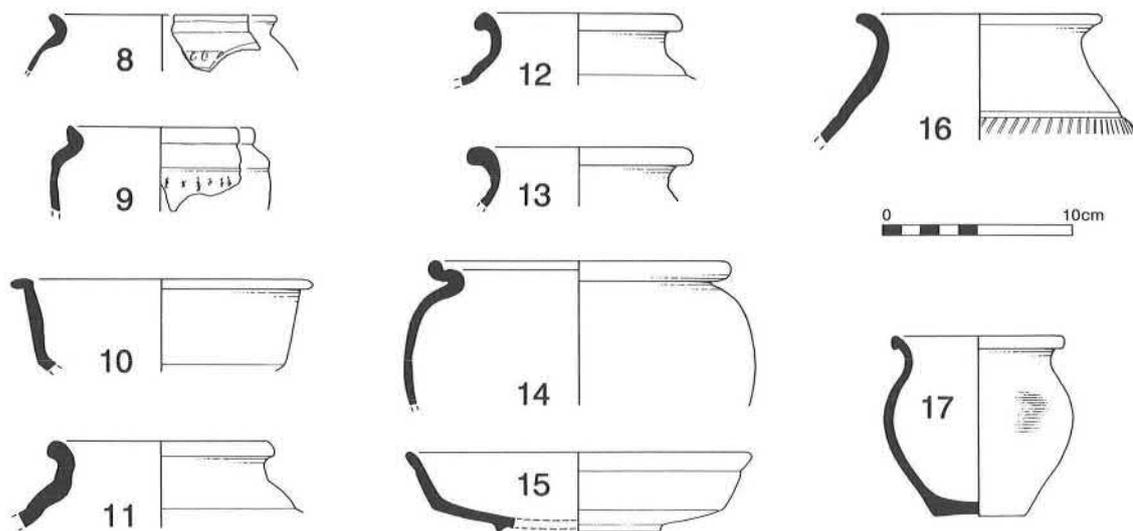


Figure 103: Roman coarse pottery 8–16, from the pit complex; small jar 17 from Enclosure 32, scale 1:4.

Feature	Number	%
Enclosure 275	11	10.09%
Ditched divis. in Enc. 275	17	15.59%
Pit complex	9	8.25%
Misc. features within Enc. 275	24	22.01%
Enclosure 30	8	7.33%
Waterlogged Pit 835	4	3.66%
Hollow 900	36	33.02%
TOTAL	109	–

TABLE 19: Incidence of jars of second-century date from the major features.

butt beaker from Hollow 900. The latter feature also produced fifteen jars with the typical orange finish, often delineating incised decoration on the neck and shoulder, and seventeen which were simply reduced throughout.

The pit complex produced pottery (Fig. 103.8–16) whose latest date was the end of the second century, with a scatter of later first-century forms and sherds. A small ledged jar and the abraded rim of a storage jar, both made in Fabric 2a, were found in Pit 848. These were dated to the late second century, perhaps added confirmation of this fabric's tentative appearance at this period. Twenty-nine later Fabric 2a jars came from Hollow 900, together with thirty-seven in shelly Fabric 1a, most with simple everted rims, but triangular third to fourth-century rim types appeared in the later contexts. Vessels in group fabrics 3 and 9 continued from the later second into the third and fourth centuries with pie dish forms, dog dishes, narrow necked jars and flanged bowls.

Earlier fine wares included a poppy-head beaker in Fabric 14b and a grooved flagon neck in Fabric 85 from Pit 807. Sherds of approximately ten jars and dishes, few with any decoration, made in the finer black Fabric 9j were found in

the early divisions within Enclosure 275 and the second-century pit complex. This was an unusual fabric on other Milton Keynes sites (Marney 1989) and was not previously dated. However, its appearance at Wavendon Gate in features where it is associated with other vessels made in Fabric groups 3, 9 and 47 suggests that it is of second-century date. At *Magiovinium* (Collard forthcoming) this fabric (Catalogued as Fabric 62) was found in some quantity in phase 3 contexts dating from the mid to later second century, perhaps suggesting that it had a local source.

One complete pot in Fabric 1a shelly ware (Fig. 103.17), 95 mm high, grey/black in colour with a grooved base, a small square rim and a rilled outer surface, was found associated with an Oxfordshire colour-coat base in Ditch 475 of Enclosure 33, dating to the later third to fourth century. Only a few Nene Valley colour-coated wares (Fabric 6) were found. These included four beaker forms, a shallow bowl and a straight-sided dish from layers in Ditches 475 and 579, and two other indented beakers from Hollow 900. The dates of these vessels ranged from the late second through to the fourth century. Details of the total count and weights of fabrics appear in Table 13.

Pottery from the Kilns

During the course of the excavation, the striking similarity and large number of the jar/bowl forms with neck and shoulder cordons, particularly the Thompson B3 forms, began to be considered as possible products from the two kilns. Vessels similar in fabric and finish were recovered from dumps in Ditch 533 (Enclosure 30) near to Kiln 559 and features near to Kiln 400. Other forms may have been kiln products although there is less evidence. A significant number of large cup/bowl forms, small carinated cups, butt-beakers, barrel butt-beakers, tall cordoned-jars, platters, flasks and simple necked jars, often exactly similar in form, yet not the same vessel, were also found across the site. Some fabrics, although part of the 46 group, were pale or bright red-orange, quite hard fired with a grey core and

without the normal soft surfaces. In section they had much in common with both Fabric 47 and pink grogged ware 2a (Booth and Green 1989); during initial sorting these anomalies were recorded as Fabric 46/2.

The Fabric 2 group may be considered as Belgic derived, although its *floruit* is generally considered to be in the third century. Fabric 2g was essentially the same but with reduced surfaces, appearing sparsely throughout most of the groups until the later second century, and having similarities with Fabrics 47ab and 47j. Surface discoloration and its relationship to firing has been commented on by Pauline Marney in the Caldecotte Kiln 1 report (Marney 1989, 95). The similarity of the forms from both sites suggests that the kilns were in production at the same period in the mid to later first century. Other forms necessary for local domestic use may have been manufactured at Wavendon Gate, but the range was in most aspects comparable with Caldecotte Kiln 1 vessels. Some of the greater variety of forms present could have been products of the Wavendon Gate kilns but they were too few in number, and too diverse in size and diameter, to be certain. It is possible that Caldecotte Kiln 1 was supplying certain forms and there may well have been other small pottery units nearby producing others.

There was no evidence for production at either Wavendon Gate or Caldecotte before the mid to first century. However, at the latter site a second kiln continued from the late first into the second century, making vessels in the 3, 9 and 47 fabric groups. Whilst there was no specific evidence for a similar late kiln at Wavendon Gate, a fragment of a kiln bar (Fig. 88.162), similar to the type used in Kiln 2 at Caldecotte, was found in Pit 848. Fabric groups 3, 9 and 47 were certainly present as shown in Tables 19 and 21, at first in traditional Belgic forms such as butt-beakers, carinated bowls and grooved and cordoned jars, but gradually becoming less decorative and more domestic in form. Many of the rim forms from Caldecotte Kiln 2 were noticeably

curved and hooked and, while few direct parallels could be found between the two sites, some vessels (1, 3, 4, 6, 14, 81 and 83) from Wavendon Gate showed similar characteristics.

The 46 fabric group of cordoned and grooved vessels (Thompson B3 forms), together with the few aberrant forms, remained as the strongest evidence for a small industrial enterprise, probably seasonally operated, possibly short-lived and with a similar vessel typology to Caldecotte Kiln 1. Comparisons with similar forms from *Magiovinium* gave no direct parallels. However at *Magiovinium* the assemblage of Belgic vessels was perhaps more typical of zone 7 and had a wider range in date, form and fabric, perhaps reflecting its probable position as a market centre. The following vessel types found at Caldecotte Kiln 1 (Marney 1989, 97, fig. 38.2, 13, 14, 16–21 and 26), Kiln 2 (*ibid.*, 9, 22, 32, 52 and 61) and at *Magiovinium* (Neal 1987, 72, forms 3.3, 3.9, 3.13) covers the main range found at Wavendon Gate.

Kiln 400 (Fig. 104)

Kiln 400 produced 224 sherds of Fabric 46a, two sherds in Fabrics 1a and 45 and four in Fabric 46da, of which a representative sample has been illustrated in Fig. 104.18–25. Vessels which exhibited the 46/2 finish were included finally with the group 46a count. Generally jar rims were dissimilar both in shape and diameter, as were the actual forms, perhaps denoting the diversity of vessels in production. The jar necks and shoulders showed the characteristic cordoning and grooving and the potting was of a sufficiently high standard to qualify as Thompson's B3 fine-ware jars. Other vessels found in the kiln were a pedestal base, two cordoned cups, a decorated barrel butt-beaker, a slash-rimmed neckless jar, a butt-beaker and two heavy platters. All these forms also appeared in the range from Caldecotte Kiln 1. Some evidence for local re-use and

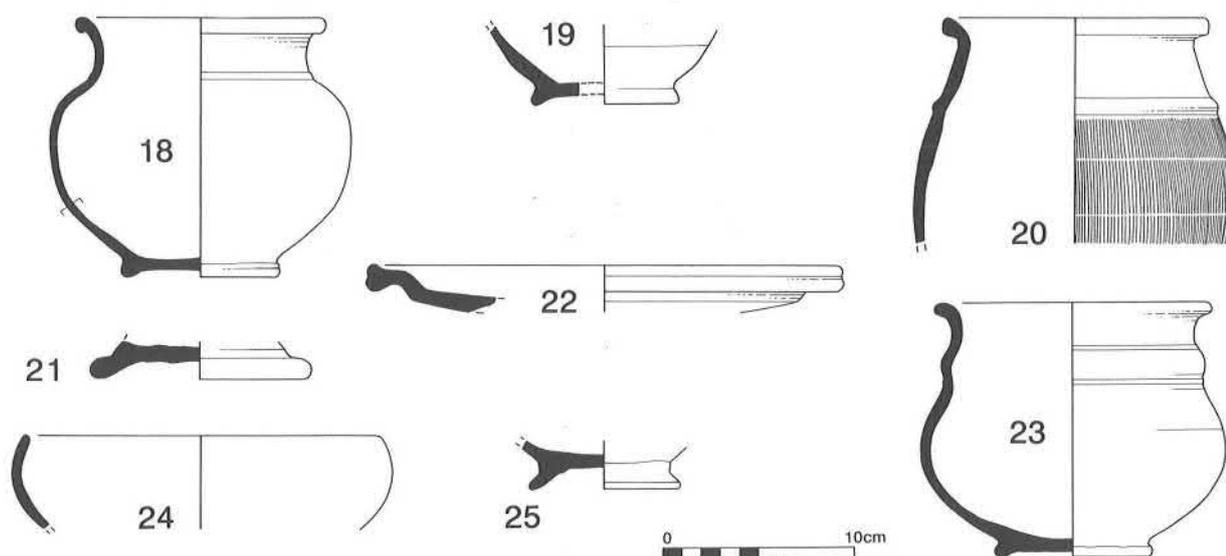


Figure 104: Roman coarse pottery 18–25, from Kiln 400 and associated contexts, scale 1:4.

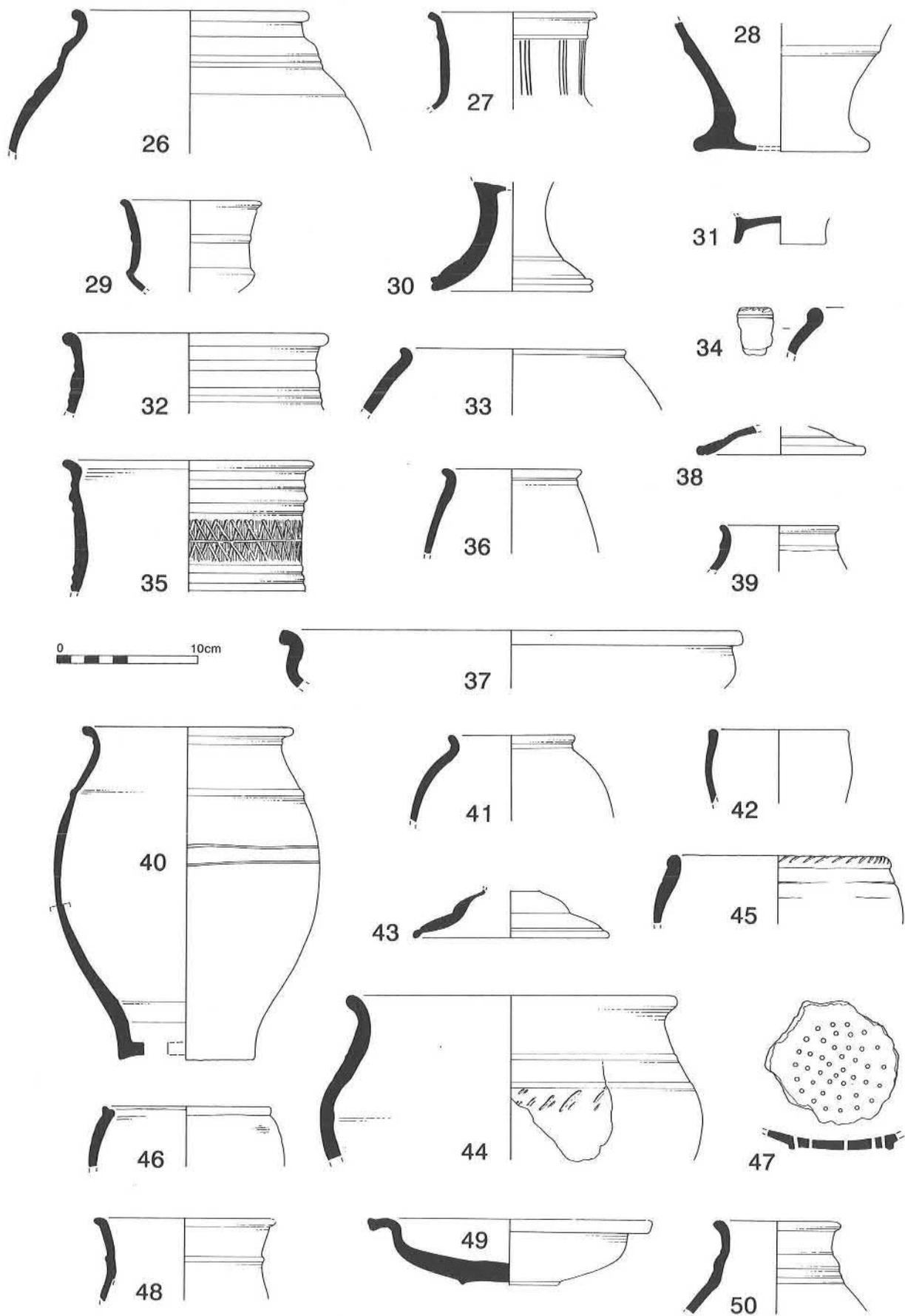


Figure 105: Roman coarse pottery 26–50, from Kiln 559 and associated contexts, scale 1:4.

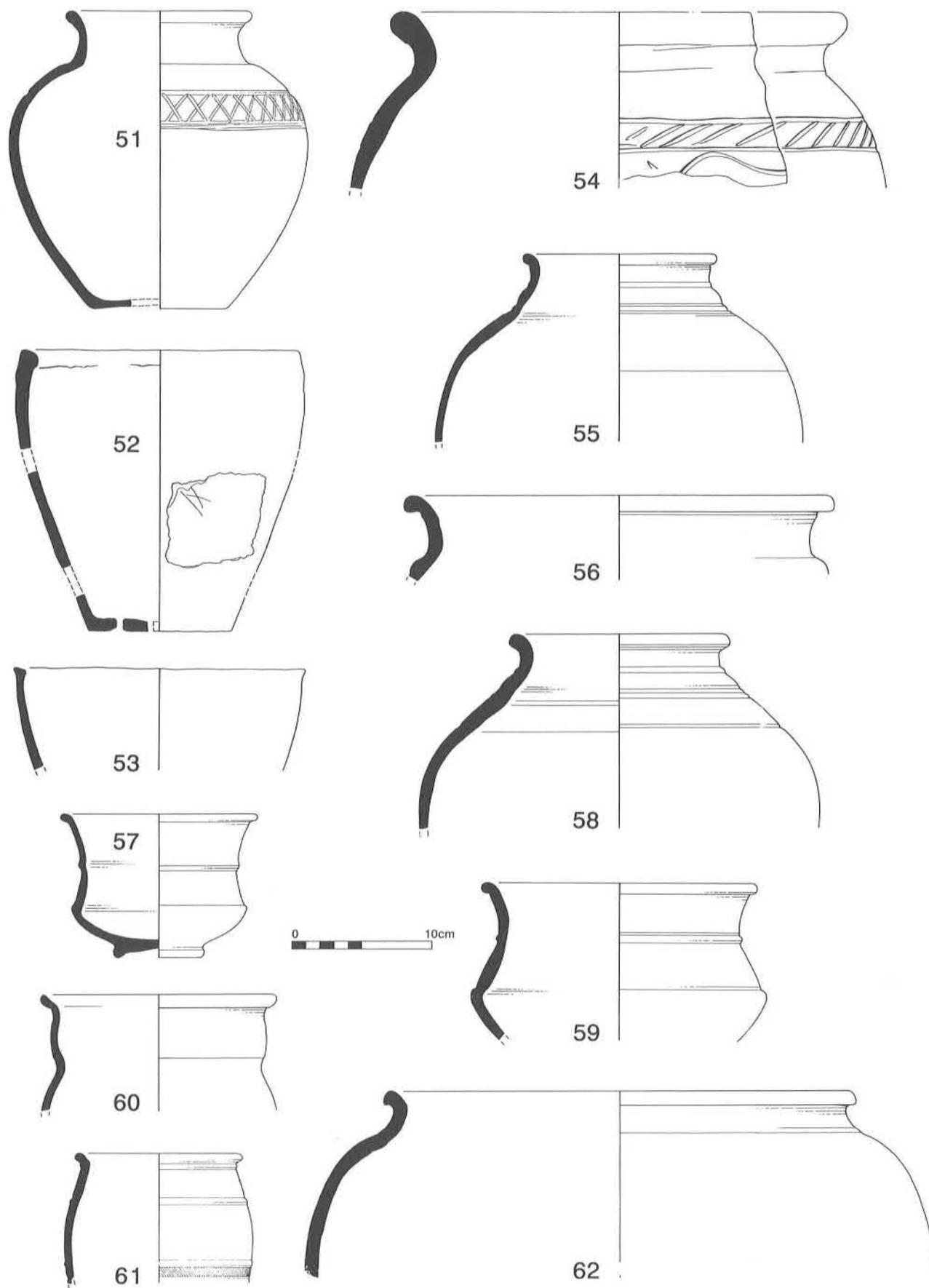


Figure 106: Roman coarse pottery 51–62, from Kiln 559 and associated contexts, scale 1:4.

subsequent dumping came from Hollow 1001, where a jar base had been drilled to provide drainage holes.

Features associated with this kiln were Hollow 1001 and Pits 1013 and 1093 (p.40, Fig. 25). These contained some 46/2 and 2g vessel remains, together with Fabric 1a and 46a ledged jars (several with slashed rims), butt-beaker sherds, a pedestal base, a platter and two carinated cups/bowls, all dating from the mid first century.

Kiln 559 (Figs 105–107)

Only thirty-three rims and sherds were found in Kiln 559, in Fabrics 1a, 46a, 46da, 47a and the cross Fabric 46/2, including jar necks and shoulders carrying the typical grooves and cordons. However, the remains of many other vessels were found in the adjacent kiln dump in the ditches defining Enclosure 30 (Fig. 20) and other nearby ditches. A representative sample of this group is illustrated in Fig. 105.26–50 and Fig. 106.51–62. Whilst some pottery may

Form	Enc. 275	Divs in Enc. 275	Pit Complex	Kiln 400	Kiln 559
Pedestal bases	2	3	1	1	3
Fine ware jars	9	24	5	2	28
Coarse ware jars	13	9	2	-	6
Bowls	1	4	-	-	-
Cups	-	3	1	1	7
Lids	2	1	-	-	2
Platters	1	-	-	2	1
Shallow/glob. bowls	-	3	1	1	3
Girth beakers	1	-	-	-	4
Barrel/butt beakers	4	3	-	1	5

TABLE 20: Number of individual vessel forms in Belgic grogged Fabric 46 from Kilns 400 and 559, as compared with the other major features.

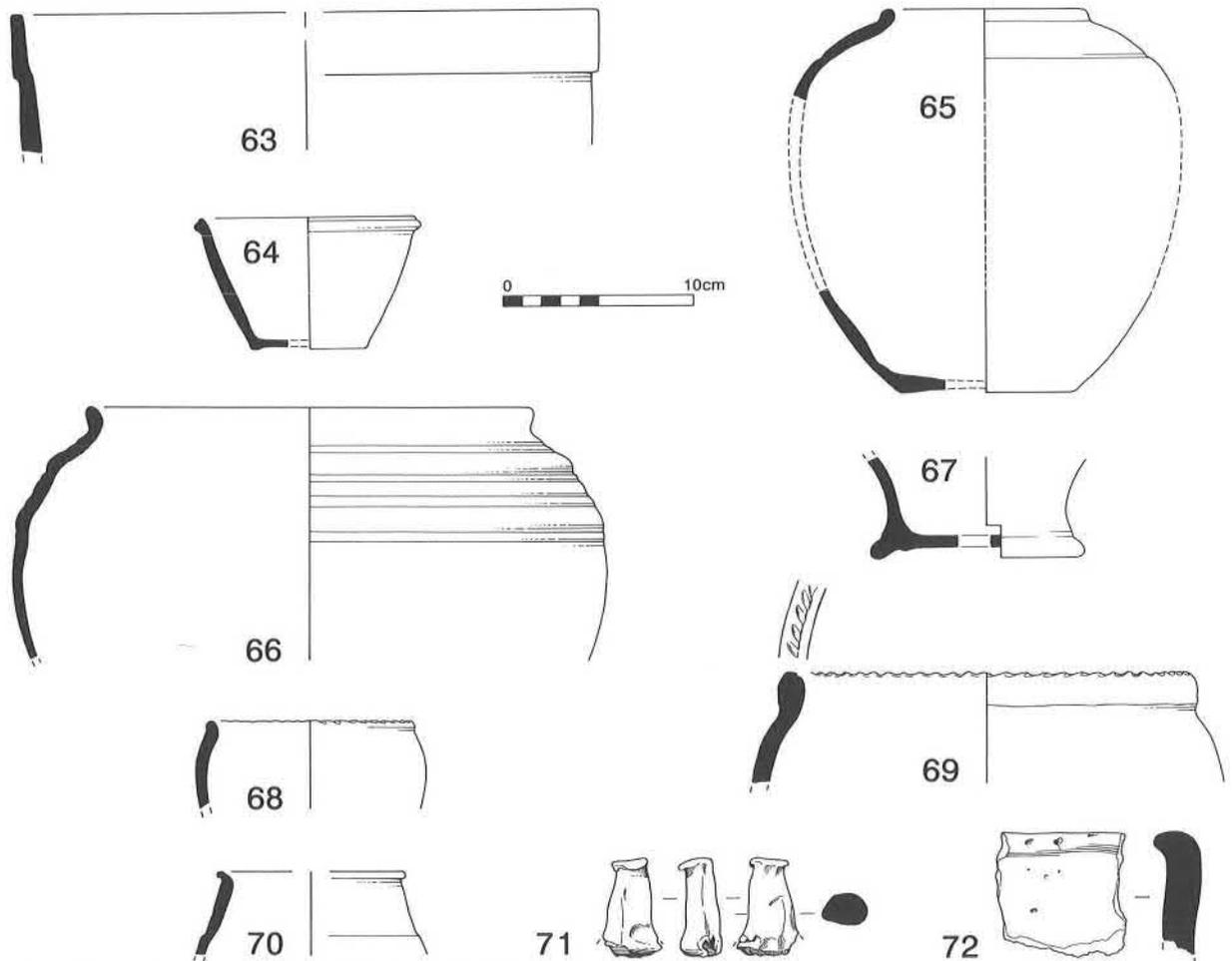


Figure 107: Unusual pottery forms 63–72, in 'Belgic' fabrics, scale 1:4.

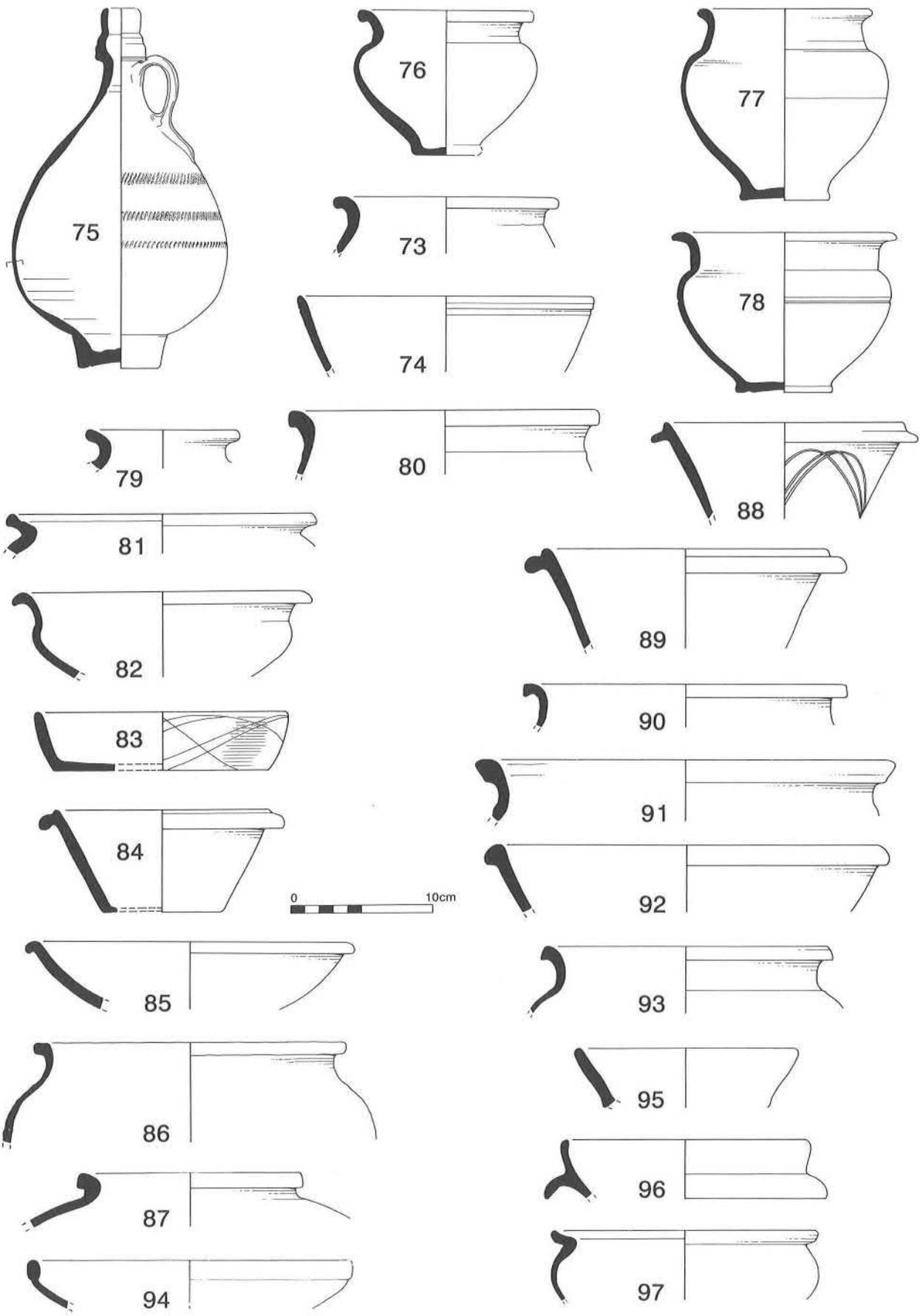


Figure 108: Roman coarse pottery 73–97, from Pit 835, scale 1:4.

have been dumped simultaneously after misfiring in the kiln, none of the pots were wasters or showed any distortion. The majority of bases were footing in form, as in Caldecotte Kiln 1, and some coarser vessels showed 'twigging' or a 'roughing up' of the surface, probably to provide purchase.

The remains of twenty-eight cordoned jars, representing 43% of the total, were found in the miscellaneous adjacent ditches, and sixteen in the dump. The largest single concentration of thirty-six vessels, was found in Context 778, a cut in Ditch 533, only seven metres from the kiln. Identifiable forms included twelve jars in Fabrics 1a and 46a, six of which were ledged, three butt-beakers, two barrel butt-beakers, two storage jars, four cups, one beaker and two platters, one of which was a variation of Thompson's G2-3 form. Two sherds in Fabrics 52 and 18j were from a *terra nigra* dish copy and a Camulodunum 113 butt-beaker respectively, the latter dating to c.AD. 14-64.

The latest pottery in this group was a cordoned jar, form B3-6, and a barrel butt-beaker, form G5-1, both in Fabric 47a with orange exterior surfaces, dating from the later first to the second century. Given the presence of this fabric and its association with later first-century imported fine ware, it is possible that Kiln 559 was either in production longer, or was of a slightly later date than Kiln 400.

The incidence of each individual vessel form in Belgic grogged fabric group 46 from Kilns 400 and 559 as compared with other major features on the site is shown in Table 20. Kiln 559 clearly contained a preponderance of B2 and B3 jar forms, but a further twenty-three came from Enclosure 275 and its internal divisions. These three groups also provided the greatest diversity of first-century Belgic forms. A selection of these more unusual forms in Fabric 46 has been illustrated in Fig. 107.63-72.

Pit 835 (Fig. 108)

Sherds of vessels in Fabrics 9a and 14a, from Contexts 872, 873 and 930 in the lower waterlogged layers, dated the digging of the pit to no earlier than the third century. The lower levels contained simple 'pie dish' bowls in local Fabrics 3gj and 9a and Fabric 2a jars with simple everted rims (Fig. 108.70-80). Three east Midlands burnished ware jars (Fig. 108.76-78), still carrying the remains of a high burnish, and a hard fired colour-coated flagon (Fig. 108.75), possibly an Oxford form C10, were found lying together towards the middle of the pit (Figs 39 and 40). Since this group is unlikely to have been deposited much earlier than the end of the third century it indicates that the pit may have been kept clear for much of the third century. Other vessels ranged from a mica-dusted bowl (Fig. 108.74) to everted rim jars in Fabric 1. Pottery from the middle layers (907-910, Fig. 40) dated from the middle third to fourth-century, and included shelly storage jars pink grogged jars with triangular rims, and a white slipped bowl in Fabric 3a (Fig. 108. 85-87, 92-93). Layer 908

produced a particularly large group of pottery, including five flanged bowls in Fabrics 3a and 9a (Fig. 108.88) and an Oxford colour coat bowl (Fig. 108.91), form C51, dated c.AD. 240-400+. Surface Layers 905 and 906 contained some residual second-century pottery, together with third and fourth-century Oxford bowls, forms C51 and C45, and a few Saxon sherds. A representative sample of the pottery from the various levels within the pit is illustrated in Fig. 108.75-97.

Posthole 2051 (Fig. 109)

Posthole 2051, sited to the immediate north of Pit 835, contained part of a late third-century bowl (99) with a short rounded rim and flange in Fabric 3a, and a complete ovoid shelly ware jar (98) with a flattened and extended rim of similar date. This vessel was buff-cream with a rilled exterior which showed signs of slight burning or heating, but without soot. It was similar in form, fabric and finish to pots from the Harrold kilns.

Roundhouse Ditches (Fig. 109)

The pottery in Roundhouse 783 (100) dated to the mid first century with forms very similar to those from the Wavendon Gate kilns, including cordoned jar forms B3-1 and B3-6 in Fabric 46a. This was the earliest pottery from any of the buildings inside Enclosure 275. Although the ditch of Roundhouse 851 had residual first-century sherds it also contained pottery as late as the mid third century (101-106). Unfortunately Roundhouse 913 produced very little material, but clearly post-dated Roundhouse 851/852.

Cremations (Figs 110-111)

Table 21 lists the individual vessel forms, fabrics and probable dates within each burial. Some vessels were too fragmented and abraded to be identified beyond a simple estimation of their form. Cremations 10 and 14 contained no pottery. At the time of excavation Cremation 12/13 was thought to have been two separate disturbed burials, but joins between sherds clearly indicate that it was a single burial. Similarly whilst Cremation 2 is described as a separate burial it may have been part of Cremation 1 (p.44). Three samian dishes (109, 110 and 114) and several glass vessels (p.136) accompanied the coarse pottery vessels in some burials.

Inhumations (Fig. 109)

Little pottery was found with any of the inhumations. Inhumations 211 and 213 contained none, and 215 included only a Fabric 46a sherd. However Inhumation 942 contained a miniature pot (132) made in Fabric 9a with a squared rim and ring base, dating to the early second century. This small vessel was standing in an upright position adjacent to the skull, and had clearly been placed intentionally in the grave.

<i>Crem.</i>	<i>Vessel form</i>	<i>Fabric</i>	<i>Date</i>	<i>Pot. No.</i>
1	Miniature slipped flask	41d	Second century	107
1	Shallow bowl	41d	Second century	108
1	Samian dish	20	c.AD 140–160	109/147
2	Samian dish	20	c.AD 130–160	110/149
3	Butt beaker	46a	Mid-late first century	112
3	Jar base	9a	Late first century	111
3	Samian dish	20	c.AD 110–140	113/148
4	Jar sherds	46a	First century	Ni
5	Sherds	1a & 46a	Date not known	Ni
6	Bowl	9a	Second century	114
6	Jar base	14b	Second century	115
6	Lid	46da	First century	116
7	c/c. beaker base	6	Late second century plus	117
8	Jar base	1a	Late second/third century	118
8	Bowl	41d	Late second/third century	119
8	Miniature flask	18g	Late second/third century	120
9	Jar base	47a	Second century	121
11	Jar base	47a	Second century	122
12&13	Poppyhead beaker	9b	Second century plus	123
15	Jar base	9b	Early second century	124
16	Indent. mica gilded beaker	34g	c.AD 60–75	125
16	Ring necked flagon	18a	Later first century	126
17	Butt beaker	9xy	First century	127
17	Two small necked bowls	57	First century	128/129
17	Butt beaker base	57	First century	130
18	Pedestal urn ?	46a	First century	131
19	Sherds of a jar	46a	First century	Ni

TABLE 21: List of vessels from each cremation.

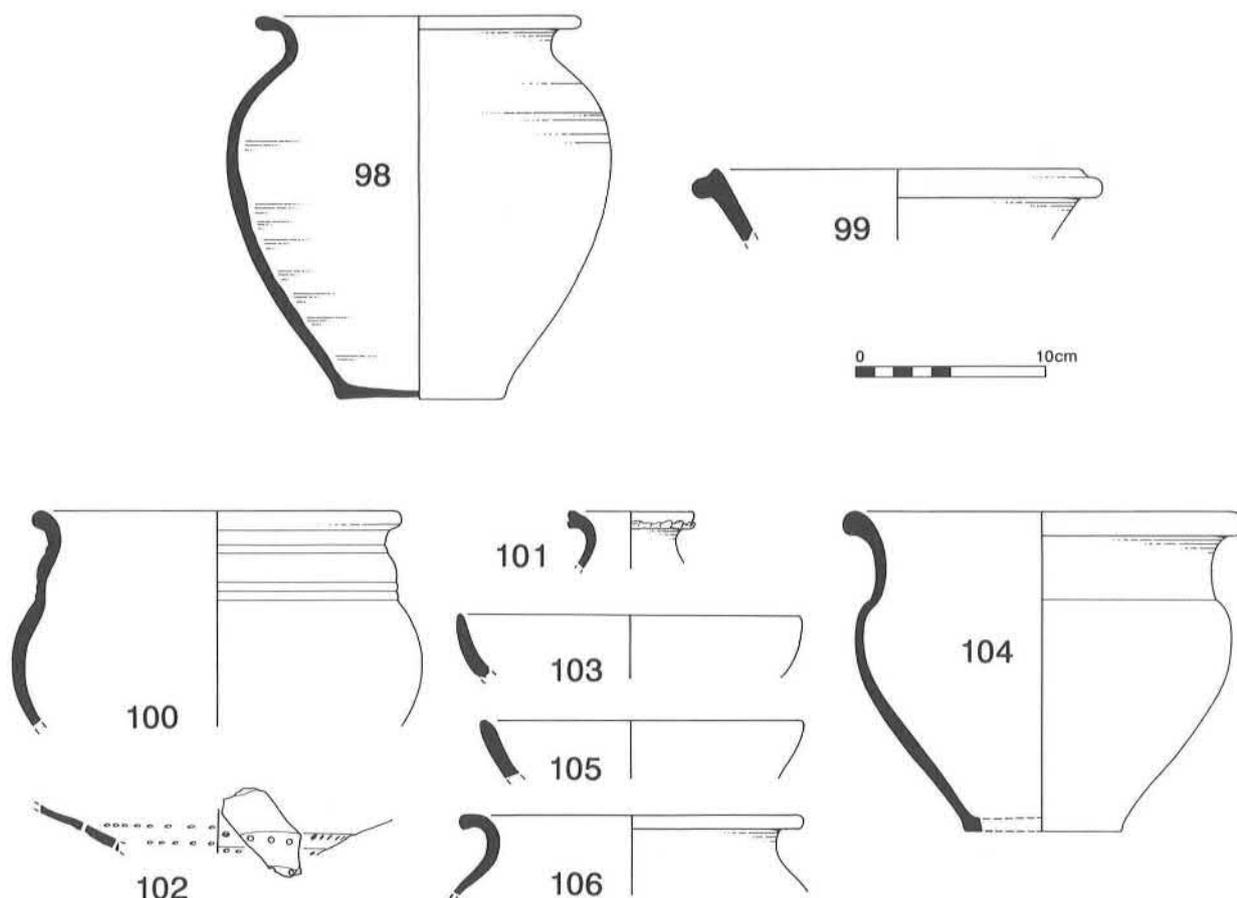


Figure 109: Roman coarse pottery 98–99, from Posthole 2052; 100–106, from the roundhouse ditches, scale 1:4.

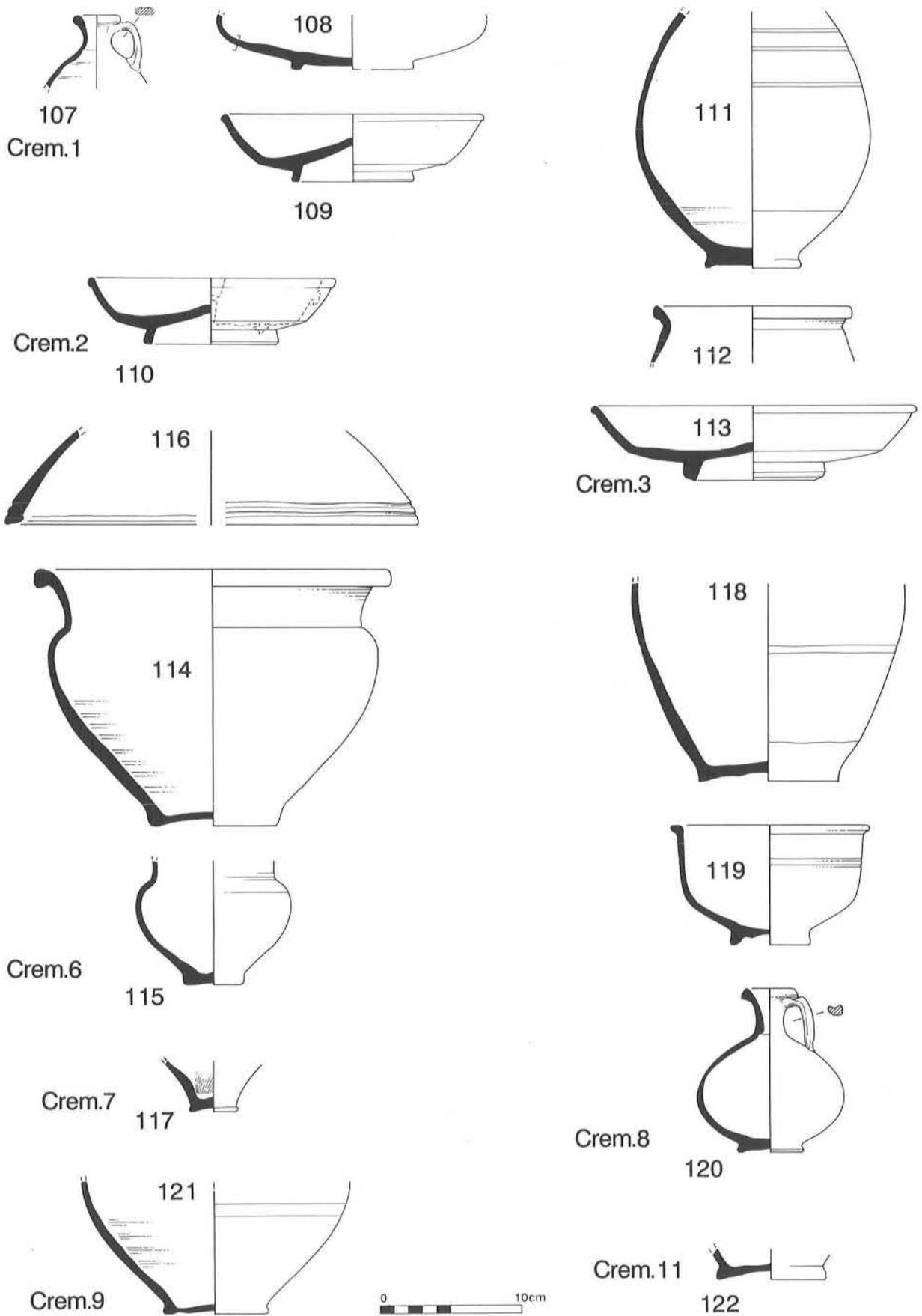


Figure 110: Roman pottery 107–122, from Cremations 1–3, 6–9 and 11, scale 1:4.

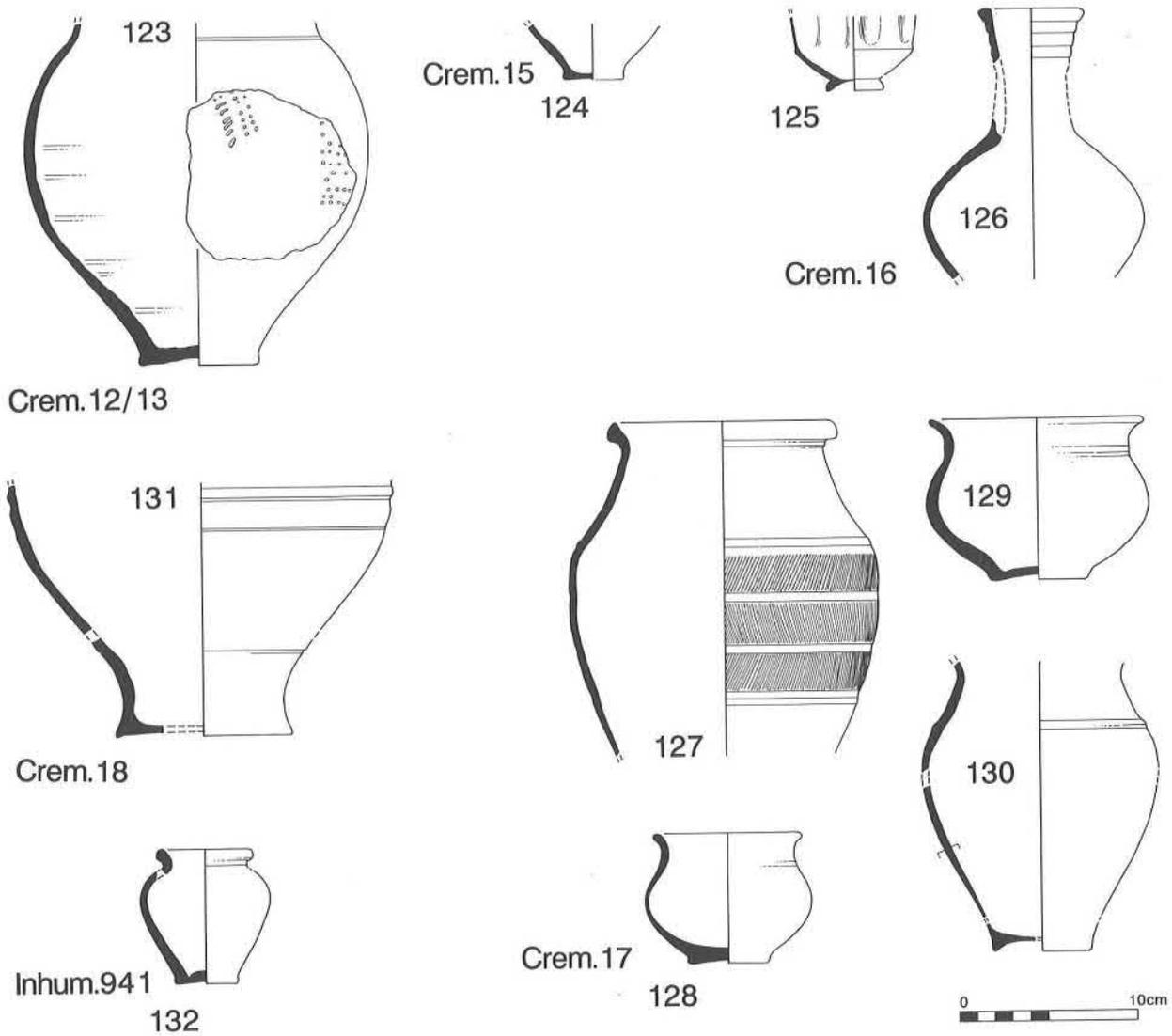


Figure 111: Roman pottery 123–132, from Cremations 12/13 and 15–18 and miniature shouldered jar from Inhumation 942, scale 1:4.

The Fine Wares (Fig. 112)

Remains of fine-ware vessels were infrequent, but there were several interesting imported or long-distance traded vessels in later first-century contexts. This small group included a fine mica-gilded indented beaker in Cremation 16 in eggshell Fabric 34a, for which no exact parallel has been found. The fabric was present at Gorhambury villa (Neal, Wardle and Hunn 1990) in carinated cups from north Gaul, and has been dated no later than *c.*AD. 76. A fine-ware flagon neck made in Fabric 85, possibly once mica-gilded, and a *terra nigra* dish in Fabric 26a, found in Ditch 600 and Stone spread 832 respectively are of similar date. These forms were identified by Val Rigby and recognised by her as being similar to vessels from the Neronian to early Flavian Ditch 111 group at Cirencester (Wacher and McWhirr 1982).

Sherds of a lead-glazed central Gaulish St Remy ware cup (133) in Fabric 13c were found in the upper layer of Hollow 900. Two *terra nigra* dishes in Fabric 26 and a body sherd

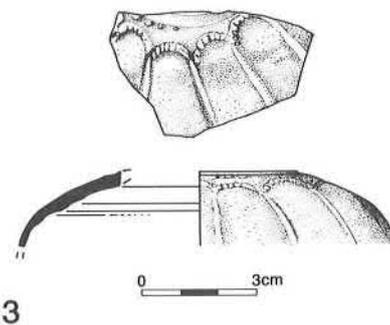


Figure 112: 'St Remy' ware glazed beaker 133, scale 1:2.

of a slashed globular beaker in Fabric 59 were found in the fill of Enclosure Ditch 275. Rims of two Cam 113 butt-beakers in cream Fabric 18d, possibly from either Gallo-Belgica or Colchester and dateable to *c.*AD. 14–54, were among the material from Ditches 533 (Layer 778) and 590/591 (Layer 761). At Caldecotte [MK 44] (Zeepvat *et al.* 1994, 183) a similar vessel was found in the Roman field ditch system.

Locally traded fine wares were equally rare at Wavendon Gate. Poppy-head beakers in Fabric 53 were recovered from the fill of Ditches 568 and 571, Enclosure 275, and Hollow 900. These were similar in fabric to Highgate 'C' and London/Essex vessels in the Department of Urban Archaeology. They were also found at *Magiovinium* (Neal 1987), where they dated to the later first century.

White wares were represented by flagon sherds from both the Verulamium region and Oxford, as well as mortaria (p.195). Twelve Dressel 20 amphorae sherds in Fabric 22 were found, five from ditched divisions within Enclosure 275, five from layers in Pit 835, one from the Saxon Pit 1140 and one from the ditch of Roundhouse 851/852. The dating of the pottery found with the amphora sherds generally ranged from the late second to the fourth centuries, but three sherds from Ditch 406 were associated with late second to early third-century material.

Discussion

The Wavendon Gate site remained a small rural settlement throughout its duration. Much of the Belgic pottery from the first century was diverse enough in form to have covered much of the range for everyday domestic use. However, the striking similarities between the Caldecotte Kiln 1 products and those of Wavendon Gate, together with the presence of Fabric 47 pottery, must suggest a common history and experience at this period. Products from the kilns showed the same sophistication of form and similarity in vessel types, which may suggest that there was some external influence over production. The appearance of a few early imported sherds in Enclosure 275 and its inner divisions hint at a period of comparative affluence. The presence of these wares, which are comparatively rare in this area, together with the production of a wide range of vessel forms, may indicate that external contacts were more than merely localized. The evidence may even suggest that a specialised trade existed at this time. After a period when local second-century wares dominated the assemblage together with miscellaneous grey wares of near-traded quality, vessel in pink grogged and shelly fabrics increased in number. The latest trade in pottery was mostly confined to a few Hadham oxidised vessels and pottery from the Oxford kilns, mainly found in Pit 835 and Hollow 900.

Catalogue of Illustrated Pottery (Figs 102–112)

Fabric descriptions are mainly those used by Pauline Marney (1989) in the publication of Roman and Belgic pottery from previous excavations in Milton Keynes. However, a number of new fabrics were recognised during the cataloguing of the Wavendon gate assemblage. Several new forms in the previously identified fabrics have also been noted. These new fabrics and forms have been listed in Appendix III.

Fabric 47 Group: Jar Forms (Fig. 102)

- 1 Fab 47ab: Jar with a tall narrow cordoned neck and everted hooked rim, angled shoulders and a decorated panel of diagonal lines between grooves just above the girth. Dia. 100 mm.
Hollow 900; layer 740.
- 2 Fab 47a: Small wide-mouthed cup/bowl with shoulder cordon and grooves and simple outturned rim. Dia. 120 mm.
Stone spread 832 in Hollow 900; layer 887.
- 3 Fab 47a: Large globular neckless storage jar with a narrow mouth and a thin cordon below the rim, which is flared, flattened and undercut. The shoulder is delineated by a decorated cordon of vertical incised lines bordered by grooves. Dia. 210 mm.
Stone spread 832 in Hollow 900; layer 887.
- 4 Fab 47ab: Narrow necked jar with neck cordon and grooves and everted hooked rim. Dia. 120 mm.
Stone spread 832 in Hollow 900; layer 887.
- 5 Fab 47a: Tall plain barrel jar with single neck cordon and flared rim. Dia. 110 mm.
Stone spread 832 in Hollow 900; layer 887.
- 6 Fab 47a: Wide-mouthed jar with a neck cordon and shoulder grooves with a flared and hooked rim. Dia. 180 mm.
Stone spread 832 in Hollow 900; layer 887.
- 7 Fab 47c: Pinched-neck flagon with rippled sides and the remains of one handle, rather crudely made.
Unstratified; 500.

Pit Complex (Fig. 103)

- 8 Fab 2g: Ovoid neckless beaker jar with stabbed decoration on the shoulder, an earlier second-century form. Dia. 120 mm.
Pit 769; layer 771.
- 9 Fab 47a: High-shouldered small jar copying a Belgic grogged ware form. Groups of stabbed decoration below shoulder groove and with an orange finish which defines and enhances decorated area. Dia. 110 mm.
Pit 848; layer 888.
- 10 Fab 47a: Dish with a simple everted rim and chamfered base, early second century. Dia. 160 mm.
Pit 848; layer 889.
- 11 Fab 2g: Narrow necked jar. A Belgic grogged ware, form B3–5 (Thompson 1982), with devolved shoulder cordons. Dia. 120 mm.
Pit 932; layer 934.
- 12 Fab 2g: Finer jar with taller and narrower neck but otherwise similar in form and fabric to 4. Dia. 110 mm.
Pit 932; layer 934.
- 13 Fab 3k: Jar with narrow tall rippled neck and everted and flattened rim; body form not known. Dia. 120 mm.
Pit 848; layer 939.
- 14 Fab 3k: Lid-seated neckless jar with exaggerated curved and everted rim, dated late first to second century. Dia. 160 mm.
Pit 848; layer 939.

- 15 Fab 3n: Carinated dish with foot-ring base in unusual second-century fabric, no decoration. Dia. 180 mm.
Pit 848; layer 939.
- 16 Fab 47a: Elongated ovoid jar with angled shoulders with sharply everted rim and groove delineating shoulder. Decoration of diagonal incised lines. Dia. 130 mm.
Pit 2066; layer 2067.

Enclosure 33 (Fig. 103)

- 17 Fab 1a: Complete small ellipsoid jar with a curved neck and wide everted rim, with rilling on the exterior body surface. Dated to the later third/fourth century. Dia. 90 mm.
Ditch 475; layer 417.

Kiln 400 and Associated Contexts (Fig. 104)

All vessels were made in the red-surfaced Belgic grogged Fabric 46a.

- 18 Globular cup/jar with shoulder cordon and ring-footed base. Thompson form E3-1, dated to the mid first century. Rim dia. 130 mm, base dia. 80 mm.
Kiln 400; layer 1224.
- 19 Ring-footed base. Dia. 75 mm.
Kiln 400; layer 1224.
- 20 Barrel butt-beaker with decoration of vertical incised lines, separated by plain narrow horizontal bands below a shoulder cordon. Dia. 140 mm.
Kiln 400; layer 1224.
- 21 Pedestal base with hollowed interior and groove above the foot. Dia. 115 mm.
Kiln 400; layer 1224.
- 22 Shallow carinated platter with a wide flat extended rim and exterior rim groove, paralleled at Saffron Gardens, Bucks. Dia. 250 mm.
Kiln 400; layer 1224.
- 23 Wide-mouthed cup or bowl with grooves defining a wide cordoned neck and a ring footed base, paralleled at Caldecotte Kiln 1 in forms 21 and 22 and with similar diameters. Normally dated up to *c.*AD. 43. Dia. 145 mm.
Kiln 400; layer 1224.
- 24 Plain round bowl with inturned rim, unusual in form although paralleled at Prae Wood and dated there *c.*AD. 5-40/45. Dia. 185 mm.
Hollow 1001; layer 1003.
- 25 Simple pedestal base with hollow interior. Dia. 80 mm.
Pit 2047; layer 2071.
- 27 Narrow elongated neck with straight sharply everted rim and groups of triple vertical-line decoration incised around the depth of the neck, delineated by a cordon below the rim. Possibly from a jug or large flask, although no trace of handle scars are apparent on the sherds. Dia. 120 mm.
Kiln 559/Ditch 533; layers 781/778 - joining sherds.
- 28 Flat-footed pedestal base from an urn of unknown form with cordon defining the lower base wall. This vessel has the attributes of the 46x2 fabric. Dia. 125 mm.
Ditch 533; layer 522.
- 29 Fab 57: Small carinated cup with constricted cordoned waist. Dia. 10 mm.
Ditch 533; layer 522.
- 30 High trumpet pedestal base with lipped, grooved and cordoned foot, an unusual form for zones 7 and 8 area. Dia. 115 mm.
Ditch 533; layer 522.
- 31 Small hollow pedestal base, possibly from a rarer cup form similar to vessel 29. Dia. 65 mm.
Ditch 533; layer 522.
- 32 Fab 57: Tall grooved and cordoned neck from large wide-mouthed jar or bowl. Dia. 190 mm.
Ditch 533; layer 522.
- 33 Fab 57: Rim and shoulder from an undecorated barrel jar with a bead rim. Thompson form B5-1. Dia. 160 mm.
Ditch 533; layer 522.
- 34 Fab 2a: Sherd from a bead-rimmed neckless jar with slashing along outer rim edge.
Ditch 533; layer 522.
- 35 Highly decorated rim and neck of a girth-beaker with two groups of multiple cordons separated by a zone of incised lattice with a central groove, Thompson form G4. Dia. 175 mm.
Ditch 533; layer 522.
- 36 Small undecorated barrel-jar with cordon below simple everted rim. Dia. 100 mm.
Ditch 533; layer 540.
- 37 Very large open shallow bowl or platter with simple out-turned rim and sharply curved body. Dia. 330 mm.
Ditch 533; layer 540.
- 38 Fab 57: Simple lid with one groove. Dia. 120 mm.
Ditch 533; layer 540.
- 39 Fab 3a: Narrow neck from a jar of unknown form with a simple turned-out rim and one neck cordon. Dia. 85 mm.
Ditch 533; layer 540.
- 40 Barrel shaped jar with flat sharply everted rim above cordon, with one shoulder cordon and two grooves around the body girth. The base has a raised centre and has been perforated with a 16 mm dia. hole. Rim dia. 150 mm, base dia. 95 mm.
Ditch 533; layer 547.
- 41 Globular undecorated jar with narrow mouth and short everted rim defined by small cordon. Dia. 90 mm.
Ditch 533; layer 547.

Kiln 559, Pit 572 and Dump in Ditches of Enclosure 30 (Figs 105-106)

All vessels are made in red-surfaced grogged Belgic Fabric 46a except where other specific fabrics are given.

- 26 Large jar, Thompson form B3-4 with multiple cordons and grooves on sloping shoulders, a short neck and small rounded rim. Dia. 170 mm.
Pit 752; layer 758.

- 42 Fab 45: Undecorated small wide-mouthed cup or bowl with a simple rounded rim. Dia. 100 mm.
Ditch 533; layer 610.
- 43 Lid with cordoned lip and raised domed centre. Dia. 140 mm.
Ditch 533; layer 610.
- 44 Fab 29: Wide-mouthed bowl with simple everted rim and two devolved shoulder cordons with a band of random stabbing decoration just above vessel girth. Dia. 235 mm.
Ditch 533; layer 610.
- 45 Fab 1a: Bead-rimmed neckless jar or bowl with a wide mouth, one thin groove just below the rim and slashed decoration on rim exterior. Dia. 160 mm.
Ditch 582; layer 621.
- 46 Fab 45: Plain neckless wide-mouthed jar with ledged rim. Dia. 120 mm.
Ditch 583; layer 622.
- 47 Colander base with foot-ring, perforated with fine drainage holes. Dia. 75 mm.
Ditch 583; layer 622.
- 48 Cup form with constricting cordon above girth. Dia. 130 mm.
Ditch 533; layer 778.
- 49 Fab 46da: Wide shallow bowl or dish with extended grooved rim and ring-footed base in black-surfaced fabric 46da. Rim dia. 200 mm, base dia. 70 mm.
Ditch 533; layer 2059.
- 50 Narrow-mouthed jar or flask with decorative neck cordons and angled shoulder. Dia. 90 mm.
Ditch 533; layer 2059.
- 51 Necked ovoid jar with rounded and everted rim, high grooved shoulder with a zone of incised lattice below and simple flat base. Rim dia. 135 mm, base dia. 100 mm.
Ditch 533; layer 637.
- 52 Fab 57: Utilitarian hand-made vessel with a wide mouth and a simple internally thickened rim. Flat base with several drainage holes and a possible batch mark IX on the lower base wall. Rim dia. 200 mm, base dia. 105 mm.
Ditch 533; layer 671.
- 53 Simple undecorated open bowl with flattened and internally bevelled rim. Dia. 210 mm.
Ditch 588/533; layer 710.
- 54 Large globular storage jar with everted rim, diagonal line decoration between shoulder grooves, and 'wave' line decoration below. Dia. 330 mm.
Ditch 533; layer 717.
- 55 Globular jar with a bead rim and angled grooves and cordons on a short neck. Dia. 140 mm.
Ditch 587; layer 727.
- 56 Finer-ware large jar rim with remains of shoulder cordons. Dia. 310 mm.
Ditch 533; layer 778.
- 57 Carinated cup with constricting waist cordon and ring-footed base. Rim dia. 140 mm, Base dia. 65 mm.
Ditch 533; layer 778.
- 58 Larger version of vessel 55, with grooves and cordons on shoulder and neck. Dia. 160 mm.
Ditch 533; layer 778.
- 59 Larger version of vessel 57, carinated cup or bowl. Dia. 200 mm.
Ditch 533; layer 778.
- 60 Probable girth-beaker, undecorated with constricted waist. Dia. 170 mm.
Ditch 533; layers 524/778, joining sherds.
- 61 Barrel butt-beaker with cordons on the body and below rim. Those above and below girth delineate a decorated panel of fine diagonal lines. Dia. 120 mm.
Ditch 533; layer 780.
- 62 Very large storage jar with a short everted and rounded rim curving to sloping shoulders, with one vestigial neck cordon. Dia. 340 mm.
Ditch 533; layer 778.

Unusual Forms in Belgian Fabrics (Fig. 107)

- 63 Fab 46a: Large 'flower pot' form with a vertical rim hipped at body junction and with flat vertical sides. Dia. 310 mm.
Ditch 590/591; layer 606.
- 64 Fab 46a: Small 'pudding bowl' with a lid-seated rim and gently curved body wall, and base with vestigial foot-ring. Rim dia. 120 mm, base dia. 60 mm.
Ditch 590/591; layer 744.
- 65 Fine Fab 46a: Barrel-jar with a bead rim, one shoulder groove and a simple base with a slightly raised centre. Rim dia. 105 mm, base dia. 90 mm.
Enclosure 275, Ditch 600; layer 880.
- 66 Fab 57: Globular wide-mouthed neckless barrel/bowl with extensive cordoning above girth and small upstanding rim. Dia. 235 mm.
Enclosure 275, Ditch 600; layer 881.
- 67 Fab 46a: Simple pedestal base with a thin cordon above the curved foot-rim and a subsequently drilled central hole. Dia. 110 mm.
Ditch 590/591; layer 898.
- 68 Fab 46a: Small wide-mouthed neckless jar with a slashed rim. Dia. 110 mm.
Ditch 590/591; layer 458.
- 69 Fab 45: Large wide-mouthed jar with ledged rim and slashed decoration. Dia. 220 mm.
Ditch 590/591; layer 1189.
- 70 Fab 46a: Upper body of an undecorated beaker with a sharply hipped shoulder line and narrow everted rim. Dia. 100 mm.
Enclosure 32, Ditch 475; layer 443.
- 71 Crudely moulded fired clay foot with finger impressions, possibly a kiln fitting or support.
Ditch 589; layer 708.

- 72 Fab 46da: Sherd only of a large storage jar with a simple outturned rim and a straight sided body of uncommon form.

Unstratified.

Pit 835 (Fig. 108)

- 73 Fab 1a: Jar with a short neck and steeply sloping shoulders, with an everted and squared rim. Dia. 160 mm.

Layer 733.

- 74 Fab 34b: Open bowl with simple upright rim, grooves and cordon on rim exterior and mica gilding on both surfaces. Probably second century. Dia. 210 mm.

Layer 733.

- 75 Fab 70: Pear-shaped flagon with box flange on the neck and a tall incurved simple rim. Bands of rouletting around the girth and one rounded handle, made in a cream Fabric 70, with a dark brown colour coat. Possibly from the Nene Valley, but more likely to be from Oxford and dating from the late third century. No direct parallel has been found but similar forms exist in both the white and oxidised Oxford ware forms. Rim dia. 25 mm, base dia. 60 mm.

Layer 733.

- 76 Fab 9a: Wide-mouthed jar with tall neck and high shoulders, simple flat base and wide everted rim. Rim dia. 125 mm, base dia. 50 mm.

Layer 733.

- 77 Fab 3k: Wide-mouthed necked jar with a shoulder groove and a curved footed base. Rim dia. 125 mm, base dia. 65 mm.

Layer 733.

- 78 Fab 28d: Similar form to vessel 77 with a girth-cordon, a flattened everted rim and a grooved base.

Layer 733.

- 79 Fab 2a: Rim of narrow necked jar. Dia. 110 mm.

Layer 873.

- 80 Fab 2a: Wide-mouthed jar with remnant shoulder cordon. Dia. 220 mm.

Layer 873.

- 81 Fab 47a: Wide-mouthed ledged jar rim in orange finished fabric 47a. Dia. 220 mm.

Layer 873.

- 82 Fab 28d: Curved shallow bowl with cavetto rim. Dia. 210 mm.

Layer 873.

- 83 Fab 9a: 'Dog' dish with slightly curving walls decorated with random lines of arcs on exterior. Rim dia. 180 mm, base dia. 150 mm.

Layer 930.

- 84 Fab 9a: Deep bowl with small curved upstanding rim and rounded flange with simple flat base and no decoration. Dia. 175 mm.

Layer 930.

- 85 Fab 43f: Curved shallow bowl with slightly down-turned extended rim. Dia. 230 mm.

Layer 910.

- 86 Fab 1a: Rim and narrow sloping shoulders of shelly-ware jar with a short everted and squared rim. Dia. 220 mm.

Layer 910.

- 87 Fab 2a: Narrow-mouthed large jar with a short stubby neck and wide angled shoulders, and a simple domed rim. Dia. 160 mm.

Layer 909.

- 88 Fab 3a: Deep bowl with a sharply defined rim and extended flange, sloping walls with 'arced' decoration on the exterior. Dia. 190 mm.

Layer 908.

- 89 Fab 9a: A larger flanged bowl without decoration, but having both a rounder rim and flange. Dia. 230 mm.

Layer 908.

- 90 Fab 2a: Rim only from a large pink grogged-ware jar with everted angular rim. Dia. 230 mm.

Layer 908.

- 91 Fab 1a: Shelly-ware large storage jar with everted triangular rim and vestigial neck cordon, no body form. Dia. 300 mm.

Layer 908.

- 92 Fab 3a: Pie dish form. Dia. 270 mm.

Layer 907.

- 93 Fab 2a: Pink grogged ware jar rim. Dia. 210 mm.

Layer 907.

- 94 Fab 24: Oxford colour coat bowl, form C45, dated c.AD 270-400+ (Young 1977). Dia. 230 mm.

Layer 906.

- 95 Fab 1a: Small dish, possibly carinated. Dia. 160 mm.

Layer 906.

- 96 Fab 24: Oxford flanged-bowl with incurved rim and down-turned short flange, form C51, AD. 240-400+ (Young 1977). Dia. 180 mm.

Layer 905.

- 97 Fab 3a: Bowl with everted and shallow rim. Dia. 190 mm.

Layer 905.

Posthole 2051 (Fig. 109)

- 98 Fab 1a: Ovoid jar with wide flat everted rim and rilled outer surface. Rim dia. 170 mm, base 90 mm.

Layer 2052.

- 99 Fab 3a: Bowl with shallow rim and rounded flange. Dia. 190 mm.

Layer 2052.

Roundhouse Ditches (Fig. 109)

- 100 Fab 46a: Same as vessel 23 in form, fabric and decoration but larger. Dia. 190 mm.

Roundhouse 783; Layer 787.

- 101 Fab 28b: Narrow-necked vessel with frilled decoration on the lower half of a grooved rim.

Roundhouse 851/852; Layer 167/168.

- 102 Fab 41f: Perforated base sherd of a cheese press or strainer.
Roundhouse 851/852; Layer 167/168.
- 103 Fab 9a: Rimless shallow bowl with curved wall. Dia. 180 mm.
Roundhouse 851/852; Layer 168.
- 104 Fab 3a: Wide-mouthed bowl with a curved neck, simple rounded rim and a flat base. Rim dia. 210 mm, base dia. 80 mm.
Roundhouse 851/852; Layer 951.
- 105 Fab 3k: Shallow bowl with an internally bevelled rim and slightly curved body. Dia. 170 mm.
Roundhouse 851/852; Layer 951.
- 106 Fab 1a: Shelly-ware jar, with flattened outturned rim. Dia. 180 mm.
Roundhouse 851/852; Layer 239.

Cremations (Figs 110–111)

Cremation 1

- 107 Fab 41d: Miniature one-handed flask/flagon in oxidised fabric. Dia. 35 mm.
- 108 Fab 41d: Foot-ring base of bowl with wide upcurved walls, no diagnostic body form. Dia. 85 mm.
- 109 Fab 20: Heavy Samian dish, form 18/31. Made by Crobisio of Lezoux, c.AD. 140–155/160. Dia 185 mm (p.197.147).

Cremation 2

- 110 Fab 20: Samian dish form 18/31, broken and repaired with lead rivets and part of one side replaced by lead plate. Made by Sedatus iv of Lezoux, c.AD. 130–160. Dia. 175 mm (p.197.149).

Cremation 3

- 111 Fab 9a: Base with curved foot and body of barrel beaker jar, with grooves above girth. Dia. 67 mm.
- 112 Fab 46a: Butt-beaker rim, possibly undecorated vessel. Dia. 140 mm.
- 113 Fab 20: Samian dish of form 18R or 18/31R. Made by Roppus ii of Les Martres-de-Veyre, c.AD. 110–140. Dia. 230 mm (p.197.148).

Cremation 6

- 114 Fab 9a: Wide-mouthed bowl with curved neck and extended triangular rim and simple base with raised centre. Rim dia. 250 mm, base dia. 90 mm.
- 115 Fab 14a: Base and body of small high-shouldered jar with small cordon at the neck base. Base dia. 40 mm.
- 116 Fab 46 da: Domed lid with two deep grooves above internally bevelled rim. Dia. 290 mm.

Cremation 7

- 117 Fab 6: Nene Valley colour-coated beaker base with curved foot and internally raised centre. Dia. 35 mm.

Cremation 8

- 118 Fab 1: Simple base and girth of an ovoid jar with faint grooves below girth and above the base. Dia. 100 mm.

- 119 Fab 41d: Bowl copying Dr. 37 with simple everted straight rim and omphalos base. Dia. rim 140 mm, base 55 mm.
- 120 Fab 18c: One-handed flask with ellipsoid body, everted triangular rim and foot-ring base, probably Oxford form W18.2. Rim dia. 40 mm, base dia. 47 mm.

Cremation 9

- 121 Fab 47a: Grooved base of jar with two faint lines on lower base wall. Dia. 73 mm.

Cremation 11

- 122 Fab 47a: Base with curved foot and raised centre. Dia. 80 mm.

Cremation 12/13

- 123 Fab 9b: Poppy-head beaker body and base with curved foot and raised centre, with barbotine dot decoration on girth and neck/shoulder cordon. Base dia. 65 mm.

Cremation 15

- 124 Fab 9b: Base of small vessel. Dia. 35 mm.

Cremation 16

- 125 Fab 34g: Indented mica-gilded beaker in eggshell fabric, dated to c.AD 60. Base dia. 32 mm.
- 126 Fab 18a: Ring-necked flagon with ellipsoid body, probably from Verulamium and dated to c.AD. 60–75. Dia. 60 mm.

Cremation 17

- 127 Fab 9xy: Butt-beaker copy, with cordons beneath rim and above and below three decorated bands of diagonal lines, separated by horizontal grooves on the girth. Dia. 130 mm.
- 128 Fab 57: Small necked-bowl with simple everted rim and curved base with shallow raised centre. Rim dia. 80 mm, base dia. 45 mm.
- 129 Fab 57: Vessel as 128, similar in both form and fabric but larger and with a vestigial neck cordon. Rim dia. 120 mm, base dia. 55 mm.
- 130 Fab 57: Body form and base of an undecorated butt-beaker with shoulder cordon and base with internal raised centre. Dia. 55 mm.

Cremation 18

- 131 Fab 46a: Base and lower body with cordons on lower base wall, on and below girth, possibly from a cordoned pedestal urn. Dia. 100 mm.

Inhumation 942 (Fig. 111)

- 132 Fab 9a: Miniature shouldered jar with simple everted rim. Dia. 50 mm.

Fine Ware (Fig. 112)

- 133 Fab 13c: Shoulder sherd of central Gaulish glazed 'St Remy' ware beaker with linear and dotted arced barbotine decoration on shoulder and girth, dated c.AD 20–70.

THE MORTARIA (Fig. 113)

Kay Hartley

A total of forty-seven sherds from a minimum of nineteen mortaria were found in thirty separate contexts. With the exception of a single Mancetter-Hartshill body sherd, only rim sherds have been used for the vessel count. Seventeen of the mortaria were made in the Oxford potteries, one in Northamptonshire and one in the Mancetter-Hartshill potteries.

Two of the Oxford examples (from the late second-century Enclosure Ditch 307 and Pit 835) could be somewhat earlier than AD. 240. The Northamptonshire mortarium was associated with pottery of later second to third-century date in Ditch 590/591. The Mancetter-Hartshill mortarium cannot be closely dated but it was sealed with pottery of late second to third-century date at the intersection of Ditches 406 and 433. Two Fabric 1 white ware body sherds, which have not been included in the minimum number analysis, were also securely stratified in second-century layers in Ditches 512 and 590/591.

Of the seventeen Oxford mortaria, apart from the probable earlier pieces described above, nine in the group would be dated AD. 240–300 (Young 1977), three within the period AD. 240–400 and three to the fourth century alone. Datewise as a group it ranges from late second to some time in the fourth century, with over half of third-century date, and broadly parallels other local groups (Marney 1989), the Oxford potteries being virtually the sole supplier after the mid third century. However, the main difference between this and other local sites is the complete absence of any mortaria from the *Verulamium* potteries. Whilst they only ever appear in Milton Keynes in comparatively small proportions, they are normally represented in pottery assemblages on first and second-century settlements. For example, in the late first to second-century group at Caldecotte (Marney 1989, 130) over 7% of mortaria derived from the *Verulamium* region. Since the Wavendon Gate settlement was thriving during the first and second centuries the absence of mortaria from this region is puzzling.

Fabrics Represented in the Group

Fabric 1 Cowley, Headington, Sandford etc., Oxford. (Young 1977)

Fairly fine-textured, cream to brownish-cream fabric, sometimes with pink core or pink throughout; some tiny inclusions of haematite-stained quartz and, rarely of black and red-brown material. Trituration grit consists entirely of transparent, and translucent pink and brown quartz. The fabric of some, especially early, Oxford mortaria is packed with transparent quartz inclusions and can appear similar to fabric produced in potteries in the Verulamium region. This is commonest in the period AD 100–140 but it is certainly associated with some third-century mortaria.

Fabric 2 Balsdon, Cowley, Dorchester, Sandford, etc., Oxford. (*ibid.*)

Fine-textured, micaceous, red-brown fabric, sometimes with grey core; some tiny quartz and sparse red-brown inclusions. Trituration grit as in Fabric 1. The fabric appears to be identical with Fabric 3, but is distinguished from it by having a thin white slip.

Fabric 3 As above.

This is substantially the same fabric as Fabric 2, differing only in having a samian-like, red-brown slip. Certain forms, Young C97 and C100 were produced only in this fabric.

Fabric 4 Probably Northamptonshire.

There were certainly kilns in that area of Northamptonshire, which borders on Bedfordshire. They were certainly active in the Antonine period and the early third-century. They were important only in the local region; it is not known exactly when production started or ceased but very little is likely to have taken place after c.AD. 250 because such potteries could not compete successfully with giant producers like the Oxford potteries.

Granular, drab greyish-cream fabric with greyer core and greyish-white slip. Packed with fairly well-sorted, quartz inclusions; no trituration grit survives. This fabric is very close in appearance to the coarsest fabric produced in the

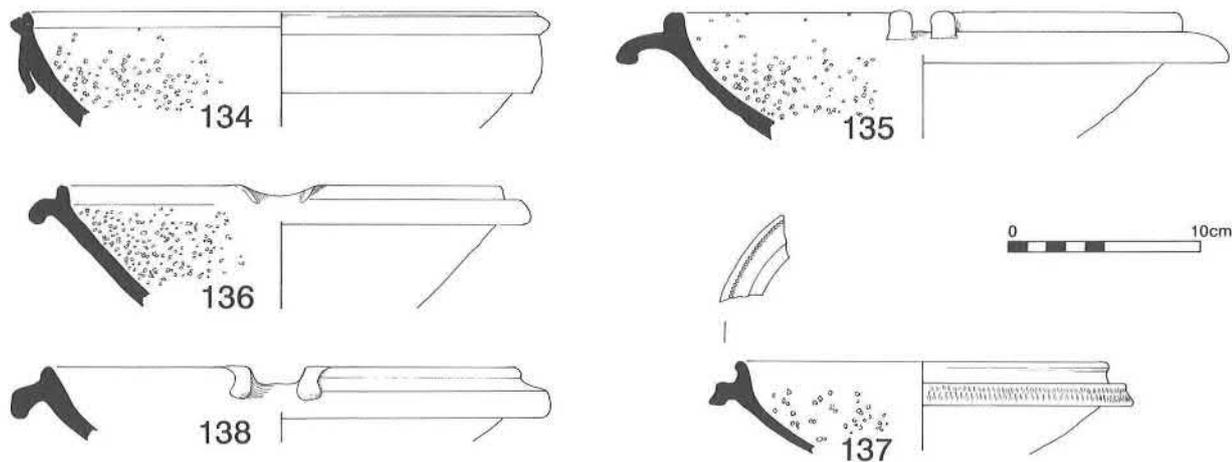


Figure 113: Mortaria 134–138, scale 1:4.

important potteries south of *Verulamium*, but is somewhat greyer. The rim-form of **138** also differs somewhat from their range.

Fabric 5 Mancetter-Hartshill potteries,
Warwickshire.

Usually fine-textured, creamy white fabric, varying in hardness, and sometimes with pink core; moderate inclusions including fairly smallish quartz, sparse red-brown and occasionally opaque white fragments. The range of fabric is in fact quite wide, from that with scarcely any inclusions to fabric with a fair amount of ill-sorted black slag-like inclusions. Trituration grit consists of hard red-brown or/and blackish, re-fired pottery fragments, with only very rare quartz fragments in mortaria later than c.AD. 140. Mortaria earlier than AD. 130 usually have mixed trituration grit in which quartz and sandstone are normal components.

Description of Illustrated Examples

- 134 Fab. 1 (Oxford) AD. 180–240.
Rim form M14 (Young 1977).
Pit 835; layer 911.
- 135 Fab. 1 (Oxford) AD. 240–300.
Rim form M18 (*ibid.*), bead turns off spout.
Hollow 900; Layer 908.
- 136 Fab. 2 (Oxford) AD. 240–300.
Rim form WC5 (*ibid.*), joining sherds, both burnt.
Hollow 900/Stone spread 832; Layers 908/887.
- 137 Fab. 3 (Oxford) Fourth century.
Rim form C100R (*ibid.*), burnt and worn.
Ditch 513/568; Layer 724.
- 138 Fab. 4 (Northants) Late second century.
Ditch 590/591; Layer 116.

SAMIAN

Only 3.193 kg of Samian was found during the course of the trial-trenching operation and the excavation. This derived from sixty-four separate contexts within twenty-six different features. Three substantially complete dishes (Fig. 110.109, 110 and 113) found in Cremations 1, 2 and 3, and a large portion of a decorated bowl from Ditch 137 (Fig. 114.139), by weight alone, make up over half of this total. Only eight decorated vessels are represented within the assemblage, all of which have been described and illustrated (Fig. 114.139–146). The potter's stamps (Fig. 115.147–149) on the three cremation vessels (109, 110 and 113, respectively) have also been described and illustrated. The remainder of the Samian pottery consisted of fragmentary and often isolated sherds frequently found in residual contexts. Apart from vessel 110, which had a replacement side-wall made in lead, only two other vessels exhibited rivetted repairs. A full catalogue compiled by G.B. Dannell is listed in Appendix IV.

A distribution plot of the assemblage shows a distinct concentration in the two largest features; Hollow 900 and Pit 835. The eastern side of Enclosure 275, Ditch 600 and the central division Ditch 590/591 also contained smaller amounts. The western side of the enclosure, Ditch 433, which had been cleaned out in the fourth century, contained only a single Samian sherd.

Decorated Samian (Fig. 114)

G.B. Dannell

Abbreviations:

D	Déchelette 1904
ML	Museum of London
O	Oswald 1937
Ri-Lud VI	Ricken and Ludovici 1948
Rogers	Rogers 1974
S and S	Stanfield and Simpson 1958

- 139 A bowl in the hybrid DONNAVCVS-SACER style, perhaps from a mould made at Les Martres-de-Veyre. The ovolo is Rogers B14; the leaf frond, his L19; the panther is D 795, and the boar is 0 1666, all used by SACER. The snake on the rock motif, D 960b, was used by an associate ATTIANVS. The scroll, Rogers M10, was used by a number of Hadrianic potters at Lezoux, and appears to have come from work associated with potter X-13 at les Martres. The borders owe their origin there, but *cf.* Rogers pl. 84.1. c.AD. 125–145. Central Gaulish.
Ditch 137; Layers 137 and 226.
- 140 Ovolo, Rogers B143, used widely by Antonine potters, including CINNAMVS and his associates; *cf.* Simpson & Rogers, 1969, fig.1.3A. c.AD. 150–180. Central Gaulish.
Enclosure 33, Ditch 475; Layer 417.
- 141 A bowl in three zones. All the details appear in the work of SEVERVS. The stag, the grass and the tendril binding are on a f.37 with his ovolo from London (ML 4318G); the scroll is very similar to one from Nettleton Scrubb, stamped in the mould, while the small S motif is on f.37 with his ovolo from Exeter. c.AD. 75–90. South Gaulish.
Ditch 590/591; layers 695, 744 and 716.
- 142 The ovolo is known on signed bowls by MASCLVS, *cf.* Bird and Marsh 1978, fig. 28.2. The rosette is applied to the plain tongue. c.AD. 50–65. South Gaulish.
Ditch 513; layer 755.
- 143 The bird is not catalogued. c.AD. 70–90? South Gaulish.
Ditch 513; layer 755.
- 144 The ovolo is known for the Julius 1 group at Rheinabern, *cf.* Ri-Lud. VI, taf. 161.3F. c.AD. 190–210?. Rheinabern.
Hollow 900/Stone spread 832; Layers 756/887.
- 145 Style of DIVIXTVS: the erotic group, O. Group B; the hare, D 950a; the acanthus, Rogers K22, and the circle and binding ring (*cf.* S and S, pl. 116.8), are all his. c.AD. 135–160. Central Gaulish.
Pit 835; Layer 910.
- 146 This infilling appears to go with early vessels. *cf.* K19, taf.

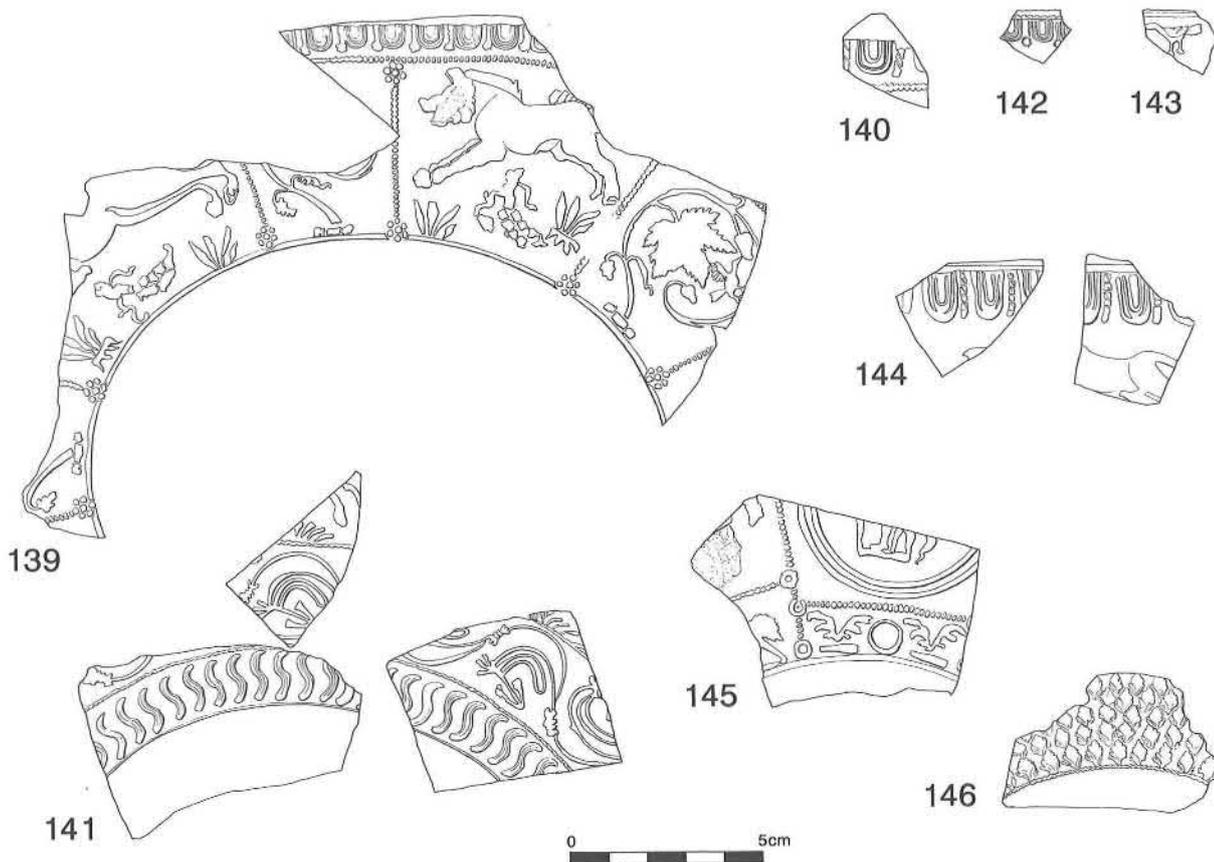


Figure 114: Decorated Samian vessels 139–146, scale 1:2.

89F; Hawkes and Hull 1947, pl. XXXII.7; Dannell 1985, fig. 46.75. c.AD. 50–65? South Gaulish.

Ditch 113; layer 113.

General Remarks

The samian has a normally developing profile, with Claudian plain ware succeeded by decorated ware reaching the site in the Neronian period. The Flavian pottery from South Gaul is well represented, but decorated ware is still rare.

Substantial quantities of samian reach the site in the Trajanic period from Les Martres-de-Veyre, but decorated ware has not been noted. By the second quarter of the second century, it would appear that more decorated ware is being used, and the piece from Rheinzabern suggests that this activity went on into the third century.

Samian Potters' Stamps (Fig. 115)

Brenda Dickenson

Note:

(a) and (c) after the die numbers indicate, respectively, stamps attested at the pottery in question and stamps assigned to the pottery on the evidence of fabric, distribution, etc. Ligatured letters are underlined>.

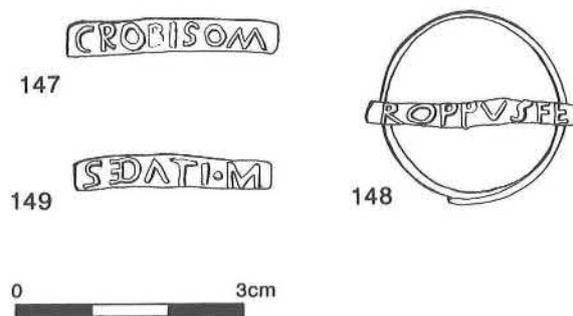


Figure 115: Samian stamps 147–149, scale 1:1.

147 **CROBISOM** (Walke 1965, nos 148–9) on a heavy dish of form 18/31: Crobiso of Lezoux, Die 1a. A stamp used on forms 18/31, 18/31R, 27, 33 and 38. It occurs in Antonine I at Bearsden and is also known from Bothwellhaugh and Haltonchesters. The die may have continued in use after AD. 160, but the form of this dish suggests that it falls with the range c.AD. 140–155/160.

Cremation 1.

148 **ROPPVSFE** on form 18R or 18/31R: Roppus ii of Les Martres-de-Veyre, Die 1a. This has been noted from the Saalburg Erdkastell (before AD. 139: Hartley 1970, 26, 56) and in a group of burnt samian of c.AD. 140–150 at Castleford (forthcoming). There is also an example from Corbridge, which appears to be Trajanic. c.AD. 110–140.

Cremation 3.

149 **SĒDATILM** (Walke 1965, no. 341) on form 18/31: Sedatus iv of Lezoux, where the die, 2c, is known to have been used. This stamp occurs in the Rhineland and was used on forms 18/31 and 27. There is a heavily-burnt example from Gauting, which may well have come from the Hadrianic fire groups there. Sedatus seems to have been associated with Paullus iv in the production of jars and he must therefore still have been at work in the Antonine period. c. AD. 130–160.

Cremation 2.

EARLY SAXON POTTERY (Fig. 116)

Paul Blinkhorn

The pottery from this site is typical of that from the Milton Keynes area, and the south-east Midlands generally. The fabrics contain a suite of minerals typical of those found in the ceramic of the locale, such as Pennyland and Hartigans in Milton Keynes (Blinkhorn 1993), North Raunds, Northants. (Blinkhorn forthcoming [a]) and the Shires Leicester (Blinkhorn forthcoming [b]).

The lack of reconstructible vessels suggests that the assemblage is largely the result of secondary deposition. Pit 26 yielded sizable fragments of a large jar (1), but full reconstruction of the profile was not possible. There were no joining sherds found except within individual features. Despite this, the mean sherd weight was 15 g., which is larger than other comparable assemblages such as that from North Raunds, suggesting that there was domestic occupation at Wavendon Gate, although the small amount of pottery present indicates that it was probably short-lived.

Analytical Methodology

Each sherd was examined using a 5x hand magnifier, with ten fabric categories (Fabs 1–10) being established. They are fairly broad in their definition, both due to the nature of the glacial clays of the area, and the presumed method of manufacture.

It seems likely that the majority of the domestic pottery of the Early Saxon period was manufactured in or near the settlement in which it was used, as is indicated by the finds of a clay dump and pottery stamps at the Early Saxon village of West Stow in Suffolk (West 1985).

Analysis of other groups of pottery in the area has suggested that there was a strong degree of conservatism in the method of preparing the clay mixes (Blinkhorn 1993), and that the actual mineralogical content was not a primary concern of the potters. Thus minute fabric analysis, while useful in the examination of industrially produced ceramics, is not really appropriate for Early Saxon pottery of this area.

There are sherds of granite tempered pottery (Fabrics 8 and 10) present in the assemblage, as there are in other sites in the area. These are generally considered to be products of a postulated industry in the Charnwood Forest area of Leicestershire (Walker 1978), where the granite crops are sited. However, the possibility of the granite being present

in the glacial clays of the Milton Keynes area has not been fully investigated. It does seem a little puzzling that there should have been a trade in vessels of no obvious superior quality to the locally produced wares, although it is possible that these vessels could represent a movement of people rather than trade.

Analysis was somewhat hampered by the presence of Iron Age pottery on the Wavendon Gate site, which can cause confusion due to the similarity of both the clays used in the manufacture and the methods of production. In the Milton Keynes area the most obvious difference between the Iron Age and the Saxon pottery often appears to be a more extensive use of calcareous temper in the former. This model is well demonstrated at the Iron Age and Saxon settlement at Pennyland (Blinkhorn 1993). However, at Wavendon Gate fabric analysis of the late Iron Age assemblage (p.169) has demonstrated a much greater use of quartz and grog. Furthermore, a proportion of the Saxon material from Wavendon Gate does contain some calcareous material. It is probable in the majority of cases that this was present in the clay rather than added as a temper, as appears to be the case with the Iron Age pottery.

Certainly, thin-section work comparing the Iron Age and Saxon fabrics would help clarify the issue, and it may well be that after such work the fabrics listed below will have to be revised, for examination of fabrics 'in the hand' can never be as accurate as thin-section analysis.

The incidence of the different fabrics in the main features by sherd count is shown in Table 22.

Fabrics

Note: All the fabrics contain a moderate amount of visible silver mica, unless otherwise specified.

F1 Chaff Tempered

Heavily tempered with chaff, represented by voids $c.4 \times 1$ mm across. Few other visible inclusions except for a sparse scatter of fine silver mica. Surface usually smoothed with a 'wet hand' finish, although the surface is still pocked with chaff voids.

F2 Fine

Sherds have a slightly rough 'sandy' feel, but few visible inclusions except for an occasional grain of sub-rounded white, pink or grey quartzite up to 1 mm across. Moderate to heavy silver mica content, platelets up to 1 mm across.

F3 Fine Sandy

As F2, but with a moderate amount of fine (<0.5 mm across) pink, white and grey sub-rounded quartzite which gives a visible studded texture to the untreated areas of the surface. Occasional larger grains up to 2 mm across.

F4 Coarse Sandy

As F3, but with a much higher quartzite and mica content, with the former generally up to 2 mm in diameter. The quartzite in some sherds is predominately orange-red in colour.

F5 Coarse Sandstone

Heavily tempered with crushed white sandstone, usually angular grains $c.1$ mm across, but with common fragments up to 4 mm across. High silver mica content. Usually 'wet-hand' finished, hiding the inclusions.

Feature	Fabric										TOTAL
	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	
PRIMARY FEATURES											
Pit 25	39	13	6	—	—	—	—	—	—	—	58
Pit 26	29	5	2	4	—	—	—	—	—	—	40
Pit 463	—	—	1	—	—	—	—	—	—	—	1
Pit 667	—	6	—	—	—	—	—	—	—	—	6
Pit 663	—	—	1	—	—	—	—	—	—	—	1
Pit 684	—	—	2	—	—	—	—	—	—	—	2
Pit 1140	—	—	1	1	—	—	—	—	—	—	2
Pit 1152	1	3	3	—	5	1	—	—	—	—	13
Posthole 2084	—	—	—	—	—	—	10	—	—	—	10
Posthole 163	—	—	1	—	—	—	—	—	—	—	1
SECONDARY USE											
Ditch 113	—	—	7	2	1	—	—	—	—	—	10
Ditch 842	—	25	16	6	5	—	—	—	—	—	52
Pit 835	—	1	6	1	—	—	—	—	4	—	12
Hollow 900	—	—	3	—	—	—	—	—	—	—	3
Enclosure 475	—	4	13	7	—	—	—	—	—	—	24
Ditch 433	2	61	50	29	7	—	—	1	—	—	150
Ditch 600	16	38	140	31	7	1	—	—	8	1	242
Ditch 15	1	4	—	4	3	—	—	—	—	—	12
Ditch 590/591	—	—	8	8	—	—	—	—	—	—	16
TOTAL	88	160	260	93	28	2	10	1	12	1	655

TABLE 22: Incidence of Saxon pottery fabrics by sherd count.

F6 Limestone

Heavily tempered with sub-rounded pale grey fossiliferous limestone, 0.5–2 mm diameter.

F7 Sandy Ironstone

Moderate temper of rounded pink, white and grey subrounded quartzite up to 2 mm across, and rounded orange-red ironstone up to 1 mm across.

F8 Granite and Limestone-Tempered

Heavy temper of granite, the majority of fragments <1 mm across, but with occasional fragment up to 3 mm across. Rare limestone.

F9 Sandy Chaff-Tempered

As F1, but with a lower chaff content and a moderate amount of rounded quartzite up to 1 mm across.

F10 Granite and Ironstone

Moderately heavy temper of crushed angular granite and rounded red ironstone, both mainly c.3 mm across, although some are smaller down to 0.5 mm across.

Decoration

Only one decorated sherd (15), made in fabric 3 and weighing 15 g., was recovered from the eastern arm of Enclosure 275. It is decorated with a single row of Lackford/Illington type 'Hot Cross Bun' stamps with two incised cordons below, and at least two above. The sherd is from the

shoulder of a jar, the curvature suggesting a maximum body width of around 150 mm. The vessel was possibly similar to Myres 2287 (1977, fig. 98), and has a general similarity to several Lackford/Illington examples (*ibid.* fig. 105). The vessel is therefore tentatively dated to the sixth century.

Discussion and Dating

While form cannot generally be used as a reliable dating aid for the undecorated pottery of this period (Myres 1977, 1), the few feature sherds from this site show the same general trends as the pottery assemblage from Pennyland in Milton Keynes (Blinkhorn 1993). At the latter it was possible to divide the pottery into Early, Early/Middle and Middle Saxon phases, with the Wavendon Gate material seemingly having the closest affinity with the Early Saxon vessels at Pennyland. The Wavendon Gate assemblage, with the possible exception of one vessel (12), did not show any rimform development of the pottery found in seventh and eighth century contexts at Pennyland (Blinkhorn 1993, figs 102–5).

Furthermore, there was also a complete absence of the dateable Middle Saxon wares (Ipswich and Maxey-type) at Wavendon Gate, despite the fact that they occurred at Pennyland. It seems reasonable to assume that the sixth-century date suggested by the stamped sherd (15) applies to the whole of the Wavendon Gate assemblage. A vessel with

a similar decorative scheme was also present at Pennyland (*ibid.* fig. 101.21).

As mentioned above it is possible to group the fabrics from sites in the area into classes based on the preparation of the temper, *ie.* crushed mineral or 'natural' sand (Blinkhorn 1993), with chaff tempering appearing to be related to the sand temper potters. This results in the fabrics from Wavendon Gate being grouped as follows:

- Crushed Mineral: F5, F6, F8, F10.
- Sand and Chaff: F1, F2, F3, F4, F7, F9.

The pottery from the major features can then be grouped as

follows:

ENCLOSURE 275:

North arm 15:

- Temper: 3 sherds, 35 g. (av. 11.7 g.)
- Sand and Chaff: 9 sherds, 150 g. (av. 16.7 g.)

East arm 600:

- Mineral: 8 sherds, 185 g. (av. 23.1 g.)
- Sand and Chaff: 142 sherds, 1899 g. (av. 13.4 g.)

West arm 433:

- Mineral: 9 sherds, 95 g. (av. 10.6 g.)
- Sand and Chaff: 233 sherds, 3310 g. (av. 14.3 g.)

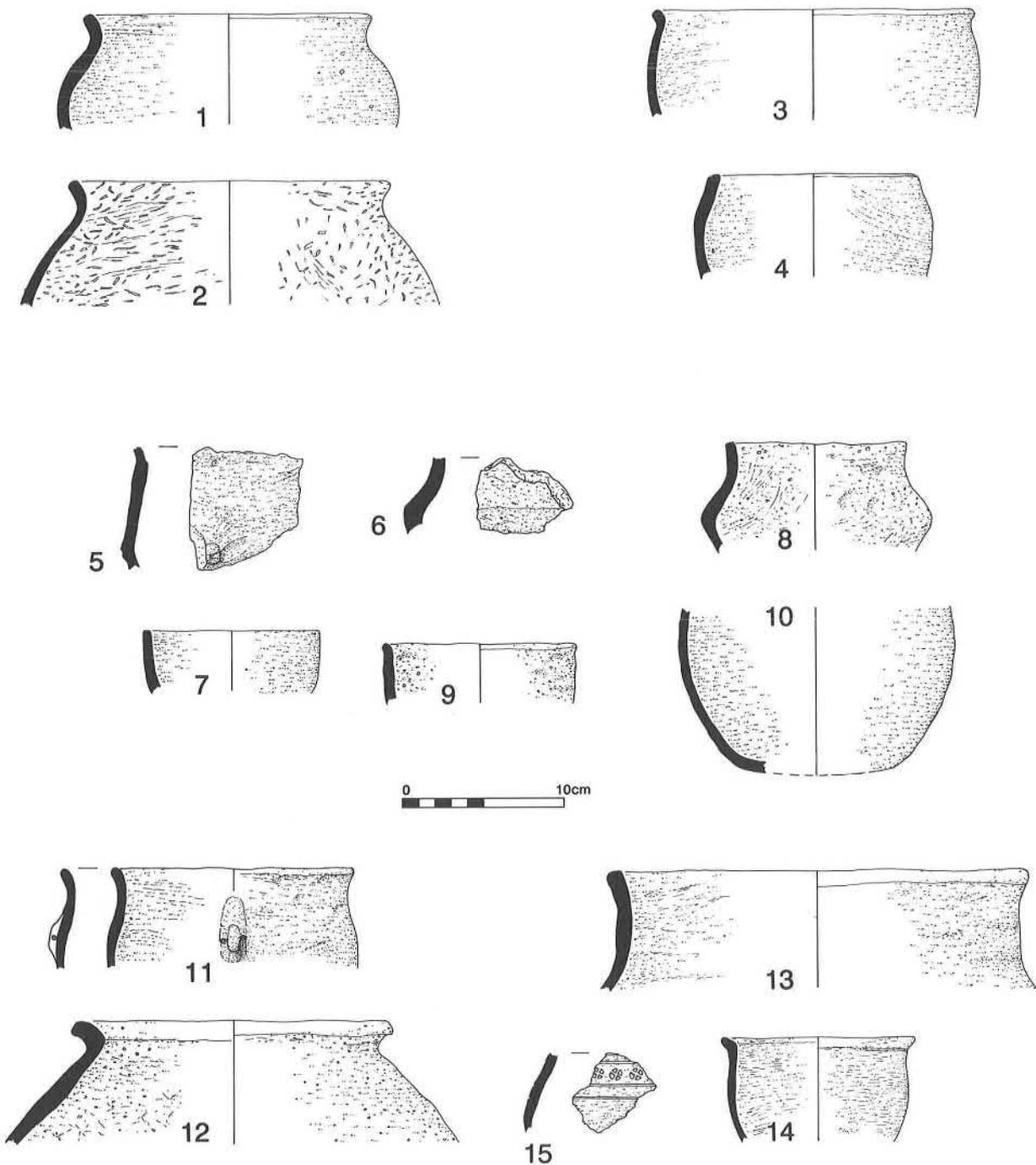


Figure 116: Early Saxon pottery 1-15, scale 1:4.

Ditch 590/591:

Mineral: 0

Sand and Chaff: 16 sherds, 220 g. (av. 13.8 g.)

OTHER FEATURES:

Mineral: 12 sherds, 275 g. (22.9 g.)

Sand and Chaff: 223 sherds, 3866 g. (17.3 g.)

SITE TOTAL:

Mineral: 32 sherds, 590 g. (av. 18.4 g.)

Sand and Chaff: 623 sherds, 9445 g. (av. 15.2 g.)

Which gives a mineral:sand ratio of 1:19.5 (on sherd count).

Catalogue of Illustrated Sherds

- 1 Fab 2: Rimsherd, upright and everted profile. Dia. 180 mm.
Pit 26; Layer 26.
- 2 Fab 1: Large globular vessel with upright and everted rim. Dia. 200 mm.
Pit 26; Layer 28.
- 3 Fab 2: Everted rim. Dia. 190 mm..
Ditch 842, Enclosure 32; layer 158.
- 4 Fab 3: Upright profile from simple 'baggy' vessel. Dia 130 mm.
Ditch 842, Enclosure 32; layer 2063.
- 5 Fab 2: Shoulder of a jar with a perfunctory pinched longitudinal lug.
Ditch 433, Enclosure 275; layer 435.
- 6 Fab 3: Carination from a biconical vessel.
Ditch 433, Enclosure 275; layer 442.
- 7 Fab 3: Upright rimsherd from a cup or lamp with an oxidized outer surface. Dia. 110 mm.
Ditch 433, Enclosure 275; layer 442.
- 8 Fab 2: Upright and slightly everted, but uneven, rimsherd from a biconical jar. Dia. 110 mm.
Ditch 433, Enclosure 275; layer 1135.
- 9 Fab 4: Rimsherd with an upright profile from a lamp or similar cup-like vessel. Dia. 120 mm.
Ditch 433, Enclosure 275; layer 1155.
- 10 Fab 3: Lower body and base angle of a globular vessel.
Ditch 433, Enclosure 275; layer 1221.
- 11 Fab 3: Rimsherd from a jar with an upright and slightly everted profile and a small longitudinal pierced lug applied to the shoulder. Dia. 150 mm.
Ditch 600, Enclosure 275; layer 602.
- 12 Fab 4: Rimsherd, upright and inverted profile with an external bead. Dia. 200 mm.
Ditch 600, Enclosure 275; layer 602.
- 13 Fab 3: Rimsherd from a very large vessel. Upright and slightly everted with a very high neck and a slightly everted bead with a flattened top. Dia. 260 mm.
Ditch 600, Enclosure 275; layer 962.
- 14 Fab 3: Rimsherd from a small vessel with a sharply everted rim. Dia. 120 mm.
Ditch 600, Enclosure 275; layer 962.
- 15 Fab 3: Single sherd decorated with a single row of Lackford/Illington '*Hot Cross Bun*' stamps with two incised cordons below, and at least two above. The sherd is from the shoulder of a jar, the curvature suggesting a maximum body diameter of c.150 mm. The vessel was probably similar to Myres 2287 (1977, fig. 98), and has a general similarity to several Lackford/Illington examples (*ibid.*, fig. 105). the vessel is therefore tentatively dated to the sixth century.
Ditch 600, Enclosure 275; layer 962.

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ENVIRONMENTAL EVIDENCE

INTRODUCTION

During the excavation a programme of water flotation was carried out, primarily for the recovery of charred plant remains (p.244ff). A sufficiently large body of material was collected for only the better-preserved, or in some instances the more interesting, groups to be examined in detail, while the remainder was scanned only for any unusual remains. With the discovery of several waterlogged contexts, most notably Pit 835, a number of large bulk samples were retained for the analysis of waterlogged plant remains (p.236ff) and invertebrates (p.258ff). A substantial quantity of the waterlogged sediments were also washed through a 5 mm-mesh sieve to check on the recovery rate of the smaller artefactual remains. This resulted in the collection of a large volume of small wood fragments which, with the hand-collected pieces, forms the substance of a report on the waterlogged wood (p.260ff). Several of the waterlogged bulk samples were also sub-sampled for pollen analysis (p.256ff).

In association with the flotation programme, bulk samples were also removed from a broad range of features of different types and dates for wet sieving, most of which was undertaken on site. The samples were washed through a 1.5 mm-mesh sieve, dried and sorted into the following categories: bone, shell, pottery, fired clay, slag and other artefacts. This procedure was instigated mainly to evaluate the recovery rate of the hand-collected artefacts, including faunal remains. In the event it was not possible to sieve sufficiently large volumes of sediments for the wet-sieved faunal remains (p.208) to provide a statistically accurate sample. However, in terms of the recovery of sherds and other small artefacts it proved beyond doubt that the hand collection procedure was missing little of any significance. This was both a testament to the skill of the field technicians and a reflection of the general friability of many of the fills, which allowed good visibility of any items contained within them.

Column samples were taken from several large ditch sections for sediment analysis (p.266ff), in the hope that this might explain the differential sedimentation processes noted across the site. A number of column samples were also removed for subsequent molluscan analysis. However, on the advice of Dr Mark Robinson (based on the evidence from the scanned flots and wet-sieved groups) this was not undertaken, as it was felt that it would prove unproductive.

For ease of reference a single numerical sequence was used for all the different categories of sample. To aid the reader,

the sample numbers referred to in the various reports are shown on Fig. 117. In some instances the same sample number appears under differing forms of analysis. This has resulted from the sub-sampling of large bulk samples, most notably for pollen and invertebrate remains.

THE MAMMAL BONES

K.M. Dobney and S.D. Jaques

Introduction

A moderate assemblage of animal bones was recovered from the site representing a total of seventy-two standard boxes. These derived from a range of context types ranging in date from the late Iron Age to the Saxon period. The majority of the animal bones, however, derive from the Roman period, *i.e.* from the first to the fourth centuries AD.

Although all the material was initially recorded, a proportion of the assemblage came from mixed contexts which could not be closely dated. For example, contexts which included material of Iron Age and Roman, Roman/Saxon or mixed Roman date were excluded in the final analysis. As a result, only those contexts which could be confidently assigned to the Iron Age, first to second, second to third, third to fourth centuries and the Saxon period are included in this report. A detailed account (p.230ff) of the bird bones by Kevin Rielly follows this report.

Methodology

Identification of fragments was taken to species level, where possible, using the authors' personal reference collection. These constitute the identifiable fraction. Since identification to species is obviously not always possible, further levels of identification were implemented, mostly on ambiguous shaft and skull fragments as well as vertebrae and ribs. These categories were 'cow-sized' fragments (which include both horse and cow) and 'sheep-sized' (which includes sheep, pig and medium-sized dog). This fraction, in addition to those fragments which could not be assigned to any of these categories, makes up the unidentifiable portion of the assemblage.

Bones identified to species level were recorded in the manner outlined by Dobney and Rielly (1987) using identifiable zones present on each element. Thus minimum number of individual counts (M.N.I) are based on the most frequently occurring non-repeatable zone for any element for each side of the body. Where phalanges were used these were divided by four for sheep and cows and eight for pigs. Total fragment counts and total weight included all identifiable fragments (as well as loose teeth) for each species.

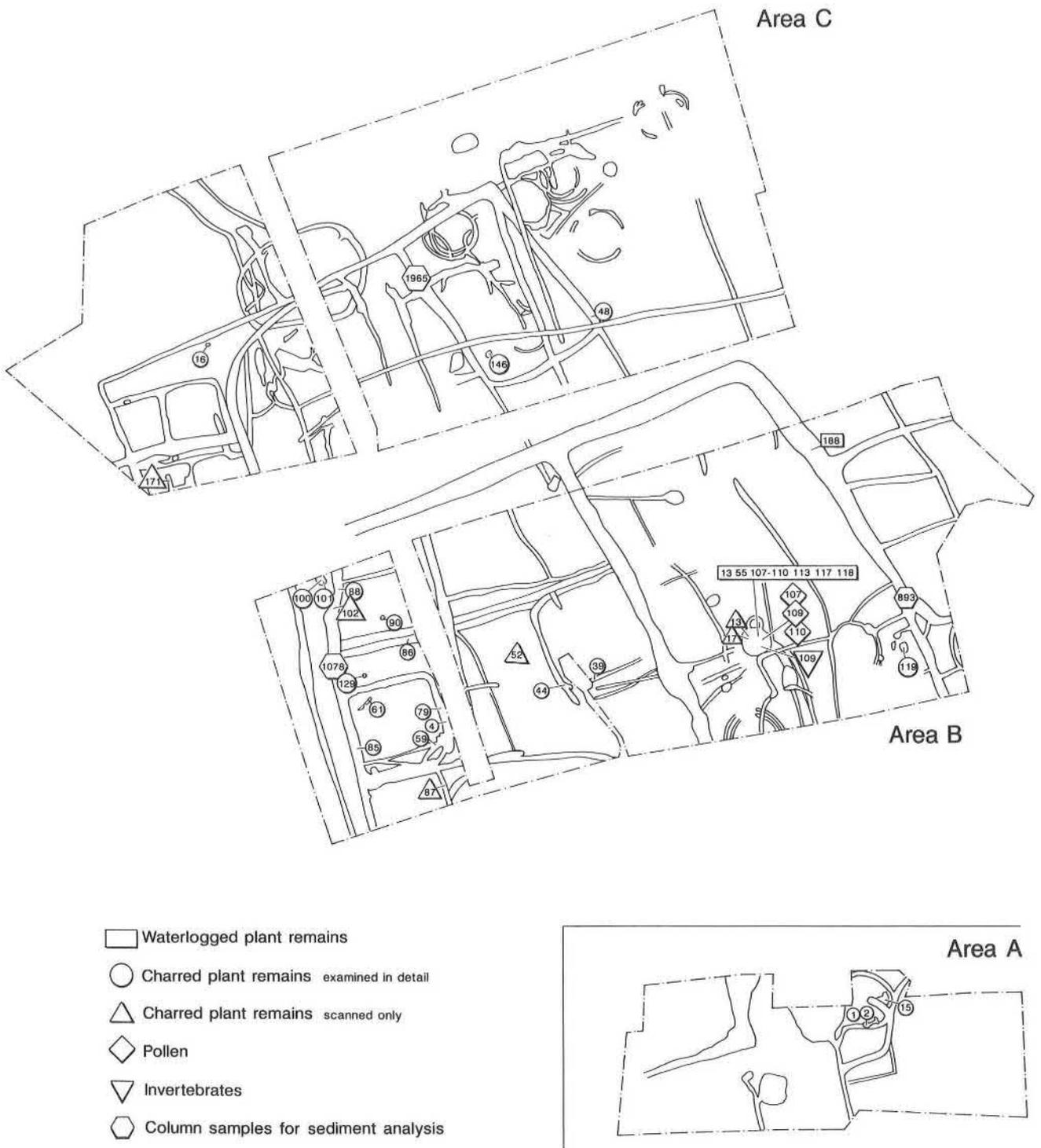


Figure 117: Distribution of environmental samples.

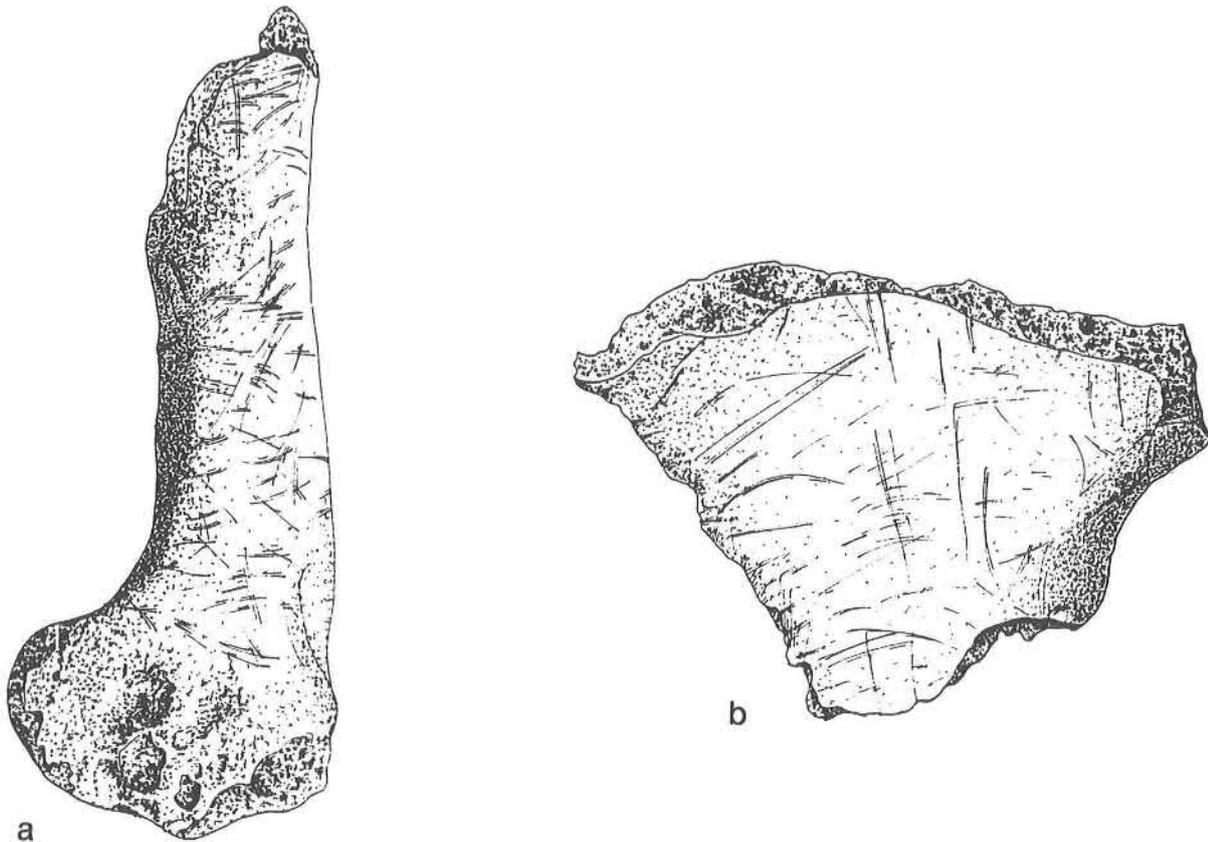


Figure 118: a) Cattle distal humerus and shaft fragment showing random scratch marks on the surface. b) Cattle pelvis fragment, also showing scratch marks.

All measurements were taken in millimetres and in the main follow those outlined by von den Driesch (1976). Additional measurements are detailed where necessary. Ageing criteria used include those proposed by Silver (1969) and Noddle (1984) for epiphyseal fusion, and by Grant (1982) for analysis of tooth eruption and occlusal wear.

Recovery and Preservation

The main assemblage of animal bones was recovered by hand-collection, although a limited wet-sieving programme produced a small assemblage of more systematically recovered material, providing a reasonable check on recovery bias (see section on the wet sieve assemblage below). Preservation on the whole was variable but was mostly good to fair. The organic component of the material was very low, resulting in the bones being relatively brittle, a characteristic of many rural, non-waterlogged assemblages. The integrity of most of the bone was, however, relatively good, with mostly only moderate abrasion of the bone surface. Almost all the assemblage (including material from Iron Age and Saxon date) showed evidence of random 'scratch-like' marks over a large proportion of their surface. Figs 118a and b show examples of this for several cattle elements. It is clear from their random nature and distribution that they do not represent butchery or gnawing marks, and most likely result from natural post-depositional abrasion within the soil matrix.

Most of the assemblage appeared moderately fragmented with a very high incidence of fresh breakage, and only limited numbers of fragments that joined. This is almost certainly a result of hand-collection and the brittle nature of the material. The frequency of evidence for dog gnawing (Fig. 119) on the bones was relatively high, about 20-30% of the entire assemblage. This indicates that

refuse may have been exposed on the surface for periods prior to incorporation into the deposits. There is, however, little correlation between the amount of dog gnawing and poor preservation of some material from certain contexts. Evidence of rodent gnawing was very rare indeed.

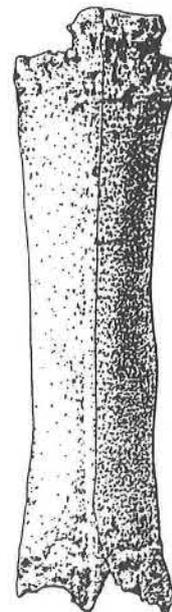


Figure 119: Cattle metacarpal shaft fragment showing evidence of dog-gnawing at the proximal and distal ends.

<i>Species</i>	<i>Iron Age</i>	<i>1st–2nd century</i>	<i>2nd–3rd century</i>	<i>3rd–4th century</i>	<i>Saxon</i>
DOMESTIC:					
Cattle (<i>Bos f. domestic</i>)	413	611	330	437	41
Sheep/(goat) (<i>Ovis/Capra</i>)	79	171 (3)	64	104 (3)	15
Pig (<i>Sus f. domestic</i>)	11	35	7	15	13
Horse (<i>Equus f. domestic</i>)	67	124	38	103	9
Dog (<i>Canis f. domestic</i>)	11	27	4	4	4
Cat (<i>Felis f. domestic</i>)	–	–	1	–	–
WILD:					
Red deer (<i>Cervus elaphus</i>)	1	17	1	3	7
Roe deer (<i>Capreolus capreolus</i>)	–	–	1 (?1)	–	–
Fox (<i>Vulpes vulpes</i>)	–	9	–	21	8
Hare (<i>Lepus cf. europaeus</i>)	–	1	–	–	–
TOTAL IDENTIFIED	586	1022	448	675	90
Large artiodactyl	347	504	222	463	70
Medium artiodactyl	108	111	60	96	23
Unidentified	215	57	41	78	20
TOTAL UNIDENTIFIED	670	682	323	637	113
TOTAL NO OF FRAGMENTS	1256	1704	771	1312	203

TABLE 23: Total numbers of identifiable and unidentifiable fragments.

Species Representation and Relative Frequency

Table 23 shows the range of mammal species identified from the Wavendon Gate assemblage and the total numbers of fragments from each period. A total of 5,232 fragments were recovered from closely dated contexts, 2,807 fragments (*i.e.* 40%) identified to species. Not surprisingly all the major domesticates are present and make up the bulk of the assemblage. These include (in order of apparent relative importance) cattle, sheep/goat, horse, pig and dog. With the aid of adequate reference material, and using criteria detailed by Boessneck (1969), every effort was made to differentiate between the remains of sheep and goats. From the entire assemblage only six fragments (all horncores) positively identified as goat were recovered. These occurred only in first to second and third to fourth-century deposits (Table 23). On the basis of these statistics it is assumed that the vast majority of fragments identified as caprovid are almost certainly sheep. The representation of goat by only horncores may suggest a different use for goat at the settlement. Perhaps this may be tentative evidence of the preparation of goat skins, imported from elsewhere.

A single cat bone was recovered from a second to third-century context (1025). Some elements of the wild fauna were also represented in the assemblage, but these occurred in much smaller numbers than the domestic component. They included both red and roe deer (the former most common in second-

century contexts), a single hare fragment and eighteen fragments of fox.

Turning to the relative importance of the domestic species, from Table 23 it is clear that by far the most commonly occurring in all periods (on the basis of total numbers of identifiable fragments) is cattle. Fig. 120 shows the relative proportions of the four common domesticates from the three major periods. Interestingly cattle appear most commonly in the Iron Age with relatively low numbers of sheep and horse, whilst pig is present in negligible amounts. There appears to be no real change to this pattern in the Roman period apart from minor fluctuations, whilst during Saxon times pig appears more prominently at the expense of cattle. Breaking the Roman period down further (Fig. 121), it appears, using total fragment counts, that from the later Iron Age to the first century AD the importance of cattle on the site declined and sheep and pigs became more important components of the diet. Cattle resumed their importance from the second century, whilst sheep declined. Horse is also relatively well represented in both Roman and Saxon contexts.

However, a slightly different picture emerges if one uses minimum number of individuals (M.N.I.) to calculate relative importance of species. Fig. 122 shows the relative proportions using M.N.I. for the same five phases. A progressive decline in the importance of cattle appears to occur through time from its peak in the Iron Age, with a corresponding increase in the sheep (especially noticeable in the second to third centuries and Saxon

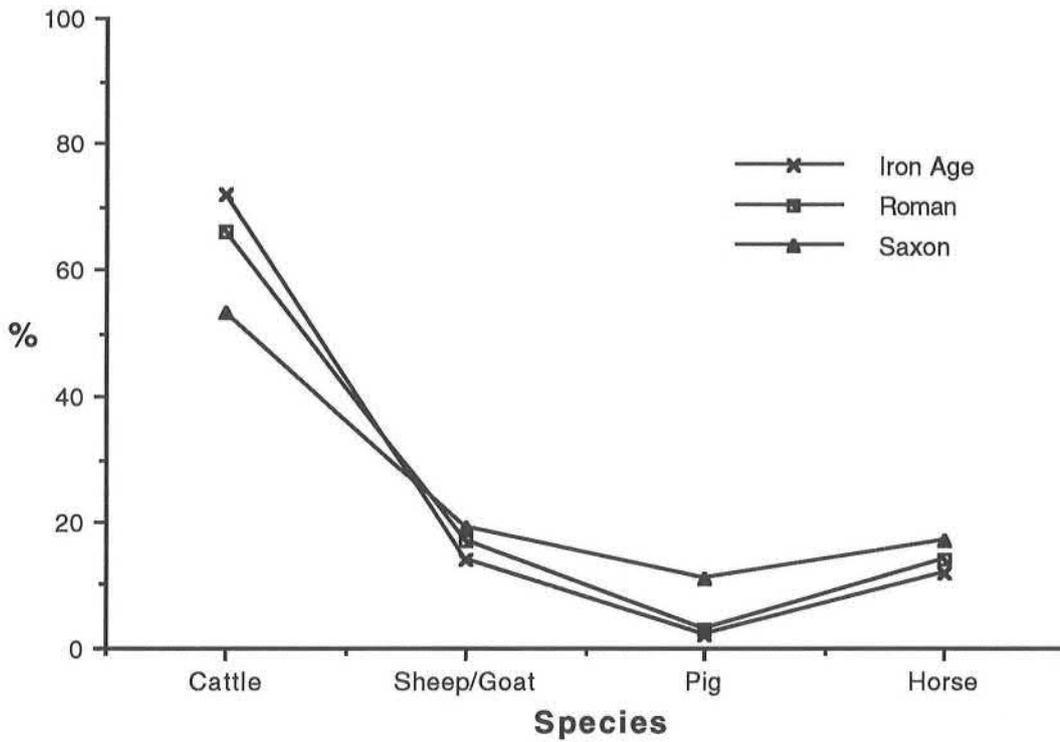


Figure 120: Proportions of main domestic animals for each major period (total fragment counts).

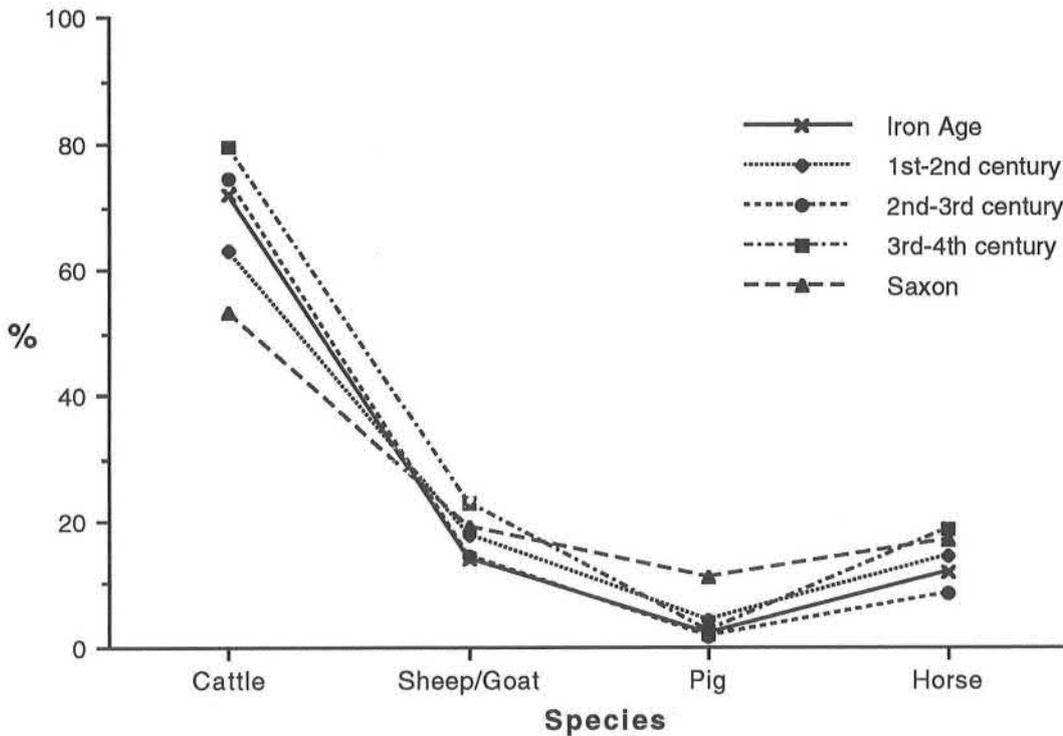


Figure 121: Proportions of main domestic animals for each period (total fragment counts).

period, where sheep appear to outnumber cattle). However from the first to fourth century its relative abundance remains similar, with the decline in its Saxon value occurring during the fourth century. Sheep frequencies appear to fluctuate throughout the Roman period (their peak occurring in the second to third century). Pig, which assumes greater importance in the Iron age, is relatively unimportant in the Roman period and assumes a

greater importance in the third to fourth centuries and subsequent Saxon period.

Problems with Interpretation

It is difficult to draw any detailed conclusions from this relative abundance data since there are a variety of factors which obvi-

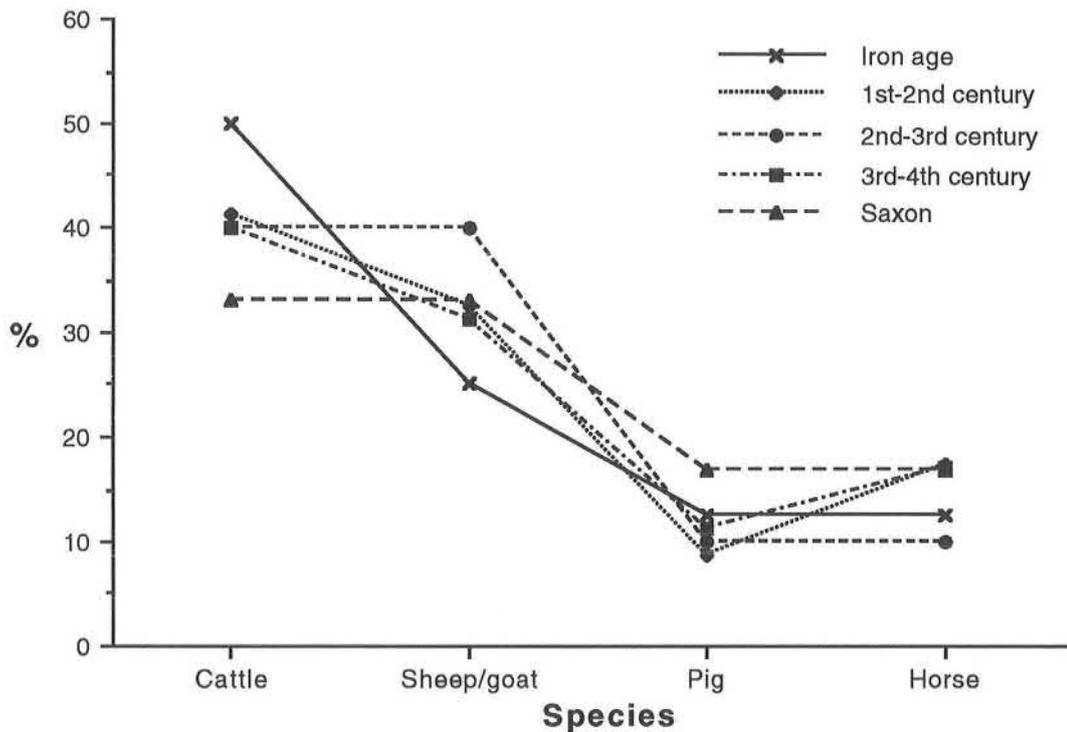


Figure 122: Proportions of main domestic animals for each major period (M.N.I.).

ously may bias the results:

- (i) The fact that the main assemblage was recovered using methods of hand-collection seriously biases results towards larger taxa and elements. In this case sheep and pig are almost certain to be under-represented.
- (ii) The relatively small size of the assemblage for each period (particularly when dealing with the sub-phases within the Roman period) renders any detailed statistical analysis of limited value.
- (iii) More general problems involve direct comparisons of the different species and elements since this assumes that all were utilised and disposed of in the same way through time. All animals may not have been slaughtered on the site, some individuals being traded live or handed on as tithe. In addition, the bones from all animals almost certainly have not been subjected to the same taphonomic factors and may well have responded quite differently to them.

Further analysis of the data from the limited wet-sieve assemblage, the representation of different skeletal elements, the age at death profiles, the biometrical archive and the butchery patterns will help to address a number of these problems.

The Wet-sieve Assemblage

As previously mentioned, a wholesale sampling and flotation policy was instigated during excavation in order to recover plant remains and small bones. A total of eighty contexts were sampled, the size of each sample being between 1.5 and 60 litres, the total volume sieved being 1640.5 litres. Unfortunately the majority of individual samples were too small to provide useful statistical assemblages of animal bone, the majority being 15 litres with only 11 at 30 litres and a mere three as much as 60 (only one of which could be securely dated). However, collec-

tively they do at least provide a useful check on the bias of the main hand-collected assemblage.

During analysis it was established that thirteen samples (171 litres) had limited dating information whilst a further twenty-five samples (540.5 litres) came from deposits of broad date, *i.e.* greater than 200 year span. The remaining more closely dated samples (*i.e.* forty-two contexts and a total of 929 litres) produced only 95 identifiable and 1014 unidentifiable fragments, and these form the basis of the following analysis.

The majority of samples (*i.e.* 745 litres) date from the first three centuries of Roman occupation, whilst only seventy-nine and seventy-five litres were from Iron Age and Saxon deposits. A mere thirty litres were available from later Roman (third to fourth-century) contexts; they produced a single pig bone and a frog bone.

Table 24 and Fig. 123 show the average concentration of animal bones in the wet-sieve assemblages for each major period. From these statistics it is apparent that Iron Age deposits, although limited in number, were richer in terms of weight of animal bones than all Roman and Saxon deposits and that concentrations of animal bones on the site apparently declined until the third century.

On the basis of the quantitative assessment of weight and numbers of bone fragments per litre of matrix sieved, it appears that the relative proportions of each of the main domestic species for each period generally reflect that indicated by use of the minimum numbers method (Table 25). Cattle appear to predominate in the Iron Age, whilst from the first to third centuries they are superseded by sheep (Figs 124 and 125). Similar conclusions can be drawn when viewing the more copious unidentified assemblage where the proportions of 'cow-sized' (CS) and 'sheep-sized' (SS) fragments follow the same general pattern (Table 26).

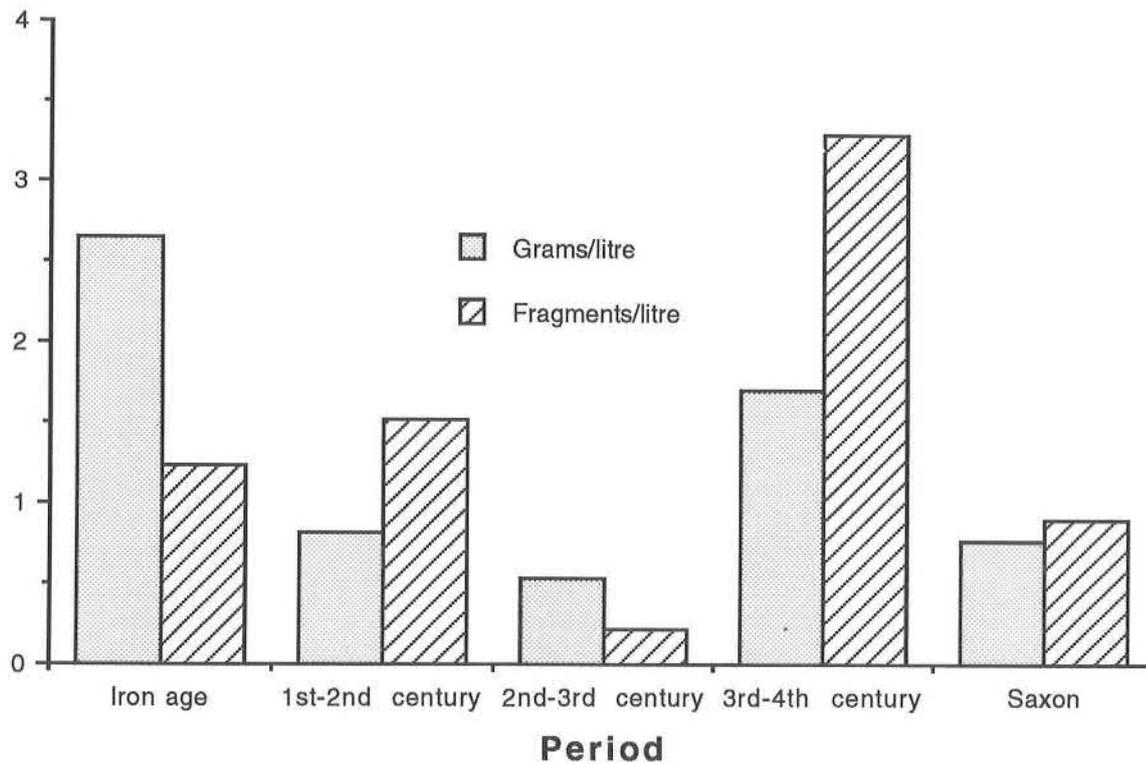


Figure 123: Quantitative analysis of wet-sieve residues for each period.

Period	Weight of fragments	Grams/litre	Number of fragments	Fragments/litre	Total litres
Iron Age	209	2.65	97	1.23	79
1st-2nd	428.5	0.82	793	1.52	523
2nd-3rd	118	0.53	49	0.22	222
3rd-4th	51	1.7	100	3.3	30
Saxon	58	0.77	70	0.9	75

TABLE 24: Statistical analyses of wet-sieve residues for each period.

Cattle

It is clear that beef was the most important component of the diet of the inhabitants of Wavendon Gate in all periods, although its relative importance appeared to fluctuate during the Roman period. It is probable, since this is a native rural settlement, that the majority of stock would have been kept and slaughtered locally. This assumption is supported by data on the proportions of different skeletal elements recovered during excavation. Table 27 shows the total numbers of fragments of each element for each main period. Although for the Saxon period numbers are quite small, it can be seen that from the Iron Age to the late Roman period, all elements are represented in roughly similar proportions, with some variation throughout. There does not appear to be any selectivity at any time towards particular joints or prime cuts which may well have been the case in higher status or urban assemblages. It is probable that the assemblage from Wavendon Gate represents local domestic refuse from surplus

animals raised nearby and probably slaughtered and butchered on the site.

Age at Death

Age at death profiles were established by analysis of epiphyseal fusion and tooth eruption/occlusal wear data. Unfortunately owing to the limited size and fragmentary nature of the assemblage a total of only seventeen cattle mandibles were recovered with the molars still *in situ*. However, moderate numbers of long bones were recovered where ageing data could be analysed (Table 28). Fig. 126 shows the proportions of fused cattle elements for each phase. They are grouped into three categories (early, intermediate and late) after Nodde (1984). Although numbers are limited to some degree, it can be seen that there are apparent differences. The Iron Age cattle appear to consist of almost entirely fully mature animals, with only a small percent-

<i>Period</i>	<i>Species</i>	<i>Weight of frags.</i>	<i>Grams/litre</i>	<i>No. of frags.</i>	<i>Fraggs/litre</i>	<i>Total litres</i>
Iron Age	Cow	124	1.57	12	0.2	79
	Sheep/goat	35	0.4	7	0.08	
	Pig	2	0.03	1	0.01	
1st-2nd	Cow	38	0.07	6	0.01	523
	Sheep/goat	71.5	0.14	40	0.08	
	Pig	7.5	0.01	2	0.004	
	Dog	6	0.01	1	0.002	
	Small mammal	1.5	0.005	3	0.006	
	Bird	1	0.002	1	0.002	
	Frog	0.5	0.001	1	0.002	
	Fish	0.5	0.001	1	0.002	
2nd-3rd	Cow	10	0.05	2	0.009	222
	Sheep/goat	21	0.09	9	0.04	
	Pig	17	0.08	2	0.009	
	Small mammal	0.5	0.002	2	0.009	
	Bird	0.5	0.002	2	0.009	
	Frog	1	0.005	1	0.005	
3rd-4th	Pig	7	0.23	1	0.03	30
	Frog	0.5	0.02	1	0.03	
Saxon	Cow	35	0.5	1	0.01	75

TABLE 25: Statistical analyses of wet-sieve residues, showing identifiable fragments.

<i>Period</i>	<i>Species</i>	<i>Weight of frags.</i>	<i>Grams/litre</i>	<i>No. of frags.</i>	<i>Fraggs/litre</i>	<i>Total litres</i>
Iron Age	'Cow-sized'	9	0.11	5	0.06	79
	'Sheep-sized'	4	0.05	13	0.16	
	Unidentifiable	35	0.17	59	0.75	
1st-2nd	'Cow-sized'	107	0.2	24	0.05	523
	'Sheep-sized'	110.5	0.21	213	0.41	
	Unidentifiable	84.5	0.16	501	0.96	
2nd-3rd	'Cow-sized'	27	0.12	2	0.009	222
	'Sheep-sized'	28	0.13	10	0.05	
	Unidentifiable	13	0.06	20	0.09	
3rd-4th	'Cow-sized'	11	0.4	4	0.13	30
	'Sheep-sized'	16.5	0.6	16	0.53	
	Unidentifiable	16	0.53	78	2.6	
Saxon	'Cow-sized'	4.5	0.06	4	0.05	75
	'Sheep-sized'	4	0.05	3	0.04	
	Unidentifiable	14.5	0.19	62	0.83	

TABLE 26: Statistical analyses of wet-sieve residues, showing unidentifiable fragments.

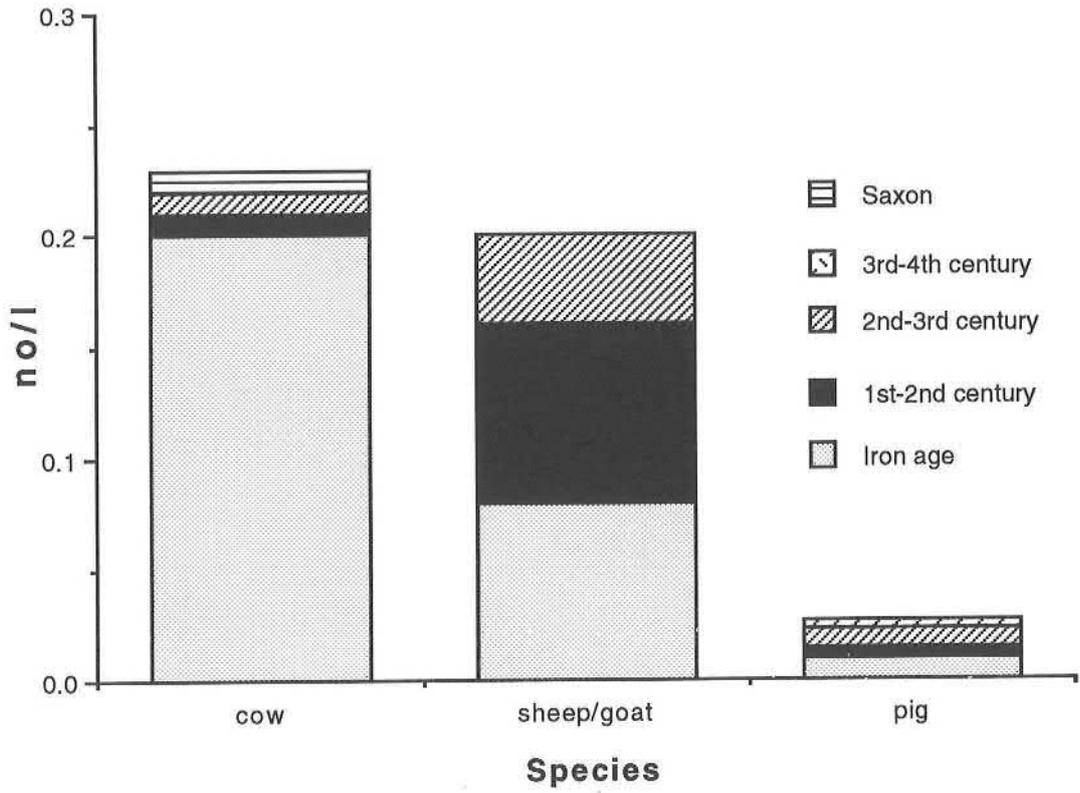


Figure 124: Proportions of main domestic animals from wet-sieve residues expressed as numbers of bone per litre of sample.

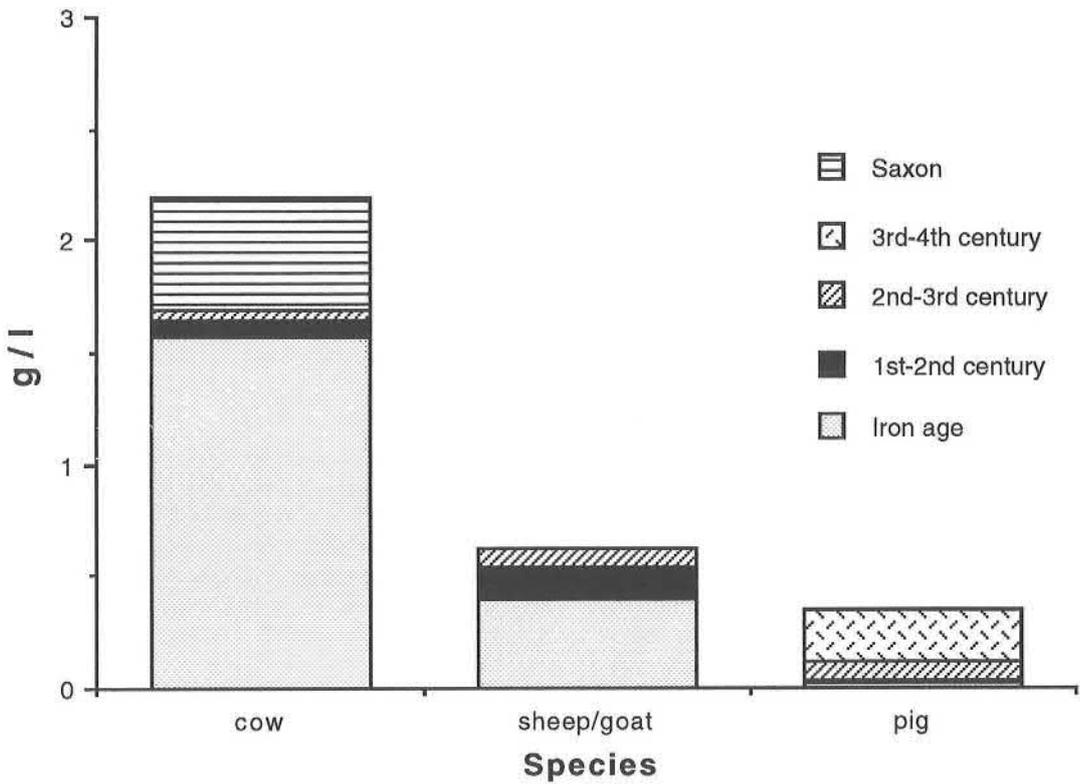


Figure 125: Proportions of main domestic animals from wet-sieve residues expressed as weight of bone per litre of sample.

Bone	Iron Age	1st-2nd century	2nd-3rd century	3rd-4th century	Saxon
Horncore	3	—	4	19	—
Cranium	44	50	87	69	—
Maxilla	5	7	3	15	3
Mandible	74	133	51	34	7
Loose teeth	26	44	15	26	6
Atlas	1	6	1	5	1
Axis	5	1	2	4	—
Scapula	32	15	4	8	1
Humerus					
P	—	7	—	1	—
D	4	7	—	6	—
Shaft	21	32	5	6	—
Radius					
P	10	8	2	9	1
D	4	2	2	3	—
Shaft	18	30	7	7	6
Ulna					
P	—	—	—	1	—
Shaft	10	10	2	8	—
Metacarpal					
P	3	12	—	8	2
D	—	8	2	3	—
Shaft	6	9	7	9	—
Pelvis	23	41	16	38	—
Femur					
P	3	4	—	4	—
D	4	6	3	5	—
Shaft	33	30	12	19	1
Patella	—	1	—	1	—
Tibia					
P	—	2	1	5	1
D	4	9	2	7	—
Shaft	32	17	13	35	2
Calcaneus	11	5	2	6	1
Astragalus	3	11	—	6	1
Carpal/tarsal	1	1	—	2	—
Metatarsal					
P	1	16	2	5	—
D	—	6	1	3	2
Shaft	6	7	6	9	2
Metapodial					
P	—	—	—	—	—
D	2	3	—	2	—
Shaft	—	—	—	2	—
1st Phalanx	4	15	4	9	—
2nd Phalanx	—	5	2	8	2
3rd Phalanx	—	5	—	5	—
Sacrum	—	—	—	—	—

TABLE 27: Representation of cattle skeletal elements.

age being killed prior to skeletal maturity. During the third to fourth centuries it appears that, although none were killed during the 'early' fusion phase, over 30% of animals were killed at the 'intermediate' stage and at least 50% by the 'late' stage. On the other hand second, to third-century deposits show a small proportion (13-17%) killed at the 'early' fusion stage, fewer at 'intermediate' and around 30% at the 'late' stage. Second to third-century data is interesting since it appears to reverse the pattern of the other periods inasmuch as the highest proportion of fused bones appear to occur during the intermediate phase.

Interpretation of this data is problematic, since numbers again are relatively small. However, it appears that Iron Age cattle husbandry concentrated on killing and butchering fully mature

beasts well past their optimal age for meat production. This indicates a multi-purpose husbandry regime in which perhaps the main use of cattle was for traction. During the Roman period, however, larger numbers of immature animals were killed. Certainly there is more of an emphasis on animals killed at their optimal age for meat (*i.e.* intermediate phase), but in the mid-Roman period (second to third century), perhaps beginning in the first to second centuries, the larger number of early deaths may suggest the presence of limited dairying, where numbers of young calves were killed and eaten as veal whilst the cows were milked, stimulating continued lactation.

Analysis of tooth wear is very much limited by the small numbers of mandibles and isolated teeth. Sufficient data is only

		Iron Age		1st-2nd century		2nd-3rd century		3rd-4th century		Saxon	
		UF	F	UF	F	UF	F	UF	F	UF	F
Pelvis		-	8	-	15	1	6	-	10	-	1
Humerus	D	-	1	2	7	-	-	-	6	-	-
Radius	P	1	10	1	8	1	2	-	10	-	1
1st Phalanx		-	2	-	7	-	3	-	6	-	-
Metacarpal	D	-	1	2	9	-	2	4	3	-	-
Tibia	D	-	4	3	6	-	4	1	7	-	-
Metatarsal	D	-	1	2	6	-	2	2	3	-	2
Calcaneus		-	-	1	-	1	1	-	2	-	-
Femur	P	-	2	2	4	-	2	3	2	1	-
Humerus	P	-	-	1	4	-	1	2	1	-	-
Radius	D	-	4	2	1	2	2	3	2	-	-
Ulna	P	-	-	-	-	-	-	-	1	-	-
Femur	D	1	4	3	4	1	3	2	4	-	-
Tibia	P	-	1	-	4	2	3	3	3	-	1

TABLE 28: Cattle bone fusion.

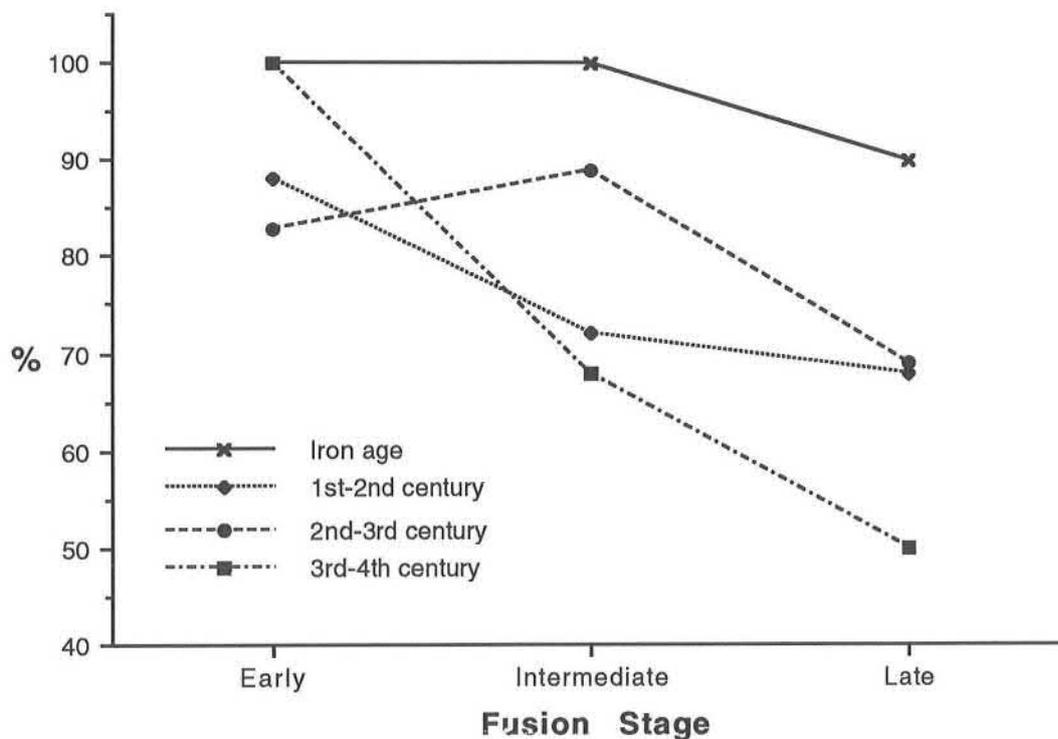


Figure 126: Cattle epiphyseal fusion data for each period showing proportions fused.

available from the Roman period and then only by amalgamating all data from that period (*i.e.* spanning 400 years). A total of only seventeen mandibles with teeth were available for analysis. Using Grant's method, numerical scores were allocated to mandibles on the basis of totalling the tooth wear scores for each tooth in situ. Scores range from 29-47 with the majority (10)

falling between 37 and 43. This suggests that most of the cattle killed at Wavendon Gate during the Roman period were primarily adult animals, but with some immature and elderly animals represented. Further more refined interpretation is impossible owing to the limitations outlined above.

TABLE 29: Cattle measurements.

<i>SCAPULA</i>	<i>GLP</i>	<i>LG</i>	<i>BG</i>	<i>SLC</i>		
Iron Age	56.6	46.9	—	—		
	61.2	54.2	44.4	46.90		
1st–2nd cent.	59.0	53.4	43.75	46.65		
	63.5	51.4	42.7	—		
	58.0	51.0	42.0	47.8		
	59.9	51.8	40.7	47.1		
	90.0	—	63.6	—		
2nd–3rd cent.	60.8	49.8	43.6	45.7		
	66.6	58.9	49.6	51.7		
	66.2	57.1	46.9	51.3		
3rd–4th cent.	73.5	65.1	57.7	—		
	77.0	62.3	49.0	56.7		
	73.3	60.0	56.5	59.0		
Roman	69.4	56.3	50.0	—		
	—	—	44.2	—		
	71.0	47.4	50.0	47.4		
	75.6	60.0	—	49.8		
	62.7	52.0	44.7	49.5		

<i>HUMERUS</i>	<i>GLC</i>	<i>Bd</i>	<i>Bp</i>	<i>GL</i>	<i>BT</i>	
Iron Age	—	75.6	—	—	69.8	
	—	63.0	—	—	59.0	
	—	73.9	—	—	66.6	
1st–2nd cent.	228.5	75.8	—	—	68.4	
	262.0	88.6	—	—	78.9	
	—	89.5	—	—	79.4	
	—	—	—	—	65.0	
3rd–4th cent.	—	79.5	—	—	70.5	
	—	90.2	—	—	80.0	
	—	65.4	—	—	62.0	
	—	75.5	—	—	68.0	
	—	88.5	105.5	284.0	77.3	
Roman	—	75.2	—	—	69.3	
	247.0	89.4	—	—	79.0	

<i>RADIUS</i>	<i>Bp</i>	<i>BFp</i>	<i>Bd</i>	<i>BFd</i>	<i>GL</i>	<i>GLI</i>
Iron Age	69.7	64.0	54.0	48.8	—	—
	72.4	66.3	72.5	63.0	—	—
	—	—	64.2	55.1	—	—
1st–2nd cent.	94.1	85.5	62.9	51.5	—	—
	86.0	78.0	—	—	—	—
2nd–3rd cent.	88.0	80.4	83.9	76.5	301.0	276.0
	—	78.3	78.0	64.1	296.0	281.0
3rd–4th cent.	94.3	83.7	86.9	82.8	301.5	271.0
	71.3	65.5	86.1	79.4	404.0	—
	80.0	70.5	—	—	—	—
	94.9	85.5	—	—	—	—
	78.9	69.3	—	—	—	—
	—	—	70.1	63.3	—	280.3
Roman	75.0	67.7	74.3	62.0	—	—
	68.7	64.3	—	—	—	—
	70.0	65.3	—	—	—	—
	81.0	78.5	—	—	—	—
Saxon	69.5	64.3	—	—	—	—

<i>METACARPAL</i>	<i>Bp</i>	<i>Dp</i>	<i>Bd</i>	<i>Dd</i>	<i>GL</i>	<i>Ll</i>
Iron Age	49.8	30.3	—	—	—	—
	51.1	29.8	—	—	—	—
1st–2nd cent.	50.8	29.7	—	—	—	—
	—	—	52.1	28.6	—	—
	—	—	57.8	31.6	—	—
	50.9	30.8	52.8	30.6	185.0	180.0
	46.6	30.3	—	—	—	—
	66.7	39.4	70.5	35.0	203.0	—
	60.6	38.9	62.0	32.3	200.0	—
	53.2	—	—	—	—	—
	62.8	—	63.8	—	200.0	—
	56.6	33.8	60.1	27.8	194.0	—
	60.3	36.8	—	—	—	—
2nd–3rd cent.	—	—	54.6	30.0	—	—
	50.7	33.9	—	—	—	—
	58.3	34.6	—	—	—	—
	57.4	35.0	58.3	—	204.6	—
	63.4	39.5	—	—	—	—
3rd–4th cent.	70.4	43.3	71.1	36.6	208.5	—
	61.9	37.6	—	—	—	—
	54.7	—	—	—	—	—
	—	—	55.4	—	—	—
Roman	55.6	—	55.7	29.2	—	—
	—	—	49.5	—	—	—
	—	—	52.9	28.0	—	—
	47.7	28.1	51.1	—	—	—
	49.3	30.5	49.1	—	—	—

<i>TIBIA</i>	<i>Bp</i>	<i>Bd</i>	<i>Dd</i>	<i>GL</i>	<i>GLI</i>
Iron Age	—	53.3	37.3	—	—
	—	59.0	—	—	—
1st–2nd cent.	—	52.0	—	—	—
	—	55.4	43.0	—	—
	76.2	54.6	38.8	308.0	—
	—	51.6	40.4	—	—
	—	65.3	48.2	—	—
	—	54.0	—	—	—
	—	55.0	42.2	—	—
2nd–3rd cent.	91.7	59.9	41.1	330.0	307.0
	—	70.9	—	—	—
	—	68.8	—	—	—
	—	70.5	—	403.0	—
3rd–4th cent.	—	57.0	47.2	—	—
	—	66.5	49.0	372.0	—
	—	58.3	45.1	—	—
	—	55.1	—	—	—
	96.3	—	—	—	—
	—	48.2	36.5	—	—
Roman	—	63.3	47.7	—	—
	—	59.3	43.9	—	—
	99.3	—	—	—	—

<i>ASTRAGALUS</i>	<i>Bd</i>	<i>GLI</i>	<i>GLm</i>	<i>Dm</i>	<i>DI</i>
Iron Age	34.9	55.5	51.6	—	32.6
1st–2nd cent.	38.1	—	—	33.5	34.1
	34.9	57.4	52.5	31.8	31.0
	43.5	67.8	60.7	37.3	39.6
	38.2	63.4	57.8	—	—
	47.0	70.2	65.0	39.5	38.6
	47.7	—	67.5	40.0	—
	46.7	67.0	61.7	39.5	37.8
2nd–3rd cent.	48.0	72.9	70.0	43.1	44.0
3rd–4th cent.	—	55.8	50.2	25.2	30.3
	46.9	63.5	60.2	35.9	35.4
	42.3	63.0	57.0	35.3	35.3
	41.9	67.8	61.0	37.0	36.6
	38.8	62.1	58.4	36.2	35.3
	48.0	70.6	—	40.8	40.9
	—	—	66.2	—	—

<i>METATARSAL</i>	<i>Bp</i>	<i>Dp</i>	<i>Bd</i>	<i>Dd</i>	<i>GL</i>	<i>LI</i>
Iron Age	—	—	48.7	28.8	—	—
1st–2nd cent.	40.8	35.3	—	—	—	—
	43.0	—	55.3	—	203.0	—
	41.8	41.0	48.0	28.2	207.0	199.2
	47.7	46.9	—	—	—	—
	43.1	41.0	—	—	—	—
	—	—	50.5	—	—	—
	51.7	40.2	58.3	32.0	226.3	—
	39.2	42.0	51.7	28.6	202.5	—
	52.3	46.0	—	—	—	—
	43.0	43.5	50.8	27.9	222.5	—
2nd–3rd cent.	52.2	48.9	—	—	—	—
	43.0	39.0	48.8	29.1	202.0	—
	44.2	44.2	—	—	—	—
	43.0	—	48.4	28.9	204.0	197.8
3rd–4th cent.	44.2	45.2	—	—	—	—
	—	—	47.5	27.1	213.5	—
	—	—	59.0	32.0	—	—
	55.9	50.2	—	—	—	—
	45.5	44.1	—	—	—	—
	47.6	46.0	—	—	—	—
	54.4	50.1	—	—	—	—
	37.5	—	48.2	28.7	206.2	—
Roman	46.2	47.7	—	—	221.0	—
	42.3	41.6	—	—	—	—
	45.5	—	—	—	—	—
	54.9	—	—	—	—	—
	55.9	—	—	—	—	—
	59.4	—	—	—	—	—
	47.6	—	—	—	—	—
Saxon	—	—	57.1	32.1	—	—
	—	—	48.6	29.1	—	—

TABLE 29: Cattle measurements.

TABLE 30: Selected cattle measurements for each major period.

<i>SCAPULA</i>	<i>Period</i>	<i>Range</i>	<i>Mean</i>	<i>Number</i>
GLP	Iron Age	56.6–61.2	58.9	2
	1st–2nd cent.	58.0–90.0	66.1	5
	2nd–3rd cent.	60.8–66.6	64.5	3
	3rd–4th cent.	73.5–77.0	74.6	3
	Roman	58.0–90.0	68.4	15
<i>HUMERUS</i>	<i>Period</i>	<i>Range</i>	<i>Mean</i>	<i>Number</i>
Bd	Iron Age	63.0–75.6	70.8	3
	1st–2nd cent.	75.8–89.5	84.6	3
	3rd–4th cent.	65.4–90.2	79.8	5
	Roman	65.4–90.2	81.7	10
<i>RADIUS</i>	<i>Period</i>	<i>Range</i>	<i>Mean</i>	<i>Number</i>
BFp	Iron Age	64.0–66.3	65.2	2
	1st–2nd cent.	78.0–85.5	81.8	2
	2nd–3rd cent.	78.3–80.4	79.4	2
	3rd–4th cent.	65.5–85.5	74.9	5
	Roman	65.5–85.5	74.8	13
	Saxon	64.3	–	1
Bd	Iron Age	54.0–72.5	63.6	3
	1st–2nd cent.	62.9	–	1
	2nd–3rd cent.	78.0–83.9	80.9	2
	3rd–4th cent.	70.1–86.9	81.0	3
	Roman	62.9–86.9	77.4	7
	Saxon	69.5	–	1
<i>TIBIA</i>	<i>Period</i>	<i>Range</i>	<i>Mean</i>	<i>Number</i>
Bd	Iron Age	53.3–59.0	56.2	2
	1st–2nd cent.	51.6–65.3	55.4	7
	2nd–3rd cent.	59.9–70.9	67.5	4
	3rd–4th cent.	48.2–66.5	57.0	5
	Roman	48.2–70.9	59.2	17
<i>ASTRAGALUS</i>	<i>Period</i>	<i>Range</i>	<i>Mean</i>	<i>Number</i>
GLI	Iron Age	55.5	–	1
	1st–2nd cent.	57.4–70.2	65.2	5
	2nd–3rd cent.	72.9	–	1
	3rd–4th cent.	55.8–70.6	63.8	6
	Roman	55.8–72.9	64.6	16
Bd	Iron Age	34.9	–	1
	1st–2nd cent.	34.9–47.7	42.3	7
	2nd–3rd cent.	48.0	–	1
	3rd–4th cent.	38.8–48.0	43.6	5
	Roman	34.9–48.0	42.3	17

<i>METACARPAL</i>	<i>Period</i>	<i>Range</i>	<i>Mean</i>	<i>Number</i>
Bp	Iron Age	49.8–51.1	50.5	2
	1st–2nd cent.	46.6–66.7	56.5	9
	2nd–3rd cent.	50.7–63.4	57.5	4
	3rd–4th cent.	54.7–70.4	62.3	3
	Roman	46.6–70.4	56.7	19
Bd	1st–2nd cent.	52.1–70.5	59.9	7
	2nd–3rd cent.	54.6–58.25	56.4	2
	3rd–4th cent.	55.4–71.1	63.3	2
	Roman	49.1–71.1	57.3	15

<i>METATARSAL</i>	<i>Period</i>	<i>Range</i>	<i>Mean</i>	<i>Number</i>
Bp	1st–2nd cent.	39.2–52.3	44.7	9
	2nd–3rd cent.	43.0–52.2	45.6	4
	3rd–4th cent.	37.5–54.4	45.4	3
	Roman	37.5–59.4	46.8	22
Bd	Iron Age	48.7	–	1
	1st–2nd cent.	48.0–58.3	52.4	6
	2nd–3rd cent.	48.4–48.8	48.6	2
	3rd–4th cent.	47.5–59.0	51.6	3
	Roman	47.5–58.3	51.5	11
	Saxon	48.6–57.1	52.9	2

TABLE 30: Selected cattle measurements for each major period.

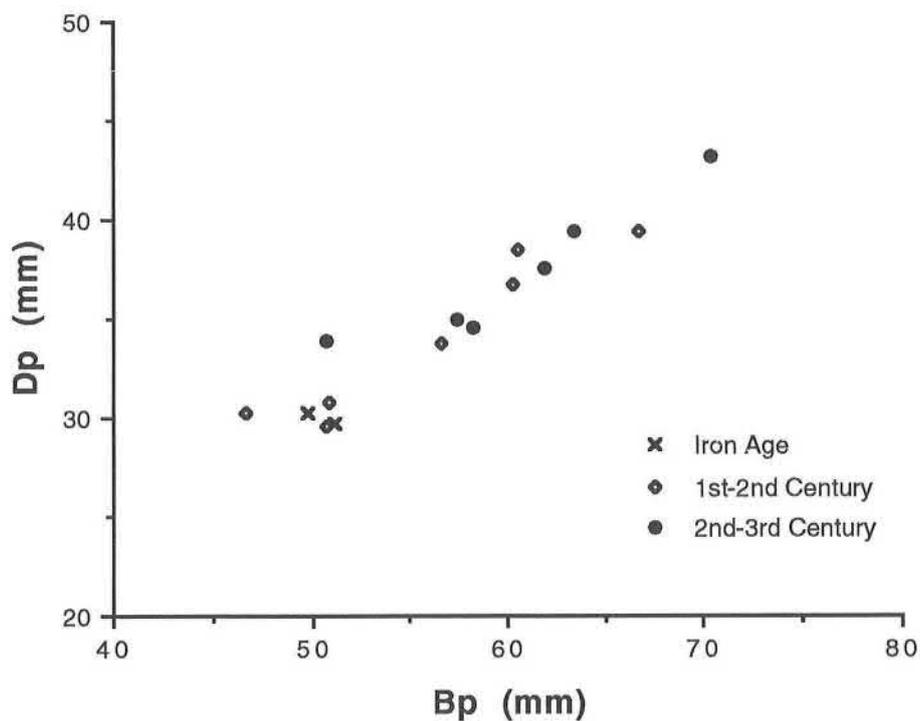


Figure 127: Scatterplot of cattle proximal metacarpal measurements.

Biometrical Analysis

Limited numbers of measurements were available from all periods (Table 29). Table 30 shows some limited statistical analysis of the measurements where sufficient numbers were present. Here they have been divided into closely dated groups where possible with additional more poorly dated measurements added into the summed Roman group. Viewing the mean values, it is clear that for most measurements (some more obviously than others) an increase in the size of cattle occurs from the Iron Age onwards. As a result some late Roman values are a full 20 mm bigger than their Iron Age counterparts (see *radius*). However, there are only small numbers of Iron Age measurements for comparison and it appears that the smaller cattle are at least present at other times in the Roman period.

Only cattle metapodials were present in sufficient numbers to allow limited comparisons through time (Figs 127 and 128). These scatterplots of proximal width (Bp) plotted against proximal depth (Dp) (of metacarpals and metatarsals) are relatively difficult to interpret. Fig. 127 shows a fairly uniform spread of values for both first to second and second to third centuries with the two Iron Age values clustering at the lower end of the scale. The two larger outliers possibly represent bulls rather than larger improved breeds, whilst the middle group are probably cows but could well be castrates. The group at the lower left may represent indigenous Iron Age stock (since they are grouped with those two dated to that period), younger animals or perhaps cows from the same stock. Fig. 128, representing metatarsal measurements, is more suggestive of an increase in size during the Roman period. In this instance the data may be interpreted as indicating sexual dimorphism with the outliers for each period representing bulls. An outlier dated to the first to second century, which appears to have a very flattened proximal end, is more difficult to interpret.

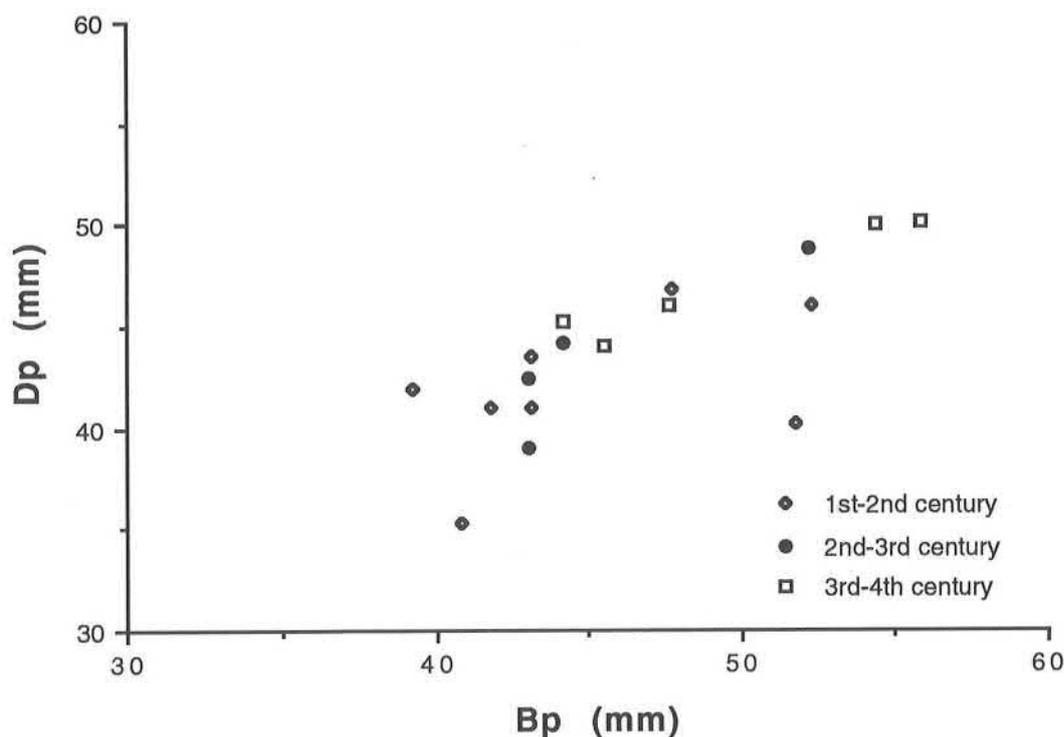


Figure 128: Scatterplot of cattle proximal metatarsal measurements.

Since very few entire long-bones were recovered for all periods, it is difficult to know whether this size increase involves a change in shoulder height or is just an increase in 'stockiness'. Unfortunately the majority of measurements are distal and proximal width measurements which will only indicate the latter. A limited number of complete long-bones were recovered from the site however, which enabled calculations of shoulder heights to be undertaken. Table 31 shows withers height calculations for cattle from Wavendon Gate in comparison with other similarly dated assemblages from the region and beyond. Although numbers from the site are small, it appears that an increase in withers height occurs by the mid Roman period (*i.e.* second to third centuries). This appears to be a general local phenomenon since data from Bancroft Villa (Levitan 1994) and Bancroft Mausoleum (Holmes and Rielly 1994) also indicates an increase between early and late Roman periods.

Butchery

Numerous cattle elements exhibited evidence of butchery from all periods. Analysis of the types of marks, their position and orientation was recorded in an attempt to highlight any changes in the butchery practises on the site through time. Interestingly the Iron Age material appeared most commonly to bear fine knife marks, although these did occur in all periods. In this period filleting of meat from the bone was obviously common (hence the numerous knife scores particularly on the scapula blade, along the entire length of the radius and also the tibia). Knife marks concentrating at the distal humerus and tibia are almost certainly the traces of jointing.

From the first to third centuries many more elements appear to be chopped, especially the skull and mandible although filleting and jointing marks are still common on the scapula, distal

<i>Site</i>	<i>Period</i>	<i>Range</i>	<i>Mean</i>	<i>No.</i>	<i>Source</i>
Bancroft Mausoleum *	Iron Age	1001–1115	1078	9	Holmes and Rielly (1994)
Pennyland	Iron Age	1054–1161	1105	9	Holmes (1993)
Ashville	Iron Age	1000–1180	1080	10	Wilson (1978)
Bancroft Mausoleum *	Belgic	1030–1176	1114	7	–
Sheepen	1st cent.	985–1150	1074	14	Luff (1982)
Wavendon Gate *	1st–2nd cent.	1063–1242	1169	11	–
Godmanchester	1st–2nd cent.	1025–1171	1110	6	Luff (1982)
Wavendon Gate *	2nd–3rd cent.	1101–1390	1223	6	–
Godmanchester	2nd–3rd cent.	1086–1214	1183	9	–
Wavendon Gate *	3rd–4th cent.	1124–1297	1220	6	–
Barton Court	3rd–5th cent.	976–1287	1175	18	Luff (1982)
Bancroft Villa	Late Roman	1076–1402	1186	41	Levitan (1994)
Chillingham	Modern	1062–1127	1102	7	Armitage (1977)
Red Danish	Modern	1207–1397	1316	32	Armitage (1977)

* indicates elements other than metacarpals utilized. Height estimations using factors of Fock (1966) for metapodials and Matolsci for remaining elements

TABLE 31: Shoulder height calculations for cattle from Wavendon Gate and other comparable sites (after Holmes and Rielly 1994).

tibia and calcaneum. Limited numbers of fragments from the third to fourth century exhibiting butchery marks attest to the presence of more commercial butchery practises with evidence of more wholesale chopping of elements, especially on the humerus, scapula, pelvis and mandible. Evidence for filleting is also much scarcer during this period.

Pathology

Evidence of pathology in cattle remains was relatively scarce in the Wavendon Gate assemblage. The most notable examples being two metacarpals from Layer 660 in Ditch 590 and Layer 699 in Ditch 513. The former, a poorly preserved shaft and proximal end (Fig. 129a), appeared to show massive bony change and destruction at the proximal end as a result of an active infection. This infection also involved the shaft and distal portion where a large cloaca (for the release of pus) had formed. This appears to be a chronic case of osteomyelitis, probably a result of trauma, which would have been extremely painful and debilitating for the animal involved. The fact that so much remodelling has occurred also indicates that the animal lived for some time whilst the infection raged and was probably only killed once it could no longer walk.

The metacarpal from Layer 699 appears to have suffered a partial collapse of the medial portion of the proximal articular surface (Fig. 129b). This may well be the result of a developmental abnormality brought about by nutritional stress.

Sheep

Sheep appear to have played a minor role in the local economy of Wavendon Gate although, as already stated, we only have evidence of those animals killed and consumed at the site. Their importance was always secondary to cattle especially during the Iron Age, although it seems that they assumed greater importance in the Roman and the Saxon periods. Although numbers of fragments are relatively limited for well dated contexts, it seems that the situation is similar to cattle, *i.e.* that since the majority of skeletal elements are represented for all periods (Table 32), the animals represent local surplus stock, slaughtered and butchered for local consumption.

Age at Death

Age at death data, although limited, is interesting for the Roman period (Table 33 and Fig. 130). Kill-off patterns for

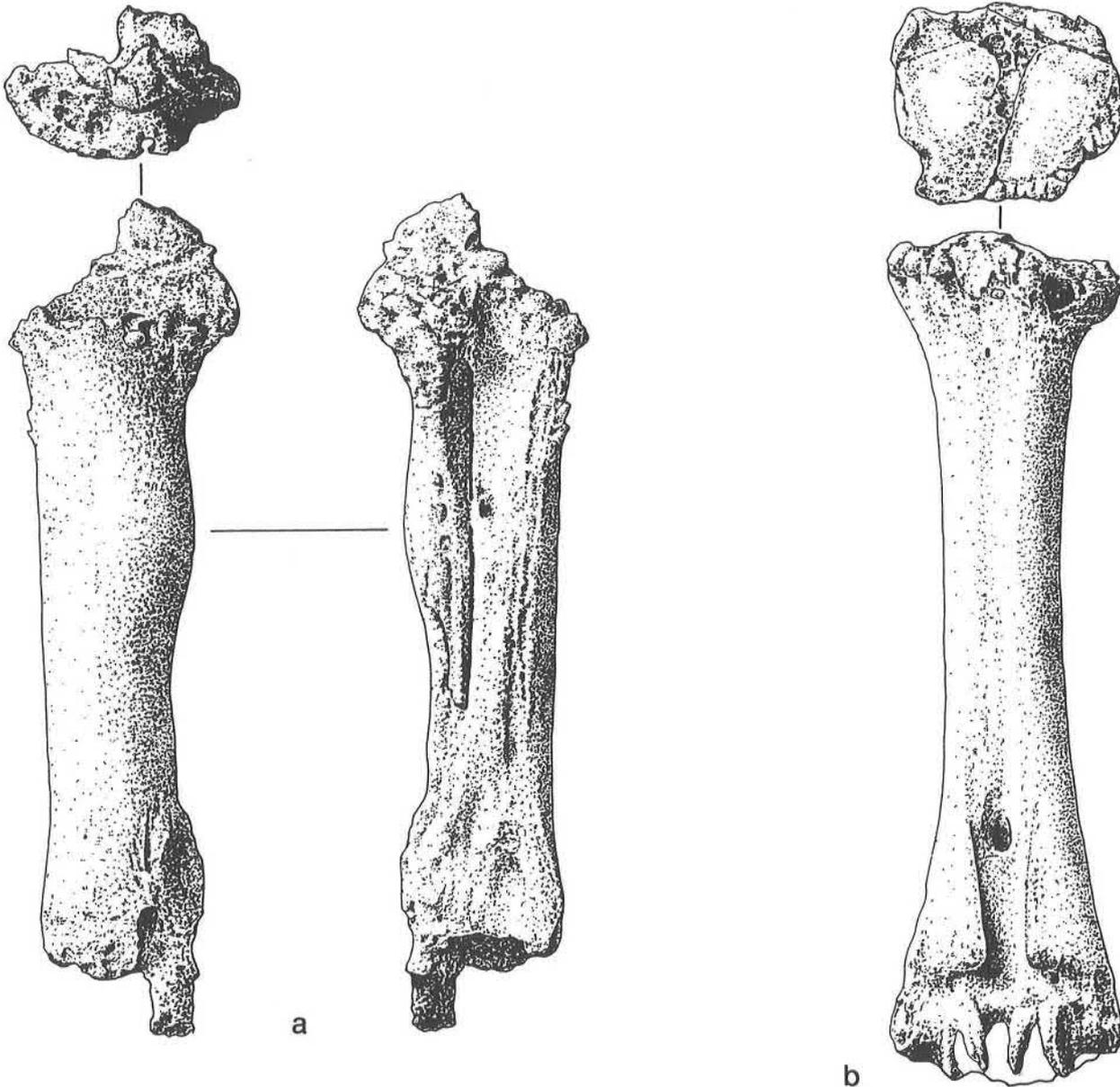


Figure 129: a) Cattle metacarpal showing chronic osteomyelitis. surface. b) Cattle metatarsal showing possible collapse of proximal joint

sheep in the first to second centuries and third to fourth centuries are essentially similar, with the main cull of individuals being between 'early' and 'intermediate 2' stages. This would be the most efficient way of optimising meat supply from the flock, with little emphasis on secondary products such as wool. However, during the second to third centuries, although a small proportion of individuals are killed during these stages, it appears that the major cull occurred at a later stage, *i.e.* between 'intermediate 2' and 'late' stages. Perhaps during the second to third centuries, in addition to mutton being preferred, there was a greater emphasis on an additional wool crop. Interestingly during the same period, age at death data for cattle also appears somewhat different to that from first to second and third to fourth centuries.

Biometry

Owing to the limited numbers of fragments, in addition to fragmentation, only a small number of measurements were available from the assemblage (Table 34). There is some indication of a size increase (see *humerus* and *metacarpal*). However,

measurements of the breadth of proximal metatarsals suggest an increase in the second to third centuries, and a subsequent decrease in size during the third to fourth centuries. The numbers involved are far too small to draw even tentative conclusions.

Butchery

Since only a limited number of sheep elements exhibited butchery marks, little can be said in relation to any changes through time. However, those that were present in all periods consisted almost entirely of filleting and jointing marks, most common on the distal humerus, distal tibia, and proximal radius. The mandible was also a common site for these knife marks.

Pig

Since so little pig was recovered from any period there is little that can be said in relation to changes in its exploitation on the site through time. Pigs were almost certainly kept in and around the settlement by individual households, and since they are

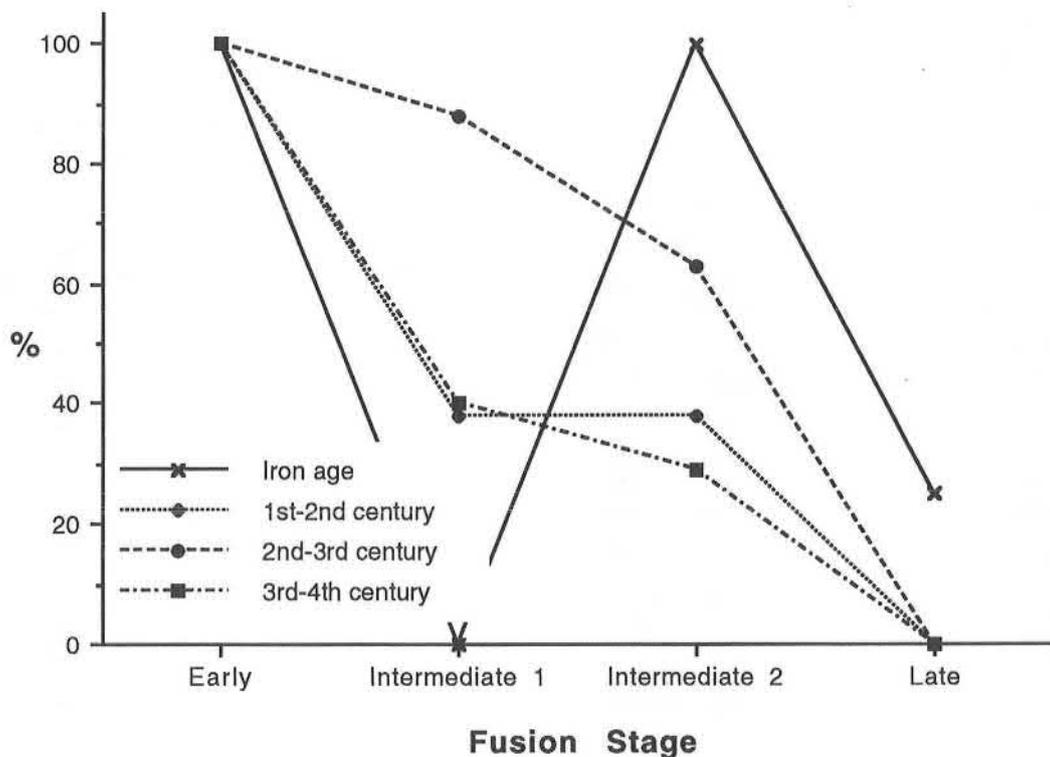


Figure 130: Sheep epiphyseal fusion data for each period showing proportions fused.

omnivorous are superb recyclers of scraps and household waste. They appear to be at least present in all periods, with their peak occurring in the Saxon period. Although numbers are small it would seem that heads and forelimbs predominate (Table 35). Optimum age of meat production is attained whilst the animal is juvenile and since they are kept primarily for meat, lard and skin, the majority of pig remains from sites of all periods tend to be immature. At Wavendon Gate in all periods pigs appear to have been killed prior to full skeletal maturity.

Horse

The remains of horse were found in moderate abundance in all but Saxon deposits (Tables 23 and 36). However, their abundance cannot truly be compared with other more common domesticates since their utilisation and subsequent disposal can be very different. At Wavendon Gate numbers of horse bones were recovered from what are described as special deposits, *i.e.* deliberate burials or associated elements (p.223). As a result the abundance of horse in the Iron Age, for example, is due in the main to a single burial of a foal, and from the third to fourth centuries over 50% of fragments derive from Layer 515, which appeared to represent the deliberate deposit of two fragmented horse skulls and numerous related fragments.

The presence of neonatal and juvenile material amongst the remains suggests that horses were being bred at the site throughout the period of occupation.

Biometry

Few complete mature bones were available to provide biometrical information (Table 37) but seven complete limb

bones (one Iron Age and three of second to third-century date) provided shoulder height data using factors outlined by Kieswalter (1974). These showed ranges between 12.1 and 14.2 hands, the smallest being Iron Age and the second to third-century individuals being 13, 13.1 and 14.2 hands respectively. The remaining three were from less well dated, but nonetheless, Roman deposits, and gave values of 13.2, 13.3 and 14.2 hands. From this relatively tenuous evidence it appears that these individuals fall well within the size range of horses from other nearby sites of similar periods, the Roman horses being bigger than their Iron Age predecessors.

Pathology

Two metapodials from a second-century deposit (Layer 660 in Ditch 590) showed evidence of severe joint disease at their proximal end. Fig. 131a shows a metatarsal exhibiting prolific osteophytosis around the periphery of the proximal articulation, with associated erosion of the joint surface. In addition, a single metacarpal (Fig. 131b) from Layer 908 towards the top of Pit 835 and probably of later Roman date, showed evidence of a periosteal lesion associated with possible trauma or 'hobbling', although the remodelled nature of the bone suggests the former to be more likely.

Dogs

A total of fifty fragments identified as dog were recovered from closely dated contexts, the majority (27) from first to second-century deposits (Table 23). A single perforated maxillary canine tooth was recovered from the only late Bronze age/early Iron Age context (Pit 1251) encountered, and its size indicates dog rather than wolf. It was found in association with a human

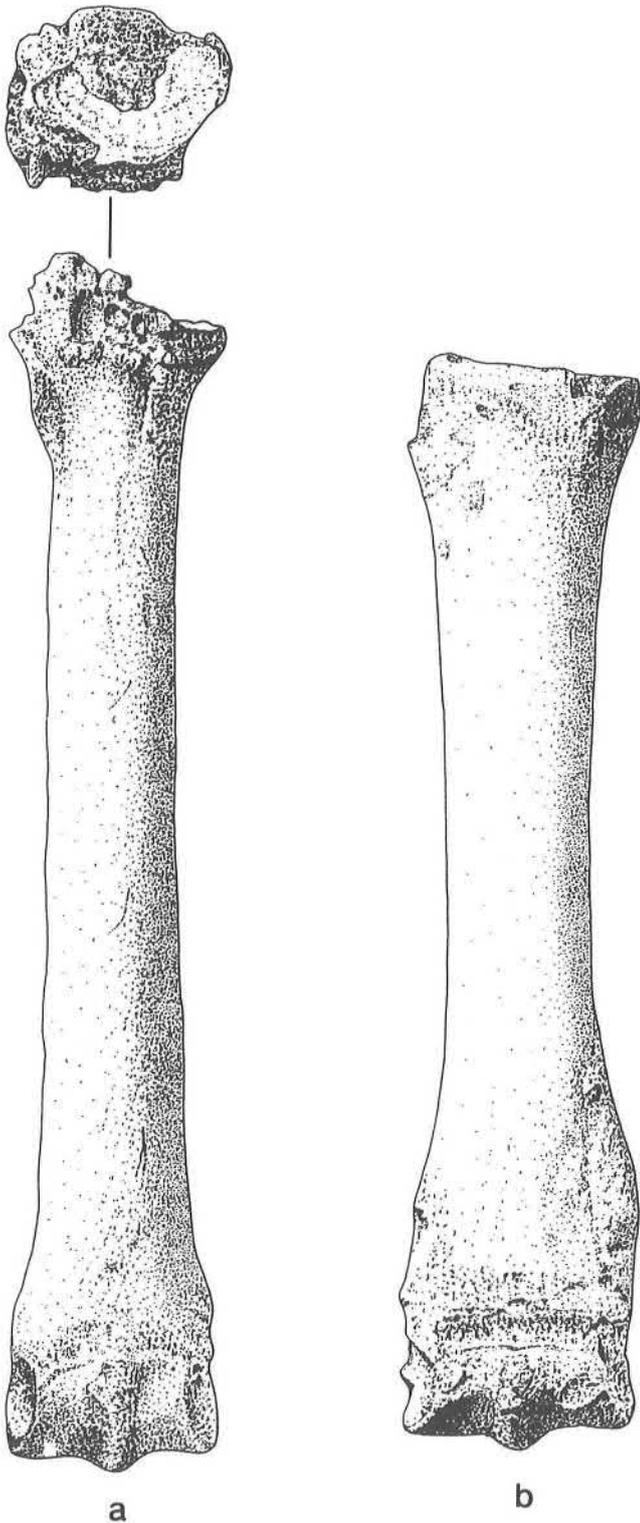


Figure 131: a) Horse metatarsal with an arthropathy involving the proximal joint. b) Horse metacarpal with swelling of the lateral portion of the distal shaft.

mandible and some pottery fragments, and was almost certainly a talisman worn around the neck (p.128).

With so few fragments little can be deduced regarding their role at the settlement, but no doubt they were kept mainly for hunting, as guard dogs and perhaps also as pets. No complete measurable long-bones were recovered and few other measurements could

be taken. However, all fragments came from moderate to large-sized animals. Two fragments from second to third-century contexts came from very large animals similar in size to a wolfhound, (although probably not large enough to be wolf). There is no evidence for the very small lap-dogs, most commonly found in the Roman period (Harcourt 1974), which are more likely to have been present at more heavily Romanised settlements of higher status.

Butchery

In addition to their various roles indicated above, evidence from a second to third-century deposit indicates that very occasionally dogs were eaten. Two tibia fragments from separate contexts showed similar regularly spaced knife marks on the upper third of the shaft. This area would be surrounded by muscle and the marks are therefore more likely to represent filleting than skinning.

Wild Mammals

Bones of non-domestic mammals were recovered in very limited numbers from both the hand-collected and wet-sieved assemblages. Remains of both native deer (*i.e.* red and roe) were present, the latter represented by a single tibia fragment from a second to third-century context. Red deer remains were represented in all periods and were most common in first to second-century contexts, where fifteen of sixteen identified were fragments of antler. A number of antler fragments (including burrs, beams and tines) of both Roman (Fig. 76.111 and Fig. 78.120) and Saxon date (Figs 79 and 80) had been sawn through and obviously represent the remains of antler working (p.128). Few cervid postcranial elements were recovered at Wavendon Gate, suggesting that deer meat did not figure prominently in the diet of the inhabitants at any time, and may well have been a luxury item. Local evidence of small-scale antler crafting is clear with the raw materials being brought onto the site separately and not as part of whole carcasses.

The only other wild mammals represented in the well-dated assemblage were fox, (twenty-three fragments and most common from first to second-century and Saxon contexts) and hare (represented by a single calcaneus from a first to second-century context). Small mammal fragments, probably field vole (*Microtus agrestis*), were also recovered from the wet-sieve assemblage from Context 458 (Ditch 571/588 - first to second century), Context 542 (Ditch 526 - second to third century), Contexts 1130 and 1043 (Ditch 475 - third to fourth century) and Context 1154 (Pit 1152 - Saxon). Those that were identified were all from ditch or pit fills.

Amphibians

Several bones from wet-sieve residues were identified as frog (*Rana temporaria*). These were present in Context 911 (Pit 835) and 1066 (Ditch 456). This may indicate that the features at some stage may have been wet although, since only single elements were present, it is more likely that they may have been incorporated into the deposits by other means (e.g. in owl pellets).

Special Bone Deposits

A total of seven contexts from Wavendon Gate produced discrete assemblages of mammal and bird bones which did not fit the pattern of normal waste disposal. These were dated from the

<i>Bone</i>		<i>Iron Age</i>	<i>1st-2nd century</i>	<i>2nd-3rd century</i>	<i>3rd-4th century</i>	<i>Saxon</i>
Horncore		—	1	—	1	—
Cranium		—	4	4	—	—
Maxilla		2	1	3	1	—
Mandible		14	45	19	28	5
Loose teeth		15	19	5	14	7
Atlas		—	—	—	1	—
Axis		—	1	1	—	—
Scapula		1	1	3	2	—
Humerus	P	1	—	—	—	—
	D	2	3	1	1	—
	Shaft	2	4	1	3	—
Radius	P	2	2	—	1	—
	D	—	—	—	—	—
	Shaft	7	21	—	2	2
Ulna	P	2	—	—	—	—
	Shaft	1	1	—	1	—
Metacarpal	P	2	6	3	2	1
	D	—	—	3	—	—
	Shaft	2	6	—	1	—
Pelvis		4	2	1	3	—
Femur	P	—	—	—	—	—
	D	—	—	—	—	—
	Shaft	2	9	2	11	—
Patella		—	—	—	—	—
Tibia	P	—	—	—	—	—
	D	—	2	2	2	1
	Shaft	12	15	7	7	1
Calcaneus		—	2	1	—	—
Astragalus		—	2	—	—	—
Carpal/tarsal		—	—	—	—	—
Metatarsal	P	1	6	4	—	—
	D	—	—	2	—	—
	Shaft	3	6	—	6	—
Metapodial	P	—	—	—	—	—
	D	—	—	—	—	—
	Shaft	—	—	—	—	—
1st Phalanx		—	4	5	1	—
2nd Phalanx		—	—	—	—	—
3rd Phalanx		—	—	—	—	—
Sacrum		—	—	—	2	—

TABLE 32: Representation of sheep/goat skeletal elements.

late Iron Age through to the third century, and included the remains of horse, sheep, dog and domestic chicken (the latter being dealt with in more detail in the following section on bird bones).

Late Iron Age

A single articulated horse burial (Plate 23) was uncovered from the upper Layer 1316 in Ditch 1306 (p.22 and Fig. 12). It consisted of the fragmentary but relatively complete remains of a neonatal horse. The bones were fairly well preserved, considering the state of bone calcification in such a young animal, and there was no evidence of butchery or pathology. This may have

been a ritual burial, but may equally well represent the disposal of an animal which died of natural causes. Certainly its position in the ditch and its young age suggests an element of care involved in its burial.

First Century

The partial remains of a slender but relatively tall juvenile dog was recovered from Context 760 (Ditch 588). These consisted of a mandible, humerus, both femurs and tibias, several metatarsals, pelvis, sacrum and several vertebrae. There is no record of whether any of these bones were articulated but there is no doubt that they all belong to the same individual.

		Iron Age		1st-2nd century		2nd-3rd century		3rd-4th century		Saxon	
		UF	F	UF	F	UF	F	UF	F	UF	F
Scapula	D	-	-	-	-	-	1	-	1	-	-
Humerus	D	-	2	-	3	-	1	-	1	-	-
Radius	P	-	2	-	2	-	-	-	1	-	-
Pelvis		-	2	-	1	-	-	1	-	-	-
1st Phalanx		-	-	1	3	-	5	-	1	-	-
Metacarpal	D	1	-	4	-	1	2	3	1	-	-
Tibia	D	-	-	1	2	1	2	2	2	-	1
Metatarsal	D	-	-	1	-	2	2	1	-	-	-
Ulna	P	-	2	1	-	-	-	-	-	-	-
Femur	P	-	-	1	-	-	-	2	-	-	-
Calcaneus	-	-	1	1	-	1	-	-	-	-	-
Radius	D	1	-	2	-	-	-	-	-	-	-
Humerus	P	1	1	-	-	-	-	-	-	-	-
Femur	D	1	-	1	-	1	-	2	-	-	-
Tibia	P	-	-	1	-	1	-	1	-	-	-

TABLE 33: Sheep bone fusion.



Plate 23: Articulated burial of foal in the top of late Iron Age Ditch 1306.

Cremation 16 (p.47, Fig. 28 and Plate 5) contained the mixed remains of three chicken skeletons. A full description of these appears in the bird bone report (p.230).

Late Second to Third Century

Slot 2077 (p.58 and Fig. 35) produced numerous neonatal horse remains although, unlike those from Ditch 1306 (above), none appeared to be articulated. Preservation was also poor and the bones were more heavily fragmented, as evidenced by the high

proportion of shaft fragments (*i.e.* 102 out of 126 fragments). These bones represented a single individual, but the nature and reason for their deposition is unclear.

Third century

A cut (514) towards the north end of Ditch 513 (p.62 and Fig. 37) produced two 70% complete horse skulls and a single tibia (also horse), apparently laid transversely across the upper layer (515) of the ditch (Plate 7). Both skulls were placed on their palatal surface and both lacked associated mandibles and any evidence of mandibular teeth, although one (Object 5163) had both left and right mandibular condyles in articulation.

The skull on the far right of Plate 7 (Object 5164) represents that of a 5 to 8 year old stallion (due to state of wear of the incisors and the presence of both canines). Butchery was noted in the form of a chop to the left occipital condyle and lesions, reminiscent of hypoplasia, were also noted on the cementum of all cheek teeth. In addition, the labial surface of all incisors showed minor chipping to the enamel which almost certainly occurred ante-mortem.

The other skull (Object 5163) represented an immature animal with incisors, P4 and M3 just erupting. No evidence of butchery or pathology were present. The single tibia was also from an immature animal since the proximal epiphysis remained unfused.

Numerous other bones were also recovered from the same layer and are therefore associated with these remains. A further eight fragments of horse, including several fragments of a further tibia (almost certainly from the same individual), an immature calcaneum, right and left metatarsals (again probably from the same individual) and a single carpal bone. As well as equid remains, several isolated bovid fragments were also recovered from the same layer. These were isolated cattle teeth, a radius, femur, tibia

<i>HUMERUS</i>		
	<i>Bd</i>	<i>BT</i>
Iron Age	24.6	23.7
1st–2nd cent.	23.5	23.2
2nd–3rd cent.	28.6	27.1
3rd–4th cent.	28.3	25.3

<i>METACARPAL</i>			
	<i>Bp</i>	<i>Bd</i>	<i>GL</i>
1st–2nd cent.	19.3	–	–
	20.3	–	–
2nd–3rd cent.	–	25.2	–
	25.9	30.5	144.7
3rd–4th cent.	22.6	–	–
	26.0	30.0	145.3
	24.8	–	–
Roman	–	28.3	134.9

<i>TIBIA</i>	
	<i>Bd</i>
1st–2nd cent.	26.5
	25.3
2nd–3rd cent.	26.4
	25.7
3rd–4th cent.	25.4
	26.8
	24.9
	26.1

<i>METATARSAL</i>			
	<i>Bp</i>	<i>Bd</i>	<i>GL</i>
1st–2nd cent.	17.7	–	–
	20.9	–	–
2nd–3rd cent.	23.2	27.5	160.0
	22.8	27.4	160.0
	23.2	–	–
	23.2	–	–
3rd–4th cent.	21.6	–	–
	20.8	23.4	133.8
	19.2	22.4	131.5
	20.4	–	–
	–	–	–

<i>3rd MOLAR (M₃)</i>	<i>Length</i>	<i>Breadth</i>	
Iron Age	20.9	7.6	
	20.2	7.6	
	21.6	6.9	
	21.5	7.6	
	21.0	8.0	
1st–2nd cent.	20.6	8.4	
	20.2	7.9	
	23.6	8.2	
2nd–3rd cent.	20.4	7.4	
3rd–4th cent.	20.1	7.4	
	21.0	7.5	
	21.6	8.5	
	20.7	7.3	
	22.8	9.0	
	22.3	8.8	
	22.5	8.4	
	Roman	21.5	7.7
		21.6	8.3
	Saxon	17.7	6.5
19.4		7.3	
19.8		7.7	

TABLE 34: Sheep measurements.

and atlas fragment as well as a single sheep tibia fragment.

Although the skulls and tibia evident in the photograph possibly have some ritual significance, and were almost certainly placed in their position quite deliberately (see Miranda Green's discussion for a more detailed description p.62), the presence of other scattered horse and cattle remains in the same context may not corroborate this interpretation. Evidence of limited butchery on the older of the two horse skulls indicates deliberate dismemberment of the carcass, but whether this was for economic or ritual reasons remains a mystery. The presence of immature long bones and skull (possibly of the same individual) fits well with evidence from earlier deposits and appears to be something which occurs over three centuries at Wavendon Gate.

Eight metres east of Ditch 513 another articulated animal burial was uncovered in Pit 553 (p.62 and Plate 8). Although no dating evidence was available, its proximity to the ditch may imply a similar third-century date. The skeleton was identified as a mature sheep, probably a ewe judging by the size and shape of the horncores present on the skull. Interestingly, although the limbs appeared in full articulation, they gave the overall impression of the animal being 'wound' around the small hole which was dug for it. On closer inspection the left forelimb, although in the right position, appears to be in completely the wrong orientation in relation to the head and vertebrae. It appears to have been completely reversed so that the lateral surface rests against the underlying vertebrae (also shown by the adherence to the medial scapula surface of ribs showing evidence of fresh breakage). The back legs also appear to be in a very odd orientation. The explanation is probably that although almost certainly initially articulated, these elements may have been replaced in their current position after disturbance during excavation.

The remains of a cockerel skeleton were also found buried beneath a near complete pottery vessel in Posthole 2051 (p.68, Fig. 41 and Plate 13). A detailed description of this deposit appears in the bird bone report (p.232) and its possible ritual significance has been fully discussed elsewhere (p.68).

Discussion

Wavendon Gate is situated on Oxford clays and glacial sands and gravel interface overlooking the eastern slopes of the Ouzel valley. The gentle rolling topography of the Ouse and Ouzel valley areas lends itself admirably to cultivation and animal husbandry, with the exception of the Woburn heights which were open sandy heaths. However, the relative importance of different types of farming has changed in the last 200 years as a result of market forces, making it difficult to determine what the land was used for in the past.

The preponderance of cattle in the Iron Age at Wavendon Gate appears to be a feature of assemblages from this region and is at odds with the data from sites in the upper Thames valley and others from southern England, which are all dominated by sheep. It may be, as Wilson suggests (1978), that cattle-rich economies are more likely to lie close to rivers. Here the availability of wetter pastures favour cattle, as in the Vale of York where O'Connor (1989) suggests a similar relationship from data available from Anglo-Scandinavian assemblages. These conclu-

<i>Bone</i>		<i>Iron Age</i>	<i>1st–2nd century</i>	<i>2nd–3rd century</i>	<i>3rd–4th century</i>	<i>Saxon</i>
Cranium		–	2	–	–	–
Maxilla		2	11	–	–	–
Mandible		3	7	5	8	4
Loose teeth		–	4	–	–	–
Atlas		–	4	–	–	–
Axis		–	–	–	–	–
Scapula		1	4	–	1	6
Humerus	P	–	–	–	–	–
	D	–	1	–	–	–
	Shaft	–	4	–	–	–
Radius	P	1	1	–	1	–
	D	–	–	–	–	–
	Shaft	–	2	–	–	–
Ulna	P	–	–	–	–	–
	Shaft	–	3	1	–	–
Metacarpal	P	–	1	–	–	–
	D	–	–	–	–	–
	Shaft	–	–	–	–	–
Pelvis		4	–	–	–	–
Femur	P	–	–	–	–	–
	D	–	–	–	–	1
	Shaft	–	1	–	–	–
Patella		–	–	–	–	–
Tibia	P	–	–	–	–	–
	D	–	2	–	–	–
	Shaft	–	1	1	–	–
Calcaneus		–	–	–	–	–
Astragalus		–	–	–	–	–
Carpal/tarsal		–	–	–	–	–
Metatarsal	P	–	–	–	1	–
	D	–	–	–	1	–
	Shaft	–	–	–	–	–
Metapodial	P	–	–	–	–	–
	D	–	–	–	–	–
	Shaft	–	–	–	–	–
1st Phalanx		–	–	–	–	–
2nd Phalanx		–	–	–	–	–
3rd Phalanx		–	–	–	–	–
Sacrum		–	–	–	–	–

TABLE 35: Representation of pig skeletal elements.

sions, however, are based on a series of assumptions regarding similarities of preservation, fragmentation and recovery, all of which can seriously bias interpretation. It has been shown from the wet-sieve and minimum numbers data that the predominance of cattle, particularly during the Roman period, at Wavendon Gate may be interpreted in a number of ways. This has also been stressed by Holmes and Rielly (1994) in relation to the assemblage from Bancroft Mausoleum and in comparison with other sites in the locality.

Moving to the early Roman period, it appears that the data from Wavendon Gate contrasts with evidence from Bancroft for little change in the cattle:sheep ratio, and more

widely with the trend postulated by King (1978) for a general increase in cattle by the Roman period. It appears that there is instead an increase in sheep and a decline in cattle from the Iron Age to the first and second centuries, with sheep reaching a peak in the second to third centuries. This higher proportion of sheep at early Roman Wavendon Gate appears to be corroborated by data from the wet-sieve assemblage both for identifiable and unidentifiable fragments.

The importance of pig in the region during the Iron Age and Roman periods appears to remain relatively low apart from the second to third century deposits at Caldecotte. Here proportions of pig to cattle and sheep rise to as much as

Bone		Iron Age	1st–2nd century	2nd–3rd century	3rd–4th century	Saxon
Cranium		9	50	5	7	–
Maxilla		–	2	7	2	–
Mandible		5	9	–	31	–
Loose teeth		30	11	2	14	–
Atlas		–	–	–	–	–
Axis		–	–	–	–	–
Scapula		7	16	4	4	4
Humerus	P	–	–	–	–	–
	D	–	–	–	1	–
	Shaft	2	–	–	3	–
Radius	P	–	4	1	2	–
	D	–	2	1	–	–
	Shaft	–	–	4	1	–
Ulna	P	–	–	–	–	–
	Shaft	–	1	–	4	3
Metacarpal	P	1	2	1	1	–
	D	3	4	–	–	–
	Shaft	6	6	–	6	–
Pelvis		–	5	–	7	–
Femur	P	–	3	1	–	–
	D	–	1	2	1	1
Shaft		–	4	3	–	–
Patella		2	–	–	–	–
Tibia	P	–	1	–	–	–
	D	–	5	–	–	–
	Shaft	–	9	–	–	–
Calcaneus		–	–	–	2	–
Astragalus		–	2	–	2	–
Carpal/tarsal		–	–	–	–	–
Metatarsal	P	–	2	1	1	–
	D	–	2	1	–	–
	Shaft	–	–	–	2	–
Metapodial	P	–	–	–	–	–
	D	1	1	–	1	–
	Shaft	–	–	–	1	–
1st Phalanx		3	–	–	1	1
2nd Phalanx		2	–	–	2	–
3rd Phalanx		–	–	1	–	1
Sacrum		–	–	–	8	–

TABLE 36: Representation of horse skeletal elements.

34%, although the sample size is small (Holmes, Dobney and Jaques 1994).

Husbandry practises at Wavendon Gate in the Iron Age appear to differ from those described at some other sites in the region and beyond. Age at death data implies that very few juvenile or immature cattle were killed, almost all being fully mature. This contrasts with Bancroft (Levitan 1994 and Holmes and Rielly 1994) and Pennyland (Holmes 1993) as well as Ashville (Wilson 1978). It appears that dairying was not the prime object to the cattlemen of Iron Age Wavendon Gate. Rather it seems that cattle were kept to full maturity to be utilised for other purposes *i.e.* as draught animals. It must be remembered, however, that the

faunal assemblage from these sites only reflects those animals killed or consumed there. As a result we have no clues concerning trade in live animals or carcasses, which leave no trace on the site and whose remains may be incorporated into deposits from larger market centres or other nearby rural sites. Thus differences between assemblages may not reflect differences in husbandry regimes but different trading and exchange operations.

From the Roman period at Wavendon Gate there is an increase in juvenile cattle and a larger proportion of immature cattle indicating a shift in emphasis to meat production. This pattern is apparently momentarily reversed in the second to third centuries, where it appears that there is an

<i>RADIUS</i>	<i>Bp</i>	<i>BFp</i>	<i>Bd</i>	<i>BFd</i>	<i>GL</i>	<i>Ll</i>
1st–2nd cent.	–	76.6	63.0	344.0	–	–
	72.1	67.9	–	–	–	–
	86.5	76.8	–	–	–	–
2nd–3rd cent.	79.0	71.7	72.2	60.3	328.0	303.0
Roman	76.2	73.3	–	321.0	–	–
	82.5	76.2	76.0	65.9	347.0	337.0

<i>METACARPAL</i>	<i>Bp</i>	<i>Bd</i>	<i>GL</i>	<i>Ll</i>	<i>GLl</i>
Iron Age	48.1	45.9	199.6	193.9	197.1
1st–2nd cent.	48.5	45.5	220.0	210.0	217.0
	45.9	–	–	–	–
2nd–3rd cent.	47.4	–	–	–	–
3rd–4th cent.	51.4	–	–	–	–
	44.9	48.4	234.7	220.0	232.2
Roman	53.0	–	–	–	–

<i>METATARSAL</i>	<i>Bp</i>	<i>Bd</i>	<i>GL</i>	<i>Ll</i>
1st–2nd cent.	43.4	–	–	–
	47.3	–	–	–
2nd–3rd cent.	50.2	51.7	285.0	276.0
Roman	48.2	49.2	263.3	257.0

TABLE 37: Horse measurements.

increase in young calves, possibly indicating a shift to more secondary products such as dairying, but still with the majority of animals killed fully mature. In the later Roman period the emphasis on meat is even more prominent, with only around 50% of the remains from adult animals. This data is broadly similar to the evidence from Bancroft and Pennyland, and complements Maltby's observations (1981) from a number of Roman sites, where mature and adult animals predominated, and that in rural as opposed to military/urban groups there is likely to be a wide distribution of age groups.

With Wavendon Gate's proximity to the fort and later small town at *Magiovinium*, it is probable that excess animals were provided for the growing population of these urban centres, particularly in the later Roman period.

The fact that the site was continuously occupied from the late Iron Age and throughout the Roman period, suggests a successful and possibly prosperous native community, responding to the military presence of the early Roman period. Evidence for a change in continuity apparently occurs during the second to third centuries, certainly with regard to cattle husbandry. This seems to coincide with the archaeological evidence for the region, where the end of the second century marks a hiatus in rapid rural expansion (Mynard 1987).

Within the designated area of Milton Keynes, there appears

to be a uniform spread of sites on all soil types by the third century AD, which perhaps suggests that by AD 200 most of the available land was taken over by agriculture. In the following 150–200 years few new sites are established and numbers gradually decline. However, those that survive continue through the Roman period and some, such as Wavendon Gate, show even later Saxon occupation. Cattle husbandry at this time appears to shift to a more intensive, possibly more specialised regime, perhaps reflecting a response to changing market forces or land use. Introduction of new improved cattle breeds may also be occurring around this time.

What little evidence there is from the sheep remains during this period also suggests a change in favour of more mature animals, and possibly secondary products.

The small numbers of wild animals (particularly cervids) in this assemblage, as well as from Bancroft and Pennyland, suggests a limited utilisation of wild fauna in all periods. The absence of deer, coupled with low numbers of domestic pigs, may suggest a lack of local woodland cover in the region. The preponderance of cattle and sheep suggests the availability of relatively open areas of grassland and may lend credence to the suggestion that large scale woodland clearances in the west midlands had already taken place by the early Iron Age (Robinson and Wilson 1982). The availability of ample grass and other cultivated crops is crucial in providing winter fodder, particularly for cattle.

The presence of possible special deposits in all but the Saxon assemblage suggests a clear continuity at the site through time. Similar to those found at Iron Age Danebury and more locally at Iron Age and Saxon Pennyland, a range of domestic animals were used. However, from what little evidence there is, it is suggested that horse may have been an important part of ritual activities at Wavendon Gate, contrasting with the ritual deposits at Roman Uley, where goat predominated (Ellison 1980).

The assemblage from Wavendon Gate, although small in terms of total numbers of bones, has provided some interesting data on both economic and agricultural practises of both the Iron Age and Roman inhabitants. The presence of numerous other sites in the region, with moderate-sized animal bone assemblages, has already thrown much light on the exploitation of wild and domestic resources in the region, and a synthesis of this information is now needed. However, problems of comparability of much of this detailed data must be borne in mind, in terms of differences in recovery procedures, methods of quantification and problems of dating assemblages. The possibility of recovering further important material from the area does exist and the corpus of zooarchaeological information that is already extant will enable a much better assessment to be made of its academic potential.

THE BIRD BONES

Kevin Rielly

A total of sixty-five bones were recovered, all from contexts within the Roman Enclosure 275. Seventy-five per cent of the assemblage was contained within just two deposits; the late first-century Cremation 16 (p.47, Fig. 28 and Plate 5) and the fill of the third-century Posthole 2051 (p.68, Fig. 41 and Plates 12 and 13), which may have been associated with the waterlogged Pit 835. The contents of each deposit are obviously of special interest. Consequently the bird bones from Cremation 16 and Posthole 2051 are discussed in detail under separate headings later in this report.

Most of the bones were recovered by hand, including the bones from the two special deposits. A wet-sieving programme was in operation throughout the excavation (p.208), which contributed two bird bones to the site assemblage - a mandible fragment and a posterior phalange. Noticeably, the hand-recovered assemblage does not contain either of the latter two skeletal parts, with the exception of Cremation 16 (below).

The remaining seventeen bones (*i.e.* excluding the special deposits) were found in various types of context, widely distributed within the enclosure. These contexts span a period of occupation from the first to the fourth centuries AD. This span can be subdivided into three main phases (Table 38), incorporating all the contexts except for 756, a cleaning layer over Hollow 900. Fifteen out of the seventeen bones not in the special deposits display fresh breaks, yet it seems that the degree of fragmentation is small, where the majority of the limb bone fragments (twelve out of fourteen) are whole or nearly whole.

Three bird species are represented, namely chicken, domestic goose and carrion crow (Table 38). In addition, of the three bones found in Context 756, two were identified as carrion crow. With the exception of one unfused tibiotarsus from a third to fourth-century context (1041) and the three crow bones, all the bones represent mature individuals. Epiphyseal fusion in chicken takes place at approximately six months of age (Silver 1969). There is definitely one female bird represented, as shown by a chicken femur with medullary bone from a late first to second-century context (Driver 1972). One articulation was found consisting of a humerus, radius and ulna, all burnt and identified as domestic goose. While they are certainly part of the same individual, it is not clear whether or not they represented an *in situ* articulation. Both the humerus and ulna display butchery cuts:

humerus - a major chop removing a large part of the proximal end, possibly from a ventral direction;

Species	PERIOD		
	1st-2nd cent.	2nd-3rd cent.	3rd-4th cent.
Chicken (<i>Gallus gallus</i>)	5 ¹ (38) ²	3(18) ³	1
Domestic goose (<i>Anser anser</i>)	—	3	1
Carrion crow (<i>Corvus corone corone</i>)	—	—	1

¹ with two bones from wet-sieved sample 45, Context 637.
² including Context 402.
³ including Context 2052

TABLE 38: Species representation (total fragment count).

<i>Period/context</i>	<i>Bone</i>	<i>GL/</i> <i>Lm or La</i>	<i>Bp</i>	<i>Dp</i>	<i>SD</i>	<i>Bd</i> <i>max Bd</i>	<i>Dd</i> <i>min Bd</i>
CHICKEN:							
IC1,Crem 16	scapula	–	10.4	–	–	–	–
IC1,Crem 16	coracoid(F)	48.6	Lm 46.3	–	–	–	10.7
IC2–eC3,Ph 2051	coracoid(M)	57.4	–	–	–	–	–
IC1,Crem 16	humerus	63.2	18.0	–	6.8	13.3	–
IC2–eC3,Ph 2051	humerus(M)	73.7	20.4	–	7.3	16.2	–
IC2–eC3,Ph 2051	ulna(M)	–	–	–	–	–	10.4
C2–C3,872	radius	67.8	–	–	–	6.8	–
IC1,Crem 16	femur(F)	69.2/64.3	13.4	–	5.3	12.5	11.6
IC1,Crem 16	femur(F)	–	–	–	–	13.5	11.4
IC1,Crem 16	femur(F)	–	14.5	–	–	–	–
IC1,Crem 16	femur(F)	–	–	–	–	13.3	–
IC1–C2,882	femur(F)	–	17.6	11.8	–	–	–
IC2–eC3,414	femur(F)	–/74.7	16.2	–	7.2	15.3	12.4
IC2–eC3,Ph 2051	femur(M)	–	16.3	11.6	–	15.8	–
IC1,Crem 16	tibiotarsus(F)	99.0	17.4	–	5.3	–	–
IC1,Crem 16	tibiotarsus(F)	–	18.4	–	–	–	–
C1–C2,962	tibiotarsus(F)	–	–	–	6.4	11.4	11.7
IC2–eC3,Ph 2051	tibiotarsus(M)	121.3/116.0	22.3	–	6.3	12.7	12.8
IC1,Crem 16	tarsom'tarsus(F)	64.8	11.8	–	5.4	10.4	–
C3,623	tarsom'tarsus(F)	–	11.4	–	–	–	–
IC2–eC3,Ph 2051	tarsom'tarsus(M)	–	14.3	–	–	–	–
DOMESTIC GOOSE:							
C2–C3,911	humerus	181.0	–	–	12.6	26.0	–
C3–C4,1041	humerus	166.0	–	–	11.7	24.3	–
C2–C3,911	ulna	170.5	17.5	–	8.3	17.3	–
C2–C3,911	radius	157.0	–	–	–	11.4	–

(F) female, assumed from presence of medullary bone and/or the absence of a spur.

(M) male, all part of the 2051 cockerel skeleton.

Measurements taken from von den Driesch 1976.

TABLE 39: Bird bone measurements (mm).

ulna – a series of knife cuts to the distal surface.

The major cut would have removed the wing from the carcass, and the smaller cuts would suffice to remove the meat-bearing from the waste bones, all of which probably took place prior to cooking. That these bones were burnt may suggest a casual disposal of kitchen waste, also shown by other burnt bones in the assemblage, *i.e.* two from first to second-century contexts, and one from a second to third-century context.

The only other bone showing cut marks is a carrion crow ulna from Context 756, with two parallel knife cuts to the lateral side, adjacent to the proximal end. These cuts may be butchery marks, although this does not necessarily

prove that this bird was eaten. In addition, one chicken femur fragment has been worn down at its proximal end, signifying some modification of this bone following disarticulation and defleshing (Posthole 2051, below).

The size of the domestic species (*i.e.* chicken and goose) is shown in Table 39, including the measurable chicken bones from the special deposits. These measurements are within the size range of Roman chicken and goose, as shown by several Romano-British sites, *e.g.* Exeter (Maltby 1979).

In conclusion it is clear that most of this small assemblage represents domestic refuse and, assuming good recovery, that domesticated birds provided only a very small part of

the dietary needs of the settlement throughout the period of occupation. While the carrion crow bones may have been accidentally deposited, the ulna with knife marks may indicate that some use was found for the bones, if not for the meat. That domestic chicken had a value to the site occupants other than for its meat and/or eggs is suggested by the bones found in the two special deposits.

Cremation 16

A total of thirty-three chicken bones was found in association with a group of burnt human bones and a recently disturbed (ploughing and/or topsoil stripping) cremation vessel. The location of the bones in relation to the cremation vessel (Fig. 28 and Plate 5) probably suggest that this vessel, or rather a large part of it, was dragged in a north-easterly direction to its excavation location. Apart from a group of six vertebrae the chicken bones were in a disarticulated state. This probably was not caused through any disturbance of the cremation. As the two groups of bones remained relatively distinct, it is unlikely that the chicken bones would have shifted so far from their original positions. Perhaps their distribution reflects the original deposition state.

Table 40 shows that these chicken bones represent a minimum of three individuals, all of which were female and mature, as shown by the presence of medullary bone and fused epiphyses respectively. If three entire skeletons were originally deposited then it is apparent from Table 40 that a large number of skeletal parts are either under-represented or missing. A number of bones may have been missed owing to the lack of sieving, even though this context was carefully excavated. Furthermore, a proportion of the assemblage may have been destroyed as a result of post-deposition fragmentation processes. These can take effect either prior to or during the excavation. During the former period the bones were probably liable to fragmentation because of the shallow depth of soil above the deposit, making them susceptible, for example, to plough damage. That fragmentation oc-

curred during excavation is indicated by the presence of fresh breaks. Indeed, most of the bones in this assemblage display fresh breaks, and just nine out of the eighteen limb bone fragments (including the coracoid) are whole or nearly whole. Alternatively, it is possible that only a certain part of each individual was deposited. Notable absences in the assemblage include the cranium and bones of the lower wing. While the former may be particularly susceptible to fragmentation pressures, the same cannot be said of bones like the ulna and the carpometacarpus. In fact, many relatively robust bones (e.g. the coracoid) are also apparently under-represented. It is clear that this assemblage has been at least partly affected by post-depositional fragmentation. However, it is the alternative solution that can best explain the great number of possibly poorly represented skeletal parts. Furthermore, such absences may even be expected if the bones were deposited in a random unarticulated state, as is suggested above.

It is unlikely that these bones represent the remains of a meal, owing to the lack of any bones with butchery cuts. In addition, both waste and meat-bearing bones (e.g. tarsometatarsus and femur respectively) are included in the assemblage. This indicates that whole skeletons, or in this case a selected portion of such skeletons, were deposited with the cremation rather than the remains of dressed carcasses.

A single pathological case was recovered - a tarsometatarsus which displays slight exostoses on the anterior surface of all three distal condyles.

Posthole 2051

A total of fifteen chicken bones was recovered from below the pottery vessel in the posthole (Plate 13). None of these bones were found in articulation, yet the minimum number of one individual (Table 40) and the common large size of each skeletal part (Table 39) suggest that these bones represent just one bird. The fused epiphyses and spurred tarsometatarsi indicate that this bird was a mature male.

<i>Bone</i>	<i>Cremation 16</i>			<i>Posthole 2051</i>		
	<i>L</i>	<i>R</i>	<i>N,MNI</i>	<i>L</i>	<i>R</i>	<i>N,MNI</i>
Scapula	1	—	1,1	—	—	—
Sternum	—	—	1,1	—	—	1,1
Fucula	—	—	1,1	—	—	—
Coracoid	1M	1M	2,1	1	1	2,1
Humerus	1	2	3,2	1	1	2,1
Ulna	—	—	—	1	—	1,1
Vertebra	—	—	6,1	—	—	—
Pelvis	—	—	1,1	—	—	1,1
Synsacrum	—	—	2,1	—	—	1,1
Femur	3M	2M	6,2	1	1	2,1
Tibiotarsus	3M	2M	5,3	1	1	2,1
Fibula	—	—	2,1	—	—	—
Tarsometatarsus	1	1	2,1	1S	1S	2,1
Phal:post	—	—	1,1	—	—	—

S spur
M medullary bone

TABLE 40: Chicken; representation of skeletal parts within Cremation 16 and Posthole 2051.

The skeletal part distribution is shown in Table 40. Clearly a number of parts are either under-represented or absent. As with the chicken bones in Cremation 16, a certain number of parts may have been destroyed as a result of post-depositional fragmentation pressures. In this case, the skeleton was perhaps only minimally affected by such pressures prior to excavation, because of the well-sealed nature and depth of the deposit. On the other hand, most of the assemblage displays fresh breaks (thirteen out of fifteen) and also only three out of eleven limb bone fragments (including the coracoid) are whole or nearly whole. Clearly fragmentation pressures had some effect on the assemblage. It can be assumed that the excavation fragmentation was minimal owing to the careful excavation of this context, which in turn suggests a good retrieval efficiency. Thus it is possible that the excavated and originally deposited assemblages are roughly similar, which would further suggest that the original assemblage was composed of a partial skeleton, and that this skeleton was disarticulated.

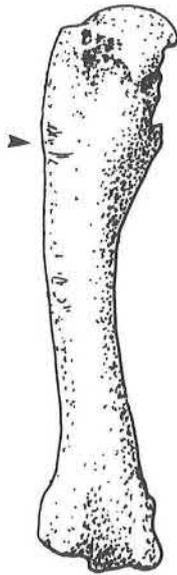


Figure 132: Cockerel humerus showing possible de-fleshing marks on the shaft.

There is evidence to indicate that the skeleton was both disarticulated and defleshed sometime prior to deposition. A number of bones in the assemblage, both humeri in particular, have been polished, probably by handling. One humerus has been cut several times with a sharp knife into the shaft near the proximal end (Fig. 132). It is unlikely that these marks represent a particular butchery practice, as there would be no reason to cut so many times into one small area. Further modification of the assemblage is shown by the right tarsometatarsus, where the bone immediately adjacent and posterior to the spur has been completely worn down. In addition, both tarsometatarsi were broken in antiquity in a similar part of the shaft, just distal to the spur (Fig. 133).

The same argument proposed for the skeletons in Cremation 16 can be used here to suggest that this skeleton does not represent the remains of a meal. Rather, it seems that this individual was disarticulated and defleshed, then buried as a partial skeleton, following an intermediate period when the bones were apparently kept for some undetermined purpose.

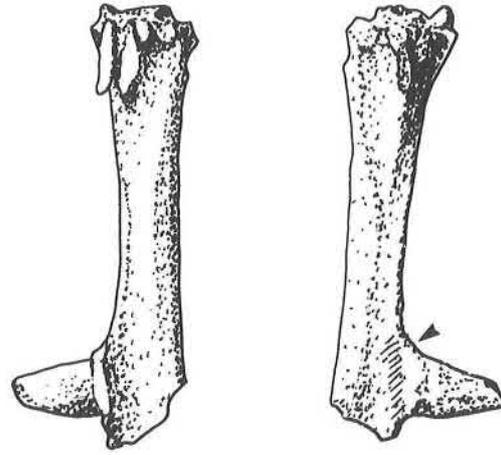


Figure 133: Cockerel tarsometatarsus showing polished area.

HUMAN SKELETAL REMAINS

Christine Osborne

The Cremations

Of the twenty features identified as cremation burials, only sixteen contained cremated human bone. There is no evidence to suggest that any contain more than one individual (*i.e.* there is no apparent duplication of bones). However, it can be seen from the respective weights that none of the cremations is complete, and the surviving fragments of bone are very small. Except for Cremation 20, which appears to be that of an immature individual, most of the cremations seem to contain adults, although in some instances it was not possible to determine whether the individual concerned was adult or immature.

At least three of the cremations contained animal as well as human bone (Cremations 1, 3 and 16) which is not an unusual occurrence. Many of the cremations from the Romano-British site at King Harry Lane, St Albans contained the skeletal remains of pigs (Stead and Rigby, 1989) and more locally the majority of the first-century cremations at Bancroft (Williams and Zeepvat 1994) contained animal bones.

The colour of the fragments can give an indication of the efficiency of burning, and sometimes it is possible to suggest the position of the body in relation to the funeral pyre. A predominance of white accompanied by cracking and shrinkage of the bone suggests a high firing temperature whilst a blue/grey colour indicates a relatively lower temperature. The cremations at Wavendon Gate contain bone which, on the whole, has been burnt at high temperatures and subsequently broken into relatively small pieces.

The very nature of cremations means that the information obtained from them is limited. This is especially true for this group where the cremations are incomplete and composed of small fragments. For example, it was not possible to sex any of the individuals, nor was it not possible to determine if the remains in Cremations 13 and 15 were from adult or immature individuals and only one cremation (8) displayed any surviving pathology (some degenerative lipping on a fragment of vertebral body).

Skeletal Inventory

Cremation 1

Colour: Predominantly white with some blue/grey.
Max. length: 37.3 mm (rib).
Weight: 400 g.
Ident. frags: Rib, skull, patella, longbone (including fibula), vertebra, immature animal bone.
No. of indivs: Probably one.
Age: Adult.
Sex: Unknown.

Cremation 3

Colour: Predominantly white with some blue/grey.
Max. length: 72.5 mm (longbone).
Weight: 490 g.
Ident. frags: Longbone, foot phalanx, scapula, animal bone.
No. of indivs: Probably one.
Age: Probably adult.
Sex: Unknown.

Cremation 6

Colour: Predominantly white with some blue/grey.
Max. length: 61.3 mm (tibia).
Weight: 800 g.
Ident. frags: Skull, longbone (including femur, humerus and tibia), vertebra, rib.
No. of indivs: Probably one.
Age: Adult.
Sex: Unknown.

Other remarks: The fragments of leg bones are blue/grey in colour, suggesting that the legs were outside the hottest areas of the pyre. The leg fragments are also relatively larger than the other fragments in both this cremation and the others in the group.

Cremation 7

Colour: Roughly half is white in colour, the rest is blue/grey.
Max. length: 45.4 mm (femur).
Weight: 23 g.
Ident. frags: Longbone (including femur and ulna).
No. of indivs: Probably one.
Age: Probably adult.
Sex: Unknown.

Cremation 8

Colour: Predominantly white with some blue/grey.
Max. length: 30.7 mm (longbone).
Weight: 450 g.
Ident. frags: Skull, vertebra, longbone (including radius).
No. of indivs: Probably one.
Age: Adult.
Sex: Unknown.
Pathology: There is some bony lipping on a fragment of vertebral body.

Cremation 9

Colour: Mostly blue/grey with some white.
Max. length: 59.6 mm (tibia).
Weight: 620 g.
Ident. frags: Femur, tibia, fibula.
No. of indivs: Probably one.
Age: Adult.
Sex: Unknown.

Cremation 10

Colour: White.
Max. length: 26.1 mm (skull).
Weight: 40 g.
Ident. frags: Skull.
No. of indivs: Probably one.
Age: Probably adult.
Sex: Unknown.

Cremation 12/13

Colour: Predominantly white with some blue/grey.
Max. length: 41.0 mm (longbone).
Weight: 140 g.
Ident. frags: Longbone, skull, root of one premolar.
No. of indivs: Probably one.
Age: Adult.
Sex: Unknown.

Cremation 14

Colour: Predominantly blue/grey and brown with some white.
Max. length: 31.0 mm (skull).
Weight: 150 g.
Ident. frags: Skull, humerus, scapula, one hand phalanx, one premolar.
No. of indivs: Probably one.
Age: Adult.
Sex: Unknown.

Cremation 15

Colour: White.
Max. length: 30.5 mm (skull).
Weight: 100 g.
Ident. frags: Skull, longbone, hand phalanx.
No. of indivs: Probably one.
Age: Unknown.
Sex: Unknown.

Cremation 16

Colour: Predominantly white with some blue/grey.
Max. length: 47.9 mm (longbone).
Weight: 400 g.
Ident. frags: Vertebra, longbone, skull, rib, animal bone.
No. of indivs: Probably one.
Age: Adult.
Sex: Unknown.

Cremation 17

Colour: White.
Max. length: 37.9 mm (longbone).
Weight: 170 g.
Ident. frags: Longbone, rib, skull.
No. of indivs: Probably one.
Age: Adult
Sex: Unknown.

Cremation 18

Colour: Predominantly white with some blue/grey.
Max. length: 31.5 mm (metatarsal or metacarpal).
Weight: 40 g.
Ident. frags: Skull, metatarsal or metacarpal.
No. of indivs: Probably one.
Age: Probably adult.
Sex: Unknown.

Cremation 19

Colour: White.
Max. length: 30.9 mm (longbone).
Weight: 50 g.
Ident. frags: Skull, longbone.
No. of indivs: Probably one.
Age: Probably adult.
Sex: Unknown.

Cremation 20

Colour: Predominantly blue/grey with some white.
Max. length: 24.3 mm.
Weight: 25 g.
Ident. frags: Skull, vertebra, longbone.
No. of indivs: Probably one.
Age: Immature.
Sex: Unknown.

Cremation 21

Colour: Predominantly blue/grey with some white.
Max. length: 34.4 mm (scapula).
Weight: 235 g.
Ident. frags: Scapula, skull, two incisors, one premolar, one upper molar, one hand phalanx, two carpals, longbone (including ulna).
No. of indivs: Probably one.
Age: Adult.
Sex: Unknown.

The Inhumations

The five skeletons (one consisting of just a skull and another of just a mandible) were in a very poor state of preservation, and the bones were badly fragmented. All are adults, and it may be suggested that two (211 and 215) are from relatively older individuals. There are many problems associated with the ageing of adult skeletons and this,

together with the poor condition of the bones in this group, makes any attempt at more specific ageing impossible.

Two of the skeletons (213 and 1251) are possible males, the uncertainty arising because very few of the characteristics used to evaluate sex had survived. It was not possible to determine sex for the remaining three individuals.

The spines of Skeletons 211 and 215 display the wear, pitting and lipping characteristic of degenerative disease, though only four cervical vertebrae survive in 215. Skeleton 211 is affected along most of the spinal length, although it is not possible to see if every vertebra is pathological or not. The latter also has lipping around the distal femoral articulations (at the knees) and lipping, wear and pitting at the acromial end of the right clavicle (*i.e.* at the right shoulder). It is quite likely that the poor preservation has led to the loss of some pathology. Certainly no measurements were possible, such as are normally used to calculate various indices and stature.

More detailed information obtained from the skeletons is recorded in the skeletal inventory.

Skeletal Inventory

Key to the dentition:

X	ante-mortem loss
/	post-mortem loss
C	caries
-	both tooth and socket lost post mortem

Inhumation 211

Bones: Skull (very few fragments), mandible (very few fragments), 6 cervical vertebrae, 12 thoracic vertebrae, 5 lumbar vertebrae, both clavicles, both scapulae, 11 left and 10 right ribs, right humerus, right radius, right ulna, 1 left metacarpal, fragments of pelvis, both femora, both tibiae, left fibula, 7 left and 6 right tarsals, 5 left and 1 right metatarsal, 2 foot phalanges.

Dentition: None surviving.

Age: Relatively old adult.

Sex: Unknown.

Pathology: Although many of the vertebrae are broken and fragmented, wear and pitting can be seen on the body surfaces of cervicals 3, 4 and 6. There is some slight lipping around fragments of body rims of thoracics 3, 4, 5, 8 and 11. There is a small spur of bone on the right inferior epiphyseal joint of lumbar 1.

Both femora have lipping around the undamaged areas of the rims of the distal condyles.

The right clavicle has wear, lipping and pitting around the acromial (lateral) end. Unfortunately the acromion on the scapula is missing. The right clavicle also has an area of distortion and remodelling in the region of attachment of the costoclavicular ligament suggesting stress at some time.

Inhumation 213

Bones: Skull, a few broken vertebral fragments, both clavicles, both scapulae, 7 left and 10 right ribs, both humeri, both radii, both ulnae, 4 metacarpals, 4 hand phalanges, fragment of pelvis, right femur, both tibiae, both fibulae, 1 tarsal, 1 metatarsal, 1 foot phalanx.

Dentition: The only surviving dentition is one loose, broken, lower molar.

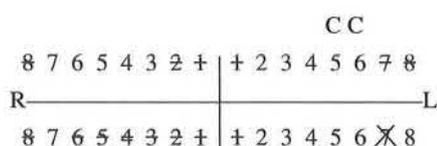
Age: Adult.

Sex: Unknown

Inhumation 215

Bones: Skull, mandible, 4 cervical vertebrae.

Dentition:



Loose teeth: 2 upper medial incisors, 1 lower premolar, 2 lower molars, 1 lower canine, 3 lower incisors.

Maxillary left 5 has a medium sized carious lesion spanning the occlusal and distal crown. Only the labial root and a fragment of crown remain of maxillary left 6, the rest has rotted away.

There is a lot of wear on the teeth, the molars having been worn to a slant.

Age: Relatively old adult.

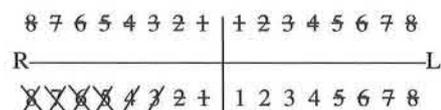
Sex: Unknown.

Pathology: There is wear and pitting on two of the vertebral bodies.

Inhumation 942

Bones: Skull, mandible, a few vertebral fragments, both clavicles, right scapula, a few rib fragments, both humeri, both radii, right ulna, a few fragments of pelvis, both femora.

Dentition:



Loose teeth: The broken crowns of 1 premolar and 1 molar.

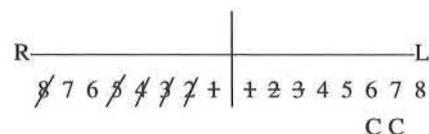
Age: Adult.

Sex: Unknown.

Inhumation 1251

Bones: Mandible.

Dentition:



Mandibular left 6 has a medium sized carious lesion in the distal crown. Mandibular left 7 has a small lesion in the occlusal surface and a medium sized lesion in the distal crown.

The mandible is large and square.

Age: Adult.

Sex: ? Male.

PLANT REMAINS FROM THE WATERLOGGED FEATURES

Elizabeth Pearson

Introduction

Plant remains were analysed from bulk samples of waterlogged organic deposits within Ditch 600 and the third-century Pit 835 inside the main enclosure (Fig. 117). The samples were processed and analysed in the Environmental Laboratory at the University Museum, Oxford. The sample from the early Roman Enclosure 275 was taken from primary silt in the north-west corner of the enclosure at the point at which there may originally have been an entrance. In Pit 835, which was originally at least 7 m in diameter and 3 m deep, the lower half was made up of a number of discrete lenses of anaerobically preserved organic material, including worked timber. During excavation this lower half was divided into four equal quadrants (Fig. 39). Quadrants 830 and 831 were removed stratigraphically in three main layers; top – 871/929, middle – 872/930 and bottom – 873/931. The entire fill of Quadrants 828 and 829 was taken out and recorded in one arbitrary layer.

The Samples

<i>Layer no.</i>	<i>Sample no.</i>	<i>Soil description</i>
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DITCH 600

2102	188	Buff sandy clay loam with iron panning
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PIT 835 (Figs 39 and 40)

Quadrant 828

911	13	–
-----	----	---

Quadrant 829

733	55, 56 & 113	–
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Quadrant 830

929 (top)	107	Greyish-brown silty clay with yellow mottling.
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930 (middle)	108	Very dark greyish-brown silty clay with a high percentage of organic material.
--------------	-----	--

930/931	109	Indistinct layer between 930 and 931
---------	-----	--------------------------------------

931 (bottom)	110	Dark greyish brown organic silty clay
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Quadrant 831

872 (middle)	117	Very dark greyish-brown silty clay
873 (bottom)	118	Dark greyish-brown organic silty clay.

Processing Methods

Plant remains were recovered using both laboratory and on-site methods of extraction. Sample 188, from the early Roman ditch and Samples 107, 108, 109, 110, 117 and 118, from quadrants 830 and 831 of the pit, all of which were removed stratigraphically, were processed at Oxford using the wash-over technique described below.

A 500 g. sub-sample was taken from each of the bulk soil samples apart from sample 108 from which only a 100 g. sub-sample was taken. The sub-sample was broken up by hand and placed in a bucket of water and agitated to separate the organic and mineral fractions. The organic material was washed onto 1 mm 0.5 mm and 212 µm mesh sieves. The flots retained on the 1 mm and 0.5 mm sieves were sorted entirely for plant, mollusc and insect remains. Mollusc remains were absent or scarce. The insect remains recovered were analysed separately by Mark Robinson (p.258). Only a 1/10th or ½ sub-sample was taken from the 212 µm sieve and sorted for plant and insect remains. The results from this last fraction were appropriately multiplied to allow inclusion in the main tables of results. The residue was then sieved over a 0.5 mm aperture mesh in order to recover any other dense biological remains which had not previously been washed over.

Additional plant material was provided by on-site processing of the deposits from Quadrants 828 and 829 of Pit 835. The deposit from Quadrant 829 (Layer 733, Samples 55, 56 and 113) was floated on-site, and the flot examined for items of interest, or items not present in the laboratory-processed samples. Large fruit stones and nut fragments were also retrieved during bulk-sieving of Quadrant 828 (Layer 911, Sample 13).

Identification and Results

Identifications were made by direct comparison with modern reference collections housed at the University Museum, Oxford. The results are given in Tables 41 and 42. The samples were rich in waterlogged plant remains and contained a small proportion of charred plant remains. Waterlogged seeds, seed capsules, fruit stones and thorns were identified. There was also a substantial amount of wood and twig fragments which were not identified, as samples for wood identification had been taken separately (p.260).

Nomenclature for the plant remains listed in Tables 41 and 42 follows Clapham *et al.* (1962). Habitat information used to aid interpretation of the results has been derived from

various sources, but particular use has been made of Clapham *et al.* (1962) and Silverside (1977) for ecological details of the plants.

Interpretation and Discussion

Ditch 600

The plant remains from this sample were badly preserved. As only the more resistant seeds were present, they may not reflect the surrounding vegetation completely. However, there is evidence of generally neglected ground on which grew *Hyoscyamus niger* (henbane), *Stachys sylvatica* (hedge woundwort), *Sambucus nigra* (elder) and *Urtica dioica* (stinging nettle). More frequently disturbed ground is suggested by *Polygonum aviculare* agg. (knotweed), *Urtica urens* (small nettle), *Stellaria media* (chickweed) and *Chenopodium album* (fat hen), and in particular, muddy, trampled ground is indicated by *Plantago major* (great plantain) and *Coronopus squamatus* (swine-cress).

Pit 835

The lower (931) and middle layers (930 and 873) of the waterlogged lower half of the pit, representing the pit's early period of use, contained well preserved seed assemblages. They have a similar composition and indicate the generally open conditions typical around an inhabited settlement. In contrast, the deposit from the upper layer (929) was badly preserved. Only the more resistant seeds survived, presenting an incomplete picture of the vegetation and making comparison with the other layers difficult.

The plant remains from the lower and middle layers show evidence of a shallow water community of *Ranunculus S. Batrachium* and *Apium nodiflorum* (fool's watercress) which probably grew in the pit itself. There was also a community of plants of wet mud such as *Montia fontana* ssp. *chondrosperma* (blinks), *Apium graveolens* (celery) and *Juncus bufonius* (rush) which may have colonized mud around the pit or in wetter areas of the enclosure. *A. graveolens* may also be cultivated for culinary purposes and is discussed later in the report.

The majority of the plant remains probably entered the pit naturally from the surrounding terrestrial landscape. There was strong evidence for disturbed ground, including weeds which may be found on annually disturbed soil of cultivated ground. *Agrostemma githago* (corncockle) *Anthemis cotula* (stinking mayweed) and *Aethusa cynapium* (fool's parsley) are characteristic members of the order Centauretalia-cyani (Silverside 1977, 317–322) which were commonly noxious weeds of cereal crops. *Polygonum persicaria* (red shank), *Urtica urens* (small nettle) and *Brassica rapa* ssp. *campestris* (wild turnip), characteristic members of the order Polygono-Chenopodietalia (Silverside 1977, 240–242) are more common amongst root crops, some stands of spring-sown cereals and nutrient-rich disturbed ground such as occurs around settlements and farmyards. Many other weed species are present which

CHENOPODIACEAE

<i>Chenopodium polyspermum</i>	all-seed	44	12	21	—	3	—	—	Da
<i>Chenopodium album</i>	fat hen	—	—	11	1	3	—	2	Da
<i>Chenopodium cf. album</i>	—	—	—	2	—	—	—	—	
<i>Chenopodium rubrum</i>	red goosefoot	1180	542	190	—	—	—	—	Da,nitrogen rich
<i>Chenopodium rubrum/glaucum</i>	—	—	—	—	—	—	—	141	
<i>Chenopodium sp.</i>	—	—	—	—	2	—	—	—	Da
<i>Atriplex sp.</i>	—	64	94	—	1	3	—	30	Da
Chenopodiaceae sp. indet.	—	—	2	2	—	1	—	19	

MALVACEAE

<i>Malva sylvestris</i>	common mallow	26	2	9	—	—	—	—	Da
<i>Filipendula ulmaria</i>	meadow-sweet	—	—	1	—	—	—	—	W,Gm,M,F
<i>Rubus fruticosus</i> agg.	blackberry	—	—	—	—	1	—	—	W,Sh,heaths
<i>Prunus avium</i>	wild cherry	—	—	—	—	1	—	—	W,Sh
<i>Crataegus/Prunus</i> thorns	—	6	—	—	—	—	—	—	W,S,Sh

UMBELLIFERAE

<i>Chaerophyllum temulentum</i>	chervil	1	4	1	—	2	—	—	Sh,G
<i>Coriandrum sativum</i>	coriander	—	—	—	—	1	1	—	Da,cult.
<i>Conium maculatum</i>	hemlock	172	131	132	1	87	—	—	D,W-damp places
<i>Apium graveolens</i>	celery	314	19	18	2	1	—	—	Ab
<i>Apium nodiflorum</i>	fool's nodiflorum	18	9	15	—	2	—	—	A
<i>Apium sp.</i>	—	30	—	5	2	—	—	—	A,Ab
<i>Aethusa cynapium</i>	fool's parsley	—	2	—	—	—	—	—	Da
<i>Daucus carota</i>	wild carrot	—	3	—	—	—	—	—	Da,G
Umbelliferae sp. indet.	—	—	—	—	—	—	2	—	

EUPHORBIA LATHYRUS

<i>Euphorbia lathyris</i>	caper spurge	—	—	—	—	1	—	—	Da-gardens
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POLYGONACEAE

<i>Polygonum aviculare</i> agg.	knotweed	16	8	3	1	4	—	1	Da
<i>Polygonum persicaria</i>	red shank	32	1	2	—	—	—	—	Da
<i>Polygonum convolvulus</i>	black bindweed	—	1	—	—	—	—	—	Da-gardens
<i>Polygonum sp.</i>	—	—	1	—	—	1	—	—	
<i>Rumex obtusifolius</i>	broad-leaved dock	5	3	1	—	2	—	—	Da,Sh
<i>Rumex conglomeratus</i>	sharp dock	5	1	2	—	—	—	—	G,W
<i>Rumex sp.</i>	—	61	21	14	9	4	—	—	Da,G,W,S,A

URTICACEAE

<i>Urtica urens</i>	small nettle	40	3	14	2	6	—	15	Da-light soils
<i>Urtica dioica</i>	stinging nettle	505	659	275	91	328	148	103	D,W,S

SALICACEAE									
<i>Salix</i> sp. bud	-	-	-	-	-	1	-	-	
OLEACEAE									
<i>Fraxinus excelsior</i>	ash	11	-	12	-	28	-	-	W-calcareous soils
SOLANACEAE									
<i>Hyoscyamus niger</i>	henbane	2	-	1	-	-	-	3	Da-sandy soils
LABIATAE									
<i>Satureja hortensis</i>	summer savory	-	1	-	-	-	-	-	Cult.
<i>Prunella vulgaris</i>	self-heal	3	1	-	2	1	-	-	Da,G,W
<i>Stachys sylvatica</i>	hedge woundwort	1	-	-	-	-	-	1	W,Sh
<i>Ballota nigra</i>	black horehound	3	-	9	1	-	-	-	Sh
<i>Lamium</i> sp.	-	13	-	-	1	-	-	-	Da
<i>Lamium</i> sp. <i>Ballota nigra</i>	-	-	-	3	-	2	-	-	Da,Sh
PLANTAGINACEAE									
<i>Plantago major</i>	great plantain	3	-	1	-	-	-	7	Da,short G
CAPRIFOLIACEAE									
<i>Sambucus nigra</i>	elder	4	1	2	-	9	3	1	Da
COMPOSITAE									
<i>Senecio</i> cf. <i>jacobaea</i>	ragwort	4	1	-	-	-	-	-	Da,Gp
<i>Senecio</i> sp.	-	-	1	-	-	-	-	-	Da,Gm-wet,Ab
cf. <i>Senecio</i> sp.	-	-	1	-	-	-	-	-	
<i>Anthemis cotula</i>	stinking mayweed	3	-	5	-	-	-	-	Da
<i>Tripleurospermum maritimum</i>	-	-	-	-	-	-	-	-	
ssp. <i>inodorum</i>	scentless mayweed	-	-	3	-	-	-	-	Da
<i>Chrysanthemum leucanthemum</i>	ox-eye	1	-	-	-	-	-	-	G
<i>Arctium</i> sp.	-	1	-	-	-	-	-	-	Da,S,Sh
<i>Carduus</i> sp.	-	4	16	-	-	-	-	1	Da,Gm,Sh
<i>Carduus/Cirsium</i> sp.	-	21	20	3	-	3	-	-	Da,Gm,Sh,M
<i>Lapsana communis</i>	nipplewort	-	1	-	-	8	-	-	D,W,Sh
<i>Leontodon</i> sp.	hawkbit	2	-	1	-	-	-	-	G
cf. <i>Leontodon</i> sp.	-	1	-	-	-	-	-	-	
<i>Lactuca virosa</i>	-	-	-	-	-	2	-	-	G-roadside
<i>Sonchus oleraceus</i>	milk thistle	144	86	49	-	97	-	-	Da
<i>Sonchus asper</i>	sow thistle	8	13	9	-	10	-	-	Da
<i>Sonchus</i> sp. indet.	-	5	-	13	-	19	-	-	

JUNCACEAE									
<i>Juncus bufonius</i> gp.	rush	–	–	–	4	–	4	–	Da,Ab
<i>Juncus effusus</i> gp.	rush	38	4	–	–	2	6	–	Damp G,M
<i>Juncus articulatus</i> gp.	rush	–	–	–	12	–	–	–	
<i>Juncus</i> sp.	rush	10	–	–	–	2	1	–	D,E
cf. <i>Juncus</i> sp.	–	–	–	–	–	8	–	–	
CYPERACEAE									
<i>Carex</i> sp. (2-sided)	–	6	3	2	1	9	–	–	
<i>Carex</i> sp. (3-sided)	–	1	21	–	–	–	–	–	
GRAMINAE									
Graminae sp. indet.	–	39	33	33	22	15	–	–	
cf. Graminae spindet.	–	–	–	2	1	–	–	–	
<i>Triticum spelta</i> glumes	spelt wheat	6	–	–	–	–	–	–	Cult.
<i>Triticum spelta</i> spikelet fork	–	–	–	1	–	–	–	–	
Cereal grain	–	2	–	–	–	–	–	–	Cult.
Unidentified	–	8	–	8	–	–	–	–	
Total waterlogged seeds	–	2996	1948	1111	187	687	179	376	TOTAL 7484
CHARRED PLANT REMAINS									
<i>Triticum spelta</i> glume bases	–	7	2	–	–	1	–	–	
spikelet fork	–	–	–	1	–	–	–	–	
<i>Triticum dicoccum/spelta</i> glume bases	–	–	–	–	–	–	3	–	
spikelet fork	–	–	–	1	–	–	–	–	
Cereal sp. indet. grain	–	–	1	–	–	–	–	–	
<i>Key to Habitat groups:</i>									
A	Aquatic	h	Hedgerow						
a	Arable	M	Marsh						
b	Bankside	m	Meadowland						
D	Disturbed ground	S	Scrub						
F	Fallow ground	W	Woodland						
G	Grassland								

TABLE 41: Waterlogged plant remains – laboratory-processed samples (seeds unless otherwise stated).

Context		733	733	733	911
Sample no.		55	56	113	13
Type		flot	flot	flot	bulk sieve
Species Name	English Name				
WATERLOGGED PLANT REMAINS					
RANUNCULACEAE					
<i>Thalictrum flavum</i>	common meadow rue	–	–	1	–
ROSACEAE					
<i>Prunus spinosa</i>	sloe	1	–	3	–
<i>Prunus domestica</i> cf. ssp. <i>insititia</i>	bullace	–	–	–	3
<i>Prunus domestica</i> cf. ssp. <i>domestica</i>	plum	–	–	–	2
<i>Prunus avium</i>	wild cherry	1	–	–	1
UMBELLIFERAE					
<i>Coriandrum sativum</i>	coriander	–	–	1	–
EUPHORBIACEAE					
<i>Euphorbia lathyris</i>	caper spurge	1	1	2	–
CHARRED PLANT REMAINS					
RANUNCULACEAE					
<i>Ranunculus acris/repens/bulbosus</i>	buttercup	–	–	1	–
LEGUMINOSAE					
Leguminosae sp. indet.	–	–	–	1	–
FAGACEAE					
<i>Corylus avellana</i> shell frags	–	–	–	–	7
RUBIACEAE					
<i>Galium aparine</i>	cleavers	–	–	1	–
GRAMINEAE					
cf. <i>Bromus</i> sp.	–	–	–	1	–
<i>Triticum spelta</i> glume base	spelt wheat	–	–	4	–
<i>Triticum dicoccum/spelta</i> glume base	emmer/spelt wheat	–	–	3	–
<i>Triticum</i> sp. grain	wheat	–	1	4	–
<i>Hordeum</i> sp. grain (lateral, hulled)	barley	–	–	1	–
cf. <i>Hordeum</i> sp. grain (hulled)	–	–	–	1	–
Cereal indet. sp. grain	–	–	–	1	–

TABLE 42: Waterlogged plant remains - site-processed samples (selectively sorted - seeds unless otherwise stated).

may have been growing on disturbed ground around the settlement, for example *Stellaria media* (chickweed), *Tripleurospermum maritimum* ssp. *inodorum* (scentless mayweed), *Sonchus asper* (sow thistle) and *Lapsana communis* (nipplewort). *L. communis* is also commonly associated with *A. cotula* in arable fields on heavy clays (Kay 1971, 625).

Seeds of *Chenopodium rubrum* were particularly numerous. This plant is characteristic of nutrient-rich mud. It perhaps grew with *Sonchus asper* and *Capsella bursa-pastoris* (shepherd's purse), all characteristic members of the association *Chenopodium Glauci-rubri* (Silverside 1977, 234–235), on mud mixed with organic debris by the pit or in other nitrogen-rich areas of the site.

There appears to have been some weedy neglected ground on which grew *Rumex obtusifolius* (broad-leaved dock), *Conium maculatum* (hemlock), *Urtica dioica* (stinging nettle) and *Sambucus nigra* (elder). These plants may also have been part of a scrub or hedgerow community for which there is strong evidence from all the samples. There was an abundance of wood, twig and thorn fragments in deposits throughout the lower and middle layers of the pit. A number of shrubby plants are present: *Prunus spinosa* (sloe), *Prunus domestica* ssp. *insititia* (bullace), *Prunus domestica* ssp. *domestica* (plum), and *Rubus fruticosus* agg. (blackberry). Plum and bullace are domesticated varieties of *Prunus*, and as they may have been deliberately cultivated, they are discussed later in the report. Seeds of *Fraxinus excelsior* (ash) were abundant. This is a woodland tree common on calcareous soils, but was widely planted in hedgerows because of the various uses to which the wood can be put. Stones of *Prunus avium* (cherry) were also present and likewise this could have been planted. *Stellaria graminea* (lesser stitchwort), *Chaerophyllum temulentum* (rough chervil), *Rumex conglomeratus* (sharp dock), *Ballota nigra* (black horehound) and *Stachys sylvatica* (hedge woundwort) were probably additional members of the herb flora of such a scrub or hedgerow community. Some of the macroscopic remains of scrub or hedgerow plants that were found are not usually transported over long distances and therefore indicate that such a community grew near the pit.

There are some seeds of grassland plants in all samples. *Thalictrum flavum* (meadow-rue), *Filipendula ulmaria* (meadow-sweet) and *Juncus bufonius* (rush) would have grown in wet meadows or marshy ground. The remaining species are common in drier grassland. *Prunella vulgaris* (self-heal), *Daucus carota* (wild carrot), *Senecio* cf. *jacobaea* (ragwort) and *Chrysanthemum leucanthemum* (ox-eye daisy) and *Leontodon* sp. (hawkbit) could have grown in various types of grassland. *Daucus carota* is common on chalky soils, including the boulder clay in Milton Keynes, if the turf has experienced some disturbance.

Lactuca virosa may have grown on more marginal grassland, and is of special interest as it is the first record in a Roman context.

Of even greater interest are the waterlogged seeds of plants which may have been cultivated including:

<i>Brassica nigra</i>	Black mustard
<i>Prunus domestica</i> ssp. <i>insititia</i>	Bullace
<i>Prunus domestica</i> ssp. <i>domestica</i>	Plum
<i>Prunus avium</i>	Cherry
<i>Coriandrum sativum</i>	Coriander
<i>Apium graveolens</i>	Celery
<i>Euphorbia lathyris</i>	Caper spurge
<i>Satureja hortensis</i>	Summer savory

All except the *Prunus* species have been found previously from a well or waterhole within a walled enclosure on the Bancroft villa site, Milton Keynes (Pearson and Robinson 1994).

These species are described in the classical literature (for example *Apicius*, *Columella* and *Pliny*) as horticultural plants. However they can also survive as escapes from cultivation. *Coriandrum sativum*, *Satureja hortensis* and *Prunus domestica* are aliens/introductions, probably of Roman date, to the British flora. *Prunus avium* is usually regarded as native although some doubt can be cast on its status. *Pliny* (book XV, section XXX) states that before 74 BC. there were no cherry trees in Italy. *Lucius Lucullus* first imported them from Pontus, and in 120 years they had crossed the ocean and reached Britain. The date of the introduction of the cultivated *Prunus* species is uncertain. According to Godwin (1975, 197), the earliest Flandrian record of *P. domestica* ssp. *domestica* and *P. avium* are Neolithic, and for *P. domestica* ssp. *insititia*, Iron Age. However, Moffet, Robinson and Straker (1989, 246) state that all Godwin's pre-Roman Flandrian records for these species are suspect, as they are based on charcoal, stones of dubious identity, sites of uncertain stratigraphy or were clerical errors. *Euphorbia lathyris* is described by Salisbury (1962, 300) as a southern European plant but Clapham *et al.* (1962, 537) describe it as possibly native in southern British woodland. Only *B. nigra* and *A. graveolens* are known to grow wild in Britain. *B. nigra* is native on sea cliffs and stream banks, but readily colonizes disturbed ground. *A. graveolens* is a native plant of brackish marshes and ditches.

The Bancroft waterhole and the Wavendon Gate samples show a similarity in the possible cultivars present and the high number of seeds of *B. nigra* and *A. graveolens*. Concentrated remains of useful plants are usually found in storage deposits, deposits of domestic refuse and sewage. There was no obvious evidence for crop storage adjacent to the pit. That they were thrown into the pit along with domestic waste remains a possibility, but there is little evidence from other archaeological remains for the pit being used to dump rubbish. It seems as likely that these plants grew, or were grown in the vicinity of the pit. As the native distribution of *B. nigra* and *A. graveolens* was partly restricted to stream banks and ditches, the pit at Wavendon and the waterhole at Bancroft would have provided an ideal environment for weedy populations of these two species to flourish: *B. nigra* on the eroding sides and *A. graveolens* at the waters edge. *Coriandrum sativum* (coriander), *Euphorbia lathyris* (caper spurge) and *Satureja hortensis* (summer savory) may have been deliberately cultivated or have been escapes from cultivation. However, weedy populations of these species, in the absence of any special niche, are unlikely to survive for long in the face of competition from native weeds such as nettles and docks, so were probably cultivated at some time on the Wavendon site. There were stones from at least two varieties of *Prunus domestica*, small stones from *Prunus domestica* ssp. *insititia* (bullace/damson) and larger stones of ssp.

domestica (plum). They may have been deliberately cultivated as orchard fruit within a garden environment, but as they can spread by suckering and become naturalised, they may have been growing in the hedgerow or scrub community which was evidently present in the near vicinity of the pit.

The classical work on Roman cookery, "The Art of Cooking" by *Apicius* frequently mentions the garden herbs and fruit found on the Bancroft and Wavendon Gate sites. Seeds of *B. nigra* (black mustard), *C. sativum* (coriander) and sprigs of *S. hortensis* (summer savory) were widely used as food seasonings. Plums and damsons were commonly used in sauces for meat dishes. Seeds of *E. lathyris* (caper spurge) are described by Gerard (1597, 405–408) as a strong purgative, but nowadays caper spurge is usually grown as an ornamental plant. There are no certain classical references to it.

This group of plants appears, from descriptions in the classical literature, to be very characteristic of the Roman culture, but not all these species are common from Roman sites in Britain. Plums, cherry, coriander and celery are familiar from Romano-British sites. Summer savory, has been found from Roman York (Hall, pers. comm.) and Roman London (de Moulins, pers. comm.) but caper spurge has only been found from the Bancroft villa site.

There is a small proportion of charred plant remains in most samples, consisting mostly of spelt wheat. Spelt wheat was probably the main cereal crop on the site in the Roman period, but it is not possible to tell from these assemblages whether it was grown on the site or imported.

The preservation of the deposits from the upper layer (929) of the pit was very bad. However, the results do suggest the presence of neglected or grassy land vegetated with *Urtica dioica* (stinging nettle), *Sambucus nigra* (elder), *Lepidium* sp. (pepperwort, which is an unusual find) and *Prunella vulgaris* (self-heal), with *Ranunculus* s. *Batrachium* and *Juncus* (rush) species growing in areas of shallow water.

Conclusions

The lower and middle layers of the pit of probable third century date provide the best evidence of the surrounding environment and human activity on the site. The pit at this phase, contained shallow water. There is no conclusive evidence from the plant remains of its use as a domestic rubbish or cess-pit. The pit would have perhaps been too deep (nearly 3 metres) for livestock to use, but if there was a garden nearby it may have provided a pond useful for irrigation.

The surrounding site was open and included much weedy disturbed ground. However, there is strong evidence to suggest a local scrubby flora which may have been growing in the form of hedges alongside enclosure ditches. There are several minor ditches very near the pit, and the major enclosure ditch within approximately 30 m.

There is some evidence of arable activity from the weed assemblages. Arable agriculture would be profitable on the soil of this site as it is a quite fertile calcareous silty clay in a landscape that would have been fairly well drained.

The garden plants from this site, together with those from Bancroft Roman villa provide a useful contribution to the evidence for kitchen gardens on Roman settlements. The discovery of so many possible cultivars from deposits that contained neither sewage nor much domestic refuse is unusual. Although these plants were able to grow as weeds, their occurrence together in similar assemblages on both sites makes it more likely that they were in fact cultivated in a garden. It appears that brassicas, celery, coriander, summer savory, caper spurge, plum and cherry was a common combination of plants for a kitchen garden in Roman Milton Keynes. The presence of garden plants from the small rural farmstead at Wavendon Gate and the palatial villa at Bancroft suggests that the kitchen garden was a feature of Romanised Milton Keynes across all levels of society.

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CHARRED PLANT REMAINS

J. B. Letts

Introduction

Rapid urbanization in the Milton Keynes area of Buckinghamshire over the past twenty-five years has provided bioarchaeologists with an excellent opportunity to recover floral and faunal remains from archaeological excavations in advance of development. Wavendon Gate is one of the few sites to have demonstrated continuous occupation from the Iron Age into the Early Saxon period. A major on-site flotation and wet-sieving programme has provided a large volume of both charred and waterlogged plant remains for study. Since archaeobotany is a relatively recent addition to archaeological research in the south Midlands, only a handful of reports (Pennyland, Bucks: Jones 1993; Bierton, Bucks: Jones 1986a; Bancroft, Bucks: Nye and Jones 1994; Pearson and Robinson 1994; North Furzton, Bucks: Pearson forthcoming; Ashville, Oxford: Jones 1978; Barton Court Farm, Oxford: Jones 1986b; Farmoor, Oxford: Robinson and Lambrick 1979; West Cotton and Raunds, Northants: Campbell forthcoming) are available against which the Wavendon data can be compared. The results of the present analysis considerably expands our knowledge of past agricultural and culinary practices in the region, particularly for the Roman period.

Background and Procedures

Wavendon Gate is situated in an area of mixed glacial deposits overlooking a small tributary of the River Ouzel in the south-east part of Milton Keynes. The soil in the immediate vicinity of the site is fertile and free-draining, but the hinterland is dominated by outcrops of the intractable Oxford clay substratum which underlies most of the Ouzel Valley, and by heavy soils of boulder clay which cover wide expanses between the major river valleys.

The waterlogged plant macrofossils from Wavendon Gate have been reported on separately by Pearson (p.236ff). Ninety-five samples of charred remains obtained by water flotation over a 0.5 mm mesh were submitted to the author for analysis in the Environmental Archaeology Unit of the University Museum, Oxford. Twenty of these samples, one Early Iron Age, three Late Iron Age, twelve Roman, and four Early Saxon samples were selected for detailed analysis. The distribution of these samples is shown in Fig. 117. The remaining seventy-five samples, and an additional three which had been subjected to flotation but which appear to have been waterlogged when recovered, were scanned in order to obtain a general impression of their content.

Flots and residues were sieved into 2.0, 1.0, 0.5 and 0.25 mm size classes and were sorted under a dissecting microscope at 5–10x magnification. The small size classes were sub-sampled when appropriate in order to reduce sorting time, while the large size fractions were sorted in their entirety in order to maximize the statistical accuracy of the results.

Charcoal was recovered from all samples but has not been identified. Charred seed specimens were identified by direct comparison with reference material held in the Elton-Robinson collection at the University Museum. Nomenclature for cultigens follows the system recently outlined by Zohary and Hopf (1989) while native taxa are named according to Clapham, Tutin and Moore (1989).

Sample Data

The following samples were examined in detail and the results are shown in Table 43.

No.	Cont.	Period	Size (l.)	Description
129	1263	EIA	20.0	Pit 1251
16	1386	LIA	30.0	Pit 1386
48	1924	LIA	15.0	Ditch 1800
146	1864	LIA	60.0	Pit 1667
39	621	Roman I	15.0	Ditch 582
44	637	Roman I	15.0	Ditch 533
86	458	Roman I	15.0	Ditch 588
61	1032	Roman I	30.0	Pit 1031
15	505	Roman II	30.0	Corndrier 505

90	1139	Roman II	15.0	Pit 1137
119	848	Roman II	15.0	Pit 848
1	394	Roman III	10.0	Corndrier 378
2	392	Roman III	7.0	Corndrier 378
4	417	Roman IV	0.6	Contents of pot 17 - Ditch 275, Enclosure 33
59	1027	Roman IV	15.0	Ditch 412
79	1040	Roman IV	15.0	Ditch 475 - Enclosure 33
85	1102	Saxon	15.0	Top layer of Ditch 433
88	1135	Saxon	15.0	Top layer of Ditch 433
101	1157	Saxon	15.0	Pit 1152
100	1158	Saxon	15.0	Pit 1152

Seventy-eight samples from the following periods were only scanned:

(details of their individual contexts are recorded in the Level III archive, and those mentioned in the following text are shown on Fig. 117)

<i>Iron Age:</i>	14, 104, 106, 122, 124, 132, 134, 141, 142, 147, 148, 149, 151, 155, 156, 157, 159, 171, 173, 177, 178
<i>I.A./Roman I:</i>	94
<i>Roman I:</i>	9, 33, 36, 37, 41, 45, 52, 62, 64, 69, 70, 72, 74, 75, 76, 77, 83, 84
<i>Roman I/II:</i>	30
<i>Roman I/III/III:</i>	29
<i>Roman II:</i>	5, 6, 8, 28, 34, 46, 57, 58, 92, 95, 130
<i>Roman III/III:</i>	3, 17 (Waterlogged), 35, 63
<i>Roman III:</i>	19, 20, 26, 38, 79, 87, 93, 91
<i>Roman III/IV:</i>	78
<i>Roman general:</i>	7, 10, 11, 13 (waterlogged), 24, 42, 49, 60, 65, 97, 102 (waterlogged), 115

Notes on Identification

The trinomial system of nomenclature outlined by Zohary and Hopf (1989) stresses the close genetic relationships between the wild and cultivated subspecies within each major ploidy level of the cereals. Emmer wheat *Triticum dicoccum* (hulled) and rivet wheat *T. turgidum* (free-threshing) are thus considered to be subspecies of the tetraploid *Triticum turgidum* species complex, while spelt wheat *T. spelta* (hulled) and bread wheat *T. aestivum* (Syn. *T. vulgare*) (free-threshing) are recognised as distinct subspecies within the hexaploid *Triticum aestivum* group. Schieman (1948) concluded that the 'compactoid' rachis is not specific to the hexaploid bread wheats – thus justifying the inclusive trinomial *T. aestivum* ssp. *aestivum* which is used in this report instead of *T. aestivo-compactum*. In all cases, only those grains showing extreme characteristics can usually be identified to sub-species level with any certainty. This is due to the morphological similarities within the free-threshing and

FAMILY/species	COMMON NAME	Period: Sample:	IRON AGE					ROMAN													SAXON					SITE TOTAL
			EIA	LIA	LIA	LIA	TOTAL	I	I	I	I	II	II	II	III	III	IV	IV	IV	TOTAL	85	88	100	101	TOTAL	
RANUNCULACEAE																										
<i>Ranunculus acris/bulbosus/repens</i> L.	buttercup		-	-	-	-	0	-	-	1	-	-	-	1	-	-	-	-	-	2	-	-	-	-	0	2
<i>Ranunculus flammula</i> L.	lesser spearwort		-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	0	1	
<i>Ranunculus</i> sbgen. <i>Ranunculus</i> (DC) A. Gray			-	-	1	10	11	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	11	
CRUCIFERAE																										
<i>Brassica cf. rapa</i> ssp. <i>sylvestris</i> (L.) Jan.	wild turnip		-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	0	1
indet.			-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
VIOLACEAE																										
<i>Viola</i> sp.	violet		-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
HYPERICACEAE																										
<i>Hypericum</i> sp.	St. John's wort		-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	0	1	
CARYOPHYLLACEAE																										
<i>Silene</i> sp.	campion		-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
<i>Stellaria media</i> (L.) Vill.	chickweed		-	-	9	1	10	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	10	
<i>Stellaria gramineae</i> L.	lesser stitchwort		-	1	-	1	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	0	3	
<i>Stellaria</i> sp.			-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
indet.			-	-	8	2	10	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	10	
PORTULACACEAE																										
<i>Montia fontana</i> ssp. <i>chondrosperma</i>	blinks		-	3	-	2	5	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	5	
CHENOPODIACEAE																										
<i>Chenopodium polyspermum</i> L.	all seed		-	1	-	14	15	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	15	
<i>Chenopodium album</i> L.	fat hen		-	3	-	21	24	-	-	-	-	-	1	3	-	-	-	-	4	-	-	-	-	0	28	
<i>Chenopodium ficifolium</i> Sm.	fig-leaved goosefoot		-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	2	
<i>Chenopodium</i> sp.			-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
<i>Atriplex</i> sp.	orache		-	1	1	19	21	-	-	-	-	-	2	1	-	-	-	-	3	-	-	-	-	0	24	
indet.			-	3	-	35	38	-	-	-	-	-	2	3	-	-	-	-	5	-	-	-	-	0	43	
LINACEAE																										
<i>Linum catharticum</i> L.	fairy flax		-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
<i>Linum usitatissimum</i> L.	cultivated flax		-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
LEGUMINOSAE																										
<i>Vicia/Lathyrus</i> sp.	tare/vetchling		-	-	-	-	0	-	2	2	28	-	1	2	-	1	-	-	36	-	-	-	-	0	36	
cf. <i>Vicia/Lathyrus</i> sp.	tare/vetchling		-	-	-	-	0	-	3	4	46	-	1	7	-	8	-	3	72	-	-	-	-	0	72	
<i>Lathyrus cf. nissolia</i> L.	grass vetchling		-	-	-	-	0	-	-	-	2	-	-	-	-	-	-	-	2	-	-	-	-	0	2	
<i>Medicago lupulina</i> L.	black medick		-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	1	3	-	-	-	-	0	3	

FAMILY/species	COMMON NAME	Period: Sample:	IRON AGE					ROMAN											SAXON					SITE TOTAL			
			EIA 129	LIA 16	LJA 48	LJA 146	TOTAL -	I 39	I 44	I 61*	I 86*	II 15*	II 90	II 119	III 1*	III 2	IV 4	IV 59	IV 79	TOTAL -	85	88	100		101	TOTAL -	
cf. <i>Medicago</i> sp.			-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	0	1	
<i>Trifolium</i> cf. <i>pratense</i> L.	red clover		-	-	-	-	0	-	-	-	2	-	-	-	-	-	-	-	2	2	-	-	-	-	0	2	
<i>Trifolium</i> sp.			-	2	-	1	3	-	1	2	-	-	-	-	-	-	-	-	3	3	-	-	-	-	0	6	
cf. <i>Trifolium</i> sp.			-	-	-	-	0	-	-	-	-	-	25	-	-	-	-	-	25	25	-	-	-	-	0	25	
indet.			-	2	-	1	3	-	-	-	-	2	4	-	-	-	-	-	6	6	-	-	-	-	0	9	
ROSACEAE																											
<i>Rubus</i> sp.	blackberry		-	-	2	-	2	-	-	-	4	-	-	-	-	-	-	-	4	4	-	-	-	-	0	6	
<i>Rubus/Rosa</i> sp. (thorn)	bramble/rose		-	-	21	-	21	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	21	
<i>Prunus/Crataegus</i> sp. (thorn)	sloe/hawthorn		-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	1	
<i>Fragaria/Potentilla</i> sp.	strawberry/cinquefoil		-	3	1	-	4	-	-	1	-	-	-	-	-	-	-	-	1	1	-	-	-	-	0	5	
<i>Aphanes arvensis</i> L.	parsley piert		-	1	1	-	2	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	2	
UMBELLIFERAE																											
<i>Bupleurum tenuissimum</i> L.	slender hare's ear		-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	2	2	-	-	-	-	0	2	
indet.			-	-	-	-	0	-	-	-	-	-	1	-	-	-	1	-	2	2	-	-	-	-	0	2	
POLYGONACEAE																											
<i>Polygonum aviculare</i> L. (agg.)	knotweed		-	5	6	6	17	-	-	-	2	-	1	1	-	-	-	-	4	4	-	-	-	-	0	21	
<i>Polygonum persicaria</i> L.	redshank		-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	2	
<i>Polygonum lapathifolium</i> L.	pale persicaria		-	1	-	3	4	-	-	-	2	-	-	-	-	-	-	-	2	2	-	-	-	-	0	6	
<i>Polygonum lapathifolium/persicaria</i> L.			-	-	1	2	3	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	3	
<i>Fallopia convolvulus</i> (L.) A. Love	black bindweed		-	-	-	5	5	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	5	
<i>Rumex acetosella</i> L.	sheep's sorrel		-	-	-	-	0	-	1	1	-	-	-	-	-	-	-	-	2	2	-	-	-	-	0	2	
<i>Rumex</i> sp.	dock		-	-	26	176	202	1	188	3	6	-	1	13	12	4	-	-	3	231	-	-	-	-	0	433	
indet.			-	3	19	53	75	-	6	1	2	12	2	6	-	-	-	-	29	29	-	-	-	-	0	104	
URTICACEAE																											
<i>Urtica dioica</i> L.	stinging nettle		-	-	1	18	19	-	-	-	4	-	3	-	-	-	-	-	7	7	-	-	-	-	0	26	
CORYLACEAE																											
<i>Corylus avellana</i> L. (shell frag.)	hazel		-	-	-	-	0	-	-	-	-	-	9	-	-	-	-	-	9	9	-	-	-	-	0	9	
SCROPHULARIACEAE																											
<i>Veronica hederifolia</i> L.	ivy-leaved speedwell		-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	1	-	-	-	-	0	1	
<i>Veronica</i> sp.			-	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	2	
<i>Euphrasia / Odontites</i> sp.	bartsia		-	4	-	6	10	-	-	-	4	-	1	1	2	-	-	1	9	9	-	-	-	-	0	19	
LABIATAE																											
<i>Stachys</i> sp.	woundwort		-	-	4	-	4	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	4	
<i>Galeopsis</i> sp.	hemp-nettle		-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	1	
indet.			-	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	0	2	

FAMILY/species	COMMON NAME	Period: Sample:	IRON AGE					ROMAN										SAXON					SITE TOTAL			
			EIA	LIA	LIA	LIA	TOTAL	I	I	I	I	II	II	II	III	III	IV	IV	IV	TOTAL	TOTAL					
			129	16	48	146	-	39	44	61*	86*	15*	90	119	1*	2	4	59	79	-	85	88		100	101	-
PLANTAGINACEAE																										
<i>Plantago lanceolata</i> L.	ribwort plantain		-	1	-	1	2	-	-	-	-	-	-	1	-	-	-	1	2	-	-	-	-	0	4	
<i>Plantago major</i> L.	plantain		-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
RUBIACEAE																										
<i>Galium aparine</i> L.	cleavers		-	-	16	-	16	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	0	17	
<i>Galium</i> sp.			-	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	2	
CAPRIFOLIACEAE																										
<i>Sambucus nigra</i> L.	elder		-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
VALERIANACEAE																										
<i>Valerianella dentata</i> (L.) Pollich	cornsalad		-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	0	1	
COMPOSITAE																										
<i>Anthemis cotula</i> L.	stinking mayweed		-	-	-	-	0	-	-	-	-	-	-	5	-	-	-	-	5	-	-	-	-	0	5	
<i>Tripleurospermum cf. inodorum</i> (L.) Schultz Bip.	scentless mayweed		-	-	-	3	3	-	-	-	-	-	23	-	-	-	-	-	23	-	-	-	-	0	26	
tr. <i>Anthemideae</i>	mayweed group		-	1	5	2	8	-	-	-	-	-	7	-	-	-	-	-	7	-	-	-	-	0	15	
<i>Centaurea</i> sp.	knapweed/cornflower		-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	1	
CYPERACEAE																										
<i>Carex</i> sp.	sedge		-	1	2	1	4	-	-	-	2	-	-	-	-	-	-	-	2	-	-	-	-	0	6	
GRAMINEAE																										
<i>Hordeum vulgare</i> sbsp. <i>hexastichum</i> (lateral grain)	6-row hulled barley		-	-	1	-	1	1	-	1	1	-	2	1	-	-	-	-	1	7	-	1	-	-	1	9
<i>Hordeum vulgare</i> (grain)	hulled barley		-	-	-	1	1	1	-	1	1	-	-	1	-	-	-	-	4	-	-	-	1	1	6	
<i>Hordeum</i> sp. (grain)	barley		-	-	-	-	0	8	-	4	2	-	-	3	-	-	1	2	20	1	1	-	1	3	23	
<i>T. cf. turgidum</i> sbsp. <i>dicoccum</i> (grain)			-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	0	1	
<i>Triticum aestivum</i> sbsp. <i>spelta</i> (grain)	spelt wheat		2	-	-	-	2	29	-	-	-	-	-	2	1	-	1	-	33	-	-	-	-	0	35	
<i>Triticum cf. aestivum</i> sbsp. <i>spelta</i> (grain)			-	1	-	-	1	-	-	1	-	-	-	-	-	-	-	-	3	-	-	-	-	0	4	
<i>Triticum aestivum</i> sbsp. <i>vulgare</i> (grain)	bread wheat		-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	0	-	-	1	-	1	1	
<i>Triticum</i> sp. (grain)	wheat		13	-	1	-	14	-	-	12	71	720	20	-	-	9	-	4	836	1	-	-	-	1	851	
cf. <i>Triticum</i> sp. (grain)			-	9	-	-	9	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	9	
<i>Triticum / Secale</i> sp. (grain)	wheat / rye		-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	0	1	
cereal indet. (grain)			1	-	-	12	13	140	8	30	314	2505	37	124	119	-	5	6	3288	8	4	2	3	17	3318	
cereal indet. (embryo sprouted)			-	-	-	-	0	-	-	-	-	1	1	3	6	-	-	-	11	-	-	-	-	0	11	
<i>Hordeum</i> sp. (rachis node)	barley		-	-	1	-	1	-	-	1	-	-	3	-	-	-	-	-	4	1	-	-	-	1	6	
<i>Hordeum / Secale</i> sp. (rachis node)	rye / barley		-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	1	4	-	-	-	4	5	
<i>Triticum turgidum</i> sbsp. <i>dicoccum</i> (glume base)	emmer wheat		-	-	-	-	0	-	-	-	6	-	8	-	-	-	-	-	14	-	-	-	-	0	14	

hulled wheat groups irrespective of ploidy level, as well as to the limited range of reference material that is available in most seed reference collections. Glume and rachis morphology of the wheats is more specific, and the present work relies on criterion outlined by Hillman (1990).

Distinctly twisted lateral grains of barley have been attributed to the six-rowed variety *Hordeum vulgare* ssp. *hexastichum* (naked or hulled). Otherwise, grains were placed in an inclusive *Hordeum vulgare* category which could include grains of two-row barley *H. vulgare* ssp. *distichum* as well as the median grains of six-row barley.

Charred grains of the cultivated oats *Avena sativa* ssp. *sativa* and *Avena strigosa* can be separated from the wild and weedy oats *Avena sativa* ssp. *sterilis* and *A. sativa* ssp. *fatua* only when spikelets are present. However, the floret base of *A. sativa* ssp. *sativa* never shows the wild-type 'sucker-mouth' abscission scar which occurs on at least some florets of the others. The spiral awn fragments recovered in many of the samples most probably derive from one of the wild subspecies, although they are present in a reduced state in the cultivars.

Caryopses of brome grass *Bromus* sp. were assigned to the inclusive subgenus *Eubromus* when larger species such as the sterile brome *B. sterilis* could be ruled out. *Bromus* sp. fragments were identified on the basis of their overall shape as well as the cell pattern at the distal-ventral end of well-preserved specimens. Brome grass seed fragments are easily confused with those of oat and many of the identifications are only tentative.

Small grass caryopses were not identified beyond family level (Gramineae). Some degree of separation is often possible within the grasses if time and a good seed reference collection are available, but the ecological data this provides is usually somewhat limited.

Various small legumes (Leguminosae) have been grown as forage crops in Britain since prehistory, but only in a few instances do morphological criterion allow the seeds of the cultivars to be separated from those of the wild forms (eg. *Vicia sativa*). Small-seeded members of the Tribe Trifolieae can occasionally be identified to species level in well-preserved charred material, and probable specimens of black medick *Medicago lupulina* and red clover *Trifolium pratense* were identified in the Wavendon samples. The much larger grass vetchling *Lathyrus nissolia* is more distinctive, both in the shape and length of its hilum and its pimpled seed coat.

The two specimens of slender hare's ear *Bupleurum tenuissimum* recovered from a second-century Roman sample (119) form only the second archaeological record of this species in the British Isles (Godwin 1975). Unlike the hare's ear *B. rotundifolium* which was a common arable weed in the pre-herbicide era, the slender hare's ear is a halophilic species usually restricted to salt-marsh, shingle and grassy-waste habitat along the coasts of southern

Britain. A variety of native and exotic *Bupleurum* specimens were examined in the Druce Herbarium at the Department of Plant Sciences, Oxford University. The 2.0 mm mericarps of *B. tenuissimum* are distinctively granulate-tuberculate with five crenulate ridges, unlike those of other native species which are smooth-skinned with straight slender ridges. *B. lancifolium*, at least one specimen of which was collected from a British roadside in the late nineteenth century, has highly tubercled seeds with coarsely crenulate margins, but differs considerably from *B. tenuissimum* in overall appearance as well as in size (8–10 mm).

An inclusive category Tribe Anthemideae was used to classify small Compositae achenes that had lost their seed coats, but which appeared to be closely related to the mayweeds *Anthemis* / *Tripleurospermum* spp. A few specimens with intact seed coats suggested a hybrid origin; these showed the characteristic horizontal ridging of the scentless mayweed *Tripleurospermum inodorum*, in addition to the longitudinal rows of tubercles found in the stinking mayweed *Anthemis cotula*.

Results

Early Iron Age

Sample 129 contained spelt wheat and chaff, but contained no identifiable non-cereal remains.

Late Iron Age

All the samples contained poorly preserved cereal remains. The wheat grain in Samples 48 and 146 could not be identified to subspecies, and barley was also sparsely represented. Sample 16 contained both chaff and one probable grain of spelt wheat. Bread-type wheat was identified in one scanned sample (171), derived from Ditch 1312 to the south of Enclosure 1985.

All three samples, and particularly 146, were rich in seeds of arable weeds ie. segetals that mature rapidly, thrive in regularly disturbed soils, and produce large quantities of seeds well-adapted for extended periods of dormancy. The Iron Age samples include specimens of allseed *Chenopodium polyspermum*, fig-leaved goosefoot *C. ficifolium*, fat hen *C. album*, red bartsia/eyebright *Euphrasia/Odontites* sp., chickweed *Stellaria media*, parsley piert *Aphanes arvensis*, dock *Rumex* sp., knotgrass *Polygonum aviculare* agg., redshank *Polygonum persica*, black bindweed *Fallopia convolvulus*, scentless mayweed *Tripleurospermum inodorum*, sterile brome grass *Bromus sterilis*, at least one other member of the *Bromus* subgenus *Eubromus* and various small-seeded grasses (Gramineae). Most of the others species represented could have arrived on the site via cereals harvested from field/woodland edges or overgrown field boundaries.

The Iron Age samples also contained sedge *Carex* sp. and blinks *Montia fontana* ssp. *chondrosperma*; both of these species compete successfully with arable crops in wet, heavy soils. Many of the arable weed species present in the Iron Age samples, however, such as dock *Rumex* spp. and cleavers *Galium aparine*, also occur in less regularly disturbed open grassy habitat and waste ground, particularly in nutrient rich areas around buildings and

farmyards. Non-arable species characteristic of these habitats included elder *Sambucus nigra*, bramble *Rubus* sp. and stinging nettle *Urtica dioica*.

Some of the species identified in Samples 48 and 146 are most typical of grassland; these include the buttercups/crowfoots *Ranunculus* sp., purging flax *Linum catharticum*, clover *Trifolium* sp., strawberry / cinquefoil *Fragaria* / *Potentilla* sp., plantain *Plantago lanceolata* and various small-seeded grasses.

Sample 48 contained 10 cc of woody and herbaceous stem and ground-level root tissues. Stems with intact thorns were identified as shrubby members of the Rosaceae (hawthorn *Crataegus* sp. or blackthorn / plum *Prunus* sp.). The herbaceous stem fragments were very similar to the fruit-bearing stalk of dock *Rumex* spp., based on the distinctive ridging, node constrictions and the location of pedicel scars. Several of the root specimens presented a scaly-monocot form typical of the grasses, and several basal internodes of onion couch grass *Arrhenatherum elatius* were also recovered. The latter species is particularly characteristic of coarse grassland and open scrub (Robinson 1988). Well-established tufts of this species would require uprooting by hand, whether they were being cleared from coarse grassland being taken under cultivation or from arable fields being ploughed following an extended period of fallow. Dried stems and leaves could have supplied kindling for cooking fires as well as winter fodder for domestic animals. It is very unlikely that the swollen basal internodes of this species were collected for human consumption.

Roman I: First Century

First-century Roman Samples 39 and 44 were recovered from the ditch of Enclosure 30 close to the first-century pottery Kiln 559.

Sample 39 contained poorly preserved cereal grains, in addition to twenty-nine grains of spelt wheat, a small quantity of spelt chaff and several grains of barley. The few weeds present included specimens of brome grass, oat and small-seeded grass, along with a single achene of dock *Rumex* sp.

Sample 44 was strikingly rich in dock *Rumex* sp., but contained little cereal grain or chaff. Dock is normally encountered, in small quantities only, in samples derived from cereal processing waste burned as fuel. Such an origin is unlikely in this case, although dry dock leaves and stems may have been selected for use as tinder. Nor should the deliberate collection of dock seed for use as a grain supplement be ruled out, for dock flour is similar in taste and nutritional quality to that of buckwheat *Fallopia esculentum* Moench., and large quantities of almost pure dock seed have been recovered from several sites in western Europe (Renfrew 1973).

Sample 52 from the fill of Kiln 559 was scanned, but contained only a few poorly preserved specimens of wheat and barley.

Sample 86, from a cut across Ditch 571 only 15 m to the north of Kiln 400, was the richest sample from the site in terms of identifiable charred remains. Although much of the cereal present was very poorly preserved, both grain and chaff of hulled wheat was plentiful and a few specimens of hulled 6-row barley were also present. The c.2,100 glume bases in the sample, in contrast to the c.300 cereal grains recovered, strongly suggest that this sample originated as de-husking waste from hulled

wheat processing which was used to fuel the pottery kiln. The sample was relatively free of arable weed seeds, but some of those present, particularly sedge *Carex* sp., thrive in wet arable situations. Tares and vetches were plentiful, along with single specimens of grass vetchling *Lathyrus nissolia* and red clover *Trifolium pratense*, and on strictly ecological grounds a bushy field/woodland edge or coarse grassland community could be represented.

Spelt wheat and small specimens of six-row barley were identified in Sample 61 from Pit 1031, which may also have been associated with Kiln 400. Hulled wheat glume bases were also plentiful, and the chaff to grain ratio suggests an origin in the burning of waste material from the latter stages of a hulled wheat grain-cleaning sequence.

Several swollen basal internodes of onion couch grass *Arrhenatherum elatius* were identified in one of the scanned samples and would once again suggest the burning of material from coarse grassland or scrub vegetation. Other scanned first-century samples revealed the additional arable weeds cleavers *Galium* sp. and wild mustard/turnip *Brassica* cf. *rapa* sbsp. *sylvestris*, in addition to the bread-type wheat grains that were present in three of the eighteen scanned samples.

Roman II: Second Century

The bulk of Sample 15, from the late second-century T-shaped Corndrier 505, was made up of badly charred and largely unidentifiable cereal grain. Grain and spikelets of spelt wheat were also present, however, along with a large quantity of hulled (but not convincingly speltoid) wheat. Little chaff and few weed seeds were recovered; these having possibly burnt away during charring. A more likely explanation, however, involves the accidental charring of a considerable quantity of relatively pure spelt wheat in spikelet form, either during parching or drying. The lack of sprouted embryos in the sample rules out the possibility of the grain having been malted. The lack of weed seeds could also be explained by efficient weeding practices that left oat and brome grass as the only significant segetal weeds.

Sample 90 from Pit 1137 is significant for a single grain of what is probably emmer wheat. Glume bases of spelt wheat were present, but the sample was not particularly rich in hulled-wheat chaff in relation to grain. Two specimens of six-row barley were also recovered. The sample was strikingly rich in oat and brome grass seed, and the majority of other species represented are also common weeds of cultivation. The single specimen of lesser spearwort *Ranunculus flammula*, a perennial species of wet places, is out of character with the rest of the sample and must have a non-arable origin. A grassland component may also be represented by clover *Trifolium* sp., two probable specimens of black medick *Medicago lupulina*, onion couch grass *Arrhenatherum elatius* and several other 'catholic' taxa, but most of these would also have been common in arable land recently under fallow. Hazel *Corylus avellana*, represented by a single shell fragment, was almost certainly husbanded for its edible nuts, and further fragments were detected during the scan of the second-century samples.

Sample 119 was taken from Pit 848 which was the largest of the second century pit groups in the eastern part of Enclosure 275. Cereal grain was much less common than chaff, and a small quantity of hulled wheat cleaning waste is almost certainly represented, in addition to the background flora present in all of

the samples. Sample 119 also produced a few grains of six-row barley and spelt wheat. Most of the non-cereal taxa present are common weeds of cultivation encountered in previous samples, but with the notable addition of cornsalad *Valerianella dentata* and scentless mayweed *Tripleurospermum inodorum*.

The origin of two well-preserved mericarps of slender hare's ear *Bupleurum tenuissimum* in Sample 119 is less easily explained. This species is today rarely encountered outside halophilic habitat such as salt-marsh, shingle beach, grassy waste ground and wharf-side rubble along the coasts of southern Britain. It appears to have had a wider range in the past, however, and four records document its presence inland prior to 1930 (Perring and Walters 1962). One specimen of *B. tenuissimum* was identified in charred material from a Roman site in Nottinghamshire near what is today considered to be the north-eastern limit of the species in Britain (Godwin 1975). The two specimens in the Wavendon sample are unlikely to have arrived with a cereal harvest, and an origin via the importation of coastal resources should not be ruled out.

Roman III: Third Century

Samples 1 and 2 were recovered from the late third-century Corndrier 378, sited only 5 m to the south of the earlier Corndrier 505 (Sample 15).

Spelt wheat dominated the identifiable cereal component of Sample 1, and the large number of glume bases and small glume/rachis fragments suggest that the sample is dominated by fine waste material from the processing of spelt wheat. Sprouted cereal embryos were recovered, but not in a quantity that would suggest deliberate malting. Sample 1 also contained five specimens of stinking mayweed *Anthemis cotula*, a species of heavy clay soils which does not become common on British sites until the Roman period. Few other non-Gramineae weed taxa were recovered, but oat was well represented by grain, floret bases and particularly by awns. Three of these floret bases could be assigned with some certainty to one of the wild subspecies. Few brome grass seeds were recovered, but small-seeded grasses were plentiful.

Sample 2 also contained a considerable quantity of spelt grain and chaff, as well as wheat grain and hulled-wheat chaff unidentifiable to sub-species level. As with Sample 1, the remains are suggestive of waste material from the later stages of the hulled wheat cleaning sequence and may have been used to fuel the corndrier.

Goosefoots *Chenopodium* sp., ribwort plantain *Plantago lanceolata* and meadow rue *Thalictrum* sp. were identified in scanned third-century samples; the latter two species indicating open, and possibly damp, grassy conditions. Spelt wheat dominated the cereal component of the scanned samples, but bread-type wheat grains and free-threshing hexaploid wheat rachis nodes were also occasionally encountered. Although barley was not present in either of the sorted third-century samples, several of the scanned samples contained barley and one small sample (87) from Ditch 1121 contained little else.

One third-century sample (17), from Layer 733 in Pit 835 had been waterlogged, and produced a small degraded flot which included uncharred *Chenopodium rubrum* type seeds in addition to those of sedge *Carex* sp., chickweed *Stellaria media* and knotgrass *Polygonum aviculare* agg., all of which may have

grown in mud or damp soil along the edges of the pit.

Roman IV: Fourth Century

The small number of items present in the fourth century samples greatly reduces the statistical accuracy of any observations.

The 0.6 litre Sample 4 consisting of the fill of an intact pot (Fig. 103.17) revealed one poorly preserved barley grain and five unidentifiable cereal grains.

Sample 59 contained a few specimens of vetch/tare, a mericarp of an unidentifiable Umbelliferae, red bartsia/eyebright *Euphrasia/Odontites* sp., brome grass, small-seeded Gramineae and two oat awn fragments. Barley and spelt wheat were identified from both grain and chaff.

Sample 79 was similarly poor in weed seeds, although containing single specimens of wild turnip *Brassica cf. rapa* ssp. *sylvestris*, medick *Medicago* sp., ribwort plantain *Plantago lanceolata* and dock *Rumex* sp. Hulled 6-row barley grain and poorly preserved wheat were also present.

Bread-type grains were identified in one of the scanned samples.

Roman Period: Scanned Samples

A number of samples submitted were dated no more precisely than to the Roman period. These were scanned only, and generally confirmed the Roman pattern of cereals dominated by spelt wheat and barley, large quantities of chaff (almost exclusively glume bases) and annual segetal and ruderal weeds. Tares and vetches were abundant, as were weedy herbaceous members of the Caryophyllaceae, Chenopodiaceae and the Polygonaceae families, brome grass, oat and small-seeded grasses.

Although processed by flotation, Sample 13 was derived from waterlogged Layer 911 in Pit 835, and was particularly rich in seeds of elder *Sambucus nigra*. It included several other taxa not found in any of the charred samples such as corn crowfoot *Ranunculus arvensis*, thistle *Carduus* sp., self-heal *Prunella vulgaris*, hemlock *Conium maculatum* and deadnettle *Lamium* sp.

A second waterlogged sample (102 from Layer 1208 in Ditch 433) expanded the Roman species list with the addition of small nettle *Urtica urens*, black nightshade *Solanum nigrum*, shepherd's purse cf. *Capsella* sp., hemp-nettle *Galeopsis* sp., clary cf. *Salvia*, fig-leaved goosefoot *Chenopodium ficifolium*, fat hen *Chenopodium album*, meadow rue *Thalictrum flavum*, swine cress *Coronopus* cf. *squamatus*, lousewort *Pedicularis palustris* and cultivated flax *Linum usitatissimum*.

Saxon

Unfortunately, the Saxon samples contained very few charred remains and therefore carry little statistical validity. In addition, only Samples 100 and 101 from Pit 1152 are reliably of primary Early Saxon date. Samples 85 and 88 derived from the upper tertiary silt of Ditch 433, but were associated with both Saxon pottery (p.198) and antler working debris (p.130).

None of the samples contained identifiable non-cereal remains. Barley was present in three out of the four samples, and bread-type wheat grains were identified in Sample 88. Poorly-pre-

served wheat and cereal grain made up most of the remaining specimens.

Discussion

Iron Age samples from the site contain a wide range of weedy species derived from a variety of habitats. Sample 146 in particular suggests the burning of herbaceous vegetation cleared from coarse grassland, scrub or waste ground. Cereal remains are poorly represented.

The Roman samples, particularly those of the first three centuries, are dominated by cereal remains but include taxa which may be regarded as background flora derived from a diversity of habitats (Fig. 134). The proliferation of corndriers undoubtedly concentrated charred remains into more visible, and thus easily sampled, archaeological features, and the apparent increase in cereal processing activity on the site in the Roman period may simply reflect the selective recovery of samples rich in cereal processing waste. Several of the Roman samples, particularly the first-century Samples 61 and 86, the second-century Sample 119 and the third-century Samples 1 and 2, are almost certainly waste fractions derived from the later stages of the processing sequence traditionally applied to hulled wheat. This waste material appears to have been used to fuel the pottery kilns and corndriers. The second-century Sample 15, which is composed almost entirely of cleaned spelt wheat in spikelet form, almost certainly represents grain that was accidentally charred while being parched or dried in the corndrier prior to de-husking or milling. Barley is present throughout the Roman period but only at a 'background' level, possibly indicating its status as a minor 'maslin' or weed contaminant of the wheat crop.

The fourth-century samples are much smaller and less easy to characterise than those from previous periods, and none

are clearly derived from crop processing waste. The decline in sample richness could indicate either that cereal processing was now being undertaken beyond the excavated area, or that the intensity of agricultural activity at the site had decreased substantially from earlier periods.

The Early Saxon samples are even less informative, aside from the presence of bread wheat, and they are statistically unreliable.

The Arable Economy

Spelt wheat dominates the identified wheat component at all periods. Spelt is a relatively cold-tolerant and slow-growing species and is therefore well-adapted to autumn sowing. It produces a mealy flour which boils into a tasteless gruel, but its high gluten content makes it well-suited to bread making (Dickson 1990).

One probable emmer wheat grain was identified in a second-century sample (90), along with a small number of emmer glume bases in first and second-century samples. Emmer wheat seems to have decreased considerably in importance in southern Britain by the Late Iron Age, and it may have grown only as a contaminant or 'maslin' constituent of the spelt crop in the Roman and Early Saxon periods. Emmer flour is not well-suited to breadmaking, but emmer groats make a very flavourful porridge which was a staple food of the Roman army in Scotland (Dickson 1990).

A single grain of free-threshing bread-type wheat was recovered from a primary Saxon pit (Sample 100). Hulled wheats are probably over-represented in most charred assemblages in relation to free-threshing cereals because of their need for parching. Small quantities of free-threshing

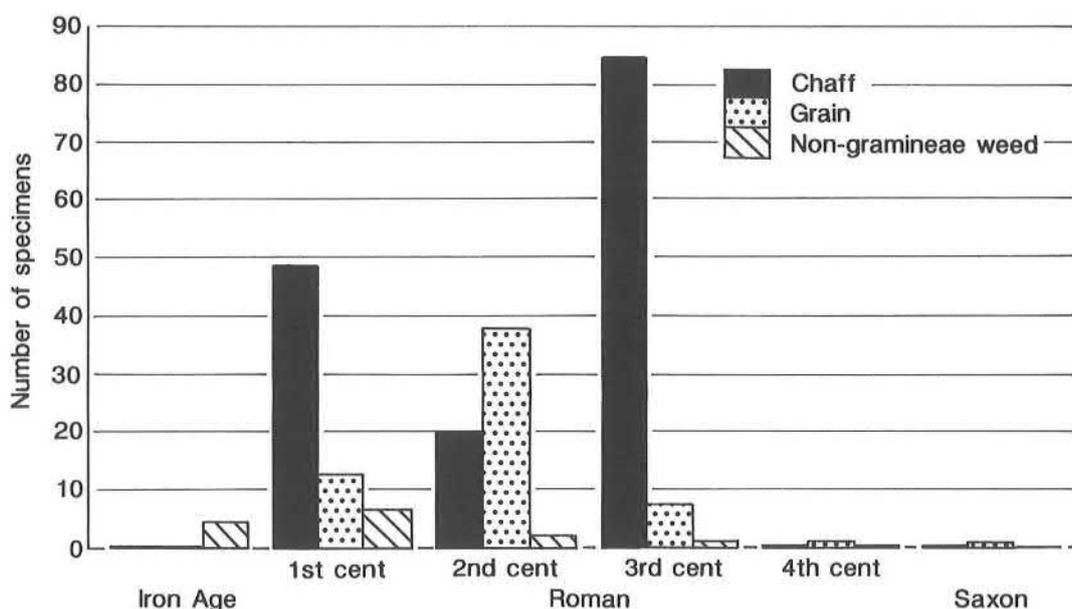


Figure 134: Concentration of chaff, grain and non-gramineae weeds per litre of sample.

bread wheat have been recovered from well-dated Late Iron Age sites, and a handful of Roman sites have produced more significant quantities (Jones 1978; 1986a; 1986b; Letts 1991). Bread wheat may have been grown as a maslin crop with barley, but it is unlikely to have been a persistent contaminant of the hulled wheat crop. Importation remains a possibility on some sites, but it is more likely that small quantities of bread wheat were grown as a separate crop for specialty use, possibly for bread making as it too produces a tasteless gruel. In classical Italy, bread wheats were thought to require drier and more fertile soils (Spurr 1986), but they are also more susceptible to bird damage in the field and to weevils and mould during storage. Bread wheat is believed to have replaced emmer as the staple food in Roman Italy in the first century owing to a growing preference for baked bread, although economic forces are also said to have encouraged a shift to less labour-intensive free-threshing types.

Six-row hulled barley is present in all of the sorted Wavendon samples, with the exception of the third century. One scanned third-century sample, (87 from Ditch 1121) however, contained almost pure barley. As a proportion of the total number of cereal grains recovered for each period, barley is most common in the fourth century and Early Saxon periods. Its virtual absence from first to third-century samples must be viewed in relation to the larger number of cereal grains recovered in these samples (Fig. 136). Barley has traditionally been consumed as a heavy bread, or malted and turned into beer, and it produces a very tasty and nutritious porridge that was a major food of the Roman army in Britain (Dickson 1990). It is a hardy species with a short growing season, so that a late spring planting will usually allow a crop.

A waterlogged 'flot' (Sample 102 from the base of Ditch 433) of Roman date produced one seed of cultivated flax *Linum usitatissimum*. This is the only record of this species at Wavendon Gate. Flax has been cultivated since antiquity for its fibre as well as its oilseed, and it may be assumed to have been grown for both purposes at Wavendon Gate during the Roman period.

Stones of cherry, plum and bullace *Prunus* sp. recovered from the waterlogged third-century Pit 835 (waterlogged plant remains report) suggest that the Romano-British population maintained fruit trees near the site, perhaps supplemented by seasonal wild fruits such as elderberry and blackberry which were identified in the charred remains. Hazel nuts were also probably collected in quantity, and were recovered from both waterlogged and charred second and third-century samples.

The absence of large cultivated legumes such as pea *Pisum sativum* and broad bean *Vicia faba* is hardly surprising; they have rarely been found on other Iron Age and Roman sites in the region.

The Arable Environment

The majority of the fifty-five taxa identified in the

Wavendon samples may be classed as segetal or ruderal species which thrive in open, disturbed habitats such as arable fields. Many of these species plagued farmers until the modern era, in particular campion, the chickweeds and chenopods, orache, tares and vetches, parsley piert, several members of the family Polygonaceae, plantains, cleavers, cornsalad, mayweeds, wild oats, and various brome and small-seeded grasses.

Legumes are uncommon in the Iron Age as a proportion of non-Gramineae weed specimens recovered, and may be included in the background flora which was charred independently of cereal processing. They are somewhat more common in the Roman period and particularly in the fourth century (Fig. 136). Although this could reflect a proliferation of legumes due to increasing soil infertility, the slight increase is more likely to be due to chance. The absence of legumes in the Early Saxon samples is not relevant statistically. Weedy legumes, however, are less likely to have been charred during cereal processing after the Saxon period transition to bread/rivet wheat cultivation because free-threshing wheat does not require parching.

Various species of brome grass *Bromus* sp. and wild oats *Avena* sp. were undoubtedly serious weeds of hulled wheat throughout the period in question, as they were of bread wheat and barley in the later Saxon period (Green 1981). The proportion of brome grass in relation to cereal grain recovered can be compared only for the first to third centuries, and all these samples contain some component of cereal processing waste (Figs 135 and 136). Mature Iron Age brome grass could easily have been collected along with coarse herbage and scrub vegetation for use as tinder or fuel, and the Early Saxon brome grass can be relegated to background arrival. Brome grass is most common in first to second-century samples and is somewhat less common in the third century. Jones (1993) has suggested that a decrease in brome grass reflects the transition from arid to deep plough cultivation on clay soils, and records this transition in the Early Saxon plant remains from Pennyland. This would suggest that the deep ploughing of clay soils may have begun in the Wavendon Gate area by the third century, but not enough samples have been examined to establish such a transition with any certainty.

Wild oat shows a more distinctive pattern over this same period. Both as a proportion of total cereal grain recovered, and in terms of specimens per sample volume, oat grain is exceedingly common in the Roman third century (Figs 135 and 136). Although the chance recovery of a particularly oat-contaminated waste fraction derived from cereal processing cannot be ruled out, this increase might also indicate a shift in the status of oat from that of a noxious weed to a grudgingly accepted (but tasty and reliably yielding) contaminant of the hulled wheat crop (Green 1981).

Arable activity in the Iron Age and early Roman periods appears to have been restricted to the fertile and well-draining calcareous silty clays of the gravel terraces.

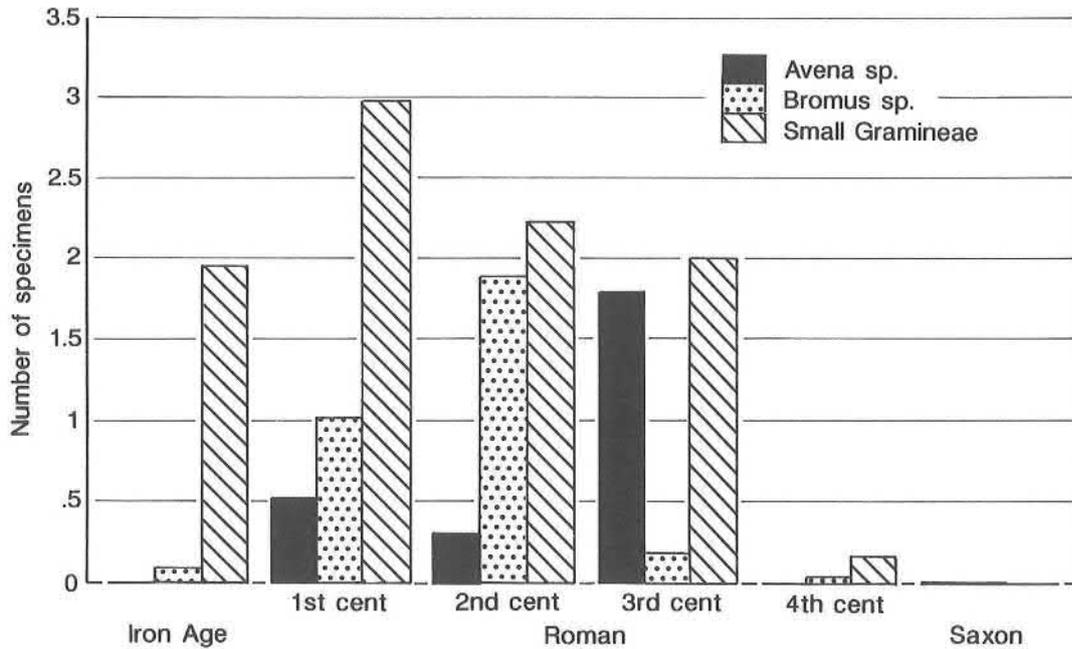


Figure 135: Concentration of *avena* sp., *bromus* sp. and small *gramineae* per litre of sample.

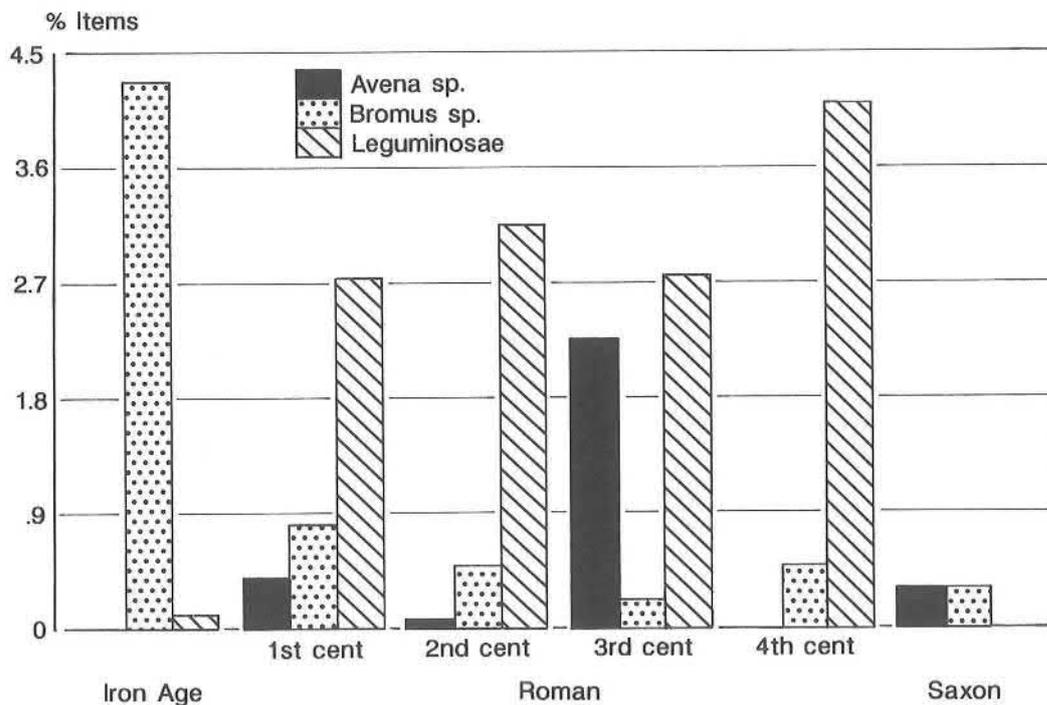


Figure 136: Fractions of *avena* sp./no. of cereal grains, *bromus* sp./no. of cereal grains and *leguminosae*/no. of non-gramineae weed seeds.

However, a range of soil conditions is indicated in the Iron Age and early Roman samples from Wavendon Gate; parsley piert *Aphanes arvensis* (Iron Age) and scentless mayweed *Tripleurospermum inodorum* (Iron Age and second century) prefer dry disturbed soil conditions, while *Montia fontana* sbsp. *chondrosperma* (Iron Age) and sedge *Carex* sp. (Iron Age and first century) thrive as segetals in damp or wet soils. The appearance of stinking mayweed *Anthemis cotula* once again suggests arable activity on the clay soils by the third century. Stinking mayweed was also

found in waterlogged contexts from the site.

Context-Related Variation

Rescue excavations do not normally generate the scope and quality of samples required in order that archaeobotanical data be used to examine spatial organisation and activity areas on a site at a fine scale of resolution. Nevertheless, domestic structures and areas associated with the drying/parching and cleaning of grain, and of rubbish disposal are

obvious in the Wavendon assemblage.

The broad range of species and plant tissues present in the Iron Age samples indicates that a range of activities in addition to cereal processing took place on the site.

More selective charring linked to corndriers and pottery kilns is evidenced in the first to second and fourth-century samples. The evidence suggests that harvested cereals were threshed outside the main enclosure (no threshing or winnowing waste was recovered), and that the bulk of the harvest was stored semi-clean in spikelet form (eg. Sample 15) within domestic structures (no grain storage pits were located). Spikelets of hulled wheat were probably parched and cleaned of remaining chaff and weed seeds on a daily basis. Waste fractions were used to fuel the pottery kilns and corndriers, and were probably tossed into the domestic hearth as well. Charred cereal processing waste and grain from the occasional drying/parching accident all seem to have found their way into ditches near where they were generated. This suggests a concentration of domestic activity, and thus possibly a continuity of domestic occupation, inside Enclosure 275 throughout the Roman period. Some spatial continuity in grain processing activity is also apparent in the series of second to third-century corndriers located just outside the main enclosure ditch in Area A.

Conclusions

The plant remains from Wavendon Gate support the view that late Iron Age and rural Romano-British communities were largely self-sufficient in terms of basic resources, and that agricultural activity was focused on the production of hulled (especially spelt) wheat. The settlement may thus be viewed as the nexus of an intensively-managed agro-ecosystem that channelled wild and domesticated plant and animal resources from a wide catchment area (including some arable fields on heavy clay soil) to the domestic level. Although the evidence is slim, the shift in grain processing to purpose-built drying/parching structures in the second to third centuries could be viewed as a community response to an increased local market for cereals. More certain is the link between the abandonment of the corndrier complex outside of the main enclosure ditch, and the paucity of plant remains in fourth-century features, to the decline of the Roman settlement. The Saxon samples are, unfortunately, not of sufficient quality to document a return to a more self-reliant pre-Roman style economy in the early Saxon period, but the apparent continuity of domestic grain processing activity does suggest direct continuity of occupation from the Late Roman into the Early Saxon period.

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The author wishes to thank Mark Robinson, Gill Campbell and Peter Busby for assistance they provided during the preparation of this report.

POLLEN ANALYSIS

F.M. Chambers

Introduction and Methods

Three small sub-samples were extracted from Samples 107, 109 and 110 from Pit 835 (Fig. 117), which were principally taken for the analysis of the waterlogged plant macrofossils (p.236). The samples represent the three distinct horizons within the waterlogged lower half of the pit (Fig. 40), with Sample 110 deriving from the primary silt (Layer 931), Sample 109 from Layer 930/931 above and Sample 107 representing the uppermost waterlogged anaerobic Layer 929. The samples were prepared after Barber (1976), mounted in silicone fluid and counted to a total land pollen (TLP) sum of 500, at a magnification of $\times 600$. Obligate aquatics and spore types were excluded from the pollen sum. Results, including a summary of arboreal (AP) and non-arboreal pollen (NAP) types are presented in Table 44.

Results

Pollen was abundant in the prepared samples, and in reasonable condition. Although less-resistant taxa (eg. *Quercus* [oak]) may be under-represented in the count (cf. Havinga 1974; Dimbleby 1985), *Fraxinus* (ash) and *Urtica* (nettle), which are often easily destroyed differentially, were abundant in one sample. The three samples have some similarities in that all are dominated by Gramineae, with little or no shrub pollen, but each has major representations of taxa that are less abundant in the other two samples. Sample 110 from the bottom of the pit has a very high Umbelliferae (16%), high Cruciferae (9%) and high *Urtica* (10%) content. Sample 109 has very high *Fraxinus* (ash) pollen (22%) but also high *Urtica* (12%). Sample 107 has very abundant Gramineae (70% TLP), with relatively high *Centaurea nigra*-type (knapweed) pollen (3%).

Interpretation

Sample 110 has very low AP/NAP ratios, indicating an open environment, with high representation of certain non-arboreal taxa. Pollen grains of *Lemna* (duckweed) are present, implying still water. This sample is characterized by high representation of Cruciferae, of *Urtica* (nettles) and particularly of Umbelliferae. The Umbelliferae grains were largely of one type, implying one particular species. The environment might suggest *Oenanthe* (water dropwort), but identification of the pollen to genus or species is not certain. However, the Umbelliferae macrofossils (Table 41) from this sample are dominated by the species *Conium maculatum* (hemlock).

The representation of *Fraxinus* in Sample 109 is an order of magnitude higher than in Sample 110, whilst in Sample 107, there is only one *Fraxinus* pollen grain recorded. Either a local ash tree (with male flowers) or several ash trees were overshadowing the site during the accumulation

TAXA	Sample 110	Sample 109	Sample 107
<i>Betula</i> (birch)	0.6	0.8	0.2
<i>Pinus</i> (pine)	0.2	3.7	0.4
<i>Quercus</i> (oak)	1.2	0.8	0.4
<i>Alnus</i> (alder)	0.0	1.4	0.2
<i>Fraxinus</i> (ash)	1.6	22.2	0.2
<i>Acer</i> (maple)	0.2	0.0	0.0
<i>Fagus</i> (beech)	0.0	0.2	0.2
<i>Corylus</i> (hazel)	0.8	0.0	0.0
<i>Salix</i> (willow)	0.2	0.3	0.0
AP	4.8	29.4	1.6
Gramineae (grasses)	35.6	45.2	69.6
<i>Triticum</i> (wheat)	0.4	0.0	0.2
Cyperaceae (sedges)	0.0	0.6	0.0
Ericaceae (heaths)	0.2	0.0	0.0
<i>Plantago</i> (plantain)	3.1	0.8	4.4
Compositae Tub. (daisy family)	2.3	2.6	2.4
Compositae Lig. (dandelion)	6.8	1.1	6.6
<i>Centaurea nigra</i> -type (knapweed)	0.2	0.0	3.2
<i>Artemisia</i> (mugwort)	0.0	0.3	0.0
<i>Rumex</i> (docks, sorrel)	2.0	1.4	1.4
Chenopodiaceae (goosefoot)	4.3	0.6	0.4
Rubiaceae (bedstraw)	0.2	0.0	0.2
Umbelliferae (umbellifer)	16.4	2.8	2.4
Caryophyllaceae (stitchwort)	0.8	0.8	0.2
Cruciferae (crucifer)	9.2	0.8	1.0
<i>Polygonum</i> (knotgrass)	0.2	0.0	0.0
<i>Mentha</i> -type (mint)	0.2	0.0	0.0
Labiatae (dead nettle)	0.2	0.0	0.0
<i>Urtica</i> (nettle)	10.4	12.2	0.4
<i>Melampyrum</i> (cow-wheat)	0.0	0.3	2.2
<i>Trifolium</i> -type (clover)	0.0	0.0	0.4
<i>Potentilla</i> -type (tormentil)	0.4	0.3	0.8
Rosaceae (rose family)	0.2	0.3	0.0
<i>Filipendula</i> (meadow sweet)	2.1	0.3	2.6
NAP	95.2	70.6	98.4
<i>Lemna</i> (duckweed)	3.0	1.4	0.8
<i>Typha/Sparganium</i> (reedmace/bur-reed)	0.8	0.0	0.0
<i>Pteridium</i> (bracken)	0.2	0.8	0.0
<i>Polypodium</i> (polypody)	0.2	0.8	0.0
<i>Lycopodium</i> (clubmoss)	0.2	0.3	0.0
<i>Sphagnum</i> (bog moss)	0.4	0.0	0.2
Filicales (ferns)	0.0	0.0	0.2

Table 44: Pollen and spore taxa in samples from Pit 835 as percentages of total land pollen.

of Sample 109, or ash flowers have otherwise been introduced into the sediment. In this respect it is certainly worth noting that the large felled ash trunk (Fig. 95.197) was found lying just above the base of the pit. Furthermore a significant number of ash seeds were also found (p.243) as well as quantities of wood (p.261) in the pit. The high *Urtica* values imply rampant growth of nettles.

Sample 107 is dominated by Gramineae (70%) and by herbaceous taxa of ruderal and damp environments. There are notable representations of Compositae Lig. (dandelions), *Centaurea nigra*-type (knapweed) and *Filipendula* (meadow sweet). Sample 107 is remarkable for its very low arboreal pollen content (<2% TLP). This fits well with the interpretation that the ash tree, which had grown near the pit during the accumulation of the lower layers, had been felled and dumped in the pit before the accumulation of Sample 107.

Conclusions

There are strong indications that the pit formerly contained a body of still water. The pollen evidence for floating-leaved macrophytes (duckweed) and either floating-leaved or emergent macrophytes *Sparganium/Typha* (bur-reed or reedmace) implies that the site remained open for some time, allowing the water body to become colonised by aquatic plants. Only during the accumulation of Sample 109 is there any evidence for local tree growth, particularly of ash. Apart from *Fraxinus*, only *Pinus* (pine) representation is above 3% TLP amongst the tree pollen types. Although the number of aquatic pollen grains decreases up the feature, there is no clear hydrosere succession evident from the samples. The inferred abundance of *Urtica* (nettle) in the lower two samples is certainly at variance with any suggestion (p.69) that the pit had a votive or ritual function. Since the nettle is adept at colonising sites with high phosphorus and nitrogen levels, the samples may represent late stages in the degradation and vegetational colonisation of the original feature.

Acknowledgement

Thanks are due to Ian Wilshaw for the pollen preparation and counting.

COLEOPTERA FROM PIT 835

Mark Robinson

Introduction

When Sample 109 from Layer 930 of Pit 835, was being analysed for waterlogged macroscopic plant remains (p.236), it was observed that numerous insect fragments were also present. The sample was made up to 3 kg, washed over a 0.2 mm sieve and then subjected to paraffin flotation. The Coleoptera (beetles) extracted were identified with reference to the entomological collections of the University Museum, Oxford. The minimum number of

individuals represented for each taxon are given in Table 45. The nomenclature follows Kloet and Hincks (1977). Summary results by habitat-related species groups are given in Table 46.

Interpretation

The deposit clearly accumulated under stagnant water conditions. Small water beetles belonging to the *Helophorus brevipalpis* group were abundant and there were several examples of *Tanysphyrus lemnae*, a weevil which feeds on *Lemna* sp. (duckweed), a small floating-leaved aquatic plant which was also indicated by its pollen (p.256). Unsurprisingly there seems to have been moist ground or a splash zone around the edge of the pit, with *Lesteva longoelytrata* the most abundant staphylinid.

The beetle fauna suggests that beyond the margin of the pit, there was much weedy disturbed ground, possibly including cultivated areas. Carabid beetles which favour such habitats including *Agonum dorsale* and *Harpalus rufipes* (Table 46: 6a) were relatively well represented. There were numerous phytophagous beetles which feed on weeds of waste or neglected ground and cultivated areas including numerous members of the genus *Phyllotreta* which feed on Cruciferae. They can be pests of *Brassica* species (mustard, cabbage etc.). Other weed-feeding beetles include *Brachyterus urticae* on *Urtica* spp. (nettles), *Chaetocnema concinna* on Polygonaceae (knotgrass, docks etc.), and *Apion radiolus* and *A. malvae* on Malvaceae (mallows). All these weeds were represented by their seeds.

There was also a strong presence of grassland around the pit. Chafers and elaterid beetles which have larvae that feed on roots of grassland herbs (Table 46: 11) were not particularly abundant, but the value for clover and vetch-feeding weevils from the genera *Apion* and *Sitona* (Table 46: 3) was higher than would be expected for heavily grazed pasture. Three weevils which feed on *Plantago lanceolata* (ribwort plantain), *Mecinus pyraeter*, *Gymnetron labile* and *G. pascuorum* were all unusually well represented. There was a high value for Gramineae (grass) pollen and the Coleoptera would suggest that the grassland was herb-rich and perhaps flowery. The percentage of dung-feeding scarabs which occur in dung on grassland (Table 46: 2) was very low and gives no reason to believe that domestic animals were kept in the enclosure within which the pit was situated.

The abundance of tree and shrub-dependent Coleoptera (Table 46: 4) was high enough to be consistent with a landscape that still retained much woodland. However, the majority of these beetles, such as the bark beetle *Lepersinus varius*, are usually associated with *Fraxinus* sp. (ash). There is strong evidence from both the pollen and the waterlogged macroscopic plant remains that an ash tree overhung the pit at this stage of its sedimentation.

There was little evidence for the proximity of foul organic

COLEOPTERA	Minimum no. of individuals.	COLEOPTERA(cont.)	Minimum no. of individual
<i>Nebria brevicollis</i> (F.)	1	<i>A. cf. prodromus</i> (Brahm)	1
<i>Notiophilus</i> sp.	1	<i>A. rufipes</i> (L.)	1
<i>Clivina collaris</i> (Hbst.) or <i>fossor</i> (L.)	1	<i>Aphodius</i> sp.	2
<i>Trechus obtusus</i> Er. or <i>quadristriatus</i> (Schr.)	3	<i>Byrrhus</i> sp.	1
<i>Bembidion genei</i> Kust.	1	<i>Agrypnus murinus</i> (L.)	1
<i>B. guttula</i> (F.)	2	<i>Athous bicolor</i> (Gz.)	1
<i>B. lunulatum</i> (Fouc.)	5	<i>A. hirtus</i> (Hbst.)	1
<i>Bembidion</i> sp.	1	<i>Selatosomus bipustulatus</i> (L.)	1
<i>Pterostichus anthracinus</i> (Pz.)	1	<i>Agriotes lineatus</i> (L.)	1
<i>P. melanarius</i> (Ill.)	4	<i>A. sputator</i> (L.)	3
<i>P. versicolor</i> (Strm.)	1	<i>Cantharis</i> sp.	1
<i>Calathus fuscipes</i> (Gz.)	1	<i>Cantharis</i> or <i>Rhagonycha</i> sp.	1
<i>Agonum dorsale</i> (Pont.)	5	<i>Anobium punctatum</i> (Deg.)	6
<i>Amara cf. aenea</i> (Deg.)	2	<i>Ptinus fur</i> (L.)	1
<i>A. aulica</i> (Pz.)	1	<i>Lyctus linearis</i> (Gz.)	1
<i>Amara</i> sp.	1	<i>Brachypterus urticae</i> (F.)	3
<i>Harpalus rufipes</i> (Deg.)	2	<i>Meligethes</i> sp.	1
<i>H. S. Ophonus</i> sp.	1	Cryptophagidae gen.et sp.indet. (not Atomariinae)	2
<i>H. affinis</i> (Schr.)	2	<i>Atomaria</i> spp.	8
<i>Acupalpus cf. consputus</i> (Duft.)	1	<i>Orthoperus</i> sp.	4
<i>Badister bipustulatus</i> (F.)	1	cf. <i>Scymnus</i> sp.	1
<i>Dromius linearis</i> (Ol.)	1	<i>Lathridius minutus</i> gp.	24
<i>Halipus</i> sp.	1	<i>Enicmus transversus</i> (Ol.)	1
<i>Hydroporus</i> sp.	1	Corticariinae gen. et sp. indet.	12
<i>Rhantus</i> sp.	1	<i>Mycetophagus quadriguttatus</i> Müll.	1
<i>Colymbetes fuscus</i> (L.)	1	<i>Lytta vesicatoria</i> (L.)	1
<i>Helophorus aquaticus</i> (L.)	1	<i>Bruchus</i> or <i>Bruchidius</i> sp.	3
<i>H. grandis</i> Ill.	4	<i>Oulema cf. melanopa</i> (L.)	1
<i>Helophorus</i> spp. (<i>brevipalpis</i> size)	28	<i>Galeruca cf. tanaceti</i> (L.)	1
<i>Cercyon haemorrhoidalis</i> (F.)	4	<i>Phyllotreta atra</i> (F.)	7
<i>Cercyon</i> sp.	1	<i>P. nigripes</i> (F.)	3
<i>Cryptopleurum minutum</i> (F.)	1	<i>P. nemorum</i> (L.) or <i>undulata</i> Kuts	1
<i>Hydrobius fuscipes</i> (L.)	4	<i>P. vittula</i> Redt.	6
<i>Ochthebius cf. minimus</i> (F.)	8	<i>Longitarsus</i> spp.	3
<i>Hydraena cf. riparia</i> Kug.	3	<i>Chaetocnema concinna</i> (Marsh.)	5
<i>Limnebius papposus</i> Muls.	2	<i>Apion malvae</i> (F.)	1
<i>Ptenidium</i> sp.	1	<i>A. radiolus</i> (Marsh.)	1
Ptiliidae gen. et sp. indet. (not <i>Ptenidium</i>)	1	<i>A. urticarium</i> (Hbst.)	1
<i>Cloleva</i> or <i>Catops</i> sp.	1	<i>A. pomonae</i> (F.)	1
<i>Silpha obscura</i> L.	1	<i>Apion</i> spp. (not above)	14
<i>Metopsia retusa</i> (Step.)	1	<i>Barynotus obscurus</i> (F.)	1
<i>Lesteva longoelytrata</i> (Gz.)	7	<i>Sitona</i> sp.	1
<i>Omalium</i> sp.	1	<i>Hypera punctata</i> (F.)	1
<i>Carpelimus bilineatus</i> Step.	1	<i>Hypera</i> sp. (not <i>punctata</i>)	1
<i>Platystethus cornutus</i> gp.	3	<i>Tanysphyrus lemnae</i> (Pk.)	5
<i>P. nitens</i> (Sahl.)	1	<i>Acalles turbatus</i> Boh.	3
<i>Anotylus nitidulus</i> (Grav.)	1	<i>Cidnorhinus quadrimaculatus</i> (L.)	2
<i>A. rugosus</i> (F.)	1	<i>Ceytorhynchus cf. turbatus</i> Schul.	2
<i>A. sculpturatus</i> gp.	1	Ceuthorhynchinae gen. et sp. indet.	1
<i>Stenus</i> sp.	2	<i>Anthonomus cf. rubi</i> (Hbst.)	1
<i>Xantholinus glabratus</i> (Grav.)	1	<i>Tychius</i> sp.	1
<i>X. longiventris</i> Heer	1	<i>Mecinus pyraister</i> (Hbst.)	5
<i>Philonthus</i> sp.	1	<i>Gymnetron labile</i> (Hbst.)	6
<i>Staphylinus ater</i> Grav. or <i>pedator</i> Grav.	1	<i>G. pascuorum</i> (Gyl.)	6
<i>S. olens</i> Müll.	1	<i>G. rostellum</i> (Hbst.)	1
<i>Tachyporus</i> spp.	4	<i>Leperisinus varius</i> (F.)	5
<i>Tachinus</i> sp.	3		
Aleocharinae gen.et sp.indet.	3		
<i>Geotrupes</i> sp.	1		
<i>Aphodius contaminatus</i> (Hbst.)	1		
<i>A. cf. fimetarius</i> (L.)	1		
<i>A. granarius</i> (L.)	1		
		TOTAL	312

TABLE 45: Minimum number of Coleoptera individuals represented for each taxon.

Species Group	Percent.
(1. Aquatic	20.9)
2. Pasture/dung	3.1
3. ?Meadowland	6.2
4. Wood and trees	3.8
5. Marsh/aquatic plants	1.9
6a. General disturbed ground/arable	2.7
6b. Sandy/dry disturbed ground/arable	0
7. Dung/foul organic material	3.1
8. Lathridiidae	14.3
9. Synanthropic	0.8
10. Esp. structural timbers	2.7
11. On roots in grassland	2.7
12. Unclassified	58.5
Total number of terrestrial individuals	258

(For further details of the habitats of the groups and their species composition see Robinson in Needham 1991, 278-81).

TABLE 46: Species groups of terrestrial coleoptera as percentage of the total terrestrial individuals.

material (Table 46: 7). However, there was strong evidence from the Lathridiidae, particularly *Lathridius minutus* sp. (Table 46: 8) for somewhat mouldy plant material such as old haystacks, thatch or animal bedding. There were sufficient *Anobium punctatum* (woodworm beetles, Table 46: 10) to hint that there were timber structures close to the pit but the few synanthropic beetles, *Ptinus fur* and *Mycetophagus quadriguttatus* (Table 46: 9) would as readily occur in an old haystack as indoors.

One beetle from the sample, *Lytta vesicatoria*, is of particular interest. It is the notorious Spanish fly of medieval aphrodisiac potions and was identified from a metallic green fragment of elytron (wing case). *L. vesicatoria* is mainly a Mediterranean insect, but it occurs sporadically in Southern England, sometimes in large numbers (Fowler 1891, 101; Harde 1984, 35, 222). Its larvae are either predacious on *Melolontha* larvae or parasitic on bee larvae underground, but the adults chew the leaves of various members of the Oleaceae, particularly *Fraxinus* spp. (ash) but also *Ligustrum vulgare* (privet) and *Syringia* spp. (lilac) (Buck 1954, 26; Chinerey 1986, 276; Harde 1984, 222). Cantharidin, a very strong blistering agent was at one time obtained from the crushed elytra for medicinal purposes (Evans 1975, 136; Harde 1984, 35). It is a deadly poison if taken internally but if consumed in very small quantities is said to cause general swelling and increased sensitivity. It was well known in the classical world for its medicinal properties, being one of several beetles going under the name of *cantharis*, although it does not seem to have been used as an aphrodisiac. Pliny (XXIX xxx) describes a green variety of *cantharis* which is associated with ash, which would be *Lytta*, one with yellow

bands across its wings which would be *Mylabris*, a related species and five much less powerful varieties which were perhaps species of the modern genus *Cantharis*. (Species of the modern genus *Cantharis* are common British beetles and have been identified from several archaeological deposits including this context. They are members of the family Cantharidae whereas *Lytta* and *Mylabris* belong to the Meloidae). The blistering effect of *cantharis* was used to treat skin diseases, warts, sores and to extract objects embedded in flesh (Pliny XXIX xxiv; XXX xxiii, xlii). It was also taken internally as a diuretic to treat dropsy, but fatal accidents occurred and it was recorded being used as a poison. The only other archaeological discovery of *L. vesicatoria* was from the wreck of the Dutch East Indiaman 'Amsterdam' where the context suggested that it had been collected for medicinal purposes (Hakbijl 1986).

WOOD IDENTIFICATION

Rowena Gale

Introduction

During the excavation of Pit 835 a large quantity of waterlogged wood was hand-collected for later detailed examination and identification. Some of these pieces were evidently artefactual (Table 47) and have been described elsewhere (p.155ff). Tool marks were clearly visible on a great many other fragments. A 1.35 m length of tree-trunk (Fig. 95. 197) with a diameter of c.650 mm was found lying at an angle across the lower part of the pit (Fig. 39). There were also numerous short lengths of roundwood, several more amorphous pieces and a large quantity of smaller brushwood. Most of the waterlogged fill was washed through a 10 mm sieve and all wood and other organic matter was collected and bagged for later analysis. In addition a smaller sample was washed through a 5 mm sieve to collect the smaller 'twiggy' material.

Four large fragments of wood were also recovered from the lowest levels of Ditches 433 and 600, which formed the west and east arms of Enclosure 275, respectively.

The material was submitted for species identification to indicate the selection of wood for specific artefacts and the nature of the woody vegetation in the vicinity of the site.

Preparation and Examination

Several of the recognisable artefacts had been freeze-dried and conserved prior to identification. The remaining waterlogged wood was in reasonably good condition although some was slightly compressed and spongy in texture. Some fragments of roundwood still had the bark, but in most samples this was absent and the outer surface of the wood was abraded. The number of annual rings present in each piece was assessed or, where outer rings were poorly defined or missing, approximated.

<i>Obj./Pub. No.</i>	<i>Layer No.</i>	<i>Species</i>	<i>Description</i>
178	911	Oak	Carved 'Taranis' wheel.
179	873	Silver fir	Writing tablet.
180	873	Oak and Ash	?Box-side with ash 'pegs'.
181	873	Sub family Pomoideae	Spatula/tool.
182	873	Oak	Spatula/tool/tent peg?
183	873	Cherry/Blackthorn	Peg.
184	911	Oak	Oval rod/handle.
185	930	Ash	Squared handle?
186	911	Oak	Oval rod/handle.
187	930	Willow/Poplar	Facetted knob.
188	873	Maple	Rod with expanded end.
189	930/873	Oak	Squared stave with mortice hole.
190	911	Oak	Thick fragment of ?board.
191	911	Oak	Squared stave with mortice hole.
192	873	Oak	Weatherboard.
193	873	Oak	Fragment of board/plank.
194	873	Oak	Fragment of board/plank.
195	873	Oak	Fragment of board/plank.
196	873	Ash	Stave with hole.
197	733	Ash	Tree trunk with felling marks.
-	733	Oak	Two fragments of ?board.
-	911	Oak	Fragment of ?board.
-	911	Elder	Charred stem.
-	911	Silver fir/Cedar	Writing tablet frag.
5389	930	Oak	Fragment of ?board.
5387	930	Oak	Bifurcating stem on base of coppice stem – cut in spring or early summer.

(Nos in bold are illustrated pieces, other numbers are the site object numbers – where no number is given the item was extracted from samples rather than hand-collected).

TABLE 47: Worked wooden items from Pit 835.

Thin sections were made using a double-sided razor blade in the transverse, tangential longitudinal and radial longitudinal planes. 70% methyl alcohol was used to aid the sectioning of the freeze-dried wood. The sections were mounted in 50% glycerol on microscope slides and examined using a transmitted-light microscope at magnifications of up to $\times 400$. The anatomical structure was compared with, and matched to, authenticated reference material.

Results

Detailed descriptions of all the identifications, by layer number, are recorded in the Level III archive.

Pit 835

Amongst the mass of fragments of unworked wood and twiggy material were a number of small artefacts and other identifiable worked items. A summary of these has been listed (in context order) in Table 47. The more recognizable of these have been illustrated (Figs 91–95) and reported on separately (p.155ff).

A large number of wood chips were also present, of which the vast majority were *Fraxinus* sp. with fewer *Quercus* sp. and *Salix/Populus* sp. The dimensions of the chips ranged from 50 x 20 x 10 mm up to 150 x 100 x 20 mm and most probably originated from wide stems or branches and trunks. Toolmarks visible on all fragments most probably resulted from iron axe cuts. Although impossible to substantiate, it is probable that many of these originated from the felling and cutting-up of the ash tree **197**. A number of large stems of *Salix* sp., *Populus* sp., *Prunus spinosa*, *Corylus* sp., *Quercus* sp. *Sambucus* sp. and Pomoideae group, all with cut marks to one or more ends, were also identified.

A small number of gnarled and more amorphous pieces were also identified, much of which was *Fraxinus* sp., including pieces with calloused tissue and atypical growth with many knots. This may suggest that some of the wood was from the remnants of coppiced stools or pollards. Many of these more irregular pieces showed signs of charring.

Most of the wood removed from the pit consisted of small 'twiggy' material less than 10 mm diameter, small roundwood and a few larger fragments of roundwood. The small 'twiggy'

material, which probably represented brushwood, mainly consisted of *Fraxinus* sp., Pomoideae group, *Corylus* sp., *Prunus* sp., and *Sambucus* sp. The small roundwood which measured from c.10 to 25 mm in diameter was made up of the following species: *Fraxinus* sp., *Prunus* sp., *Quercus* sp., *Sambucus* sp., *Salix/Populus* sp., *Corylus* sp., *Acer* sp. and the Pomoideae group. The relative incidence of each wood type has been shown in Tables 48 and 49. Most of the small roundwood was in short lengths which were more or less straight and may have been from coppiced wood; a few of the fragments (*Fraxinus* sp., *Quercus* sp. and the Pomoideae group) showed evidence in the form of the typical coppice heel and tool marks, to support this suggestion. The outer surfaces of many samples were abraded but, in the undamaged samples, it was possible to see some variation in the seasonal time of harvesting or natural severing from the parent plant. Some of the *Corylus* sp. and *Quercus* sp. appeared to have been cut or severed in the autumn or winter during dormancy whereas some *Fraxinus* sp. was evidently cut or severed in the middle or late summer. A large number of these samples had charred areas.

The majority of the larger roundwood was either *Fraxinus* sp. or *Quercus* sp. and ranged in diameter from c.25 to 60 mm. Some fragments were fairly straight and from fast-growing plants, suggesting that they may have derived from coppice stools. These fragments showed no signs of charring. The greater proportion of the samples, however, were much more knobbly and some bore lateral shoots. Most had charred areas.

Enclosure 275

Ditch 433: Layer 1208

Two oak logs, c.480 and 530 mm long and up to 100 mm in diameter, had been lacerated with tool marks. The end of one had been sawn and the other had been cut by an axe. In each case there were traces of at least three lateral branches having been removed by axe cuts prior to their use as chopping blocks. Another similar large-sectioned oak trunk/branch with traces of lateral branches had also been cut by an axe, but showed no evidence of any similar lacerations.

Ditch 600: Layer 603

A single stem, c.38 mm long, of *Sambucus* sp. with the remains of five branches was found in the base of the ditch. The lower part has been cut with an axe and the top had rotted away.

Genera Identified

The following genera were all identified amongst the samples taken from the mass of wood and twiggy material and the artefacts in Pit 835 and Enclosure 275.

Angiosperms

ACERACEAE

Acer campestre (maple)

A tall, deciduous tree of both woodland and more open environments with a preference for neutral soils. Historically maple has been coppiced and some ancient stools up to 5 m in diameter are still extant (Rackham 1985). The wood is fairly hard, strong, very even-grained and difficult to split. It was traditionally used to make food containers since the wood is

non-toxic and does not impair the taste.

CORYLACEAE

Corylus avellana (hazel)

Hazel grows in woodland habitats as understorey, often in association with ash (*Fraxinus*) and oak (*Quercus*), and may grow up to 7 m or more in height. It also grows in woodland glades or in more open environments in a more shrubby form. Adequate light is required for flowering and fruiting to occur. Hazel tolerates most types of soil and coppices very easily. Wood from the mature tree trunk does not usually attain dimensions greater than 250 mm in diameter and consequently has limited use. It is, however, an extremely important source of fast-growing, small roundwood when grown as coppice and has been used both as fuel and in hurdle-making.

OLEACEAE

Fraxinus excelsior (ash)

Ash is a tall, woodland tree that tolerates both acid and alkaline soils but it sometimes occurs as a more solitary specimen in hedgerows or growing close to running water. Ash frequently forms mixed woodland with oak. As a light demanding species ash will rapidly colonize open glades. It also coppices easily. The wood is extremely strong, tough and resilient and therefore makes the ideal medium for tool handles. It can be split or cleft easily both in the radial and tangential directions and bends under steam. However, it is not very durable when in contact with the ground. Ash makes excellent firewood (and can be burnt while still green) and charcoal.

FAGACEAE

Quercus spp. (oak)

Oaks prefer a slightly acid soil but often occur on clay horizons overlying chalk. Oak and ash often grow together to form a mixed woodland. Oak is long-lived, sometimes surviving for several hundred years and producing timber of large dimensions. Oak coppices well. Oak timber is probably the most valuable of all British woods. It is hard and strong, and very durable. It can be split easily in both the radial and tangential planes and has proved to be the most important wood for construction work. It makes an excellent fuel as both wood and charcoal. The coppiced rods have been used for fuel and hurdle-making.

POMOIDEAE (Sub-family of Rosaceae – includes a number of small trees)

Crateagus spp. (hawthorn)

Small spiny trees growing in woodland, marginal woodland and in more open areas such as upland scarp where it becomes more shrubby. Hawthorn quickly colonizes cleared areas.

Malus sp. (apple)

Small woodland tree now uncommon in the wild.

Pyrus sp. (pear)

An uncommon and doubtfully native British tree growing in similar situations to apple.

Sorbus aria (whitebeam)

A tree of secondary woodland associated with calcareous soils.

S. aucuparia (rowan)

A tree native to the more northern parts of Britain, often growing on high ground at altitudes up to about 1700 m. It dislikes clay and limestone.

S. torminalis (wild service tree)

A woodland tree usually growing on clay. It is now very rare but previously was common.

These genera respond well to coppicing (Rackham 1990). The wood of all the species referred to above have similar

properties. It is strong, hard and close-grained, and often used to make small tools, cogs, knife handles and the like.

SALICACEAE

Populus spp. (poplar)

Poplar species are tall, non-woodland trees usually growing on fairly rich soil often in meadows. They do not coppice well and tend to sucker. The timber is available in large dimensions but it is soft and rather perishable.

ROSACEAE (*Prunus* spp.)

P. avium (cherry)

A tall woodland tree growing on most types of soil.

P. padus (bird cherry)

A medium-sized, woodland tree mainly confined to the north of Britain and often growing at altitudes up to 650 m.

P. spinosa (blackthorn)

A spiny shrub growing up to 5 m or more in height that quickly colonizes cleared ground and forms dense thickets. These species do not coppice well and tend to sucker (Rackham 1990). The wood of all three species is hard and dense but the dimensions of blackthorn are so slight that the timber is of little consequence except as firewood.

SALICACEAE

Salix spp. (willow)

Willows are arborescent or shrubby in form and usually grow close to running water or on damp or marshy ground. They coppice extremely successfully. The timber is soft and perishable but the coppice rods have traditionally been important for hurdle and basket making.

CAPRIFOLACEAE

Sambucus nigra (elder)

Elder forms a large shrub or small tree which grows in woodlands and hedgerows and on wasteland. It quickly colonizes the nitrogen-rich soils around human habitations. It is possible, but unusual, to coppice elder (Rackham 1990). The wood is very hard but does not usually grow to any large size. The young stems, which have a large central channel of pith, have proved of great practical value for the production of tubes. These can be hollowed out by simply boring away the soft pith. Elder also has considerable insecticidal properties and was frequently grown close to dwellings (Bown 1988).

Conifers

PINACEAE

Abies sp. (fir)

Although firs have a natural distribution in the northern hemisphere they are not native to Britain (some species were introduced in the seventeenth century). They are tall, montane trees growing at high altitudes. The wood is easily split but is susceptible to decay and insect damage.

Cedrus sp. (cedar)

Cedars are forest trees growing on the mountains around the Mediterranean and in the Himalayas. The wood is close-grained, easy to work, resistant to insect and fungal attack, and highly aromatic. In the ancient world cedar was regarded as a precious timber.

Discussion

A large uncovered pit, such as 835, in an open environment will become a natural receptor of debris from the surrounding areas of vegetation and habitation. This particular pit was of unusually large dimensions, and although it appears to have been man-made its function is not at all clear. It was probably partially water-filled during its period of use,

with stone steps leading down one side providing access to the base.

In addition to the accumulation of natural debris (represented by a mass of small twiggy pieces of woody material similar in appearance to broken-up brushwood) there was a large quantity of material which was either artefactual or which showed evidence of tool marks. How these anthropogenically-derived fragments arrived in the pit is more questionable. Some may have entered accidentally but some may have been deposited as waste material. However, the large size of the pit and presence of the steps clearly indicate that its primary function was not a refuse pit although it may have become so at a later period. The discovery of the wooden 'Taranis wheel' (Fig. 91.197) implies that the pit had been the receptor of votive offerings. However, the absence of other similar items would seem to suggest otherwise.

A large number of fragments, particularly the more amorphous pieces and some wood chips, were partially charred. It is unlikely that these had been burnt in the pit itself but were possibly the remains of hearth fires discarded in the pit.

Selection of Wood for Artefacts

Some pieces of wood were clearly recognisable as artefacts, eg. the writing tablet (Fig. 92.179), the 'peg' (Fig. 93.183) and tools (Fig. 93.181 and 182). Other pieces had been worked, eg. the squared stems or rods (Fig. 93.184–186), but their purpose was not obvious.

The specific selection of wood for particular functions is demonstrated by the use of different types of wood for making the component parts of an artefact, for example, the oak side of a (possible) box (Fig. 93.180) that may have been held together with ash pegs. The wooden tools 181 and 182 were made from a member of the Pomoideae group (hawthorn/apple/pear/*Sorbus*) and oak respectively. The wood of both oak and the Pomoideae group is strong and hard, and has been used for tool making since the prehistoric period. The dense, hard wood of cherry or blackthorn was chosen to make the 'peg' 183. The weatherboard (Fig. 94.192) was made of oak, an extremely durable wood particularly when split.

The dependence of ancient man upon plants for economic survival was reflected in the reverence payed to them in his social and religious activities. Many plants were credited with particular powers or associations and some were dedicated to certain deities. The 'Taranis' wheel 178 had been carved from a single piece of oak wood. Oak wood was traditionally used for carving and decorative work but was possibly more significant in this instance, since the oak tree was worshipped in antiquity as a sacred symbol by many cultures throughout Europe, including the Celts (Grigson 1955).

The writing tablets (Fig. 92.179 and Ni) were both made

from non-British softwood. In archaeological material the minute, but critical, diagnostic cell wall features used to separate the two genera *Abies* sp. and *Cedrus* sp. are often obscured by the breakdown of the tissues. The latter tablet (Ni) was identified as *Abies* and, although the more complete tablet (179) may have been similar, it could have been made of *Cedrus*. These small portable articles were most probably imported with the trappings of the Roman legions although they may have been manufactured in Britain from the staves of discarded wine barrels, which were frequently made from silver fir.

Roman writing tablets have been found at many British sites, made from a variety of woods including *Acer* sp. [maple], *Castanea* sp. [sweet chestnut] (Allason-Jones and Bishop 1988), *Alnus* sp. [alder] (Meiggs 1982), *Fagus* sp. [beech], (Gale 1987), *Quercus* sp. [oak] (Keepax 1975) and *Larix* sp. [larch] (Turner 1956).

Firewood

A number of the fragments from the pit were partially charred. These may represent the remains of firewood, but were probably from domestic fires or hearths rather than kilns for industrial activities. The latter usually required very high temperatures which could only be sustained with the use of charcoal fuel, and the material from the pit was clearly not charcoal.

The charred fragments included roundwood pieces with calloused areas, lateral branches and bifurcations (possibly from wayside or woodland gleanings), wood chips with tool marks (remnants from chopping) and what probably represented coppiced material. Several of the fragments in the last category had the typical basal heels that develop on coppice stems; they formed straight rods and bore tool marks.

The charred material included predominantly ash but also oak, hazel, elder, hawthorn/apple/pear/*Sorbus* group, and *Prunus* spp.

Woodcraft Activities

A large number of the woody fragments from the pit show evidence of woodland activities. The high proportion of wood chips from mature timber from either branch or trunk wood (predominantly ash but also some oak) were probably the waste resulting from the use of some type of axe or chopping implement. The remains of the large ash trunk (Fig. 95.197) with tool marks present was found close to the steps and may have grown close to the pit. However, the presence of burnt chips suggests that some may have derived from other sources (hearths etc.).

Two oak trunks/wide branches (Ni) were retrieved from a Ditch 433. These were lacerated over their entire surfaces by some type of axe or chopping tool, giving them the appearance of chopping blocks.

Woodland Management

A number of short lengths of roundwood were found in the pit. As previously noted, some of these had the typical heels that occur at the base of stems growing from coppice stools. In addition, many fragments had oblique tool marks suggesting that they had been severed from the parent plant by slashing. One could fairly confidently speculate that this material mainly represented fragments from coppice stems.

The predominant genera were ash, oak and the Pomoideae group, with hazel less abundant, and *Prunus*, maple, willow/poplar and elder minimally present. The rod diameters ranged from 10–25 mm, and the annual ring counts (collated in groups from 10–15 mm, 15–20 mm and 20–25 mm) showed considerable variation in age within each genus to achieve these diameters (Table 48). This may have been due to variations in the annual climatic conditions. The ash was much slower growing than the other genera and in some instances the stems appeared to have taken almost twice as long to grow to the same proportions as, for example, the oak.

Table 49 indicates the age of the coppice rods at harvesting, and suggests that they were probably gathered on a cyclical basis: oak on a 5–10 year cycle although there may have been a longer cycle for some stools, the Pomoideae group mainly 5–8 years, and the ash on a longer cycle of 11–12 years or more.

The Woody Environment

The genera discussed in the previous section represent species that were selected for woodcrafts of one type or another. The artefacts may have been introduced into the area; the presence of the non-native fir wood writing tablet 179 gives a positive instance of this. However, the coppice wood is more likely to have been grown locally. In addition to the coppice wood a large quantity of small woody debris, or brushwood, was excavated from the pit. The coppice wood and the woody debris were almost certainly derived from the immediate vicinity of the site, and give an indication of the natural woody vegetation. The species identified can be taken to represent the minimum number of woody species, and there may have been other trees or shrubs growing in the locality, which for one reason or another did not find their way into the pit.

The presence of mature oak and ash trees was confirmed by the trunk/branches in Ditch 433 and Trunk 197 respectively. The ash tree may have grown beside the pit. Oak and ash with, perhaps, maple and cherry may have formed a mixed deciduous woodland, possibly with hazel as understorey.

Coppice stools are created by the regeneration of shoots from the severed stumps of immature trees. The clearance of part of the mixed woodland would have given rise to a coppice wood. Maple coppices extremely easily, and its

DIAMETER 20 – 25 mm.

Species	Number of Annual Rings																	
	2	4	5	6	7	9	10	11	12	13	14	15	18	19	21	22	23	24+
<i>Corylus</i>	-	-	-	-	3	1	1	-	-	-	-	-	-	-	-	-	-	-
<i>Fraxinus</i>	-	-	1	2	3	1	1	3	1	-	1	3	1	1	4	2	1	8
Pomoideae	1	-	-	1	1	1	2	-	2	2	-	-	-	-	-	-	-	-
<i>Prunus</i>	-	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Quercus</i>	-	-	5	-	1	-	2	1	3	1	-	-	-	-	-	-	-	-

DIAMETER 15 – 20 mm

Species	Number of Annual Rings														
	4	5	6	7	8	9	10	11	12	13	14	15	17	22	23
<i>Acer</i>	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
<i>Corylus</i>	-	-	1	1	2	1	-	-	-	-	-	-	-	-	-
<i>Fraxinus</i>	-	-	-	-	-	-	1	-	3	1	1	1	3	1	1
Pomoideae	-	-	-	-	1	1	1	1	2	-	-	-	-	-	-
<i>Quercus</i>	1	1	-	-	1	1	2	-	-	-	-	-	-	-	-
<i>Salix</i>	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
<i>Populus</i>															

DIAMETER 10 – 15 mm

Species	Number of Annual Rings																		
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<i>Corylus</i>	-	-	1	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
<i>Fraxinus</i>	-	-	-	-	-	1	3	1	2	5	4	-	-	2	-	1	-	-	1
Pomoideae	-	1	-	3	-	2	8	-	1	-	-	-	-	-	-	-	-	-	-
<i>Prunus</i>	1	-	1	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
<i>Quercus</i>	2	-	3	1	2	2	2	-	2	-	2	1	1	-	-	-	-	-	-
<i>Sambucus</i>	1	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Salix</i>	-	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Populus</i>																			

TABLE 48: Roundwood from Pit 835 showing numbers of annual rings for diameters of 10–15 mm, 15–20 mm and 20–25 mm.

Species	Number of Annual Rings																			
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+	
<i>Acer</i>	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Corylus</i>	-	-	1	2	2	4	3	2	1	-	-	-	-	-	-	-	-	-	-	
<i>Fraxinus</i>	-	-	-	1	2	4	5	3	4	8	8	1	2	6	4	-	1	1	18	
Pomoideae	1	1	-	5	6	3	9	2	4	1	4	2	-	-	-	-	-	-	-	
<i>Prunus</i>	1	-	2	-	3	4	2	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Quercus</i>	2	-	4	7	2	3	3	1	6	-	4	4	3	-	-	-	-	-	-	
<i>Sambucus</i>	1	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Salix</i>	-	1	1	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	
<i>Populus</i>																				

TABLE 49: Roundwood from Pit 835 showing annual rings for diameters 10–25 mm.

minimal presence as coppice rods in the pit suggests that it may not have been common in the area.

Hawthorn may have grown in the wood or in more open aspects where it was probably more shrubby in form, perhaps even growing in hedgerows. Other members of the Pomoideae group such as apple, pear and the wild service tree may also have grown in the more wooded areas. The relatively high proportion of coppice stems in the pit identified as from the Pomoideae group suggests that at least one member of this group grew fairly abundantly.

Blackthorn was also growing in the area, suggesting that open or cleared areas were present, perhaps as scrubland. In common with hawthorn, this spiny species may have been grown as a barrier or hedgerow. Blackthorn is not usually coppiced (Rackham 1990).

Elder is a shrubby species which can attain quite large dimensions. It grows in woodland, scrub and on wasteland, particularly colonizing the nitrogen rich soils around human habitation. The seeds are freely distributed by birds which feed on the berries. Elder may have been coppiced at this site, certainly some fragments showed tool marks, but the minimal presence of obvious coppice rods suggests that it may have been cut from the wild.

Neither willow nor poplar are likely to have grown in the oak/ash wood. These species are generally associated with meadows and water. The taller species of willow (*S. alba* and *S. fragilis*) tend to grow as solitary specimens, whereas goat's willow (*S. caprea*) is shrubby and sometimes forms dense thickets on marshy ground. Poplars are also non-woodland trees. By implication, meadowland or marshy/damp ground was present somewhere fairly close to the site offering the opportunity to coppice or pollard the willows for fuel, hurdlemaking and ties.

Summary

The worked fragments of wood demonstrate a high degree of craftsmanship in the manufacture of the artefacts and, in addition, a good knowledge of the working properties of the woods selected for the individual items. One artefact, at least, was made from non-British timber and was possibly imported from southern or central Europe.

The large quantity of amorphous, woody fragments suggests that a varied environment existed around the site including wooded areas and more open regions perhaps with damp or marshy ground in parts. An area of managed coppice woodland also seems a strong possibility.

DITCH SEDIMENTS

J. Crowther

Introduction

Sediment from Ditches 433 and 600 of the Roman Enclosure 275 and Ditch 1600 of the late Iron Age Enclosure 1999 (Fig. 117), were examined with a view to characteris-

ing the materials present and elucidating the environmental conditions under which they formed. The samples analysed were taken at 40 mm intervals down a column in a cut section of each ditch (Fig. 137) – sample column 185 (Ditch 433: S 1078), 187 (Ditch 600: S 893) and 189 (Ditch 1600: S 1965). Samples of modern subsoils from locations adjacent to the cut sections were also analysed.

Attention focused on three properties:

- (i) Loss-on-ignition (**LOI**) at 375° C for 16 hrs (Ball 1964).
- (ii) Low frequency magnetic susceptibility (χ).
- (iii) Total phosphorus (**Phosphate-Pt**), determined by alkaline oxidation with NaOBr using the method described by Dick and Tabatabai (1977).

LOI provides an indication of organic matter concentration. Relatively high concentrations in ditch deposits may result from either the inwash of topsoil, or the *in situ* accumulation of organic residues as a consequence of plant growth within the ditch. Indeed, in a damp ditch environment some organic mud or peat build-up might be expected during pauses in the accumulation of minerogenic sediments. Enhanced χ in sediments is associated with alternating reduction-oxidation conditions and is indicative of burning or, more generally, with the higher levels of microbial activity that occur in topsoils as compared with subsoils (Tite and Mullins 1971; Allen 1988). Phosphates, which are present in all organic matter (including plant material, excreta and urine), tend to be relatively insoluble and tend to become 'fixed' within soils and sediments. Phosphate-Pt variations down a sediment sequence may therefore provide some insight into intensities of former human activity on a site and into the history of land-use change. It must be noted, however, that all three ditches are complex in structure, with several recuts. Since it is reasonable to assume that much of the spoil generated in their creation would have been banked up alongside the ditches, the fills of the recut sections necessarily comprise material which is at least in part derived from earlier ditch fills. Potentially, therefore, the more recent deposits may display a cumulative enhancement of phosphate-Pt and χ resulting from their repeated exposure. Consequently caution must be exercised in interpreting the results.

In addition to these properties, particle size and pH were determined for a number of samples representative of particular layers identified in the cut sections. On calcareous parent materials, such as those present at Wavendon Gate, leaching of topsoils renders them less alkaline than the subsoils (in which the ditches are cut and of which the bulk of the adjacent bank material is composed).

Results and Discussion

The results from the three columns are summarised in Fig. 138, and these are discussed in relation to the various layers identified in each ditch section (Fig. 137). Full analytical data are presented in Appendix V.

General Character of the Subsoils and Sediments

The subsoils on the site are calcareous loams/sandy loams, with pH values in the range 8.2–8.5. They have characteristically low LOI (range, 1.50–1.99%), phosphate-Pt (0.870–1.43 mg g⁻¹) and χ (0.060–0.079 mm³ kg⁻¹) values. The ditch fills, by comparison, have higher LOI figures, mostly between 2.0 and 3.5%. However, none of the sediments is particularly organic-rich, suggesting that the ditches were well drained and provided no opportunity for the build-up of peat lenses or organic muds. Furthermore, there are no peaks in LOI in the ditch fills analysed to indicate any significant pauses in sediment accretion. All the sediments display evidence of phosphate and χ enhancement. Those from Ditch 600 are notable in this respect, with the majority of samples having phosphate-Pt concentrations of 3.0–4.5 mg g⁻¹, and χ values of 0.4–0.7 mm³ kg⁻¹.

Ditch 433: S 1078 (Sample 185)

Ditch 433 is a major boundary ditch forming the western edge of the large Enclosure 275 (Fig. 17). There is evidence of several recuts throughout the Roman period. S 1078 shows clear evidence of at least two recuts. The column sampled is interpreted as comprising the primary fill (Layer 1172) and lower part of the secondary fill (Layer 1089) of the original ditch, together with the fill (Layer 1088) of the second recut. On the basis of artefactual evidence Layer 1088 is tentatively divided into two parts: 1088a, comprising largely late Roman material, and 1088b, Saxon material.

Layer 1172 (below 850 mm)

Dark greyish brown (10YR4/2) sandy clay loam. The lowermost sample (1000 mm) has LOI (2.01%), phosphate-Pt (1.24 mg g⁻¹) and χ (0.062 mm³ kg⁻¹) values that are almost identical to the modern subsoil, and is clearly the product of the initial erosion/collapse of the freshly exposed ditch walls and bank material. The remaining samples have somewhat higher LOI figures (range 2.08–2.45%) and enhanced levels of phosphate-Pt (1.60–2.11 mg g⁻¹) and χ (0.194–0.449 mm³ kg⁻¹). This suggests some localised, short-term topsoil input, which may simply reflect material falling into ditch at the time it was created.

Layer 1089 (850–410 mm)

Dark yellowish brown (10YR4/4) sandy clay loam. These sediments show a gradual increase in LOI (from c.2.1 to 2.8%) and phosphate-Pt (c.1.8 to 2.5 mg g⁻¹) up the section, which is indicative of the progressive stabilisation of the ditch wall and bank material. What is unusual, however, is that χ remains generally low (<0.3 mm³ kg⁻¹) and falls below 0.2 mm³

kg⁻¹ in the top half of the layer. This suggests that topsoil input was very limited at this stage. Indeed, the small increases in LOI and phosphate-Pt recorded in this layer could be largely the product of plant growth and proto-soil development on bank and ditch walls, which raises the possibility that the ditch itself was closed to external inputs (perhaps with raised banks on either side?).

Layer 1088 (above 410 mm)

Dark brown (10YR3/3) sandy clay loam, merging into very dark greyish brown (10YR3/2) sandy clay loam at top of section. Although distinguished from the underlying sediments by their colour and by an increase of χ (range 0.198–0.544 mm³ kg⁻¹), there is no significant break in the LOI or phosphate-Pt trends corresponding with the line of the second recut. The phosphate-Pt result is particularly surprising in view of the complex evolution of the sediments which form this layer, and suggests that little phosphate enhancement occurred on this part of the site prior to the time of the second recut. On the basis of the parameters measured, no clear subdivision may be made within Layer 1088. In terms of LOI, the sediments above 300 mm have consistently higher values (range 3.44–3.58%) than those below. Phosphate-Pt concentrations, on the other hand, appear to decrease slightly (range 2.24–2.47 mg g⁻¹) in the topmost 160 mm, but in view of the marked variability of the phosphate data down the section, it would be unwise to place too much confidence in this. How these possible break points relate to the artefactual evidence is uncertain. What is clear, however, is that there does not appear to have been a hiatus in sediment accumulation within 1088. Thus, Layers 1088a and 1088b appear to have formed as part of a single episode of sediment accretion.

Ditch 600: S 893 (Sample 187)

Ditch 600 formed the eastern boundary ditch of the large Enclosure 275 (Fig. 17). S 893 shows an initial V-shaped ditch cut by a broad bowl-shaped ditch. The column sampled is confined to the primary (Layer 895) and secondary fill (Layer 894) of the initial ditch.

Layer 895 (below 980 mm)

Greyish brown (10YR5/2) loam. Typical basal sediments occur below 1110 mm, with low LOI values (range 1.97–2.43%), and little phosphate-Pt or χ enhancement. However, phosphate-Pt (range 2.37–3.58 mg g⁻¹) and χ (0.211–0.355 mm³ kg⁻¹) increase through the

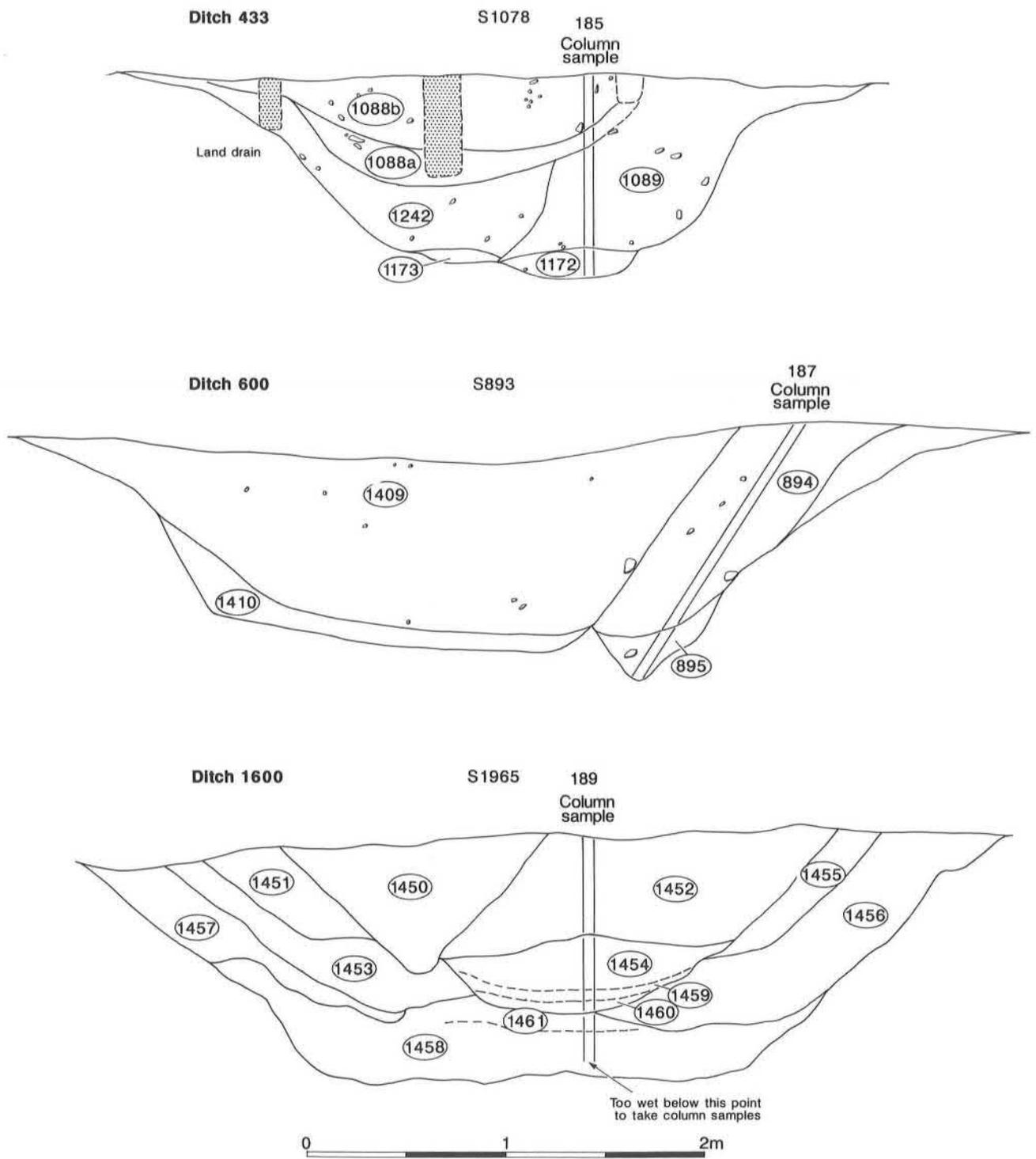


Figure 137: Ditch sections 1078, 893 and 1965 used for sediment analysis.

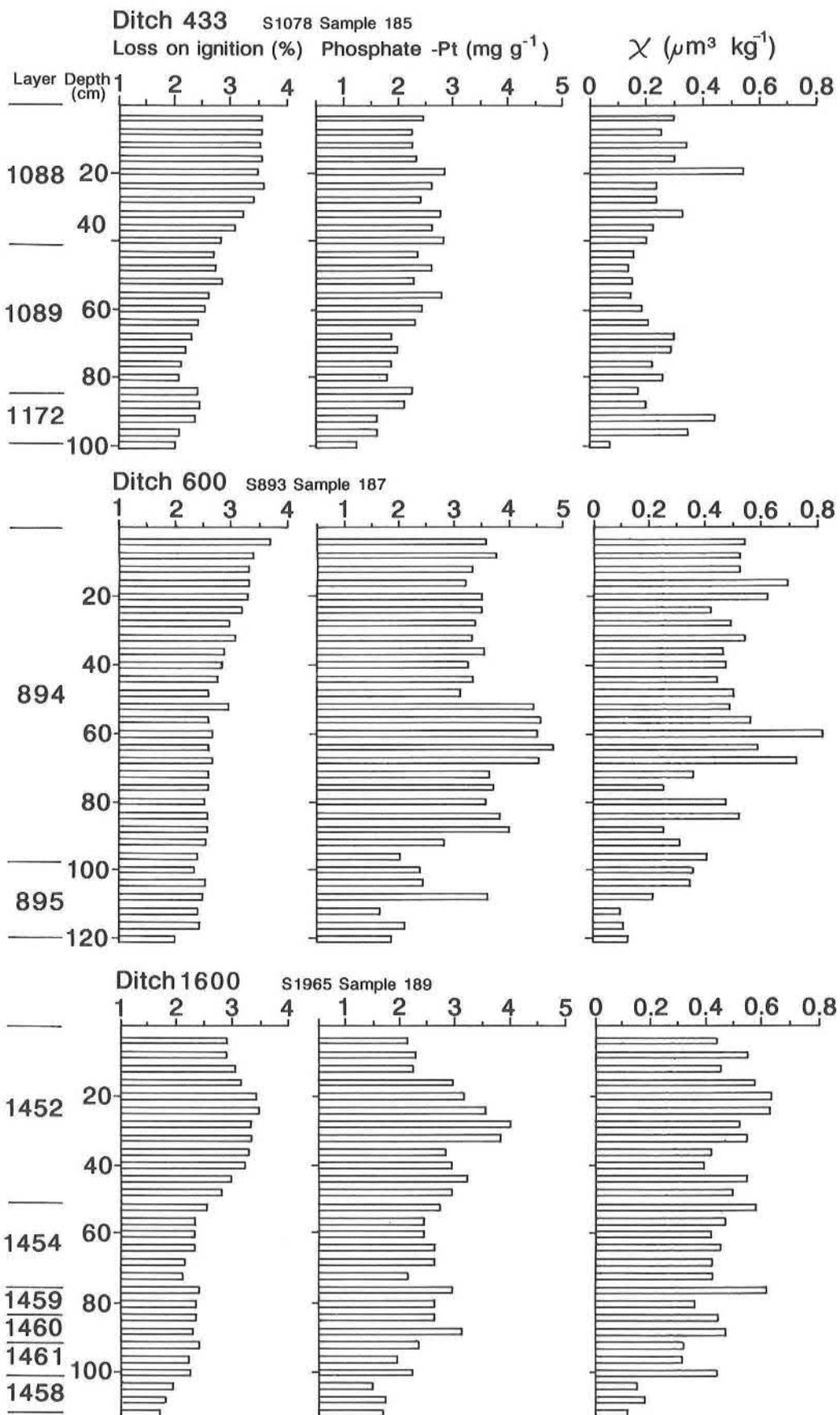


Figure 138: Variations in LOI, Phosphate-pt and χ down the three ditch sections.

upper part of the layer, possibly as a result of stabilisation of the ditch/bank sides.

Layer 894 (above 980 mm)

Dark yellowish brown (10YR4/4) sandy clay loam. This layer, which is homogeneous in appearance, displays very little change in texture or pH up the section. LOI increases regularly from *c.*2.5% at the base to *c.*3.5 at the top. However, the striking features of this layer are the consistently high levels of phosphate-Pt recorded throughout the topmost 900 mm, and the high χ levels above 700 mm (Fig. 138). Enhancement of this magnitude is especially significant in that these sediments are from the initial ditch and have not therefore been subject to cumulative enhancement. This suggests, therefore, that the land adjacent to this ditch was quite intensively used in terms of either human occupation or agricultural activity (eg. manuring), and that there was fairly free sediment transfer into the ditch. Between 700 and 500 mm there is a phase of a particularly high phosphate-Pt input (range 4.43–4.78 mg g⁻¹). Peak χ values were also recorded in these sediments. The rapid rise in phosphate-Pt at the beginning of this episode may be attributable, directly or indirectly, to increased levels of human activity. However, the suddenness with which the phosphate values fall above 500 mm is unusual. Normally, there would be a gradual decline, as the accumulated reserves of phosphate on adjacent land surfaces would continue to influence the chemistry of sediments entering the ditch for many years after a reduction or cessation of activity on a site. One possibility is that the 'catchment area' of the ditch was modified as a result of nearby ditch/bank construction, etc. Alternatively, it may reflect renewed minerogenic input following bank disturbance, though this is difficult to reconcile with the general increase in LOI observed through the upper half of Layer 895.

Ditch 1600: S 1965 (Sample 189)

Ditch 1600 is a major boundary ditch forming the western edge of a late Iron Age rectangular Enclosure 1999 (Fig. 13). The ditch was subsequently recut and may have continued in use until at least the Belgic period. S 1965 reveals as many as four recuts, but Column 189 only includes sediments from the initial ditch (Layers 1458 and 1461) and penultimate recut (Layers 1460, 1459, 1454, and 1452). It should be noted that only the upper part of Layer 1458 was sampled.

Layer 1458 (below 1010 mm)

Dark greyish brown (10YR4/2) sandy loam. This layer has low LOI (1.65–1.88%), phos-

phate-Pt (1.43–1.69 mg g⁻¹) and χ (0.102–0.254 mm³ kg⁻¹) values, similar to those recorded in the modern subsoil adjacent to the section, and is a typical product of bank erosion/collapse following the initial cutting of the ditch.

Layer 1461 (1010–910 mm)

Yellowish brown (10YR5/4) mottled sandy loam. This layer has generally higher LOI (2.18–2.37%), phosphate-Pt (1.93–2.32 mg g⁻¹) and χ (0.304–0.402 mm³ kg⁻¹) figure than the underlying basal sediment. This is indicative of either an increase in the relative proportion of topsoil input into the ditch (from adjacent land surfaces), or the growth of vegetation in the ditch and/or on the bank side(s). These features are characteristic of secondary fill.

Layers 1460, 1459 and 1454 (910–510 mm)

Although differing in colour (1460 – yellowish brown, 10YR5/4; 1459 – brown/dark brown, 10YR4/3; and 1454 – dark yellowish brown, 10YR4/4), the texture and physical and chemical properties of these three layers are very similar. They are sandy clay loams, with sand and clay concentrations of 60–63% and 21–24%, respectively. The uniform and relatively low LOI values (2.10–2.54%) suggest that these layers are the primary fill of the recut ditch. Phosphate-Pt (2.11–3.08 mg g⁻¹) and χ (0.352–0.608 mm³ kg⁻¹) are generally higher than Layer 1461, possibly reflecting cumulative enhancement within these reworked sediments.

Layer 1452 (above 510 mm)

Dark brown (10YR3/3) sandy clay loam. Generally finer-textured (sand, 48–56%; clay, 26–30%) than the underlying sediments. LOI increases markedly from 2.54% at 520 mm to a peak of 3.30–3.45% between 360 and 200 mm, before falling steadily to 2.93% at the top of the section. The LOI trends are closely paralleled by phosphate-Pt, which rises to over 3.5 mg g⁻¹ between 320 and 240 mm, and to a lesser extent by χ (Fig. 138). The increases observed through the lower part of Layer 1452 are consistent with the stabilisation of the bank and a corresponding increase in the relative proportion of sediments derived from the topsoils of adjacent fields. Indeed, of the samples analysed, that at 200 mm has the lowest pH (7.12), which is also consistent with there being a significant topsoil (leached) component. The reason for the decrease in LOI, phosphate-Pt and χ at the top of the

<i>Lab No.</i>	<i>Context</i>	<i>Material</i>	<i>Age BP</i>	<i>Calibrated Range AD</i>	
				<i>1 sigma</i>	<i>2 sigma</i>
UB-3409	Inhum. 942	Human bone	1676±46	263–416	244–440
UB-3467	Inhum. 213	Human bone	1616±49	393–450	266–550

Calibrated age ranges at 1 and 2 sigma obtained from intercepts using *Method A* of Stuiver and Pearson (1986)

TABLE 50: Summary of C-14 dates.

section is uncertain. However, the very pronounced reduction in phosphate-Pt from 3.98 mg g⁻¹ at 280 mm to 2.15 mg g⁻¹ at 40 mm indicates a significant change in the chemical composition of the sediments entering the ditch. In contrast to Layer 895 in Ditch 600 (above), the reduction in phosphate-Pt is progressive, with no sharp break. This tends to point towards either a reduction in land use intensity (e.g. manuring) or the abandonment of nearby occupation areas as likely causes, rather than any more direct form of intervention upon the immediate bank/ditch environment or its catchment.

RADIOCARBON DATING

Human bones from Inhumations 942 (p.46) and 213 (p.82) were submitted, following their examination by a skeletal pathologist (p.236), to Queens University of Belfast Radio-

carbon Research Laboratory. Both samples (UB–3409 and UB–3467) were submitted to determine whether the burials from which they derived were of Roman or later date. Whilst Inhumation 942 contained a small pottery vessel it was otherwise isolated from the main group of inhumations. Inhumation 213, along with the nearby Burials 211 and 215, contained no dating evidence, although at the time of excavation they were presumed to be of late Roman date.

Table 50 summarises the results of the determinations and clearly confirms that both burials were of later Roman date. In the case of Inhumation 942, since it is unlikely to have been interred any earlier than the middle of the third century, its apparent association with what was clearly an earlier cremation cemetery may be coincidental. Alternatively, whilst the inhumation is later than all the cremations, this may suggest that the site of the cemetery was marked in some way or was at least known to the inhabitants of the site, perhaps up to a century after the last cremation was interred.

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APPENDICES

APPENDIX I

Coin Catalogue

(Coins from unstratified Context 34 derived from the field surface prior to the commencement of excavation)

No.	Issuer	Type	Denom.	Ref.	Date	Mint	Dia.	SFNo.	Cont.	Feature
1	Cunobelin	Obv: [CVNOBELIN]VS RIX Rev: TASC, bull butting r.	Bronze	Mack: 246	AD 20-43	-	16	141	590	Ditch 590
2	Vespasian	Mars, hold. trophy and spear	Den.	RIC 103	69-79	-	19	46	36	Unstrat.
3	Vespasian	Eagle on globe	As	as RIC 747	69-79	-	28	108	36	Unstrat.
4	Domitian	Illegible	Sest.	-	81-96	-	31	377	982	Ditch 863
5	Trajan	Illegible	Sest.	-	98-117	-	30	109	36	Unstrat.
6	Trajan	S.P.Q.R OPTIMO PRINCIPI S.C	As	as RIC 536	103-11	Rome	28	149	738	Hollow 900
7	Hadrian	Roma seated l.	Sest.	-	117-38	-	33	219	2065	Hollow 900
8	Hadrian	SALVS AVG	Den.	as RIC 736	119-38	Rome	17	130	500	Unstrat.
9	Hadrian	RESTITVTORI []	Sest.	-	134-38	-	34	225	500	Unstrat.
10	Hadrian	Illegible	Sest.	-	117-38	-	36	200	2065	Hollow 900
11	Sabina	CONCORDIA AVG	Sest.	RIC 1026	117-37	Rome	30	145	2065	Hollow 900
12	Ant. Pius	Illegible	Sest.	-	138-61	-	30	133	500	Unstrat.
13	Ant. Pius	(comm)DIVO PIO	Sest.	-	161-80	Rome	32	50	223	Ditch 579
14	Marcus Aurelius	Stg. fem. fig. l.	Sest.	-	161-80	Rome	28	249	905	Pit 835
15	Marcus Aurelius	Fortuna seated l.	Dup.	-	161-80	Rome	26	398	500	Unstrat.
16	Marcus Aurelius	Aequitas	Sest.	-	161-80	Rome	30	144	2065	Hollow 900
17	Marcus Aurelius	RESTITVTORI ITALIAE IMP []	Sest.	RIC 1077	161-80	Rome	33	150	730	Hollow 900
18	Marcus Aurelius	P.M.TR.P.XVII[]	Sest.	-	162-63	Rome	30	197	600	Ditch 600
19	Marcus Aurelius	Pax	Sest.	-	175	Rome	32	54	120	Ditch 590
20	Faustina II	Illegible	As/Dup.	-	147-75	Rome	25	198	738	Hollow 900
21	Faustina II	Illegible	Dup.	-	147-75	Rome	22	85	34	Unstrat.
22	Commodus	Dionysus with panther and sceptre	Sest.	-	180-92	Lydia	31	399	500	Unstrat.
23	Elagabalus]ANTÛNINOC AYÁKIA[As	-	218-22	Cius (Bithynia)	24	206	500	Unstrat.
24	Julia Maesa	SAEVL FELICITAS	Dup.	RIC 421	218-25	-	18	171	1045	Unstrat.
25	Gordian III	Emp. stg. r., with spear & globe	As/Dup.	RIC 259a	238-44	-	21	172	1045	Unstrat.
26	Gallienus	AEQVITAS AVG	Ant.	RIC 159	260-68	-	22	397	500	Unstrat.
27	Salonina	FECVNDITAS AVG	Ant.	RIC 5	260-68	-	20	137	756	Hollow 900
28	Victorinus	SALVS AVG	Ant.	RIC 67	268-70	-	21	26	15	Ditch 15
29	Victorinus	Illegible	Ant.	-	268-70	-	19	376	500	Unstrat.
30	Claudius II	Illegible	Ant.	-	268-70	-	17	396	500	Unstrat.
31	Claudius II	Illegible	Ant.	-	268-70	-	19	212	500	Unstrat.
32	Claudius II	Standing fig. l.	Ant.	-	268-70	-	15	138	590	Ditch 590
33	Tetricus I	HILARITAS AVGG	Ant.	RIC 79	270-73	-	19	250	905	Pit 835
34	Tetricus II	HILARITAS AVGG	Ant.	RIC 232	270-73	-	19	207	500	Unstrat.
35	Barb. rad.;Victorinus	Illegible	-	-	270-84	-	17	260	726	Hollow 900
36	Barb.rad.:	DIVO CLAUDIO Eagle, CONSECRATIO	-	-	270-84	-	17	193	500	Unstrat.
37	Barb.rad.;	Tetricus SPES AVG	-	-	270-84	-	11	217	500	Unstrat.
38	Barb.radiate	Illegible	-	-	270-84	-	16	242	500	Unstrat.
39	Barb.radiate	Illegible	-	-	270-84	-	frag	146	756	Hollow 900
40	Barb.radiate	Illegible	-	-	270-84	-	15	97	34	Unstrat.
41	Maximianus	GENIO POPVLI ROMANI	Fol.	RIC 286	297-306	London	26	151	756	Hollow 900
42	CONSTANTINOPOLIS	Victory on prow	Fol.	HK1.52	330-35	Trier	16	196	500	Unstrat.
43	CONSTANTINOPOLIS	Victory on prow	Fol.	HK1.196	330-35	Lyons	17	395	500	Unstrat.
44	VRBS ROMA	Wolf and twins	Fol.	-	330-35	Lyons	17	186	405	Unstrat.
45	VRBS ROMA	Wolf and twins	Fol.	-	330-35	-	17	86	34	Unstrat.
46	VRBS ROMA	Wolf and twins	Fol.	-	330-35	-	14	231	641	Ditch 591
47	H. of Constantine	GLORIA EXERCITVS, 2 st.	Fol.	-	330-35	Trier	16	140	500	Unstrat.
48	H. of Constantine	GLORIA EXERCITVS, 2 st.	Fol.	-	330-35	-	14	210	500	Unstrat.

No.	Issuer	Type	Denom.	Ref.	Date	Mint	Dia.	SFNo.	Cont.	Feature
49	H. of Constantine	GLORIA EXERCITVS, 2 st.	Fol.	–	330–35	–	16	394	500	Unstrat.
50	Constantinopolis	Victory on prow	<i>irreg.</i>	–	c.330–40	–	13	194	883	Ditch 883
51	Constans	GLORIA EXERCITVS, 1 st.	Fol.	HK1.131	337–41	Trier	16	375	824	Ditch 600
52	H. of Constantine	GLORIA EXERCITVS, 1 st.	Fol.	–	335–41	–	13	113c	36	Unstrat.
53	H. of Constantine	GLORIA EXERCITVS, 1 st.	Fol.	–	335–41	–	15	157	500	Unstrat.
54	Constans	VICTORIAE DD AVGG Q NN	Fol.	–	335–41	–	16	124	405	Unstrat.
55	Magnentius	VICTORIAE DD NN AUG ET CAE	–	–	351–53	–	14	174	1045	Unstrat.
56	Magnentius	VICTORIAE DD NN AVG ET CAE	–	HK2.17	351–53	Amiens	23	185	405	Unstrat.
57	Constantius II	FEL TEMP REPARATIO,fallen horseman	–	HK2.75	353–54	Trier	18	237	1043	Ditch 475
58	H. of Constantine	FEL TEMP REPARATIO,fallen horseman	–	–	353–55	–	20	88	34	Unstrat.
59	Constans	FEL TEMP REPARATIO,fallen horseman	–	–	353–55	–	15	211	500	Unstrat.
60	Constantius II	FEL TEMP REPARATIO,fallen horseman	<i>Irreg.</i>	–	354–64	As Trier	15	89	34	Unstrat.
61	H. of Constantine	FEL TEMP REPARATIO,fallen horseman	<i>Irreg.</i>	–	354–64	–	13	87	34	Unstrat.
62	H. of Constantine	FEL TEMP REPARATIO,fallen horseman	<i>Irreg.</i>	–	354–64	–	15	90	34	Unstrat.
63	H. of Constantine	FEL TEMP REPARATIO,fallen horseman	<i>Irreg.</i>	–	354–64	–	10	128	1190	Ditch 433
64	H. of Constantine	FEL TEMP REPARATIO,fallen horseman	<i>Irreg.</i>	–	354–64	–	17	135	500	Unstrat.
65	Valens	GLORIA ROMANORVM	–	HK2.282	364–67	Lyons	19	374	824	Ditch 600
66	Valens	SECVRITAS REIPVBLICAE	–	HK2.356	367–75	Lyons	18	153	500	Unstrat.
67	Valens	GLORIA ROMANORVM	–	HK2.513	367–75	Arles	18	183	405	Unstrat.
68	Valens	GLORIA ROMANORVM	–	–	364–78	Arles	19	28	1	Unstrat.
69	Valens	GLORIA ROMANORVM	–	–	364–78	Arles	18	65	167	Roundhouse913
70	H. of Valentinian	GLORIA ROMANORVM	–	–	364–78	Siscia	16	91	34	Unstrat.
71	Valentinian I/II	GLORIA ROMANORVM	–	–	364–78	Lyons/Arles18	92	34	Unstrat.	
72	Gratian	GLORIA ROMANORVM	–	–	364–78	–	18	159	500	Unstrat.
73	Valens	GLORIA ROMANORVM	–	–	364–78	–	19	129	1190	Ditch 433
74	H. of Valentinian	GLORIA ROMANORVM	–	–	364–78	–	20	111	36	Unstrat.
75	Valentinian I/II	GLORIA ROMANORVM	–	–	364–78	–	17	134	500	Unstrat.
76	H. of Valentinian	SECVRITAS REIPVBLICAE	–	–	364–78	–	18	64	130	Ditch 571/588
77	Valens	SECVRITAS REIPVBLICAE	–	–	364–78	–	18	195	500	Unstrat.
78	Valentinian II	VOT/XV/MVLT/XX	–	–	378–83	–	15	93	34	Unstrat.
79	Illegible	Illegible	Sest.	–	1st/2nd	–	32	30	34	Unstrat.
80	Illegible	Illegible	Sest.	–	1st/2nd	–	31	132	579	Ditch 579
81	Illegible	Illegible	Sest.	–	1st/2nd	–	32	181	405	Unstrat.
82	Illegible	Illegible	As/Dup.	–	1st/2nd	–	27	136	738	Hollow 900
83	Illegible	Illegible	As/Dup.	–	1st/2nd	–	26	158	600	Ditch 600
84	Illegible	Illegible	As/Dup.	–	1st/2nd	–	25	192	600	Ditch 600
85	Illegible	Illegible	As/Dup.	–	1st/2nd	–	26	218	838	Ditch 838
86	Illegible	Illegible	As/Dup.	–	1st/2nd	–	25	220	2065	Hollow 900
87	Illegible	Illegible	Ant.	–	3rd cent	–	17	96	34	Unstrat.
88	Illegible	Illegible	Ant.	–	late 3rd	–	19	110	36	Unstrat.
89	Radiate – illegible	Salus Aug?	Ant.	–	late 3rd	–	21	180	405	Unstrat.
90	Radiate	Illegible	Ant.	–	late 3rd	–	19	278	756	Hollow 900
91	Illegible	Illegible	–	–	3rd/4th	–	15	94	34	Unstrat.
92	Illegible	Illegible	–	–	3rd/4th	–	18	95	34	Unstrat.
93	Illegible	Illegible	–	–	3rd/4th	–	14	209	500	Unstrat.
94	Illegible	Illegible	–	–	3rd/4th	–	18	262	724	Ditch 513/568
95	Illegible	Illegible	–	–	3rd/4th	–	18	173	1045	Unstrat.
96	Illegible	Illegible	–	–	4th cent	–	9	84	1	Unstrat.
97	Illegible	Illegible	–	–	4th cent	–	11	98	34	Unstrat.
98	Illegible	Illegible	–	–	4th cent	–	11	99	34	Unstrat.
99	Illegible	Illegible	–	–	4th cent	–	16	100	34	Unstrat.
100	Illegible	Illegible	–	–	4th cent	–	14	101	1	Unstrat.
101	Illegible	Illegible	–	–	4th cent	–	10	102	1	Unstrat.
102	Illegible	Illegible	–	–	4th cent	–	15	112	36	Unstrat.
103	Illegible	Illegible	–	–	4th cent	–	10	175	1045	Unstrat.
104	Illegible	Illegible	–	–	4th cent	–	13	184	405	Unstrat.
105	Illegible	Illegible	–	–	4th cent	–	12	199	905	Pit 835
106	Illegible	Illegible	–	–	4th cent	–	14	215	1041	Ditch 475
107	Illegible	Illegible	–	–	4th cent	–	10	244	500	Unstrat.
108	Illegible	Illegible	<i>Irreg.</i>	–	late 4th	–	9	182	405	Unstrat.
109	Coin blank?	–	–	–	3rd/4th	–	12x3	267	724	Ditch 513/568
110	Charles I	FRA ET HIB REX (Richmond–Round)	AeFrTk	–	1625–34	–	16	113a	36	Unstrat.
111	Charles I	Illegible	AeFrTk	–	1634–44	–	13	113b	36	Unstrat

APPENDIX II

Bronze Toggles of Southern British Type

<i>Glastonbury, Somerset</i>	Bulleid and Gray (1911) 220, fig. 44, E92, E251.
<i>Meare, Somerset</i>	Bulleid and Gray (1953) 215–216, pl.xlvi, E26, E125. Coles (1987) fig. 3.12, E76.
<i>Hod Hill, Dorset</i>	Richmond (1968) 26–8, fig. 17a.
<i>Hengistbury, Hampshire</i>	Bushe–Fox (1915) 61, pl.xxix, 9. Cunliffe (1987) 153, ill.111, 46.
<i>Colchester, Essex</i>	Bulleid and Gray (1911) 220 from B.M. Whincopp Coll. (Sale 1856)
<i>Eastburn, Yorkshire</i>	Stead (1979) fig. 34.6.
<i>Marshfield, Gloucs</i>	Blockley (1985) 162–3, fig. 50.54.
<i>Lamyatt Beacon, Somerset</i>	Leech (1986) 321–3, fig. 37.26.
<i>Midsummer Hill, Hereford</i>	Stanford (1981) fig. 57.2.
<i>Fishbourne, Sussex</i>	Cunliffe (1971) 126, fig. 53.188.
<i>Wigston, Leicestershire</i>	Rutland (1988) 405–6.
<i>Unprovenanced, Suffolk</i>	<i>The Searcher</i> , May 1993, Issue 93, 28.
<i>Unprovenanced</i>	<i>Treasure Hunting</i> , April 1984, 59.
<i>Unprovenanced</i>	<i>The Searcher</i> , March 1991, Issue 67, 41.

APPENDIX III

Roman pottery fabrics

During the cataloguing of the Roman coarse pottery, a number of new fabrics were identified which had not been previously recorded at the time of publication in 1989 of Pauline Marney's detailed analysis of Roman pottery from sites elsewhere in Milton Keynes. In addition new forms and, in some cases, other characteristics were noted concerning previously recorded fabrics. The following catalogue lists and describes both these new fabrics (denoted by **bold** type) and the new information on known fabrics. In each entry the fabric has been described and then commented upon.

In several instances the new fabrics, identified at Wavendon Gate, had been given different fabric numbers by Pauline Marney during work on the Bancroft Villa and 'Mausoleum' pottery assemblages (Marney 1994). These 'alternative' Milton Keynes fabric series numbers have been prefixed by MK and are denoted in parentheses after each fabric description (where applicable).

Fab. 2e Recognisable as a pink grogged fabric with the usual characteristics, but with less grog. However, throughout the whole there is abundant fine fossil shell with a scatter of sub-angular quartz and a few larger shell pieces. The fabric is reasonably hard and the inclusions are quite fine.

Vessel forms in this Fabric 2 variation are probably similar to those usually associated with soft pink grogged wares. This fabric is found sparsely both at *Magiovinium* (Neal 1987) and at Wavendon Gate. A few body sherds from jar forms were found in late second to third-century deposits.

Fab. 2f A variation of a pink grogged fabric, but with large visible black-grey inclusions. These seem to be of mineral origin and vary in size up to 1.5 mm across. The section showed fine fossil shell throughout.

Two jars only; one with linear 'wave' decoration. Date as Fabric 2e.

Fab. 2g This fabric was reduced throughout. In section the grog is quite fine and moderate with some visible quartz. Surfaces are paler than the core. The fabric is quite hard and well-made and is probably related to Fabrics 47ab and 47j.

The vessel range at Wavendon Gate differed from other Milton Keynes sites, where forms had been mainly storage jar types. Some vessels from insecure contexts could not be dated, and others varied in date from the mid-first to the third and fourth centuries, but the majority appeared to be of second-century date. Of the 156 rims and sherds in this fabric, twelve were jars with a wide variation in rim form. A first-century butt-beaker was found in Layer 610 of Ditch 533 near to Kiln 559. Elsewhere, two narrow necked jars and a dish form dated to the late second century. Decoration varied from simple grooves to stabbed or incised patterns.

Fab. 14/33 See Marney (1989, 180) for description.

A ring-necked flagon is a new form in this fabric.

Fab. 15b Pale grey soft fabric, easily abraded and micaceous. Core colour is similar to the surfaces with buff/pink margins. The section shows a fine dense fabric with sparse inclusions of quartz, limestone, red iron and some voids.

Bowls with compass inscribed or other geometrical decoration as found on 'London' ware.

Fab. 18d Fine cream gritty fabric, sandy to touch, sometimes easily abraded with fine quartz and some larger pieces in section. Smudgy elongated black and orange/red inclusions in the section and visible on surfaces. (MK18a)

One rouletted butt-beaker, rim and sherds, in form Cam. 113 found in Layer 756.

Fab. 18j Hard thin sandy fabric, cream throughout with small quartz and red iron particles, evenly distributed through the section and some larger pieces up to 1 mm across visible on the surface. (MK18a)

Possibly Colchester or Gallo-Belgic import butt-beakers. Cam. 113 form rims found in Layers 761 and 778.

Fab. 22a Harsh buff fabric with visible gold mica and quartz, shell and black inclusions. Hard and well made.

Probably an amphora fabric. Only one rim found.

Fab. 22b Oxidised fabric with evenly sized coarse quartz throughout section and a few larger pieces. Harsh sandy surfaces. The core is buff coloured with orange-red margins.

Sherds only; perhaps an amphora fabric.

Fab. 26 *Terra nigra*. Mid-grey fabric with burnished surfaces. Smooth in fracture with evenly distributed fine quartz throughout and an occasional larger red or black inclusion.

One platter rim; Cam. form 15 date range, c.AD. 43-61.

Fab. 26a This fabric copied *Terra nigra* both in form and finish with a good burnish remaining. Surfaces and core are micaceous, mid-grey in colour, paler in section, smooth in fracture. Traces of fine shell and a scatter of sparse red or black iron particles are visible in a sandy core. The vessel fabric is close to genuine *Terra nigra* and only the finish on the platter identified it as a copy.

One platter only; with a roughly-made groove below the rim interior and around centre base. Such platter forms were copied and produced in Fabric 6a at Cirencester c.AD. 50-85, perhaps brought in from the south-west (V. Rigby pers. comm.).

Fab. 34a Thin sandy eggshell fabric, pale brown throughout with mica gilded surfaces. In section the core shows a sparse scatter of white rounded quartz and occasional iron, but the whole fabric contains plates of gold mica. This fabric was originally given a separate number (34g), but the similarity of the inclusions and construction indicates that it is a variation of 34a. However, as an eggshell fabric it is both harder and finer and was probably used in specialised items such as small decorated vessels.

One vessel only; a small folded beaker with approximately ten indentations, being an import from North Gaul or the Rhineland. This fabric occurred in both beakers and cups at Gorhambury villa (where it is numbered as Fab. 174) dated c.AD. 60-85. (Neal, Wardle and Hunn 1990)

Fab. 34e Mica gilded hard rough fabric with coarse plates of gold mica on vessel exterior. Surfaces were oxidised with a mid-grey core, quite smooth in fracture with visible voids and a moderate scatter of larger quartz inclusions. (MK34h)

Body sherd only.

Fab. 34f Soft sandy micaceous fabric with mica gilding over deep orange surfaces and a paler core. The core shows abundant small, evenly sized quartz with some grey or pink larger inclusions and visible voids. The whole fabric had a rather coarse quality.

Body sherd only.

Fab. 41n An oxidised brittle fabric, harsh to the touch with easily abraded surfaces. The core showed fine fossil shell inclusions, larger quartz and smudged lumps of red iron. These are also visible on the surface, together with traces of gold mica throughout.

A rare fabric with only one sherd from Ditch 409 (Layer 1069).

Fab. 43ae For description see Marney (1989, 188).

New forms in this fabric were beakers, dishes, jars with grooved bases and a few lids. Vessels in this fabric also occur at *Magiovinium* (Neal 1987) and at Gorhambury (Neal, Wardle and Hunn 1990).

Fab. 45a Very similar fabric to the Caldecotte 47 group. A coarse mix with sparser grog and fine shell with some larger pieces up to 2.5 mm across visible on the surface. The exterior is oxidised, the inner surface and core reduced.

One thick sherd from an unknown form.

Fab. 53 A reduced fabric, mid-grey in colour, sometimes with oxidised margins. The fabric is very similar to a well-made London/Essex ware. The inclusions consist of fine white grits, sparse red and black iron, a few voids and occasional larger quartz pieces.

Poppy-head beaker fabric with a thick white slip and barbotine decoration. This fabric was found at *Magiovinium* (*ibid.*) and at Gorhambury (*ibid.*) and is similar to the Highgate 'C' fabric recorded in London by the Department of Urban Archaeology.

Fab. 56 A soft fabric, generally with pale orange oxidised surfaces and a mid-grey core. Mica and sparse scattered quartz throughout. Abundant fine rounded fossil shell, very visible in section but less so on the surface.

Forms include pedestal bowls, beakers, butt-beakers and one carinated cup or bowl. This fabric, while comparatively scarce at Wavendon Gate, was present at Saffron Gardens (Waugh *et al.* 1974), *Magiovinium* (Neal 1987), Bancroft (Marney pers. comm.) and Gorhambury (Neal *et al.* 1990). It also appears in the reference fabric series at the D.U.A. but its provenance is unknown.

Fab. 57 A 'Belgic' fabric with pale buff surfaces and dark grey interior. Soft and soapy to the touch with finer lumps of grog, often reddish in colour and visible on surfaces. It is similar to a fine Fabric 46a and may have been used for more fragile vessels. (MK46f)

Not common, but with a 'Belgic' form repertoire at Wavendon Gate consisting of jars, cordon necked jars, wide-mouthed jar/bowls, butt-beakers, cups, lids, a platter and a colander or cheese press. All these forms are similar to the kiln products

Fab. 60 A fine-ware fabric with smoothed surfaces, cream or buff throughout, with a dense core showing red iron pieces. A scatter of small quartz and sparse thin shell is visible on the micaceous matt surface, which also showed the remains of a red or brown colour coat.

One girth sherd decorated with incised vertical lines from a globular beaker. Probably an import.

Fab. 61 A harsh sandy fabric with darker grey core and paler surfaces. Considerable well-sorted angular quartz inclusions and moderate amounts of rounded and elongated shell, visible in section and on surfaces. There are also traces of red iron and mica throughout. One sherd retained the remains of a white slip.

One sherd from Ditch 409, three sherds from Enclosure 275 and an unstratified platter rim. The latter is a late first-century inexact copy of a *Terra nigra* or Samian platter form.

Fab. 66 The fabric is hard with large quartz inclusions similar to those in the Brockley Hill cream wares but it also shows considerable quantities of crude shell throughout. Possibly from the Verulamium area.

One sherd only.

Fab. 72 Harsh sandy buff fabric with a grey core which had crude lumps of elongated shell and rounded pink quartz.

One base only.

Fab. 81 Soft powdery buff fabric, easily abraded and quite sandy. The section shows smudgy shell and red iron inclusions.

Possibly a mortaria sherd, similar to, but finer than, the Gallo-Belgic mortaria fabric from Layer 303 in Ditch 301 (Enclosure 275).

Fab. 84 Mid-grey hard sandy fabric with a darker core. Very similar in section to both Fabrics 1d and 56, but with abundant fine fossil shell and some larger angular pieces.

One vessel only; a small bowl or cup from Ditch 579/589.

Fab. 85 Buff/pale orange exterior with pale grey core, very micaceous throughout and possibly mica gilded on exterior. Fine sandy dense core with scattered larger quartz inclusions and very fine shell visible near the oxidised surfaces.

Flagon neck with possible traces of mica gilding in chamfered grooved decoration, from Context 183. Similar in form and fabric to Fabric 11 flagons in Ditch 111 at Cirencester (Wacher and McWhirr 1982) which were Neronian to early Flavian in date.

Acknowledgement

I am indebted to Val Rigby for her help in confirming and identifying sources, parallels and dates for Fabrics 26A, 60, and 85.

APPENDIX IV

Samian Catalogue

<i>Context</i>	<i>Feature</i>	<i>Obj/Pub No.</i>	<i>Form</i>	<i>Date</i>	<i>Prov.</i>
1	Unstrat.	6777	31R	Late 2nd	CG
1	Unstrat.	6657	Chips	2nd	CG
2	Crem. 1	5002 109 & 147	18/31	Ant	CG
3	Crem. 2	5008 110 & 149	18/31	Had/Ant	Cg
4	Crem. 3	6658	18R	Traj	MdV
4	Crem. 3	5011 113 & 148	18/31	Ant	MdV
13	Crem. 12	5021	42	Flav	SG
113	Ditch 113	6659 146	29	AD.45-60	SG
120	Ditch 590/591	6660	18	Flav	SG
120+	Ditch 590/591	6661	18 or 18/31	Traj	MdV
137	Ditch 137	6662 139	37	Had	CG
137	Ditch 137	6662	33	Traj	MdV
139	Hollow 900	6663	Jar	Traj?	MdV?
165	Enc. 31	6664	Bowl	Traj	MdV?
182	Pit 2066	6665	18	Flav	SG
185	Ditch 600	6666	Curle 23	Ant	CG
187	Ditch 600	6667	27	Late 1st	SG
218	Hollow 900	6668	18	Traj	MdV
218	Hollow 900	6668	27	Traj	MdV
218	Hollow 900	6668	18	1st	SG
226	Ditch 137	6669 139	37	Had	CG
325	Enc. 307	6670	33	Traj	MdV
325	Enc. 307	6670	18	Traj	MdV
341	Enc. 306	6671	Chip	1st	CG
349	Enc. 307	6672	Chip	Traj	MdV
365	Enc. 306	6673	18 or 18/31	Traj	MdV
372	Enc. 306	6674	Bowl	2nd	CG
392	Corn drier 378	6675	35	Flav	SG
405	Unstrat.	5265	36	Traj	MdV
417	Enc. 33	6676 140	37	Ant	CG
417	Enc. 33	6676	Chip	Traj	MdV
545	Ditch 513	6678	33	Ant?	CG
556	Ditch 556	6679	27	1st	SG
556	Ditch 556	6679	27	Had	CG
599	Hollow 900	6680	18	Traj	MdV
599	Hollow 900	6680	Bowl	2nd ?	CG?
612	Hollow 900	6681	29	Flav	SG
612	Hollow 900	6681	27	Flav	SG
612	Hollow 900	6681	Chip	2nd	CG
623	Ditch 586	6682	Bowl	Had-Ant	CG
631	Ditch 579	6683	36	Traj	MdV
631	Ditch 579	6683	18	Late Flav	SG
631	Ditch 579	6683	33	Traj	MdV
656	Ditch 590/591	6684	27	1st	SG
658	Ditch 579	6685	35/6	Flav	SG
658	Ditch 579	6685	18	Flav	SG

<i>Context</i>	<i>Feature</i>	<i>Obj/Pub No.</i>	<i>Form</i>	<i>Date</i>	<i>Prov.</i>
658	Ditch 579	6685	Bowl	1st	SG
658	Ditch 579	6685	Chip	2nd	CG
660	Ditch 590/591	6686	18R	Traj	MdV
679	Unstrat.	6687	Chip	1st	SG
695	Ditch 590/588	6688 141	37	AD.75-90	SG
700	Ditch 579	6689	18/31R	Had/Ant	CG
713	Ditch 590/588	6690	27	Pre-Flav	SG
716	Ditch 590/588	6691 141	37	AD.75-90	SG
716	Ditch 590/591	6691	36	Flav	SG
719	Ditch 564	6692	37	Traj	MdV
721	Ditch 579	6693	31	Had-Ant	CG
730	Hollow 900	6694	Bowl	Ant	CG
730	Hollow 900	6694	31	Ant	CG
730	Hollow 900	6694	36	Traj	MdV
733	Pit 835	6695	37	Ant	CG
733	Pit 835	6695	36	Had/Ant	MdV
738	Hollow 900	6696	18	Flav	SG
738	Hollow 900	6696	18	Late Flav	SG
740	Hollow 900	6697	18	1st-Nero	SG
744	Ditch 590/588	6698 141	37	AD.75-90	SG
744	Ditch 590/591	6698	27	Claud	SG
755	Ditch 513	6699 142	30	AD.50-65	SG
755	Ditch 513	6699 143	78?	Flav	SG
756	Hollow 900	6700 144	37	2nd-3rd	EG
756	Hollow 900	6700	33	Late Ant	CG
756	Hollow 900	6700	33	Ant	CG
756	Hollow 900	6700	33	Ant	CG
756	Hollow 900	6700	18	Flav	SG
756	Hollow 900	6700	Bowl	1st	SG
756	Hollow 900	6700	Bowl	2nd	CG
756	Hollow 900	6700	35/6	Flav	SG
756	Hollow 900	6700	18	Traj	MdV
762	Pit 835	6701	33	Ant?	CG
819	Ditch 600	6702	Chip	2nd	CG
821	Ditch 600	6703	Chip	Traj?	MdV?
885	Ditch 883	6704	Bowl	Mid 2nd	MdV
887	Hollow 900	6705 144	37	2nd-3rd	EG
887	Hollow 900	6705	45	Late Ant	CG
887	Hollow 900	6705	79	Late Ant	CG
887	Hollow 900	6705	18	Traj	MdV
887	Hollow 900	6705	18R	Flav	SG
887	Hollow 900	6705	18	Flav	SG
887	Hollow 900	6705	35/6	Traj	MdV
887	Hollow 900	6705	35/6	Had	CG
887	Hollow 900	6705	42 or 23	Late Ant	CG
905	Pit 835	6706	Chip	Late Ant	Cg
907	Pit 835	6707	Chip	2nd	CG
908	Pit 835	6708	37	Ant	EG?
908	Pit 835	6708	Chip	Late 2nd	CG
908	Pit 835	6708	35	Flav	SG
910	Pit 835	6709 145	37	Ant	CG
910	Pit 835	6709	18	Flav	SG
910	Pit 835	6709	Jar	C1	SG
910	Pit 835	6709	33	Ant	CG
911	Pit 835	6710	31R	Late Ant	CG
917	Pit 848	6711	27	1st	SG
918	Hollow 900	6712	Chip	1st	SG
924	Ditch 846/847	6713	Bowl	1st	SG

<i>Context</i>	<i>Feature</i>	<i>Obj/Pub No.</i>	<i>Form</i>	<i>Date</i>	<i>Prov.</i>
930	Pit 835	6714	18/31?	2nd	CG
930	Pit 835	6714	18	Traj	MdV
930	Pit 835	6714	27	1st	SG
962	Ditch 600	6715	Chip	Traj	MdV
1045	Unstrat.	6716	18/31	Ant	CG
1045	Unstrat.	6716	18	1st	SG
1126	Ditch 409/412	6717	18	Traj	MdV
1131	Ditch 433	6718	Bowl	2nd	CG

Abbreviations:

CG	Central Gaulish (normally Lezoux area)
MdV	Les Martres-de-Veyre
SG	South Gaulish (normally La Graufesenque)
EG	East Gaulish

All illustrated pieces are denoted by bold type in the Obj/Pub No. column.

APPENDIX V

Full analytical data of the sediment analysis of Samples 185, 187 and 189

<i>Depth (mm)</i>	<i>LOI (%)</i>	<i>Phosphate-Pt (mg g⁻¹)</i>	<i>χ (μm³kg⁻¹)</i>	<i>pH (1:2½ water)</i>	<i>Sand (%)</i>	<i>Silt (%)</i>	<i>Clay (%)</i>
DITCH 433: Section 1078 - SAMPLE 185							
40	3.53	2.47	0.292				
80	3.54	2.24	0.256	7.62	57.9	17.8	24.3
120	3.52	2.28	0.344				
160	3.58	2.32	0.306				
200	3.48	2.84	0.544				
240	3.56	2.61	0.236	8.15	53.5	20.4	26.1
280	3.44	2.40	0.234				
320	3.21	2.76	0.326				
360	3.07	2.60	0.227	8.29	58.5	18.0	23.5
400	2.80	2.79	0.198				
440	2.70	2.37	0.157				
480	2.71	2.62	0.136				
520	2.84	2.28	0.149	8.45	57.4	15.8	26.8
560	2.60	2.79	0.146				
600	2.55	2.45	0.180				
640	2.39	2.32	0.202				
680	2.28	1.87	0.294				
720	2.18	2.00	0.288				
760	2.10	1.86	0.218	8.41	56.9	21.2	21.9
800	2.06	1.79	0.254				
840	2.38	2.23	0.167				
880	2.45	2.11	0.194				
920	2.36	1.60	0.449	8.37	56.3	18.3	25.4
960	2.08	1.63	0.346				
1000	2.01	1.24	0.062				
<i>SUBSOIL</i>	1.91	1.16	0.071	8.46	45.7	28.5	25.8

DITCH 600: Section 893 - SAMPLE 187

40	3.68	3.57	0.543				
80	3.40	3.77	0.527				
120	3.31	3.34	0.523				
160	3.33	3.20	0.699				
200	3.29	3.52	0.626	8.13	57.1	18.5	24.4
240	3.18	3.50	0.419				
280	2.98	3.37	0.499				
320	3.07	3.34	0.547				
360	2.87	3.54	0.468				
400	2.85	3.24	0.471	8.11	55.0	19.1	25.9
440	2.77	3.35	0.444				
480	2.60	3.10	0.501				
520	2.95	4.43	0.488				

<i>Depth (mm)</i>	<i>LOI (%)</i>	<i>Phosphate-Pt (mg g⁻¹)</i>	<i>χ (μm³kg⁻¹)</i>	<i>pH (1:2½ water)</i>	<i>Sand (%)</i>	<i>Silt (%)</i>	<i>Clay (%)</i>
560	2.61	4.54	0.367				
600	2.67	4.51	0.812	8.20	58.1	17.1	24.8
640	2.59	4.78	0.558				
680	2.67	4.52	0.729				
720	2.59	3.62	0.585				
760	2.61	3.70	0.249				
800	2.52	3.57	0.473	8.36	58.5	18.8	22.7
840	2.60	3.82	0.517				
880	2.58	3.99	0.255				
920	2.55	2.79	0.306				
960	2.39	2.02	0.406				
1000	2.33	2.37	0.355				
1040	2.54	2.43	0.344	8.40	43.2	26.0	30.8
1080	2.48	3.58	0.211				
1120	2.38	1.65	0.092				
1160	2.43	2.09	0.099	8.39	48.0	26.0	26.0
1200	1.97	1.87	0.117				
<i>SUBSOIL</i>	1.99	1.43	0.079	8.38	48.4	23.5	28.1

DITCH 1600: Section 1965 - SAMPLE 189

40	2.93	2.15	0.443				
80	2.93	2.29	0.551	7.20	51.4	22.4	26.2
120	3.07	2.25	0.455				
160	3.18	2.99	0.585				
200	3.42	3.16	0.632	7.12	47.9	22.2	29.9
240	3.45	3.54	0.628				
280	3.32	3.98	0.518				
320	3.32	3.85	0.545				
360	3.30	2.81	0.414				
400	3.21	2.90	0.392				
440	2.97	3.21	0.545	7.48	56.3	17.5	26.2
480	2.80	2.96	0.493				
520	2.54	2.69	0.575				
560	2.35	2.44	0.462	7.64	61.3	15.5	23.2
600	2.33	2.43	0.412				
640	2.31	2.63	0.449				
680	2.11	2.61	0.415				
720	2.10	2.11	0.416	7.85	62.8	15.9	21.3
760	2.37	2.91	0.608				
800	2.30	2.60	0.352	7.98	61.0	16.8	22.2
840	2.32	2.59	0.437				
880	2.25	3.08	0.458	8.09	59.7	16.4	23.9
920	2.37	2.32	0.308				
960	2.18	1.93	0.304	8.22	66.3	17.1	16.6
1000	2.20	2.19	0.420				
1040	1.88	1.43	0.174				
1080	1.79	1.69	0.254	8.48	65.4	18.7	15.9
1120	1.65	1.62	0.102				
<i>SUBSOIL</i>	1.50	0.87	0.060	8.22	65.8	14.1	20.1

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