CHAPTER 4

The development of the agricultural landscpae from the middle Iron Age to the end of the Romano-British farmstead (*c* 400 BC-5th century AD)

by Nicholas Cooke

CD-Rom queries
Middle Iron Age landscape
Distribution of middle Iron Age pottery
Middle Iron Age settlement
Middle Iron Age waterholes
Late Iron Age - early Roman landscape
Early and mid Roman landscape
Roman buildings
Late Roman landscape
Post-Roman use of the 'ladder' enclosure system

Introduction

After the abandonment of the small, dispersed settlements occupied by the Bronze Age inhabitants, and following the early Iron Age, the Perry Oaks landscape came under new cultural and economic influences and political designs. These resulted in the emergence of a nucleated settlement of round-houses in the middle Iron Age, which remained the focal point for activity during the late Iron Age and Roman period. The daily and seasonal routine of the Perry Oaks inhabitants continued to be dictated by the requirements of a localised agricultural regime, and remnants of the ancient Bronze Age field systems continued to guide these practices.

Significant changes to these field systems were only made during the later Iron Age and early Roman period, when many of the landscape boundaries were realigned.

The Perry Oaks landscape of the later Roman period bears testimony to the gradual pressure of social, political and economic demands, perhaps produced by upheavals within the regional and imperial Roman administration during the 3rd century AD. The result, in archaeological terms, was the appearance of a system of enclosures and a major droveway that seemed to overwrite the previous land divisions and swallow up previously farmed tracts. The new arrangement focussed

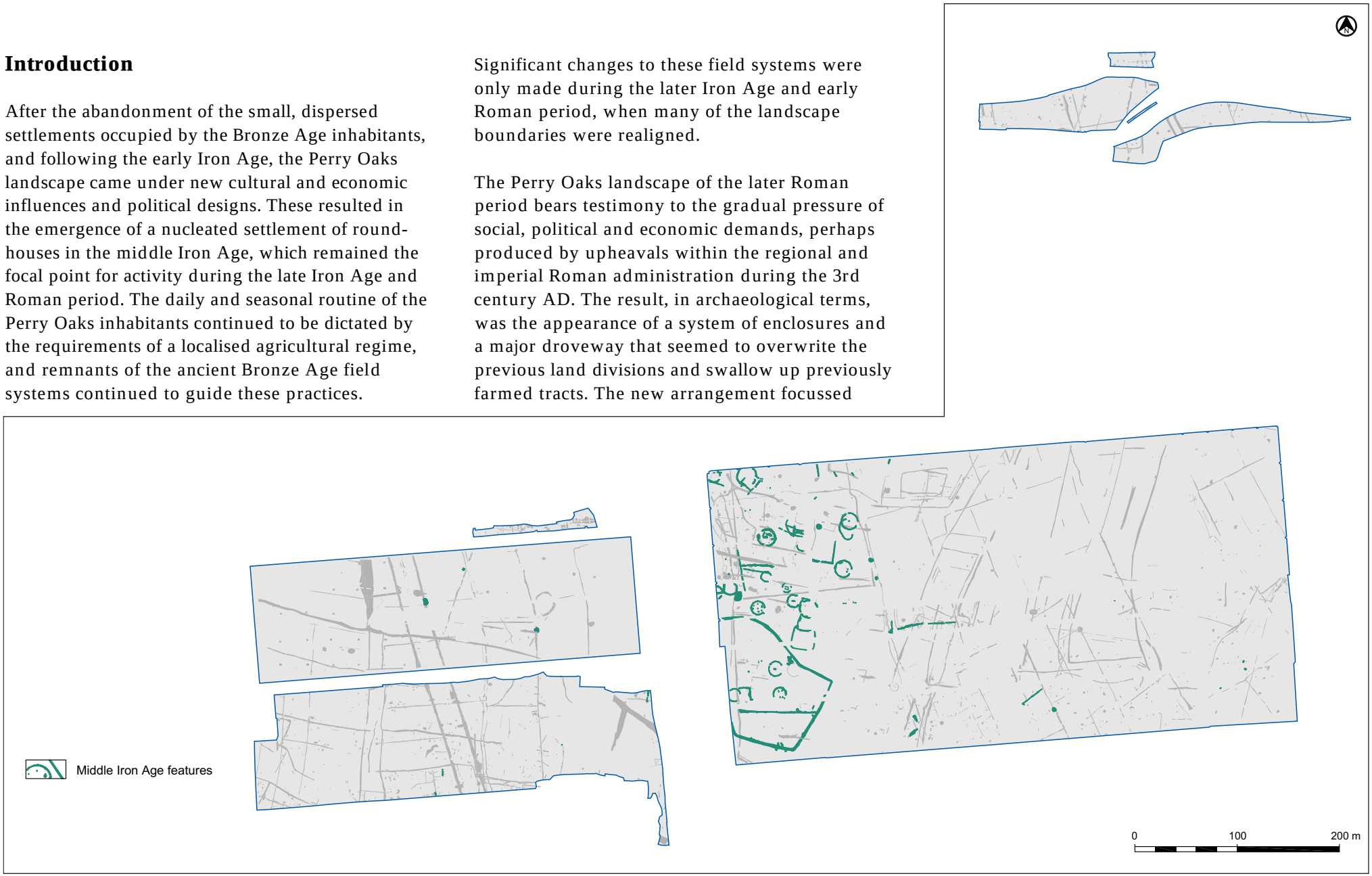


Figure 4.1: Extent of middle Iron Age occupation at Perry Oaks

outwards and away from the ancient local community. Although it had undoubtedly developed piecemeal, and probably had its origins in the Iron Age, the patterns resemble cumulative 'ladder enclosures'. Livestock and other commodities were moved across the Perry Oaks site along the central droveway of the ladder enclosures, penned overnight in the flanking enclosures, and driven away towards markets to the north and south. These markets were perhaps controlled by elite landlords of large Roman villas.

Some residue of this late Roman landscape can be traced in the medieval ridge and furrow and the alignment of a post-medieval trackway that survive at Perry Oaks. But the extent of the medieval field systems and the scale of the trackway imply that the site reverted to localised rural inhabitation and agricultural activity.

The middle Iron Age settlement (Fig. 4.1)

The agricultural landscape of Perry Oaks, established during the early and middle Bronze Age, remained relatively unchanged well into the Iron Age, although as we have seen, there is little evidence for activity during the early part of the Iron Age. The locations of late Bronze Age and early Iron Age waterholes (see Chapter 3) indicate that many of the field boundaries remained in place, and although no obvious effort had been made to maintain the ditches associated with the original hedgerows, there appears to have been no motivation to significantly alter the pattern of the Bronze Age field enclosures.

This continuity of land-use suggests that there was a recognised system of land control. If and when land changed hands, it did so without significant alteration to the general field system. This area of the Heathrow landscape may have been farmed in *broadly* the same way for over 2000 years, beginning in the early Bronze Age and continuing into the middle Iron Age.

Despite the apparent continuity of agricultural practice, the pattern of dispersed small settlements concentrated within the extensive field system appears to have been abandoned in favour of nucleated settlement. There is clear structural evidence for this settlement dating to the middle Iron Age (Fig. 4.1), but its development may have begun earlier, during the late Bronze Age or early Iron Age. The nucleated settlement was preserved in the form of penannular gullies representing at least eighteen roundhouses and ancillary post-built structures. One of the roundhouse gullies (no. 8; see Figs 4.6 and 4.10 below) had been recut at greater depth than the original, more properly a surrounding ditch. This particular structure or location may have been special in some way, perhaps incorporating a non-domestic function (see below). It is clear that the structures formed the main focus of settlement, which continued into the late Iron Age and Roman period.

The new settlement occupied a previously open area that may have been common land during the Bronze Age, and the inhabitants certainly farmed fields that were originally laid out during this earlier period. Relatively large numbers of Bronze Age pottery sherds were recovered from the ditches belonging to the field systems either side of the settlement, along with small quantities of early and middle Iron Age pottery. The lack of middle Iron Age pottery from these features could suggest a change in farming practices during the Iron Age, whereby waste material from the settlement was no longer being used to fertilise the arable fields. However, a more likely explanation is that the original field ditches had fully silted by the middle Iron Age and only the hedges survived to define the field boundaries. In these conditions, Iron Age pottery from manuring material would remain on the ground surface, subject to weathering, scatter and ultimately loss in the truncated landscape.

Chronological indicators

The dating of Iron Age settlement sites generally relies upon associated ceramics, but much of the Iron Age pottery from Perry Oaks was not closely datable and artefacts associated with the settlement were scarce overall, in common with other Iron Age sites excavated in the region. No scientific dates are available for the origin of settlement or for the sequence of excavated structures. The absence of suitable organic or charred material from penannular gullies representing the middle Iron Age structures, and the likelihood of contamination by intrusive material, ruled out radiocarbon dating as a practical option.

The pottery

The change from small scattered occupation of the Bronze Age to a more nucleated settlement broadly corresponded with the adoption of sand-tempered pottery fabrics. The origin of the nucleated settlement and the adoption of a new pottery tradition may have been broadly contemporary, although the shift in preference to sandy-tempered wares was clearly a gradual process. Flint-tempered wares of this transitional period are classified as late Bronze Age / early Iron Age, whilst the sandy wares are dated to the early and middle Iron Ages. Analysis of the ceramic distribution demonstrates that sandy wares were concentrated in the area of the middle Iron Age settlement, whilst the flint-tempered wares had a more widespread distribution.

Feature Type	No. sherds	Weight (g)	Mean sherd Weight (g)
Ditch	407	2532	2532
Gully	106	550	550
Pit	1462	8273	8273
Posthole	126	655	655
Roundhouse gully (8)	350	3088	3088
Roundhouse gullies (other)	685	4610	4610
Treethrow	26	109	109
Waterhole	30	219	219

Table 4.1: Quantification of pottery by feature type for the middle Iron Age

Figure 4.2: Distribution of middle Iron Age pottery

Most of the Middle Iron Age pottery recovered from beyond the core settlement area came from waterholes and tree-throws (Fig. 4.2). Waterholes were commonly located close to the boundaries or corners of the extant Bronze Age fields, whilst the tree-throws captured material circulating in the topsoil and subsoil of the fields.

Quantification of pottery by feature type for the middle Iron Age is presented in Table 4.1. The majority of middle Iron Age sherds came from structural features associated with the settlement (Fig. 4.2), most from the pennanular gullies representing the sites of roundhouses, with smaller amounts from pits and ditches. Penannular gully 8 was most productive and its mean sherd weight highest, suggesting that the pots were deposited fairly rapidly following breakage. The more fragmentary pottery from tree-throws and other small features is likely to have derived from manuring of fields or dispersed middens. The mean sherd weight for the waterhole assemblages reflects to some degree deliberate deposits of large vessel fragments.

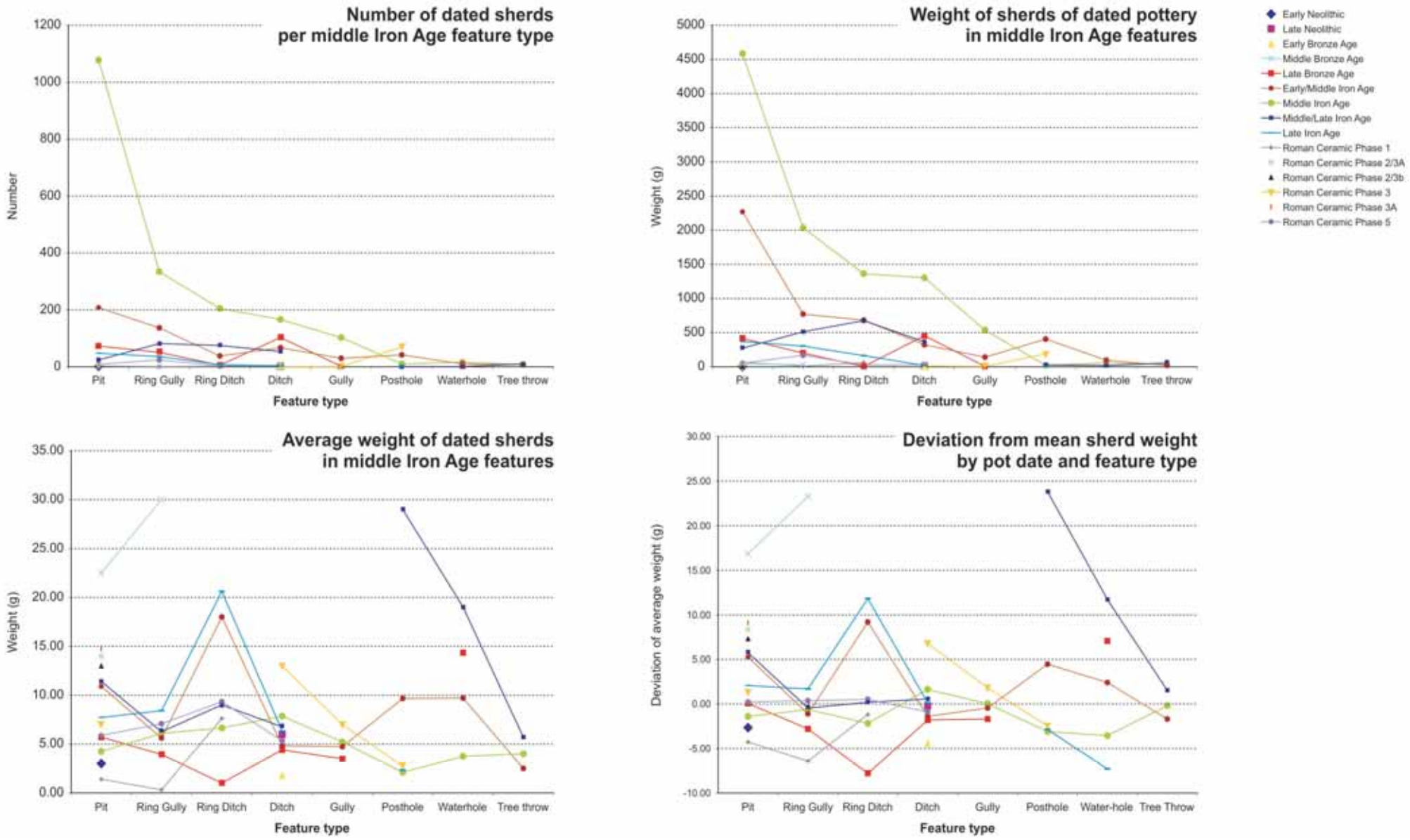


Figure 4.3: Distribution of pottery by middle Iron Age feature type

The pottery recovered from the fills of middle Iron Age features dated from several different periods, ranging from the early Neolithic through to the Roman period (Fig. 4.3). Most of this pottery was residual and the small quantities of late Iron Age and Roman pottery recovered from these features was intrusive in the upper fills, or came from later Iron Age or Roman deposits within the top of these features.

An anomaly in the pattern is demonstrated by the late Bronze Age/early Iron Age pottery, which occurred in greater numbers in ditch fills than in any other feature type. However, given the small size of the assemblage, this may not be significant. The graph displaying the total weights of the dated pottery lost by middle Iron Age feature type shows a similar pattern to that displayed by the sherd numbers (Fig. 4.3).

The two remaining graphs on Figure 4.3 show the average weights of sherds by feature type along with the deviation of these values from the mean for the feature type. These display a similar pattern. Many of the values can be discounted, as these are skewed by the small number of sherds. The only periods containing more than 100 sherds were the late Bronze Age/early Iron Age, the middle Iron Age and the late Iron Age.

The pattern that emerges is that the largest sherds tend to occur in pits and penannular gullies, and smaller sherds in other gullies and waterholes, although there is some difference between sherd groups of different dates. Interestingly, the pattern also supports the suggestion that the late Bronze Age/early Iron Age sherds are residual, in that they generally fall below the mean weights for pits. Conversely, those for the late Iron Age are generally slightly above average, suggesting that these are more likely to date the layers in which they occur.

The second set of graphs (Fig. 4.4) presents the distribution of dated material in different fill types of middle Iron Age features. The main context types recorded are primary, secondary and tertiary fills, with small numbers of deposits recorded as deliberate placements of material and miscellaneous unclassified 'other fills'.

The first graph in Figure 4.4 shows a number of sherds of different date following similar patterns within the main fill groups. Most of the pottery was recovered from secondary fills with smaller quantities in primary and tertiary fills.

When the average weights were examined, some interesting patterns emerged. The middle Iron Age pottery produced the expected profile, with the largest sherds recovered from the primary fills and the smallest from the tertiary fills, with the caveat that quantities of pottery from the latter were low overall. The late Bronze Age/early Iron Age pottery showed a different pattern, with small sherds recovered from both the primary and secondary fills.

The general pattern of pottery loss and deposition suggests that secondary fills contained the most pottery and the largest sherds by average weight (taking into account sample size). This pattern could be predicted on the basis that these fills formed as a result of activity associated with the use of the relevant features, and as such, are relatively high energy deposits. The material they contained was incorporated more rapidly than the material recovered from the tertiary fills, which accumulated slowly, and incorporated higher levels of badly abraded material.

Other finds categories

Turning to the other finds categories from the middle Iron Age features, it is clear that there is some variation between artefacts recovered from the different feature types (see graph in Fig. 4.4). The most notable pattern is that displayed by the animal bone and the burnt flint, which appear to have an inverse relationship to each other within particular features, especially in the case of pits, penannular gullies and ditches.

Burnt flint was more common in penannular gullies and ditches than animal bone whilst animal bone was more common in the roundhouse gully 8 and in pits. Although the graph in Fig. 4.4 is based on finds by count in these features, the total weights produce a similar picture (see Fig. 4.5). Animal bone and burnt flint rarely occur at the same levels of distribution, and this may reflect two key factors—the general paucity and poor condition of animal bone from the site overall, and the range of activities that produced burnt flint.

There is also a clear difference between the material recovered from pits and from penannular gully 8.

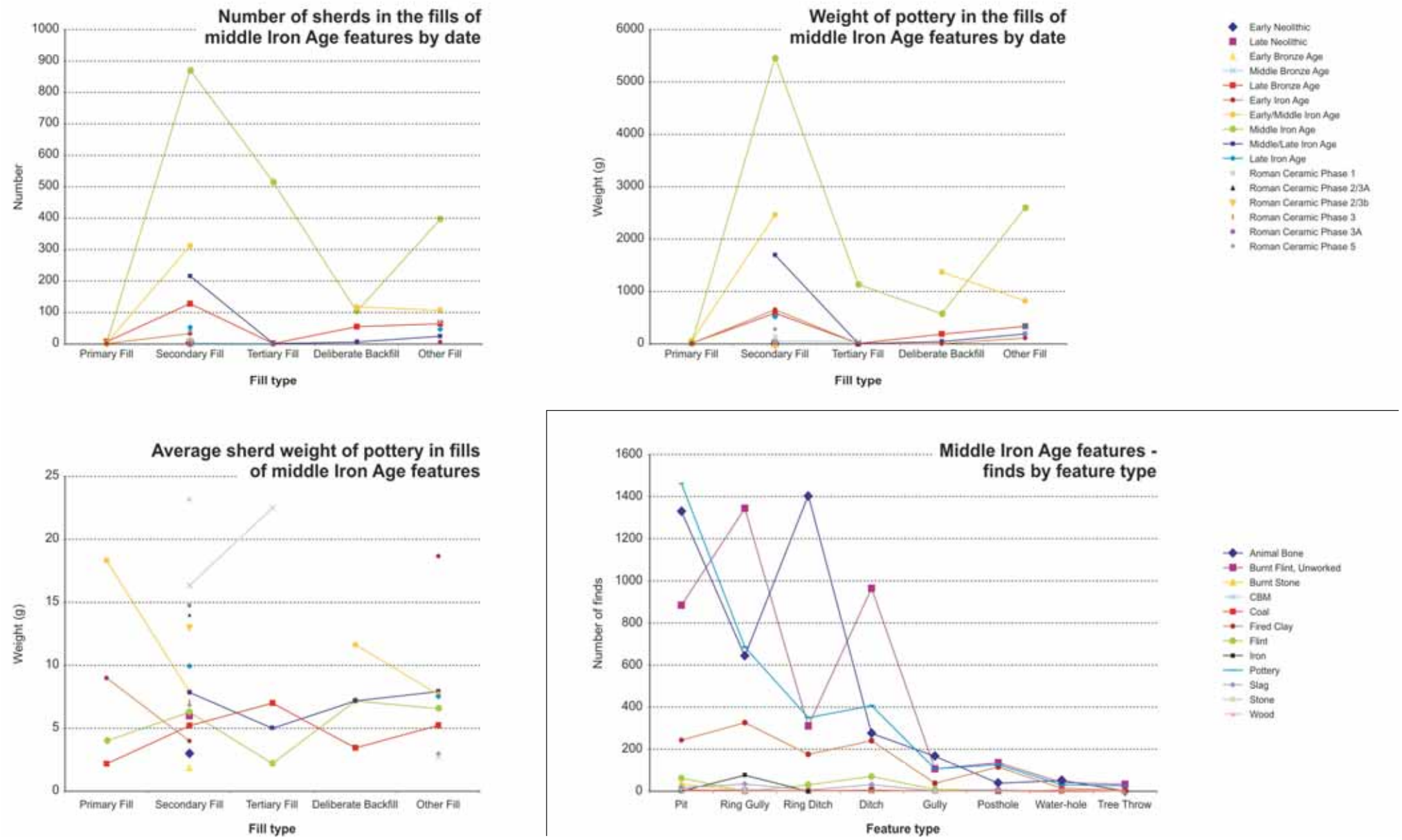


Figure 4.4: Distribution of dated material in different fill types of middle Iron Age features

Plotting the weight of animal bone from pits against that of burnt flint indicated that the pits did not form a coherent group. Rather, there were a small number of pits with high levels of animal bone that influenced the overall ratios. The feature types which did show a high level of correlation were the ditches and penannular gullies. The finds groups recovered from sections through the penannular gullies showed remarkable similarities, with none containing more than 200 g of animal bone, and most containing far more burnt flint than animal bone. The ditch groups produced a similar result. Penannular gully 8, on the other hand, contained far more animal bone on average than burnt flint. This may well reflect different depositional practices at these locations. A plot presenting the overall distribution of burnt flint by weight (Fig. 4.5) shows that the material was relatively widespread, and not concentrated on any particular feature type or area. It does show peaks in some of the penannular gullies, as well as a concentration in the northern arc of penannular gully 8.

A plot of the animal bone by weight (Fig. 4.5) also shows a clear concentration in the in the northern arc of gully 8 and in two of the pits. The relatively low proportions of animal bone recovered from the penannular gullies is also clear.

This preliminary examination of the finds assemblage from the different feature types associated with the newly created middle Iron Age settlement has raised several points for further discussion. However, prior to focussing on the settlement itself, it is perhaps worth looking at its raison d'être. The location of the settlement points to continuity both of the field system and also potentially the basics of agricultural exploitation. This suggests that the inhabitants of the settlement farmed the surrounding land intensively, with the shift in settlement location perhaps reflecting a need to free up land previously containing settlements for agricultural exploitation, and indicating a possible change in working practices.

The settlement

The Middle Iron Age settlement was established in what had apparently been an open, possibly common, block of land in the Bronze Age landscape of Perry Oaks, which was intersected by two west-east aligned Bronze Age ditches (Fig. 4.6).

The location of the settlement within the wider landscape is intriguing. Its position on the edge of the Taplow terrace ensured that it was ideally placed to exploit the possibilities afforded by the different landscape zones surrounding it. The wetter lower terrace to the west would have been suited to specific forms of activity such as animal grazing, whilst the nearby River Colne would have been an important resource. The location is paralleled at a similar settlement at Mayfield Farm, which also lies on the edge of the Taplow terrace, to the south of Heathrow (Merriman 1990). It may be significant, however, that the major alignments of the structures of the Perry Oaks settlement faced eastwards. Whilst this is due in part to the most common alignment of the roundhouse doorways, it is also reflected in the location of the entrance to a large irregular ditched enclosure (see below), and the fact that the major structures were built on the eastern edge of the settlement. It may have been that the main focus of agricultural activity lay to the east, in the extensive field systems of the upper terrace.

The penannular gullies/roundhouses (Fig. 4.6)

The settlement contained at least 18 roundhouse sites, represented by penannular gullies which were either eaves drip gullies or enclosures around buildings. Few structural features in the form of postholes or wall slots survive. Most of the gullies had south-east facing entrances, but one (penannular gully 8) faced north-west.

The south-easterly orientation of roundhouse entrances is well known, with a sheltered doorway through which the sun will shine having practical and cosmological implications (Fitzpatrick 1997; Oswald 1997). Three of the Perry Oaks roundhouse gullies may also have had smaller north-westerly entrances in addition to their south-east entrances, including penannular gully 3, the northernmost of the structures excavated. If it were the case that these gullies had dual entrances—and the depth of the gullies suggests that these are genuine gaps rather than the product of truncation—then it may represent a re-enforcing of the cosmological references within the structure itself, with the smaller north-west facing entrance aligned on the direction of sunset at the midsummer solstice. The possibility that similar causeways existed in some of the other gullies cannot be excluded, as

Figure 4.5: Burnt flint and animal bone in middle Iron Age features

these were either only partially preserved or not fully exposed in the excavated area.

The gullies representing the 18 roundhouses can be divided into three distinct groups on the basis of internal diameter. Penannular gully 8, which was originally *c* 13 m diameter, but larger (*c* 15 m dia.) and much deeper when recut (see Fig. 4.10 below), has been included twice, creating a total of 19. Table 4.2 shows the variation in diameter of penannular gullies at Perry Oaks.

The three major groups are as follows:

- Group (a) Two gullies of 9 m diameter.
- Group (b) Eleven gullies ranging from 11 to 14 m diameter.
- Group (c) Six gullies with diameters greater than 14 m *(nb some diameters are calculated based on surviving short lengths of gully and may be inaccurate).*

Diameter (m)	No. of penannular roundhouse gullies
9-10	2
10-11	0
11-12	5
12-13	4
13-14	2
14-15	1
15-16	3
16-17	1
19	1

Table 4.2: Diameter of roundhouses at Perry Oaks

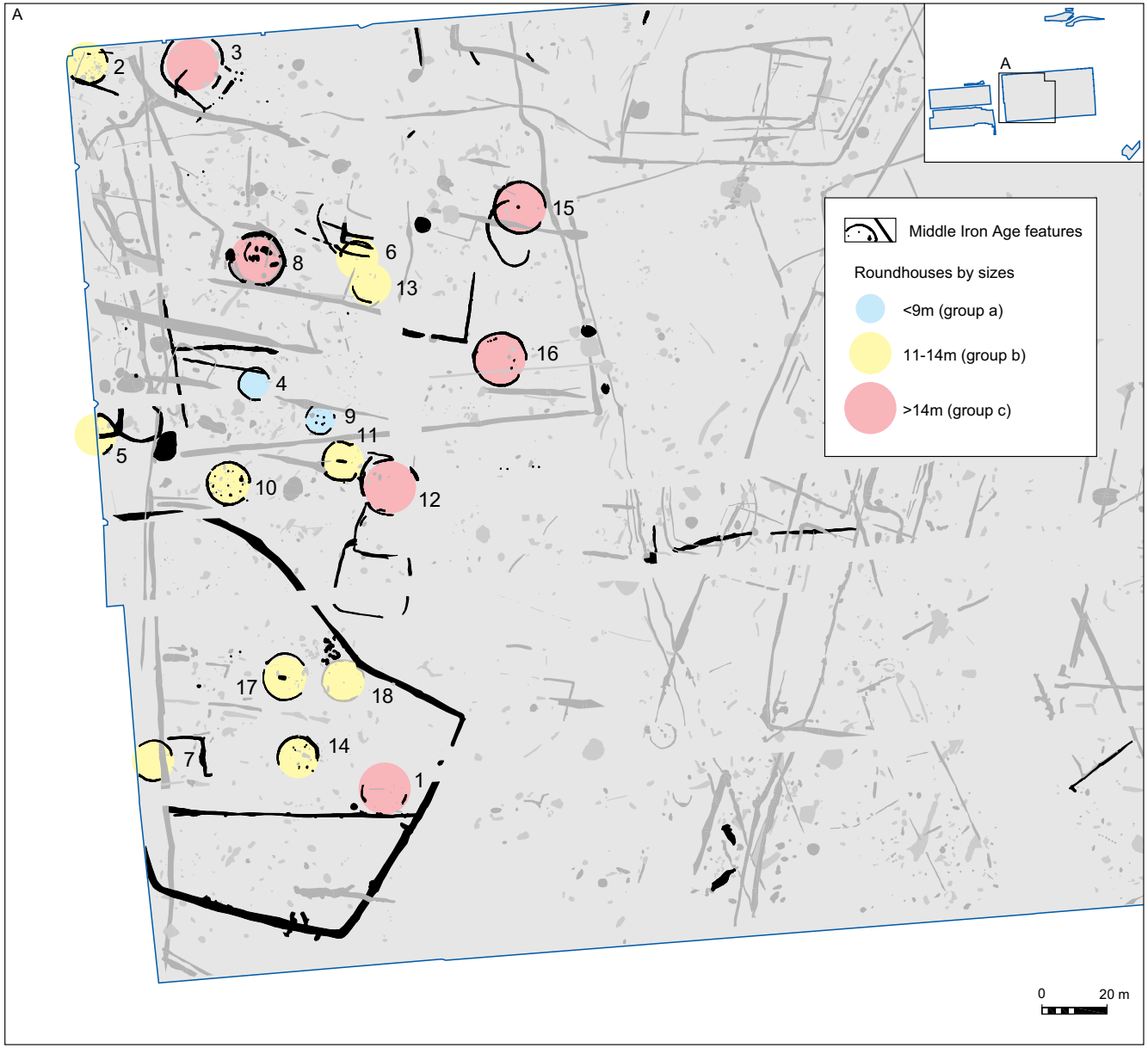


Figure 4.6: Plan of the middle Iron Age settlement core, with roundhouses highlighted

The six largest gullies, Group (c), were all sited along the eastern edge of the settlement. The intermediate sized gullies, Group (b), were more widely dispersed, whilst the two smallest gullies, Group (a), lay within the centre of the settlement area (Fig. 4.6). There is some significance apparent in the distribution, which has been further defined by examining the quantities of domestic material in the gully fills (Fig. 4.7). Penannular gully 8 is a special case, due to the substantial size of the recut and the generally greater quantity of finds recovered from its fill.

The first graph in Figure 4.7 shows a correlation between the diameters of the penannular gullies and the number of sherds of pottery in each. This assumes that pottery loss is one of the main indicators of domestic activity. The smaller gullies of Group (a) contained very little pottery, whilst the Group (b) gullies produced 0–49 sherds. The largest gullies, Group (c), generally produced the most pottery, although one, Gully 1, was aceramic. This feature, however, survived only as short stretches and its classification by size was somewhat tenuous. Gullies 3 and 8, both of which may have incorporated a non-domestic function, produced the largest numbers of sherds.

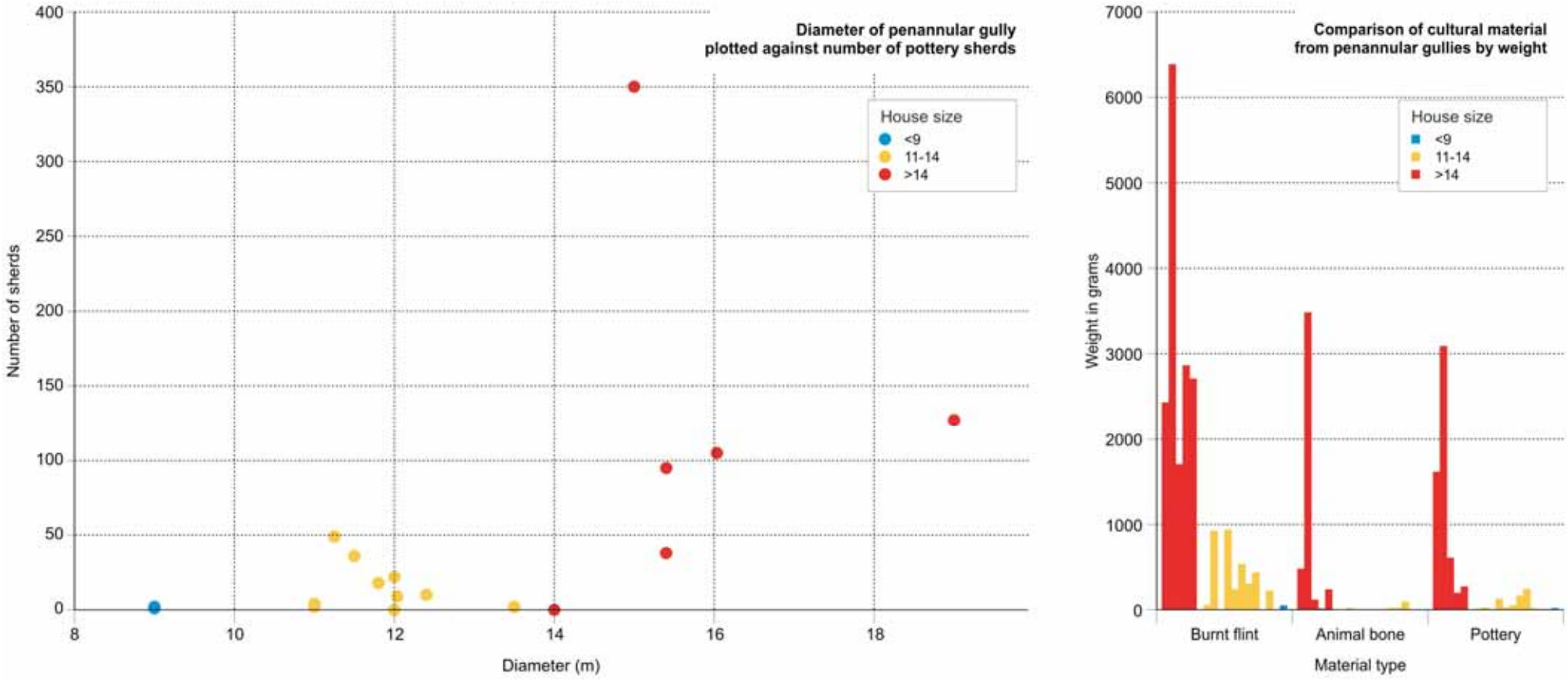


Figure 4.7: Correlation between the diameters of the penannular gullies and the quantities finds within them

The use of pottery sherds as a sole indicator of domestic activity is unreliable, and therefore the second graph on Figure 4.7 considers three components of the finds assemblage from the gullies—the total weight of pottery, the total weight of animal bone and the total weight of burnt flint.

The results indicate greater quantities of material from the larger penannular gullies, with especially large amounts from gullies surrounding structures 3 and 8. These features may have been foci for deliberate deposition, with the large numbers of animal bones from the partially silted ditch of penannular gully 8 being of particular significance. There was also a marked difference between the average sherd size of pottery recovered from these two roundhouse gullies and the other four Group (c) gullies, as demonstrated in Table 4.3. Also included in this table are the figures for the weight of fired clay, burnt stone and ceramic building material (CBM) from each feature, which are, again, more common in the larger gullies. On the basis of this, it seems reasonable to suggest that most of the Group (c) structures were more likely to have been used for domestic purposes (although structures 3 and 8 may have been exceptions; see below) than the smaller Group (a) structures, whilst the Group (b) structures may have had a secondary domestic role.

Group (a) gullies

The two smallest gullies, 4 and 9 of Group (a), were situated close to one another (Figs 4.6 and 4.8). Gully 9, the more easterly of the two, enclosed a group of posts possibly representing a four-post structure. Four postholes of similar size lay *c* 2 m apart, forming a rough square, while a fifth, smaller, posthole lay outside the square and may have been unrelated or may indicate the position of a ladder or steps. This structure was centred within the gully, aligned on the south-east facing entrance (the other gaps are the result of truncation). The traditional interpretation of similar four-post structures is that they were

Penannular gully#	Group	Internal diameter (max)	Pottery No.	Pottery weight (g)	Pottery average weight (g)	Animal bone weight (g)	Burnt flint weight (g)	CBM weight (g)	Fired clay weight (g)	Burnt stone weight (g)
4	a	9	2	17	8.5	0	49	0	2	0
9	a	9	1	4	4	0	0	0	0	0
6	b	11	2	3	1.5	94	222	0	51	0
13	b	11	4	13	3.25	18	0	0	69	0
11	b	11.25	49	241	4.92	17	433	0	15	0
14	b	11.5	36	164	4.56	2	300	0	4	0
7	b	11.8	18	50	2.78	0	533	0	148	0
2	b	12	9	23	2.56	2	239	0	1	0
5	b	12	22	123	5.59	4	934	0	178	0
18	b	12	0	0	0	2	0	0	0	0
10	b	12.4	10	24	2.4	17	924	0	41	0
17	b	13.5	2	10	5	0	51	0	4	0
1	c	14	0	0	0	0	0	0	0	0
15	c	15.4	95	269	2.83	237	2707	108	261	41
16	c	15.4	38	195	5.13	13	2863	6	232	0
12	c	16	105	607	5.78	116	1705	22	348	60
8	c	15	350	3088	8.82	3482	6386	0	1802	66
3	c	19	127	1613	12.7	479	2429	0	702	0

Table 4.3: Quantities of material from roundhouse gullies

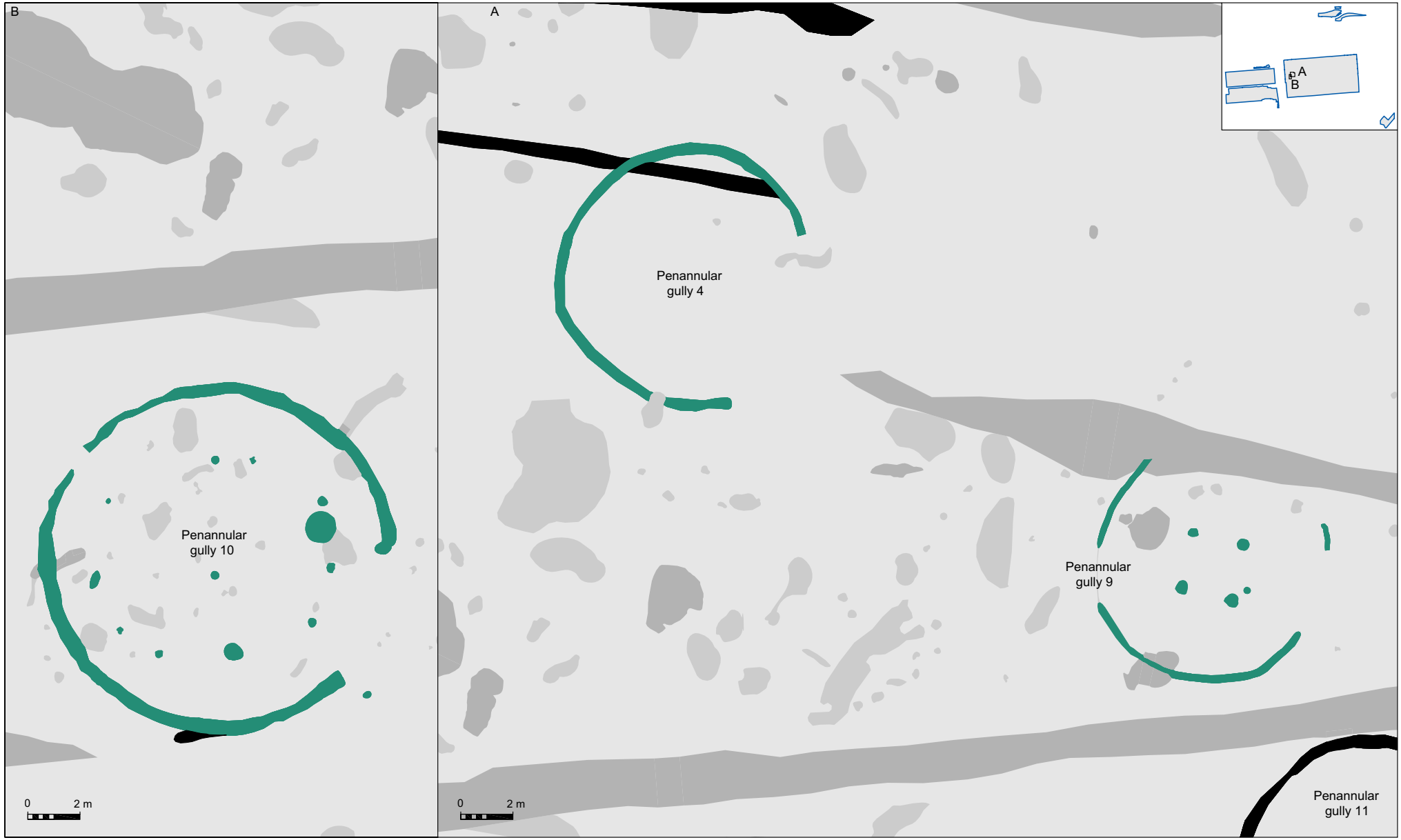


Figure 4.8: Group (a) Gullies 4 and 9 and Group (b) penannular gully 10

raised granaries designed to store grain above the ground surface, away from damp and animals. Alternatively, the postholes may represent the only surviving structural features of a roundhouse.

Group (b) gullies

Very few of the intermediate sized roundhouses of Group (b) preserved structural evidence in the form of postholes (Fig. 4.6). This may be the result of modern truncation, or of construction techniques that employed stake walls or post pads rather than ground-fast posts. Whilst truncation is certainly a feature of the Perry Oaks site, some postholes have survived in truncated areas. These may have originally been deeper features as many occur at or close to the entrances of the gullies, probably representing porch supports. However, a similar dearth of postholes was noted in the excavations at Caesar's Camp (Grimes and Close-Brooks 1993), interpreted as the result of plough truncation and the use of slight plank or stake built walls in the roundhouses. Close-Brooks (ibid.) felt that it was unlikely that the penannular gullies represented the remains of wall trenches, and this has also been judged to be the case at Perry Oaks. Some of the structural elements of the roundhouses may have been constructed of clay or cob, of which little or no trace would have survived.

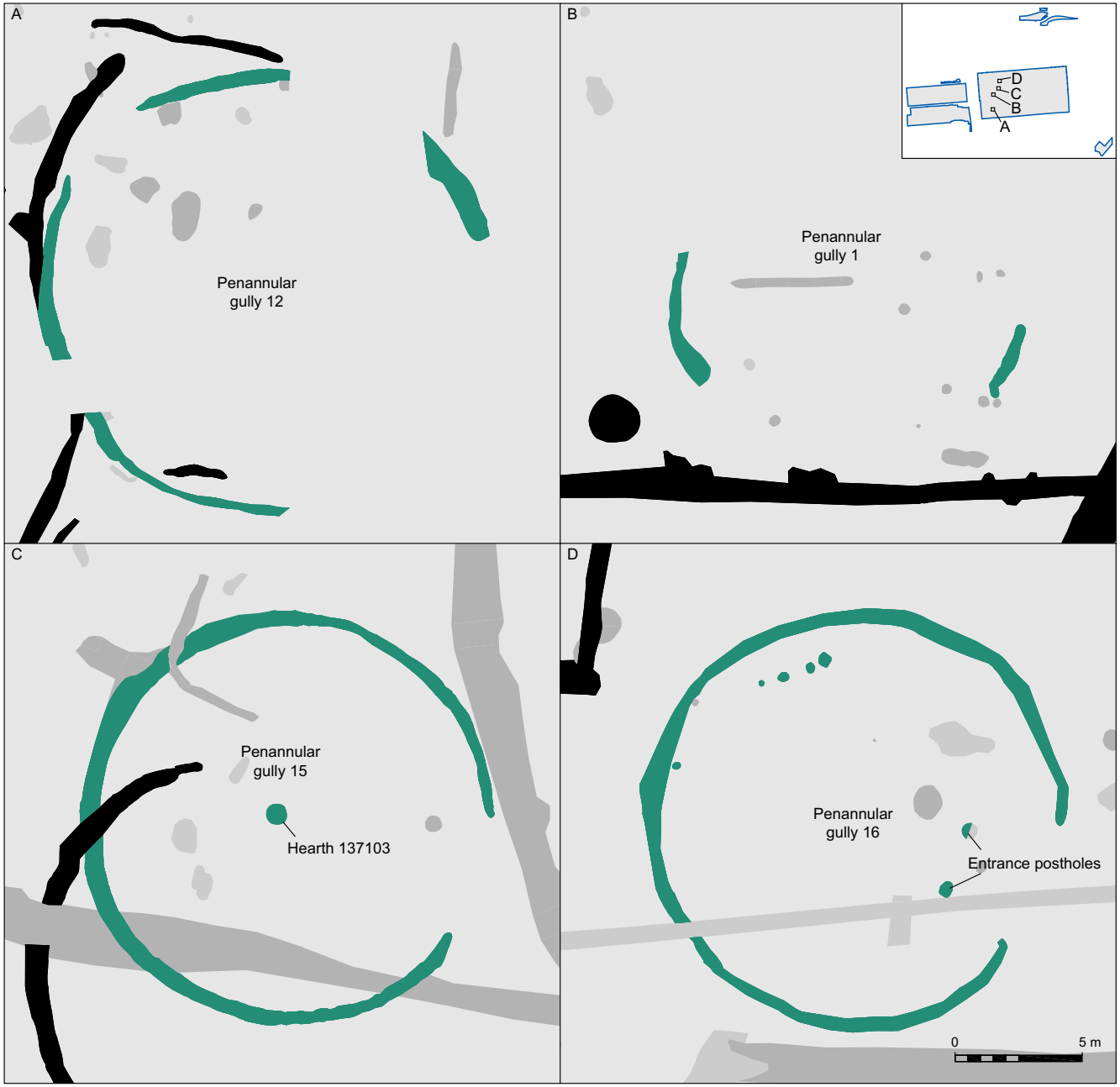
Only one of the gullies in Group (b) showed evidence of a possible post circle. Penannular gully 10 (Fig. 4.8; Plate 4.1) appeared to enclose a partial ring of postholes, although these varied in depth and form, and many were very shallow.

Plate 4.1: Penannular gully 10 looking south-east

It is worth noting that this structure lay within the central area of the eastern beds of the sewage works, which had been used as a haul road, and was, therefore, subject to far less truncation than the rest of the site.

The diameter of the circle of posts was *c* 8 to 9 m, leaving a gap of *c* 2 m between it and the gully.

It is likely that this post ring marked the main roof supports, but was not necessarily the line of the main structural wall of the building. A pair of postholes some 2.2 m apart and equidistant from the south-east entrance probably marks the position of the main doorway of the roundhouse.



Group (c) gullies

The best preserved postholes associated with the larger penannular gullies of Group (c) also lay within the entrance area (Fig. 4.9). The clearest example is gully 16, which had a pair of posts 2.5 m apart and set back *c* 3 to 3.5 m from the gully termini, perhaps part of an entrance structure. As only these postholes survived later truncation, it supports the view that porch postholes were dug deeper than other structural components. Both gully 1 and gully 15 also had surviving postholes which may represent entrance posts, but the door area of gully 12 lay below the concrete walls of the sewage beds. In considering the likelihood that the structures enclosed within the larger gullies were entirely post-built, it is notable that a sunken hearth (137103) located at the centre of gully 15 survived truncation. This might suggest that the superstructure of this roundhouse at least was not constructed with ground-fast posts.

Two of the roundhouse gullies in Group (c) (3 and 8) appear to have been functionally divergent, and will now be discussed separately.

Figure 4.9: Penannular gullies of Group (c)

Penannular gully 8

Penannular gully 8 was represented by two phases, the original shallow gully (113117) recut as ditch 113114 (Fig. 4.10; Plate 4.2). The original gully enclosed an area *c* 13 m in diameter and the later ditch enclosed an area of *c* 15 m, allowing space for a structure 10–12 m or more in diameter. The profile of the recut ditch varied from V-shaped to a flat bottomed U-shaped and the depth was also variable (see sections, Fig. 4.10). An apparent terminus observed in one of the deep sections on the western side of the ditch indicated that it was dug in segments, which could suggest the demonstration of a division in labour, reinforcing the anomalous character of this structure and location within the settlement. The sequence of fills was similar throughout the ditch, suggesting that the segments filled contemporaneously.

The entrance to one or both phases of the roundhouse was probably represented by a number of postholes, some unexcavated, clustered within the north-west facing gap in the gully / ditch. Two wide, shallow features, 147136 and 125123, were almost certainly the truncated bases of large postholes designed to hold porch or door posts. They produced no datable finds but their position and size are comparable to large roundhouses excavated elsewhere such as Pimperne (Harding *et al.* 1993) and Longbridge Deverill (Hawkes 1994). Various internal features, some interpreted as tree-throws, produced middle Iron Age pottery and may represent internal divisions or be the result of activity within the structure. Most produced no pottery or other dating evidence.

Plate 4.2: Penannular gully 8 looking west

Although we cannot be certain of the precise role that this structure served, it may, in both its early and later guises, have influenced the development of the settlement. None of the gullies representing contemporary roundhouses lay closer than 15 m to the ditch, and the large penannular gully (3) to the north appears to have been sited to enclose a structure that had a strong visual link towards gully 8.

The number and variety of finds recovered from the ditch fills contrasted sufficiently with the assemblages associated with the other roundhouses to suggest that these distributions represent specialised activity if not within the structure then around it. The primary fills contained a small group of finds, which included animal bone, flint and pottery (four sherds dated to the middle Iron Age). A small amount of burnt flint (177g) and fired clay (131g) was concentrated in the north-western terminal and south-western arc of the ditch.

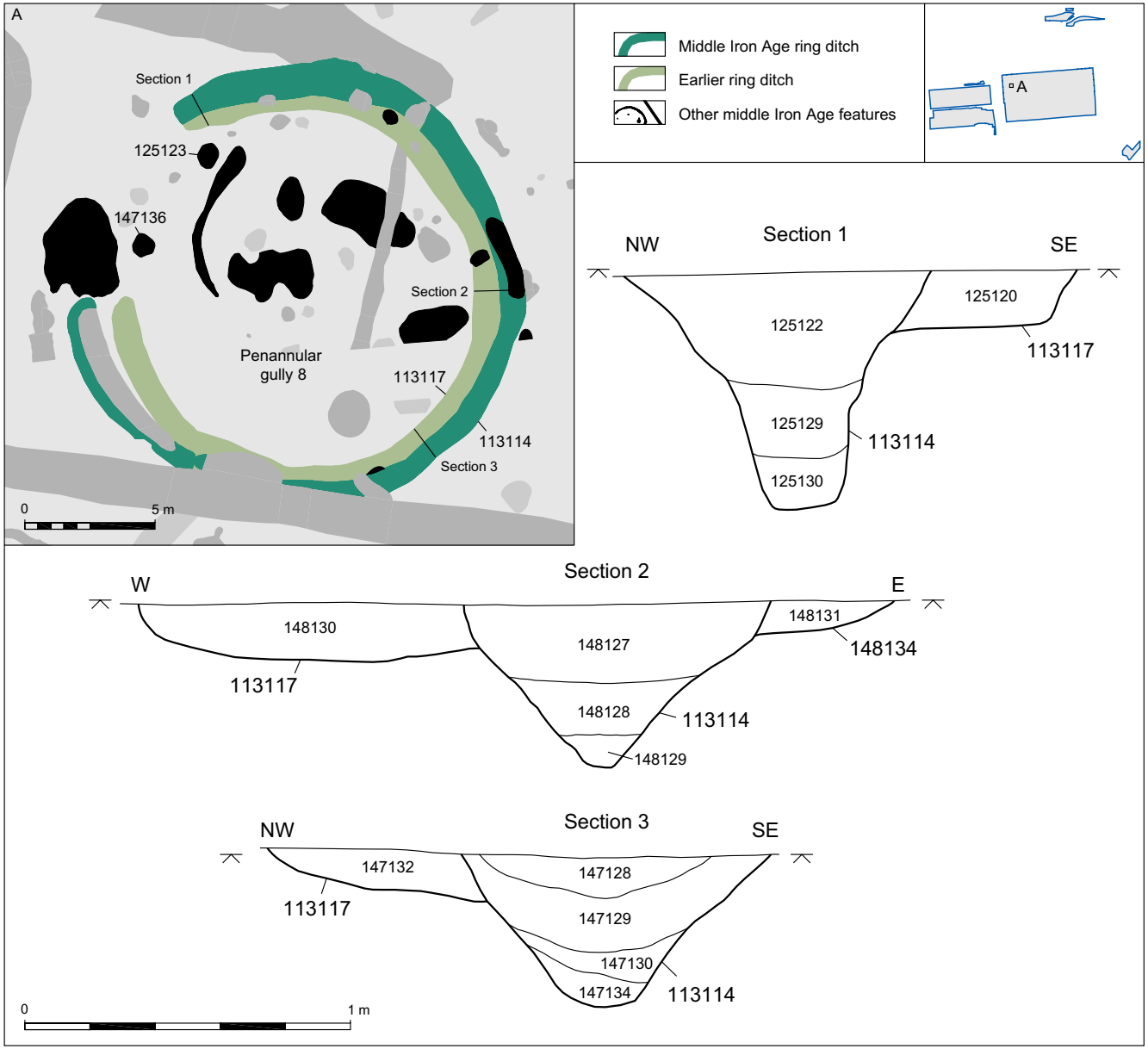


Figure 4.10: Penannular gully 8

The sequence of lower secondary fills comprised a series of shallow lenses and localised deposits. These related to the first period of prolonged use of the structure, and occurred along much of the length of the ditch, but were absent within the western arc and the south-western terminus. Pottery was recovered from only three sections containing these fills, with largest group of sherds (43) coming from the north-west terminal. The small quantities of animal bone, burnt flint, worked flint and fired clay in these fills showed no significant concentrations. These lower secondary deposits were sealed by a relatively thick fill (113107), which contained the majority of the finds recovered from the ditch. The pottery was of predominantly middle Iron Age date, although early and late Iron Age and Roman pottery was also present in small quantities. The latter may be intrusive, but may point to limited accumulation in the ditch during these periods (in some stretches of the ditch, context 113107 represents the final deposit). The pottery was distributed more or less evenly within this fill, except in the north-western terminus. Thirty-three sherds weighing over 1.4 kg, many belonging to a single vessel, came from this terminus deposit. The pottery was associated with a deposit of degraded organic matter (deposit 146141) and may represent a special deposit. The organic material was too highly degraded to identify.

The distribution of the animal bone from penannular gully 8 showed no significant pattern.

The animal bone report states:

There was no evidence of deliberate burial, articulation, or of the association of animals bones with other artefacts. There is nothing therefore in the character of the animal bones... that would suggest a ritual aspect to their deposition....

(Bates, CD Section 14)

This roundhouse was one of the few features at Perry Oaks in which animal bone and burnt flint occurred in relatively large quantities, both concentrated in the northern arc of the ditch. In some parts of the ditch, this deposit was sealed by further fills which also produced pottery, animal bone, fired clay and burnt flint, but in relatively small amounts. Where concentrations of these finds did occur (notably of pottery and animal bone), they tended to cluster in the south-eastern or north-western sectors.

Penannular gully 3 and associated rectilinear enclosure/structure 108018

Penannular gully 3 survived as a roughly circular feature, over 18 m in diameter at its widest (Fig. 4.11; Plate 4.3). If it were a domestic roundhouse gully, it could have accommodated a structure of 15 m or more in diameter, on the scale of the Pimperne (Harding *et al.* 1993), Little Woodbury (Bursu 1940) and Flint Farm roundhouses (Payne *et al.* 2005), and would represent the largest middle Iron Age structure on the site. As such, it would have been a significant building within the settlement.

Plate 4.3: Penannular gully 3 looking south-east from the north-west corner of WPR98 Bed C

The gully appears to have had two entrances, one opening out to the south-east and a wider gap facing south-south-east. The latter may have been designed to oppose the north-west facing entrance to penannular gully 8, although the two lay some 50 m apart. No associated postholes were identified within the enclosed area, although surviving postholes in the vicinity indicate that the lack of such features may not be entirely due to truncation. The absence of structural features could suggest that this enclosure was not designed to accommodate a building, but was rather an animal enclosure or served some other function. The scale and position of gully 3 might imply a non-domestic function.

When penannular gully 3 fell into disuse, the location was occupied by a rectilinear feature (108018) represented by a shallow gully that defined a building or enclosure measuring *c* 14 m by 13 m. The gully as exposed in excavation was discontinuous, although it was clear that the northern corner suffered recent localised truncation. The rectilinear feature lay within the entrance gaps of the earlier penannular gully, the north-eastern and south-western sides coinciding

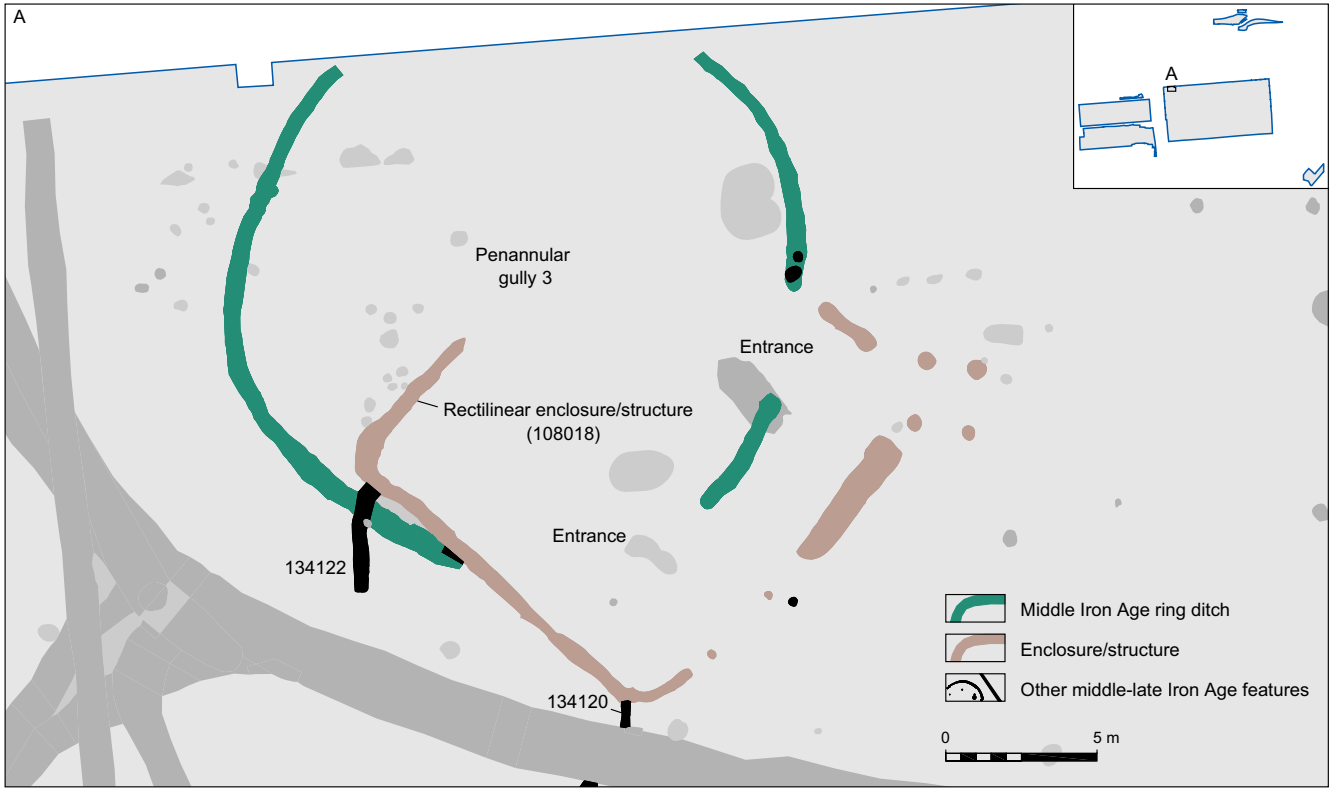


Figure 4.11: Penannular gully 3 and rectilinear enclosure/structure

with the terminals of the entrances. The north-eastern side had been recut on at least one occasion. The gully appears to have had two entrances, one opening out at the east corner, the other facing south-east. The latter entrance was marked by two postholes and their position suggests that the gully probably marked the line of the wall, possibly a sill beam. Alternatively, they may have represented the gate posts to an enclosure. The eastern entrance opened onto a four-post structure, conceivably a porch, although it was possibly unrelated. Pottery from three of the postholes indicated a date of middle to late Iron Age, but the gully itself produced only prehistoric sherds of indeterminate date. Two short lengths of very shallow north-south gully (134122 and 134120) were traced up to the southern and western corners of the rectangular enclosure / structure and may have represented part of an adjoining enclosure, most of the which has been truncated.

Similar rectangular structures are known from the Iron Age across southern Britain, notably from Caesar's Camp at the eastern end of Heathrow Airport (Grimes and Close-Brooks 1993), Little Waltham (Drury 1978), Danebury (Cunliffe 1995), and Stansted (Havis and Brooks 2004). Such structures have often been interpreted as shrines, although in most cases the evidence is far from conclusive and overall the evidence for specialised religious structures in Iron Age Britain remains slight (Smith 2001, 67). The Perry Oaks rectangular structure shares some common features with a number of the structures mentioned above, including its wall trench construction and the easterly or south-easterly orientation of the entrance. It may have been a direct replacement for penannular gully 3 and possibly served a similar function. It is tempting to suggest that the location was somehow special and the structures or enclosures represented a focus of spiritual life within the Iron Age community, possibly linked to penannular enclosure 8. The evidence is, as ever, slight.

Settlement development

It is unlikely that all the roundhouses were contemporary; gully 18 is among the latest on site, and possibly wholly late Iron Age in date (see below). Neither the dating nor the stratigraphic evidence is sufficiently clear to allow us to refine the sequence, and in the absence of a detailed chronology for the settlement, it is difficult to trace its development. It is also unclear whether the settlement extended further to the north and north-west. If the analysis of function based on the finds assemblages is correct, and penannular gullies 3 and 8 are accepted as anomalous, then the larger, probably domestic, roundhouses

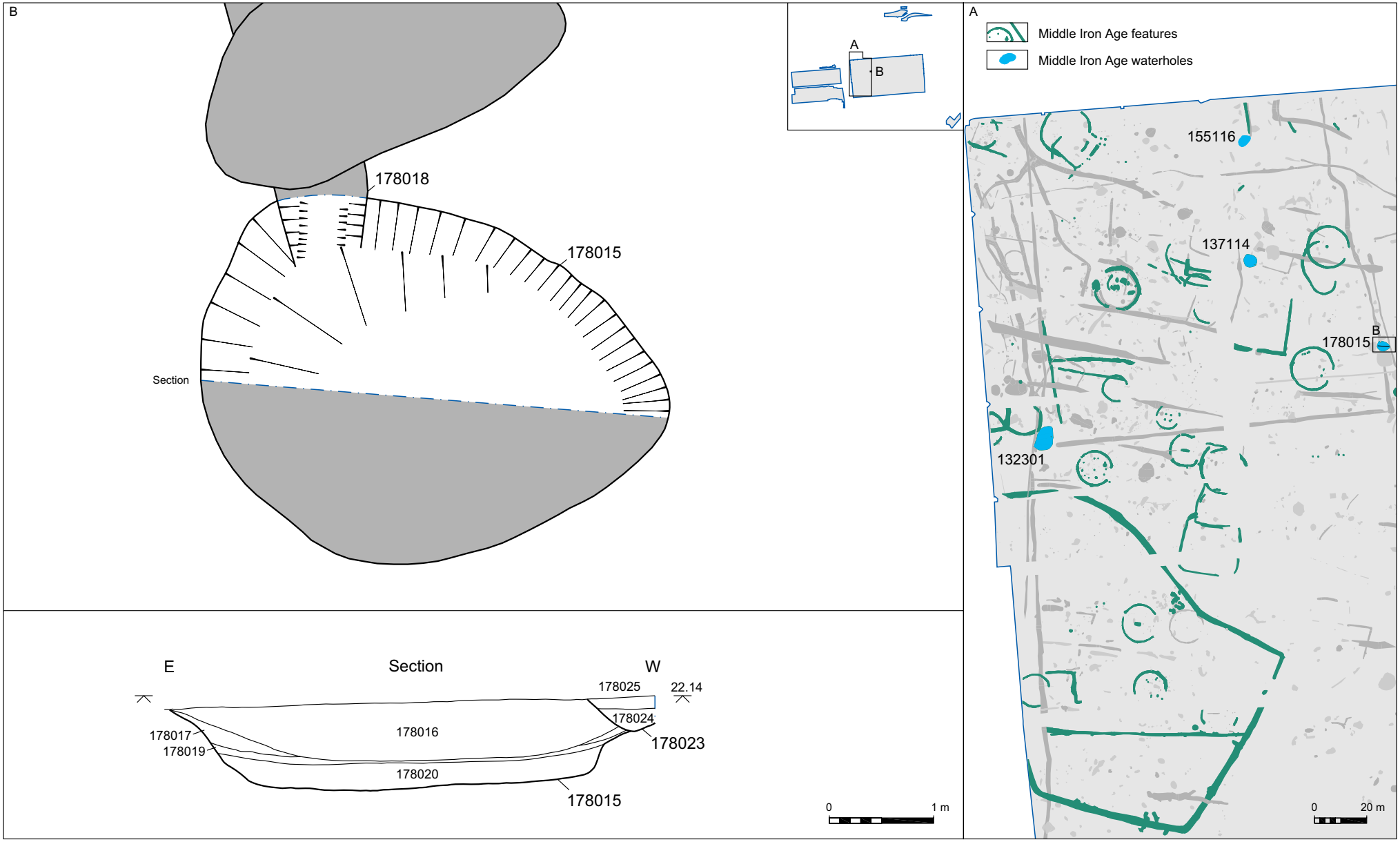


Figure 4.12: Location of middle Iron Age waterholes with detail of waterhole 178015

occupied the eastern fringe of the settlement and the smaller roundhouses lay to the west. A number of the larger roundhouses appear to have had associated enclosures (see Fig. 4.6 above), which may have served as animal stockades or enclosed ancillary buildings.

Waterholes

Water for the settlement was provided by several waterholes—two located on the eastern edge of the settlement (155116, 178015) and two within the settlement itself (132301 and 137114) (Fig. 4.12; Plate 4.4). The latter were substantial features and were open for considerable periods of time. The lower fills of waterhole 137114 were securely dated by pottery to the middle Iron Age, and contained fills characteristic of water-lain silts that form within standing water. A reasonable quantity of late Iron Age pottery from the middle fills of this waterhole suggests continued use into this later period (see below).

Plate 4.4: Excavation of Iron Age Waterhole 155116

Waterhole 178015, lying between the settlement and agricultural fields to the east, was a catchment for organic material from both the farming of the fields and crop-processing within the settlement (Fig. 4.12; see discussion below). The waterhole was dug in an area known to be have a high water table and no great depth was required before water filled its base. The lowest fill, 178020, was water-lain and showed evidence of gleying. This deposit was sealed by a thin layer of iron stained silt with patchy inclusions of grey clay. This in turn was overlain by 178017, derived from the erosion of the pit top and sides, and representing a rapid accumulation of material. The upper fill, 178016, formed slowly, showing evidence of gleying and leaching of minerals, again suggesting that it formed in a watery environment.

Although the absence of gravels in the lower fills suggests that there was little initial erosion of the sides of the pit, there was no clear evidence of a revetment constructed to maintain the purity of the water. The waterhole may therefore have been used by animals. The fill sequence was relatively well dated as contexts 178017 and 178019 contained small assemblages of middle Iron Age pottery, and the upper fill, 178016, contained a single late Iron Age sherd, suggesting the feature survived as a shallow hollow in the late Iron Age. The environmental material from this waterhole is discussed below.

The southern enclosure

After the settlement had been in existence for some time, a number of the roundhouses in the southernmost area were enclosed by a substantial bank and ditch (Fig. 4.13). This irregular enclosure appears to have cut the eastern end of a shallow east-west linear gully (121075), although the main part of the gully may have continued in use, dividing the enclosed area into different zones such as domestic settlement and animal corrals. Analysis of the finds recovered from the fills of the enclosure ditch (see Figs 4.2 and 4.5 above) show marked differences in distribution. Most of the artefacts were recovered from the stretches north of the dividing gully, and particularly from the north-eastern part of the ditch. This probably reflects a higher level of domestic activity in the area. The only finds from the southern part of the ditch were a few pieces of struck or burnt flint.

The ditch and bank would have formed an impressive barrier. The ditch varied in profile, but was steep sided and over 1 m deep in places. The evidence of fill profile suggests that the enclosure had an internal bank, perhaps topped with a palisade, fence or a hedge (see reconstruction in Fig. 4.19 below). A south-east facing entrance was exposed in the excavated area, but the unexcavated western side of the enclosure may have also have had an entrance.

Although unlikely to have been defensive, the enclosure seemed designed to accommodate at least four roundhouses, while excluding others. The north-eastern stretch of the ditch changes alignment, respecting the ancillary subrectangular enclosures of roundhouse 12 to the north and enclosing an area devoid of roundhouses. It also cut one of a small complex of Iron Age pits dug in this area (see discussion on pits below).

It is possible that no more than three or four roundhouses were extant at any particular time during the middle Iron Age, and that the enclosed buildings represented a single phase of enclosed settlement. Activity within the enclosure continued into the late Iron Age and the only securely dated late Iron Age roundhouse (18) was constructed within its confines and over the area of the putative bank (see below). Regardless of its significance in terms of the settlement pattern, the construction of the enclosure represents a major investment of labour.

Pollen samples taken from the terminus of the ditch provided some evidence for the nature of the surrounding landscape (see below for full discussion). The landscape was predominantly:

…herb-rich grassland. Bracken was relatively abundant and may have been encroaching on the pasture. The presence of reedmace indicates that the water table was high within the ditch, although it may not have been waterlogged. The relatively high frequency of ferns might also represent plants growing in the moist and protected microenvironment offered by the ditch. No cereal pollen was found and there was no evidence that the feature represented a boundary between arable fields and other areas. The only woody taxa recorded were alder, pine, oak and hazel, with the latter being the most abundant.

(Wiltshire, CD Section 11)

This evidence suggests that pasture was an important element of the agricultural system to the east of and within the settlement, whilst the woody taxa identified suggest the presence of a hedge associated with the ditch. This pattern of enclosure of a later settlement is paralleled at Caesar's Camp, Heathrow (Grimes and Close-Brooks 1993).

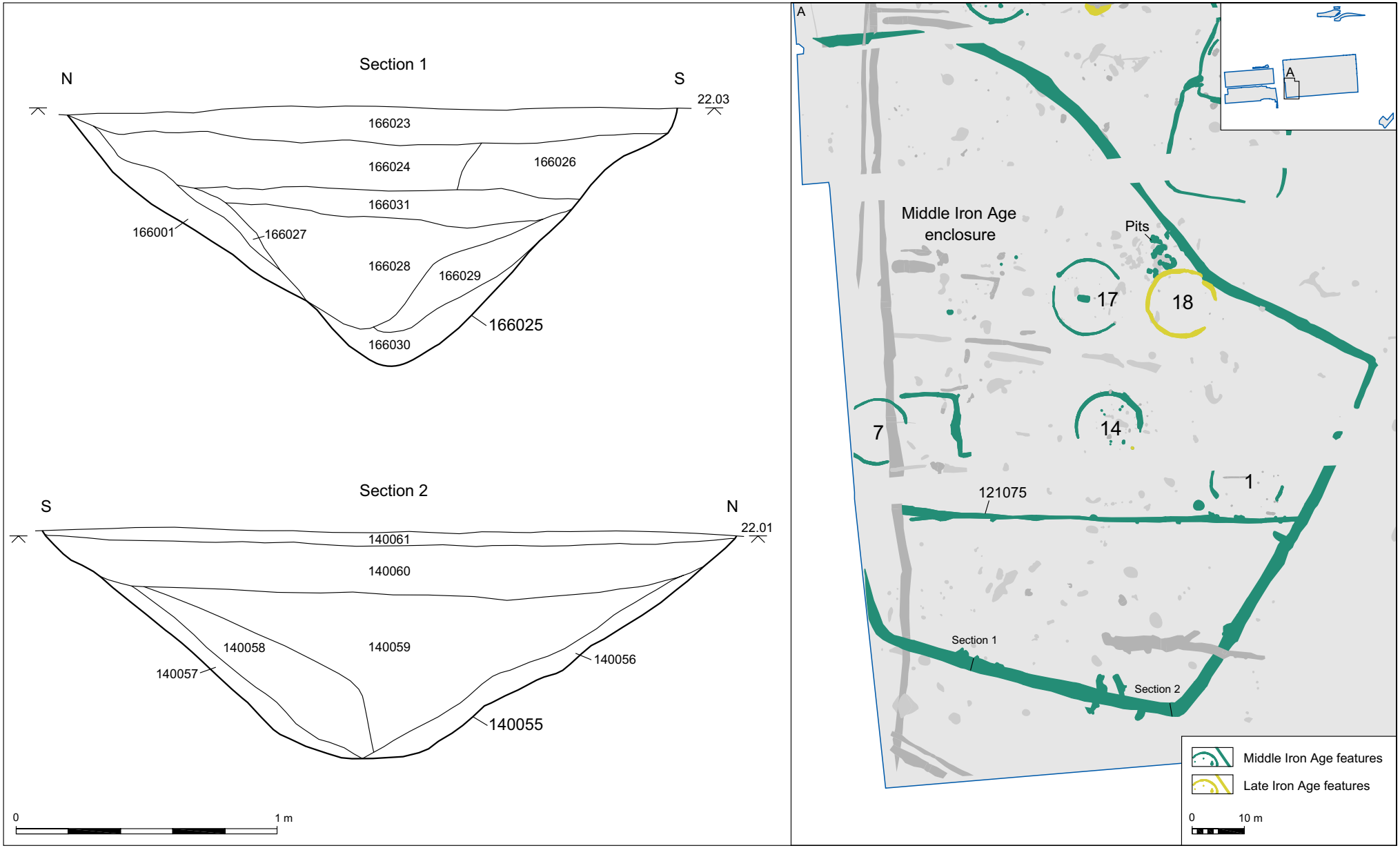


Figure 4.13: The southern middle Iron Age enclosure

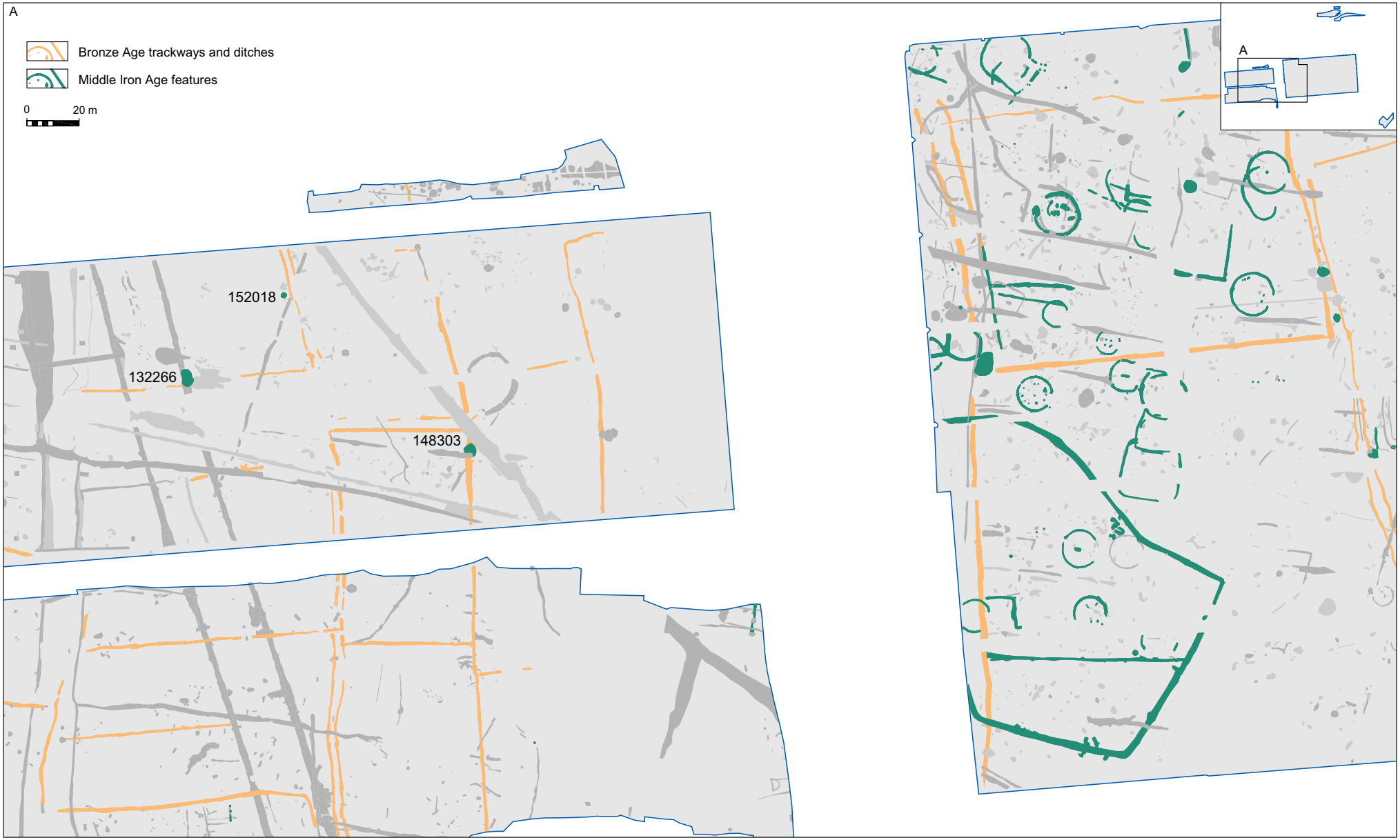


Figure 4.14: Middle Iron Age activity in the western field system

Middle Iron Age activity in the western field system

Three pits or waterholes located in the western fields on the lower gravel terrace were dug with the intention of providing a source of water, presumably for the watering of both cattle and crops (Fig. 4.14).

The westernmost waterhole, 132266, was situated in the corner of a middle-late Bronze Age field and cut the fills of the eastern Stanwell Cursus ditch. The waterhole was poorly dated, with the main fills producing pottery sherds that could only be broadly dated to the early-middle Iron Age, and the lowest excavated fill contained two small late Bronze Age sherds.

Context number	Number of objects	Specific date	Material type
148298	7	Bronze Age	Flint
148298	2	Late Neolithic/Bronze Age	Flint
148298	1	Mesolithic	Flint
148298	2	Middle Bronze Age	Pottery
148298	1	Neolithic	Flint
148299	1	Late Bronze Age	Pottery
148300	2	Late Bronze Age	Pottery
148306	1	Bronze Age	Flint
148306	4	Early Bronze Age	Pottery
148304	2	Late Bronze Age	Pottery
148305	1	Late Bronze Age	Pottery
148308	2	Early Iron Age	Pottery
148308	1	Neolithic	Flint

Table 4.4: Dated residual material from contexts of waterhole 148303

A second waterhole, 152018, was also apparently sited with reference to middle and late Bronze Age field boundaries. It was also poorly dated, with only two small sherds of middle Iron Age pottery recovered from one of the upper fills. A third waterhole (148303), also located at the edge of an earlier field, was well dated (Fig. 4.15). Waterhole 148303 was some 1.77 m deep, with the earliest fill, 148309, representing the rapid collapse of the sides shortly after it was dug. This gravel-rich deposit contained only a few fragments of animal bone. Two subsequent fills, 148310 and 148308, represented slow silting episodes in a watery environment, and both contained wooden twigs and middle Iron Age pottery. Other finds included animal bone, burnt flint and fired clay, including possible fragments of a loomweight or oven brick. These deposits were sealed by a sequence of well-dated, gravel-rich secondary fills and tertiary fills.

Considerable quantities of finds were recovered from the fills of the waterhole, the variety of which suggests a range of intense activity in the vicinity. Some 348 sherds of pottery weighing over 2 kg were recovered—a significant amount for the site—along with over 1 kg of fired clay, 1.3 kg of animal bone, over 1.5 kg of slag and 5 kg of burnt flint. Several struck flints and flint debitage were residual.

A sequential analysis of this material produced some interesting results. The primary fill and the water-lain fills contained mixed assemblages of finds, with significant quantities of pottery and animal bone and only small amounts of burnt flint and fired clay. In contrast, the assemblages from the gravel-rich secondary fills were dominated by burnt flint, fired clay and slag. The finds indicate industrial activity in the area of the pit, the debris from which was dumped into the feature.

Almost all of the slag from the feature was recovered from contexts 148305, 148304 and 148306, along with over 850 g of the fired clay and over half of the burnt flint (2.8 kg) (Fig. 4.15). The amount of pottery and animal bone recovered from these deposits was proportionally lower. Amongst the fired clay were fragments of two loomweights (or oven bricks), and a partially vitrified fragment of a tuyere. The slag was identified as waste from iron smithing with some possible smelting waste. Of the 3 kg of slag recovered from all middle Iron Age features, over

half of this total came from waterhole 148303. The tertiary fills of the waterhole also produced large quantities of burnt flint and fired clay, and a single piece of slag, debris perhaps derived from middens associated with this industrial activity.

The entire waterhole sequence appears to date to the middle Iron Age, as there was no evidence of later material in the secondary and tertiary fills. There was a relatively large quantity of early residual material, predominantly burnt flint and pottery, ranging in date from the Mesolithic and Neolithic through to the late Bronze Age. This is unsurprising given the proximity of the feature to the middle and late Bronze Age field boundary and the Neolithic monument. It is the distribution of the finds within the fill sequence that is particularly interesting (see graph in Fig. 4.15). Small amounts of residual material were present in most fills, including one of the water-lain fills (148308, shown in red), the secondary fills (in blue) and the tertiary fills (indicated in yellow). It is notable that more residual material was recovered from the tertiary fills than the lower deposits. When analysed further, another pattern emerges (Table 4.4).

The sequence of water-lain (148308) and gravel-rich secondary fills (148300, 148304–6) all contained some residual material, most of which was late Bronze Age or early Iron Age in date. The material in the upper fills was more varied, and included Neolithic and undiagnostic Bronze Age flints. The increased quantity of this material suggests that it was derived from different and more wide ranging sources. The artefacts in these upper fills may represent material deposited by a re-introduction of ploughing. If this were the case, it highlights a shift from pasture to increased cereal cultivation (see discussion below).

The pattern of activity in the western field system during the middle Iron Age is difficult to define on the basis of the limited evidence available. It does appear, however, that waterholes and pits continued to be dug close to existing boundaries, whilst the absence of newly created boundary ditches implies a degree of continuity of the pre-existing field systems. We have no firm evidence for the nature of the farming undertaken in this area, but the circumstantial evidence from waterhole 148303 suggests that there may have been a change from pasture to crop growing in the later part of the middle Iron Age. This waterhole deposit also shows that iron working, and possibly other aspects of pyrotechnology, were taking place to the west and outside the main area of the settlement.

Middle Iron Age activity in the eastern field system

Waterholes and pits were also dug within the field system to the east of the middle Iron Age settlement. Two were cut along the line of the defunct Bronze Age trackway which formed the eastern limit of the settlement (Fig. 4.16). One, 178015, has been discussed above. A second waterhole, 156100, dug some 18 m to the south, contained no datable material apart from a single middle Iron Age sherd. Other waterholes and pits in the area may have been contemporary, but were not investigated as part of the excavations.

A group of four intercutting pits, 161099, 161103 161093 and 161089, lay further to the south along the line of the disused trackway. The precise stratigraphic relationships of the earlier pits were not recorded, but all are likely to be of similar date and none was very deep. The most closely dated was pit 161093, which was dug to a depth of 0.8 m and contained two fills, neither providing evidence of standing water. Both fills produced small numbers of middle Iron Age sherds. The function of the three earliest pits is difficult to ascertain.

All were cut by a later pit, 161089, which was excavated to a depth of 0.55 m. It contained two fills, both of which produced large quantities of pottery. The lower fill, 161091, represented a gradual erosion of the sides and top of the feature. It contained 66 sherds of middle Iron Age pottery, along with a deliberate dump of 154 sherds (161088), all dated to the middle Iron Age or the middle/late Iron Age. The upper fill of the pit (161090) was also likely to have accumulated slowly, and contained 304 sherds of similar date. Neither fill contained significant quantities of other find types—a small amount of animal bone was recovered from 161090 and a very small quantity of slag, fired clay and burnt flint came from 161091. The pit has few contemporary parallels in terms of the quantity of pottery, and the absence of other components of a ‘domestic’ assemblage points to a specific pattern of deposition (see discussion below).

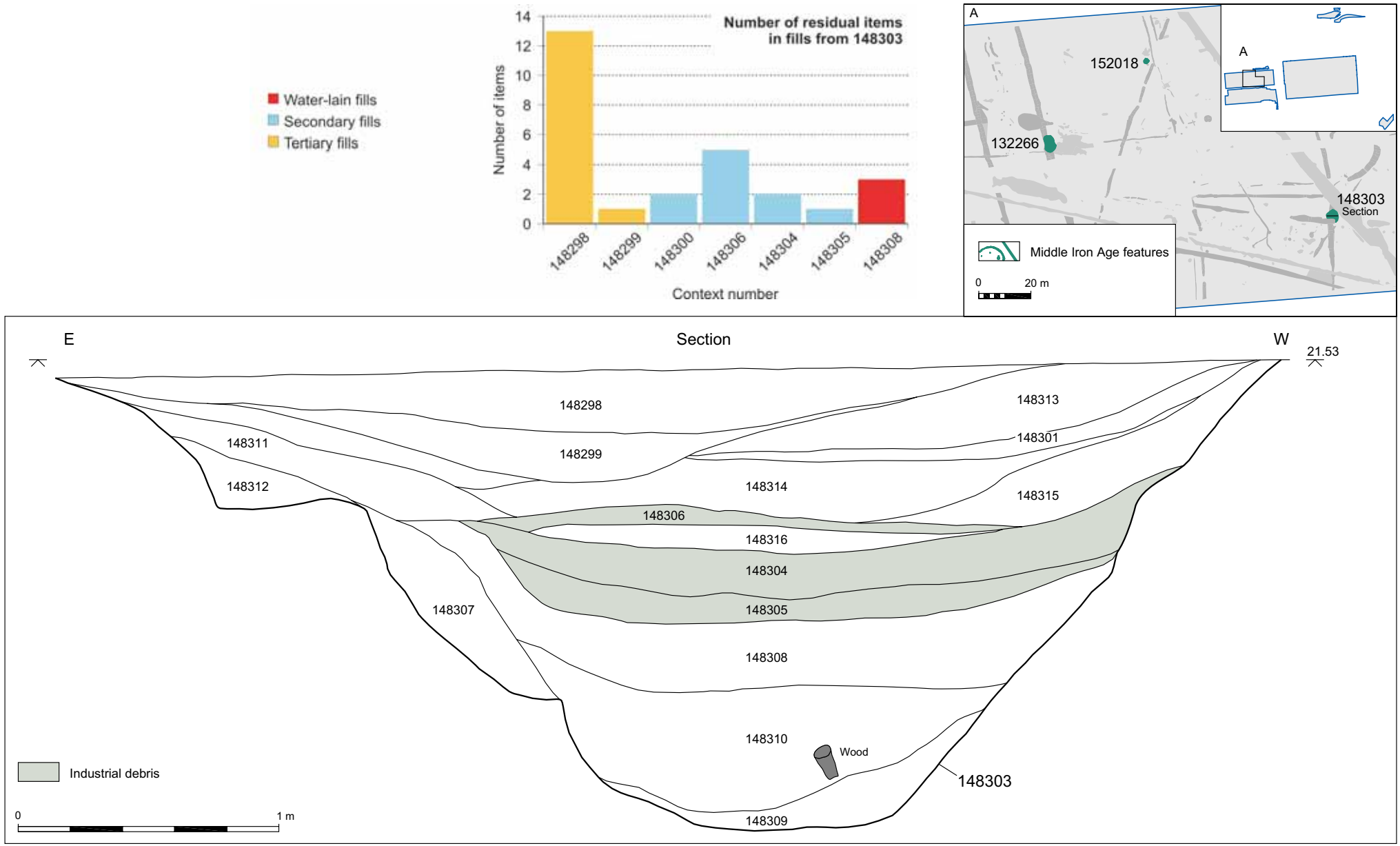


Figure 4.15: Middle Iron Age waterhole 148303

Another waterhole, 105027, lay *c* 180 m to the south-east of this pit group. It was roughly circular in plan, and 0.8 m deep. The southern edge formed a shallow slope, probably an access ramp, whilst the northern edge was steeper. The waterhole contained a classic silting sequence, with gravel-rich primary fills (105028 and 130195) sealed by two successive layers which formed in standing water (layers 105029 and 105031). The upper fill of the feature (105032) formed over a long period. A date for the feature, which cut one of the silted ditches of the middle/late Bronze Age field system, was provided by a few sherds of early/middle Iron Age pottery recovered from the lower part of the fill sequence. The only other material recovered was a small residual assemblage of struck flint and small quantities of fired clay.

A steep sided pit, 163005, excavated close to the eastern end of the site also dated to this period, but its function was unclear. The primary fill, which contained no finds apart from a single sherd of early Iron Age pottery, was sealed by a charcoal rich dump of domestic material. This contained a small quantity of animal bone, burnt and worked flint, along with 19 sherds of pottery. The uppermost fill represented a gradual silting episode.

Other middle Iron Age features in the area east of the settlement included a small number of tree-throws and a single posthole. All of the tree-throws were dated by a few abraded sherds of middle Iron Age pottery. This material may represent domestic waste from the settlement

Plate 4.5: Surveying the middle Iron Age features in the eastern field system

used to fertilise the fields. If this were the case, it would correspond with the pollen evidence, which suggests a mostly open landscape with few trees during this period.

Further evidence for middle Iron Age activity within these fields consisted of a number of approximately east-west aligned ditches (128296, 163060, 160184 and 160092) that seem to subdivide Bronze Age land divisions. All may have recut earlier ditches and none were particularly well dated, containing very small quantities of middle Iron Age pottery. This points to continued activity in the eastern fields, although it is unclear whether the entire system remained in use (see discussion on farming below).

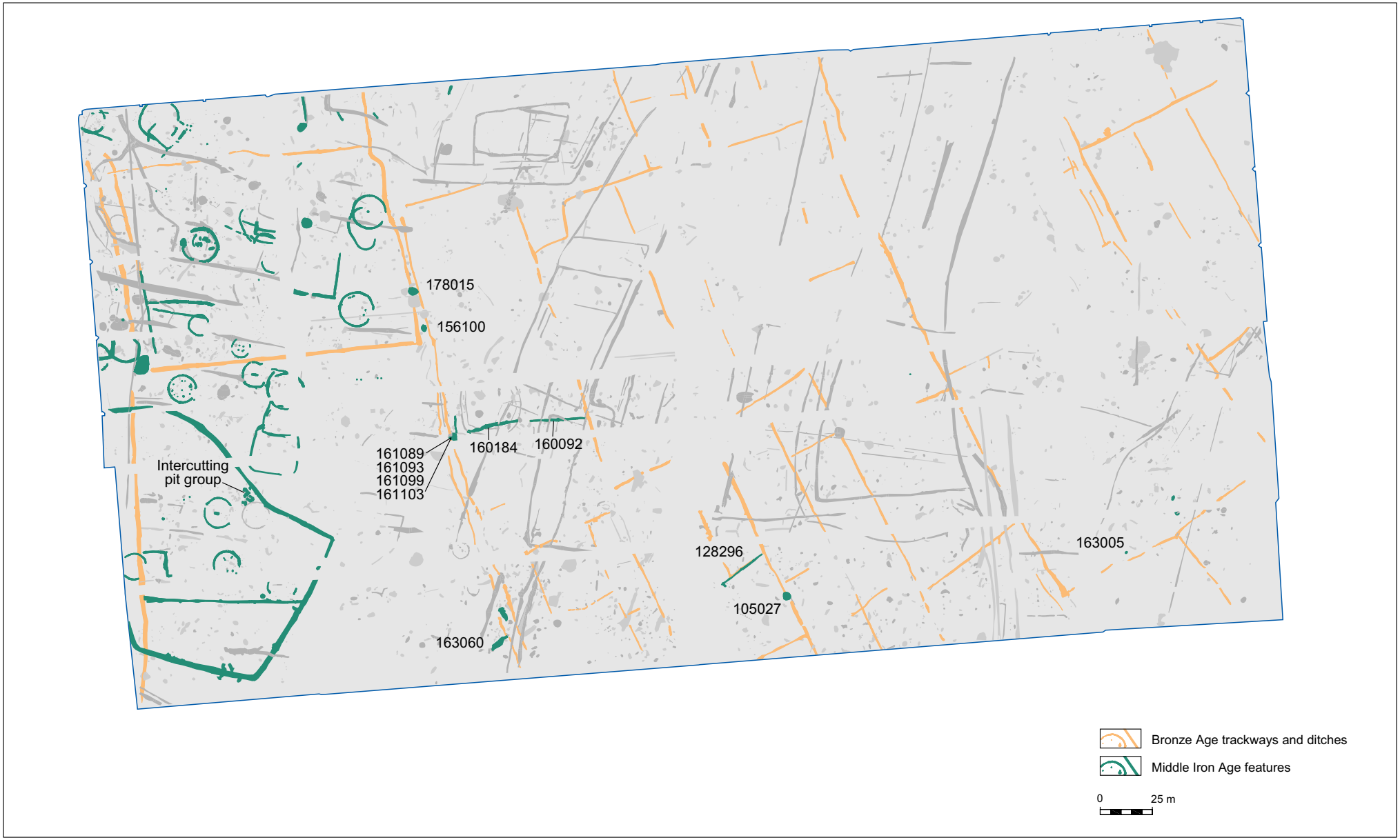


Figure 4.16: Middle Iron Age activity in the eastern field system

Pit digging, middens and propitiation in the middle Iron Age

A group of 32 shallow, inter-cutting pit lying within the boundary of the later middle Iron Age enclosure should be noted (Figs 4.16–7). The pits had been infilled by the time the enclosure was built. One was cut by the digging of the middle Iron Age enclosure ditch, all must have lain in the area occupied by the enclosure bank, and one pit was also cut by the late Iron Age penannular gully of house 18 (Fig. 4.17).

The concentration of shallow and intercutting pits is unusual. One of the stratigraphically earliest pits contained a quantity of Bronze Age sherds. Iron Age pottery and residual Bronze Age sherds were recovered from the remainder of the pit fills along with animal bone, burnt flint and stone, fired clay and worked flint (some of which was residual). Pit 141202 produced a complete miniature vessel dating to the middle Iron Age (Fig. 4.17, no. 1).

The repeated activity, and the mixed and residual nature of the fills might imply that these pits were associated with a range of well established activities in the immediate vicinity that generated a reasonable amount of debris, perhaps resulting in the creation of a midden. It is noticeable that the pits lie at the point where the middle Iron Age enclosure ditch diverts from its line to curve around a large area devoid of any surviving evidence for buildings. This might indicate that enclosure was designed to incorporate an area of earlier activities, of which the pits are our only surviving trace.

Figure 4.17: Distribution of pottery within the middle Iron Age pit group within the settlement

Farming in the middle Iron Age at Perry Oaks

The inhabitants of the middle Iron Age settlement continued to cultivate the earlier landscape. It is possible that the nucleated settlement represented an agglomeration of earlier farmsteads, although whether its location within earlier common land indicated increased pressure on resources is unclear. If this were the case it would imply social or even political change.

Whatever the significance of the reorganisation of the settlement, it is clear that agriculture remained the primary focus of activity. Construction within the confines of pre-existing landscape boundaries indicates continued use of the earlier fields for agriculture. There is little evidence for any significant reworking of field boundaries, and the land divisions were defined by banks and mature hedges, the ditches having long been infilled.

Three main sources are available to us in analysing the nature of the agriculture of this period—pollen, charcoal from the fills of the features, and animal bones. Although the preservation of animal bone was generally very poor, there was a reasonable assemblage of material from the settlement, largely recovered from the fills of the recut ditch of penannular gully 8. However, the animal bone assemblage from gully 8 is probably the result of selective activity and cannot be treated as a reflection of species proportion in the general animal population at the time.

The proportions of animal bones identifiable to species was very low, and the poor preservation of animal bone in general made it impossible to estimate the relative proportions of species in the assemblage (Bates, CD Section 14). Cattle and sheep bones were both present, and likely to have formed the main elements of the animal stock of the settlement. Small numbers of pig bones were also recovered along with a few red deer bones. Bates' specialist report on the assemblage states that:

The predominance of cattle over sheep/goat may simply be the result of low-lying areas, such as the Perry Oaks environment, being more suited to cattle husbandry. Similar proportions of species are found on other Iron Age sites on the gravel terraces of the lower Thames Valley (Grant 1984, 103–105).

(Bates , CD Section 14)

The low occurrence of pig on Iron Age sites is not unusual, but pig is almost certainly under-represented at Perry Oaks, often being described in the archive records as poorly preserved, presumably due to low bone density in comparison to other animals of similar size. Horse bones and a few dog bones were also recovered from the middle Iron Age site.

The best evidence for land management in the middle Iron Age was recovered from one of the waterholes excavated at the eastern edge of the settlement (178015; see Fig. 4.12 above). Analysis of pollen samples taken through the fills of this waterhole have given us good evidence for the surrounding landscape. The pollen diagram for this feature is summarised in Figure 4.18, and described below:

The lowest deposit is characterised by very high levels of microscopic charcoal and an exceedingly open landscape. The feature itself was wet although there is no palynological evidence for standing water in this zone. Sedges, water mint, and meadow sweet were growing very close, probably at the wet edges of the pit. Fungal spores were also high in this zone and that might indicate that the pit dried out from time to time so that deposits became aerated enough to allow fungi to grow on organic debris falling into the feature. The area around the feature seems to have been very open, with woody taxa accounting for only about 5% of TLPS. Alder, pine, hazel, and oak were recorded but they were probably some distance away as single trees, or else all the trees and shrubs in the catchment were severely coppiced or pollarded.

(Wiltshire, CD Section 11)

These results suggest that grazing pressure was particularly high when this waterhole was open, and that the abundant weeds identified from the pollen were avoided by grazing animals, or may have been growing on the edges of arable fields, on grassy banks between fields, or on open broken ground. Cereal pollen also points to arable cultivation in the area.

Higher up the sequence (Zone 2 of pollen column in Fig. 4.18) there is evidence for a drop in the intensity of grazing, in the form of a slight increase in woody taxa with some scrub/hedge plants also present. Whilst grasses increased, there was a slight decline in some weeds. The levels of microscopic charcoal were also lower, supporting the suggestion that there was a shift in activity,

including a lowering of grazing pressure on the land surrounding the waterhole. Small amounts of cereal pollen were found, pointing to continuation of arable farming in the vicinity.

In pollen Zone 3, there was further evidence for an even greater decline in grazing and management of woodland plants. Both grasses and woody taxa were more common, whilst the decline of ruderals (weeds) noted in Zone 2 continued. Again, the presence of cereal pollen pointed to continued arable cultivation. The presence of *typha* (reed-mace) also indicated that the feature or its margins were very wet. This accorded with the recorded stratigraphy, which showed evidence of formation in a watery environment (see above).

The upper Zone (4) of the pollen diagram suggested a continuation of open landscape, with only a slight increase in tree and shrub growth, a significant increase in the representation of grass pollens, a smaller increase in cereal pollen, and a decline in ruderals. These point to continued decline in grazing in the area, although it is possible that the evidence was distorted by hay-making or some similar practice:

If the cut were made after grass flowering but before the main flowering season of the grassland weeds, it is not difficult to see how this activity could affect the palynological record. Grass must be viewed as a crop (Lockhart and Wiseman 1983) and there is no reason why these Iron Age peoples should not have been making hay for overwintering animals or for some other domestic purpose.

(Wiltshire, CD Section 11)

The general picture that emerges is one of a fairly open landscape, where the:

…middle Iron Age settlement was set in a very clear landscape with very few trees and shrubs. If they were present, then they must have been pollarded and/or coppiced very regularly so that woody taxa were not able to flower. Cereal growing /processing was being carried out at the site but marked changes in the pollen spectra show that either grazing pressure was lower than before or that the timing of hay making influenced the sward. There was no convincing evidence for hedges in this part of the site in the middle Iron Age and boundaries might have consisted of earth/grassy banks. These banks would have provided havens for many of the herbaceous plants found in the sample.

(Wiltshire, CD Section 11)

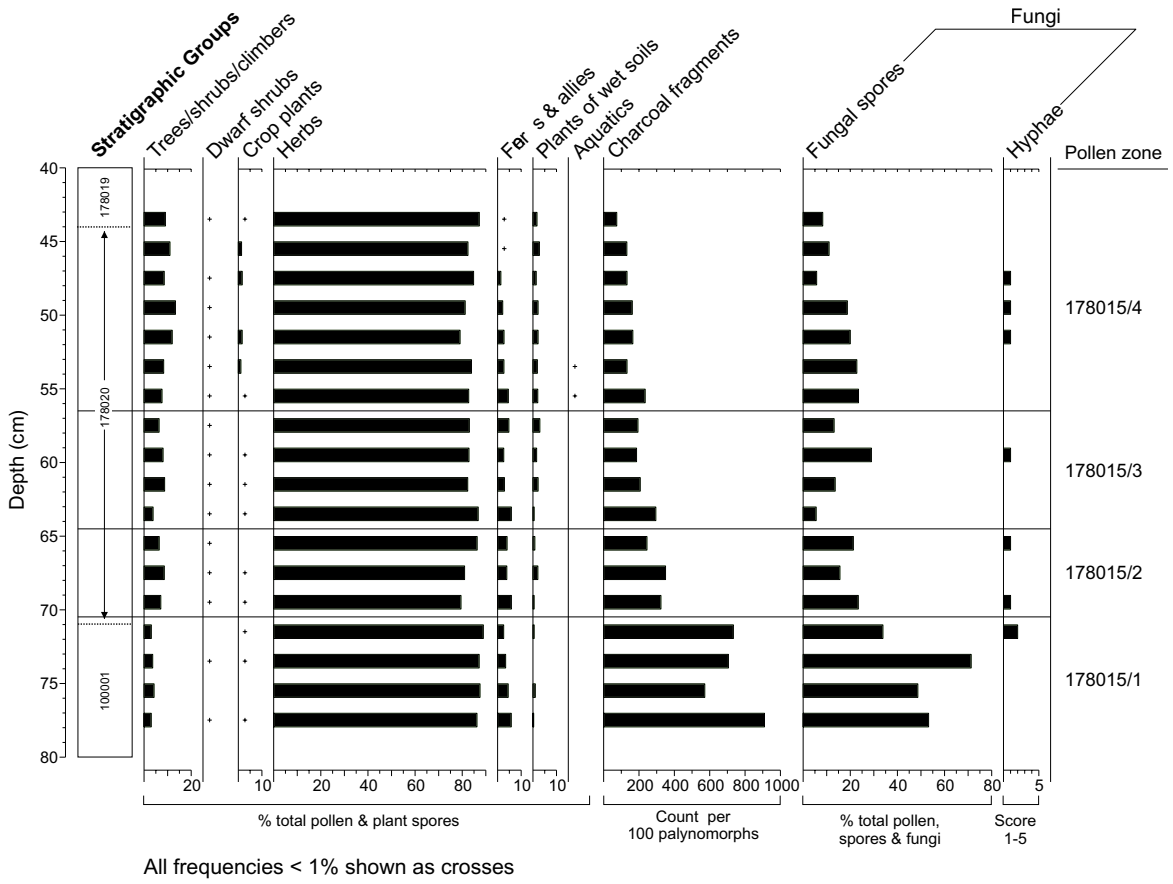


Figure 4.18: Pollen diagram for waterhole 178015

Summary

The evidence for middle Iron Age agriculture is sparse. Developing out of the major landscape divisions of the Bronze Age, the construction of the new settlement seems to have been allied to changes in the way the land was farmed, with inevitable consequences for the layout of the landscape. The continued digging of waterholes within the bounds of the western field system suggests the survival of some, if not all, of the field boundaries in this area, with animal grazing probably being the primary agricultural activity. There was also some evidence for iron smelting and smithing in this locality.

The evidence for the eastern field system is more ambiguous. Although a number of pits or waterholes were dug, some of these may have served the settlement rather than the fields. Only one, 105027, lay on the edge of an earlier field, with the remainder being dug across the line of a derelict Bronze Age trackway, which for much of its length marked the eastern limit of the middle Iron Age settlement. Equally ambiguous was the only pollen evidence, obtained from one of the waterholes (178015), which appears to show that the landscape was extremely open, and that grazing pressure on grasses appeared to decline through the life of the waterhole, whilst the levels of cereals grown remained relatively constant. Despite the fact that the waterhole was acting as a catchment for material derived both from the settlement and from the field system, it does hint at an open landscape in which grazing in this area at least was less intensive.

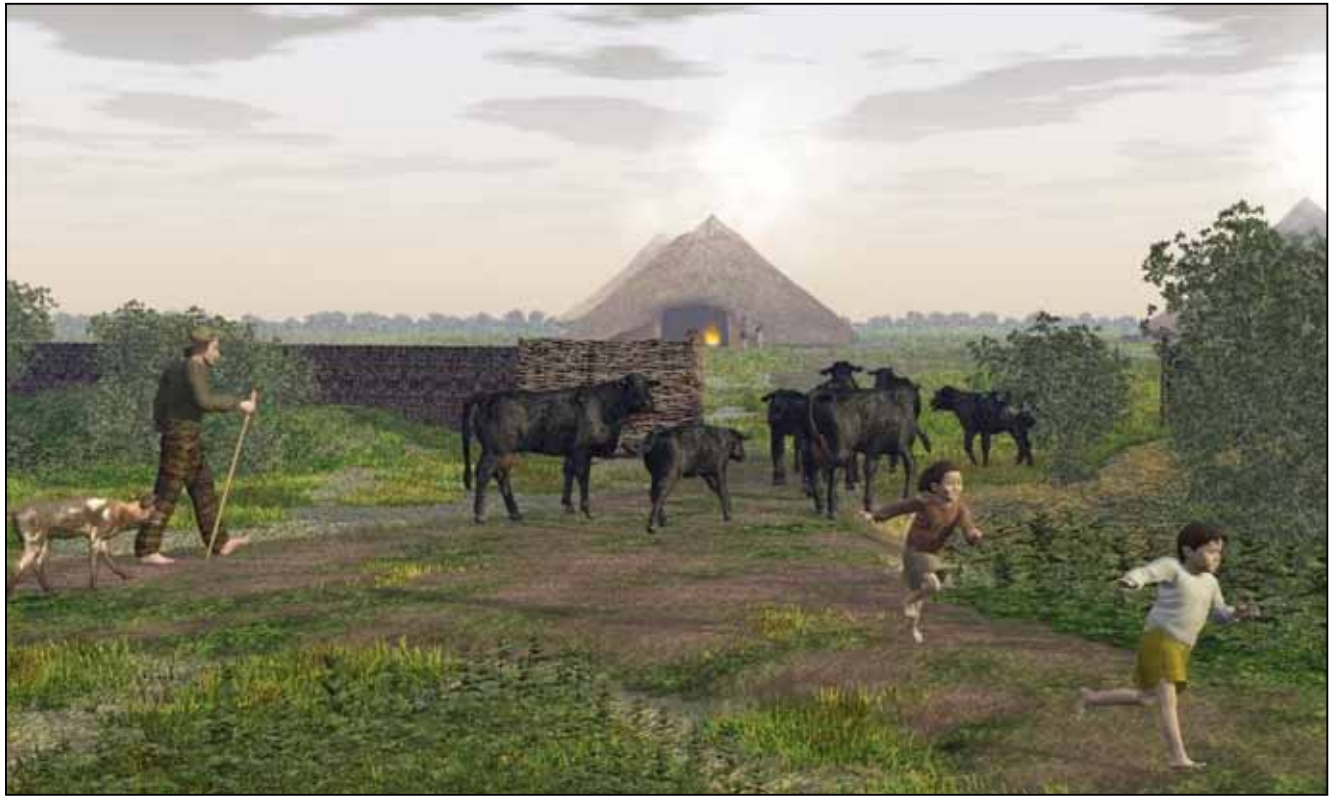


Figure 4.19: Artist's reconstruction of the middle Iron Age Settlement at Perry Oaks, looking west through the entrance in the southern enclosure

The likelihood is that this small settlement was one of a large number of similar settlements which were bound politically and may have owed a degree of allegiance to an elite group or individual. It is unclear how this political structure worked. If dues were paid, this could have been by agricultural surplus or labour service and military obligation.

Transforming the landscape—late Iron Age-early Roman settlement and re-organisation

Large-scale and quite fundamental changes took place in the late Iron Age, although they may also be the most archaeologically ephemeral (Figs 4.20–1). The system of small co-axial fields which had characterised the landscape for almost two thousand years seem to have been largely replaced or cleared and a field system aligned roughly north-east to south-west was constructed in its place (Fig. 4.20; see below). We will first look briefly at the ceramic data for this period and then examine the evidence for a settlement focus, before commenting in more detail upon the newly created field system.

Ceramic evidence

The earliest ceramic material from this phase comprised 'Belgic' type wares, which have a date range beginning in the 1st century BC, indicating that the significant landscape developments may well have taken place some time before the Roman conquest (see below). However more precise dating that would enable the transition from the middle Iron Age settlement to be better understood is not possible, as Every and Mepham state:

Ceramic developments within the late Iron Age can be seen within the wider context of the late Iron Age ceramic sequence for southern England. The introduction of wheelthrown 'Belgic' wares in necked and shouldered jar forms, and their handmade imitations, is generally

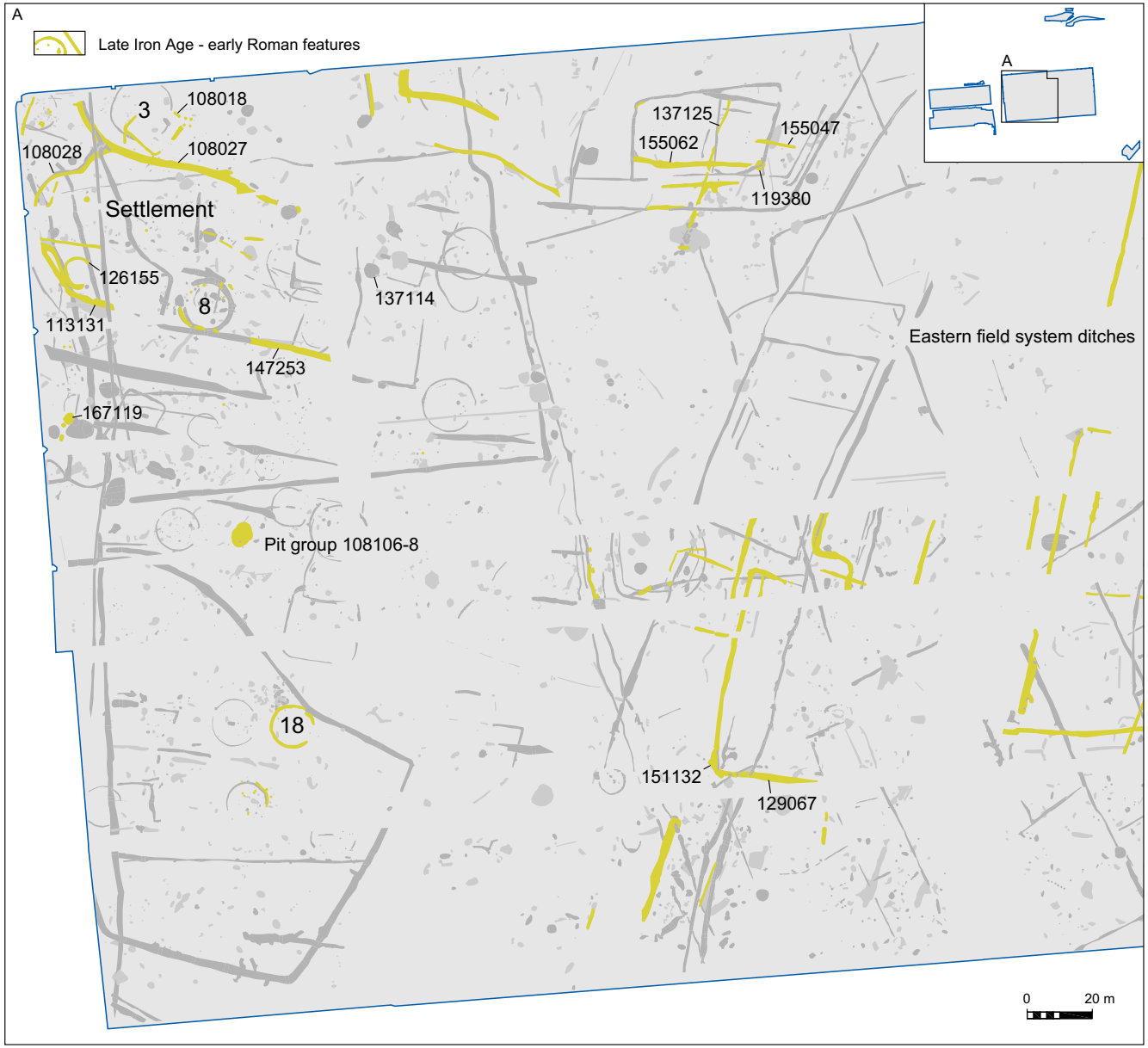


Figure 4.20: Late Iron Age - early Roman landscape at Perry Oaks

dated no earlier than the second quarter of the 1st century BC. It is likely that there was some period of overlap between these wares and the preceding middle Iron Age traditions, although the isolation of well stratified early groups containing both types has not proved possible at Perry Oaks.

(Every and Mepham, CD Section 1)

The pottery assemblages from this late Iron Age-early Roman phase include some 'Romanised' forms and fabrics, but these only became numerous during the 2nd century AD. Prior to this point the inhabitants continued to use pottery developed from the well-fired, wheel thrown ceramic tradition of the late Iron Age. In many cases it is generally difficult to determine whether this material is pre- or post-conquest in date, creating a corresponding difficulty in phasing certain elements of the site.

This particular issue is highlighted in the Roman pottery report:

Although there is a substantial amount of these [late Iron Age/early Roman 'Belgic' type wares] wares there is very little 'Romanised' material that could be dated earlier than the early-mid 2nd century AD. Contexts that contained this early material with Roman wares such as Verulamium and some unsourced sandy wares defined the early Romano-British period. Early forms within these groups are restricted to bead-rim and high-shouldered/necked jars, with the single example of a 'Surrey' or 'Atrebatic' bowl. Early flagons and mortarium types are completely absent and there are virtually no amphorae. Not until the end of the first quarter of the 2nd century AD does Roman material really start to occur in quantity.

(Brown, CD Section 2)

The pottery of the period 100 BC–AD 120 was largely composed of a narrow range of coarsewares. Only four sherds of a total of 506 dated to this phase were finewares, including three small samian ware fragments. Small quantities of pottery in Romanised forms and fabrics could be confidently dated to the post-conquest period, including shell-tempered wares, Alice Holt sandy wares and samian ware. In contrast, the pottery assemblage post-dating AD 120 was dominated by these 'Romanised' wares although the proportion of finewares was relatively low.

Settlement focus

Despite the paucity of evidence for late Iron Age-early Roman domestic structures (see below), it is likely that main focus of occupation remained in the area of the middle Iron Age settlement (Fig. 4.21). The northern area of the earlier settlement was cut through by two boundary ditches (147253 and 108027) which had been dug partly with reference to the two largest middle Iron Age structures (gullies 3 and 8). One of these, represented by penannular gully 8, was still clearly in use as a segment of the gully was recut in this period. This work may have been contemporary with the cutting of a large pit (148342) through the southern ditch of the penannular gully.

Another pit (147153) was dug within the gully interior, its fill including a deposit of burnt material including cremated animal bone.

The southern edge of gully 8 was skirted by the late Iron Age-early Roman boundary ditch 147253, which appeared to continue (after a possible gap) westwards as ditch 113131 and then curved back to the north-west as ditch 108028 (Fig. 4.21). A small irregular shallow penannular gully (126155) was dug against the north lip of this boundary (113131). Further modifications were to come when gully 8 was incorporated into the corner junction of the reworking of this boundary complex (by ditch 147237) in the middle Roman period (see below).

A second ditch (108027) curved around the southern edge of the rectangular enclosure/structure 108018, which overlay middle Iron Age gully 3. It is quite possible that feature 108018 could actually date to the late Iron Age, but the chronological evidence remains uncertain. In any case the implication is that both middle Iron Age gullies 3 and 8 continued to have an impact on the landscape in the later Iron Age and Roman periods.

The one recognisable late Iron Age-early Roman domestic structure is represented by penannular gully 18, located *c* 120 m to the south of the northern activity area (Fig. 4.20). This must have cut into the denuded internal bank of the irregular middle Iron Age enclosure, the upper ditch-fills of which were continuing to accumulate in this period.

Figure 4.21: Late Iron Age - early Roman settlement in the northern part of Perry Oaks

Feature type	Number of objects	Weight (g)	Average weight (g)
Cremation	7	35	5
Ditch	937	5088	5.43
Gully	39	250	6.41
Pit	350	4803	13.72
Posthole	2	13	6.5
Ring gully	101	775	7.67

Table 4.5: Quantities of pottery recovered from late Iron Age features

The difficulty of identifying late Iron Age structures is a more general problem in southern British settlement studies, one which presumably indicates a change in the nature of domestic architecture rather than necessarily implying a decline in settlement activity. Consequently some of the undated postholes within the earlier settlement area may be late Iron Age-early Roman in date.

The quantities of late Iron Age-early Roman pottery recovered from these features are presented in Table 4.5. Most sherds were recovered from the earlier settlement area, and those with the highest average weight came from pits and waterholes (notably 130212, 137114 and 167119, the only such features to produce more than 20 sherds) and penannular gully 8. The limited but relatively large sherd fragments from the middle Iron Age pennanular gullies (3, 10, 11 and 15) and later Iron Age-early Roman ditches (eg 108027 and 108028) may reflect the proximity of these features to the core of the settlement area.

The fills of the northern ditch (108027) produced a diverse assemblage of finds, including pottery, fragments of fired clay and animal bone. Amongst the bone assemblage was a complete cattle mandible, which was found in the ditch fill immediately to the south of the entrance of rectilinear enclosure / structure 108018. The quantity of finds from this ditch suggests that there was fairly intensive activity in the area.

The southern ditch segments (113131, 147253), which slighted the southern curve of gully 8, also produced large quantities of occupation material, including animal bone, pottery, burnt flint and fired clay, particularly from 147235 in the south-eastern section (Fig. 4.21).

Other features in the probable area of occupation that were definitely associated with this phase of occupation included a group of three intercutting pits or waterholes (180106–8) lying in the zone between the southern roundhouse (18) and the northern activity area (Fig. 4.20). The most southerly of these, pit 180106 was relatively shallow at 0.85 m deep and none of the fills indicated the presence of standing water. The pit had, however, been heavily truncated by a later pit, and its original dimensions and fill sequence were unclear. Two large sherds of late Iron Age pottery were recovered from the surviving fill.

The second pit in this group, 180107 contained a clear sequence of water-lain primary and secondary fills. No datable material was recovered from this feature, or from 180108, which was dug to replace it. The latter was not cut sufficiently deep to have served as a waterhole and may not have been open for very long. There is some evidence that pit 180107 was deliberately backfilled.

Eastern field system

The evidence for the nature and extent of the late Iron Age-early Roman field system is slight—only a few shallow ditches survive on this alignment (Fig. 4.20 and 4.22). Nevertheless, it still marks an important shift in landscape organisation in this area, being a complete realignment of the previous fieldwork system that had been used for almost 2000 years. The realignment was largely confined to the higher gravel terrace to the east of the probable settlement focus, in an area that would eventually be divided by a late Roman 'ladder' enclosure system (see below). There was no evidence for any change to the Bronze Age field system established on the lower gravel terrace to the west (Fig. 4.22), and it is possible that all or some elements of this system remained in use throughout later prehistory and into the Roman period. In fact continuing excavation at Heathrow has established that enclosure ditches relating to the Bronze Age field system in the area were re-cut in the medieval and post-medieval periods, suggesting that these fields survived relatively unchanged until fairly recent times (see Volume 2 for a wider discussion).

It was impossible to identify a coherent single system of fields within the pattern of the eastern boundaries, although some groupings of ditches were identified, including those (eg 137125, 155062, 155047) cut by middle Roman enclosure E1 (see Figs 4.20 and 4.24 below). In general there was insufficient stratigraphic and dating evidence to establish their chronological sequence in detail, although it is clear that they post-dated the field system created during the Bronze Age, and some were cut by a Romano-British 'ladder' enclosure system (see below).

Datable material was recovered from the fills of several of these boundary features, some clearly residual and others intrusive. The residual material included Neolithic and Bronze Age worked flint, along with late Bronze Age and early and middle Iron Age pottery. The most significant assemblage recovered, however, comprised late Iron Age and Roman pottery and ceramic building material. A collection of 14 sherds of Roman pottery from ditch 129067 probably dates to sometime after AD 150, and may reflect the latest phase of cleaning or re-cutting of this boundary, which cut through the silts of a large deep waterhole, 151132 (see below).

The overall stratigraphic and ceramic evidence suggests that the field system was being constantly modified from its inception in the late Iron Age right through into the early and middle Roman period, perhaps only falling into disuse with the establishment of the 'ladder' enclosure system in the later Roman period (see below).

Two waterholes were located within the eastern field system, and were broadly contemporary with it (Fig. 4.20). Waterhole 119380 to the north was 0.85 m deep, and contained a complex sequence of fills, some of them deposited in standing water. The dating of this waterhole is problematic as the only fills that produced pottery were relatively high in the sequence, and contained both late Iron Age and early Roman sherds. That this feature was completely backfilled, possibly deliberately, before being cut by the mid Roman enclosure (E1), suggests that it was originally cut during the late Iron Age-early Roman period.

A large deep waterhole, 151132, lay to the south of 119380 and was cut by ditch 129067 of the eastern field system (Fig. 4.20; see above). The precise date of the waterhole could not be determined, but it contained a few early Roman sherds along with larger numbers of undatable Roman pottery. The feature was probably dug in the early Roman period to provide water for agricultural activities, and had silted up by the time the final recut of the ditch was undertaken. A few late 3rd or 4th century Oxfordshire wares recovered from the upper fills of the waterhole are likely to be intrusive.

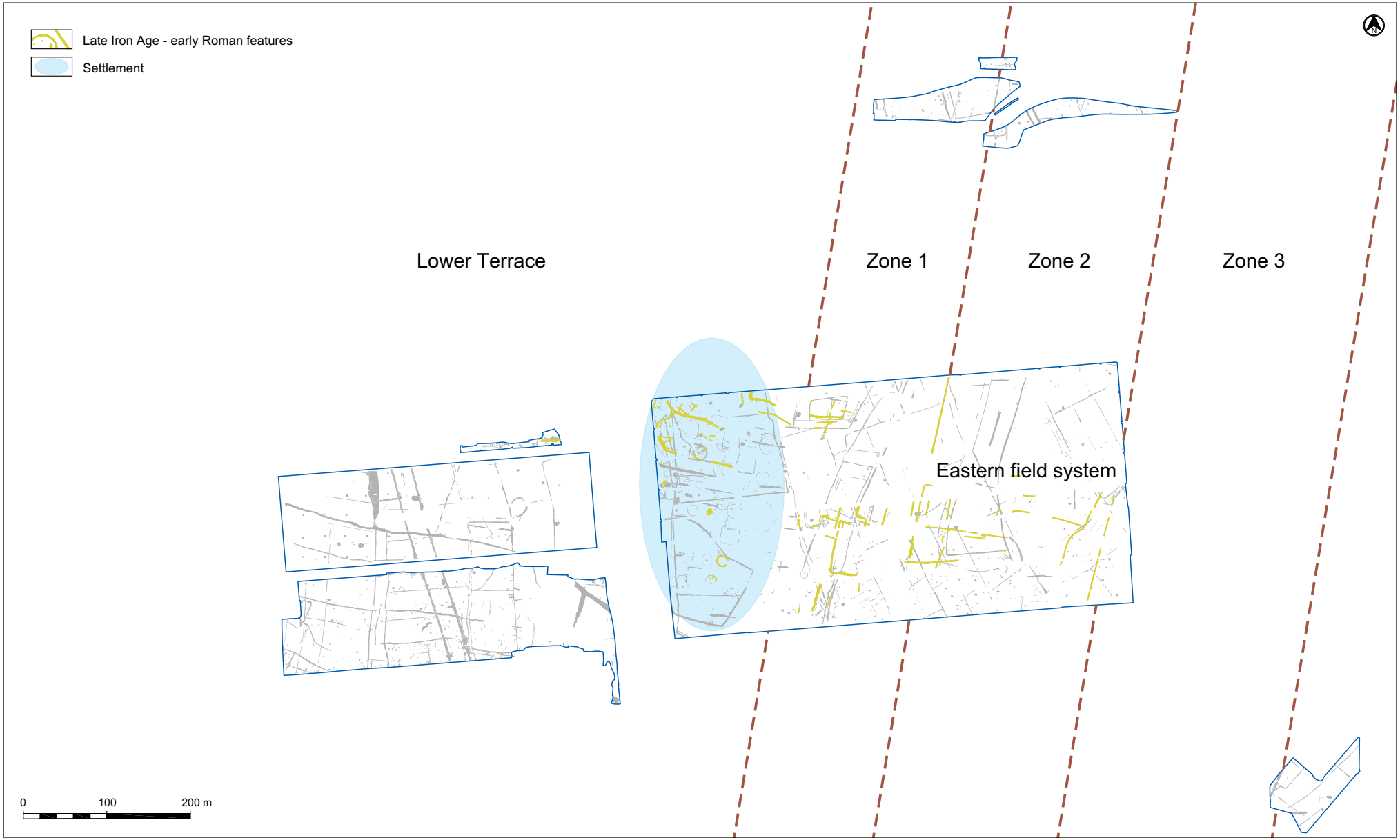


Figure 4.22: Late Iron Age / early Roman landscape showing different zones of activity

Form and function of the eastern field system (Fig. 4.22)

The precise form and function of the early Roman field system is impossible to determine, largely because of the effects of the heavy truncation. On the basis of the surviving evidence, a few details were identified. The re-alignment of the landscape appears to have been confined to the upper gravel terrace to the east of the Iron Age and Roman settlement. It seems likely that the landscape was divided into zones, much as previous Bronze Age field systems had been, although these do not appear to have been equally spaced land divisions. Three zones have been tentatively identified (Fig. 4.22), each defined by what appears to have been a substantial boundary ditch. Zones 1 (bounded to the west by the settlement) and 2 were the most obvious, whilst Zone 3 is somewhat more conjectural as most it lay outside of the area of excavation.

As was the case with the Bronze Age field system, the large landscape zones appeared to be subdivided in different ways. The surviving internal subdivisions of the central Zone (2) were irregular and lacked coherence. This may indicate that boundaries in the area changed rapidly, or that the land was subdivided into a number of small landholdings, perhaps belonging to particular individuals or kin-groups. We cannot be certain that all of the subdivisions belonged to this field system, or even to a single phase of activity. It may be that the landscape was at this stage divided into large fields, or that internal boundaries were only hedged or demarcated by shallow drainage gullies that did not survive subsequent truncation. This suggestion is supported by the evidence from Zone 1, where a slightly more coherent pattern of subdivision was apparent. The best evidence for a regular system of enclosures lay in the central strip across the site. During the operation of the site as a sewage treatment plant, this central spine was used as an access road for vehicles, and subsequently did not suffer the same level of truncation as the beds to the north and south. These ditches and gullies lay on the same alignment as each other and may represent the remains of a series of fields or enclosures. If these belong to a single phase of activity, they are likely to have been a series of enclosures of different sizes, with trackways providing access between them.

Settlement activity in the mid Roman period

The settlement activity of the 2nd-early 3rd centuries AD appears to have been a continuation of the late Iron Age-early Roman occupation in the area and on the evidence of quantities of artefacts recovered, occupation was probably on a similar scale (Fig. 4.23). Boundaries were re-worked and maintained, and there is no clear evidence for changes in the way the landscape was organised. The focus of settlement activity remained broadly similar and the most of the eastern field system that was first laid out during the late Iron Age (see above) appeared to continue in use.

Organisation of the settlement

The core of the mid Roman settlement corresponded to the middle Iron Age and late Iron Age-early Roman settlement nuclei, indicating continuity of occupation at some level throughout this long period. The area around penannular gully 8 persisted as a major focus, with the ditches immediately to the south and west being recut (147237). However, it is unlikely that gully 8 itself remain in use, as a shallow north-south gully (126099) was dug across the feature, through the fills of the silted ditch. There is little evidence to suggest that roundhouse 18 continued in use beyond the start of the 2nd century AD, although there is evidence for rectangular buildings (B1–4) dating to the Roman period lying further north (Fig. 4.23).

At some point in the mid Roman period, two enclosures (E1 and E2) were constructed on the western side of the eastern field system (Fig. 4.23). The ditches of the most northernmost enclosure (E1) were heavily re-worked and cleaned over a relatively short period of time, from the mid 2nd to late 2nd/3rd century AD (Phases 2–3 on Fig. 4.24). The earliest rectangular enclosure clearly cut the line of partially silted late Iron Age-early Roman field boundaries such as ditch 155062 and gully 137125 (Phase 1 on Fig. 4.24). This enclosure was sub-divided by north-south ditch 110042, and its northern boundary (156047) was later re-dug along a slightly different alignment. At some point after its initial establishment, the enclosure was expanded to the west (137136, 134058) and a droveway was created along its

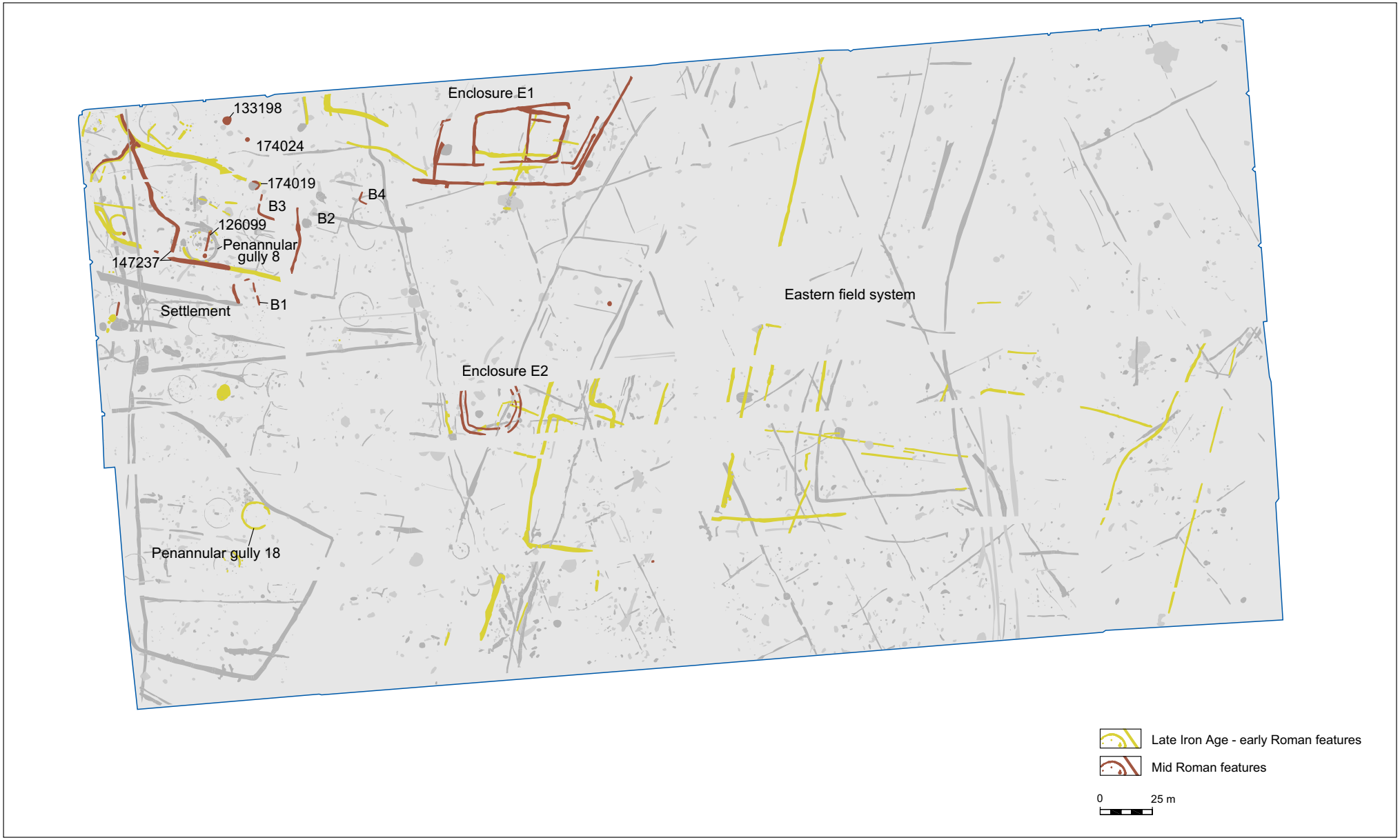


Figure 4.23: Early and mid Roman landscape

southern and eastern margins (110078, 134058, 137129, 119352 and 134046). The chronology of this droveway is uncertain and it may actually have been designed to link this enclosure complex with the 'ladder' enclosures to the east during the 3rd century AD (see below). The morphology of the enclosure complex and its integration with the droveways suggests that it may been a stockade.

There were concentrations of pottery and to a lesser extent fired clay and CBM in the area of enclosure E1. Insufficient ceramic building material was recovered to suggest that it originated from a building in the vicinity, but the fired clay is more likely to represent the presence of cob built or wattle and daub structures. It may be that part of this area was occupied by non-domestic structures, such as barns or agricultural outbuildings.

Another enclosure complex (E2) was constructed *c* 100 m further south (Fig. 4.23). Two concentric ditches were dug forming an irregular subrectangular enclosure with a possible entrance to the south. The ditches were quite shallow and may have been separated by a bank. Most of the enclosure lay within the central band of the site which was subject to a lesser degree of truncation (see above), while the northern side, which lay outside, did not survive. Stratigraphically the enclosure post-dated ditches of the late Iron Age-early Roman field system and was cut by ditches of the late Roman 'ladder' enclosure. Furthermore its north-south alignment deviated from both the early and late Roman field alignments. This is important because if this were an agricultural

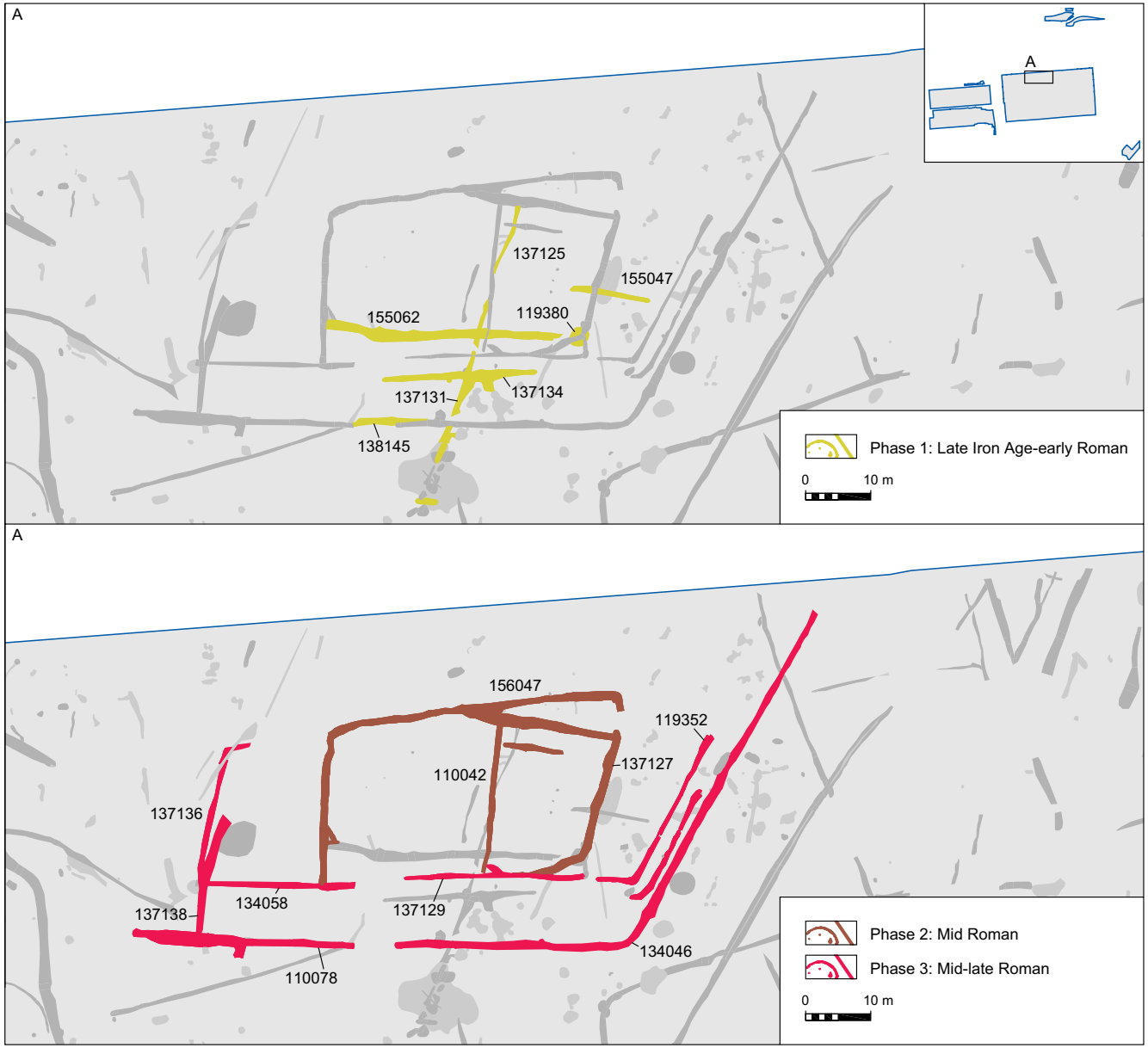


Figure 4.24: Phases of Enclosure E1

enclosure, we may expect it to be integrated within the field system, not set apart from it. Therefore it is possible that this enclosure was not part of a wider agricultural landscape, but purposely set aside from it.

A small assemblage of Roman pottery recovered from a number of ditches associated with both of these enclosures (E1 and E2) provided the only dating evidence. The assemblage included reduced wares, the most common fabrics, along with whitewares and oxidised wares. The absence of samian wares and the small numbers of white-ware and 'Belgic' pottery sherds within the associated ceramic assemblages suggests that the enclosures were probably constructed during the second half of the 2nd century AD, and were silting up during the late 2nd or 3rd centuries. They were probably, therefore, short lived features, in use for no more than three or four generations before being replaced by enclosures and boundaries which made up the larger 'ladder' enclosure system of the 3rd–4th century AD (see below).

Roman buildings and activity areas

Five probable buildings (B1–5) could be dated to the Roman period, all of which lay close to the site of penannular gully 8, thus demonstrating some continuity with the earlier settlement focus (Figure 4.25). Four could not be closely dated (B1–4), but could well span the middle to late Roman phase and so are described here. A fifth (B5) was certainly late Roman and is described separately below.

One building (B1) was represented by a series of segmented gullies defining a roughly rectangular area *c* 17 x 8 m. The gullies may be interpreted as foundation trenches for a building, which have been badly truncated. Numerous finds were recovered from the building trenches, including a small assemblage of undiagnostic Roman pottery. A single sherd belonging to Roman ceramic phase 1 (100 BC–AD 100) provides scant evidence for an early date for this structure, but it may be residual. However the possibility that this building belongs to a different phase than the other buildings (see below) is suggested by the fact that it lay upon a different alignment, echoing that of the earlier agricultural landscape.

Other finds from the trenches of Building 1 suggest that it had an industrial function. A relatively large quantity of burnt flint and fired clay was found, along with small quantities of burnt stone, slag and ceramic building material. The fired clay assemblage included burnt daub. Some of the building gully fills also produced charred plant remains.

The charcoal from soil samples in three trenches (126121, 148155, 126129) of Building B1 was found to derive from a very restricted range of taxa, dominated by oak *(Quercus)*. These were compared with a typical assemblage from a Roman ditch (160102) (Figure 4.25), and the difference in proportions led the charcoal specialist to suggest that, 'a greater degree of care was taken when selecting the fuelwood for a specific purpose than in the general field system assemblages.' (Challinor, CD Section 10).

Charred plant material from the foundation trenches of Building B1 produced an assemblage rich in weed and chaff (147253 and 113079) and grain (148155 and 126121) (Fig. 4.26). As Challinor concludes:

It is reasonable to assume that the samples are the result of crop processing activities which were being carried out in the close vicinity of the structure. The grain-dominated assemblages are likely to have resulted from accidental over-burning during crop processing while the chaff-rich assemblages would be the by-product of the process.

(Challinor, CD Section 10)

The building was clearly situated within an area of crop processing, presumably surrounded by threshing floors, and itself may have functioned as an agricultural barn.

A second possible Roman building (B2) (Figs 4.25–6) was represented by a rectangular arrangement of gullies, which—as with B1—probably represent foundation trenches for a wooden building. The building measured *c* 15 m by at least 7 m, and the northern section appears to have been truncated.

The dating of this building relied on the stratigraphic relationship between the foundation trench and the fills of a middle Iron Age waterhole (137114). This waterhole continued in use into the late Iron Age and its upper fills (137106, 137107, 137108 and 137109) were dated to the early Roman period on the basis of late Iron

Age / early Roman pottery. The feature was completely backfilled prior to the construction of the building, probably during the mid to late Roman period. Only a few pieces of burnt flint were recovered from the building gullies, with nothing to indicate its function.

A number of shallow gullies in the vicinity of B2—and on the same alignment—probably represent the structural remains of at least two other rectangular buildings (B3 and B4; Fig. 4.25). Although none produced many finds, sherds dated broadly to the Roman period were recovered from some of the foundation gullies.

Circumstantial evidence from the specialist analysis of the insect remains supported the interpretation of structures in this area, at least in the late Roman period. Samples from a 4th century waterhole (174069; the latest in a sequence—see discussion below) lying just to the west of gully 163097 included several species characteristic of settlements, indicating the proximity of a timber building in particular:

Beetles which infest structural timber comprised 4.3% of the terrestrial Coleoptera. They were all Anobium punctatum (woodworm). In the almost complete absence of other woodland insects, they provide very strong evidence for the presence of timber structures.

(Robinson, CD Section 12)

A significant proportion of the Coleoptera assemblage also comprised *Ptinus fur*, which inhabits buildings amongst stable debris, old hay, granary waste and food scraps. Other insects recovered that favour the environment of buildings included:

…examples of Mycetaea hirta, a fungal feeder which occurs in damp places inside buildings, sometimes feeding on the dry rot fungus and Typhaea stercorea, another fungal feeder which occurs in old haystack bottoms as well as in such indoor habitats as stable bedding.

(Robinson, CD Section 12)

Some species, whilst not necessarily diagnostic of settlement habitats, also suggested the presence of buildings. These included fungal feeders such as *Lathridius minutus* gp. and *Xylodromus concinnus*. Robinson was able to conclude on the basis of the waterhole assemblage that it was:

…clear that the pit was either next to a building or that organic refuse from inside a building had been dumped in it. It is possible that the building was domestic or agricultural. However, it is unlikely to have been used for the long-term storage of fully cleaned cereals because even the minor grain pests were absent.

(Robinson, CD Section 12)

Furthermore, the presence and proportions of other insects within the assemblage indicated that the deposit also contained small quantities of domestic organic refuse, but that there was unlikely to be much in the way of animal dung or naturally accumulated decaying material.

If the possible building(s) to the east of the waterhole were the source of these insects, they may have been either domestic dwellings or agricultural buildings. If this were the case, the structure(s) would have had to have been occupied during the lifetime of the waterhole in the 4th century AD (see below).

Other insects found in high concentrations in the waterhole sample were honey bees *(Apis mellifera)*, evidence of bee-keeping within the settlement:

There were the remains of at least 16 workers in a 3-litre sample. Honey bees need a source of water to dilute their honey when they are feeding on it during the winter. Once a colony has found a source of water, its location is communicated amongst the workers and they will all tend to use it. Inevitably, some fall in and drown. The waterhole appears to have been used as such a water source. It is unlikely that the occupants of the settlement would have tolerated a bee colony other than a managed hive.

(Robinson, CD Section 12)

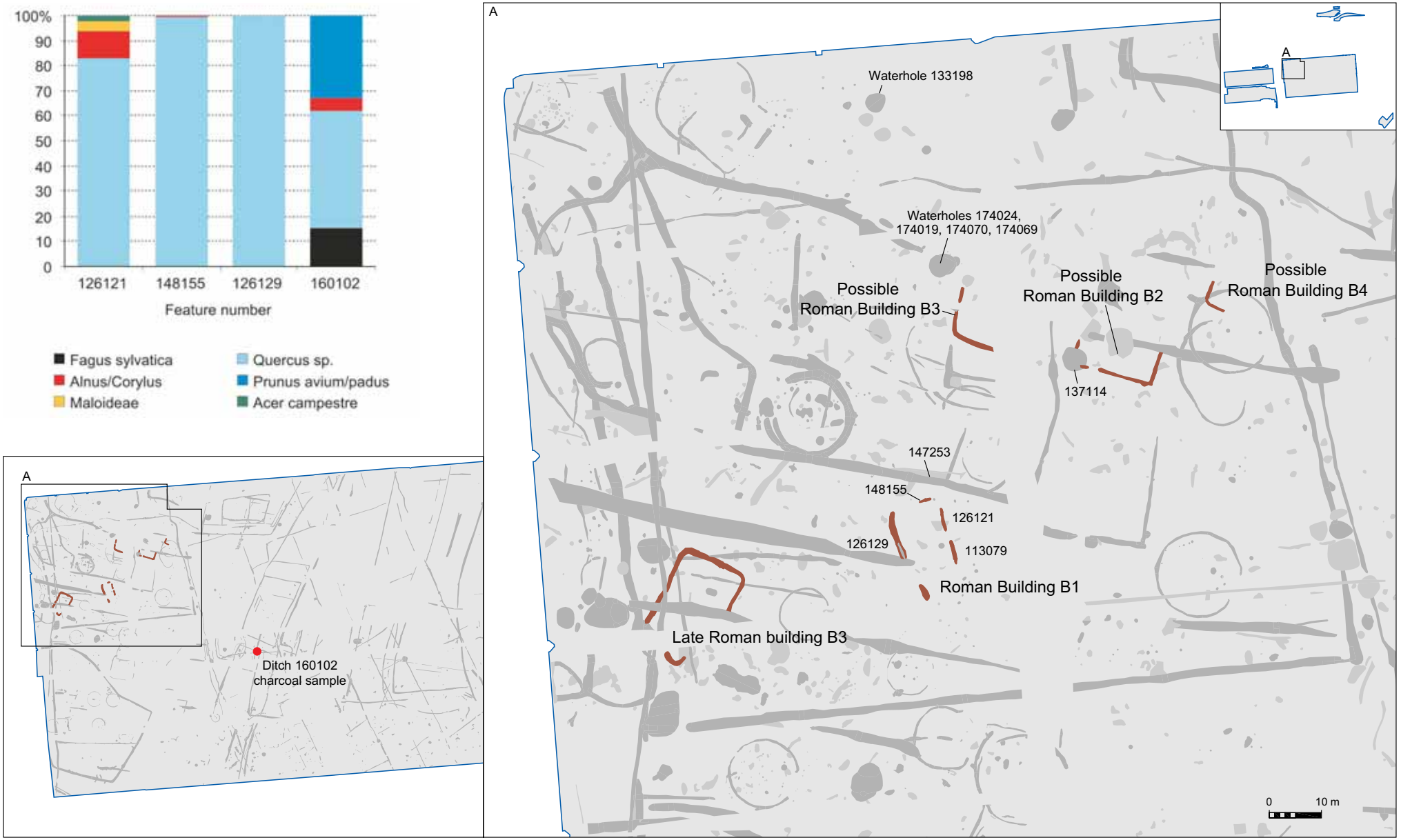


Figure 4.25: Mid to late Roman buildings and graph showing distribution of charcoal remains

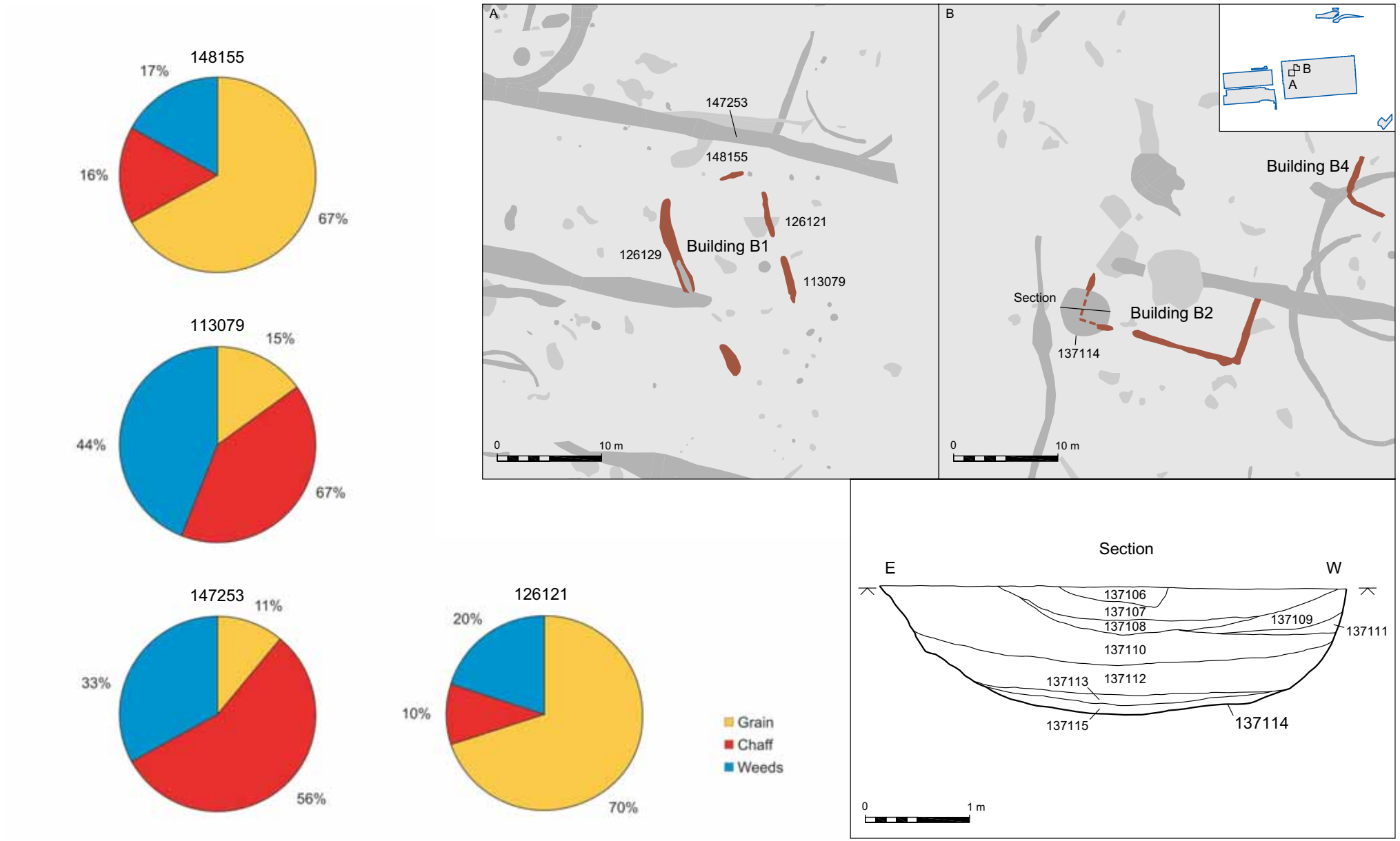


Figure 4.26: Roman buildings B1 and B2 charts showing distribution of charred plant remains from B1

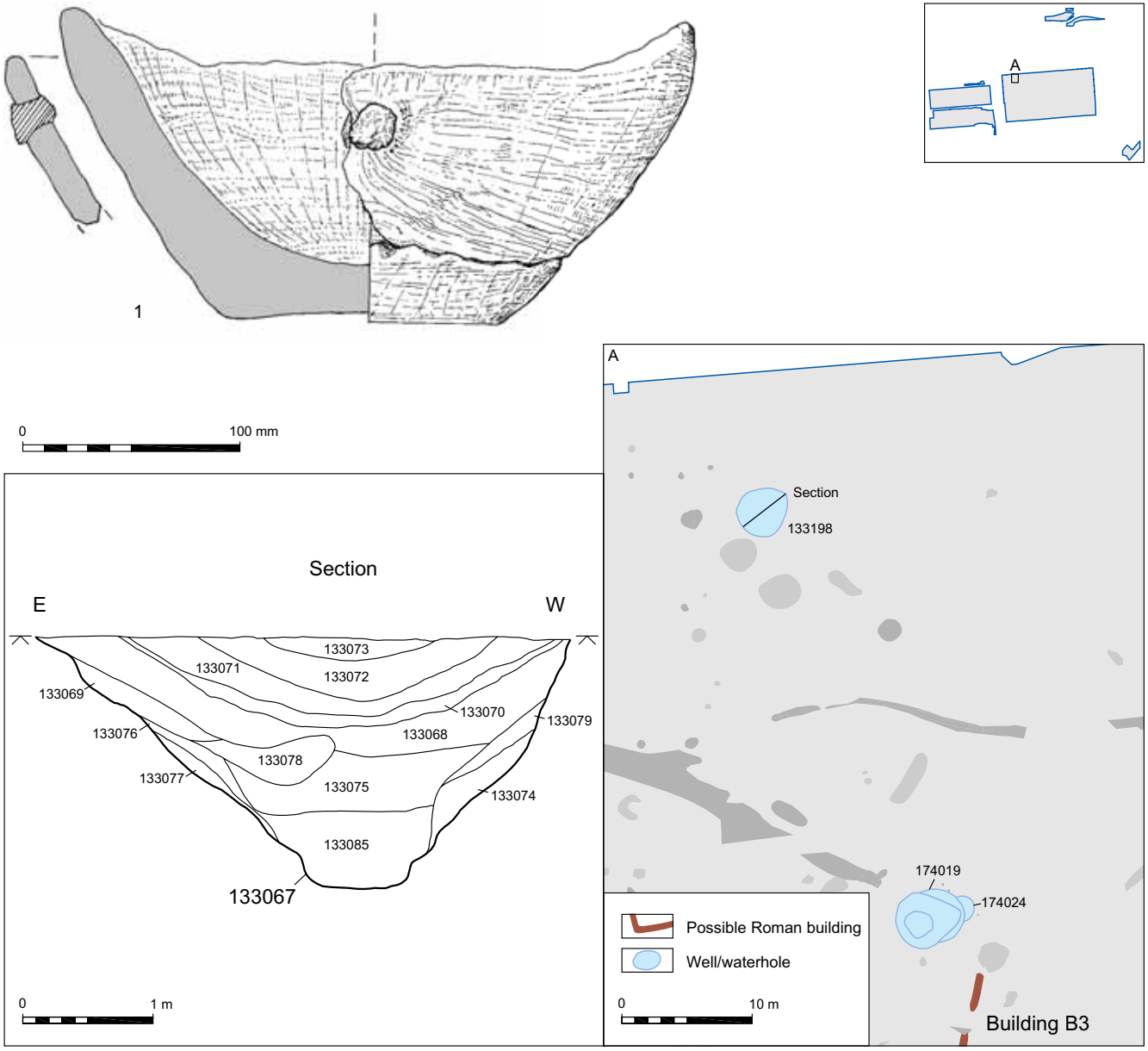


Figure 4.27: Waterhole 133198 with illustration of wooden bowl

Water for the settlement – Roman waterholes and wells

A number of waterholes were dug around the Roman settlement focus and probably met the needs of the Roman community at Perry Oaks for nearly four hundred years. Those relating to the mid Roman phase of settlement are described here.

Waterhole 133198 (1st–2nd century AD)

A substantial Roman waterhole lay *c* 35 m to the NNW of the possible Roman building group (B2–4) described above (Fig. 4.27). It was dated by pottery and coin evidence to the early-mid Roman period (1st–2nd century AD) and was probably the earliest of the waterholes to relate to these buildings.

Plate 4.6: Plan view of collapsed wooden/wattle lining within Romano-British well 133198

Plate 4.7: Close up of wattle inside Romano-British well 133198

A wattle structure had been placed in the bottom of the cut immediately after its digging and may have been pre-fabricated, with gravel backfilled around it (Plates 4.6-7). The pattern of the gravels and evidence from the full length wooden stakes suggest that the revetment was only ever about 1.2 m high, which would have meant descending part-way into the feature before lowering a container down to scoop up water. The slightly more shallow and stepped eastern edge is the likely place for such an entrance into the waterhole. Many finds were retrieved from the various fills, including withy rope, a wooden bowl (Fig. 4.27, no. 1) and a leather shoe. One tightly packed group of finds from context 133078, comprising tweezers, pottery, an iron bar and animal bone, may have been a deliberate deposit after the waterhole had gone out of use.

Well/waterhole sequence 1740424 and 174019

A sequence of wells / waterholes were constructed near to possible building B3 within the main settlement area (Fig. 4.28; Plate 4.8). The sequence had a lifespan of close to 400 years, throughout the Roman period. Those (174024 and 174019) relating to the mid Roman (*c* 2nd–mid 3rd century AD) period are described here, whilst the later Roman (*c* late 3rd–4th century AD) period waterholes are looked at below.

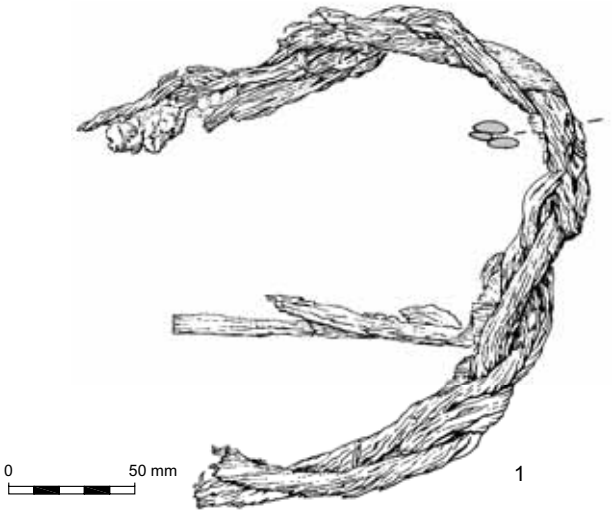
Well 174024 (1st century AD – first half of the 2nd century AD)

The earliest cut in the sequence was a deep pit, probably a well (174024), cut over 1.5 m into the gravel (Fig. 4.28). The steep sides suggest that the feature originally had a wattle lining, which would have prevented erosion of the gravel sides. Some initial erosion did occur, however, resulting in the fills 174028 and 174029 at the base of the feature. This is likely to have occurred rapidly, and four relatively unabraded sherds of pottery were recovered from the upper of the two fills, 174028, two being late Iron Age and two Roman.

Plate 4.8: Excavation of Romano-British waterhole sequence 174024, 174019 and174011

The remaining fills formed more slowly, with a higher silt content than the lower fills. The lowest of these, 174027, representing the main period of use, was a dark silt with few inclusions, formed in a watery environment. It produced a more varied finds assemblage than any other deposit within the feature, including small quantities of animal bone, burnt flint and fired clay. The pottery from this fill was mostly undiagnostic Roman sherds.

Subsequently, the lining of the well was removed and the feature silted naturally. The high levels of gravel present in deposit 174026 represent collapse from the exposed sides. Following the collapse, the well continued to silt slowly, and although it still contained standing water (both of the subsequent fills, 174025 and 174042, were waterlain) it is not clear whether it continued in use as a well. Only fill 174025 produced finds, a small group of fired clay, burnt flint and pottery, including white ware from the Verulamium region and a South Gaulish samian sherd. There was no material dating later than *c* AD 160.



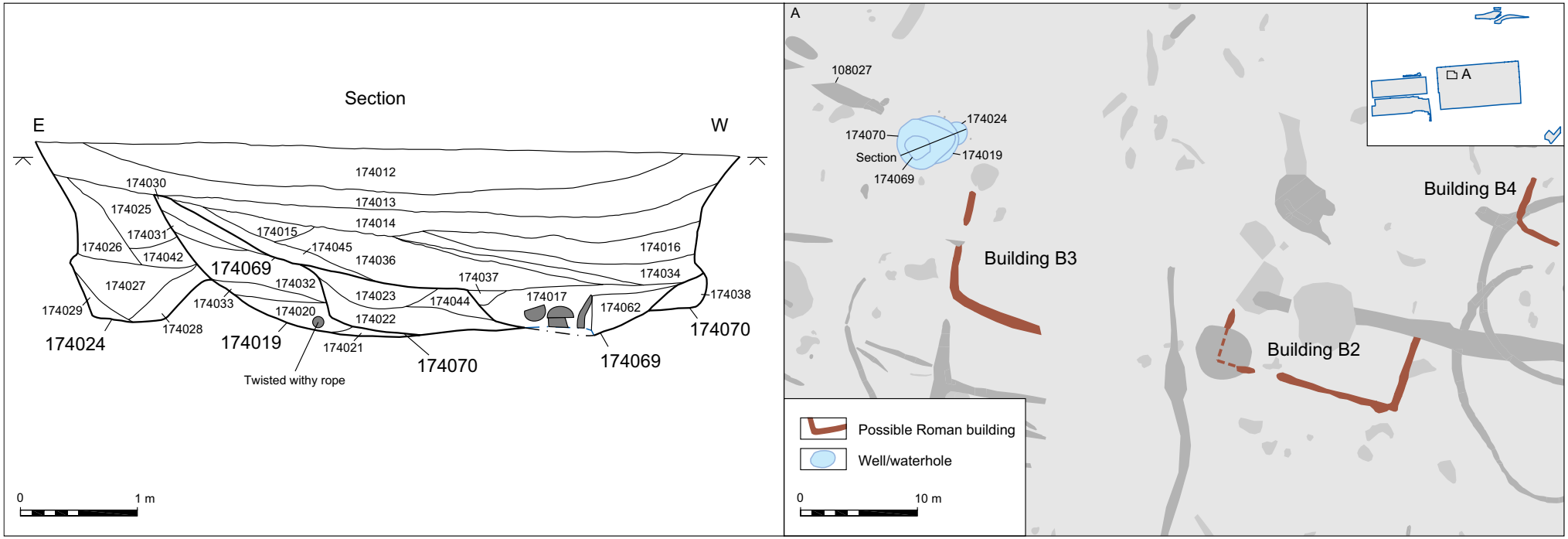


Figure 4.28: Well/waterhole sequence (174024, 174019, 174070, 174069) within the Roman settlement with illustration of twisted willow rope from 174019

Waterhole 174019 (mid–late 2nd century AD – 2nd half of 3rd century AD)
After the well had largely silted up, it was cut by a second, larger, waterhole (174019) slightly to its west (Fig. 4.28). This waterhole was itself largely truncated by the construction of a later well (174070; see below), but nonetheless it was possible to establish its shape, function and date. Although only the eastern edge of the feature survived, the evidence suggests that it was unlikely to have been constructed in the same way as the earlier waterhole; there was no evidence for a wooden or wattle liner and the profile was shallower and bowl-shaped. The lowest surviving fill, 174021, was very gravelly, probably the product of rapid erosion of the pit walls. Seven sherds of pottery from this deposit included a sherd of samian ware, broadly dated to before 240 AD, and a number of residual prehistoric sherds.

This fill was sealed by a waterlain silt, 174020, which produced pottery, animal bone, fired clay, waterlogged wood and some non-local stone. The pottery was mainly undiagnostic oxidised and reduced sherds, but some samian fragments dated to between AD 120 and 240, and a single sherd dated to between AD 160 and 300. The poorly preserved animal bone assemblage included cattle and horse. Small quantities of wood included twigs which had been blown into the waterhole, woodworking chips and a small skein of twisted willow 'rope' comprising three plaited willow strands (Fig. 4.28, no. 1).

The remaining fills comprised alternating layers of silt and dumps of gravel. The silts, 174030 and 174032, indicated the continued presence of standing water. The gravel rich deposits, 174031 and 174033, did not represent collapse as they lay on the eastern edge of the pit, which cut through the fills of the earlier waterhole and not natural gravel. The dearth of artefacts from the fill was notable.

Extent and nature of the settlement

The putative structures and the waterholes described above may represent the full extent of mid Roman activity on the site, although given the level of truncation this seems unlikely. The number of wells and waterholes corresponded to that of the middle and late Iron Age periods, and their location across the area of settlement points to a more widespread settlement area than was evident from the preserved remains.

Work to the north during the recent T5 excavations undertaken by Framework Archaeology, established that Roman activity continued to the north of the excavated area (see Volume 2), and on the evidence to date, it seems unlikely that these remains represent structures of any higher level of sophistication or status than the Perry Oaks group.

A surprising paucity of Roman coins and other metalwork was recovered from the settlement. Even a small settlement which continued in use throughout the Roman period might be expected to produce a reasonable number of coins. Despite the use of a metal detector, only a single coin, a 2nd century AD As of one of the Antonine Empresses (likely to be Faustina Junior (146–175) or Crispina (177–before 192)), was found. The absence of coins suggests that coin use on the site was very low, and probably also indicates that—despite the presence of small quantities of finewares and ceramic building material—activity on the site was fairly 'low status'.

Settlement development within the later Roman period

At some in the 3rd century AD the pattern of field boundaries to the east of the main settlement were altered by construction of a 'ladder' enclosure system (Fig. 4.29; see below). This system was focussed outwards and away from the ancient local community, thus representing a significant break with past, possibly influenced by external socio-economic and political factors (see discussion below). Nevertheless an element of continuity remained, with the settlement focus remaining in the same place as it had been since the middle Iron Age, and the enclosure boundaries remaining on approximately the same alignment as the late Iron Age-Roman field system.

Settlement focus

Most if not all of the Roman buildings described above (B1–4) could have persisted in use into the late Roman period, although only one building within the settlement (B5), lying to the west of B1, could be closely dated to this time (Figs 4.29–30).

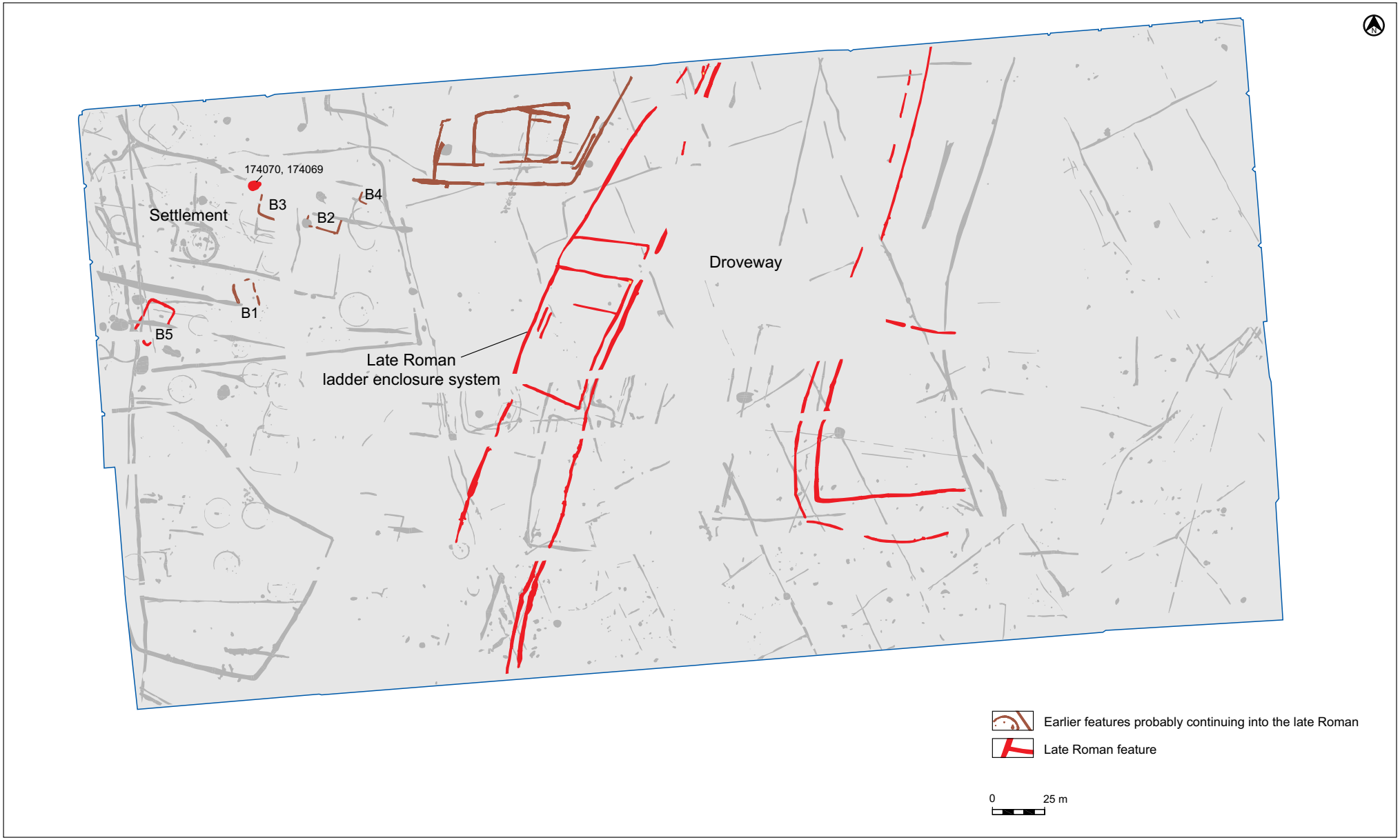


Figure 4.29: Late Roman landscape

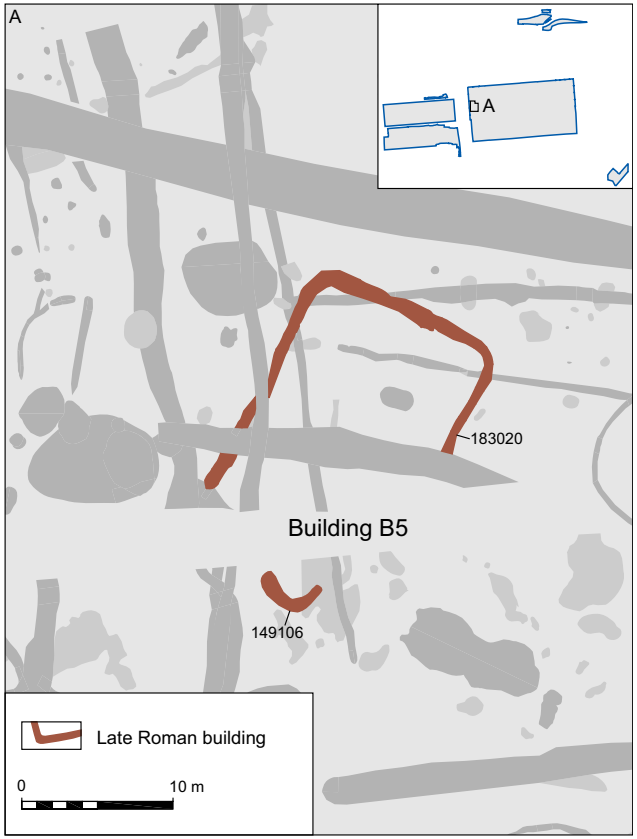


Figure 4.30: Late Roman Building B5

As was the case with the other proposed buildings described above, the only surviving feature was a shallow foundation trench with short sections of narrow beam slots. A break along its south-eastern side could have been an entrance, although it may have just been truncated at this point. The gully had a shallow 'U'-shaped profile, and enclosed a roughly rectangular area measuring *c* 18 m by 11 m. The finds from the gradually accumulated gully fill included 36 sherds of pottery, some dating to the latest Roman ceramic phase (AD 240 to 410). Small quantities of fired clay, burnt flint, animal bone and a fragment of roof tile were also recovered.

Waterhole 174070. (?3rd or early 4th century AD)

The sequence of intercutting waterholes within the main settlement area described above (see Fig. 4.28) continued into the late Roman period, thus suggesting continuity of occupation. The third waterhole in this sequence, 174070, was the most poorly preserved and most difficult to interpret (Figs 4.28 and 4.31). Little of its plan could be discerned, although it clearly cut the fill of 2nd to early 3rd century AD waterhole 174019 (see above). Despite heavy truncation, a basic sequence of deposits was observed. The sides of the waterhole were steep, suggesting either that they had been revetted in timber. The three lowest gravel-rich fills (174022, 174044 and 174023; see Fig. 4.28 above) may have been deliberate dumps intended to support a timber revetment similar to that identified in the final waterhole (174069) of the sequence (see below).

Most of the artefacts recovered from this waterhole came from the lower fill, 174022. They included Roman pottery broadly and fragments of fired clay. A second residual late Iron Age pottery sherd came from fill 174023, along with pieces of burnt flint. A fragment of shale was recovered from fill 174068. The stratigraphic evidence suggests that the feature is likely to date to the 3rd or 4th century AD.

Waterhole 174069 (?4th century AD)

The final phase of the waterhole sequence, 174069, dated to the 4th century AD and appeared to be roughly contemporary with the final phase of Roman settlement activity (Fig. 4.31). This feature may have resembled its heavily truncated predecessor, a wooden revetment was constructed in the centre of the deepest part of the cut comprising several timber planks (174055, 174056, 174057 and 157058) roughly stacked and held in place by two driven stakes (174059 and 174060) to the front, and by a stack of re-used timbers to the rear (174050, 174051, 174052, 174053 and 174054). Most of the timbers were oak *(Quercus sp.)*, but two of the stakes were hazel *(Corylus sp.)*. Timbers 174050, 174051 and 174054 had clearly been reused and showed evidence of lap joints.

One half of the pit divided by this timber revetment was backfilled with a gravel rich deposit, 174067, to provide a firm flat platform for the collection of water. Forty-three residual sherds of pottery were incorporated in this deposit, the latest dating to the 2nd or early 3rd centuries AD. For much of its life the well was periodically scoured to keep the water clean, artefacts came from silts that built up after its final cleaning in the western part of the feature.

Most of the pottery from this silt was residual or undiagnostic, but a virtually complete Alice Holt flagon had been deposited immediately in front of the wooden revetment (see Fig. 4.31). The rim was missing but a finger impressed rilled flange

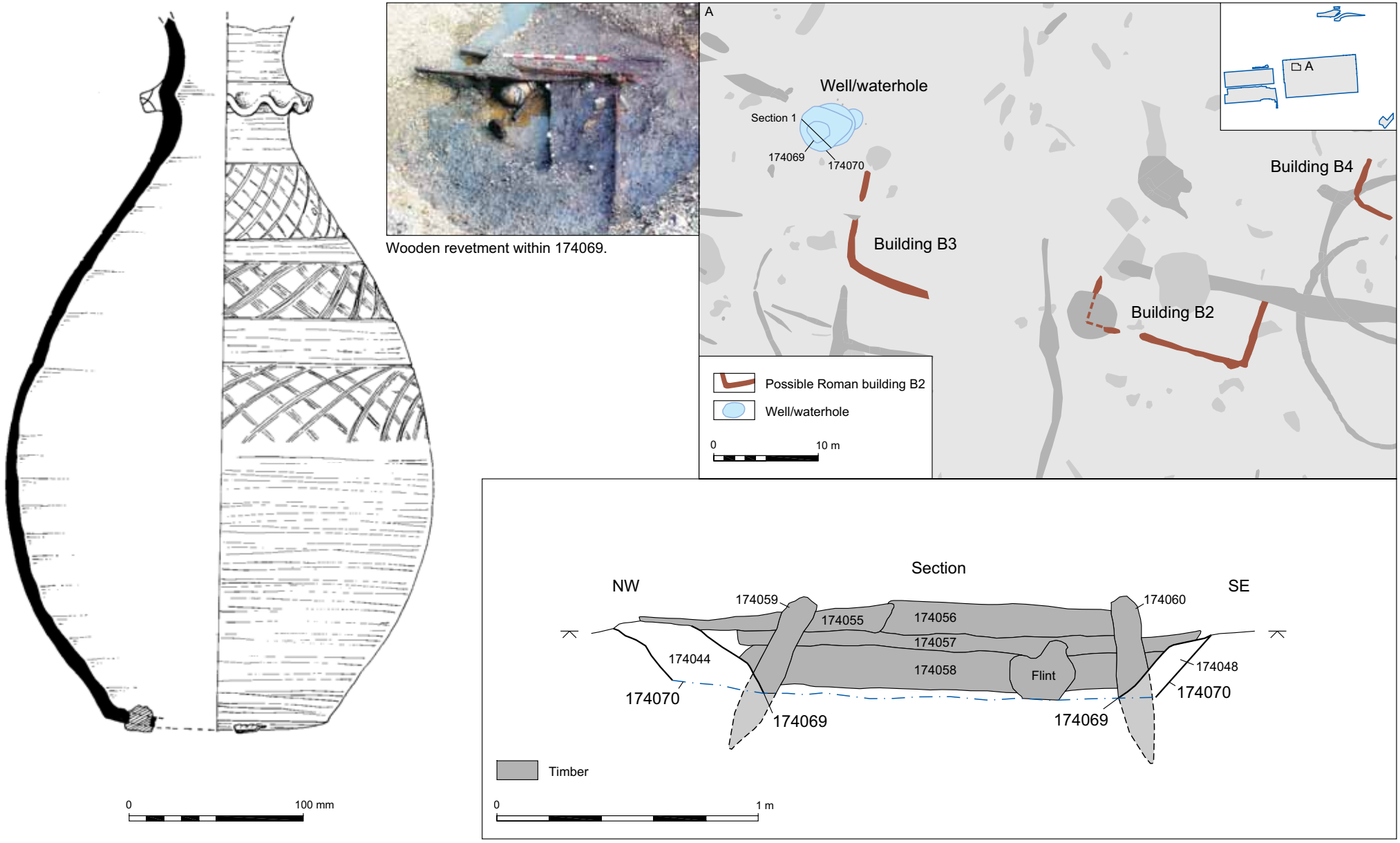


Figure 4.31: Late Roman well/waterhole 174069 with illustration of Alice Holt flagon

on its neck survived. The vessel was decorated with alternating burnished bands and latticing, and the type dates to between *c* AD 330 and 420.

Other finds included several wooden objects, a fragment of worked leather (possibly a shoe fragment), a small number of animal bones and a large flint nodule, which lay immediately in front of the timber revetment (Fig. 4.32). The flint was roughly spherical, with a naturally occurring hole through one side. Although it seems to have been used to wedge the front of the timber revetment, it may originally have served as a counterweight for a lifting mechanism associated with the waterholes. Three small postholes adjacent to the two earliest wells / waterholes in this sequence (see above) may represent the superstructure of such a lifting mechanism.

Plate 4.9: Excavation of the wooden revetment in the base of late Roman waterhole 174069

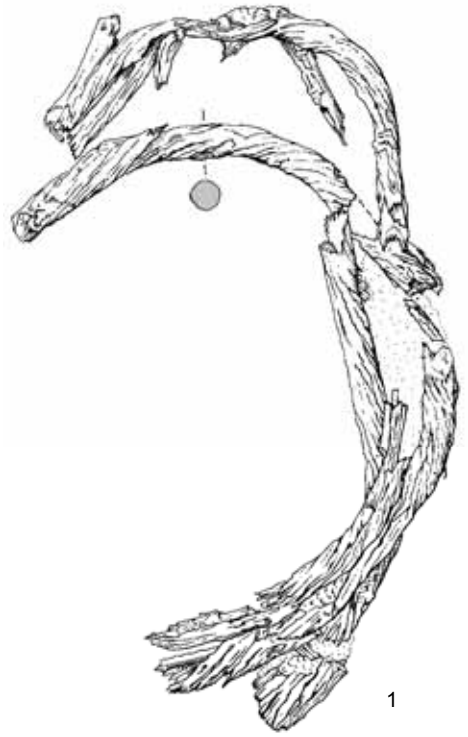
Other finds included two quernstone fragments, and wooden finds, including a withy tie made of twisted willow (Fig. 4.32, no.1), a 'crook crop' and an object tentatively identified as a 'reliquary' (Allen, CD Section 6; Fig. 4.32, no. 2). The withy tie was similar to others found in waterholes dating from the middle Bronze Age to the late Roman period. It was made up of four strands plaited to form a half loop. The object described as a 'crook crop' was a curved length of ash with a truncated fork at one end which may represent nothing more than part of a wattle structure (Allen, CD Section 6). The 'reliquary' was a box made from a halved block of oak, rectangular in cross section, with the edges hewn to a blunt apex. One face had seven blind sockets cut into it, in a regular pattern but of varying depths and dimensions. There is evidence for insect damage prior to its loss. The closest recognised parallels are post-Roman reliquaries (Allen, in archive), the sockets used to hold relics or other religious items, although this identification is advanced in the absence of more obvious interpretations.

Other finds from the lower fills (174036, 174015, 174034, 174016; see Fig. 2.28 above) produced small amounts of animal bone (including cattle and red deer), fired clay and Roman pottery, along with small quantities of non-local stone, an iron nail and a copper alloy fitting.

Once the waterhole had silted up, there appear to have been no further attempts to replace or preserve the water source at this location, suggesting that this marked the end of the settlement sequence here.

The final levelling was a deliberate dump composed mainly of gravel, 174014, which produced a small assemblage of largely residual material, including pottery, animal bone, ceramic building material and burnt and worked stone. The filling of the hollow, 174012 and 174013 contained relatively large assemblages of material, representing the remains of five or six hundred years of activity at the same location incorporated in topsoil and subsoil deposits before being dragged by the plough into the top of the waterhole. The date of final deposition is unclear, but it may have been as late as the 11th or 12th century, when a small farmstead was established to the south-west (see below).

Flint nodule in front of timber revetment.



The "reliquary" from 174069.

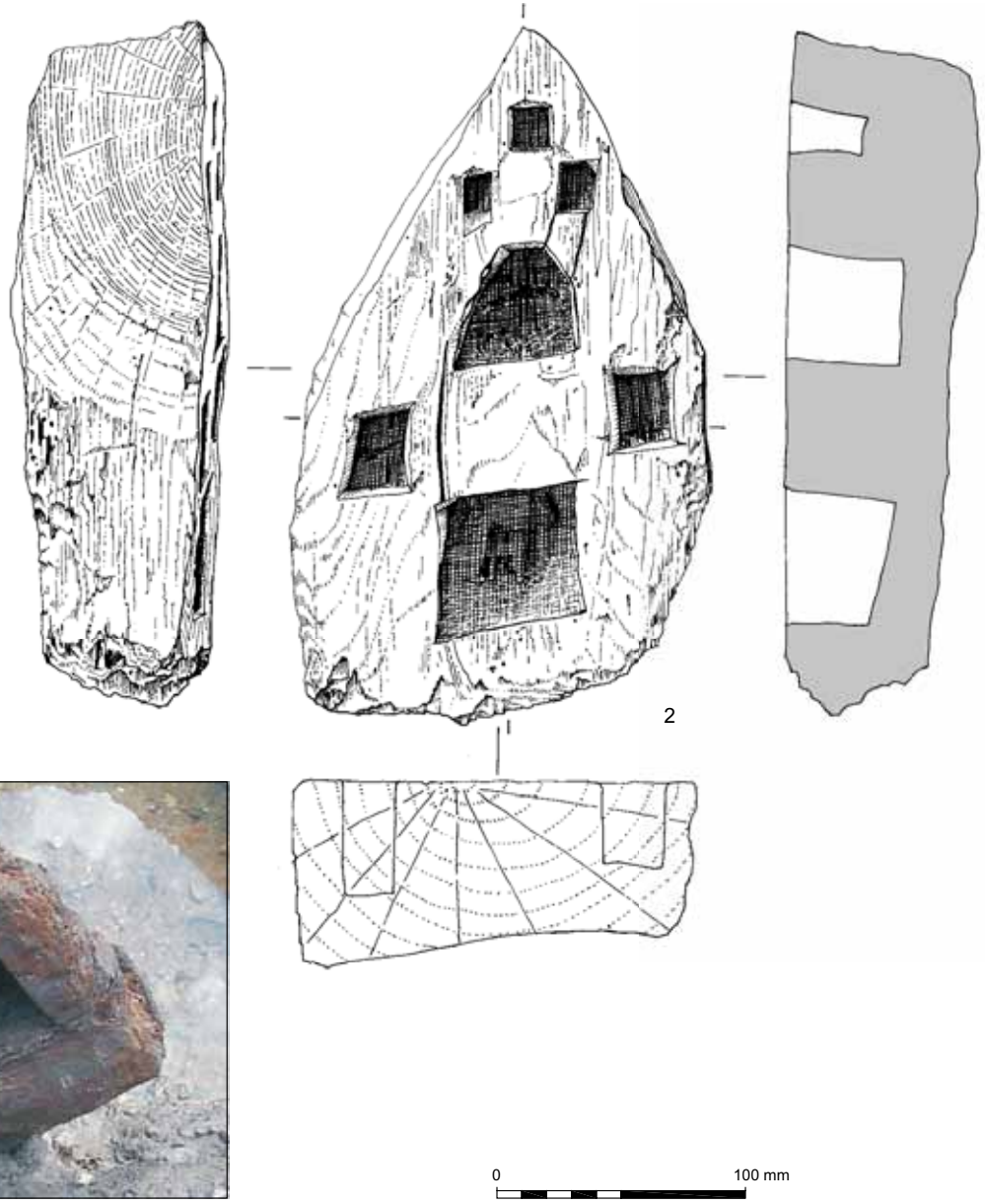


Figure 4.32: Other finds from Well 174069. No. 1. twisted willow withy tie; No. 2. 'reliquary'

The Roman 'ladder' enclosure system

The later Roman period saw the building of an enclosure system to the east of the settlement area (Figs 4.29 and 4.33). The resulting 'ladder' arrangement was visible in cropmark surveys and took the form of a linear series of linked enclosures extending in a piecemeal process on either side of a wide central droveway.

The main purpose of these enclosures and ditches appears to have been to facilitate movement of animals by the construction of a large central corridor, the main axis of which lay on a roughly NNE-SSW alignment, and an east-west corridor allowing access further to the east (Fig. 4.33). The environmental evidence provided no information as to the function of the enclosures flanking the droveway, the fills being generally sterile secondary and tertiary deposits derived from the surrounding topsoils and brickearth.

The scale of this system is impressive. The central corridor provided a droveway some 90 m wide in places, designed to accommodate high levels of traffic, even if only seasonally. The most likely purpose would have been the need to move large numbers of stock animals, perhaps cattle, through this part of the landscape, either to markets for sale or slaughter, or the seasonal movement of animals between summer pasture and over-wintering. The latter might indicate the existence of large managed estates within the Heathrow area during the late Roman period. Similar 'ladder' enclosures, interpreted as droveways, have been excavated to the north-east, on archaeo-

Figure 4.33: Late Roman 'ladder' enclosure system

logical excavations at Imperial College Sports Ground (Crockett 2002; Wessex Archaeology 2004) and Wall Garden Farm (Thompson *et al.* 1998).

The 'ladder' enclosures at Imperial College Sports Ground (Fig. 4.34) developed from an earlier enclosure system, which had its origins in the Iron Age. It also continued the line of one of the Roman roads out of London, and the axis of the Perry Oaks 'ladder' enclosures meets this line at roughly right angles to the north-east. Meanwhile to the south-west, the Perry Oaks droveway may have continued on to the Roman town of Staines. The implication is that the Perry Oaks and Imperial College Sports Ground 'ladder' enclosures formed part of a network of droveways that served a wider region during the late Roman period.

The extent to which the reorganisation of the greater Roman landscape in late Antiquity affected the Perry Oaks settlement is unclear, although clearly a significant area of farming land was lost to the droveways and enclosures. Elements of earlier enclosure systems (E1) were incorporated into the 'ladder' systems, presumably prolonging their use into this later period (Fig. 4.29). The central droveway was flanked by narrow trackways, which might have provided access into the enclosures for human traffic. The relatively narrow scale of these paths suggests that any hedges and banks must have lain on the outer sides of the ditches (see Fig. 4.33).

The 'ladder' enclosure system was the latest in a series of changes to the landscape during the Roman period, cutting the eastern field system ditches, which had developed from the late Ion Age to middle Roman period. However the 'ladder' enclosure system itself it is not well dated. The pottery from the ditch fills ranges in date from late Bronze Age to late Roman, with a high level of residuality (see below). None of the ceramic building material can be closely dated. The earliest ditch fills had been scoured out by successive episodes of cleaning, which may possibly account for why none of the material recovered from the enclosure ditches showed any significant distribution pattern.

Pottery from the 'ladder' enclosure ditches

Very small quantities of pottery were recovered from the enclosure ditches, especially considering their huge scale. Most pottery was of Roman date but included residual Bronze Age and Iron Age sherds. A small number of sherds could be dated with some precision, assigned to Roman ceramic phase 3 (AD 120–240), and Roman ceramic phase 4 (AD 240–410) (Brown, CD Section 2). An examination of the fabric types of the different Roman pottery assemblages within these two different 'phases' (3 and 4) indicates minor differences between them. Although various types of pottery were found in both assemblages, the ditches abandoned earlier also contained sherds of mortaria, whitewares, and shell tempered pottery, with some residual Gallo-Belgic finewares. In contrast, the only pottery recovered from the later ditches was a few sherds of white-slipped fabrics. The different fabric types may hint at a slightly different assemblage accumulating within these ditches, possibly indicating a change in pottery use over the lifetime of the 'ladder' enclosure.

Chronology of the 'ladder' enclosure system

The dating of the enclosure system relied on stratigraphic relationships with earlier features, and limited information provided by pottery from the ditch fills. Subsequently, the dating of the 'ladder' enclosure can only be expressed in general terms.

Given the datable pottery and the clear stratigraphic relationships with the earlier field systems, we can suggest that the enclosure system originated during the 3rd century AD, and remained a focus of activity well into the 4th and even 5th centuries. After the original ditches had silted up, only one or two cases of recutting were observed, but there were other examples where the recutting took a slightly different alignment, suggesting that traces of the initial ditch were no longer visible.

Clearly the need to facilitate movement across the Perry Oaks landscape was such that by the 3rd century AD it was considered worth sacrificing several hectares of agricultural land to meet this need. This may have seriously disrupted the local farming regime. If the land was farmed by the inhabitants of the adjacent small settlement, it is likely that a higher authority may have imposed the reshaping of the land, and we might conclude that we are witnessing the management of one or more large estates. Once constructed, the enclosure ditches were maintained, and associated hedges and banks were probably also maintained and exploited.

Whilst we cannot accurately determine the life span of the 'ladder' enclosure system, it remained a major feature of the post-Roman landscape (see below).

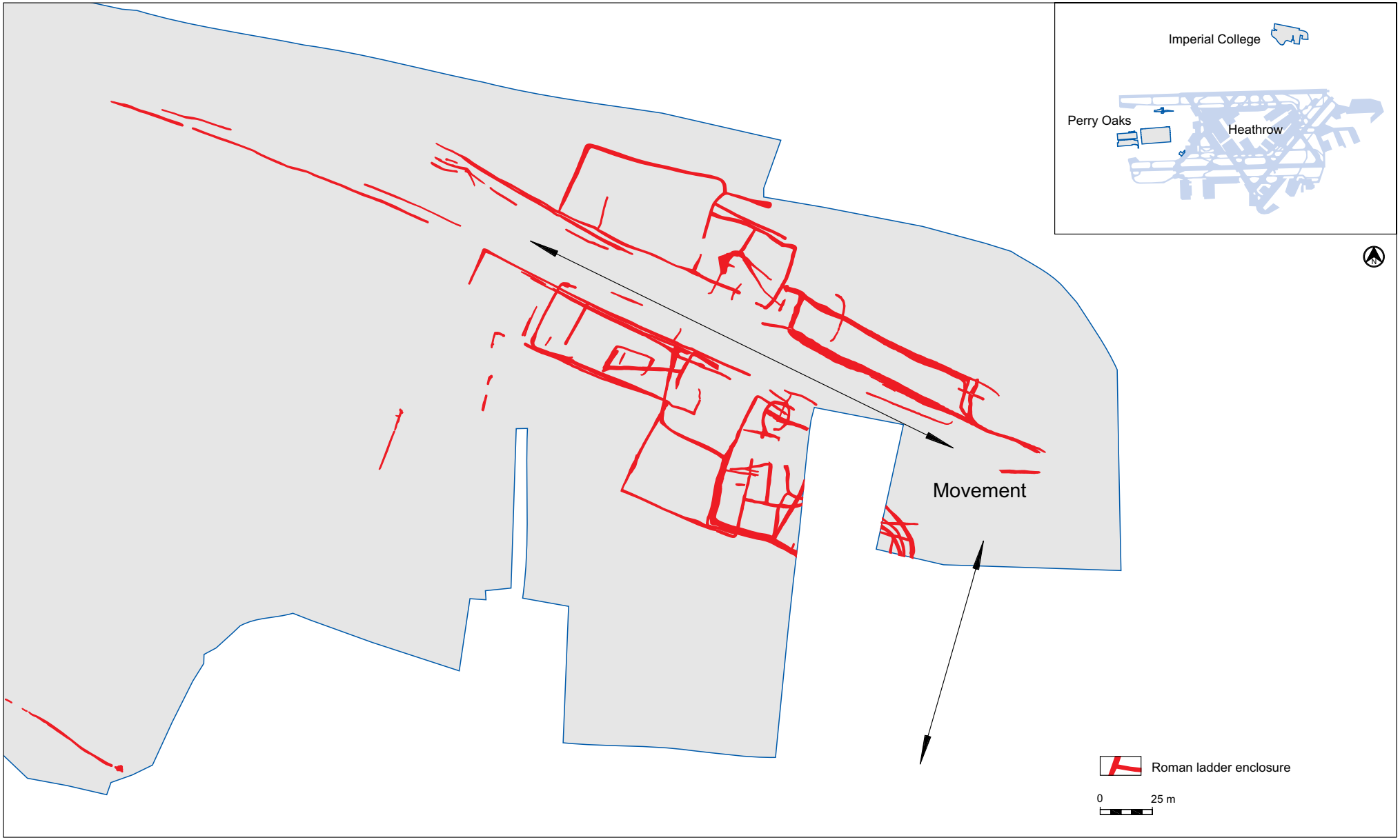


Figure 4.34: Roman ladder enclosures at the Imperial College Sports Ground

Summary of 'ladder' enclosures

The evidence suggests that an increasing requirement to move stock and other commodities on a large scale through the Perry Oaks landscape was such that the construction of a substantial droveway was undertaken during the 3rd century AD, at the cost of a significant area of farmed land. The ditches and associated hedges were maintained for a period, after which the former were allowed to silt up. We cannot be certain of the late history of the droveway. The scale of the later post-medieval trackway (see below) suggests that by this period the necessity for large scale movement had abated and once the droveway had gone out of use, much of the land it had occupied reverted to farmland, although without a wholesale change in the existing boundaries. This transition may have occurred during the very late Roman or early post-Roman period, at a time when the centralised system of power that had stamped itself so firmly on the landscape in the form of the 'ladder' enclosures was waning.

It was within this period of change and confusion that a fragment of lead tank came to be buried within a waterhole (135087) to the west of the main settlement.

The final act – deposition of a lead tank

At some point, late in the 4th or early in the 5th century AD, some of the inhabitants of the small collection of half-timbered buildings that occupied the edge of the upper gravel terrace overlooking the floodplain of the River Colne deposited the remains of a badly damaged lead tank in a small waterhole (135087) to the west of the settlement (Figs 4.35–6; Plates 4.10-12). The following is derived from David Petts' report (CD Section 7).

The remains of this circular lead tank comprised a circular base which had been soldered to the curved side. The side was divided into a series of panels by a horizontal strand of cable pattern, and within each panel was a floating saltire or *crux decussata* ('St Andrew's Cross') drawn with similar cable strand. The tank had clearly been broken up prior to burial, with an axe used to cut the base into at least two pieces, and the sides being bent and twisted until they tore. It was one of these pieces which was buried at Perry Oaks, with its side folded over to meet the base, perhaps to make it more easy to transport.

Plate 4.10 Withy ropes and straps (135088 and 135089) within late Roman waterhole 135087

Plate 4.11: Excavation of the lead tank from late Roman waterhole 135087

The object belongs to a group of around twenty late Roman Christian lead tanks, found only in Britain (Guy 1981; Watts 1988). Predominantly found in the East Midlands and East Anglia this tank is towards the southern edge of their distribution; its nearest neighbour was one found at Caversham, near Reading (Frere 1989). Other than the *crux decussata*, this object bears no other possible indications of a Christian function. Other members of this group are decorated with *chi-rho* symbols (first two letters of Christ in Greek), *orans* figures (a standing figure with both arms raised in prayer) (Flawborough; Elliot and Malone 1999) and even the probable depiction of a baptism (Walesby; Petch 1961). Their precise function is, however, uncertain. Thomas has argued that they were used for the rite of baptism by affusion (the pouring of the baptismal water over the head of an unclothed candidate) (Thomas 1981, 221–5). Watts has however suggested that they may instead be related to the rite of *pedilavium*, a ritual washing of the feet (Watts 1991, 171). Their final placement in pits and watery contexts is common, and there may well be a ritual element to their disposal in such a manner, reflecting a wider late Romano-British tradition of depositing lead and pewter objects in such contexts (Petts 2004). Its presence at the site is certainly an indicator of a small Christian community in the surrounding area, and adds to the relatively sparse evidence for Christianity in the London region.

We cannot be certain exactly when the tank was dismantled and buried, or even why this was done. Its burial may relate to one of the occasional reversions to paganism during the late 4th century, such as the reign of Julian (AD 361–3) or perhaps to one of the periodic persecutions of Christians within the Empire. Equally, it may relate to activity after the Emperor Honorius had told the inhabitants of Britain to look to their own defences in AD 410 because the Empire could no longer protect them from growing menaces to its shores.

Plate 4.11: Excavation of the lead tank from late Roman waterhole 135087

It remains uncertain if the pit was dug specifically for deposition of the tank, as it was deeper than was necessary to dispose of it. The feature may instead have been an earlier waterhole, although minimal silting suggests that it had not been open for too long prior to the tank's deposition.

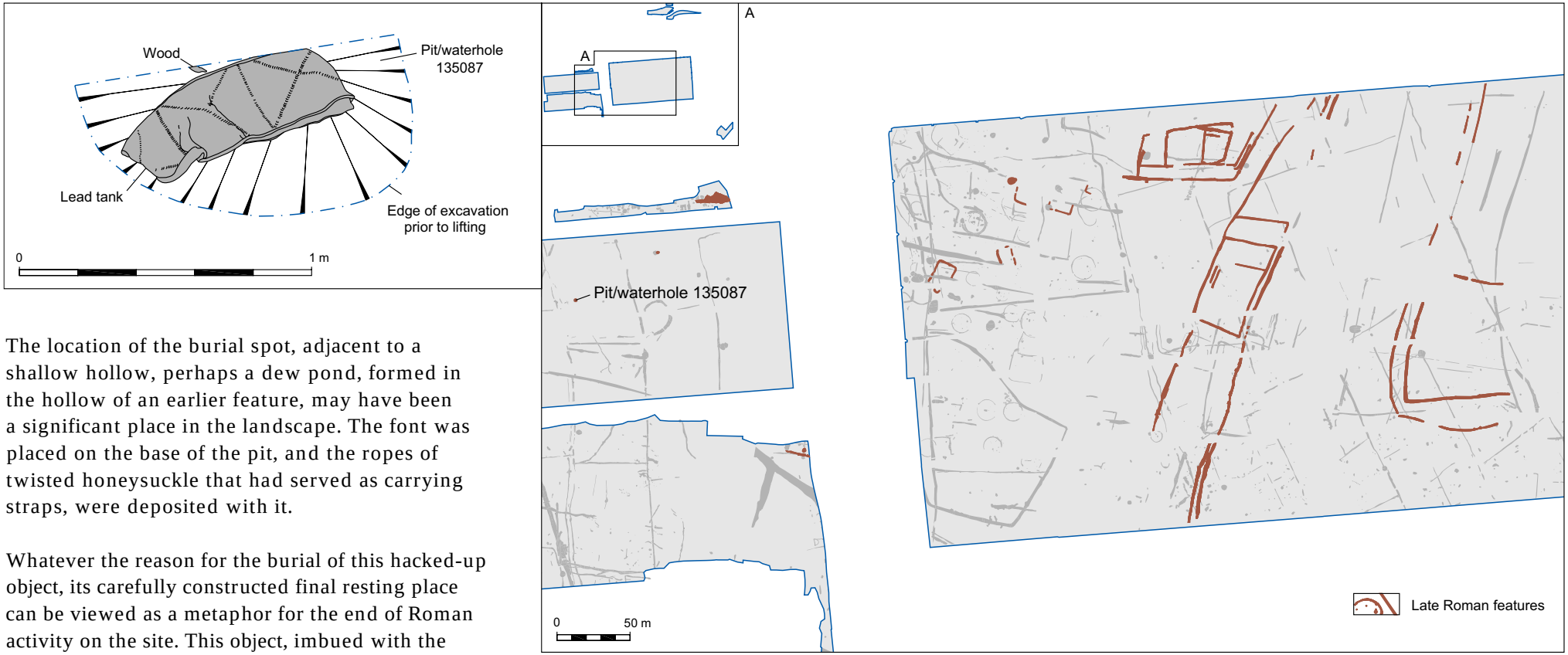


Figure 4.35: The late Roman lead tank

The location of the burial spot, adjacent to a shallow hollow, perhaps a dew pond, formed in the hollow of an earlier feature, may have been a significant place in the landscape. The font was placed on the base of the pit, and the ropes of twisted honeysuckle that had served as carrying straps, were deposited with it.

Whatever the reason for the burial of this hacked-up object, its carefully constructed final resting place can be viewed as a metaphor for the end of Roman activity on the site. This object, imbued with the attributes and significance of a foreign religion within a waning imperial system, was buried in a fashion reminiscent of pre-imperial deposition practices. With the burial, the inhabitants of the gravel terrace may have drawn a line underneath their association with a failing continental Empire and faced their uncertain future unencumbered by the trappings of the past. Even if the alternative interpretation is more credible, and that the burial of the tank was an act of reverence, a holy relic placed in a safe location, the very fact that this artefact was never recovered highlights the shifting nature of the political, social and religious situation in the area. The lead tank, perhaps uniquely amongst the artefacts recovered from the site, symbolises the impact of the Roman Empire on Britain. The Empire had, within a relatively short time, changed the physical appearance of the landscape, the material culture of the inhabitants, and perhaps most importantly and intangibly the hopes, desires, expectations and understandings of everyday people. The old political systems, social networks and even the old gods had been replaced, modified or absorbed within a greater and infinitely more powerful whole. The gradual realisation that the power which had controlled and influenced daily life in so many ways and which had been equally an irritant and a source of security was now in decline must have engendered a terrible uncertainty. Years of economic decline and political uncertainty caused by eternal power struggles amongst the ruling elite must

have acted as some preparation for the blow that was to come, but the dawning realisation that the Empire could no longer defend the inhabitants of Perry Oaks, and that the barbarians were at the gates, must have been a terrible one indeed. In this context, the dismemberment and burial of the remains of the Christian tank is a poignant symbol of the ultimate demise of the Roman Empire in Britain.

The horses grazing in the middle distance watched curiously as a small knot of people made their way out of the settlement and down the slope to the small well in the middle of the field. Three men walked slowly in the middle of the group, treading uncertainly on the damp ground. Each walked awkwardly, stooping slightly to counter the weight they each carried, slung between them on crude carrying straps fashioned from twisted hazel. After a while, the going became easier, and their progress quickened. Shortly they reached the edge of the well, and the sweating men lowered their load to the ground.

They stood in a rough circle around the well as one of the men made a short speech. Then, slowly, and with a sense of ceremony, two of the men rose and lifted their precious burden. It was heavy and awkward, and the size of the well made manhandling it into position difficult. After a few efforts, and the occasional curse, they positioned it over the southern half of the pit, a move which necessitated them leaning awkwardly over the wooden revetting which lined the well. The man who had spoken gave a solemn nod, and the two men lowered the object as far as they could into the glassy water of the well before releasing it and allowing it to sink into the depths. They stood silently for a while,

Figure 4.36: Artist's impression of the ceremony leading to the deposition of the lead tank into pit/waterhole

watching the ripples fade and the cloudy water clear. It could still be seen on the base of the well, its torn and scarred edges glittering silver in the depths. By chance, it had come to rest with the decoration facing upwards, and the raised cordons could just be made out standing proud of the surface of the lead. This done, the men cast the twisted wooden straps into the water, where they sank to the base of the pit. It was done.

Gradually, one by one, they turned and walked away, leaving the horses to return to their grass.

Post-Roman landscape

Medieval activity on site was apparently confined to an area west of the late Roman 'ladder' enclosure system, and seemed to respect the position and orientation of this earlier landscape feature (Fig. 4.37). A concentration of early medieval activity lay on the southern edge of the excavations, and recent excavations at T5 have exposed

remains of a small early medieval farmstead to the south-west of the Perry Oaks site (see Vol. 2). The apparent continuation of the 'ladder' enclosure sysyem in the post-Roman landscape must point to the survival of the hedges of the main boundaries and possibly even of continued use of the trackway. The westernmost boundary of the 'ladder' enclosure appeared to form the eastern boundary to an area of land on which a 'ridge and furrow' system formed, with channels cutting into the underlying gravels and brickearth in places. The distance between the shallow furrows was generally between 14 m and 17 m. These earthworks could not be closely dated, but two sets of ridge and furrow cut across the remains of late Roman buildings. This agricultural system was therefore probably associated with the medieval farmstead identified to the south-west of the Perry Oaks site.

The post-medieval trackway and field boundary excavated to the east of the site shared a similar alignment with the 'ladder' enclosure system, supporting the case for continuity (Fig. 4.35). The trackway is visible on John Rocque's map of the area, the earliest known depiction of this part of the agricultural landscape, and could have had its origins in the medieval period.

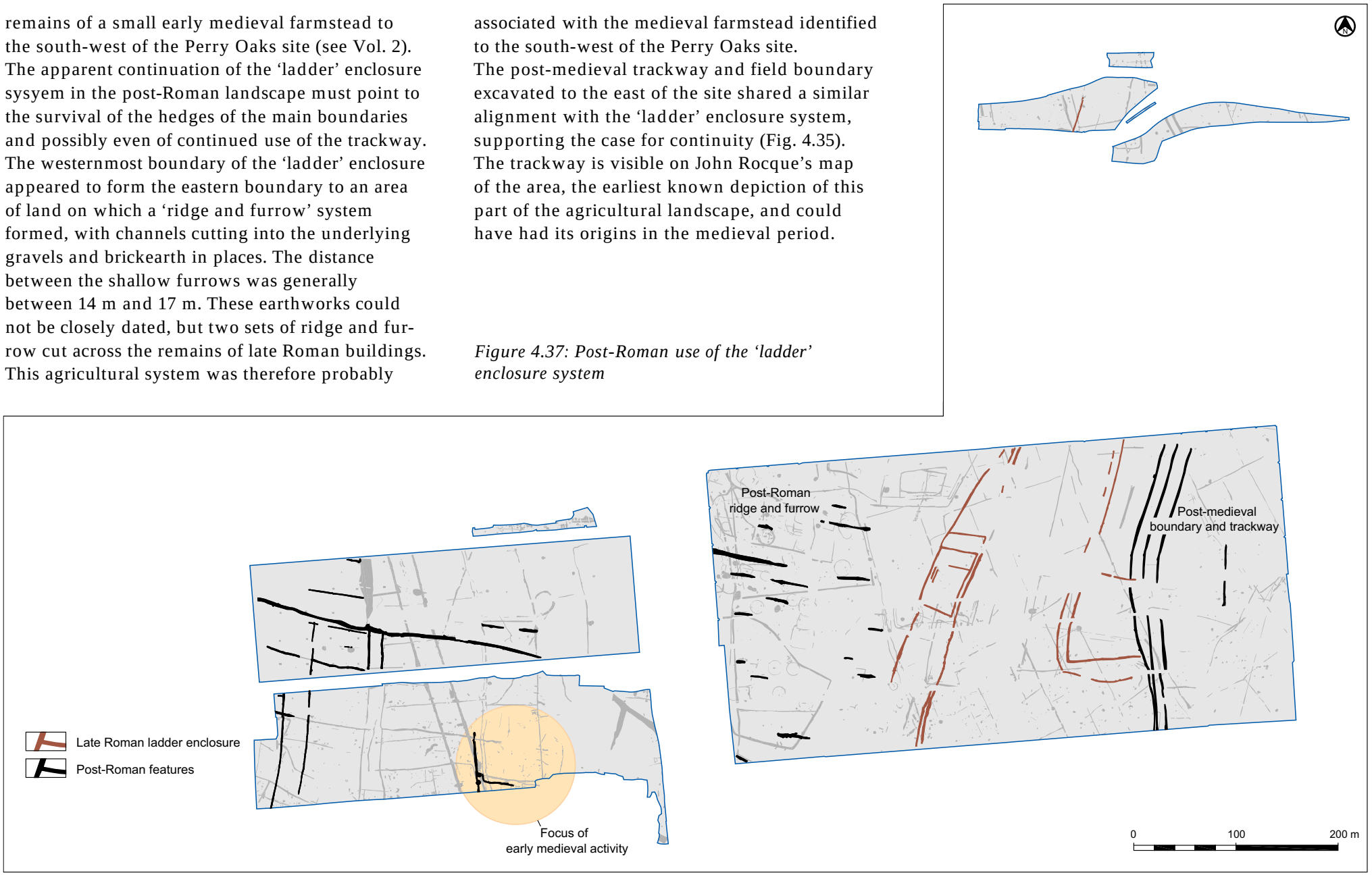


Figure 4.37: Post-Roman use of the 'ladder' enclosure system