Chapter 1: Introduction

by Jane Timby

INTRODUCTION

Between 2004–2005 Oxford Archaeology undertook the excavation of nine sites (Sites 1–9) along the route of the new Great Barford Bypass, Bedfordshire. The Bypass is designed to carry the A421(T), which originally ran through the village of Great Barford, from the present eastern end of the Bedford southern bypass to the junction of the A421 and the A1(T) north-east of Roxton (Fig. 1.1). The route covers a distance of 7.7 km with an average road corridor width of 50–60 m (excluding extensions around junctions).

A summary of the nine areas investigated is provided in Table 1.1. The sites are labelled numerically proceeding from the eastern end of the Bypass route near the Black Cat roundabout on the A1(T) (Site 1) to Water End (Site 9) at the western end, near the junction with the Bedford southern bypass. Although not exceptionally prolific in cultural material, the sites present a wide chronological range with intermittent activity from the Neolithic through to the post-medieval period, and a diversity of site types including settlement, industrial, cemetery and sacred sites.

TOPOGRAPHY, GEOLOGY AND LAND USE

The route of the Bypass lies on the slopes of the left bank of the Great Ouse, within a few hundred metres of the river at its south-west end but otherwise ranging from c 700–2200 m distant (Fig. 1.2). The Great Ouse is one of Britain's largest rivers with its headwaters near the western border of Northamptonshire and entering the sea at King's Lynn, Norfolk. It is clear that the Ouse changed its course over time in this area (Dawson 1996, fig. 22). The solid geology beneath the Bypass route comprises mudstones of the Oxford Clay Formation, part of the Upper Triassic Ancholme Group, overlain by drift geology largely composed of glacially derived deposits from the Anglian Glaciation.

At the extreme north-eastern end of the Bypass route, the lowest part, at *c* 21–5 m OD, the underlying geological deposits are sands and gravels of the Second and Third terrace deposits of the Great Ouse (BGS sheets 203–204 (drift)). Specifically, the exposures consisted of orange-brown sands and gravels, generally poorly sorted. Clasts were rounded to irregular in shape and consisted of flint, quartzite, sandstone, limestone and derived Jurassic fossils. It was observed from the evaluation that the older Third terrace gravels towards Roxton Road were siltier and more variable comprising channel fills and beds of fine silty clay within the gravel layer. Glacial tills occurred upslope. These gravels were poorly drained and exhibited waterlogging features (Critchley 2004).

The remainder of the route to the south-west is situated on boulder clay and glacial tills of the Anglian Glaciation, producing stiff light grey to light brown clay soils with a high and variable clast content. Topographically these deposits are more varied than the gravels, with a series of roughly north to south or north-west to south-east trending rises, reaching a maximum elevation of *c* 46 m OD, separated by minor streams. A minor stream known as the Rockham Ditch lies 300 m to the north-west of Site 2, for example. Both colluvial and alluvial deposits have been noted in some of the intervening hollows. Periglacial cryoturbation and ground ice features were exposed during fieldwork and included sand wedge polygons, ice crack fills and

Table 1.1: Sites discussed in this report

Site	*Location*	*Parish*	*NGR*	*Elevation (m OD)*	*Excavated area (m^2)*
Site 1	Roxton Road West	Roxton	TL 150 550	25	26,344.9
Site 2	High Barns Road	Roxton/Great Barford	TL 143 541	35	18,405.5
Site 3	East End	Great Barford	TL 124 534	30	7886.4
Site 4	Birchfield Road	Great Barford	TL 121 533	35	9956.7
Site 5	Barford Road	Great Barford	TL 114 527	35	2380.7
Site 6	Brewer's Hall Farm North	Great Barford	TL 112 526	40	5565.8
Site 7	Brewer's Hall Farm West	Great Barford	TL 110 517	35	13,118.3
Site 8	Renhold Water End East	Renhold	TL 106 516	35	31,332.2
Site 9	Renhold Water End West	Renhold	TL 103 513	35	7876.7

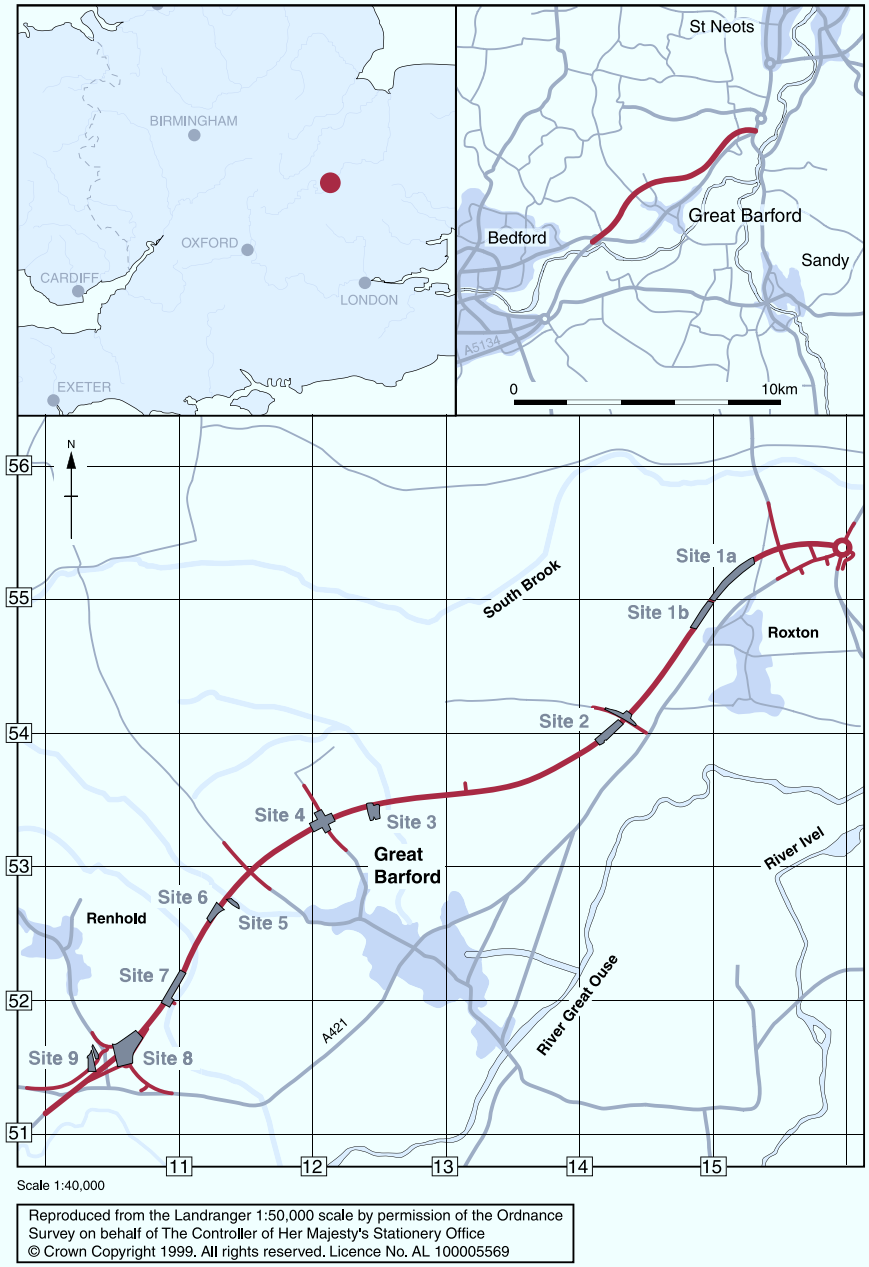

Fig. 1.1 Location of sites

involutions. These features were generally more extensive on the higher ground.

Prior to the archaeological work most of the area of the road corridor was used for arable cultivation. Site 8 was used as pasture, but had in the recent past been used for arable crops. A water pipeline on a N-S alignment crossed the field within which Site 8 was located. Sites 1, 2, 8 and 9 all showed evidence of medieval/post-medieval ridge and furrow.

BACKGROUND TO THE PROJECT

Bedfordshire County Archaeology Service carried out an initial desk-based assessment of the archaeological implications of the road scheme in 1992 (BCAS 1992). This identified eight areas of archaeological interest comprising 20 known sites. Subsequent to this work a number of new sites were identified, in particular a geophysical survey in advance of pipeline construction to the west of Brewer's Hall Farm located previously unknown archaeological remains (GSB 2000).

The proposed route passes close to or cuts through 19 areas of archaeological interest registered in the Historic Environment Record (HER). These are summarised in Table 1.2 progressing along the route from north to south (see also Fig. 1.3). Eight records relate to cropmarks identified from aerial photographs presumed to date to the later prehistoric and Romano-British periods; one relates to a mound which may be a prehistoric funerary mound or medieval windmill tump; two derive from pipeline work which uncovered evidence of later prehistoric and Roman activity and a human skeleton; three are medieval structures: a moated manor house, a deserted medieval settlement and a ringwork; three relate to identified areas of ridge and furrow cultivation and two are 19th-century houses and grounds.

A complete aerial survey undertaken in 1996 across Bedfordshire revealed a hitherto unsuspected density of cropmarks across the claylands due to exceptionally dry conditions (Mills 2003). The cropmark evidence was patchy in that whilst it indicated activity in the vicinity of Sites 1, 2 and 7, Site 8, one of the most complex areas to be investigated, had little cropmark evidence at all.

All this information was incorporated in a brief for the field evaluation of the scheme, prepared by the County Council in 2001 (BCCHES 2001).

EVALUATION FIELDWORK

The evaluation work, carried out by Northamptonshire Archaeology between 2001 and 2004, had three main components: geophysical survey, fieldwalking and trial trenching (see Fig. 1.3).

The geophysical survey identified further remains extending to the north-east of HER 482 close to High Barns Farm. The plots suggested a number of large enclosures and boundary ditches situated on a slightly raised plateau on top of the ridge above the river. The geophysical survey also identified a complex pattern of ditches, gullies and pits on a north to south axis in a pasture field east of Renhold Road (NA 2001).

Northamptonshire Archaeology carried out a programme of fieldwalking in 2001. The available finds plots indicated a low background scatter of worked flint along the length of the route, mainly flakes, but with a low incidence of scrapers, cores, retouched flakes, cortical flakes and blades. In

Table 1.2 Summary of recorded HER sites along the Bypass route

HER No.	Period	Description
745	Later prehistoric/Romano-British	Possible farmstead(s) with associated field-system
1833	Later prehistoric/Romano-British	Possible farmstead(s) with associated field-system
1836	Later prehistoric/Romano-British	Possible farmstead(s) with associated field-system
2664	Later prehistoric/Romano-British	Possible farmstead(s) with associated field-system
15047	Later prehistoric/Romano-British	Rectilinear enclosures with droveway identified from cropmarks on aerial photographs
1494	Prehistoric or medieval	Round Hill: earthwork interpreted as a round barrow or a windmill tump
5136	Medieval/post-medieval	Roxton Park: ridge and furrow
7009	Medieval/post-medieval	Roxton Park: ridge and furrow
482	Late prehistoric-Romano-British	Extensive area of cropmarks
7043	19th century	Great Barford House: house and ornamental gardens
9916	Medieval	Deserted medieval hamlet of East End
9833	Romano-British	RB settlement discovered in pipeline work in 1976
9963	?Medieval	Earthworks: ?ploughed-out ridge and furrow
818	Medieval	Moated manor site of 'The Creakers'
15340	Later prehistoric/Romano-British	Cropmarks from aerial photographs
15492	Later prehistoric/Romano-British	Remains found in pipeline work in the 1990s
1800	Later prehistoric/Romano-British	Cropmarks from aerial photographs south of HER 15492
2806	?12th century	Howbury Ringwork scheduled monument
7004	19th century	Howbury Hall parkland

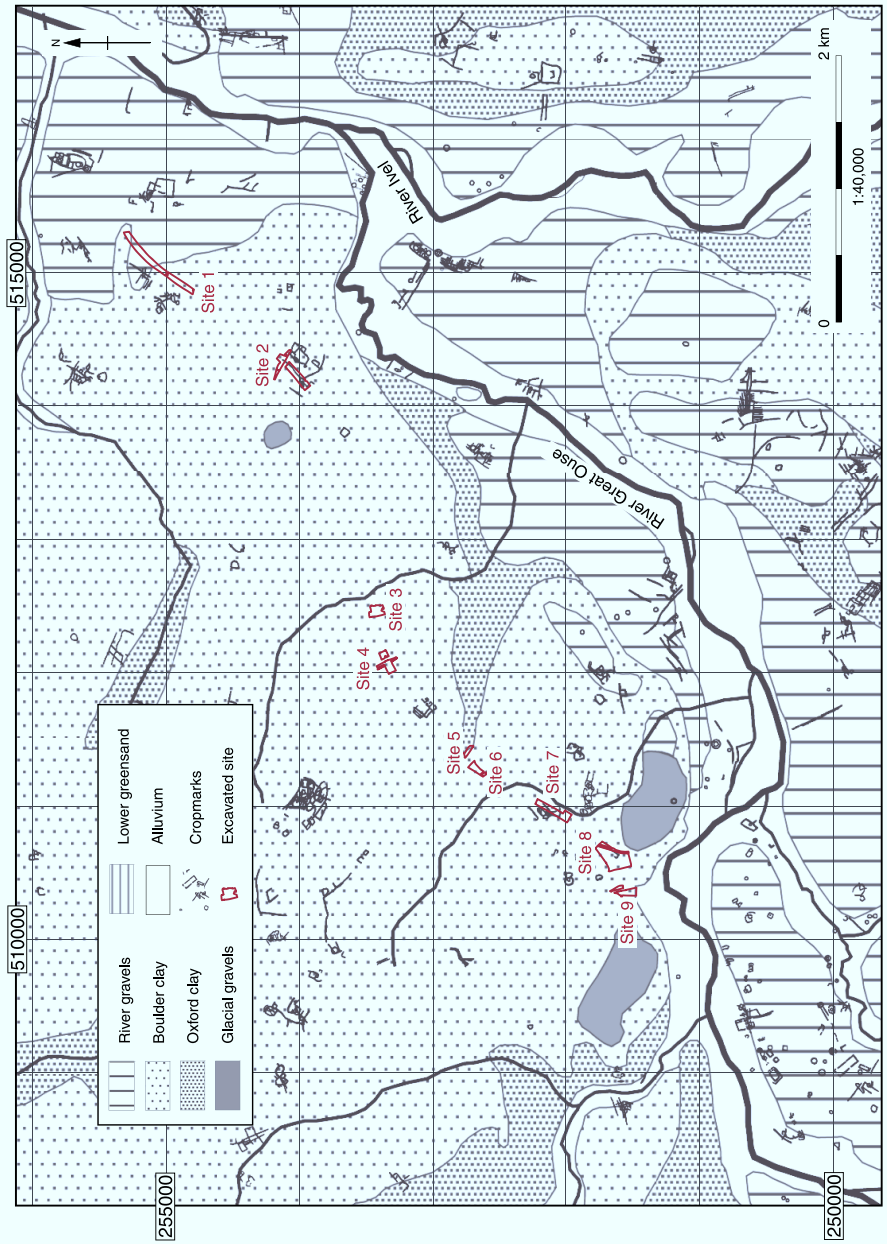

Fig. 1.2 Geology and cropmark evidence. Cropmark plot used courtesy of Jessica Mills

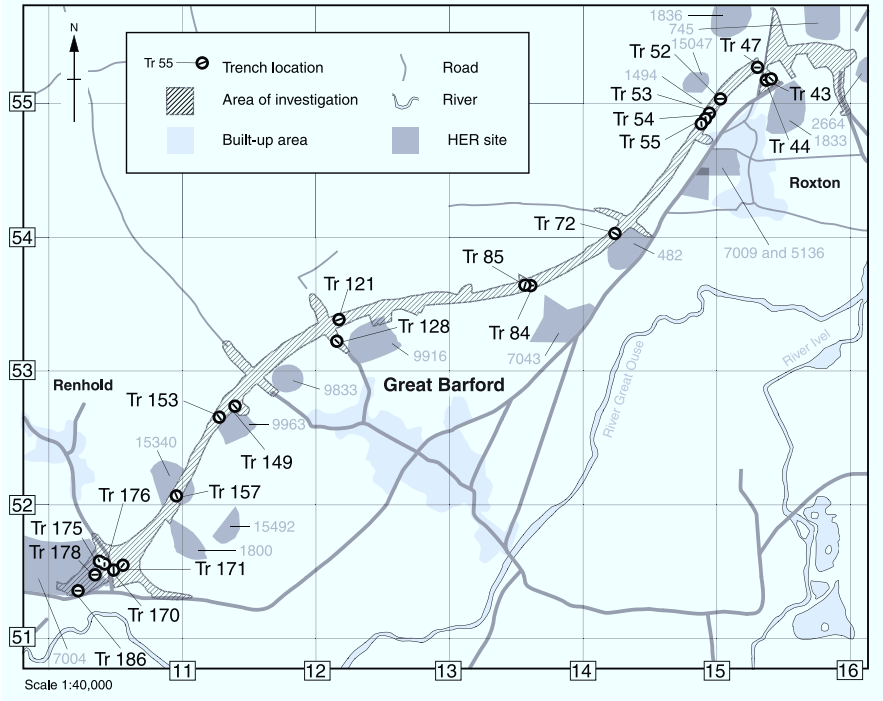

Fig. 1.3 Route of the Bypass, showing adjacent HER sites, area of field investigation and location of evaluation trenches mentioned in the text

addition a scatter of pottery and ceramic building material dating to the Roman, medieval and post-medieval periods was recovered. Finds of note include an Anglo-Saxon glass bead from the eastern end of the Bypass route near Site 1 along with a higher concentration of Roman pottery and of medieval pottery in the general vicinity of Site 3.

The combined results of the geophysical survey and fieldwalking identified nine potential archaeological sites along the route of the Bypass (NA 2001).

Evaluation trenches

In total 185 trial trenches were excavated along the road corridor in 2004, covering an area of 18,800 m^2 (NA 2004a–d). Figure 1.3 shows the area of archaeological investigation along with the location of specific trenches mentioned below. A broad shallow palaeochannel containing bluish-grey silty clay extended through Trenches 43 and 44 on a NE-SW alignment. Archaeology spanning the later prehistoric, Roman, middle Saxon, medieval and post-medieval periods was encountered.

Small quantities of flint indicated activity of earlier periods, from the late Mesolithic onwards, but no features of earlier prehistoric date were identified. Iron Age activity predating the late Iron Age was identified at two locations, in adjacent Trenches 84 and 85 (NA 2004a, Appendix 3), where gullies and a pit (which produced a triangular loomweight or oven brick), were associated with very small quantities of pottery, and in Trench 153. At the latter site (corresponding with excavation Site 6), ditches, perhaps forming part of an enclosure, produced an assemblage of middle Iron Age pottery. A crouched inhumation located some 150 m distant in Trench 149 was probably of late Iron Age date.

Much more extensive evidence for late Iron Age activity was revealed during the evaluation. Where present this was often associated with early Roman features and material, indicating some continuity of settlement across the period of the Roman conquest and beyond. Late Iron Age material, mostly pottery in grog-tempered and shell-tempered fabrics, was located in variable quantities in at least four distinct

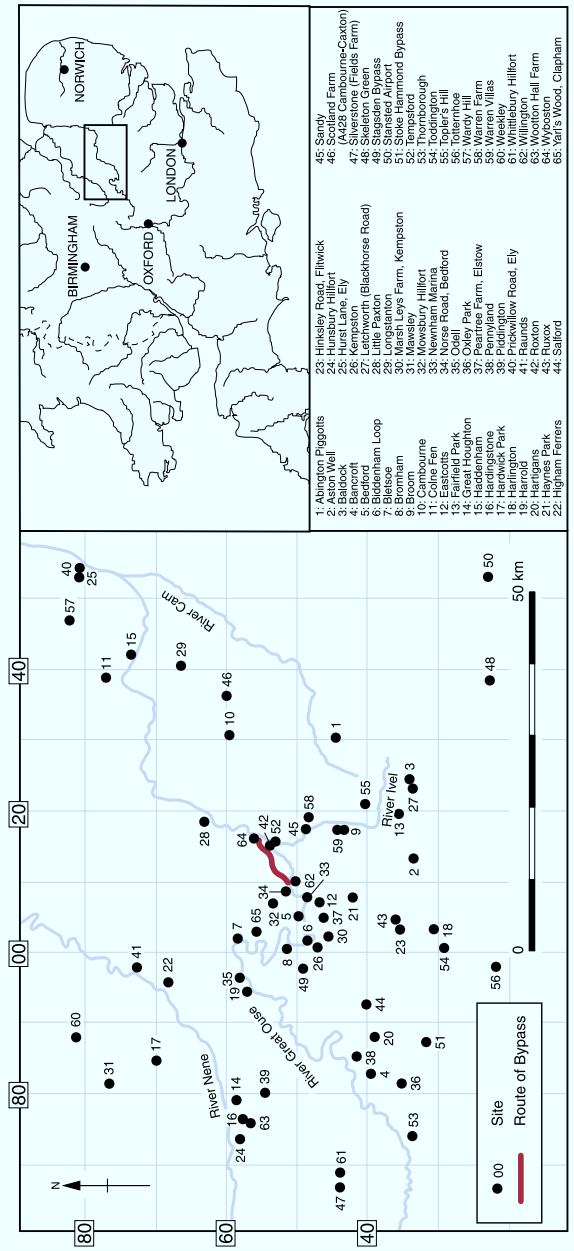

Fig. 1.4 Location of sites mentioned in the text.

areas (corresponding to Sites 1, 2, 4 and 7). In Sites 2 and 4 the late Iron Age fabrics were substantially more numerous than those of Roman date, while in Site 7 the total quantities of pottery recovered were very small, most being grog-tempered wares, (presumably but not demonstrably of late Iron Age date), from a single context in Trench 157.

At Sites 1 and 8 the chronological emphasis from the evaluation fell in the Roman period, though both sites may have had a minor late Iron Age component. At Site 1 the identified features (in Trenches 53–55) were dated largely to the 1st–2nd centuries on the basis of pottery, though two 4th-century coins were also recovered from this area.

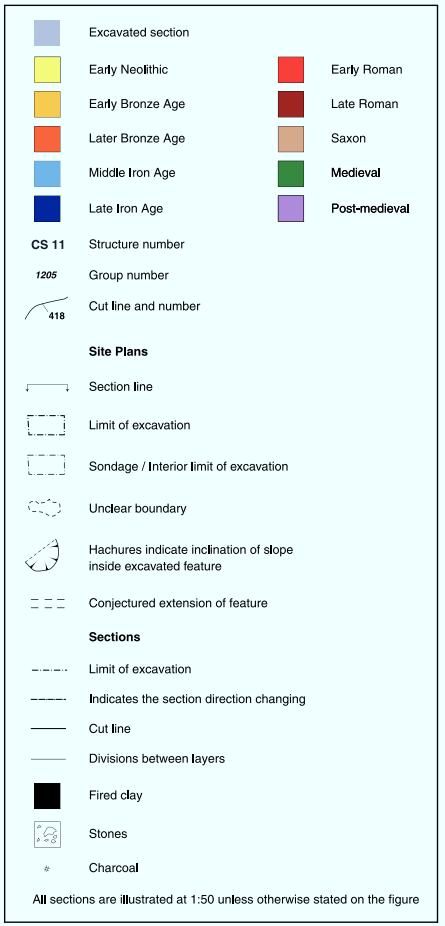

***Fig.** 1.5 Key to site plans and sections*

The identification of possible Anglo-Saxon features, as well as the late Roman coins, might suggest that there was some late Roman settlement in the area, but features of this date were not encountered within the evaluation trenches. Site 8 is the only location on the route that produced any ceramic evidence for later Roman activity and it was from this site that 'several Roman coins...from the late 1st to the 4th centuries AD' (NA 2004c, 5) were also recovered.

One particularly significant feature of Site 8 was the presence of a group of associated cremation burials located in Trench 171. Six probable cremation burials, one with pottery, and a possible infant inhumation, were located in this area but were not excavated. The presence of a South Gaulish samian dish, form Dragendorff 36, suggests a 1st-century date for the accompanied burial.

Overall, therefore, the evidence from the evaluation hinted at some late Roman activity along the line of the route but the direct evidence was limited. Indications of post-Roman settlement were equally scarce. Early or middle Saxon settlement may have been indicated by features in Trench 47 at the north-east end of the route (within Site 1). Here a large, shallow flat-bottomed pit was interpreted as a possible sunken-featured building, and there were also gullies and pits or postholes, possibly relating to a rectangular structure and a fence line, but none of these features was dated. At the other extremity of the route six sherds of middle Saxon Maxey-type ware were recovered from a medieval or post-medieval furrow fill in Trench 178 and it is possible that these indicate the existence of contemporary settlement predating the medieval features located a little to the north in Trenches 175 and 176 (corresponding to Site 9).

The evaluation produced evidence of medieval settlement at three locations (Sites 3, 5 and 9). At Site 3 (East End) the complex of features (ditches, gullies, pits and postholes, some of the latter perhaps forming part of a structure) were dated mainly to the 12th century, though some 14th-century features were also identified. This corresponds with the northern edge of the known deserted hamlet of East End (HER 9916). A similar range and density of features, a similar streamside setting and a similar chronological range were all seen at Site 5 (Barford Road) about 1 km further south-west. At the south-western end of the route, Site 9 (Water End West) also comprised a ditch, gullies, pits and postholes including components of a fence line or building, all dated to the 11th century. Other features, potentially or certainly of medieval date, lay beyond the extent of Site 9 to the south and south-west and in the latter location, Trench 186, dating evidence followed the pattern seen at Sites 3 and 5, with both 12th- and 14th-century material present.

Traces of ridge and furrow, now mostly ploughed out, were identified widely across the route. In the vicinity of Site 9 some ridge and furrow was seen to cut earlier medieval features indicating a change in

the pattern of land use in the medieval period. No significant post-medieval features were encountered during the evaluation trenching.

EXCAVATION METHODOLOGY

The main elements of the approach to archaeological mitigation of the Great Barford Bypass were set out in the project brief (CgMs 2004). This identified and defined the areas of nine sites for investigation. Two distinct levels of approach were defined. For those sites or parts of sites where the archaeological potential seemed already to be very clearly indicated, excavation was chosen. There were six such areas (Sites 3, 4, 5, 8 and 9 and a core area of Site 2). Five areas (consisting of two in Site 1, Sites 6 and 7 and part of Site 2) were identified in which there was potential for the recovery of significant archaeological remains, but the data from the evaluation did not allow close definition of the areas of importance. These areas were accordingly subjected to a programme of strip, map and sample. The combined areas identified for excavation and strip, map and sample were 8.1 ha and 8.6 ha respectively (CgMs 2004, table 4.1).

The main excavation work was carried out between 2004 and 2005. A small additional trench was excavated at a later date in a newt protection area located 45 m north-east of Site 5 (Barford Road). This was to examine the area where an inhumation burial had located during the evaluation and to check for any further possible burials nearby. No datable archaeology was observed.

The topsoil and any extant subsoil on all sites was removed using 360° excavators fitted with quick-hitch bucket systems to reduce the area of overburden to the first significant archaeological horizon or, where these were absent, the natural subsoil. The evaluation had determined that where archaeological deposits were present these became visible at the interface between subsoil and natural.

In terms of excavation strategy all discrete features were at least half-sectioned. Linear features were sample excavated to at least 5% of their length, away from intersections with other features or deposits to obtain unmixed samples of material. Linear features associated with settlement, industrial structures or areas of specific activity were sampled to 20% away from intersections with other features or deposits. A further 20% was excavated where complex stratigraphy occurred. Although the specification required full excavation of deep features such as pits and wells the high water table meant this was not feasible. Graves and other specific features such as the kilns and hearths were fully excavated.

All on-site recording was undertaken in accordance with the requirements of the OA Field Manual (Wilkinson 1992). The specific requirements of the brief (CgMs 2004, section 7.3) were also noted. For context recording a continuous unique numbering system was used.

Bulk samples, a minimum of 10 litres but up to 40 litres if possible, were taken for flotation for charred plant remains. Bulk samples were also removed from waterlogged or mineralised deposits for macroscopic plant remains. Priority was given to the basal fills of features and to those contexts showing visible charred plant remains. For features such as postholes, sampling was limited to those that could be firmly attributed to a datable structure. Mollusc samples were also taken. Other bulk samples for small animal bones and other small artefacts were taken from appropriate contexts.

Artefactual and ecofactual material was collected in accordance with the terms of the brief (CgMs 2004). Metal detectors were used both on site and on spoil heaps to maximise finds retrieval. Excavation of cremations was done an *ad hoc* basis depending on levels of preservation and whether the remains were place in an urn or not. In general the practice was to excavate in spits with all soil retained as a sample for flotation/sieving. In the cases of some very shallow poorly preserved graves a single sample comprising all the fill was taken. Where burial was in an urn, this was normally lifted and taken back to the burials department for excavation. In unurned burials excavation by spits was done in the field. A small number of graves were sectioned where this was practicable.

RESEARCH OBJECTIVES

In the original project design, the identified sites on the line of the Great Barford Bypass were regarded as having the potential to make a significant contribution to regional and county research questions, particularly those relating to aspects of rural settlement in the late Iron Age, Roman and medieval periods. In particular there was a desire to understand the extent and morphology of the sites along with their chronological and functional development. The growing body of data for late Iron Age and Roman settlement across the county provides a background against which the sites of similar date on the Great Barford Bypass can be set.

Middle Iron Age activity was only identified on one site specified for further work (Site 6, Brewer's Hall Farm North). The principal concern here was to establish the extent of features, their morphology and chronology. Despite long-standing and more recent work (eg Knight 1984; 2002) chronology remains an issue for the Iron Age in the county (Dawson forthcoming) as it does for the wider region (Bryant 2000) and indeed at national level (Haselgrove *et al*. 2001, 2–6). Here and elsewhere it was regarded as important to establish the extent to which the sample of the site revealed by excavation was representative of the wider picture.

From the papers recently prepared for the Bedfordshire Research Framework (Oake forthcoming), it is clear that one of the greatest contributions made by the recent archaeological work along

the Great Barford Bypass has been to provide a basis for understanding the types of settlement and activity to be expected on the boulder clay terrain at different points in time. Until recently such information has been lacking, or hinted at, but not substantiated.

Both locally and nationally the claylands have, until recently, been subjected to very little excavation compared to the river valleys, partly because historically they have been seen as having low potential and partly because they tend to see less development or commercial explotitation. Although there is some visible evidence of occupation, in particular from cropmarks, very little was known about these, what they represented and from which period they dated. Similarly there has been no work to date to consider how settlements on the clay might have articulated with those in the river valleys.

Although the Bypass project is a linear project and thus constrained by the line of the roadworks, it nevertheless constitutes a slice of the landscape and thus provides a starting point to address some of the broader research topics raised both at a national level (English Heritage 1997) and at regional and local levels.

A number of local issues can be raised in terms of chronology, settlement types and functions, ritual, economy, burial practices and craft specialisation. The research aims of the project, as defined in the updated project design (OA 2005), were directed to address the ways humans have articulated with the landscape through time; how they have adapted to the resources available and what traces they have left to enable us to reconstruct the basis of their subsistence, craft specialisation and social behaviour. Embedded within this are issues such as whether there are any determinants regarding the selection of a site at any particular point in time.

STRUCTURE OF THE REPORT

The following report has been divided chronologically into three periods covering the prehistoric, Roman and post-Roman evidence. Table 1.3 summarises the main periods used across the scheme. For each period there is a descriptive chapter outlining the stratigraphic evidence from each site where appropriate. Each author has then gathered together the various strands of stratigraphic, artefactual and ecofactual knowledge drawn from the study of all the relevant sites excavated to provide a synthetic chapter discussing the evidence. This approach is seen as providing a more coherent overview of the evidence from disconnected sites for each chronological period for what is essentially a landscape study. Chapters 2 and 3 thus discuss the earlier and later prehistoric evidence from Sites 2, 4, 6 and 7 and describe the various features from these sites. Chapters 4 and 5 discuss the Romano-British evidence as provided by Sites 1, 4 and 8. Chapters 6 and 7 describe and review the Saxon and medieval evidence from Sites 3, 5, 8 and 9. The following chapters follow a more standard format discussing the finds (Chapter 8), human bone (Chapter 9), animal bone (Chapter 10), environmental evidence (Chapter 11) and scientific dating (Chapter 12). These are also structured chronologically. Chapter 13 provides a brief overview of the development of the clay landscape through time and a comment on the effectiveness of the methodology.

Table 1.3: Chronological scheme used in the report

Phase	
1	early Neolithic
2	early Bronze Age
3	later Bronze Age
4	middle Iron Age
5	late Iron Age
6	early Roman (mid 1st-2nd century AD)
6.1	*1st century AD*
6.2	*second half of 2nd century AD*
7	late Roman (3rd-4th century AD)
7.1	*early-mid 3rd century AD*
7.2	*late 3rd-late 4th century AD*
8	Saxon (5th-11th century)
8.1	*early Saxon (5th-6th century AD)*
8.2	*mid Saxon (7th-8th century AD)*
8.3	*late Saxon (9th-11th century AD)*
9	Medieval (12th-15th century)
9.1	*early medieval (12th-13th century AD)*
9.2	*late medieval (14th-15th century AD)*
10	post-medieval (16th century +)

For the purposes of this work, the term 'enclosure' has been used to refer to areas of defined space, that may be delimited by ditches, palisades, fences or other features such as trackways or hedges. Delimiting features may not necessarily occur as a complete or continuous circuit, though at least two sides are regarded as a minimum to posit a rectangular or polygonal enclosure. It is more than likely that any traces of more ephemeral boundaries, for example, hedges, hurdling etc would have been totally obliterated by subsequent agricultural activity. Ridge and furrow cultivation must be also partly responsible for the lack of detailed evidence for internal structures and occupation.

A map showing the main local and regional sites mentioned in the text is given in Figure 1.4 whilst Figure 1.5 provides a key to the drawing conventions used throughout the report.

ARCHIVE

The complete site archive, which will include paper records, photographic records, graphics, artefacts and ecofacts, will be prepared for long term storage following nationally recommended guidelines (Walker 1990; Museums and Galleries Commission 1992) and those outlined in the document *Preparing*

archaeological archives for deposition in registered museums in Bedfordshire (1998). The project archive and finds will be deposited with Bedford Museum (Bedford Borough Council) in accordance with the standards agreed under accession number BEDFM.2004.237. In line with current best practice, on completion of the project a security copy of the paper records will be prepared in the form of microfilm. The master jackets and one diazo copy of the microfilm will be submitted to the National Archaeological Record (English Heritage), diazo copies will be deposited with the paper records at the museum, and a further diazo copy will be retained by OA.

Chapter 2:
Prehistoric Sites: Archaeological Descriptions

by Leo Webley

SITE 2: HIGH BARNS ROAD

Site location

Site 2 was bisected by High Barns Road, which serves as the boundary between Roxton and Great Barford parishes (NGR TL 143 541) (Fig. 1.1). The main area of excavation lay to the south of the road, with three smaller areas to its north. A total of 2.6 ha was stripped (Fig. 2.1). The excavated area corresponds with the north-western edge of a much larger cropmark complex (HER 482; Figs. 1.3 and 2.2). Five phases of prehistoric activity were revealed, belonging to the early Neolithic (Phase 1), early Bronze Age (Phase 2), later Bronze Age (Phase 3), middle Iron Age (Phase 4) and late Iron Age (Phase 5) respectively.

Phase 1: early Neolithic

A single pit, 2183, at the western edge of the site could be dated to the early Neolithic (Figs. 2.3 and 2.4). This measured 0.85 m in diameter and 0.33 m deep, with a bowl-shaped profile. It had a single fill of silty clay, containing 37 pieces of worked flint (Fig. 8.1), 44 sherds of 'plain bowl' pottery (Fig. 8.2.1–3) and a small amount of animal bone, including cattle, sheep/goat, pig and deer.

Phase 2: early Bronze Age

The sole feature attributed to this phase was a shallow bowl-shaped pit (20121) at the south-western end of the site (Figs. 2.3, 2.4 and 2.9). This was 0.65 m in diameter and 0.14 m deep, with a single fill of silty clay. The only artefact recovered was a sherd from a Collared Urn (Fig. 8.2.5).

Phase 3: later Bronze Age

Activity during the later Bronze Age was represented by a cluster of three pits at the south-western end of the site, and a single cremation burial placed 90 m to the north-east (Figs. 2.3 and 2.5).

Pits and shafts (Figs. 2.3 and 2.5)

Pit 2440 was a bowl-shaped feature, measuring 3.25 m in diameter and 0.68 m deep, containing a few sherds of probably late Bronze Age pottery (Fig. 8.3.1). It was cut by a steep-sided pit or well, 2443, which was excavated to a depth of 1.20 m before work was abandoned for safety reasons. This contained a single homogeneous silting deposit, again containing late Bronze Age pottery (Fig. 8.3.2). Both 2440 and 2443 were subsequently cut by late Iron Age ditch 2749.

A second sheer-sided shaft or well, 20182, lay 28 m to the south-east. This was 0.96 m in diameter and excavated to a depth of 1.00 m. It contained a sandy silt back-fill deposit (20183) overlain by a naturally deposited upper fill of clay silt (20184). This final deposit was probably laid down in the middle Iron Age, to judge from the few small sherds of pottery recovered. However, the morphological similarity of the shaft to feature 2443 means that a later Bronze Age date can be tentatively suggested.

Cremation burial (Figs. 2.3 and 2.5)

The cremation burial (2150) was unurned, and had been deposited in a small flat-based pit, 0.60 m in diameter and 0.18 m deep. The remains belong to a mature or older adult of undetermined sex (Chapter 9). Although no artefacts were recovered, a radiocarbon determination of 1130–930 cal BC (OxA-15672: 2868 ± 28 BP) was obtained from the cremated bone.

Phase 4: middle Iron Age

Two discrete areas of middle Iron Age activity were encountered, at the northern and southern ends of the site respectively (Fig. 2.6). The northern feature group consisted of a small enclosure, a pair of roundhouses, and associated pits. The southern feature group included a further enclosure, a small roundhouse or ring-ditch, and a concentration of shallow pits, postholes and gullies. Finds of hammerscale and clinker suggest that metal-working occurred in this latter area.

Northern feature group

Enclosure 21 (Figs. 2.6 and 2.7)

Enclosure 21 resembled a wishbone in form, with its entrance to the north. The eastern side of the enclosure was formed by gully 2743, measuring 12.5 m

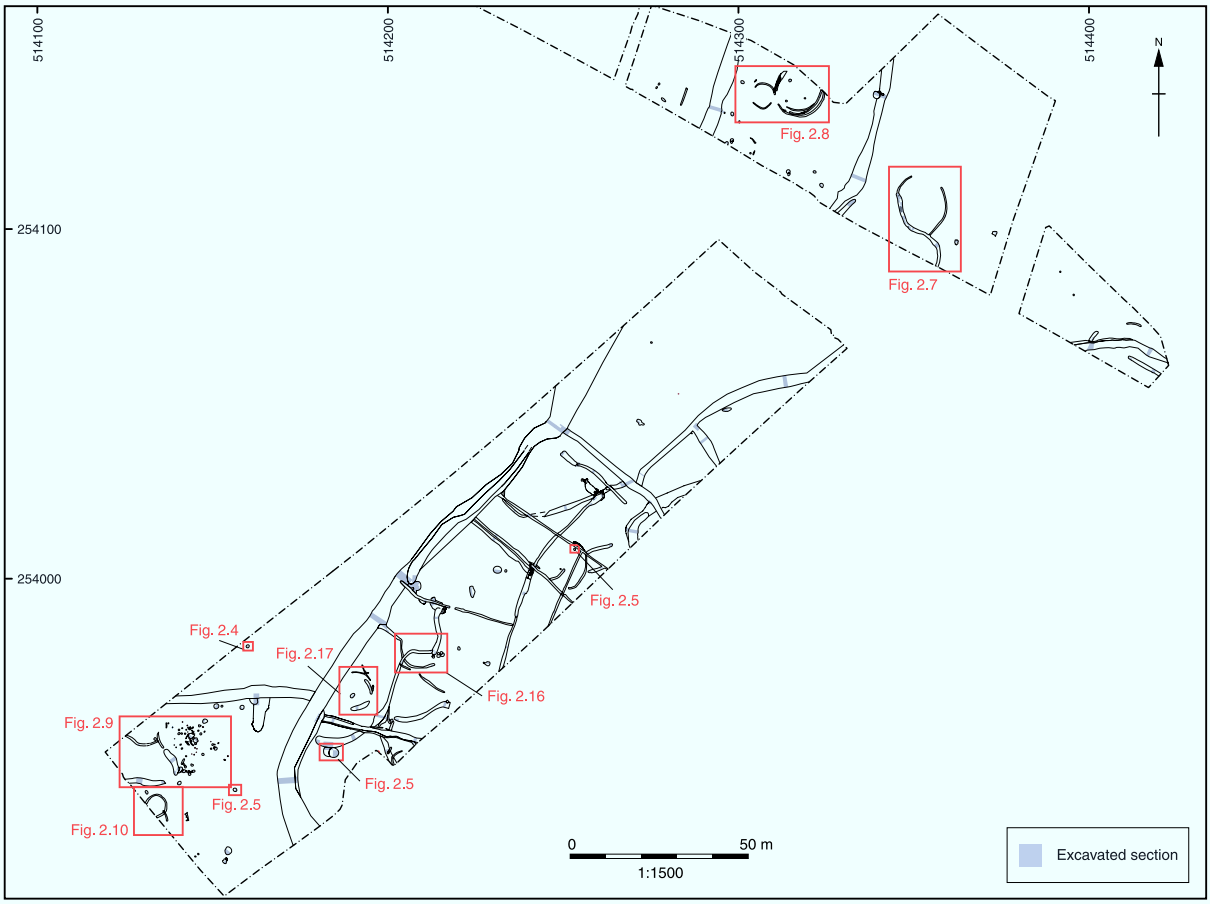

Fig. 2.1 Site 2, plan of all features

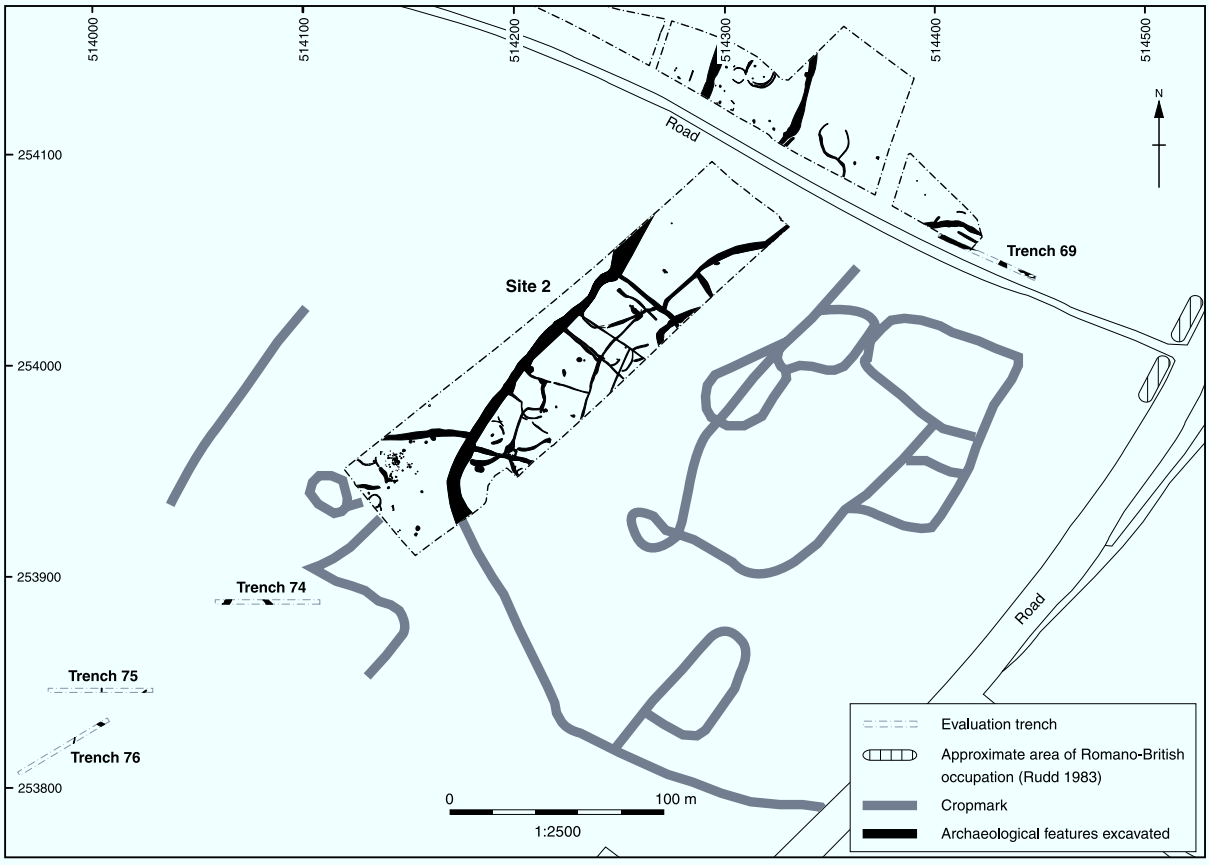

Fig. 2.2 Site 2, cropmark and evaluation evidence. Cropmark plot used courtesy of Jessica Mills

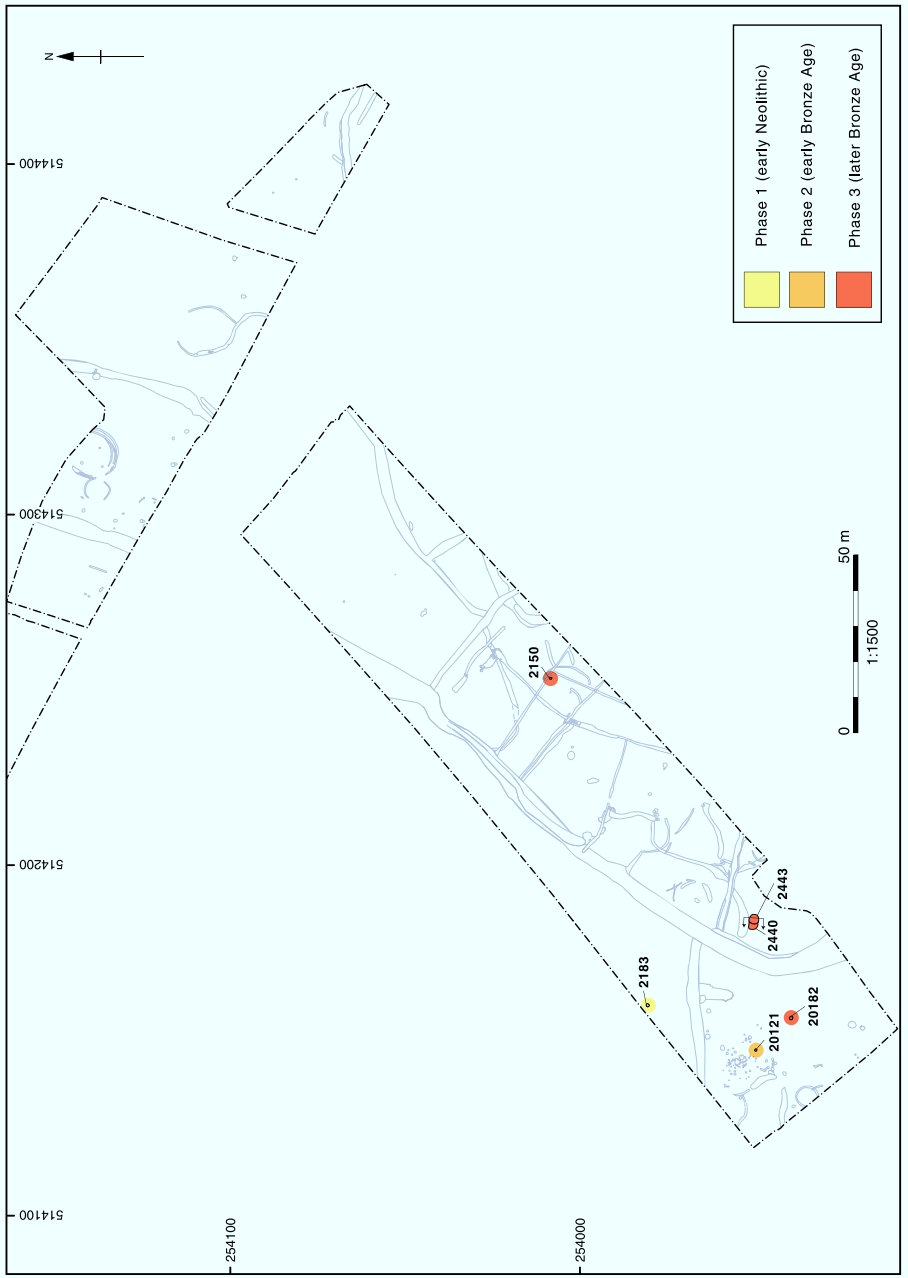

Fig. 2.3 Site 2, Phases 1–3 (early Neolithic, early Bronze Age and later Bronze Age)

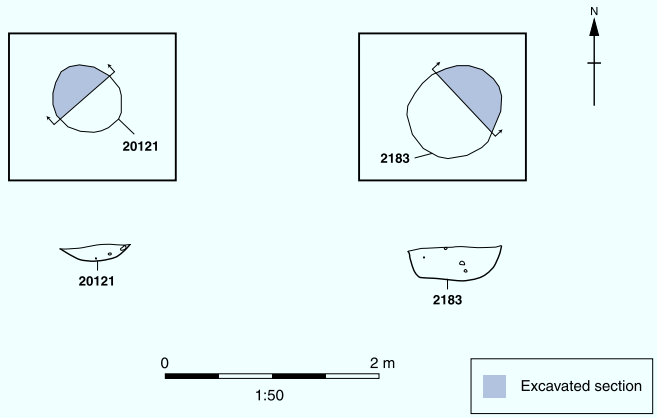

Fig. 2.4 Site 2, detail plans and sections of early Neolithic and early Bronze Age features

long and 0.34 m deep. The western side was formed by gully 2741 (0.22 m deep), which was subsequently cut by a more substantial ditch. The initial phase of this ditch, 2130, was 0.46 m deep and only survived at the northern butt end. It was later recut as ditch 2742, measuring 23.0 m long and 0.52–0.70 m deep, continuing beyond the limit of excavation. No stratigraphic relationship was apparent between this recut and eastern gully 2743. However, if the two features were contemporary they would have together enclosed an area measuring 12.5 by 12.5 m. All of the gullies and ditches had essentially U-shaped profiles.

Whilst gullies 2741 and 2743 had unremarkable silty fills containing small amounts of pottery and animal bone, the fills of the later ditch require more consideration. Earlier cut 2130 contained a sandy clay back-fill deposit, containing pottery and animal bone. The pottery largely comprised three semicomplete vessel bases, suggesting an element of selectivity. Later ditch 2742 showed a sequence of three deposits: a thin initial weathering layer (ctxs 2045, 2133 and 2172); a main backfill deposit of dark, organic rich material (ctxs 2009, 2046, 2048, 2069, 2134, 2173 and 2174), and an upper, paler backfill or weathering deposit seen only in the interventions towards the southern end of the ditch (ctxs 2068, 2175 and 2049). The main backfill deposit contained a significant quantity of finds, including 8.2 kg of pottery and 10.6 kg of animal bone, along with an iron latch lifter (Fig. 8.21.24) and small fragments of clay oven walling. Samples taken from this deposit contained only sparse amounts of charred plant remains and charcoal. The density of finds was greatest at the northern terminus of the ditch, reaching over 2 kg of pottery per m³ of fill (Table 2.1), the highest recorded on the site. The quantities of finds gradually fell away towards the southern end of the ditch, with only a modest assemblage recovered from the southernmost intervention (2047). The pottery from this deposit had a mean sherd weight above the site average, and included many large fragments. Most notable was a near-complete La Tène decorated bowl from context 2174 (Fig. 8.4.17), and a large fragment of another from context 2131 (Fig. 8.4.16). Sherd refits between

Table 2.1: Site 2, summary of fills of ditch 2742. Interventions ordered from north to south. Pottery densities calculated by estimating intervention volume as length x width x depth

Intervention	*Contexts*	*Pottery* *Total (g)*	*Pottery* *Density (g/m³)*	*Animal bone (g)*	*Other finds*
2132	2009, 2133, 2134	5790	2183	6403	Human skeleton 2079; human skull fragment 2074; iron latch lifter; oven walling
2159	2173-2174	1337	990	3287	Human skull fragments 2176 and 2224; fired clay
2044	2045, 2046	24	76	302	
2047	2048, 2049	73	82	315	

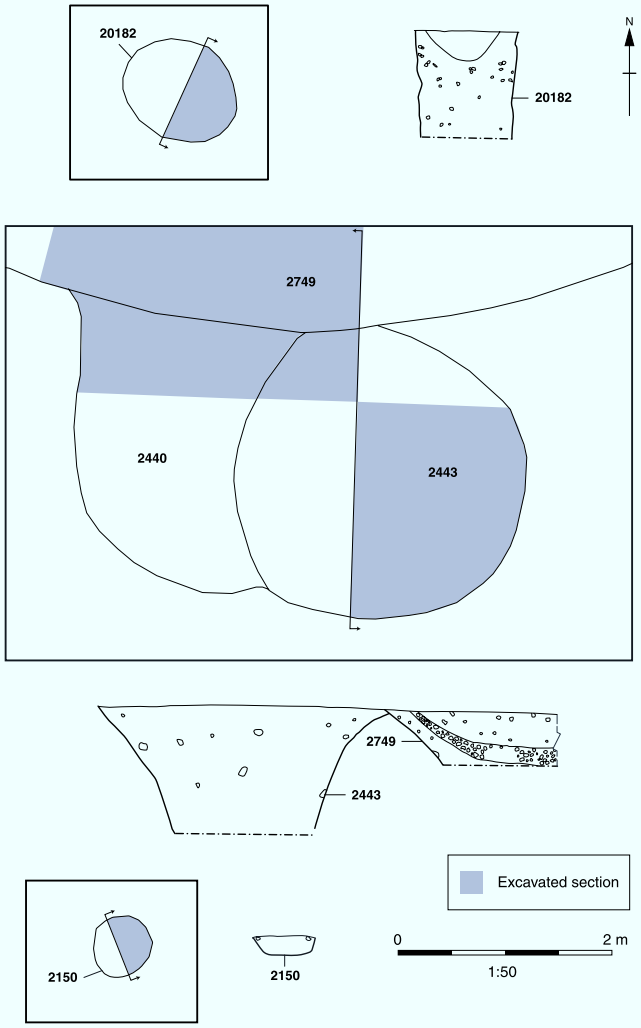

Fig. 2.5 Site 2, detail plans and sections of later Bronze Age features

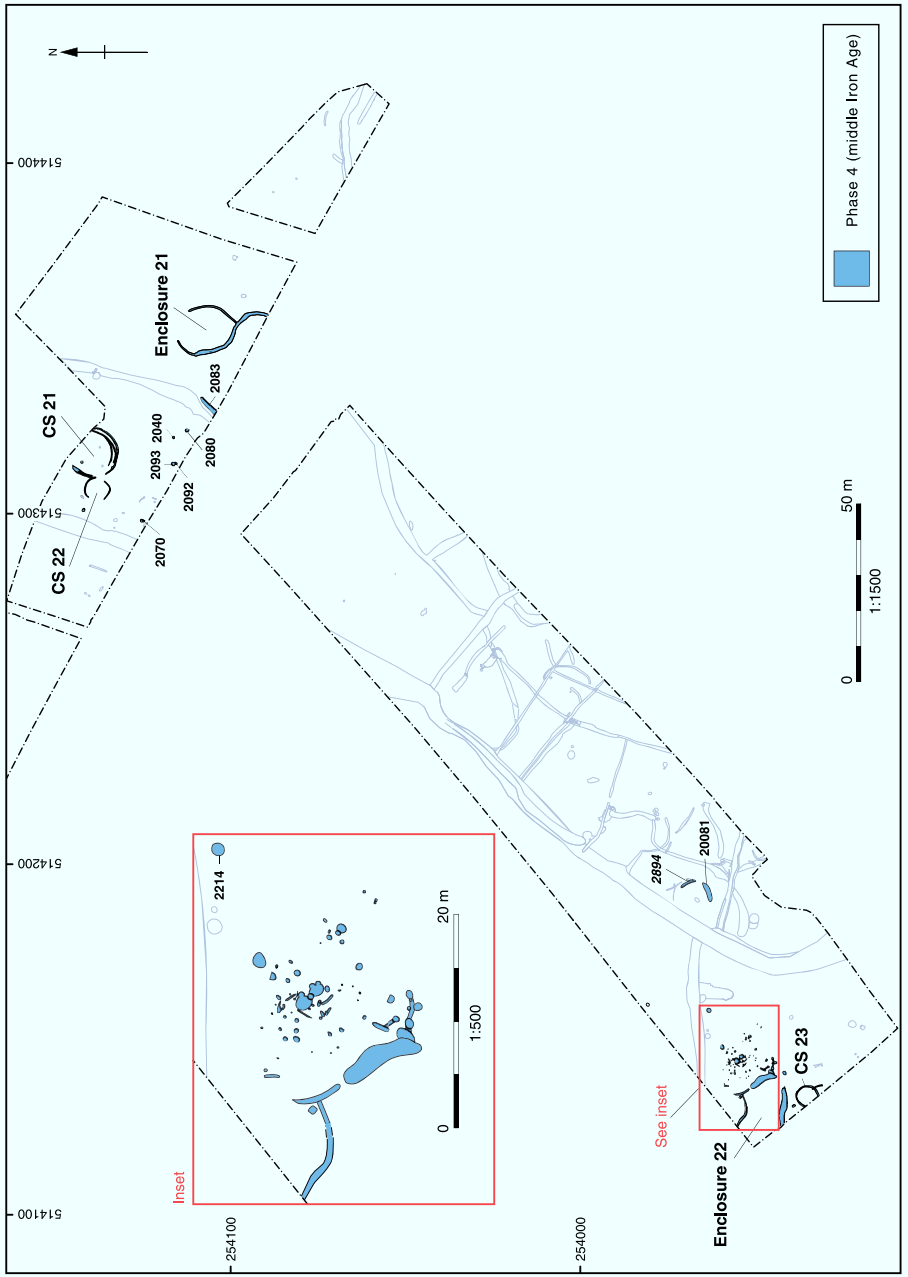

Fig. 2.6 Site 2, Phase 4 (middle Iron Age)

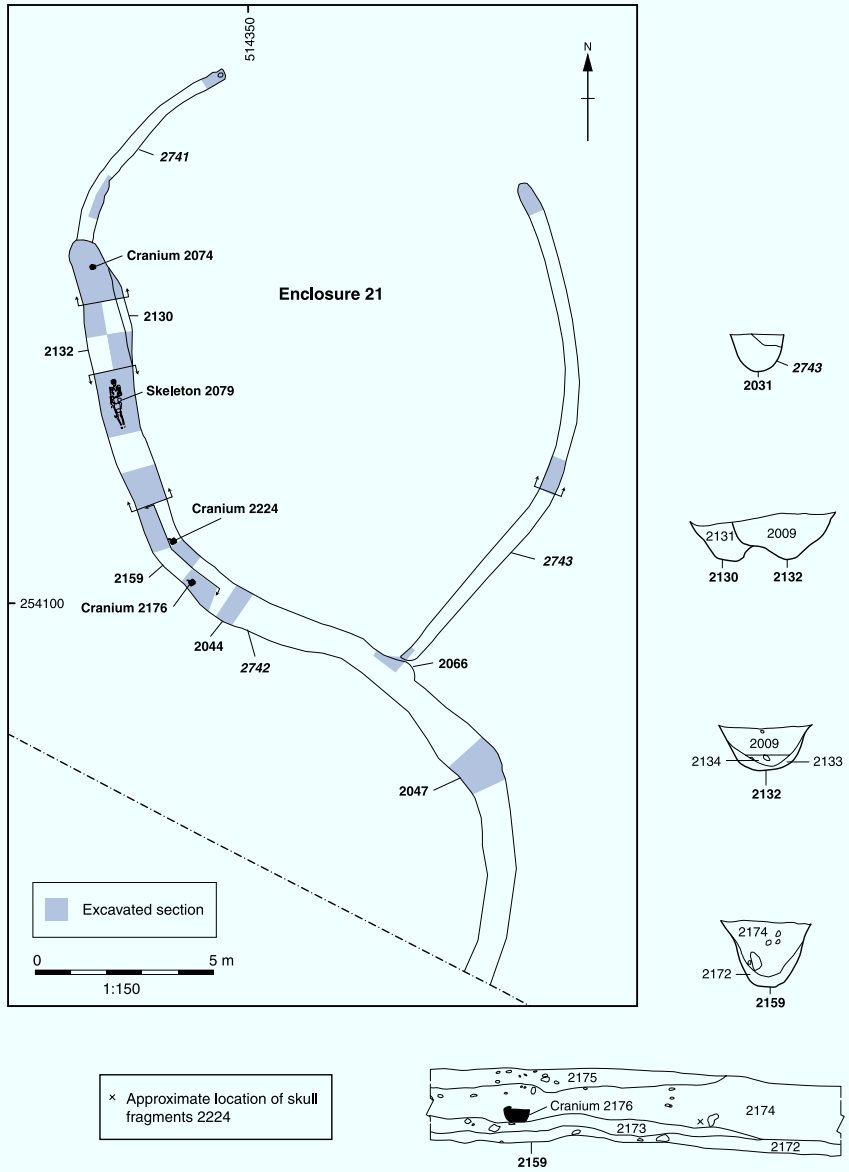

Fig. 2.7 Site 2, Enclosure 21

contexts within the deposit were absent, suggesting that large fragments from individual vessels were deposited in discrete parts of the ditch, rather than being dispersed and mixed with other material in middens prior to deposition.

This deposit also contained four sets of human remains, spaced 2–3 m apart in a row along the northern part of the ditch, and surely deliberately laid out in a single event (Fig. 2.7). The remains were located approximately midway down the back-fill deposit; the material from above and below the human remains was arbitrarily divided into separate contexts but was indistinguishable in character. At the northern terminus of the ditch was a cranium fragment from a mature or older adult (2074). Placed 3.0 m to the south was the supine skeleton of a male aged between 35 and 39 years (2079), lying with its head to the north (Plate 2.1). Some 3.3 m to the south of this was a cranium fragment from a child (2224), and 2.8 m further on was still another cranium fragment, this time from an adult male (2176). As the ditch was not completely excavated, it is possible that there were further human remains belonging to this 'row'. Articulated skeleton 2079 produced a radiocarbon determination of 160–130 cal BC/120 cal BC–cal AD 50 (OxA-15513: 2036 ± 28 BP), supporting the late middle Iron Age date attributed to the ceramics from the deposit (see Webley Chapter 8). However, cranium fragment 2176 produced a significantly earlier radiocarbon determination of 370–180 cal BC (OxA-15514: 2196 ± 29 BP). This suggests that the cranium had been curated for a significant period prior to its deposition.

Circular Structures 21 and 22 (Fig. 2.8 and Table 2.2)

CS 21 was only partially exposed, being bisected by the limit of excavation, and truncated at its northern edge by an evaluation trench. It was demarcated by a penannular eaves-gully of 12.0–12.5 m diameter. The eaves-gully showed three successive cuts, each with its entrance to the south-west. To the north of

Plate 2.1 Site 2. Skeleton 2079 within middle Iron Age ditch 2742, looking north. Scale: 2 m

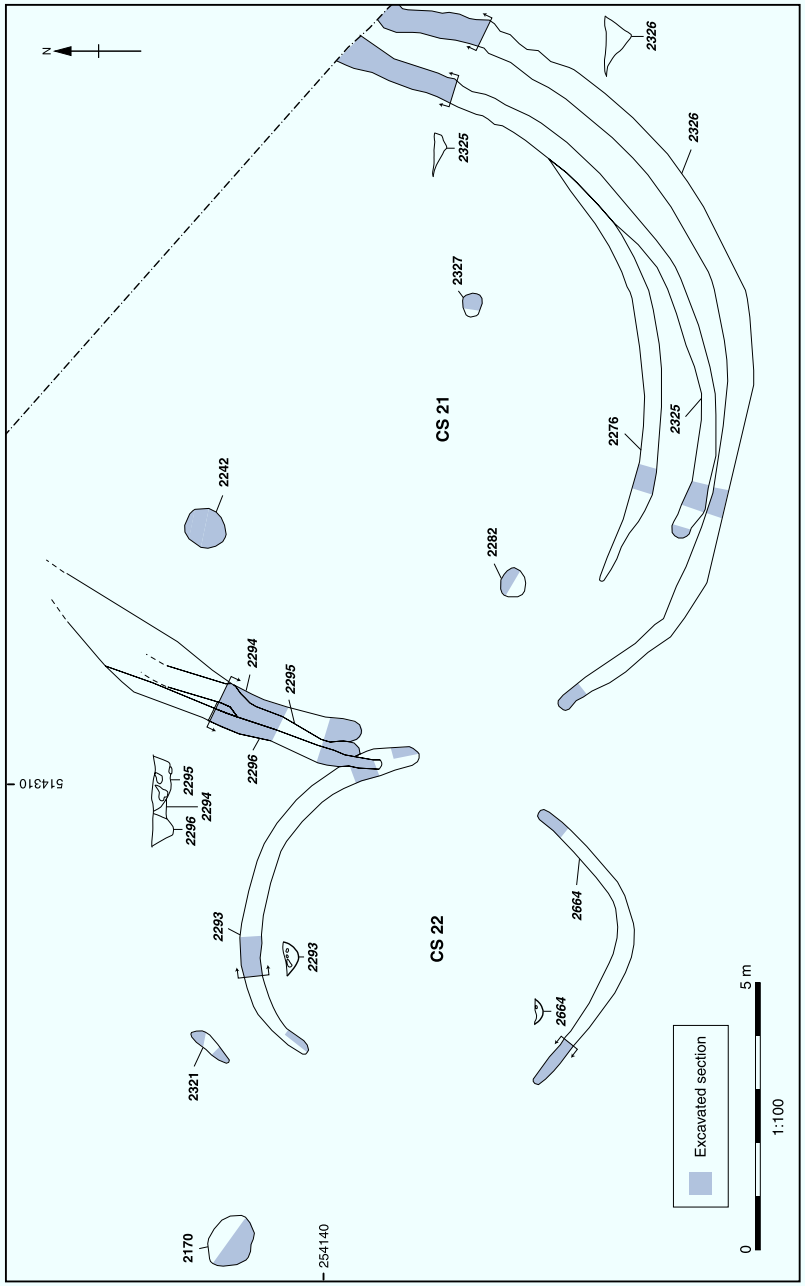

Fig. 2.8 Site 2, Circular Structures 21 and 22

the entrance, there was a clear stratigraphic sequence of cuts, with gully 2294 followed by 2295 and then by 2296. To the south of the entrance, the sequence is uncertain. Gully 2276 was cut by 2325, and was probably contemporary with the first phase gully (2294) to the north, as both shared similar, shallow cuts. However, gully 2326 showed no stratigraphic relationships, and it is unclear which of gullies 2325 and 2326 represent the second and third phases of construction. It is thus not possible to trace how the size or form of the building developed over time. The individual gullies were up to 0.25 m deep, with U- to V-shaped profiles. The fills consisted of mid to dark brown silty clays, often with a fairly high component of charcoal or organic material. Finds were strongly concentrated to the north of the entrance. The terminal of gully 2295 contained the greatest quantities, including 11.5 kg of burnt stone and a partially complete pot (Fig. 8.4.24).

The southern half of the building contained two shallow, undated pits or postholes (2282 and 2327), while the northern half contained a possible hearth or cooking pit (2242). This was 0.75 m in diameter and 0.20 m deep, with vertical sides and a flat base. It had a lower fill of scorched sandy clay and an upper fill containing charcoal and 2 kg of burnt stone.

The smaller CS 22 lay immediately adjacent to the western side of Structure 21, and may have been an associated ancillary building (Fig. 2.8 and Table 2.2). It consisted of two lengths of gully (2293 and 2664) with an internal diameter of 6.0 m. Gaps were present in the eastern and western sides of the gully circuit, either or both of which could have formed entranceways. The northern gully was cut by the final phase (2296) of the eaves-gully of CS 21, suggesting that CS 22 went out of use before its larger neighbour. The gullies were up to 0.19 m deep, with a U-shaped profile, and contained a single naturally deposited fill. Finds were absent aside from a few fragments of pottery and animal bone from the eastern terminal of gully 2293.

No trace survived of the building itself or any internal features, although a possible hearth pit (2170) lay some 3.5 m to its west. This feature was 1.10 m in diameter and 0.20 m deep, and contained 13 kg of burnt stone and large fragments of charcoal.

Ditch 2083 (Fig. 2.6)

Ditch 2083 extended for 6 m from the limit of excavation. It was 0.50 m deep and had two clay back-fill deposits. The lower fill contained a near-complete though fragmented pottery vessel, placed 2 m from the ditch terminus, and a large fragment of charred wood. This ditch may have been associated with Enclosure 21 to the east, or could alternatively have been a precursor to Phase 5 ditch 2101.

Pits (Fig. 2.6)

The remaining features in the northern area of occupation consisted of five bowl-shaped pits dispersed across the area to the west of ditch 2083 and to the south of the roundhouses (2040, 2070, 2080, 2092 and 2093). These were up to 1.05 m in diameter and 0.50 m deep, and frequently had dark fills containing significant amounts of pottery and bone.

Southern feature group

Enclosure 22 (Fig. 2.9)

Enclosure 22 lay at the south-western limit of excavation. The enclosure was curvilinear in form, measuring 10 m N-S by at least 15 m E-W, with a south-east facing entrance. It was defined on its southern and eastern sides by ditches 2338 and 2426, and on its northern side by shallower gullies 2550 and 2722. No features were present within the enclosed area.

Ditches 2338 and 2426 were up to 1.00 m deep and shared similar, steep, V-shaped profiles. They were filled by a series of silting and erosion layers, interleaved with occasional darker, charcoal-rich, dumped deposits. After ditch 2426 had largely been filled, it was recut along its western edge by shallow gully 2416 (0.14 m deep), perhaps a continuation of gully 2550. The two ditches contained significant amounts of pottery and animal bone. One 'placed' deposit was apparent in the form of a near-complete pot found at the base of the eastern terminal end of ditch 2338 (Fig. 8.4.25).

Gullies 2550 and 2722 were up to 0.24 m deep, with a U-shaped cut. They had a similar fill of grey-brown sandy silt, which produced a few fragments of pottery and animal bone.

Table 2.2: Site 2, summary of circular structures

Structure	*Phase*	*Diameter (m)*	*Eaves-gully depth (m)*	*Pottery (g)*	*Animal bone (g)*	*Other finds*
CS 21	4	12-13	0.25	605	1114	Oven brick fragment, fired clay, slag, burnt stone
CS 22	4	6	0.19	12	78	
CS 23	4	5	0.30	15	-	Rotary quern fragment
CS 24	5	12	0.30	80	60	Iron fragment
CS 25	4 or 5	c 10-12	0.14	-	96	

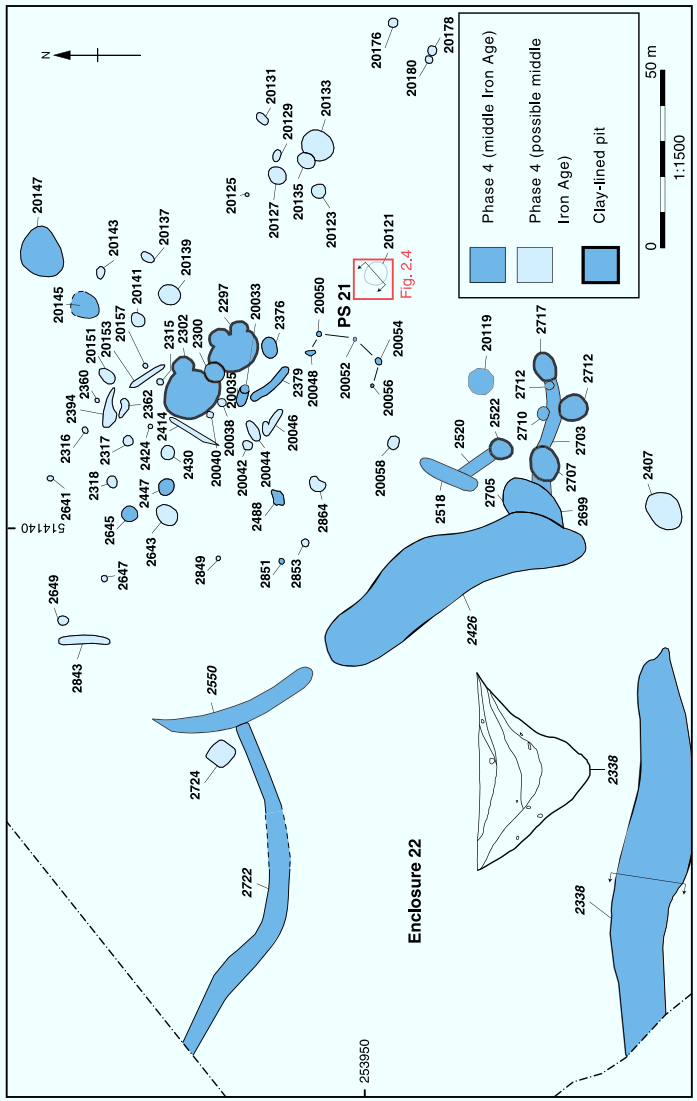

Fig. 2.9 Site 2, Enclosure 22

Circular structure 23 (Fig. 2.10 and Table 2.2)

CS 23 lay 2.5 m to the south of Enclosure 22, and was bisected by the limit of excavation. It consisted of a circular gully with an internal diameter of 5.0 m; no entrance was apparent. The gully could have enclosed a small roundhouse, or a structure of some other kind such as a fodder stand.

The gully (2733) had a U-shaped profile, 0.30 m deep, and contained a single naturally deposited fill. Finds were limited to a single pottery sherd and a probable Millstone Grit rotary quern fragment. The feature was cut by short curvilinear gully 2734 (0.14 m deep), which had a notably darker fill. There were no features within the area enclosed by the gully, although a shallow bowl-shaped pit (2263) lay immediately to its north.

Features to the east of Enclosure 22 (Fig. 2.9)

Immediately to the east of Enclosure 22 was an area *c* 15 m across containing a concentration of features, including possibly clay-lined pits, other shallow pits, postholes and gullies. The density of features suggests that one or more buildings may have stood here, though none can be discerned, aside from one very small post-built structure (PS 21).

The artefacts recovered from this area largely consisted of pottery and animal bone, although the occurrence of hammerscale in pit 2522 indicates that iron smithing took place in the near vicinity. The distribution of finds shows that the 'clay-lined' pits formed the main focus for activity, or at least for deposition. Significant quantities of artefacts were restricted to these pits and the features in their immediate vicinity (notably gully 2379). In contrast, the pits, postholes and gullies at the eastern and western peripheries of the area produced almost no finds.

Post Structure 21 consisted of a polygonal arrangement of five postholes on a NNE-SSW alignment, measuring 2.0 by 1.0 m in size. The individual postholes were up to 0.20 m in diameter and 0.24 m deep. The only find recovered was a single sherd of pottery from posthole 20054. The purpose of the structure is unclear, although it has the appearance of an ephemeral construction such as a drying rack or windbreak.

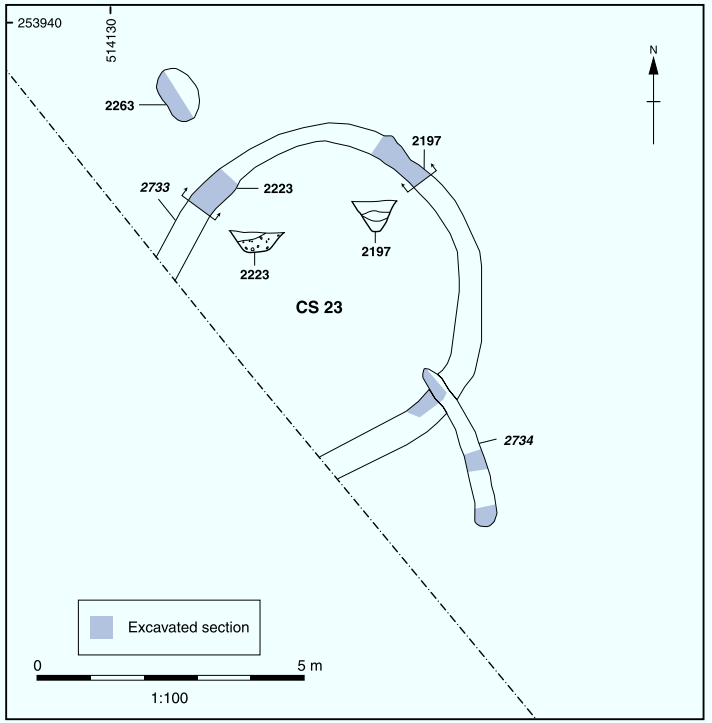

Fig. 2.10 Site 2, Circular Structure 23

The six 'clay-lined' pits showed marked similarities in form and fill sequence (Fig. 2.9 and Table 2.3). They had a shallow, bowl-shaped profile, up to 1.50 m in diameter and 0.40 m deep. Each had a lower fill of orange-grey clay, 0.04–0.15 m thick, which could possibly have been a deliberate lining. An upper, dumped deposit of darker silty clay, typically containing pottery, bone and small amounts of charcoal, overlay this. The upper fill of pit 2522 additionally contained iron slag and hammerscale. Four of the pits at the southern end of the area cut earlier gullies 2520 and 2703, and had perhaps been placed so as to utilise these pre-existing hollows.

A total of 36 unlined pits were dispersed across the area, all with shallow bowl-shaped profiles. These were up to 2.00 m in diameter and 0.40 m deep. They generally had naturally deposited fills containing few or no finds. However, darker deposits containing greater amounts of pottery and animal bone were found in pits 20119 and 20145. There were also ten certain postholes or stakeholes scattered across the area, forming no clear pattern. These were up to 0.40 m in diameter and 0.30 m deep, and contained only occasional scraps of pottery or animal bone.

The remaining features in this area consisted of eight short linear gullies on varying alignments (2379, 2381, 2414, 2520, 2703, 2843, 20046 and 20153). These were between 1.0 m and 3.0 m in length. All but one of the gullies had shallow U-shaped profiles, up to 0.12 m deep, and contained few or no finds. The exception was gully 2379, which had a much deeper, sheer-sided profile, 0.14 m wide and 0.20 m deep. Although this resembled a beam-slot, its slightly curved form would count against this. The feature had a dark fill containing a very high density of pottery and animal bone.

Gullies 2830, 2894 and 20081 (Figs. 2.6 and 2.17)

Gullies 2894 and 20081 were located 50 m to the east of Enclosure 22. They were placed adjacent to each other so as to form a semicircular arc, concentric with probable eaves-gully segment 2964 immediately to the north (CS 24; see below). Gully 2894 was 0.34 m deep with a U-shaped profile. It appeared to cut short linear feature 2830 (0.20 m deep), although both of these features showed very similar fill sequences. In both cases, an artefact-rich upper dumped deposit overlay initial silting deposits. This dumped deposit varied in thickness from 0.04 m deep at the northern end of gully 2894, to 0.20 m deep at the southern end. As well as pottery and animal bone, the deposit contained over 800 g of magnetic slag, perhaps associated with the ironworking activity evidenced also in pit 2522 to the west. To the south of 2894 lay gully 20081. This was 0.77 m deep with a V-shaped profile. It had a dark lower fill containing abundant pottery and bone, and a paler upper backfill deposit.

The spatial arrangement of these gullies in relation to eaves-gully segment 2964 makes it tempting to suppose that they were associated in some way with CS 24. However, the relationship could simply be fortuitous. It is difficult to see how these deep gullies could have functioned as part of a roundhouse, unless they were external sumps intended to relieve a drainage problem.

Phase 5: late Iron Age

A major change in site layout occurred in the late Iron Age, with the construction of a large curving boundary ditch running the length of the site (20191; Fig. 2.11). Cropmark evidence suggests that the ditch may have formed part of an oval enclosure measuring at least 260 m across (Fig. 2.2), although the northern and eastern sides of this enclosure remain conjectural. In the southern half of the site, a series of smaller compounds attached to the inner side of the boundary ditch formed a focus for settlement. Features within this southern settlement area included at least one roundhouse, pits and two inhumation burials. Further probable compounds to the north of the settlement area produced very little evidence for activity.

Ditch 20191 (Figs. 2.11 and 2.12)

Boundary ditch 20191 crossed the site on a NE-SW alignment, probably continuing to the north of High Barns Road as ditch 2100, giving a total length of 260 m (Fig. 2.11). At the southern end of the excavated area, the ditch made a turn to the SE, and can be traced for a further 220 m as a curving cropmark (Fig. 2.2). The ditch may well have demarcated a large oval enclosure, the northern and eastern sides of which do not register in the avail-

Table 2.3: Site 2, summary of possible 'clay-lined' pits

Feature	*Diameter (m)*	*Depth (m)*	*Pottery (g)*	*Animal bone (g)*	*Other finds*
2297	1.44	0.20	71	134	
2302	1.54	0.40	274	-	
2522	0.65	0.12	5	14	Iron slag/hammerscale
2707	1.00	0.26	110	206	
2712	0.80	0.15	26	63	
2717	0.80	0.18	61	12	Iron fragment

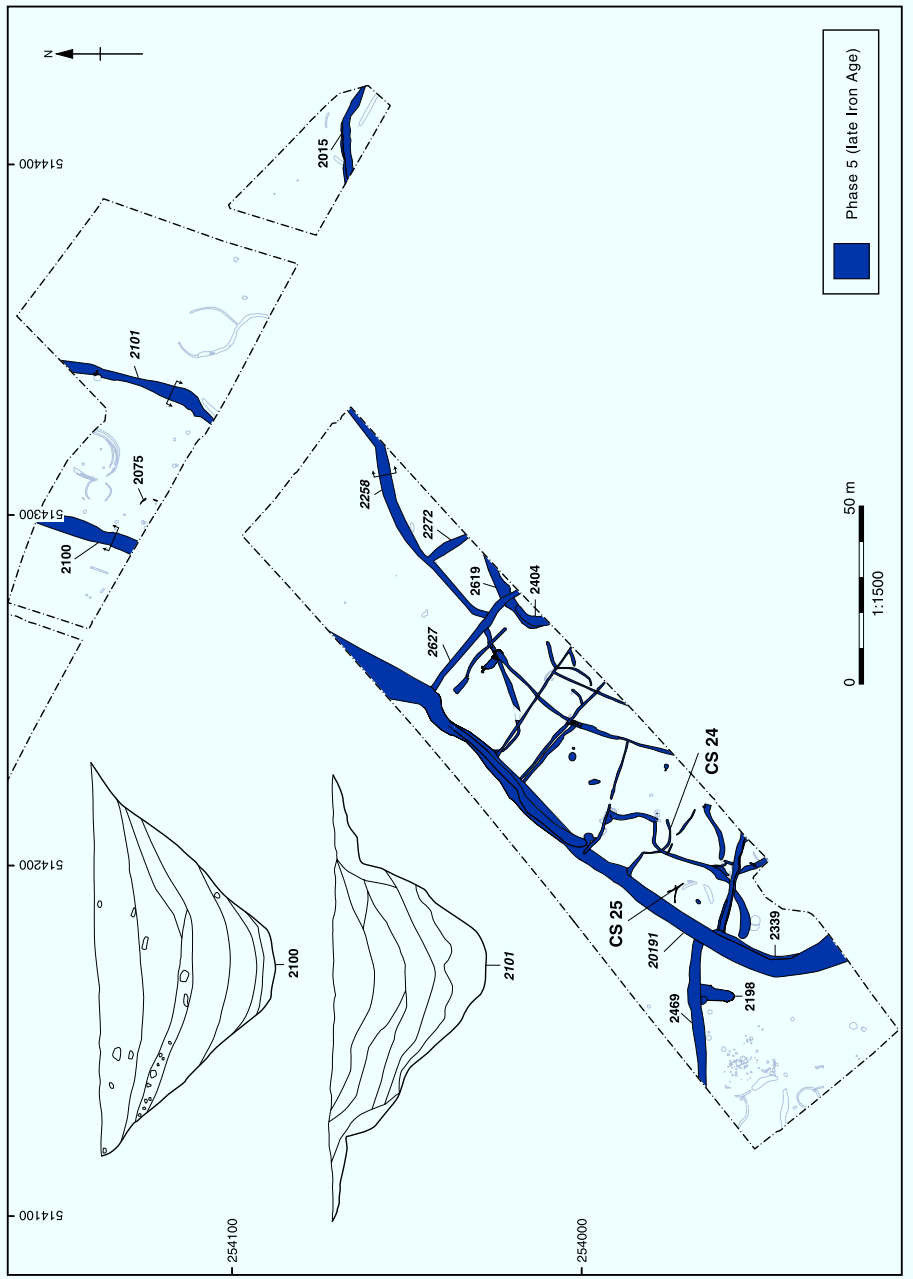

Fig. 2.11 Site 2, Phase 5 (late Iron Age)

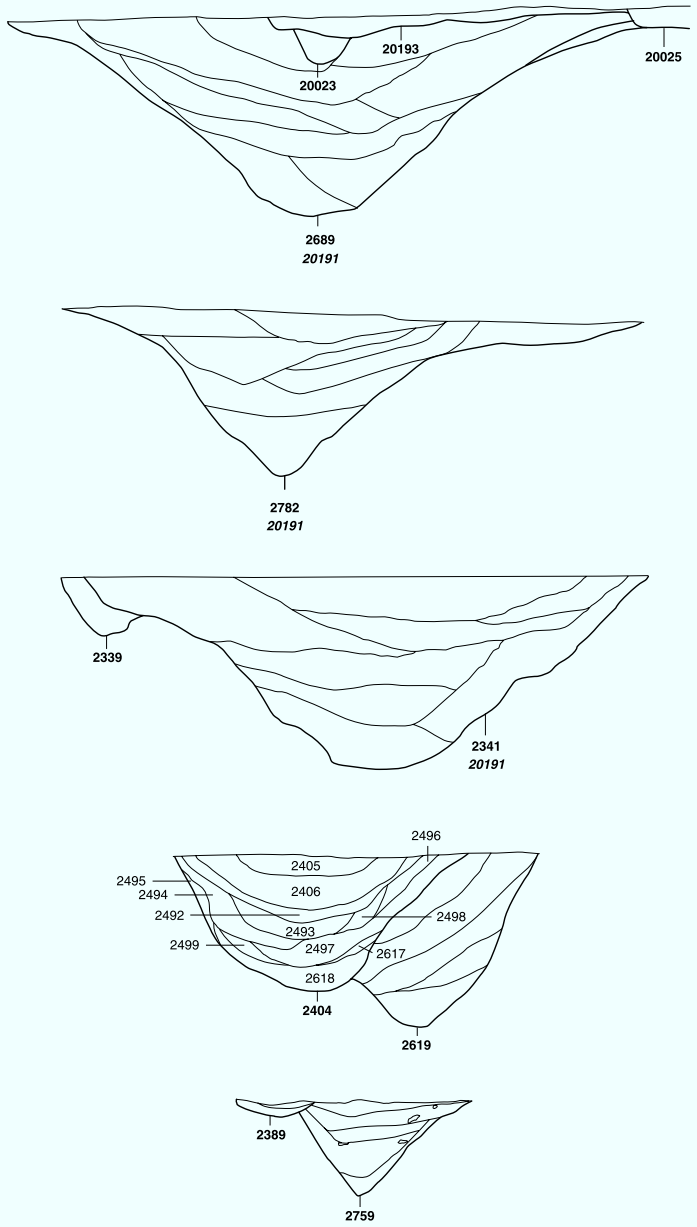

Fig. 2.12 Site 2, sections of Phase 5 (late Iron Age) ditches. See Figs 2.14 and 2.15 for section locations

able aerial photographic evidence. Alternatively, it is possible that it simply represents a meandering linear boundary.

Ditch 20191 was up to 5.75 m wide and 1.50–1.85 m deep (Fig. 2.12). The upper part of the ditch profile was broad and shallow, while the lower part had a blunt V-shaped form. At its southern end, the ditch cut the western edge of a much shallower linear on the same alignment (2339). This earlier ditch was 0.55 m deep with a U-shaped profile.

The ditch was largely filled through natural processes of silting and erosion, showing a sequence of clay and silt fills. As erosion occurred from both sides of the ditch, the presence of an upcast bank cannot be inferred. Significant amounts of pottery, fired clay and animal bone were recovered from the ditch fills, particularly towards the south-eastern end of the circuit. However, the densities of pottery per cubic metre of fill were lower than for many contemporary features elsewhere in the interior of the enclosure (Fig. 2.13). The only clear evidence for recutting of the ditch was seen in intervention 20088. The recut (20094) was only partially excavated, but was over 0.60 m deep.

Settlement area

Subdivision of the settlement: ditches and gullies

The settlement area was demarcated to the west and north-west by boundary ditch 20191, and to the north-east by ditch 2627 (1.1 m deep), which ran off 20191 at right angles. This area was subdivided by a series of ditches and gullies, the layout of which was altered over time. Stratigraphic evidence suggests that there were three stages of subdivision, with the earlier boundary ditches tending towards a curvilinear form, while the later boundaries formed a more regular rectilinear pattern (Figs. 2.14 and 2.15).

Stage 1 (Fig. 2.14): The earliest phase of subdivision included a roughly D-shaped compound attached to the eastern side of boundary ditch 20191, measuring 20 m N-S by 30 m E-W (Fig. 2.14). This was demarcated by ditch 2384, which was 0.67 m deep with a U-shaped profile, and contained only a few fragments of pottery and animal bone. The only potentially contemporary feature within the subenclosure was an elongated pit or short length of ditch (2423). This was 5.5 m long and 1.26 m deep, with a V-shaped profile, and contained a greater density of pottery, animal bone and fired clay. A cluster of four short, curving ditches (2657, 2665, 2796 and 2800) lay 10 m to the south of the D-shaped enclosure. These were up to 0.50 m deep and produced few finds. Further evidence for early subdivision can be recognised at the south-western end of the settlement area. Gully 2788 ran south-eastwards from the main enclosure ditch, continuing as curvilinear gully 2875, which formed the eaves-gully of CS24 (see below). Gully 2875 was subsequently cut by curvilinear ditch 2749. The southern part of this ditch was relatively deep (up to 1.22 m), with a V-shaped profile. It had dark, organic-rich fills containing relatively large amounts of pottery and animal bone, along with an iron loop-headed pin (Fig. 8.21.25). The northern part of the ditch was shallower (0.65 m), and had paler fills. The line of this boundary was probably continued to the north by curvilinear ditch 2821, which had a similar V-shaped profile, up to 0.90 m deep. Other stratigraphically early features in this area include pits 2919 and 20100 (see Pits below).

Stage 2 (Fig. 2.15): The settlement area was subsequently partitioned into more regular, subrectangular compounds. The linear ditches and gullies which demarcated these compounds (2383, 2500, 2754, 2761, 2765, 2859, 2888, 20027 and 20075) typically had U-shaped profiles, 0.10–0.40 m deep, although ditch 2859 was rather larger at 0.80 m deep. Recuts were seen in ditches 2754, 2761 (recut as ditch 2500) and 2859. Most of the ditches had pale, silty fills, producing moderate to high densities of finds, including pottery, fired clay and animal bone. Ditch 2500 stood out in having a darker fill rich in organic material and charcoal. The terminal end of this ditch had been back-filled with a deposit containing a marked density of finds, and incorporating a perinatal inhumation burial (2566; see *Inhumation burials* below).

Stage 3 (Fig. 2.15): Later reworking of the settlement layout, post-dating the backfilling of ditch 2500, is represented by linear ditches 2584, 2750 and 2798. These were 0.10–0.40 m deep, and produced moderate amounts of pottery and animal bone.

A few further ditches within the settlement area cannot easily be placed within this three-stage sequence. Ditch 2759 was 0.90 m deep, with a V-shaped cut, and showed no stratigraphic relationships to other boundary features (Figs. 2.12, 2.14 and 2.15). It produced pottery, animal bone and an iron knife (SF 2023). Ditch 2619 lay at the northern end of the settlement area, and predated ditch 2627 (Figs. 2.11 and 2.12; Plate. 2.2). It was 1.60 m deep, with a blunt V-shaped profile and contained a series of fairly pale deposits. These had slumped in from the western side of the ditch, possibly indicating the location of an upcast bank. Pottery and animal bone were recovered, although they occurred at relatively low densities. After it had gone out of use, the feature was recut at its southern end by ditch 2404. This latter feature was 1.26 m deep with a U-shaped profile, and had a fill sequence which deserves consideration in detail (Fig. 2.12). The basal deposit (2618) contained significant quantities of pottery, fired clay 'oven plate' fragments and animal bone, along with a human humerus fragment. This was overlain by a sequence of dark, charcoal-rich lenses (2496, 2498, 2499 and 2617) interleaved with paler deposits

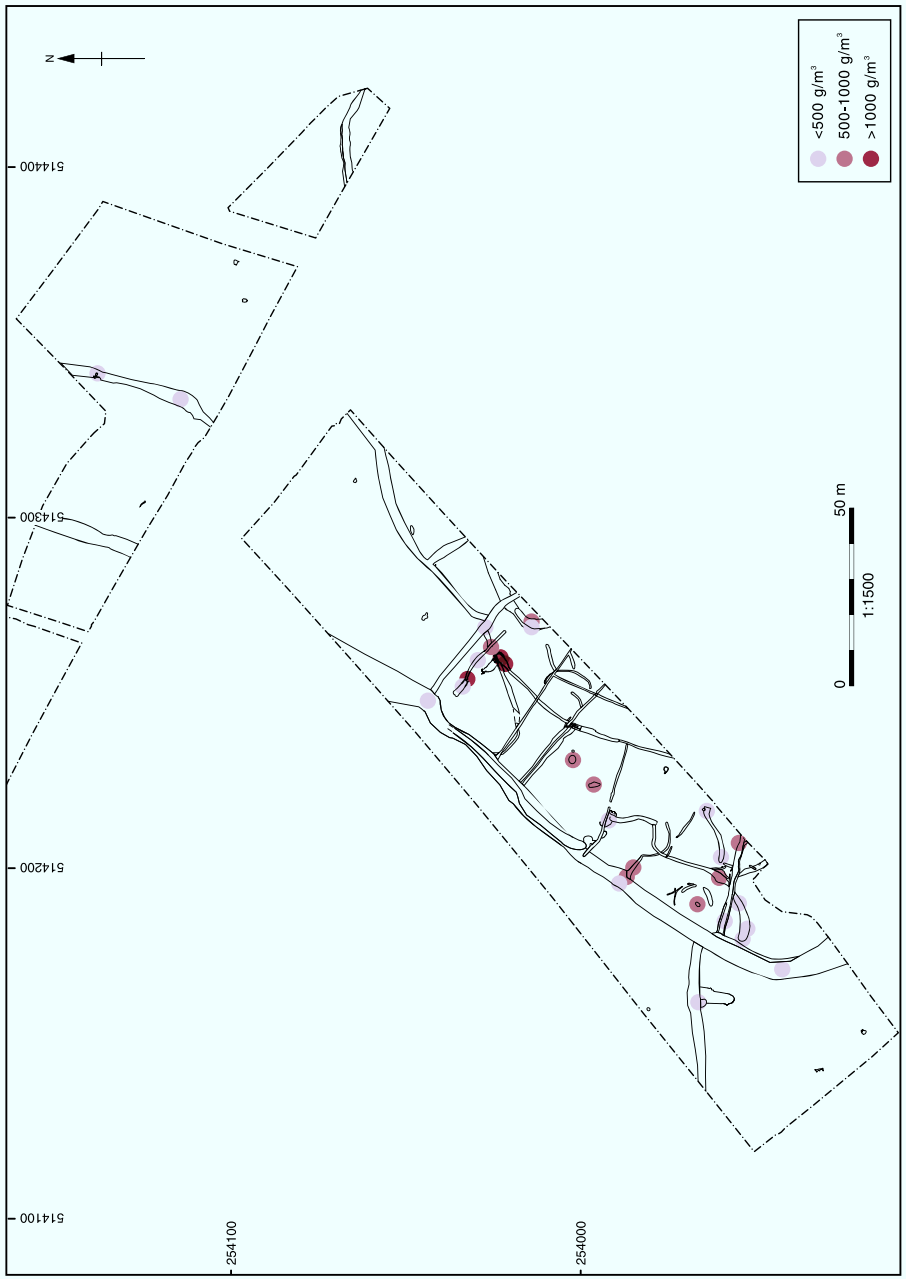

Fig. 2.13 Site 2, distribution of pottery in Phase 5 (late Iron Age)

containing relatively large amounts of pottery, fired clay and animal bone (2492–4 and 2497). Samples from fills 2498 and 2499 produced rich charred plant assemblage, with 2499 containing large numbers of wheat grains. The penultimate fill of the ditch (2406) consisted of dark deposit, which, aside from a few pieces of fragmented pottery and animal bone, contained several unusual finds. These included a semicomplete fired clay 'oven plate', a very large sherd (280 mm long) from a storage jar, and three copper alloy objects comprising tweezers (Fig. 8.19.9), possible Colchester brooch fragments (SF 2008), and a coin of Tasciovanus dating to *c* 25–1 BC. The final fill (2405) contained only a few fragments of pottery and animal bone.

Inhumation burials

Two articulated burials (2508 and 2566) occurred in the northern part of the settlement area, both having a relationship with the terminal ends of ditches. In both cases, backfill deposits that were notably rich in finds overlay the burials. In fact, the two features containing the burials produced the highest densities of pottery per cubic metre recorded during this phase (Fig. 2.13).

Burial 2508 had been placed in a subrectangular grave, 2509, measuring 1.50 x 0.60 m on a NE-SW alignment, which cut the south-eastern terminus of ditch 2423 (Fig. 2.15). The skeleton—identified as a male aged between 35 and 45 years—lay in a crouched posture on its right side, with its head to

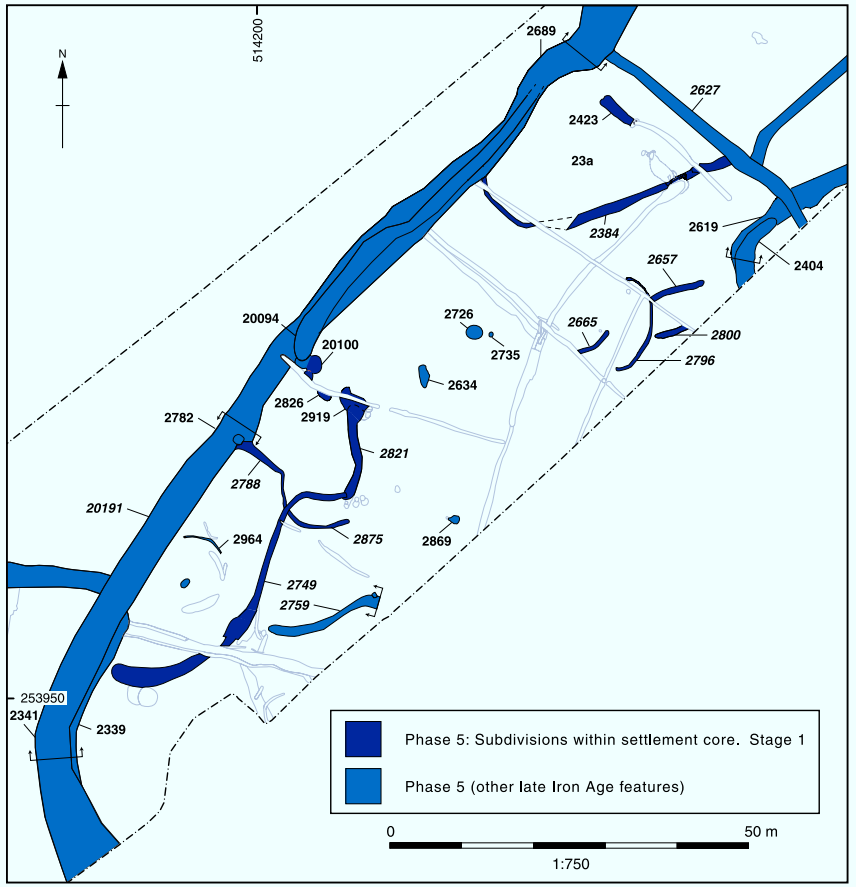

Fig. 2.14 Site 2, Subdivisions within Phase 5 (late Iron Age) settlement core, stage 1. See Fig. 2.13 for section drawings

the north-east (Plate 2.3). Following interment of the body, the grave was backfilled with a deposit containing large amounts of pottery, along with a few scraps of animal bone and possible quern fragments. The mixed and fragmented nature of the pottery is more consistent with midden-type material than selected 'grave goods'. After backfilling, the grave was cut by the northern terminus of gully 2383.

Perinatal skeleton 2566 had been placed in the north-eastern terminus of ditch 2500 (Fig. 2.15). Following an initial episode of silting, the body was placed within the ditch in a supine posture, on the same alignment as burial 2508. The ditch terminus was then backfilled with a 0.34 m-thick deposit containing large amounts of pottery, animal bone and fired clay, along with a copper alloy Colchester brooch dating to *c* AD 20–75 (SF 2013; Fig. 8.18.3).

Circular Structures 24 and 25

The two circular structures were found close together in the southern part of the settlement area (Table 2.2). CS 24 was demarcated on its southern side only, by gully 2875 (Fig. 2.16). This feature had a diameter of approximately 12 m, and was connected to ditch 2788 at its western end. The gully was 0.30 m deep, with a U-shaped profile. It contained an initial sterile silting deposit, overlain by a darker layer containing pottery, animal bone and a little charcoal.

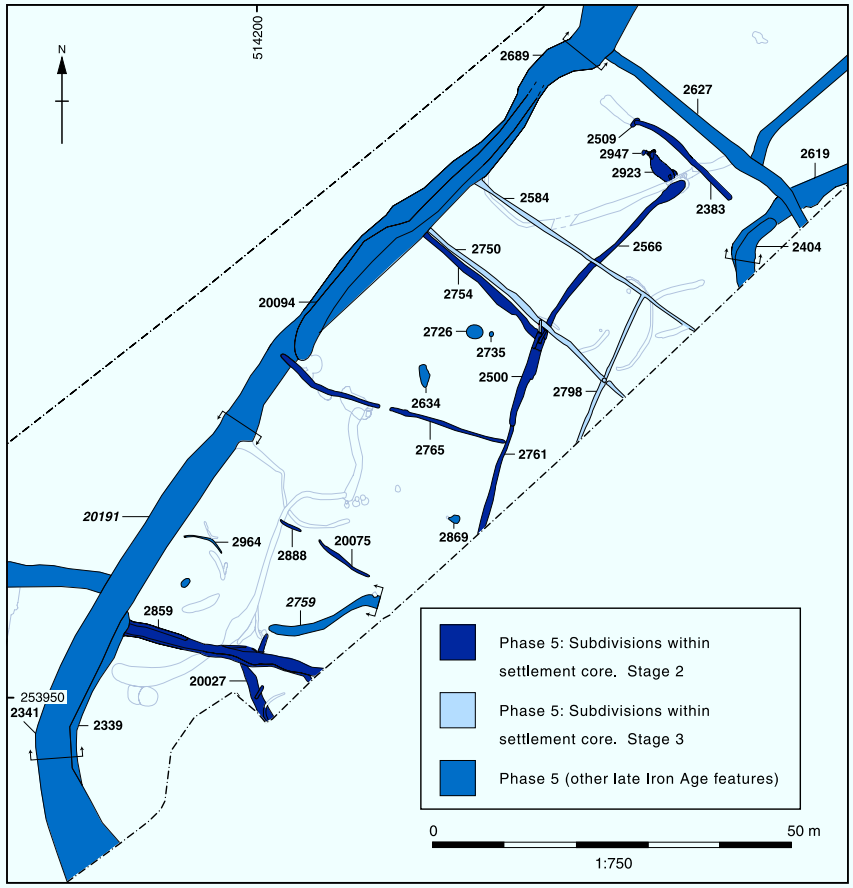

Fig. 2.15 Site 2, Subdivisions within Phase 5 (late Iron Age) settlement core, stages 2 and 3. See Fig. 2.13 for section drawings

Plate 2.2 Site 2. Late Iron Age ditches 2404 (left) and 2619, looking south. Scale: 2 m

Plate 2.3 Site 2. Skeleton 2508 within late Iron Age grave 2509, looking north-west. Scale: 1 m

CS 25 was demarcated on its northern side only, by truncated gully 2964 (Fig. 2.17). This gully measured around 10–12 m in diameter, and was up to 0.14 m deep. It had a pale fill containing no finds other than a few pieces of animal bone. This structure has been tentatively placed in Phase 5 through association with the nearby CS 24, but it should be noted that it also lay close to middle Iron Age gullies 2830 and 2894 (see above).

Pits (Figs. 2.14–2.17)

A total of 14 pits lay within the settlement area. By far the largest of these features was pit 2919 (Figs. 2.14 and 2.15). This was roughly oval in form, measuring around 4.00 m long, although its full extent and its relationship to nearby ditch 2821 could not discerned due to truncation by an evaluation trench. It was 1.30 m deep, with moderately steep sides and a fairly flat base. It contained a series of slumping and erosion layers, overlain by a darker backfill deposit (0.40 m thick), containing some charcoal. Finds from the pit consisted of relatively sparse amounts of pottery and animal bone. The purpose of the pit is uncertain, although given its depth it is likely to have contained standing water, at least seasonally. This suggests a function as a pond or waterhole.

The remaining pits within the settlement area were all much shallower, bowl-shaped features, no more than 0.58 m deep. The majority appeared to have naturally deposited fills containing few finds. However, three pits lying in a discrete area to the west of ditches 2500 and 2761 were quite different, being characterised by dark fills containing a very high charcoal content (2634, 2726 and 2869; Figs. 2.14 and 2.15). These could have served as hearths or ovens, although no evidence for *in situ* burning was observed. Pit 2634 was 5.00 m long and 0.40 m deep, with a lower fill of redeposited natural clay, and an upper fill containing pottery, fired clay, animal bone and large pieces of charcoal up to 50 mm long. One of the pottery sherds appears to be a 'waster' (see Later prehistoric pottery, Chapter 8), although this is not sufficient evidence to identify the feature as a kiln. Pit 2726 was 2.2 m and 0.58 m deep, again showing a lower redeposited clay fill and an upper fill with a high charcoal content. This upper fill also contained pottery, burnt stone, a worked chalk object (SF 2018; Fig. 8.16.1), iron fragments and animal bone. A possible posthole, 2735, lay immediately to the east of this feature. Pit 2869, meanwhile, was 1.38 m and 0.34 m deep, with a single fill containing charcoal pieces up to 0.02 m long, along with pottery and animal bone.

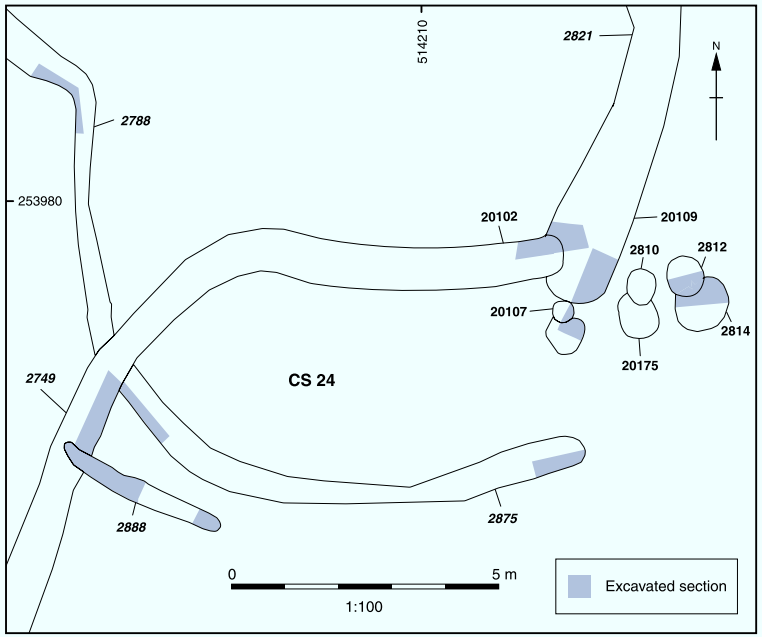

Fig. 2.16 Site 2, Circular Structure 24

Features to the north of the settlement area (Fig. 2.11)

The area to the north of ditch 2627 and to the east of ditch 20191 was subdivided by a series of curvilinear ditches (2015, 2101, 2258 and 2272), probably forming irregular enclosures. These ditches measured 0.90–1.41 m deep, and each had a series of fills formed largely through natural processes; only ditch 2015 showed clear evidence for a recut. They produced few finds, with the exception of ditch 2101 which contained greater amounts of pottery, fired clay and animal bone, including a partial piglet skeleton from its middle fill.

Other than these ditches, evidence for occupation of the northern part of the site was very sparse. A short gully, 2075, to the west of ditch 2101 produced a few sherds of late Iron Age pottery. Otherwise, the only features in the area were a series of irregular pits containing burnt material but no datable finds (see *Undated features* below).

Features to the west of the settlement area (Fig. 2.11)

Ditch 2469 ran off the western side of ditch 20191 on an E-W alignment for a distance of 40 m before

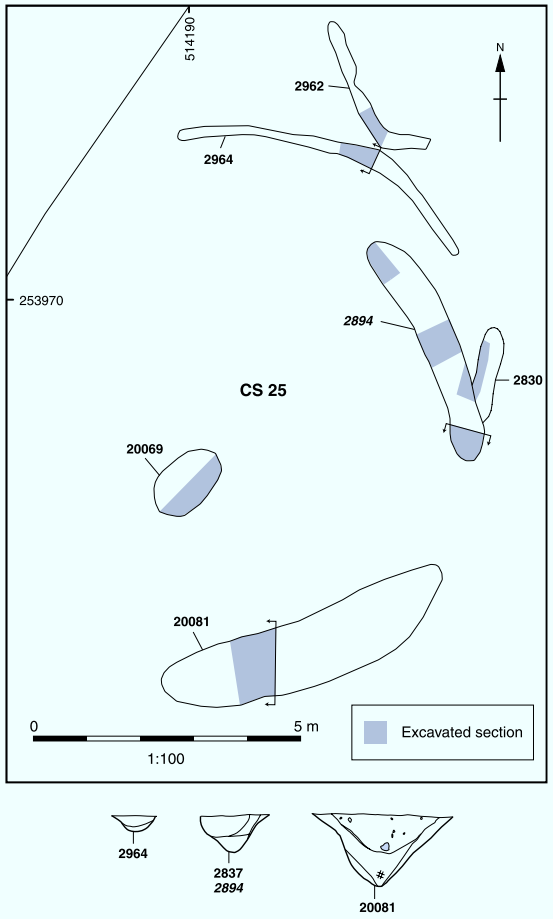

Fig. 2.17 Site 2, Circular Structure 25

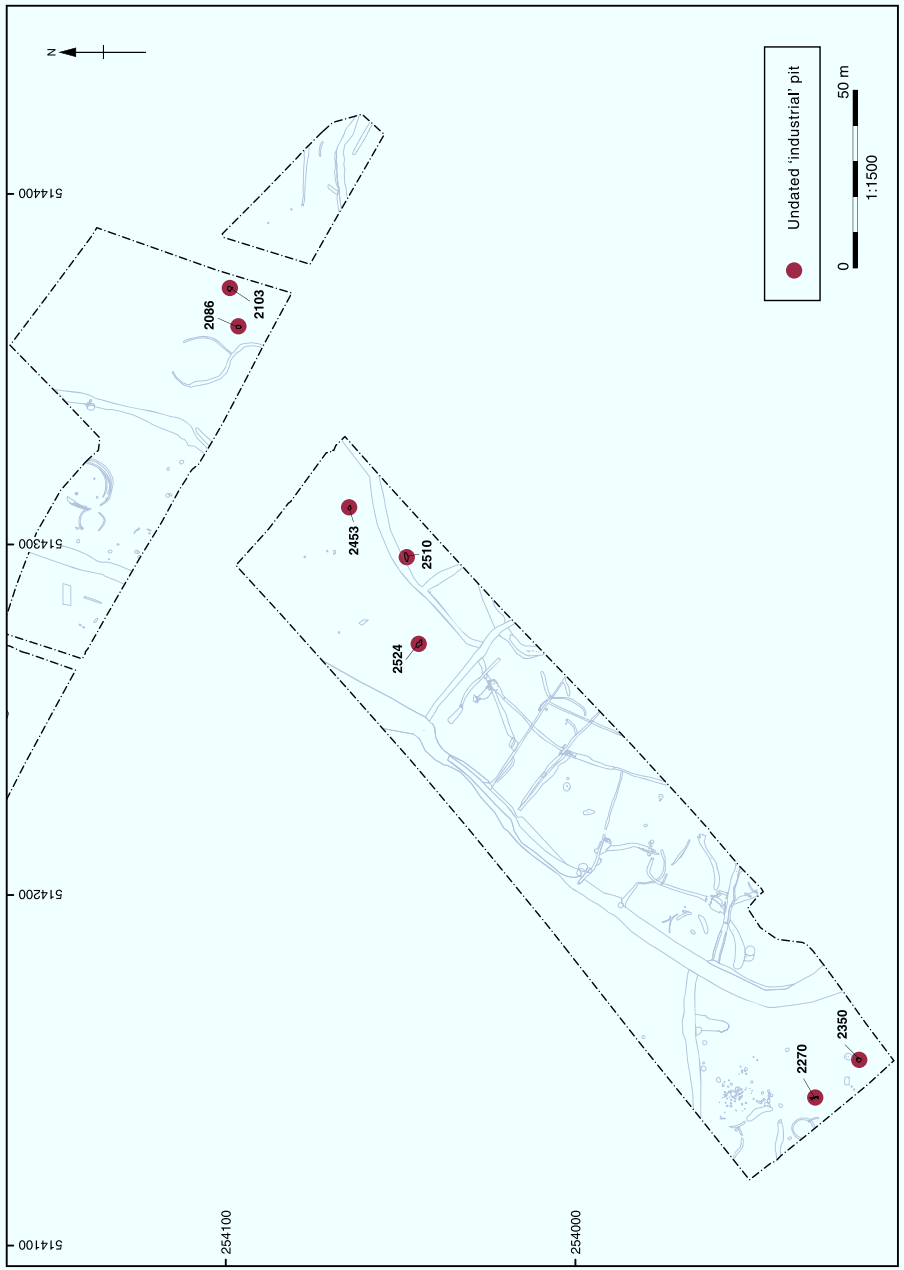

Fig. 2.18 Site 2, undated 'industrial' pits

reaching the limit of excavation. Cropmark evidence suggests that the ditch continued to the west to terminate at a small subcircular enclosure (Fig. 2.2; note erroneous southwards shift of this feature in the cropmark plot). The ditch was 1.50 m deep, and had a series of pale fills containing small amounts of pottery and animal bone. It cut a shallow natural hollow or area of trample, 2198, which produced a few sherds of late Iron Age pottery.

Undated features

The most significant undated features comprised seven irregular pits containing burnt material but no artefacts or bone (Fig. 2.18). Five of these (2086, 2103, 2453, 2510 and 2524) were dispersed across the northern part of the excavation — which was otherwise largely devoid of features — while the other two (2270 and 2350) were located close to the south-western limit of excavation. The features measured up to 2.60 m long and 0.60 m deep, and were characterised by very uneven profiles. They typically contained a sequence of fills including both sterile silty clay, similar to the natural, and darker layers containing moderate to abundant charcoal. Four of the pits (2086, 2350, 2510 and 2524) also contained red-orange layers described in the field as dumps of semifired clay. The purpose of these features is unclear, although they seem likely to have been associated with some form of craft or industrial activity. It is notable that the pits are located around the periphery of the late Iron Age settlement, which suggests that they might belong to Phase 5.

SITE 4: BIRCHFIELD ROAD

Site location

Site 4 is located to the north-west of Great Barford at NGR TL 121 533 (Fig. 1.1). Two discrete areas totalling 1.0 ha in area were excavated either side of Birchfield Road (Fig. 2.19). The site lies at *c* 35 m aOD, on land sloping down gently to the east, towards the valley of a small stream (300 m distant). The excavations revealed features from the middle Iron Age (Phase 4) and late Iron Age (Phase 5), with activity continuing into the Roman period (see Chapter 4).

Phase 4: middle Iron Age

Middle Iron Age activity was restricted to the extreme northern part of the site (Fig. 2.20). Part of a probable small enclosure and two further lengths of ditch were found.

Enclosure 41 was only partially exposed at the edge of excavation (Figs. 2.20 and 2.21). It was demarcated by curvilinear ditch 4674, and measured at least 5.75 m across. The ditch had a U-shaped profile, decreasing in depth from 0.70 m at the northern end to 0.32 m at the southern end. It contained a few pieces of pottery, fired clay and animal bone. A possible shallow recut, 4701, was recorded at northern end of the ditch, but the status of this is uncertain as in one intervention it appeared to cut the subsoil which overlay all other archaeological features at the site. No features were present within the enclosure. However, irregular pit or tree-throw hole 4579 lay immediately to its north-east. This feature was 0.24 m deep and contained a few fragments of pottery and animal bone.

Curvilinear ditch 4958 lay 10 m to the north-east of Enclosure 41 (Figs. 2.20 and 2.21). This ran for 6.0 m on a NE-SW alignment, continuing beyond the limit of excavation. It had a U-shaped profile, 0.38 m deep, and produced pottery and animal bone.

Curvilinear ditch 4072 lay 55 m to the south-east of Enclosure 41 (Fig. 2.20). It ran for 5.0 m on a NW-SE alignment, being truncated at both ends by Romano-British features. It had a U-shaped cut, 0.38 m deep, and had a naturally-deposited fill containing a single sherd of pottery.

Phase 5: late Iron Age

Activity increased in scale during this phase, with the construction of a more extensive system of ditches (Fig. 2.20). The overall layout of this system is difficult to discern, as it continued beyond the limit of excavation, and had suffered from truncation by Romano-British features. The tentative interpretation presented here is that occupation in the southern part of the site was based around a pair of conjoined subrectangular compounds (Enclosures 42 and 43). A smaller subcompound (Enclosure 44) placed in one corner of Enclosure 43 contained a probable roundhouse (CS 41). Features in the northern part of the site included an unusual rectangular structure (RS 41), which was later cut by a curving ditch (4739).

Southern feature group

Enclosure 42 (Fig. 2.20)

Putative Enclosure 42 was demarcated by L-shaped ditch 4923. This ran for 22 m north-eastwards from the limit of excavation, before turning to the south-east and terminating after 32 m. The ditch showed only a single cut for most of its length, but at its western end an earlier, truncated cut could be seen (4913). This was 0.48 m deep, with naturally deposited fills, which produced few finds. The later, main ditch cut had a blunt V-shaped profile. It was 1.24 m deep at its western end, becoming gradually shallower to the east, to a depth of 0.80 m at the terminal end. Again, only modest quantities of finds were recovered. At the eastern end of the ditch, a darker backfill deposit containing greater amounts of pottery and animal bone overlay these fills. This backfill episode preceded the recutting of the ditch as a palisade trench during the early Roman period (see Chapter 4).

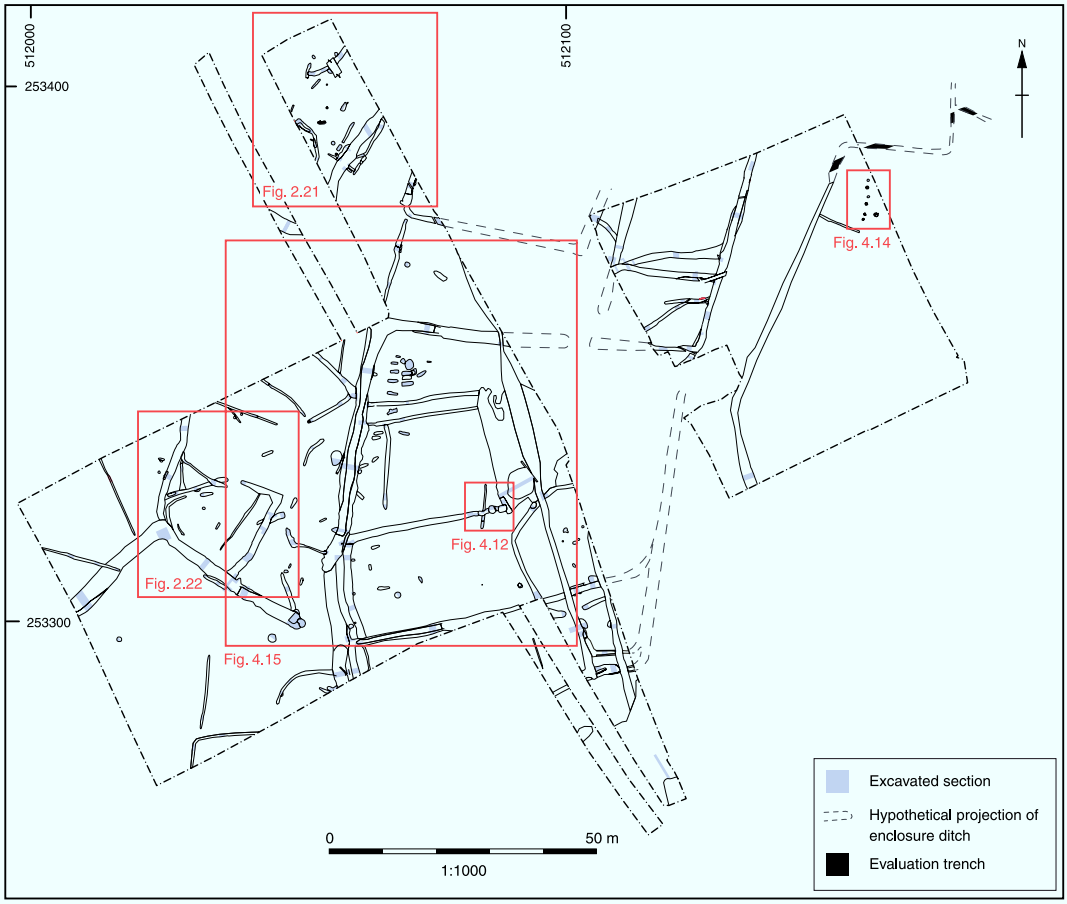

Fig. 2.19 Site 4, plan of all features

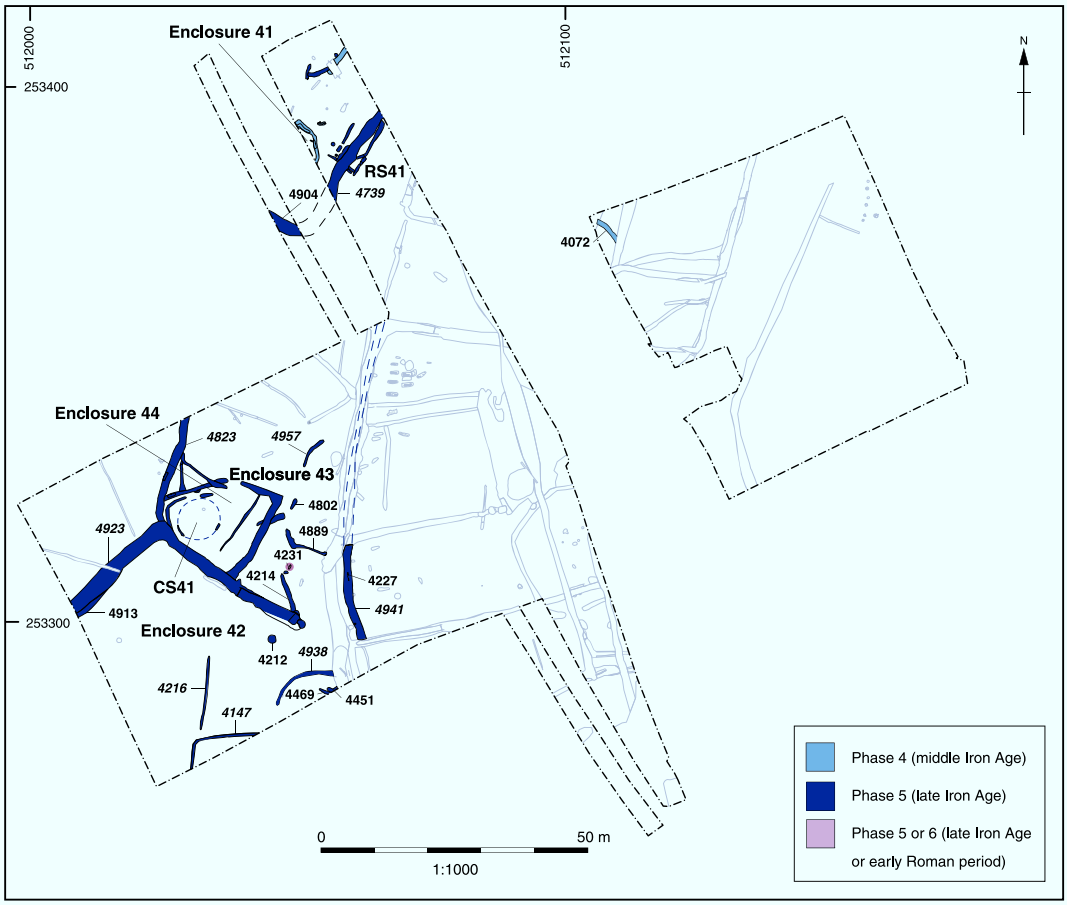

Fig. 2.20 Site 4, Phases 4 and 5 (middle and late Iron Age)

Lying to the south of ditch 4923 was a series of shallow linear gullies, which may have served as subdivisions within the enclosure. All had U-shaped profiles and pale, naturally deposited fills, producing a few fragments of pottery and animal bone. Gully 4147 was an L-shaped feature, up to 0.24 m deep, which may have demarcated a rectilinear compound continuing beyond the southern limit of excavation. Gully 4216 (0.07 m deep) lay immediately to the north of this compound, and may have been associated with it, on the grounds of its similar north-south alignment. To the east of 4216, gully 4938 (0.20 m deep) differed in having a curvilinear form. It was truncated at its eastern end by Romano-British ditch 4959.

To the south of gully 4938, and only partially exposed within the area of excavation, were the terminal ends of two closely adjacent linear gullies on a NW-SE alignment (4469 and 4451). Gully 4469 has been interpreted as a structural trench containing timber posts. This feature was 0.25 m deep with a U-shaped profile, and had a fill of dark grey clay containing abundant charcoal fragments. At the terminal end, the apparent 'ghost' of a timber post could be seen, measuring 0.22 m deep. Lying 0.70 and 1.10 m to the south of this were two large fragments of degraded wood (4509 and 4510), which may have represented *in situ* timbers. However, it should be noted that the grain of the wood ran horizontally in the case of 4509 but vertically in the case of 4510. A sample from the gully produced abundant oak charcoal, including both heartwood and sapwood (Chapter 11). The adjacent parallel gully, 4451, was 0.30 m deep with a U-shaped cut. It contained a sequence of three fills, comprising an initial silting deposit, a lens of charcoal 0.08 m thick, and a final deposit of clay which may represent a deliberate backfill. While the interpretation of these two linear features is uncertain, it is possible that they relate to a timber

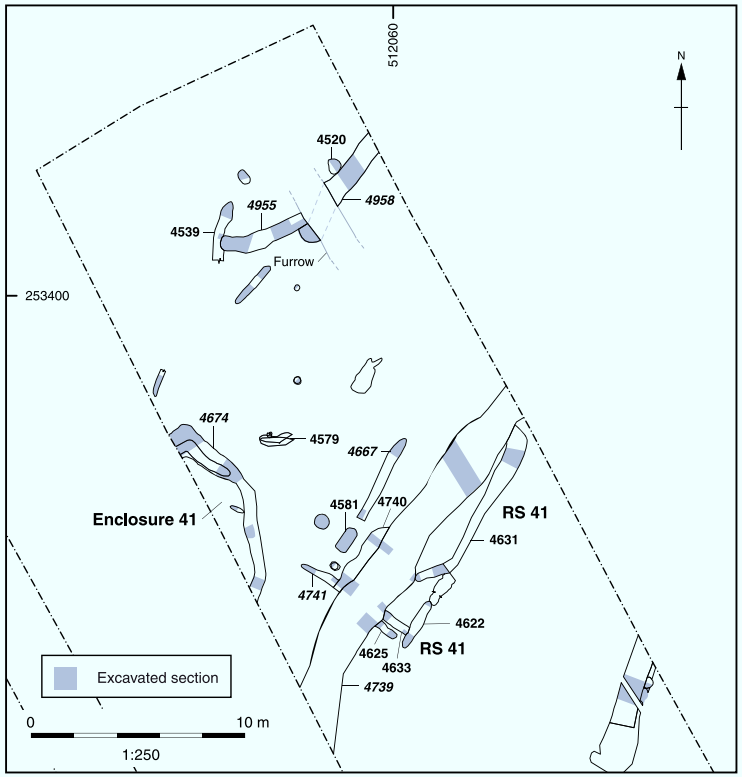

Fig. 2.21 Site 4, Enclosure 41 and Rectangular Structure 41

building. A few pieces of pottery and animal bone were recovered from both features.

A single pit within Enclosure 42 can be ascribed to this phase (4212). This feature was 1.60 m in diameter and 0.34 m deep, with a bowl-shaped profile. It had a lower fill of redeposited natural clay, and upper organic-rich fill containing pottery, animal bone and burnt stone.

Enclosure 43 (Fig. 2.20)

Putative Enclosure 43 was attached to the northern side of Enclosure 42. It was demarcated on its western side by ditch 4823 (0.30–0.50 m deep), which ran off from ditch 4923 in a northerly direction, continuing for 19 m before reaching the limit of excavation. The eastern side of the enclosure may have been formed by ditch 4941 (0.58 m deep). This had been truncated at both ends by later features, and it is possible that it had originally been a much longer boundary feature, recut and obliterated by Romano-British palisade 4942. No northern side to the enclosure is apparent, and if one existed it may have lain beyond the limit of excavation. If this interpretation is correct, Enclosure 43 would have measured 36 m NW-SE by at least 55 m NE-SW, with an entranceway at its south-eastern corner.

Ditches 4823 and 4941 both had lower fills of pale, naturally deposited silty clay, and slightly darker upper fills which yielded pottery and animal bone. In addition, the truncated remains of a supine adult human skeleton, 4227, lying with its head to the north, was recovered from the upper fill of ditch 4941. The fill surrounding and underlying the skeleton was not excavated.

A group of curvilinear gullies located in the eastern part of the enclosure may have served to subdivide this area (4802, 4889 and 4957; Fig. 2.20). For the most part, these gullies were fairly shallow (no more than 0.30 m deep), with U-shaped profiles and fairly pale fills, producing only modest amounts of pottery and animal bone. However, one intervention (4845) into gully 4889 suggested that at

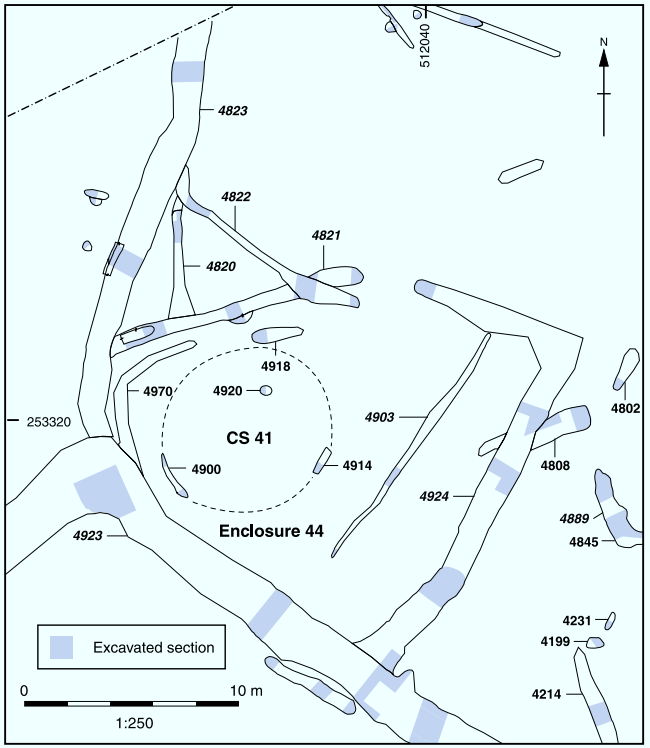

Fig. 2.22 Site 4, Enclosure 44 and Circular Structure 41

this point the feature was rather more robust, at 0.60 m deep (Fig. 2.22). This intervention also showed a different fill sequence, with an initial silting deposit overlain by a series of organic-rich dumped deposits, which yielded high concentrations of pottery, fired clay and animal bone. These differences could indicate that there was a pit cut into gully 4889 at this point, which was not recognised during excavation.

Enclosure 44 and Circular Structure 41 (Figs. 2.20 and 2.22)

A small subcompound (Enclosure 44) was present in the south-western corner of Enclosure 43, attached to ditches 4823 and 4923. This measured 19 m NW-SE by 16 m NE-SW, with an entranceway in its north-eastern side. It was demarcated to the east of the entranceway by L-shaped ditch 4924, and to its west by ditch 4821, later replaced by ditch 4822. This reworking of the subenclosure increased its area slightly, and changed its form from roughly D-shaped to subrectangular.

Ditch 4924 was 0.65–0.70 m deep, with a U-shaped profile. It had a pale lower fill, and a darker upper backfill rich in pottery and animal bone, especially towards its southern end. The upper fill of intervention 4826, at the southern end of this ditch, in fact produced the highest concentration of pottery from a late Iron Age context at this site, along with copper alloy brooch fragments (SF 4040). An environmental sample from this deposit produced small amounts of wheat grains, indeterminate cereal grains, weed seeds and wood charcoal. Ditch 4924 appeared to cut feature 4808, an elongated pit or short ditch, although this showed a similar sequence of deposits and thus could perhaps have been filled at the same time. It was 0.22 m deep with a U-shaped cut.

Ditch 4821 was 0.50 m deep with an irregular profile. It was truncated at its eastern end by ditch 4822, which was 0.43 m deep with a U-shaped profile. Both features had homogeneous fills which may have been deliberate backfill deposits. Fairly high concentrations of pottery and animal bone were recovered in each case. Ditch 4821 also yielded waterlogged worked bark fragments from its lower fill (4853) at its western end. These have been identified as possible debris from the preparation of a large roundwood post (see S J Allen, Chapter 11).

The easternmost part of the subenclosure appears to have been partitioned off by gully 4903 (0.12 m deep), which ran parallel to ditch 4924 for a distance of 12.5 m. Other features within the subenclosure, to the west of gully 4903, comprised a probable roundhouse (CS 41) and a shallow oval pit 4918.

CS 41 was defined by two concentric curvilinear gullies, which may represent successive phases of an eaves-gully. The outer gully, 4970, was not excavated. It was somewhat irregular in plan and was connected to, or possibly cut by, enclosure ditch 4923. The inner gully was defined by two short, truncated features, 4900 and 4914, and measured *c* 7 m in diameter. It was no more than 0.09 m deep, with a silty fill. A few sherds of pottery were recovered from 4914. The only feature within the area enclosed by the eaves-gully was a possible shallow posthole, 4920, which produced no finds.

Northern feature group

Rectangular Structure 41 (Fig. 2.21)

A complex of linear gullies at the northern end of the site appeared to define a rectangular structure on a NNE-SSW alignment, measuring 10 m by 4.2 m. Interpretation of this complex is problematic, but the linear features seem more likely to represent external drainage gullies than structural beam slots. Much of the structure was later truncated away by ditch 4739.

Gullies 4581 and 4667 defined the western side of the structure; gully 4741 and parallel gullies 4625 and 4633 the southern side, and gullies 4622 and 4631 the eastern side. The northern side of the structure was apparently open. A narrow gap in the eastern side of the structure, where gully 4631 made an inward turn, could possibly mark an entrance. If so, then a shallow area of disturbance stretching across this gap could have resulted from trampling.

All of the gullies had U-shaped profiles, and were up to 0.50 m wide and 0.15 m deep, except for the northern end of gully 4631 which was 0.34 m deep. Each contained a few fragments of pottery and animal bone.

Within the structure, and truncated by ditch 4739, was a probable pit (4740) measuring 3.60 m long and at least 0.46 m deep. Its relationship with gully 4741 is uncertain. It had a similar fill to the surrounding gullies, and produced a few small fragments of pottery and animal bone.

Other features (Figs. 2.20 and 2.21)

Two large ditches were present at the northern part of the site (4739 and 4904). Interpretation of these features is difficult, as both were only partially exposed within the area of excavation. However, it seems likely that both in fact represent parts of the same curvilinear ditch, probably forming the northwards extension of the enclosure system to the south. Ditch 4739 was 0.90 m deep, and had a blunt V-shaped profile, steeper on its eastern side. Its lower fills consisted of pale, naturally deposited silty clay. Above this was a probable backfill deposit, 0.50 m thick, which contained a significant amount of animal bone but few other finds. Ditch 4904 had a similar depth (0.80 m), but a more U-shaped profile. It contained a series of pale, naturally deposited fills, which yielded only a few pieces of pottery and animal bone.

Few other contemporary features were located in the northern part of the site. However, a pair of short, curvilinear, intercutting gullies were found 12 m to the north-west of enclosure ditch 4739. Gully 4539 was 0.16 m deep, and was cut by gully 4955, which was 0.29 m deep. A modern feature obscured the relationship between 4955 and middle Iron Age ditch 4958. A short distance to the north-east was a bowl-shaped pit, 4520 (0.17 m deep). All of these features had pale fills, which produced small amounts of pottery and animal bone.

Phase 5–6: Late Iron Age or early Roman period

A single unurned cremation burial, 4231, was located close to the terminus of ditch 4923 (Fig. 2.22). The remains had been placed in an oval, bowl-shaped pit, measuring 0.44 m long and 0.08 m deep. The remains belong to an adult of undetermined sex (Chapter 9). Although there were no associated artefacts, a radiocarbon determination of 1–130 cal AD (OxA-15673: 1946 ± 27 BP) has been obtained from the cremated bone. The burial could thus have been associated with either the Phase 5 or Phase 6 occupation.

SITE 6: BREWER'S HALL FARM NORTH

Site location

Site 6 lies north-west of Brewers Hall Farm and west of Barford Road at NGR TL 112 526 (Fig. 1.1). A total area of 0.6 ha was stripped (Fig. 2.23). This was divided between two discrete excavation areas due to the presence of a farm track running through the site. The site is located at *c* 45 m OD, on the crest of a slightly raised spur between two minor tributary streams of the Ouse (75 m to the north-east and 200 m to the south-west respectively). The excavations revealed activity from the early Bronze Age (Phase 2), middle Iron Age (Phase 4) and late Iron Age (Phase 5).

Phase 2: early Bronze Age

A single pit (6126) could be dated to the early Bronze Age (Fig. 2.24). This measured 1.20 m in diameter and 0.40 m deep, with an irregular profile and two fills of silty clay. While the upper fill was sterile, the lower contained charcoal flecks and five small sherds of pottery in the Collared Urn tradition (Fig. 8.2.4).

Phase 4: middle Iron Age

Iron Age settlement features included a small curvilinear enclosure (Enclosure 61), at least one roundhouse and possibly two more (CS 61–63), a possible four-post 'granary' (PS 61), and various ditches and pits (Fig. 2.24).

Circular Structure 61 and associated features (Figs. 2.24 and 2.25)

CS 61 lay roughly in the centre of the excavated area, to the north of Enclosure 61. It was demarcated by a 12.5 m-diameter eaves-gully, 6073, with an east-facing entrance. The eaves-gully was up to 0.22 m deep—though it had been entirely truncated away at two points along the circuit—and contained a single fill of naturally deposited silty clay. Finds were absent aside from a few pieces of pottery and burnt stone from the southern entrance terminal.

Two pits located approximately in the centre of the roundhouse may have been internal features, although no datable finds were recovered from either (Fig. 2.25). Pit 6122 was irregular in form, measuring 0.40 m in diameter and 0.22 m deep, with a lower, sterile clay fill and an upper charcoal-rich deposit. It is possible that it served as a hearth. The adjacent pit, 6144, was subrectangular in form and contained numerous large stones, some of which were burnt.

Linear gullies 6095 and 6138 appeared to respect the roundhouse by stopping just short of it, and may thus have been contemporary (Fig. 2.24). The gullies lay on broadly similar NE-SW alignments, and were up to 0.35 m deep. A shallow oval pit, 6071, lay close to the projected southern side of the eaves-gully. Small amounts of pottery and animal bone were recovered from these features.

Enclosure 61 (Figs. 2.24 and 2.26)

Enclosure 61 lay at the southern end of the site, and had an irregular curvilinear form. It measured 32 m NE-SW by at least 28 m NW-SE, continuing beyond the south-eastern limit of excavation. The enclosure ditch was recut at least twice. The earliest phase is represented by ditch terminal 6040 (1.11 m deep) at the northern end of the enclosure, and ditch 6007 on its eastern side. These features were cut by ditch 6143 (up to 1.0 m deep), which was in turn recut as ditch 6142 (up to 1.25 m deep). The ditches had U-shaped cuts and were characterised by slowly accumulated fills. Evidence for occupation of the interior of the enclosure comes in the form of two possible roundhouses (CS 62 and CS 63), two linear gullies (6003 and 6082) and a single shallow pit (6084). Pottery and animal bone were recovered from both the ditches of the enclosure and its internal features.

Circular Structures 62 and 63 (Figs. 2.24 and 2.26)

CS 62 and CS 63 were possible roundhouses represented by truncated curvilinear gullies located within Enclosure 61. The gully of CS 62, 6021, was *c* 10 m in diameter and 0.18 m deep, while that of CS 63, 6030, was *c* 8–10 m in diameter and only 0.06 m deep. Both had dark, organic-rich fills which produced a few fragments of pottery and animal bone.

Post Structure 61 (Fig. 2.24)

PS 61 consisted of a group of three shallow postholes, up to 0.10 m deep, located 44 m to the north-east of CS 61. These postholes had identical silty clay fills, devoid of finds. The structure could represent a rectangular four-post 'granary', measuring 2.5 x 2.0 m in size, the fourth posthole of which had been truncated away.

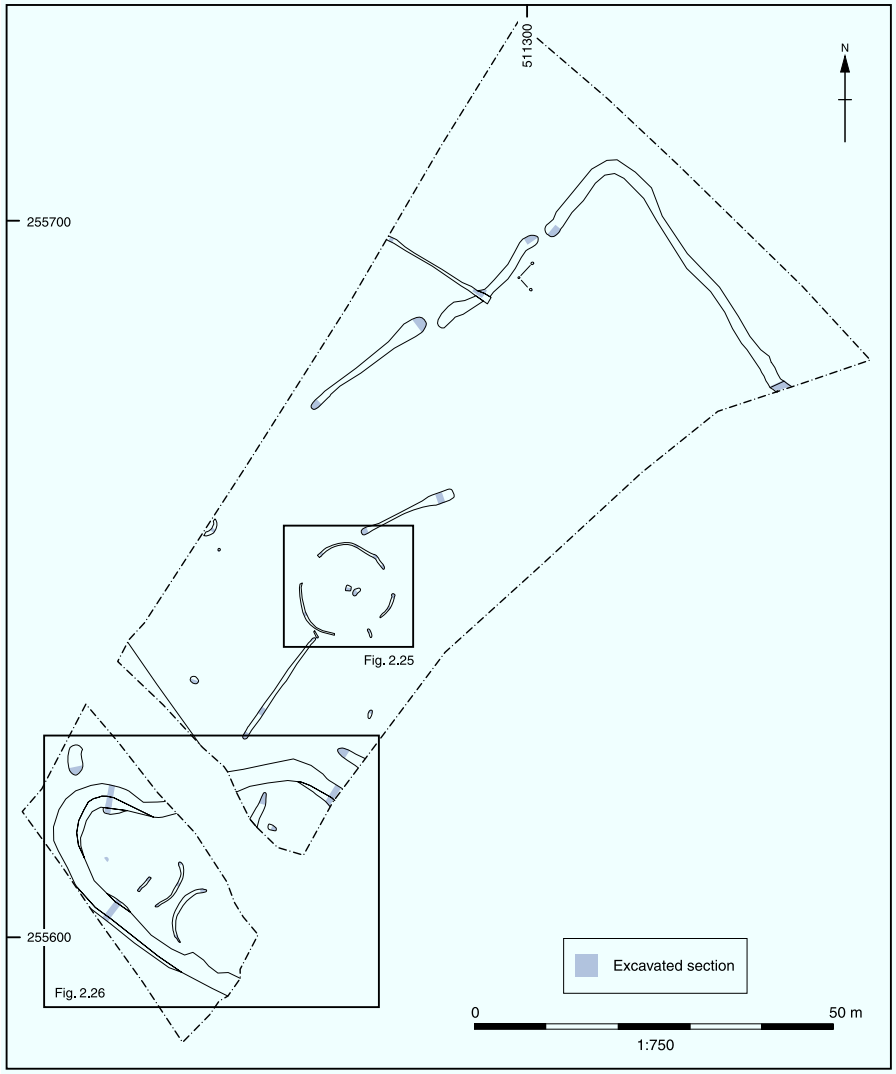

Fig. 2.23 Site 6, plan of all features

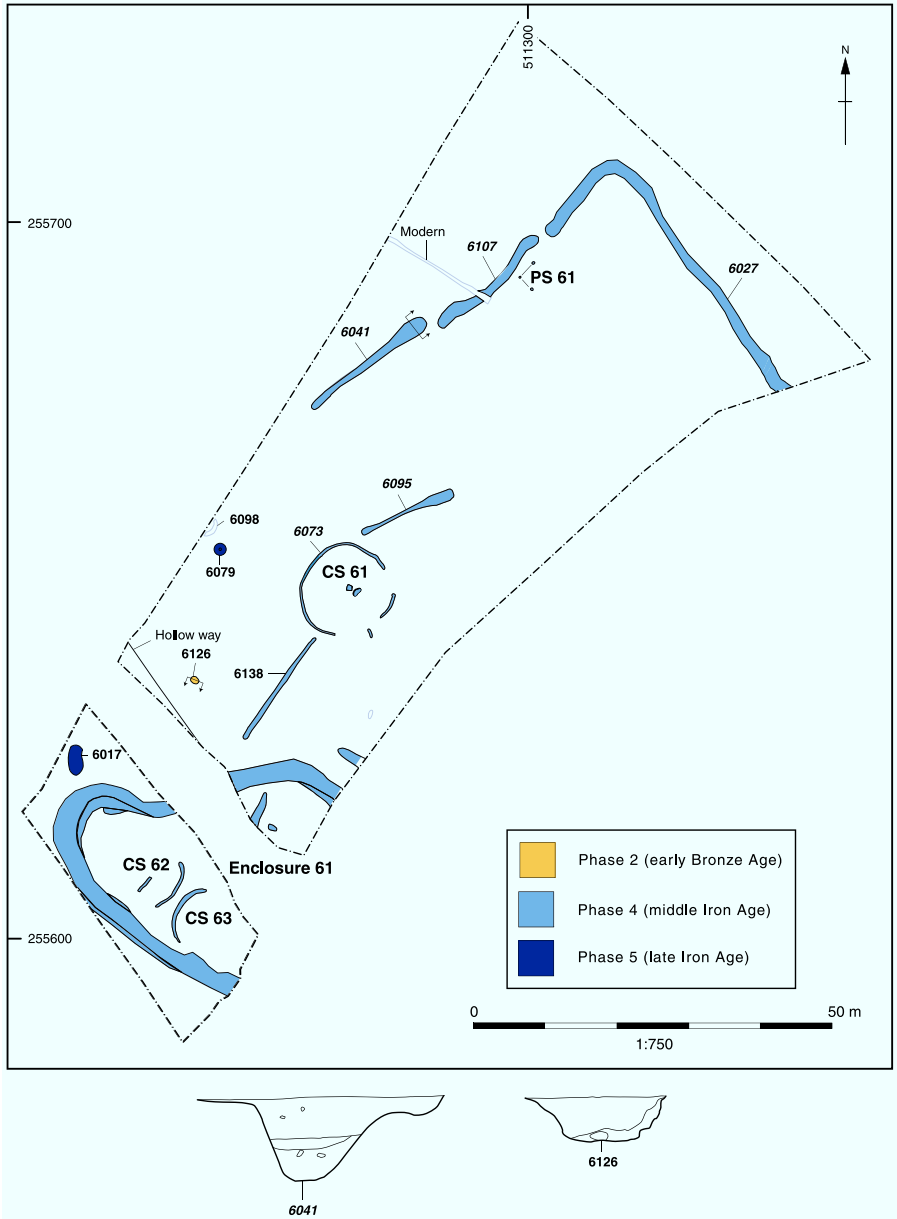

Fig. 2.24 Site 6, Phases 2, 4 and 5 (early Bronze Age, middle Iron Age and late Iron Age)

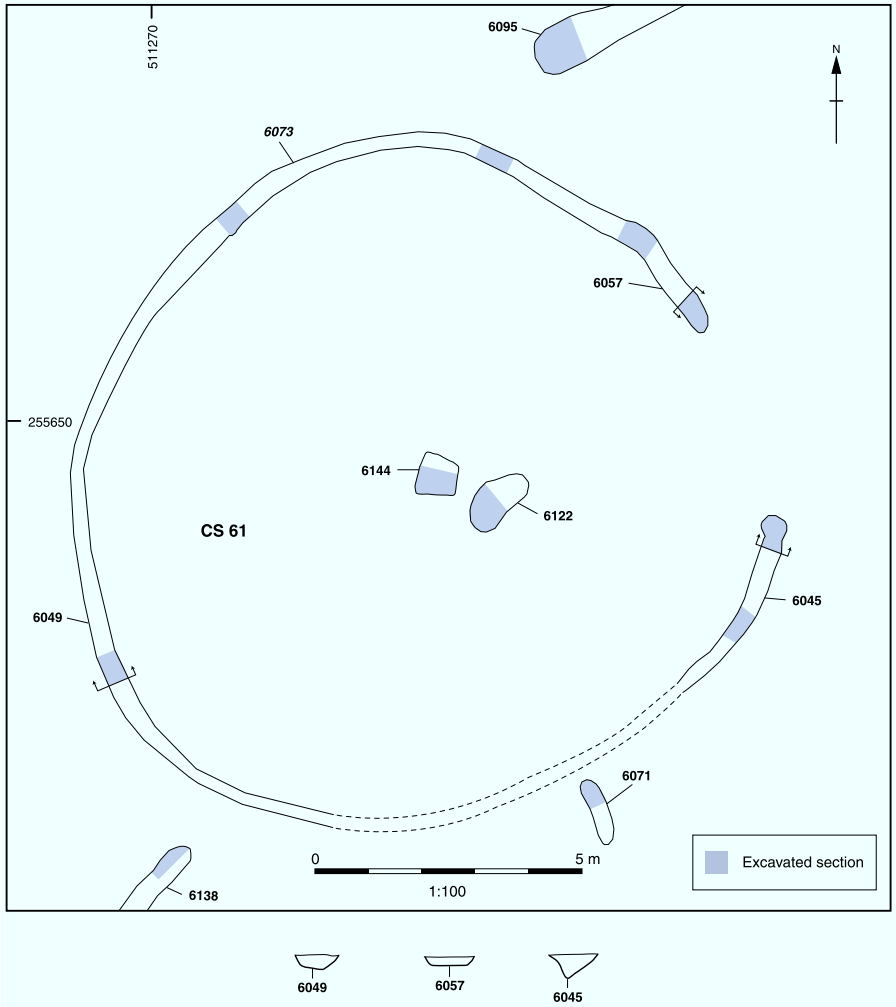

Fig. 2.25 Site 6, Circular Structure 61

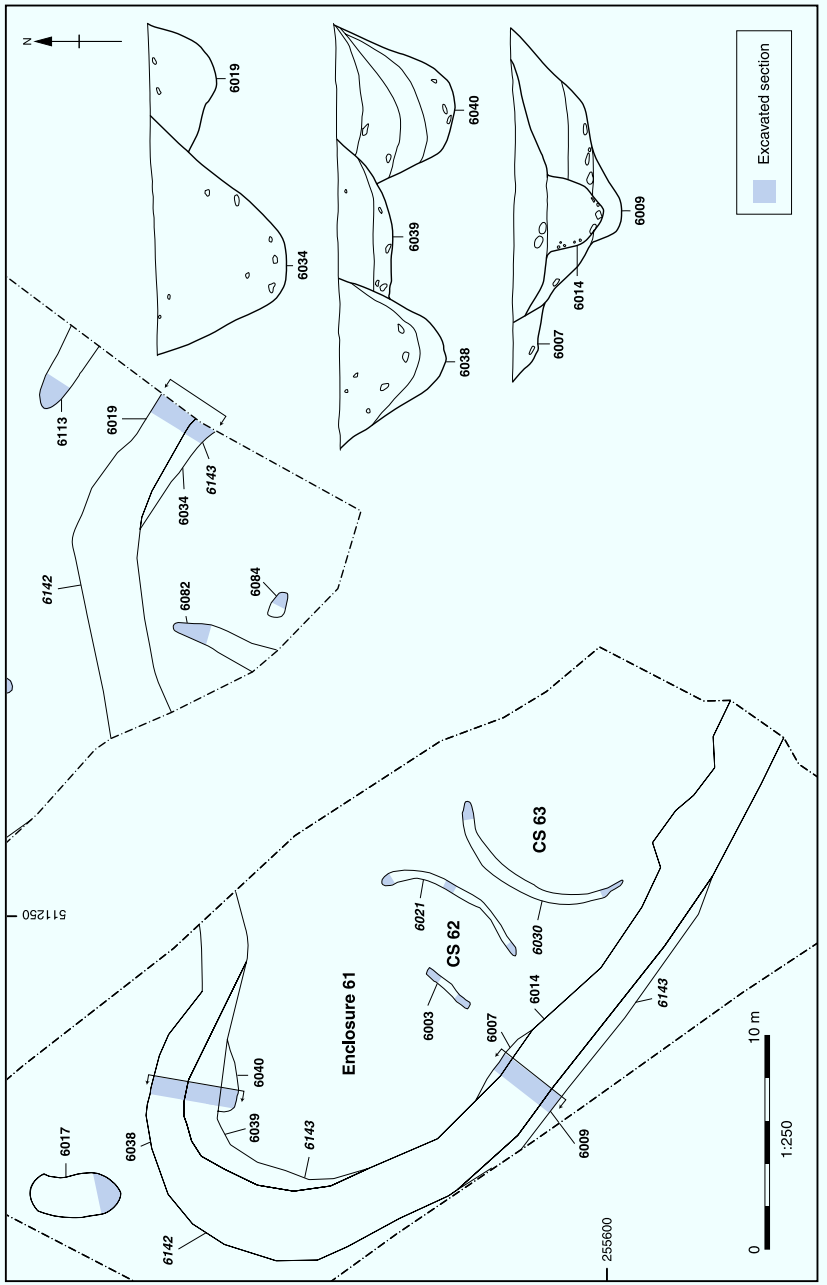

Fig. 2.26 Site 6, Enclosure 61 and Circular Structures 62–3

Ditches 6027, 6041 and 6107 (Fig. 2.24)

Ditches 6027, 6041 and 6107 formed an L-shaped arrangement at the north-western end of the site. This extended for 55 m on a SW-NE alignment, with two narrow interruptions (1.30–1.50 m wide), before turning to the SE, continuing for 40 m to the limit of excavation. The ditches were up to 1.00 m wide and 1.10 m deep, with a U-shaped profile. They contained a series of naturally deposited fills. While the lower fills were sterile, the uppermost fills contained small fragments of middle Iron Age pottery along with one sherd of late Bronze Age/early Iron Age pottery (from 6027). The latter could well have been residual, although the absence of finds from the lower ditch fills means that a pre-middle Iron Age origin for the enclosure remains a possibility.

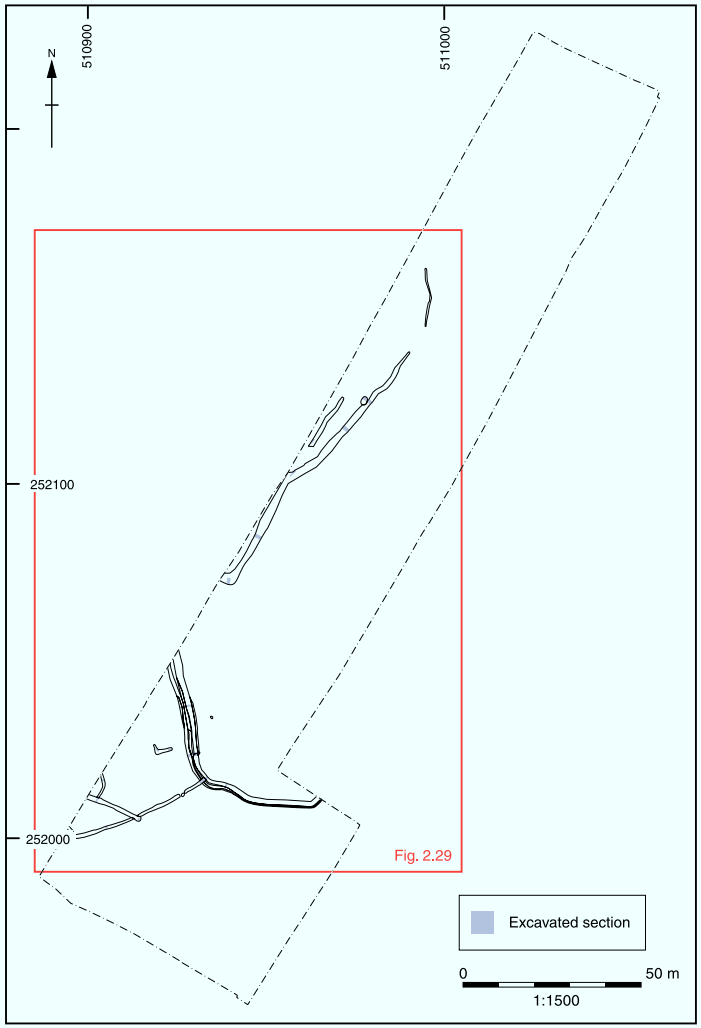

Fig. 2.27 Site 7, plan of all features

Phase 5: late Iron Age

Activity was much reduced during the late Iron Age (Fig. 2.24). The final infilling of the ditch of Enclosure 61 appears to have occurred in this period, evinced by a few sherds of wheel-made grog-tempered pottery from the uppermost fill on the western side of the enclosure circuit. A single sherd of late Iron Age pottery was also recovered from oval pit 6017 immediately to the north of the enclosure. This feature was 0.28 m deep, with a bowl-shaped profile.

A single cremation burial, 6079, at the western edge of the site can also be placed in this period (Fig. 2.24). The cremated remains were contained within a circular, flat-based pit, 0.25 m in diameter and 0.07 m deep. It appears that two individuals are represented, a juvenile and an adult, both of undetermined sex (Chapter 9). The associated charcoal consisted entirely of oak (Chapter 11). Although there were no associated artefacts, a radiocarbon determination of 100 cal BC–60 cal AD (OxA-15671: 2020 ± 25 BP) was obtained from the cremated bone. A date in the later part of this range would seem more likely, as cremation burial is not thought to have been practised in this region until after *c* 50 BC.

Immediately to the north-west of the burial was curvilinear gully 6098, a shallow feature (0.26 m deep) which continued beyond the limit of excavation (Fig. 2.24). It is conceivable that this could represent a small ring-ditch of *c* 2 m diameter, enclosing a further burial. A few fragments of animal bone were recovered.

SITE 7: BREWER'S HALL FARM WEST

Site location

Site 7 is situated 400 m to the west of Brewer's Hall Farm (NGR TL 110 517) (Fig. 1.1). It lies at *c* 36 m aOD on a gentle south-east facing slope, adjacent to a minor tributary stream of the River Ouse. A total area of 1.3 ha was stripped, corresponding with the south-eastern edge of an extensive enclosure complex identified from cropmark evidence and geophysical survey (Figs. 2.27 and 2.28). The northern part of this complex consists of a series of conjoined curvilinear compounds, while the southern part appears to comprise a meandering ditch with an irregular enclosure (*c* 60 m across) attached to its western side (Fig. 2.28). The excavations revealed activity from the middle Iron Age (Phase 4) and late Iron Age (Phase 5).

Phase 4: middle Iron Age

Ditch 7108 appears to have been a boundary feature at the edge of the northern part of the enclosure complex (Figs. 2.28 and 2.29). The ditch ran for 100 m on a NE-SW alignment, and was up to 1.84 m wide and 1.00 m deep, with a U-shaped cut. It became progressively shallower towards its northern end, where it was interrupted by truncation. The northwards continuation of the ditch is probably represented by shallow linear feature 7117. Both features were characterised by naturally deposited fills. Few finds were recovered, aside from a small amount of middle Iron Age pottery. A short linear gully (7120) running parallel with ditch 7108 may have been contemporary, although no datable finds were recovered.

Ditch 7108 appeared to be cut on its western side by pit 7059, although the stratigraphic relationship between the two features was not conclusively proven. This pit was 1.90 m in diameter and 1.05 m deep, with a concave profile. It had a lower fill (7061) containing charcoal and a few sherds of pottery, and a sterile upper fill (7060).

Phase 5: late Iron Age

A series of ditches at the edge of the southern part of the enclosure complex proved to be of late Iron Age date. The meandering ditch visible in the geophysical plot crossed the site on a NW-SE alignment (ditch 7125; Fig. 2.29). This ditch had undergone repeated recutting. At its south-eastern end, a sequence of three ditch cuts was apparent, with the earliest cut 7122 replaced by 7121, which was in turn replaced by 7123. At the north-western end of the boundary, the sequence is complicated by three additional cuts, 7021 (cutting 7121), 7027 (cutting 7122 and cut by 7123), and 7031 (cut by 7123). While there may thus have been as many as six separate episodes of ditch digging here, the observed stratigraphy also allows the alternative possibility that this part of the boundary underwent three episodes of reworking but was double-ditched. The individual ditch cuts were up to 1.60 m wide and 0.60 m deep. While the earliest ditch, 7122, had a V-shaped cut, the subsequent cuts were U-shaped or flat-based. All of these ditches had naturally-deposited fills, with the exception of ditch 7027, which had a darker, stony fill. A few fragments of pottery and animal bone were recovered.

The irregularly shaped enclosure attached to the western side of the ditch (Enclosure 71), also visible in the geophysical plot, underwent two phases (Fig. 2.29). The earlier phase was represented in the area of excavation by L-shaped ditch 7113/7124. This was up to 0.90 m wide and 0.45 m deep, with a U-shaped profile, and produced no finds. The enclosure boundary was subsequently realigned through the construction of ditch 7107, which was up to 0.38 m deep. A curvilinear gully, 7111, conjoined the northern side of 7107. Both of these features had dark fills containing relatively large quantities of pottery and animal bone, suggesting that contemporaneous occupation occurred in the vicinity. The only other feature within the enclosure was L-shaped gully 7114, which was 0.40 m deep with a flat-based profile. Its function is unclear, although it could perhaps have been a structural beam-slot.

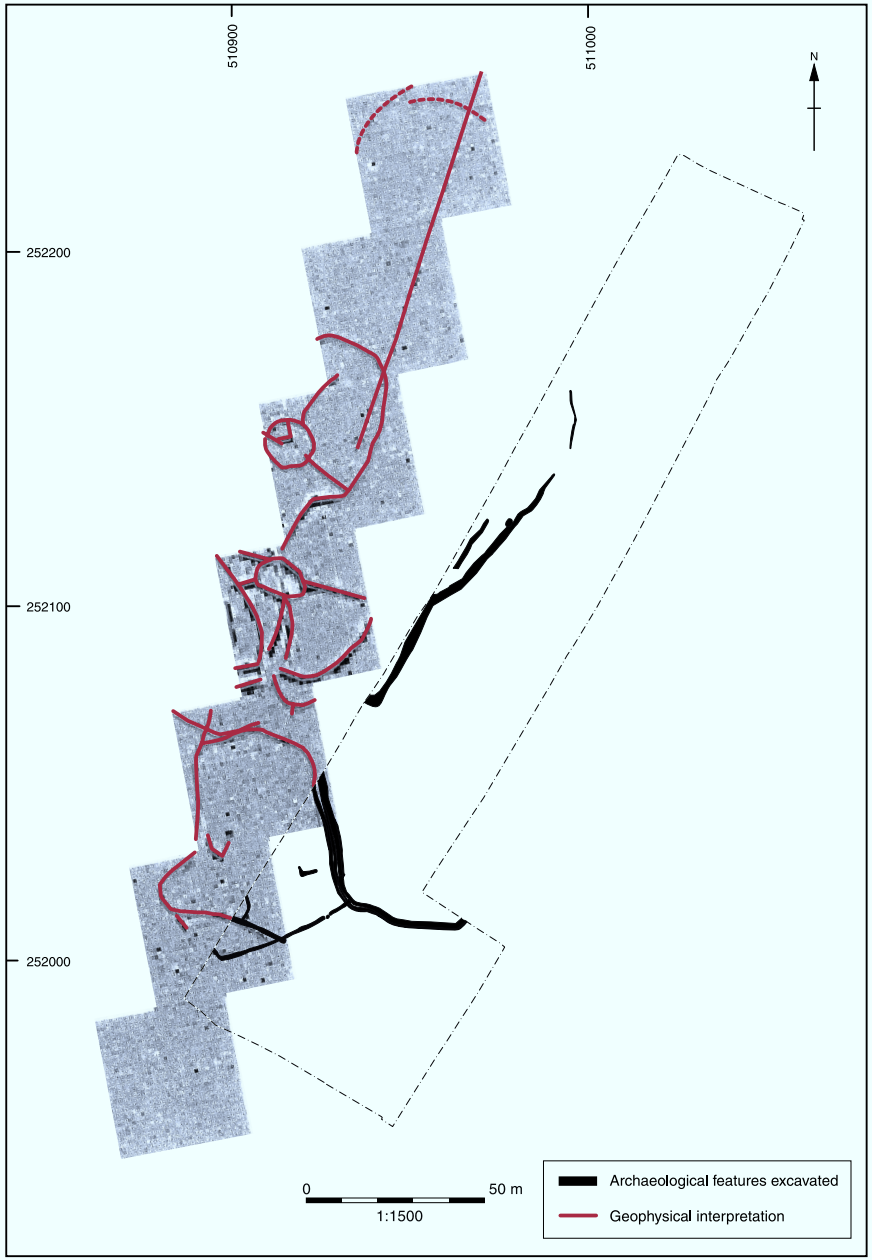

Fig. 2.28 Site 7, geophysical evidence. Geophysical data courtesy of Northamptonshire Archaeology

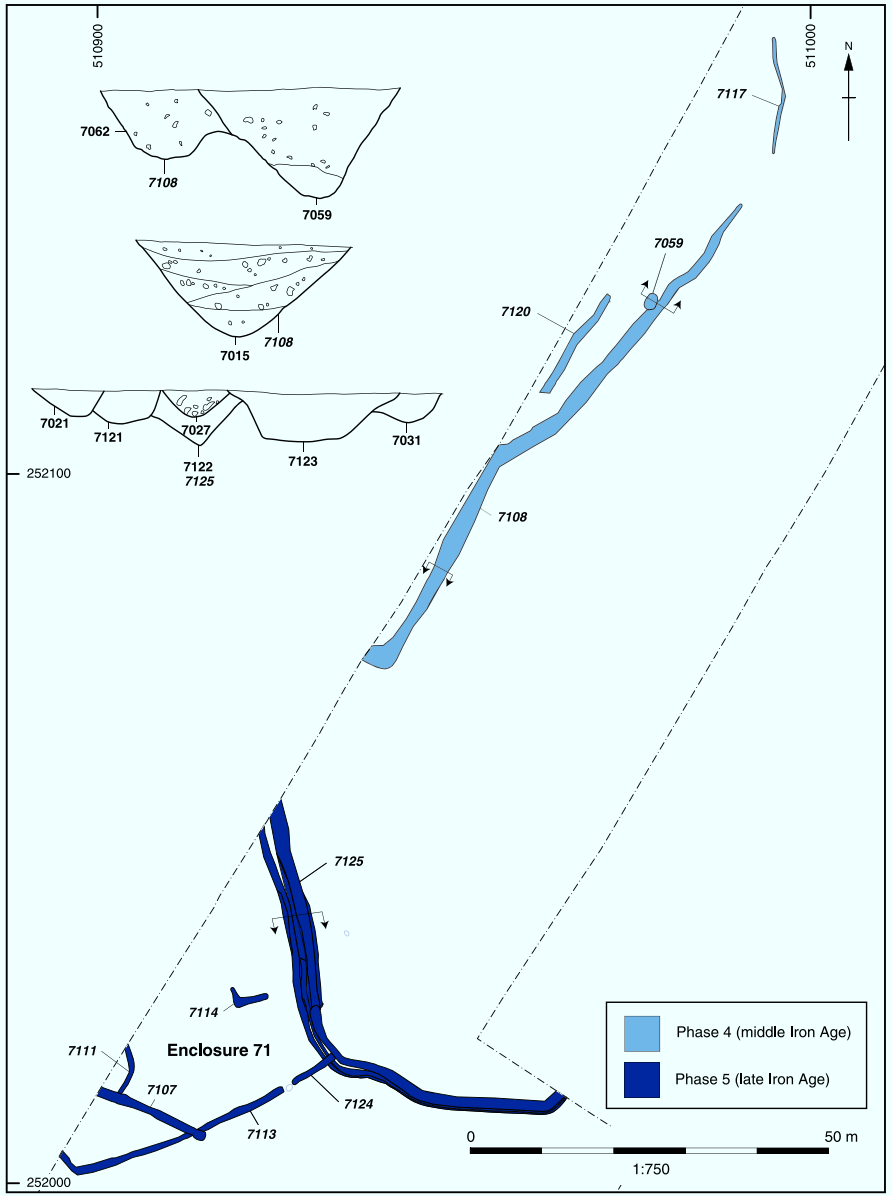

Fig. 2.29 Site 7, Phases 4 and 5 (middle and late Iron Age)

Chapter 3: The First Settlers: Overview of the Prehistoric Evidence

by Leo Webley

INTRODUCTION

Prehistoric features were found at five of the nine sites along the route of the Bypass (Sites 1 (see Chapter 4), 2, 4, 6 and 7). In each case, only part of a more extensive settlement complex was excavated. However, further evidence for the extent and character of prehistoric settlement can be gleaned from the earlier programme of evaluation trenching, fieldwalking and geophysical survey along the Bypass corridor (NA 2001; 2004a–d), and from cropmark plots of the area. It has thus been possible to show that the boulder clay plateau traversed by the Bypass saw only relatively sparse activity until the later Iron Age, when large-scale colonisation took place. By the time of the Roman conquest the landscape was densely occupied, with settlements spaced only a few hundred metres apart (Fig. 3.1).

By far the largest of the excavated later Iron Age sites was Site 2, where an extensive settlement complex was revealed. The features of interest at this site include some unusually clear evidence for zoning in the use of settlement space. Striking examples of 'structured' or 'ritual' deposition are also present. One of these deposits produced what is believed to be the first conclusive evidence for the long-term curation of human bone in Iron Age Britain.

EARLY PREHISTORIC ACTIVITY

Prior to the later Bronze Age, occupation of the landscape along the Bypass corridor appears to have been limited. Excavated features of this date were restricted to an early Neolithic pit at Site 2 and single early Bronze Age pits at Sites 2 and 6.

The early Neolithic pit was a small, bowl-shaped feature (Fig. 2.4). It had been backfilled with a single deposit containing modest amounts of Plain Bowl pottery and worked flint. A few pieces of animal bone were also recovered, mainly consisting of domestic species (cattle, sheep/goat and pig), although a single red deer bone was also present. The pit was located close to the limit of excavation, and could thus have formed part of a larger area of occupation. An earlier evaluation trench close to this pit had produced late Mesolithic/early Neolithic flintwork and three sandstone querns or mortars, suggesting some further contemporary activity in the vicinity (Fig. 1.3, Trench 72: NA 2004a).

The early Bronze Age pits from Sites 2 and 6 were both modestly-sized features (Figs. 2.4 and 2.24), each containing a very small amount of pottery in the Collared Urn tradition. No other artefacts or animal bone were found, suggesting that the pits were not associated with intense episodes of activity.

Similar shallow pits, found alone or in small groups, dominate the settlement record of the Neolithic and early Bronze Age in southern Britain. It has been argued that the evidence points to a fairly mobile settlement pattern, in which particular sites were occupied for relatively brief periods at a time, although favoured locations were perhaps returned to on a number of occasions (Brück 1999; Thomas 1999; Garrow 2006). The isolated pits at Sites 2 and 6 can be seen as each representing one of these fleeting episodes of occupation.

It is possible that this limited set of early prehistoric features is an under-representation of the actual level of activity. Clearly, the evaluation methods of geophysical survey and trial trenching used along the Bypass corridor are better suited to finding the substantial, enclosed settlements of the later Iron Age and Roman period than the relatively ephemeral occupation sites of earlier prehistory. However, the low background levels of worked flint recorded during the fieldwork support the impression of fairly low-level or sporadic landscape use. While excavation of all sites except Site 6 produced at least some residual worked flint—probably ranging in date from the Mesolithic to the Bronze Age—the quantities were small with only 147 pieces recovered in total. The evaluation trenching and fieldwalking similarly recorded only light distributions of flint (NA 2004a–d). An earlier programme of fieldwalking carried out in the 1970s across parts of Great Barford and Roxton parishes also produced meagre amounts of flint from those grid squares crossed by the line of the Bypass, in the vicinity of Site 2 (Woodward 1978, fig. 13). There is no further evidence in the form of cropmarks or casual finds to indicate early prehistoric activity in the immediate vicinity of the Bypass corridor. It has been suggested that an undated mound known as Round

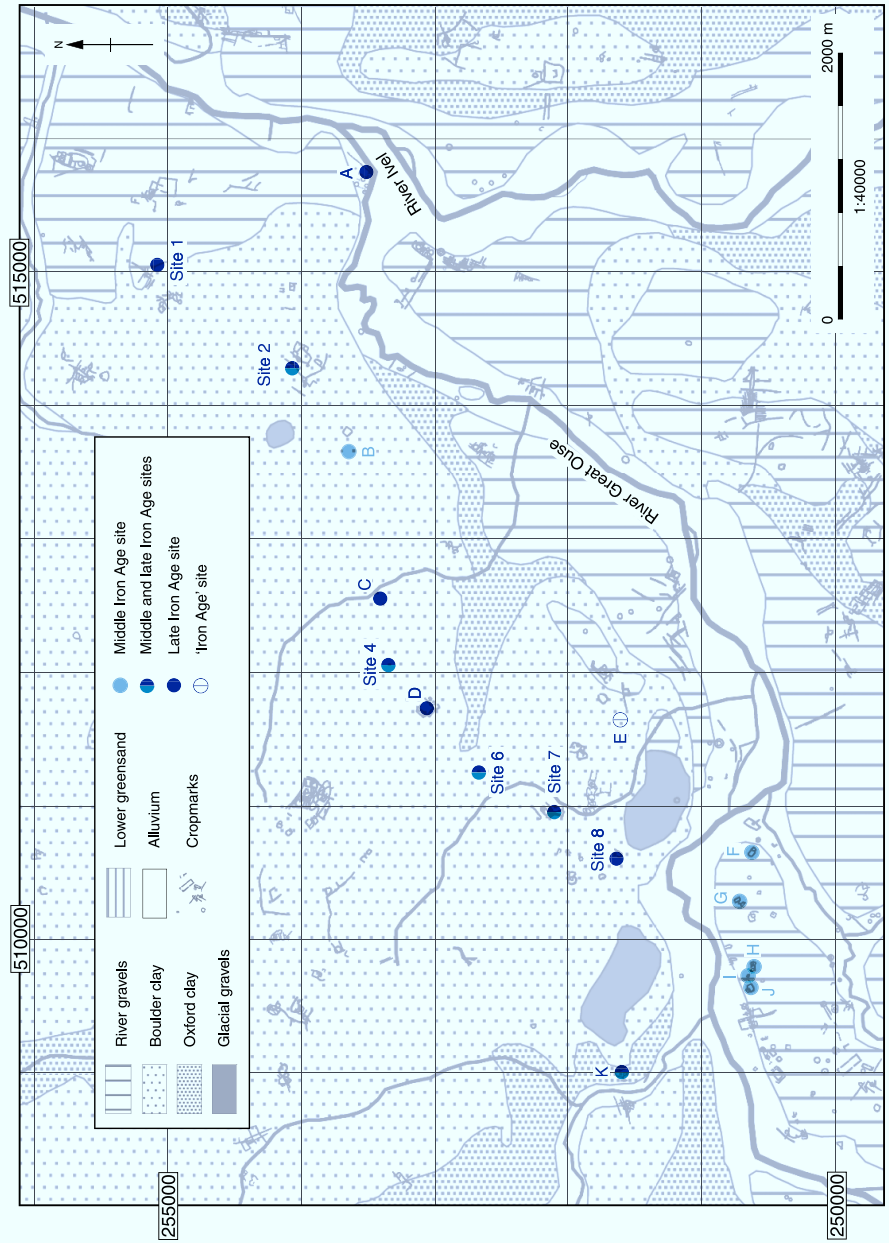

Fig. 3.1 The Iron Age landscape. Cropmark plot used courtesy of Jessica Mills

Hill, 75 m to the north-west of Site 1, is a bowl barrow but it could equally well represent a more recent feature such as a mill tump (HER 1494).

The paucity of evidence from the boulder clay plateau traversed by the Bypass contrasts with the gravels flanking the River Ouse to the south. The earlier Roxton/Great Barford fieldwalking programme demonstrated that much greater flint knapping activity took place on the gravels than on the boulder clays (Woodward 1978), and cropmark evidence shows numerous groups of Bronze Age round barrows or ring-ditches dotted along the river valley (Malim 2000, fig. 8.1). Excavation of one of these groups near Roxton (1.7 km to the south-west of Site 2) showed that the barrows contained Collared Urn cremation burials, and overlay early Bronze Age post structures apparently belonging to a prior phase of settlement (Taylor and Woodward 1985). A more extensive complex of Neolithic and early Bronze Age ritual monuments lies on the gravel terrace slightly further upstream in the Willington/Cardington area, to the south of the western end of the Bypass route (Dawson 1996; Malim 2000; Oetgen and Pixley 2003).

The evidence from the Great Barford area is comparable to the results of the Raunds Area Survey, Northamptonshire, which showed that monument complexes and flint scatters were concentrated in the valley of the River Nene, with activity on the adjacent boulder clay plateau being much sparser (Parry 2006). Both the Great Barford and Raunds case studies are compatible with the traditional view that earlier prehistoric activity in the south-east Midlands largely avoided the clays, which are assumed to have been largely wooded (Malim 2000, 82). This model should not be applied over-simplistically, however, as features other than geology surely influenced the attractiveness of particular locales for settlement. In particular, recent work in parts of the region has stressed the importance of riverine access and communication to early prehistoric communities (eg C Evans 2001; Garrow 2006). For example, fieldwalking evidence from Leicestershire has shown that where clay soils occur in river valley situations they saw greater activity than was the case on the higher boulder clay plateaux (Clay 2002). It thus may not be coincidental that the clearest evidence for early prehistoric occupation at Great Barford came from Site 2, which is one of the closest points of the Bypass corridor to the present course of the River Ouse (650 m to the south-east).

While the Bypass corridor was apparently not a focus for permanent or repeated settlement in earlier prehistory, the fact that sparse amounts of worked flint were recovered from almost the entire length of the route shows that the area was to some extent known to, and used by, communities in the region. The activities taking place, however, were generally of a kind that did not produce the subsurface features or large artefact concentrations that allow a 'site' to be recognised (Clay 2002). While these activities are difficult to define, the woodland that probably cloaked the area could have had a range of uses including hunting, the gathering of food and other materials, and the provision of pannage. The evident cultural significance of woodlands to early prehistoric communities in the region has been discussed by Evans *et al*. (1999).

LATER BRONZE AGE AND EARLY IRON AGE ACTIVITY (*c* 1150–400/300 BC)

Later Bronze Age features were found only at Site 2, although single residual pottery sherds broadly dated to the late Bronze Age/early Iron Age suggest additional low-level activity at Sites 1 and 6. The features at Site 2 comprised two deep, shaft-like features (2443 and 20182)—possibly wells—and a smaller bowl-shaped pit (Figs. 2.3 and 2.5). These were located close to the southern limit of excavation, and could thus have formed part of a larger settlement complex. Finds were limited to small amounts of pottery dating to *c* 1150–800 BC (Fig. 8.3.1–2). Some continuity of occupation into the early Iron Age is possible, on the grounds of a few residual sherds of pottery from the same area (Fig. 8.3.3).

A short distance to the north-east of these features lay a single unurned cremation burial (2150), radiocarbon dated to 1130–930 cal BC (OxA-15672: 2868 ± 28 BP). The remains belong to a mature adult of undetermined sex. Pyre charcoal recovered from the burial mainly comprised ash and cherry, although rose also occurred, perhaps deliberately selected for ritual purposes. Simple, unurned and unaccompanied cremation burials of this kind are now known from a number of late Bronze Age settlements in southern England (Webley *et al*. forthcoming). Within Bedfordshire, examples are known from Fairfield Park (*ibid*.), Broom (Cooper and Edmonds forthcoming) and Biddenham Loop (Luke forthcoming).

Nothing more is known of the landscape of this period within or immediately around the Bypass corridor. Again, however, there is evidence for activity on the river gravels to the south. This includes a group of pits dated to the Bronze Age and early Iron Age found during evaluation fieldwork at College Farm, Great Barford, 2 km to the south-west of Site 2 (Luke *et al*. 1998). It has also been shown that secondary burials were inserted into the Roxton barrow cemetery during the middle and late Bronze Age (Taylor and Woodward 1985). More extensive evidence for late Bronze Age and early Iron Age occupation is known on the gravels to the south-west of the Bypass corridor in the Eastcotts area (Steadman 1999; Carlyle 2006).

Although the evidence thus suggests that activity on the boulder clay plateau continued to be relatively low-level during the later Bronze Age, the features at Site 2 may indicate that the relationship to the landscape had changed. The shafts or wells represent a significant investment in place, and may

show a concern with maintaining a secure supply of water for people and livestock. The implication is that settlement was of greater duration, or was more repetitive, than had been the case in the earlier prehistoric periods. The presence of the burial may also indicate an increased attachment to the land.

LATER IRON AGE SETTLEMENT (*c* 400/300 BC–AD 50)

This section discusses both the middle Iron Age (Phase 4) and late Iron Age (Phase 5) activity. It should be noted that the dating of these phases is largely reliant on pottery, and that the transition to the late Iron Age as defined by the ceramics may not have occurred until the early 1st century AD. Equally, the late Iron Age phase should be regarded as potentially continuing for several years or even a few decades beyond the Roman conquest, due to the patchy uptake of 'Romanising' ceramics during the mid 1st century AD in this region (for more discussion of chronology see *Later prehistoric pottery*, Chapter 8).

The later Iron Age sites will be discussed with reference to other contemporary settlements in the south-east Midlands, defined here as the area within a *c* 50 km radius of Great Barford. This region encompasses the whole of the county of Bedfordshire, along with much of Cambridgeshire, Hertfordshire, Buckinghamshire and Northamptonshire.

The landscape

The later Iron Age saw a dramatic increase in settlement along the route of the Bypass, with at least some trace of occupation occurring at six of the excavated sites (Fig. 3.1). Relatively substantial settlement evidence was found in four cases. At Site 2 extensive middle and late Iron Age remains were uncovered, including enclosures, roundhouses and pits, corresponding to the north-western part of a larger cropmark complex (HER 482; Fig. 1.3). At Site 4 sparse middle Iron Age features and a late Iron Age enclosure system were discovered, the latter containing a roundhouse. At Site 6 middle Iron Age enclosures and a roundhouse were found, with evidence for low-level activity continuing into in the late Iron Age. Finally, at Site 7 successive enclosure systems from the middle and late Iron Age were uncovered, corresponding with the eastern edge of an extensive cropmark complex (HER 15340; Fig. 1.3). While occupation of the excavated parts of Sites 6 and 7 had ceased by the end of the late Iron Age, at Sites 2 and 4 activity continued into the early Roman period, albeit with slight spatial shifts in the focus of settlement in each case. In addition to these four sites, it is possible that the early Roman settlements at Sites 1 and 8 had preconquest origins (see Chapters 4 and 5). At Site 1 possible late Iron Age post-built structures occurred, which may represent activity peripheral to a curvilinear cropmark complex immediately to the west, while at Site 8 a large curvilinear enclosure may have originated in the early to mid 1st century AD. Site 9 meanwhile produced a coin of the late 1st century BC and a possible late Iron Age/early Roman Hod Hill brooch from the topsoil, although these finds need not be indicative of settlement *per se*, perhaps deriving instead from off-settlement deposition or simply from casual loss.

The impression of dense later Iron Age settlement gained from the Bypass excavations is augmented by earlier fieldwork in the immediate area. Features of this period have been found at a number of sites within 1.5 km of the Bypass corridor, labelled A–K on Fig. 3.1 and listed as follows:

A: late Iron Age ditches, probably peripheral settlement features or field boundaries, encountered during excavation of the Roxton Bronze Age barrow cemetery (Taylor and Woodward 1983)

B: gullies and a pit excavated during the Bypass evaluation, producing a few sherds of pottery ascribed to the early or middle Iron Age, animal bone, and a triangular fired clay loomweight or oven brick (NA 2004a); possibly associated with a subrectangular enclosure seen as a cropmark immediately to the west

C: ditches containing late Iron Age pottery excavated during a recent evaluation for the Great Barford Flood Attenuation Scheme (Albion Archaeology 2006a)

D: ditches and pits excavated during the Bypass evaluation at the northern edge of a larger cropmark site (HER 9833; Fig.1.3), producing late Iron Age and early Roman pottery (NA 2004b)

E: ditches and pits containing 'large quantities of Iron Age pottery (mainly shell-tempered)' and some animal bone excavated during the 1980s in advance of gas pipeline construction (Catherall *et al*. 1984, 18–19); probably associated with a cropmark complex immediately to the east (HER 15492; Fig. 1.3)

F–J: five middle Iron Age enclosures excavated on the gravel terrace to the north of Willington (Pinder 1986; Dawson 1996)

K: excavated middle to late Iron Age settlement at Norse Road, Bedford (Edgeworth 2001)

Given that only a small proportion of the landscape surrounding the Bypass corridor has been subject to archaeological investigation, this list undoubtedly underrepresents the actual density of Iron Age occupation. A number of curvilinear or subrectangular cropmark complexes can be seen on Fig. 3.1 that, though unexcavated, seem likely on morphological grounds to represent further later

Iron Age settlements. Particularly striking examples can be seen *c* 800 m to the north-west of Site 1 and *c* 400 m to the south-east of Site 7.

It thus seems that the boulder clay plateau traversed by the Bypass underwent large-scale colonisation during the middle Iron Age, and that the density of occupation increased further in the late Iron Age. The pattern of settlement at the southern end of the Bypass corridor is particularly striking, where late Iron Age sites are fairly evenly spaced *c* 500 m apart (Fig. 3.1). Of course, not all of these sites need have been contemporary with each other. However, some sense of the number of coexisting settlements can be gained from the fact that at least five of the identified sites were occupied across the middle to late Iron Age transition (2, 4, 6, 7 and K), and five across the late Iron Age to Roman transition (1, 2, 4, 8 and D).

The sheer density of sites suggests large-scale woodland clearance during the later Iron Age. Unfortunately, this could not be confirmed by palynological analysis due to the poor preservation of pollen. However, the mollusc evidence from Site 2 indicates generally open conditions, though with some scrubby ground or hedgerows also present. The charcoal taxa are similarly consistent with a largely cleared landscape, with such woodland as did remain perhaps managed through pollarding or coppicing (Chapter 11). There are no clear indications of any recurring preferences in site location in terms of aspect or proximity to streams.

Colonising the clays

The high density of later Iron Age settlement in the Great Barford area may be fairly typical of the claylands of the region. Earlier assumptions that these heavy soils could not have supported any significant permanent prehistoric occupation began to be challenged in the 1970s when a programme of fieldwalking on the north Bedfordshire clays produced significant evidence for later Iron Age settlement (Hall and Hutchings 1972). Cropmarks of sites ascribed to the later Iron Age began to appear in this area in the 1980s, as the overlying ridge and furrow was ploughed out (Clark and Dawson 1995). An aerial photographic survey of Bedfordshire carried out in 1996, a year in which conditions were particularly conducive to cropmark formation, suggested that later Iron Age settlements were in fact densely distributed on the boulder clays across the county (Mills 2003; Fig. 3.1).

Some other areas of the south-east Midlands show a similar pattern of large-scale colonisation of the claylands during the later Iron Age, resulting in high site densities. Fieldwalking and cropmark evidence from the Raunds Area Survey, Northants, has indicated that significant permanent settlement on the boulder clay plateau first appeared in the middle Iron Age, and increased further in the late Iron Age. A minimum of 0.57 later Iron Age sites per km^2 were present within the survey area, although it is suggested that the actual density of settlement would have been higher (Parry 2006). A recent large-scale programme of excavation on Jurassic clay soils around Longstanton, Cambs, has similarly shown that some settlement was present in the late Bronze Age/early Iron Age, but that wider colonisation first occurred in the middle Iron Age. A series of apparently contemporary middle and late Iron Age 'farmsteads' have been uncovered, fairly regularly spaced around 0.5 km apart (C Evans pers. comm.). Similarly, evidence from the Cambourne area of Cambridgeshire suggests that 'a well-organised landscape incorporating settlements spaced approximately 0.5 km apart' developed on the boulder clay plateau during the later Iron Age (WA 2004, 19). Beyond the region, evidence from Leicestershire (Clay 2002) and Norfolk (Davies 1996; Ashwin 1999) also suggests that significant settlement of the boulder clays did not occur until the middle and late Iron Age. In contrast, in parts of Essex there is evidence that significant settlement of the boulder clays had already occurred by the later Bronze Age (Brown 1988; Timby *et al*. forthcoming), suggesting that different trajectories of development could occur in other parts of southern Britain.

Traditional explanations for settlement expansion during the Iron Age have tended to focus on two factors. Population pressure is assumed to have created a need for more farmland, and the availability of iron ploughshares and hardy spelt wheat is thought to have made cultivation of heavy soils a more viable proposition than in earlier periods (Cunliffe 1991, 372–3). While population growth certainly occurred during the course of the Iron Age, it must be remembered that this can be as much a consequence as a cause of social change, and that the perception of 'pressure' on land is culturally determined. Other factors that could have encouraged settlement expansion might include the development of new systems of kinship, land tenure and inheritance during this period (Thomas 1997). Inheritance systems that leave some offspring without property rights might encourage the 'budding off' of households from existing settlements in order to break in new land.

The origin of the people who settled on the boulder clay plateau is unclear—did they come from local communities in the Ouse Valley, or could they have travelled from further afield (cf Hill 1995b, 62; 1999)? The generic nature of most of the artefacts from the Bypass sites is unhelpful here, although it is conceivably significant that some of the middle Iron Age decorated pottery from Site 2 shows specific similarities with vessels from sites in the Nene Valley in Northamptonshire (see *Later prehistoric pottery*, Chapter 8).

Site organisation

None of the Iron Age sites can be regarded as fully excavated, as features appeared to continue beyond the limit of investigation in each case. Medieval and

post-medieval plough truncation was also a problem on all of the sites, meaning that some shallow features such as postholes may have been removed. Despite these problems, some observations can be made about the organisation of the Iron Age settlements. The middle Iron Age settlements at Sites 2, 4 and 6 appear likely to have been at the level of 'farmsteads' or small 'hamlets'. Each of these settlements incorporated one or more curvilinear enclosures, measuring up to *c* 30 m across, although most of the associated features were located outside these enclosures. In the late Iron Age, larger and more complex enclosure systems were laid out at Sites 2, 4 and 7. Cropmark evidence suggests that the enclosure complex at Site 2 in particular was very large, perhaps representing a settlement of 'village' size. These enclosure systems were subdivided into a series of compounds, some of which contained buildings and concentrations of artefacts suggesting a domestic function, while others produced little or no evidence for occupation. The evidence from each site is described in more detail below.

Site 2

Two discrete groups of middle Iron Age features were found at Site 2, located 225 m apart (Figs. 2.2 and 2.6). It is not certain whether the two feature groups were contemporary, but the presence of La Tène-style decorated pottery in both areas suggests that each was occupied during the later stages of the middle Iron Age (*c* 2nd century BC to early 1st century AD: see *Later prehistoric pottery*, Chapter 8). However, there are some indications that each group had a slightly different character.

The northern feature group included a pair of adjacent roundhouses (CS 21 and CS 22) and a small oval enclosure (Enclosure 21). The roundhouses could perhaps have formed a single residential unit, with CS 21 (12–13 m diameter) representing the main dwelling and CS 22 (6 m diameter) a subsidiary structure. A hearth and a scatter of shallow pits to the south and west of the roundhouses may relate to associated 'domestic' activity. Enclosure 21 lay to the east, somewhat isolated from the other features. It measured 12.5 m across and faced north; no evidence for internal features was present. The western side of the enclosure had been recut and rapidly backfilled with a 'structured' deposit incorporating human remains and large quantities of pottery and other artefacts (see below).

The southern feature group also incorporated a curvilinear enclosure, measuring at least 15 m across, which again appeared to have no internal features (Enclosure 22). A short distance to the south of the enclosure was a small roundhouse or ring-ditch (CS 23). To the east of the enclosure was an area with a concentration of shallow pits, postholes and gullies. One or more buildings may have stood here, although none could be clearly discerned. One of the pits in this area (2522) contained a small quantity of iron slag and flake hammerscale, indicating that smithing took place in the vicinity. Two gullies 50 m to the east of this pit also contained magnetic slag probably associated with iron working. This suggests a craft/industrial focus for the southern area, in contrast to the residential/ritual associations of the northern area.

The layout of the site changed radically in the late Iron Age, with the construction of a substantial curving boundary ditch (20191), which was up to 1.85 m deep and had been recut at least once (Figs. 2.11 and 2.12). The south-eastwards continuation of the ditch can be clearly seen on the cropmark plot (Fig. 2.2). It is possible that the ditch represents the western and southern sides of a large oval enclosure measuring at least 260 m across, although the northern and eastern sides of this enclosure must remain conjectural, as no cropmarks of any kind have ever appeared in the fields to the north of High Barns Road or to the east of Roxton Road (S Coleman pers. comm.). The cropmark plot also shows a series of curvilinear subcompounds within the interior of the putative enclosure, to the south-east of the excavated area, although these need not necessarily have been contemporary.

Within the excavated area, a group of compounds attached to the inner side of the curving boundary ditch in the southern part of the site produced the overwhelming majority of the finds (Fig. 2.13), and can be identified as the core 'settlement area'. The layout of this area was altered over time, with an early phase of curvilinear boundaries succeeded by a later phase of more regular, rectilinear division (Figs. 2.14 and 2.15). There was good evidence for the zoning of activities within the settlement area (Fig. 3.2). The south-western end of the settlement may have been a residential area, with at least one and possibly two roundhouses present. To the north-east of this was an area containing three possible hearths or ovens, and hence perhaps associated with cooking or craft activities. Further to the north-east was an area which appears to have been associated with mortuary ritual. Three deposits of human remains were present here, comprising two inhumation burials and a disarticulated humerus (see below). Patterning can also be seen in the deposition of faunal remains. Animal bone interpreted as 'butchery/industrial waste' was concentrated at the edge of the settlement, in main boundary ditch 20191, while 'domestic waste' was mainly deposited in features within the settlement core (Chapter 10).

The areas to the north and west of the settlement core were characterised by sparser linear ditches producing few finds. Among the few features found in these areas were a series of irregular pits containing dumps of burnt clay and charcoal. These lacked datable finds, but their distribution suggests that they represent craft or industrial activity occurring at the periphery of the late Iron Age settlement (Fig. 3.2). To the south-west of the excavated area, outlying paddocks or fields are suggested by linear

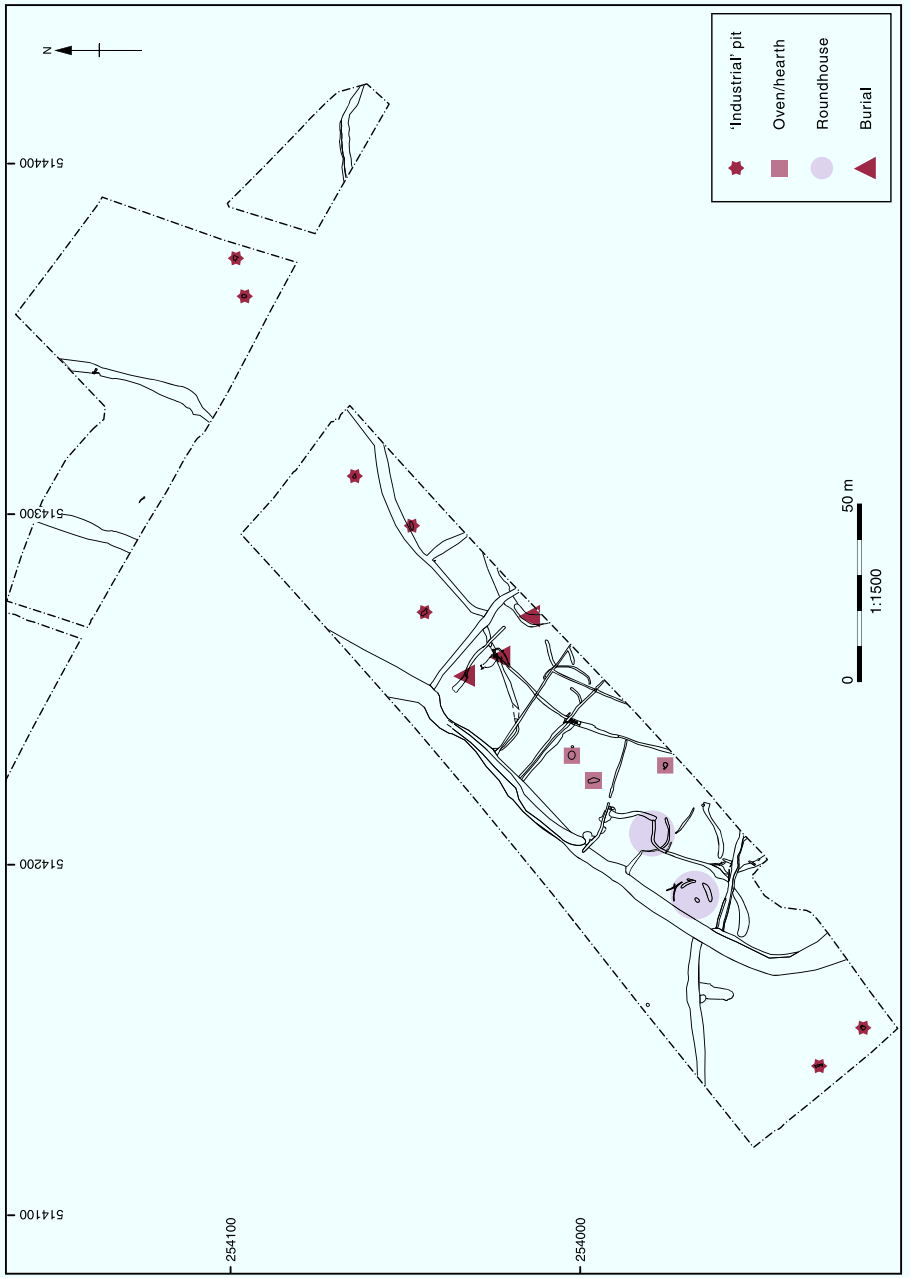

Fig. 3.2 Spatial patterning within the Phase 5 (late Iron Age) settlement at Site 2

features containing small amounts of late Iron Age pottery within evaluation Trenches 74–76 (Fig. 2.2).

Dating evidence from the excavated part of the site suggests that there was little activity beyond the end of the Iron Age, with just a few sherds of Roman pottery recovered from stratigraphically late contexts. However, the evaluation fieldwork encountered Romano-British features immediately to the east of the excavation area (Trench 69: Fig. 2.2). Features containing pottery of the late 1st and 2nd centuries AD were also encountered at the eastern edge of the cropmark complex during a small-scale rescue excavation in 1969 (Rudd 1983 and unpublished letter in Bedfordshire HER). This suggests an eastward shift in the focus of occupation during the mid 1st century AD (see Chapter 5).

Site 4

Evidence for middle Iron Age occupation at Site 4 was fragmentary and concentrated close to the northern limit of excavation (Fig. 2.20). However, the settlement appears to have included at least one small curvilinear enclosure (Enclosure 41), and possibly more (ditches 4072 and 4958). Other associated features were limited to a single shallow pit. Finds were modest in quantity, and it is possible that the main focus of occupation lay beyond the excavated area.

A larger system of ditches was laid out during the late Iron Age. The overall layout of this is uncertain, but it can be interpreted in terms of a series of conjoined subrectangular compounds (Enclosures 42–44). The main focus of domestic occupation seems to have been the small Enclosure 44, which produced a concentration of finds and contained a probable roundhouse (CS 41). The only other possible building was an unusual rectangular structure at the northern end of the site (RS41; see below), which was abandoned at some point during the period and truncated by a ditch. After the Roman conquest, some parts of the late Iron Age enclosure system continued to be utilised, although the main focus of occupation shifted a short distance to the east (see Chapters 4 and 5).

Site 6

Middle Iron Age occupation at Site 6 was focused on a roundhouse (CS 61) and a small curvilinear enclosure immediately to its south (Enclosure 62) (Fig. 2.24). The enclosure measured at least 32 m across, and had been recut twice, suggesting that it was maintained over a significant period. Unlike the middle Iron Age enclosures at Sites 2 and 4, evidence for internal occupation was found in the form of a shallow pit and a series of gullies, two of which could represent further roundhouses (CS 62 and CS 63). Features in the northern part of the site included a large L-shaped ditch and a possible four-post structure (PS 61), although these produced very few finds and their dating is uncertain. The late Iron Age saw a reduction in activity within the excavated area, the evidence consisting of a small amount of pottery from the upper fill of Enclosure 61, along with a single pit and a cremation burial nearby. An inhumation burial found in evaluation Trench 149, approximately 45 m to the north-east of the excavated area (Fig. 1.3), also probably belongs to the late Iron Age (see below).

Site 7

Site 7 lay at the eastern periphery of an enclosure complex previously identified from cropmarks and geophysical survey (Figs. 2.28 and 2.29). The northern part of this complex comprises a series of conjoined curvilinear enclosures, one of which appears to contain a roundhouse or ring-ditch of *c* 13 m diameter. Excavation of a single ditch at the periphery of this area suggested a middle Iron Age date. The southern part of the enclosure complex comprises a meandering ditch with an irregular enclosure, *c* 60 m across, attached to its western side. Excavation of part of the ditch and enclosure showed that both dated to the late Iron Age, and had been reworked and realigned over time. An L-shaped feature, possibly a beamslot, was found within the interior of the enclosure. Relatively high quantities of finds were recovered from the realigned enclosure ditch, suggesting domestic occupation.

Regional parallels

Iron Age settlements elsewhere in the south-east Midlands show wide variation in their size and form. However, broad chronological trends can be discerned within Bedfordshire which correspond with the evidence from the Bypass sites. As we have seen, the Great Barford middle Iron Age settlements combined small curvilinear or subrectangular enclosures with unenclosed activity areas and buildings. Similar layouts characterise many other sites of the late early Iron Age to middle Iron Age in Bedfordshire, examples including Willington (Pinder 1986; Dawson 1996), Broom (Cooper and Edmonds forthcoming) and Fairfield Park (Webley *et al.* forthcoming). The late Iron Age settlements along the Bypass route show a shift to larger, conjoined enclosure systems, which is again paralleled elsewhere in the county. Examples include Norse Road, Bedford, where a suboval enclosure measuring 130 x 80 m was attached to further probable curvilinear compounds (Edgeworth 2001), and Wyboston, where a rectilinear enclosure system with internal divisions has been found, measuring *c* 250 m across (Tebbutt 1957). Beyond these developments in overall site morphology, the use of space within later Iron Age settlements in the region has been surprisingly little explored. This increases the significance of the apparent zoning of activities identified within the late Iron Age settlement at Site 2.

Structural components

Roundhouses

Circular structures—presumed to be roundhouses—were the commonest form of building identified at the Iron Age sites, with at least six and possibly as many as nine examples. All were defined by truncated eaves-gullies, with no clear traces of the building itself surviving. This is typical of later Iron Age roundhouses in the region, indicating that house construction did not normally involve the use of timber elements set deeply into the ground. The roof-supporting posts could perhaps have been grounded on post pads, with the walls either having a fairly light wattle construction, or having been constructed of earth or turf (Knight 1984, 143).

The eaves-gullies varied widely in size, from 5 m to 12.5 m in diameter (Table 3.1). This range is comparable to that seen at other middle and late Iron Age sites in the region (Fig. 3.3). In most cases the eaves-gully showed only a single phase of construc-

*Table 3.1: Summary of Iron Age circular structures. * = less certain example*

Site	*Structure*	*Date*	*Diameter (m)*	*Internal features*
2	CS 21	Phase 4 (middle Iron Age)	12–12.5	Hearth, two possible pits/postholes
2	CS 22	Phase 4 (middle Iron Age)	6	-
2	CS 23*	Phase 4 (middle Iron Age)	5	-
2	CS 24	Phase 5 (late Iron Age)	12	-
2	CS 25	Phase 5 (late Iron Age)	c 10–12	Pit
4	CS 41	Phase 5 (late Iron Age)	c 7	Possible posthole
6	CS 61	Phase 4 (middle Iron Age)	12.5	Possible hearth, pit
6	CS 62*	Phase 4 (middle Iron Age)	c 10	-
6	CS 63*	Phase 4 (middle Iron Age)	c 8–10	-

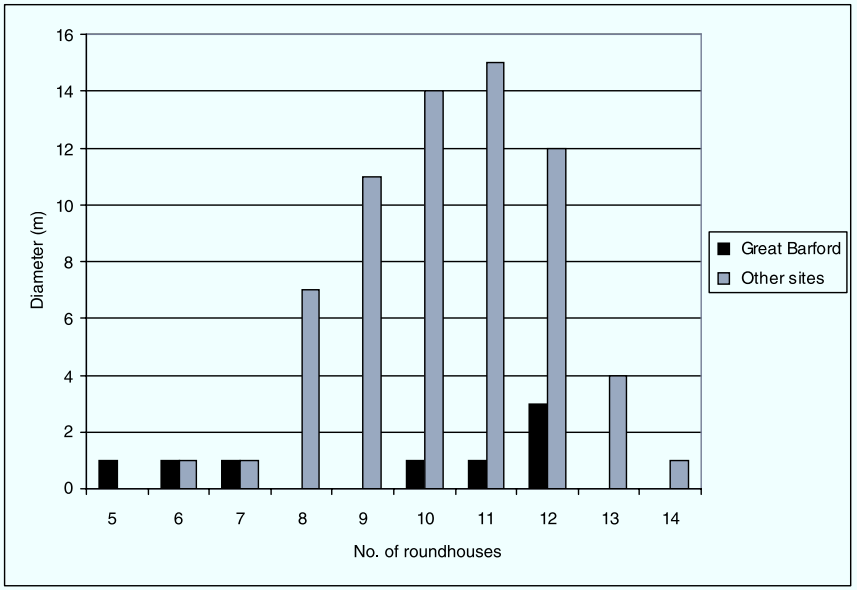

Fig. 3.3 Diameters of middle and late Iron Age circular structures at the Bypass sites, compared with other middle and late Iron Age sites in the south-east Midlands (Bancroft: Williams and Zeepvat 1994; Cambourne: WA 2004; Fairfield Park: Webley et al. forthcoming; Great Houghton: Chapman 2001; Hinksley Road: Luke 1999; Pear Tree Farm: Woodward 1977; Pennyland: Williams 1993; Salford: Dawson 2005; Scotland Farm: Albion Archaeology 2006b; Stagsden: Dawson 2000b; Wilby Way: Thomas and Enright 2003)

tion, but the gully of CS 21 had been recut twice, suggesting that it was longer-lived than the other buildings. Where the entrances to the structures could be located, the majority faced east or south-east (CS 22, CS 24 and CS 61). This choice of orientation is again typical of the region (Knight 1984, 144–5), and may embody cosmological principles (Oswald 1997). However, CS 21 differed from the norm by facing south-west, towards the closely adjacent CS 22, which was probably an associated outbuilding. This shows that choice of orientation was not necessarily dictated by predetermined cosmological schemes, but was sometimes influenced by the immediate spatial context of the building.

Probable hearths or cooking pits could be seen within the interior of two of the largest circular structures (CS 21 and CS 61). This makes it tempting to suggest that the larger circular structures were the primary 'domestic' buildings, while those at the lower end of the size range were perhaps ancillary structures. This may be supported by the close spatial pairing of the large CS 21 and the much smaller CS 22 referred to above. Unfortunately, the paucity of finds associated with the circular structures makes it difficult to further explore their associated functions.

Other buildings

A single possible rectangular structure (RS 41), measuring 10 m by 4.2 m, was associated with the late Iron Age occupation at Site 4 (Fig. 2.21). This structure is somewhat difficult to interpret, not least because much of it was truncated away by a later ditch. It was demarcated by a series of shallow gullies, some of which could conceivably have served as beam-slots, although others seem more likely to have been drainage gullies. The only feature visible within the interior of the structure was a possible shallow pit. Few finds were recovered.

It is well established that rectangular buildings began to replace roundhouses in some parts of southern and eastern England in the decades prior to the Roman conquest. Such buildings may have played special functions, with some perhaps serving as high-status residences (Creighton 2000). Published examples are heterogeneous in their form and construction, although most differ from RS41 in being post-built with only occasional beam slots, as at Skeleton Green, Herts (Partridge 1981). Given the lack of clear parallels, little can be said about the function of RS 41, beyond observing that there are no indications that it was a building of any particular pretension.

Evidence for other building types was scarce. A possible four-post structure at Site 6 (PS 61) represents a form of building traditionally interpreted as a raised granary (Gent 1983). This structure lacked datable finds, however, and its ascription to the later Iron Age is uncertain. While the general lack of post-built structures may partly be the result of agricultural truncation, it is also possible that it reflects the character of the activities taking place on these sites (see *Agriculture* below).

Site economies and diet

Diet

The range of pottery forms present at the Bypass sites provides some evidence for culinary traditions. As is typical for the region, the pottery assemblages are dominated by a fairly limited range of simple bowl and jar forms. A contrast can be seen with areas such as Hertfordshire and Essex, where fine 'tableware' forms became widespread during the late Iron Age, suggesting an emphasis on food and drink consumption as a vehicle for status display. Rather than adopting these new customs, communities in the south-east Midlands may have chosen to maintain pre-existing culinary traditions, perhaps based more on communal eating (see *Later prehistoric pottery*, Chapter 8).

The evidence from across the region indicates that Iron Age diets were typically based on cereals, dairy products and red meat. At the Bypass sites, cereal remains were notably sparse (see below), but a few wheat and barley grains were present in both middle and late Iron Age contexts at Site 2. Animal bone was present at all sites, the assemblages being dominated by sheep/goats, cattle and pig. While sheep/goat bone was most abundant, the cattle bone nonetheless represents a greater contribution of meat to the diet. Developments during the late Iron Age include the introduction of domestic fowl, represented by a few bone fragments at Site 2. Two freshwater fish bones (carp family and pike) also occurred in late Iron Age contexts at this site. It has generally been thought that fish did not form part of the diet prior to the Roman conquest. However, freshwater fishbone has now been found in secure Iron Age contexts at a number of sites in southern Britain—including pike remains from Wardy Hill, Cambs (Evans 2003), Haddenham, Cambs (Evans and Hodder 2006) and Watkins Farm, Northmoor, Oxon (Wilson and Allison 1990)—albeit in always small quantities. Given the apparent small scale of consumption, it is possible that the eating of fish was socially restricted to particular contexts, occasions or individuals (Dobney and Ervynck forthcoming).

Agricultural regimes

The faunal assemblages were too fragmentary for detailed reconstruction of animal husbandry practices. However, the presence of juvenile animals at Site 2 suggests that cattle, sheep and pigs were bred in the vicinity of this settlement. This contrasts with Site 4, where juvenile animals were lacking. This could simply be a product of the lesser scale of excavation at Site 4, although it is possible that there were differences between the sites in the extent of

their involvement in livestock breeding. It is notable that the emphasis on the husbandry of sheep/goats seen at the Bypass sites is mirrored elsewhere in the Bedfordshire Ouse Valley at Biddenham Loop (Luke forthcoming) and Stagsden (Dawson 2000b). This could therefore be a local tradition in animal husbandry, contrasting with the strong focus on cattle breeding seen in some other parts of the region such as the Milton Keynes area (Hambleton 1999).

Despite an extensive programme of environmental sampling at Sites 2, 4 and 6, charred plant remains other than charcoal were notably sparse. Although, as noted above, occasional wheat and barley remains were found, the evidence suggests that cereal processing was only a minor activity at these sites. Structural or artefactual evidence relating to the processing or storage of cereals was also limited. Finds of querns were restricted to one definite and one possible example from Site 2. As we have seen, four-post 'granaries' are not clearly attested at any of the sites. Recognisable storage pits of bell-shaped or cylindrical form were also absent, although this is perhaps less surprising as below ground storage of cereals may have been rendered impractical by the impermeable soils.

It could thus be argued that the communities along the Bypass corridor relied more on pastoral than arable production. It is notable that a number of other later Iron Age sites on the boulder clays of the region have been interpreted as having a pastoral emphasis. Locally, the enclosed middle to late Iron Age settlement at Norse Road, Bedford, showed a general absence of cereals from environmental samples. It is argued that the site may have been a ranch, perhaps used mainly in winter when lower valley areas were flooded (Edgeworth 2001). At Stagsden, the paucity of plant remains has also suggested that little cereal processing took place (Scaife 2000, 107). Elsewhere in the region, a lack of plant remains and recognisable storage structures has been taken to imply a pastoral economy at sites such as Mawsley New Village, Northants (Hull and Preston 2002) and Stoke Hammond, Bucks, where Edgeworth (2006, 143) argues that 'the heavy clay soil probably precluded arable farming'. Commenting on Iron Age sites within the East Midlands as a whole, Patrick Clay has argued that 'where there is environmental evidence available, this seems to indicate a greater emphasis on the use of the claylands for pastoral farming' (2002, 116).

Caution is required, however, before it can be concluded that the boulder clays were settled by predominantly pastoralist groups. It must be stressed that the number of sites from the region with good environmental evidence is still limited, so that future excavation may yet change the picture. It is also important to give close attention to issues of taphonomy and site formation processes rather than assuming that artefactual and ecofactual assemblages directly reflect the economy of a site. Where finds of querns or layers of charred plant remains do occur within the region, it is notable that these often derive from highly 'structured' or ritualised deposits (Webley *et al*. forthcoming; Monckton 2006, 271). At Great Barford, it is notable that the two richest assemblages of charred grain were recovered from a single late Iron Age ditch (2404) on Site 2 which also contained human remains and a series of deliberately placed artefacts (see below). This suggests that the generally low recovery of grain and chaff at clayland sites in the region may have as much to do with depositional practices as with the nature of the agrarian economy. Specifically, the paucity of evidence may at least partly have resulted from the absence of the tradition of ritual deposition in storage pits seen elsewhere in southern England (see below).

Craft production and exchange

The evidence from across the region suggests that the production and distribution of most everyday artefacts involved local social networks, although this did not preclude some objects being exchanged over much greater distances (Morris 1996). The evidence from the Bypass sites is typical in that few artefacts can be positively identified as being of nonlocal origin. The pottery fabrics, for example, are almost all consistent with very local production, although one late Iron Age vessel from Site 6 had a more distant albeit unidentified source. A Millstone Grit rotary quern from a middle Iron Age context at Site 2 probably derives from the north Midlands, although a glacial erratic source closer to hand cannot be ruled out. The only other clearly nonlocal objects are the three late Iron Age coins (Sites 2, 4 and 9), all of Catuvellaunian attribution and believed to have been minted in the Hertfordshire/north Thames region.

A wide range of craft activities is attested at Site 2. Textile working is evinced in both the middle and late Iron Age phases, through finds of spindle whorls and bone bobbins or weaving tools. Bone and horn working is suggested by cut and saw marks on some of the faunal remains. Small-scale iron smithing took place in the southern part of the middle Iron Age settlement, as shown by hammer-scale and slag recovered from pit 2522 on Site 2. Evidence for nonferrous metalworking was found during the evaluation fieldwork, in the form of a fired clay mould fragment bearing traces of copper alloy (NA 2004a). This object was found associated with late Iron Age ceramics, probably in ditch 2765 (Fig. 2.15). Possible evidence for pottery manufacture in the vicinity of the site was found in the form of a single late Iron Age waster sherd. Various forms of oven or kiln furniture were also recovered, which may have been associated with metallurgy or ceramic production as well as with cooking.

Much less evidence for craft activity was found at the other Iron Age sites, although this is not unexpected given the lesser extent of excavation. One unusual survival at Site 4 was a small assem-

blage of woodworking debris, from a late Iron Age ditch close to roundhouse CS41. This material comprised bark chippings, tentatively identified as waste from the preparation of a large roundwood post.

Ritual and burial practices

'Structured' deposition

It is now widely accepted that depositional practices at Iron Age settlements were shaped by culturally specific concerns, and cannot be interpreted in terms of modern concepts of rubbish disposal. In particular, there has been much work on identifying 'structured' deposits, generally regarded as ritual in nature. Much of this work has been focussed on Wessex and neighbouring areas (eg Hill 1995a), but evidence now emerging from the south-east Midlands suggests that, to some degree at least, different forms of structured deposition were practised here (eg Webley *et al*. forthcoming).

At Site 2 there were a small number of striking examples in which the backfilling of a ditch was accompanied by the deposition of human remains along with large quantities of pottery, animal bone and other material (discussed in more depth below). These deposits must surely have been associated with exceptional ritualised events. However, there is also evidence for structuring in more everyday practices of deposition, whether or not one wishes to label this a form of ritual. The deposition of pottery shows some elements of patterning, such as the recurring placement of complete or semicomplete vessels in the termini of ditches and gullies during the middle Iron Age (see *Later prehistoric pottery*, Chapter 8). Spatial patterning in the deposition of different animal carcass elements during the late Iron Age has already been noted above. One notable absence compared to many contemporary sites is any evidence for articulated animal burials, with the possible exception of an incomplete piglet skeleton from late Iron Age ditch 2101.

The emphasis on ditches and gullies as foci for structured deposition reflects the general scarcity of pits (and especially storage pits) at the Bypass sites. As seems often to be the case at sites in the south-east Midlands, there are no real parallels for the highly structured storage pit deposits often seen in other parts of southern Britain such as the Chilterns (Webley *et al*. forthcoming), Wessex (Cunliffe 1992; Hill 1995a) and Sussex (Hamilton 1998). While it has been argued that storage pit deposits were intended to maintain agricultural fertility (Cunliffe 1992), the different practices seen at Great Barford may suggest that other concerns were more important.

The deposition of human remains

Three main forms of burial practice were followed in later Iron Age southern Britain. These comprised inhumation burial, either in purpose-dug graves or in settlement features such as pits and ditches; excarnation, with selected skeletal elements often subsequently undergoing secondary burial in settlement contexts (Carr and Knüsel 1997); and cremation burial, introduced during the late Iron Age. All of these practices are attested at the Bypass sites.

The inhumation burials and disarticulated bone deposits were particularly associated with ditch contexts, and in many cases were associated with artefact-rich dumps perhaps representing midden material. The most striking example came from the backfill of the northern terminus of middle Iron Age ditch 2742, which formed the western side of a small enclosure (Enclosure 21) at Site 2. A supine adult male skeleton and three cranium fragments had been carefully laid out in a row midway down this back-fill deposit. One of the crania could be identified as coming from a child, while the others were from adults, one of them male. Radiocarbon dating has shown that the articulated skeleton dates to 160–130 cal BC/120 cal BC–cal AD 50 (OxA-15513: 2036 ± 28 BP), conforming with the late middle Iron Age attribution of the associated pottery. However, the adult male cranium fragment produced a significantly earlier radiocarbon date of 370–180 cal BC (OxA-15514: 2196 ± 29), indicating that it had been curated prior to deposition. The length of curation was at least 20 years (the interval between the two radiocarbon determinations at the 95% confidence level) and is in fact likely to have been in the order of 110 years (the interval at the 68% confidence level). This is a significant result for our understanding of attitudes to death and the human body during the Iron Age (see below). The backfill deposit incorporating the human remains had a dark, organic-rich matrix containing huge quantities of finds, including 8.2 kg of pottery, 10.6 kg of animal bone, and an iron latch lifter (Fig. 8.21.24). The pottery included many large fragments, among which were two semicomplete La Tène decorated vessels unusual for the local area (Fig. 8.4.16–17). The impression is of a deposit of midden-type material that also incorporated selected 'placed' objects, including the human remains.

In the late Iron Age, three separate deposits of human remains were located within a restricted area of the Site 2 settlement (Fig. 3.2), comprising two inhumation burials and a disarticulated humerus fragment. Of the inhumation burials, a perinatal infant (2566) had been placed in a ditch terminus, while an adult male was buried in a grave (2509) cutting the terminus of a second ditch. Both burials were overlain with backfill deposits rich in artefacts and animal bone, suggesting some continuity in ritual tradition from the middle Iron Age. The humerus fragment was found in the lower fill of a large ditch (2404). A series of unusual items were subsequently deposited in the upper fills of this ditch, including a near-complete oven plate, a very large pottery sherd, and three copper alloy artefacts (a coin, a brooch and a pair of tweezers).

A single late Iron Age inhumation burial was found at Site 4, comprising an adult placed in a supine position in the upper fill of an enclosure ditch (4227). The surrounding fill was unfortunately not excavated. A further probable late Iron Age inhumation burial (not discussed in this volume) was excavated during the evaluation fieldwork, approximately 45 m to the north-east of Site 6 (Trench 149; Fig. 1.3). This consisted of an adult aged 25–35 years, buried in a crouched posture and associated with a single sherd of grog-tempered pottery (NA 2004b).

Cremation burials were scarcer, with only two examples found, from Sites 4 and 6. Both were unurned and unaccompanied, and are dated through radiocarbon evidence. The burial from Site 6 can be securely placed in the late Iron Age, and contained the remains of two individuals, a juvenile and an adult. The burial from Site 4 can only be broadly dated to the late Iron Age or early Roman period, and contained the remains of an adult.

While human remains were thus treated in a diversity of ways, a recurring trait through both the middle and late Iron Age is an association of unburnt remains with artefact-rich 'closure deposits' within boundary ditches. Similar closure deposits can be identified at a number of other contemporary sites in the region. Particularly pertinent to the middle Iron Age deposit from Enclosure 21 is an example from Hardingstone, Northants. Here, a human cranium had been incorporated within a ditch backfill deposit which also contained large amounts of middle Iron Age pottery—including La Tène decorated wares—and numerous metal, worked bone and fired clay artefacts (Woods 1969). A more local example comes from the 'Bungalow' site, Sandy, where a late Iron Age ditch was deliberately backfilled with a deposit containing a human cranium fragment, much pottery and a copper alloy fibula (Johnston 1974). In other cases, articulated skeletons were placed within backfill deposits of this kind. Examples include late Iron Age sites at Silverstone (Mudd 2002) and Wakerley (Jackson and Ambrose 1978; Gwilt 1997), Northants, both of which produced a series of infant burials from the upper fills of enclosure ditches, associated with large artefact-rich dumps. Where articulated skeletons are found within ditch 'closure' deposits, it is tempting to suggest that the abandonment of the enclosure or the settlement as a whole was connected to the death of the individual(s) in question. The abandonment and relocation of a domestic compound may have been seen as an appropriate response to the death of the head of the household, or to the 'bad' or 'inauspicious' death of another household member such as a child.

The curation of human bone

The demonstration that at least one of the crania from Enclosure 21 had been curated for an extended period of time prior to deposition is of interest. It has often been speculated that the disarticulated human bones—and skulls in particular—found at Iron Age settlements were curated objects. This idea has been supported by finds of skull fragments allegedly polished through repeated handling (eg Whimster 1981, 185; Bayley 2001; Evans 2003, 249). There is also a skull fragment from All Cannings Cross, Wiltshire, with a bored hole showing asymmetrical wear, suggesting that it had been suspended on a cord for display over a significant period (Wilson 1981, 129). Despite this, the evidence from ditch 2742 is believed to be the first case in which the retention of human bone for many years prior to deposition has been conclusively proven through absolute dating techniques. A less certain example, where radiocarbon dating makes curation very likely though not indisputable, has recently been found at a middle Iron Age site at Wishaw Hall Farm, Warwickshire. A cranium fragment from a pit produced a radiocarbon determination of 770–390 cal BC, while carbonised residue from a large, closely associated pottery sherd was dated to 410–200 cal BC (P Booth pers. comm.). The lengthy curation of human bone could have been a common custom, which is only now coming to light with increased use of radiocarbon dating.

It is clear that across Iron Age Britain, skulls and limb bones were preferentially selected for curation, as these skeletal elements dominate finds of disarticulated bone from settlement contexts (Wilson 1981; Wait 1985; Moore 2006, 116). This preference can clearly be seen within the south-east Midlands. A survey of the literature from the region has produced 56 examples of disarticulated human bone from Iron Age settlement contexts, and of these 35 are cranium fragments and 15 are femurs or humeri. The crania are listed in Table 3.2, showing that they derive from both males and females of ages varying from foetal to mature adult, and were deposited in a wide range of feature types. Three of the crania were perforated with a drilled hole, perhaps to facilitate suspension and display.

Ethnographic evidence indicates that human bone can be curated for a variety of reasons, making interpretation of the Iron Age evidence difficult. The bone could have been kept in order to maintain a link with the ancestors of the community, or alternatively may have been taken from outsiders such as defeated enemies. Finds of skulls have often been interpreted as war trophies, an idea encouraged by accounts of continental 'Celtic' practices in classical texts (Marsh and West 1981; Wait 1985; Green 2001). The description of Gaulish customs by the 1st century BC Greek historian Diodorus Siculus has received particular attention:

They cut off the heads of enemies slain in battle and attach them to the necks of their horses. The blood-stained spoils they hand over to their attendants and carry off as booty, while striking up a paean and singing a song of victory, and they nail up these first fruits upon their

houses, just as do those who lay low wild animals in certain kinds of hunting. They embalm in cedar-oil the heads of the most distinguished enemies, and preserve them carefully in a chest, and display them with pride to strangers, saying that for this head one of their ancestors, or his father, or the man himself, refused the offer of a large sum of money (Diodorus Siculus V, 29, 4–5; trans. Tierney 1960, 250).

The emphasis on male martial prestige in discussions of 'Celtic head hunting' is not, however, matched by the demographic profile of the skull finds from British Iron Age contexts. It is clear that neither the crania nor the other disarticulated bone finds from the south-east Midlands show any particular bias towards adult males (Table 3.2). Rather, the evident variation in age, sex and ultimate depositional context of the disarticulated bone suggests that these curated items differed in their cultural 'biographies' and social roles.

Regardless of whether curated bones derived from ancestors or enemies, the history associated with these objects may have given them considerable significance and power, and acts of ritual deposition in which curated bones were deployed are likely to have drawn on these links to the past. A need to use ritual to emphasise connections between the past and the present may have been particularly felt by communities facing uncertainty or change. This might begin to explain the presence

Table 3.2: Human cranium fragments from Iron Age sites in the south-east Midlands

Site	*Date*	*Context*	*Sex*	*Age*	*Notes*	*Reference*
Fairfield Park, Beds	EIA	Storage pit	F	Adult		Webley *et al.* forthcoming
Great Houghton, Northants	EIA	Pit	?	?		Chapman 2001
Prickwillow Road, Ely, Cambs	EIA	Ditch	?	?		Atkins and Mudd 2003
Puddlehill, Beds	EIA	Hearth pit	?	?	Possibly burnt	Matthews 1976
Blackhorse Road, Letchworth, Herts	E-MIA	Pit	F	Young adult		Moss-Eccardt 1988
Bancroft, Bucks	MIA	Ditch	?	?		Williams and Zeepvat 1994
Colne Fen Site I, Cambs	MIA	Eaves-gully	?	Adult		Regan and Evans 1998
Colne Fen Site IV, Cambs	MIA	Pit	?	?		Regan and Evans 2000
Haddenham Site V, Cambs	MIA	Metalling of enclosure entrance	?	Adult	Polished; possible cut marks	Evans and Hodder 2006
Hartigans, Bucks	MIA	Ditch	?	?		Williams 1993
Hartigans, Bucks	MIA	Ditch	?	?		Williams 1993
Oxley Park, Bucks	MIA	Posthole of four-post structure	?	Foetal		OA 2007
Great Barford Site 2, Beds	Later MIA	Ditch	?	Mature/ older adult		This volume
Great Barford Site 2, Beds	Later MIA	Ditch	M	Adult	Curated	This volume
Great Barford Site 2, Beds	Later MIA	Ditch	?	Older child		This volume
Hardingstone, Northants	Later MIA	Ditch	?	Subadult	Bored hole	Woods 1969
Wootton Hill Farm, Northants	Later MIA	Pit	M	Adult	Associated with long bone fragments	Jackson 1990
Little Common Farm, Cambourne, Cambs	M-LIA	Not stated	?	Adult		WA 2004
Hurst Lane, Ely, Cambs	LIA	Various	?	?	7 crania from various contexts, 1 with cut marks	Evans 2003
Odell, Beds	LIA	Pit	?	?		Dix 1979
Odell, Beds	LIA	Cremation burial	?	?	3 crania, placed adjacent to cremation urns	Dix 1979
Sandy (The Bungalow), Beds	LIA	Ditch	?	'Young'		Johnston 1974
Wardy Hill, Cambs	LIA	Ditch	?	Adult	Other disarticulated bone in vicinity; possibly a disturbed inhumation	Evans 2003
Marsh Leys Farm, Kempston, Beds	LIA-E Roman	Eaves-gully	?	?		Luke and Beswick 2001
Hunsbury, Northants	IA	Unknown	?	?	2 crania with bored holes	Woods 1969
Whittlebury, Northants	IA	Storage pit	?	?		Jones 2004

of curated skulls in the 'closure' deposit within ditch 2742, as this deposit was associated with the both the death of an individual (the articulated adult male skeleton) and the abandonment of part of the settlement (Enclosure 21).

Wider social networks

The issue of the social relationships between the Bypass sites is difficult to address, given the fragmentary nature of the evidence from all of the sites other than Site 2. Certainly, in the middle Iron Age any differences in 'wealth', status or social role between the Bypass sites were not marked in obvious, archaeologically-visible ways. None of the sites clearly stands out in terms of its architecture or finds, although the presence of unusual La Tène style pottery at Site 2 could imply greater access to networks of contact and exchange. Nor is there any clear evidence for focal sites in the wider local landscape. The putative hillforts at Mowsbury (7.5 km to the west of Site 2) and Sandy Lodge (7.5 km to the south-east) are unlikely to be relevant as they probably date to the late Bronze Age/early Iron Age (Dring 1971; Dyer 1971), while the dating of a further hillfort at Caesar's Camp, Sandy (6 km to the south-east), is unknown (Dawson 1995).

During the late Iron Age, traditional narratives of social change in southern Britain have focused on the emergence of local or regional political centres identified by such traits as the presence of imported or high-status goods and the minting of coinage (eg Cunliffe 1991). However, within the south-east Midlands there are few sites which fit this description, meaning that settlement hierarchies are less evident. This may partly be due to patterns of deposition, as where prestige objects do occur in the region these are often found in non-settlement contexts. In the local area of north Bedfordshire, most such objects were deposited in graves, examples including the La Tène mirror from Old Warden (Spratling 1970) and the decorated bucket from Felmersham (Watson 1949). It is also possible, however, that the apparent lack of settlement hierarchy in the region in comparison to some other parts of southern Britain shows that concepts of wealth and power were articulated differently here.

The Great Barford late Iron Age sites illustrate the lack of material differentiation of settlements typical of the region. The finds assemblages are unexceptional, and provide no clear indications of social distinctions between the sites. Other possible means of expressing status or social difference might have included the scale of enclosure. Site 2 was distinguished from the other settlements in the area by the large scale of ditch 20191, which enclosed the site on at least two sides. This ditch would have made a significant statement, and its construction and maintenance would have required a major investment of labour. This may imply either a fairly large resident population, or the assistance—supplied freely or under coercion—of people from elsewhere. Site 2 could thus have been a significant place in the local landscape, serving a role of some kind for the wider community beyond the confines of the settlement itself.

Chapter 4: The Romano-British Sites: Archaeological Descriptions

by Cynthia Poole

SITE 1: ROXTON ROAD WEST

Summary

Excavations at Site 1 partly revealed a small group of subrectangular early Roman ditched enclosures dated to the 1st–2nd centuries AD, possibly originating in the late Iron Age. There was evidence of recutting and maintenance of the ditches, but internal features were sparse. These included evidence for a circular structure, small slots or gullies, shallow hollows and a rectangular enclosure abutting one of the main enclosure ditches. A four-post structure and two-post structure were located on the periphery of the settlement outside the enclosures to the north-east.

Site location

Site 1 is situated to the north-west of Roxton village and immediately to the east of the undated earthwork known as Round Hill (HER 1494, NGR TL 150 550; Fig. 1.3; Plate 4.1) variously interpreted as a prehistoric barrow or medieval windmill mound. Immediately to the north-west and north is a complex of cropmark enclosures (HER 15047; Figs. 1.2-3), of which Site 1 probably forms the eastern extent. An area of *c* 3.7 ha was excavated, divided into two discrete sections either side of a modern track (Fig. 4.1). The area to the north of the track has been termed Site 1a, that to the south Site 1b.

The site lies on ground sloping gently from the south-west down to the north-east. Site 1a is at *c* 25 m aOD and Site 1b marginally higher.

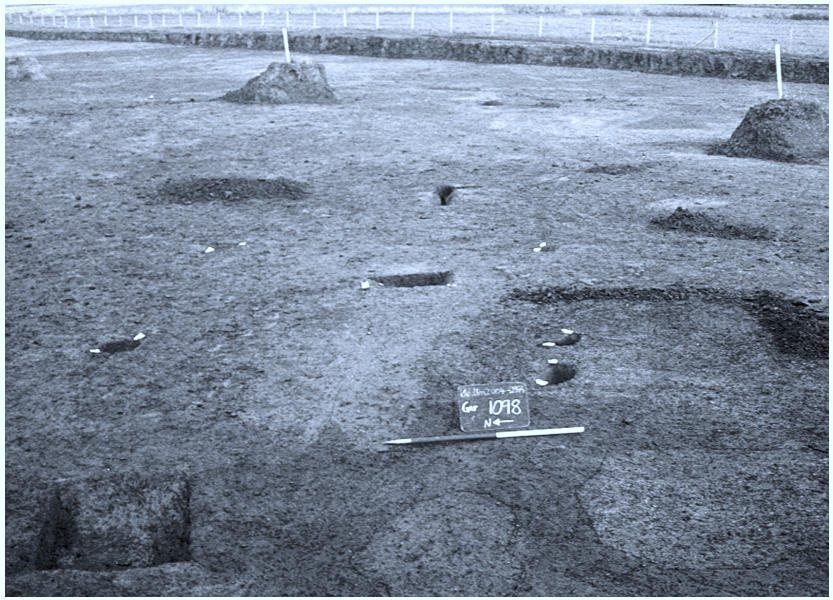

Plate 4.1 Site 1a. General view of site looking north-east with Post Structure 11 in foreground. Scale: 1 m.

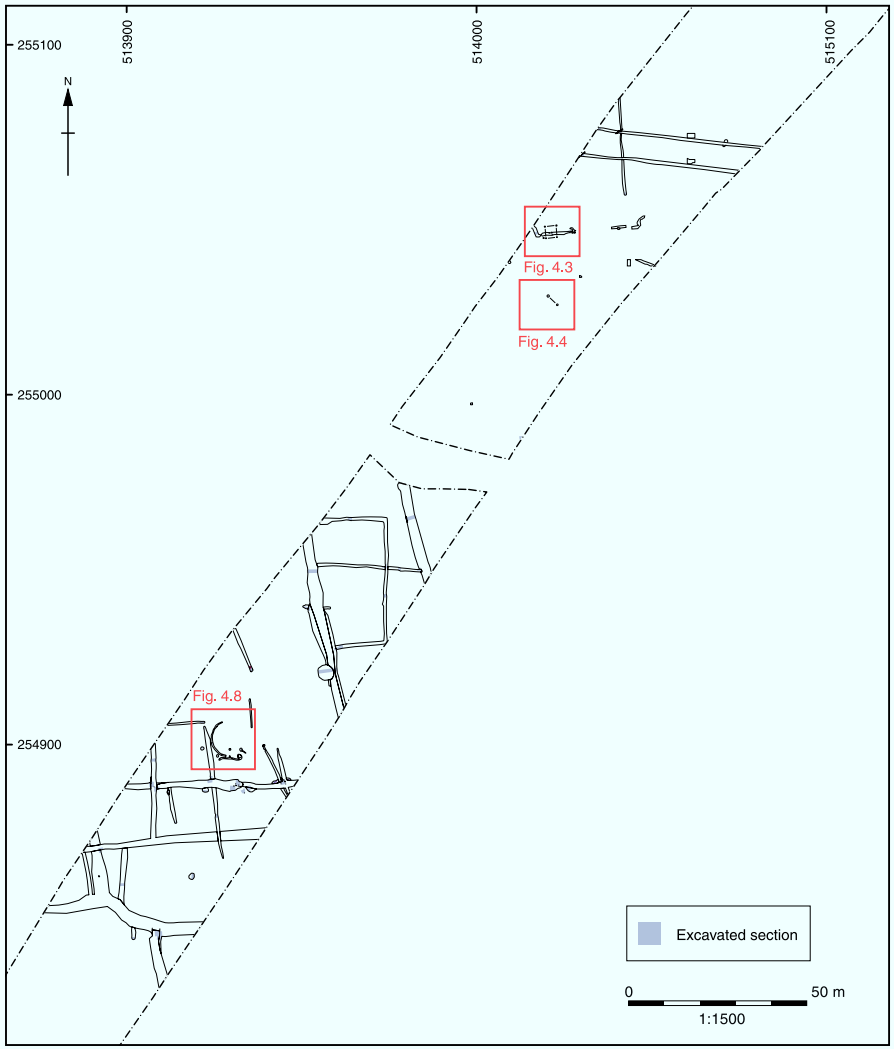

Fig. 4.1 Site 1, plan of all features

Phase 5–6.1: late Iron Age to early Roman (Fig. 4.2)

Small quantities of late Iron Age to conquest period pottery suggest this site had its origins in pre-Roman activity. It is likely that the main Iron Age settlement lay to the west where crop marks show a complex of ditched enclosures. Occupation debris is sparse, but there appears to be one area of activity centred on the two structures in the north-eastern area (Site 1a) and a background scatter in the enclosures to the south-west (Site 1b).

Site 1a

Post structure (PS) 11 (Fig. 4.3) was composed of four postholes (1006, 1008, 1012 and 1014) forming a building 3.4 m square. The postholes were of similar shape and size (0.31–0.39 m diameter, 0.13–0.28 m deep). The difference in the depth of the northern and southern postholes possibly relates to differences in later agricultural regimes on either side of a possible medieval hedge line (see Chapter 6).

Posthole 1010, which lies 0.25 m to the west of the SW corner of the structure, was very similar to the main corner posts. In the absence of other structures, it can be suggested it was related to PS 11. One interpretation is that the SW corner had to be repaired. However, the similarity in shape and size suggests it was cut at the same time as the others. If this is the case it probably relates to an external structure and may be evidence of steps up to a raised floor. Traditional granary buildings with raised floors usually have freestanding steps on one side with a narrow gap been the stairs and door. Posthole 1010 could be the support for the top of such steps and such an explanation fits with the interpretation of this structure as granary or store building.

The only dating evidence for PS 11 was a single abraded sherd of generic Roman pottery which merely indicates that the postholes were silting up in the Roman period. These buildings are typically Iron Age in character, though this type of structure continued in use into the early Roman period. A small quantity of carbonised grain and weed seed was found in posthole 1014.

A second structure, PS 12 (Fig. 4.4), was situated *c* 16 m directly south of PS 11. It comprised two postholes (1004 and 1078) set 3.4 m apart. Both postholes are very similar in shape and size, measuring 0.54 and 0.64 m wide by 0.36 and 0.42 m deep. In profile, the area of the postvoid was deeper than the rest of the posthole, and the original posts are estimated to have been *c* 0.10–0.14 m in diameter. The posthole packing was a mixture of clay and flints, with a silty clay soil washed into the post voids. A charcoal-rich soil formed a layer in the tops of both postholes, suggesting remnants of a later occupation spread preserved only in the tops of the postholes. This layer in the top of posthole 1004 produced two sherds of late Iron Age-1st century pottery, and from posthole 1078 carbonised plant remains of cereal grain, chaff and weed seeds were recovered. The interpretation of two-post structures is uncertain, though traditionally they are referred to as hay-drying racks. No doubt a variety of agricultural or artisan uses might be envisaged, but all would be entirely speculative. The possibility that they were the doorposts of a circular structure is worth considering; circular stake-built houses may leave no evidence apart from the doorposts except in well-stratified deposits (Cunliffe and Poole 1991a, 39–43). However, this pair are rather wider than most door settings, which generally measure in the region of 2–2.5 m apart and the size of the posts are smaller than has been observed for doorposts elsewhere (Cunliffe and Poole 1991a, 113).

A small shallow hollow (1049; NI) a few metres to the east of PS 11 also contained five sherds of late Iron Age/1st-century pottery which probably represents remnants of occupation caught in a shallow worn hollow.

The picture of this area of the excavation is one of unenclosed scattered structures set on the periphery of the settlement. They are probably of an agricultural character, though the possibility of a roundhouse associated with a granary would suggest a small domestic/agricultural unit. They lie 80 m to the NE of the main Enclosure 11 with an absence of features between the two areas.

Site 1b

It is possible that the main enclosure (Enclosure 11, described below in Phase 6) was first defined at the end of the late Iron Age. A scatter of late Iron Age/1st-century sherds was found within the fill of ditch 1411 suggesting that the enclosure originated in the late Iron Age (Fig. 4.5). The only feature to contain exclusively late Iron Age/early 1st-century pottery was ditch 1419, which ran north-south alongside this ditch defining the boundary between Enclosures 11 and 12. Enclosure 13 may also have come into existence at the same time, as ditch 1467 also contained a single sherd of late Iron Age pottery.

No Iron Age pottery was found in the eastern area of the enclosure, but logically a precursor of ditch 1201 is likely to have formed the east side Enclosure 11.

Phase 6: early Roman period

The main period of activity at Site 1b began in the latter half of the 1st century AD and continued throughout the 2nd century AD. An internal reorganisation of the settlement came during the latter half of the second century and the archaeological evidence suggests this area was now a focus of occupation.

Enclosure 11 (Fig. 4.6)

The maximum area defined by the ditch groups 1200 (1411, 1462) and 1201 (1229, 1246, 1248) of Enclosure 11 measures 112 m E-W by in excess of

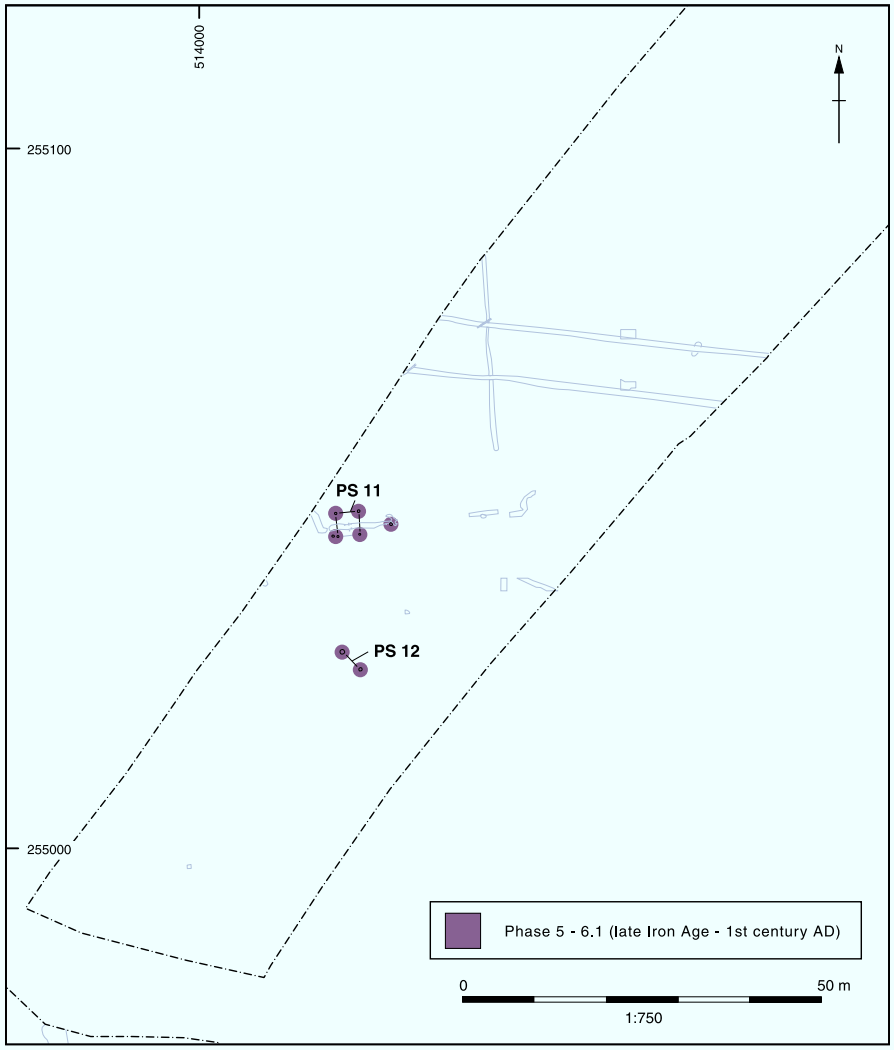

Fig. 4.2 Site 1a, Phase 5–6.1, plan of structures

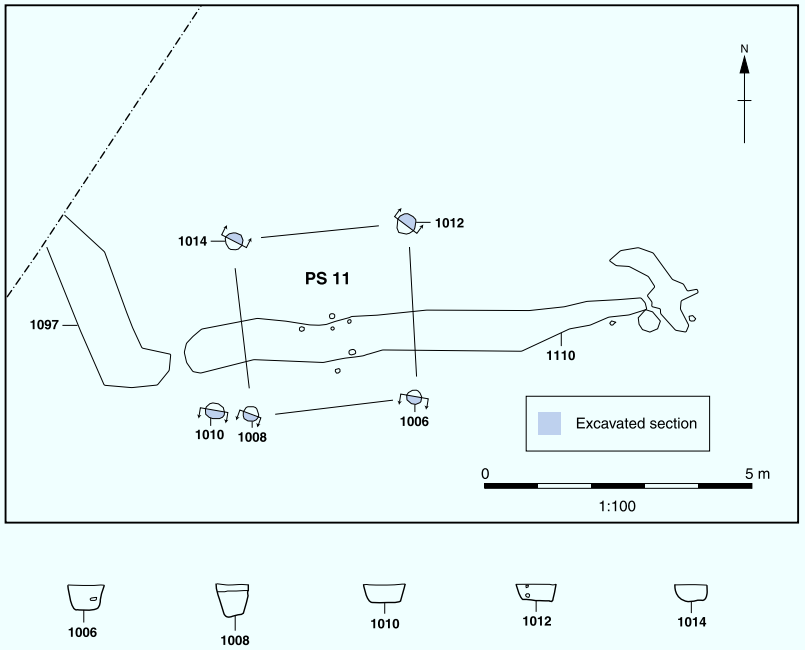

Fig. 4.3 Site 1a, four-post structure PS11, plan and sections

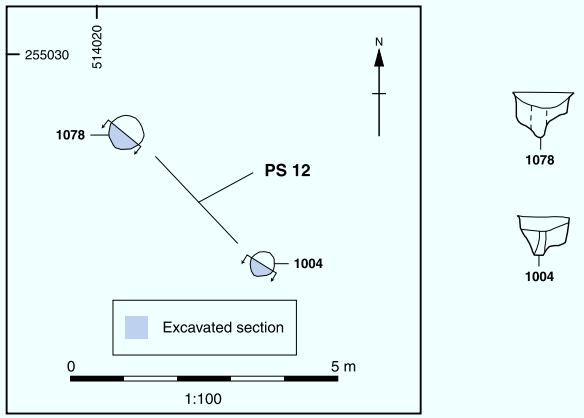

Fig. 4.4 Site 1a, two-post structure PS12, plan and sections

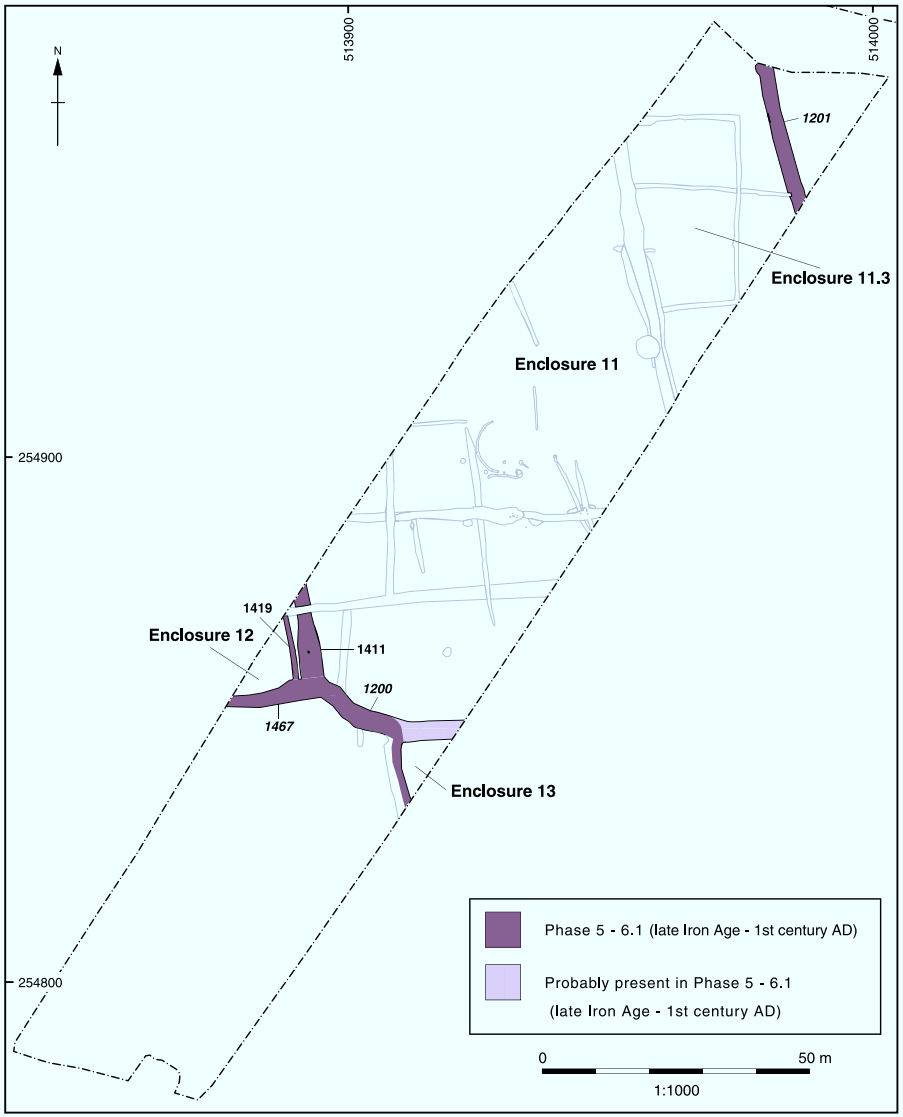

Fig. 4.5 Site 1b, Phase 5–6.1

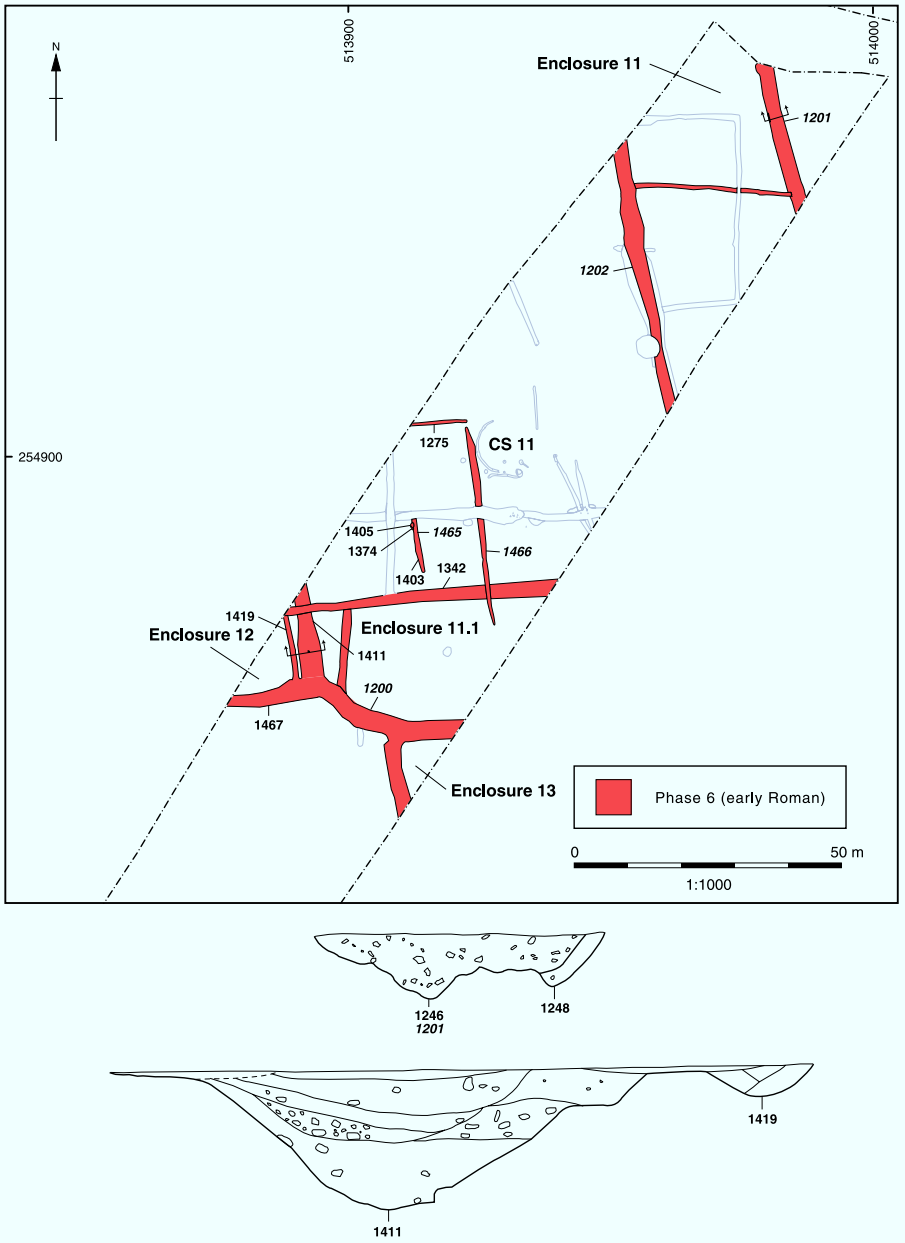

Fig. 4.6 Site 1b, Phase 6, plan and sections

125 m N-S. The boundary was curvilinear at the south-west corner (1200) and rectilinear (1201) on the east suggesting an overall subrectangular shape for Enclosure 11. The ditches showed evidence of recuts, indicating that the boundary was maintained over a period of time, though it was rarely possible to define relationships and a sequence.

Multiphase ditch 1201, aligned NNW-SSE, defined the eastern side of Enclosure 11. No artefacts were obtained from the interventions excavated on this length of ditch and it cannot be related with certainty to ditch 1200 on the south-west. Ditch 1248, the first phase of 1201, had a V-shaped profile 0.46 m deep and was cut by ditch 1246, which from its profile was a complex of at least three recuts and probably more, together with quarrying of the ditch sides. The deepest cut was roughly V-shaped, measuring 0.6 m deep, and may have been about 1 m wide. The other recuts were all shallower and more rounded in profile. The fill throughout was yellowish-brown clay silt containing frequent large gravel and scattered flecks of chalk and charcoal. The character of the fill suggests it was a naturally accumulated deposit, formed from erosion of natural from the ditch sides and silt or soil material washed or blown in. The homogenous character of the fill, without any differentiation between intercutting features, is typical of the ditch fills on the site. Further detailed description of ditch fills will only be made where they in some way differed from these natural accumulations.

Ditch 1411 forming the western boundary was a large V-profiled ditch measuring 1.32 m deep by 4.22 m wide (Fig. 4.6). The lower two thirds of the fill was dominated by brown and greyish-brown clay mixed with gravel and stone rubble (ctxs 1412–1415) eroded from the adjacent ground surface and ditch sides. A greater density of stone occurred on the east side suggesting greater disturbance of the ground within Enclosure 11 compared to Enclosure 12 on the west. Pottery from these lower layers dated to the late Iron Age/late 1st century. This was covered by a layer of dark grey clay silt containing frequent charcoal and few stones (1416) and containing pottery of the late 1st century only. Above this occupation deposit were two layers of orange and greyish-brown silty clay soil mixed with small pieces of chalk and gravel and scattered larger stones, which may be interpreted as the deliberate infilling of the ditch. This process possibly involved levelling of an adjacent bank, as the material appeared to be redeposited natural, but contained mostly sherds of late Iron Age/late 1st-century date. Two sherds of late 2nd-early 3rd-century pottery may indicate that this event occurred late in the occupation of the enclosure.

There is little evidence for the use and function of Enclosure 11 during the 1st and early 2nd centuries. The only discrete feature dated to the 1st century was a small pit (1374) containing a whole pot (SF 1018). The pot did not contain any burnt remains and so is not interpreted as a cremation vessel. It may have been placed as a special deposit of a religious or ritual character, or it may have been a storage container set into the floor of a building of which no other trace survived.

Other features that may relate to the early phase of the enclosure's use are a number of fairly narrow rectilinear ditches (1275; group 1465 (1366/1403); group 1466 (1337, 1339, 1349, 1370); group 1378 (1232, 1243, 1284)) that may have subdivided the area into subsidiary plots.

The stonier fill entering ditch 1411 from the side of Enclosure 11 during the 1st century may imply the area was used for some sort of cultivation. The analysis of the molluscs (see Stafford, Chapter 11) from small pit 1405 within the enclosure adds some support to this view. The molluscs were dominated by dryland terrestrial species, predominantly *Vallonia excentrica,* with lesser quantities of *Pupilla muscorum, Vertigo pygmaea* and the catholic species *Trichia* cf. *hispida*. The assemblage is consistent with open conditions of grassland and/or arable. However, by the late 1st century a thick dump of charcoal-rich occupation debris (ctx 1416) had been tipped into the half-filled ditch suggesting at least part of the enclosure was given to either domestic occupation or possibly agricultural processing.

Enclosure 11.1 (Fig. 4.6)

At some stage during the earlier use of Enclosure 11 the southern end was subdivided by the cutting of ditch 1342 to create a subsidiary enclosure 25 m wide. The ditch cut across ditch 1411, which originally defined the western boundary of Enclosure 11, so it is possible an entrance was created at this stage between Enclosure 12 to the west and Enclosure 11.1. The ditch was V-shaped, aligned east-west and measured 1.48 m wide by 0.48 m deep. The lower fill, ctx 1341, was a natural accumulation of dark grey silty clay soil, with a much higher proportion of stones in the upper half, suggesting accumulation from a cultivation soil or disturbed ground adjacent to the ditch. There was no evidence of any structures or features contemporary with the ditch within the enclosure so it may have been used as a compound for corralling animals. The only feature within it is dated to Phase 6.2 (contemporary with CS 11) and this was shallow hollow 1377 with a dished profile measuring 1.78 x 1.6 m in area and 0.25 m deep (Fig. 4.7). In the base was a dumped layer of occupation debris (1376), a dark grey sandy silt soil containing charcoal, small stones and a relatively substantial quantity of pottery (56 sherds) compared to other discrete features on the site.

Enclosure 11.2 (Fig. 4.7)

In the second half of the 2nd century there appears to have been a major reorganisation of the interior of Enclosure 11 effectively creating a second subrectangular enclosure (Enclosure 11.2), 55 m E-W by 70 m N-S, within it. This was formed by a large ditch 1202 comprising cuts 1208, 1256, 1259/1261/1263,

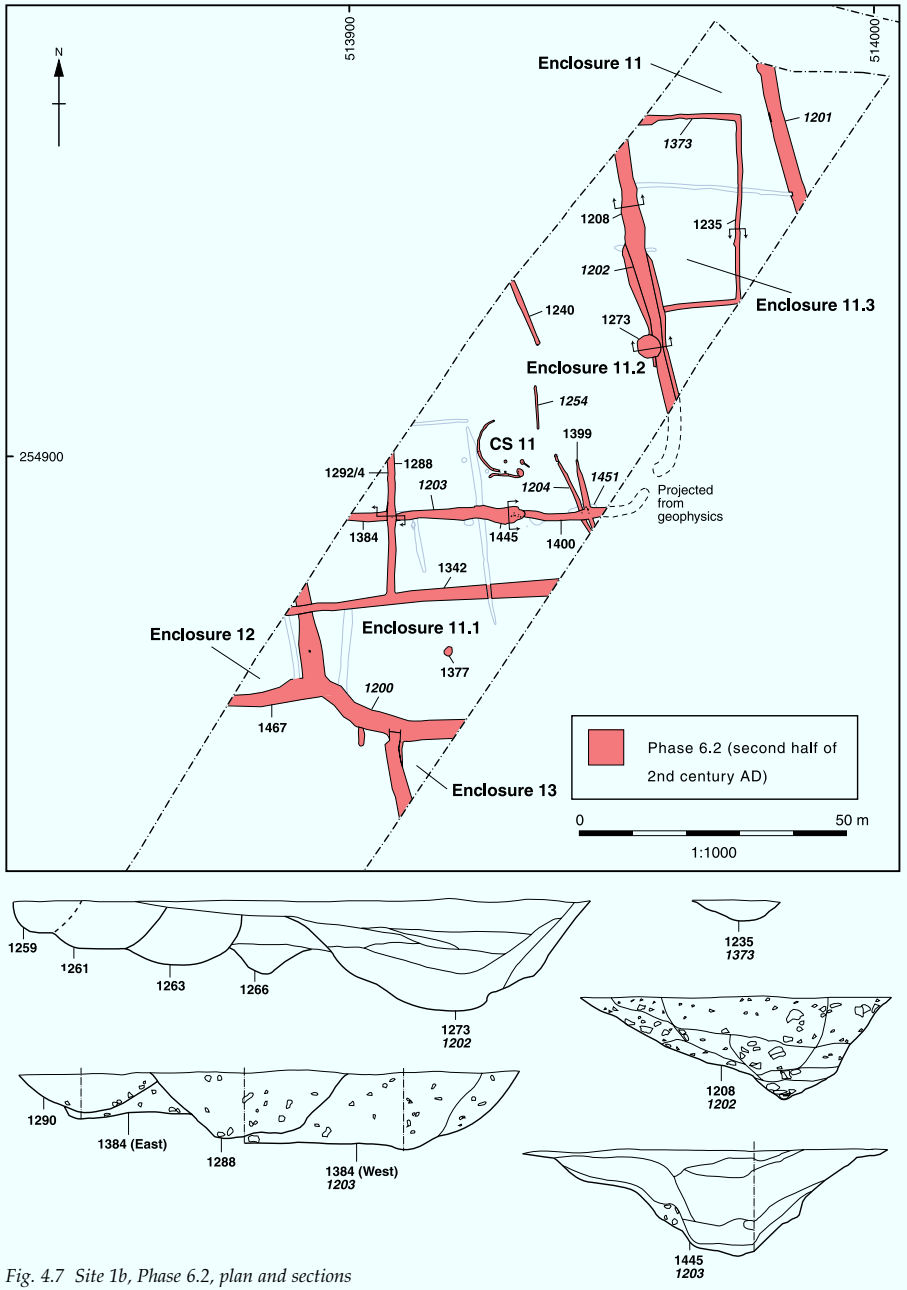

Fig. 4.7 Site 1b, Phase 6.2, plan and sections

aligned NNW-SSW, running parallel to the original eastern boundary, 1201, of Enclosure 11, 27.5 m to the east. The diagnostic pottery recovered from 1208 indicates a late 2nd-century date for this ditch, though it had clearly been subject to much recutting, and in some of the interventions to the south 3rd-century pottery was also recovered. The south side of the enclosure was formed by ditch 1203 (comprising cuts 1384, 1353, 1445 and 1400), which had also been recut. It is possible that both ditches formed an internal subdivision contemporary with the original laying out of Enclosure 11, or possibly contemporary with the cutting of ditch 1342. However, it is impossible to go further without more extensive excavation of the ditches to separate and date the recuts.

The western side of Enclosure 11.2 may have been formed by ditch 1292/4, which in one phase formed a terminal, 1388, at the junction of ditches 1288 and 1384. Similarly, ditch 1203 formed a terminal, 1290, at this junction. The relationships and dating of the ditches, which intersect at this junction, are unclear, but a possible interpretation is that the southern boundary, 1203, was originally cut continuously with the western boundary, 1288 (north). Subsequently, ditches 1384 (west) and 1288 (south) were cut to form the corner of a rectangular enclosure against ditch 1342. Following that, the ditches of Enclosure 11.2 forming the south and west boundaries were recut as separate ditches forming terminals (1388 and 1290) abutting this corner. Finally the N-S ditches were recut as a single unit (shown in section as 1288, Fig. 4.7).

The geophysical survey, which covered a slightly wider area than the excavation, possibly hints at an entrance gap at the south-east corner formed by the ditches 1202 and 1203 (see Fig. 4.7).

The ditches were generally *c* 0.4–0.5 m deep by *c* 1–1.5 m wide. In plan parts of these ditches were very irregular especially in the area of 1445 and the length of 1201 between 1256 and 1259. These lengths of ditch may have been subject to quarrying along their edges and the irregular profiles and shapes would be consistent with such an activity.

Pit 1273, which cut ditch 1202, may also be interpreted as a quarry hollow. It was an irregular bowl-shaped feature with a stepped profile suggesting it was made up of a series of scoops. It measured 2.80 m across and 0.92 m deep and contained natural accumulations of clay and chalk eroded from the sides, overlain by tips of clayey and sandy silt ranging from greyish to yellowish brown mixed with occasional chalk and small stones. A moderate amount of pottery and animal bone was scattered through the fill, but no other occupation debris was present.

Internal features within Enclosure 11.2 included a circular structure (CS 11) and a line of discontinuous ditches (1204, 1254, 1240), which were aligned roughly NNW-SSE with two gaps of 5 m and 7.5 m, of which the narrower more southerly gap allows access directly to the entrance of CS 11.

Circular Structure 11 (Fig. 4.8)

Within Enclosure 11.2 there was evidence that a circular structure (CS 11) was situated *c* 6 m north of ditch 1203. All that survived was the western and southern arc of a circular gully (1453). The diameter of the gully was estimated to be *c* 10 m and it had a shallow U-shaped profile measuring 0.3–0.4 m in width and 0.04–0.18 m deep. The fill comprised mainly naturally accumulated silty clay or occasionally dark soil with occupation debris. This feature would have formed a drainage gully around the exterior of a circular building of which no trace remains. It was shallower on the north side and had presumably suffered more severe truncation on this side. A number of shallow circular hollows (1318, 1320, 1323, 1326, 1329) occurred within the southern area of CS 11, ranging from 0.3 up to 1.6 m in width and up to 0.1 m deep. These probably represent areas of wear on the floor of the structure or immediately outside the building. Thin layers of occupation debris had accumulated in the hollows.

The actual form of the structure must remain entirely speculative. There was a complete absence of any features, including doorposts that could have been related to the structure. This suggests that it was constructed directly on the contemporary ground surface without any foundations. In view of the local geology it is likely daub or clay cob formed a substantial part of the walls and quarrying along the ditches may have had the purpose of obtaining construction materials. The absence of stone or tile roofing implies the use of an organic material such as thatch or wooden shingles.

Occupation debris and artefacts were more prolific in the area around CS 11 with notable tips of occupation debris in the nearby ditches. Pottery was most common with especially large amounts dumped, including a whole pot in feature 1445 immediately to the south of the building (Fig. 4.7). Part of a glass vessel, an iron ring and several iron nails were also found in the same feature. Small quantities of fired clay, none of it diagnostic, were found in the gully of CS 11 as well as fragments scattered in the contemporary enclosure ditches. The fired clay together with three pieces of brick probably derives from hearths or ovens within CS 11 or nearby. No hearth or oven bases have been positively identified, though a shallow hollow such as 1277 situated to the west of CS 11 could have formed such a feature. A fragment of millstone was found in the drainage gully of CS 11.

Three bulk samples from features, two directly associated with CS 11 and one from a contemporary ditch, 1240, were assessed for carbonised plant remains. The quality of results did not warrant full analysis, but the assessment showed that cereal, some chaff, legume and weed seeds were present, including some associated with arable activity/rough ground, such as *Raphanus* (wild/cultivated radish) (Druce and Huckerby 2005).

Enclosure 11.3 (Fig. 4.7)

This rectangular enclosure was defined by ditch 1373, which formed its north, east and south sides and abutted ditch 1202, which formed the west edge. The enclosure measured 35 m on its north-south axis and increased from 15 m wide at the south end to 20 m wide at the north. There was no evidence of an entrance unless a narrow gap existed in the extreme north-west corner just outside the excavation area. It is possible a causeway across ditch 1202 was created for access.

Ditch 1373 had a rounded concave profile, which measured 0.20–0.32 m deep and 0.50–0.60 m wide over most of its length, but widening southwards to 1.06 m. In all the interventions the ditch was filled with a single layer of dark greyish/yellowish brown sandy silt/clay mixed with flecks of chalk and charcoal and containing occasional gravel, flints and sandstone blocks up to 200 mm. Pottery and animal bone was common in nearly all interventions. Much of the fill appears to have been deliberate.

Molluscs analysed from one intervention in the ditch showed an assemblage dominated by dryland terrestrial species, predominantly *Vallonia excentrica*, with lesser quantities of *Pupilla muscorum*, *Vertigo pygmaea* and the catholic species *Trichia* cf. *hispida*. These are consistent with open conditions of grass-

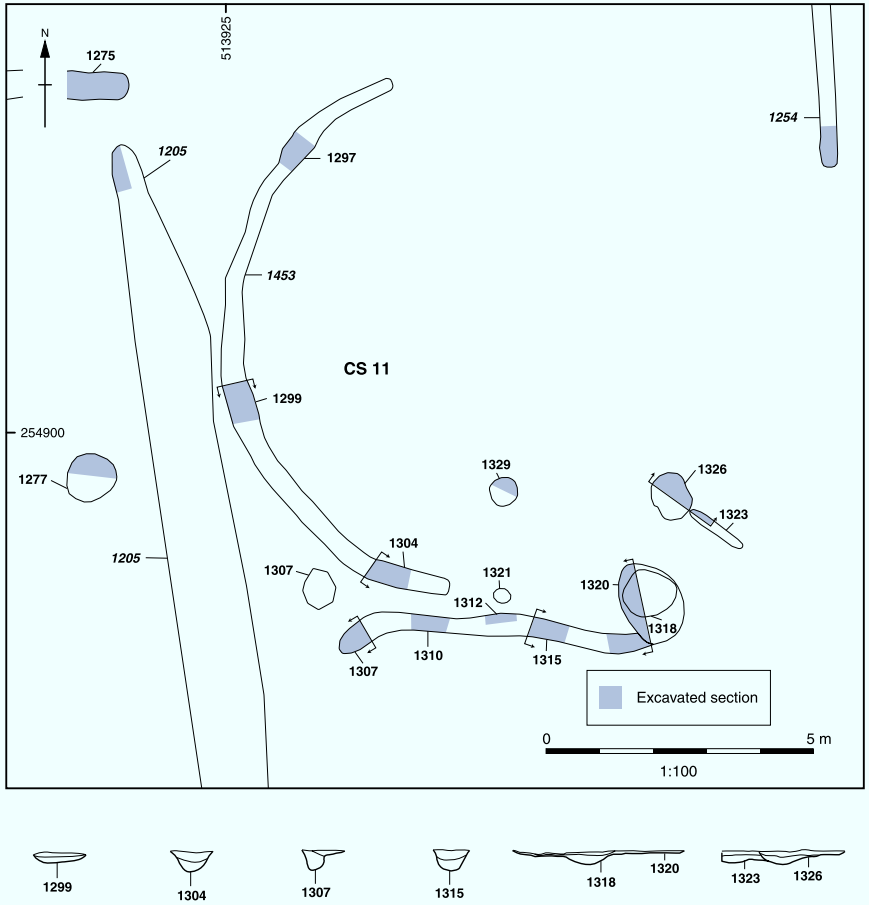

Fig. 4.8 Site 1b, Circular Structure 11, plan and sections

land and/or arable. In addition the freshwater slum species *Anisus leucostoma* was present in low numbers in sample 1027 along with a single specimen of the ditch species *Planorbis planorbis*, perhaps suggesting the presence of standing water at least seasonally within the ditch (Stafford, Chapter 11). This suggests that the primary function of 1373 was as a drainage ditch, as it scarcely formed a significant barrier.

No features or evidence of any structures occurred within the enclosure. However, the quantity of pottery and animal bone found in the ditch, together with a small quantity of fired clay and carbonised seed, suggests occupation debris must have been generated close by. The carbonised seeds from intervention 1282 contained limited cereals including wheat and weed seeds associated with arable activity/rough ground, such as *Brassica* (wild cabbages). It is likely that the ditch enclosed a building or buildings probably constructed using similar materials to those suggested for CS 11.

Enclosure 12

Extending west from the south-west corner of Enclosure 11 was a substantial ditch 3 m wide by 0.6 m deep, which is interpreted as forming the south side of Enclosure 12. It was only excavated during the evaluation (Trench 55) when evidence of recutting was observed and early Roman pottery was found in the fill.

Enclosure 13

About 12 m to the east of the Enclosure 12 ditch junction, a second ditch extended south from the corner of Enclosure 11. It is unclear whether this ditch continued south forming a landscape feature or whether it swung round to form a subsidiary annexe (Enclosure 13) abutting ditch 1200 or joining with ditch 1201 of Enclosure 11. Only a small area of the interior of Enclosure 13 was exposed in the excavation and no features were found within it. It has been noted above that the earliest cut of this ditch contained late Iron Age pottery, and pottery of the 1st centuries BC-AD also occurred residually in the fill of ditch 1259 (part of 1202). All other pottery was of mid to late 2nd-century date.

The ditch measured *c* 2.5 m wide by 0.6 m deep and contained natural accumulations of yellowish brown silty clay with gravel and chalk eroded from the ditch sides. A few sherds of pottery were found, but no other occupation debris was present.

Phase 7.1: early to mid 3rd century

There is some evidence that activity associated with Enclosure 11.2 continued into the early-mid 3rd century and possibly even the 4th century. This is based on the presence of a few sherds of pottery of 3rd to 4th-century date. Pottery of late 2nd to mid 3rd-century date and possibly mid 3rd to early 4th-century date was found in the ditch fills at the junction of ditches 1204, 1399, 1400 and the upper half of quarry 1273 (Fig. 4.7). Pottery of late 2nd-early 3rd century and of possible 4th-century date was found in the drainage gully, 1304 of CS 11, a hollow, 1326, associated with CS 11 and in the uppermost levelling layers of the main enclosure ditch 1200 (Figs. 4.7-8). The quantities of pottery are small suggesting actual occupation came to an end by the early 3rd century, but some sort of casual use of the enclosures may have occurred sporadically into the 4th century. No further occupation took place on the site and the scatter of medieval-post medieval agricultural features, which overlie the site, are discussed in Chapter 7.

SITE 4: BIRCHFIELD ROAD

Summary

Excavations at Site 4 revealed a small early Roman settlement composed of a series of subrectangular ditched enclosures laid out in a ladder arrangement along the east boundary of an earlier Iron Age site. The enclosures were laid out along a track that bordered the east side to the site. The settlement is dated to the 1st–2nd century AD and probably continued to utilise some of the preceding Iron Age enclosures. During the early Roman period, the focus of occupation shifted eastwards. The earliest features to be constructed in this phase were probably a subrectangular ditched enclosure and within it a polygonal ditched enclosure that may have been the centre of occupation. A trackway running along the east side of the settlement was probably also in use by this stage. By the 2nd century the main enclosure was refurbished and enclosed by a palisade, and further subrectangular enclosures to the north and south can be assigned to this phase. Relatively few contemporary features occurred within the enclosures, although a small cremation cemetery was located adjacent to the trackway. Occupation appears to have ceased in the late 2nd century AD. A corner of the abandoned enclosure system was subsequently used, probably in the late 3rd or 4th century AD, for a small inhumation cemetery, which included two decapitation burials.

Site location

Site 4 is located to the north-west of Great Barford at NGR TL 121 533 (Fig. 1.1; Plate 4.2). Two discrete areas totalling 1.00 ha in area were excavated either side of Birchfield Road. The site lies at *c* 35 m aOD, on land sloping down gently to the east, towards the valley of a small stream.

Phase 6: early Roman period

During the early Roman period, the focus of activity at Site 4 shifted eastwards (Fig. 4.9). A small polygonal enclosure appears to have been contemporary with recutting or maintenance of the Iron Age enclosure ditches to the west in the late 1st-early 2nd century. This was replaced by a more extensive series of rectangular enclosures forming a ladder development (Fig. 4.11) laid out between a trackway on the east side and the preceding Iron Age enclosures on the west. The presence of Roman pottery in the tops of some of the Iron Age ditches suggest some of these were at least visible and possibly remained in use, perhaps as paddocks for livestock. A small cremation cemetery to the east of the trackway was contemporary with the Roman settlement, but an inhumation cemetery set in the north-east corner of the main enclosure probably post-dated the occupation of the site.

Phase 6.1: late 1st-early 2nd century AD: the polygonal enclosure (Figs. 4.9-.10)

Enclosure 45 appears to have been the main focus of activity during this early phase. It was formed by an angled rectilinear ditch, 4112, which delineated a polygonal, probably hexagonal enclosure, of which the western half was exposed in the excavation. The enclosure measured 24 m across N-S and probably the same or slightly less on its E-W axis. The ditch ended in two rounded termini on the south side forming an entranceway 3.2 m wide. In profile it had straight, fairly steeply sloping sides and a flat base. It measured 0.92–1.15 m wide by 0.3–0.4 m deep and generally contained a single fill of naturally silted yellowish brown silty clay. In the terminal there was also a layer of similar clay mixed with gravel and pebbles where material had eroded from the ditch sides.

Within the centre of the enclosure were a small number of features confined within an area *c* 8 m wide, which could represent the interior space of a circular structure (Fig. 4.10). These features included three shallow dished hollows (4456, 4472, 4476) of circular, oval or irregular shape, ranging in size from 0.8–1.08 m long by 0.44–0.58 m wide and between 0.06 and 0.18 m deep. Three smaller circular features with bowl-shaped profiles (4470, 4474, 4478) measured 0.32–0.50 m in diameter and 0.07–0.10 m deep and could have been posthole bases. All the features had a very similar fill of grey mottled silty clay containing small stones and chalk grit. Pottery of generic Roman type was recovered from two of the features and fired clay from two. Oval feature 4456 produced a small fragment of furnace lining and a triangular oven brick. The size and shape of the feature was consistent with the base of a small Roman oven and the presence of fired clay, though small in quantity, may hint at such a function. From posthole 4474 came a small fragment of oven plate. The features could have been the very truncated bases of a variety of features including postholes, ovens, hearths and worn, trampled hollows on a house floor.

The construction of any building must be entirely speculative in the absence of evidence for any structural features. If timbers had provided any part of

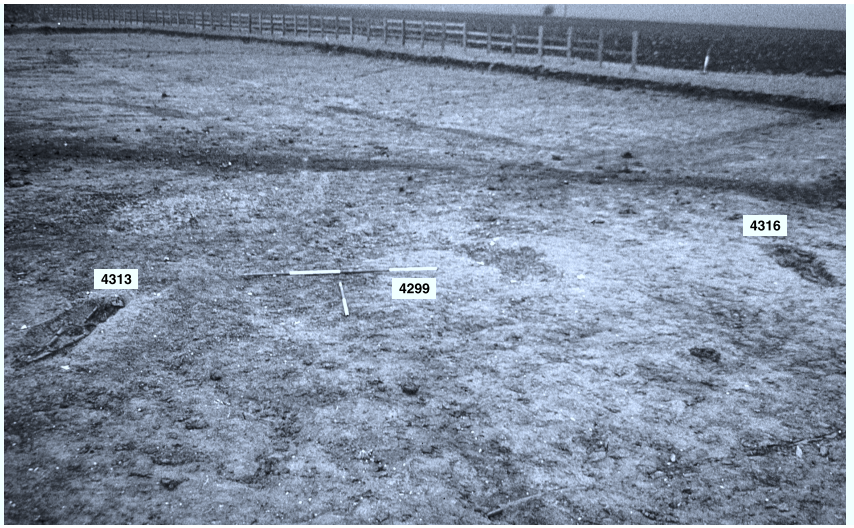

Plate 4.2 Site 4, General view of the site looking south-west with the Phase 7 inhumation cemetery in foreground. Scale: 1 m and 2 m.

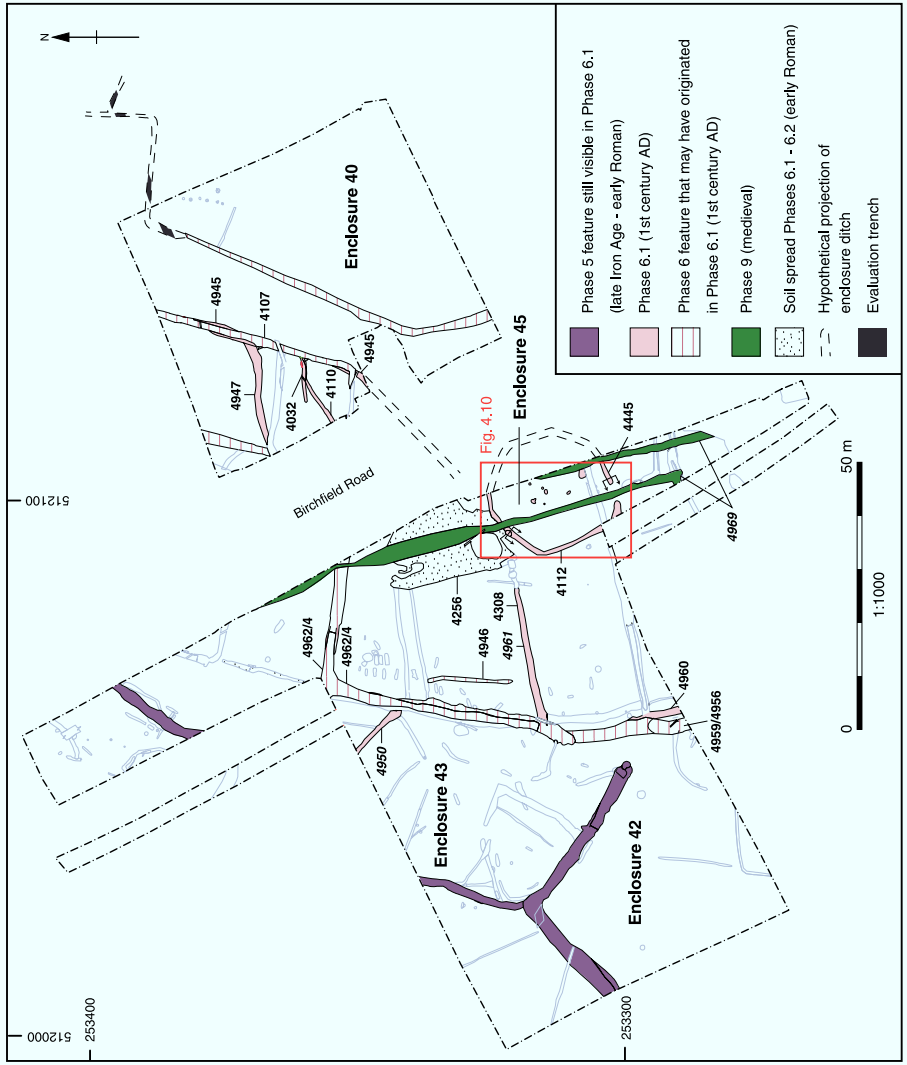

Fig. 4.9 Site 4, Phase 6.1, plan

the main structural support one might reasonably have expected at least the base of postholes to survive. This may imply that the buildings were of clay cob built directly on the surface of the natural clay or even the contemporary ground surface. In such circumstances the slightest truncation would have removed all trace of a structure.

Pottery from the enclosure ditch was for the most part dated no more closely than as Roman. However, from two interventions there was material datable to the late 1st century AD and to the late 1st–early 2nd centuries. At another point the ditch was cut by a small oval pit, 4325, which also contained late 1st to early 2nd-century pottery. Although the relationship with ditch 4111 was not investigated, it is assumed that 4111 was the later ditch based on the ceramics in its fill and the fact that the main series of rectilinear enclosures to which it belonged were all later.

Clearly this enclosure did not exist in isolation and the impression gained is that the Iron Age enclosures to the west continued not only as a visible entity but presumably also in use. Iron Age pottery is present in the lowest layers of the ditches providing a date for their primary use, but the upper fills contain pottery of the 1st or 2nd century AD. This may imply that general cleaning and maintenance of the ditches took place, but did not necessarily show as a recut.

Ditch 4960, which was cut by the later ditches of Enclosures 46 and 47, and contained pottery of the late 1st-early 2nd century, appeared to represent a recut of the main N-S ditch bounding the Iron Age enclosures (Fig. 4.9). It was traced for 10 m and had a rounded U-shaped profile measuring 1.3 m wide by 0.6 m deep. The north-south boundary appeared to have continued as a fence line or palisade as a number of closely spaced postholes were found cut by the later ditch of Enclosures 48 and 49. Another ditch that is assigned to this phase is 4950, which ran north-west from the N-S boundary. At its south-east end it was a shallow ditch with a wide

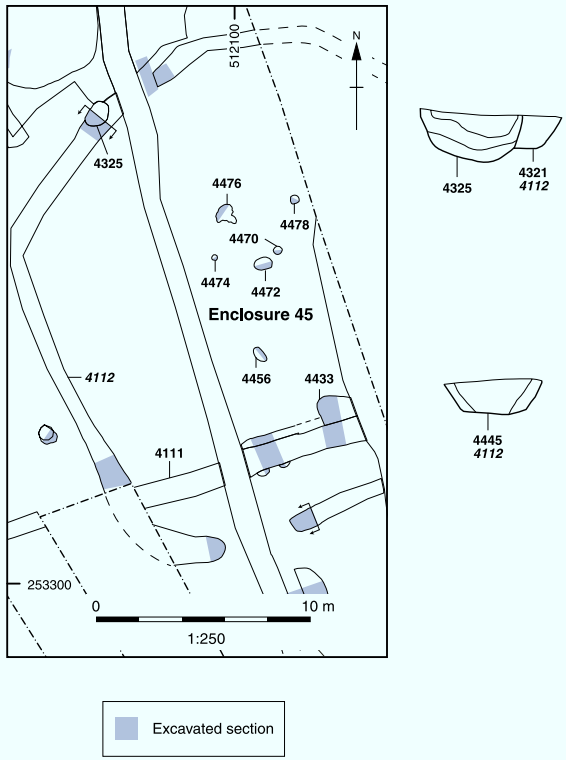

Fig. 4.10 Site 4, Phase 6.1, Enclosure 45

rounded profile, but where excavated on the north-west it was flat-bottomed and steep-sided with evidence of having held a palisade. It is possible that the palisade section represented a later recut belonging to the next phase of activity. Many of the ditches assigned to the next phase contained only generic Roman pottery and no finer dating evidence. It is possible that some of these later enclosures originated at this time, but there is only firm evidence for the recutting of the main N-S boundary and the ditch demarcating the west side of the trackway.

One ditch that might be attributed to this phase on the basis of layout and relationships is 4961. It ran for a distance of 25 m on an ENE-WSW alignment from the edge of Enclosure 43 towards the NW corner of Enclosure 45. By adding this ditch a subsidiary compound was created measuring *c* 30 m wide (E-W) and over 25 m N-S. The ditch had steep or near vertical sides with a rounded base, measuring 0.8 m wide by 0.55 m deep and was filled with mottled yellow grey silty clay containing occasional small stones. It ended in a rounded terminal, 4308, leaving a gap of *c* 7 m to allow access to the area north of Enclosure 45. In the base of the terminus were found cremated human remains, which could represent the accidental disturbance of an earlier burial. However, alternative explanations may be considered: one possibility is that the bone was a deliberate deposit placed in the ditch terminal. Since the terminal was cut by a later oven group (Fig. 4.12), it is also possible that the cremation burial was a separate feature associated with these, rather than part of the ditch.

With the entrance of Enclosure 45 on the south the main focus of activity of the settlement in this period was probably on this side. It is possible Enclosure 45 formed the focus of habitation set within a larger settlement area between Enclosures 42 and 43 on the west and the trackway to the east, subdivided by ditches 4961 and 4945.

An extensive shallow hollow, 4256, measuring 24 m by 13 m and containing pottery of the late 1st-late 2nd century occurred to the north of Enclosure 45 (Fig. 4.9). The very straight west edge possibly reflected an unrecognised feature such as a ditch running N-S from one of the two later ditches (4773, 4774; Fig. 4.11) towards ditch 4961 or some sort of barrier such as a light fence. The hollow extended from here running eastwards beyond the edge of the excavated area. Only a small section of this hollow was excavated in conjunction with the smaller, later hollow 4259 cutting it, where it was shown to be only 0.14 m deep and filled with mottled greyish brown clay containing occasional small stones. Other than the western boundary, the edges of the feature were irregular and it appears to have been of a roughly suboval shape. The area probably formed as a result of heavy trample and wear, effectively a very large puddle full of churned mud possibly representing a yard area where livestock were regularly brought or corralled.

This feature may indicate that the trackway approaching the settlement from the north-east divided to run either side of Enclosure 45 with one branch turning SW to come into the settlement in the area of 4256. This is supported by the angle of the early phase drainage ditch 4945 forming the western side of the track, which changed direction at its south end to run SW. Several other early ditches (4947, 4032, 4110) ran at an angle from the trackway suggesting its path may have moved from a more northerly alignment. The ditches demarcating the trackway are dated no more closely than as Roman, but the presence of residual late Iron Age pottery within the fills may indicate an even earlier origin for them.

Two ditch fills (ctx 4011 in 4032 and ctx 4307 in 4308), which are both dated to the early Roman period, contained abundant wheat grains. The former also contained abundant glume bases and weed seeds associated with cultivation.

Phase 6.2: later 2nd century AD: the rectilinear enclosures (Fig. 4.11–13)

In the later 2nd century AD, the settlement took the form of series of conjoined rectilinear enclosures (Enclosures 46–49) forming a ladder-type settlement running roughly north-south aligned alongside a trackway on the east side. It covered an area 45–60 m wide and in excess of 110 m long. Evaluation trench 128 suggests activity for a further 90 m to the south. The area to the east of the track has been designated Enclosure 40 for ease of reference, but this may represent the start of a contemporary field system rather than an area of habitation. Some of the elements of this phase may have originated in Phase 6.1, but insufficient evidence survived to corroborate this. The western side of the system probably redefined, virtually obliterating in the process, earlier Iron Age enclosure ditches. Enclosure 47 is regarded as forming the core of the settlement in this phase.

The trackway and Enclosure 40 (Figs. 4.9 and 4.11)

By this phase the trackway was more firmly defined without the evidence for a change in course apparent in the preceding phase. On its approach to the settlement from the north, running on a NE-SW alignment, it was delimited on the east by ditch 4004 and on the west by 4107. The trackway was 4.5–7.0 m wide and could be traced for a distance of nearly 60 m. No trace of metalling or paving was observed. South of this the eastern ditch turned slightly to run NNW-SSE for a further 15 m.

Ditch 4004 had a concave U-shaped profile measuring 2.2 m wide by 0.8 m deep and was filled with grey clay, with orange mottles containing small pieces of chalk grit and stones. Stonier clay had eroded from the ditch sides, but much of the fill would have accumulated as mud washed off the trackway.

It is unclear what route the track followed to the south. It is possible that the large hollow 4493 at the southern edge of the excavated area was part of the track. It measured 25 m N-S but would have been about 10 m wide on a NW-SE axis, which is roughly at right angles to the alignment of the track. It was 0.24 m deep at the point excavated and had a fill similar to the subsoil, but produced a small amount of pottery dating to the 2nd century AD. This feature was at the lowest point on the site and so a large worn muddy hollow could have formed here if the track continued south from the corner of Enclosures 47 and 48.

The area to the east of the trackway was largely empty, although ditch 4004 formed the west side of a polygonal enclosure measuring over 60 m long. Evaluation trench 121 shows that this ditch continued north to form a right angle somewhere near the edge of the excavation where it turned to run ESE. The evaluation trench also exposed two smaller ditches at right angles to each other and to the main enclosure ditches further NE forming subsidiary divisions. Apart from the cremation cemetery set into the north corner there was no other activity represented by any features. It is possible ditch 4004 represented the edge of a field system to the east of the trackway, rather than an enclosure associated with the settlement.

The trackway appears to have formed the spine for the layout of this later phase of enclosures and the hypothetical layout of enclosures suggested in the plan (Fig. 4.11) is merely one possibility based on the interpretation of 4493 as the continuation of the track. An alternative would be to view ditch 4004 as the east boundary of enclosures 47 and 48, with the narrowest point of the track representing its entry point into the settlement. In which case 4493 might be reinterpreted as the base of a midden.

Enclosure 47 (Fig. 4.11–13)

This enclosure was defined by palisade trenches on the north, west and south and by the trackway on the east creating a trapezoidal area measuring 58 m E-W by 60 m N-S narrowing to 45 m (N-S) alongside the track. The most substantial element of Enclosure 47 was an L-shaped palisade 4962/4964, which demarcated the northern and western sides, whilst the southern boundary was delimited by separate palisade trench 4111. There is a gap of 14 m between the two termini allowing access into the area occupied by Enclosures 42 and 43 (Fig. 4.9), which were at least partly redefined at this time.

The palisade (4962/4964) was traced for 47 m on the western boundary and for 10 m along the northern boundary. To the east of Birchfield Road it continued for 8 m as ditch 4107 to the edge of the trackway. This feature was shallower than 4964 and showed no evidence for postpipes. However, its steep-sided profile suggests that some more modest form of palisade could have continued along its length. At the road it turned to run NE alongside the track as an open ditch, replacing earlier ditch 4945 (Fig. 4.9). The south side of Enclosure 47 (4111/4963) was clearly traced as a palisade for 16 m and though less well preserved at the eastern end (4430) the shape of the trench suggests the palisade continued. Birchfield Road obscured the form of the eastern boundary. At the north-east corner of the enclosure part of earlier ditch 4945 defining the trackway was visible, but there was no later trench here contemporary with 4107. It may be suggested that there was an entrance from the trackway into the enclosure at this point.

The palisade was constructed of substantial timbers, visible as postpipes up to 0.50 m in diameter and up to 1.04 m deep. The palisade was set within a construction ditch up to 2.90 m wide, which had been backfilled with tips of yellowish/orange brown silty clay containing frequent chalk and gravel as packing around the posts. The palisade can be traced as far south as the intersection with ditch 4961, which it cut; beyond this, 4962 continued for a further 7 m forming a rounded terminus. Postvoids were not apparent in this final section possibly implying that the timbers had been removed here.

At the same time a short length of palisade (4922 and 4892) was inserted into the Phase 5 boundary, 4923, between Enclosures 42 and 43 running for about 21 m. The palisade trench gradually shallowed to the west and ended in a rounded terminus measuring 0.5 m wide by 0.3 m deep. In contrast the east terminal of 4922 measured 0.8 m wide x 1.18 m deep with the ditch shallowing to 0.66 m midway. The gradual decrease in size of the trench is likely to reflect a concomitant decrease in timbers. No evidence of postpipes was observed within these features, but their very steep-sided profiles suggest that this was a palisade trench holding timbers of 150–200 mm diameter. The reason for constructing only a short length of palisade between Enclosures 42 and 43 is unclear. The intention may have been to produce a more impressive and secure facade to the boundary at the entrance. Some other form of physical barrier may have existed already around the remaining areas, perhaps in the form of a hedge. It is possible a palisade was inserted into the end of the earlier ditch 4950 at the same time possibly indicating the northern limits of a subsidiary enclosure.

The interior of Enclosure 47 was subdivided by a series of ditches (4773, 4774, 4961) on a WSW-ENE alignment, forming three rectangular compounds (Enclosures 47.1–47.3). The two northern ditches (4773, 4774) extended for about 23 m and were only 3 m apart. Ditch 4961 may have continued in use from the earlier phase but its eastern end appears to have been cut by a group of small ovens of late 1st to late 2nd-century date. None of these ditches appeared to continue further east across the whole of Enclosure 47. These ditches measured 0.6 m wide by 0.2 m deep and had flat bases and sloping sides. Fills were dark orange brown silty clay with flecks

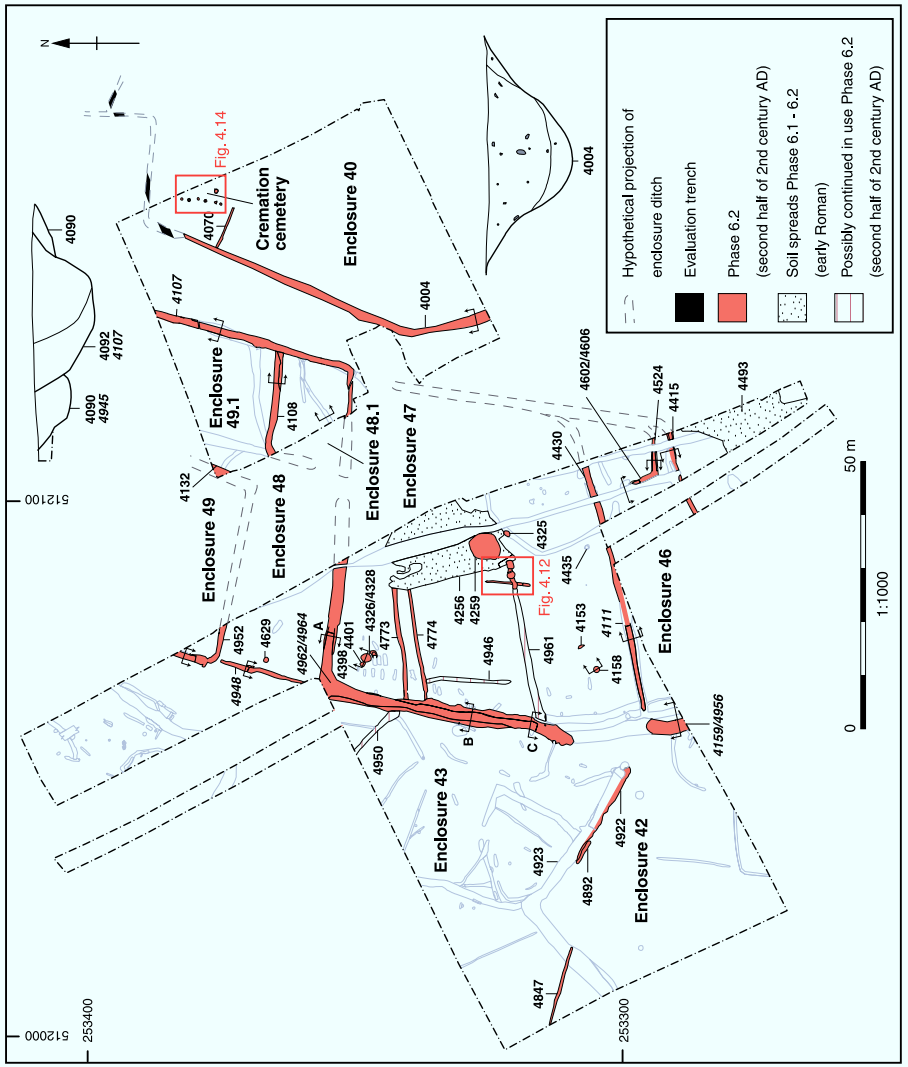

Fig. 4.11 Site 4, Phase 6.2, plan

of charcoal. A fourth ditch, 4946, of similar size and fill ran SSW from 4774 for a distance of 16 m, terminating 3 m to the north of ditch 4961 to leave an access route between the two.

Molluscan samples from the palisade trenches (4964, 4111) produced assemblages of similar character dominated by the freshwater slum species *A. leucostoma* suggesting damp conditions, perhaps seasonal standing water within the features. A smaller component comprised mixed assemblages of dryland taxa including species of open country, shade-demanding taxa and catholic species indicating that a variety of microenvironments were present in the vicinity.

There was no evidence for buildings associated with the settlement. One may hypothesise that buildings were constructed out of local materials, which are likely to be dominated by the local clay for cob walls. However, the combination of ploughing and machine stripping removing the surface of the natural, combined with the difficulty in recognising a clay cob foundation made out of the local natural clay sitting on natural, would be enough to ensure any remains of cob-built structures were either destroyed or remained unrecognisable. The subdivisions within Enclosure 47 may indicate the position of building plots, the ditches providing drainage for rectangular structures. Internal features indicative of occupation were sparse, being limited to a small number of shallow hollows and small pits occurring as isolated features or in small groups.

In the NW corner of Enclosure 47.3 was a group of four features (4326, 4328, 4398 and 4401) in close proximity. The shallow hollow 4326/4328 was probably one suboval feature with an irregular V-shaped profile, measuring 1.0 x 1.6 m in area by 0.35 m deep. The clay fill provided no clue to its function. Feature 4398 was a suboval dished hollow measuring 0.8 m wide by 0.22 m deep and containing mottled grey clay with few stones and occasional charcoal. It was cut by 4401, the largest hollow in the group. This took the form of a circular bowl-shaped hollow 1.85 m in diameter and 0.33 m deep. The lowest layer (ctx 4402) was clean yellow clay containing few stones and rare potsherds. Resting on this roughly in the centre were the fragments of a pot (ctx 4403), probably originally complete when placed and broken *in situ*. Overlying this was a layer of dark orange grey silty clay (ctx 4404) containing occasional stones and charcoal, interpreted as a dump of burnt debris. Finally a natural silty clay soil accumulated in the top of the feature (ctx 4405).

Artefacts, in addition to the pot, from this feature comprised fuel ash slag and fragments of fired clay, including a fragment of oven plate. The form of 4401 and the combination of artefacts suggest this feature may have been the base of an oven, hearth or similar type of structure. The whole pot may have been used as a pedestal to support the portable oven plate, which probably formed the main structural element. Fragments of fired clay disc or oven plate were also found in the adjacent hollow 4398, which may also have been a hearth base, and in palisade trench 4964 to the north. Some fragments of fired clay occurred in two of the nearby graves, where it is likely to have been residual from this earlier activity.

A second area where there was a concentration of fired clay artefacts and a cluster of small hollows or pits was in the area close to the terminus of ditch 4961 at the boundary between compounds 47.2 and 47.1 (Fig. 4.12). Pieces of fired clay were found in virtually all the features, which were of a size and shape that may be interpreted as ovens or small corndrier bases. The features exhibited a variety of shapes including narrow oval (4149), dumb-bell (4310/4168/4201), keyhole (4204) and subrectangular (4207). These ranged from 1.5-2.35 m in length, 0.5–1.4 m in width and 0.22–0.45 m in depth. Even the long narrow slot (4151/4170/4160) measuring 7 m long by 0.3 m wide and 0.2 m deep was comparable to features interpreted as corndriers or flue channels (Morris 1979, 182). The fills of these features were generally dark grey gritty clay with few stones, frequently described as midden, but more probably discoloured by finely divided charcoal than organic material. Fragments

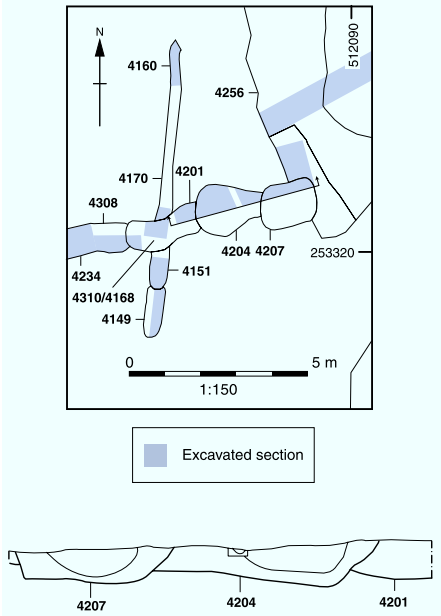

Fig. 4.12 Site 4, Phase 6.2, detailed plan of oven group in Enclosure 46

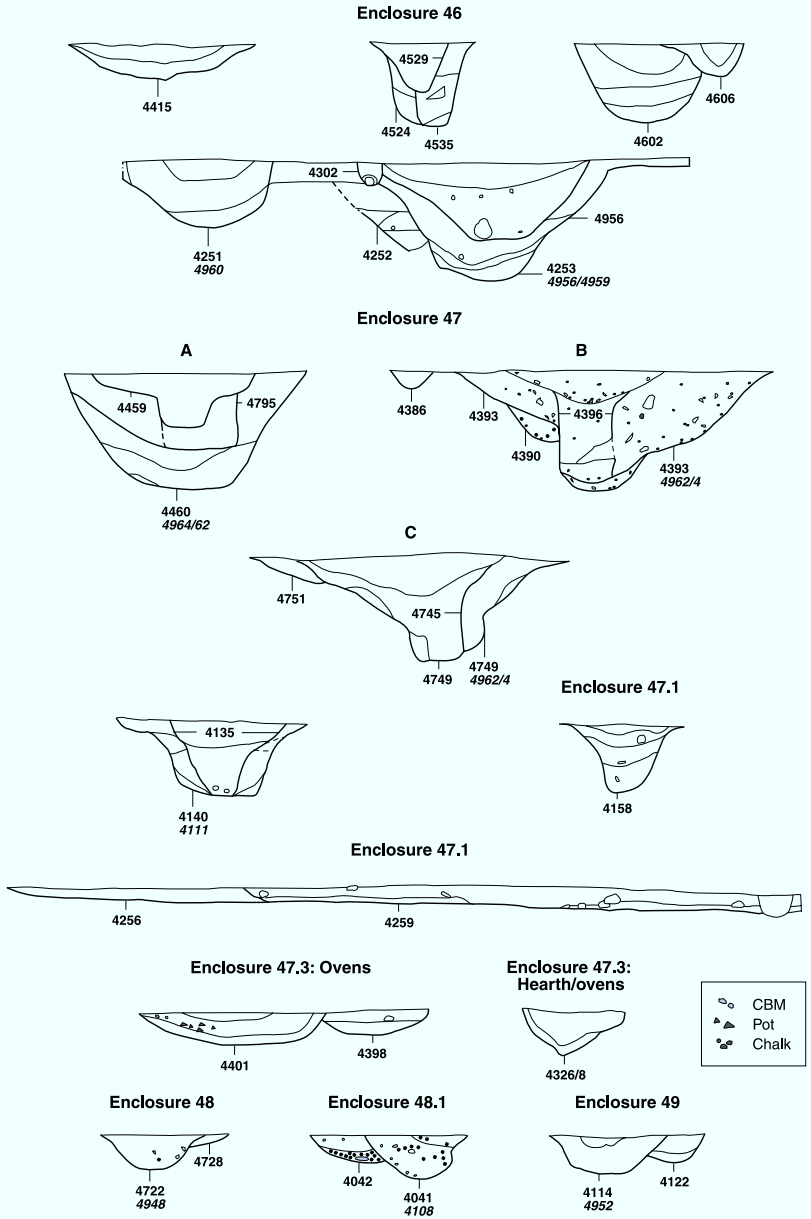

Fig. 4.13 Site 4, Phase 6.2, sections

of coal were found in the sieved sample from feature 4149 suggesting this may also have been used as fuel. The ditch terminal 4308, discussed in relation to the preceding phase, may in fact have been a burnt feature cutting the end of ditch 4961. This contained cremated human bone and abundant carbonised wheat seed. The feature could be a pyre site feature or a more general oven or hearth base. If so the association of oven structures with cremation activity raises questions of multi-functional purpose that has also been noted at Site 8 in relation to kilns. The significance of these associations is considered further in Chapter 5.

The fired clay from these features included oven plate and disc fragments and a very large quantity of oven wall with wattle impressions from 4149. A large quantity of fired clay including oven plate together with a lot of pottery was also found in small pit 4325, situated about 4 m to the east of the group (Fig. 4.11). It measured 1.4 x 0.95 m wide and 0.45 m deep, had a bowl-shaped profile and may also have been an oven or kiln base. It is unclear whether the material in it had been dumped from elsewhere or represented part of a superstructure relating to the feature itself. It is not unusual for ovens to be found in small groups on Roman sites either within buildings or in outside working areas or yards. These features contained pottery dating from the late 1st century to late 2nd century AD.

A subsquare hollow, 4259, was situated a short distance north-east of this group, measuring 6 m by 5 m in area and 0.2 m deep. It had a shallow dished profile and contained two layers. Over the base was yellowish grey clay containing occasional flint and chalk stones and some occupation debris. This had the appearance of disturbed or churned natural. Above was dark greyish brown silty clay with occasional small chalk and frequent occupation debris including charcoal, pottery, bone and fired clay from an oven/kiln. This could be the worn floor surface of a building, but the absence of any structural elements suggests that alternative interpretations – as an open working area or the base of a midden in the farm yard – are more probable.

Other discrete features present within subenclosure 47.1 were two small shallow dished hollows, 4435 and 4153, both undated, and small pit 4158 which contained pottery of the late 2nd century. The pit was circular, measuring 1.2 m diameter and 0.65 m deep. It had steeply sloping sides splaying out at the top and a rounded base. The primary deposits were lenses of yellowish grey silty clay interleaved with small stones and grit eroded and weathered from the pit walls (ctx 4157). This was followed by dumped layers of dark clay soil and occupation debris (ctx 4156) overlain by burnt debris including charcoal and fired clay (ctx 4155).

Enclosure 46 (Fig. 4.11 and 4.13)

This enclosure lies to the south of enclosure 47 and was defined by palisade trench 4111 of Enclosure 47 to the north, ditch 4159/4956 on the west, ditch 4415 on the south and presumably the trackway to the east. It measured 16 m N-S possibly widening to the west and in excess of 53 m E-W.

The ditch on the west was a large V-profiled feature, 4159, measuring 2.2 m wide by 1.1 m deep and had been recut at least once as a shallower flat-bottomed ditch, 4956. The fill was largely a result of natural erosion from the ditch sides, silting and soil accumulation, with occasional tips of occupation debris. The southern boundary ditch, 4415, was slighter, measuring 1.86 m wide and 0.38 m deep, and was filled with natural accumulations of soil, and silty clay and gravel eroded from the ditch sides.

Only a small area of the interior of this enclosure was exposed. At the east end there was an internal subdivision formed by an L-shaped arrangement of linear features. A palisade trench, 4524, delineated the south edge and contained the void of a timber 0.3 m wide (4535). The trench was 0.8 m deep and 0.8 m wide at the top with a flat base and near vertical sides. The natural clay and gravels were redeposited as packing against the timber, and some large flints which had fallen into the void may have been packing from around the top. Some large fragments of pot including rim and base may have formed a deliberate structured deposit on the base, deposited before the timber. This trench was recut as a shallower, yet similar feature, 4529, suggesting the palisade was replaced with a less substantial fence. The trench turned to run NNW as ditch 4602 for 5 m, terminating 7 m to the south of palisade trench 4111 to leave an access route between the two areas of Enclosure 46. Ditch 4602 had steeply sloping sides, a rounded base and measured 1.2 m by 0.72 m deep. The fill resulted from natural erosion of the ditches and gradual silting and development of soil in the upper half. The change from palisade to ditch is curious unless the timbers from one end of the palisade were removed and the resulting trench left open.

Enclosures 48 and 49 (Figs. 4.11 and 4.13)

To the north of the main enclosure, two further narrow rectangular enclosures were identified. Enclosure 48 measured 59 m long E-W by 19 m wide on the west side, narrowing to 15 m on the east. Enclosure 49 measured 60 m long by 23 m wide. Few of the ditches were dated more closely than as Roman, and those that were contained pottery ranging from late 1st to late 2nd century.

The track drainage ditch 4107 formed the eastern boundary of both enclosures. Enclosure 48 was defined on its south by palisade 4964 of Enclosure 47, on the west by trench 4948 and on the north by ditches 4952 and 4108, which formed the south and west sides of Enclosure 49. The western boundary of both Enclosures 48 and 49 originally consisted of a row of closely spaced postholes, *c* 0.50 m in diameter and up to 0.40 m deep, set in a narrow

trench. The palisade was later recut by a shallow flat bottomed ditch, 4720, and ditch 4952 leaving a narrow gap of *c* 1 m between the two to allow access from Enclosure 48 to the area to the west. The east end of the enclosure may have been subdivided, with a smaller compound, 48.1, 19 m long, formed by 4108, which appeared to turn south at the edge of the excavated area. As ditch 4952 does not appear to have joined at this junction, a gap may be postulated for access to Enclosure 49 at this point. It is likely that the interior of Enclosure 49 was also subdivided with a smaller subsidiary compound, 49.1, formed on the east by ditches 4108 and 4132.

Ditch 4952 formed the south-west corner of Enclosure 49. It had a fairly shallow wide V-shaped profile measuring 1.2 m wide by 0.46 m deep with a flat or rounded base. The fill comprised layers of natural erosion and silting. Ditch 4108 was slightly smaller at 0.8 m wide by 0.4 m deep.

The various lengths of ditch running diagonally across the eastern end of Enclosures 48 and 49 predated the enclosure ditches and may have related to an earlier alignment of the trackway.

No contemporaneous features were observed within these compounds. However, the undated hollow, 4629, close to the west boundary of Enclosure 48, could have been contemporaneous. This took the form of a shallow bowl-shaped subcircular hollow 1 m wide by 0.14 m deep. It was filled with grey silty clay flecked with charcoal and fired clay, which could indicate that it was the base of a hearth or oven. At the east end of Enclosure 48 there was a distinct concentration of fired clay fragments within the fills of the various ditches. These include fragments of oven plate and may indicate the presence of an oven or kiln structure in this area during this or one of the preceding phases.

The cremation cemetery (Figs. 4.11 and 4.14)

A cremation cemetery (Figs. 4.11 and 4.14) was set into the north corner of the enclosure or field to the east of the trackway. It was bounded on the west by ditch 4004, which appeared to form a right angle and turn east delimiting the north side of the cemetery, based on the ditches found in the evaluation trench (Tr 121). On the south side a short length of ditch, 4070, delimited the south side. This formed an area *c* 13 m sq.

There were seven burials, all truncated to varying degrees (4076, 4080, 4195, 4197, 4236, 4244 and 4247; Plate 4.3). All had been placed in small subcircular pits with bowl-shaped profiles, measuring 0.35–0.66 m wide by 0.05–0.25 m deep. Six of the burials were arranged in a N-S row, the seventh, 4076, being placed immediately to the east at the south end. All were evenly spaced between 1 m and 2 m apart and it is likely that each had some form of grave marker. Six of the burials were placed in pottery urns, although this is uncertain in the case of burial 4195 as it was heavily truncated and disturbed. The urns were coarse Romano-British vessels. The exception was burial 4236, which had probably been placed in some sort of bag or organic container. Few grave goods were present, but three contained sherds of Central Gaulish samian ware. The dates attributed to the urns or accessory vessels range from the late 1st century AD (4195) to the mid to late 2nd century AD (4236).

All the burials were of adults (over 18 years), and included one mature-older adult (4236: 35–64 years) and a young-mature adult (4244: 18–44 years). In addition one (4076) was identified as possibly female (18–64 years) and another older adult (50–89 years) as possibly male (4197).

No evidence was found of actual cremation pyre sites within the area of excavation. Such features

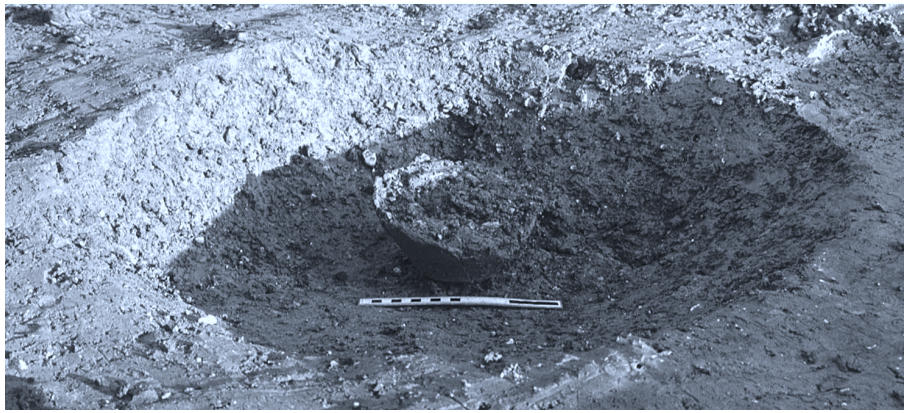

Plate 4.3 Site 4. Phase 6 cremation burial 4076. Scale: 0.4 m.

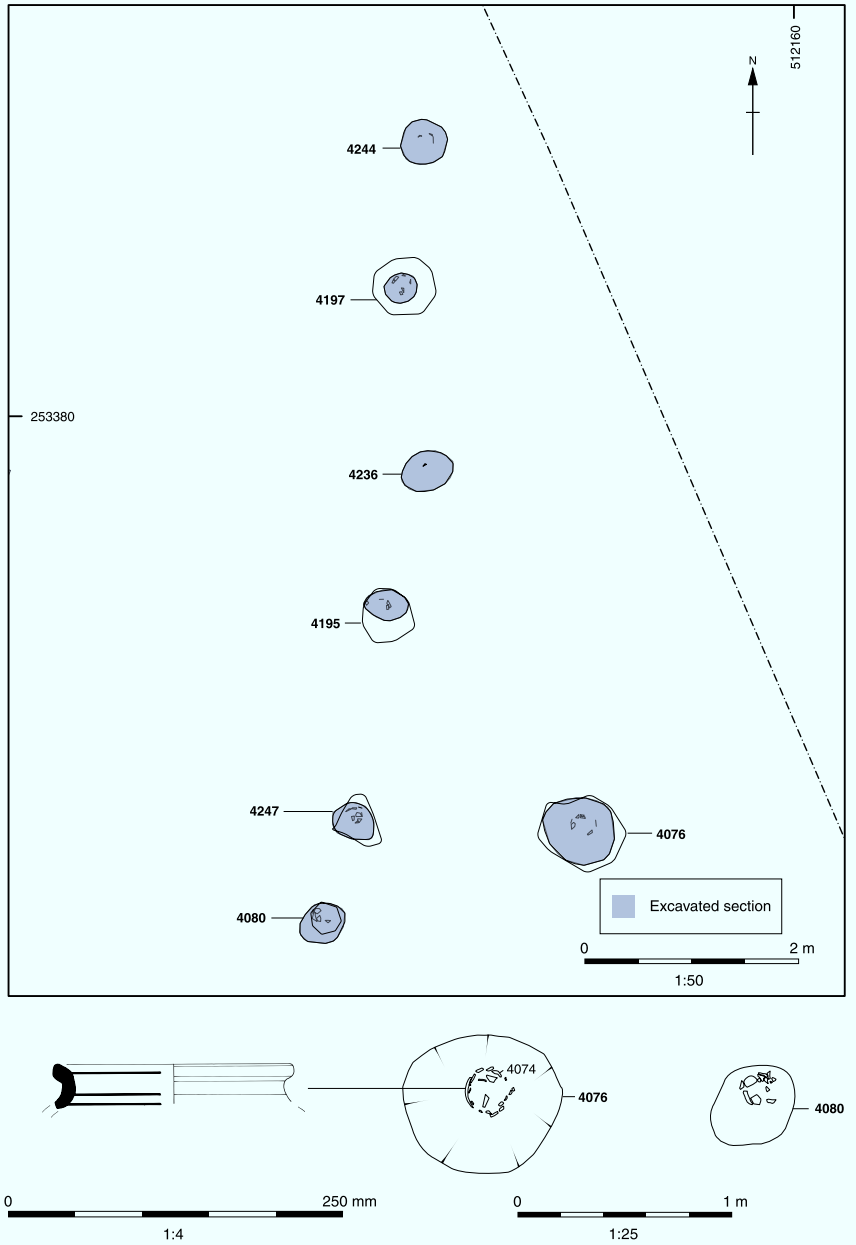

Fig. 4.14 Site 4, Phase 6.1–6.2, cremation cemetery plan and detail of cremation burials 4076 and 4080

would be shallow if surviving at all and the level of truncation prevalent on the site is likely to have removed any trace. It is noteworthy however that cremated human bone was found within the fill (ctx 4307) of small feature 4308 (Fig. 4.12), that may be interpreted as a small oven or corn drier. Similar associations have been noted on Site 8 and are discussed further below (Chapter.5).

Cremation cemetery catalogue (Fig. 4.14)

4076 *(Fig. 4.14; Plate 4.3)* Urned cremation set centrally in a subcircular, hollow with bowl-shaped profile, 0.66 m diam. 0.25 m deep.
Fill: (4074) cremation urn: Necked jar (SF 4012) with everted rim, fabric R13 (Fig. 8.11.19).
contained the cremated remains (4073) of an adult ?female (18–64 years).
(4075) Backfill of the grave.
Date: late 1st–late 2nd century AD.
Position in cemetery: east of south end of main alignment.

4080 *(Fig. 4.14)* Urned cremation set against the north edge of a suboval, hollow with bowl-shaped profile, 0.35 m wide, 0.05 m deep.
Fill: (4078) the cremation urn, probably a small jar in very fragmented condition, contained the cremated remains (4079) of an adult (18 years).
(4077) Backfill of the grave.
Date: Roman.
Position in cemetery: at south end of main alignment.

4195 Urned cremation set in an oval hollow with bowl-shaped profile, 0.5 x 0.3 m wide, 0.08 m deep.
Fill: (4194) cremation urn: medium-mouthed jar (CD), in Verulamium whiteware contained the cremated remains of an adult (18 years). The bone was concentrated towards the centre of the grave with the pot broken (missing the rim) and more scattered towards the margins.
The fill also contained a rim sherd of a South Gaulish samian cup (R01B), Dr 27.
Date: mid to late 2nd century AD.
Position in cemetery: centrally in main alignment, third from south end.

4197 Urned cremation set centrally in an oval hollow with bowl-shaped profile, 0.35 x 0.2 m wide, 0.1 m deep.
Fill: (4196) the cremation urn (SF 4013), in a very fragmented condition, contained the cremated remains of an older adult ?male (50–89 years). The cremated bone was mainly concentrated within the ring of fragmented pottery.
Date: Roman.
Position in cemetery: second north end of main alignment.

4236 Unurned cremation set in an oval hollow with bowl-shaped profile, 0.4 x 0.2 m wide, 0.1 m deep.
Fill: (4235) contained the cremated remains of a mature-older adult (35–64 years). The cremated bone was concentrated in an oval against the south-east side of the grave. The concentrated arrangement of the bone suggests it may have been collected in an organic container such as a leather or cloth bag, since rotted away. Also within the fill was a sherd of a Central Gaulish samian cup Dr 33 and dish Dr 18/31.
Date: mid 2nd century AD.
Position in cemetery: centrally in main alignment third from north end.

4244 Urned cremation set centrally in a subcircular hollow with bowl-shaped profile, 0.64 x 55 m diam. 0.25 m deep.
Fill: (4245) the cremation urn, a medium-mouthed jar in sandy greyware contained the cremated remains (4246) of a young-mature adult (18–44 years). A single long bone of a small mammal was also present.
(4243): backfill of the grave.
Date: mid 1st to early 2nd century AD.
Position in cemetery: north end of main alignment.

4247 Urned cremation set slightly off-centre to the north of a subcircular hollow with bowl-shaped profile, 0.4 m diam. 0.2 m deep.
Fill: (4249) cremation urn, a poppyhead beaker, contained the cremated remains (4250, but analysed bone labelled as 4248) of an adult (18 years). Backfill of the grave contained additionally a sherd of samian, part of a South Gaulish samian cup Dr 27.
Date: late 1st century AD.
Position in cemetery: second from south end of main alignment.

Phase 7: late Roman

The inhumation cemetery (Figs. 4.15–4.17; Plates 4.2 and 4.4)

The ceramic evidence indicates that the settlement did not continue beyond the late 2nd century AD, although a possible 3rd-century coin was recovered from the subsoil. Sometime after the abandonment of the settlement—during the 3rd or 4th century AD—a small inhumation cemetery was established in the north-west corner of Enclosure 47. No closely datable artefacts were found with any of the burials, but a radiocarbon date was obtained from Sk 4341 (in grave 4342) of cal AD 240–390 (OxA-15515: 1727 ± 28 BP).

The cemetery contained 11 burials, and 13 additional subrectangular features were planned as possible highly truncated graves, though no other information was recovered in relation to the latter. All the graves were truncated to varying degrees and the preservation of the skeletons was generally poor. Completeness of the skeletons ranged from 5% to 80%. The burials were all interred within subrectangular grave cuts. Ten were orientated W-E with the head placed to the west whilst one (Sk 4319 in grave 4317) lay SW-NE. The orientation is in keeping with late Roman Christian burial traditions, but other factors such as topography may also have been an influence, as has been suggested at Ruxox (Dawson 2004). The size of graves ranged from 0.4 x 0.2 m for an infant to 1.6 x 0.63 m for an older child. The adult graves ranged from 1.7–2.02

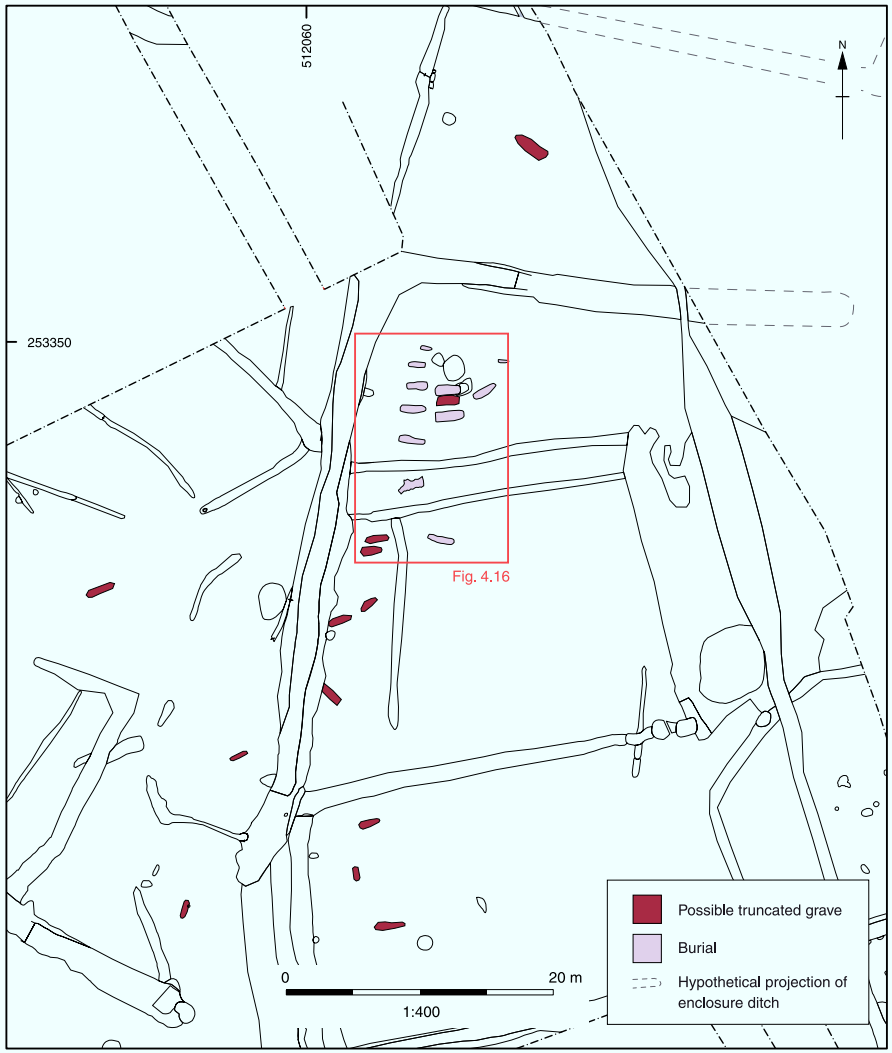

Fig. 4.15 Site 4, Phase 7.1, general plan of inhumation cemetery

m long by 0.5–0.8 m wide. Depths ranged from 0.03 to 0.5 m, but most were less than 0.2 m deep. Two of the wider graves contained coffin nails and one skeleton appeared to have been tightly wrapped in a shroud.

The burials were tightly clustered but did not intercut, suggesting the graves may have had markers. The graves were arranged in three rows, the most westerly set 3 m from palisade trench 4962/4 and aligned with it. This implies that the palisade or the boundary of the enclosure in some form was still visible. Some of the internal ditches of Enclosure 47 also appear to have been respected or avoided by the more southerly graves. If the putative graves were part of this cemetery, it suggests the arrangement of graves became more

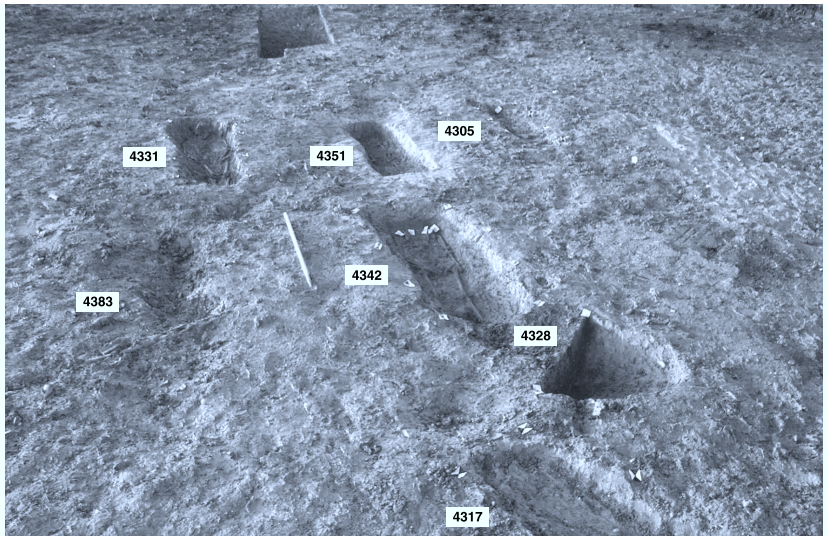

Plate 4.4 Site 4. General view of Phase 7 inhumation cemetery looking west showing excavated burials. Scale: 1 m.

Plate 4.5 Site 4. Phase 7 inhumation burial 4313, skeleton 4311. Scale: 1 m.

haphazard away from the core of the cemetery with scattered potential graves occurring in Enclosures 43, 47.1, 47.2 and 48.

Bone preservation varied from very poor to good, although considerable fragmentation was present in all the skeletons. Of the group, four were subadults, ranging in age from neonatal to late childhood (4295: child, 4298: infant, 4305: child, 4351: adolescent) and seven were of adults (4299, 4313, 4316, 4317, 4331, 4342 and 4383). Adults that could be aged were all older than 35 years. Only one possible female was identified, the remaining four sexed adults being male or possibly male. All but one skeleton had been laid out supine and extended within a single grave cut; adult burial 4316 was prone. A number had the hands folded over the lower abdomen. Two centrally placed and adjacent adult skeletons (Sk 4341 from burial 4342 and Sk

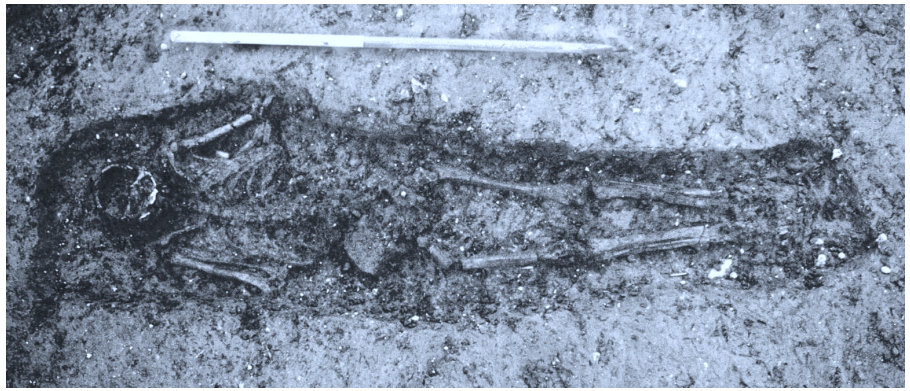

Plate 4.6 Site 4. Phase 7 inhumation burial 4316, skeleton 4314. Scale: 1 m.

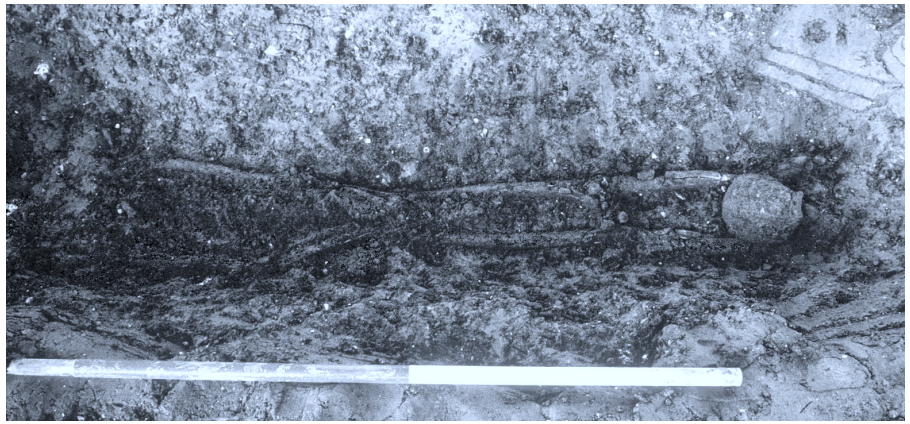

Plate 4.7 Site 4. Phase 7 inhumation burial 4383, decapitated skeleton 4382 with head placed between feet. Scale: 1 m.

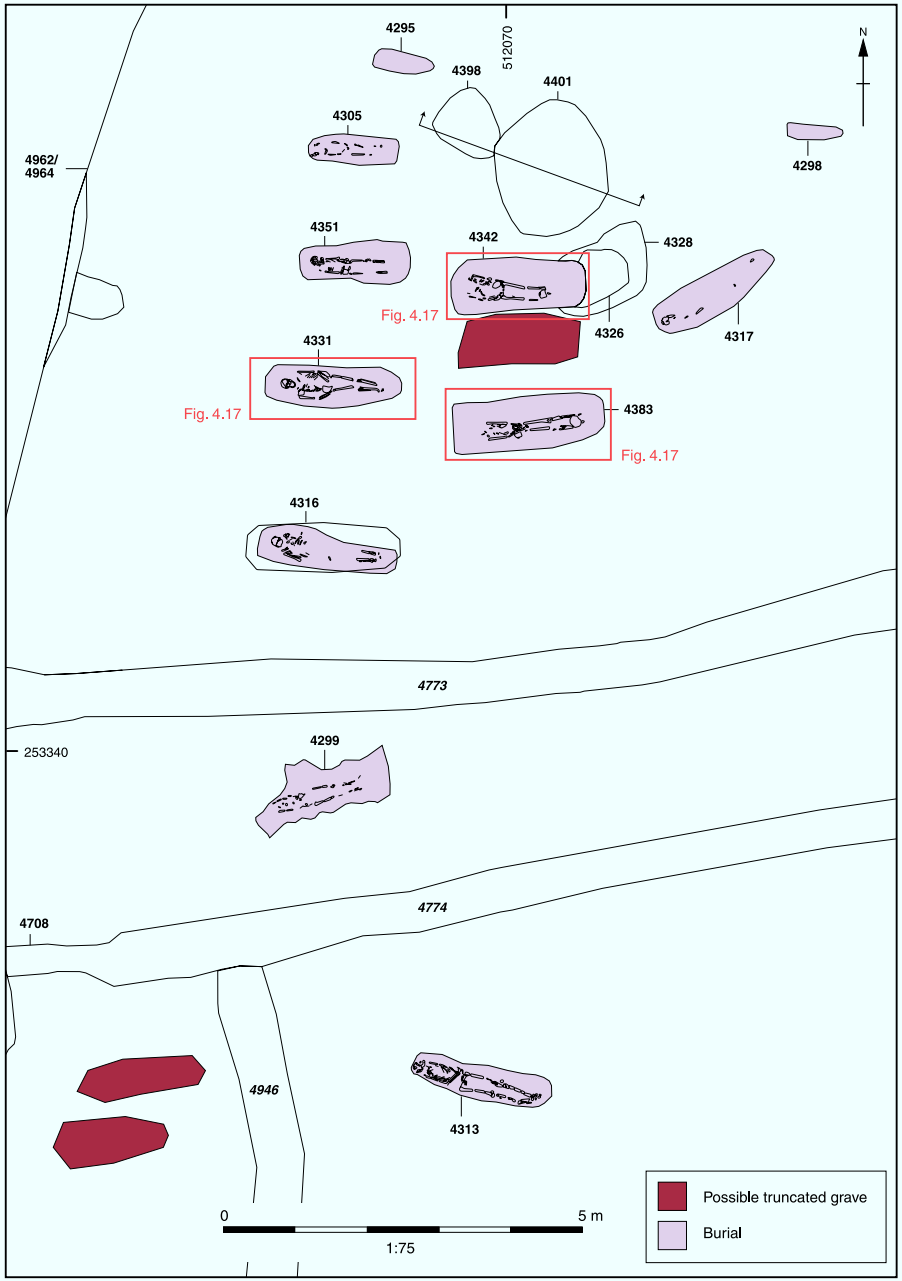

Fig. 4.16 Site 4, Phase 7.1, plan of inhumation cemetery

4382 from burial 4383) had been decapitated, the crania placed between the feet. Juvenile burial 4351 and adult decapitated burial 4342 had been interred within coffins, shown by soil stains and the presence of iron nails. The second decapitated burial (4383) had possibly been tightly wrapped in a shroud.

There were no grave goods, although some of the burials contained a few sherds of pottery. Most of this pottery could be dated no more closely than to the Roman period, although sherds dating to the late 1st to early 2nd centuries AD were recovered from burial 4342. This material must be considered residual, however. The west-east orientation, the presence of decapitated and prone burials and the lack of grave goods all suggest a date in the late 3rd to 4th centuries AD (Philpott 1991; Taylor 2001). This is supported by a radiocarbon determination of cal AD 240–390 (OxA-15515: 1727 ± 28 BP) obtained from the decapitated skeleton from burial 4342 (Chapter 12). The placing of late Roman inhumation cemeteries within a corner of an earlier, abandoned settlement enclosure finds parallels from other sites in eastern England, such as Orton Longueville, Cambs (Philpott 1991). However, one might reasonably expect the settlement on which the individuals lived to be relatively close, implying a 3rd-century focus of occupation existed on another part of Site 4

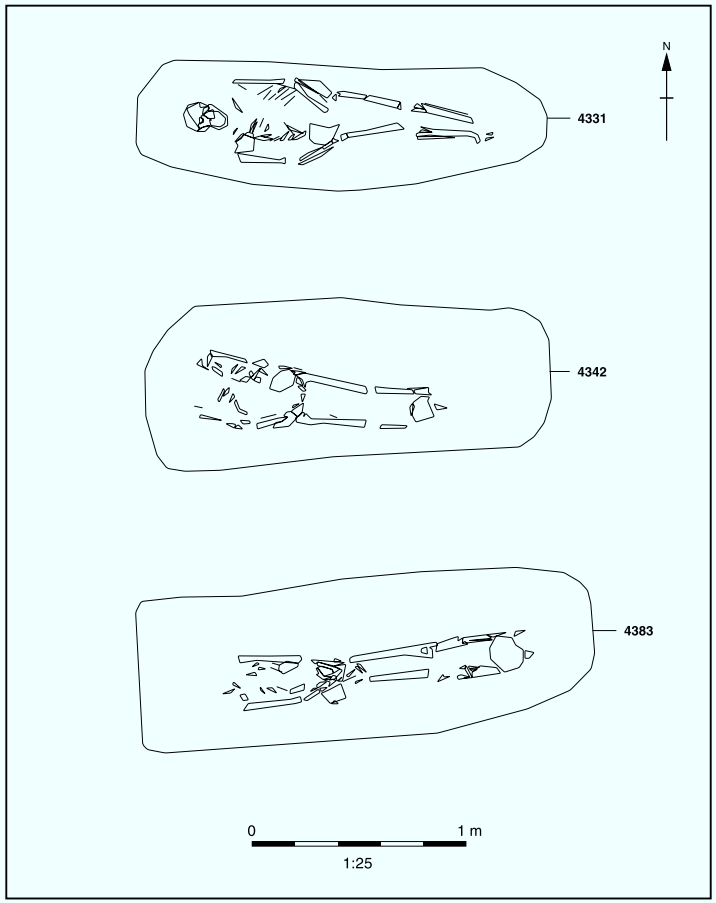

Fig. 4.17 Site 4, Phase 7.1, individual plans of selected burials from the inhumation cemetery

or a separate unidentified late Roman settlement was situated in the area.

The preponderance of males may not be significant, given the small sample and the number of unsexed skeletons. However, in the late Roman period, this preponderance of males over females is a common feature of rural burial grounds, seen at Kempston, near Bedford, and further afield at Trentholme Drive, York, and at Cirencester (Boylston *et al.* 2000). The burial grounds associated with the small town of Higham Ferrers, Northants, were sex specific, with one burial group largely containing males, and another females (Witkin forthcoming). It is probable that the individuals interred within the burial ground on Site 4 lived locally within a nearby late Roman farmstead, but the cemetery may only contain a proportion of the total population.

Catalogue of inhumation burials

4295 Subrectangular grave aligned W-E; 0.8 m L, 0.3 m W. Grave positioned on northern periphery of cemetery.
4293: skeleton of young child, *c* 4 years, lying supine.
4294: backfill of grave.

4298 Subrectangular grave cut aligned W-E; 0.4 m L, 0.2 m W, 0.03 m D. Situated on NE periphery of cemetery.
4296: skeleton of infant, 6–12 months.
4297: backfill of grave.

4299 Irregular subrectangular grave cut, aligned WSW-ENE; 0.9 m L, 0.9 m W. Positioned on south side of cemetery.
4301: skeleton of ?male, 35–45 years, lying supine.
4300: backfill of grave contained three sherds of Roman pottery, probably residual, dating to 1st century AD.

4305 Subrectangular grave cut more rounded at west end, aligned W-E; 1.2 m L, 0.4 m W, 0.1 m D.
4303: skeleton of older child, *c* 6 years, lying supine head to W.
4304: backfill of grave contained one sherd of residual middle Iron Age pottery and two animal bones.

4313 Subrectangular grave cut, more rounded at east end; 2.02 m L, 0.52 m W, 0.24 m D (Plate 4.5). Aligned WNW-ESE. Situated at extreme southern edge of cemetery.
4311: skeleton of male adult, 40–49 years, lying supine, head to W. Right forearm lying across abdomen.
4312: backfill of grave.

4316 Subrectangular grave cut narrows to foot end, aligned W-E; 2.0 m L, 0.58–0.4 m W, 0.2 m D (Plate 4.6).
4314: skeleton of male adult, 25–45 years, lying prone with arms bent at elbow next to body.
4315: backfill of grave contained five residual Roman sherds, one of 1st century AD date.

4317 Subrectangular grave cut, narrowing to east end; 1.85 m L, 0.56 m W, 0.12 m D. Aligned WSW-ENE
4319: skeleton of ?male adult, 25–35 years, lying supine with arms crossed, left hand resting on right hip and right over the left with the hand resting on the left elbow.
4318: backfill of grave contained the bases of two Roman jars and one pig bone.

4331 Subrectangular grave cut aligned W-E; 1.8 m L, 0.56 m W, 0.2 m D (Fig. 4.17).
4330: skeleton of male, 35–39 years, lying supine with head to W and hands folded across pelvis.
4332: backfill of grave contained ten Roman sherds including a base and two of 1st century AD date and an ox and sheep/goat bone.

4342 Subrectangular grave, aligned W-E; 1.7 m L, 0.7 m W. Cut features 4326 and 4328 (Phase 6.1: 1st century AD; Fig. 4.17).
4341: skeleton of male, 35–39 years, lying supine, decapitated with head placed between feet.
4343: backfill of grave contained 28 sherds of mid to late 1st-century date, including two base sherds and the rim of a lid seated jar. Also present were two sheep/goat bones, and three bones from other mammals. Corroded iron attached to tibia and several nails with unusually large heads suggest the presence of a coffin. A radiocarbon date was obtained from the burial of cal AD 240–390 (OxA-15515: 1727 ± 28 BP).

4351 Subrectangular grave, unusually wider at foot end, aligned W-E; 1.6 m L, 0.63 m W.
4532: rectangular stain within grave indicates presence of a coffin.
4349: skeleton of older child, <12–15 years, lying supine with hands crossed over pelvis.
4350: backfill of grave contained 6 sherds of mid to late 1st-century date including the rim of a platter and nine animal bones including ox and sheep/goat. Also two iron nails and iron staining on femur of skeleton.

4383 Subrectangular grave, squarer at west end; more rounded at east end; 1.8 m L, 0.5 m W, 0.5 m D (Fig. 4.17; Plate 4.7). Aligned W-E.
4382: skeleton of ?male, 35–45 years, lying supine, decapitated, with head placed between ankles. The bones appeared to have been tightly wrapped, possibly indicative of a shroud.
4384: backfill of grave contained two sherds of late Iron Age date.

SITE 8: WATER END EAST

Summary

Excavation at Site 8 revealed a complex multiphase settlement (Fig. 4.18; Plate 4.8). The earliest activity dated to the 1st century AD, and was represented by a curvilinear enclosure system in which two and four-post structures, ovens and two cremation burials were found. This was succeeded by a substantial settlement of the 2nd to early 3rd centuries AD, consisting of a series of enclosures arranged around the junction of two trackways. Features associated with the enclosures included roundhouses, probable rectangular buildings, four pottery kilns, a corndrier, a cremation cemetery and seven inhumation burials. The enclosure system was realigned and reduced in scale during the late

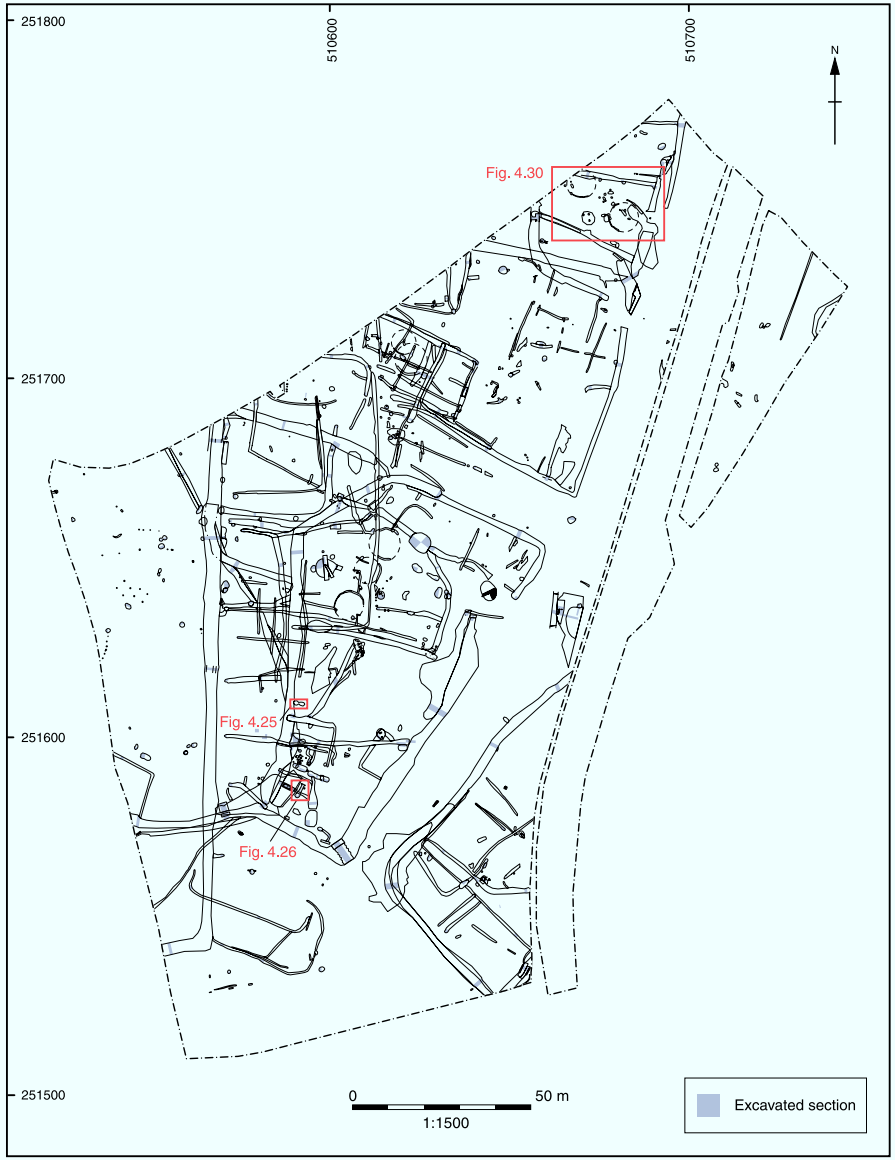

Fig. 4.18 Site 8, plan of all features

3rd to 4th centuries AD; one further kiln belongs to this phase. Small quantities of Saxon material may indicate continued use of the site or activity peripheral to Site 9, and its significance is discussed further in Chapter 7.

Site location

The site is located to the north-east of the A421 Renhold Road (Fig. 1.1) at NGR TL 106516 and lies at *c* 35 m aOD on land sloping gently to south and south-west towards the river Ouse. The evaluation trenches exposed an infilled palaeochannel crossing the southern edge of the field. The excavated area amounted to 3.1 ha.

Introduction

Site 8 is a complex multiphase settlement spanning the whole of the Roman occupation (Fig. 4.18). A small quantity of Iron Age material hints at earlier antecedents for the occupation and may represent a shift in occupation from Site 7, which lies 300 m to the NE. A few middle and late Anglo-Saxon sherds may represent occupation on the margins of Site 9, which lies about 300 m to the SW or continuity of occupation on Site 8 (see Chapters 6–7).

The full extent of the site is unknown and ridge and furrow appears to have masked earlier features that one might have expected to be visible in aerial photos. The only feature to appear on any aerial photographs is the south-west, south and eastern sections of the ditch of Enclosure 82. A faint line to the west of this possibly indicates the position of the N-S ditch of Enclosure 83. The geophysical survey, which extended beyond the excavated area on the west, showed part of second curvilinear enclosure similar to, and possibly contemporary with, Enclosure 80. The geophysics suggests more intensive activity to the north and north-west, whilst the area directly west coincident with Enclosure 80 is a blank. The absence of even the enclosure ditches suggests this area may not have been susceptible to geophysics.

The ridge and furrow is also a factor in the heavy truncation that much of the site has suffered and must be partly responsible for the lack of detailed evidence for internal structures and occupation. For

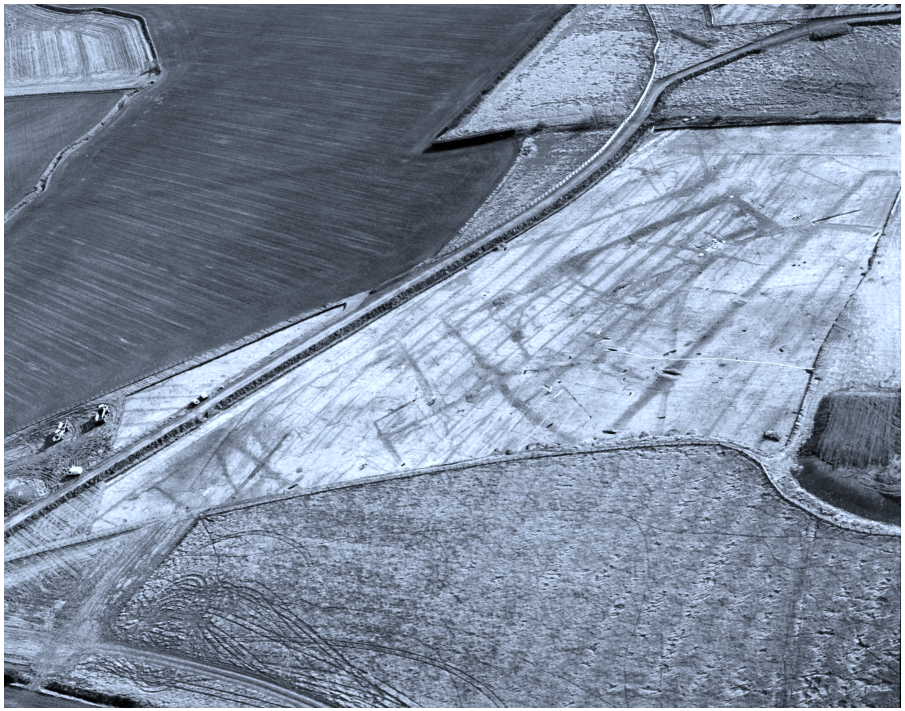

Plate 4.8 Site 8. Aerial view of the excavations looking south-east © Edmund Nuttall Ltd

this reason no attempt has been made to disentangle the relationships of many of the ditches to produce anything more detailed than the three broad phases presented.

Detailed descriptions of many of the feature fills will not be reproduced here. This is especially so for the ditches, which were dominated by natural accumulations of fine silty or clayey soil eroded from the feature sides, or washed or blown in from the contemporary ground surface. It is clear from the multiple cuts that many ditches were maintained, being cleaned or recut, over a substantial period. However, the limited interventions excavated along the ditches do not allow detailed dated sequences to be reconstructed and are unlikely in any case to further our understanding of the site.

No features can be dated earlier than the 1st centuries BC/AD. The earliest period of occupation (Phase 5–6.1) on this site spans the late 1st century BC to mid to late 1st century AD. This is followed by a longer period of occupation through the 2nd century until the mid to late 3rd century (Phase 6–7.1). The final period of activity (Phase 7.2) runs from the late 3rd century through to the end of the 4th century. In all areas there were a number of undated features and unexcavated features of uncertain function. It is likely that most of these features were associated with the Romano-British occupation, although on the western side of the site some may be Saxon, relating to the final occupation.

Phase 5–6.1: late Iron Age–early Roman (late 1st century BC–late 1st century AD)

The earliest activity revealed by the excavation was confined to the west area of the excavation (Fig. 4.19) in the form of Enclosures 80 and 81, which were both only partially exposed. Enclosure 80 appears stratigraphically to be the primary enclosure of the two, with Enclosure 81 butted onto its eastern boundary. The dating evidence supports this. These enclosures appear to form the south-eastern periphery of the earliest activity, possibly having its origins in a late Iron Age settlement that extended north-west from the excavation. A limited number of structures and features produced small quantities of late Iron Age pottery without any definite early Roman wares. These included the ditch of Enclosure 80, the four-post structures, one pit and some ovens. Features with definite Roman wares included the ditch of Enclosure 81, three pits, an oven and a cremation burial. This suggests that occupation began in this area before the conquest period, either in the late 1st century BC or the first half of the 1st century AD, and continued into the Roman period without interruption. The relatively low density of features and sparse quantity of finds from this phase suggests that this area of the site was not intensively occupied, with any settlement 'core' lying outside the limits of excavation.

Enclosure 80/1

In its primary phase this was an oval enclosure, of which the south-east quadrant lay within the excavation. The enclosure measured in excess of 100 m N-S by 56 m E-W and was defined by a curvilinear ditch 8045, which had clearly been recut as 10740 along its eastern side. It can be faintly discerned in the geophysical survey continuing beyond the edge of the excavation to the NW for *c* 32 m. A linear ditch aligned NNE-SSW in evaluation trench 174 may represent the west side of this enclosure, which would indicate a width of *c* 75 m at this point. A second smaller ditch running parallel a few metres to the west may be the recut which has diverged on this side or a gully delineating a track alongside the enclosure. Taken together this additional evidence suggests it was a tear-drop shaped enclosure with a long axis aligned NW-SE measuring *c* 125–35 m. It is unclear whether ditch 10826, to the south-west, formed the southern boundary of the enclosure in its first manifestation, or whether the early ditch had been completely recut on the same alignment by a later ditch. The latter is considered more likely as ditch 10826 was very different from either of the other ditches, when seen elsewhere. Ditch 10826 may have formed a subsidiary annex on the south side of Enclosure 80. The early phase ditch 8045 measured 0.84 m wide by 0.58 m deep; the later ditch, 10740, measured 1.38 m wide by 0.67 m deep. In both phases the ditch had an even V-shaped profile and a fill largely composed of naturally eroded clay, chalk and stones from the ditch sides and natural silting and soil accumulation. Each phase of the ditch yielded very small quantities of pottery of middle to late Iron Age date and other finds.

Evidence of occupation and activity within the enclosure is sparse and scattered, comprising two four-post structures, four two-post structures, several hearth and oven bases, isolated postholes, other small pits and hollows of uncertain function, and cremation burials. Most of the features are undated and many of them could have been related to the later Enclosure 83, which partly overlapped the same area as Enclosure 80. However, the fills of many of the postholes belonging to the post structures contained flecks of fired clay and charcoal, suggesting contemporaneity with the ovens. Therefore all features within the enclosure apart from those firmly dated to Phase 7 are discussed in this section.

Post structure 81 (group 8058) (Fig. 4.20; Table 4.1)

The structure measured 3 m square in area and was aligned NE-SW, lying 2 m to the west of PS 82 and slightly off-set from it to the south. Postpipes were visible within two of the postholes and the base diameter of a third suggests it held a post of the same size. These indicate that timbers with a diameter of 0.15–0.16 m were used. From the plan of posthole 8009 the post appears to have been wedge-shaped, suggesting it has been split from a larger

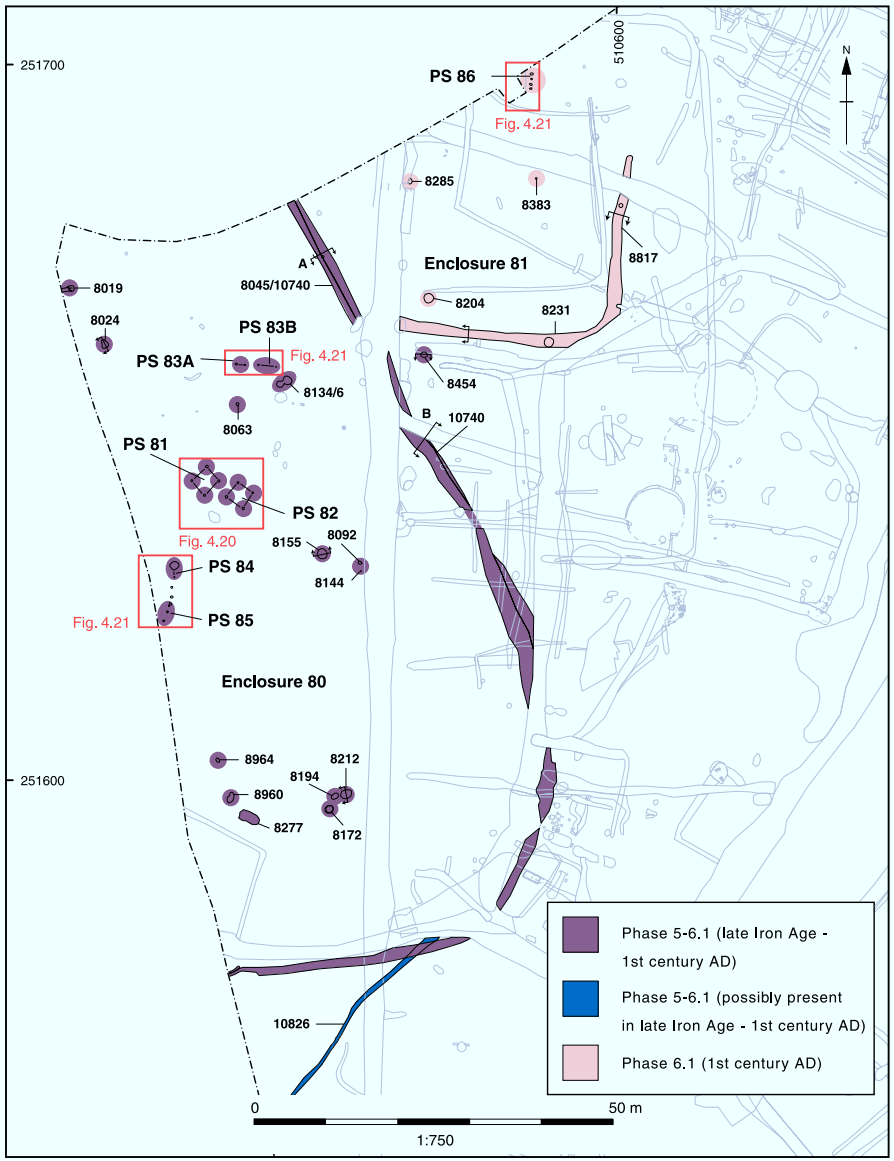

Fig. 4.19 Site 8, Phase 5–6.1, plan

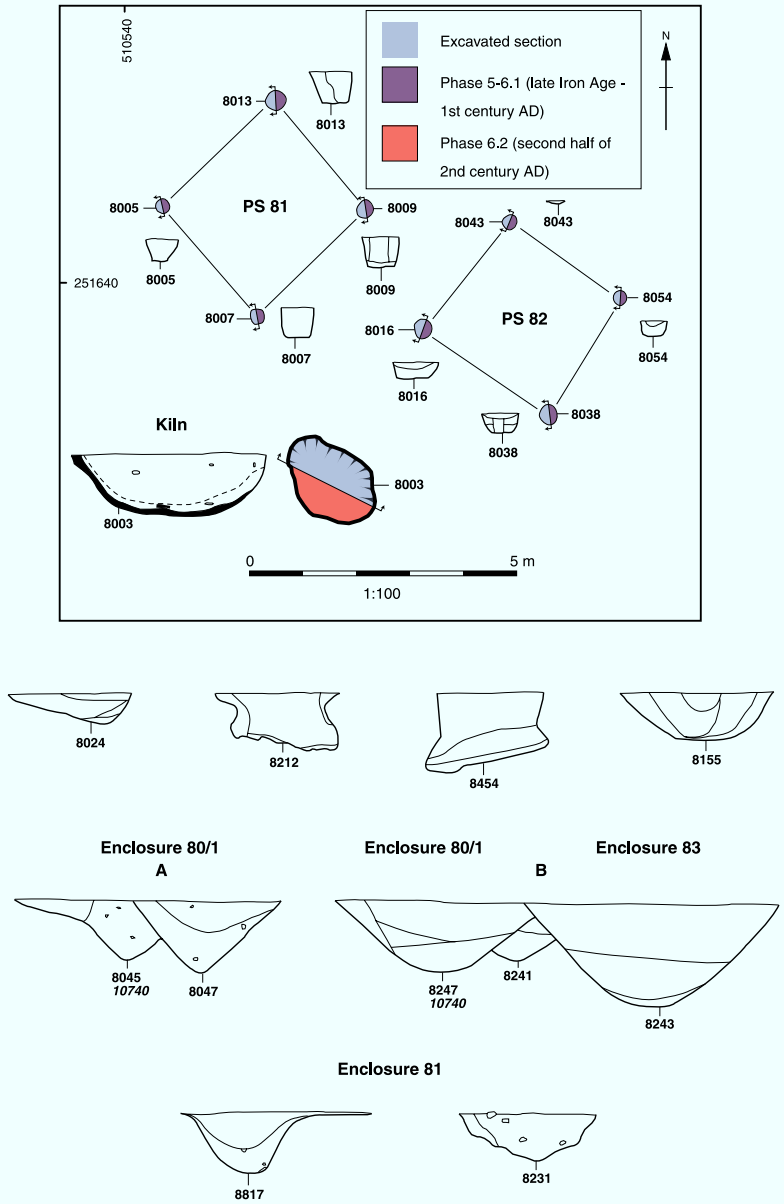

Fig. 4.20 Site 8, Phase 5–6.1, ditch and feature sections and Post Structures 81 and 82; Phase 6.2 ditch of Enclosure 83 and kiln 8003

timber. Postpacking utilised only redeposited natural silty clay. Two of the postholes contained late Iron Age pottery, and some fragments of fired clay were recovered from one.

Post structure 82 (group 8057) (Fig. 4.20; Plate 4.9; Table 4.2)

This structure was of the same size and on the same alignment as PS 81, with which it is likely to be contemporary. One of the postholes was in effect only the base, suggesting the posthole was cut to a shallower level. One posthole contained pottery of late Iron Age date.

Post structure 83 (Fig. 4.21; Table 4.3)

These four postholes could form a single linear structure 6 m long aligned E-W or two separate two-post structures (PS 83A and PS 83B), 1.4 and 2.6 m long set in line 2 m apart. The latter is more likely in view of the uneven spacing of the posts. The postholes were slight but three contained evidence of the postvoid indicating the use of timbers *c* 0.11–0.13 m in diameter. Three of the postholes were distinctly oval in plan and posthole 8076, an isolated feature nearly 6 m to the south-east, was very similar in shape and size.

Table 4.1: Site 8, summary of PS 81

Posthole	*Diameter (m)*	*Depth (m)*	*Postvoid diameter (m)*	*Artefacts and dating*
8005	0.3	0.22	0.16 ?	None
8007	0.32	0.24	~	Pottery: M/LIA; fired clay
8009	0.34	0.26	0.18	None
8013	0.4	0.24	0.15	Pottery: M/LIA

Table 4.2: Site 8, summary of PS 82

Posthole	*Diameter (m)*	*Depth (m)*	*Postvoid diameter (m)*	*Artefacts and dating*
8016	0.43	0.16	~	None
8038	0.35	0.18	0.1	Pottery: LIA; fired clay
8043	0.18	0.03	~	None
8054	0.24	0.15	0.12	None

Table 4.3: Site 8, summary of PS 83

Posthole	*Diameter (m)*	*Depth (m)*	*Postvoid diameter (m)*	*Artefacts and dating*
8065	0.31 x 0.24	0.08	0.11	None
8068	0.33 x 0.18	0.14	0.12	None
8071	0.18	0.06	~	None
8073	0.23 x 0.2	0.06	0.13	None

Table 4.4: Site 8, summary of PS 84

Posthole	*Diameter (m)*	*Depth (m)*	*Postvoid diameter (m)*	*Artefacts and dating*
8138	0.25	0.1	~	None
8141	0.18	0.08	~	None

Table 4.5: Site 8, summary of PS 85

Posthole	*Diameter (m)*	*Depth (m)*	*Postvoid diameter (m)*	*Artefacts and dating*
8146	0.2	0.1	~	None
8149	0.26	0.1	~	None

Post structure 84 (Fig. 4.21; Table 4.4)

This two-post structure measured 1.5 m long and was aligned NNE-SSW, on line with PS 85, but separated from it by two ovens.

Post structure 85 (Fig. 4.21; Table 4.5)

This two-post structure lay 3.6 m to the south of PS 84, and was set on the same alignment. It measured 1.5 m long and had postholes very similar in size to PS 84, but neither retained postvoids or contained any dating evidence.

The post structures are typical of the native Iron Age building tradition, which continued into the early Roman period. The four-post structures are generally interpreted as granaries with a raised floor, though they may have functioned as more generalised agrarian store buildings depending on the agricultural regime. Hay and other foodstuffs would benefit from being stored in a well-ventilated structure with a raised floor. The function of the two-post structures is problematic. Although traditionally interpreted as drying racks, they could have had any number of functions in an agricultural setting. It may be significant that groups of ovens are situated in close association with both pairs of two-posters.

Apart from the postholes forming structures, only a couple of other postholes were present, one of which (8059) contained generic Romano-British pottery.

Ovens (Figs. 4.19 and 4.21)

A number of small features have been interpreted as small oven or hearth bases (Table 4.6). Those firmly designated as such include small keyhole (8108; Fig. 4.21), figure-of-eight (8024, 8277, 8960; Fig. 4.19), circular (8063 (Fig. 4.19), 8105, 8111 (Fig. 4.21), 8172/4 (Fig, 4.15)) and oval hollows (8194, 8964; Fig. 4.19) containing some evidence of burnt debris in the form of charcoal and fired clay. Some other features of comparable size and forms are likely to be similar features but the site record is insufficient to assert this with certainty (keyhole: 8019/21; figure-of-eight: 8134/36; circular: 8155; Fig. 4.19); oval: 8088 and 8090.

Several of these features appear to occur in small groups, more typical of Roman sites than Iron Age, implying discrete activity or working areas. Two of the groups of ovens are close to two-post structures. They are described here as ovens, used as a generic term rather than implying function. Though they may be domestic in character, for cooking or baking, there is some evidence to suggest that this type of structure was used for grain drying, possibly preparatory to use rather than prior to storage.

It is possible that some of the more amorphous irregular features represented pyre sites in view of the presence of cremations in this and the subsequent phase. However, there is no artefactual or environmental evidence to positively identify such

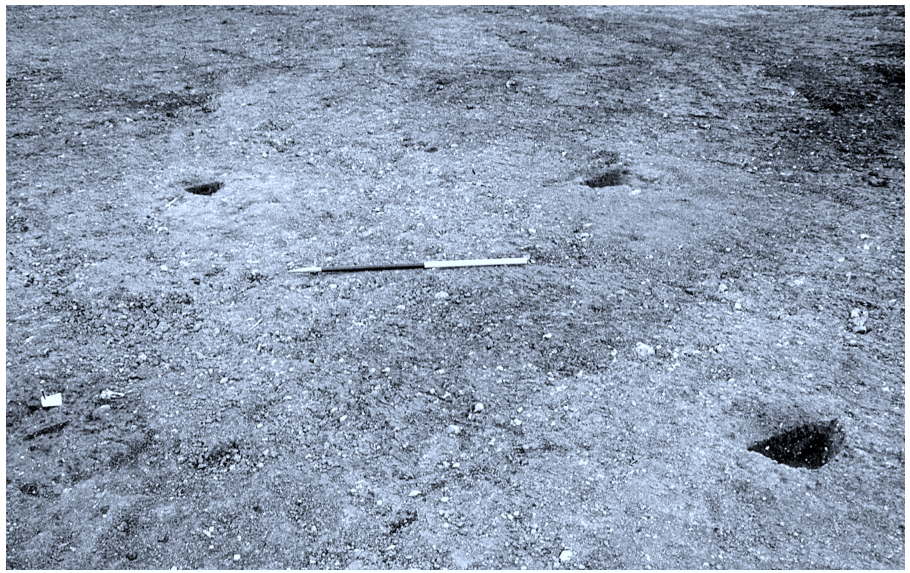

Plate 4.9 Site 8. Phase 5–6.1 Post Structure 82, looking south-east. Scale: 1 m.

a function. Unfortunately no environmental sampling was undertaken for any of the features, and therefore all discussion of function must remain hypothetical based on the form of the features alone.

Cremation burials

Cremation burials 8092 and 8144 occurred close together on the eastern side of Enclosure 80/1. Both were apparently unurned (Fig. 4.19).

Cremation burial 8144 was set into a small circular pit, 0.22 m in diameter by 0.2 m deep. Insufficient diagnostic bone survived to assess the age or gender of the individual buried. There were no grave goods, the only artefactual material recovered being fired clay, presumably scraped up from the funeral pyre.

Cremation burial 8092 was set in an irregular subsquare pit measuring 0.63 m by 0.48 m in diameter by 0.09 m deep. The burial was of an adult and was associated with a grey ware jar and a samian dish ascribed to the mid to late 1st century AD. The samian dish may have been placed upside down, possibly as a covering over the cremation. A quantity of small, mostly amorphous fragments of fired clay was also recovered from the fill (8093) and probably derived from the pyre site.

Enclosure 81 (Fig. 4.19)

This enclosure, measuring 32 m E-W by 24 m N-S, was defined on its southern and eastern sides by an L-shaped ditch, 8231, aligned E-W then turning N-S. It was apparently open on its northern side and there may have been a gap between its terminus on the west and ditch 10740 of Enclosure 80, but the ditch of Enclosure 83 destroyed its junction with Enclosure 80. The ditch measured 0.8–1.24 m wide, 0.2–0.42 m deep and had an irregular V-shaped profile along its southern extent becoming more U-shaped on the east. The fill consisted primarily of eroded natural clay and silting, with some tips of occupation debris.

The interior of Enclosure 81 was virtually devoid of features apart from three pits (8204, 8383 and 8285) and later ditches and gullies.

Post structure 86 (Fig. 4.21; Table 4.7)

Further north, 9 m beyond the ditched area, was a row of four postholes (8266–8272) of which one contained pottery from the latter half of the 1st century. The postholes were set 0.3–0.35 m apart, forming a row 2.2 m long, aligned N-S. They were similar in character, slightly oval or pear-shaped, and represent just the truncated base of the postholes. No postvoids survived though a couple

Table 4.6: Site 8, summary of oven/hearth features

Cut	*Length (m)*	*Width (m)*	*Depth (m)*	*Shape*	*Comments*	*Fill*
8019/ 8021	1.9	0.78, 0.5	0.22, 0.09	Keyhole	Thin black lenses may be fine charcoal	
8024	1.2	0.94, 0.52	0.28	Eight	Frequent black and red 'panning' may be lenses of fired clay and fine charcoal	Frequent charcoal flecks
8063	0.46	0.38	0.15	Circular	M/LIA pottery	Frequent charcoal
8088	0.9	0.62	0.12	Oval	Shallow dished hollow. Roman pottery	Fired clay fragments in fill; occasional charcoal
8090	0.94	0.54	0.32	Oval	Vertical sided pit	Fired clay fragments in fill
8105	0.38	0.3	0.14	Circular	M/LIA pottery	Fired clay grit and frequent charcoal
8108	0.56	0.36	0.26	Keyhole	Red lenses probably fired clay M/LIA pottery	Frequent charcoal
8111	1.3	1.1	0.26	Circular	Frequent red and black lenses probably fired clay and charcoal lenses	Frequent charcoal and fired clay grit
8134/ 8136	2.24	1.26, 0.45, 0.92	0.3, 0.05, 0.18	Eight		Charcoal scattered through fill
8155	1.46	1.35	0.42	Circular	Bowl shaped pit ?not oven Associated with nearby cremations?	Tip of fired clay
8172/ 8174	1.16	1.08	0.3	Circular	Lining layer 8173 round sides. M/LIA pottery	Frequent charcoal fragments and fired clay
8194	1.0	0.64	0.2	Oval	Pit? M/LIA pottery	Frequent charcoal and fired clay grit
8277	3.1	1.05, 0.6	0.08	Oval	Heavily overcut	Frequent fired clay grit
8960	1.54	0.86	0.12	Eight	Lightly fired clay over base	Charcoal flecks and fired clay grit
8964	0.62	0.4	0.14	Oval		Charcoal and frequent burnt clay grit

of postholes had stones set at the edge that may have been the remains of packing. There is no evidence to suggest this continued beyond the excavation as a fence line, though it is possible a second row existed to the west beyond the limit of excavation to form a rectangular structure.

Pits

A small number of pits can be assigned to this phase, of which two were within Enclosure 80/1, three within Enclosure 81 and one just outside both enclosures in the corner where the enclosures joined.

Pit 8155 (Figs. 4.19 and 4.20)

One of the pits, 8155, present within Enclosure 80/1 was undated, but contained a deliberate tip of undiagnostic fired clay between more sterile accumulations of yellowish brown silty clay with small stones. The pit was subcircular with a bowl-shaped profile measuring 1.46 x 1.37 m wide by 0.42 m deep. The pit is unlikely to have been for storage and may have been dug to obtain clay for ovens or daub. A second smaller subcircular pit, 8285, measuring 0.8 x 0.7 m wide by 0.36 m deep, formed a bowl-shaped hollow with flat base and sloping sides.

Pit 8212 (Figs. 4.19 and 4.20)

The second pit, 8212, within Enclosure 80/1 appears to have been a subcircular eroded beehive type storage pit with undercut sides and an irregular base. This was stepped down on the south, which may suggest it was unfinished. The base measured less than 1 m wide and the uneroded mouth would have been in the order of 0.6 m wide. The pit had a maximum depth of 0.52 m. On the base was a primary silt (ctx 8213) of yellowish brown silty clay with occasional chalk and charcoal flecks. The site record shows a layer of orange-brown silty clay with occasional chalk flecks and frequent flints (ctx 8214), which may be overcut natural. The main bulk of the pit fill was a deliberate dump of brown silty clay (ctx 8215) containing frequent charcoal flecks and fragments, fragments and flecks of fired clay, frequent flints and other stone. There was also a high density of bone, all sheep/goat and medium mammal, the range of which suggests there was one or more unrecognised special deposits of a complete or semicomplete articulated animal(s) of the type well known from Iron Age storage pits (Grant 1984, 533–43). The pit is a typical, small grain storage pit based on its form. However, in view of the relatively high water table on this site today, it is questionable whether it could have functioned efficiently, and this may account for the rapid backfill. It contained a few sherds of pottery, most of which were of late Iron Age date. A single sherd of Roman pottery of mid to late 2nd-century date is unlikely to reflect the actual date of the pit. It is probable this Roman sherd was found in the uppermost fill in the pit top, but the lack of layering in the fill makes this impossible to substantiate.

Pit 8204 (Fig. 4.19)

Pit 8204, dating to the late Iron Age–1st century AD, was situated in the south-west corner of Enclosure 81. It was cylindrical with a flat base and steeply sloping straight sides. It measured 1.23 m in diameter at the top, 0.6 m at the base and 0.5 m deep. It contained two layers: a dark brown silty clay with chalk, small stones, some charcoal and a little occupation debris (ctx 8205) overlain by a yellowish brown silty clay with chalk, pebbles and some occupation debris (ctx 8206).

Pit 8383 (Fig. 4.19)

The other feature within Enclosure 81 was small cylindrical pit, 8383, 0.26 m in diameter by 0.06 m deep, in which had been placed a late Iron Age pot.

Pit 8454 (Figs. 4.19 and 4.20)

A third pit of Iron Age type, 8454, lay outside Enclosures 80.1 and 81 about 2.5 m south of ditch 8231. This was of beehive type with the lower sides undercutting the top and the base distinctly sloping. The pit measured 1.1 m across its base and 0.85 m at the narrowest point. The uneroded mouth probably measured about 0.6 m across. The depth ranged from 0.5 m on the east to 0.7 m on the west. Covering the base was a flat layer of charcoal (ctx 8457), which was overlain by a thicker deposit of probably eroded loose brownish-grey clay silt with a tip of fired clay (ctx 8456) interleaving on the east side. Filling the upper half was a deliberate tip of dark brown-black soft clay silt (ctx 8455) containing a high density of charcoal, occasional fired clay and

Table 4.7: Site 8, summary of PS 86

Posthole	*Diameter (m)*	*Depth (m)*	*Postvoid diameter (m)*	*Artefacts and dating*
8266	0.4 x 0.32	0.1	Limestone packing	Fired clay
8268	0.36 x 0.3	0.1	~	Fired clay, bone
8270	0.46 x 0.3	0.08	~	Pottery (mid–late 1st century AD)
8272	0.4 x 0.28	0.1	Flint packing	None

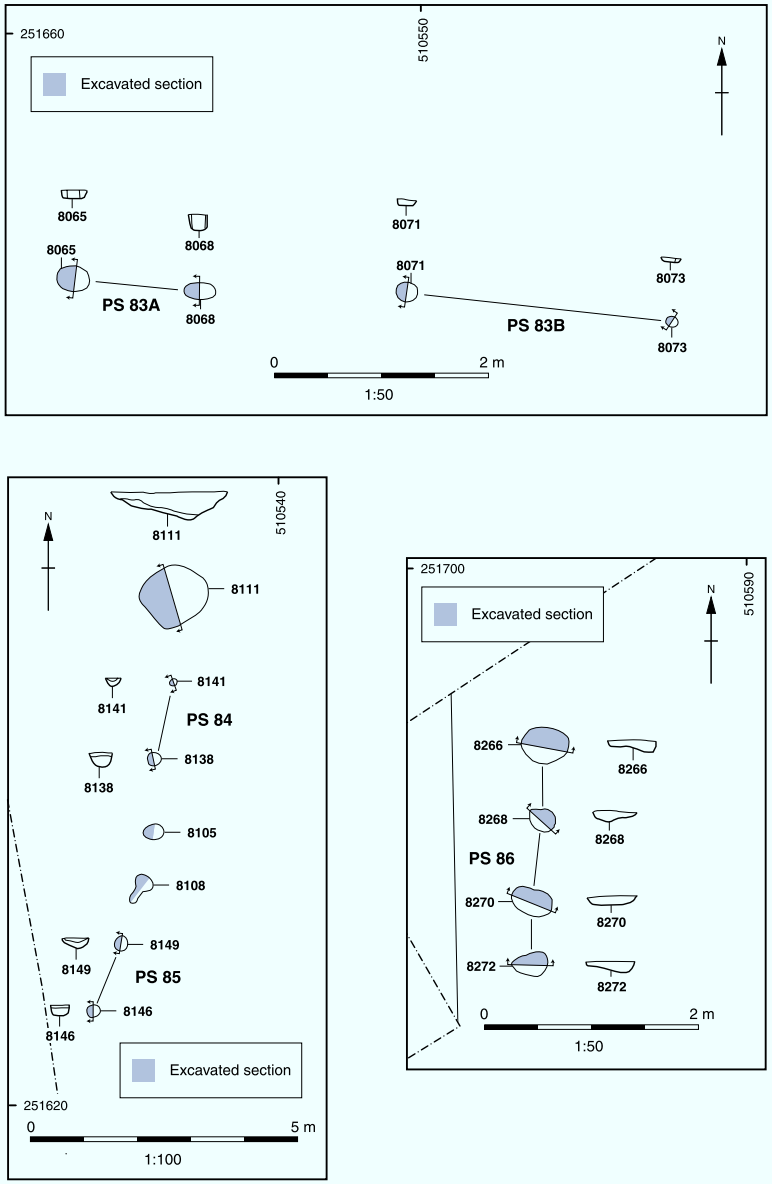

Fig. 4.21 Site 8, Phase 5–6.1, Post Structures 83–86

stones. The fired clay was identified as oven/kiln wall and firebar, confirming that the burnt debris derives from a demolished oven or kiln. The associated carbonised plant remains suggest the burnt debris derived from a corndrier and plant processing debris (see Druce Chapter 11). The pit contained generic Roman pottery, but could not be more closely dated. However, the pit is typical of Iron Age forms and it is unlikely that this type of feature continued to be utilised much after the early Roman period.

The presence of three beehive-shaped pits indicates the continuity of native Iron Age traditions into the Roman period. It is notable however that no beehive pits were found on any of the Iron Age sites excavated. The primary function of this type of pit is generally interpreted as having been grain storage. Their infrequency in this area is not surprising in view of the geology/subsoil conditions and evidence for a high water table, which would not have been conducive to successful grain storage. Their presence may indicate a drier period, when below ground storage was viable. It may also indicate that the agrarian regimes in the area were geared more to raising livestock than to arable farming.

Phase 6–7.1: mid to late Roman (2nd–3rd centuries) (Figs. 4.22-4.30)

A major reorganisation of the site occurred some time during the late 1st or early 2nd century AD. A series of subrectangular ditched enclosures were laid out around two trackways that intersected at right angles. Features associated with the enclosures included at least three roundhouses, possible rectilinear buildings, four kilns, a corndrier, quarries, a cremation cemetery and seven inhumation burials. Some zoning in the use of space can be discerned, with both the 'industrial' features (kilns and corndrier) and the cremation cemetery seemingly set apart from the main settlement areas where the buildings lay. In contrast, some other areas within the enclosure system appear to be relatively devoid of features.

Trackways and enclosures

The enclosure system was essentially rectilinear in form, though it had some curvilinear elements where it utilised earlier ditches. The two trackways formed the principal structure for the layout of the settlement.

Trackway 1 crossed the site on a NE-SW alignment. It was demarcated on its western side by Enclosures 82, 85, 86 and 87 and on its eastern side by Enclosure 84. It gradually narrowed from 26 m to 8 m at its southern end where it ran out onto an open area with few features. At the north end where the track appears excessively wide, a large irregular feature (8950/8603), probably a quarry hollow complex had been dug opposite the entrance of Enclosure 82. This effectively narrowed the width of the track here to 8 m. Pottery from the upper layers of the quarry was of mid to late 2nd-century date. The more northerly extent of Trackway 1 does not appear to have been defined in any way on its eastern side, where no enclosures existed.

Trackway 2, set at right angles, ran NW from Trackway 1, and was demarcated on its southern side by Enclosures 82 and 83 and on its northern side by Enclosure 85. It is unclear whether Trackway 2 continued to the south-east to form a crossroads or stopped at Trackway 1 as a T-junction. No traces of metalling were observed within either of the trackways, though the hollow 10753 may be a series of potholes or areas of wear at the junction of the two tracks.

Trackway 2 is less clearly defined on the north side towards the west and it would appear that this end at some stage had become partly or wholly blocked off. A shallow V-shaped gully, 10704, ran across the road at right angles from the apex of Enclosure 82, but on its own would not have prevented the passage of human or animal foot traffic. Subsequently ditch 10874 of enclosure 85.1 projected into the road by *c* 4 m creating a narrow point, especially if the unexcavated length of gully on the south side was contemporaneous. It may account for the poorly defined area of irregular hollows (10063, 10065, 10603) in the centre of the track at this point. These may have formed as a result of heavy wear, the hollows subsequently having a tip of cobbles spread in the top to consolidate the area. The gully (10562) running down the centre of the track stops at these gullies and hollow. They may represent some arrangement of barriers for controlling and funnelling herds into the area beyond and to Enclosure 83 on the south side of the track.

Seven main compounds (Enclosures 80/2, 82–87) can be discerned within the enclosure system, with the corner of an eighth just visible in the northernmost corner of the excavation. Further subdivisions were present in all the major enclosures forming subsidiary compounds or building plots.

Enclosure 82 (Figs. 4.22 and 4.23)

This enclosure was an irregular, pentagonal shape measuring 96 m long (N-S) by 56 m at its widest, narrowing to 25 m on the south. The main entrance was situated at the north end of the east side, where a gap of 8 m allowed access from Trackway 1, while a small subsidiary entrance was placed at the south-west corner to allow access to and from Enclosure 80/2, which abuts it on the west. Trackway 1 bound Enclosure 82 along its eastern edge and Trackway 2 on the north. On the north-west it was abutted by Enclosure 83.

The southern ditch, 10819, continued west to redefine the south side of Enclosure 80, whilst the southern half of 10744 recut the eastern boundary of Enclosure 80 resulting in a slightly curved ditch. A

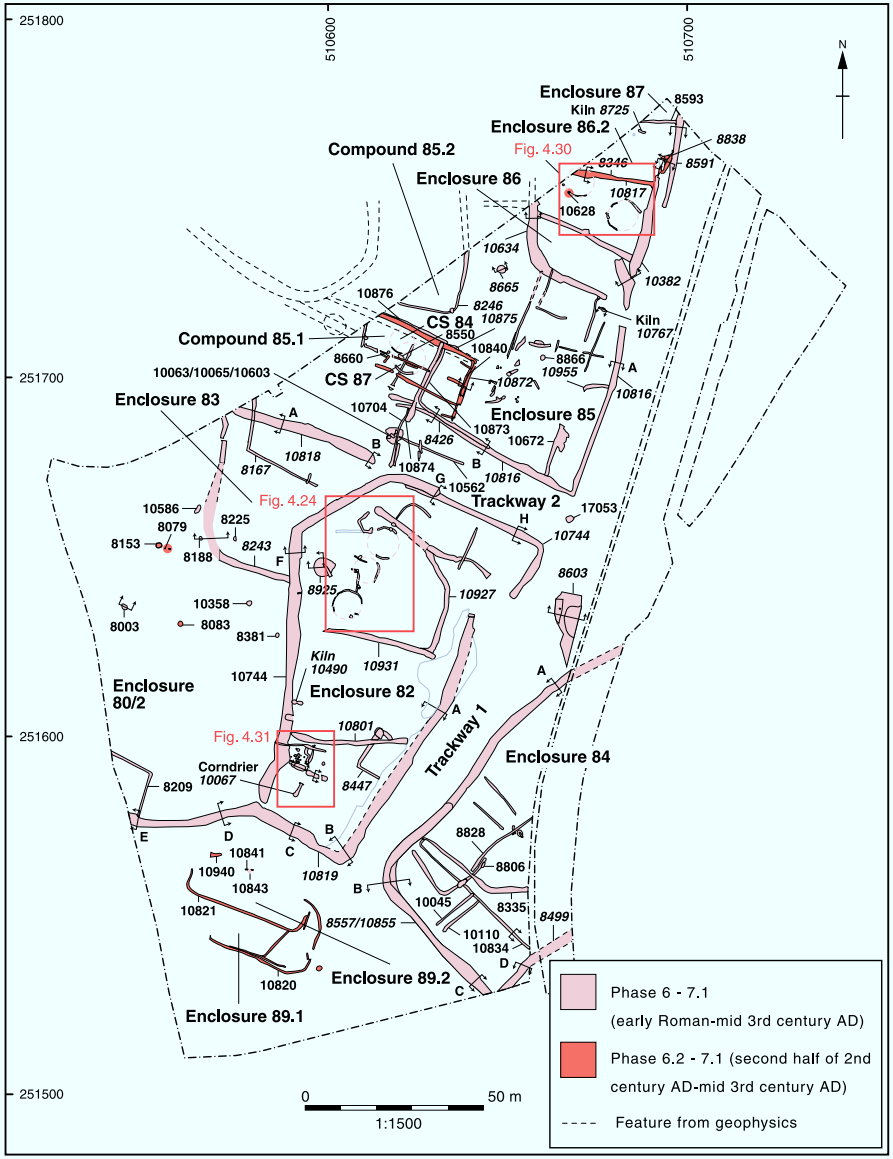

Fig. 4.22 Site 8, Phase 6–7.1, plan

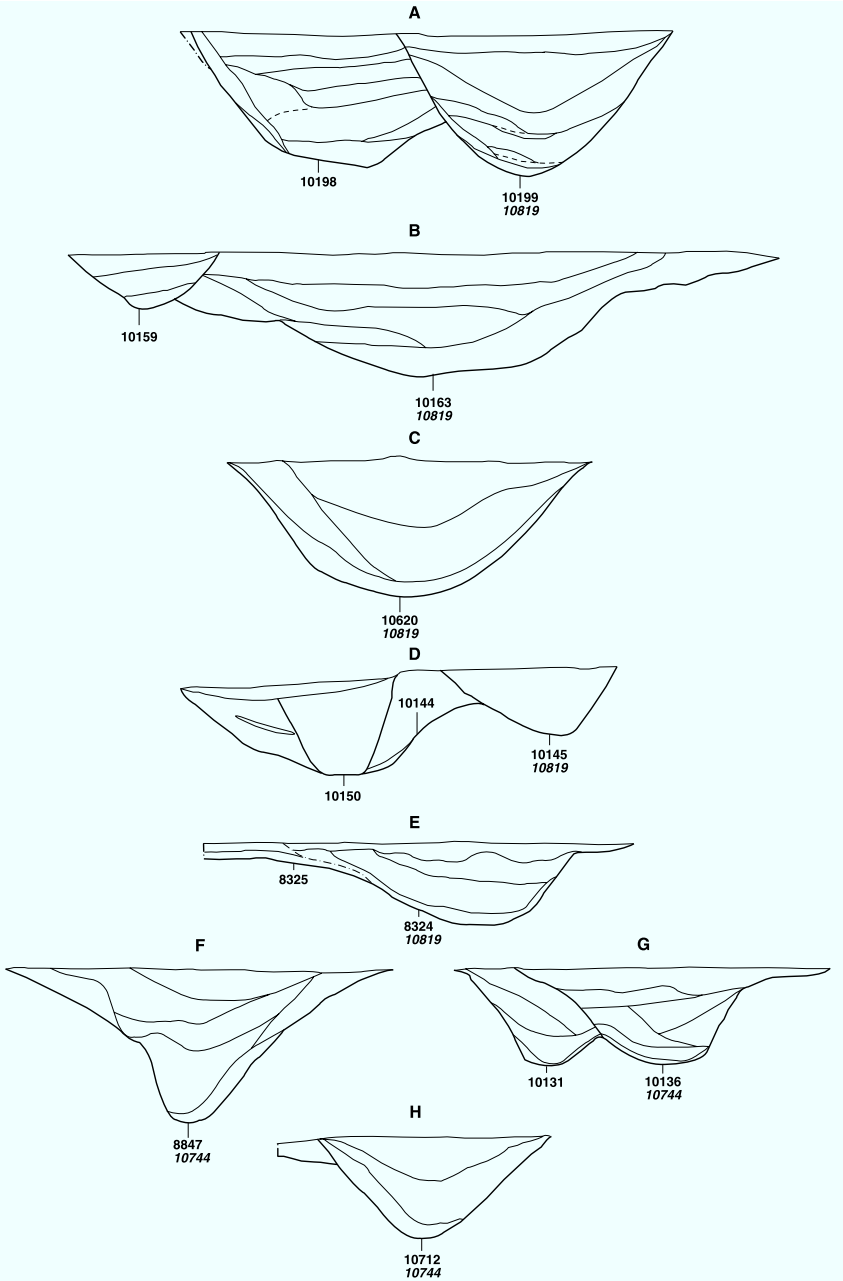

Fig. 4.23 Site 8, Phase 6–7.1, Enclosure 82 ditch sections. Sections A–E Group 10819; Sections F–H Group 10744

narrow gap of 1 m was left as an access route between Enclosures 80 and 82. Ditch 10819 formed a wide V-profiled feature measuring 3.2 m wide by 1.25 m deep. It contained eroded natural from the ditch sides (ctxs 8331, 10618, 10619), tips of dark humic soil and occupation debris (ctx 8332), naturally accumulated clay soil (ctx 8333, 10617), overlain by darker more humic and stony soil (ctxs 8334, 10616). Ditch 10744 was a V-profiled ditch measuring 2.05 m wide by 0.9 m deep along its north and eastern extent, but on the north-west and west it measured 3.44 m wide by 1.42 m deep. Here it had a narrow flat base and steeply sloping sides, eroded to a gentler angle at the top. The section suggests it had been recut or cleaned and maintained on a number of occasions in this area. The primary and secondary fill was a combination of erosion products from the ditch sides and fine silting of material washed or blown into the ditch. A higher proportion of occupation debris occurred in the tertiary fill, which was a darker, more humic soil accumulation. The north-west section of the ditch of Enclosure 82 was recut as 10815, sometime between the late 2nd and late 3rd century and it is possible the southern side of the enclosure was recut as 10145 at the same time.

The absence of recutting on the north-east may relate to internal reorganisations of the enclosure. At a later stage, the northern half of the enclosure was subdivided by the cutting of ditch 10927 to create a polygonal enclosure (Enclosure 82.1). The southern side of Enclosure 82.1 was recut by ditch 10931, maintaining the north-south divide. The southern part of Enclosure 82 was further subdivided by the cutting of ditch 10801, which effectively separated the southern third leaving only very narrow gaps between its termini and the main enclosure ditch.

These three subdivisions broadly define activity areas with domestic structures confined to the north within Enclosure 82.1. Also located within Enclosure 82.1 were scattered small pits or postholes and shallow hollows, most of which were undated. The central compound, 82.2, was a large open space with only a pottery kiln, 10490, in the south-west corner during the mid 2nd century. The southernmost compound, 82.3, had the cremation cemetery 8094 set into its north-west corner enclosed within its own rectangular subcompound formed by ditches 10298 and 10225 (Fig. 4.31) and the corndrier 10067 in its south-west corner. The cemetery dates to the late 1st–2nd century, whilst the corndrier is undated, so the two activities may not have been contemporaneous. An earlier rectangular subcompound, devoid of internal features, formed by ditch 8447, was located on the east and cut by the later ditch 10801.

Compound 82.1

Access into this area was at the north apex, where a gap 4 m wide had been left between the terminus of ditch 10583 and the main enclosure ditch 10744. A second smaller entrance may have occurred on the opposite south side, but later features have destroyed the relationship of the ditch terminal and the main enclosure ditch. Within this subsidiary enclosure were remains of three circular structures with attached yards defined by subrectangular gullies.

Three possible circular structures, CS 81–CS 83 (Fig. 4.24), were identified during excavation within compound 82.1. All survived as nothing more than shallow discontinuous sections of curvilinear gullies, with no surviving structural elements or internal fixtures. The position of their entrances was far from clear, though the subsidiary annexe may provide some indication, depending on whether they are interpreted as entrance yards or subsidiary pens or structures at the back of the buildings.

Circular structure 81

This consisted of four discontinuous lengths of gully delineating the northern half of a circular structure. They enclosed an area 8 m in diameter. These had U-shaped profiles and measured 0.12 m wide by 0.1 m or less deep. The gullies were heavily truncated, but the surviving shape and size, as well as the overall diameter, suggests they may have held the actual structural elements of the building rather than being a drainage gully around its exterior. Extending north was an inverted L-shaped gully that may have held the structural elements of an annexe or enclosed an associated yard or animal pen 6 m wide. Some pottery dating to the late 2nd century AD was obtained from the gully.

Circular structure 82

Two lengths of gully delineating the north and south sides of an area 8 m in diameter define this structure. The gully (10258, 10264–8) had a shallow U-shaped profile measuring 0.1 m deep by 0.45 m wide. Such a size would be consistent with a drainage gully around a building, rather than holding the structural elements. L-shaped gully 10551 adjoining the northern side of the circular gully could mark the location of an ancillary structure or yard bounding an area 10 x 6 m. If the two were contemporary it suggests CS 82 relates to an early phase of the occupation of Enclosure 82 before the subsidiary compound 82.1 was separated off by ditch 10583, which cut the gully of the annexe. Gully 10551 was apparently for drainage, having a V-shaped profile measuring 0.52 m wide by 0.34 m deep. No datable artefacts were recovered; only animal bone and unidentifiable fired clay from the ring gully, and burnt bone and burnt stone from the annexe.

Circular structure 83

A third structure, marked by an arc of curving gully 10288 along its east side, may also have existed. It had a U-shaped profile with a flat base and measured 0.4 m wide by 0.1 m deep. It contained a dozen sherds of pottery only broadly datable to the

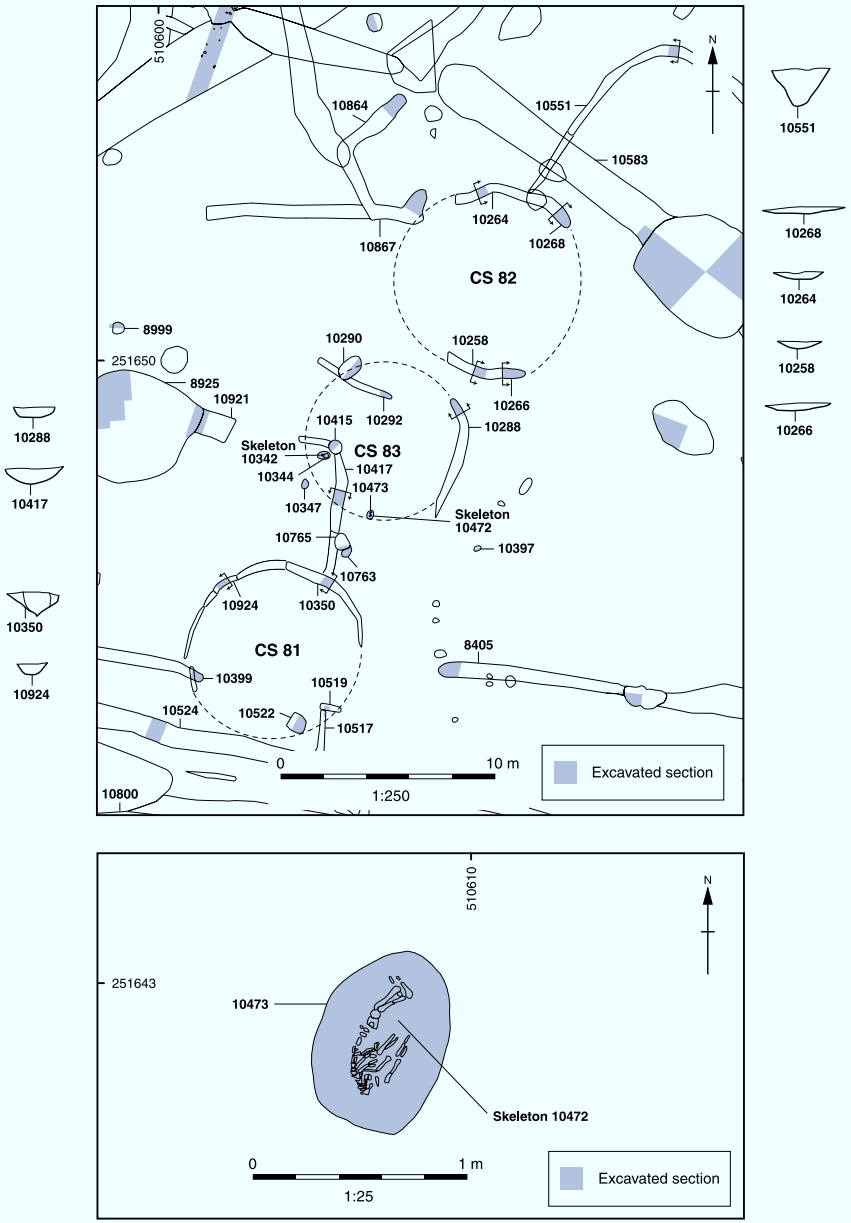

Fig. 4.24 Site 8, Phase 6–7.1, Circular structures 81–83 and detail of infant burial 10472 (grave 10473)

mid 2nd to late 4th century and some animal bone. It is unclear whether this was a complete circular structure or part of an ancillary annexe. However, if the line of a circular structure is projected it would have encompassed two infant burials, 10342 and 10472, which may suggest the presence of a building, as infant burials under house floors or close to foundations are a well known feature of the Roman period (Scott 1991).

Pit or quarry

The only substantial feature within Enclosure 82.1 was large circular pit, 8925 (Fig. 4.27), on the west of the enclosure. It measured 5 m in diameter by 1.5 m deep and had very steep sides, stepped on the west, and a flat base. Its primary function was probably as a quarry, possibly to gain clay for making daub for the nearby circular structures. It was postulated during excavation that it may have functioned as a water reservoir, and it is possible standing water did seep into the base. However, the fill does not suggest this as a function of any permanence, as after initial layers of erosion (ctxs 8926, 8928, 8931) from the pit sides, the feature was filled gradually with a series of deliberate tips. The tips comprised soil and redeposited natural (ctx 8929), occupation debris (including charcoal ctx 8927 and burnt clay ctx 8942), stony deposits (ctx 8934) and mixtures of these constituents. Animal bone and pottery was the only material recovered from the fill. The lowest tips contained pottery of mid to late 2nd century date, whilst mid 3rd-century pottery appeared in the central layers (ctxs 8935, 8937). The tertiary fill contained pottery of only 2nd-century date, suggesting some of these layers (ctxs 8939, 8941, 8943) were clearance of early deposits. The lower legs and right ankle bones of an adult (8939) were also found within this feature (see Chapter 9).

Compound 82.2

Kiln 10490 (Fig. 4.25; Plate 4.10)

Kiln 10490 was located within compound 82.2, to the north of the cremation cemetery (Fig. 4.22). The western edge of the firing chamber was cut by ditch 10744, implying the kiln had gone out of use by the time of the later recutting of the enclosure ditch. A relatively early date for the kiln is suggested by the pottery from the firing chamber, which dates to the early to mid 2nd century AD. This is supported by archaeomagnetic dating evidence, which indicates that the last major heating of the kiln took place between AD 120–180 (Chapter 12).

The kiln was 3.15 m long in total with the oval firing chamber to the west and the stoking pit to the east, joined by a narrow flue. The main firing chamber measured 1.1 m wide by 1.35 m long and 0.1–0.2 m deep. The flue measured 0.45 m wide and the stokehole 1.6 m long by 1.0 m wide by 0.22 m

Plate 4.10 Site 8. Phase 6 kiln 10490 under excavation showing kiln bars and pedestal, looking south-east

deep. The stokehole was an oval bowl-shaped feature with sloping sides and a flat base and without any effects of burning *in situ*. The narrow flue had vertical sides and a flat base and the discolouration of *in situ* firing began abruptly at this point continuing around the whole firing chamber. Both base and sides were heavily fired with the surface blackened and the clay natural behind turned a bright red up to a thickness of 50 mm.

The firing chamber had a portable subsquare pedestal of clay, measuring 150 mm square at the end, narrowing to 140 mm, suggesting a splayed base and possibly top also. The surviving fragments were 110 mm high, but these do not appear to represent the full height of the pedestal. The site archive described the pedestal as integral with the floor, but the photos appear to show the broken end uppermost suggesting it was resting on the flat splayed surface and that the top was missing. If this were not the case, the area for fuel and firing would be very confined. Areas of the floor around the side and in front of the pedestal were worn and broken forming a layer of fragments of red and black fired clay mixed with charcoal and ash (ctx 10602). A layer of charcoal and ash cinders with broken fragments of fired clay raked out from the firing chamber had accumulated during the use of the kiln at the back of the stokehole (ctx 10576).

The kiln had been backfilled with a deposit of greyish brown silt with common chalk and flint containing frequent charcoal, pottery and kiln furniture (ctx 10575). The kiln structure and furniture comprised mainly portable items. The only evidence for the superstructure was relatively small fragments, 15–30+ mm thick, with a moulded surface on one side only and the back always broken or irregular. Though some pieces were described in the site records as burnt turves there is no evidence to support this interpretation. The fragments appear to be pieces of the internal wall lining daubed over some other material. There is no evidence what this material was, but the absence of wattle impressions indicates that a basket framework was not used. This leaves the use of turves,

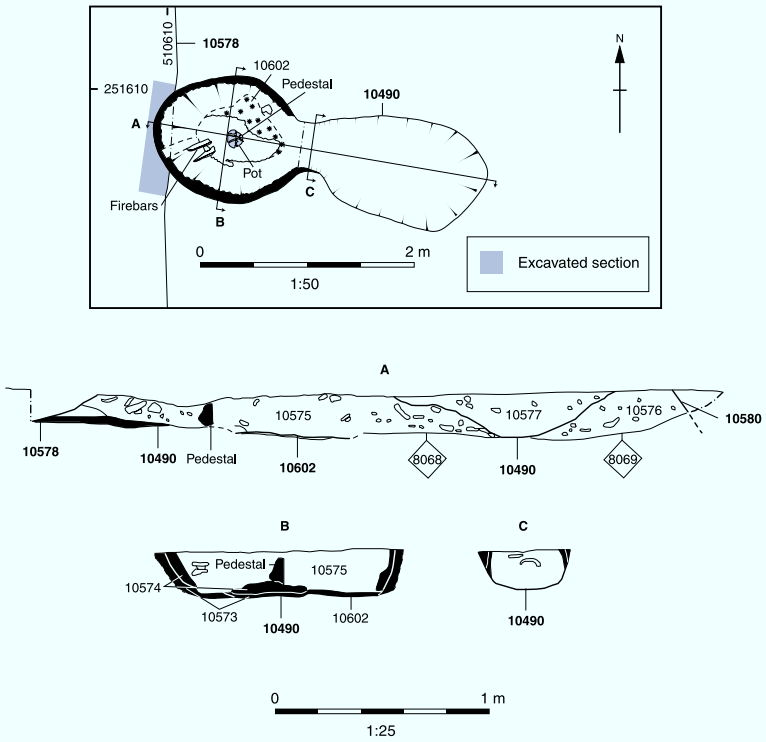

Fig. 4.25 Site 8, Phase 6–7.1, kiln 10490

clay or some sort of rubble and soil mixture as possibilities. However, there are no clear cut impressions on the back of the fragments to suggest turves or rubble, and in view of the quantities of readily available clay, some sort of cob structure is possible, of which only the inner surface was thoroughly fired and survived. The 'redeposited natural' flecked with fired clay forming the final infill layer (ctx 10577) may well have been part of the demolished superstructure.

The oven furniture recovered mainly from layer 10575 falls into three categories: a large circular plate, kiln bars and small irregular discs or platelets. The forms of these are described more fully in the fired clay report (see Poole, Chapter 8); here they are considered in relation to the functioning of the kiln. Two of the firebars were found almost fallen *in situ* and it is clear they were arranged to radiate out from the central pedestal to the kiln wall like the spokes of a wheel. It is estimated that something in the region of 16 to 20 bars would have been used. A minimum of 11 bars was identified together with further small fragments amongst the fired clay. A large proportion of a thick circular plate 355 mm in diameter and a rim fragment of a second were recovered. These were made in a chaff tempered fabric, evenly fired to a grey colour in a reducing atmosphere and had no perforations. Though often described in reports as 'dome plates' the even reduced firing suggests they were used internally as a kiln floor, either resting on the firebars to create a more level, stable surface or possibly used higher in the kiln between different levels of pots. The third item comprises small irregular platelets varying from subcircular to subrectangular, rarely larger than 120 mm long, mostly broken except for some small examples, and probably reused. These are interpreted as spacers or setters used in the stacking of the pots. In addition to the kiln furniture, a large quantity of pottery was recovered from the kiln fill (see Stansbie, Chapter 8).

Compound 82.3

The cemetery

The cemetery within Compound 82.3 is described below in the section on the site burials.

Corndrier (Fig. 4.26)

Corndrier 10067 lay within compound 82.3, immediately to the south of the cremation cemetery, in the south-west corner (Fig. 4.22). Either the structure had been heavily truncated or much of the structure originally stood about the ground surface. It was a simple construction of typical T-shaped form, cut directly into the natural. It had an elongated flue continuous with an oval stoking pit at the south end and connected to a single narrow flue at right angles at the north end. The overall length of the structure was 4.10 m, and its maximum surviving depth 0.30 m. The main flue measured 0.62 m wide by 1.8 m long, and the end flue measured 1.2 m long by 0.2 m wide. The stoking chamber measured 2 m long by 1 m wide with a subsidiary semicircular shelf or step, 10191, 0.7 by 0.25 m on the west side. There was no evidence of lining and, where cut into the natural clay, this would have provided an acceptable surface.

The lowest layer (ctx 10105) was very similar to natural and appears to have been nothing more than the trampled natural churned up during construction of the drier. This is confirmed by the brownish red burnt clay (ctx 10026) on the worn hollow in the floor of the firing chamber, which was really the *in situ* surface of the natural. A thin discontinuous lens of charcoal fragments rested on this, which was resurfaced with redeposited natural (ctx 1025). Overlying this was a layer of charcoal and ash (8887) that was thickest in the cross flue and in the firing chamber and continued as a thin lens across the stoking chamber floor. In the stokehole area there were further accumulations of ash, burnt clay resurfacing and trample.

The upper fills consisted of deposits of collapsed superstructure or deliberate backfill, comprising degraded clay cob mixed with fine ash, charcoal and abundant inclusions of red burnt clay (ctxs 8883–85). The only fired clay retained came from the sieved samples and as a result most were small grit. However, a few larger fragments retained a flat surface with impressions of the stone structure against which it was daubed. These fragments would have come from the upper walls or roof of the firing chamber. In the absence or any tile or brick, it seems likely that the superstructure was constructed entirely of the natural clay reinforced with flints or other locally available stone. The fired clay fabric suggests the local clay natural was used. The carbonised plant remains (Druce, Chapter 11) suggest the corn-drier had been used most recently to dry wheat at a stage in the crop processing immediately prior to pounding to release the seed from their glumes. There is also an indication that crop waste was being used as tinder or fuel, and the lack of much charcoal suggests combustion was efficient. There is also some evidence to suggest the drier had also been used for malting.

A small rectangular feature, 10194, lying 0.3 m to the east of the flue, shared a similar burnt fill of charcoal; it is thus likely to be contemporaneous, and could have been functionally related. It measured 0.4 by 0.5 m and survived to a depth of only 0.06 m. If this was a posthole it would have projected through the floor of the drying chamber or the enclosing kerb around it. The drying chamber is likely to have been about 1.6 m wide by *c* 2 m long and a posthole in such a position may have been for some sort of hoist to facilitate moving grain in or out of the drying area. No datable finds were recovered from the corndrier itself, although 10194 contained pottery of the late 1st to early 2nd century AD.

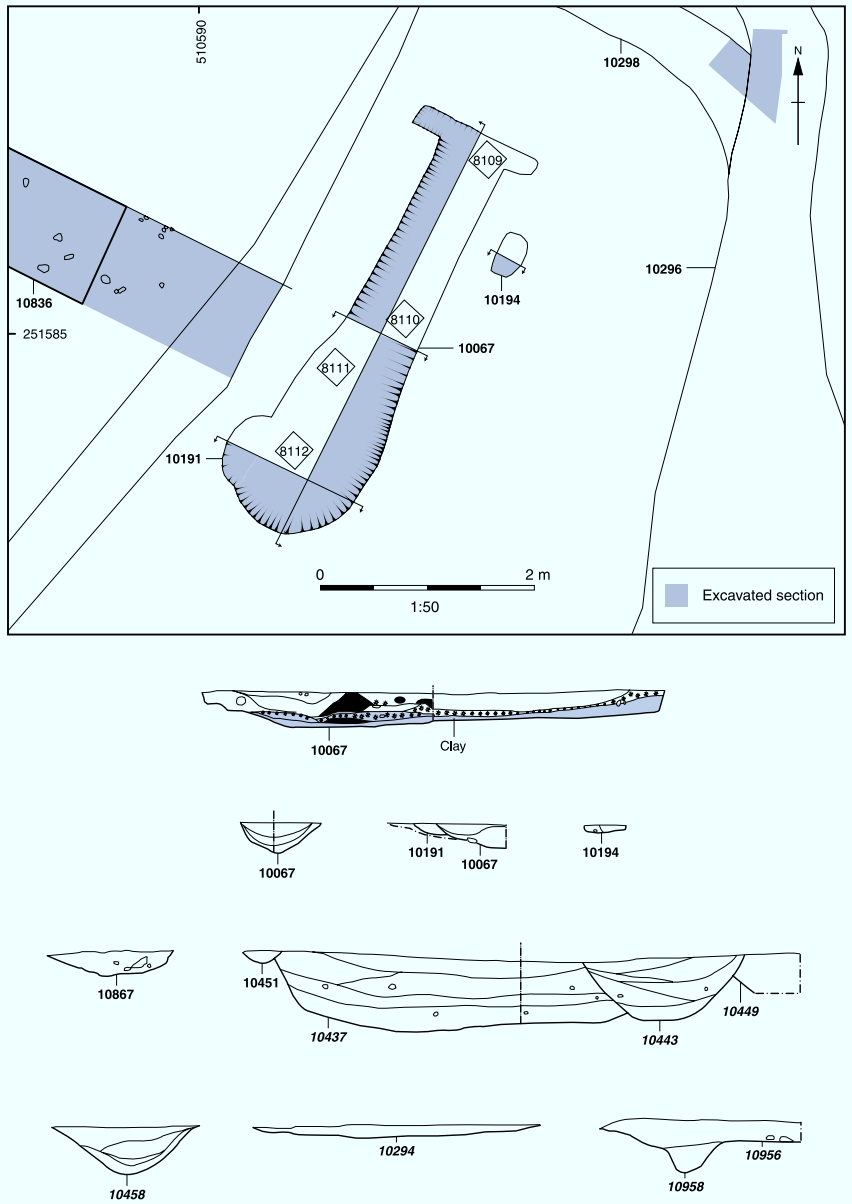

Fig. 4.26 Site 8, Phase 6–7.1, corn-drier 10067 and associated features

Enclosure 80/2

Enclosure 80 continued in use with its south and east sides being recut by the ditches of Enclosure 82 (10744, 10819). Enclosure 82 was bounded by the L-shaped ditch (8243) of Enclosure 83 on its north-east side to create an irregular shape in plan. The enclosure measured 102 m N-S by 54 m E-W within the excavated area, but continued beyond the western limit of excavation.

It contained few internal features other than scattered pits (8083, 8188, 8381, 10358, 10586). Some features, including a shallow circular hollow, 8153, two intercutting small postholes, 8079 and 8081, and a kiln base, 8003, all of which contained pottery dated to the late 2nd–late 4th century, are most likely contemporary with this phase though they could belong in Phase 7.2. Some of the undated features may also belong to this phase.

Kiln 8003 (Fig. 4.20) was very poorly preserved compared to others on the site, if that is indeed what it was. It would have been interpreted as an oven base of nonspecific function, but for the large amount of pottery dumped in it. It formed an irregular oval in plan, measuring 1.94 m by 1.37 m and had a rounded bowl-shaped profile 0.55 m deep. Across the base and up the sides was a thin lens of fired clay (ctx 10170) that probably represented *in situ* burning overlain by a lens of charcoal representing cinders from the final firing. The main fill consisted of black silty clay soil containing frequent charcoal, pottery of mid 2nd to 4th-century date, frequent animal bone and a few small broken pieces

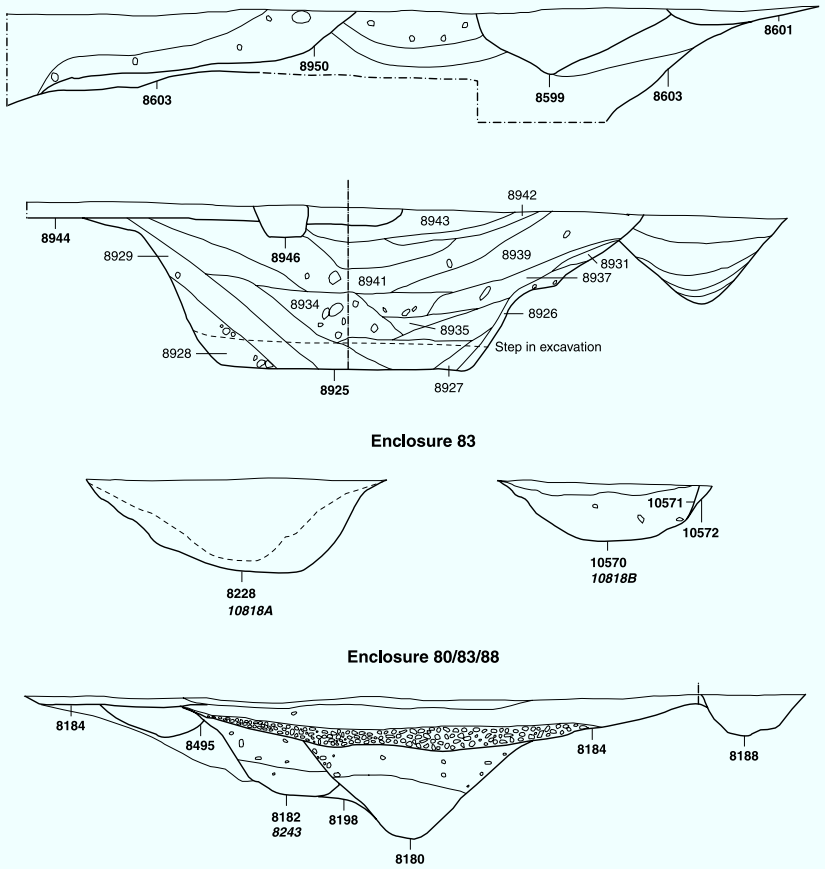

Fig. 4.27 Site 8, Phase 6–7.1, sections of quarry hollows and Enclosure 83 ditches

of possible kiln bar (ctx 8004). Two horse mandibles found in the fill might be indicative of the continuation of the Iron Age practice of structured or special deposits.

Within Enclosure 80/2, an internal subsidiary compound without any internal features was defined by shallow gully 8209/8325, which appears to have been contemporary with ditch 10819. This formed a subrectangular area abutting the enclosure ditch on the south-west to create a compound 12 m wide by more than 13 m long.

Enclosure 83

Enclosure 83 abutted the north-west side of Enclosure 82. Ditch 10744 formed its eastern side and the L-shaped ditch, 8243, formed its west and south sides (Fig. 4.22). It was bounded on its north side by ditch 10818, which marked the south side of Trackway 2. The enclosure measured 40 m wide (N-S) by 44 m long (E-W) on the north narrowing to 25 m on the south. A gap of 4 m in the north-east corner between the terminal of ditch 10818 and Enclosure 82 marks the location of the only entrance into the Enclosure, providing access from Trackway 2.

Ditch 10818 (Fig. 4.27) was of a single phase with no evidence of recutting. It had a wide rounded V-shaped profile measuring 2.6 m wide and 0.85 m deep. The fill was an entirely natural accumulation of eroded clay, silting and soil formation, becoming increasingly humic towards the top of the fill. Ditch 8243 (Figs. 4.20 and 4.27) was a similar, large V-shaped feature measuring 2.4 m wide by 0.9 m deep with a fill largely derived from erosion of the ditch sides and natural silting.

Internal features were virtually absent apart from one conical pit, 8225. Ditch 10818 cut earlier rectilinear gully 8167, which, although datable through its ceramics to Phase 6, must predate this enclosure. It had a sharp V-shaped profile and measured 0.54–0.6 m wide by 0.25–0.38 m deep

Enclosure 84 (Figs. 4.22 and 4.28)

This enclosure lay at the southern edge of the settlement, set along the eastern side of Trackway 1 with a large open space devoid of features to its south-west. It was defined in the late 1st to early 2nd century by ditch 10855, recut as 8557 in the late 2nd to 3rd century. Ditch 8499/8554 may have formed the eastern return of the enclosure though the actual junction with ditch 10855/8557 was outside the area of excavation. Ditch 10855/8557 formed the south-western corner of a subrectangular enclosure measuring 44 m wide at its south end by greater than 72 m along its long axis. The original cut, ditch 10855, could be traced for 24 m after turning to the north-east, while the later recut, ditch 8557, extended beyond the eastern limit of excavation.

The primary ditch, 10855, had a wide V-shaped profile, 0.44–0.6 m deep, with sloping sides splaying out widely at the top to over 2 m wide. It was filled with natural accumulations of greyish or yellowish brown silty clay with small quantities of grit and gravel eroded from the ditch sides or washed in from surrounding ground levels.

The recut ditch, 8557, was flat bottomed with steeply sloping sides measuring 1.7 m wide by 0.7 m deep towards the south, but became more V-shaped in the north, measuring 2.1 m wide by 1.12 m deep. The fill was natural accumulations of eroded clay and gravel, silting and soil accumulation.

A number of rectilinear ditches or gullies created a series of internal rectangular plots. The southern end of Enclosure 84 was separated off by linear gully 10834 running parallel to the southern boundary ditch. It measured 0.6 m wide by 0.22 m deep and had a flat base and steeply sloping sides. This created an area 16 m wide, which was subdivided into two almost equal plots about 22 m in length by two ditches, 10045, replacing 10110, which lay 2 m to the east. Both stopped 2 m short of the southern boundary, either to allow access between the two plots or because a bank or hedge ran alongside the ditch.

An L-shaped ditch, 8828, formed a rectangular plot *c* 14 m square against the western boundary ditch 8557. Two smaller linear gullies to the north-west, set at right angles to the main enclosure ditch, may have been broadly contemporary, forming additional subsidiary plots. The latest ditch on stratigraphic grounds was 8335, which ran south-east for 24 m from the western side of the enclosure, before turning to run W-E for a further 11 m before terminating. It measured 1.36 m wide by 0.4 m deep and contained mid to late 2nd-century pottery in its lower layers and early to mid 4th-century pottery in its uppermost fill.

Apart from ditches and gullies there were few internal features. A few small pits, postholes, and shallow irregular hollows that may have been areas of quarrying were, however, found. Nearly all dated to the late 1st to 2nd centuries AD. One oval hollow, 8806, which may have been quarrying along the edge of ditch 8828 or an oval oven cutting the ditch, contained a large quantity of carbonised seed that suggests either crop processing was occurring close by or that the feature was a small corndrier. No evidence of buildings survived though the rectangular subdivisions within Enclosure 84 may be indicative of structures.

Enclosure 85 (Figs. 4.22 and 4.29)

Enclosure 85 was initially laid out to enclose the whole corner block to the north-west of Trackways 1 and 2. It was bounded on its south and east side by ditch 10816 and on its north-east by ditch 8591 and on the north by ditch 8593. It continued beyond the western limit of excavation and the geophysics suggests it extended as far as a curvilinear enclosure to the north-west. As exposed, Enclosure 85 measured 102 m N-S by 76 m E-W and the width

may not be far short of its full width. At some stage the north-east corner was separated off by ditch 10634 to form a subsidiary compound which is discussed separately as Enclosure 86.

The main enclosure ditch, 10816, on the south and east had a wide rounded V-shaped profile measuring 0.66–1.6 m wide by 0.6 m deep. In some areas there has clearly been recutting or realignment of the ditch, but for much of its length it appears to be of just one phase. Recutting and realignment has occurred on the north-east where changes were apparently made to the entranceways into Enclosures 85 and 86. There has also been considerable recutting on the south-west, where the actual form of Enclosure 85 is unclear. The area designated as compound 85.1 may in fact lie outside the main area of Enclosure 85. The geophysical survey shows the northern ditch of this complex, 10875, continuing west to the ditch of an adjacent curvilinear enclosure to the north-west of the excavated area. This seems to imply that the boundary of Enclosure 85 deflected to form a right angle around the area designated as compound 85.1, which is discussed in more detail below.

The eastern enclosure ditch, 8591, ran for 27 m overlapping with the ditch of Enclosure 86 to create a long narrow entrance gap from Trackway 1 less than 3 m wide and *c* 8 m long. This was blocked at some stage by the digging of quarry hollows 8838. The ditch measured 1.9 m wide by 0.58 m deep and had a bowl-shaped cross-section with a slight ledge on the west suggesting it may have been recut or

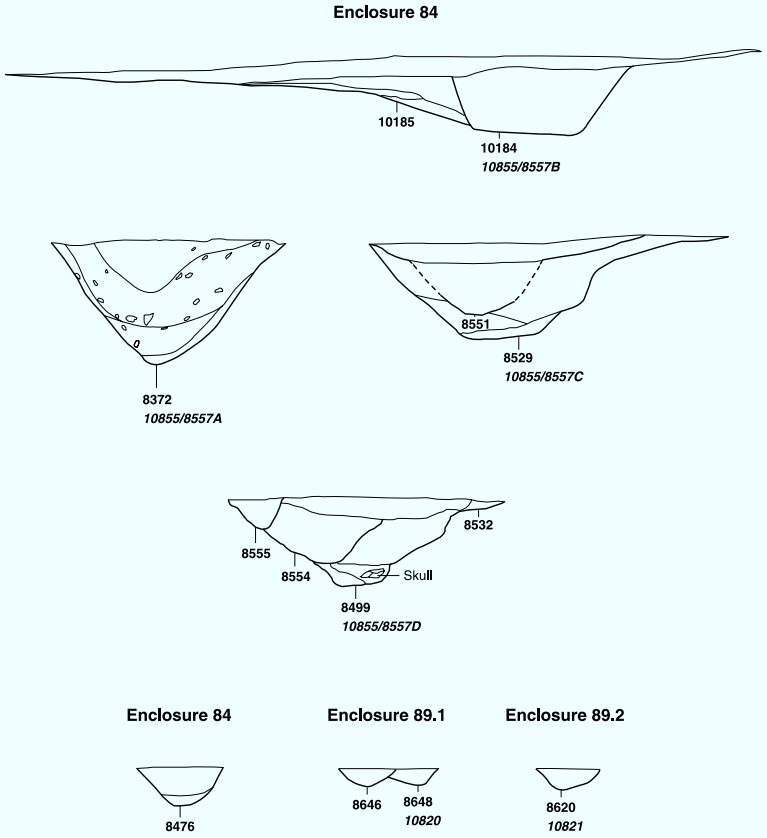

Fig. 4.28 Site 8, Phase 6–7.1, sections of Enclosures 84, 89.1 and 89.2

quarried. It was contemporary with ditch 8593, which joined it at right angles. This was a much slighter ditch, measuring 0.74 m wide by 0.1–0.3 m deep with a rounded V-shaped profile. Both were filled with natural accumulations of eroded chalky clay and soils.

Buildings and working areas

Three complexes of rectilinear gullies within the enclosure possibly marked the location of building plots. The most complex area was in the south-west of the enclosure (85.1). To the north of this, a second area was enclosed by L-shaped gully, 8246 (85.2), and the two areas separated by an area 4–7 m wide suggesting a lane ran between the two plots. Finally, in the north-eastern part of Enclosure 85 there was a concentration of short linear gullies on two alignments at right angles, which may broadly indicate the position of a rectangular building with a maximum size of 20 m by 24 m. It is possible that some or all of these linear gullies in the north-east corner in fact belong in the late phase contemporary with Enclosure 88, as dating evidence was very slight and could be residual. Cut by the ditches of the south-western group (Enclosure 85.1), were two arcs of curvilinear features, neither of which were excavated. The slighter gully ran for 5 m (CS 84) and the larger for about 10 m (CS 87). They would have overlapped in area if they had formed complete circuits, suggesting that they formed the drainage gullies for two successive circular structures.

This left an empty area 20 x 30 m between the three plots that was probably an open yard. It was devoid of features except for subcircular pit 8665 at the north end. This feature measured 2.38 m in diameter by 0.68 m deep; it had steeply sloping sides and a concave base. The fill was entirely deliberate, consisting of a rapid infill of dark humic clay soils mixed with occupation debris. The lowest layers contained high densities of cultural material, including pottery, bone and fired clay. The pottery suggests an element of reverse stratigraphy with some of the latest sherds occurring in the primary layers (ctxs 8666–7) and earlier material including a late Iron Age sherd predominating in the secondary deposit (ctx 8668). The main tertiary fill was devoid of artefacts and was a mix of soil and blocks of redeposited yellow natural. It may have been backfilled with material derived from a midden or from the excavation of another feature that cut through an earlier infilled feature, possibly the recutting of nearby ditches. The primary function of the feature is unclear, but it may have been dug to extract clay for kiln construction and pottery production.

A second open area *c* 36 m square occurred in the south-east corner of Enclosure 85, but in this case having a concentration of small features on its western side. These were all shallow dished or bowl-shaped hollows. The circular ones, 0.3–0.6 m wide and up to 0.26 m deep, may have been postholes. A series of more linear hollows up to 2 m long by *c* 0.3–0.5 m wide and rarely deeper than 0.1 m are similar to oven bases in their size and shape. However, there was no indication of burning or charcoal layers within them and their function must remain uncertain. The only more substantial feature in the area was a pit 8866, which measured 1.17 m wide by 0.51 m deep. It had steep sides and a concave base, which was covered by a thin lens of charcoal but otherwise was filled with a stony clay soil. The east side of this open area was partly separated off by shallow ditches 10955 and 10672 to form a narrow rectangular compound 8 m wide by 30 m long with a gap of *c* 10 m for access.

The series of linear gullies in the north-east corner was aligned predominantly NNE-SSW with a few short discontinuous lengths at right angles to these. The longest of the gullies were those delineating the east and west boundaries of the area running for 15 m and 18 m respectively. Most of the gullies measured *c* 0.3–0.5 m wide by 0.1–0.15 m deep. They are likely to represent shallow drainage gullies around buildings rather than structural features of the buildings themselves. Alternately they may represent a series of small subsidiary compounds, animal pens or working areas.

Compound 85.1

A rectangular area of 32 m E-W x 18–20 m N-S was demarcated by ditch/gully groups 10840 and 10872–6 in the south-west corner of Enclosure 85. During excavation five phases of ditches or recuts were defined. The broad pattern is of a rectangular area enclosed by drainage ditches, which remained essentially the same size. However, it was divided into two unequal plots by a series of ditches cutting across the middle, which shifted over time to create different sized areas. The western plot ranged from 13 m to 22 m long E-W and the eastern plot from 10 m to 18 m E-W, the north-south axis remaining constant at 18–20 m. Access appears to have been from Trackway 2 through the south-west corner of the compound. In the earlier phases there also appears to have been a gap in the north-east corner to allow access into the main area of Enclosure 85. Recutting in the form of ditches 10873 and 10874 represented late maintenance of the enclosure in Phase 7.1.

The ditches were very variable in size, ranging from relatively insubstantial flat-bottomed ditches (for example, 10840) measuring 0.3 to 1.14 m wide by 0.1 to 0.24 m deep, to fairly large V-shaped ditches (for example, 10875/6), 0.76–1.16 m wide by 0.54–0.64 m deep. Some, such as 10872, were partly recut in a late stage of use as a flat-bottomed trench with straight sides, measuring *c* 0.8 m wide by 0.5 m deep. It may have held a palisade, and the whole pot found in the terminal may have been a foundation deposit.

Internal features were sparse and included only small circular pit 8660, shallow oval hollow 8550 and circular hollow 10719. The latter measured 1.35 m wide by 0.4 m deep and contained a basal layer of

burnt stone and fired clay in a matrix of dark soil, fine charcoal and degraded daub (ctx 10718). This was the base of an oven. The only piece of fired clay retained from its fill was a piece of oven plate. Feature 8660 measured 0.7 m in diameter and 0.2 m deep. It contained a dark soil (ctx 8659) flecked with fired clay and charcoal and occasional stones suggesting it too was an oven or hearth base. Feature 8550 was oval, measuring 2.06 by 1.12 m in area and 0.46 m deep. It had a fill of brownish grey silty clay flecked with chalk and charcoal and containing burnt stone and orange mottles, which may be degraded daub. A single small fragment of fired clay was recovered but was not diagnostic. The shape and size is compatible with an oven base, and the presence of fired clay and charcoal supports such an interpretation, though quantities were small.

Compound 85.2

This was incompletely exposed in the excavation, but was defined by an L-shaped gully, 8246, on its east and south sides. The exposed lengths were 16 m and 18 m long and it measured 0.58–0.9 m wide by 0.1–0.32 m deep becoming smaller to the south. There were no contemporaneous internal features, and it is likely to have served as an animal pen.

Kiln 10767 (Fig. 4.29)

Kiln 10767 was located in the north-east corner of Enclosure 85, close to the entrance into Enclosure 86 (Fig. 4.22). A furrow had truncated it, so that only one end, interpreted on site as the stoking pit and flue, survived. However, it is usually the deeper main firing chamber and flue that survive, rather than the shallower stoking pit, so this would contrast with all the other kilns found on site if it were the stokehole. The overall length was 1.9 m and depth ranged from 0.22 m deep in the entrance of the main oval chamber shallowing to 0.1 m or less in the flue. There appeared to have been no *in situ* burning of the natural clay, though if short lived and not heavily fired this may have been removed with layer 10780. If what survived was the stokehole, it indicates that the main firing chamber was largely a surface construction. The overall form of the kiln must remain uncertain, but the likelihood is that the surviving feature was the main firing chamber.

It was filled by a lower layer (ctx 10780) of burnt and fired, bright red clay, covering the base and sides. Analysis of this material has shown it consisted of irregular-shaped blocks mostly with one clear surface, undulating, roughly flat or concave rather than convex. Some of these have partially formed edges. The exposed surface was fired to a yellowish brown, whilst the back was bright red and less intensely fired. These fragments did not appear to have formed a continuous surface, but formed individual patches of clay lining for the superstructure. Though there are no organic impressions on the back, the clay may have been daubed over turves or rough blocks of the clay subsoil as suggested by their wedge-shaped cross-section. The edges apparent on some fragments were of an appropriate size on which to rest the ends of fire bars or edges of kiln plate. Fired clay within the upper fill (ctx 10768) was all identified as fragments of tapered kiln bars. This appears to be discarded material dumped back in after the wall lining had fallen in faced downwards, together with charcoal and cinders mixed with a small quantity of pottery.

A nearby pit, 10769, contained further kiln debris including fragments of kiln wall or lining, pedestal, kiln bars and small platelets (?kiln spacers) together with 535 sherds of pottery, which date the feature to the mid 2nd century. There were only ten sherds of mainly generic Roman pottery from the fill of the kiln with only one firmly dated to the mid 2nd century.

Enclosure 86 (Figs. 4.22 and 4.29)

Enclosure 86 was inset into Enclosure 85 forming a subsidiary compound in the north-east corner, which measured 50 m N-S by 30 m E-W. It utilised ditch 10816 of Enclosure 85 as its eastern boundary and to the south and west was divided from Enclosure 85 by ditch 10634. On the north it was separated from Enclosure 87 by ditch 8593.

Ditch 10634 was curvilinear and ran north-south on the west, curving round to run south-east, and terminating 6 m from the eastern edge of the enclosure to allow access between enclosures 85 and 86. The ditch measured 1.5 m wide and *c* 0.7 m deep and had a V-shaped profile. It was filled with naturally accumulated clays and silts.

Internal features were relatively infrequent and included several irregular, oval, unexcavated features, some small pits or postholes and two roundhouses, CS 85 and CS 86 (Fig. 4.30). The roundhouses probably belong to the earliest period of use of the enclosure before internal subdivisions were made with the cutting of additional east-west ditches.

Circular structure 85 (Fig. 4.30)

This structure is represented by a curvilinear gully (10622–8) measuring 0.5 m wide by 0.15 m deep. It ran for a distance of *c* 6 m and had a steep sided U-shaped cross-section. It was filled with greyish brown silty clay containing chalk and flint grit. If the line of the gully is projected it would have a diameter of *c* 10 m and would be bisected by ditch 10817, suggesting this circular structure belonged to the primary phase of the enclosure. The size of the gully suggests its function was for drainage around a structure.

Circular structure 86 (Fig. 4.30)

This structure was represented by several lengths of discontinuous curvilinear gully (10654/6), which defined the western half of a circular structure *c* 9 m

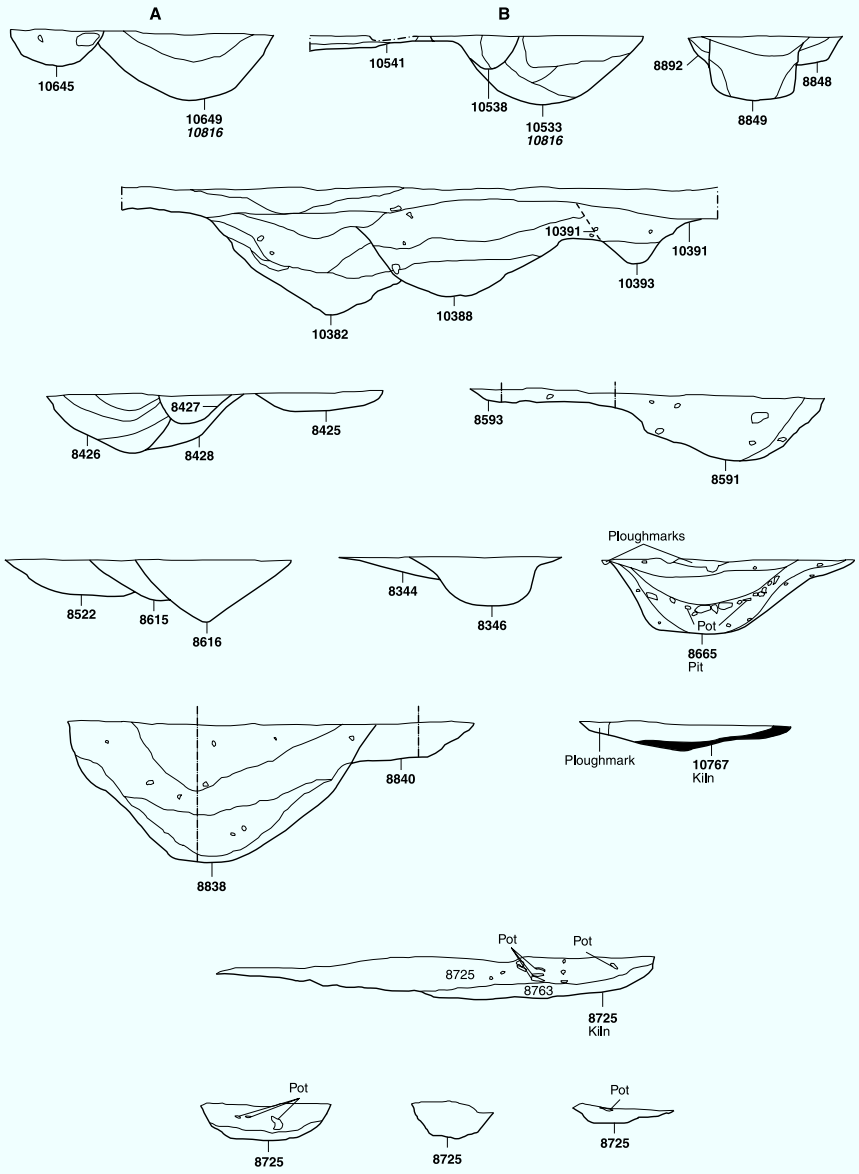

Fig. 4.29 Site 8, Phase 6–7.1, sections of Enclosure 85–86

in diameter. The slot measured 0.2 m wide by 0.07 m deep and varied in profile between U- and V-shaped. It had a uniform fill of greyish brown silty clay soil with flint grit. The size and shape of the slot would be consistent with a structural use rather than drainage. A small number of unexcavated features occurred in the interior.

Enclosure 86.1

At some point during the 2nd century Enclosure 86 was subdivided into two areas by ditch 10817, which cut the main eastern enclosure ditch, 10816 (Fig. 4.22). Ditch 10817 was aligned WNW-ESE and was exposed for a distance of *c* 25 m. It measured 1.34 m wide by 0.22 m deep and had a flat base and steeply sloping sides. It contained pottery of the late 1st to late 2nd century.

Some of the small isolated pits and postholes within the enclosure may belong to this period of activity.

Enclosure 86.2

Enclosure 86.2 formed the more northerly subdivision of Enclosure 86. The exposed area measured 16 m N-S by 26 m E-W. The compound was enclosed on the north by ditch 8593, on the south by ditch 10817 and to the east by ditch 8591. Ditch 10634 presumably continued in use as the western boundary. Where dating evidence was available, both ditches and internal features were of the late 1st to 2nd century AD. The area may have been subdivided to serve as an artisanal or industrial work area.

Internal features were sparse and included kiln or corndrier 8725 and three pits, which probably originated as small quarries. The object may have been to obtain material for the construction of the nearby kiln. The pits ranged from a small bowl-shaped hollow, 8727, 0.7 m wide by 0.16 m, to a larger complex of multiple hollows, 8838, 4 x 3 m in area by 0.28–1.2 m deep. This complex was made up of a number of rounded suboval scoops and hollows, and may have extended out from one of the intercutting enclosure ditches. The primary fills tended to be yellowish brown silty clay mixed with chalk, either eroded natural from the sides or waste debris from the quarrying. Much of the largest hollow 8838 was filled with deliberate tips of greyish brown silty clay mixed with charcoal and small daub fragments, which appears to be debris cleared out of nearby kiln 8725. The adjacent hollow 10077 was filled with a lower deposit of dark silty soil overlain by a mixed dump of redeposited natural clay. These quarries would have blocked the original narrow north-east entrance suggesting an alternative access route was available in the western unexcavated area.

Kiln 8725 (Fig. 4.29)

Feature 8725 was situated on the north side of Enclosure 87.1. It took the form of an irregular elongated oval, 2.2 m long, 0.63–0.4 m wide and 0.18–0.05 m deep, being wider and deeper in the main firing chamber, with a bowl shaped profile.

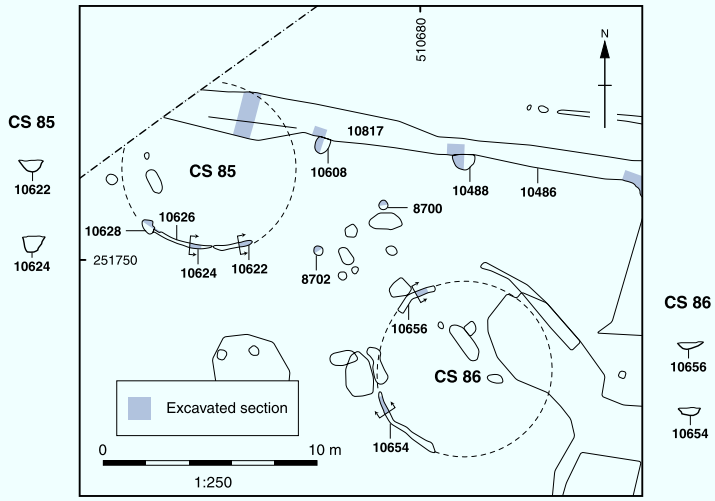

Fig. 4.30 Site 8, Phase 6–7.1, Circular Structures 85 and 86

There was a hint of *in situ* burning of the natural along the lip of the flue on its north side. Very little evidence for the kiln structure survived *in situ* but a few pieces of kiln structure and furniture were dumped in the fill. These included the corner of a pedestal or large rectangular plate, an end of fire bar, a small platelet (probably a spacer) and fragments of kiln wall or lining. This suggests the overall structure and manner of use was similar to other better-preserved examples on the site.

It contained, over the base of the main firing chamber, a layer of greenish grey silty clay with occasional grit and charcoal (ctx 8763) that was probably an accumulation of ash and cinders deriving from the use of the kiln. This was followed by a dumped layer of dark grey silty clay (8726) discoloured by a high density of fine charcoal and containing abundant pottery sherds, including spalled and overfired sherds dating to the mid 2nd century AD. Large quantities of carbonised grain were also recovered from this feature and it has been suggested (Druce, Chapter 11) that it may have been multifunctional, being utilised for drying grain as well. A fragment of burnt human bone was also recovered from this kiln.

Enclosure 87

Only the south-east corner of this enclosure measuring, 10 m by 6 m, was exposed to the north of Enclosure 85. It was bounded by ditch 8591, which continued north from Enclosure 85/86 and ditch 8593 on the south. No internal features were present in the small area exposed.

Enclosures 89.1 and 89.2

Both these enclosures were probably late additions to the settlement, belonging to Phase 7.1. They were similar in form and character, with one succeeding the other, though the actual relationship of the two cannot be determined. They were both recorded as being cut by ditch 10811 of Enclosure 88 (Fig. 4.43). Both Enclosure 89.1 and 89.2 appear to have been subrectangular. Enclosure 89.1 measured 36 m by 20 m, and Enclosure 89.2 measured 36 m long by *c* 12m.

Ditch 10820 of Enclosure 89.1 (Fig. 4.28) was generally shallow with a rounded concave profile and ditch 10821 (Fig. 4.28) of Enclosure 89.2 was similar. Both measured *c* 0.3–0.4 m wide by 0.05–0.2 m deep. They contained pottery dating from the late 2nd to late 4th centuries. The short length of gully 10841 could have formed part of the north side of either enclosure and gully 10940 may have formed part of the north-west corner of enclosure 89.2.

There were no internal features apart from 10843, a circular bowl-shaped pit 1.5 m across by 0.6 m deep containing a fill of dark brown silty clay with small chalk and containing occasional pottery and bone. It may have been contemporary with Enclosure 89.2. This pit was dated to the mid 2nd to late 4th century and cut the gully 10841.

The absence of internal features and scarcity of occupation material suggests these enclosures were used as animal pens.

Burials

A total of twenty-four burials were found, of which nineteen had been grouped in a small cemetery, whilst the remainder, five inhumations, were scattered. All the cremation burials were grouped in the cemetery, together with two infant inhumations. Two further infant inhumations were placed in or close to one of the roundhouses, CS 83. The three adults were all scattered as isolated burials outside the areas of occupation. All the burials, insofar as they are dated, appear to have been contemporary with the Phase 6 (1st–2nd century) occupation. The cremation burials may have been slightly earlier, ranging from late 1st to late 2nd century, compared to the adult inhumations, two of which can be dated to the late 2nd century.

Partial human remains were recovered from a quarry or waterhole (8925) situated within Enclosure 82 to the west of CS 82. It is unclear whether these represent an earlier burial disturbed by the digging of the feature or whether they should be regarded as a deliberately placed deposit representing continuity of native traditions seen in the Iron Age. The few isolated fragments of burnt human bone found were all recovered from the fills of kiln 8725 or corndrier 10067.

The cemetery (Figs. 4.31–4.39)

The cemetery, 8094, was situated in the south-west corner of Enclosure 82 bounded on the west by enclosure ditch 10744 and to north and east by minor internal ditches 10225 and 10086. The cemetery contained seventeen cremation burials, of which eight were urned and nine unurned, and two infant inhumations. There appears to have been no particular pattern to the layout, such as rows, though vague lines could be claimed either aligned E-W or N-S. A primary burial could have formed a focus around which others clustered, but the earliest dated burial, 8433, lies on the south edge of the cemetery and later burials do not appear to be placed in any significant relationship to this one. The burial pits were closely spaced, but only pits 8096 and 8117 intercut. Grave 8104 held two burials, which were probably placed contemporaneously, rather then representing two separate intercutting interments. It is possible that one burial was delayed and the two interred only when the second person had died. The lack of intercutting but close spacing suggests the graves may have been marked in some way, though evidence of grave markers is slight. Two small features, a posthole, 8418 (containing postvoid 8120; Fig. 4.38), and shallow pit 8448 may have held markers for the adjacent graves (8433 and 10567) or marked the southern extent of the graveyard. The double burial in pit

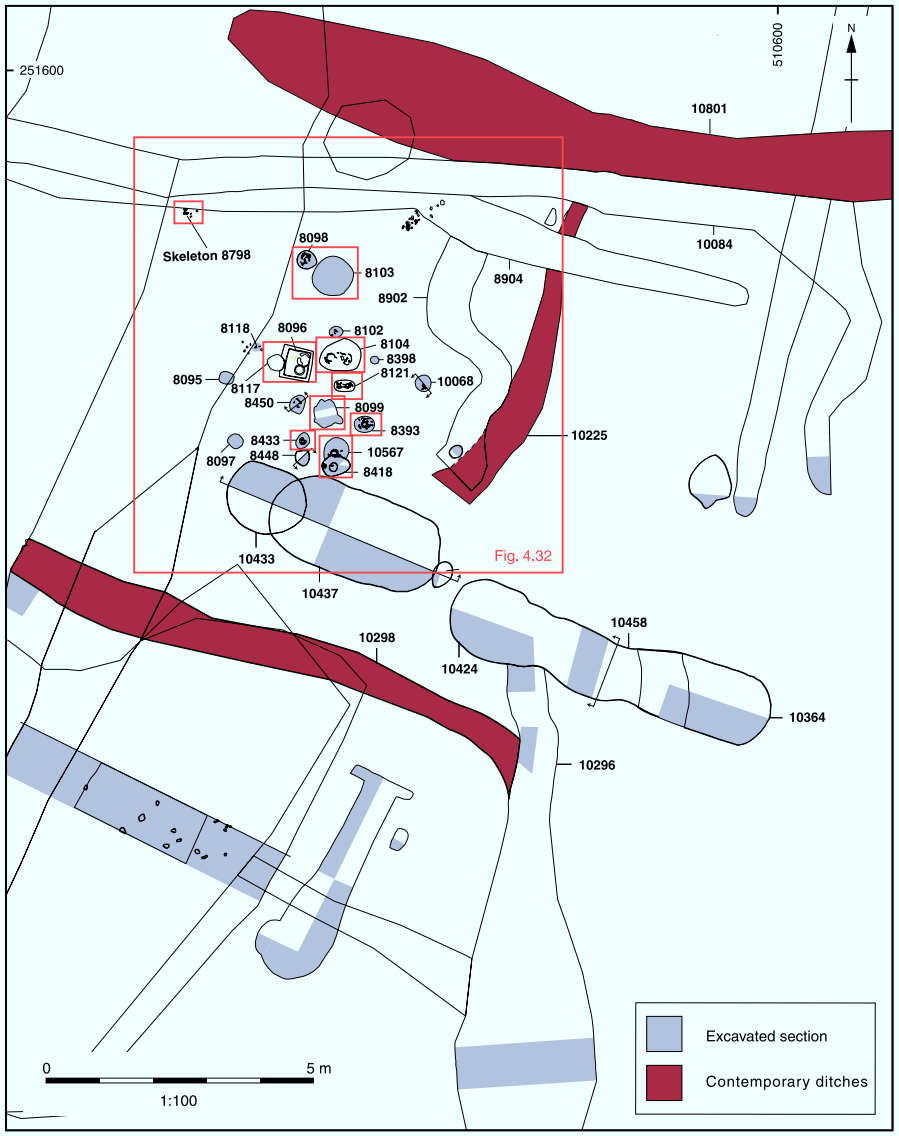

Fig. 4.31 Site 8, Phase 6–7.1, Enclosure 82, detailed plan of compound 82.3 and cremation cemetery

8104 may also indicate the graves were marked, if one was placed subsequently, as it would appear in this case the second burial had been carefully inserted; presumably both were members of the same family.

Nearly all the cremations cut through a layer of subsoil (ctx 8407) which forms a roughly rectangular area in the angles of ditches 8940 and 10744 (Fig. 4.32). It is possible this subsoil layer was preserved in this area because the cemetery was covered by a mound upon its closure, making it a visible entity within the community and possibly a focus for religious activity subsequently.

The burials are not exceptional, though the box burial, 8096, is not a frequently found type, even in larger cemeteries, and is rare for a small rural settlement. Its significance is considered further in Chapter 5. This and four other burials were the only ones to contain additional grave goods. In most cases these amount to two ancillary vessels (8103, 8104 A and B), but in the case of the adolescent (8098), a young chicken had been deposited. The small numbers of animal bones found in several graves may be accidental inclusions, though some may derive from funeral feasts, and the burnt bone may indicate some joints were burnt with the deceased. The presence of occasional nails and iron staining on the bone could reflect reuse of timber as fuel in the cremation pyre, or that the corpse was placed on a wooden bier or structure, or the placing of wooden items with the deceased.

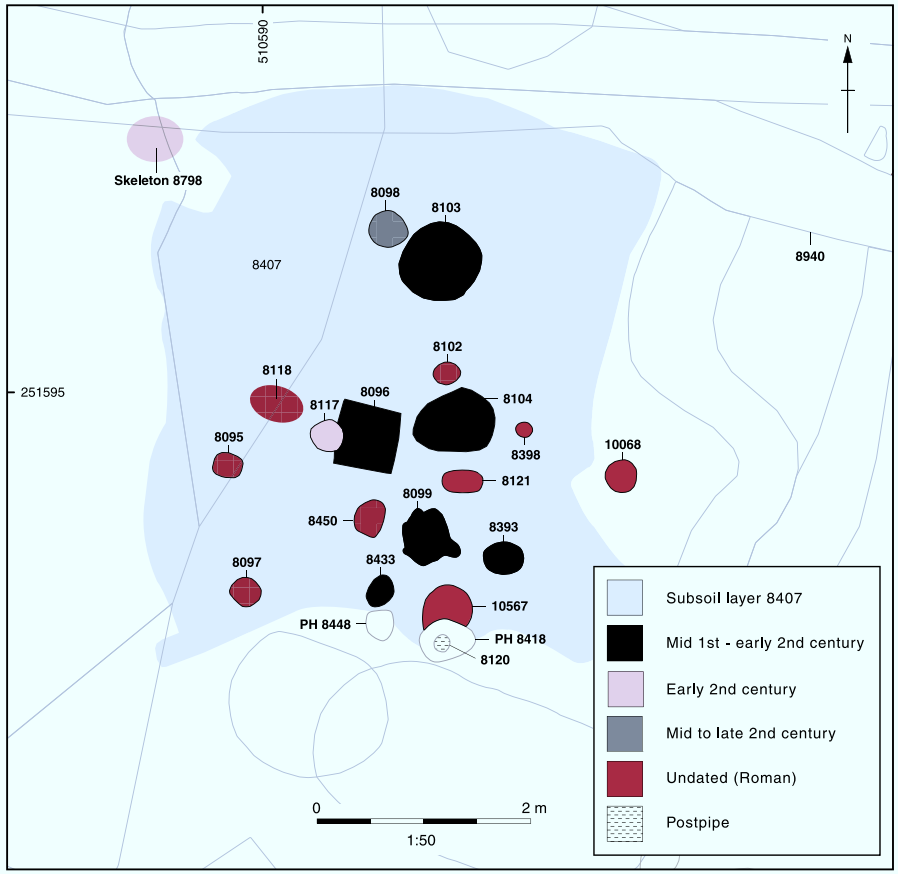

Fig. 4.32 Site 8, Phase 6, Enclosure 82, cremation cemetery phase plan

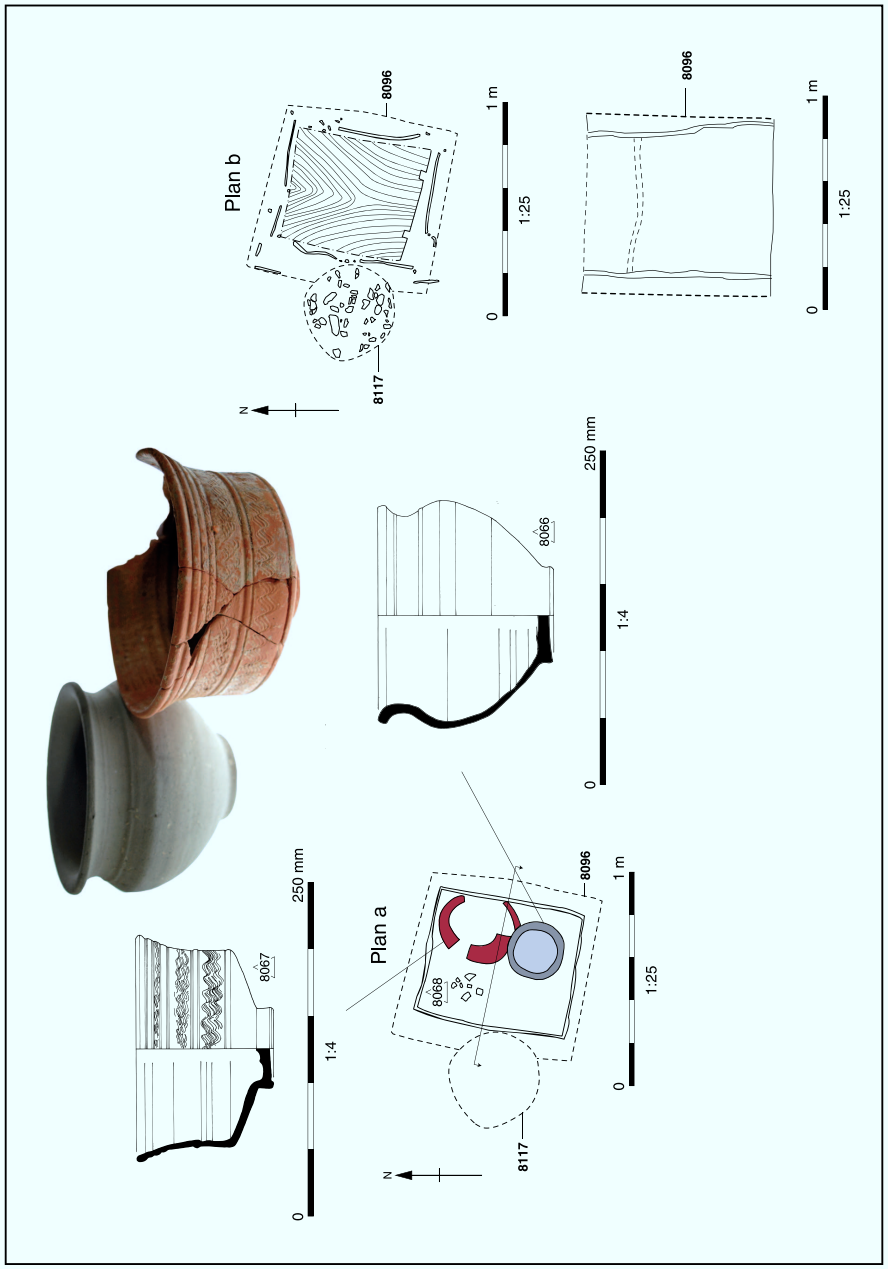

Fig. 4.33 Site 8, Phase 6, cremation cemetery, grave 8096 box burial showing a. cremation urn and ancillary vessels; b. top of box and later unurned cremation 8117

The type of pots used as cinerary urns were most commonly simple jars with everted rims. Single examples of a poppyhead beaker and a globular beaker with raised bosses were also used. Ancillary vessels comprised for the most part medium mouthed jars with everted rims, lid-seated jars and narrow necked jars together with a greyware flagon and dish, a samian platter and dish, a Central Gaulish globular beaker and a British lead-glazed bowl. Ancillary vessels are normally related to eating and drinking, but the emphasis on jars may reflect the status of the settlement or indicate other preoccupations with the afterlife.

The inhumations of two infants suggest that this, rather than cremation, was the accepted rite for young children, or at least for those recognised as members of the family or community. The burial of two other infants close to or within one of the circular houses, possibly indicates a different perception of infants in other circumstances. The significance of these differences in infant burial is discussed below (Chapter 5).

Cemetery catalogue: cremations

8095 Unurned cremation set in subsquare grave, 0.27 x 0.2 m; 0.2 m deep.
Fill: (8126) Adult, ?female, (18–44 years).
Undated.
Position in cemetery: western periphery.

8096 (Group 8318) *(Fig. 4.33; Plate 4.11)* Box burial: set in a square cut pit, measuring 0.86 m x 0.8 m, 0.84 m deep. A wooden box (8161) surviving only as a dark organic stain, held an urned cremation: the cremation urn (10888; SF 8066; Fig. 8.11.32), a medium mouthed jar, held the ashes of an adult (10889) and was set in the south-east corner together with two ancillary pots, one a carinated bowl with lead glaze (SF 8067), an imitation samian Dr 30 bowl (Fig. 8.12.33) in the NE corner and remnants of a third pot, possibly a beaker (SF 8068) in the NW corner. No other grave goods were present, though a few fragments of sheep/goat bone were present in the fill (8130). The top of the casket had been closed with a lid (8132), before the pit was backfilled (8129). No metal fittings or hinges were found in association with the box, suggesting it was fitted together either by dovetailing or dowelling the separate sections, with the lid fitting into recesses in the sides
Date: early 2nd century.
Position in cemetery: core, NW.

8097 Unurned cremation set in a subcircular, bowl shaped grave 0.2 m diam. 0.1 m deep.
Fill: (8116) Adult (18–44 years). Also present in the fill was charcoal, fired clay, and animal bone.
Undated.
Position in cemetery: western periphery.

8098 *(Fig. 4.34)* Unurned cremation set in a subcircular bowl shaped hollow, 0.27 m x 0.25 m; 0.1 m deep.
Fill: (8192–3). Ancillary vessel: bag beaker in Colchester colour-coated ware. It appeared that the pot rather than containing the ashes, had been placed upside down over the burial, as a cover. This is similar to the cremation (8092) in Enclosure 80 in the preceding phase. Additional artefacts: SF 8064: iron nail.
Date: mid to late 2nd century AD. This is one of the latest burials.
Position in cemetery: northern periphery.

Plate 4.11 Site 8. Cremation cemetery: casket burial 8096. Scale: 0.3 m.

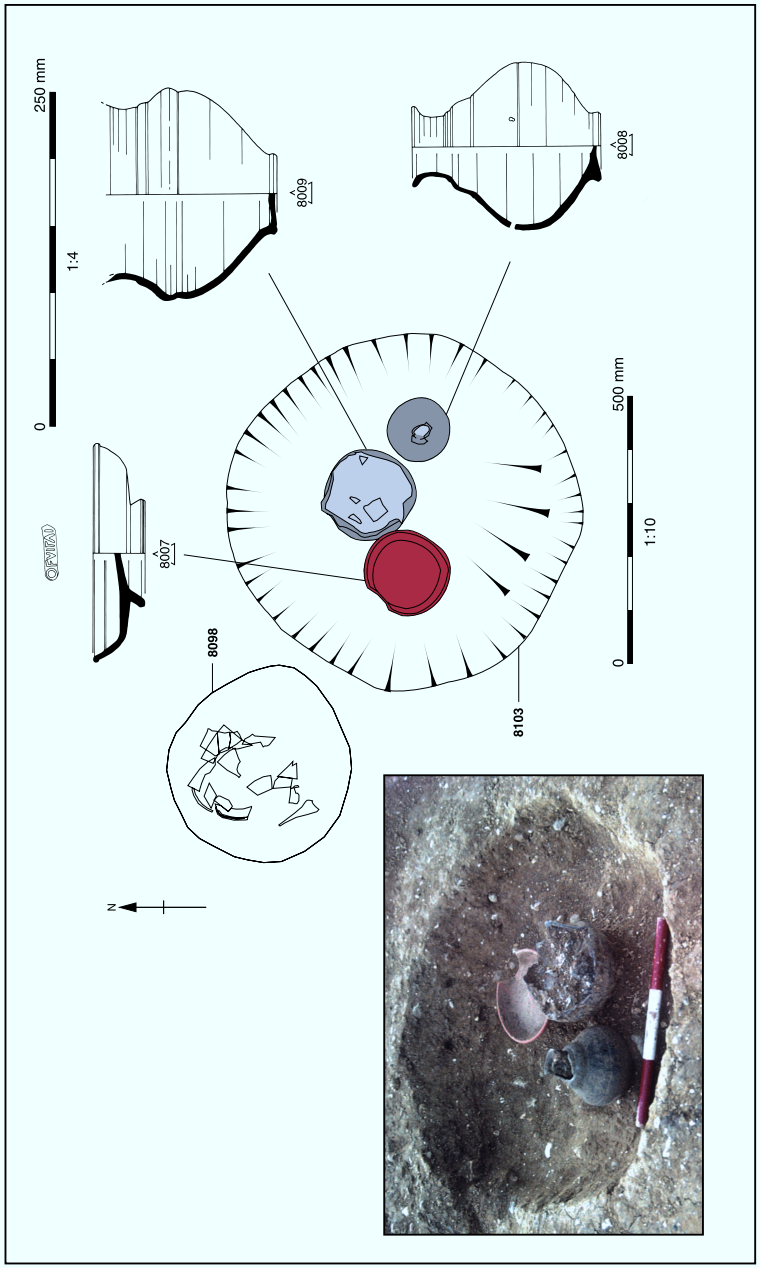

Fig. 4.34 Site 8, Phase 6, cremation cemetery, burial 8103 showing urned cremation with ancillary vessels and unurned burial 8098

8099 *(Fig. 4.35)* Urned cremation set in a subcircular, irregular hollow with bowl-shaped profile, 0.5 m diam. 0.1 m deep.
Fill: (10896) SF 8000 cremation urn: base of a poppy-head beaker with lozenge barbotine dot panel decoration was placed centrally and contained the cremated remains (8119) of a juvenile (<12–19 years). The top of the pot had been truncated by a combination of ploughing or machining of plough-soil, though two small rim fragments had fallen into the interior with the burnt bone. Some iron oxide staining was noted on the skull. An unburnt juvenile chicken (8125) had been placed to the north-west of the urn. The grave was infilled with orange-grey clay containing small stones (8120).
Date: late 1st – early 2nd century AD.
Position in cemetery: central.

8102 Unurned cremation set in circular grave pit, heavily truncated, 0.1 m diam. 0.06 m deep.
Fill: (8128) Adult (35–64 years). Backfill of yellowish brown clay silt with chalk flecks and gravel.
Date: undated.
Position in cemetery: north core.

8103 *(Fig.4.34)* Urned cremation in subcircular grave pit with bowl shaped profile; 0.65 m diam. 0.1 m deep.
Fill: The cremation urn (SF 8009) (10890) a medium-mouthed jar (Fig. 8.11.22) was placed slightly off-centre to the north of the pit. It contained an adult (35–64 years) (10891). Ancillary vessel SF 8008 (10892) (Fig. 8.11.23), a narrow-necked jar, was set adjacent to the cremation urn on the east. Ancillary vessel SF 8007 (10894) (Fig. 8.11.21), a samian platter (mid to late 1st century), was set adjacent to the south. Within the fill (8124) were additionally 14 sherds from other pots including two medium mouthed jars, which may have formed further ancillary vessels.
Date: mid to late 1st century AD.
Position in cemetery: northern periphery.

8104 *(Fig. 4.36)* Double burial, both urned, in suboval burial pit, 0.6 m x 0.85 m diam. 0.1 m deep with an irregular base reflecting the presence of two burials.
Fill:
Burial A: (10899) Cremation urn SF 8059 (and including SF 8060/8061; Fig. 8.11.26), a medium mouthed necked, cordoned jar (1st century AD) containing (10900) adult (18 years). Some iron staining was noted on the bones. The fill also contained scraps of pot, probably broken from the urn, and a small scrap of burnt clay.

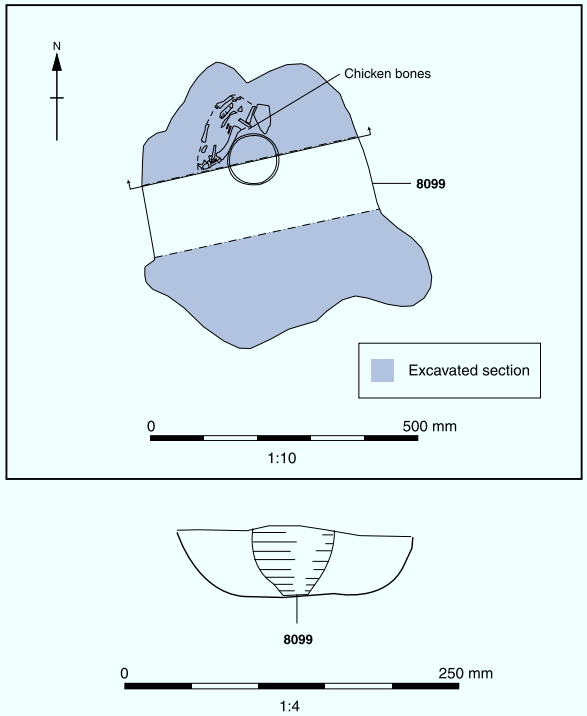

Fig. 4.35 Site 8, Phase 6, cremation cemetery, burial 8099

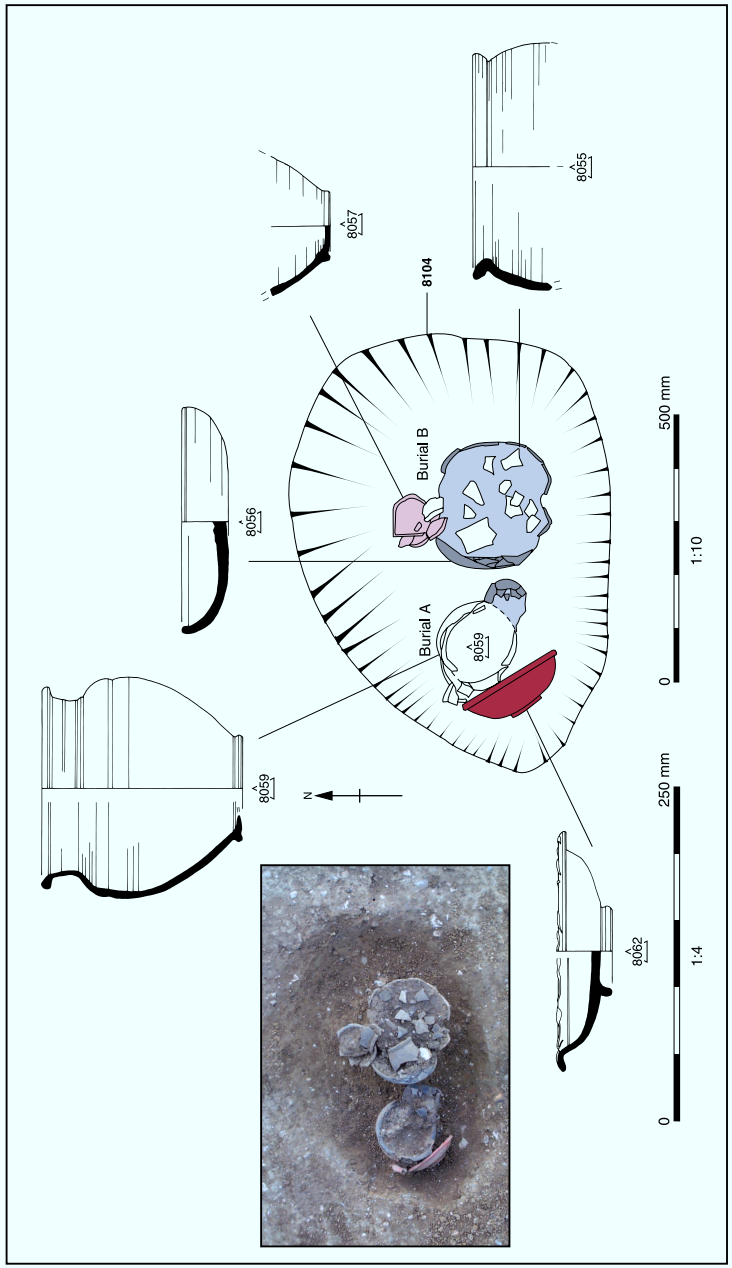

Fig. 4.36 Site 8, Phase 6, cremation cemetery, grave 8104 containing double burial

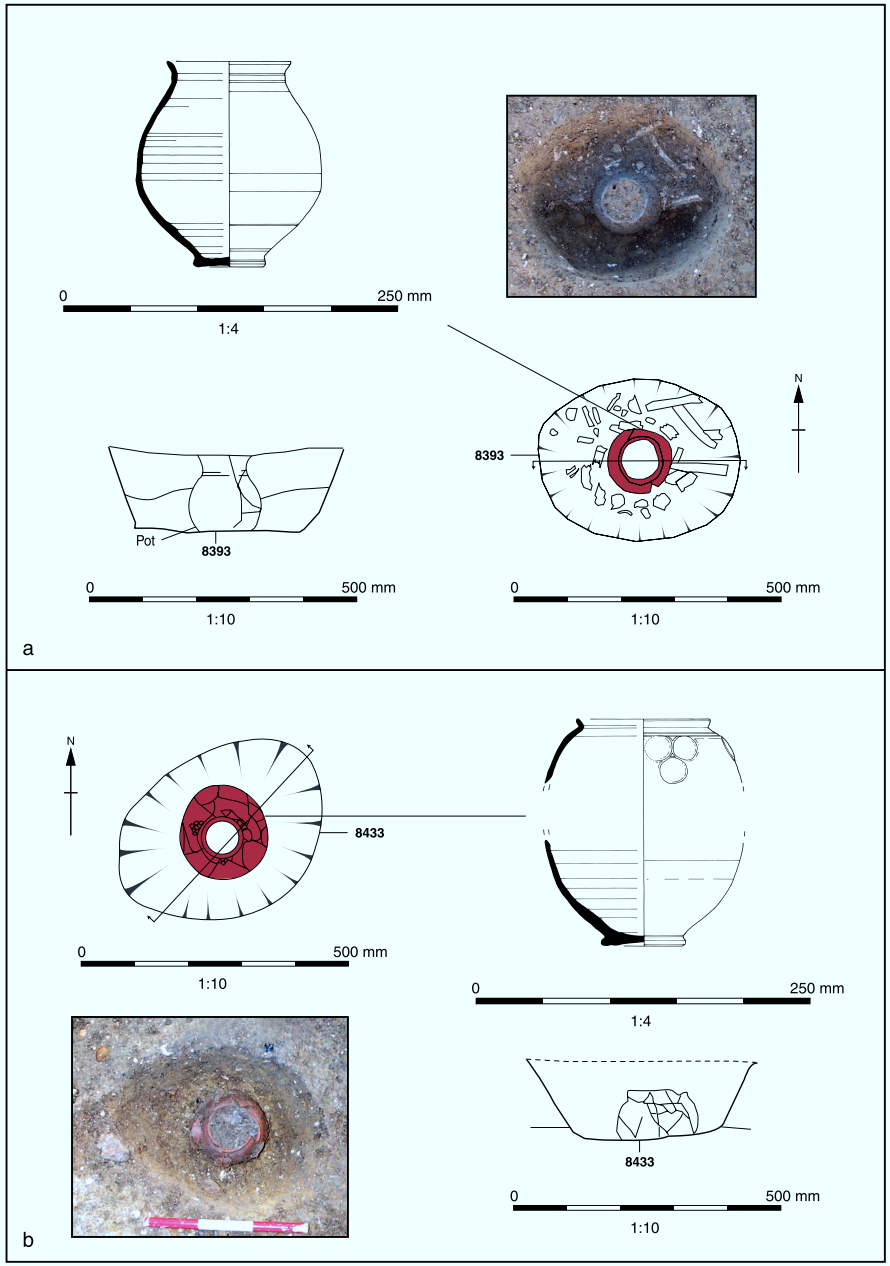

Fig. 4.37 Site 8, Phase 6, cremation cemetery, a: burial 8393, b: burial 8433

(8127) Ancillary vessels: a samian Dr36 dish SF 8062 (Fig. 8.11.29) had been set on edge propped against the urn on its south-west side.
Burial B: (10901) Cremation urn SF 8055 channel rim jar (Fig. 8.11.28) containing (10902) Adult (35–89 years) together with small fragments of fired clay and a couple of animal bones
(10903). Ancillary vessel: SF 8056 grey ware platter (Fig. 8.11.27) containing (10904), a very small amount of cremated bone, scraps of pot and fired clay, which probably represents spillage from (10902) based on the arrangement of vessels. This was propped on edge against the main cremation urn in the same manner as the samian dish with burial A. (8127): ancillary vessel SF 8057 (Fig. 8.11.30), the base of a greyware jar was set to the north of the cremation urn.
(8127): backfill of the grave pit, also contained some burnt animal bone and an extremely small fragment of very thin colourless blown vessel glass.
Date: mid to late 1st century AD: probably Flavian from around the end of the third quarter of the 1st century.
Position in cemetery: north core.

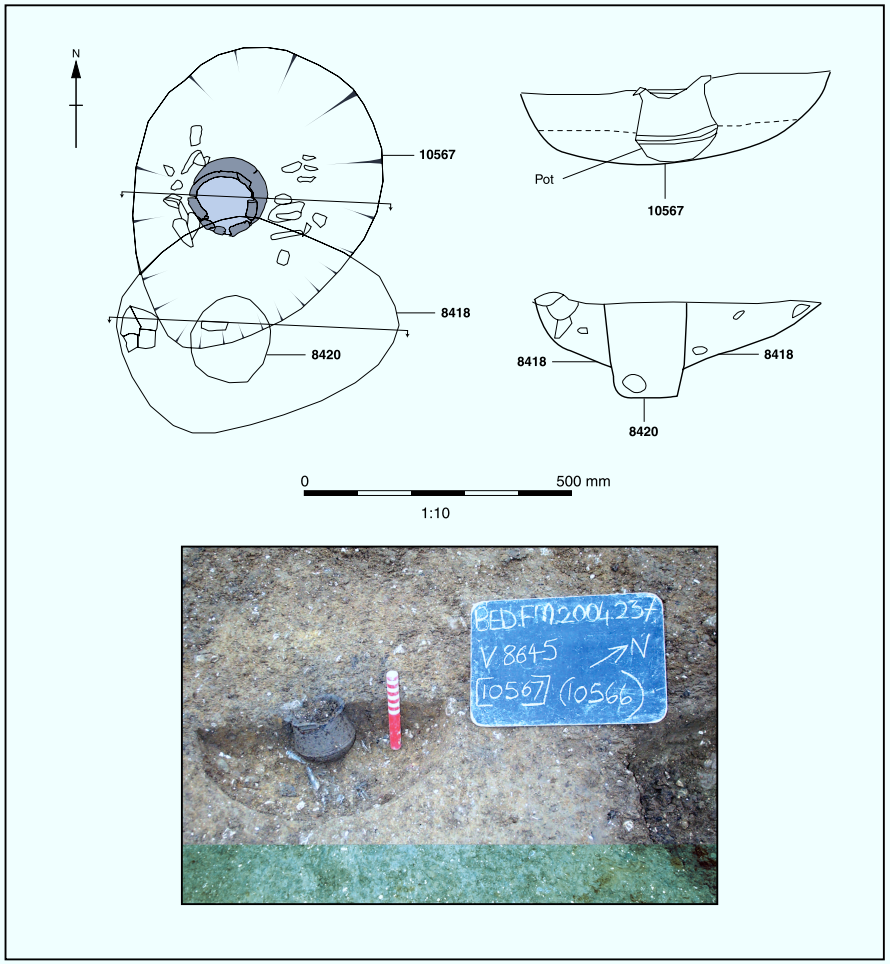

Fig. 4.38 Site 8, Phase 6, cremation cemetery, burial 10567 with later posthole 8418, possibly a grave or cemetery marker

8117 *(Fig. 4.33)* Unurned cremation set in a subcircular pit with flat base and sloping sides, measuring 0.22 m x 0.19 m, 0.04 m deep.
Fill (8166: remains of an adult (18–44 years).
Undated, but cuts grave 8096: late 1st to early 2nd century AD.
Position in cemetery: western periphery.

8118 Unurned cremation set in a heavily truncated pit, represented by the subcircular base 0.2 m diameter, 0.02 m deep. The fragments of cremated bone had been disturbed and spread beyond the edges of the cremation pit.
Fill (8133) contained an adult (18–64 years).
Undated.
Position in cemetery: western periphery.

8393 (Group 8397) *(Fig. 4.37)* Urned cremation set in an oval pit with flat base and steeply sloping sides, 0.41 m x 0.32 m, 0.15 m deep.
Fill (8395): poppyhead beaker (SF 8083) (Fig. 8.11.24) contained the remains of an adult (10897). Cremated bone (8394) had spilt into the pit or had additionally been deposited around the urn. Two unburnt bird bones and one burnt animal bone were also present.
Backfill (8396) of yellowish brown clay silt with scattered pebbles and gravel.
Date: late 1st to early 2nd century AD.
Position in cemetery: core, east.

8398 Unurned cremation set in subcircular grave pit, heavily truncated, 0.18 m x 0.16 m, 0.04 m deep.
Fill (8399): Adult (18 years).

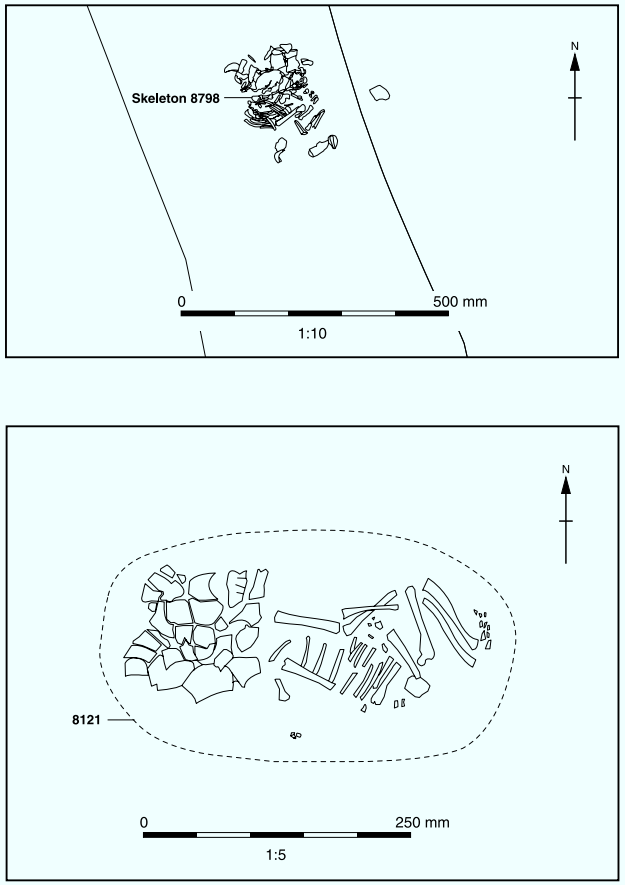

Fig. 4.39 Site 8, Phase 6, cremation cemetery, inhumation burials of infants 8121 and 8798

Undated.
Position in cemetery: periphery, north-east.

8433 *(Fig. 4.37)* Urned cremation set in an oval pit with flat base and steep sides, measuring 0.42 m x 0.35 m, 0.14 m deep.
Fill (8434): Cremation urn, a globular bossed beaker, SF 8084 (Fig. 8.11.25) contained cremated bone of an adult (18–44 years) (10898). Some iron staining occurred on the bone. Around the pot was further cremated bone mixed with the backfill of brown clay silt (8435).
Date: mid to late 1st century AD.
Position in cemetery: core, west.

8450 Unurned cremation set in an oval grave pit, 0.4 m x 0.3 m, 0.13 m deep.
Fill (8452): Cremated remains of adult (18–44 years) together with one iron nail (SF 8087) sealed by backfill (8451), a greyish yellow clay silt.
Undated.
Position in cemetery: west core.

10068 Unurned cremation set in a shallow circular dished hollow, the truncated base of a grave pit measuring 0.3 m diameter, 0.04 m deep.
Fill: (10069) Cremated remains of an adult (35–64 years) placed on the base were mixed with the infill of dark greyish brown ashy silt.
Undated.
Position in cemetery: eastern periphery.

10567 *(Fig. 4.38)* Urned cremation set in a grave pit, 0.59 m x 0.45 m, 0.15 m deep.
Fill: (10566) Cremation urn SF 8229: a black carinated pot (lost) with ridged decoration, contained (10565) cremated remains of an adult (?F, 35–64 years). Cremated bone and pyre debris (10564) lay over and around the pot. A small iron nail was fused into the surface of the skull. (10563): backfill of pit.
This grave had been cut by posthole 8418, in which had been set a post of 140 mm diameter. This may have been placed later as a grave marker.
Date: 1st to 2nd century.
Position in cemetery: southern periphery.

Cemetery catalogue: inhumations

Two crouched infant inhumations were associated with the cremation cemetery.

8122 (Sk 8121) *(Fig. 4.39)* The infant was interred within a small subrectangular grave, 0.86 m x 0.48 m, 0 m deep. (8122) The neonate (0–6.5 wks), was laid in a crouched position on its left side, aligned W-E. Twenty fragments of sheep/goat bone were also found associated.
Undated.
Position in cemetery: placed among the cremations, on east of core area.

Sk 8798 *(Fig. 4.39)* The infant was deposited within the upper fill of enclosure ditch 10744. It is unclear whether it was placed in a deliberately cut grave or whether it was placed in the shallow hollow formed by the silted ditch. It appears to have been placed in a crouched posture on its left side, aligned NNW-SSE.
Position in cemetery: north-west, on the outer periphery well beyond all other burials. The underlying ditch fill has been assigned a 2nd-century date

Isolated inhumations (Figs. 4.24, 4.40–4.42)

Isolated inhumation burials comprised two further infants and three adults. The infant inhumations, 10344 and 10473 (Fig. 4.24), were interred in graves placed to the north of roundhouse CS 81. It is possible both lay within CS 83, but the exact shape and size of this structure is hard to define and they may have been outside both buildings. One may have been within the annexe of CS 81. Neither burial was associated with any grave goods. The burial of neonates under the floors of houses in the Roman period is a common practice.

The three adult inhumations were all located outside of the settlement enclosures (Fig. 4.40). Two were placed on the edge of Trackway 1, one alongside the ditch of Enclosure 84, and the other in a grave cut into the fill of quarry 8603, further to the north. The third was positioned in the open area south of Enclosure 82.

Inhumation catalogue

Grave 8162 (Sk 8163) *(Fig. 4.41)*: The grave was placed in Trackway 1 parallel to ditch 8557 of Enclosure 84. The grave was subrectangular with a flat base and vertical sides and measured 2.1 m long, 0.6 m wide and 0.1 m deep. Contained within it were the remains of an adult (50–89 years) of undetermined gender. The body (Sk 8163) was aligned NE-SW, placed in a supine extended posture, accompanied by a brooch (SF 8052 Fig.8.18.4) close to the right shoulder, and lying close to the left upper arm was a 'chatelaine set' comprising a pair of tweezers (SF 8053, Fig. 8.19.11) and a nail cleaner (SF 8054 Fig. 8.19.13). The associated grave goods suggest the body was female. The brooch dates to the 1st centuries BC/AD, the tweezers to mid to late 1st century AD and the nail cleaners to the 2nd century AD.

Grave 8411 (Sk 8413) *(Fig. 4.42b)* was located a short distance south of ditch 10819. The grave was oval, measuring 1.21 m by 0.8 m, surviving to a depth of 0.2 m. It contained the skeleton (Sk 8413) of a woman (43–60 years), aligned NW-SE, in a crouched posture lying on her left side. Pottery sherds from the grave fill (8412) could be dated no more closely than as Roman.

Grave 8561 (Sk 8563) *(Fig. 4.42a)* was placed to the east of the entrance of enclosure 82 on the opposite side of Trackway 1, cut into the fill of quarry 8603. It had been cut by feature 8599, possibly a later phase of quarrying, which disturbed the burial. The grave was subrectangular, measuring 1.6 m long by 0.46 m wide, and contained the body (Sk 8563) of a male (35–45 years). He was placed in an extended posture slightly flexed, lying on his left side, aligned NNE-SSW. The skull had become displaced from the grave and was lying in the base of pit 8599. Pottery from the backfill (8562) dates to the mid to late 2nd century AD. This grave contains much larger quantities of animal bone than other graves, including ox and ovicaprid. This may be residual from the earlier deposits cut by the grave rather than grave goods.

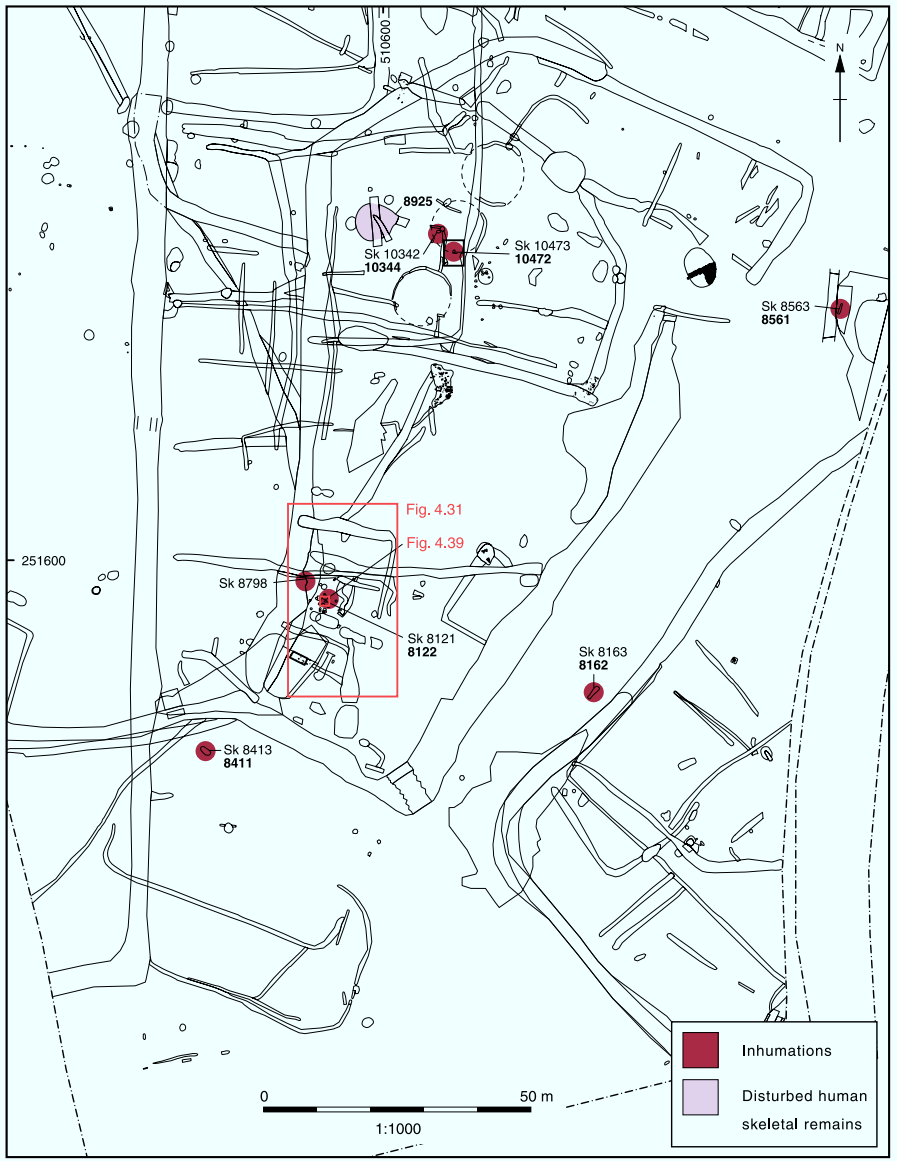

Fig. 4.40 Site 8, Phase 6–7.1, plan showing positions of inhumation burials

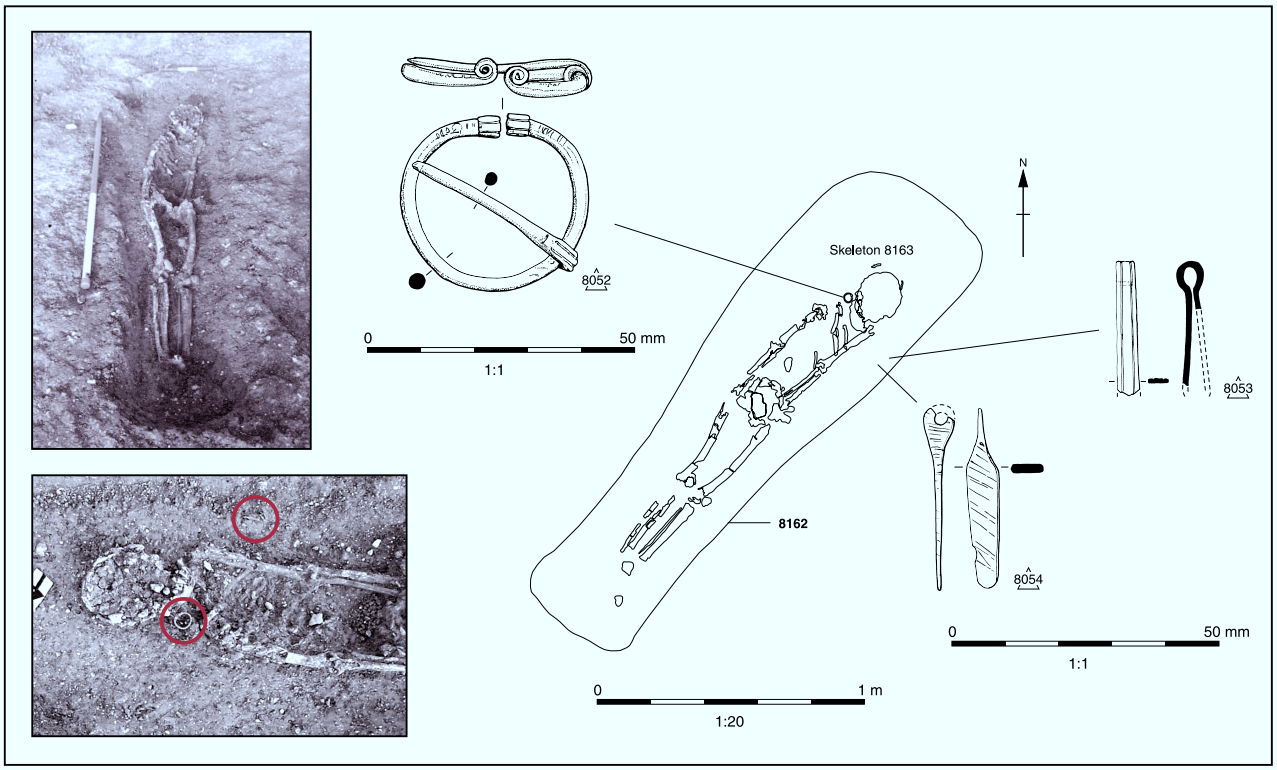

Fig. 4.41 Site 8, Phase 6–7.1, detailed plan of inhumation 8163 in grave 8162

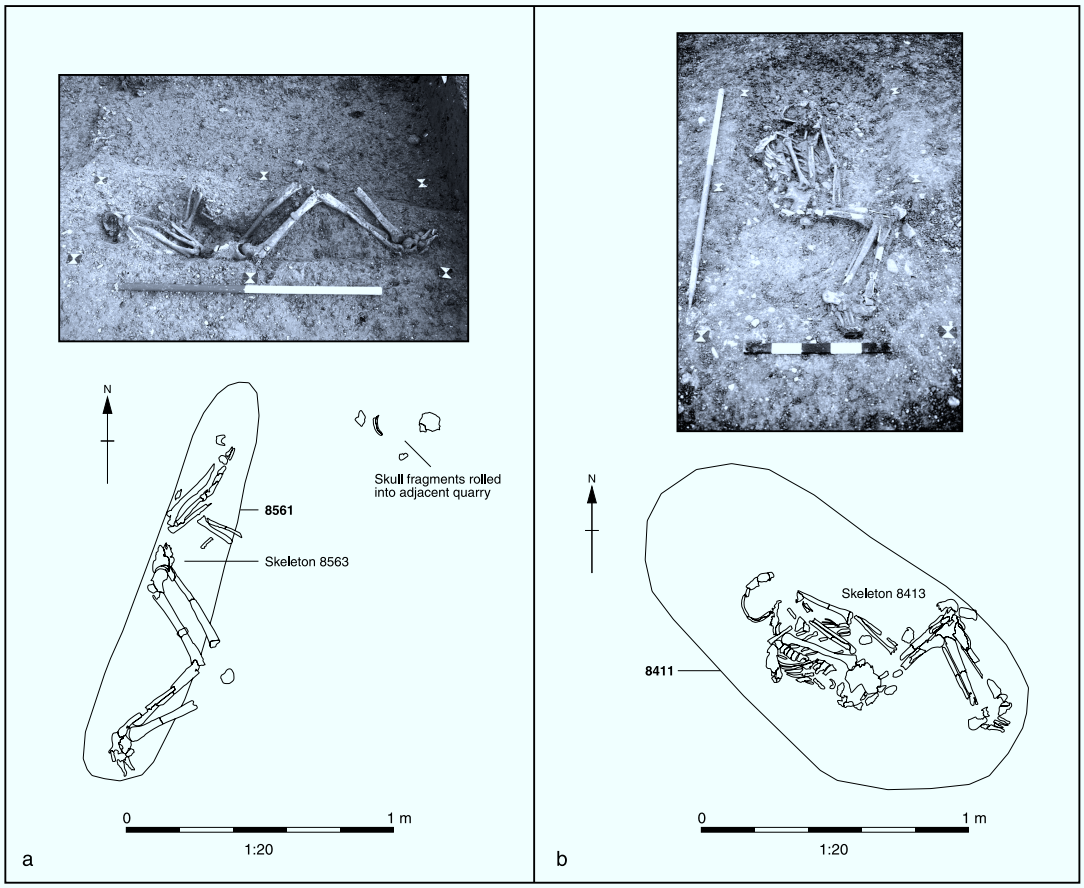

Fig. 4.42 Site 8, Phase 6–7.1, detailed plans of inhumations, a: skeleton 8563 in grave 8561; b: skeleton 8413 in grave 8411

Grave 10344 (Sk 10342) The grave was located in the angle formed by gully 10417, which may have formed an annexe to CS 81. However, it could have been situated within CS 83. The pit was oval, measuring 0.6 m x 0.38 m and 0.15 m deep. The infant (perinatal) (Sk 10342) was laid in a crouched posture, aligned E-W. The backfill (10343) contained a sherd of probably residual pottery, dated no more closely than Roman.

Grave 10473 (Sk 10472) *(Fig. 4.24).* The grave was placed a short distance to the east of grave 10342, outside the annexe of CS 81, but possibly just within CS 83. The pit was oval, measuring 0.45 m x 0.3 m, with a depth of 0.05 m. The infant (Sk 10472) (perinatal) was lying in a crouched posture on its right side and was aligned N-S.

Phase 7.2 late Roman: late 3rd to 4th century AD (Figs. 4.43–4.44)

The enclosure system underwent a major reorganisation during the 3rd century AD. The 'spine' of the realigned system was linear ditch 10811, which crossed the site from north to south, making a turn to the west at its southern end. The full extent of the ditch is unknown and it is not visible in any aerial photographs. The line of the southern extent of the ditch is not visible in the geophysics nor is there any sign of a western return. Though at first thought to define an enclosure to the west, detailed analysis suggests it defined the area to the east. The geophysical survey shows the ditch faintly continuing north for another 30 m at least, but it gradually fades and it is difficult to determine whether it terminates, turns or continues. However, ditch 10631, which belongs to this phase and is aligned E-W, is very similar in character and size to ditch 10811. It is possible to interpret the geophysical survey as showing these two ditches forming a single group with ditch 10631 running west for about 60 m beyond the excavation area and ditch 10811 continuing about 56 m north of the excavation to meet at right angles. The point at which the two ditches would join is vague on the geophysics and might indicate a gap through which Trackway 2 passed. Ditch 10631 terminated a short distance from the eastern boundary of Enclosures 85 and 86, suggesting these were still functioning in some manner. The late settlement was therefore defined by ditch 10811 on the west, 10631 on the north and Trackway 1 on the east.

To what extent any of the earlier enclosure ditches were maintained in this phase is uncertain. However the presence of 3rd- and 4th-century artefacts in the upper fills of some suggest they may have remained as visible features, slowly silting up if not actively maintained. Large quantities of 3rd- and 4th-century material including most of the coins from the site occurred in an extensive layer of soil and occupation debris (ctx 8824) blanketing the top of ditch 10819.

Within the excavation, ditch 10811 ran for 112 m aligned N-S and 12 m E-W. However, in evaluation trench 170 a length of ditch was identified on line with this *c* 65 m to the west suggesting it ran for at least that distance. It did not reappear in the Site 9 excavation indicating it either terminates or turns before this. This was a substantial feature, which at some points showed two recuts. The ditch itself measured 3.4 m wide by 0.9–1.26 m deep and had a wide V-shaped profile (Fig. 4.44). The fill was natural accumulations of silt and soil with a stonier central horizon at the southern section, which may indicate arable cultivation was taking place nearby and that where it turned it was defining fields rather than settlement.

It contained fairly low densities of pottery, the latest dating to the mid 2nd to 4th century, though small quantities of prehistoric pottery occurred in all interventions and three sherds of late Iron Age pottery were the only sherds from its southernmost end, suggesting little contemporaneous occupation in this area. Other artefacts found in the ditch included animal bone, occasional worked stone, flint, iron nails, fired clay and shell.

Enclosure 88 (Fig. 4.43)

The main settlement area was confined to the area bounded by ditches 10811 and 10631 and Trackway 1. Within this area a series of slighter ditches and gullies were cut on an east-west alignment. These stopped just short ditch 10811, usually leaving a gap of about 2–3 m. They varied in length from *c* 20 m to 48 m, and some gently curved. They were set at intervals of between 8 and 16 m. At the north end an L-shaped ditch 10907 created a plot *c* 24 m square. These could represent the boundaries of building plots or animal pens. The gap alongside ditch 10811 suggests either the presence of a bank or another obstruction such as a hedge or a narrow lane running along the rear of the plots. The absence of any form of boundary on the east side of the plots suggests these were open and unlikely to be pens or stock enclosures. Some gullies aligned N-S may have been contemporaneous, such as the undated 10514 (NI), which ran for 12.1 m but was only 0.1 m deep. However, it is not always clear whether some of these N-S gullies were remnants of ridge and furrow or not, and no attempt has been made to establish their character and relationships in detail. A scatter of short, linear and curvilinear gullies continued in a more haphazard manner across the northern area towards ditch 10631.

Evidence for buildings was extremely slight, but it appears that these took a different form to the preceding phase. The linear slots or gullies already mentioned may represent the position of buildings, either defining rectangular building plots, or possibly representing the position of timber sill beams in the case of some of the shallower examples. One of these, 8252/8254, contained a group of complete pots (Figs. 8.12.49-53; Plate 4.12) carefully placed in the end of the slot (but partly sliced through during machining).

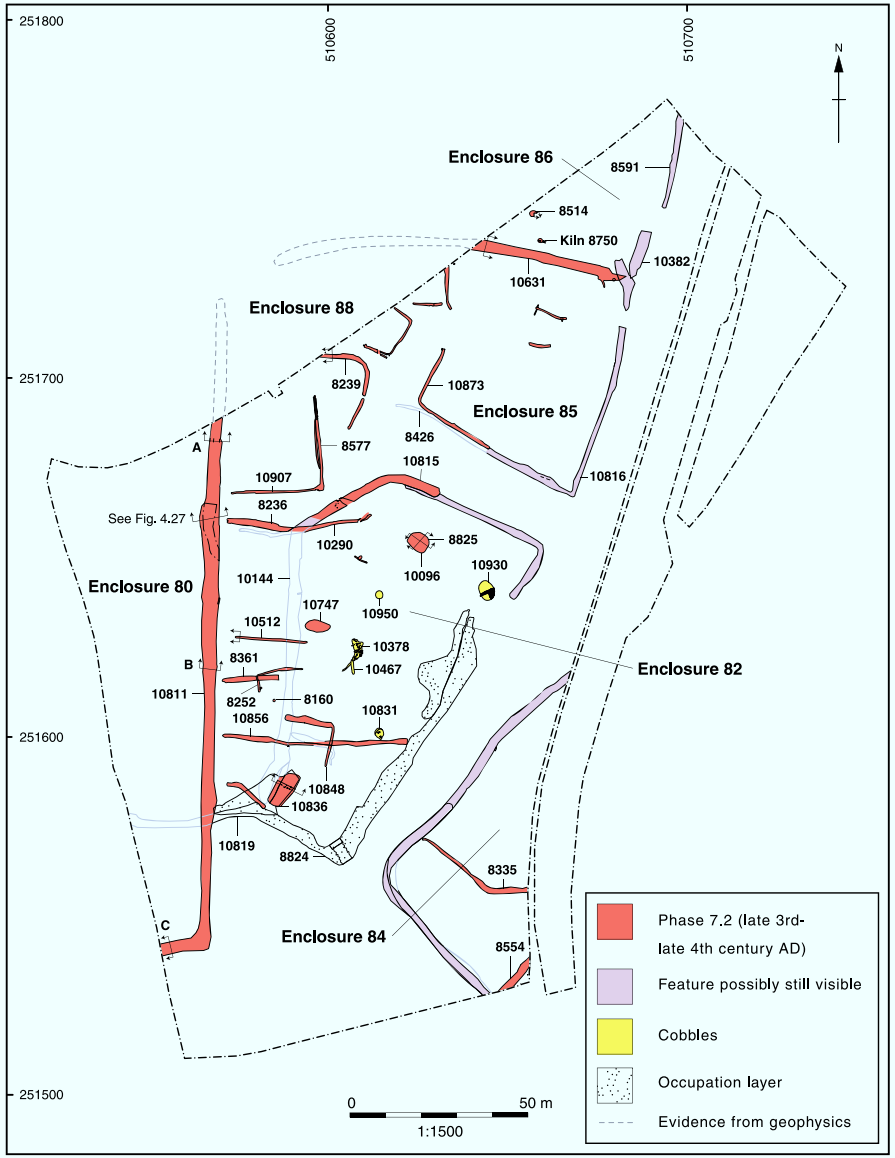

Fig. 4.43 Site 8, Phase 7.2, plan

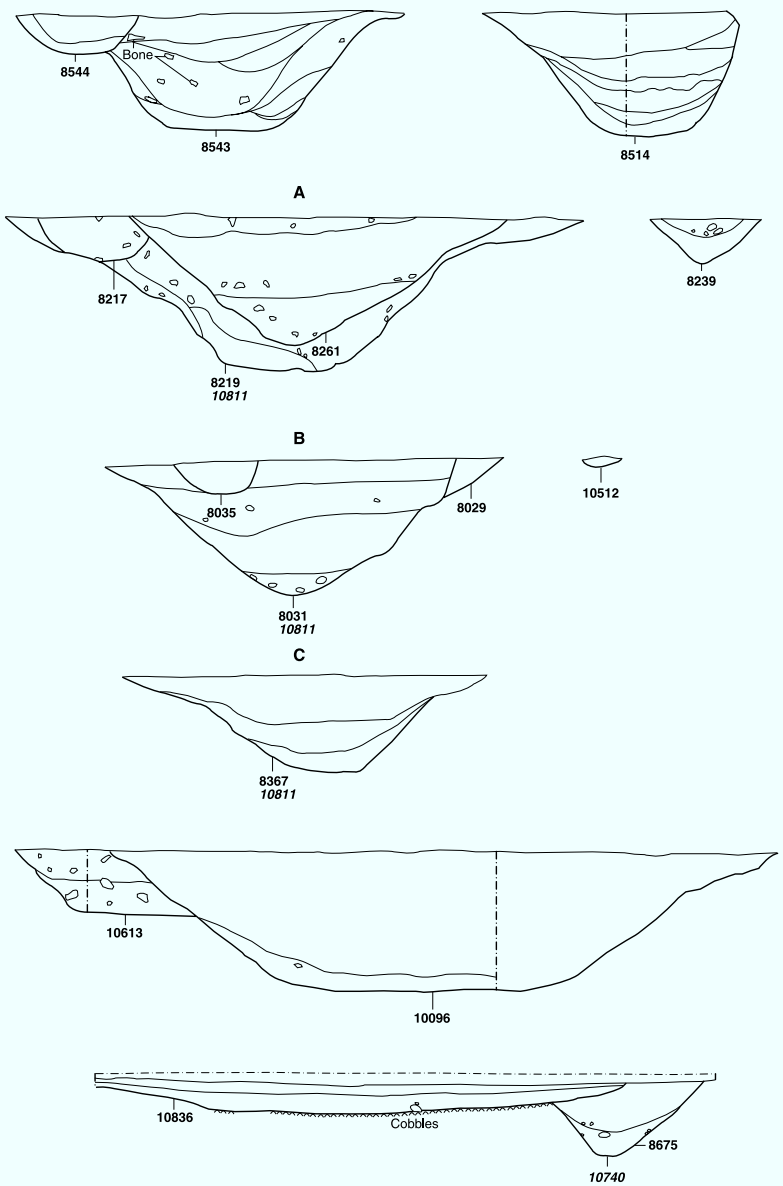

Fig. 4.44 Site 8, Phase 7.2, sections

Plate 4.12 Site 8. Hoard of whole pots deposited in beam slot 8252. Scale: 1 m.

In addition, several discrete spreads of flint cobbles were present. These ranged in size from 2 m up to 6 m across (ctxs 10378, 10831 (slumped into the top of pit 10829), 10930 and 10950) and were associated with concentrations of occupation material. They may represent platforms for timber buildings or the make-up for house floors. The association of iron nails with several of these spreads lends some support to this hypothesis. Contexts 10950 and 10930 contained two and three nails respectively, while spread 10378 contained twenty nails, with a further ten nails recovered from adjacent pit 10467, into which some of this deposit may have subsided. Most of these areas produced some pottery and animal bone, whilst spread 10378 contained large quantities of these together with fired clay, ceramic building material, stone, slag, shell and a bone pin. These all dated to the mid 3rd to 4th century AD. A larger oval hollow, 10836, (Fig. 4.44) measuring *c* 12 m x 4 m in area and 0.25 m deep may also mark the position of a structure or possibly a working hollow. The base was covered in a tightly packed spread of cobbles and pebbles (8680) which were interpreted on site as part of the natural, but more probably represent a trampled base. This was overlain by a layer of greyish brown clay (ctx 8679) followed by a dark brown occupation deposit (ctx 8676) containing pottery of the mid 2nd to 4th century AD, animal bone, fired clay and fine charcoal.

Discrete features were rare in this late phase, two large pits, 10747 and 10096, (Fig. 4.44) being the main features. Pit 10747 was a large oval feature with steep near vertical sides in the area excavated and measured *c* 7 m by 3.4 m in area and in excess of 0.68 m deep. The fills comprised natural silting and soil accumulation together with deposition of some occupation debris, mainly pottery and animal bone, with small quantities of fired clay from ovens, shell and stone. The function of the feature is unclear, but may have started out as an area used to quarry clay for building materials. It was interpreted on site as a waterhole, no doubt because of the high water table that prevented full excavation. However, the steep sides would make it unsuitable as a watering hole for animals and the snail evidence from ditches on site (though not from this feature) indicate fairly dry conditions for this settlement. Feature 10096, which cut the ditch of Enclosure 82.1, was subcircular, with a flat base and sloping sides. It measured 6.0 m in diameter by 1.25 m deep. The fills comprised a relatively thin deposit of soil (ctx 10610) with occupation debris covering the base and lower angles followed by a thick natural accumulation of silt (ctx 10099). All the artefacts occurred in the basal layer (ctx 10610) including 26 sherds of pottery ranging in date between the late 2nd and 4th century. Most of the fill was a sterile deposit comprising a very uniform stone free soil *c* 1 m thick.

A small pit, 8160, can also be assigned to this phase. It contained a coin of Valentinian dated to AD 364–378. This was a shallow bowl-shaped pit, *c* 0.7 m in diameter, with a fill of brownish silty clay with chalk and charcoal flecks.

An extensive accumulation of soil and occupation debris (ctx 8824) survived where it blanketed the top of enclosure ditch 10819. A second smaller deposit (8825 ?=8948) survived over the top of quarry 10096. Metal-detecting produced numerous artefacts, including 30 coins dating to the late 3rd to late 4th centuries, a bronze finger ring (Fig. 8.18.6) and a copper alloy miniature votive axe (Fig. 8.20.17). The deposit was only hand excavated where interventions were cut through the underlying ditch or features. From these areas it produced in addition much animal bone and smaller quantities of pottery, slag and fragments of *tegulae*. The deposit may represent the position of middens, alongside the track, ready for transporting out onto the fields. However, the concentration of coins and the votive axe suggests the deposit may be associated with a religious focus, which is discussed in more detail in Chapter 5.

There was little evidence for occupation beyond the area of Enclosure 88. In the south-eastern area of the site, 8554, a recut of the Phase 6 ditch 8499, suggested Enclosure 84 continued in use in some manner. Limited activity from this phase was repre-

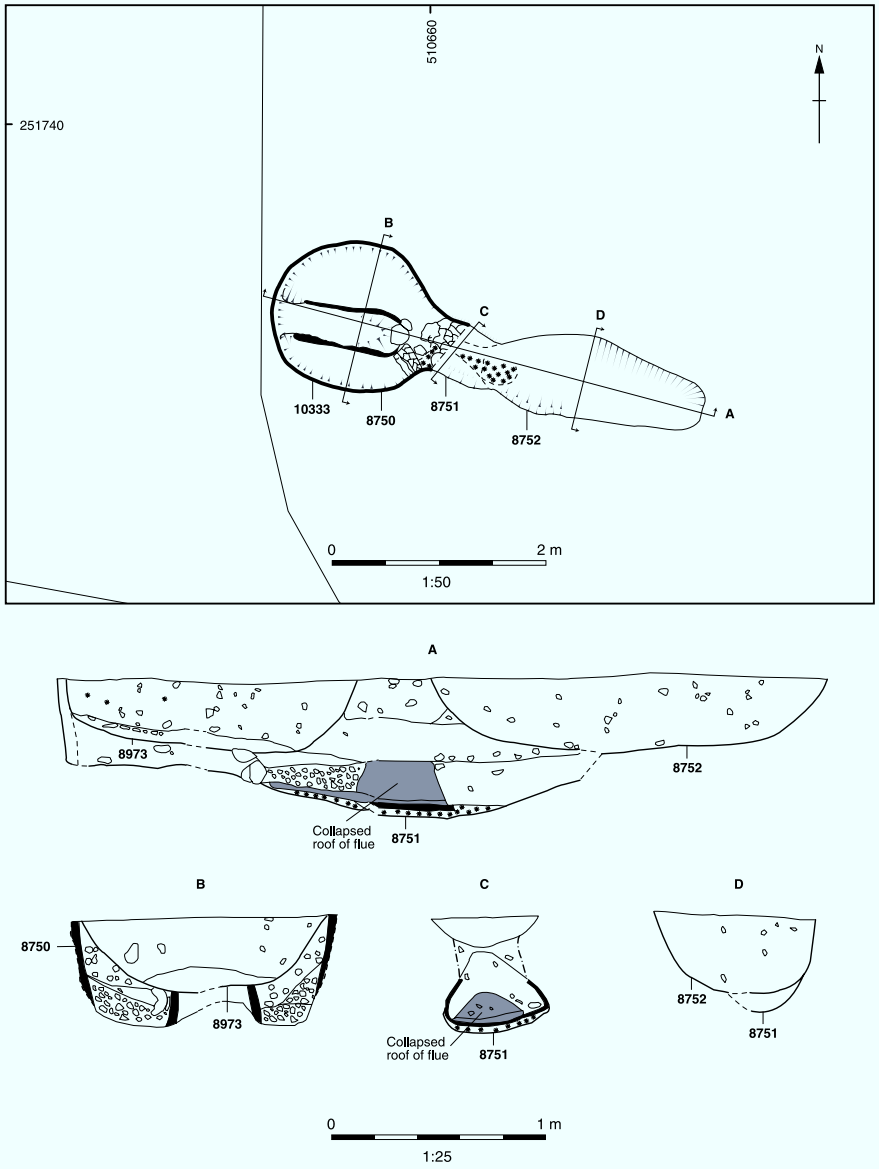

Fig. 4.45 Site 8, Phase 7.2, kiln 8750

sented by a shallow curvilinear gully, 8349 (NI), terminating in a posthole, and an internal ditch, 8335, represented a subdivision of the enclosure.

To the west of ditch 10811, in the area formerly within Enclosures 80/1 and 80/2, many features were largely undated beyond containing generic Roman material. Where ditch 10811 extended beyond the other earlier enclosures no internal features were present and therefore undated features have been discussed with the earlier enclosures. There is evidence of little or no domestic occupation within this area west of ditch 10819. The only features (Fig. 4.22) that could belong to this later period were a shallow circular hollow, 8153, two intercutting small postholes, 8079 and 8081, and kiln base 8003, which all contained pottery dated to the late 2nd to late 4th century. However, in all likelihood they were probably in use during the latter half of the preceding phase.

Kiln 8750 (Fig. 4.45; Plate 4.13)

This kiln was situated to the north of ditch 10631 (in the south-west corner of Enclosure 86.1, possibly still functioning in some manner as an enclosure). The kiln was 3.60 m long and 0.65 m deep, with the firing chamber to the west and the stoking pit to the east and the two joined by a narrow central flue.

The firing chamber measured 1.15 m x 1.25 m wide, and the walls and floor of the firing chamber had been fired to an orange-red colour to a depth of 50 mm. A tongue pedestal had been constructed to project from the rear wall and was reinforced with large rounded pebbles. It measured 1.05 m long by 0.38 m wide at its slightly bulbous end, and survived to a height of 0.25 m. The side surfaces (ctxs 10329–30) of the pedestal were fired bright red with a very abrupt change from fired to unfired clay. However, the photographic record shows a layer of more greyish clay, which may have been fired and reduced before merging with the unfired yellow natural clay (ctx 10328) forming the core and top of the pedestal. The pedestal contained one sherd of mid 2nd to late 3rd-century date and one of late 2nd to mid 4th-century date, providing the date range for the construction of the kiln. Unfortunately, very little fired clay (less than 150 g) was recovered from the kiln and no structural elements or collapsed superstructure was sampled. It is therefore impossible to make any comment about the superstructure. The lens of fired clay (ctx 10380) over the charcoal lens in the front of the oven chamber is more likely to be floor resurfacing than collapsed superstructure.

The flue had been tunnelled through the natural clay to create an arch *c* 0.3 m high, which had collapsed following the use of the kiln. The flue measured 0.35–0.48 m wide, and the sides and base had been heavily fired and worn to a hollow by constant cleaning. A thin layer of charcoal (ctx 10379) covered the base of the flue. A lens of fired clay (ctx 10333) is shown in section overlying the charcoal and continuing up the walls: this must represent resurfacing whilst the same number in the main oven chamber appears to refer to *in situ* fired natural. This is covered by the collapsed roof (ctx 8993) with a fired crust of clay (ctx 10381) outlining its surface, which rests directly on the floor.

The main oven chamber was filled with demolished or collapsed superstructure mixed with redeposited kiln debris, charcoal and spalled pottery dating from between the late 2nd and mid 4th

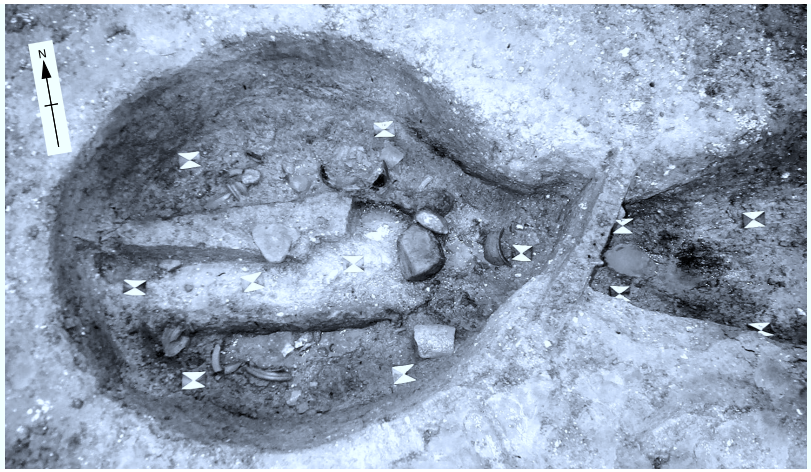

Plate 4.13 Site 8. Kiln 8750, showing integral tongue pedestal projecting from rear wall and lowest layer of pots on kiln base. Looking north.

century AD. No diagnostic kiln furniture could be identified; the only shaped fragment could be either the corner of a kiln plate or the end of a kiln bar.

Two bowl-shaped hollows, 8973 and 8752, could conceivably be 'robber pits' to retrieve kiln furniture and pottery, but they may merely be the hollows left following disuse, which were deliberately backfilled. In the main chamber was a tip of soil and pottery dated to the late 2nd to 4th century, but a thick deposit containing residual pottery of mid 2nd century overlay it. The stokehole area was infilled with a dump of soil containing one datable sherd of pottery of the 3rd to 4th centuries. The dating evidence recovered from this feature, which assigns it to the late Roman phase, is based on a small number of sherds, and their range is such that a mid-late 2nd century date for construction and use is possible. A late date was originally preferred as this was the only kiln producing shelly wares and it was structurally different to the others in having an integral pedestal, which tends to be a later feature (Swan 1984). However recently archaeomagnetic dating of a kiln producing shelly wares from Willington (Anna Slowikowski pers. comm.) has produced an early Roman date. Spatially there would be some logic in this kiln belonging to Phase 6.2–7.1 and being contemporary with Enclosure 86, as it is the only feature outside the late Enclosure 88.

The final occupation

Dating the end of occupation on late Romano-British settlements is difficult due to the cessation of the coin supply to Britain and the collapse of regional ceramic industries around the turn of the 4th to 5th centuries AD. At Site 8 pottery specifically dating to the mid to late 4th century AD and coins belonging to the final issue of AD 394–402 were recovered from only ten contexts, all confined within the area of Enclosure 88, suggesting occupation had contracted to a small core area.

Continuity into the post-Roman period might be implied by the presence of a small quantity of early to middle Anglo-Saxon pottery including material of 5th-century date. This was concentrated in an even smaller area little over 30 m wide. A possible structure represented by a chalk floor (ctx 8185) contained much late Roman pottery and a single sherd of Saxon pottery, though this could be intrusive as animal burrows disturbed the fill. However, the structure and associated features may represent genuine continuity of occupation on a very reduced scale from the Roman into the Saxon period. The structures are described in detail below (Chapter 7). However, such activity may in fact be peripheral to a Saxon settlement relating to Site 9 and its spatial relationship to the Roman site purely coincidental.

Chapter 5: New Landlords? Overview of the Roman Evidence

by Cynthia Poole

INTRODUCTION

Three Roman settlement sites were excavated along the line of the Bypass (Sites 1, 4 and 8), forming an even distribution spatially of one site at either end and one in the middle of this arbitrary swathe through the landscape. Site 1 is situated close to the north-east end of the bypass, Site 4 lies about 3 km to the south-west of it, and Site 8 a further 2.25 km beyond at the south-west end of the bypass. Site 2, just over 1 km to the south-west of Site 1, developed into a Roman settlement, but nothing of this phase of occupation was excavated as part of the current project. All three sites developed from late Iron Age settlements and were occupied during the 1st and 2nd centuries AD (Phase 6), but occupation only continued into the 3rd and 4th centuries (Phase 7) at Site 8. Site 4, however, was utilised for an inhumation cemetery during the 3rd or 4th centuries, perhaps implying the existence of another late Roman settlement somewhere in the vicinity. Post-Roman material was found in the silted tops of Roman features at Site 8, but the analysis of this material (see Chapter 6) does not suggest continuity of occupation into the Saxon period.

All sites have only been partially exposed and evidence for their full extents is lacking. In some cases it is possible to fill out the picture of the excavated sites with evidence from aerial photography or other fieldwork. These resources have also been used to identify other Roman sites on the plateau of boulder clay north of the River Great Ouse and to place the current excavations in a broader context.

The pattern of early Roman settlement and landscape was firmly founded upon the late Iron Age inheritance. The expansion of agriculture, settlement and presumably population during the Iron Age was a key factor defining the character of the countryside into which the Romans introduced their culture. The Roman invasion must have brought drastic changes as the army moved through the territory, establishing forts and roads, followed by a transition from military to civil authority. However, in the early years after the Conquest the impact on native settlements scarcely left a ripple in the archaeological record, and the impression is that life continued with little change. What impact the Boudiccan revolt had on this area is unclear, but it was sufficiently close to the affected areas to argue that some ripples must have reached these sites. At the very least, it may have resulted in a wariness of adopting Roman customs and lifestyle in the immediate aftermath, compared to other areas of Britain not directly involved with the rebellion. The influence of Roman culture and systems permeated slowly to the sites excavated in this transect and was not immediately recognisable in the archaeological record. Changes in material goods, structures and settlements lagged behind the immediate political impact of the Roman conquest.

THE LANDSCAPE

Since the survey of Roman Bedfordshire by Simco (1984) there has been a considerable increase in fieldwork as a result of commercial development as well as increasing evidence in the form of cropmarks from aerial photography. Taking advantage of new evidence more recent reviews of settlement patterns and landscape in Bedfordshire (Clark and Dawson 1995) and the Ouse Valley (Dawson 2000a) have shown occupation and utilisation of the countryside to have been more intense especially on the clay than had previously thought (Fig, 5.1). By the 1st century AD the landscape presented an open character dominated by agriculture, which applied as much to the areas of boulder clay as to the lighter soils.

Dense palimpsests of prehistoric and Roman settlement and field systems were already known from the river gravels alongside the Ouse as a result of modern development, and these featured strongly in earlier surveys (Knight 1984; Simco 1984). A similar density on the boulder clays is being revealed as modern ploughing reduces the blanketing effect of medieval ridge and furrow. The erratic pattern in which sites have been revealed is exemplified by those along the Bypass where virtually no cropmarks were visible on air photos of the areas to be excavated. Site 8 was the only exception where part of one enclosure had been revealed which, however, gave no clue to the complexity encountered in excavation. A cropmark site to the west of Site 1 (Fig. 5.2) is probably part of the same settlement, but none of the excavated area of Site 1 had been visible as a cropmark. The impact of inten-

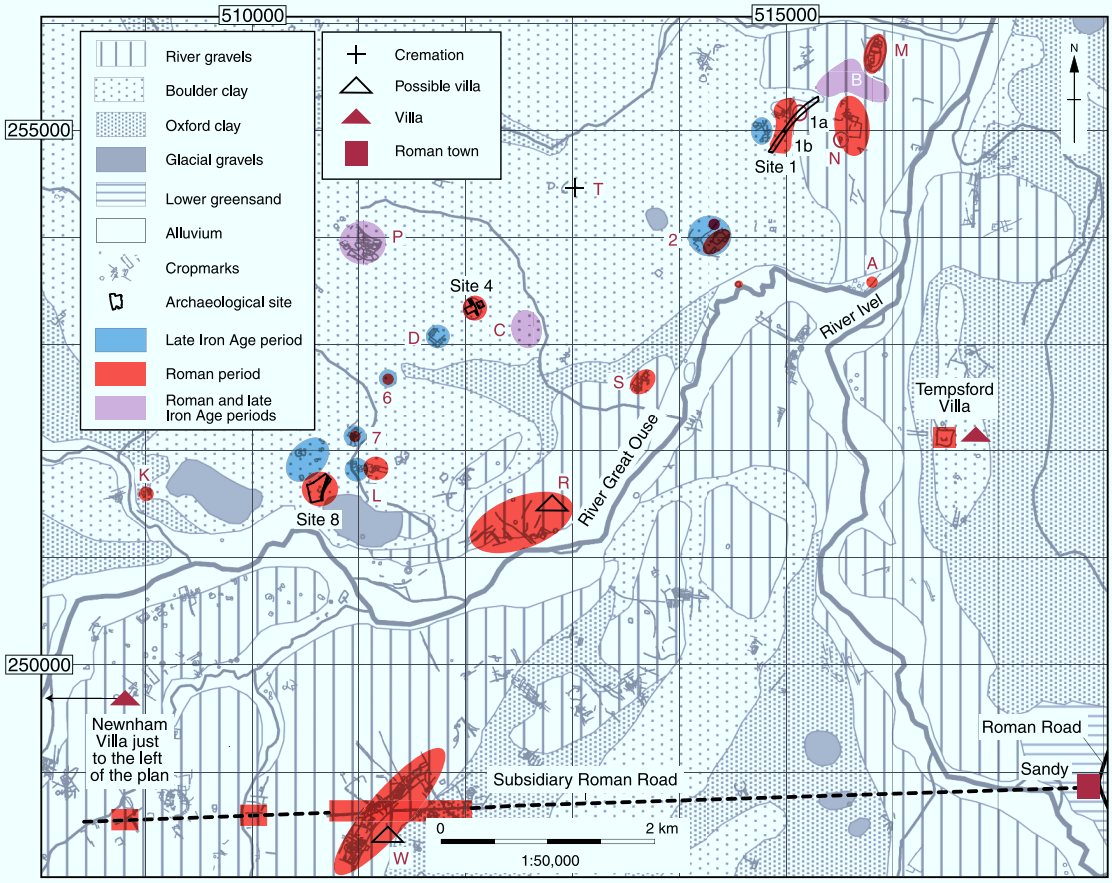

Fig. 5.1 The Roman landscape. Cropmark plot used courtesy of Jessica Mills

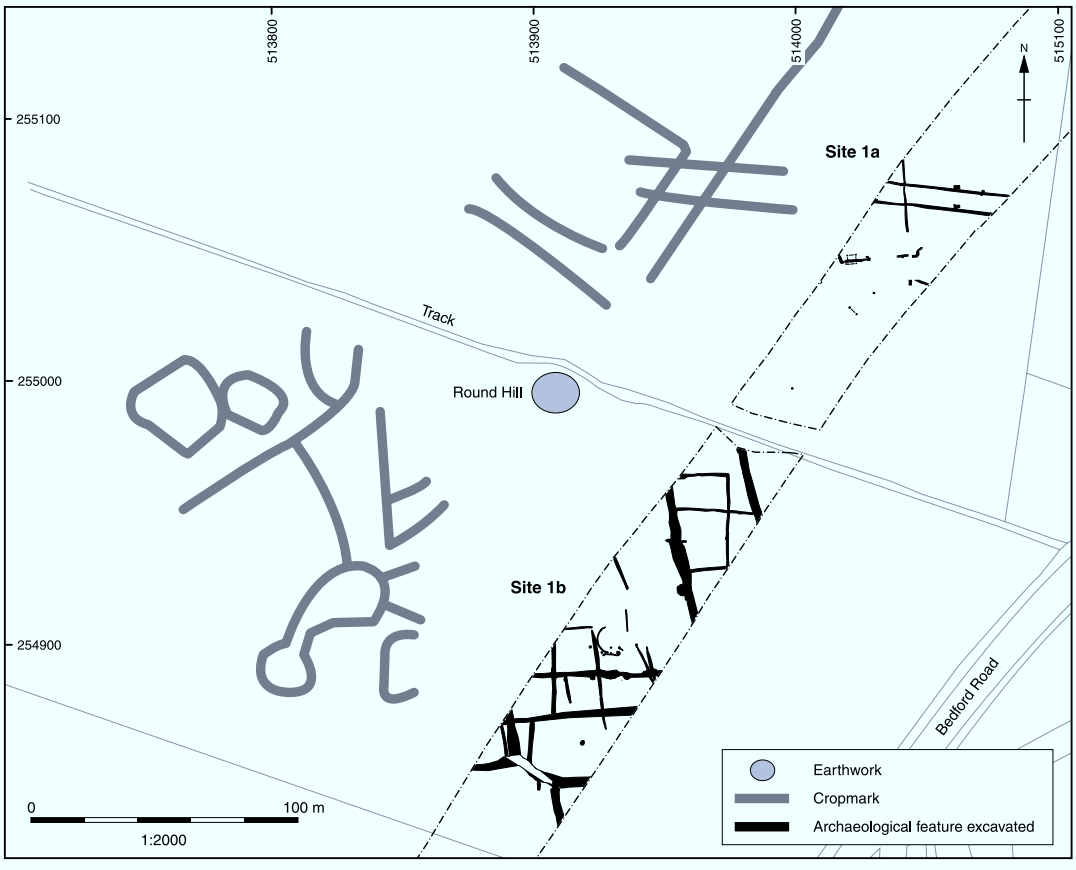

Fig. 5.2 Sites 1a and 1b in relation to plot of cropmark enclosures to the west. Cropmark plot used courtesy of Jessica Mills

sive modern cultivation on areas of ridge and furrow in revealing the underlying archaeology has been noted generally in Bedfordshire and Cambridgeshire.

Though the density of sites now recorded on the ridge of clay north of the Great Ouse is still less than on the gravels south of the river, the glimpse of sites now afforded through aerial photography and fieldwork suggest there may in fact have been little difference in site density. The fact that Site 4 did not show on any air photographs and Sites 1 and 8 only very partially suggests there is still a wealth of information to be revealed.

Although only a proportion of the cropmark sites in the Great Barford area have any dating evidence, it is likely that many belong to the later prehistoric and/or Roman periods. A number of the sites which had Iron Age antecedents have already been referred to and listed in Chapter 2. The same identifying letters as appear on Fig. 3.1 are used for those sites with Roman occupation shown on Fig. 5.1 and the sequence continued for additional Roman sites. All are listed below, but only those not discussed elsewhere in this section are summarised in more detail.

Newnham Marina villa (HER 986) (Simco 1984) (This lies just outside the survey area of Fig. 5.1 at TL 0749).

Tempsford villa (HER 801)(Rudd 1964).

Sandy Roman town (Johnston 1974; Simco 1984; Dawson 1995).

Site 2: Roman settlement area on the south-east edge of the cropmark complex, not included in the line of the bypass. Road improvements in 1969 uncovered pits and ditches producing 1st to 2nd-century pottery and burnt debris suggestive of a kiln. A human skeleton was found in one of the ditches (Rudd 1983, and unpublished letter held in Bedfordshire SMR). A Hertfordshire Puddingstone rotary quern has also been recovered as a surface find from the vicinity of the site (HER 482).

A: Field system and palisaded ditch of 1st-century date with possible seasonal or short lived occupation during 2nd century (Taylor and Woodward 1983).

B: Two foci of activity: eastern area (Trenches 2–17; NA 2004a): gullies and pits, possibly occupation peripheral to HER745 or HER1833; western area: ditches, possibly field boundaries (Trenches 19–38 *ibid.*).

C: Field boundary ditches containing Roman pottery (Great Barford Flood Attenuation Scheme: Albion Archaeology 2006a).

D: HER 9833 Rectangular enclosure: Romano-British features uncovered in 1976 during gas pipeline construction. Iron Age and Romano-British material recovered from evaluation Trenches 134–141 may be an associated part of the settlement. 'In Trench 140 there was a large, irregular feature, possibly a quarry pit, comprising a number of relatively deep pits or scrapings, the fills of which produced late Iron Age/early Roman pottery. The pits were sealed by layers of soil and gravel that appear to have been deliberately laid down to level the ground. Immediately to the north-east, in Trench 135, there were a number of intercutting pits, gullies and ditches which produced pottery of a similar date' (NA 2004b).

K: Norse Road, Bedford. Circular and oval enclosures possibly formed the focus of a Roman settlement, which succeeded an earlier Iron Age settlement with its focus to the east. Quantities of Roman pottery, animal bone and a quern stone were recovered from the ditches (Edgeworth 2001).

L. HER 1800 Cropmark enclosures with probable Iron Age focus in the form of circular and oval enclosures, and Roman focus to the east in the form of rectangular enclosures possibly forming a ladder type settlement.

M: HER 745 Cropmarks of curvilinear and rectangular enclosures, probably of late Iron Age-Roman date (Beds Arch J 12, 1981, 27).

N: HER 1833 Cropmark rectangular enclosures, possibly field system relating to Iron Age-Roman activity found in evaluation trenches at the north end of the bypass (B above).

P: HER 1630 Complex of irregular curvilinear and rectangular enclosures. Fieldwalking produced Roman pottery of 1st to 4th-century date. Possibly comparable to Site 8 in its complexity and date range (St Joseph 1972 and HER records).

R: Great Barford (HER 596), a rectangular cropmark enclosure, undated but its regularity suggests a Roman origin. Simco (1984) suggests it may be the site of a villa.

S: HER 604 Cropmark enclosures and fields: group of rectilinear enclosures or fields Roman in character, but no dating evidence recovered.

T: HER 5052 Roman cremation burial found in Palace Yard Wood in the late 1960s (Simco 1984).

W: Willington/Cople (HER 1861): an extensive cropmark site south of the Great Ouse, suggested as a possible villa (Simco 1984).

On the basis of the excavated evidence along the line of the bypass, together with other survey and fieldwork, it may now be suggested that during the Roman period a pattern of small rural settlements and farmsteads dotted the landscape at intervals of 0.5–2 km (Fig. 5.1) and if other survey and fieldwork is taken into account some may be only 500 m

apart. This is comparable to the density revealed to the south-west of Bedford at Biddenham Loop (Luke forthcoming) where Roman farmsteads were established at intervals of 300–800 m. At Cambourne, Cambs (WA 2003; 2004; Albion Archaeology 2006b) the density of Roman settlement suggests sites at intervals of *c* 1 km, comprising a mixture of larger settlements of multiple ditched enclosures and smaller farmsteads. In addition field systems and trackways have been identified between settlements as well as possible stock enclosures. The Raunds area survey (Parry 2006) has also shown a similar density and type of settlement on the boulder clay in Northamptonshire with sites lying at distances between about 300 m and 1.7 km apart.

At Great Barford evidence for the intervening field systems and trackways is sparse, though scattered drainage ditches seen between sites in the evaluation trenches may indicate their presence though not their overall layout. There are two main concentrations of dispersed features and artefacts. One is at the northern end of the bypass line where there are two foci (Trenches 2, 4, 8, 11–17 and Trenches 19–24, 29–32 and 38: NA 2004a) (Fig. 5.1, B). However, whether this evidence should be interpreted as fields or as activity peripheral to the sites to the north (HER 745), south (HER 1833) and west (HER 1836) (see Table 1.2) is debatable. The features in the first group are more typical of occupation, possibly representing the southern fringe of HER 745, whilst the more westerly group is more likely to represent tracks and field boundaries. The evidence from the area between Sites 2 and 4 (Trenches 78–100) may be interpreted as evidence of an area of fields enclosed by drainage ditches with associated tracks. To the south-east of Site 4 evaluation trenches for the Great Barford Flood Attenuation Scheme (Albion Archaeology 2006a) exposed a number of ditches interpreted as field boundaries defined by drainage ditches (Fig. 5.1:C).

This apparent absence of larger field systems may indicate either extensive areas left unenclosed as permanent pasture or that many arable fields did not require drainage ditches. Field boundaries could be marked simply by a boulder at each corner, and on the relatively level plateau of the boulder clay, lynchet formation may have been slight and completely destroyed by subsequent medieval agriculture. Alternatively, arable agriculture may have been relatively limited in extent, perhaps confined to fields close to the settlements. The same sparse evidence for field systems was apparent in the Raunds area survey (Parry 2006) where small paddocks and fields were visible attached to enclosures, but beyond the settlements extensive scatters of pottery identified during field walking are taken to represent intensive arable agriculture. Distinct gaps identified in the pottery scatters during the 1st and 2nd centuries were taken to represent areas of permanent pasture or woodland. A decrease in the pottery scatters in the late 2nd and 3rd centuries, which became more pronounced in the 4th century, was linked to the abandonment and decline of settlements, implying the fields became permanent grazing or that woodland regeneration took place. A similar pattern of use may have occurred on the boulder clay in the Great Barford area, where the diminution of Roman settlement is also apparent.

Evidence for the environment on the line of the Bypass during the Roman period has come predominantly from the study of molluscan assemblages and carbonised plant remains. Molluscan evidence was recovered from Sites 1, 4 and 8, whilst plant remains were best preserved on Site 8, though also present on the others.

At Site 1 the molluscan evidence was consistent with very open conditions of grazed grassland. Samples were dominated by dryland terrestrial species with no evidence of woodland, hedges or unkempt grassland. There is a suggestion of standing water seasonally in the deeper ditches and features, which reflects the need for drainage on the heavy clay soils. At Site 4 all samples indicated damper conditions with seasonal standing water and wet conditions in the base of ditches. A smaller component of mixed dryland taxa indicated both open country (grazed grassland and arable) and shaded areas in the vicinity of the site. The shade-loving species of molluscs present on all sites were not indicative of woodland, but denser vegetation in areas of scrub or hedgerows. At Site 8 preservation of molluscs was poor, but what survived were dominated by dry ground open country taxa.

The molluscan assemblages at Sites 1 and 8 are complemented by the plant remains with seeds of plants such as *Isolepis* sp. and *Eleocharis palustris* indicating areas of wetter or marshy conditions. Some of the weed species typical of wet ground may have been growing in drainage ditches along the edges of fields or represent material from clearance in marshy areas. Site 8 lies closest to the River Great Ouse, and remnants of a small palaeochannel still surviving as a pond at the time of the evaluation may have created marshy conditions to the south of the site, whilst at Site 4 a small stream runs close to the settlement.

The density of settlement suggests woodland must have been of limited extent by the Roman period. In the absence of any palynological record, the charcoal species identified are the main source of information. Mature oak and ash were available and probably were used for most building work as well as being used as fuel for cremations and more generally. A variety of other species mostly with shrubby characteristics (hazel, blackthorn, hawthorn, dogwood, field maple) were probably obtained from hedgerows for fuel. A single piece of willow/poplar may have come from the river valley. The types of wood available or selected for use show considerable similarity to the preceding Iron Age assemblage, implying wood resources remained fairly constant throughout these periods. This may indicate managed woodland combining

standard trees to provide structural timber together with a coppiced understorey for wattles, hurdles, fencing and fuel. The impressions of wattles found in the fired clay from ovens and kilns range in diameter from 6–50 mm and indicate the ready availability of young coppice for poles, possibly forming the understorey to standard timber trees. Alternatively, hedgerows could have contained pollarded trees to provide poles in addition to fuel.

The small numbers of wild animal remains found in late Iron Age and Roman contexts on all the sites excavated can be taken as evidence of the limited areas of natural habitat available for them. Small quantities of deer, hare/rabbit, fox, cat, crow, falcon and vole bone indicate the few wild species found in the course of the excavations.

SITE ORGANISATION

Smaller rural settlements have been subject to various classifications. A tripartite division of sites into compact enclosures, joined enclosures and collected enclosures was made in the Raunds survey, but these forms are not directly equivalent to ones used by Dawson (2000a) in his survey of prehistoric and Roman settlement. He has suggested a settlement hierarchy had developed by the 2nd century of individual farms, hamlets, villas and small towns, and identified three forms of rural settlement, which may be defined as linear sites, farms and enclosed sites. All of the three rural types had their origins in Iron Age settlements. He suggests the latter two appear to decline from the 1st to 2nd centuries, whilst the same period sees a rise in the number of villas. The villas are largely confined to the river valleys tending to occupy the gravels of the Great Ouse valley and the greensand ridge to the south of the river. So far there have been no villas identified on the claylands of northern Bedfordshire, though they are prolific on the clays in south-west Bedfordshire and the adjacent counties, where Watling Street may have been the prime factor in their development. The nearest known villas to the study area are Tempsford villa to the east, situated north of Sandy in the Ivel valley, and Newnham villa to the south-west (on the south-east edge of Bedford). Simco (1984) has also suggested that a villa may have existed within the southern area of extensive cropmarks at Cople-Willington and another within a large rectangular south of Great Barford (HER 596), but convincing evidence is at present lacking. At the other two sites, though the main villa buildings were not exposed, evidence of hypocausts or of high quality masonry and tessellated floors was found confirming the presence of higher status buildings.

All the Roman sites excavated on the line of the Bypass have their origins in earlier Iron Age settlements. The same pattern is evident at Site 2 where Roman features and material were found to the south-east of the excavated Iron Age area (HER 482) (Rudd 1983). All these sites suggest settlement shift occurred over time with the Roman concentrations of occupation displaced from the Iron Age core. Dawson (2000a) has suggested such a pattern came to a halt in the Roman period possibly as a result of expansion of arable fields preventing such shift. Site 8 is a clear example of continued occupation throughout the Roman period concentrated within the same area.

The three Roman sites excavated fall into separate categories of enclosure type. Site 1 is the simplest comprising a subrectangular enclosure with internal subdivisions forming separate compounds. Occupation was sparse with evidence for a single roundhouse (CS 11). The post structure (PS 11) outside the enclosure to the north-east may have been an agricultural building belonging to this or another enclosure. The available evidence could be interpreted as a single farmstead shifting spatially through time or a more extensive settlement expanding in the Roman period from an Iron Age core represented by curvilinear enclosures visible on the southern edge of the cropmark complex (Fig. 5.1). Alternately this site and the adjacent cropmarks might fit the category of joined enclosures identified in the Raunds Survey typology, implying a group of discrete contemporaneous farmsteads.

Site 4 can be equated with Dawson's linear category (Dawson 2000a, fig. 10.10), a form commonly described as ladder development. The series of conjoined rectangular enclosures appeared to have been laid out along one side of an earlier Iron Age settlement utilising in part its eastern boundary. The eastern limit of the settlement was defined by a trackway, which separated it from fields to the east. Once again the enclosures continued beyond the excavated area and there is no way of knowing without further fieldwork whether the site represents the settlement core or merely paddocks and enclosures peripheral to the main occupation area. The sparse evidence for structures suggests the latter may be a possibility, though the early phase polygonal Enclosure 45 may have held a circular structure. Moreover, the effort of constructing the large timber palisade which defined the main enclosure (Enclosure 47) in the 2nd century is at variance with a subsidiary role and suggests this was part of the core settlement. Evidence of zoning is apparent in the cremation cemetery situated beyond the track, whilst on a smaller scale a group of small ovens may indicate an area of cereal processing and/or food preparation if used as corndrying ovens or for cooking. An extensive shallow hollow filled with humic soil may represent the base of a midden or an area where animals were frequently corralled. The corner of the main enclosure was subsequently used as an inhumation cemetery during the late 3rd to 4th centuries.

Site 8 is the most complex and largest of the sites excavated, closest in character to the 'collected enclosures' of the Raunds typology, and might

reasonably be regarded as a small village composed of individual farmsteads or small holdings. It appears to have developed from curvilinear Iron Age enclosures (Enclosures 80 and 81, Fig. 4.9) lying to the north and west partly beyond the excavated area. The structures (PS 81 and PS 82) present in this phase suggest agricultural activities and storage were the main function during Phase 5–6.1 (late Iron Age-early Roman), but quantities of pottery and bone suggest significant domestic activity as well. A major reorganisation in the early Roman period continued to utilise the earlier enclosures whilst moving the emphasis to a series of rectangular or polygonal enclosures (Enclosures 82–87, Fig. 4.22) laid out along two trackways. A wider range of activities and zoning is in evidence here. Three compounds (Enclosures 82, 85.1 and 86) contained circular structures (CS 81–87), presumably implying three separate households or smallholdings. Four kilns occurred in four of the enclosures normally set apart from the domestic areas, and a corndrier and associated features were set into the corner of the south-west enclosure. A cremation cemetery occupied a small compound to the north of the corn drier. A number of small compounds within all the main enclosures largely devoid of features suggest these functioned as animal pens.

The polygonal Enclosure 82 to the south-west of the trackways appears to have supported the densest occupation and activity, based on quantities of pottery and animal bone disposed of in pits, quarry hollows and the enclosure ditches. Significant though lesser quantities of occupation material were also associated with Enclosures 84, 85.1 and 86, supporting the view that each enclosure contained domestic structures and activities. Detailed analyses of the distribution of different categories of pottery or types of animal bone have not been made and it is unlikely that such analyses would provide any significant detail. In general, rubbish and waste material appears to have been dumped in the enclosure ditches and larger features, with a background scatter of small quantities of artefacts across the whole area. In view of the fact that only 5% of the ditches and linear features were excavated and 25–50% of discrete large features, it is unlikely that any spatial patterning would provide a reliable or accurate picture at a detailed level (Lock 1995).

The settlement was completely restructured in the 3rd century (Phase 7) with a more open-plan settlement (Enclosure 88, Fig. 4.43) set into the angle of two ditches and fronting onto the main trackway. The area was subdivided by small linear slots or gullies suggestive of building plots but areas were not entirely enclosed. This arrangement may imply a series of small cottages more along the lines of a hamlet in contrast to the settlement of the preceding period. Such a change may reflect the expansion of villa estates with individual farms being absorbed into the estates and the land subsequently being farmed by farm labourers in the pay of the villa owners. This would account for the site shrinking in area and the change of character, as many of the activities previously present, such as pottery production and crop processing, became centralised under the control of the villa with the settlement becoming a satellite to a villa and housing paid labourers. The nearest known villas lie *c* 3.5 km to the south-west in the case of Newnham and 6 km to the east (Tempsford). Though no villa site has been positively identified in the immediate area, one may speculate that one intermediate between these two is likely and Simco (1984) has suggested a potential candidate (Fig. 5.1 Site R) about 2.5 km to the east of Site 8 situated on the river gravels close to the Great Ouse.

Almost all the coins found were from this phase, and one interpretation might be that the site was functioning under a different economic regime and was fully integrated into the Roman monetary economy. From the same deposit came seven rolled lead ties that might be used to seal light bags or weight cords. If the latter, they may have been used for tying up sacks of agricultural produce such as grain. These items may indicate a certain amount of commerce—perhaps the buying and selling of agricultural produce—was undertaken at Site 8 in the later phase, though the number of coins is insufficient to suggest a market. However, it has been suggested by Steve Willis (pers. comm.) that one might ask what so many coins actually represent at a rural site, especially given their strong spatial and stratified clustering (cf. Table 8.50). It is questionable whether they should be seen as an index of financial transactions being undertaken at the site. Many of the coins, especially those dating to the later third century, may not have been acceptable currency at the time when they were 'lost'. The possibility of their association with a religious focus is discussed below.

STRUCTURAL COMPONENTS

Evidence for domestic or farm structures is very slight and only survived on Sites 1 and 8. The virtual absence of structural evidence in some cases means the presence of buildings can only be inferred. The most easily recognised are post-built structures, surviving as settings of four posts usually interpreted as granaries or agricultural store buildings, though actual evidence for their use rarely survives. The size of structures was similar at both Sites 1 and 8 with the buildings measuring *c* 3 m square. Postvoids at Site 8 indicate relatively small posts of 0.15–0.18 m diameter, whilst at Site 1 they were estimated to be in the order of 0.10–0.14 m. This post size is smaller than those generally encountered in structures of this type in hillforts, where post sizes for comparable size structures tend to fall between 0.2 and 0.3 m diameter (Cunliffe and Poole 1991a, 107–10). Implicit in this are lesser storage requirements and load bearing capacity,

which is to be expected of a small rural settlement. An additional posthole adjacent to the Site 1 structure possibly indicates the presence of exterior steps separated from the actual building allowing access to a raised floor.

The identification of sites of circular structures has been based on the evidence of discontinuous curvilinear gullies. These have been found on Sites 1 and 8, but all are poorly preserved and it has not even been possible to identify the position of the entrance. In most cases the gullies are interpreted as penannular drainage gullies that would have partly enclosed the building. In the case of CS 81 on Site 8 it has been suggested that the slot may have been structural, holding planks or stakes for a wattle and daub wall. Poor preservation of these structures is normally put down to truncation by agriculture. However, where ridge and furrow has survived one might expect much better preservation below the ridge with greater truncation where the furrow had cut down. In practice any benefit in preservation below the ridge is destroyed by the use of large tracked machines to remove ploughsoil, a process which usually also removes any subsoil and palaeosol to the level of the drift or solid geology. The fact that about 0.1 m of subsoil was observed in the area of the cremation cemetery on Site 8 suggests this may have been more ubiquitous across the site. Similarly, the hoard of pots in slot 8252 sliced through by the machine indicate that features survived from a higher level than the surface of the boulder clay. As a result any comments on the circular structures is hypothetical based on supposition rather than positive evidence.

The gullies range in diameter from 8–10 m, implying structures normally smaller than this, though in the case of CS 81 the diameter of 8 m may represent the size of the building. In the complete absence of postholes, either for doorposts or to support the roof, or rings of stakeholes, it is necessary to consider alternative materials and construction methods. The one material present on the sites in abundance is clay and it is possible some form of cob or daub walling was constructed either directly on the natural clay (in a shallow foundation trench) or the contemporary ground surface. In the latter circumstance it is unlikely any evidence would survive, though if set in a shallow foundation trench some remnants might be expected. Daub walls could have been constructed on a wattle framework but no evidence of stakeholes was found and it is possible walls were solid clay, possibly reinforced with large flints or other stones occurring naturally in the boulder clay. If clay was the main component of the buildings one might have expected more extensive areas of quarrying unless material obtained from ditch digging was used for building construction, rather than for an enclosure bank. The character of roofing must be equally speculative: it was almost certainly organic in its entirety, probably a combination of supporting timbers covered with wood shingles or thatch. Thatching could have utilised either straw from cereals or reeds that may have grown along the banks of the Great Ouse or its tributary streams. In the more recent past reeds from the Great Ouse valley were an important raw material for both thatching and basket making.

Small structures of domestic, agricultural or industrial function have been identified. A small number of linear settings of two or four posts have been identified on Sites 1 and 8. These are of uncertain function though the traditional designation has been as drying racks; a variety of uses may have been involved as size of postholes and length of structure vary. The size of posts used is usually in the size range of 0.10–0.15 m suggesting these were relatively slight structures.

A scatter of burnt structures were found which can be divided into small simple ovens or hearth bases, and larger complex structures, which comprise kilns and a corndrier. The simple structures were present on all the sites, but the more complex were only present at Site 8. The hearths took the form of a circular dished hollow *c* 0.5–1.0 m diameter, and small oven bases were found in the form of figure-of-eight shape, keyhole or elongated oval forms, rarely longer than 2 m. Such structures are common on Roman sites and probably were used for domestic baking and cooking or small scale grain drying. The presence of a narrow flue leading to a main chamber suggests these had some form of superstructure. At Site 1 the limited evidence suggests the features served a single household. At Site 4 a group of structures represents successive features, suggesting an area was set aside possibly for drying or parching grain prior to further processing. Fragments of quernstone were found at all the sites indicating flour was produced for consumption.

The larger complex structures have been interpreted as kilns, though in some cases the evidence for function is limited and an interpretation as corndriers or large bread ovens are alternative possibilities. In form they are not dissimilar to the small ovens in that keyhole, figure-of-eight, elongated oval, and dumb-bell-shaped plans are all represented. The basic elements comprise a circular baking chamber, a narrow flue with the heat source concentrated at the inner end of the flue close to the junction of the baking chamber and a wider shallower subcircular stokehole, which does not always survive (as in the keyhole form). Their function as pottery kilns is clear in several examples which contained kiln furniture (Fig. 4.25 kiln 10490; Fig. 4.45 kiln 8750), and some were assigned this function on the basis of above average quantities of pottery dumped in the fill (8003, 8725). However, the analysis of the carbonised plant remains from two of these structures (10490, 8750) suggested they were also utilised as corndriers and were therefore multifunctional. If this were the case it is equally possible that the presence of burnt human bone in two features may indicate that they were also associated in some way with cremation rites.

The only feature other than cremation pits to produce burnt human bone was the kiln (8725) on Site 8, albeit admittedly only a small fragment of bone. The corndrier (10067) and kiln (10490) also produced small quantities of burnt bone, but in these cases it could not be verified as human. On Site 4, a larger quantity of burnt human bone (86 g) was found in a feature that may represent a pyre site or a feature forming part of a group of ovens (4308). This may indicate ovens were associated in some general way with cremation rites that resulted in cross contamination, even if their use for actual cremation may be regarded as far fetched. One might envisage embers from the pyre being brought to light the oven where meats or loaves were to be cooked for a funeral feast. However, the recent discovery of a partly burnt body in a corndrier at Sedgeford, Norfolk (Anon. 2006) raises alternative questions relating to the treatment of the body. The structural arrangements of corndriers and kilns would appear to be incompatible with actual cremation, but activities such as smoking and preservation may in fact be what we are seeing.

This does raise the question of where cremation pyres were located as at neither Site 4 nor Site 8 were any pyre sites identified during excavation. Apart from the feature already mentioned, a second oval hollow on Site 4 assigned to Phase 5 has also been put forward as a pyre feature. It is possible at Site 8 that some of the scattered shallow features interpreted as hearth or oven bases within Enclosure 80 may have been pyre bases. However, until such hollows are regularly sampled and the contents analysed there is little chance of identifying pyre sites for small rural cemeteries, where such features are likely to be sparse.

SITE ECONOMIES

The resources available to each of the sites was limited and agriculture must have been the mainstay of the local economy. Mineral resources were absent apart from the natural clay, which was used for pottery production, but not on a scale that served any but the local community.

A mixed farming regime appears to have been the norm and the settlements were almost certainly dependent on this for their own subsistence and for producing a surplus in order to obtain goods or services that they were unable to supply themselves. The main crops grown were those typical of Romano-British agriculture with the emphasis on spelt and bread wheat as the main cereal crops. Smaller quantities of barley, rye and oats may have been grown as fodder crops. A single pea hints at the possible cultivation of leguminous crops. The presence of clover/trefoil is usually associated with decreased soil fertility, but it is unclear whether this was an invasive weed on depleted soils or was being deliberately grown in an attempt to rectify the problem by replenishing nitrogen levels, though the former is more likely. Cereal straw was probably used for thatching, possibly supplemented by reeds if these were available in the river valley.

Animal husbandry bore a strong similarity to the preceding Iron Age practice, with evidence better preserved at Sites 4 and 8 than at Site 1. This suggests native traditions continued with little change. During the Roman period all the main domestic species were present, with cattle and sheep/goat being most common.

At both Sites 4 and 8 both cattle and sheep were probably bred elsewhere and brought into the sites. Nearly all cattle were kept to adulthood indicating secondary products such as milk and traction were important. However, younger animals excess to requirements may have provided a surplus, and if taken to market on the hoof, would leave little evidence in the archaeological record. A large proportion of the cattle at Site 8 were also kept for secondary products, but a greater number of juveniles were found suggesting more were being culled for meat than at Site 4.

At both sites sheep/goat rarely reached maturity suggesting they were mainly kept for meat but that one or two seasons of wool were obtained, possibly just to meet the settlements' own needs. In the later phase at Site 8 there is a shift to more mature herds of sheep/goat in common with the majority of sites of this period in Britain, when wool and milk products became more important considerations. Pigs were culled for optimum meat production and horses were kept to maturity, being primarily used for traction and transport.

Woodland resources were probably limited by the Roman period and had to be carefully managed. The charcoal indicates oak and ash were the main timber available for structural purposes. Large timbers must have been used for the palisades enclosing the main enclosure (Enclosure 47, Fig. 4.9) of Site 4. However there is a conspicuous absence of timber buildings: postholes are remarkably sparse at all the sites, and those that exist imply the use of relatively small timbers, and suggest that from the early Roman period large timber was relatively scarce. Coppice would have been available for use in wattle and daub, as hurdles, poles for fencing and fuel, which was also obtained from shrubby species in hedgerows and the small branches from standard trees that could not be used for structural purposes.

Primary manufacturing or artisanal activities were limited by the availability of raw materials. Pottery production is the most obvious at Site 8 where the pottery kilns in several enclosures suggest a number of households were producing pottery. It is likely that pottery was produced to supply mainly the needs of the community, but a surplus may have been made to supply smaller farmsteads and communities in the vicinity. All the 2nd-century (Phase 6) kilns at Site 8 were producing similar products, predominantly jars and beakers in a reduced sandy ware. This and shelly wares were

the dominant pottery found on all the sites throughout the Roman period. A shelly ware was produced by the 3rd-century (Phase 7) kiln on Site 8. This may imply that the shelly wares that were common during the 1st–2nd centuries (Phase 6) were being produced by another community that had easier access to the shelly clay of the Oxford clay. This local industry provided coarseware products for cooking and food storage, but tableware was provided by regional and continental imports. This may imply that items such as platters and bowls were made in wood for everyday use.

There is evidence from the animal bone on Sites 4 and 8 that bone and horn was being worked to produced items in these materials. The scale of manufacture is small and suggests they were mainly producing items for the communities' own needs, and apart from two worked waste fragments, the only bone artefact was a hairpin from Site 8.

Evidence of smithing activity was sparse and only present on Site 8, where it appears to have been an occasional activity undertaken according to the needs of the local population. The evidence from the late Roman levels at Site 8 suggests there may have been a smithy on site providing for the needs of the locality.

SOCIAL STATUS AND DIET

All the evidence for status at the sites points to the lower end of the social scale. These sites would all appear to have had subsistence economies producing a limited surplus, following a conservative lifestyle, which at least in the early phases, continued many of the native practices of the late Iron Age, such as the construction of round houses and livestock production. Imported products are recognisable in the pottery assemblage, and all metalwork must have been brought in from outside sources. However, few items can be classified as truly luxury goods and most had a utilitarian purpose, even though some, such as imported tablewares and personal items such as the chatelaine set placed with burial 8163 on Site 8, may also have been used as displays of status and Romanisation.

The main cereal crops were spelt and bread wheat and these must have formed the staple component of the diet. A single pea from Site 8 suggest leguminous crops were also grown and it is likely other vegetables were also grown for their own consumption to provide some variety in the diet.

At Site 4 beef would have formed the major component of the diet followed by pork and finally lamb. The same pattern was prevalent at Site 8 except that in Phase 6 lamb may have formed a greater part of the diet than pork, a pattern reversed in Phase 7. At Site 8 there is also evidence that horse was eaten with additional variety provided by hunted species especially in the later phase when deer and geese were hunted in addition to rabbit/hare. Chickens probably provided both eggs and meat.

There is no evidence for the consumption of fish, although the presence of oyster shells shows that perishable goods could be and were transported inland from the coast. The ubiquity of oyster shell on Roman sites suggests it was a readily available and affordable commodity. However, evidence for other imported foodstuffs appears to be sparse in spite of the new markets and potential imports from other parts of the Roman Empire.

POLITICS AND TRADE

The sites on the Bypass must have been close to the borders of the late Iron Age tribal territories of the Corieltauvi and Catuvellauni, which are generally assumed to have been organised around *Ratae Corieltauvorum* (Leicester) and *Verulamium* (near St Albans). The tribal boundaries were probably unstable right up to the Roman period, when regional organisation was formalised, based on the earlier tribal areas, with *civitas* centres set up at these sites and *vicii* at Water Newton, Sawtry and Thrapston. The new political regime did not impact immediately in an archaeologically visible form on landscape and settlement over much of the area. Local hierarchies may have been subsumed into the Roman political organisation so that at the lowest level of settlement little change may have been noticed initially.

However, the road network introduced in the 1st century must have altered communication dramatically and opened up rural areas to outside influences in a manner not previously experienced by these communities. A system of roads was probably set up within forty years of the conquest. That closest to the Bypass sites was the subsidiary route of Ermine Street that ran through Sandy, which may have been the site of an imperial posting station which formed a focus for its development into a small town (Fig. 5.1).

Sandy expanded during the 2nd–3rd centuries to provide a centre for local markets in the later period, and produced evidence of artisanal activity and craft working of late Roman date. Sandy was the nearest town to the Bypass sites, but how accessible the town was by land transport would depend on river crossings, as both the rivers Great Ouse and Ivel would have to be crossed to reach the town. There is evidence of a local road running intermittently west from Sandy, but Simco (1984) suggests it may never have been completed, as it appears to stop on either side of a cropmark site at Cople-Willington. Nor is there evidence for it being used, as it appears never to have been surfaced or subjected to wear. The valley of the Ouse may have formed a preferred access route to centres to the north-east such as Godmanchester, and, in conjunction with the river Ivel, to Sandy.

Improved communications led to greater access to local, regional and continental trading systems

and the sites were drawn into the wider Roman economy. This is exemplified most clearly in the pottery assemblages. During the mid 1st century AD to early 3rd century imports and specialist wares were largely supplied by the samian, Verulamium region and Colchester industries. By the late Roman period (early 3rd–late 4th century) the supply of such material was dominated by the Nene Valley industry, as it was on many sites across eastern England, with small amounts of material from the Hadham (Herts) and Oxfordshire industries. A high proportion of the imported vessels related to eating and drinking, or were specialised vessels such as mortaria. Varieties were more limited in Phase 6, but the range of products increased in Phase 7. This may partly be a reflection of changes in the status of the sites, but may be no more than the opening up and expansion of markets and new production centres within Britain in the later Roman period.

Amphorae are notably sparse in the pottery record, which implies foodstuffs such as olive oil, were only reaching these settlements in small quantities. No amphorae were found on Site 1, only a couple of sherds in a medieval ditch on Site 4, and at Site 8 a few sherds in two ditches associated with Enclosure 84 and in the soil over one of the late phase cobble surfaces (10930). It is possible imported commodities did arrive on site already decanted at the urban markets into smaller vessels at more affordable cost. However, locally produced animal products could have served the same purposes as olive oil, and other goods transported in amphorae such as olives and *garum* would have been an acquired taste.

Other materials that must have entered the sites as a result of trade were relatively limited, but include a number of metal objects. Iron and lead was largely used to make practical objects, often artefacts reflecting the agricultural character of the sites such as a hoe blade and an ox goad tip. Iron was also used for tools and items associated with carpentry for buildings, furnishings or transport. The nearest major iron producing area lay to north-west in Northamptonshire, and following smelting, could have been transported down the River Great Ouse. Personal items such as brooches, hairpins, jewellery and toilet implements accounted for most of the copper alloy objects. Glass vessels were rare items and are likely to have been highly prized in these communities.

RITUAL AND BURIAL PRACTICES

Religious belief would have encompassed native traditions as well as the adoption or adaptation of Roman religious practices. Evidence of the native tradition of structured deposition continuing into the Roman period is sparse. A large deposit of sheep/goat bone deposited in a 1st-century (Phase 5–6.1) pit on Site 8 may have been such a deposit. Further possible examples on Site 8 include a single pot placed in a small pit during the 1st century AD and a deposit of six complete pots of late Roman date placed inside each other in two groups set in a beam slot or a small pit cut through the slot. Some partial human remains within a quarry pit on Site 8 may also represent such activity, but as only a quadrant of the feature was excavated, one cannot be certain that this was not part of a disturbed normal inhumation burial. Other clear-cut manifestations of religious activity are the burial of the dead and possible evidence on Site 8 for a shrine.

Burials occured on Sites 4 (Figs. 4.14–17) and 8 (Figs. 4.31–42), as cremation burials and inhumations within cemeteries and as isolated burials. The cremation burials at both sites span the 1st–2nd centuries. On Site 8 the inhumations, all scattered, appear to be mid-late 2nd century. These were possibly contemporary with some of the latest cremation burials and represent the period of shift from cremation to inhumation. At Site 4 the inhumations are thought to represent a cemetery of late 3rd or 4th-century date.

The cremations at Site 4 were all grouped in a small cemetery. Similarly, at Site 8 the majority were found in a cemetery, but two early examples were set together in an area of sparse activity within Enclosure 80 about 45 m to the north-west of the later cemetery. At Site 4 the cemetery had been placed in the corner of an enclosure or a field on the opposite side of the track to the main settlement. The burials were regularly laid out and all were very simple, mostly urned but with no additional grave goods. At Site 8, the layout was not so orderly but the relative absence of intercutting suggests grave markers may have been present. At the Site 8 cemetery there was a mix of urned and unurned cremations, together with two infant inhumations. Here additional grave goods were present, nearly all associated with urned cremations. In the only two cases where pots were found with unurned cremations the pot appeared to have been inverted over the top of the cremation deposit. In one example at Site 4 the cremated remains had possibly been placed in a bag. It is possible the Site 8 cemetery was covered by a mound when it went out of use. The layer of soil (8407, Fig. 4.32) through which most of the burials cut may only have survived here because of the protection of a covering mound, possibly rectangular in form. If the cemetery had some visible manifestation of its presence, this would have provided a focus for the possible shrine in Phase 7 discussed below and also for the slightly later infant burial placed at the north-west periphery of the cemetery.

The character of the burials is similar to that of early Roman cremation cemeteries at the comparable sites of Harlington (Dawson 2001) and Warren Farm (Dawson and Slowikowski 1988), which contained a similar range of cremation urns and ancillary vessels. Two more unusual forms, a box burial and a double burial, were present in the cemetery at Site 8. Box burials contained both the

ashes of the deceased and grave goods and should not be confused with casket burials, where a small casket contained only the ashes of the deceased, with additional grave goods outside the casket. Comparable burials have been found at Baldock (Stead and Rigby 1986, 61–3) where burial 5 had a plank lining visible on three sides and at Skeleton Green (Partridge 1981, 258–65), where five box burials were found all of which contained accessory vessels in addition to the cremation urn. Seven potential box burials were identified at the Eastern Cemetery, London, one of which contained the only double burial at the site (Barber and Bowsher 2000, 107, 110). The identification of some box burials relies on the presence of metal fittings or nails. In the Great Barford example nothing of this sort was present, only the stain of the wood, suggesting the box had been dowelled or dovetailed together. It is unclear whether the presence of a timber box represents any particular status as in other respects the contents are similar to other burials in the cemetery with additional pots.

Double burials are uncommon and usually only one or two occur in any individual cemetery. One occurred at Skeleton Green (Partridge 1981, 262, BXXXIII) and four at the Eastern Cemetery, London (McKinley 2000, 272). McKinley has suggested dual burial implies a strong kin relationship, especially where a child is involved, or a very close friendship. In the case of the Site 8 double burial, two adults were involved of which one could have been an elderly individual. The ceramic dating of the associated pottery does not imply a significant gap in time. It is possible both individuals died at the same time, though it is possible the remains of the first to die were curated until the death of the second, either scenario implying a close relationship such as a husband and wife or two siblings.

The cemeteries at both Site 4 and Site 8 reflect settlements at the lower end of the economic scale, though there is a subtle difference between the two. At Site 4 there is little variation in the character of the burials, implying that the social and economic status of all the individuals was similar. This would point to the settlement being a farmstead supporting a single family or extended household. At Site 8, however, there is a much greater range, from graves with no cremation urn or associated grave goods, for whatever reason (though this is a pattern noted at other sites in Roman Britain), to more showy and opulent graves with several accessory vessels and a box burial. This could imply the settlement housed several households of differing means and status, or possibly different members of individual households were accorded different standards of burial according to their standing within the group. The richest graves with urned burials and additional grave goods in the form of pots all contained adults, of which two were in the mature-older range (over 35 years). The adolescent grave contained a young chicken placed with the burial, however. The other unurned and urned cremations without additional grave goods contained only adults, in both the young-mature and mature-older categories. The gender of only three burials was tentatively determined as female, two of which in the younger age group were unurned, the other, in the older age group, being urned.

The inhumation cemetery at Site 4 (Figs. 4.15–17) contained eleven burials arranged in three rows with the graves broadly oriented west-east. They were without grave goods, which together with the orientation would accord with late Roman Christian burials. However, other factors are also known to affect layout, such as topography at Ruxox (Dawson 2004). At Site 4 it may be the alignment of the old enclosure boundaries which influenced orientation. There were also two decapitation burials, which are generally thought to reflect non-Christian pagan rites. One of the decapitated burials was buried in a coffin and the second may have been tightly wrapped in a shroud. The belief systems associated with decapitated burials are not known, although it appears to have been an acceptable practice that was common during the 4th century (Philpott 1991). The fact that decapitated bodies were buried in coffins (as here) or provided with grave goods indicates they were not outcasts. The practice is likely to reflect a particular belief system perhaps relating to a distinct cult, possibly associated with the cult of the head. Whatever the origins of the practice of decapitation, it indicates that the cemetery contained pagan burials. A single prone burial was also present and such a position is also normally associated with non-Christian burial. From the 3rd century Christians were often interred in separate cemeteries in urban areas such as Colchester (Crummy *et al.* 1993). However, it is possible that in small rural communities cemeteries were not exclusive to a single religious group. A radiocarbon date of AD 240–390 (OxA-15515: 1727 ± 28 BP) was obtained from the decapitated skeleton from burial 4342 and this confirms a late 3rd to 4th century date for the cemetery.

The inhumations on Site 8 (Fig. 4.40) include three isolated adult burials (Figs. 4.41–2), all situated outside the enclosures or alongside the track and four infant burials (Figs. 4.24 and 4.39). Only one adult grave (8162) contained any grave goods, comprising a brooch attached to clothing at the shoulder (from its position) and a small toilet set.

Of the infants, two were associated with the cemetery, whilst two neonates were placed within or close to one of the circular structures (CS 81). The inhumations of the infants in the cemetery suggest that this, rather than cremation, was the accepted rite for young children. If cremation encompassed concepts of cleansing and purification, it may have been deemed unnecessary for very young children. The differing locations may reflect differing perceptions of the individual infants' status within the community. The infant buried (8121) within the core of cemetery may have been a natural death after

birth and the infant may have been recognised as a member of the family or community. The osteological evidence suggests the baby may have lived up to about 6 weeks, whereas at lest two of the remaining infants appear to have died at or close to the time of birth. It is not certain that the infant (8798) buried on the outer periphery of the cemetery constituted part of the cemetery and therefore its status must remain uncertain. It may represent a borderline case, where a family member wanted it to be given a proper burial, but this was not generally recognised as appropriate, perhaps in circumstances such as still-birth. However, it could be slightly later in date than the bulk of the cremations as it lay in the upper fill of a ditch containing 2nd-century pottery, a position commonly associated with isolated adult burials. Even so, its association with the cemetery may not be fortuitous but it may have been deliberately buried on the edge of the ancestral burial ground, especially if this had been made visible by the covering of a mound as suggested above.

The burial of the two infants close to or within the circular house indicates a different perception of the infant. Whether we are dealing here with some form of natural perinatal death or infanticide must remain uncertain, but whatever the cause of death it may have been deemed inappropriate to accord the child any formal burial rites. One of infants (10342) had new bone growth on the skull, which may have resulted from natural causes such as meningitis. However, in modern forensic medicine it has been found that a subdural haemorrhage of the skull is most commonly, but not always associated with shaken baby syndrome (Ceri Boston pers. comm.). For new bone growth to have developed the baby must have survive the trauma by at least four weeks. Whether the child ultimately died as a result of deliberate injury it is not possible to say, but the possibility of mistreatment may indicate the baby was not valued greatly within the family. The burial of infants under house floors or close to buildings is a commonly observed practice in the Roman period, especially at villa sites, such as at Newnham villa where an infant was buried in the yard. How such practices should be interpreted is unclear, though it has been seen as evidence of infanticide (Mays 1993). However, a more recent study has shown the occurrence of slightly more males than females amongst Romano-British infant burials, whereas it has always been assumed that the preference would be to dispose of unwanted females, as might be reflected in the higher proportion of male adults in Roman cemeteries (Mays and Faerman 2001).

The placing of infants under house floors may reflect a Romanisation of the native tradition of structured deposits (Scott 1991), but whether these represent fortuitous natural deaths or deliberate killing must at present remain uncertain. At some sites, especially shrines and temples, there is clear evidence of infants being placed as votive foundation deposits, for example at Springhead Temple IV (Penn 1960, 118–22), though in such cases older infants were often used, suggesting deliberate sacrifice.

The differences in the burial practices used for infants point to a range of beliefs concerning the correct disposal of the dead infant in differing circumstances, which may also reflect social organisation and the recognition of the infant as a human being or as a member of the family or community.

In the 3rd to 4th century AD (Phase 7.2) a religious focus or wayside shrine may have been present at Site 8. Almost all the coins found on the Bypass came from a general spread of soil and occupation debris (8824) on Site 8 that must have accumulated during the 4th century along the boundary of Enclosure 88. From the same deposit came seven rolled lead ties that might be used to seal light bags or weight cords. Their function is uncertain, but they may have been used to weight cords to secure items; one might speculate that they were tied around written messages to the gods or secured bags containing offerings. The presence of the small votive axe (Fig. 8.20.17) found in the same deposit is strong evidence for the presence of a religious focus. Few personal items were present but a finger ring (Fig. 8.18.6) occurred in the same deposit and a bone pin (Fig. 8.22.27) in a nearby deposit (10378) of the same phase. The presence of the earlier Phase 6 cremation cemetery may have provided the focus for a small shrine, especially if the cemetery had been made visible by a covering mound. The later Phase 7 ditch 10848 that appears to partly enclose the earlier cemetery may have redefined the sacred area.

Chapter 6: Saxon and Medieval Sites: Archaeological Descriptions

by Stephen Leech and Alan Hardy

INTRODUCTION

Saxon occupation was identified on both Site 8, an extensive Romano-British site, and on nearby Site 9. Earlier tentative hints of further occupation of this date from the area of Site 1 suggested at the evaluation stage were not substantiated by the later work. In addition two main sites with medieval occupation were investigated: Sites 3 and 5. Traces of medieval/post-medieval ridge and furrow were identified on Sites 1, 8 and 9 and a few other features of similar date and character on Sites 1 and 4. The main sites are described first, starting with the Saxon evidence followed by the medieval occupation sites. Post-Roman evidence from other sites is briefly noted at the end of this chapter.

SITE 8: WATER END EAST

Summary

Excavation revealed a complex multiphase settlement spanning the Romano-British period from the 1st to 4th centuries (see Chapter 4). Small quantities of Saxon material may indicate continuity in the use of the site or activity peripheral to Site 9; this was represented by various pits and hollows in the silted up Roman ditches, clustered within the north-west area of the site, which produced pottery with a date range from the 5th to the 10th centuries. During the medieval or post-medieval period arable cultivation produced ridge and furrow across the site.

Phase 8.1: early-middle Anglo-Saxon (Fig. 6.1)

A single pit, 8184, cut into the upper fills of N-S ditch group 10811 which demarcated the late Roman (Phase 7.2) Enclosure 88, was the only feature potentially of early Anglo-Saxon date. Oval in shape, the pit measured 6.20 m long and 0.46 m deep and contained four fills. The lower fill (8185), a compact layer of chalk and flint 0.41 m thick, formed a hard-standing surface on the base of the pit. This layer produced a single sherd of 5th–6th-century early Saxon pottery and six sherds of later Roman pottery, along with 26 fragments of animal bone. Above this was ctx 8186, a layer of redeposited natural clay, 0.26 m thick, which produced ten sherds of Roman pottery and seven fragments of animal bone, overlaid by ctx 8187, a brownish black silty clay, 0.09 m thick, with 45 sherds of Roman pottery and 19 fragments of animal bone. The upper fill (8179), a dark brown silty clay 0.08 m thick, contained four sherds of Roman pottery and six fragments of animal bone. Pit 8184 was cut by pit or posthole 8188, 0.96 m in diameter and 0.37 m deep.

Further early Saxon pottery was recovered from the upper fill (8842) of the mid-late Roman ditch, 10744, defining Enclosure 80. Eight sherds (524 g) of 5th to 6th-century pottery came from this deposit along with some animal bone.

Phase 8.3: late Saxon (Fig. 6.1)

Various pits, dated to *c* AD 800–900 on the basis of the pottery recovered, represent this phase. Oval pit 8090 was located immediately west of the late Roman enclosure ditch 10811, which possibly still existed as an earthwork during this period. The pit, measuring 0.99 m long by 0.54 m wide and 0.33 m deep, had steep sides with a flattish base. It was filled by a dark grey-brown silty clay (8091) containing 22 sherds of 9th to 10th-century pottery, 12 fragments of animal bone and one roe deer antler.

Three further intercutting pits were located directly east of late Roman enclosure ditch 10811. The earliest, oval pit 8598, had a concave base and moderately sloping sides. Measuring 1.30 m by 1.84 m and 0.70 m deep, it was filled by a redeposited natural silty clay (8485) containing four residual Roman sherds. Pit 8598 was cut by pit 10033, a subcircular pit with a concave base and steep edges, 0.80 m in diameter and 0.60 m deep, and also by pit 8492, a subcircular feature with a concave base and moderately sloping sides, 2.40 m in diameter and 0.72 m deep. Both these pits had lower fills (8490 and 8484) of redeposited natural silty clay containing a total of 11 sherds of *c* AD 800–900 pottery and 11 fragments of animal bone. All three pits were overlain by spread 8483, a greyish-brown silty clay from which were recovered 27 sherds of late Saxon pottery.

Subcircular pit 10354 cut the top fill of the Phase 6 (2nd century) curvilinear ditch group 10514. The

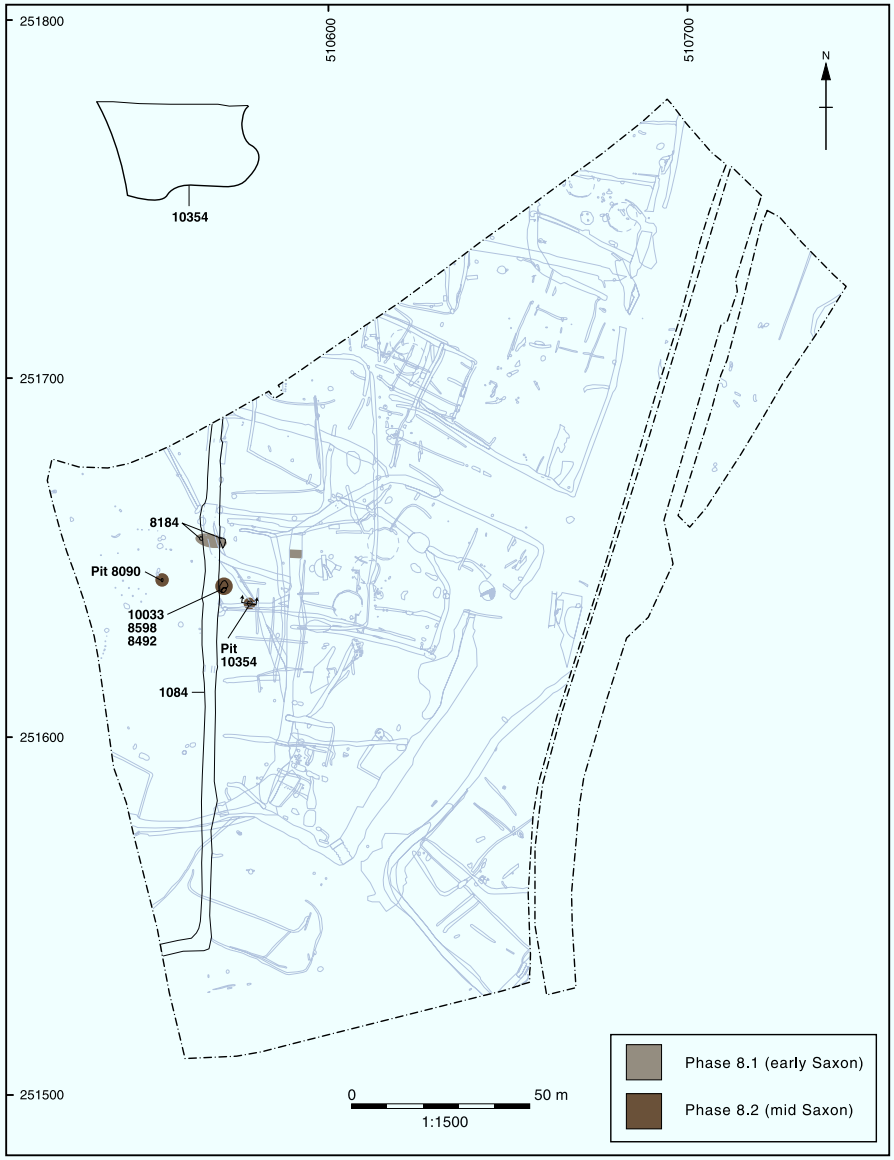

Fig. 6.1 Site 8. Phases 8.1 (early Saxon) and 8.2 (mid Saxon)

pit was 1.50 m in diameter and 0.90 m deep and contained a single fill of dark, greyish brown, silty clay, which produced two sherds of 9th to 10th-century pottery and five fragments of animal bone.

Phase 9: early-medieval 11th-13th century)

Phase 9 is represented by a single sherd of 10th- to 12th-century pottery recovered from the surface of Roman ditch 8231, probably introduced by the ridge and furrow cultivation that extended across the site.

SITE 9: WATER END WEST

Summary (Figs. 6.2–5, Pls 6.1–4)

The excavations revealed a short-lived settlement, dating to the period from the 10th to the 12th century comprising five rectangular beam-slot and post-built structures with associated pits, fence lines, and ditches. This settlement overlay an earlier 7th to 9th-century phase of activity, represented by a line of pits and various fence lines on a NE-SW/NW-SE orientation.

Site location (Plate 6.1)

Site 9 lies immediately to the north-west of the A421/Renhold Road junction, at NGR: TL 103 515, and was 0.8 ha in area (see Fig. 1.1). The site was located on arable land, with topsoil 0.25 m thick, overlying the 0.25 m thick subsoil. Extensive truncation by medieval ridge and furrow was visible running E-W across the site. The site was divided into two halves, separated by a 6 m wide baulk, along which power lines run N-S.

Phase 8.2: middle Saxon (Figs. 6.3A, 6.4)

The first recognisable phase of activity was represented by various lines of postholes and pits (groups 9877, 9878, 9879, and 9880) following a NW-SE/NE-SW orientation set within a large fenced enclosure (9876) dated to *c* AD 650–850. The layout respected the natural slope of the land and may possibly have represented management of livestock in the area, prior to the later settlement established in the 10th–12th centuries.

Enclosure 9876 was defined by a line of three surviving pits (one further possible pit having been

Plate 6.1 Site 9. Aerial view of the excavations looking south-east. Part of Site 8 can also be seen to the left
© Edmund Nuttall Ltd

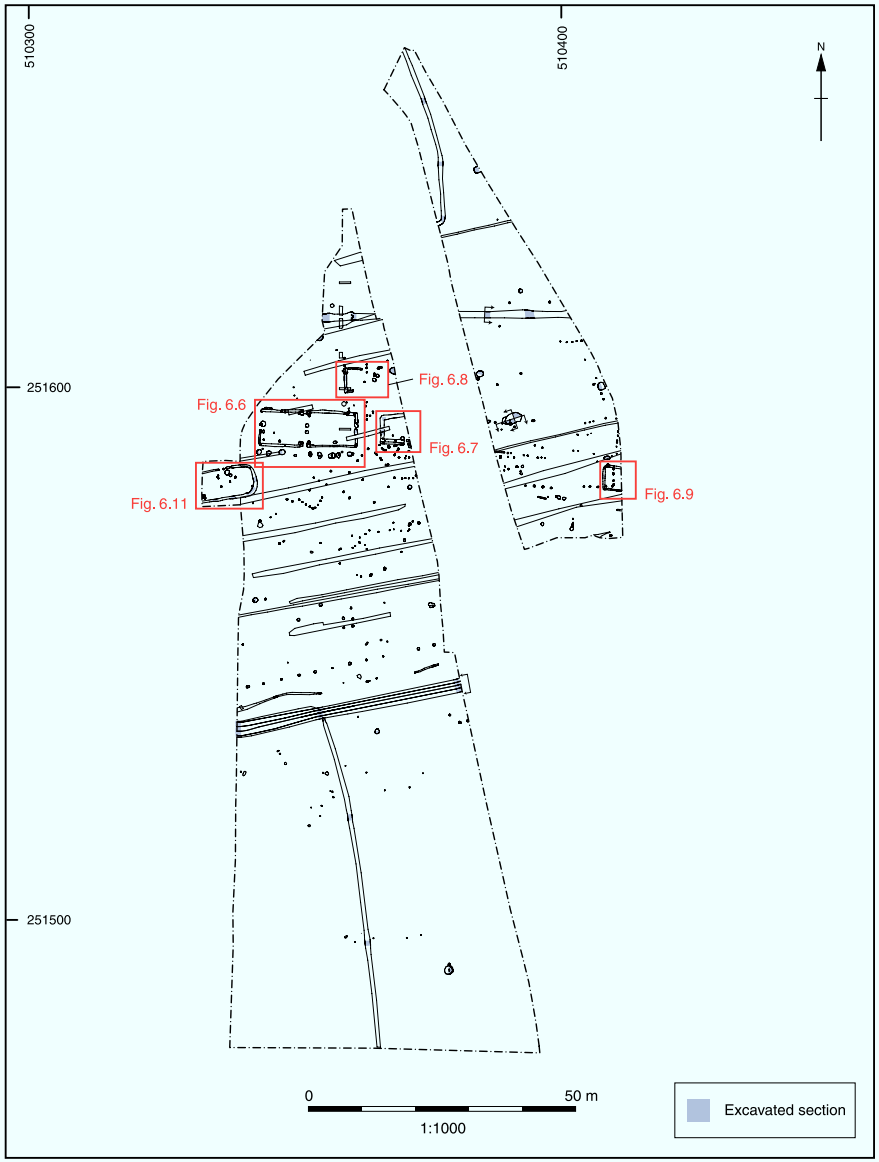

Fig. 6.2 Site 9. Overall site plan

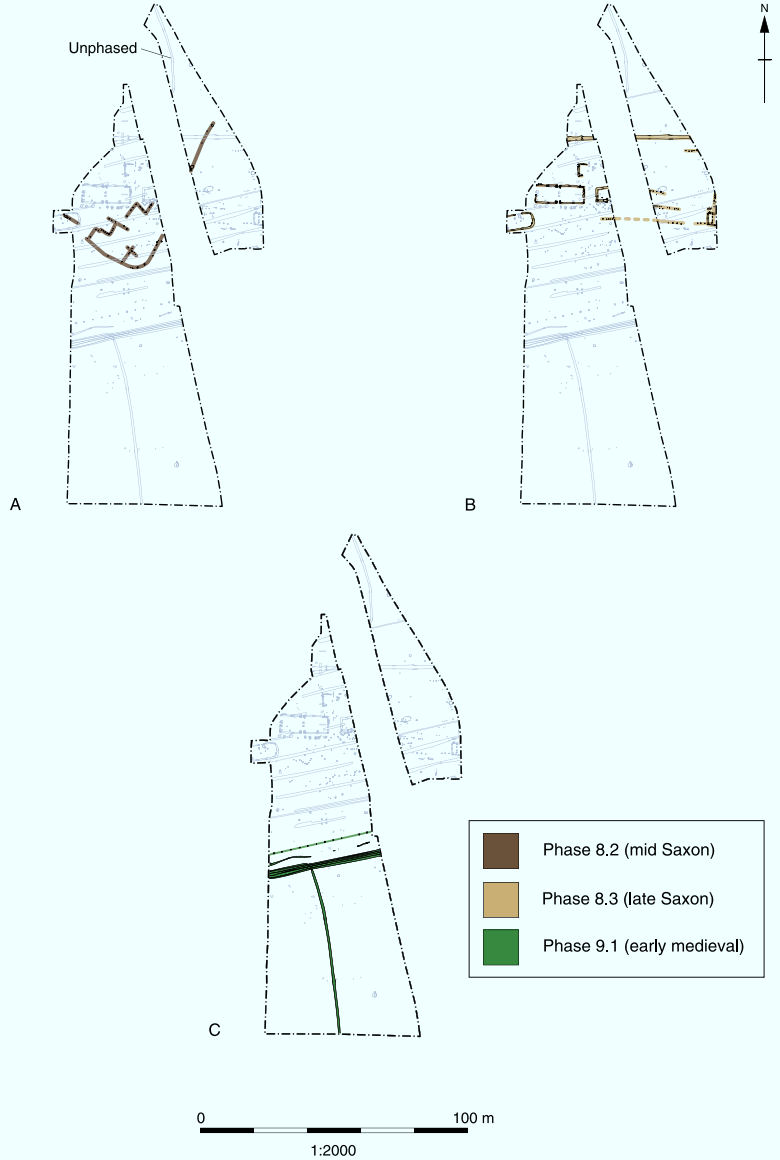

Fig. 6.3 Site 9. A: Phase 8.2 (7th–8th century AD); B: Phase 8.3 (9th–11th century AD); C: Phase 9.1 (12th–13th century AD)

effectively removed by a later E-W ditch, 9857) and 14 postholes which extended for 61 m NE-SW, with the central part of the projected line overlain by the central baulk. At the south-west end the boundary line curved round to continue in a north-west direction for a further 25 m, forming two sides of a possible enclosure. The most northerly of the pits, 9580, was subcircular in shape, measuring 0.72 m in diameter and 0.16 m deep. The dark brown silty clay fill (9581) produced a single sherd of mid-Saxon pottery. To the south-west of pit 9580 was another possible pit that had been completely removed by a later Phase 9 ditch (9857), running E-W across the site. An intervention put through ditch 9857, close to the projected NE-SW line of the earlier enclosure, produced residual pottery of 7th- to 9th-century date, suggesting disturbance of earlier deposits. Beyond this putative pit was pit 9663, oval in shape and measuring 1.34 m in diameter and 0.44 m deep. This feature produced a single sherd of 7th to 9th-century pottery and four fragments of animal bone. Beyond this the enclosure line continued south-west for 11 m, before curving north-west for 25 m. Within the enclosed area were a number of shorter fence lines.

Tentatively placed within this phase, on the basis of sharing this early NE-SW/NW-SE orientation are various lines of postholes forming fence lines. The postholes were typically 0.30 m in diameter and 0.15 m deep and filled by brown silty clay. It is suggested that these (groups 9877, 9878, 9879 and 9880) (Tables 6.1–4) were utilised as pens for livestock. These were confined to an area 30 m by 30 m directly south of later structures 9150, 9160 and 9170. Posthole 9227 belonging to fence-line 9880 and cut by later structure 9160, contained a single potsherd dated AD 650–850. This is the only close dating evidence for any of the postholes in this group.

From the other groups, posthole 9385, part of a NW-SE fence line, group 9879, located south-west of structure 9170, produced two small finds, SF 9005 and SF 9006. The former is a possible iron blade while SF 9006 is a small knife blade with an angled back, suggestive of a late Saxon date. Posthole 9500, forming part of fence line group 9877, contained a potsherd dated AD 650–850 while isolated posthole 9349, located 1 m east of group 9879 and measuring 0.36 m in diameter and 0.12 m deep, produced a sherd of similar date.

Phase 8.3: late Saxon (9th–11th century) (Figs. 6.3B, 6.5B)

This phase is represented by the construction of four post-built structures, orientated E-W. Only one structure, 9150, was completely excavated; of the other three structures, 9170 and 9860 continued beyond the limits of excavation and were only partially exposed, and structure 9180 had been partially truncated at its eastern end. Immediately north of these structures was an E-W ditch and possible bank raised to the north of it, forming a

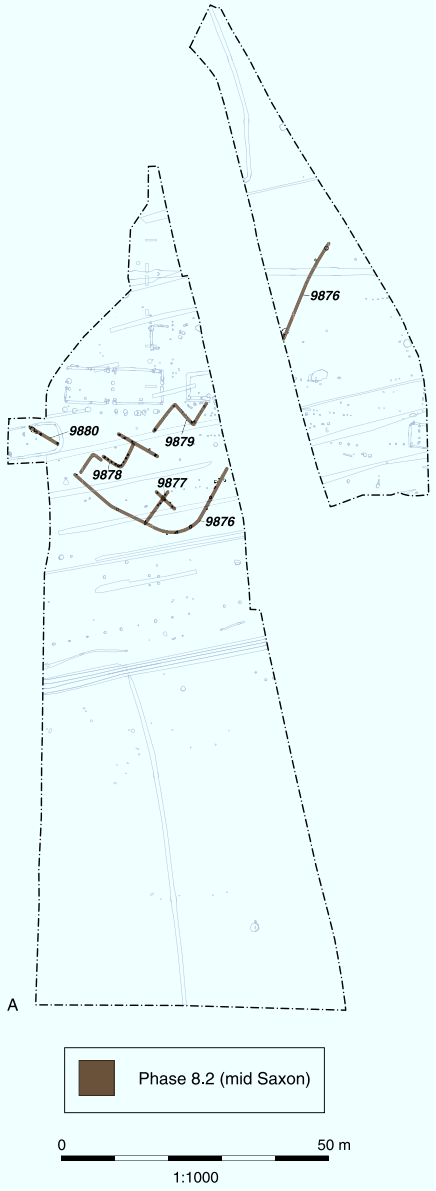

Fig. 6.4 Site 9. A: Phase 8.2 (7th–8th century AD)

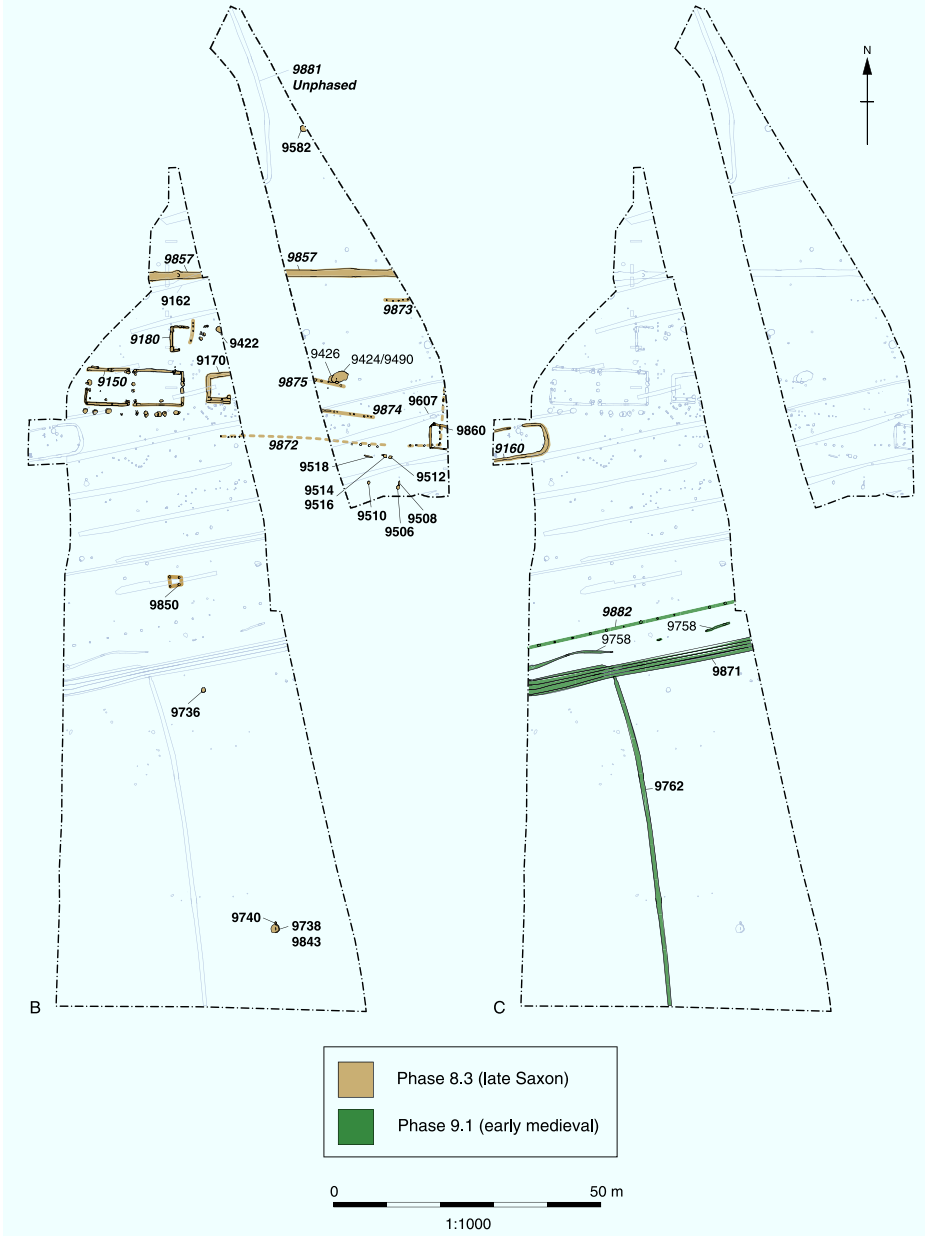

Fig. 6.5 Site 9. B: Phase 8.3 (9th–11th century AD); C: Phase 9.1 (12th–13th century AD)

northern boundary to the settlement. A large, fenced, rectilinear enclosure (9872), defined by postholes set on an E-W alignment, was situated to the east of and on a parallel alignment to Structure 9150. The enclosure, 43 m by 43 m in area, had fenced E-W subdivisions within it (groups 9873, 9874, 9875). Refuse pits 9490 and 9426, along with other pits and four-post structure 9850, are also placed within this phase.

Structure 9150 (Fig. 6.6; Plate 6.2)

Post-built structure 9150, was more substantial in size and form than any of the other structures excavated within the settlement, and was the only complete structure within the excavated area. Rectangular in shape and measuring 19 m long by 7 m wide, the structure displayed two 1 m wide opposing entrances approximately centrally placed on the north and south sides, and two possible narrow openings, one at either end. The northern side of the west wall trench had been truncated by later ploughing.

The wall trenches defining the structure were typically 0.50 m wide and 0.30 m deep. Finds from the wall trench fills included pottery, eight small finds, animal bone and oyster shell. The northern wall trench defining the western part of the structure (9003, 9007, 9022 and 9028) contained two fills: a redeposited natural clay lower fill, and a brown silty clay upper fill, along with a concentration of burnt material and charcoal in the upper fill of the western terminus (9028). Later modifications include a small 2 m-long slot (9036) and a posthole (9034), added to the northern outer edge near the corner, and the addition of a posthole (9048) mid way along the wall trench. At its eastern end, post 9030, marking one side of the entranceway, had been replaced at some point by post 9024. This was mirrored by similar modifications on the east side of the entrance where post 9121 had been replaced by 9245.

The continuation of the north wall on the eastern part of the building was marked by wall trench 9004/9119. At its eastern end towards the corner this had been cut by posthole 9102 and subrectangular cut 9108/9049 which was in turn cut through by posthole 9110. The eastern wall line was defined by wall trench 9014, filled by brown silty clay, which seemed to be a structural replacement for an earlier

Table 6.1: Site 9. Details of group 9877

Feature	Diameter (m)	Depth (m)	Dating evidence
9503	0.20	0.01	none
9492	0.15	0.07	none
9493	0.20	0.10	none
9494	0.30	0.20	none
9495	0.20	0.05	none
9496	0.20	0.10	none
9500	0.20	0.22	none
9502	0.20	0.09	none
9648	0.24	0.09	none
9646	0.18	0.06	none
9500	0.30	0.22	650–850 AD pottery

Table 6.3: Site 9. Details of group 9879

Feature	Diameter (m)	Depth (m)	Dating evidence
9403	0.30	0.20	none
9405	0.26	0.14	none
9407	0.28	0.16	none
9409	0.28	0.16	none
9383	0.32	0.12	none
9385	0.32	0.14	none
9387	0.28	0.08	none
9389	0.24	0.13	none
9391	0.26	0.22	none
9413	0.28	0.10	none
9393	0.28	0.20	none
9361	0.36	0.02	none
9363	0.38	0.06	none

Table 6.2: Site 9. Details of group 9878

Feature	Diameter (m)	Depth (m)	Dating evidence
9780	0.16	0.10	none
9778	0.20	0.08	none
9665	0.32	0.28	none
9667	0.26	0.20	none
9669	0.28	0.12	none
9671	0.16	0.13	none
9673	0.22	0.16	none
9675	0.30	0.14	none
9677	0.26	0.14	none
9679	0.16	0.12	none
9681	0.28	0.15	none
9683	0.24	0.16	none
9685	0.22	0.16	none
9687	0.26	0.16	none
9689	0.30	0.28	none
9397	0.34	0.22	none
9399	0.24	0.20	none
9401	0.32	0.12	none

Table 6.4: Site 9. Details of group 9880

Feature	Diameter (m)	Depth (m)	Dating evidence
9129	1	0.12	none
9183	0.55	0.22	none
9185	0.30	0.32	none
9227	0.30	0.12	650–850 AD pottery

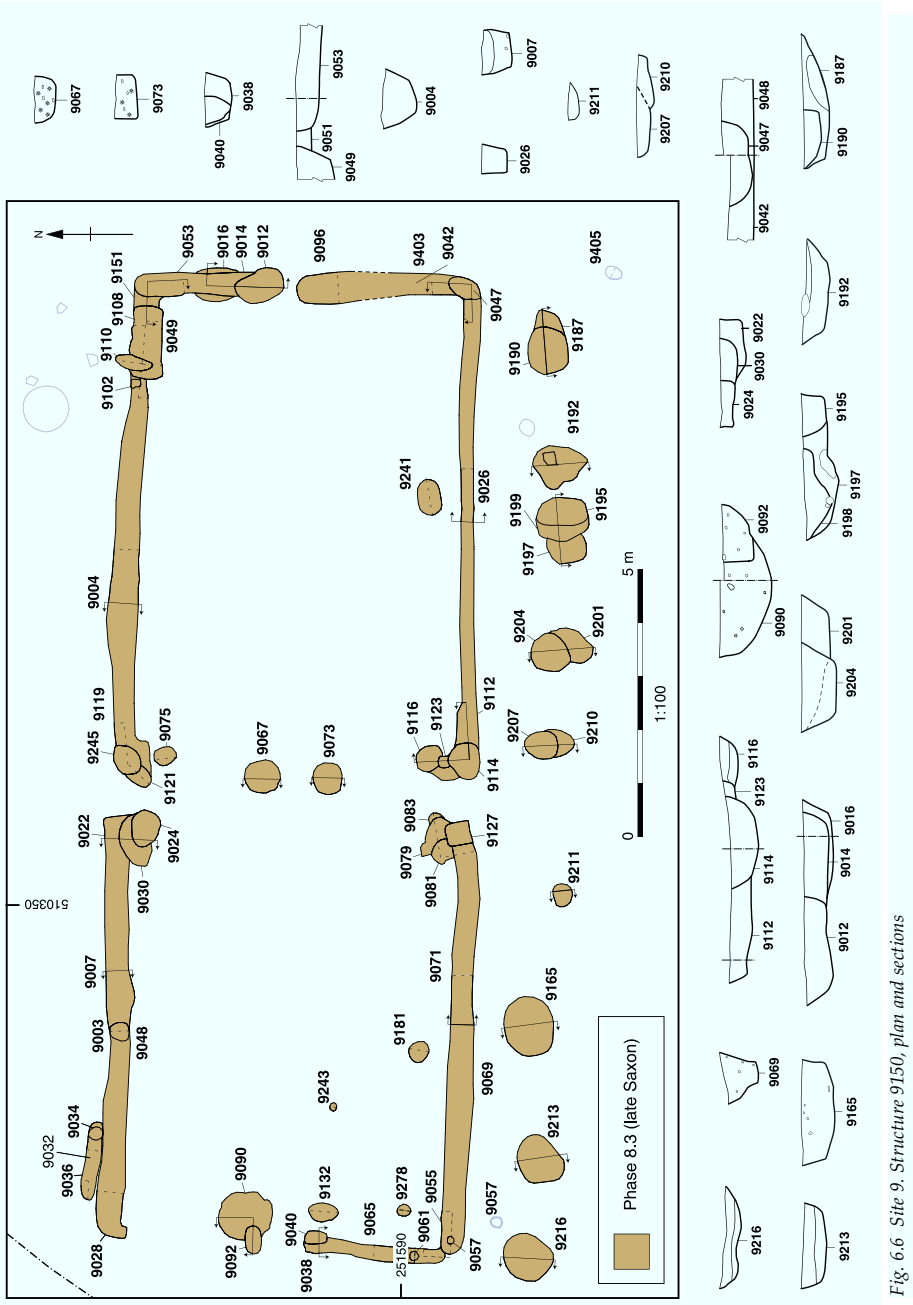

Fig. 6.6 Site 9. Structure 9150, plan and sections

posthole (9016). The southern terminus of trench 9014 was in turn cut by posthole 9012. It would appear that this corner of the building required substantial structural modifications during its life.

A continuous wall trench (9096/9403/9026/9112) defined the rest of the eastern line of the building and the eastern end of the southern wall with posthole 9047 at the corner. Beyond the southern entrance the wall trench continued to the north-west corner (9069/9071/9055). The southern entranceway was defined by various postholes, which had been replaced on several occasions. The east side of the entrance had three intercutting postholes, 9114, 9116 and 9123, cut into the fill of the wall trench terminus. The west side of the entrance had four intercutting postholes, 9079, 9081, 9083 and 9127, cut into the terminus of the wall trench 9069/9071/9055.

A line of nine postholes ran parallel to, and less than 1 m away from, the southern wall. Unfortunately the angle of the timbers could not be discerned to determine whether these held raking or vertical timbers. Two of the smaller postholes, 9211 and 9210, were positioned outside the southern doorway to the structure, and possibly contained posts that supported a lintel holding a covered porch-way into the structure. To the west of the 'porch-way' three large postholes, 9216, 9213 and 9165, averaging 0.80 m in diameter and 0.25 m deep, were recorded. East of the porch-way were four postholes, (from west to east: 9201, 9197, 9192, and 9187), three of which were recut. Their dimensions were similar to those in front of the western side of the south wall. Posthole 9197 produced SF 9013, an iron fragment and 9195 contained SF 9012, an iron nail. The fills of postholes 9204, 9197, 9192, and 9190 all contained significant amounts of charcoal, indicating a localised burning event occurring after these posts had replaced the earlier posts. These external postholes could have contained supports for a 'cat slide' roof or possibly a second storey to the building.

The internal features of the building included a division wall running N-S between the two central entrances dividing the building into two roughly equal halves, the eastern half being *c* 0.5 m longer than the west. The central division was marked by three postholes: 9073, 9067, and 9075, linking in with postholes located at the respective opposing entrances.

Other features within the structure included pits and postholes, but no evidence of a hearth, although the truncation by ridge and furrow and later ploughing could have removed any such evidence. Internal features included pit 9090 located at the western doorway. This was subcircular in shape, 1.30 m diameter, and 0.48 m deep, and contained flecks of charcoal and burnt clay (the material within this fill could indicate a nearby hearth). Once the pit had silted up, posthole 9092 was cut into the western edge, midway along the space of the western doorway, either to give additional support to the lintel above the doorway, or to reduce its overall width. At least another four small internal postholes (9132, 9243, 9181 and 9278) were clustered within the south-west area of the

Plate 6.2 Site 9. Structure 9150, looking east

structure and were of indeterminate purpose, possibly being used to support internal fittings.

The contexts of building 9150 produced pottery predominantly dated to *c* AD 900–1200, along with a few residual sherds dated to *c* 650–850. The sherds came from the fills of wall trenches 9022, 9026, 9028, 9032, 9042 and 9108, showing no prevailing pattern. Pottery was also recovered from three pits and six postholes. Pit 9012 produced five sherds dated *c* 1000–1200, pit 9049 a single small sherd of similar date and pit 9090 one sherd dated to *c* 650–850. Postholes 9092, 9165, 9199, 9211 and 9213 between them produced 10 sherds dated to the 11th–13th century. Posthole 9197 produced one sherd dated to the 10th–12th century and one of mid Saxon date, while posthole 9092 produced a single mid Saxon piece.

This gives an occupation date for the structure of between *c* 900–1200, with the earlier sherds being residual or representing curation of earlier pottery types. Very small amounts of fired clay came from the fills of postholes 9092, 9165 and 9213, comprising small flat amorphous lumps.

Most of the small finds recovered from the site came from Structure 9150. Five small finds were found in the fills of the large structural postholes along the southern extent of the building: SF 9000, a limestone bead in 9213 (see Fig. 8.16.4); SF 9001, a copper alloy strap end (see Fig. 8.20.20) and SF 9011, a possible iron nail in 9165; SF 9013, an iron fragment in 9197, and SF 9012, an iron nail in 9195. Two iron nails, SF 9009 and SF 9016, were recovered from the southern wall trench, 9069 and 9026, with a further example (SF 9014) from posthole 9245, part of the northern entrance.

Over 82 fragments of oyster shell were recovered from wall trench 9065 and two fragments from posthole 9092, both located on the western side of the structure. Single oyster shells also came from postholes 9190 and 9197, two from posthole 9211 and a further 15 shells from posthole 9204. In addition two periwinkle shells came from the upper fill (9200) of posthole 9197. These postholes are largely situated on the post-line at the south end of the structure.

A substantial amount of animal bone was recovered from the fills of the wall trenches, pits and postholes belonging to Structure 9150, more than any of the other structures investigated on the site suggesting a focal point of food preparation or consumption. The bone fragments are represented by significant amounts of cattle, sheep/goat, and pig, with a few bird and fish bones. The bone assemblage was more concentrated in the western half of the building. In total 138 mammal fragments were recovered of which 12 % were sheep/goat, 19 % were pig, 11 % were cattle, a single fragment horse and 57% unidentified mammal. In addition two fragments of unidentified fish came from wall trench 9065, two fragments of bird fowl and two unidentified bird bones came from posthole 9092 and one fragment of bird fowl from posthole 9199.

Structure 9170 (Fig. 6.7; Plate 6.3)

Structure 9170 was situated 4 m east of structure 9150 and shared the same E-W alignment. It was only partially exposed, with the eastern part of the

Plate 6.3 Site 9. Structure 9170, looking south. Scale in foreground: 2 m

structure overlain by the central baulk running down the centre of the site. The structure was 6 m wide and 6 m in length as exposed, and was defined by a continuous wall trench represented by cuts 9134, 9274, 9096, 9263 and 9255. Cut 9274 contained two bone fragments, one of pig and one fowl; cut 9263 produced four sherds of 10th to 12th-century pottery and one animal bone fragment, and 9255 contained four sherds of 10th to 12th-century pottery and eight animal bones.

The southern wall trench, typically 0.70 m wide and 0.24 m deep, had a narrow entrance 0.80 m wide next to its eastern terminus; the southern wall trench continued as cut 9247 for a short distance before disappearing under the baulk. The fill contained two sherds of *c* 1000–1200 pottery along with seven fragments of animal bones and one fowl. Two postholes, 9253 and 9251, directly south of the wall trench, and visible in the section along the baulk contained no dating evidence and could relate to the structure or possible an associated fence-line. The southern extent of the wall trench was modified or reinforced along its length by a parallel trench recut, 0.40 m wide and 0.18 m deep (cuts 9259, 9270 and 9263). Section 9270 produced two sherds of *c* AD 1000–1200 pottery and 9263 contained one fragment of pig bone and one fragment of unidentified large mammal bone. Four postholes, 9249, 9272, 9268 and 9266, were also cut into the earlier wall trench, possibly indicating repairs to the structure. Posthole 9272 contained one small sherd of 10th to 12th-century pottery. A large posthole, 9261, set just within the building by the entrance was probably a structural component of the doorway.

The northern wall trench, 9134 and 9274, measured 0.60 m wide and 0.35 m deep, and was recut by wall trench 9137 along its course for approximately 3 m, terminating just before the north-west corner. The earlier wall trench contained a primary fill of redeposited natural clay, with an overlying deposit of grey-brown silty clay with occasional charcoal flecks and mostly contained pottery of 10th–12th-century date. The later recut contained a similar fill and further pottery of 10th–12th-century date. Quantities of animal bones

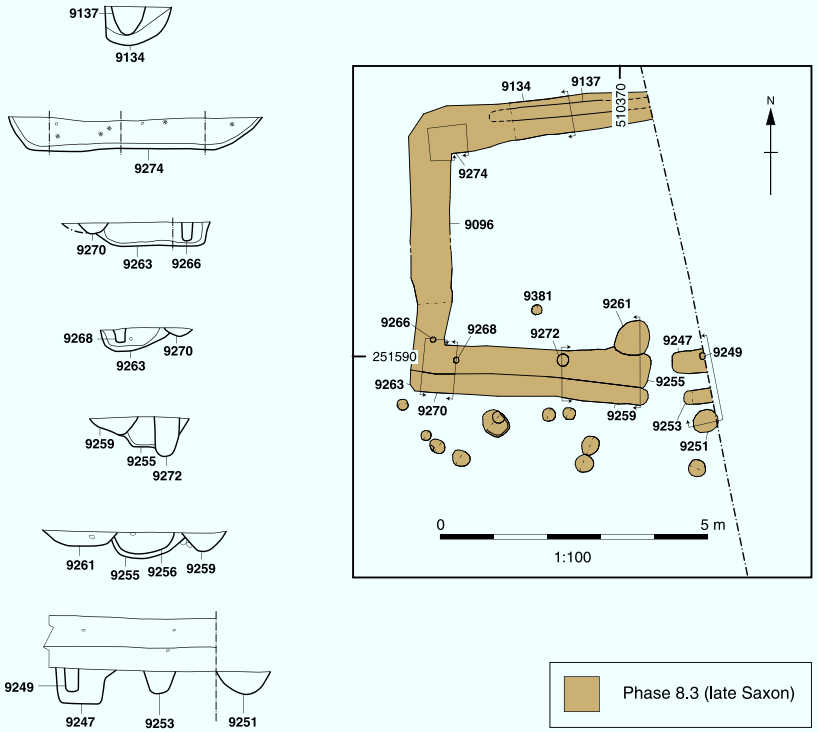

Fig. 6.7 Site 9. Structure 9170, plan and sections

were recovered from the fills of the wall trench, consisting of cattle, sheep, goat, pig and bird, indicating food consumption (or preparation) nearby. The fully exposed western wall trench measured 0.58 m wide and 0.30 m deep with no visible postholes or later modifications.

The scatter of postholes immediately south of the southern wall were not demonstrably part of the structure of the building, and may have been part of an associated fence-line. Also possibly related to this structure were two lines of postholes (groups 9874 and 9875, see below), which share the same alignment as the long axis of the structure but which were 14 m away to the east, across the central baulk of the site. These are probably fence-lines, but could also be parts of the footprint of an earth-fast post-built building adjacent to intercutting refuse pits 9426, 9424 and 9490 (see below).

Structure 9180 (Fig. 6.8)

Only the western end of Structure 9180 survived, the eastern end having been truncated by ridge and furrow cultivation. It shared the same E-W alignment as structures 9150 and 9170 and was situated 4 m to the north of these. Structure 9180 was rectilinear in plan, measuring 4.70 m wide and in excess of 3 m long. It had a 1 m wide entrance in the north-west corner. Various pits and postholes were visible immediately east of the structure, probably surviving due to their greater depth compared to the more ephemeral wall trenches; these features were almost certainly related to the structure.

The western wall of the structure was defined by a wall trench 9153/9167/9151/9155, which extended N-S for 4.0 m. It was 0.45 m wide and 0.10 m deep and filled by orange-grey silty clay from which five animal bones were recovered. The wall trench cut through earlier posthole 9163 and slot 9167, close to the north-west corner. The wall trench was itself cut by postholes (9157 and 9159), indicating modifications to the doorway. At the junction of wall trenches 9151 and 9171 was pit 9169, measuring 0.60 m wide by 0.96 m long and 0.22 m deep, which is interpreted as representing the setting for an upright corner post. Its fill, 9149, contained three fragments of animal bone and the only dating evidence for the structure in the form of two large jar sherds dated *c* 1000–1200. Wall trench 9174, forming the northern side of the structure, survived to a length of 1.70 m, and was 0.30 m wide and 0.05 m deep and also filled with orange-grey silty clay. The wall trench cut posthole 9175, and the western terminus was cut by posthole 9173, marking the eastern side of the entrance. Three intercutting postholes (9593, 9595 and 9594), located 3 m east of wall trench 9147, possibly represent additional posts added to the north-east corner of the structure, making a possible overall length of 8 m. Postholes 9593 and 9595 were square-shaped, 0.40 m in diameter and up to 0.13 m deep and cut by circular posthole 9594, 0.30 m in diameter and 0.12 m deep. Small pits (9591 and 9592) and postholes (9420, 9421, and 9423) may represent internal elements of the structure; no dating evidence was recovered from any of these features. Three

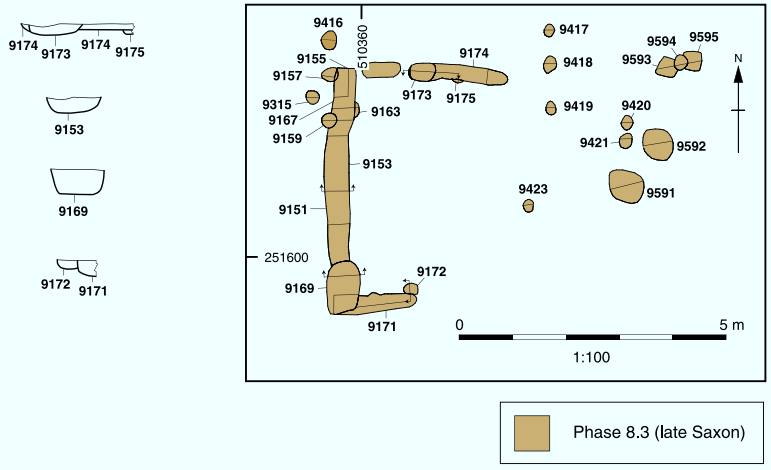

Fig. 6.8 Site 9. Structure 9180, plan and sections

postholes (9417, 9418, and 9419), all typically 0.30 m in diameter and 0.10 m deep, and orientated N-S directly east of wall trench 9147, could be connected with the structure or could equally be a later fence-line as 9417 was situated beyond the footprint of the building. The only finds came from 9419, and these consisted of 28 very small fragments of unidentifiable animal bone.

Fired clay fragments and other waste possibly from cooking were also found deposited in pit 9422, located 3 m to the east, and may be associated with this building (see below).

Structure 9860 (Fig. 6.9)

Structure 9860 was rectangular in plan and orientated E-W. It measured 5 m across and extended for 4 m eastwards, extending under the eastern baulk of the site. The archaeology had been heavily truncated. The structure consisted of three surviving wall trenches: 9532/9536 (south), 9534/9538/9540 (west) and 9542/9544 (north). The wall trenches were typically up to 0.40 m wide, and ranged in depth from 0.04–0.20 m. Various postholes cut into the fills possibly represent further modifications to the structure. Two postholes (9866 and 9868) suggest modification of the southern wall; the south-west corner was cut by posthole 9870, while the north-west corner had three associated postholes, two on the line of the wall (9864 and 8962) and one immediately outside (9859).

The only dating evidence from Structure 9860 comprised two sherds of *c* AD 1000–1200 pottery from posthole 9870 which was cut through the fill of wall trench 9534. A fence-line (group 9872), crossed the building footprint, although there was no stratigraphic relationship. The fence line extended southwards for 11 m, through the western area of structure 9860, then turned westwards, extending for a further 17 m.

Boundary ditch 9857 (Figs. 6.5B and 6.10)

Ditch group 9857 formed the northern boundary to the settlement. It measured 32 m long (with a 16 m stretch covered by the central baulk), 1.50 m wide, and 0.70 m deep. In the four sections excavated, the ditch typically contained two fills, a primary deposit of redeposited natural clay and a secondary deposit indicating a gradual silting up over time (Fig. 6.10). There was a localised deposit of burnt material and animal bone within the top fill (9282) of cut 9280. The ditch fills produced 39 sherds of pottery largely of 11th to 13th-century date; ditch cut 9282 alone contained 33 sherds (245g), and was cut by posthole 9283 (9285) containing a further two sherds. Four residual earlier Saxon sherds were also present. Marked quantities of animal bone were recovered from each of the four interventions put through the ditch with a particularly good localised assemblage in cut 9280 (9282) consisting of 48 fragments of horse bone, seven of cattle, three of

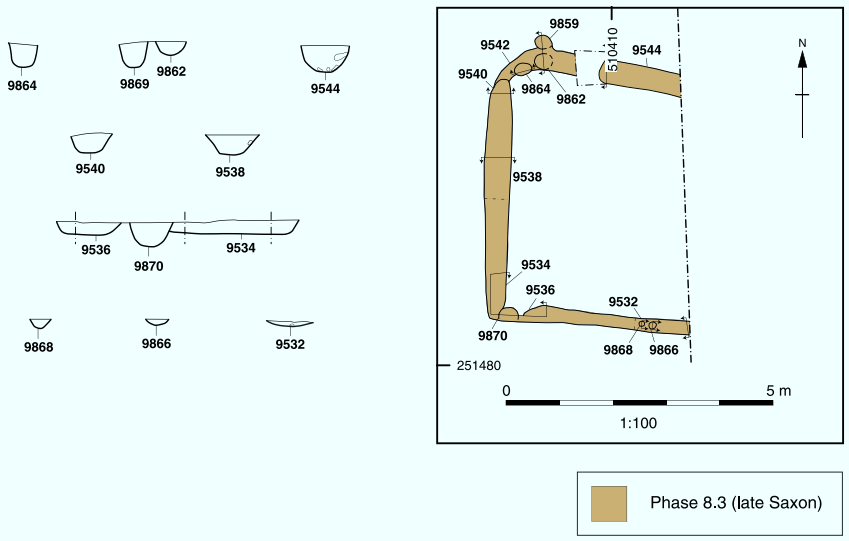

Fig. 6.9 Site 9. Structure 9860, plan and sections

pig, two of sheep/goat bone and 41 unidentified fragments. Cut 9286 (9288) contained one fragment of dog bone along with ten other cattle, sheep/goat and unidentified pieces. Cut 9294 (9296) contained one fragment of fowl bone, one pig bone and two oyster shells, while 9298 (9299) contained one pig bone and one sheep/goat bone, and 9300 one unidentified fragment.

Enclosures (Fig. 6.5B)

The southern extent of the settlement was possibly defined by an apparent E-W fenceline (9872). Group 9872 comprised 23 postholes placed 1–2 m apart, typically measuring 0.30 m in diameter, and 0.10 m deep and filled with brown silty clay (see Table 6.5). Finds were sparse and consist of one piece of fuel ash slag from 9558 and two sherds of 10th to 12th-century pottery from 9564. Within this group posthole 9622 (NI), subcircular in shape and measuring 0.52 m in diameter and 0.22 m deep, contained dark, grey-brown, sandy silt with frequent charcoal, one sherd of 11th to 13th-century pottery and three animal bones. Posthole 9624 (NI), located 1 m west of 9622, was also filled by dark greyish brown silty clay with frequent charcoal flecks (9625). At the eastern edge of the site the fenceline turned north and crossed the footprint of Structure 9860, although no stratigraphic relationship was recorded. A 6 m-wide gap formed an access through the fenceline. Associated with this entrance were two square postholes, 9512 and 9514, a shallow circular posthole, 9516, and slot 9518, which could have been the remains of a gate or other structure at the entranceway. The fill of posthole 9512 contained one small sherd of 10th to 12th-century pottery and two animal bones, and the fill of 9514, one tiny sherd of similar date and two fragments of bone. The fence-line continued west, overlain by ridge and furrow and the central baulk,

Table 6.5: Site 9. Posthole group 9872

Feature	*Diameter (m)*	*Depth (m)*	*Dating evidence*
9564	0.24	0.05	10th–12th century pottery
9562	0.18	0.04	none
9560	0.24	0.06	none
9558	0.20	0.06	slag
9556	0.30	0.10	none
9554	0.24	0.08	none
9552	0.34	0.02	none
9550	0.18	0.12	none
9548	0.32	0.06	none
9546	0.28	0.08	none
9530	0.24	0.11	none
9528	0.28	0.10	none
9526	0.24	0.06	none
9524	0.34	0.16	none
9522	0.36	0.12	none
9520	0.24	0.06	none
9622	0.45	0.22	11th–13th century pottery
9624	0.52	0.24	none
9638	0.14	0.10	none
9642	0.18	0.02	none
9644	0.20	0.05	none
9501	0.22	0.04	none
9626	0.20	0.04	none

before terminating 6 m south of the south-west corner of Structure 9170.

Various E-W internal divisions can also be identified within the eastern area of the enclosure (groups 9873, 9874, 9875) (Fig. 6.5B), each about 6 m apart and also defined by postholes (see Tables 6.6–6.8). These divisions could represent fence lines, with the postholes typically 0.35 m in diameter, 0.25 m deep and containing a single fill of dark yellowish-brown silty clay. Five sherds of *c* AD 1000–1200 pottery came from posthole 9718 in post group 9874. Two of

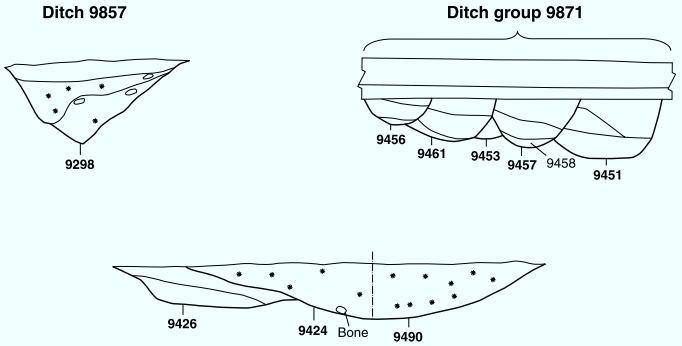

Fig. 6.10 Site 9. Phases 8.3 and 9.1: sections through other features

Table 6.6: Site 9. Details of group 9873

Feature	*Diameter (m)*	*Depth (m)*	*Dating evidence*
9578	0.20	0.06	none
9576	0.18	0.07	none
9574	0.20	0.07	none
9572	0.22	0.08	none
9570	0.28	0.10	none

Table 6.7: Site 9. Details of group 9874

Feature	*Diameter (m)*	*Depth (m)*	*Dating evidence*
9726	0.20	0.10	none
9724	0.20	0.10	none
9722	0.35	0.25	none
9718	0.30	0.15	10th-12th century pottery
9706	0.20	0.08	none
9704	0.25	0.10	none
9696	0.25	0.08	none
9694	0.30	0.20	none

Table 6.8: Site 9. Details of group 9875

Feature	*Diameter (m)*	*Depth (m)*	*Dating evidence*
9660	0.20	0.09	none
9601	0.30	0.04	none
9559	0.20	0.06	none
9429	0.47	0.30	none

the internal fence lines, 9875 and 9874, ran from under the central baulk, directly opposite structure 9170, and could form part of a smaller enclosure associated with the structure. Directly 2.5 m south of this enclosed area was posthole 9708 (9709; NI) which contained two sherds of 11th to 13th-century pottery.

Pits 9422, 9426, 9424/9490, 9162 and 9607 (Figs. 6.5B and 6.10)

Pit 9422, located 3 m east of Structure 9180, may have been a domestic refuse pit associated with this structure. It was semicircular in shape, 1.29 m wide by 0.80 m long and 0.42 m deep and filled by two deposits. The upper fill (9837), 0.22 m thick, consisted of dark brown silty sand and moderate amounts of chalk and flint inclusions with charcoal flecks. Finds from this include three 10th to 13th-century potsherds, two oyster shells and one mallard bone, along with fifteen animal bones including cattle, pig and sheep/goat. The lower fill, 9838, was 0.20 m thick and consisted of dark grey-brown sand and frequent amounts of charcoal, burnt flint and chalk, and fired clay. Some 323 g of fired clay, all well-fired and probably representing the remains of an oven, also came from the fill.

Two intercutting pits, 9426 and 9424/9490, were located 18 m east of structure 9170, on the opposite side of the central baulk (Fig. 6.5B). Pit 9424/9490 cut pit 9426 which measured 1.6 m wide by 1.70 m long and 0.40 m deep, and contained two fills. The lower deposit, 9428, a brownish-grey silty clay with occasional stone inclusions and flecks of charcoal contained one sherd of 11th to 13th-century pottery along with seven fragments of bone. The upper fill was redeposited natural, possibly deriving from the cutting of pit 9024/9490.

Pit 9424/9490 was subcircular in shape with steep sides and a concave base. It measured 0.9 m by 0.34 m by 1.30 m and contained a single fill (9491/9425) of brownish-grey silt with occasional chalk and flecks of charcoal and 14 sherds of *c* 1000–1200 pottery. Small finds SF 9002, a copper alloy sheet, SF 9003, an iron nail, and SF 9004, a worked antler point, possibly an awl (Fig. 8.22.29), were recovered from fill 9491 along with a single oyster shell. In all, 51 fragments of animal bone were recovered including the usual domesticates, horse, cattle, sheep/goat, sheep, pig, along with one piece of roe deer antler and one unidentified bird bone. Environmental sample 9018 taken from the fill included an eel vertebra (see Chapter 10).

The charred plant remains included bread wheat and barley and weed seeds. The barley was slightly more abundant suggesting it may have been a more important crop. In addition the sample contained a number of rye and oat grains that could have been grown for fodder (see Druce, Chapter 11). There was a lack of cereal chaff in the sample suggesting a lack of cereal processing on site, and that the sample represented a cleaned crop, possibly charred during cooking accidents. The wood charcoal in the sample was dominated by oak sapwood and heartwood and hazel roundwood. There were also small amounts of ash, and single representations of cherry, hawthorn/pear/apple, and dogwood. This suggests firewood was collected from both woodland and open fields/hedgerows. The evidence suggests this pit was utilised as a refuse pit for domestic waste from Structure 9170. Fence-line groups 9874 and 9875, possibly leading off the eastern end of structure 9170, seem to define the area directly south of these pits, and could have been utilised as a food preparation or cooking area.

Pit 9162, located 14 m north-west of Structure 9180, was semicircular in shape measuring 1.30 m wide by 0.60 m long and 0.50 m deep, and had two fills. The upper fill, 9839, was 0.36 m thick and consisted of a dark brown, silty clay with moderate amounts of charcoal flecks, three large sherds of 11th to 13th-century pottery, one piece of fuel ash slag and 111 fragments of animal bone amongst which were cattle, pig, sheep/goat, and unidentified bird bone. The lower fill, 9840, was 0.18 m thick and consisted of orange/grey sandy clay with moderate amounts of charcoal and 14 oyster shells.

Pit 9607, located 2 m north of structure 9860, was suboval in shape, and measured 1.30 m in diameter and 0.26 m deep, and contained two fills: the lower fill, 9608, comprising redeposited natural 0.20 m thick, and the upper fill, 9609, a brown silty clay fill containing occasional charcoal flecks. The latter produced 13 sherds of 10th to 12th-century pottery and five fragments of animal bone. Sample 9027 from this fill contained the remains of a tiny eel vertebra and a tiny cyprinid vertebra. The proximity of the pit to Structure 9860 suggests it may have been a refuse pit associated with the building.

Pits 9510, 9506 and slot 9508 (Fig. 6.5B)

Pits 9510, 9506 and slot 9508, cut by pit 9506, were located 14 m south of the enclosure entrance. Pit 9510 was subcircular in shape, 0.52 m in diameter and 0.38 m deep, with a single yellowish brown clay fill, which contained a single bone fragment. Pit 9506 cut the southern terminus of short N-S slot 9508. The pit was oval-shaped, 0.85 m long by 0.60 m wide and 0.50 m deep, with a single fill of brown clay. Finds from this included a single very small sherd of 11th to 13th-century pottery and 15 fragments of animal bone. Slot 9508 was 0.90 m long x 0.30 m wide and 0.08 m deep and contained a single fill of light brown clay from which one sherd of 10th to 12th-century pottery and eight fragments of animal bone were recovered. The original function of these pits, subsequently used for domestic refuse, is unclear, but they could have been related to an attempt to manage movement around the entrance of the settlement area.

Pits 9738, 9740, 9843 and 9582 (Fig. 6.5B)

Pit and post features 9738, 9740, 9843 and 9582, located near the southern limit of excavation, were possibly associated with ovens and the small-scale production of charcoal. Pit 9738 was subcircular in shape with a shallow slope and rounded base, 1.64 m in diameter and 0.06 m deep. Directly north was posthole 9740, 0.55 m in diameter and 0.14 m deep, and filled with brown-black silty clay with occasional flecks of charcoal. These could have represented an oven. Pit 9738 was filled by dark brown-black silty clay containing large amounts of charcoal flecks, two sherds of 11th to 13th-century pottery, and 55 g of fired clay fragments, probably structural. Possibly truncating this deposit, but probably representing the upper layer, was shallow scoop 9843, 0.60 m in diameter and 0.14 m deep, containing fill 9844, black-grey silty clay with frequent amounts of charcoal. Sample 9025 taken from this fill was rich in charred cereal remains. The sample was dominated by bread wheat accompanied by small amounts of rye and oat grains and charred weed seeds. No cereal chaff was present, suggesting crop processing was undertaken elsewhere. The wood charcoal indicated hazel as the dominant type, followed by hawthorn/pear/apple roundwood, oak, cherry and maple, suggesting the collection of firewood from woodland and hedgerows. The environmental evidence might point to this feature being a corndrier or processing oven situated some 100 m south of the main settlement.

Pit 9582, located approximately 30 m north of the northern boundary ditch (group 9857) of the settlement, was partially obscured by the eastern baulk of the site. It was subcircular in shape with a moderate slope and flat base, 1.30 m in diameter and 0.20 m deep with two fills, 9583 and 9584. The lower fill, 9583, was 0.10 m thick and consisted of a reddish-black sandy ash, with frequent amounts of charcoal flecks, which extended across the base of the pit. Sample 9026 taken from this fill contained wood charcoal dominated by oak heartwood and sapwood, with very small amounts of hawthorn/pear/apple and maple. No pottery was recovered, but this feature is put into this main phase of settlement due to the other industrial/domestic activities occurring at the settlement during this phase.

Structure 9850 (Fig. 6.5B)

Structure 9850, situated in the central zone of the excavated area, consisted of four postholes forming a 2 m by 2 m square. The posts were typically 0.40 m in diameter and 0.20 m deep and contained no dating evidence. This structure shares the same alignment as the other features in this phase but its function is unclear, although it could conceivably have been a raised granary.

Phase 9.1: 12th–13th century (Fig. 6.5C)

Phase 9.1 is represented by N-S ditch group 9762 and E-W ditch group 9871, both of which showed a slight shift in orientation in relation to the Phase 8.3 occupation, from E-W to SSW-NNE, indicating a change in use of the land; the ridge and furrow also follows this alignment. Also placed within this phase is a line of postholes, group 9882, a segmented gully, 9758, situated north of ditch group 9871, and structure 9160.

Structure 9160 (Fig. 6.11; Plate 6.4)

Structure 9160 was on a slightly different alignment to the other E-W structures, having a WSW-ENE orientation. This same orientation was also mirrored in the later phase ditch group 9871 and the ridge and furrow overlying the site, which suggests it belongs to this phase. The associated pottery fell into the 10th to 13th-century date range, although given the proximity of the earlier settlement, it could well have been residual. The structure was located 4 m south-west of structure 9150, with the western part continuing under the baulk beyond the excavated area. It was subrectangular in shape, 6 m wide and was exposed to a length of 10 m. It had at least one entrance measuring 1.20 m wide on the north side. The construction technique appears to differ from the other structures discussed in that

it was defined by a continuous wall trench (cuts 9341, 9321, 9019, 9309, 9233, 9230, 9236 and 9238) with a single break occurring at the entranceway. The wall trench was typically 0.60 m wide, surviving to a depth of 0.05–0.25 m, and had a thin primary fill of redeposited natural, overlain by grey-brown silty clay. Only one small stakehole (9311) was found within the base of the wall trench. The trench fills produced eight sherds of pottery of 10th to 13th-century date. At the entrance point was a short slot (9302), 0.90 m long, 0.40 m wide and 0.04 m deep, and a posthole (9304), 0.30 m in diameter and 0.04 m deep. Various other small undated postholes (9222, 9225, 9139, 9219, 9142, 9143 and 9145) were scattered around the internal space. A cluster of intercutting posts (9306, 9307, 9308, 9323, 9324 and 9325), near the interior south wall, could be structural. The wall trench in the south-east corner cuts earlier posthole 9227, which was part of an earlier Phase 8.2 NW-SE fence line, group 9880 (see above). The various cuts through the wall trench produced several sherds of 10th to 12th-century date, Aside from the 10th to 13th-century pottery, a residual sherd of *c* 7th–9th-century date and 19 fragments of animal bone were the only other finds. Four pieces of oyster shell were recovered from posthole 9243, near the entrance of the structure.

Ditch 9762 (Fig. 6.5C)

Ditch 9762, orientated N-S, was 65 m long, 1 m wide and 0.40 m deep, and contained two fills: a primary fill of redeposited natural clay, and a secondary fill of grey-brown silty clay (9749) containing one moderately large sherd of 12–15th-century pottery and a silver penny of Edward III (SF 9008). The coin was probably minted around AD 1344 and deposited in the second half of the 14th century or early 15th century (Phase 9.2). The ditch terminated at the junction of E-W ditch 9871. The fill of this terminus (9430) contained six sherds of 11th to 13th-century pottery and twelve fragments of animal bone.

Ditch group 9871 (Figs. 6.5C and 6.10)

Ditch group 9871 represents six intercutting ditches, orientated E-W, 45 m in length, collectively 3 m wide, and up to 0.50 m deep. It formed a boundary ditch, with the earliest ditch cut to the south, which was recut various times, with the latest ditch cut to the north, indicating use over a long time period. The earliest ditch of the group, 9451, contained one large sherd of 12th-15th-century date from fill 9454.

Ditch group 9882 (Fig. 6.5C)

Group 9882 consisted of a line of 11 postholes forming a fence-line, spaced 3 to 4 m apart and situated 6 m north of ditch group 9871, sharing the same alignment. The posts (see Table 6.9) were typically 0.30 m in diameter, 0.15 m deep and contained brown silty clay. No dating evidence was

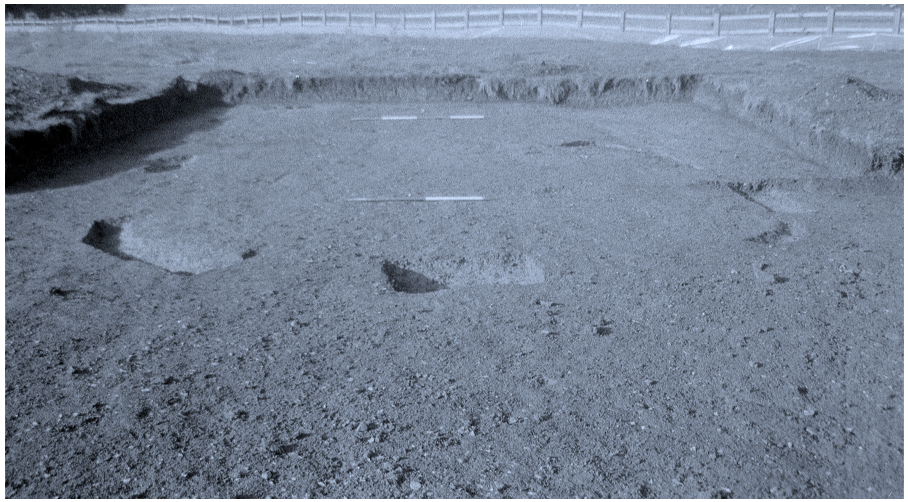

Plate 6.4 Site 9. Structure 9160, looking west. Scale in foreground: 1 m

recovered from any of the postholes. In between these postholes and ditch group 9871 was segmented meandering gully 9758, 0.28 m wide and 0.06 m deep, filled with a grey-brown silty clay, again producing no dating evidence. Both the fence-line and gully probably represent modifications to the field boundary during the medieval period.

Table 6.9: Site 9. Details of group 9882

Feature	*Diameter (m)*	*Depth (m)*	*Dating evidence*
9798	0.32	0.20	none
9800	0.20	0.10	none
9802	0.16	0.14	none
9804	0.34	0.10	none
9806	0.44	0.12	none
9808	0.18	0.06	none
9810	0.42	0.07	none
9812	0.30	0.04	none
9814	0.20	0.06	none
9816	0.40	0.10	none
9818	0.44	0.10	none

Unphased (Fig. 6.5B)

Ditch group 9881

The only undated ditch on the site was curvilinear ditch group 9881, situated to the north of the settlement. It ran from the NNW before kinking south, then turning west, and was 35 m long, 0.80 m wide and 0.18 m deep. It contained two fills: a primary fill of redeposited natural, and a secondary fill of dark brown silty clay. None of the interventions put through this ditch produced any dating evidence.

Pits 9620 and 9736

Pit 9620 (NI) located 8 m south of structure 9170, was subcircular in shape, 0.82 m in diameter by 0.22 m deep and filled by 9621, a greyish brown silty clay containing a fragment of unidentified mammal bone. Pit 9736 located 50 m south of the settlement (Fig. 6.5B), was circular in shape, 0.86 m in diameter by 0.32 m deep and filled by 9737, brownish-black charcoal-rich silty clay containing two unidentified large mammal bone fragments.

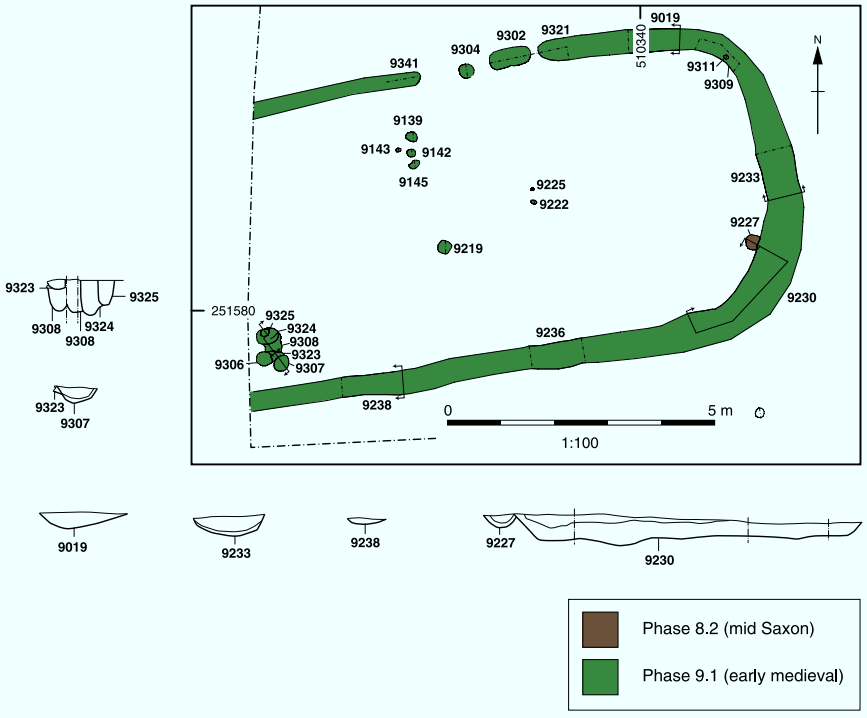

Fig. 6.11 Site 9. Structure 9160, plan and sections

SITE 3: EAST END

Summary

Open area excavations revealed a small 12th to 16th-century settlement, situated on the western base of a N-S valley. The settlement was set within a rectilinear enclosure 55 m by 40 m, defined by a fairly substantial ditch, bounded to the east by a series of deep intercutting N-S ditches that would have channelled the present day stream situated further east. The enclosure had a 25 m wide entrance to the north, and an internal ditch separating the settlement area to the south from the area extensively cut by pits to the north. The settlement itself comprised a post-built structure with three small rooms, all modified during its occupation and with various associated pits. Later attempts to drain the area bounded by the enclosure are evinced by the cutting of a pond and a soakaway pit into the southern area of the enclosure. A N-S trackway lay immediately west of the enclosure, and various pits or shallow quarries lay to the north and east.

The occupation of this marginal land continued for a period with a range between the 12th and 16th centuries. This settlement may have been associated with the earthworks of a moated farmstead at Birchfield Farm situated approximately 500 m upstream.

Site location

Site 3 was situated to the north of Great Barford, east of Birchfield Road at NGR TL 124 534 (see Fig. 1.1). It occupied the base of an east-facing slope of a N-S valley, on the west side of a stream running from a moated settlement at Birchfield Farm, 0.8 km to the north.

The site was situated on pastureland, with topsoil about 0.20 m thick. Below this was a colluvial layer about 0.30 m thick, sealing the archaeological horizon; this layer changed in nature down the westerly slope from a brown redeposited natural till, to a more mixed colluvium containing more topsoil, hence giving it a grey-brown colour, with localised deposits of large stones. The site had not suffered much deep plough damage due to its low-lying position, and the entire investigated area was criss-crossed by field drains.

Phase 9: undated medieval (Figs. 6.12 and 6.13A)

The earliest features on the site, as indicated by the stratigraphy, were undated N-S drainage ditch 3523, gully group 3531, and ditch group 3533, orientated NE-SW, together probably forming a trackway. Gully 3531 possibly predated the enclosure as it was not on the same alignment as any of the enclosure features and was cut by the enclosure ditch 3528. The gully was 14 m in length, 0.82 m wide, tapering towards the north-east end, and 0.11 m deep. In profile it had a steep east side and a slightly stepped west side. The main fill comprised dark grey-black silty clay with charcoal flecks over a primary fill of collapsed natural. No datable finds were recovered from either of the fills, the only finds being seven animal bone fragments. Ditch 3533, situated 10 m east of, and broadly parallel to, gully 3531, was 15 m in length, 1 m wide and 0.40 m deep. It contained a single fill of greyish brown, silty clay which produced five sherds of 12th to 15th-century pottery. These features may relate to a temporary trackway utilised for the construction of the settlement, which was later replaced by the Phase 9.1 trackway (3535) skirting the settlement on the west.

Ditch group 3523, a N-S ditch, represented the earliest phase of intercutting ditches that channelled the stream southwards down the valley and formed the eastern boundary of the enclosure. The ditch was 4.68 m wide, up to 0.70 m deep, and was exposed for a length of 95 m. The ditch had moderately sloping sides and an undulating base, indicating it had been recut at various times. The fill largely comprised dark brown, silty clay with sparse small stones and charcoal flecks and one bone fragment; no pottery was recovered from the fills. At the point where the intervention was put through ditch 3523 on the southern baulk it appeared to be cut by Phase 9.1 ditch 3522. Layer 3494, which dates to the later medieval period (Phase 9.2), sealed both ditches.

Phase 9.1: 12th–13th century (Figs. 6.12, 6.13B)

Features have been allocated to this phase on the basis of the associated pottery, which can only be broadly dated from the start of the 10th century through to the end of 14th century with a few sherds dating more closely to the 12th-13th century, possibly indicating that the main phase of activity started around the later 12th century. Representing this phase is the foundation of the settlement, with the cutting of the enclosure ditches, the channelling of the N-S stream, the construction of a timber-framed building, the planting of hedgerows to form a N-S trackway, and various pits. Dating the ditches is problematic, as they were regularly maintained until they went out of use; the subsequent fills produced a pottery assemblage with a very mixed date range.

Enclosure (Figs. 6.12 and 6.13B)

A continuous, narrow, shallow ditch was cut around the settlement and regularly maintained. The N-S ditch group 3522, channelling the stream southwards past the settlement also formed a boundary to the settlement. The southern line of an earlier ditch was removed by the digging of ditch group 3528 along its southern extent, but it reappeared to the south where it turned eastwards to be truncated by later pond 3154 and soakaway 3161 (Phase 9.2).

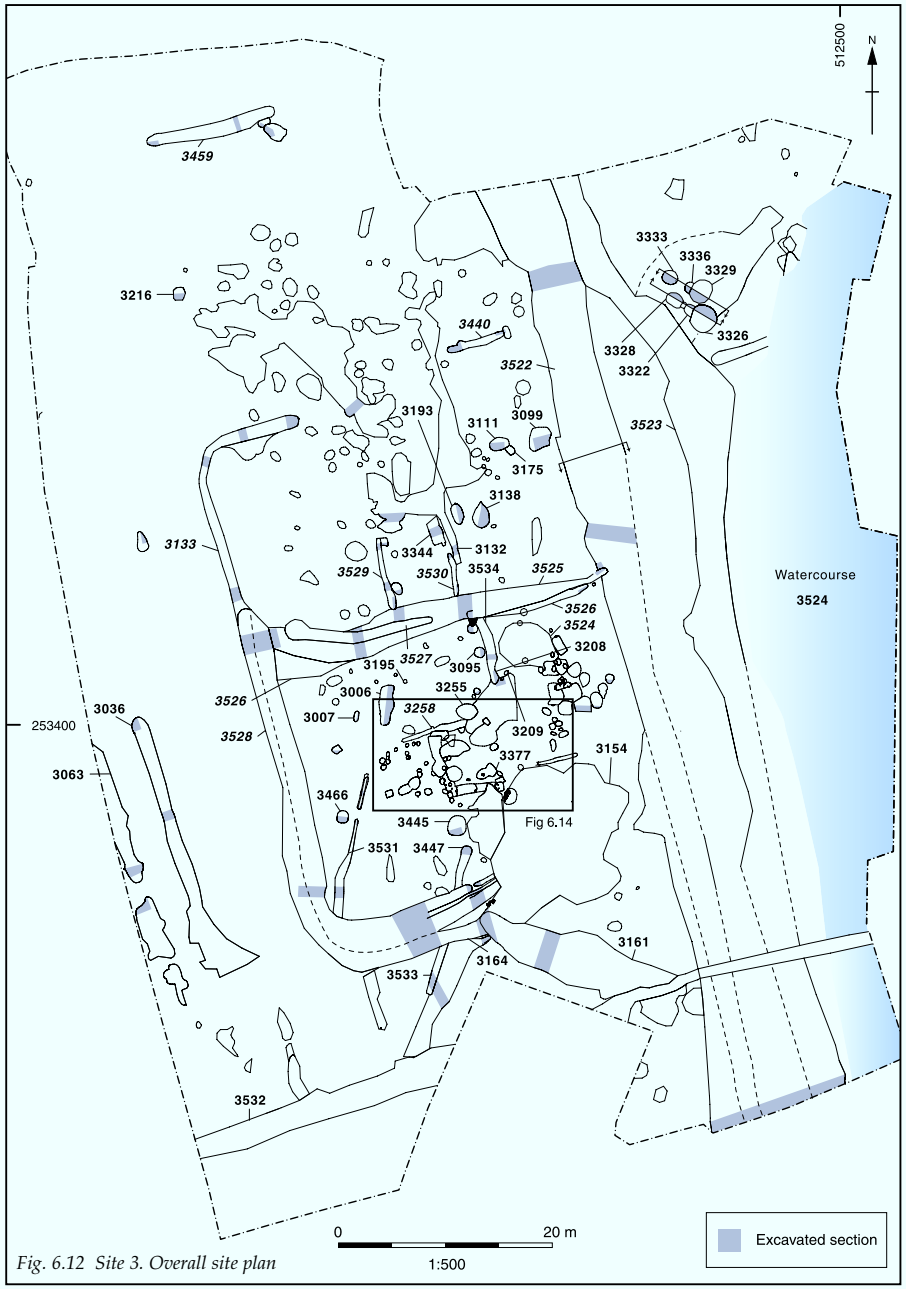

Fig. 6.12 Site 3. Overall site plan

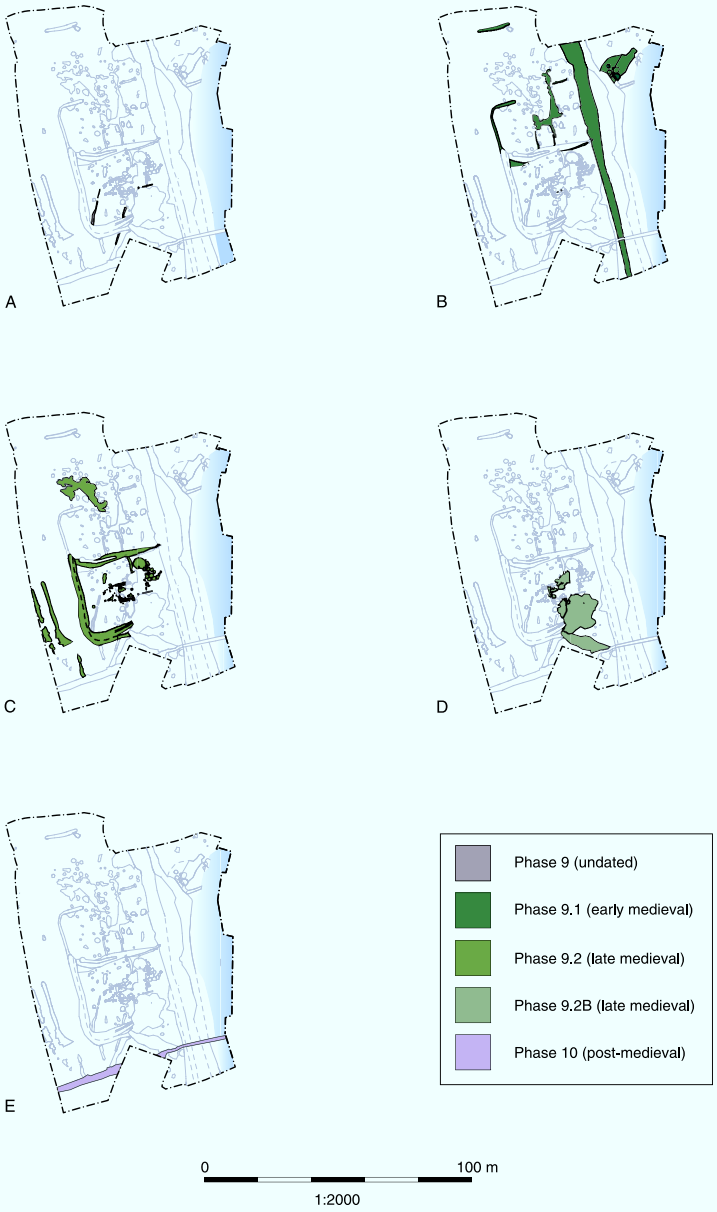

Fig. 6.13 Site 3. Overall phase plan.

At its northern end the early enclosure ditch continued as an L-shaped ditch (3133), measuring 0.60 m wide and 0.36 m deep (Fig. 6.12). This ditch continued a further 17 m on a NW-SE alignment before turning E-W for a further 10 m. Three interventions (3123, 3114, 3103) put through the earlier ditch showed a steep-sided profile with a concave base. The fill consisted of dark yellow-brown silty clay with occasional charcoal flecks. Ditch cut 3123 produced an exceptionally large assemblage of 192 sherds of pottery, mostly from two crushed shelly ware cooking pots of 12th to 15th-century date, along with 13 animal bone fragments. Ditch terminus 3114 contained 10 sherds of 12th to 15th-century pottery in addition to five sherds of a mid 14th to 16th-century date. Ditch cut 3103 contained two sherds, one dated 9th–15th century, the other mid 14th–16th century.

Ditch 3526, an E-W ditch 2.40 m wide, 0.70 m deep, and 32 m in length, formed a probable continuation or junction with ditch 3133, terminating just short of N-S ditch channel 3522. The ditch had been heavily recut in later phases, but where discernible the profile indicated almost vertical sides and a flat base. The fill largely comprised a mid brown to grey silty clay fill with occasional charcoal flecks and small stones suggesting low energy alluvial deposition. The eastern terminus 3086 contained one sherd of 12th-15th-century pottery. The primary fill, 3082, produced one large sherd of 11th–13th-century pottery, while the main fill produced two sherds of 12th–15th-century and 14th–16th-century date respectively.

Ditch group 3522 formed an eastern boundary to the settlement, extending for 95 m broadly N-S across the site, possibly channelling the stream closer to the settlement. It was 6.30 m wide, and up to 1.10 m deep, with moderately sloping sides and an undulating base, indicating that the ditch had been recut or cleaned out while it was active. The ditch was filled by light greyish brown silty clay with occasional small inclusions. Three interventions were cut through it, with only one (3062) producing pottery: two sherds of 9th-15th-century date.

A short N-S gully (3534), cut by E-W ditch group 3525, was situated just north of structure 3258. The gully was 5 m in length, 0.9 m wide and 0.2 m deep and filled by dark brownish-grey silty clay from which two 9th to 15th-century potsherds were recovered. Cut into the southern terminus was a shallow subcircular pit (3208), 1.3 m wide and 0.22 m deep, which produced two sherds of 12th to 15th-century pottery. Directly east of this pit was small shallow posthole (3209), which contained one small sherd of similar date.

At the northern end of the site a short E-W ditch (3459), situated 25 m north of ditch 3133, demarcated a similar area. Ditch 3459 was 12 m in length, 1.66 m wide and 0.40 m deep and was filled by 3453, a greyish brown silty clay containing a single sherd of 12th to 13th-century pottery. Each half of the enclosure possibly delineated an open field tacked onto the north of the settlement, and partially enclosed the area where pits were later dug for clay extraction in Phase 9.2.

Trackway 3535 (Figs. 6.12, 6.13C)

Two parallel gullies, 3063/3033/3031 and 3036, set 4 m apart and running N-S for 28 m, shared the same alignment as the western enclosure ditch 10 m away to the east. The shallow irregular nature of these features suggests they were probably hedgerows defining a trackway. The fills consisted of greyish brown silty clay which produced eight sherds of 9th-15th-century pottery and three sherds from the mid 14th-16th-century, probably indicating that the trackway was still in use at this time. The trackway could have been a realignment of the earlier trackway located further south.

Structure 3258 (Figs. 6.14, 6.15)

Structure 3258, cut through by an earlier evaluation trench, was a roughly rectangular building, orientated E-W. It measured 9 m long by 3.50 m wide, and consisted of three cells. Shallow trenches on three sides defined the central cell, 6 m wide, with the outer cells defined by postholes. The earliest phase was almost completely obliterated by the recutting of the wall trenches and by pits and postholes, but four cuts of this early phase were identified (3288, 3363, 3456 and 3463). Wall trench 3288 produced no dating evidence but was cut by Phase 9.2 pit 3401 (Fig. 6.15) and pit 3290. Wall trenches 3363 and 3456 were typically 0.70 m wide and 0.25 m deep, and contained fills of dark brown silty clay, with occasional flecks of charcoal. The secondary fill of 3456 (layer 3458) produced seven sherds of 9th to 15th-century pottery, ceramic building material, and ten fragments of animal bone. Cut 3463 produced nine sherds of 9th to 15th-century pottery and eleven sherds of 12th to 13th-century pottery. The eastern terminus of cut 3363 was marked by a square posthole (3355; Fig. 6.15), subsequently replaced by another square post, 3353.

Internal features possibly associated with the central cell included a possible hearth, 3377 (Fig. 6.15). This was suboval in shape, 1.20 m in diameter and 0.10 m deep, and contained a single fill of red/grey silty clay with good amounts of charcoal and one tiny sherd of 9th to 15th-century pottery. The hearth showed no signs of *in-situ* burning, and the fill could represent a dump of redeposited burnt material. Two postholes, 3520 and 3294 (Fig. 6.15), were also located within the central cell.

The eastern cell was defined by a slot along the south wall and an irregular line of postholes at the eastern end. If any structural components existed on the north wall these did not survive. Cut 3438 (Fig. 6.14), marking the southern wall, was 2.70 m in length, 0.36 m wide and 0.10 m deep and contained a single fill of dark grey silty clay that produced one

large sherd of 9th to 15th-century pottery and five animal bone fragments. Along the eastern extent a cluster of three postholes produced pottery dated to the 12th/13th centuries, which could suggest a construction date for the building. Posthole 3421 (Fig. 6.15) produced two sherds of pottery within the 12th to 13th-century range, posthole 3425 (Fig. 6.15) produced eight sherds and posthole 3430 (Fig. 6.15) produced seven sherds. Posthole 3430 lay within the line of the postulated wall and thus may have been an internal feature. It contained an unidentified iron object (SF 3010) and frequent charcoal. Environmental samples taken from this fill (sample 3048) and from posthole 3419 (Fig. 6.15; sample 3047) contained mixed charcoal taxa of oak, hazel, cherry and hawthorn, pear or apple.

Pits 3329, 3326, 3322, 3328, 3333 and 3336
(Figs. 6.12; 6.13B)

Also dated to Phase 9.1 are various pits distributed across the site, especially in the north-eastern corner, outside the area defined by the enclosure. Here a cluster of large intercutting pits, 3329, 3326, 3322, 3328, 3333 and 3336, was identified. The pit fills varied from dark grey brown silty clay to a more humic fill suggesting decomposed vegetative matter with some charcoal. Collectively the pits yielded just three sherds of 12th-13th-century date and one fragment of cattle bone. If the pits were cut for the purpose of rubbish disposal this must have been largely of an organic nature. Environmental sample 3032 taken from fill 3325 of pit 3322 contained charred plant remains including cereal remains of bread wheat *Triticum aestivum*-type and some barley *Hordeum vulgare*, consistent with the other medieval assemblages. The relatively limited assemblage from sample 3032 suggests that the material may have entered the feature as part of general 'background' waste, and the presence of a number of glume wheat grains may support this (see Druce, Chapter 11).

Immediately north-east of structure 3258 was a further cluster of intercutting pits. The earliest of these, pit 3381 (NI), was subrectangular in shape with almost vertical sides and flat base. It measuring 1.20 m wide by 1.50 m long and 0.72 m deep. It contained six fills: 3382, 0.16 m thick, comprising redeposited heat-affected clay; 3384, 0.30 m thick, with frequent charcoal and CBM flecks; 3512, 0.10 m thick, a grey ash, and the upper layer, 3513, redeposited natural clay containing nine sherds of 9th to 15th-century pottery. This last layer seems to represent a capping of the pit. Phase 9.2 pits 3389, 3509 and 3385 (NI) cut the pit.

Situated 5 m west of structure 3258 was circular pit 3466, with vertical sides and flat base, 1.10 m in diameter and 0.30 m deep, with a lower fill of brownish grey silty clay, followed by a charcoal-rich fill containing one small sherd of 9th-15th-century pottery, and an upper sealing layer of redeposited natural.

Phase 9.2: 14th–15th centuries (Fig. 6.13C)

Phase 9.2 was represented by modifications to the structure, the formation of a small enclosure pen, represented by two N-S gullies, the recutting and silting up of the enclosure ditches surrounding the structure, continued cutting of pits directly north-west of the structure, and the digging of clay extraction pits. All the features in this phase contained residual pottery assigned to Phase 9.1, but mixed with pottery dated to the mid 14th-16th centuries.

Structure 3258 (Figs. 6.14-15)

Further modifications to Structure 3258 dated to this phase include the addition of three large rectangular postholes, 3298, 3353 and 3369. Posthole 3298, in the north-east corner of the central cell, contained 33 sherds of pottery with a mid 14th to 16th-century *terminus post quem*; 3353 in the south-east corner, contained 10 sherds of similar date along with a fragment of goose bone, and posthole 3369 in the south-west corner of the central cell, cutting beamslot 3456, contained 13 sherds again dating to the mid 14th-16th century. A sherd from 3298 possibly joins one from the overlying spread 3301/3304 suggesting the material accumulated in the posthole once the post had been removed.

Many of the various structural postholes produced no dating evidence but are tentatively assigned to this phase on stratigraphic grounds. Postholes 3261, 3263, 3265, 3267, 3269, 3027, 3029, 3275 and 3283 broadly define the western cell. Within this space were various other pits and postholes: 3273, 3271, 3277, 3279 (cut by posthole 3281), 3415 and 3352, cut by pit 3350. Small oval pit 3415, measuring 1.10 m in diameter and 0.48 m in depth, contained 13 sherds of 9th to 15th-century pottery and three animal bones. Environmental sample 3044 taken from this fill contained wood charcoal which consisted of a mixed assemblage of oak, hazel, cherry and hawthorn/pear/apple, indicating firewood was collected from both woodland and hedgerows.

Smaller postholes added during this phase included two postholes situated along the eastern edge of the eastern cell, 3435 and 3417 and within the east cell pit/posthole 3433. Posthole 3433 (Fig. 6.15) contained three sherds of mid 14th-16th-century date and three small mammal bones. Posthole 3435 yielded 16 sherds of the same date. Environmental sample 3051 taken from posthole 3433 contained charred plant remains notable for their lack of weed seeds and cereal chaff, but with fairly abundant bread wheat (*Triticum* sp./*Triticum aestivum*-type) and very limited barley (*Hordeum vulgare)* and oats (*Avena* sp.). This assemblage is likely to represent fully processed grain, which may have been charred as part of a cooking accident and subsequently dumped or accumulated in the feature.

Within the central cell of the structure modifications included the cutting of slot 3292 (containing

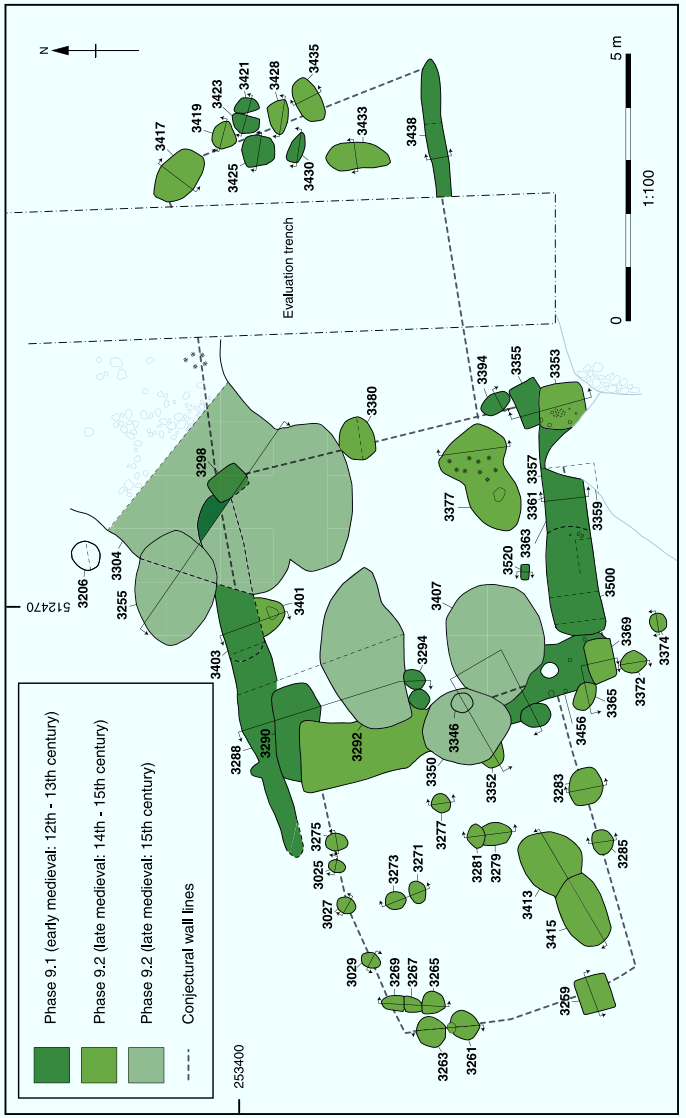

Fig. 6.14 Site 3. Structure 3258, detail plan

no dating evidence) along the west wall. This cut pit 3290, which in turn cut the Phase 9.1 slot 3288 defining the north wall. Wall trench 3288 was recut along its eastern edge by slots 3403/3296. Cut 3403/3296 produced 18 sherds of mid 14th to 16th-century pottery. On the southern wall line slot 3363 was recut along its western edge by shorter slot 3500, which contained seven sherds again broadly contemporary with the others. Posthole 3380 was added to the eastern line. This measured 0.80 m in diameter and 0.20 m and produced 18 sherds of mid 14th to 16th-century pottery.

Internally at the western end of the structure pit 3415 cut pit 3413. The pit was 1.10 m in diameter and 0.48 m deep, and contained a single fill of grey-brown, silty clay from which 11 sherds of 9th to 16th-century pottery were retrieved. One sherd may join with one from gully 3132 in the northern part of the enclosed area.

Among the latest features in this part of the site are six large pits, 3407, 3350, 3292, 3255, 3346 (Figs. 6.13D and 6.14) and 3359 which partly cut through the structural components of the building and thus probably date to after its abandonment/demolition.

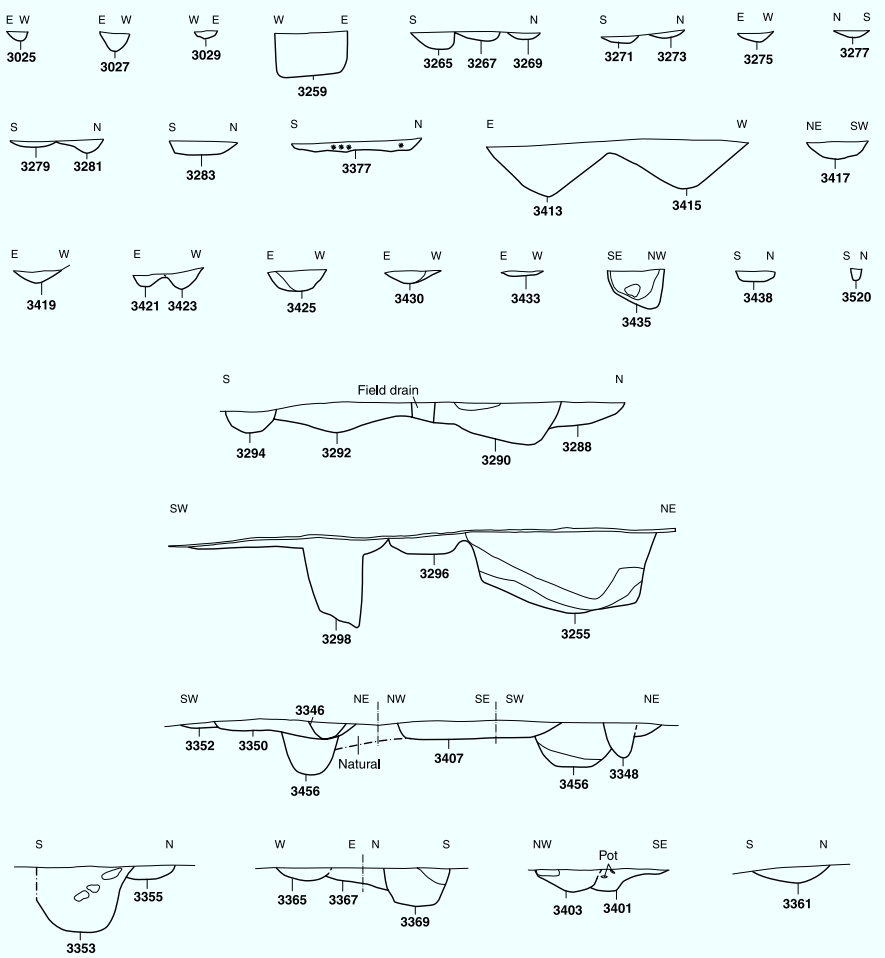

Fig. 6.15 Site 3. Structure 3258, sections

In the central area was subcircular pit 3407 which measured 1.80 m across and 0.20 m deep and cut N-S wall trench 3456. It was filled with orange-brown silty clay, which produced 22 sherds of 14-16th –century pottery and four animal bones. Also in this area was pit 3350, cutting both pit 3407 and the western wall trench 3456. This feature was subcircular in shape, with shallow sides and a flat base. It measured 1.90 m across and 0.50 m deep and was filled with mid brown silty clay containing seven sherds of pottery along with two fragments of animal bone. Pit 3255 to the north of the structure and cutting wall trench 3403 measured 1.80 m in diameter and 0.75 m deep. It contained three fills, a greyish brown, silty primary fill with six sherds of 12th to 13th-century pottery followed by a grey sandy silt with four sherds of 9th-15th-century pottery and one sheep/goat bone, and an upper fill of dark grey, silty clay which produced 26 sherds of 9th to 16th-century pottery. A shallow pit, 3359, also cut the southern wall trench, 3357, and was itself cut by later cobble-lined pond 3154.

Various undated postholes could belong to either phase of the structure or may be completely unrelated. These include postholes 3281, 3365 and 3346 located in the western cell, and posthole 3294 in the central cell.

Enclosure ditches (Fig. 6.12)

Management of the enclosure ditches to facilitate the drainage of the land surrounding the settlement inside the enclosure involved the cutting and/or cleaning out of the main enclosure ditches, leaving no direct archaeological or dating evidence. This was represented by the cutting and subsequent silting up of enclosure ditch group 3525, an E-W recut of 3526 along its length, terminating and cutting N-S ditch 3522. Ditch 3525 was typically 2.50 m wide and 0.70 m deep and filled with a single yellowish-grey silty clay fill that produced a good assemblage of 33 sherds of pottery, the latest of which spans the 14th-16th centuries, and three animal bones (cattle and pig). Cut 3229 of this group, located directly north of structure 3258, had four fills, probably representing a localised dumping of material into the ditch. Collectively the fills yielded 33 sherds of pottery amongst which was one late Saxon sherd, the remainder spanning the 9th to 16th centuries, and six animal bones, mainly cattle with one sheep/goat.

A short E-W ditch group, 3440, formed a boundary to the open field directly north of the enclosure. This was 6 m long, 0.74 m wide and 0.22 m deep, and contained a single fill of brownish-grey silty clay from which 38 sherds, broadly dated from the 9th to the 16th century were recovered.

Occurring late within the Phase 9.2 sequence were two parallel N-S gullies, 3529 and 3530, which cut the northern edge of ditch group 3525, and formed a possible pen for livestock. Situated within the centre of the enclosure, this pen had an entrance to the north. Gully 3529 was 8 m long, 0.44 m wide and 0.26 m deep, and contained a single fill of dark grey-brown silty clay with moderate amounts of charcoal and three sherds of medieval pottery. Running parallel to this gully and 6 m to the east was gully 3530. This measured 4 m long, 0.70 m wide and 0.40 m deep, and contained a single fill of grey-brown silty clay which produced a moderately large assemblage of 95 sherds of pottery and 12 fragments of animal bone. A second 4 m length of gully, 3132, continued the line. Gully 3132 was 0.72 m wide and 0.42 m deep with steep sides and concave base, and contained two fills of brown-grey silty clay. Only four sherds of pottery were recovered but a moderately large quantity of 49 animal bone fragments, mostly unidentifiable but including cattle and sheep/goat were found. The gully extended northwards to the area of intercutting pits.

Pits (Fig. 6.12)

A series of intercutting pits was located 3 m to the north of Structure 3258. These pits were typically 1.50 m in diameter and 0.70 m deep, with fills indicating structured deposition of material suggesting localised activities probably associated with the occupation/use of the structure.

Pit 3495

Rectangular pit 3495 (NI), 1.82 m long by 0.90 m wide and 0.56 m deep, had a flat base and vertical sides. The three fills contained charcoal flecking and 16 sherds of pottery spanning the 9th-16th centuries.

Pit 3389

Suboval pit 3389 (NI), 1.32 m in diameter and 0.40 m deep, similarly had a flat base but with moderately sloping sides. The fill, 3390, comprised brown sandy silt with charcoal flecks and heat affected natural sediment and contained four sherds of medieval pottery. This pit cut pit 3381, and was in turn cut by pits 3385, 3387, 3391 and 3507.

Pits 3411 and 3460

Pit 3411 (NI), 0.98 m in diameter and 0.29 m deep, produced one small medieval sherd. Subcircular pit 3460, 1.20 m in diameter and 0.64 m deep, with a flat base and vertical sides, contained three fills: a lower fill comprising a thin layer of black charcoal rich silty sand, succeeded by a layer of redeposited natural deriving from the feature edges, and an upper fill of dark grey charcoal-rich sandy silt containing two potsherds and two fragments of sheep/goat bone. Environmental sample 3034 taken from this fill indicated that the wood charcoal consisted of a mixed assemblage with a predominance of hedgerow taxa over woodland, indicating firewood was collected mostly from hedgerow species. The charred plant sample was by far the richest of all the medieval samples and contained

very abundant cereal grains notably *Triticum* sp., including *Triticum aestivum*-type, abundant *Secale cereale*, and limited *Avena* sp. In addition, this sample contained a very rich assemblage of weed seeds including *Chenopodium album*, *Rumex obtusifolius*, *Anthemis cotula* and *Vicia/Lathyrus*. The latter was extremely abundant, on a scale to suggest its use as a crop. However, none of the seeds displayed characteristics of the cultivated variety.

Given the high number of cereal grains it is likely that the assemblage from pit 3460, or at least part of it, represents accidentally charred grain. The presence of the cereal chaff suggests that the cereals were charred while still on their stalks; alternatively this element of the assemblage, along with the weed seeds, could represent processing waste. That the assemblage represents a mixed deposit, including the waste from other food preparation activities, is suggested by the presence of several charred *Vicia faba* (vetch) and *Pisum sativum* (pea) seeds. Rosaceae (Rose family) thorns in context 3470 are likely to have originated from the abundant fuel wood, as Maloideae dominated the charcoal assemblage from this feature.

Pit 3461

Subcircular pit 3461 (NI), 2.20 m in diameter and 0.40 m deep, with a flat base and moderately sloping sides also contained three fills, which yielded 10 sherds of pottery (9th–16th century).

Pits 3220, 3216 and 3344

Other isolated pits across the north of the site, included 3220 (NI), 3216 and 3344; they were possibly dug for clay extraction. The fill of 3220 contained 13 sherds of pottery the latest dating to the mid 14th–16th century. Pit 3216 was filled by two fills, the upper fill producing 35 sherds of similar date from a diverse assemblage which included jugs, cooking pots and bowls and the edge of an unglazed medieval roof tile. Other finds include two fragments of a heavily worn horseshoe (SF 3008) and an unidentified iron object (SF 3009). Pit 3344 contained just four sherds dating from the 9th to the 15th century.

Pits 3095 and 3006

Some 4 m north of structure 3258 was circular pit 3095, 1 m in diameter and 0.63 m deep, with a single fill of dark brown silty clay. This produced 35 sherds and one pig bone fragment and appears to have been contemporary with the other isolated pits.

Also contemporaneous was large pit 3006 located 2 m north-west of structure 3258. This feature measured 4 m long by 1.50 m wide and 0.50 m deep. It had an undulating base and vertical sides and contained five fills. The lower fill, 3012, a redeposited natural, contained 16 sherds of 9th–15th-century date and one mid 14th–16th-century sherd; fill 3023 was a thin lens of grey silty clay; 3011 a thin lens of friable heat-affected clay containing one horse bone fragment; 3010 a thin lens of charcoal-rich silt and upper fill 3009 a charcoal-rich fill containing 15 sherds of 12th-16th-century date. Contexts 3009 and 3010 were both fills of a hollow which formed when the pit was partially silted up. The charred plant remains from these fills include a number of cereal grains, in particular *Triticum* sp., of which many were positively identified as *Triticum aestivum*-type. Context 3010 also contained one or two *Hordeum vulgare*, *Secale cereale* and *Avena* sp. grains although their very low abundance suggests they did not form a major crop at the site. *Triticum aestivum* rachis fragments were also fairly abundant in 3009, but like many of the assemblages at Great Barford, the quantity of chaff relative to cereal grains suggests that the material represents whole ears as opposed to pure cereal processing waste. This suggests that the hollow within the silted up clay extraction pit was subsequently utilised as a 'bonfire' or hearth. In addition to the cereal remains, the samples from contexts 3009 and 3010 both contained a number of weed seeds (see Druce, Chapter 11). Context 3009 contained a number of *Vicia faba* (bean) and *Pisum sativum* (pea) seeds, which suggest that other staples apart from cereals formed part of the diet.

Pit 3007

Situated 2.50 m to the west of pit 3006 was oval pit 3007, with a flat base and vertical sides, 0.90 m long by 0.55 m wide and 0.80 m deep. The upper fill contained one fragment of cattle bone.

Pits 3445 and 3447

Located directly south of structure 3258 were two pits. Shallow circular pit 3445, with concave base and shallow slope, was 2.20 m in diameter and 0.13 m deep, and filled with 3444, dark brown clay containing four medieval potsherds. Pit 3447 cut into the north-western terminus of early ditch 3533, contained eight sherds, the latest being one dating to the mid 14th to 16th century.

Pits 3099, 3111, 3175, 3138 and 3193

A further cluster of five pits were located just north-west of the enclosure pen, and were possibly utilised for rubbish. Subcircular pit 3099, 2.20 m in diameter and 0.60 m deep, with a flat base and moderately sloping sides, was filled by brownish grey, silty clay with frequent flecks of charcoal and CBM. It contained 30 sherds of pottery variously dated to the 9th-16th centuries.

Oval pit 3111, 2 m long by 1.50 m wide and 0.48 m deep, contained seven fills (3110–3104). Collectively these produced 46 sherds of pottery of 9th–16th century date, over half of which came from the upper fill (3104). Layer 3105 comprised a thin lens of charcoal-rich silt, and charcoal flecking was present in other fills.

Pit 3111 cut subcircular pit 3175. This measured 1 m in diameter and 0.80 m deep, with a concave base and vertical sides, and contained four

charcoal-rich fills. Only two sherds of pottery were recovered from the pit but a rich charred plant assemblage was present. Sample 3031 from fill 3240 contained material consistent with the other medieval assemblages in that it was dominated by *Triticum aestivum*-type grains with very limited *Hordeum vulgare/Avena* sp. grains. In addition it contained abundant crop weed seeds, which may represent the waste material from some other form of activity.

Oval pit 3138, 2.60 m long by 1.66 m wide and 0.58 m deep, with a flat base and vertical sides, also contained four fills: 3137, a primary fill of redeposited natural from the feature sides; 3136, a brownish grey silty clay with moderate amounts of charcoal flecks and 13 sherds of mid 14th-16th-century pottery, one bird/fowl bone, and 15 animal bones; 3135, a greyish brown silty clay with frequent charcoal flecks and nine potsherds; and upper fill 3134, a mid brown silty clay with frequent amounts of charcoal and two 9th-15th-century sherds.

Oval pit 3193 was 2.15 m long by 1.10 m wide and 0.55 m deep, and had a concave base and moderately sloping sides. Four medieval potsherds and fragment of sheep/goat bone came from the main fill.

Postholes

Situated 2 m north-east of pit 3006, 6 m NW of structure 3258, was small circular posthole 3195, 0.40 m in diameter and 0.09 m deep, filled by dark brown silty clay. This produced 20 sherds of pottery, at least five of which were dated to the mid 14th-16th century, the rest slightly earlier, and one fragment of unidentified animal bone.

Phase 9.2B: late medieval (14th–15th century)
(Fig. 6.13C)

This phase is represented by the recutting and subsequent silting up of enclosure ditch group 3528, the partial recutting of the E-W ditch by 3527, and the abandonment of Structure 3258, marking the cessation of the settlement.

Enclosures (Fig. 6.12)

An L-shaped ditch, 3528, cut enclosure ditch groups 3133 and 3525, probably following the course of an earlier ditch. Ditch 3528 was 2.90 m wide and 0.80 m deep and extended southwards for 35 m before turning westwards and running for 15 m until it was cut by the later pond. It had a slightly asymmetrical profile with a rounded concave base. Finds recovered from the fills include 56 sherds of pottery, 25 animal bones, including cattle and sheep/goat, horse and pig, and one piece of undiagnostic slag. The latest pottery is dated to the period between the mid 14th and 16th centuries. This ditch was probably cut earlier, but was regularly maintained during the occupation of the site to facilitate drainage around the settlement. At its south-eastern end the ditch separated into three single ditches; the southern one, 3164, produced four very small sherds of 9th–15th-century pottery.

East-west ditch 3525 was replaced along a 14 m stretch by ditch 3527, which had a concave base and moderately sloping sides. This ditch measured 0.50 m deep and 1.30 m wide, and contained two fills of brownish grey silty clay from which 13 potsherds and 2 sheep/goat bone fragments were recovered.

Structure 3258

Overlying the various postholes, pits and slots in the central northern area of structure 3258, were layers 3301 and 3304 (Fig. 6.14). Both these layers were fairly similar, comprising grey-brown silty clay approximately 0.12 m thick, containing small to large stones, and occasional flecks of charcoal and daub. The former contained a substantial assemblage of 125 sherds of pottery and the latter a further 47 sherds. Again the latest material falls into the mid 14th to 16th-century range. These layers are interpreted as demolition/abandonment horizons resulting from the decay and collapse of the structure.

Spreads

Thin accumulations of greyish brown silty clay (3341 and 3494; NI) were recorded overlaying the Phase 9.1 pits in the north-western part of the site and the ditches in the central area. Layer 3341 produced a single 9th-15th-century potsherd and a D-shaped buckle with a decorated plate (SF 3012) dated to the mid 14th century. Layer 3494 produced part of a rowel spur (SF 3013) dated from the 13th century onwards, one fragment of cattle bone and 12 fragments of unidentified animal bone.

Phase 10: post-medieval (Fig. 6.13D)

The final phase of activity is represented by a possible change in use of the site, in which the land was given over to pasture for livestock, and a cobble-lined pond, 3154, and a soak-away, 3161, were cut into the south-eastern area of the enclosure (Fig. 6.12).

Pond 3154 had an irregular, rounded shape, and measured approximately 15 m by 10 m across and 0.70 m deep. It had a cobble lining extending 1 m down a gentle slope around the edge. The pond cut the fill of enclosure ditch 3528, indicating it was cut after the ditch had silted up following the abandonment of the settlement. Six fills were defined which suggest a gradual natural silting. No pottery was recovered suggesting that there was no longer any nearby settlement, although a long narrow triangular iron knife blade (SF 3004) of a type common until the 15th century was recovered from 3151, the upper layer of the pond, and probably represents a chance loss.

After the cobble-lined pond 3154 had silted up, the fills were cut by a deep soak-away, 3161. This consisted of an elongated pit orientated NE-SW, measuring 21 m in length and 3.90 m in width and 1.20 m in depth. The soak-away base had a layer of large cobblestones 0.30 m thick resting on it, to facilitate the drainage of water; again no finds were recovered from this feature.

The latest feature to be identified on the site was a linear ditch, 3532 (Fig. 6.12), cutting across the southern end of the site in a SSW-NNE direction (Fig. 6.13E). No interventions were put through this ditch because modern material was visible within the fill. It also appears as a boundary on the first edition OS map dating to 1886.

SITE 5: BARFORD ROAD

Summary

The excavation revealed a small settlement, situated on the north-east side of a valley (Figs. 1.1 and 6.16). Sparse Romano-British finds and occasional early-mid and late Saxon potsherds suggest some earlier activity in the vicinity but no features datable to these periods were identified within the excavated area. The site consisted of two main phases of activity dated from the associated pottery to the 10th-14th and mid 14th-16th centuries. A structure partially exposed in the south-western area of the site may have been a workshop associated with metalworking/smithing activities. Associated with the structure were various pits, a fence-line, possibly indicating the presence of livestock, and a short NW-SE trackway. The site appears to have been fairly short-lived, and subsequently drainage ditches, orientated NW-SE, were established, feeding into a stream at the bottom of the valley and cutting off the earlier trackway; a new trackway was established, the line of which crossed over the site of the earlier structure.

Site location

Site 5 lies to the north-west of Great Barford, on the north-east side of a small valley, adjacent to the Barford Road at NGR TL 114 527 (Fig. 1.1). Site 5 was *c* 0.3 ha in area. The site was located on arable land, with topsoil (5000) about 0.25 m thick, overlying a subsoil 5001/5257, 0.20 m thick which is turn overlay 5013, a colluvial layer 0.30 m thick sealing the archaeological horizon. The subsoil produced three sherds of *c* 1100–1400 pottery with a further 14 sherds of similar date from the colluvium. In addition four small finds came from the latter, an iron ring (SF 5009), a milled strip of lead, possibly soldered at one end and post medieval in date (SF 5010), a lead cast plug for a Romano-British pottery vessel (SF 5011) (Plate 8.5), and two joining fragments of a copper alloy bracelet, dating from the 3rd century AD (Fig. 8.18.8). Damage from deep ploughing was evident to a depth of approximately 0.50 m.

Phase 9.1: early medieval (11th-13th century)
(Figs. 6.17A and 6.18–19)

The initial development of land seems to date to the 12th century, and was represented by the construction of Structure 5196. It should be noted that a few sherds of pottery dating from the 9th–11th centuries were recovered, suggesting some late Saxon activity in the vicinity (Phase 8.3), although no investigated features could be firmly assigned to this earlier period.

The evidence suggests that the site was at least partly in use as a blacksmith's workshop: small amounts of smithing evidence were recovered from adjacent features, but there was insufficient evidence to be certain of this attribution. The structure was orientated NE-SW and was only partially exposed, with the southern extent of the building beyond the limits of the southern baulk. An L-shaped ditch, group 5276, lay to the north of the structure, and NW-SE orientated ditches formed a trackway crossing the north-western area of the site. Various gullies and postholes formed a small enclosure within the central area of the site, possibly an animal pen.

Structure 5196 (Figs. 6.18–19)

The construction of structure 5196 involved the cutting of a sunken floor at least 3.50 m by 3.40 m in area and 0.15 m deep. The north-east and south-east edges of the floor were identified; the north-west and south-west sides were disturbed by later activity. The conjectural extent of the floor in the excavated area is shown in Figure 6.18. Cut into the north-east corner of the floor was a substantial rectangular posthole, 5224, measuring 0.42 m by 0.38 m and 0.11 m deep. A second rectangular posthole, 5236, was located at the opposing south-east corner, measuring 0.17 m by 0.42 m with traces of very decayed timber *in situ*. It was suggested at the time of excavation that this may have been a threshold into the structure. A central internal partition running NW-SE, comprising postholes 5229, 5232, 5220, and 5209, divided the internal space. Postholes 5229, 5209 and 5220 survived as postpipes; similarly 5232, although some packing (5233) in the form of clay brought in from elsewhere survived on the edges. The postholes were approximately 0.38 m in diameter and abutted the first floor level (5226). Posthole 5220 produced fragments of ironworking slag, including a smithing hearth bottom and one fragment of animal bone. The exposed surface (5226) of floor 5196 consisted of yellow redeposited natural clay containing moderate amounts of charcoal flecks, and was approximately 0.10 m thick. Other internal features which probably belong to this phase included stake-hole or small posthole 5213 at the western end, posthole 5228 on the northern wall, and short diagonal linear cut 5217 in the south-west quadrant.

Also associated with this structure were two NE-SW beamslots, situated just to the north-east, and

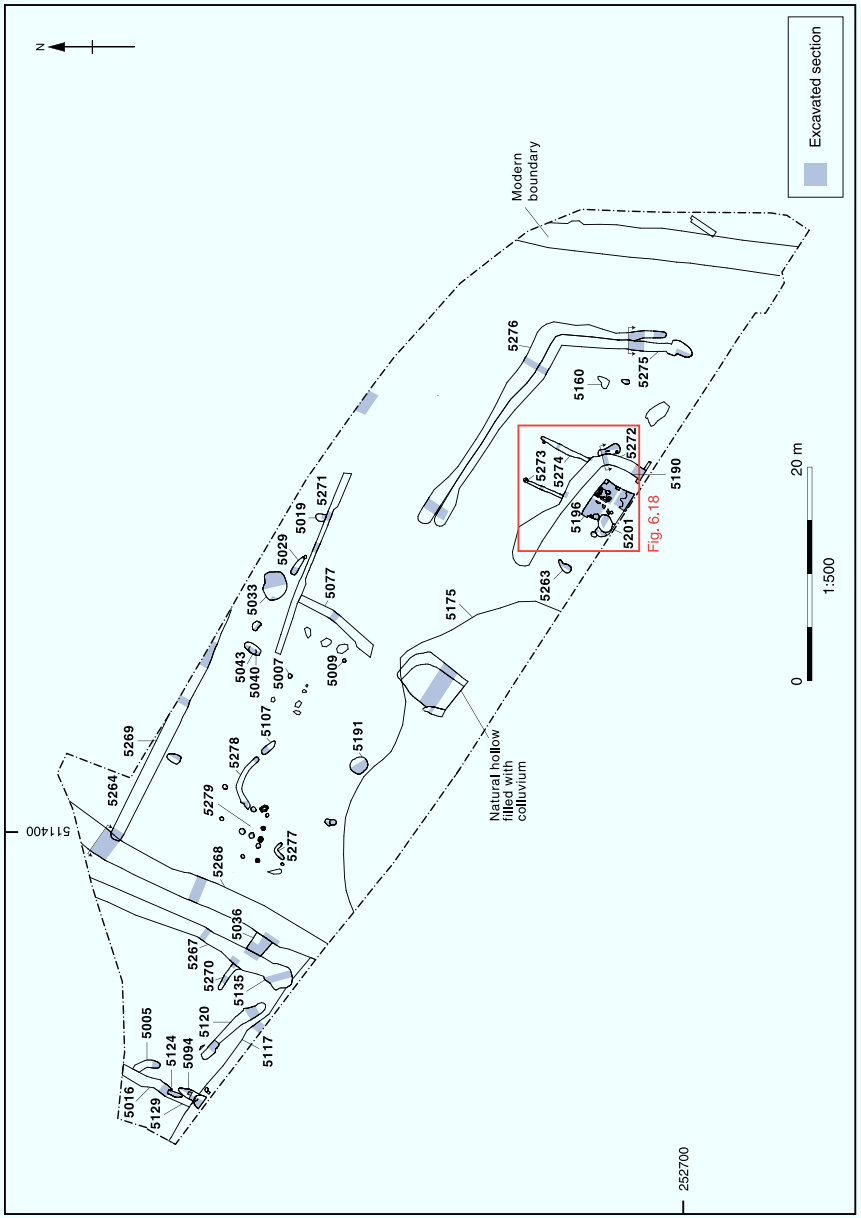

Fig. 6.16 Site 5. Overall site plan

cut by the later trackway ditch group 5272. The beamslots, 5273, (cuts 5248, 5246, 5244 and 5242) and 5274 (cuts 5260, 5258 and 5253), had straight vertical sides and flat bases and measured 4 m in length and 0.4–0.5 m in width. They survived to a depth of 0.30 m and defined an area measuring 4.5 m across and at least 5 m in length. The slots were filled by a mid greyish brown silty clay and contained three sherds of pottery of *c* 11th to 13th-century date. Both slots had a posthole at or near the termini, 5240 and 5255. Posthole 5240, located at the end of beam slot 5273 had a diameter of around 0.45 m and a depth of 0.28 m and was filled with yellow-brown silty clay. Posthole 5255 was placed on the western side of slot 5274, near its northern end. As the southern end of this structure had been cut away by ditch 5272 it is uncertain whether it represents a discrete outbuilding associated with 5196 or was an extension of this structure. No internal features were found within the space defined by the two gullies. Alternatively it may have defined an open area within which carts could be driven up to Structure 5196.

Immediately to the south-east of beamslot 5274 and cut by later ditch group 5272, was a large depression, 5190, of subrectangular shape, measuring 2.2 m by 0.9 m and with a depth of 0.12 m. It contained an orange-grey deposit of silty clay with charcoal and chalk flecking and occasional stone and flint. Finds from this included a small quantity of slag, 36 sherds of pottery, mainly from a shelly ware cooking pot dated to the 12th-15th century, along with two animal bone fragments (cattle and sheep/goat), suggesting that this may have been a refuse pit associated with the structure.

Ditch 5276 (Fig. 6.16)

An L-shaped ditch, 5276, enclosed Structure 5196 on its north-eastern and eastern sides. The NW–SE arm measured some 23 m in length turning S for a further 10 m; the width of the ditch varied from 0.7–1.5 m. Four interventions through the ditch (cuts 5137, 5143, 5153 and 5163) showed a depth ranging from 0.31 to 0.43 m, and a profile of steep sides and a flat base. (Fig. 6.19). At least two fills were discerned, comprising a main fill of a firm, dark brownish black to orange-brown silty clay with frequent charcoal and occasional large stones, and a primary fill of brown-grey clay silt, producing 31 sherds of 11th-14th-century pottery along with seven animal bones, a piece of vitrified hearth lining slag and an undiagnostic piece of slag. The primary silt produced one sherd of a St Neot's style bowl dated to *c* AD 1000–1200 and two sherds of *c* 12th to 15th-century date.

Pits (Fig. 6.16)

There were two small pits located near structure 5196: oval pit 5160 situated 10 m north-east of the structure and irregular-shaped pit 5263 situated 5 m to the west of the structure. Pit 5160 was 0.80 m long by 0.48 m wide and 0.19 m deep and filled with grey silty clay containing one residual early-mid Saxon sherd and four 11th-13th-century sherds. Pit 5263 was 1.6 m long by 0.78 m wide and 0.08 m deep, and filled with orange-brown clay which produced one sherd dated to the 11th-13th century.

Trackway (Fig. 6.16)

In the north-west area of the site there were two ditches and an elongated pit orientated NW-SE, forming a 4 m wide trackway. The north-eastern edge of the trackway was defined by linear pit 5036 and ditch 5270. The ditch measured 7 m in length, 0.6 m wide and was approximately 0.1 m deep with a dark brownish-grey silty clay fill, from which 12 sherds of pottery dating to the 12th-14th century were recovered. Linear pit 5036 filled with a dark brownish grey silty clay contained 21 sherds of 12th to 15th-century pottery, including fragments from a jug, cooking pot and part of a curfew (see Fig. 8.14.9). In addition an unidentified iron object (SF 5001) and two medieval iron horseshoe nails (SF 5002), 11 animal bone fragments and a single piece of fuel ash slag came from this feature. Both ditch 5270 and pit 5036 were cut by later ditch groups 5267 and 5268. Broadly parallel but offset from ditch 5270 was ditch 5120, set on a slightly different orientation. It was 8 m long, 1.20 m wide, and 0.06 m deep with short shallow sides and a flat base and contained a primary fill of redeposited natural above which was dark brownish-grey, silty clay containing 10 sherds dated to the 12th-13th century.

Animal pen/enclosure

Within the central area of the site and 5 m north-east of the trackway were a number of small livestock enclosures/stock pens, characterised by a double row of postholes orientated NE-SW, group 5279, and two curvilinear gullies, along with various other postholes and pits.

The 8 shallow postholes making up 5279 (5062, 5068, 5101, 5099, 5097, 5086, 5103 and 5088) were in two rows 2 m apart running for 8 m NE–SW. A single small sherd of 11th-13th-century date from posthole 5103 represents the only find from these features. Directly south of the double row of posts was an L-shaped gully, 5277, 2 m long, 0.36 m wide, and 0.09 m deep. The gully had a shallow dished profile with a fill of mottled grey-orange silty clay. A single 12th-15th-century potsherd and one unidentified large mammal bone constituted the only finds.

Curvilinear gully group 5278, situated to the north-east of the double row of postholes, was 5.0 m long, 0.40 m wide, and 0.08 m deep. The gully had shallow sides and a flat base and was cut by pit 5113 (NI). The fill, a compact mid yellow-orange sandy clay with small stones, produced no finds. Within the same area were various other discrete features

such as posthole 5007, producing no dating evidence but containing undiagnostic slag; posthole 5009, with one sherd of 12th to 15th-century pottery; and posthole 5040, cut by later pit 5043, with two sherds of similarly dated pottery and two animal bones.

Ditch group 5077, orientated NE-SW, bounded this enclosure area to the east and was 8.0 m long by 0.83 m wide and 0.39 m deep. It had three fills, of which one, 5079, contained 36 sherds of 11th to 13th-century pottery and two animal bones.

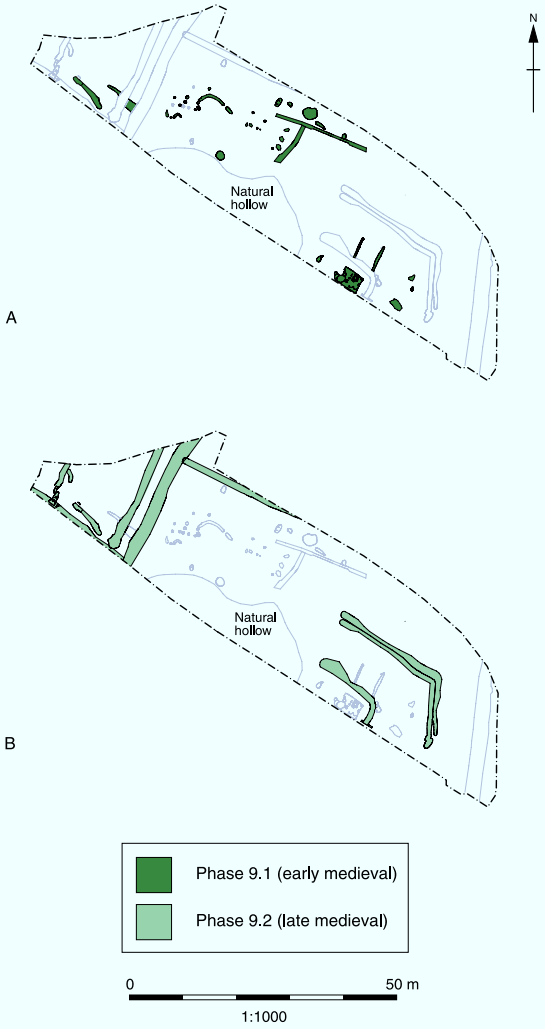

Fig. 6.17 Site 5. Overall phase plan. A: Phase 9.1 (12th–13th century AD); B: Phase 9.2 (14th–15th century AD)

Further modifications to Structure 5196 (Fig. 6.18)

The removal of post 5224 (Fig. 6.18), and postholes 5214 and 5228, may indicate that structural changes were being undertaken. A second internal deposit was recognised, with layer 5227 overlying the earlier original surface layer 5226. Layer 5227 comprised a greyish red silty ash, with large subrounded heat-affected stones laid on the surface. This layer was a localised deposit confined to the central area of the structure, where floor layer 5226 was not present. It may have been connected with a hearth structure although there was no evidence of associated charcoal.

Also associated with the structure were external pits 5201 and 5204, situated on the north-west side. Pit 5201 (Fig. 6.18) was an oval shallow feature with a concave base. It was subsequently partially cut away by later pit 5198. Two fills survived; the lower fill was very charcoal-rich silty clay, 0.10 m deep. A mixed ashy deposit with burnt clay, sand and charcoal overlay this to a thickness of 0.04 m. No artefacts were recovered. Pit 5204 (Fig. 6.18), cut by 5201, was circular in shape, 0.54 m in diameter, 0.4 m deep with steep sides and a flat base 0.22 m across. Four fills were discerned, the primary fill being a clay derived from the pit sides forming a layer 0.03 m deep. Above this was a 0.18 m thick deposit predominantly composed of slag material in a loose silty clay matrix with frequent charcoal flecking. This was covered with a mid grey clay silt with abundant charcoal 0.14 m thick which itself was sealed by a mid yellow silty natural clay suggesting deliberate sealing of the pit. The upper two horizons had been partially destroyed by the cutting of 5201. Again no pottery was recovered from fill 5206, but three pieces of smithing hearth bottom, two pieces of vitrified hearth lining, two pieces of cinder and two pieces of undiagnostic slag were recovered (see Keys, Chapter 8).

The demolition of Structure 5196 involved removing four posts from their settings within postholes 5214, 5220, 5229 (Fig. 6.18) and 5232, creating voids. In addition two posts were removed from postholes 5238 and 5239 (Fig. 6.18).

Demolition layer 5197 then infilled the subsequent voids left in the features after the removal of these structural components, as well as overlying partially infilled postholes 5224, 5210 and 5218. Demolition layer 5197 was about 0.10 m thick and consisted of grey-brown silty clay, with frequent fragments of charcoal and daub. In addition to substantial amounts of slag relating to metal-working, eight sherds of 12th-15th-century pottery along with two animal bones, an iron object (SF 5007) and a copper alloy small square-sectioned pin with opened out loop, suggesting a buckle pin (SF 5008) were recovered from the deposit where it overlay the area defined by the sunken floor. The slag includes one piece of vitrified hearth lining, four pieces of smithing hearth bottom, one piece of raked slag, one piece of cinder and one piece of undiagnostic slag.

Phase 9.2: late medieval (14th–15th century) (Fig. 6.17B)

Phase 9.2 was represented by the establishment of open field boundaries, an L-shaped trackway that respected an earlier L-shaped ditch and cut through Structure 5196, which seems to have been abandoned sometime between the 14th and 16th centuries.

Field ditches and stock enclosures

During phase 9.2 various ditches forming part of a field system were laid out, following the same orientation as, and cutting the ditches from, the previous phase. Early within this phase ditch 5117 was established forming the south-west extent of a field boundary 22 m long, with an excavated width of 0.90 m and a depth of 0.32 m (Fig. 6.16). It contained two fills, a primary fill of greenish-grey silty clay, 0.18 m deep, and a main fill of a compact dark brown loamy clay 0.14 deep which contained 11 sherds lying within a mid 14th to 16th-century date range and three fragments of animal bone. Later NE-SW ditch groups 5267, 5268 and 5129 cut ditch 5117.

Ditch group 5267 ran NE-SW for 22 m, and was 2.60 m wide and 0.3 m deep. It cut NW-SE ditch 5270 and pit 5036, before terminating in the south-west, cutting the fill of NW-SE ditch 5117. The fill comprised grey-brown loose silty clay with frequent chalk flecks and manganese staining throughout, suggesting prolonged waterlogging. The south-western terminus (5135) of this ditch was filled with mid greyish-brown silty clay containing 69 sherds of pottery spanning the 11th to the 15th centuries along with an iron horseshoe nail and four bones, two of sheep/goat bone and two unidentified bird bones.

Running parallel to ditch 5267, 2 m away to the north-east, was ditch group 5268 measuring 26 m long, 2.40 m wide and 0.70 m deep (Fig. 6.16, and cut 5027, Fig. 6.19). This ditch had moderately uneven 45° sloped sides and a rounded base and contained a compact mid yellow-brown to mid grey-brown silty clay with occasional small stone. The fill produced 68 medieval potsherds, 2 bird bones and 16 animal bones amongst which cat, horse and sheep/goat feature. A secondary fill (5025) was identified for part of its length, from which 17 sherds were recovered again spanning the 12th to the 15th century but with two residual sherds of early-mid Saxon and later Saxon date also present.

Some 15 m north-west of, and parallel to the trackway was another sequence comprising ditches 5005 and 5016 and a group of intercutting pits, 5094, 5124 and 5129, that seemed to form an entrance to the field which was later blocked off. Ditch 5005, located in the north-west corner of the site, was a short curvilinear feature of unknown function. It was 4 m in length, 0.75 m wide, and 0.36 m deep with steep sides and a flat base and

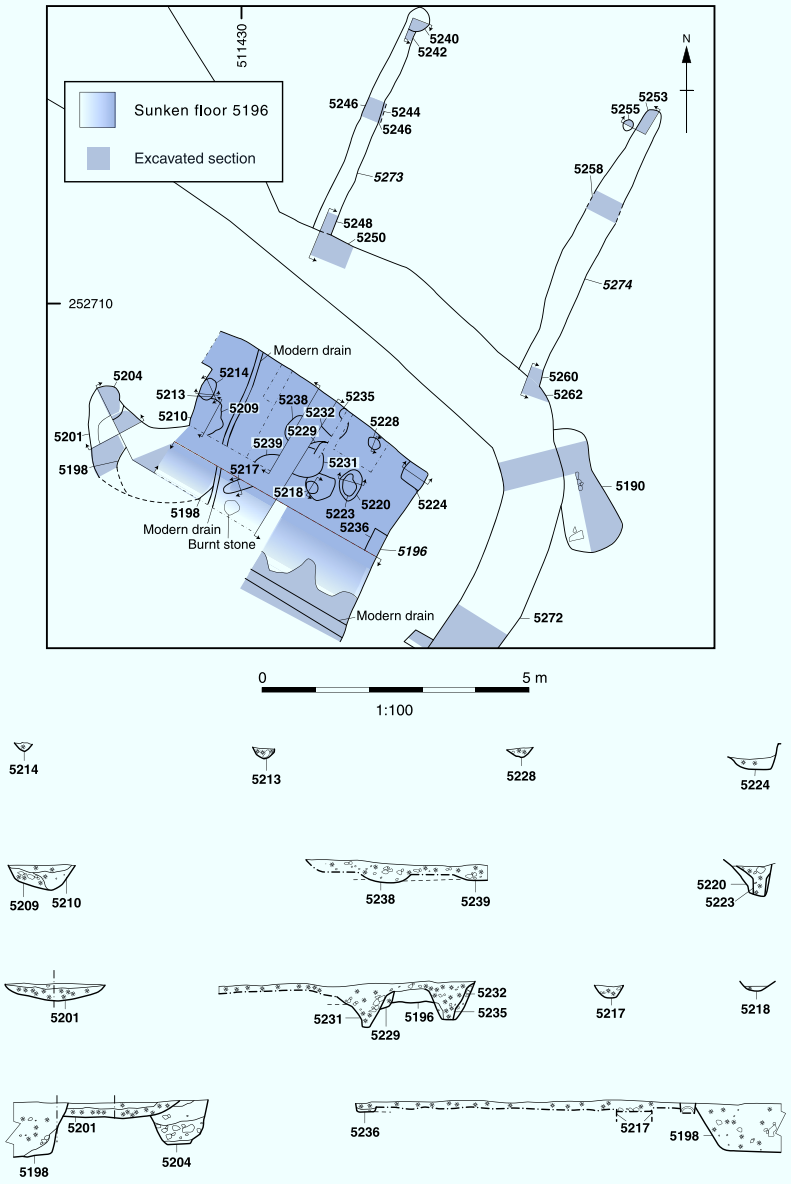

Fig. 6.18 Site 5. Structure 5196, detail plan and sections

was filled with a greyish-brown silty clay containing 10 sherds with a *terminus post quem* between the mid 14th and the 16th century. The ditch must have been dug and allowed to silt up early within this phase as it was subsequently cut by ditch 5016.

Ditch 5016 was 5 m long by 0.8 m wide and 0.4 m deep with steep sides and a concave base. The primary fill comprised largely eroded natural while the secondary fill was compact blue-grey silt containing occasional flint and 14 sherds of 12th to 15th-century pottery. This deposit was probably water-lain indicating a drainage function for the ditches. The southern end of ditch 5016 was cut by heavily truncated suboval pit or depression 5094. This pit measured 1.4 m by 0.46 m and 0.24 m deep and had a flat base and curving sides. The main fill, a brownish-black clay silt, contained 10 sherds of pottery. This could have been an access point into the paddock, which had eroded into a hollow through use, accumulating organic debris and other dumped rubbish. Immediately south of this was an undated linear pit (5124) measuring 2.2 m by 0.86 m and 0.14 m deep with a single mid orange-brown silty clay fill. South of this was a ditch terminus (5129) which cut pit 5124 and ditch 5117. Ditch terminus 5129 had a flat base and concave sides and measured 0.9 m across and 0.2 m deep, extending beyond the limit of excavation. The fill, a compact brown-black silty clay, contained three sherds, the latest dating to the 14th-16th century.

Ditch 5269, orientated NW-SE, formed the north-eastern boundary to the field, terminating and cutting ditch group 5268 at its north-western end. The ditch was 24 m long, 1.20 m wide and 0.30 m deep and had uneven, near vertical sides and a slightly rounded base. The fill comprised loose, mid-brown yellow silty clay with small stones, rare charcoal and brick and tile flecks, that produced eight sherds and one cattle bone fragment.

In the central part of the excavated area, towards the north baulk, was gully group 5271, a NW-SE ditch, possibly forming the south-western edge of a trackway which cut ditch group 5077. Two interventions were made into the 18 m long ditch, which was 0.40 m wide and 0.20 m deep. The shallow ditch had steep sides and a slightly concave base and was filled with friable dark orange-brown/brown-black clay silt with rare small stones and charcoal flecking. The fills collectively yielded ten potsherds, again with a *terminus post quem* between the mid 14th and 16th centuries, 15 animal bone fragments and a piece of undiagnostic slag.

Trackway (Figs. 6.16, 6.19)

Ditch group 5275, following the same alignment as, and cutting earlier ditch 5276, formed the north-eastern extent of a further trackway measuring 32 m in length. The ditch was 1.28 m to 0.87 m wide and 0.35 m deep. Four interventions were made revealing a very steep, almost vertically-sided cut with a flat, but undulating base (see ctx 5148; Fig. 6.19). Two fills were defined, a primary silting deposit of light orange silty clay and a main fill of dark brown-black silty clay with frequent charcoal and small subangular flints. Several finds came from this feature including a bone pin beater with a polished point (SF 5003), 19 fragments of bone, including cattle, pig and sheep/goat, some fragments of copper alloy, an undiagnostic piece of slag and an oyster shell. The 87 sherds of pottery include two glazed sherds, one of Stamford ware, the other Brill-Boarstall ware, with a *terminus post quem* in the late 13th-14th century. It is possible that some finds were redeposited from ditch 5276. It also suggests that earthworks were still visible, and influenced the direction of the trackway across the slope of the valley.

The south-western extent of the trackway was defined by ditch group 5272, again running from the north-west and then turning southwards. Four interventions were made through the ditch, which was 14 m long, 1.10 m wide and 0.26 m deep (Fig. 6.16). The profile was well defined with near vertical steep sides and a flat base. Two fills were defined: a lower fill of brownish black silty clay with some slag and charcoal flecks and an upper fill

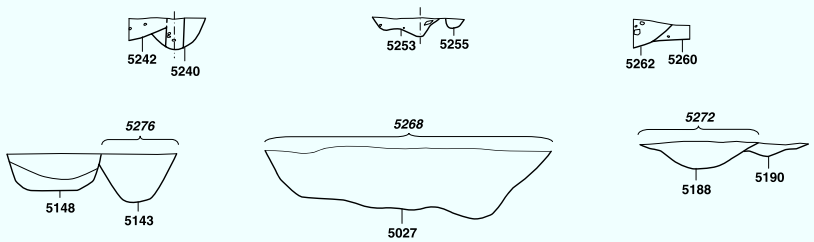

Fig. 6.19 Site 5. Sections of beamslots and ditches

of orange-brown silty clay with further charcoal and slag, possibly redeposited finds deriving from layers associated with structure 5196 and gullies 5273 and 5274, which were also cut by the ditch (ctx 5262, Fig. 6.19). Finds comprised 26 sherds of 12th-15th-century pottery and 3 animal bones. In addition two pieces of vitrified hearth bottom, three pieces of smithing hearth bottom, two pieces of undiagnostic slag and one piece of cinder came from this feature.

Pits (Fig. 6.16)

Pit 5033

Pit 5033, a subcircular pit, 2.20 m in diameter and 0.50 m deep, was located in the centre of the trackway defined by ditches 5271 and 5269, essentially partially blocking it. The pit had steep sides and an undulating base. Two fills were defined: a primary fill of dark brown-grey silty clay with occasional chalk flecks and angular flint pieces, and a secondary fill of mid orange-brown silty clay also with angular flints and chalk flecks and containing 33 potsherds, four animal bones and a piece of cinder.

Pit 5029

Pit 5029, situated directly east of pit 5033, was oval in shape, 2 m long by 0.70 m wide and 0.16 m deep with a concave base and moderately sloping sides. It was filled by 5030, a greyish-brown silty clay containing 12 sherds of mid 14th-16th-century pottery. This pit was cut by posthole 5031 (NI), 0.30 m in diameter and 0.09 m deep, filled by 5032, dark greyish brown silty clay with five sherds of 12th to 15th-century pottery.

Pit 5191

Pit 5191 was a subcircular pit located 24 m to the north-west of the terminal of ditch 5272, on the edge of the projected course of the trackway. It measured 1.70 m in diameter and 0.12 m deep and had steep sides with an undulating base. The pit was cut into colluvium and contained a single fill of compact, dark brown-black, silty clay with frequent charcoal. The artefactual assemblage comprised 61 sherds of mid 13th to 16th-century pottery, two unidentified mammal bones and two iron nails (SF 5005-06).

Pit 5043

Pit 5043 was an oval-shaped pit with curving sides measuring 1.8 m by 0.88 m and 0.26 m deep. It contained two fills resembling redeposited natural, of which the lower fill produced 13 sherds of pottery, with a *terminus post quem* in the 14th century, and the upper fill 12 sherds dating to the 12th-15th century.

Pit 5019

Pit 5019, cut by ditch group 5271, probably silted up early within this phase. It was ovoid in shape, 0.50 m in diameter and 0.26 m deep and filled with orange-brown silty clay containing two sherds, the latest dating to the mid 14th-16th century.

Pit 5198

Pit 5198, a subcircular pit, 1 m in diameter and 0.50 m deep, cut Structure 5196 in the south- west corner (Fig. 6.18). Two fills were discerned, a mid yellow clay representing collapsed natural slumped on the lower sides and a fairly homogeneous mid grey-brown clay silt with inclusions of charcoal, burnt material and vitrified hearth lining suggesting a deliberately dumped deposit as a single event. No pottery was recovered, but it contained one piece of undiagnostic slag.

Hollow/palaeochannel 5175 (Fig.6.16)

A natural hollow/palaeochannel (5175) identified in the central part of the site was investigated; it was filled with mid grey silty clay that contained eight potsherds, six of which were dated to the mid 14th to the 16th century, along with one fragment of cattle bone.

Phase 10: post-medieval (Fig. 6.16)

A single N-S ditch was identified along the eastern baulk of the site. It was considered to be no earlier than post-medieval in date, and therefore was not excavated.

SITE 1: ROXTON ROAD WEST (Figs. 1.1 and 6.20)

Phase 9–10: Medieval to post-medieval period

Ridge and furrow was recorded extending across the area of Site 1b and into the southern edge of Site 1a, overlying the Roman features (Fig. 6.20). The furrows were aligned E-W and measured *c* 5–7 m centre to centre. A number of possibly contemporary features were observed in the area of Site 1a. In this area the furrows ended *c* 10 m west of a possible field boundary, 1094. This was described as a natural hollow in the site record, but could represent the position of a hedge line. If projected northwards it would join with the corner of feature 1110, which may also be interpreted as a hedgeline. Here the evidence is better in that a number of features recorded as stakeholes were almost certainly rootholes. A small quantity of charred weed seeds was recovered from one of the rootholes. This hedgeline may continue further east after a gap of *c* 12 m, where some diffuse 'natural' features were planned following the same alignment.

A second N-S oriented ditch, 1105, probably a field boundary, ran 25 m to the east of and parallel with boundary 1094. This had a U-shaped profile and rounded terminus at the south end. It measured 0.18–0.36 m deep by 0.56–0.64 m wide and ran for 30 m, continuing north beyond the excavated area. A

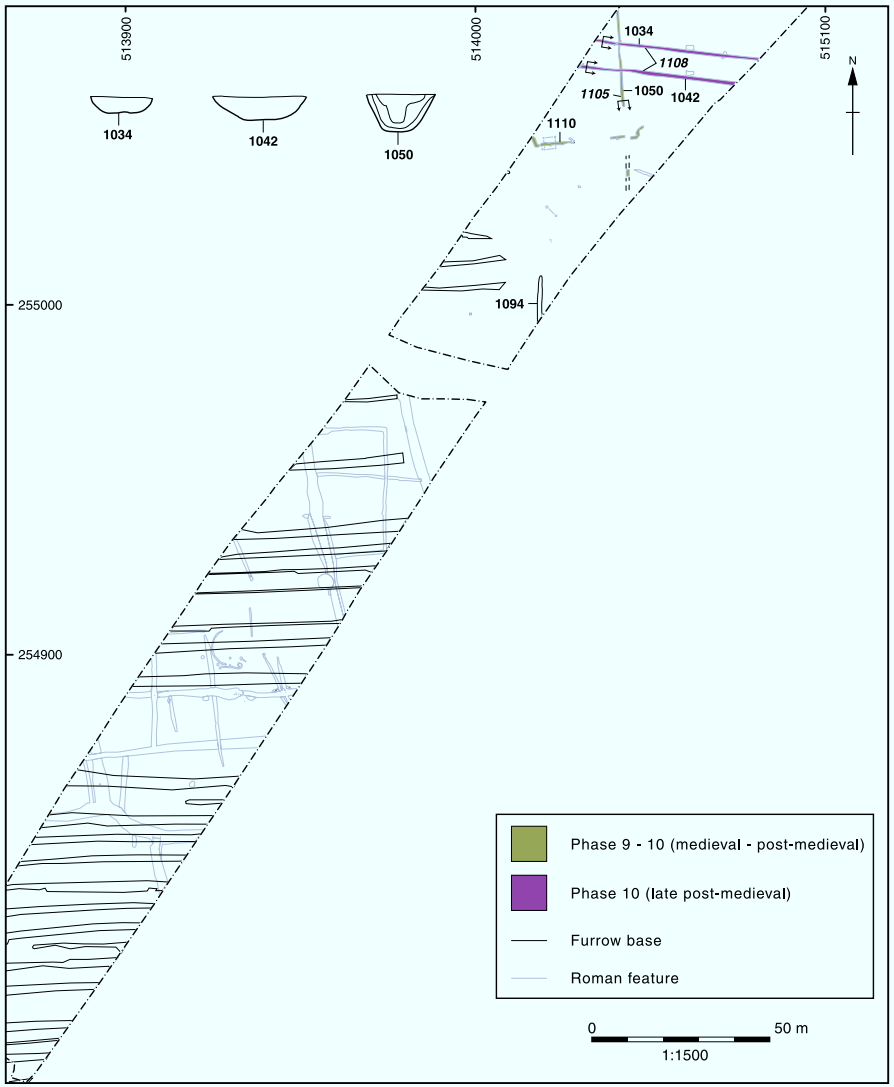

Fig. 6.20 Site 1a. Medieval/post-medieval ridge and furrow plan and sections

gully found further south in evaluation Trench 52 appears to have been a continuation of this boundary. No dating evidence was found in any of these features but the layout suggests they formed part of a contemporary medieval/post-medieval agricultural landscape.

Ditch 1105 was cut by a later double ditched trackway, 1108, on an ESE-WNW alignment. The trackway was 7.0 m wide, and its flanking ditches were up to 0.58 m deep. No closely datable finds were recovered, beyond a single sherd of Roman pottery and a fragment of copper alloy wire. However, the trackway cut the subsoil, which sealed the Romano-British features on the site, demonstrating a relatively recent origin. The feature seems likely to predate the late 19th century, as it does not appear on the OS 1st edition map of 1886.

SITE 4: BIRCHFIELD ROAD (Figs. 1.1 and 4.9)

Phase 9–10: Medieval/post-medieval

A trackway, 4969, ran on a NNW-SSE alignment, immediately to the west of Birchfield Road (see Fig. 4.9). Parallel ditches 4944 and 4507 demarcated it, placed 4.5-6.0 m apart. The trackway cut all of the Romano-British features in its path, giving a *terminus post quem* of the late 2nd century AD, although its relationship to hollow 4493 was unclear. Datable finds were restricted to a small amount of late 1st to late 2nd-century AD pottery from one slot of ditch 4944. The trackway could thus date to any time from the late Roman period onwards. However, given its location and alignment it can be tentatively suggested to represent a medieval/post-medieval precursor to the present Birchfield Road.

Chapter 7: Continuity or Change: Overview of the Saxon and Medieval Evidence

by Alan Hardy and Steven Leech

THE SAXON EVIDENCE

Introduction and research background

It is ironic that the most important period in the development of modern Bedfordshire—like so much of the East and South Midlands—is so difficult to characterise. The most recent overview of the archaeological understanding of the post-Roman period in Bedfordshire is the resource assessment by Edgeworth (forthcoming). In essence this has provided an overview of the current understanding, the process by which that understanding was reached, and priorities for the future. The historical and archaeological research into the region has been in many ways directed by the paucity of resources to hand, a situation concisely elaborated by Stafford (1985, chap. 4).

It is a characteristic of the period in question that archaeological investigation (in all regions, not just the East Midlands) has thus inevitably tended to focus on the most visible surviving aspects of Saxon society, namely the cemeteries. This has had the effect of distorting the understanding, and arguably leading research into something of a dead end. As Reynolds points out, in the end we know a great deal about a very specific field, that is, the distribution of items of material culture from furnished graves. That is a dangerously flimsy basis on which to build an understanding of settlement pattern and character (Reynolds 2003, 98). There is a limit to what the dead can tell us about the living. As is now accepted, grave goods may be as much about cultural shifts or fashion as genuine demographic movements. The development of DNA analysis is an exciting new tool, but not as yet a 'magic wand' and it cannot yet determine without doubt whether a burial is that of a immigrant or a British native, regardless of what shape their brooch is (Miles 2005, 174–5).

As Stafford (1985, 65–9) points out, the region—including this area of study—is situated in one of the least recorded parts of lowland Britain. Its lack of a clear geographic, demographic, political or historical identity has meant that there is great difficulty in establishing any overall trends or patterns within which to set individual investigations. The most contentious issue (and perhaps the most pertinent when studying the development of rural settlement) is the issue of continuity from the Roman period into and through the Saxon period (for a recent discussion see Lewis *et al*. 2001).

A scatter of examples of early Anglo-Saxon settlement within the 'footprint' of Roman settlements are known, for instance at Kempston and Higham Ferrers (Hardy and Charles 2007), but in these cases and indeed elsewhere in the region there appears to be a fairly consistent gap of at least 50 years between the abandonment of the Roman settlement and the arrival of incomers (Dawson 2004, 82).

This area of study may be the most rewarding (in its progress if not in any final resolution) but it is also—in archaeological terms—the most difficult to tackle except in very large (and usually intrusive) area studies. Even though a large-scale study may only broadly confirm existing prognoses and hypotheses, it still is necessary to turn the possibilities of speculation to the probabilities of demonstration. An example of this process has been the huge volume of work in north-west Essex, driven by the expansion of Stansted Airport and the related infrastructure development (Havis and Brooks 2004; Timby *et al*. forthcoming). A broad landscape study undertaken by Williamson (1986) concluded that rural settlement in both the Roman and Anglo-Saxon periods was 'driven by poverty and mobility'. The plateaux were settled, if at all, in an opportunistic way by those with a lack of social or demographic ties to established settlement foci (*ibid*. 127). A broader study of the South Midlands (Lewis *et al*. 2001) has confirmed both the dispersed nature of rural settlement in the post-Roman and medieval periods, and the vulnerability of that settlement to economic and environmental forces.

That there are examples of 'nucleated' settlement in the early to middle Saxon period in the Midlands is not in doubt, although the evidence has often tended to be interpreted as displaying elements of elevated status or authority. A classic site at Brixworth, near Northampton (Ford 1995) revealed a complex of at least five post-built buildings and four sunken-featured buildings of a 7th to 8th-century date range. Further to the east, at Higham Ferrers, a dispersed scatter of 5th to 6th-century sunken-featured buildings gave way to a planned complex of enclosures and timber halls in the late 7th or early 8th century (Hardy and Charles 2007).

The character of dispersed settlement in the early and middle Saxon period makes it very difficult to arrive at any meaningful conclusions when the exposed area of landscape is a narrow road corridor, which can give a deceptive impression of settlement densities. A single sunken-featured building found in a road corridor might represent an isolated dwelling or one of a dozen or more spread out across the immediate area. A similar situation was apparent along the A120 corridor between Stansted and Braintree, where a single timber hall, probably middle Saxon in date, was the only early/middle Saxon evidence recovered from the entire 18 km corridor (Timby *et al*. forthcoming).

The landscape

Characterising the post-Roman landscape in the South and East Midlands is hampered principally by the scarcity of evidence of the settlement patterns and settlement density extending from the late 4th century AD to the 9th or 10th century AD. It would be easy to conclude that such an extended period of under-exploitation of the landscape, deduced from the apparent abandonment of many significant Roman settlements, would have—as was the traditional view—resulted in the area being largely recovered in forest and woodland. If there were so few Saxon settlers, how can their impact on the landscape be assessed, except by default?

Recent arguments have suggested that these Roman settlements did not decline to the extent that the 'Roman' evidence suggests, and that a 'British' population could have remained in residence, adopting a 'Saxon' material culture, and therefore being on hand to maintain—to some extent—the arable landscape (Edgeworth forthcoming). However, whether they should be called Saxon or British, or a cultural mix of the two, the problem is still the same: without physical evidence of their presence in the form of artefacts or structures, they cannot be assumed to be acting as voluntary forestry workers, maintaining the system for the system's sake.

In the case of the sites along the Bypass corridor, there is just once instance of early Saxon (late 5th–6th century) occupation, and that is inferred from a scatter of pottery and two small pits rather than by structural evidence itself. The soils of the area are generally boulder and Oxford clays, productive but not easily worked on a small scale and without metal ploughs. There was no environmental reason why this area should be considered particularly attractive for arable farming, either by the vestiges of the Romano-British population or by incoming Saxon settlers, so it follows that occupation would have been sporadic and pastoral—and quite possibly seminomadic. Family groups in dispersed and isolated settlements were not dependent upon wider social or economic systems in the same way that their predecessors were (or indeed their late Saxon and medieval successors were).

The consensus view has been that early and middle Saxon settlement in Bedfordshire was concentrated in the more easily cultivatable river valleys, rather than the clay uplands (Edgeworth forthcoming). It could be argued that this impression has been to some extent over-emphasised by the fact that little archaeological investigation has taken place on the uplands. However, is this concern valid? Does not the present work here and large scale work elsewhere demonstrate that the absence of evidence of settlement on the claylands is not so much down to its invisibility, or lack of opportunity, but is actually because there was nothing there?

The relict Romano-British landscape, with its relatively well-ordered and demarcated field system would be maintained, but only insofar as was necessary to support the family group. Woodland would be managed on a similar 'family' scale.

So while settlement or property boundary-making in the early and middle Saxon period is notably absent, that does not necessarily mean either that there was no one there, or that they were content to let the area evolve into forest around them. The development of an arable agricultural system requires a settled lifestyle—you are as fixed as your field—and that settled lifestyle requires a stable economic and social framework in which to exist. The Romano-British boundaries or cleared landscape would be maintained only insofar as was required by the small social units characteristic of the 5th and 6th centuries. If there was no competition for space, and (at least at first) no serious competition for land title, there was no need for the precise division of land by ditches.

Perhaps more than other areas in this region, urbanisation was concentrated at a single location, namely Bedford. Edgeworth (forthcoming) suggests that this was due to its prime strategic importance in the mid-late Saxon period when the process of the coalescence of settlement foci was getting underway. In the uncertain and dangerous times one strong concentrated site on the river was a better prospect than a number of smaller more vulnerable communities. However, riverside settlements had their own drawbacks, as amply illustrated by the settlement at Stratton, near Biggleswade, to the south of the Bypass. Long-term investigations at Stratton near Biggleswade have revealed substantial middle Saxon remains, including halls, sunken-featured buildings, wells and enclosures (Shotliffe 1993; 1995; 1996; 1998). The evidence suggests that while settlement was continuous from the early Saxon period onwards, it slowly migrated eastwards to higher ground, driven by the rising levels of the River Ivel (Dawson 1994, 134).

Site organisation

In a search for post-Roman settlement evidence in a boulder clay landscape such as this, one of the major problems is the general lack of visible indicators. This results from the poor durability of Saxon pottery, the propensity to use organic materials such as wood and leather rather than metal and stone, and the absence of interest in constructing elaborate complexes of boundary ditches. This lack of impact on the landscape of the early post-Roman settlers forces the focus of investigation back onto one relatively highly visible aspect, the cemetery sites. There is, however, considerable evidence that early Saxon cemeteries were not usually situated close to settlements. Spong Hill in Norfolk, for example, appears to have served a whole neighbourhood (Hill 1979, 310), and the cemetery at Springfield Lyons in Essex appears to date from significantly earlier than the settlement found on the same site (Tyler 1996, 111).

Site 8

The early Saxon activity, confined to Site 8, provides little material from which meaningful conclusions can be drawn. A small assemblage of pottery was recovered from deposits lying over the subsided fills of two late Roman enclosure ditches. No structural features that could be chronologically associated with this material were found, but it is still most likely that an occupation site would be nearby, presumably out of the study corridor to the west.

That the settlement was located on the periphery of a relatively substantial Roman settlement is not unusual for the East Midlands. Four Roman sites of modest status around Toddington, Beds, have produced 5th-century and later material (Lewis *et al*. 2001, 78). However, while there is a case for saying that incomers may—for reasons of shelter, or the existence of a relatively clear surrounding landscape—have settled on the site of a Roman settlement, there is little evidence generally (and none from Site 8) that their settlement respected or was influenced by the physical layout of the Roman settlement itself. The location of the Saxon material on Site 8 suggests that the Roman settlement earthworks had long since silted up, so one might suggest that the scene may have been characterised as an overgrown spread of derelict ruins.

Also of interest on Site 8 is the scatter of possible quarry pits in the area west of the Roman settlement boundary, and dating—on the basis of the recovered pottery assemblage—to between the 9th and 10th century. Again no associated structural evidence was found, or building footprints identified, but given the proximity of Site 9, to the west (see Plate 6.1), this seems a likely context for these features.

Site 9

Phase 8.1: middle Saxon period (7th–8th centuries)

The large fenced 'L' shaped enclosure with various internal fence-lines partially revealed on Site 9 may represent part of a large animal corral dating to the 7th or 8th century. The extent of the possible enclosure to the north and west is unknown, but it encloses an area of at least 200 m^2.

The enclosure was made up of various small, shallow postholes and pits that collectively produced very small amounts of pottery and a few fragments of sheep/goat and pig bone. Some of the postholes forming the internal posthole lines could represent post-built structures—perhaps barns or byres—where later truncation by ridge and furrow has removed parts of the original footprint. Whatever these internal structures represent, the lack of artefactual evidence argues against there having been any settlement as such within the enclosure, or at least that part exposed in the excavation.

Phase 9: Late Saxon to early medieval periods (9th–12th centuries)

Overlying the earlier Saxon fenced enclosure, the settlement on Site 9 was defined by four sill-beam structures and associated pits and postholes bounded by an east-west aligned ditch to the north and various fence-lines to the south and east (Fig. 6.5). Only one of the buildings was fully exposed, and by virtue of its location it seems likely that building served as the focal point of the settlement, although it is accepted that further structures may have been situated beyond the excavated area to the west. Some of the internal fence lines such as 9874, 9875 and parts of 9872 may represent post-built structures such as barns or extensions to existing structures. The pottery assemblage suggests a date range for the settlement of the mid 11th to the early 12th centuries (see Blinkhorn, Chapter 8). The structural evidence below suggests that the actual occupation of the settlement was of shorter duration—perhaps around fifty years within that range.

The settlement layout was arranged broadly east-west along a gentle south-facing slope. The northern extent is clearly defined by the substantial ditch 9857, which seemed to serve as both boundary and rubbish dump, on the basis of the material recovered from it. A single feature of significance, a pit (9582) containing a quantity of charcoal of mixed species, was located to the north of this boundary. It is possibly related to the settlement, but the absence of dating material obliges extreme caution in this interpretation. No further evidence of an enclosure boundary ditch was found, although to the south of the buildings a possible east-west aligned fence line may have provided a boundary to the settlement core. This line may have been extended to the north, alongside the eastern edge of the site.

It is tempting to envisage a fully enclosed settlement, bounded to the north by ditch 9857. It seems unlikely, however, that fence line 9872 represents the east and south sides of such a hypothetical enclosure. A number of examples (including Wicken Bonhunt, Essex, North Elmham, Norfolk, and Bramford, Suffolk) of parts of very large enclosures and associated building groups have been highlighted by Reynolds (1999, Figs. 61–4) in the context

of the evolving middle and late Saxon settlements that appear to represent what might be termed 'thegnly' residences (*ibid*. 124). The enclosures in these examples are designed not for defence *per se* but principally as estate or property demarcations.

The stratigraphy only offers one possible instance of a modification of site layout: the fence line that was identified crossing the footprint of Building 9860. Otherwise the site is notable for its undynamic nature, which could suggest the complex was under a single authority (rather than a grouping of independent households), and in existence for a limited period. Other aspects of the evidence support the idea of a short-lived settlement, the pottery suggesting an occupation range of perhaps a maximum of 100 years. In addition, none of the buildings show signs of extensive repairs or rebuilding. As is considered below, the structural lifespan of a timber hall building has been suggested to be around 35–40 years, broadly equivalent to a generation or two.

The refuse pits associated with the two subsidiary buildings (9170 and 9180 respectively) to the east and north-east of building 9150 all produced good evidence for the cooking and consumption of food. It may not be chance that the pits are located to the east of both buildings—the prevailing wind from the south-west would encourage the rubbish generated from service activities to be disposed of downwind.

Various alignments of postholes are apparent within the settlement core, which appear to represent small enclosures or possibly windbreaks. However, the differential truncation caused by the later medieval ridge and furrow may mean that some of the posthole alignments were the remains of post-built buildings. There were very few finds from the fills of any of the postholes, and this in association with their relatively insubstantial character suggests that they could well have been barns or byres.

There were various features located to the south of the settlement core, including a four-post structure (9850). Located away from the settlement to the south were two shallow pits (9738 and 9843) with a possibly associated feature (9740) interpreted as a hearth. To the north of the settlement was another pit (9582); this has been interpreted as the base of an oven associated with the small scale production of charcoal, although its small size would make that function difficult. Such features occur with some frequency on rural sites, usually situated away from buildings. A similar feature was found close to a 10th-century farmstead at Higham Ferrers, Northants (Hardy and Charles 2007). After micromorphological examination it was interpreted as merely the site of a bonfire, probably repeatedly used. The clay subsoil under the seat of the fire would have been burnt to a granulated coloured deposit, inevitably mixed with ash. The resulting feature can then easily be mistaken for a shallow cut pit with a mixed fill of burnt clay and ash.

These structures seem to represent a planned settlement, possibly imposed upon a fairly open area previously used for livestock. If the complex was under a single authority then it would be much more likely to be abandoned abruptly, rather than shrink and decay over a long period. No archaeological or environmental evidence was found to suggest a motive for abandonment.

Structural components

Phase 8 (Site 8)

Feature 8184

The feature was identified as a depression or shallow pit in the upper fill of a north-south aligned late Roman enclosure ditch (10811), and was only recognised during the post-excavation analysis (Fig. 6.1). It was orientated east-west, and was possibly oval shaped with a very shallow dished profile. Cut into the western edge of the feature was a posthole or pit (8188). The primary fill of the feature was a compact layer of chalk and flint, from which was recovered a single sherd of early Saxon pottery. The subsequent fills contained redeposited Roman material, possibly deriving from the erosion of the feature sides or later ploughing.

Despite the difficulties of distinguishing the feature from the Roman ditch, the stratigraphic evidence could be seen to approximate to that of a 'two-post' sunken-featured building (SFB) of this period, with a compacted pit floor. This might parallel the evidence from Wavendon Gate, Bucks (Williams *et al*. 1996) and Pennyland, Bucks (Williams 1993), where it is also argued that SFBs were constructed in the partially silted hollows of earlier ditches.

A recent and extensive review and analysis of the SFB or *Grubenhaus* by Tipper (2004) has demonstrated the versatility of this type of structure. One of the most debated topics in the last few decades has been the 'sunken-featured' element of these buildings. Did it function as a sunken floor, was it a storage area under a suspended wooden floor, or was it an airspace under a wooden floor, acting as an insulator and means to avoid the floor rotting? Historically, the first variant was the most favoured, but Tipper (2004, 92) has shown that there is actually almost no unequivocal evidence (in England at least) for sunken prepared floors in early and mid-Saxon SFBs. The detailed work by West on the SFBs at West Stow (West 1985, Figs. 289–90) provided a plausible alternative in the 'storage area' hypothesis. The occurrence of very shallow SFB pits, for instance on the 6th to 7th-century settlement at Higham Ferrers (Hardy and Charles 2007), seems to support the 'ventilation' scenario.

Feature 8184, being 0.45 m deep and displaying a compact surface in the base, could be seen to fit best with the traditional understanding of the SFB

form. However, when seen in section the chalk and flint 'floor' is clearly deeper in the centre, where the degree of subsidence of the underlying Roman ditch fills would be at its greatest. In other words, the 'SFB pit' was not dug with a flat base to start with, a curious situation if it was indeed intended to be a floor. It seems far more likely that the feature is in fact the result of subsidence of the fills of a coincidence of Roman ditches, leaving a hollow into which has been dumped (or has accumulated) a levelling layer of chalk and flint. The 'posthole' 8188 may be a completely unrelated feature.

Despite the doubts over the structural derivation of feature 8184, the presence of 5th to 6th-century pottery in the fill of a late Roman enclosure ditch implies that there was dispersed occupation in the immediate area, but no clear structural evidence was found in the excavation area. There are, however, grounds for postulating some sort of settlement in between this site and Site 9, to the west (see Plate 7.1)

Phase 9 (Site 9)

Structure 9150 (Fig. 6.6, Plate 6.2)

This was the most substantial structural footprint revealed on the site (Fig. 6.6). The material recovered from the building and associated features suggest a date range of between the 10th and the 12th centuries. The building was rectangular in plan and orientated east-west. It measured 19 m long and 7 m wide, and displayed a 1m-wide entrance in the middle of the both long walls. Small entrances were also evident in the centre of both end walls; the apparent large gap in the west end wall was almost certainly not an original feature, but due to truncation by a later plough furrow (Fig. 6.5). Between the two opposing central entrances were two postholes, possibly defining a screen or passage, and in any case separating the building into two distinct (and potentially private) chambers.

Little was found to illuminate the function of each of the two chambers of Building 9150. A concentration of animal bone was noted just outside the east end door, possibly suggesting that the eastern chamber was a service 'wing', although it should be noted that another slight concentration was noted in the south-west corner of the building.

A cluster of postholes in the south-west corner of the building may represent the support for a stairway or ladder up to the possible upper floor or roof space of the building. With the archaeological footprint of Saxon halls being typically so ephemeral and vulnerable to plough damage, it is difficult to ascertain how common the provision of a first floor was. Staircases have been suggested for Building 1 at Portchester, Hants, and the hall at Sulgrave, Northants (Rahtz 1976, fig. 2.5).

No hearths survived within the structure, although such recognisable layers within the building footprint could have been truncated by later ploughing. The presence of wooden suspended floors is a distinct possibility, and indeed the reconstruction work at West Stow in the last few years has shown that a suspended floor provides for a warmer and drier interior. In such a scenario, a hearth can be easily accommodated at floor level, and the risk of setting fire to the floor largely obviated, by the use of soil-filled wooden trays or braziers (Wilson 1976, 90).

A further elaboration of the basic hall shape is indicated by the row of external postholes along the southern side of the building. There is no suggestion from the records that the posts in these holes were raked to provide bracing support for either the wall of the roof of the hall. It thus seems likely that they supported a cat-slide roof, one that originally extended only along the front of the eastern wing, and later was rebuilt and extended along the entire facade. The size of these external postholes is intriguing; they imply massive posts, arguably more massive than would be necessary for a cat-slide roof or bracing. It is tempting to speculate that these posts may have been intended as a display as much as a practical structural support.

An example of this evolution of building layout is clearly visible in the ground plans from Goltho (Reynolds 1999, fig. 54). In itself structure 9150 cannot be taken as an indicator of status. It is when it is seen in its context, with a number of smaller (?service) buildings around it, that its central role is clear.

Examples of structurally comparable although earlier buildings have been found throughout lowland England. The classic site of Cowdery's Down, Hants, revealed a number of 7th- and 8th-century two-celled buildings with opposing doorways (for instance building A1, also covering a similar area to that of building 9150). Many of the buildings in this instance displayed external postholes, interpreted by the excavators as bracing posts for the wall (Millett and James 1983, 244–5).

Gardiner (2000, 168–9) argues that in the later Saxon and early medieval period the evolution of the cross-passage represented the desire for privacy and a distinction between the public and private duties of the occupants. In tandem with this was the development of dedicated service buildings.

Structures 9170, 9180 and 9860

These three buildings share similar characteristics. Two (9170 and 9180) were situated close to Building 9150, and were defined by beamslots and postholes. Only the western part of Structure 9170 was exposed, but the presence of a single entrance on the south wall suggests an overall length of approximately 8–9 m, and a width of 4.5 m. Later medieval ridge and furrow had seriously truncated the structural footprint. The western part of 9180 was defined by vestigial beamslots; the eastern part can

be (cautiously) inferred from postholes. The third building, 9860, was partly revealed against the east baulk of the excavation area. This was also defined by shallow beamslots and incorporated postholes, particularly at the two exposed corners.

Allowing for differential truncation, all three buildings displayed similar structural characteristics, relying on sill beams onto which the walls (probably of wattle and daub) were built. Corner postholes and entrance posts were more substantial, reflecting their load-bearing role. None of the buildings displayed any internal structure, although the presence of fragments of fired clay within Structure 9170 suggests a possible function as a kitchen.

Clearly associated with the structural group consisting of these four buildings was an extensive spread of postholes and small pits. Some of the features formed alignments similar to that of the buildings, and may indeed represent the truncated remains of lightly founded earth-fast post buildings, some of comparable size to the main building group.

Longevity

From the structural evidence, some tentative conclusions can be drawn about the likely longevity of the buildings. It is recognised that post-built structures have a fairly short life span. For the timber halls at Mucking, Essex, Hamerow (1993, 90) suggested a life span of around 30–35 years, although ground conditions would be an important factor (Hardy and Charles 2007). The use of sill beams rather than earth-fast posts would be likely to extend the lifespan somewhat. The pottery associated with the building group broadly dated from the 10th century to the end of the 11th century. All the evidence suggests that the various buildings within the group can be seen as broadly contemporary, so their lifespan (and that of the settlement itself) may well represent a possible 50+ year period within that span.

Conclusion

In the context of the likely date of occupation on Site 9, the layout of both building 9150 itself and its satellites 9170 and 9180 can be seen as representing the final variation of the 'multiple building' approach to a manorial or submanorial residences. This is defined by a large hall, with opposing doorways, but no definite screen. Ancillary service buildings and possibly a private chamber are clustered around the hall. Goltho, Lincs, and North Elmham, Norfolk, are two of the several known examples of this layout (Gardiner 2000, 169). From the 10th century onwards the trend was towards the incorporation of service buildings and separate private chambers into the main range itself. This culminated by the 12th century in the fully-fledged later medieval domestic plan, organising the disparate elements of a thegnly or manorial residence, and reflecting the formalising of social behaviour (*ibid.*).

Site economies

The economic evidence from Site 9 tends to imply a preference for (but not necessarily a total reliance on) a pastoral agricultural regime. In its Middle Saxon guise the large enclosure with internal divisions suggests a large ?cattle corral. The site contained considerable evidence for animal husbandry and exploitation in the form of fence lines and paddocks. The proximity of the river to the south and its accompanying meadow would no doubt have made this area attractive for animal husbandry.

Whether the demise of the middle Saxon enclosure was in any way connected with the establishment of the late Saxon complex, one might suggest that the same environmental advantages would have applied. The accent on pastoral farming is perhaps given added support by the recovery of the polished antler point (Fig. 8.22.29), possibly an awl. Such a tool could be an indicator of leather working.

Other area excavation work in Bedfordshire, for instance from waterlogged deposits at Odell, has indicated an open grazed landscape, with such woodland as existed being managed and exploited either for its timber or for keeping pigs. Edgeworth (forthcoming) notes a slight increase in the proportion of sheep bones among assemblages from Bedford itself. If more sheep carcasses were being processed in the *burgh* then it follows that more were being raised in the surrounding countryside.

Social status and diet

The absence of an urban context against which to consider the three post-Roman sites along the road corridor strongly suggests that each site's evidence of subsistence economy and diet is a good reflection of their actual status. Proximity to sources of imported goods (or indeed outlets for exported goods) or well-used trade routes could imply greater status or wealth than perhaps is justified.

It is clear that Site 9 displays signs of being an organised 'consumer' site. Its situation close to both the main Bedford to Kimbolton road and to the River Ouse is important. The Ouse was probably navigable as far as Bedford in the Saxon period (Edgeworth forthcoming). As has already been considered, the layout of buildings and their individual forms argues for an element of formal planning and control, and implies some degree of enhanced status for the principal occupants.

To support this contention, aspects of the animal bone and environmental evidence on Site 9 suggest that it was a consumer site, not a producer site. This distinction implies some specialisation of activity, and the wealth to generate a surplus, and consequently the ability to import (and possibly export) goods and commodities. It has been noted that, given the size and complexity of the site, a surprisingly meagre assemblage of environmental material was recovered from the sampling, with only two of

the 18 samples producing appreciable amounts of charred plant remains (see Druce, Chapter 11). Furthermore, the presence of charred cereal grains, along with an absence of cereal chaff, suggests that cereal processing was undertaken away from the settlement core (downwind to the east/north-east?). In contrast, the presence of a complex of (?fence-) postholes immediately to the east of the main group of buildings suggests an arrangement of animal pens. Interestingly Holmes (Chapter 10) notes that the animal bone evidence shows a clear bias towards pigs and away from cattle and sheep, contrasting with contemporary sites in the region at Tempsford, Beds (Hutchins 2005) and Willington, Beds (Grant 1975b), where cattle predominate. Understanding the implications of this in terms of the inhabitants' diet and status raises again the issue of the constraints of excavation. As the settlement has been only partially revealed, and given that there is evidence to suggest a relatively high degree of site planning and possible consideration for the 'aesthetics' of an agricultural existence, it may well be that cattle were kept some distance from the revealed settlement core, and only brought in for consumption as whole carcasses or parts thereof. The presence of a concentration of horse bones in the large ditch forming the northern limit to the settlement core is possibly significant on two counts. Again, the location of the horses clearly suggests a desire to dispose of them as far as possible from the settlement core. Secondly the implied presence of horses is an indicator of some wealth. Used primarily for riding and light traction (with oxen still used for the heavier role of drawing the plough) horses were, as always, a sign of affluence and social importance.

If the environmental evidence implies some enhanced status to the settlement, curiously the pottery does not, with the assemblage consisting of only utilitarian wares. It is not impossible that an organised site such of this would have an organised regime of off-site rubbish disposal, but one would still expect a few sherds of more exotic wares to have been found in the excavated areas if that were the case.

A small antler awl (Fig. 8.22.29), possibly used for leather working, may belong to this phase of occupation but might equally be of a later medieval date. The only other find of note is interpreted as possibly a debased zoomorphic copper alloy strap-end (Fig. 8.20.20; see Howard-Davies, Chapter 8). Suggested parallels for this object come from north-east of the region, in York and Whitby (and may indicate Scandinavian links or even a Scandinavian presence on the site).

Analysis of the faunal and charred plant remains from Site 9 (see Chapters 10 and 11) indicates a diet of some variety. A significant quantity of oyster shell fragments was recovered from structure 9150 and from the refuse pits associated with the service ranges. While it is no surprise that oysters were a staple part of the diet at coastal settlements, it is more noticeable when they are found so far from the sea. Oysters were traditionally transported in barrels of seawater (Hagen 2006, 170), and the presence of large quantities of oyster shells on 11th and 12th-century sites in Bedford attest to a thriving trade (Grant 1979, 291), and the evidence from Site 9 indicates access to this trade.

The animal bone assemblage (see Holmes, Chapter 10) indicates that the animals were brought onto site from elsewhere, and as all the carcass parts were represented in the assemblage, it suggests that the carcasses were processed on site. Holmes comments that the animal bone was too fragmentary to establish if butchery was practised, but cut marks were noted on some of the bones. Structure 9150 produced significantly more animal bone than any of the other structures, dominated by domesticates, together with small amounts of fish and bird bones. The refuse pits associated with the structures show a similar pattern of species, with pig dominating the count, followed by sheep/goat and cattle. Only in enclosure ditch 9857 does this trend differ, where horse bones were predominant, and these were mostly from mature horses. The high number of pigs represented could suggest a good amount of woodland within the area, and the bird and fish bones indicate hunting and fishing occurred. If hunting was occurring, this too hints at the high social status of the residents of the settlement.

The evidence from the charred plant remains indicates a change to bread type wheat, processed away from the site. It also shows an increase in the use of barley, probably used for the brewing of beer, again hinting at some status. An abundance of grains from fodder crops such as rye and vetch indicates that these crops were grown to feed livestock kept nearby.

The political context

Domesday indicates that both Sites 8 and 9 were within the vill of Salph End (incorporated into the parish of Renhold during the 13th century); this formed part of the Barford hundred, whose landowners were largely replaced by the new Norman elite, as can be seen in the four entries for the vill of Great Barford. However, the entry in Domesday survey for the vill of Salph End itself suggests a different development:

> Hugh himself holds Salph End. It is assessed at 5 hides. There is land for 8 ploughs and there are [8 ploughs]. 11 sokemen hold this land and the same men held it TRE and could give and sell it to whom they wished. [There is] meadow for 2 ploughs, [and] woodland for 50 pigs. All together it is worth 100s; and when received, as much; TRE £8. Ralph Taillebois had this land in exchange for Ware [Herts.], as his men say; and when received, it was worth £8 (Morris 1977, 23.16).

This indicates that the same sokemen (freemen) who held the land before the Norman conquest also held the land at the time of the survey, and furthermore they had no land or ploughs in demesne to an overlord. One of the noted characteristics of the Danelaw was the relative prosperity and independence of its settlers, thought to be the result of a more sophisticated money economy, a less entrenched landholding administration, and the marginalisation of the church (Higham 1999, 136). In a rural sense the manifestation of this was a relatively higher proportion of sokemen (freemen).

In the light of this situation and the Domesday evidence it is reasonable to suggest that the settlement on Site 9 may represent the residence of a sokeman. The site—in its most developed form—was probably abandoned by the end of the 11th century. There is no obvious archaeological evidence to indicate why, although it is tempting to suggest that the occupant may have moved north to the site of Hoobury (Howbury) manor, first recorded in 1265 (Page 1912).

Of possible interest in this respect is the earthwork variously called Howbury Ringwork or Renhold Castle (HER 2806) situated *c* 300 m south of Site 9. It has never been investigated archaeologically, although a number of inhumations were reputedly recovered from the earthworks in the 19th century. Perhaps because of this it has also become known as a Danish outpost or signal station.

If indeed the earthwork has a Late Saxon or Saxo-Norman origin, then its presence could very likely have influenced the course (and character?) of the settlement on Site 9. It is tempting to speculate that the demise of the settlement may thus have been a political or administrative action forced upon it.

THE MEDIEVAL EVIDENCE

Introduction

While the narrative of rural settlement in the South Midlands generally points to a single trend of slow agglomeration of settlement foci during the Saxon period, the medieval period seems to be defined by two quite distinct phases: before the 14th century and after. The archaeological evidence points a considerable increase in population, wealth and (sometimes transient) landscape exploitation, followed quite abruptly by a swift population decline, settlement shrinkage, and a reorganisation of land use. The archaeology on the two sites in the road corridor with significant medieval settlement (Sites 3 and 5) appear to be modest examples of these two trends.

The landscape

There is no reason to think that there was a major rupture in the rural settlement pattern in the early part of this period (Edgeworth forthcoming). Such developments as there were seem to have been evolutions of existing landscape divisions and patterns, rather than wholesale system replacement. So one sees the growth of nucleated villages coalescing out of disparate groups of small hamlets and single farmsteads (often called 'ends').

Another phenomenon was the moated site. More than 300 moated sites have been identified in Bedfordshire, one of the densest concentrations in England (Lewis *et al*. 2001, 114). Four of these are situated close to sites in the corridor, at Birchfield (0.6 km north-west of Site 3), Palace Yard (1 km north-east of Site 3), The Creakers (0.7 km north-west of Site 5) and 'Danish Camp', Willington (1.6 km south-east of Site 9). The site at Willington was by tradition and supposition considered to be a possible candidate for a military camp of the 10th-century Danish army. The site's scheduled status means that investigative work has been limited, but it is clear from recent excavation that the earthworks, moats and building platforms have a somewhat restricted date range from the early 12th to the mid 13th centuries (Edmondson and Mudd 2004, 208).

One of the attractions to prospective moat-builders of much of Bedfordshire was the heavy clay soil, ideal for creating water-retaining moats. It is suggested that moated sites occurred more frequently on the outskirts of attenuated settlements, or as isolated farmsteads. They can be particularly linked to newly cleared land, and, it is suggested, were a response to the need to provide a secure site for new occupation (Lewis *et al*. 2001, 118). However, one must not overlook the less practical (but perhaps just as attractive) motivation of social status. Deriving from their purely defensive origin, they became very popular for a relatively short period of time, perhaps as little as 150 years from the last quarter of the 12th century to the first quarter of the 14th century. While at first they did to some degree reflect the uncertainty of the time, as the political climate improved moats took on a more socially conscious image. To live in a moated residence, even if it was a relatively modest affair, was a signal of your elevated social rank and a statement of the permanence of your place in the local society. It is a debatable point where a drainage ditch becomes substantial enough to be called a moat, but it could be said that the residence at Site 3 represents a basic moat.

The effects of population pressure, greater regional security, and a steady increase in economic activity were reflected in the 12th and 13th centuries by the establishment of small hamlets or individual farmsteads. There is no evidence that these were situated on the sites of exiting or relict late Saxon sites. However, they appear to have been established along lines of communication, the growth of continuing small scale nucleation encouraging further establishment of more small settlements along the roads between (Lewis *et al*. 2001, 112). Sites 3 and 5 can be considered in this context. Both represent short-lived exploitation of landscape

resources, with no apparent settlement 'ancestry', or indeed, legacy (even the substantial ditches of the Site 3 enclosures were soon rendered invisible by later medieval activity).

While the effects on the rural settlement density of the famine and plagues of the 14th century must have played a part, it is important to note that both Sites 3 and 5 were abandoned before the 14th century. Therefore we have to look elsewhere for the reason for this change in land use.

The appearance of ridge and furrow in the landscape is evident on Sites 1, 2, 4, 6, 8 and 9, demonstrating the increased demand and organisation of arable agriculture. Sites 3 and 5, situated by watercourses, appear to have been abandoned to pasture, highlighting the other expanding branch of agriculture: pastoral farming.

Site organisation

The organisation of dispersed settlements such as is evident in Sites 3 and 5 would clearly be very much dependent on the individual living and occupation requirements of the inhabitants. Both of these sites appear to have been established in an open landscape; such constraints as existed appear to have been of natural origin (for instance the high water table).

Phase 9.1

Site 5

The site was initially represented by what is interpreted as the working area or workshop of a possible smithy, with a separate area for the management of livestock, all set close to a natural hollow (Fig. 6.17). The pottery recovered from this site produced a broad date range of *c* AD 800–1400, although it is probable that the site was occupied from the late 11th to the early 14th century (see Blinkhorn, Chapter 8). The few sherds of earlier pottery may hint at earlier occupation nearby. All were residual, and they may have derived from manuring scatters.

It appears from the limited area examined that this was an isolated establishment, possibly set up as a farmstead, and later adapted to function as a smithy (as well?). The abrupt change of function of the settlement is hinted at by the change in the nature and quantity of the pottery assemblage in the mid 13th century (between pottery phases CP3 and CP4), and the sudden and almost complete absence of jugs, along with a general decrease in material. A large fragment of a sandy ware fire-cover (curfew) found in pit 5036 in the west of the site could have been used for a domestic hearth, but would certainly support the scenario of a smithy. An area of postholes and a curvilinear gully to the north-west may represent small-scale animal husbandry and penning, possibly contemporary with the smithing activities.

Because of the fire risk, care was taken in the placement of smithies in relation to nearby buildings; in an urban context, however, it was sometimes difficult to avoid being a fire-risk and a noisy nuisance to neighbours (Geddes 1991, 175). At least in a rural area, the work may not have been so 'industrial' in its pace or intensity, and physical separation of the premises would have been relatively easy to achieve.

Despite the constraints of the excavated area, the smithing area does appear to be isolated, although this does raise the other issue of the purpose of a smithy in such a rural location. With no obvious urban area in the near vicinity to provide a market, the commercial viability of such an enterprise would be dubious. Given the proximity of the moated site at The Creakers, it may be that the farmstead-cum-smithy on Site 5 represented a dependent tenant who was also a dedicated smith/farrier.

Site 9

The Late Saxon settlement had been abandoned by this period, and almost certainly the land was cleared of structures. A pattern of ridge and furrow was laid out on a WSW-ENE orientation, a pattern that included a single building (9160), situated on one of the ridges (Fig. 6.5, Plate 6.4). The building's apparent isolation, and the lack of significant associated domestic evidence or features such as rubbish pits, is a strong indication that this was an agricultural structure, perhaps serving a communal purpose in the context of the open field system. Dating material suggests the activity took place in the 13th and 14th centuries, with a few pieces of 13th-century pottery recovered from the vicinity of the barn. A coin of Edward III, possibly minted around AD 1344, was recovered from field ditch 9762 in the south of the site.

Phase 9.2

Site 5

A change in the use of the landscape is evident on the site during the 14th century (Fig. 6.17). Part of a field system respecting the earlier NW-SE/NE-SW orientation was established, cutting through and blocking the earlier trackway. The smithy was abandoned and the site cut through by two ditches possibly bordering a track or representing part of a stock fence. The orientation of the features is aligned with the surviving boundary pattern depicted in the 1886 OS map (Fig. 7.1).

Site 3

This site is an example of a compact residence and working area, set between a trackway to the west and a watercourse to the east (Figs. 6.12–6.15). There is no evidence for an earlier settlement on the site, so it appears that this represents an opportunistic development, on what must have been marginal

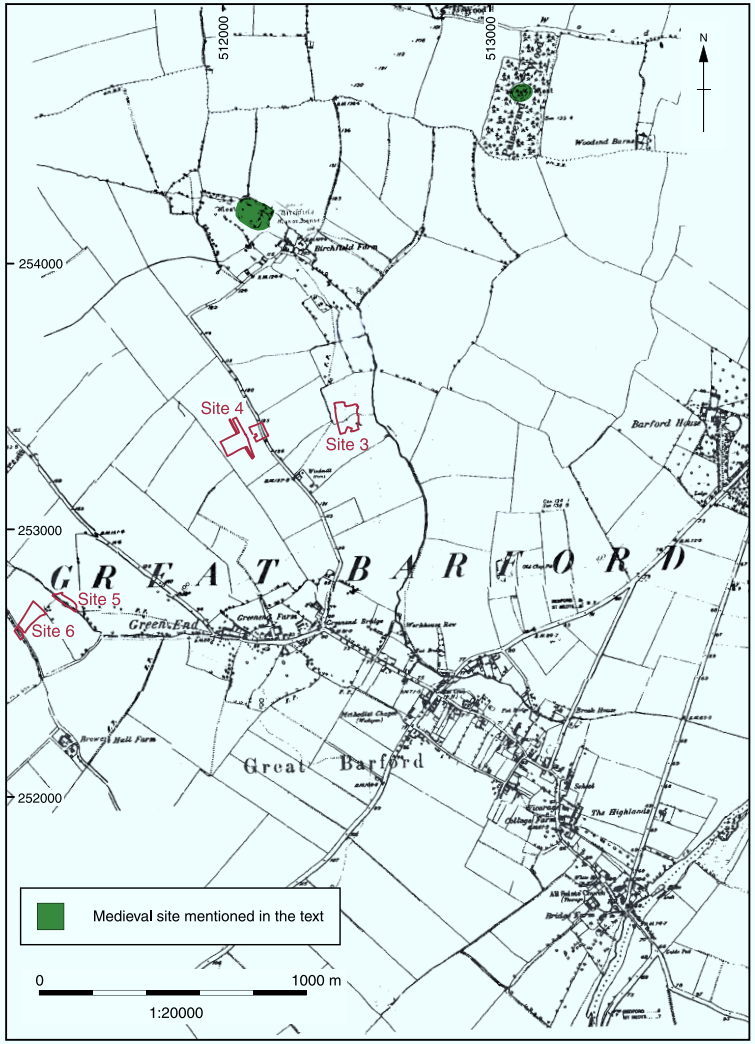

Fig. 7.1 Sites along the Bypass corridor (east) overlying 1st ed OS map (1889) (Copyright © and/or Database Right Landmark Information Group and Ordnance Survey Crown Copyright and/or Database Right 2002. All rights reserved)

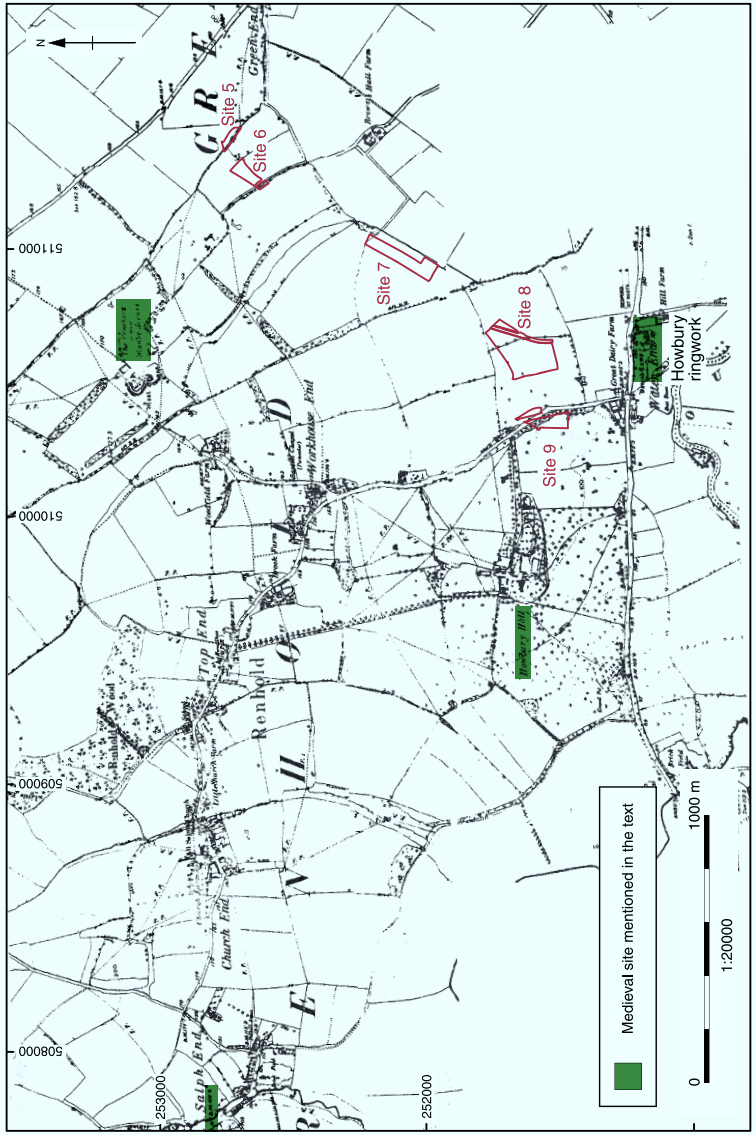

Fig. 7.2 Sites along the Bypass corridor (west) overlying 1st ed OS map (1889) (Copyright © and/or Database Right Landmark Information Group and Ordnance Survey Crown Copyright and/or Database Right 2002. All rights reserved)

land given the efforts spent during the life of the settlement to keep the building platform drained.

The site was characterised in its fully developed state by a small two-cell building, with the addition of a small annex or outbuilding at its west end, set within a rectangular enclosure defined by ditches. To the north was an extensive scatter of pits, possibly representing clay quarry pits reused as rubbish pits. The mean sherd weight of the pottery assemblage reflects a typical aspect of rural rubbish disposal. It seems likely that most was held in domestic middens after the initial breakage, and that these were carted away as manure or thrown into convenient holes at a later date, by which time secondary breakages had caused the fragment size to decrease. To the east of the enclosure the natural watercourse followed a succession of lines, possibly as a result of attempts to channel the stream.

After the abandonment of the site, the construction of the waterhole with the cobbled consolidation is an indication of the establishment of this area for grazing. This reflects the increasing use of land of this nature for pastoral farming in the relatively depopulated late medieval period.

Structural components

The concept of two rooms within the 'longhouse'—one for humans, the other for animals—is less accepted than it was, partly as the result of many more ambiguous examples coming to light. The problem is one of definition (Gardiner 2000, 163). The versatility of the basic later medieval house plan (in footprint usually evident as two cells) has long been recognised, and is suggested as one of the main reasons why the plan lasted so long—arguably at least until the 16th century (*ibid.*, 179). Site 5 perhaps epitomises this versatility, with a change of use of at least part of the building from a dwelling to an industrial workshop.

Site 5

Structure 5196 (Fig. 6.18) is interpreted as a workshop area, principally because of the significant quantity of slag, hearth bottoms and signs of burning in associated features. It is suggested that the smithing hearth itself was situated beyond the baulk to the south-west. The workshop area was defined by a rectangular shallow sunken floor, which was cut by various pits and postholes. Two 5 m long beamslots extended from the sunken floor in a north-easterly direction. The beamslots possibly represent an open-ended annex in front of the workshop area.

It is suggested that two subrectangular postholes (5224 and 5236) defined an entrance on the south-east side of the workshop area. It is difficult to interpret the cluster of internal postholes. They could be structural, representing at least two phases of activity, although there is another possibility. A smith's anvil was often set in the end of a stout block of wood, and this could be set into the ground to give suitable stability (Geddes 1991, 175). As Keys notes (Chapter 8), however, if smithing was actually taking place at this spot one would expect evidence in the form of hammerscale, of which none was found in the area of the exposed floor.

The demolition of the structure entailed the structural posts being removed from their sockets, which were then subsequently infilled by demolition layer 5197 that overlay the area of the sunken floor. This may imply the reuse of the materials for another building.

Smithies are known from Late Saxon and early medieval sites, but are most often identified by the remains of the smithing hearth or working floor itself, rather than any enclosing structure. A smithy identified by its sunken floor and debris of hearth bottoms has been found at Baston, Lincs (Nenk *et al*. 1994, 233). A more recently reported example is a 10th-century smithy discovered on the periphery of a settlement at Yarnton in Oxfordshire (Hey 2004, 79 and fig. 8.3), identified structurally by the hearth base and a nearby stone working platform or anvil base. From a few insubstantial postholes found around these two features was inferred a rudimentary structure—possibly no more than a windbreak.

While the 'workshop' and indeed the beamslot 'annex' at Site 5 imply a structure of possibly more substance than that at Yarnton, it is difficult to ascribe any particular form to it, nor indeed be certain that it was originally built as a smithy. Interestingly the pottery suggests that there may have been a distinct change of function in the second half of the 13th century, and it is suggested that this could indicate the point where a domestic dwelling became a smithy, or began to be used as one. Blinkhorn (Chapter 8) notes the presence of a large fragment of a curfew in late 13th-century context, possibly indicating when this change of function may have occurred.

Site 9

Structure 9160 consisted of a subrectangular structure with the western extent continuing under the western baulk of the site (Fig. 6.11). It was built on a similar alignment to the ridge and furrow that succeeded the early medieval settlement (see above), and was situated between two furrows. The building was defined by a continuous beamslot, broken only by the 2.20 m wide entrance on the north side. The structure was 6 m wide and exposed for a length of 10 m, and displayed curved ends at the exposed building corners. The absence of clearly angled corners supports the contention that the walls were not intended to support any significant load, and possibly no load at all. Given its isolated situation, and lack of contemporary domestic refuse, it is reasonable to suggest that Structure 9160 was possibly an unroofed enclosure for animals, possibly a sheepfold. The structure's walls may well

have been built of a series of wattle hurdles, set within a shallow gully. The northern entrance of the building would therefore represent a gateway rather than a doorway. A depiction of an isolated sheepfold of similar style by George Linnell—in this instance painted in the 19th century but undoubtedly showing age-old farming practice—gives some idea of the possible construction and use of a such structure (Williamson 2003, fig. 45). The siting of a sheepfold in the middle of a (presumably) arable field system is not as incongruous as it may sound, as the dung from the sheep would be a readily available fertiliser (Steane 1985, 248). Given the 'open field' system, the structure (and its 'product') may have been communally owned.

Site 3

Rectangular post-built structure 3258 was orientated east-west, measuring approximately 9 m long and 3.50 m wide and (in its final form) consisted ultimately of a single hall and an attached annexe or outbuilding (Figs. 6.14–15). The main building was constructed utilising beamslot construction, with postholes evident at the corners. Postholes also defined two entrances located along the north and south facades. The western annexe was defined entirely by postholes, with access from its western side, but no apparent access directly from the main building.

Internal features within the main building were identified, including postholes at either end, possibly representing gable end supports, and a single central posthole possibly defining a partition wall. A number of postholes were identified at the ends of some of the beamslots (eg 3353 and 3369). They could represent repairs to the structure in the form of the installation of new posts at the building corners or in the entrances, but this would almost certainly be a very difficult procedure to attempt without causing the collapse of the building. It is much more likely that the postholes housed large and deeply set posts, which were removed when the building was abandoned, as opposed to the sill beams, which would not be sound enough for salvage. A demolition layer that overlay the whole structure and contained frequent flint cobbles and daub fragments lends support to this hypothesis. While any sound structural timbers would be worth salvaging, the wattle and daub walls (and their sill beams) would be left to decay.

The structural characteristics are consistent with a medieval farmstead, in this case of fairly modest status. Examples are fairly frequently encountered, for instance at Blatches, near Braintree in north-west Essex (Timby *et al*. forthcoming), and seem to represent an often short-lived occupation of marginal land. In the case of Site 5, the necessity of maintaining an elaborate drainage system may have been a major factor in the eventual abandonment of the site (at least as a dwelling place) sometime in the mid-14th century.

The physical characteristics of the location of building 3258 reinforce the impression of the need to keep the enclosed platform dry by digging (and redigging) a series of drainage ditches. Individually none of the ditch cuts are of such a size as to warrant being termed a moat, and there is no suggestion that the ditch contained water permanently. Indeed, from finds assemblages recovered from them they were clearly also used as rubbish dumps as well as drainage ditches.

Site economies

While the increases in population and prosperity would have undoubtedly stimulated the growth of industry and marketable craft between the 12th and 14th centuries, the area would have still been essentially agrarian in character. The medieval Sites 3 and 5 reflect this.

Phase 9.1

Site 3 shows little overt evidence for craft or industry beyond that driven by domestic requirements. A number of pits were identified in the northern half of the site, beyond the enclosed areas. Those that were investigated showed evidence that they were used as rubbish pits. However, in a rural setting it is unlikely that they would have been originally dug for this function. It is much more likely that they represent fairly intensive clay digging, arguably more than would be required by, say, the revealed building within the enclosure. It follows that the clay is likely to have been required for use close by.

Site 5 displays fairly convincing evidence that it was used as a smithy, even if it may not originally have been built as one. Keys (Chapter 8) suggests that as some of the smithing bottoms were found in the postholes, they may have been recovered from smithing activity off-site and were utilised here as postpads, implying that they have no functional connection with the structure. While this may be the case, and cannot be confirmed or refuted unequivocally on the basis of the revealed area, it is worth noting that smiths are usually defined by remains of the process rather than remains of the structure within which that process took place.

Phase 9.2

Despite the restricted area of archaeological study the later medieval evidence from Sites 3, 5 and 9 is consistent with the radical shift in the region's economy in the 14th and 15th centuries. The spread of the 'Midland system' of open fields, requiring cooperative investment of labour and resources and the full exploitation of the meadow land, reflected the growing predominance and cohesion of nucleated settlements at the expense of the more isolated enterprises (Williamson 2003, 190–1). While this process must have been driven by economic

demand and increasingly available economic resources, outside factors must also have played a major role.

Social status and diet

Site 3 produced a small animal bone assemblage, with more sheep/goat bone than cattle, along with low numbers of pig, goat, horse and chicken. These were mostly deposited within pits near structure 3258 and a few localised deposits within the enclosure ditches and gullies, with very few fragments from the building itself. Of the four entries in the Domesday Book for the parish of Great Barford, in which this settlement is located, none mentions any woodland for pigs. The under-representation of pig bones may reflect this apparent absence of woodland. The charred plant analysis from various pits on the site (see Druce, Chapter 11) shows that some small scale crop-processing occurred on site, and the analysis also shows peas and beans were possibly grown nearby.

A similar trend was seen on Site 5. Features contained higher numbers of sheep/goat bones than cattle, and just a few fragments of pig and bird, together with single fragments of horse and cat.

Comparative evidence for diet from nearby excavated sites such as Tempsford (Maull and Chapman 2005) and Willington (Edmondson and Mudd 2004), show a similar pattern of bread wheat, oats, barley, peas and beans being grown. However, the animal bone assemblage shows a higher number of cattle than sheep/goat, which is indicative of the higher status of these sites in relation to the settlements at Sites 3 and 5.

Roads

Communication routes comprised trackways and the River Ouse. The trackways are difficult to define, but the routes are in some instances fossilised within present-day roads, footpaths, parish boundaries, and pre-enclosure field boundaries (Figs. 7.1–2).

The importance of the roads as foci of settlement is evident for both Site 3 and 5, which are both situated beside traceable routes. The road running through Great Barford from the River Ouse to Green End probably dates from before the late Saxon-medieval period, utilising a fording point across the river, with the 'ford' forming part of the village's name (originally 'Bereford'). At Green End the road from Great Barford forked and the parish survey map of 1826 shows the northerly trackway, with a reclined 'S' shape in plan, heading for the possible location of East End where Site 3 is located. The position of this route is reflected in the alignment of the trackway on Site 3. The line of this trackway is also visible as a curvilinear tree-lined field boundary on the 1886 1st edition OS map. The route of another trackway can be verified on Site 5, dated to this period. The parish survey map of 1826 shows a trackway closely following the stream from Green End, past Site 5, to the moated site at The Creakers.

Trade

There is a case for arguing that the settlements on Sites 3 and 5 served a specific function (see above), although whether as a service unit to a manor or as an independent enterprise is not certain. In any event the inference from the evidence is the provision of a service (in the case of Site 5) and possibly a commodity (in the case of Site 3) to a client or clients nearby.

The finds assemblages on both sites are almost uniformly utilitarian, comprising animal bone, locally made pottery and a few small finds. The single outstanding object is the high quality buckle from Site 3, dating to around the first half of the 14th century. It may be pertinent to note that a similar example has been found at Kings Lynn, suggesting links extending down the Ouse valley.

Later medieval developments: settlement abandonment

In common with the rest of the south Midlands, by the early 14th century the high level of wealth was no longer restricted to the river valleys, but spread across the Vale of Bedford (Lewis *et al*. 2001, 139). The 1377 poll tax provides a mechanism by which to calculate with reasonable accuracy actual population figures. By that time Bedfordshire was the most densely populated county in the country except Norfolk. In an examination of the process of abandonment of small rural settlements in the later medieval period, it has been shown that those situated on heavy clay lands were not abandoned in particularly high numbers, possibly suggesting that settlement on these lands was not the last resort of a land hungry peasant (Lewis *et al*. 2001, 132).

It is important to remember that small rural settlements were ideas as well as objects (Lewis *et al*. 2001, 188). It is in the nature of archaeology that changes in material culture and environment can most easily be detected, and from this an economic or environmental reason for their decline is deduced. Many other factors influenced their fate, however. External influences directly undetectable by the settlement's archaeological record, like demography and political developments, could play a part. Internal factors, like the health and psychology of the inhabitants would also play an important part. The single farmstead is typically the most sensitive to these archaeologically invisible factors, and arguably the most likely to succumb to adverse circumstances.

Chapter 8: The Finds

INTRODUCTION
by Jane Timby

The quantity of finds other than pottery from the nine excavated sites along the route of the Great Barford Bypass is quite low and even many of the pottery assemblages are quite modest. The total amounts of the various material categories are summarised in Table 8.1. The sites with densest Roman occupation, largely Sites 4 (Birchfield Road) and 8 (Renhold Water End East), account for the greater proportion of finds, with 20% coming from Site 4 (based on fragment count) and 49% from Site 8. Both worked and unworked burnt flint features most on Sites 2 (High Barns Road) and 8, with the latter category being most marked on Site 8. Minor amounts occur on Sites 3 (East End) and 4 with negligible amounts from Sites 1 (Roxton Road West), 5 (Barford Road), 6 (Brewer's Hall Farm North), 7 (Brewer's Hall Farm West) and 9 (Renhold Water End West). Site 2, with a higher level of flint, was also the only site to yield Neolithic pottery. Small amounts of early Bronze Age pottery were recorded from Sites 2 and 6. Later prehistoric pottery is also very focussed, largely featuring on Sites 2 and 4, with marked amounts from Sites 6 and 7. Of all these sites, Site 4 also shows a moderately high amount of later Iron Age-Roman pottery: 18.4% of the total. By far the greatest amount was from Site 8, which accounts for 68.6% of the total pottery assemblage from this period. Site 1 accounts for a further 12.7%, the remaining 0.3% coming from Sites 2, 3, 5 and 9. Saxon pottery is restricted to Sites 8 and 9 and medieval pottery to Sites 3 and 5 and to a lesser extent 9. The sites with the greatest quantities of later prehistoric and Roman pottery also produced the highest incidence of fired clay. Ceramic building material is conspicuous by its general absence, with just a light scatter across seven of the nine sites. Coins and metal small finds reinforce the pattern, showing the highest incidence on Sites 2, 4 and 8, nearly all the Roman coins coming from the latter.

There have been few substantial published sites from the region with significant artefactual assemblages against which to compare the Great Barford Bypass finds, although a number of reports are imminent or unpublished in detail (eg Biddenham Loop, Bedford Southern Bypass, Broom, Sandy,

Table 8.1: Summary of finds (total number of fragments) by site

Finds	*Site 1*	*Site 2*	*Site 3*	*Site 4*	*Site 5*	*Site 6*	*Site 7*	*Site 8*	*Site 9*	*Total*
Flint: worked	3	77	17	14	1	-	2	64	6	184
Flint: burnt unworked	3	26	7	9	-	4	-	149	-	198
Pottery: Neolithic	-	44	-	-	-	-	-	-	-	44
Pottery: early Bronze Age	-	1	-	-	-	5	-	-	-	6
Pottery: later prehistoric	9	2825	-	1228	-	220	242	-	-	4524
Pottery: (LIA)-Roman	1962	7	12	2843	9	-	-	10,580	5	15,418
Pottery: Saxon	-	-	-	-	3	-	-	131	35	169
Pottery: medieval	-	-	1278	-	692	-	-	-	118	2088
Fired clay	38	475	70	1386	18	33	2	1845	35	3902
Ceramic building material	8	6	2	3	1	5	-	45	-	70
Fired clay objects	-	2	-	-	-	-	-	2	-	4
Worked/utilised stone	1	4	1	4	-	1	-	14	1	26
Iron Age coins	-	1	-	1	-	-	-	-	1	3
Roman coins	-	-	-	1	-	-	-	41	-	42
Medieval coin	-	-	-	-	-	-	-	-	1	1
Metalwork: lead	-	-	-	-	1	-	-	30	-	31
Metalwork: copper alloy	1	15	1	8	3	-	-	26	5	59
Metalwork: iron	14	65	10	37	19	-	-	217	8	370
Worked bone objects	-	5	-	-	1	-	-	3	1	10
Roman glass	4	-	-	-	-	-	-	3	-	7
Slag	-	18	1	9	36	2	-	33	2	101
Total	2043	3571	1399	5543	784	270	246	13,183	218	27,257

Odell, Stratton). Of the site assemblages that are available from recent work there is a clear bias towards the later prehistoric period, which, although often prolific in pottery, tend to have a paucity of other finds. The general lack of metalwork, dated artefacts and radiocarbon dates for most of the prehistoric period means that there is no solid framework against which to set the ceramic assemblage leading to the adoption of a relative chronology. Many of the published sites in Bedfordshire for the Roman and later periods are rural in nature and were, therefore, not drawing in large quantities of datable imports and exotic finds. There are no large published quantified pottery assemblages for example, against which to compare the Great Barford assemblages to determine trends in use and discard and patterns of supply. The pottery type series for the medieval period is largely based on urban assemblages excavated in Bedford in the 1960s and this now needs reviewing against more recent work (Edgeworth forthcoming).

FLINT
by Rebecca Devaney

Introduction

A total of 184 pieces of worked flint were recovered (Table 8.2). The most substantial assemblages were from Sites 2 and 8, with all other sites only producing small amounts of material. A further 198 fragments (2265 g) of burnt unworked flint were also retrieved (Table 8.3). The most significant group of material was recovered from an isolated pit at Site 2. It comprised a coherent assemblage of early Neolithic material in association with Plain Bowl pottery. Material from the rest of the sites is chronologically mixed, including pieces reminiscent of the both the earlier and later prehistoric periods, in many cases residual in features of later dates.

Methodology

The flint was catalogued according to broad debitage, core or tool type. Information about burning and breaks was recorded and, where identifiable, raw material and technological characteristics were also noted. In addition, cores were weighed, and burnt unworked flint was quantified by count and weight. The data was entered into an MS Access database. The early Neolithic material from the pit at Site 2 was examined for refitting pieces. Due to the heavy cortication, which obliterates all colour variations normally used to identify refits, each piece was compared to all other pieces. However, no knapping refits or conjoins were found.

Table 8.3: Summary of burnt unworked flint by site

Area	*Count*	*Weight (g)*
Site 1	3	15
Site 2	26	680
Site 3	7	38
Site 4	9	77
Site 6	4	16
Site 8	149	1439
Total	198	2265

Table 8.2: Summary of worked flint by site and type

Finds	*Site 1*	*Site 2*	*Site 3*	*Site 4*	*Site 5*	*Site 7*	*Site 8*	*Site 9*	*Total*
Flake	1	44	8	9	1	1	40	5	109
Blade	1	14	1	-	-	-	3	-	19
Blade-like flake	-	5	2	2	-	-	1	-	10
Bladelet	-	3	-	-	-	-	-	-	3
Rejuvenation flake core face/edge	-	-	-	-	-	-	-	1	1
Irregular waste	-	4	-	-	-	1	18	-	23
Sieved chips 4–2 mm	-	-	-	1	-	-	-	-	1
Sieved chips 10–4 mm	-	-	-	1	-	-	1	-	2
Single platform bladelet core	-	2	-	-	-	-	-	-	2
Single platform flake core	-	-	-	-	-	-	1	-	1
Multiplatform flake core	-	-	1	-	-	-	-	-	1
Keeled nondiscoidal flake core	-	-	1	1	-	-	-	-	2
Unclassifiable/fragmentary core	-	2	1	-	-	-	-	-	3
Bashed lump	-	1	-	-	-	-	-	-	1
End and sidescraper	-	-	1	-	-	-	-	-	1
Backed knife	-	-	1	-	-	-	-	-	1
Retouched flake	-	-	1	-	-	-	-	-	1
Serrated blade	-	2	-	-	-	-	-	-	2
Retouched flake on a flake from a ground implement	1	-	-	-	-	-	-	-	1
Total	3	77	17	14	1	2	64	6	184

Raw material

Most pieces of an identifiable raw material are gravel flint, characterised by a thin and abraded cortex. This material is likely to be locally derived from glacial gravel and river gravel sources (Fig. 1.2). A small number of chalk-derived flints are also present. These have a thick, white, chalky cortex. The nearest source of this material is approximately 20 km away, which may explain its scarcity.

Condition

The condition of the flint varied, but on the whole was quite good. Approximately one third of the material was in a fresh condition and one half exhibited only slight damage. Levels of surface alteration were quite high, with about half of the assemblage being corticated. In general, flints found as individual items in features were more heavily damaged than the probabll *in situ* groups. This is consistent with their likely residual contexts.

Technology and dating

Site 1

Three pieces of worked flint and three pieces (15 g) of burnt unworked flint were recovered from separate contexts. The blade has platform edge abrasion, parallel dorsal blade scars and a hinge termination. Technologically this piece is consistent with a Mesolithic or early Neolithic date. The flake is slightly dubious and may be natural. However, the cherty inclusions in the raw material are likely to have obscured any knapping features. The third piece of worked flint is a retouched flake that has been struck from a finely ground implement of a light grey flint. Direct retouch is present on the right lateral edge. The flake can be broadly dated to the Neolithic on the basis that ground flint implements, such as axes, were predominantly used in this period.

Site 2

A total of 77 pieces of worked flint and 26 fragments (680 g) of burnt unworked flint were recovered from Site 2. The single fill of pit 2183 contained 37 pieces of worked flint. A high proportion (42% excluding irregular waste) of the unretouched debitage are blades, which suggests that the material may date from the Mesolithic (Ford 1987, 79, table 2). Similarly, dorsal blade scars and punctiform butts, characteristics that are often associated with the careful, blade-based flint industries of the Mesolithic and early Neolithic, were seen on many pieces.

The single platform bladelet cores utilise small nodules of gravel flint, both of which have only been worked along one face. The small, parallel blade removals were struck from simple platforms and one exhibits platform edge abrasion. At 47 g and 53 g, the cores are quite small, although they do not appear to be fully exhausted (Fig. 8.1-2). The unclassifiable/fragmentary core is quite small at 37 g. It has some possible removal scars, but is heavily burnt and broken. The presence of bladelet cores is consistent with the proportion of blades and the technological characteristics seen in the unretouched debitage, and supports the Mesolithic or early Neolithic date. The serrated blades, the only tools to be recovered from Site 2, have serrations on both lateral edges though both are very worn. These tools are also consistent with a Mesolithic or early Neolithic date.

The material from pit 2183 forms a coherent group (Table 8.4). The lack of chronologically diagnostic pieces, such as microliths or leaf-shaped arrowheads, means that the broad date range of Mesolithic to early Neolithic cannot be refined using the flint. However, the presence of Plain Bowl pottery in the pit implies an early Neolithic date. Systematic refitting analysis was performed on this material, but knapping refits and conjoins were not identified. This is perhaps not surprising given the absence of chips. It is therefore suggested that the material in the pit consists of a range of artefacts collected from different knapping episodes and toolkits and encompassing some utilised items, such as the worn serrated blades and some pieces with possible usewear.

The assemblage from the pit is consistent with that recovered from a nearby evaluation trench. Trench 72 yielded a small assemblage of eight flints, including heavily corticated flakes, blades, a scraper and two serrated blades (NA 2004a). The presence of serrated blades as the dominant tool type in both assemblages is typical of early Neolithic pit deposits in southern Britain, such as those at Parnwell, Cambs (Cramp and Lamdin-Whymark forthcoming) and Appleford Sidings, Oxon (Devaney

Table 8.4: Summary of worked flint by type from early Neolithic pit 2183

Flint category	*Context 2184*
Flake	18
Blade	7
Blade-like flake	4
Bladelet	2
Irregular waste	1
Single platform bladelet core	2
Unclassifiable/fragmentary core	1
Serrated blade	2
Total	37

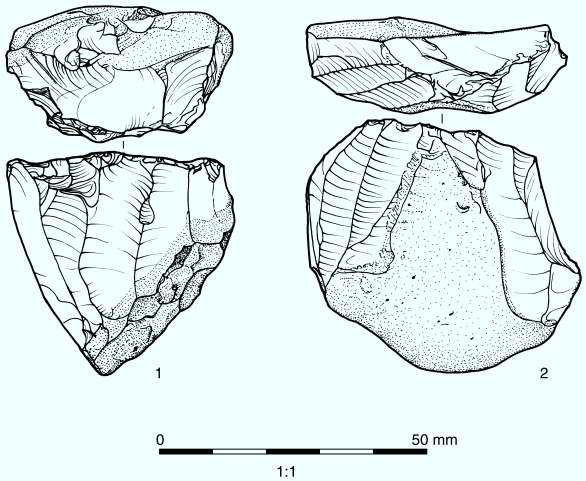

Fig. 8.1 Worked flint from early Neolithic pit 2183

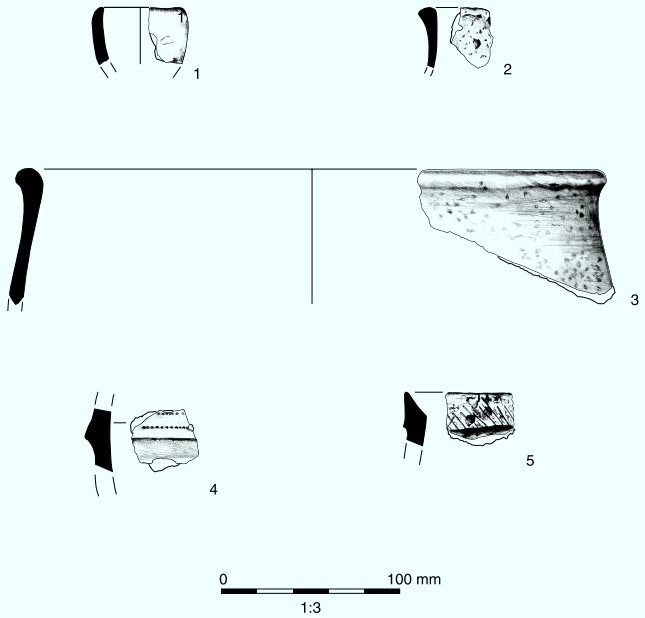

Fig. 8.2 Early Neolithic and early Bronze Age pottery

and Lamdin-Whymark forthcoming), and suggests a concentration on plant-working (Juel-Jensen 1994).

The flint from all other contexts, a total of 40 pieces, was thinly spread across the rest of the site, with no context containing more than three pieces of flint. The unretouched debitage, which dominates the assemblage (38 pieces), is variable in terms of its technological characteristics. The proportion of blades (26% excluding irregular waste) is quite high, which may indicate the inclusion of some earlier material. For instance, a blade from late Bronze Age pit/well 2443 has parallel dorsal blade scars and some of the flakes exhibit platform edge abrasion. Pieces such as these may derive from earlier periods, such as the Mesolithic or early Neolithic. However, others may be unintentional blade removals from otherwise flake-orientated cores. Other pieces are more reminiscent of the hard hammer percussion industries of later prehistory, and include flakes with pronounced bulbs of percussion and clear ventral ripples. The unclassifiable/fragmentary core is lightly burnt and broken and weighs just 22 g. It has one large flake removal and more truncated removals and was probably once part of a larger core. The bashed lump, which weighs 71 g, is covered with incipient cones of percussion and exhibits a few possible removals. This assemblage includes material that is likely to be contemporary with the early Neolithic material from the pit, although other pieces probably represent low-density background activity during the late Neolithic and Bronze Age.

Site 3

A total of nine pieces of worked flint were recovered from six contexts and eight pieces were recovered from unstratified deposits. A further seven fragments (38 g) of burnt unworked flint were also retrieved. As the site is predominantly medieval in date, all the flint is likely to be residual. Technologically, the unretouched debitage is varied. Platform edge abrasion is present on one of the flakes and another has dorsal blade scars, characteristics that are reminiscent of the Mesolithic and early Neolithic. However, other pieces are more indicative of the hard hammer industries of later prehistory.

The multiplatform flake core has many small removals taken from a few separate platforms. It is quite small in size, weighing just 24 g. The keeled core has small removals taken from both sides of keeled edges at either end of the piece. Broken edges show that the piece has been heavily burnt. Like the multiplatform flake core, the keeled core is small, weighing 72 g. The unclassifiable/fragmentary core is also burnt, though not as heavily as the keeled core. As well as removal scars it exhibits a number of thermal scars. Again, the core is small, weighing 61 g. The small size of the cores, and the removals from them, is consistent with the small size of the unretouched debitage. The cores are not chronologically diagnostic, but are consistent with the rest of the assemblage.

The end and side scraper has abrupt, direct retouch on the distal end and sides. It is made on a thick, secondary flake and exhibits a fair amount of damage. The backed knife has direct and indirect retouch on most of its circumference. Unusually the later damage is corticated, possibly because the piece is heavily glossed by rolling. There is also a possible later notch on the left side. The knife is tentatively dated as being from the Beaker period. The retouched flake is made on a piece that had been previously worked. Both the dorsal and ventral surfaces are moderately corticated with the direct retouch cutting into this along most of the perimeter.

Site 4

A total of 14 pieces of worked flint and nine fragments (77 g) of burnt unworked flint were recovered from Site 4. This small assemblage is dominated by unretouched debitage. The pieces are technologically poor and show none of the characteristics usually associated with earlier prehistoric flint working, such as platform edge abrasion, and so are more consistent with a later prehistoric date.

The keeled flake core is made on a nodule of chalk flint. Removals have been taken from either side of one end, forming a keeled edge. It is fairly abraded and exhibits some incipient cones of percussion. This suggests that the piece has been subject to post-depositional disturbance. The core is of a medium size, weighing 202 g. Keeled cores are often seen in late Neolithic contexts and this piece is therefore consistent with the unretouched debitage.

Sites 5, 6 and 7

One corticated and broken flake was recovered from Site 5, four pieces of burnt unworked flint (16 g) from Site 6, and one heavily corticated flake and one piece of irregular waste from Site 7.

Site 8

A total of 64 pieces of worked flint and 149 fragments (1439 g) of burnt unworked flint were recovered from Site 8. The material was thinly spread, with most contexts containing three or fewer pieces of worked flint. Unretouched debitage dominates the assemblage with 62 pieces. In general, the material is technologically poor. Cortical platforms are common, as are incipient cones of percussion on platforms and dorsal surfaces. Given also the low proportion of blades (9% excluding irregular waste and the chip), a later prehistoric date can be suggested for the material (Ford 1987, 79, table 2). The quantity of irregular waste is relatively high and suggests poor quality knapping.

The single platform flake core, weighing 53 g, is fairly irregular. One side is wholly cortical and irregular removals of various shapes and sizes have been removed from the worked face. The presence of incipient cones of percussion on the platform suggests a rather haphazard approach to flake removal. The piece in itself is chronologically undiagnostic, but is not out of place with the rest of the later prehistoric assemblage.

Site 9

Five flakes were recovered from five separate contexts. All have suffered from moderate damage, suggesting the occurrence of post-depositional disturbance. A core rejuvenation flake, of a blade-like shape, exhibits previous hinged removals on the dorsal surface and negatives of removals from opposite platforms. The flakes are chronologically undiagnostic and the rejuvenation flake is likely to date from the Mesolithic or early Neolithic.

Discussion

The flint represents human activity along the Bypass corridor from at least the early Neolithic through to the Bronze Age. Some of the material is also consistent with a Mesolithic date, although due to the lack of chronologically diagnostic items such as microliths this cannot be distinguished from the early Neolithic material.

The early Neolithic assemblage from pit 2183 at Site 2 is typical of other contemporaneous pit deposits. The remainder of the flint assemblage was thinly distributed across the sites, with all contexts containing less than ten pieces of flint and 75 contexts containing just one piece. Most of these pieces were residual in later features, and are likely to represent casual losses.

Catalogue of illustrated flint

1. Single platform bladelet core (Fig. 8.1.1). Gravel flint, parallel blade removals from one platform, platform edge abrasion, 47 g. Site 2, pit 2183, ctx 2184. Phase 1 (early Neolithic)
2. Single platform bladelet core (Fig. 8.1.2). Gravel flint, small rounded nodule, parallel blade removals from one platform, 53 g. Site 2, pit 2183, ctx 2184. Phase 1 (early Neolithic)

EARLY PREHISTORIC POTTERY
by Emily Edwards

A total of 50 early prehistoric sherds (239 g) were recovered from Sites 2 and 6. This comprised early Neolithic Plain Bowl pottery from pit 2183 (Site 2) and Collared Urn pottery from early Bronze Age pits 6126 (Site 6) and 20121 (Site 2). The fabrics are described and quantified in Table 8.5. Standard OA codes are used to denote inclusion types (A = sand, C = calcareous, DS = leached shell, F = flint, G = grog, Pfe = ironstone, Q = quartzite, S = shell). Numbers are used to differentiate fabrics according to size of inclusions (mm).

Early Neolithic

A total of 44 sherds (205 g) of early Neolithic pottery was recovered from pit 2183 at Site 2. This included one flared, externally expanded rim (270 mm diameter; Fig. 8.2.3), one stepped shoulder, one small externally expanded rim (Fig. 8.2.2) and the pointed rim of a cup (Fig. 8.2.1). Fabrics were typical of this period, containing leached shell, coarse flint or calcareous inclusions. No decoration or residues were present. The condition of the early Neolithic material and the lack of a shoulder on the profile of the flared bowl rim make stylistic attribution difficult. However, the straight profile of the neck and the expanded and thickened rim forms would seem to suggest a later Plain Bowl date (*c* 3700–3300 cal BC) rather than an earlier Carinated Bowl date (*c* 4100–3600 cal BC).

Potentially similar early-middle Neolithic material was recovered from Manor Farm and Pear Tree Farm, both sites located on the route of the Bedford Southern Bypass, and as such located on river gravel, a more favoured location for settlement at this time. The Manor Farm assemblage came from a single pit, and although rim sherds were absent, included at least five different fabrics and joining sherds from a plain Carinated Bowl (J Timby pers. comm.). Comparable material from the region is exceptionally rare and consequently no developmental model for the Neolithic sequence has been established for this locality.

Table 8.5: Early prehistoric pottery fabrics

Fabric code	*Description*	*No. sherds*	*Weight (g)*
AC1	Common, moderately well sorted sand with 5 % calcareous inclusions. Early Neolithic	1	4
Apfe1	5 % sand and 1 % ferruginous pellets. Early Neolithic	2	8
DS2	15–20 % leeched shell voids. Early Neolithic	35	148
F5	20 % flint, poorly sorted, ranging from below 1 mm up to 5 mm. Unevenly distributed 5 % fine sand. Early Neolithic	5	44
S1	10 % very finely but unevenly crushed shell, partly leeched. 2 % ferruginous pellets.	1	6
A2	10–15 % moderately well sorted sand, up to 2 mm. Matrix contains 5 % voids. Early Bronze Age	5	22
NAT	10–15 % linear voids. Much iron staining. Early Bronze Age	1	12
	Total	50	244

Early Bronze Age

Five sherds (22 g) of Collared Urn pottery (*c* 2200–1500 cal BC) were recovered from pit 6126 at Site 6, and a single sherd (12 g) from pit 20121 at Site 2. The sherd from Site 2 was an internally bevelled rim manufactured from an iron-stained clay containing voids. It was decorated with incised lines which probably formed part of a motif consisting of filled hanging triangles (Fig. 8.2.5). Amongst the sherds from Site 6 was a fragment from the bottom of a collar, manufactured from clay containing sand and quartzite fragments. The collar was decorated with rows of round-toothed comb impressions (Fig. 8.2.4).

There have been few finds of Collared Urn pottery from nonfunerary contexts elsewhere in the local area, although there have been a number of finds from barrows. The geographically closest examples comprise three semicomplete urns recovered from the Roxton barrow cemetery, 1.7 km to the south-west of Site 2. These differ from the Great Barford sherds in their grog-tempered fabrics and (in two cases) use of impressed cord decoration (Taylor and Woodward 1985).

Catalogue of illustrated sherds (Fig. 8.2)

1. Pointed rim from a small cup. Fabric AC1. Firing: red-brown throughout. Site 2, pit 2183, ctx 2184. Phase 1 (early Neolithic)
2. Externally expanded rim. Fabric DS2. Firing: external, yellow-brown; core, black: internal, yellow-brown. Site 2, pit 2183, ctx 2184. Phase 1 (early Neolithic)
3. Externally thickened, rounded rim and straight neck of a bowl. Fabric DS2. Firing: black throughout. Site 2, pit 2183, ctx 2184. Phase 1 (early Neolithic)
4. Bottom of an applied collar from a collared urn. Decoration: two lines of impressed round toothed comb. Fabric A2. Firing: external, red-brown; core, black; internal, brown. Site 6, pit 6126, ctx 6135. Phase 2 (early Bronze Age)
5. Internally bevelled rim of a Collared Urn. Decoration: incised diagonal lines on external face. Fabric NAT2. Firing: black throughout. Site 2, pit 20121, ctx 20122. Phase 2 (early Bronze Age)

LATER PREHISTORIC POTTERY
by Leo Webley

Introduction

A substantial assemblage of 4524 sherds (65,120 g) of later prehistoric pottery was recovered. Most of the assemblage comes from Site 2, with lesser amounts from Sites 1, 4, 6 and 7 (Table 8.6). Although there is a small group of pottery from the late Bronze Age/early Iron Age, the material essentially dates to the middle and late Iron Age. As one of the largest Iron Age assemblages yet recovered from Bedfordshire, it makes a significant contribution to our understanding of ceramic development in the region. Of particular interest is a large 'structured' deposit of later middle Iron Age pottery from Site 2, which included unusual La Tène decorated vessels.

This report takes a synthetic approach, ordering the material by phase rather than by site. A full breakdown of the data by site is, however, provided by the accompanying tables. It should be noted that the distinction drawn between middle and late Iron Age pottery is defined by context, equating to stratigraphic Phases 4 and 5 respectively, and does not correspond in a simple or direct way to different pottery styles. As discussed below, handmade pottery in the 'middle Iron Age tradition' represents a significant minority of the late Iron Age assemblage, indicating that its use persisted alongside diagnostically late Iron Age wares (so-called 'Belgic' pottery) into the early 1st century AD. Similarly, it is clear that the use of late Iron Age-type grog-tempered pottery continued alongside recognisably Roman wares in the period after *c* AD 50 at Sites 1, 4 and 8, but where found in clearly Romano-British contexts this material is discussed by Stansbie (below).

Table 8.6: Summary of later prehistoric pottery assemblage.
• = more than 1 kg of pottery present; o = less than 1 kg of pottery present

				Periods represented		
Site	*No. sherds*	*Weight (g)*	*% by weight*	*LBA-EIA*	*MIA*	*LIA*
1	9	50	0.1	o		o
2	2825	49,588	76.1	o	•	•
4	1228	10,935	16.8		o	o
6	220	1646	2.5	o	•	o
7	242	2901	4.5		o	•
Total	4524	65,120	100.0			

Recording

All of the pottery has been recorded in line with PCRG (1997) recommendations and standard OA procedures (Booth 2004). The author recorded most of the material, although some of the pottery from Sites 1 and 4 was recorded by Dan Stansbie. Fabrics have been coded using the Bedfordshire type series, following examination of the type sherds held by Albion Archaeology. The data has been entered into an MS Access database, available in the archive.

Fabric series

The Bedfordshire fabric series consists of a series of broad fabric groups defined mainly by inclusion type. While it does not address issues of finer-level variation in fabric 'recipe', it has the advantage of allowing intersite comparisons within the county. Most of the pottery from Great Barford has been ascribed to fabrics already existing within the Bedfordshire series, but two new fabrics were also identified (F39 and F40). Full descriptions of fabrics have only been provided where they have not been previously published elsewhere (see references in Table 8.7).

Broad chronological trends can be seen in fabric use at Great Barford. Burnt flint-tempered fabrics (F01 and F02) were exclusively used in the late Bronze Age and early Iron Age. The middle Iron Age is characterised by pottery containing shell, limestone, ironstone, sand and organic inclusions in varying combinations. A similar range of inclusion types continued into the late Iron Age, with grog-tempered wares also appearing in quantity.

While grog and burnt flint can clearly be identified as deliberately added temper, how far this applies to other inclusions is unclear, with many probably naturally present in the clays. Almost all of the fabrics are potentially of very local origin (*c* 1 km radius of each site). Fabrics characterised by fossil shell are likely to derive from the Jurassic (Oxford) clays, which outcrop in several places in the area (Fig. 1.2). The sandy fabrics could derive from the glacial gravel deposits which overly the boulder clay in places, or alternatively from the alluvial or river gravel deposits flanking the River Ouse; the absence of glauconitic inclusions suggests that the Greensand beds lying 6 km to the south-east were not utilised. The source of fabric F37, one of the commonest fabrics in the assemblage, is less clear. This fabric contains varying amounts of fine to medium fossil shell, fine to medium limestone, red ferrous inclusions, sand and organic inclusions, giving it a characteristic 'speckled' appearance. This heterogeneous mix of inclusions is perhaps indicative of a source in the boulder clays on which most of the sites are situated.

It is of course possible that nonlocal material is present in the assemblage, but lacks distinctive inclusions that would allow it to be identified. The one fabric that does seem likely to be of nonlocal origin is F40, represented by a single vessel from a late Iron Age context at Site 6. This contains black, subangular, mineral inclusions of uncertain origin, which have not previously been identified in Iron Age pottery from Bedfordshire (A Slowikowski pers. comm.).

Table 8.7: Later prehistoric pottery fabric series

Fabric	*Common name*	*Date range at Great Barford*	*Reference*
F01A	Coarse flint	Late Bronze Age	Parminter and Slowikowski 2004; Slowikowski 2005
F01B	Fine flint	Late Bronze Age and early Iron Age	Parminter and Slowikowski 2004; Slowikowski 2005
F01C	Quartz and flint	Late Bronze Age	Slowikowski 2005
F02	Grog and flint	Late Bronze Age	Slowikowski 2005
F05	Grog and shell	Late Iron Age ('Belgic')	Parminter and Slowikowski 2004; Slowikowski 2000; 2005
F06A/B	Fine/medium grog	Late Iron Age ('Belgic')	Slowikowski 2005
F06C	Coarse grog	Late Iron Age ('Belgic')	Slowikowski 2005
F07	Shell	Late Iron Age ('Belgic')	Parminter and Slowikowski 2004; Slowikowski 2000; 2005
F07A	Fine shell and mica	Late Iron Age ('Belgic')	Parminter and Slowikowski 2004
F09	Sand and grog	Late Iron Age ('Belgic')	Parminter and Slowikowski 2004; Slowikowski 2000; 2005
F16	Coarse shell	Middle and late Iron Age	Parminter and Slowikowski 2004; Slowikowski 2000; 2005
F16B	Fine shell	Middle and late Iron Age	See below
F19	Sand and organic	Middle and late Iron Age	Parminter and Slowikowski 2004
F20	Calcareous (limestone/chalk)	Middle and late Iron Age	Slowikowski 2000
F28	Fine sand	Middle and late Iron Age	Slowikowski 2005
F30	Sand and calcareous (limestone/chalk)	Late Iron Age ('Belgic')	Parminter and Slowikowski 2004; Slowikowski 2005
F37	Shell, calcareous (limestone/chalk) and ironstone	Middle and late Iron Age	Wells 2006
F39	Grog and mica	Late Iron Age ('Belgic')	See below
F40	Black mineral inclusions	Late Iron Age	See below

Fabric descriptions

F16B (fine shelly): Fine, hard, 'soapy' fabric with dark grey/black surfaces and a uniformly black core. Contains frequent to abundant, poorly sorted, angular fossiliferous shelly limestone, average size *c* 0.1–1.2 mm, ranging up to 2.0 mm in length, and moderate, poorly sorted, subangular clay pellets ranging from *c* 0.2–1.7 mm. Also contains occasional poorly sorted, subangular to subrounded quartz inclusions *c* 0.1–0.4 mm and occasional poorly-sorted, subrounded to subangular brown iron ore *c* 0.1–0.2 mm (fabric description taken from Bedfordshire fabric series archive).

F39 (grog and mica): Hard fabric containing frequent, subrounded grog, up to 2.5 mm in length, and frequent fine silver mica. Rare red-brown ferrous inclusions, up to 3.5 mm in length, are visible in some sherds. Generally wheel-made.

F40 (black mineral inclusions): Coarse fabric containing moderate, poorly sorted, subangular inclusions of uncertain origin (hard, black, shiny), up to 2.0 mm in length. Also contains moderate, subangular to subrounded calcareous inclusions (limestone?), up to 2.0 mm in length; sparse fine sand; and rare red-brown ferrous inclusions, up to 1.0 mm.

Discussion by phase

Late Bronze Age and early Iron Age pottery

Only 55 sherds (591 g) of pottery could be dated to these periods (Table 8.8). Most of the material came from a pair of intercutting late Bronze Age pits at Site 2 (2440 and 2443). This pottery from these pits is fairly fragmented, with a mean sherd weight of 10 g. The fabrics are tempered with flint or grog and flint. Only two feature sherds are present. One comprises the complete profile of a small barrel-shaped vessel, possibly a cup, with an internally bevelled rim (Fig. 8.3.1). The other is an everted rim from a larger vessel, ornamented with a row of fingertip impressions (Fig. 8.3.2). Charred food residues are present on the interior of the rim. The pottery from these pits can be placed in the post-Deverel Rimbury tradition of *c* 1150–800 BC. More tentatively, the presence of grog in some of the sherds could suggest a date in the earlier part of this period, following Brudenell's (forthcoming) interpretation of the assemblage from Broom, Beds.

Although no early Iron Age features were identified at any of the sites, fragments of a vessel possibly dating to this period were recovered from a middle Iron Age ditch at Site 2 (Fig. 8.3.3). These comprised body sherds from a thin-walled vessel in a flint-tempered fabric with a red, burnished exterior surface. The sherds are decorated with shallow-tooled circles and parallel lines. Limescale residue appears to be present on the interior of some of the sherds. This vessel is unusual for the region, although it does have similarities with some early Iron Age material from Wessex and the Upper Thames Valley. One possible parallel is a small, red-surfaced furrowed bowl decorated with circles on its lower body from New Wintles Farm, Eynsham, Oxon (Harding 1972, pl. 49J).

A few further fragments of flint-tempered pottery were recovered as residual material from middle or late Iron Age contexts at Sites 1, 2 and 6. These are all plain body sherds and can only be broadly dated to the late Bronze Age/early Iron Age.

Middle Iron Age pottery (c 400/300 BC–50/10 BC)

Context and condition

A total of 1397 sherds (21,577 g) of middle Iron Age pottery was recovered, most of which came from Site 2, with only small amounts from Sites 4, 6 and 7 (Table 8.9). This disparity limits the possibilities for analysis of intersite variation in assemblage composition. Most of the pottery was recovered from ditch and gully contexts, with much smaller amounts from pits and other features. In fact, 43.9% of the assemblage by weight came from a single large backfill deposit at the northern end of ditch 2742 (Site 2). This fill also contained human remains and can be considered a special or 'structured' deposit (see below).

With a mean sherd weight of 17.6 g, the overall condition of the middle Iron Age assemblage from

Table 8.8: Late Bronze Age and early Iron Age pottery

	Site 1 (residual)		*Site 2 (LBA pits)*		*Site 2 (residual)*		*Site 6 (residual)*			*Total*	
Fabric	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*% by Wt*
F01A	1	19	1	2	5	40	1	10	8	71	12.7
F01B	-	-	1	2	9	106	-	-	10	108	19.4
F01C	-	-	6	20	-	-	-	-	6	20	3.6
F02	-	-	29	352	-	-	-	-	29	352	63.2
Indet.	-	-	1	6	-	-	-	-	1	6	1.1
Total	1	19	38	382	14	146	1	10	54	557	100.0

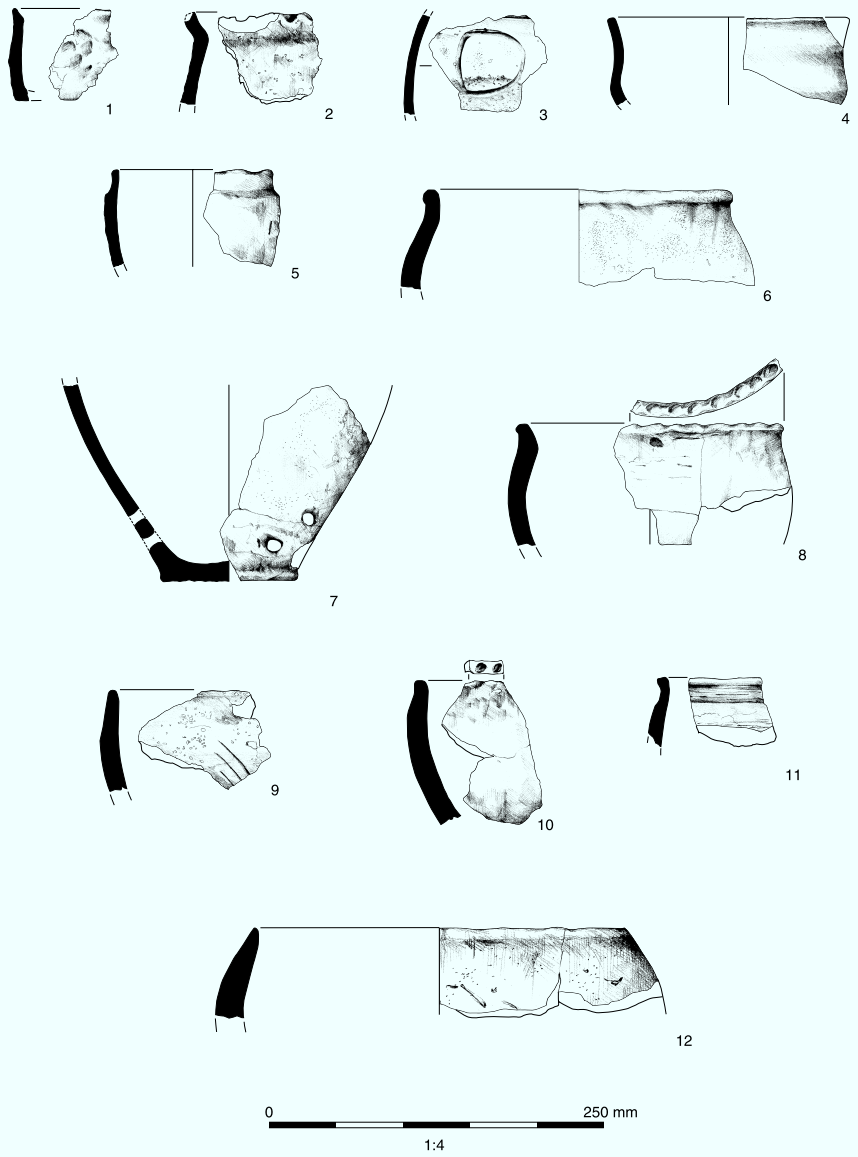

Fig. 8.3 Late Bronze Age, early Iron Age and middle Iron Age pottery, nos 1–12

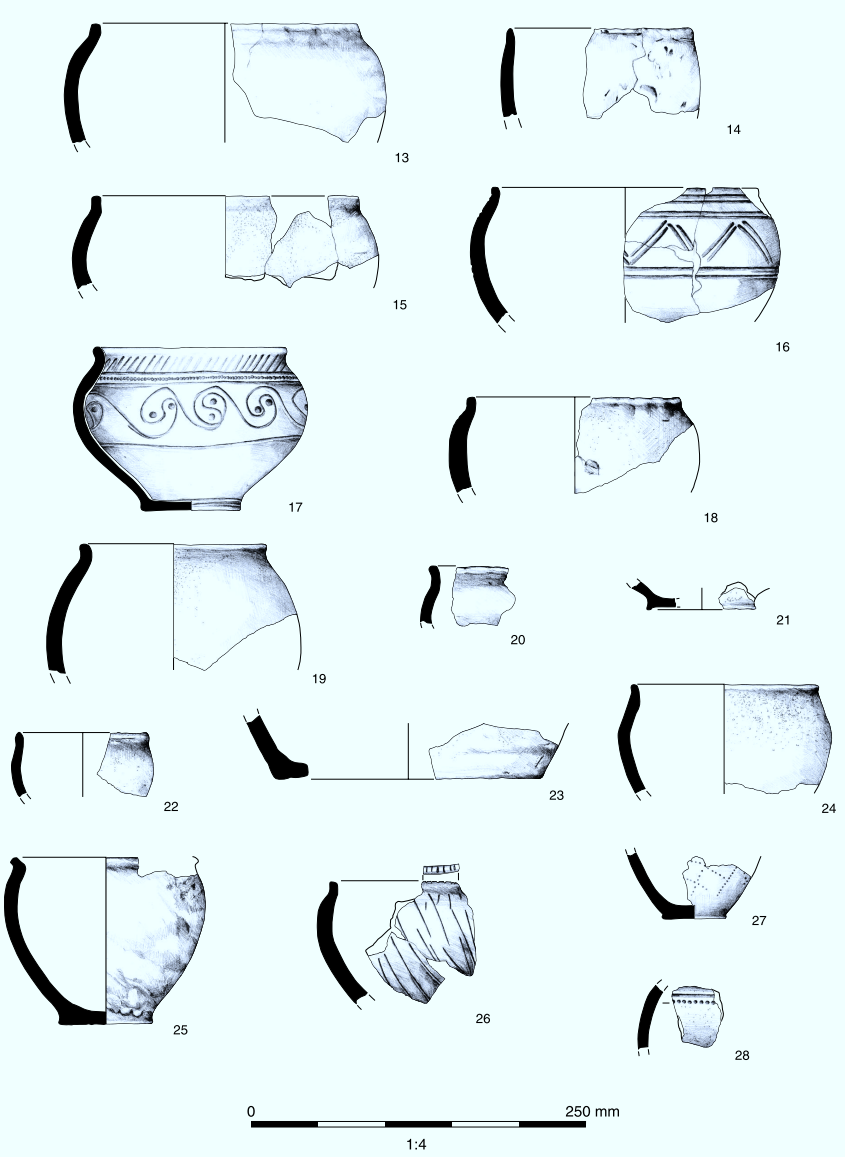

Fig. 8.4 Middle Iron Age pottery, nos 13–28

Table 8.9: Middle Iron Age pottery (Phase 4)

	Site 2		Site 4		Site 6		Site 7		Total		
Fabric	No.	Wt (g)	No.	Wt (g)	No.	Wt (g)	No.	Wt (g)	No.	Wt (g)	% by Wt
F16	199	6401	-	-	23	333	-	-	222	6734	31.2
F16B	43	992	-	-	1	30	-	-	44	1022	4.7
F19	45	456	24	130	2	9	-	-	71	595	2.8
F20	26	73	3	38	1	4	-	-	30	115	0.5
F28	36	956	1	9	1	3	-	-	38	968	4.5
F37	770	10,858	43	283	167	942	11	56	991	12,139	56.3
Indet.	-	-	-	-	1	4	-	-	1	4	<0.1
Total	1119	19,736	71	460	196	1325	11	56	1397	21,577	100.0
Scored	77	2130	-	-	2	31	-	-	79	2161	10.0
Burnished	43	1067	20	123	4	45	-	-	67	1235	5.7

Site 2 was good. Significant variation was present between different feature types, however, with the structured deposit within ditch 2742 having a notably high mean sherd weight. Other ditch and gully contexts had a lower mean sherd weight than pit contexts (Table 8.10). The middle Iron Age material from Sites 4, 6 and 7 was much more poorly preserved than that from Site 2, with mean sherd weights of 5.1–6.8 g.

Fabrics

The shell, calcareous and ironstone fabric F37 is dominant at all of the sites, forming 56.3% of the total middle Iron Age assemblage (Table 8.9). Fabrics characterised by fossil shell (F16 and F16B) are also abundant, and there are also smaller amounts of pottery containing sand or limestone/chalk inclusions.

Evidence from other middle Iron Age sites in Bedfordshire has indicated that pottery fabrics are highly variable, and essentially dependent on the nature of the clay resources of the immediate local area (McSloy 1999). This can be seen at Great Barford, with the dominance of shell and calcareous inclusions reflecting the boulder and Oxford clay resources available in the near vicinity. In contrast, a series of middle Iron Age sites in the Willington area—only a short distance to the south of the Bypass route, but situated on gravel—have produced much lower amounts of shelly and calcareous fabrics (McSloy 1996).

Table 8.10: Condition of pottery from different feature types at Site 2

	MIA			LIA		
	No.	Wt (g)	MSW	No.	Wt (g)	MSW
Ditch 2742	454	9483	20.9	-	-	-
Ditch/gully	386	5801	15.0	1401	25,678	18.3
Eaves-gully	64	393	6.1	13	197	15.2
Pit	207	3995	19.3	154	2582	16.8
Other	8	64	8.0	86	867	10.1
Total	1119	19,736	17.6	1654	29,324	17.7

Vessel form, size and function

All of the vessel forms are essentially variants of the slack-shouldered jars/bowls which dominate middle Iron Age assemblages in the region. Forms have been categorised using J D Hill's typology, widely used on contemporary sites in neighbouring Cambridgeshire (Hill and Horne 2003, 174). This typology focuses on rim and shoulder form, due to the scarcity of complete vessel profiles from sites of this period. Vessels have also been classified by rim diameter, which has a fairly direct relationship with overall vessel size in middle Iron Age assemblages from the region (Woodward and Blinkhorn 1997). The identified form types can be summarised as follows (Table 8.11):

1. *Slack-shouldered, fairly open vessels* (Hill forms A and D). This was the dominant form, and straddles the distinction between bowls and jars (Fig. 8.3.5–6, 8, 10–11, Fig. 8.4.13, 15, 18, 20, 22, and 24–6). Vessels in this class occurred in a range of fabrics; burnishing, scoring and rim-top decoration all occur.
2. *Constricted-neck jars* (Hill forms B and C). These comprised vessels with a rim diameter markedly smaller than the shoulder diameter (Fig. 8.4.19). Such vessels were found in fabrics F16 and F37. None were scored or decorated, although one was burnished.
3. *Vessels with no distinct neck* (Hill forms K and T). This includes straight-sided 'tubs' and more open bowl forms (Fig. 8.3.9, 12 and Fig. 8.4.14). They were made from a range of coarse and fine fabrics. Scoring and rim-top decoration occur.

Table 8.11: Middle Iron Age vessel forms

Form (Hill and Horne 2003)		Site 2		Sites 4, 6 and 7		Diameter range (mm)	Fabrics
		No.	EVE	No.	EVE		
A, D	Slack-shouldered jar/bowl	43	3.65	6	0.35	100-400	F16, F16B, F19, F28, F37
B, C	Constricted neck jar	3	0.25	-	-	140	F16, F37
K, T	Neckless jar/bowl	5	0.59	-	-	130-200	F16, F16B, F37
M	Globular bowl	2	0.45	-	-	140-200	F16B
-	Carinated bowl	1	0.11	-	-	180	F28
	Total	54	5.05	6	0.35		

4. *Globular bowls* (Hill form M). There were only two examples of this form type (Fig. 8.4.16–17). These were both well-made, burnished vessels in fine shelly fabric F16B, decorated with La Tène designs (see below). The more complete example has a relatively narrow base for its size (Fig. 8.4.17).
5. *Carinated bowl*. There was a single carinated vessel with a relatively long neck, which cannot easily be classified under Hill's system. This is in fine sandy fabric F28 and has a burnished exterior. The rim has been drawn as fairly flared in Fig. 8.3.4, but it is possible that it was actually more upright. This vessel could be residual from the early Iron Age, although it occurred as a large fragment in a secure Phase 4 context (ditch 2742).

Bases from vessels of all form categories were normally flat, although there was a single small fragment of a foot-ring base from ditch 2742 (Fig. 8.4.21). One base sherd was perforated by a single large pre-firing hole (Fig. 8.4.23), a trait which cannot be paralleled within the region. The purpose of the hole is unclear, although the vessel could perhaps have been used as a strainer or cheese-press if lined with cloth. Fragments of oval-sectioned handles or lugs also occurred, with one fragment each from Sites 2, 4, 6 and 7. Parallels from other sites in Bedfordshire suggest that these handles are likely to have been applied vertically on the shoulders of large jars, normally in a pair with one on each side of the vessel (eg Flitwick: McSloy 1999, fig. 14, nos 2 and 4; Harrold: Eagles and Evison 1970, fig. 5, I.1 and I.4).

Accurate measurement of handmade rims can be difficult where only small fragments are present, and hence only 30 rim diameters were recorded (Fig. 8.5). These range from 100–240 mm, with one outlying vessel at 400 mm. The pattern appears to

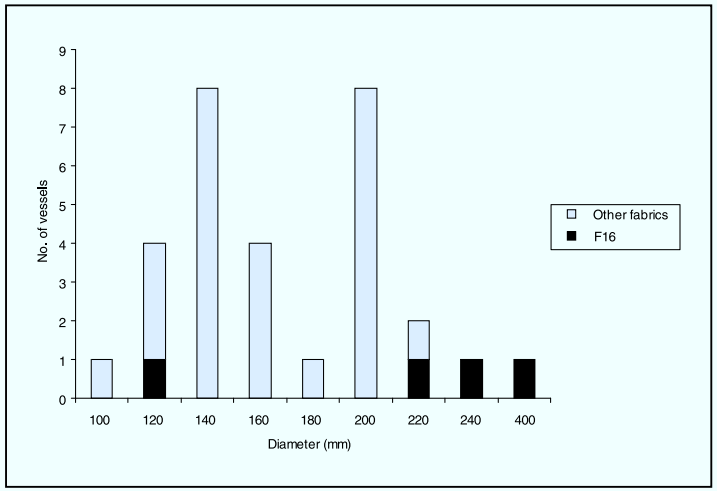

Fig. 8.5 Histogram showing vessel size in the middle Iron Age

be bipolar, with peaks at 140/150 mm and 200/210 mm, although caution is required on this point given the small sample size. The overall distribution of diameters is similar to that recorded from middle Iron Age sites elsewhere in the region, which typically show a clustering at the lower end of the size range, around 100–220 mm, with a 'tail' of larger vessels up to 400 mm in size (Woodward and Blinkhorn 1997, fig. 1; Hill and Horne 2003, Figs. 71 and 73; Hancocks 2003, fig. 7.17; Brudenell forthcoming; Webley forthcoming). Some relationship seems to exist between vessel size and fabric, in that coarse shelly fabric F16 has an association with the largest vessels in the assemblage. Furthermore, it was observed that body sherds in fabric F16 were often thicker than those in other fabrics, suggesting that they derived from large vessels. An association between coarse shelly fabrics and large vessel sizes has previously been noted at middle Iron Age sites elsewhere in the region (Woodward and Blinkhorn 1997; Blinkhorn and Jackson 2003; Hancocks 2003).

The ascription of functions to the different vessel types at Great Barford is hampered by the low incidence of burnt food residues, which were present on only two vessels of recognisable form (both Hill form A, 140 and 300 mm rim diameter). However, ethnographic parallels suggest that there is unlikely to have been a rigid relationship between the form or size of a vessel and its function, with many pots likely to have been multifunctional or subject to changes in use over time (Miller 1985). This is supported by evidence from the much larger contemporary assemblage from Haddenham, Cambs, where charred residues suggested that vessels of all sizes and forms could be used for cooking (Hill and Braddock 2006). Nevertheless, consideration of a range of variables allowed a broad threefold division of functional groups to be proposed for the Haddenham assemblage:

a) Small vessels (*c* 100–40 mm rim diameter) used for cooking and serving food for small groups of people;
b) Medium vessels (*c* 200–20 mm rim diameter) used for cooking and serving food for larger gatherings;
c) Large vessels (260 mm rim diameter and above) primarily used for storage, although also utilised for food preparation when necessary.

This is consistent with the pattern of vessel size distributions at Great Barford, and provides us with a useful working model. The size distribution graph ostensibly shows that small and medium cooking/serving vessels were more common than large storage vessels (Fig. 8.5), but this is unlikely to be a true reflection of the composition of the 'use assemblage'. As cooking and serving vessels would have been handled more frequently than large storage vessels, they would also have been broken more often (Hill 1995a).

One element of the Great Barford assemblage not present at Haddenham is the globular decorated bowls. These fine vessels seem most likely to have been used for serving food, perhaps being associated with particular individuals or with special occasions. The significant difference in size between the two vessels (140 and 200 mm rim diameter respectively) does however suggest that they may not have shared a single, very specific function. A wide rim diameter range of 80–280 mm has been recorded for similar La Tène decorated bowls in the Nene valley, although there is a strong peak at 140–160 mm (Woodward and Blinkhorn 1997, fig. 2).

Surface treatment: burnishing and scoring

Burnishing was recorded on 5.7% of the pottery (by weight). Only six measurable rims were burnished, ranging from 120–240 mm in size. While this sample is small, it may be significant that none of the largest vessels were burnished. One burnished sherd carried charred food residues.

The term 'scoring' refers to irregular scratched or incised lines on vessel bodies. Scoring occurred at Sites 2, 4 and 6, forming 5.7% of the assemblage by sherd count and 10.1% by weight. The discrepancy between these two figures partly reflects the fact that scoring is often found on thick sherds likely to derive from large vessels, a trend noted elsewhere in the region (Hancocks 2003). Scoring occurs on vessel forms A and K, and was sometimes combined with rim-top decoration. Most scored sherds are in fabrics F16 and F37.

Scoring is often assumed to have served a functional purpose in making vessels easier to grip, but recent work has stressed its possible role as a cultural identifier (Hill and Braddock 2006). Bedfordshire lay at the southern limit of the middle Iron Age 'scored ware'-using region, which extended northwards as far as Nottinghamshire and Lincolnshire, and eastwards to the Cambridgeshire Fens (Elsdon 1992). While scored pottery is invariably found at middle Iron Age sites in Bedfordshire, it appears to always represent a small proportion of the assemblage. At Broom, for example, only 2.9% of middle Iron Age sherds were scored (Brudenell forthcoming). This contrasts with areas to the north such as the Nene valley, where some sites show scored ware levels of 40% or more (Elsdon 1992; Webley forthcoming).

Decoration

Decoration was present on only a small number of vessels. In most cases, this took the form of a row of fingertip or fingernail impressions on the rim top, seen on 11 vessels from Site 2 and one from Site 6. Rim top decoration was restricted to vessel forms A and K, and to fabrics F16, F16B and F37. A typology and quantification of the various forms of rim-top decoration is provided by Table 8.12. In addition, one form A vessel from Site 2 was decorated on the shoulder with a row of fingertip impressions.

More elaborate La Tène style decoration occurred on four vessels from Site 2. Most notably, the structured deposit in ditch 2742 contained substantial fragments of two burnished globular vessels with shallow-tooled decoration. The first (ctx 2131) is decorated with a chevron pattern framed by horizontal lines. The chevrons are formed of individual unlinked strokes rather than a continuous line (Fig. 8.4.16). This is very similar to designs seen on comparable globular vessels from sites in Northamptonshire such as Weekley (Jackson and Dix 1987, fig. 34, nos 63 and 66). The second (ctx 2174) is decorated with a curvilinear 'running scroll' and impressed dimples (Fig. 8.4.17). The scroll is framed by horizontal lines and a row of dots, and there is also a row of diagonal lines on the neck of the vessel. The running scroll and dimple decoration can again be closely paralleled at sites in Northamptonshire, including Weekley (Jackson and Dix 1987, fig. 33 nos 50, 54 and 58, fig. 36 no. 96), Draughton (Cunliffe 1991, fig. A:23, no. 7) and Desborough (Foster 1998, fig. 1a). It is unfortunately unclear whether these vessels were locally made in a style also current in Northamptonshire, or were actually imported from that area. Their fine shelly fabric is comparable to that described for the Northamptonshire examples, but could equally well derive from the local Jurassic clays (see *Fabrics* above).

The other two vessels are represented by smaller fragments. Pit 2645 produced a body sherd decorated with a line and a parallel row of impressed dots (Fig. 8.4.28), similar to that seen on the vessel with the running scroll. Ditch 2426 meanwhile yielded the lower part of a small, black, burnished vessel, decorated with a diagonal mesh of small punched dots (Fig. 8.4.27). Similar vessels with linear patterns of punched dots are occasionally found in the region, for example at Wardy Hill, Cambs (Hill and Horne 2003, fig. 74.8).

Bedfordshire is similar to much of eastern England in that La Tène decorated vessels occasionally occur at middle Iron Age sites, but never form more than a tiny proportion of the assemblage (Hill and Horne 2003). Examples from northern and central parts of the county include a vessel from Flitwick decorated with curvilinear lines and impressed dots (McSloy 1999, fig. 15, no. 13) and, possibly, a roulette-decorated sherd from Willington (McSloy 1996, 26). This sparse distribution contrasts with three specific areas of eastern England—Northamptonshire, Lincolnshire and south-east Essex—where La Tène decoration is much more abundant (Elsdon 1975; 1996). Unsurprisingly, the Great Barford vessels have the greatest similarities with the nearest of these groups, that from Northamptonshire. There has been much interest in the distributions of different La Tène decorative motifs within Northamptonshire. In particular, much emphasis has been placed on the discrete and mutually exclusive distributions of the so-called 'running scroll and single dimple' and 'running scroll and berried rosette' patterns, Foster (1998) arguing that these represent two distinct tribal groupings. The 'running scroll and single dimple' vessel from Great Barford changes the picture somewhat, lying 25 km to the south-east of the previously accepted distribution of this group (Fig. 8.6). However, the status of this vessel as an outlier could well be illusory, as there has been virtually no large-scale excavation of Iron Age sites in the intervening area of north Bedfordshire. Previous discussions have also overlooked a further vessel with a 'running scroll and single dimple', from New Addenbrooke's, Cambridge (Cra'ster 1969, fig. 9), some 55 km to the east of the Northamptonshire examples.

Post-firing modification

There was little evidence for post-firing modification of middle Iron Age vessels, although one vessel has a pair of drilled holes in its wall, immediately above the base (Fig. 8.3.7). These are not repair holes, and their purpose is uncertain. However, the fact that this vessel formed part of the structured deposit in ditch 2742, which also contained human remains (see below), raises the possibility that this could be an example of the ritual piercing or 'killing' of a pot (Fulford and Timby 2001).

Deposition

The pottery from most Phase 4 contexts was mixed and fragmentary. Few deposits contained more than 500 g of pottery, and even these tended to contain small parts of many vessels, rather than substantial fragments. There were some contexts that stood out from this pattern, however. This included three cases at Site 2 where complete or semicomplete slack-shouldered jars had been placed at the terminals of ditches or gullies. One of these occurred at the terminus of ditch 2083, another in ditch 2338 (Fig. 8.4.26) and a third at the entrance to the eaves-gully (2295) of Circular Structure 21 (Fig. 8.4.25). These are examples of the well-known Iron Age tradition of deliberately placed deposits at ditch terminals (Hill 1995a).

Table 8.12: Rim decoration, middle Iron Age vessels

Decoration type (Hill and Horne 2003)		*No.*	*Forms*	*Fabrics*
RTA	Fingernail, perpendicular across rim	2	A, K	F37
RTB	Fingernail, diagonally from left to right looking from inside the pot	3	A, K	F16, F16B
RTD	Fingertip	6	A	F16, F16B, F37
RTE	Fingernail, diagonally from right to left looking from inside the pot	1	A	F37

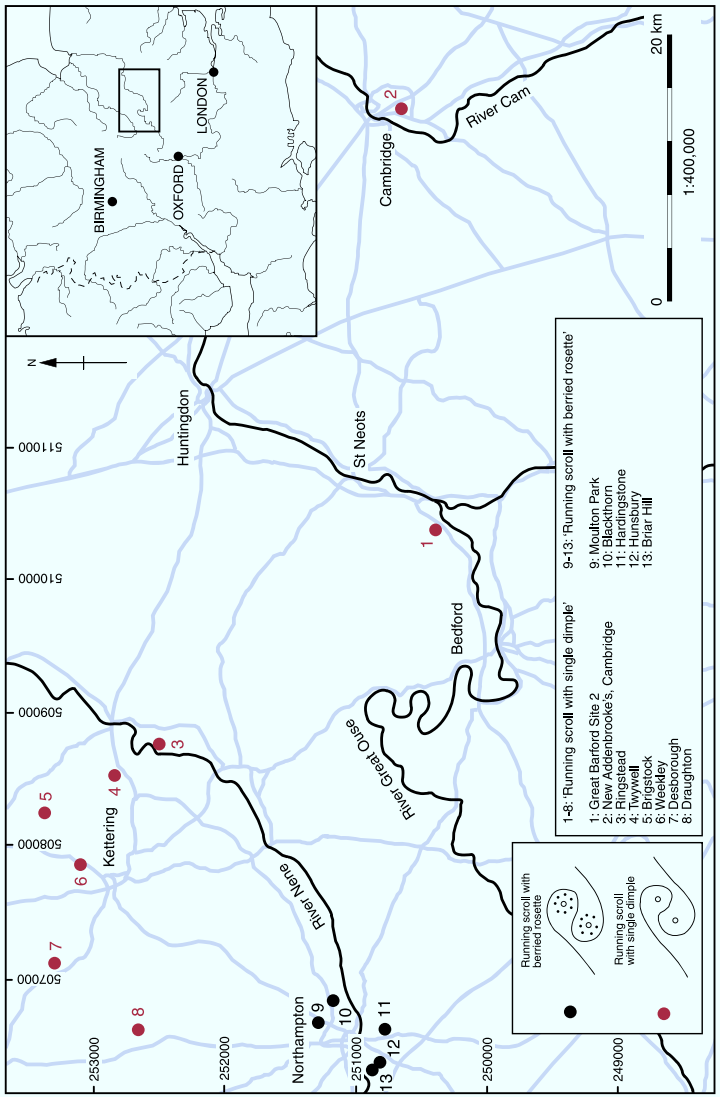

Fig. 8.6 Geographical distribution of Iron Age vessels decorated with La Tène 'running scroll' designs. Based on Foster 1998, fig. 2, with additions.

Also notable is the pottery from the structured deposit at the northern end of ditch 2742. This deposit contained 8.2 kg of pottery, associated with large amounts of animal bone, an iron latch lifter, and deliberately placed human remains. Rim count suggests that parts of at least 24 vessels are represented in this deposit, and although some of these only occurred as single sherds there are also substantial, refitting pieces from a number of pots. This included the two globular vessels with La Tène decoration, one of which (Fig. 8.4.17) was near complete. Other than the presence of these two vessels, the make-up of the ditch assemblage in terms of vessel forms, sizes and fabrics was generally comparable to the rest of Site 2. The condition of the material differed from the norm, however. As noted above, this deposit had a notably high mean sherd weight, and few of the sherds showed heavy abrasion. The pottery from this ditch had thus been deposited in a relatively fresh state compared to the bulk of the material at the site. An attempt was made to find sherd refits between the various interventions into the ditch, and between the arbitrarily defined spits within each intervention (Fig. 2.7), but none were found. This suggests that large fragments from individual vessels were deposited in discrete parts of the ditch, rather than being dispersed and mixed with other material in middens prior to deposition.

The fact that the vessel with curvilinear La Tène decoration (Fig. 8.4.17) from this ditch was singled out for deposition in a near-complete state is of interest. At most sites in Northamptonshire, there appears to be little to distinguish the deposition of La Tène decorated vessels from that of other types of pottery. However, there are indications that in areas of eastern England where La Tène vessels were scarcer, they were often treated as special. At Flitwick, Beds, the single vessel with linear La Tène decoration was incorporated within a ditch backfill deposit containing a very large assemblage of pottery (Luke 1999), perhaps a similar depositional event to that seen in ditch 2742 at Great Barford. In Cambridgeshire, Hill and Horne (2003) have shown that La Tène decorated vessels were often deposited in different ways from other pottery types, for example, at Wardy Hill where large sherds from a decorated jar were placed near the terminal of a roundhouse eaves-gully during its deliberate backfilling.

Chronology

In common with most contemporary sites in the region, the Great Barford sites lack complex stratigraphic sequences which would allow investigation of ceramic development within the middle Iron Age. Radiocarbon dating was carried out on one middle Iron Age context, the structured deposit from ditch 2742, with a determination of 160–130 cal BC/120 cal BC–cal AD 50 (OxA 15513: 2036 ± 28 BP) obtained from articulated human bone. A second determination was taken from a disarticulated human skull fragment from the same deposit, but this is regarded as a curated object and hence not relevant to the dating of the associated pottery (Chapter 3). Given the absence of late Iron Age pottery from the deposit, a date after *c* AD 20 at the latest is unlikely (see below), effectively narrowing its attribution to a period of *c* 180 years at the end of the middle Iron Age. The pottery from the deposit forms a useful, closely-dated 'key group', in which the unusual La Tène bowls are associated with a range of more typical vessel forms (Figs. 8.3.4–12; 8.4.13–21).

The dating of La Tène decorated vessels in eastern England is an area of contention. Hitherto, the key evidence has come from Weekley, Northants, where five radiocarbon dates were obtained from charcoal from a ditch fill containing vessels of this type. The mean value of these determinations was used to argue that the decorated vessels were in use between *c* 175 BC–AD 20 (Jackson and Dix 1987, 49). However, Knight (2002, 132) has noted that the value of this evidence "is seriously limited by the wide date ranges, arising in part perhaps from repeated cleaning episodes which could not be discerned in the ditch fill". Knight goes on to argue that parallels from other areas of southern England suggest that La Tène decorated pottery was introduced as early as the 5th–3rd centuries BC. Whether or not this was the case, the evidence from ditch 2742 at Great Barford supports the traditional view that the main period of use of La Tène decorated vessels was towards the end of the middle Iron Age.

Late Iron Age pottery (c 50/10 BC–AD 50)

Context and condition

A total of 3073 sherds (42,986 g) of late Iron Age pottery was recovered (Table 8.13). Again, most of the assemblage came from Site 2, but this is augmented by significant quantities from Sites 4 and 7. Only a few sherds were recovered from Sites 1 and 6. With a mean sherd weight of 17.7 g, the material from Site 2 was in a good condition, but the material from the other sites was again more poorly preserved (mean sherd weights 3.9–13.5 g). In contrast to the middle Iron Age, there are no marked differences in the condition of the material from pit, ditch and eaves-gully contexts (Table 8.10).

Ceramic traditions during the late Iron Age

The late Iron Age is defined by the appearance of so-called 'Belgic' pottery forms, which are often wheel-made. The adoption of these novel forms in the south-east Midlands is conventionally dated to around 50 BC, but the process appears to have been slow and patchy, and they may not in fact have become widespread until after *c* 10–0 BC (Hill 2002; Hill and Horne 2003, 164).

While diagnostically late Iron Age wares are dominant in the Phase 5 assemblage from the Bypass

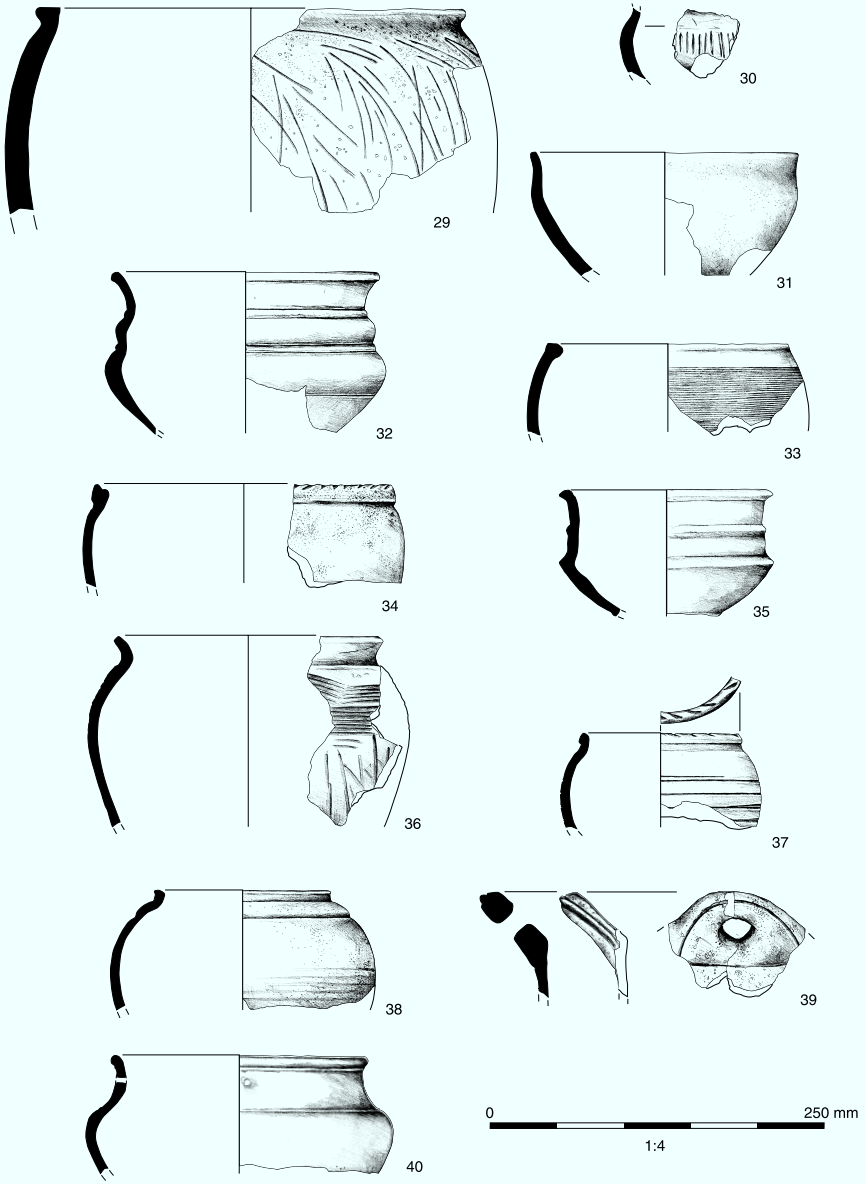

Fig. 8.7 Late Iron Age pottery, nos 29–40

Table 8.13: Late Iron Age pottery (Phase 5)

	Site 1		Site 2		Site 4		Site 6		Site 7		Total		
Fabric	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*No.*	*Wt (g)*	*% by Wt*
F01A	-	-	1	34	-	-	-	-	-	-	1	34	0.1
F05	4	3	28	578	179	1749	-	-	1	5	208	2332	5.4
F06A/B	2	23	572	9665	452	3088	7	93	120	1391	1151	14,237	33.1
F06C	-	-	33	945	10	378	-	-	-	-	43	1323	3.1
F07	-	-	257	7614	368	4372	-	-	85	1122	710	13,108	30.5
F07A	-	-	3	13	-	-	-	-	-	-	3	13	0.0
F09	-	-	253	2794	5	92	-	-	6	137	264	3023	7.0
F16	-	-	32	2021	1	72	1	5	-	-	34	2098	4.9
F16B	-	-	12	219	-	-	-	-	-	-	12	219	0.5
F19	-	-	19	231	9	59	-	-	3	20	31	310	0.7
F20	-	-	38	335	7	49	-	-	-	-	45	384	0.9
F28	2	5	48	794	3	9	-	-	1	3	52	806	1.9
F30	-	-	2	75	24	134	-	-	-	-	26	209	0.5
F37	-	-	333	3760	46	443	3	17	15	167	397	4387	10.2
F39	-	-	14	222	-	-	-	-	-	-	14	222	0.5
F40	-	-	-	-	-	-	12	196	-	-	12	196	0.5
Indet.	-	-	9	24	53	30	-	-	-	-	62	54	0.1
Total	8	31	1654	29,324	1157	10,475	23	311	231	2845	3073	42,986	100.0
Scored	-	-	32	1251	1	37	-	-	-	-	33	1288	3.0

sites, a significant minority of the material still belongs to the 'middle Iron Age tradition' of handmade slack-shouldered vessels. On the grounds of form and/or fabric, 19.5% (by weight) of the late Iron Age assemblage from Site 2 can be identified as being of middle Iron Age type, although the figures are lower at Sites 4 and 7 (5.5% and 3.8% respectively). Doubtless, some of this material is residual. However, large and fresh sherds of middle Iron Age type vessels were found in association with distinctively late Iron Age pottery in a number of contexts, for example, the substantial fragments of a scored ware jar recovered from ditch 2101 (Fig. 8.7.29), which were associated with wheel-made sherds. The mean sherd weight of middle Iron Age type pottery from Phase 5 contexts (14.9 g) is only slightly lower than that from Phase 4 contexts (15.6 g, excluding the anomalous structured deposit from ditch 2742). It would therefore seem likely that there was at least some continuity in the use of middle Iron Age type vessels into the late 1st century BC and early 1st century AD. This phenomenon has been observed at sites elsewhere in the middle Ouse valley, including Norse Road, Bedford (Slowikowski 2001), Stagsden (Slowikowski 2000) and Little Paxton (Hancocks 2003, 102).

At Site 2, uniquely for the region, stratigraphic evidence provides some insights into the development of ceramic traditions over time. Stratigraphically early features within the main settlement enclosure (Stage 1: Fig. 2.14) show a much higher proportion of middle Iron Age type pottery (46.0% by weight) compared to other late Iron Age contexts (14.0%). This suggests that there was a gradual process of replacement by 'Belgic'-type wares through the course of the late Iron Age.

Fabrics

The 'middle Iron Age tradition' pottery showed a similar range of fabrics as in Phase 4. The shell, calcareous and ironstone fabric F37 was again dominant, with smaller amounts of pottery characterised by fossil shell (F16), calcareous inclusions (F20), sand (F28) or sand and organic inclusions (F19). The only fabric not seen in Phase 4 is the possibly non-local F40. This is represented by a single vessel from Site 6 (Fig. 8.7.31), found in the same context as wheel-made grog-tempered sherds.

The diagnostically late Iron Age pottery showed a different range of fabrics. It is notable that F37, the dominant fabric for middle Iron Age tradition vessels, was never used to make these vessel forms. Instead, grog-tempered fabrics—absent from the middle Iron Age material—were widely used. In some cases, grog temper was added to calcareous or shelly clays (F05), and there are also a few sherds from Site 2 in which grog was added to a micaceous clay (F39). The latter is a new addition to the Bedfordshire fabric series, although there is a reference to a butt beaker in a micaceous grog-tempered fabric from a late Iron Age feature at Roxton, 1.75 km to the south-east of Site 2 (Dix 1983). One possible 'waster' sherd in fabric F06B from pit 2636 suggests that production of grog-tempered pottery could have occurred at or close to Site 2. The sherd is spalled, with the oxidised finish of the vessel

exterior continuing across the broken surface, suggesting that it broke within the kiln. Coarse shelly fabric F07 also forms a significant part of the late Iron Age assemblage. This is very similar to the middle Iron Age shelly fabric F16, but is often harder and is frequently fired to an orange or red colour at its surfaces. Kilns producing vessels in this fabric during the mid 1st century AD are known elsewhere in the middle Ouse valley at Stagsden (Dawson 2000b), Bromham (Tilson 1973), Biddenham Loop (Slowikowski 2000, 73) and Harrold (Brown 1994), but a more local origin is possible. Small amounts of pottery in sandy or sand and calcareous fabrics are also present (F20, F28 and F30). The dominance of grog and coarse shell fabrics seen in the late Iron Age material from the Great Barford sites is typical of north Bedfordshire, and is paralleled locally at Norse Road, Bedford (McSloy 1999).

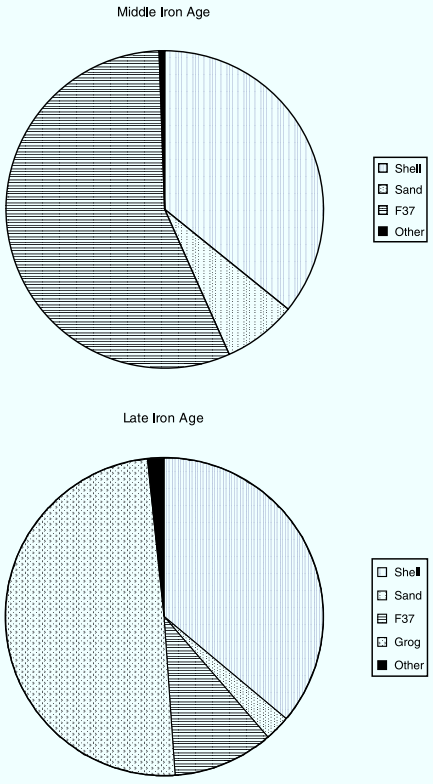

Fig. 8.8 Pie charts showing the relative proportions of fabric groups in the middle and late Iron Age

The proportions of the various fabric groups within the late Iron Age assemblage as a whole is shown by Fig. 8.8. It can be seen that the key change compared to Phase 4 is the dramatic reduction in the abundance of fabric F37, and the concomitant rise of grog-tempered wares. The abundance of shelly wares is remarkably constant in both phases.

Manufacturing technology

At Sites 2, 6 and 7, 32.9% of late Iron Age pottery by sherd count and 56.9% by EVE was demonstrably wheel-made (data not available for Sites 1 and 4). The lower first figure partly reflects the fact that it is often difficult to ascribe manufacturing technique to small body sherds. At Site 2, there appears to have been an increase through time in the frequency of wheel-made pottery. In stratigraphically early features (Stage 1: Fig. 2.14), 26.3% of pottery by sherd count is wheel-made, compared to 35.9% in other late Iron Age contexts.

Clear patterns can be seen in the fabrics chosen for wheel-made vessels. While the majority of pottery containing sand or fine to medium grog was wheel-made (F06A/B, F09, F28, F39), pottery containing coarse grog (F06C) or coarse shell (F07) rarely was (Table 8.14).

Vessel form and function

Rims from a total of 196 vessels were identified, of which 137 vessels could be measured. These ranged from 90–440 mm, although the majority of vessels were between 120–200 mm, with a peak at 140 mm. A subsidiary peak at 300 mm was also present. Correlation with fabrics shows that the largest vessels (over 300 mm rim diameter) were generally made in coarse shelly or coarse grog-tempered fabrics (Fig. 8.9).

Table 8.14: Pottery manufacturing technology and fabric in the late Iron Age (Sites 2, 6 and 7 only)

Fabric	*% wheel-made*
F01A	0
F05	34.5
F06A/B	50.2
F06C	3.0
F07	6.4
F07A	0
F09	75.7
F16	0
F16B	50.0
F19	0
F20	5.3
F28	51.0
F30	50.0
F37	0
F39	92.9
F40	0

Handmade 'middle Iron Age-type' vessels form 6.8% of the assemblage by EVE (Table 8.15). All fall into the category of 'fairly open slack-shouldered vessels' (Hill types A/D), except for one 'neckless' vessel (Hill type K) from Site 2. Rim diameters range between 120 mm and 320 mm. No handles are present. Three vessels from Site 2 were decorated with fingernail or fingertip impressions along the rim top, and one has a row of vertical incisions on its shoulder made with a sharp tool (Fig. 8.7.30). Scoring was present on 6.8% of middle Iron Age type pottery by sherd count and 19.0% by weight, although over half of the latter figure is accounted for by fragments of a single large vessel from ditch 2101 (Fig. 8.7.29).

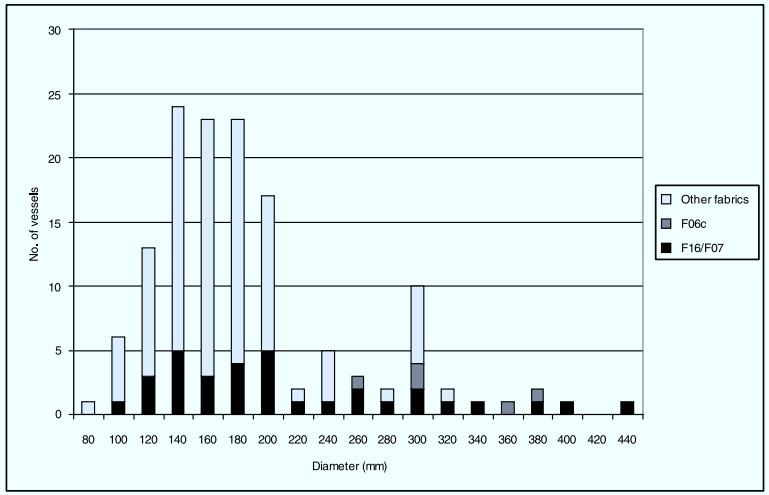

Fig. 8.9 Histogram showing vessel size in the late Iron Age

Table 8.15: Late Iron Age vessel forms

	Site 2		*Site 4*		*Site 6*		*Site 7*		*Total*			*Fabrics*
	No.	*EVE*	*No.*	*EVE*	*No.*	*EVE*	*No.*	*EVE*	*No.*	*EVE*	*EVE%*	
MIA type slack-shouldered	18	1.13	1	0.05	1	0.16	1	0.05	21	1.39	17.0	F16, F28, F37, F40
Barrel-shaped jar	21	2.21	15	1.69	-	-	4	0.68	40	4.58	55.9	F05, F06A/B, F07, F09, F20
Channel rim jars	7	0.48	6	0.68	-	-	1	0.2	14	1.36	16.6	F05, F06A/B, F07
Everted rim jars	7	0.72	1	0.22	-	-	-	-	8	0.94	11.5	F06A/B, F09, F30
Storage jars	11	0.74	5	0.41	-	-	-	-	16	1.15	14.0	F05, F06A/B, F06C, F07
'Cauldron'	-	-	1	0	-	-	-	-	1	0	0	F07
Globular jar, lid-seated	1	0.15	-	-	-	-	-	-	1	0.15	1.8	F06A/B
Globular jar, cordoned	-	-	1	0.15	-	-	-	-	1	0.15	1.8	F06A/B
Jar/ bowl indet.	22	1.49	23	1.55	-	-	3	0.56	48	3.6	43.9	F05, F06A/B, F07, F07A, F09, F39
Necked bowl/ wide-mouthed jar	33	2.96	6	1.4	-	-	1	0.42	40	4.78	58.3	F05, F06A/B, F07, F09, F20, F28
Carinated cup	1	0	-	-	-	-	-	-	1	0	0	F06A/B
Butt beaker?	1	0	-	-	-	-	-	-	1	0	0	F06A/B
Pedestalled vessels	2	0	-	-	-	-	-	-	2	0	0	F06A/B, F09
Lid or dish?	2	0.1	-	-	-	-	-	-	2	0.1	1.2	F06A/B
Total	126	9.98	59	6.15	1	0.16	10	1.91	196	8.20	100.0	

Diagnostically late Iron Age pottery is found in a wider range of forms. The assemblage is dominated by jars and necked bowls, with specialised 'tablewares' forming only a tiny element of the assemblage (Table 8.15). The forms are described below, with reference to Thompson's (1982) typology of late Iron Age pottery.

1. *Barrel-shaped jars with plain or externally thickened rims* (Thompson type C1; Figs. 8.7.33 and 37). Mostly handmade, in a range of fabrics. Often have horizontal combing or rilling on the body. Five examples are decorated with diagonal 'slashes' on the front of the rim. Rim diameters range from 100–300 mm, with a peak at 140 mm.
2. *Barrel-shaped 'channel-rim' jars* (Thompson type C5; Fig. 8.7.34). Both handmade and wheel-made, in grog-tempered or shelly fabrics. Seven examples are decorated with diagonal 'slashes' on the rim top. This is a characteristic vessel form of the south-east Midlands, argued to date from *c* AD 20 onwards (Friendship-Taylor 1999). Rim diameters range from 130–280 mm, in line with examples from other sites in the region (Friendship-Taylor 1999, table 2). These vessels can be regarded as the predecessors of the channel-rim jars seen in the Roman assemblages from Great Barford (see Stansbie below).
3. *Everted rim jars* (Thompson types C2 or C7-1; Fig. 8.7.36). Handmade or wheel-made, in grog-tempered or sand and calcareous fabrics. Often have horizontal or arced combing on the body. Rim diameters range from 80–280 mm.
4. *Large, necked 'storage' jars* (Thompson type C6). Mostly wheel-made, in coarse grog-tempered or shelly fabrics. Rim diameters range from 260–440 mm.
5. *'Cauldron' with vertical handles on the rim* (Fig. 8.7.39). Represented by a single handle from Site 4. More complete examples from other sites show that this would have been a large, round-bodied vessel with a pair of handles on the rim. Handmade, in a coarse shelly fabric. Vessels of this type are sporadically found across the south-east Midlands, for example at Abington Pigotts, Cambs (Fox 1924, fig. 2c), Little Paxton, Cambs (Hancocks 2003, fig. 7.16.139), Hardwick Park, Northants (Foster *et al*. 1977, fig. 8.19), Piddington, Northants (Friendship-Taylor 1999, fig. 72.1), Thornborough, Bucks (Thompson 1982, 573), Baldock, Herts (Stead and Rigby 1986, fig. 82.107), and Foxholes Farm, Herts (Partridge 1989, fig. 106.73). Further afield, there is an example from Silchester, Hants (dated *c* 15 BC–AD 40/50), in a Jurassic shelly fabric suggesting a south-east Midlands source (Timby 2000, fig. 131.584).
6. *Globular lid-seated jar* (Thompson type D3-3). One example, from Site 2. Possibly handmade, in a grog-tempered fabric.
7. *Globular jar with cordons* (Thompson type B2-2; Fig. 8.7.38). One example from Site 4. Wheel-made, in a fine grog-tempered fabric.
8. *Necked bowls/wide-mouthed jars, usually with cordoned shoulders* (Thompson types D1 or D2; Fig. 8.7.32, 35 and 40). These vessels have S-shaped or more sharply carinated profiles. No complete profiles are present, but most vessels in this class appear to be bowls. All are wheel-made in grog-tempered or sandy fabrics, and many are burnished. Rim diameters range from 90–240 mm, with a peak at 180 mm.
9. *Carinated cup* (Thompson type E1). One example from Site 2, represented by a body sherd. Wheel-made, in a fine grog-tempered fabric.
10. *Possible butt beaker* (Thompson type G5). One example from Site 2, represented by roulette-decorated body sherds. Wheel-made, in a fine grog-tempered fabric.
11. *Pedestal vessels* (Thompson type A or F). Two examples from Site 2, identified through base sherds only. Wheel-made, in grog-tempered fabrics.
12. *Possible lid or dish.* One example from Site 2. Wheel-made, in a grog-tempered fabric.

A broad distinction can be drawn between forms 1–6 and forms 7–12 above. Vessels in the first group are both handmade and wheel-made, and occur in a range of fabric types, including coarse grog and coarse shell. The second group consists exclusively of wheel-made vessels in fine to medium grog-tempered or sandy fabrics. Unfortunately, very little charred residue evidence is available to aid interpretation of vessel functions. However, it seems likely that the two groups of vessel were at least broadly associated with cooking/storage and serving/consumption functions respectively. At other sites, the medium jar forms 1–3 often show burnt food residues, suggesting use for cooking (Friendship-Taylor 1999). The 'cauldron' also seems likely to have been used for cooking, with the vertical handles designed for suspension over a hearth. Meanwhile, it has been suggested that the finer necked, cordoned bowls were used for serving food (Hill 2002). Specialised vessels clearly used for the consumption of food and drink are very rare in the assemblage, being limited to one cup and one possible butt beaker. Other 'tableware' forms, such as platters and flagons, are entirely absent from pre-Roman contexts.

Post-firing modification

There were a number of examples of post-firing modification. Three vessels from Site 2 have a series of drilled holes measuring 6–12 mm across in their

bases, including two large storage jars and one necked bowl. A secondary use as strainers or cheese-presses is possible. Meanwhile, three vessels had one or more small holes drilled through their neck, comprising one necked bowl and one barrel-shaped jar from Site 2, and one necked bowl from Site 7. The function of these perforations is unclear, although they could perhaps have been used for suspension of the vessel.

One thick sherd in a shelly fabric from pit 2726 has been reused as a spindle whorl or weight, by being shaped into a roughly circular disc, smoothed around its edges, and perforated by a drilled hole. A further, very large shelly sherd (317 g) from ditch 2995 has a drilled hole of uncertain purpose.

Deposition

As in the middle Iron Age, the pottery from most late Iron Age contexts was mixed and fragmentary. However, 16 contexts at Site 2 contained 1–6 sherds with a mean sherd weight of over 50 g, and these deposits could have resulted from a more selective form of deposition than the norm. These deposits were widely distributed across the site and were found in varied feature types.

The overall distribution of pottery at Site 2 shows a strong concentration in the settlement core, bounded by ditches 2627 and 20191. Unsurprisingly, the largest quantities of pottery were recovered from the deepest ditches, such as 2404 and 20191. However, when the *density* of pottery per m^3 of fill is calculated, the highest figures come from deposits within grave 2509 and the eastern terminus of ditch 2500 (Fig. 2.13). Notably, both of these deposits are backfills over inhumation burials at the eastern end of the settlement core.

There were no 'placed' deposits of near-complete vessels comparable to those seen in the middle Iron Age. However, the upper fill of ditch 2404 contained a single very large sherd (280 mm long) from a storage jar, which appeared to have been deliberately placed in association with a large fired clay oven plate and three copper alloy objects (a brooch (SF 2013), tweezers and a coin). This ditch also contained human bone in an earlier fill, in the form of a disarticulated humerus. There thus appears to be a pattern whereby unusual deposits of pottery are associated with human remains. A similar association was seen in middle Iron Age ditch 2742 (see above), suggesting some continuity of depositional practice.

There are no clear patterns in the spatial distributions of different vessel types or fabrics at Site 2. Putative storage, cooking and tablewares were all widely distributed across the settlement core, and were often found together in the same context. Although work on late Iron Age sites in Essex has suggested a tendency for tablewares to be deposited in pits and jars in ditches (Pitts 2005), no such pattern is apparent at Great Barford.

Chronology

The evidence from Great Barford does little to advance our understanding of the absolute chronology of late Iron Age pottery. No radiocarbon evidence is available, and there were only a few associations with closely datable small finds. A Colchester brooch (SF 2013; *c* AD 20–75) from ditch 2500 (ctx 2536) was associated with a variety of handmade and wheel-made pottery in grog-tempered, shelly and sandy fabrics, but no diagnostic vessel forms were present.

Most of the jar and bowl forms which dominate the Great Barford assemblage are generic types which are typically ascribed a broad late Iron Age date at other sites in the region. An exception is the channel-rim jar, which Friendship-Taylor (1999) argues was introduced to the region around AD 20. At Site 2, channel-rim jars are found in stratigraphically early Phase 5 features (Stage 1: Fig. 2.14), such as pit 2919, as well as later ones. If the dating ascribed to these vessels is correct—which should not be taken for granted—it is possible that Phase 5 did not begin until the early 1st century AD. This would support arguments made elsewhere for a late and uneven adoption of 'Belgic' pottery in the region (eg Hill 2002).

Of the sites producing late Iron Age assemblages, only Sites 1 and 4 continued to be occupied on any scale into the Roman period. No Roman pottery was recovered from Sites 6 or 7, and only a few sherds from Site 2. This indicates that these settlements, or at least the parts excavated, were abandoned before or fairly soon after the conquest.

Pottery use in the middle and late Iron Age: continuity and change

During the middle Iron Age, the communities along the Bypass route used a limited range of slack-shouldered jars and bowls typical of the region. The introduction of more diverse vessel forms in the late Iron Age suggests changes in the ways that food and drink was prepared, served and consumed. However, there are also important elements of continuity. Middle Iron Age-type vessels continued to form a significant minority of the assemblage, with the evidence from Site 2 suggesting a gradual decline in their use through the course of the late Iron Age. Furthermore, the range of 'Belgic' vessel forms seen during the late Iron Age was only a limited subset of those used at contemporary sites in regions to the south, such as Hertfordshire and Essex. The forms were essentially restricted to jars and necked bowls, which may have taken over the same functions as the middle Iron Age slack-shouldered jars and bowls. Specialised forms associated with the consumption of food and drink—such as cups, beakers and platters—were scarce or absent in pre-conquest deposits. A similar range of jar and bowl forms and paucity of specialised 'tablewares' can be seen at other late Iron Age settlements in the middle Ouse

valley, such as Stagsden (Slowikowski 2000) and Little Paxton (Hancocks 2003). This lack of fine tablewares could indicate that such vessels were preferentially deposited away from settlements in graves; certainly, a greater emphasis on beakers and platters can be seen in some late Iron Age cemetery sites in the area such as Kempston (Simco 1973). Equally, it is possible that the absence is real, and that many communities in the middle Ouse area chose to adopt only a limited range of 'Belgic' vessel types. This would be a similar situation to that in northern East Anglia, where J D Hill argues that the adoption of new vessel forms was limited to those that fitted into pre-existing food and drink traditions. The novel practices seen in regions to the south, in which the consumption of food and drink played a greater role in status display, were not taken up (Hill 2002).

The pottery fabrics at the Great Barford sites show some significant changes from the middle to the late Iron Age, notably in the large-scale adoption of grog tempering. In both periods, however, it seems likely that most of the pottery was locally made. Some specific elements of continuity can be seen, for example, in the fact that coarse shelly fabrics continued to be chosen for the largest storage and cooking pots. Continuity can also be seen in practices of pottery deposition, with particularly large or 'structured' deposits associated with human remains in both periods.

Catalogue of illustrated later prehistoric pottery

Fig. 8.3 *Late Bronze Age and early Iron Age pottery*

1. Cup? Fabric F02. Site 2, Pit 2440, ctx 2441. Phase 3
2. Rim decorated with fingertip impressions. Fabric F02. Site 2, Pit 2443, ctx 2444. Phase 3
3. Burnished sherd decorated with shallow-tooled circle and line. Fabric F01B. Orientation of sherd uncertain. Site 2, Ditch 20081, ctx 20111. Phase 4 (residual)

Middle Iron Age pottery (Phase 4)

4. Carinated bowl, burnished. Fabric F28. Site 2, Ditch 2742, ctx 2009
5. Hill form A. Fabric F19. Site 2, Ditch 2742, ctx 2009
6. Hill form A. Fabric F16. Site 2, Ditch 2742, ctx 2009
7. Vessel with two post-firing perforations. Fabric F37. Site 2, Ditch 2742, ctx 2009
8. Hill form A. Fabric F37. Site 2, Ditch 2742, ctx 2009
9. Hill form K, scored. Fabric F16. Site 2, Ditch 2742, ctx 2009
10. Hill form A. Fabric F37. Site 2, Ditch 2742, ctx 2009
11. Hill form A. Fabric F37. Site 2, Ditch 2742, ctx 2009
12. Hill form K. Fabric F37. Site 2, Ditch 2742, ctx 2009

Fig. 8.4 *Middle Iron Age pottery (Phase 4)*

13. Hill form A. Fabric F37. Site 2, Ditch 2742, ctx 2131
14. Hill form K. Fabric F37. Site 2, Ditch 2742, ctx 2131
15. Hill form A. Fabric F16B. Site 2, Ditch 2742, ctx 2131
16. Hill form M, burnished. Fabric F16B. Site 2, Ditch 2742, ctx 2131
17. Hill form M, burnished. Fabric F16B. Site 2, Ditch 2742, ctx 2174
18. Hill form A. Fabric F37. Site 2, Ditch 2742, ctx 2174
19. Hill form B. Fabric F37. Site 2, Ditch 2742, ctx 2174
20. Hill form A. Fabric F37. Site 2, Ditch 2742, ctx 2174
21. Foot-ring base. Fabric F16. Site 2, Ditch 2742, ctx 2174
22. Hill form A. Fabric F37. Site 2, Pit 2092, ctx 2099
23. Base with prefiring perforation. Fabric F37. Site 2, Pit 2093, ctx 2097
24. Hill form A. Fabric F16. Site 2, Circular Structure 21, eaves-gully 2295, ctx 2186
25. Hill form A. Fabric F37. Site 2, Ditch 2338, ctx 2324
26. Hill form A, scored. Fabric F37. Site 2, Pit 2214, ctx 2215
27. Vessel decorated with punched dots. Fabric F16B. Burnished. Site 2, Ditch 2426, ctx 2334
28. Sherd decorated with incised line and impressed dots. Fabric F37. Orientation of sherd uncertain. Site 2, Pit 2645, ctx 2646

Fig. 8.7 *Late Iron Age pottery (Phase 5)*

29. Hill form A, scored. Fabric F16. Site 2, Ditch 2101, ctx 2121
30. Sherd decorated with incised lines on shoulder. Fabric F19. Site 2, Pit 2947, ctx 2949
31. Hill form D. Fabric F40. Site 6, Ditch 6014, ctx 6015
32. Necked bowl. Fabric F09. Site 2, Ditch 20191, ctx 2783
33. Barrel-shaped jar. Fabric F16B. Site 2, Ditch 2500, ctx 2969
34. Channel-rim jar. Fabric F07. Site 2, Pit 2919, ctx 2936
35. Necked bowl. Fabric F06B. Site 2, Ditch 2500, ctx 2998
36. Everted rim jar. Fabric F06B. Site 2, Ditch 2423, ctx 20162
37. Barrel-shaped jar. Fabric F05. Site 4, Ditch 4923, ctx 4219
38. Globular jar with cordons. Fabric F06A. Site 4, Ditch 4924, ctx 4825
39. Handle from 'cauldron'. Fabric F07. Site 4, Ditch 4923, ctx 4498
40. Necked bowl. Fabric F06B. Site 7, Ditch 7107, ctx 7008

ROMAN POTTERY
by Dan Stansbie

Introduction

Roman pottery was recovered from seven sites along the route of the Bypass (Sites 1–5, 8 and 9). The bulk of the material was recovered from Sites 1, 4 and 8, with only small quantities present at the other sites. Overall the assemblage comprises some 15,418 sherds, weighing *c* 197 kg. Small amounts of later Iron Age type pottery were found in Roman contexts and whilst some of this material is doubtless residual, some may relate to continued use of Iron Age vessel types beyond the Roman conquest.

The following report describes the pottery by site in terms of fabric and vessel form. Aspects of pottery supply, production and consumption for each site are drawn together in separate site-based discussions. An overall discussion compares the various site assemblages to one another and places them in a regional context.

Table 8.16: Roman pottery fabrics

Bedfordshire type series code	*NRFRC code*	*Description*
R		Non-specific Roman
R01A	LEZ SA 2	Central Gaulish samian
R01B	LGF SA	South Gaulish samian
R01C		East Gaulish samian
R02		Mica-slipped ware
R03		White ware (source unknown)
R03A	VER WH	Verulamium region white ware
R03B		Gritty white ware
R03C		Smooth white ware
R04A	CNG/MOS BS	Rhenish ware
R04C		Cologne white ware
R04D	CNG CC 1	Central Gaulish colour-coated ware
R05A		Orange sandy ware
R05B		Fine orange ware
R06A		Nene Valley grey ware
R06B		Sandy grey ware
R06B variant		Great Barford sandy grey ware
R06C		Fine grey ware
R06D		Micaceous grey ware
R06E		Calcareous grey ware
R06F		Grey ware grog and quartz
R06G		Silty grey ware
R06H		White-slipped grey ware
R07A	DOR BB 1	Dorset black burnished ware 1
R07B		Sandy black ware
R07C		Gritty black ware
R07D		Sandy black ware
R07E		Coarse black ware
R07F		Silty black ware
R07G	CLI/COL/COO/MUC BB 2	Dorset black burnished ware 2
R08		Black micaceous ware
R09A	PNK GT	Pink grogged ware
R11D	OXF RS	Oxfordshire colour-coated ware
R11E	OXF WH	Oxfordshire white ware mortaria
R11F	OXF RS	Oxfordshire red colour-coated mortaria
R12A	LNV WH	Nene Valley mortaria
R12B	LNV CC	Nene Valley colour-coated ware
R12C	LNV PA	Nene Valley parchment ware
R13		Shelly wares
R14		Red-brown harsh sandy ware
R15		Smooth orange ware
R18A		Pink gritty ware
R18B		Pink fine ware
R19		Amphorae
R19A	BAT AM 1-3	Dressel 20 amphorae
R20	MAH WH	Mancetter/Hartshill mortaria
R22A	HAD OX	Hadham oxidised ware
R22B	HAD RE 1	Hadham reduced ware
R30		Fine micaceous ware
R32A		Southern British lead-glazed ware
R33	VER WH	Verulamium region mortaria
R35		Roman grog-tempered ware
R36		Orange gritty ware
R38		Unsourced colour-coated ware
R40		Yellow gritty ware
R41	CNG PR 3	Central Gaulish Pompeian red ware 3

Methodology

The pottery was sorted into fabric groups based on surface appearance and major inclusion types. Fabrics were identified using the Bedfordshire fabric type series based at Albion Archaeology, ensuring compatibility with other major sites from the county. A full list of identified fabrics is presented in Table 8.16. Detailed fabric descriptions are available from Albion Archaeology (see also Dawson 2004, 443–55 for published descriptions). Where relevant reference has also been made to the National Roman Fabric Reference Collection handbook (NRFRC; Tomber and Dore 1998), where comprehensive descriptions can be found. These codes are used in the text for regional and continental imports.

Vessel form typology follows the Oxford Archaeology (OA) standard recording system (Booth 2004) and where relevant reference is made to regional and international corpora. The OA recording system divides vessels into 13 classes. These are: A-amphorae, B-flagons/jugs, C-jars, D-jar/bowls, E-beakers, F-cups, G-tankards and mugs, H-bowls, I-bowls/dishes, J-dishes and platters, K-mortaria, L-lids, and M-miscellaneous.

The pottery within each context was sorted into fabric groups and quantified by sherd count, weight (g) and rim estimated vessel equivalents (EVE). Every individual database entry (usually a fabric group or an individual vessel, or, less typically, an intrinsically interesting sherd) was assigned an earliest and latest date. An earliest and latest date was then assigned to each context on the basis of the range of individual pottery dates. This enabled the identification of well-dated contexts and potential key groups, and can be used to address questions of chronology and pottery supply. Ideally, a residuality-free, well-dated group had identical pottery date and context dates. For Site 8 a hierarchical phasing scheme was applied. This meant the division of the pottery into four phases, namely: late Iron Age to early Roman period (*c* 50 BC–AD 70), early Roman period (AD 43–160), middle Roman period (AD 160–250) and late Roman period (AD 200–400). In addition, some pottery could only be phased as broadly Roman in date. Pottery from the remaining sites was analysed by stratigraphic phase. These phases comprise: Phase 6 (AD 43–160), Phase 6.2 (AD 60–200) and Phase 7 (AD 160–400). Some pottery was recovered from unphased contexts and this has been recorded using the standard methodology and briefly described.

Site 1

Introduction

The excavations at Site 1 produced 1962 sherds of late Iron Age and Roman pottery, weighing 30,265 g. The assemblage spans the late Iron Age and Roman period, but most of the material dates to Phase 6.2 (the mid to late 2nd century AD). Overall the pottery was in good condition, with an average sherd weight of 15.4 g and an average group weight of 383 g. Pottery from Phase 6.2 dominates the assemblage, taking a 70.7% share by weight. This is supplemented by pottery from Phase 6, which contributes 22.1% by weight, and Phase 7, which accounts for 5.9%. In the following report the fabrics and forms are defined against the main phases.

Phase 6 (c AD 43–160)

The Phase 6 assemblage is relatively diverse, incorporating a wide range of fabrics, including some residual Iron Age pieces (Table 8.17). Two fabrics are dominant: Roman shelly ware (R13) and sandy grey ware (R06B), which together contribute 49% by weight. 'Belgic' sandy ware (F34) accounts for a further 29%, although this all comes from a single vessel from pit 1374. Other late Iron Age-type material, including fine grog-tempered ware (F06A) and grog and shell-tempered ware (F05), together account for 3% by weight, and middle Iron Age-type fabrics (F16 and F29) for less than 1%. The other defined local fabrics are all present in minor quantities of <5% (Table 8.17). Regional and continental imports are poorly represented. However, those imports that are present are dominated by

Table 8.17: Site 1, Phase 6 pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
F (misc Iron Age)	<1	<1
F16 (coarse shelly)	<1	<1
F29 (coarse sandy)	<1	<1
F05 (grog and shell)	5	2
F06A (fine grog-tempered)	3	1
F34 ('Belgic' sandy)	19.8	29.1
R (misc Roman)	<1	<1
R01A (Central Gaulish samian)	2	4
R01B (South Gaulish samian)	1	<1
R03A (Verulamium region white ware)	<1	<1
R05A (orange sandy ware)	4	1.9
R05D (white-slipped orange sandy ware)	<1	<1
R06A (Nene Valley grey ware)	<1	1
R06B (sandy grey ware)	23	22
R06C (fine grey ware)	<1	<1
R06D (micaceous grey ware)	1.4	1
R06E (calcareous grey ware)	<1	<1
R07B (sandy black ware)	3.8	3
R07C (gritty black ware)	<1	<1
R07E (coarse black ware)	<1	<1
R09A (pink grogged ware)	<1	<1
R12C (Nene Valley white ware)	1	<1
R13 (Roman shelly fabric)	27.7	27.7
R14 (red-brown harsh sandy ware)	<1	<1
R17 (smooth orange ware)	<1	<1
R22A (Hadham oxidised ware)	<1	<1
R40 (yellow gritty ware)	<1	1

Southern and Central Gaulish samian (R01B and R01A). These are supplemented by Nene Valley parchment ware (LNV PA) (R12C), Verulamium region white ware (VER WH) (R03A) and Hadham oxidised ware (HAD OX) (R22A). The latter is presumably intrusive.

In terms of vessel classes the Phase 6 assemblage is dominated by jars, which account for 56.6% by EVE (Table 8.26). Bowls, dishes and platters, beakers, flagons and lids supplement these. The jars are divided into: medium-mouthed (CD), lid-seated (CJ) and storage (CN). Most were made in Roman shelly fabrics, although medium-mouthed jars are also present in sandy grey ware, sandy black ware, fine grog-tempered ware and 'Belgic' sandy ware. Three curving-sided (HC) bowls with various types of rim are present in Roman shelly fabric and there is one necked bowl (HD) with an everted rim in sandy black ware. Most of the dishes are samian Dragendorff (Dr) form 18/31, supplemented by a hooked rim dish (J5) and a plain-rimmed platter (JC1) in sandy grey ware. Two beakers are present: a bag-shaped beaker (EC) made in sandy grey ware and a poppyhead beaker (EF) in micaceous grey ware. The single flagon has a 'Hofhiem' type rim and was made in sandy oxidised ware. The remainder of the assemblage comprises a jar/bowl (D) in sandy grey ware and three lids in fine grey ware, sandy grey ware and sandy oxidised ware.

Most of the pottery groups from Phase 6 weighing 50 g or over came from ditch fills. These amounted to 59.7% of all groups >50 g in weight. The remaining 40.3% came from pit fills. The distribution of different fabric and vessel types does not show any significant variation between the different feature types and tends to mirror the pattern of supply to the site quite closely. Sandy grey wares and shelly fabrics, with some samian and some grog-tempered ware, dominate pottery from all feature types.

Phase 6.2 (c AD 160–200)

The groups from Phase 6.2 contribute a wider range of fabric types to the assemblage compared to Phase 6 and take the largest share by weight, at 71% (Table 8.18). The assemblage is dominated by Roman shelly wares (R13), (45.7% by weight), supplemented by sandy grey wares (R06B), (13% by weight). In addition there are small quantities of grog and shell-tempered wares (F05) and fine grog-tempered wares (F06A), which are probably residual. The remaining locally produced fabrics are all present in minor quantities of <5% (Table 8.18). Regional and continental imports make a relatively small impact in terms of sherd count and weight, but a diverse range of fabrics are present. Nene Valley grey wares (LNV RE) (R06A) dominate at 8% by weight, supplemented by Nene Valley white ware (LNV WH) (R12C), VER WH (R03A) and Central Gaulish samian (R01A). In addition, sherds of Cologne colour-coated ware (KOL CC) (R04C), Central Gaulish colour-coated ware (R04D), Southern Gaulish samian (R01B), Oxfordshire white ware mortaria (OXF WH) (R8E), LNV WH mortaria (R12A), Nene Valley colour-coated ware (LNV CC) (R12B), HAD OX (R22A), Mancetter-Hartshill mortaria (MAH WH) (R20) and VER WH mortaria (R33) are present. Clearly there is an intrusive element among these imported fabrics and the assemblage appears generally quite mixed.

The Phase 6.2 assemblage displays a similar breakdown by vessel class to that of the Phase 6 assemblage (Table 8.26) where jars again dominate accounting for 59.7% by EVE. Most of the jars are of lid-seated type (CJ) made in Roman shelly ware. These are supplemented by necked jars with everted rims (CD), also in Roman shelly ware and by medium mouthed jars (CD) in sandy grey ware. In addition there are storage jars (CN), mostly in Roman shelly fabric with one example in sandy oxidised ware. Other medium-mouthed jars include examples in fine grog-tempered ware and unidentified fine white ware, VER WH, black micaceous ware, pink-grogged ware, pink gritty ware and

Table 8.18: Site 1, Phase 6.2 pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
F (misc Iron Age)	<1	<1
F05 (grog and shell)	<1	<1
F06A (fine grog-tempered)	<1	<1
R01A (Central Gaulish samian)	1.7	1.6
R01B (South Gaulish samian)	<1	<1
R03 (unidentified whiteware)	<1	1.6
R03A (Verulamium region white ware)	2.7	3.3
R04C (Cologne white ware)	1.9	<1
R04D (Central Gaulish colour-coated ware)	2.4	<1
R05A (orange sandy ware)	1.4	<1
R05D (white-slipped orange sandy ware)	24	13
R06A (Nene Valley grey ware)	3	8
R06B (sandy grey ware)	24	13
R06C (fine grey ware)	4.8	3
R06D (micaceous grey ware)	<1	<1
R06H (white-slipped sandy grey ware)	<1	<1
R07B (sandy black ware)	2.2	2.7
R07C (gritty black ware)	1.4	<1
R07E (coarse black ware)	<1	<1
R09A (pink grogged ware)	<1	<1
R11E (Oxfordshire white ware mortaria)	<1	<1
R12A (Nene Valley mortaria)	<1	3.8
R12B (Nene Valley colour-coated ware)	<1	<1
R12C (Nene Valley parchment ware)	5.4	3.7
R13 (Roman shelly fabric)	31	45.7
R17 (smooth orange ware)	<1	<1
R18A (pink grogged ware)	4	2.6
R20 (Mancetter/Hartshill mortaria)	<1	<1
R22A (Hadham oxidised ware)	<1	<1
R33 (Verulamium region mortaria)	<1	<1
R40 (Yellow gritty ware)	3.5	1.3

yellow gritty ware; and lid-seated jars in LNV RE, sandy grey ware and pink gritty ware. Flagons (B) are present in LNV WH, VER WH and sandy grey ware. These had a variety of bead rims. The majority of the dishes are of the curving sided type (JB), with bead or triangular rims and were made in either sandy grey ware or sandy black ware. In addition there are three straight-sided dishes with plain rims (JA1), two of which were made in sandy black ware and one in sandy grey ware. In addition there is a reeded rim dish (JB 420) in Roman shelly fabric, and Central Gaulish samian forms Dr 36 and Dr 18/31 (x3). The assemblage contains a variety of different bowl types including carinated bowls (HA) in LNV RE and sandy black ware; bowls with flat rims and straight or curving sides (HB420/HC420) in sandy black ware, sandy oxidised ware, black micaceous ware and Roman shelly fabric; a necked-bowl (HD740) in fine grey ware; and a Dr 37 in Central Gaulish samian. Despite their relatively high share of the total EVE only three beakers are present which include an indented or folded beaker (EE) in Central Gaulish colour-coated ware, a jar beaker (EH) in sandy grey ware and an unclassifiable form (E). Cups are represented by two Dr 33s in Central Gaulish samian. Mortaria comprise three bead and flanged vessels in LNV WH, VER WH and MAH WH and a Young (1977) M10.4 in Oxfordshire white ware (OXF WH). Lids are present in sandy grey ware, white slipped oxidised ware and smooth orange ware and there is a medium-mouthed jar/bowl (DA) in sandy grey ware.

Like the pottery from Phase 6, the material from Phase 6.2 was mostly deposited in ditches, which account for 91.5% of all groups >50 g. The remainder of the assemblage came from pit fills and the fill of an animal burial. The ditch fill assemblages, like those from Phase 6 and the assemblage more generally, are dominated by shelly fabrics and sandy grey wares, with a wide range of vessel types, including jars, dishes, bowls and flagons. The pit fill assemblages mirror those from the ditch fills.

Phase 7 (AD 160–400)

As in the previous phases, Roman shelly wares (R13) and sandy grey wares (R06B) dominate the assemblage, together accounting for 66.3% by weight (Table 8.19). These fabrics are supplemented by white-slipped sandy grey ware (R06H), sandy black ware (R07B) and yellow gritty ware (R40). Other defined local fabrics are present in minor quantities of <5%. Regional and continental imports are dominated by Central Gaulish samian (R01A), which contributes 6.6% by weight. In addition VER WH (R03A), LNV WH (R12C) and LNV CC (R12B) all contribute <1% by weight. All of the Phase 7 pottery came from ditch fills.

The Phase 7 assemblage is dominated by jars, which account for 55% of EVE, supplemented by beakers, bowls and dishes (Table 8.26). The jars are all medium mouthed types (CD) and occur in sandy grey ware, white slipped sandy grey ware and Roman shelly ware. In addition there are two jar beakers (EH) in sandy grey ware, a reeded rim bowl (HC420) in Roman shelly ware and a plain-rimmed dish (JA1) in coarse black ware.

Table 8.19: Site 1, Phase 7 pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
R (misc Roman)	<1	<1
R01A (Central Gaulish samian)	2.8	6.6
R03A (Verulamium region white ware)	3.8	<1
R05A (orange sandy ware)	1.9	5
R06B (sandy grey ware)	30.7	19.7
R06E (calcareous grey ware)	2.8	<1
R06H (white-slipped sandy grey ware)	16.3	8.5
R07B (sandy black ware)	8.6	2.8
R07E (calcareous greyware)	<1	<1
R12B (Nene Valley colour-coated ware)	1	<1
R12C (Nene Valley white ware)	3.8	<1
R13 (Roman shelly fabric)	17.3	46.6
R40 (yellow gritty ware)	8.6	6.7

Discussion

The assemblage from Site 1 is dominated throughout by Roman shelly and sandy grey ware. These are supplemented by variants of the reduced and oxidised sandy wares, such as sandy black ware and yellow gritty ware, with the few regional and continental imports being dominated by VER WH and samian ware. In the later phases of occupation these were supplemented by small quantities of material from the Nene Valley, Hadham and Mancetter-Hartshill industries. The assemblage is largely jar-dominated in its early phases, with the frequency of dishes, bowls and beakers increasing over time, although jars still form a strong component of the Phase 7 assemblage. Most of the assemblage was locally produced for domestic use and comprised storage and cooking vessels. This suggests a low status rural site, with relatively few contacts with the outside world. However, it should be stressed that the community was not entirely isolated, as the presence of samian attests. At least certain parts of the community were thus engaged in patterns of consumption that drew them into wider practices of Romanisation. The majority of the larger groups of pottery (defined as groups >50 g in weight) was deposited in ditches throughout the period of occupation of the site and the pattern of deposition in the different feature types, in general, mirrors the pattern of supply to the site overall. This probably simply reflects the greater volume of ditches as compared to other kinds of feature, and does not necessarily reflect the presence of structured deposits, the identification of which would require a closer analysis of mean

sherd weight, type of pottery and the presence of other find types.

Pottery supply to Site 1 conforms closely to the typical pattern of regional supply to rural sites. In Phase 6, locally produced shelly wares and sandy grey wares dominate. Regional and continental imports do not make a significant impact during this phase, and samian dominates those that are present. In Phase 6.2 the assemblage begins to diversify, although it is still dominated by the sandy grey and shelly wares. A greater variety is now apparent among the regional and continental imports, notably with fabrics from the newly developing regional British industries, in particular Nene Valley grey wares and Verulamium region white ware. Although still present in reasonable quantities samian has now been outstripped by the products of the British industries. The Phase 7 assemblage is made up almost entirely of locally produced products, with regional imports represented by small amounts of material from the Nene Valley and Verulamium region industries. This pattern suggests that late Roman occupation may not have been particularly long-lived and that much of the late Roman assemblage may comprise residual material from earlier phases. However, the presence of a late 2nd to early 3rd-century Oxfordshire mortarium from Phase 6.2 and Hadham oxidised ware from Phases 6 and 6.2 suggests occupation until at least the early 3rd century.

Catalogue of illustrated pottery from Site 1 (Fig. 8.10)

Pottery from the fill of ditch 1399 (ctx 1348)

1. Fabric R13; medium-mouthed jar (CD)
2. Fabric R13; lid-seated jar (CJ)
3. Fabric R06b; medium mouthed jar (CD)
4. Fabric R06b; triangular-rimmed dish (JB)
5. Fabric R07b; triangular-rimmed dish (JB)

Pottery from ditch 1445 (ctx 1435)

6. Fabric R06B; beaded rim dish (JB)
7. Fabric R06C; narrow-necked jar (CN)
8. Fabric R06A; carinated bowl (HA)
9. Fabric R06A; channel-rimmed jar (CJ)
10. Fabric R13; channel-rimmed jar (CJ)
11. Fabric R13; medium-mouthed jar (CD)
12. Fabric R18A; lid-seated jar (CJ)
13. Fabric R18A; medium-mouthed jar (CD)
14. Fabric R12A; beaded and flanged mortarium with a stamped flange (KA)
15. Fabric R07B; plain-rimmed dish (JA)
16. Fabric R12C; two-handled flagon with pie-crust rim (BB)
17. Fabric R01A; Dr 33
18. Fabric R01A; Dr 18/31

Site 2

Seven sherds of Roman pottery (50 g) were recovered from Site 2. These were recovered from the upper fills of late Iron Age features, and as residual material from post-medieval deposits. The pottery comprised sandy grey ware (R06B), sandy black ware (R07B), orange gritty ware (R36) and micaceous grey ware (R06D). Two rim sherds are present, both in sandy grey ware and both likely to be from jar/bowl type (D) vessels.

Site 3

Twelve residual sherds of Roman pottery (77 g) were recovered from Site 3. These comprised grog and shell-tempered ware (F05), sandy grey ware (R06B), Roman shelly ware (R13) and South and Central Gaulish samian (R01B/R01A). A single rim sherd from a shelly ware jar (C) is present.

Site 4

Introduction

The excavations at Site 4 produced 2843 sherds of Roman pottery weighing 26,652 g. The assemblage spans Phases 6 and 7 (AD 43–400), with most of the material coming from Phase 6 (AD 43–160) contexts. In addition, there is a small amount of residual material from post-Roman contexts. Pottery was recovered from both settlement features and the cremation cemetery.

Overall the pottery is in poor condition with few well-preserved sherds, even amongst the cremation vessels, which are all fragmented. The average group weighs 46 g and the average sherd weight is 9 g. Pottery from Phase 6 dominates the assemblage, taking a 98% share by weight. Phase 7 contributes 1.3% by weight, while post-Roman occurrences and material from unphased contexts contribute less than 1%.

Phase 6 (c AD 43–160)

Fabrics

The pottery from Phase 6 comprises a diverse range of fabrics, with a strong residual component (Table 8.20). Shelly wares (R13) dominate, accounting for 40% by weight, followed by sandy grey ware (R06B) at 20%. These are supplemented by variants of grog-tempered ware (much of which may be residual), which account for 23%. Four variants of grog-tempered ware are present, comprising grog and shell-tempered ware (F05), fine grog-tempered ware (F06A), coarse grog-tempered ware (F06C) and sand and grog-tempered ware (F09). In addition, late Iron Age-type shelly ware (F07) takes a 7% share. A small amount of middle Iron Age-type pottery (fabrics F16, F29, F37 and F30) is also present. The other defined local fabrics are all present in minor quantities.

Regional and continental imports are rare, comprising a single sherd of Central Gaulish Pompeian red ware (R41), VER WH (R03A) and mortaria (R33), LNV WH (R12C), HAD OX (R22A)

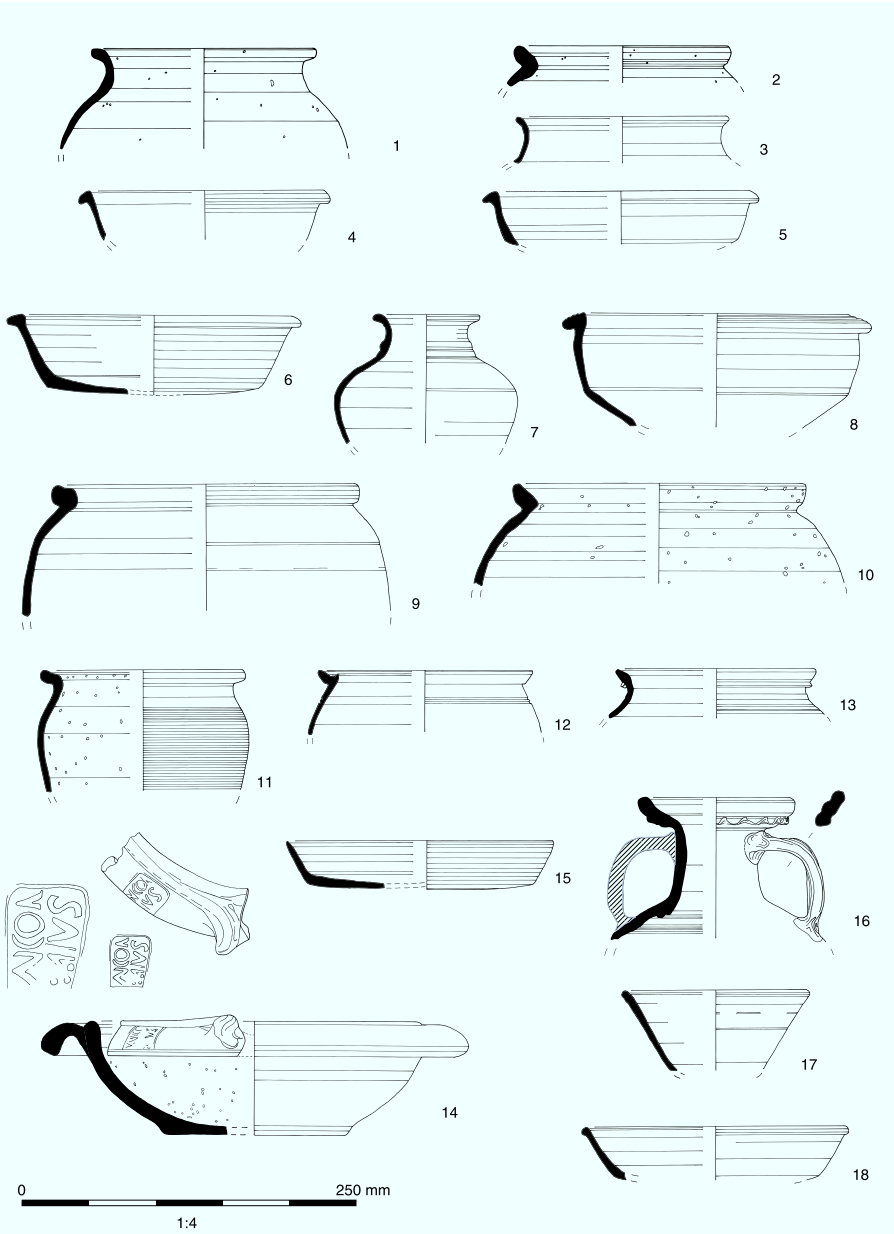

Fig. 8.10 Roman pottery from Site 1, nos 1–18

Table 8.20: Site 4, Phase 6 pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
F (misc Iron Age)	<1	<1
F05 (grog and shell-tempered)	3.5	3.9
F06A (fine grog-tempered)	15.7	11.5
F06C (coarse grog-tempered)	<1	<1
F07 (late Iron Age shelly fabric)	5.7	6.9
F09 (grog and sand-tempered)	5.3	6.8
F16 (coarse shelly)	<1	<1
F29 (coarse sandy)	<1	<1
F30 (sandy and calcareous)	<1	<1
F34 ('Belgic' sandy)	<1	<1
F37 (calcareous with Iron stone)	<1	<1
R (miscellaneous Roman)	1.1	<1
R01A (Central Gaulish samian)	1.7	1.1
R01B (South Gaulish samian)	<1	<1
R03A (Verulamium region white-ware)	1.5	1.3
R03B (gritty white ware)	<1	<1
R03C (smooth white ware)	<1	<1
R05A (orange sandy ware)	1	<1
R06B (sandy grey ware)	29.4	20.2
R06C (fine grey ware)	<1	<1
R06E (calcareous grey ware)	<1	<1
R07B (sandy black ware)	2.5	2.2
R07C (gritty black ware)	<1	<1
R07F (silty black ware)	<1	<1
R12C (Nene Valley parchment ware)	<1	<1
R13 (Roman shelly)	26.3	40.3
R18A (pink gritty ware)	<1	<1
R22A (Hadham oxidised ware)	<1	<1
R30 (fine micaceous)	<1	<1
R33 (Verulamium region mortaria)	<1	<1
R35 (Roman grog-tempered)	<1	<1
R36 (orange gritty ware)	<1	<1
R40 (yellow gritty ware)	1.1	1
R41 (Central Gaulish Pompeian red ware)	<1	<1

and fine, micaceous ware (R30), each of which accounts for <2% of the assemblage by weight. In addition, Central Gaulish samian (R01A) contributes 1.1% and Southern Gaulish samian accounts for <1%.

Forms

The Phase 6 assemblage incorporates a relatively diverse range of forms, including vessels associated with eating and drinking such as flagons, cups, dishes and bowls. However, the assemblage is overwhelmingly dominated by jars, which make up 71.3% by EVE (Table 8.27). Most of the jars were made in Roman shelly ware (R13) and sandy grey wares (R06B), with most of the former comprising lid-seated types (CJ) and most of the latter comprising medium-mouthed vessels (CD). Storage jars (CN) and bead-rimmed jars (CH) are also present in Roman shelly ware, while narrow-necked jars (CC), lid-seated jars (CJ) and wide-mouthed jars (CM) are present in sandy grey ware. Jars are also present in grog and shell-tempered ware (F05) and fine grog-tempered ware (F06A). Jars present in these fabrics include medium-mouthed (CD), bead-rimmed (CH), lid-seated (CJ) and one high-shouldered jar (CH). Bead-rimmed (CH) and lid-seated (CJ) jars are also present in late Iron Age shelly ware along with a single (probably residual) barrel-shaped jar (CB). In addition there are medium-mouthed jars (CD) in 'Belgic' sandy ware, a medium-mouthed jar (CD) in sand and grog-tempered ware and a barrel-shaped jar (CB) in coarse shelly fabric (F16), which is also probably residual. Also present is a medium-mouthed jar (CD) in Verulamium region white ware and a storage jar (CN) in Roman grog-tempered ware.

Poppyhead beakers (EF) are the most common form of beaker, accounting for 1.23 EVE. These were largely made in sandy grey ware, although single examples are present in sandy black ware and gritty black ware. There are also three butt-beakers (EA) made in late Iron Age shelly ware, sand and grog-tempered ware and fine micaceous ware, and two globular beakers (ED) made in sandy grey ware. Dishes and platters are dominated by samian Dr 18/31 and Dr 36, curving-sided dishes (JB) with plain, beaded or triangular rims. Two platters (JC) with plain rims are present, in fine grog-tempered ware and in sandy grey ware. Cups largely comprise samian Dr 27 and Dr 33. Relatively few bowls are present. They mostly consist of reeded rim bowls (HC420) in Roman shelly ware, although there is also a curving-sided bowl with a flat rim (HC410) in sandy grey ware, a curving wall bowl with a plain rim (HC80) in Roman shelly ware and a samian Dr 37. Lids in local grog or sandy wares make up the greatest proportion of the remaining vessels, along with a bead rimmed flagon (BB) in Verulamium region white ware, a medium-mouthed jar/bowl (DA) in gritty white ware and a bead and flanged mortarium (KA) in Verulamium region white ware.

Deposition

The distribution of Phase 6 groups >50 g breaks down as follows: 52.5% were deposited in ditches, 24% in pit fills, 12.6% in cremations, 6.3% in the fills of hollows, 1.5% in the fill of palisade trench 4393, 1% in the fill of postpipe 4745 and 1.8% in the fill of tree throw hole 4590. As on Site 1 the ditch assemblages from Site 4 largely comprised shelly fabrics and sandy grey ware, with small quantities of reduced and oxidised sandy wares and residual grog-tempered ware. The pit assemblages mirror those from the ditches whilst the assemblages from the palisade trench, postpipe and tree-throw hole consist entirely of shelly and sandy grey wares. There was no great difference in the distribution of different types of vessel between different types of feature, with the assemblages from all features being dominated by jars, with some beakers and dishes.

Phase 6 funerary pottery

The seven cremation burials from Site 4 produced a total of eight pottery vessels. The burials all date to Phase 6. In five burials (4076, 4080, 4195, 4197, 4244 and 4247) vessels were used to contain the cremated human remains and can therefore be classified as funerary urns. In addition, three burials (urned burials 4195 and 4247 and unurned burial 4236) contained single sherds from samian vessels, which might suggest the former presence of ancillary vessels, or deliberately broken sherds from the funeral rituals deposited with the burials. The three vessels from burials 4080 (4078), 4247 (4249) and 4244 (4245) are very fragmentary and cannot be reconstructed. The cremation urn from burial 4080 (4078) is too fragmentary to identify other than as a closed form of some kind, either a jar or beaker in a black-surfaced sandy ware. The other cremation urns comprise a necked jar with an everted rim in Roman shelly ware (burial 4076), a poppyhead beaker in sandy grey ware (burial 4247 (4249)) and two medium-mouthed jars, one in sandy grey ware (burial 4244 (4245)) and the other in VER WH (burial 4195 (4194)). A rim sherd from a South Gaulish samian Dr 27 cup was recovered from the back-fill (4194) of burial 4195, four sherds from a similar cup came from the back-fill (4248) of burial 4247 and fragments of a cup Dr 33 and dish Dr 18/31 was recovered from burial 4236 (4235).

In contrast to the funerary assemblage recovered from Site 8 (see below), there is a neat division in the assemblage between jars and beakers (Table 8.28), used as funerary urns, and cups and dishes, which were either deposited as ancillary vessels or were linked with the funerary rites. This pattern conforms to that of most Roman cremation assemblages, where types related to eating and drinking dominate ancillary assemblages.

Catalogue of funerary pottery

Cremation 4076 (see Fig. 4.14)

1. Cremation urn. Necked jar with everted rim, fabric R13 (Fig. 8.11.19) SF 4012

Cremation 4080 (4078) (see Fig. 4.14)

1. Cremation urn. Probably a jar in very fragmented condition, fabric R07B

Cremation 4195 (4194)

1. Cremation urn. Medium-mouthed jar (CD), fabric R03A
2. Rim sherd of South Gaulish samian (R01B), Dr 27 cup

Cremation 4197 (4196)

1. Cremation urn. Very fragmented condition, fabric R06

Cremation 4236 (4235)

1. Central Gaulish samian (R01A), cup Dr 33
2. Central Gaulish samian (R01A), dish Dr 18/31

Cremation 4244 (4245)

1. Cremation urn. Medium-mouthed jar (CD), fabric R06B

Cremation 4247 (4248) (4249)

1. Cremation urn. Poppyhead beaker, fabric R06B
2. South Gaulish samian (R01B), sherd from a Dr 27 cup

Phase 7 (c AD 160–400)

Pottery from Phase 7 contexts shows a similar range of fabrics to that seen in Phase 6 (Table 8.21). Roman shelly fabrics (R13) and sandy grey wares (R06B) dominate, accounting for 48% and 27% by weight respectively. Residual wares (fabrics F05, F06A, F07 and F30) together account for 6.9% by weight. The remaining locally produced fabrics comprise yellow gritty ware (R40). Regional and continental imports consist of VER WH and LNV RE. Only one Phase 7 group was greater than 50 g and this exclusively comprised shelly ware from the backfill of grave 4342. Two rim sherds were recovered from Phase 7 contexts: a shelly ware lid-seated jar (CJ) and a sandy grey ware plain-rimmed platter (JC1).

Post-Roman contexts

A total of 17 sherds of residual material were recovered from post-Roman contexts. Of particular note are two sherds of Spanish Dressel 20 olive oil amphorae (BAT AM) (R19A).

Discussion

Pottery supply to Site 4 was similar to that to Sites 1 and 8 and typical of supply to rural sites in the region. During Phase 6 pottery supply was dominated by Roman shelly ware and sandy grey ware, with a significant proportion of grog-tempered ware. Oxidised sandy wares and Roman grog-tempered storage jar fabrics were also present, but in small amounts. Regional and continental imports comprised VER WH and samian, with a

Table 8.21: Site 4, Phase 7 pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
F05 (grog and shell-tempered)	3	<1
F06A (grog-tempered)	7	3.1
F07 (late Iron Age shelly)	1.7	2.2
F30 (sandy and calcareous)	1.7	<1
R (miscellaneous Roman)	17.5	5
R03A (Verulamium region white ware)	1.7	<1
R06A (Nene Valley grey ware)	5.2	9.4
R06B (sandy grey ware)	21	27
R13 (Roman shelly ware)	38.5	48
R40 (yellow gritty ware)	3.5	2.2

very small amount of HAD OX, which may have been intrusive, or may have reached the settlement at the very end of the early Roman phase. This pattern of supply is to be expected at a small early Roman rural settlement such as this and compares well with other similar settlements in the region (see below). The pottery supply during Phase 7 mirrored the early Roman supply very closely with a similar range of wares in similar proportions. Imports also consisted entirely of VER WH. This suggests that the Phase 7 assemblage is largely, if not wholly, residual and that the settlement did not continue in occupation much beyond the late 2nd century AD. In both periods the assemblage is dominated by jars, although some poppyhead beakers, globular beakers and triangular rimmed dishes are also present.

Like the Site 1 assemblage, the material from Site 4 was largely locally produced and dominated by vessels for use in storage and cooking, rather than eating and drinking. This probably reflects the relatively isolated and rural nature of the community that used the pots. However, the presence of small amounts of regional and continental imports shows that the inhabitants of Site 4 were not completely isolated, but were involved in wider currents of Romanisation.

Catalogue of illustrated pottery from Site 4 (Fig. 8.11)

19. Fabric R13; necked jar with everted rim. Cremation burial 4076. Phase 6
20. Fabric R06B; lid-seated jar (CJ). Ditch 4413 ctx 4414. Phase 6

Site 5

Nine residual sherds of late Iron Age and Roman pottery (64 g) were recovered from medieval contexts on Site 5. The fabrics present include F05, F06A, R06C and R06B indicating a late Iron Age-early Roman source. A single sandy grey ware rim is from a lid.

Site 8

Introduction

The excavations at Site 8 produced 10,580 sherds of Roman pottery weighing 140,054 g. The assemblage spans the period, with most of the material dating from the mid 2nd to the late 4th century AD. Pottery was recovered from settlement features, a small cremation cemetery and four pottery kilns.

The pottery was of variable condition with some well-preserved sherds, or in the case of the cremations, complete vessels, but also some very fragmented material. The average group weighs 244 g and the average sherd weight is 13 g. Pottery dating to the middle to late 2nd and early 3rd centuries AD dominates the assemblage accounting for 45% by weight. Late Roman pottery accounts for 27% by weight, early Roman pottery 16% by weight, late Iron Age to early Roman pottery 6% and pottery of broadly Roman date also 6%.

Late Iron Age to early Roman pottery (c 50 BC–AD 70)

Fabrics

The late Iron Age to early Roman assemblage incorporates a relatively restricted range of fabrics, and accounts for just a modest proportion of the overall assemblage at 6% by weight (Table 8.22). Grog-tempered wares dominate the assemblage, accounting for 51% by weight. Four variants of grog-tempered ware are present, comprising fine grog-tempered ware (F06A), coarse grog-tempered ware (F06C), grog and shell-tempered ware (F05) and sand and grog-tempered ware (F09). The second commonest fabric is shelly ware (F07), which accounts for 42%, followed by 'Belgic' sandy ware (F34) accounting for 7%. Other fabrics include sandy grey ware (R06B), Roman shelly ware (R13) and a single sherd of prehistoric material (F).

Forms

The dominance of grog-tempered wares within the late Iron Age and Roman assemblage is mirrored by the preponderance of jars among the identified vessel types, which account for 99.7% by EVE, with the remainder of the assemblage comprising beakers and bowls (Table 8.29). Most jars were made in shelly ware (F07) and fine grog-tempered ware (F06A), and largely comprise high-shouldered jars (CE) and lid-seated jars (CJ). There are also several medium-mouthed jars (CD) in these fabrics and part of a single storage jar in fine grog-tempered ware. In addition, medium-mouthed jars (CD) are present in shell and grog-tempered ware (F05), sand and grog-tempered ware (F09) and sandy grey ware (R06B). There is also part of a bead-rimmed jar (CH) and parts of two lid-seated jars in Roman shelly ware (R13). Of the two beakers present one is a fine grog-tempered (F06A) butt-

Table 8.22: Site 8, late Iron Age to early Roman pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
F (misc Iron Age)	<1	<1
F05 (grog and shell-tempered)	1.9	3.7
F06A (fine grog-tempered)	60	40
F06C (coarse grog-tempered ware)	1	5.7
F07 (late Iron Age shelly fabric)	18	42
F09 (sand and grog-tempered ware)	<1	<1
F34 ('Belgic' sandy ware)	16	7
R06B (sandy grey ware)	<1	<1
R13 (Roman shelly ware)	2	2

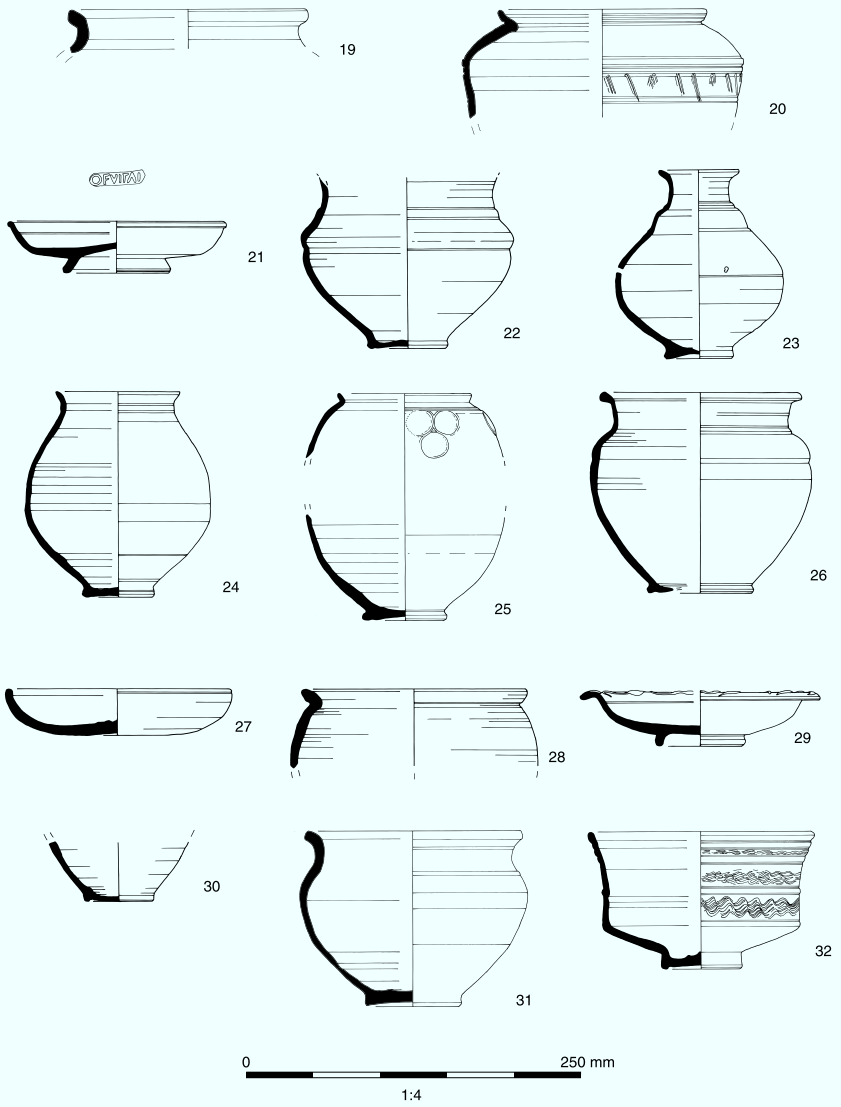

Fig. 8.11 Roman pottery from Site 4, nos 19–20, and Site 8, nos 21–32

beaker (EA) and the other is a shelly ware jar beaker (EH). The single straight-sided bowl (HB) was made in fine grog-tempered ware.

Deposition

Most of the late Iron Age to early Roman assemblage (94.1%) was deposited in pit fills, with the remaining 6% coming from ring-gully 10867. There were few differences in the deposition of fabrics and vessel forms between the two feature types. Grog-tempered wares and shelly fabrics dominated the pit fills, with the high-shouldered jar the most common form. Identical fabrics, along with a high-shouldered jar, a medium-mouthed jar and a bead-rimmed jar were present in the fill of the ring gully.

Early Roman pottery (c AD 43–160)

Fabric

The early Roman assemblage, accounting for 16% by weight overall, shows a greater diversity of fabric types than that seen in the preceding group (Table 8.23). Several late Iron Age grog-tempered, shelly fabrics and sandy fabrics are present, either showing a persistence of local native traditions or redeposition. Shelly ware (R13) and sandy grey ware (R06B) again dominate accounting for 60% by weight. These fabrics are supplemented by sandy black ware (R07B). The other defined local fabrics are all present in minor quantities of <5% (Table 8.23). In addition, small amounts of late Iron Age fabrics F05, F06A, F06C, F07 and F34 collectively make up 6%.

Regional and continental imports include a relatively wide range of fine wares, which contribute 15% by weight. By far the most common fine ware is South Gaulish samian (R01B). Other imports include VER WH (R03A) and mortaria (R33), Romano-British lead-glazed ware (R32A), Central Gaulish samian (R01A), LNV RE (R06A), Dorset black-burnished wares (DOR BB1) (R07A and R07G), intrusive Oxfordshire colour-coated (OXF RS) mortaria (R8F), LNV PA (R12C) and fine micaceous ware (R30).

Forms

The increasing range of fabrics in this period is mirrored by a more diverse repertoire of forms, including vessels associated with eating and drinking such as flagons, cups, dishes and bowls. However, the assemblage is still overwhelmingly dominated by jars, which make up 54% by EVE (Table 8.29). Most jars were made in Roman shelly fabrics (R13) and sandy grey ware (R06B), with most of the former comprising lid-seated (CJ) types and most of the latter comprising medium-mouthed vessels (CD). Also present in sandy grey ware are several narrow-necked jars (CC), several lid-seated jars (CJ) and a medium-mouthed jar (CM). Several storage jars (CN), several medium-mouthed jars and a bead-rimmed jar (CH) are present in shelly ware. Jars are also present in grog and shell-tempered fabrics, consisting entirely of medium-mouthed vessels (CD) and fine grog-tempered fabrics, in which they comprise medium-mouthed jars (CD) and high-shouldered jars (CE). There is also a single bead-rimmed jar (CH) in fine grog-tempered ware. In addition, there is a high-shouldered jar (CE) in 'Belgic' sandy fabric, a high-shouldered jar (CE) in yellow gritty ware and a bead-rimmed jar (CH) along with a lid-seated jar (CJ) in orange sandy ware.

Poppyhead beakers (EF) are the most common beaker form, contributing 1.46 EVE. They were made in sandy grey ware, fine grey ware, sandy black ware and an unsourced reduced ware with a black-slip. Globular beakers (ED) made in orange gritty ware and fine grey ware were the next most common beaker type, contributing 1.3 EVE and butt-beakers (EA) made in fine grog-tempered ware and 'Belgic'

Table 8.23: Site 8, early Roman pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
F (misc Iron Age)	<1	<1
F03 (grog and sand-tempered ware)	<1	<1
F05 (grog and shell-tempered ware)	2	1
F06A (fine grog-tempered ware)	3	3
F06C (coarse grog-tempered ware)	<1	<1
F07 (late Iron Age shelly ware)	1	1
F34 ('Belgic' sandy ware)	1	<1
R (misc Roman)	2	2
R01A (Central Gaulish samian)	<1	<1
R01B (South Gaulish samian)	3	3
R03A (Verulamium region white ware)	1	2
R03B (gritty white ware)	<1	<1
R03C (smooth white ware)	<1	<1
R05A (orange sandy ware)	3	4
R05B (fine orange ware)	<1	<1
R05D (white-slipped oxidised ware)	<1	<1
R06B (sandy grey ware)	32	27
R06C (fine grey ware)	2	1
R06E (calcareous grey ware)	<1	<1
R06F (grog-tempered grey ware)	<1	<1
R06H (white-slipped grey ware)	<1	<1
R07A (Dorset black burnished ware 1)	<1	<1
R07B (sandy black ware)	10	9
R07C (gritty black ware)	1	<1
R07F (silty black ware)	<1	<1
R07G (Dorset black burnished ware 2)	<1	<1
R11F (Oxfordshire colour-coated mortaria)	<1	<1
R12C (Nene Valley parchment ware)	<1	<1
R13 (Roman shelly fabric)	28	33
R18A (pink gritty ware)	<1	<1
R18B (pink fine)	<1	<1
R30 (Fine micaceous fabric)	<1	<1
R32A (British lead-glazed ware)	<1	2
R33 (Verulamium region mortaria)	<1	<1
R35 (Roman grog-tempered ware)	<1	2
R40 (yellow gritty ware)	2	1

sandy ware account for 0.44 EVE. In addition there is a carinated beaker (EG) in sandy grey ware, and a jar-beaker (EH) in late Iron Age shelly ware. Dishes and platters are largely made up of South and Central samian Dr 18 and 18/31, with two examples of Dr 15/17. Platters (JC) are also present in sandy grey ware, fine grey ware, sandy black ware, gritty black ware and Roman shelly ware.

Bowls largely comprise curving sided types (HC), carinated bowls (HA) and an imitation Dr 30 in Romano-British lead-glazed ware. In addition there are two straight-sided bowls (HB) and part of a decorated South Gaulish Dr 30 or 37 bowl. Flagons, including examples in Verulamium region white ware, sandy grey ware and orange sandy ware, make up the greatest proportion of the remaining vessels, along with lids, campanulate cups (FB) (imitation Dr 27), a Dr 27, a necked jar/bowl (DC) and a VER WH bead and flanged mortaria (KA).

Deposition

Most of the early Roman pottery (43.6%) came from ditches, with a further 30% from pits, 20% from cremation burials, 3.6% from postholes, 2% from waterhole 8925, <1% from spread 10653 and <1% from trample 10685. The distribution of pottery between the different feature types largely reflects the pattern of supply to the site (see below). Pit and ditch fills are dominated by shelly fabrics and sandy grey wares, with small amounts of other reduced and oxidised sandy fabrics, samian and VER WH. The vessels deposited in all the different feature types were mostly jars, with occasional platters and beakers. The only exception to this pattern is the pottery from the cremations, which includes a higher proportion of samian and other imports and a higher ratio of platters, beakers, bowls and dishes to jars. This pattern is to be expected and is discussed further below.

Early Roman funerary pottery

An isolated cremation burial, 8092, from Phase 5–6.1 produced a single pot, whilst the remainder came from the phase 6 cremation cemetery (8094). Eight of the seventeen cremation burials (8096, 8099, 8103, 8104 A and B, 8393 8433 and 10567) produced pottery, a total of 16 vessels (see Fig. 4.32). One of these, 10567 contained a single urn (see Fig. 4.38), which has been subsequently lost. The burials are all dated to the early Roman phase of occupation, spanning the mid to late 1st and early 2nd centuries AD. Eight vessels contained cremated human remains; the remaining eight were deposited as ancillary vessels. The samian dish in the earlier isolated burial had possibly been placed inverted over the cremated remains. Four of the cremation urns are simple medium-mouthed jars with everted rims in sandy grey ware. Two cremation burials (8393 and 8433) were deposited in beakers with no ancillary vessels. Of the eight burials catalogued below, four appear to have contained single vessels, one contained three vessels, one five vessels (three well-preserved and two very fragmentary) and a double burial five vessels (three in one and two in the other). Ancillary vessels include jars, beakers, bowls and dishes. The beakers include two examples of poppyhead beakers (eg Fig. 8.11.24), one bag-shaped colour-coated beaker, one globular beaker decorated with raised bosses (Fig. 8.11.25) and one grey ware plain beaker. Three graves contained samian dishes, Dr 15/17, Dr 18 and Dr 36, and one a grey ware platter or dish. Cremation burial 8096 contained a Romano-British lead-glazed decorated bowl.

Other ancillary vessels are largely represented by jars, including medium-mouthed everted rim jars, lid-seated jars and narrow-necked jars. Given the fact that jars are nearly as commonplace among the ancillary vessels as other types, it is debatable to what extent the ancillary vessel assemblage is focused on eating and drinking vessels. The narrow-necked jar may perhaps have been a drinking-related vessel, however, as it could have been used to dispense liquid. Given that ancillary assemblages are more often than not dominated by drinking and eating vessels, it seems pertinent to ask why this is not the case with Site 8. It may be that this distribution is a sign of status, with jars being used to stand in for the more usual beakers and platters. However, given the presence of a highly unusual lead-glazed ware bowl, a colour-coated beaker and the samian vessels this seems unlikely.

Catalogue of funerary pottery

Phase 5–6.1

Cremation burial 8092

1. South Gaulish samian (R01B) dish Dr 15/17 (SF 8001, 8003, 8004)

Phase 6 Cemetery

Box burial 8096 (Fig. 4.33)

1. Cremation urn (SF 8066). Complete medium-mouthed jar. Sandy grey ware (R06B)
2. Ancillary vessel (SF 8067). Imitation Dr 30 bowl in Romano-British lead-glazed ware (R32A)
3. Ancillary vessel (SF 8068). Possible beaker. Sandy grey ware (R06B)

Cremation burial 8098

1. Well-fragmented bag-shaped beaker in Colchester colour-coated ware (R04E). Placed upside down over cremated remains

Cremation burial 8099 (Fig. 4.34)

1. Poppyhead beaker in grey sandy ware (R06C) with lozenge barbotine dot panel decoration (SF 8000)

Cremation burial 8103

1. Cremation urn (SF 8009). Medium-mouthed jar. Sandy grey ware (R06B)
2. Ancillary vessel (SF 8007). Dr 18 platter. South Gaulish samian (R01B)

3. Ancillary vessel (SF 8008). Narrow necked jar. Sandy grey ware (R06B)
4. Ancillary vessel. Medium-mouthed jar. Sandy grey ware (R06B)
5. Ancillary vessel. Medium-mouthed jar sandy black ware (R07B)

Cremation burial 8104 (Fig. 4.36)

Cremation A

1. Cremation urn. Medium-mouthed necked, cordon jar with a girth groove. Sandy grey ware (R06B) (SF 8059)
2. Ancillary vessel. South Gaulish samian Dr 36 dish (SF 8062)

Cremation B

3. Cremation urn. Shelly ware channel rim jar (R13) (SF 8055 and SF 8058)
4. Ancillary vessel. Sandy grey ware platter (R06B) (SF 8056)
5. Ancillary vessel. Base of a sandy grey ware jar (R06B) (SF 8057)

Cremation burial 8393 (Fig. 4.37)

1. Cremation urn. Poppyhead beaker in black-slipped reduced fabric (R06C) (SF 8083)

Cremation burial 8433 (Fig. 4.37)

1. Cremation urn. Globular bossed beaker in orange gritty ware (R36) (SF 8084)

Cremation burial 10567

1. Cremation urn. A variety of black carinated pot, now lost (SF 8229)

Middle Roman pottery (c AD 160–250)

Fabrics

The middle Roman groups, accounting for 45% of the assemblage, show an increasingly diverse range of wares (Table 8.24). The middle Roman assemblage, like the early Roman pottery, is dominated by sandy grey ware (R06B) and shelly ware (R13), which together account for 84% by weight. These are supplemented by small quantities of gritty black ware (R07C), fine grey ware (R06C), some residual fine grog-tempered ware (F06A), yellow gritty ware (R40) and orange sandy ware (R05A). The remaining coarse wares comprise a wide range of fabrics, all contributing <1%.

Regional and continental imports make a minimal contribution, although a relatively wide range of fabrics is present. Continental imports include samian (South, Central and East Gaulish), Central Gaulish colour-coated ware (R04D) and South Spanish Dressel 20 olive oil amphorae (R19A). Regional imports include VER WH (R03A) and mortaria (R33), Colchester colour-coated ware (COL CC) (R04E), Romano-British lead-glazed ware (R32A), HAD OX (R22A), Hadham reduced ware (R22B), Nene Valley mortaria (R12A), LNV CC (R12B), LNV PA (R12C), mica-slipped ware (R02) and OXF RS (R8D). Like the pottery from the early Roman phase, most of the middle Roman pottery (50%) was deposited in ditch fills. Of the remaining material, 30% was deposited in the backfills of the kilns and 17% in pits.

Forms

A wide range of vessel types are present in the middle Roman assemblage, with jars increasing at the expense of beakers, bowls and flagons but with the proportions of the remaining vessel types largely

Table 8.24: Site 8, middle Roman pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
F (misc Iron Age)	<1	<1
F06A (fine grog-tempered ware)	1.5	<1
F34 ('Belgic' sandy ware)	<1	<1
R (misc Roman)	1.2	<1
R01A (Central Gaulish samian)	1	<1
R01B (South Gaulish samian)	<1	<1
R01C (East Gaulish samian)	<1	<1
R02 (mica-slipped ware)	<1	<1
R03A (Verulamium region white ware)	1	1
R03B (gritty white ware)	<1	<1
R03C (smooth white ware)	<1	<1
R04D (Central Gaulish colour-coated ware)	<1	<1
R04E(Colchester colour-coated ware)	1.3	<1
R05A (orange sandy ware)	1.8	<1
R05B (fine orange ware)	<1	<1
R05D (white slipped oxidised ware)	<1	<1
R06A (Nene Valley grey ware)	<1	<1
R06B (sandy grey ware)	52	55
R06C (fine grey ware)	1.3	<1
R06E (calcareous grey ware)	<1	<1
R06F (grog-tempered grey ware)	<1	<1
R06H (white-slipped grey ware)	<1	<1
R07A (Dorset black-burnished ware 1)	<1	<1
R07B (sandy black ware)	3	2
R07C (gritty black ware)	2.4	2
R07D (sandy black ware)	<1	<1
R07E (coarse black ware)	<1	<1
R07G (Dorset black-burnished ware 2)	<1	<1
R09A (pink grogged ware)	<1	<1
R11D (Oxfordshire colour-coated ware)	<1	<1
R11E (Oxfordshire white-ware mortaria)	<1	<1
R12A (Nene Valley mortaria)	<1	<1
R12B (Nene Valley colour-coated ware)	<1	<1
R12C (Nene Valley white ware)	<1	<1
R13 (shelly ware)	24.4	29
R18A (pink gritty ware)	<1	<1
R18B (pink fine ware)	<1	<1
R19A (South Spanish - Dressel 20 amphorae)	<1	<1
R22A (Hadham oxidised ware)	<1	<1
R22B (Hadham reduced ware)	<1	<1
R 32A British lead glazed ware	<1	<1
R33 (Verulamium region mortaria)	<1	<1
R35 (grog-tempered ware)	<1	<1
R36 (orange gritty ware)	<1	<1
R40 (yellow gritty ware)	<1	<1

unchanged (Table 8.29). Jars are still the dominant vessel type, at 66.8% by EVE, a fact that may be explained by the presence of large numbers of lid-seated jars from the backfilled 2nd-century kiln and its associated waster pits (see below). The majority of jars were made in sandy grey ware and shelly ware and are of lid-seated type (CJ). Medium-mouthed jars (CD) are also common in these fabrics and are also present in fine grog-tempered ware, fine grey ware, Verulamium region white-ware, orange sandy ware, sandy black ware and gritty black ware. There are a small number of wide-mouthed jars (CM), two bead-rimmed jars (CH), lid-seated jars (CJ) and four 'cooking pot type' jars (CK).

Dishes and platters largely comprise straight (JA) or curving-sided vessels (JB), with a variety of beaded, triangular and reeded rims. Most of these vessels were made in sandy grey ware, although examples are present in small quantities in a range of other local wares. In addition, there are a number of samian vessels, including several Dr 18/31 vessels, two Dr 36 vessels, one Dr 79 and one Dr 79R. An East Gaulish Dr 32 is also present.

As with the early Roman assemblage, poppyhead beakers (EF) are the most frequent beaker form. These were made in sandy grey ware, fine grey ware and white-slipped sandy grey ware. Also present are indented or folded beakers (EE), in LNV CC and Central Gaulish colour-coated ware (CNG CC), a globular beaker (ED), also in CNG CC, jar-beakers (EH) in LNV RE, sandy grey ware and yellow gritty ware, two bag-shaped beakers (EC), in LNV CC and COL CC and a residual butt-beaker (EA), in 'Belgic' sandy ware.

Bowls largely comprise curving-sided types (HC), with a variety of flat or beaded rims made in a range of fabrics along with several samian Dr 31s and one Curle 8. In addition there is a curving-sided bowl with an everted rim (HC7) in HAD OX, a bowl in COL CC, a bowl in calcareous grey ware and a beaded-rim bowl in OXF RS (Young 1977, C61.4) typical of the latter half of the 4th century. Of the remaining vessel types, lids were manufactured in sandy grey ware and shelly ware, flagons are present in LNV RE, VER WH, smooth white ware and white slipped oxidised ware, and medium-mouthed (DA) and necked (DC) jar/bowls are present in sandy grey ware, orange sandy ware and shelly ware. Cups were largely made in samian (Dr 33a, 33 and 27); there is also a hemispherical cup with a plain rim (FA1), in CNG CC. Three mortaria are present: a LNV WH vessel with a bead and flange (KA), an OXF WH mortarium (Young M17) and an East Gaulish samian Dr 45.

Late Roman pottery (c AD 160–400)

Fabrics

The late Roman groups contribute a comparable, if slightly broader, range of fabrics than that seen in the middle Roman period (Table 8.25) and accounts for 27% of the total Roman assemblage by weight. As with the earlier phases, the late Roman assemblage is dominated by shelly ware (R13), which accounts for 52% of the assemblage by weight. However, sandy grey ware (R06B), although still prominent, has fallen to 16.5% by weight. Other wares present in lesser amount include gritty black ware (R07C), sandy black ware (R07B), orange

Table 8.25: Site 8, late Roman pottery (% sherd count and weight)

Fabric	*% sherd count*	*% weight*
F (misc Iron Age)	<1	<1
F05 (grog and shell-tempered ware)	<1	<1
F06A (grog-tempered ware)	<1	1
F07 (late Iron Age shelly ware)	<1	<1
F09 (sand and grog-tempered ware)	<1	<1
F31 (Quartz and mica fabric)	<1	<1
F34 ('Belgic' sandy ware)	<1	<1
(Hadham oxidised mortaria)	<1	<1
R (misc Roman)	<1	<1
R01A (Central Gaulish samian)	<1	1.5
R01B (South Gaulish samian)	<1	<1
R01C (East Gaulish samian)	<1	<1
R03A (Verulamium region white ware)	<1	<1
R03B (gritty white ware)	<1	<1
R03C (smooth white ware)	<1	<1
R04A (Rhenish ware)	<1	<1
R04E (Colchester colour-coated ware)	<1	<1
R05A (orange sandy ware)	1.6	1
R05B (fine orange ware)	<1	<1
R05D (white slipped oxidised ware)	<1	<1
R06A (fine grog-tempered ware)	<1	<1
R06B (sandy grey ware)	19.5	16.5
R06C (fine grey ware)	1.4	1
R06E (calcareous grey ware)	1	<1
R06H (white slipped grey ware)	<1	<1
R07A (Dorset black-burnished ware 1)	<1	<1
R07B (sandy black ware)	2.6	2.9
R07C (gritty black ware)	3	3.9
R07E (coarse black ware)	<1	<1
R07G (Dorset black-burnished ware 2)	<1	<1
R09A (pink-grogged ware)	<1	<1
R11D (Oxfordshire colour-coated ware)	<1	1.2
R11F (Oxfordshire colour-coated mortaria)	<1	<1
R12A (Nene Valley mortaria)	<1	1.8
R12B (Nene Valley colour-coated ware)	4.8	6.3
R12C (Nene Valley parchment ware)	<1	<1
R13 (Roman shelly ware)	53	52
R17 (smooth orange ware)	<1	<1
R20 (Mancetter/Hartshill mortaria)	<1	<1
R22A (Hadham oxidised ware)	1.6	1.3
R22B (Hadham grey ware)	<1	<1
R30 (Fine micaceous fabric)	<1	<1
R35 (Roman grog-tempered ware)	<1	<1
R36 (orange gritty ware)	<1	<1
R38 (unsourced colour-coated ware)	<1	1
R40 (yellow gritty ware)	2	1

sandy wares (R05A), yellow gritty wares (R40), fine grey wares (R06C) and calcareous grey wares (R06E).

Regional and continental imports are dominated by LNV CC (R12B), which take a 6.3% share of the overall assemblage. This is supplemented by HAD OX (R22A), Hadham reduced wares (HAD RE) (R22B), LNV WH (R12A), LNV RE (R06A), OXF RS (R8D), and Central Gaulish samian (R01A). The remainder all account for <1% by weight and comprise residual South Gaulish samian (R01B), East Gaulish samian (R01C), VER WH (R03C), unsourced colour-coated ware (R38), LNV PA (R12C), MAH WH mortaria (R20), DOR BB1 (R07A and R07G), OXF WH (R8E), Oxfordshire oxidised mortaria (R8F), Rhenish ware (R04A), COL CC (R04E), HAD OX mortaria (R22A) and fine micaceous sandy ware (R30).

Forms

The vessel types present in the late Roman assemblage show similar proportions in terms of EVE to those seen in the middle Roman assemblage. Jars dominate at 61.2%, an increase of 7% since the early Roman period. Most of the late Roman jars are made in shelly ware and are of a medium-mouthed everted rim type (CD7), with rilling on the shoulder and lower body. However, medium-mouthed jars are also present in sandy grey ware, white-slipped sandy grey ware, sandy black ware and LNV CC. Also common are wide-mouthed jars (CM), largely in sandy grey ware, but with examples in fine grey ware, sandy black ware, gritty black ware, Roman shelly ware and LNV CC. Narrow-necked jars (CC) make up a slightly less significant proportion of the assemblage than medium-mouthed jars and were largely made in sandy grey ware, with some examples in fine grey ware, LNV CC and orange gritty ware. The remaining jar types comprise storage jars (CN), 'cooking pot type' jars (CK) and lid-seated jars (CJ).

Most of the dishes are plain-rimmed types, with either straight or curving sides (JA/JB 1). These were largely manufactured in black gritty ware, although there are several examples in sandy black ware, orange sandy ware, sandy grey ware, yellow gritty ware, LNV CC, DOR BB1 (BB1 and BB2), and a single example in fine grey ware. Also common are dishes with straight or curving sides and dropped flanges (JA/JB 2), the so-called 'pie dish'. These were made in a variety of fabrics, most commonly shelly ware, with examples also present in sandy grey ware, fine grey ware, gritty black ware, yellow gritty ware and LNV CC. Equally if not slightly more common than the flanged dishes are bead or triangular-rimmed dishes, which are present in sandy grey ware, LNV RE, sandy black ware, gritty black ware, orange sandy ware, LNV CC and OXF RS. The remaining dishes comprise an imitation Dr 36 with a groove in the tip of the rim (JB3) in LNV RE, an imitation Dr 36 in LNV CC, dishes with flat flanges (JB4) in yellow gritty ware, pink-grogged ware and shelly ware, reeded rim dishes (JA4) in sandy grey ware and LNV CC, and five dishes with down-pointing flanges (JA4) in LNV CC.

Flagons, although accounting for a high proportion of EVE, only contribute six vessels to the assemblage. These six vessels comprise one cup-mouthed flagon (BA2) in sandy grey ware, one cornice-rimmed vessel (BA3), also in sandy grey ware, one bead-rimmed vessel in HAD OX (BA2), a bead-rimmed flagon in LNV PA (BB2) and two trefoil-mouthed flagons (BD) in LNV CC. Beakers are the next most common vessel type and comprise three indented or folded beakers (EE) in LNV CC, unsourced colour-coated ware and sandy black ware, two jar beakers (EH) in sandy grey ware and a globular beaker (ED) in sandy grey ware. Bowls are dominated by curving sided types (HC), with a range of beaded, flanged and reeded rims. In addition there are two straight-sided bowls (HB), with reeded rims, two carinated bowls (HA) and a necked bowl (HD).

Amongst the late Roman mortaria LNV WH bead and flanged types (KA) are most common. These are supplemented by bead and flanged vessels in OXF WH (Young 1977, M6), Oxfordshire white-slipped oxidised ware (OXF WS) (Young 1977, WC7), a hammerhead mortarium (KC) in LNV WH and a bead and flanged vessel (KA) in HAD OX. Lids are present in sandy grey ware, orange sandy ware and shelly ware. Medium-mouthed bowl/jars (DA), with a variety of beaded, flanged and everted rims are present in HAD OX, orange sandy ware and fine orange ware. In addition two Central Gaulish samian cups (Dr 27 and 33) came from potentially late 2nd or 3rd century AD contexts.

Deposition

The proportion of pottery deposited in ditch fills had fallen to 25.9% by the late Roman phase, with the remainder being spread between a more diverse range of feature types. This is in striking contrast to the pattern in earlier phases. The fill of beam-slot 8252 accounted for 27.8% and the cobble spreads for 16.8%. The remaining assemblage was distributed across pits (6.4%), the fills of kiln 8750 (3.9%), hollow 8184 (1.8%); spread 10314 (2.2%) and water-hole 10096 (10.7%). However, as in the earlier phases, the distribution of fabric types and vessels between different feature types mirrored the pattern of supply to the site more generally.

Pottery from the kilns

Four, possibly five pottery kilns were discovered during the course of excavation. Definite examples include 8725, 10490, 10730 and 10767, (but see Chapter 4, Enclosure 80/2 for a possible fifth example). Kilns 10490 and 10767 were backfilled with a substantial quantity of reduced sandy pottery. Rim sherds are almost exclusively from jars, particularly lid-seated types. Kiln 10730 contained a

relatively small amount of shelly pottery, again mostly jars with necked, everted rims and rilling on the body.

Kiln 10490 (see Fig. 4.25; Pl. 4.10)

Kiln 10490 located within Enclosure 82 produced an assemblage of 641 sherds from its backfill (ctx 10575), of which 82.5% were in a grey sandy ware (R06B variant). The featured sherds were all from medium-mouthed jars or channel-rimmed jars with an average diameter of 160–70 mm. The exterior of each vessel is decorated with rilling or combing, which covers the shoulder and lower body.

Description of kiln fabric (R06B variant): a sandy paste, fairly harsh to the touch, with light grey surfaces and a dark grey core. Inclusions comprise sparse, subangular quartz up to 0.2 mm in size, moderate calcareous inclusions up to 0.4 mm, moderate black iron inclusions up to 0.1 mm, and very sparse limestone up to 0.7 mm.

Archaeomagnetic dating of the floor of kiln 10490 provided a date of between AD 120–180 for the final firing (Chapter 12). The sandy ware channel rim or lid-seated jars from the back-fill of the kiln have an incipient groove in the rim, rather than the pronounced ledge typical of 1st-century AD lid-seated types. An internal groove is apparent just below the rim on many examples and most have rilling on the shoulder and lower body. A mid 2nd-century date therefore seems appropriate for the use of the kiln

Kiln 10767 (Fig. 4.29)

Kiln 10767, located in Enclosure 85, had been badly damaged. Only 10 sherds of pottery were found associated with the kiln structure, and this was split between shelly ware (R13) and grey sandy ware (R06B), with at least one lid-seated jar. Nearby pit 10769 contained further kiln debris including fragments of portable kiln furniture and 256 sherds of grey sandy ware (R06B). Most of the featured sherds were again lid-seated jars suggestive of a 2nd-century date. The similarity of fabrics and forms to kiln 10490 might suggest that the two kilns were more or less contemporaneous.

Kiln 8725 (Fig. 4.29)

Kiln 8725, situated on the north side of Enclosure 86.2, was also in a bad state of preservation. The kiln backfill again produced some kiln furniture and a very modest assemblage of 59 sherds, 79.6% of which were grey sandy wares (R06B). Whilst not conclusive, it seems likely that such wares were also fired in this kiln.

Kiln 8750 (Fig. 4.45; Pl. 4.13)

Kiln 8750 was situated to the north of ditch 10631 within Enclosure 86.1. The collapsed kiln produced abundant fragments of collapsed superstructure but no kiln furniture. The various associated contexts produced a mixture of material, especially from the upper levels, along with a collection of overfired, reddened sherds probably representing pottery waste. Collectively this amounted to some 269 sherds. The sherds are all shelly wares macroscopically indistinguishable from the bulk of the shelly wares featuring on the site. The vessels are fairly competently wheel-made and almost exclusively comprise medium-mouthed necked jars with thickened rims. The bodysherds are finely rilled. Typologically the vessels are difficult to date, and shelly ware is almost ubiquitous throughout the Roman period. The upper fills of the collapse yielded single sherds of HAD OX and LNV CC, which are probably intrusive.

A number of Romano-British kiln sites producing shelly wares are known dispersed along the Ouse Valley in Bedfordshire. The best known is that at Harrold, which operated through most of the Roman period (Brown 1994). Others, however, seem only to have operated in the early Roman period, including the sites at Stagsden (Dawson 2000b), Bromham (Tilson 1973) and the putative kilns found in 1969 close to Great Barford Site 2 (Rudd 1983; Swan 1984, microfiche 201–96; cf. Fig. 2.2). Further small Roman pottery kilns have recently been excavated at a site near Willington on the opposite side of the River Ouse to Great Barford, also producing shelly pottery identical to Harrold ware. Archaeomagnetic dates suggest that these kilns are early Roman (Anna Slowikowski pers. comm.) reinforcing the likelihood that the Great Barford kiln belongs to a local rural industry.

Discussion

The late Iron Age-early Roman pottery from Site 8 is characterised by grog-tempered wares and jars of lid-seated or high-shouldered type, along with a few butt-beakers. Thereafter shelly fabrics and sandy grey wares dominate the assemblage, following the same pattern seen on Sites 1 and 4. Sandy black wares supplement these along with various other locally produced wares. Regional and continental imports in the early Roman period are dominated by Verulamium region white ware and samian with Nene Valley grey ware also prominent. The early Roman assemblage, like the late Iron Age to early Roman material, is largely jar dominated, although platters, poppyhead beakers, bowls and dishes in samian ware are also present. By the mid to late Roman period the proportion of imported regional fabrics had increased and new fabric types such as HAD OX, LNV CC, OXF RS and OXF WH mortaria make an appearance. Vessel forms also began to diversify over time, with the proportions of dishes, beakers and bowls increasing at the expense of jars, although necked jars with everted rims in shelly fabrics remain prominent throughout the late phases, as at the other sites. The assemblage is largely dominated by locally produced fabrics and vessel forms used in cooking or storage. However, the impression is that the inhabitants of Site 8 were slightly more open to

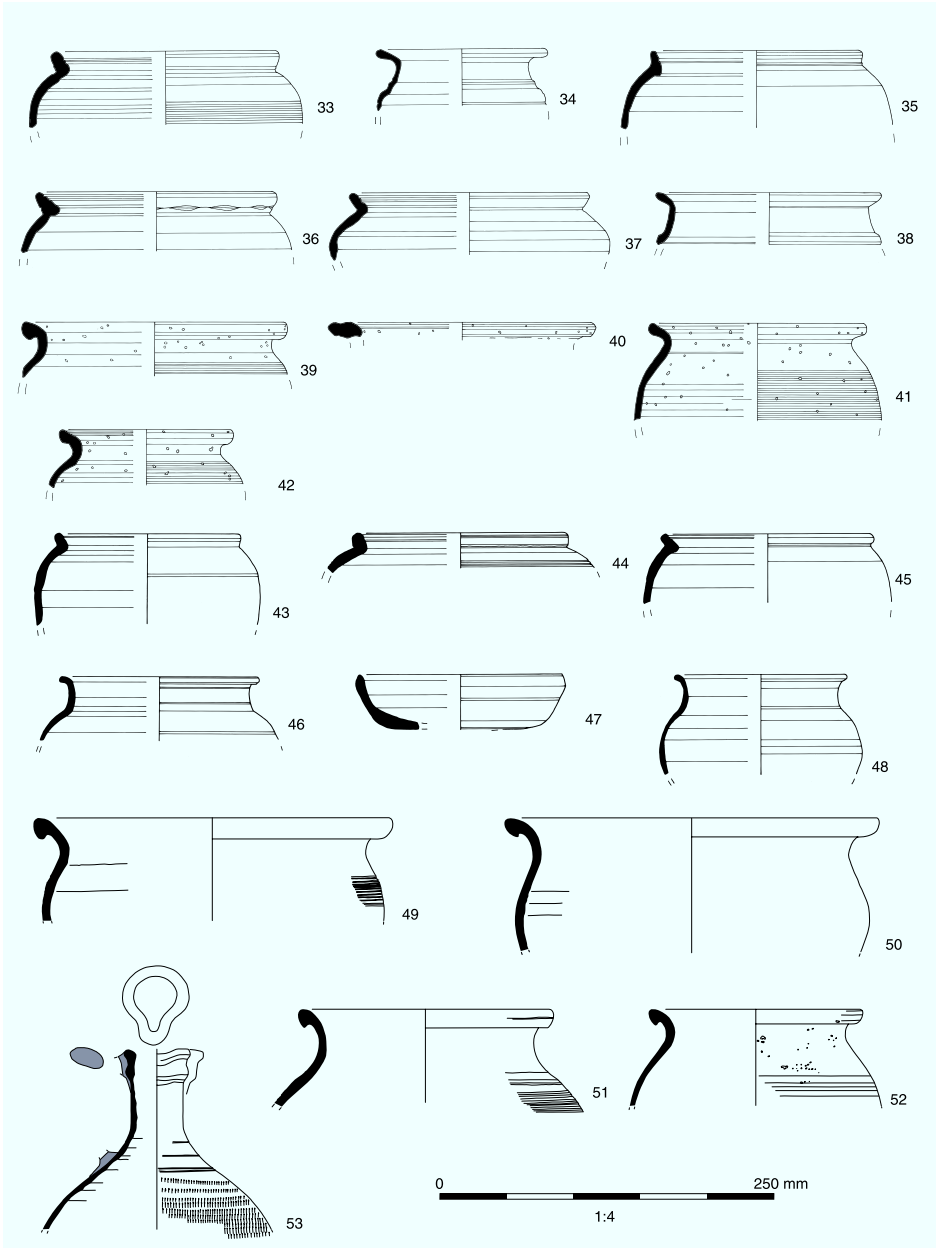

Fig. 8.12 Roman pottery from Site 8, nos 33–53

the outside world than those of the other sites, especially in the later periods, when products of the regional fine ware industries are slightly more prominent. However, this may be a function of chronology, rather than an indication of a difference in status as Site 8 clearly survived well into the 4th century or later.

In contrast to the other sites in the late Iron Age-early Roman phase, at Site 8 most of the pottery was deposited in pits rather than ditches. In the Roman period most material was deposited in ditches, with pits declining in importance. However, a wider range of feature types, such as waterholes, kilns and hollows, were found to contain pottery on Site 8 and the diversity of feature types containing pottery appears to increase over time. These changes may well reflect changes in the physical layout of the site, with ditches acting as the largest available containers for the deposition of pottery and other large features such as hollows and disused kilns acting in a similar way. However, this is not to say that more meaningful patterns of deposition do not exist, but simply that this coarse grained scale of analysis has failed to pick them up.

The distribution of the sandy grey ware fabric (R06B variant) associated with the kilns on Site 8 is largely restricted to the backfill of the kilns and a waster pit (10770). However, some material also came from two ditches (8854 and 10772). The question of why this fabric is not more widely distributed on Site 8 and appears to be absent from the other sites along the course of the road-scheme is a difficult one. A certain degree of caution was exercised in identifying kiln fabrics outside of secure kiln contexts, and it is likely that these fabrics do exist, but have been subsumed under the broader sandy grey ware category.

Pottery supply

In the late Iron Age-early Roman phase, supply to Site 8 was dominated by locally produced grog-tempered wares and grog and shell-tempered wares. The assemblage is notable for the total absence of imported fine wares or any kind of amphorae. Reduced sandy and shelly fabrics dominated pottery supply to Site 8 during the rest of the Roman period. These are likely to have been produced locally. Regional and continental imports, though present, never exceeded their early Roman peak of 15% by weight. In the early and middle Roman periods (mid 1st century AD to early 3rd century) imports and specialist wares were largely supplied by the samian, Verulamium region and Colchester industries. By the late Roman period (early 3rd-late 4th century) the supply of such material was dominated by the Nene Valley industry, as it was on many sites across eastern England, with small amounts of material from the Hadham and Oxfordshire industries.

Catalogue of illustrated pottery from Site 8
(Figs. 8.11 and 8.12)

Pottery from cremation burial 8103

21. Fabric R01B; Dr 18; ctx 8124, SF 8007
22. Fabric R06B; medium-mouthed jar (CD); ctx 10890 (cremation urn), SF 8009
23. Fabric R06B; narrow-necked jar (CC); ctx 10892, SF 8008

Pottery from cremation burial 8394

24. Fabric R06B with a black slipped surface; poppyhead beaker with everted rim (EF); ctx 8395 (cremation urn). SF 8083

Pottery from cremation burial 8433

25. Fabric R36, globular beaker (ED); ctx 8434 (cremation urn), SF 8084

Pottery from cremation burial 8104

26. Fabric R06B; medium-mouthed jar (CD); ctx 10899 (cremation urn), SF 8059
27. Fabric R06B, bead-rimmed platter (JC); ctx 10903, SF 8056
28. Fabric R13; channel-rim jar; ctx 10901 and ctx 8127 (cremation urn), SF 8055/SF 8058
29. Fabric R01A; Dr 36; ctx 8127
30. Fabric R06B; jar/beaker base; ctx 8127, SF 8057

Pottery from cremation burial 8318

31. Fabric R06B; medium-mouthed jar (CD); ctx 10888 (cremation urn)
32. Fabric R32A; carinated bowl (HA) with a lead glaze; ctx 8130

Pottery from kiln 10490

33. Fabric R06B; lid-seated jar (CJ); ctx 10575
34. Fabric R06B; medium-mouthed jar (CD); ctx 10575
35. Fabric R06B; lid-seated jar (CJ); ctx 10575
36. Fabric R06B; lid-seated jar (CJ); ctx 10575
37. Fabric R06B; lid-seated jar (CJ); ctx 10575
38. Fabric R06B; medium-mouthed jar (CD), ctx 10575/10576

Pottery from kiln 10730

39. Fabric R13; medium-mouthed jar (CD); ctx 10334
40. Fabric R13; bowl with reeded rim (HB); ctx 10332
41. Fabric R13; medium-mouthed jar (CD); ctx 10332
42. Fabric R13; medium-mouthed jar (CD); ctx 10327

Pottery from kiln 8725 (ctx 8726)

43. Fabric R06B; lid-seated jar (CJ)
44. Fabric R06B; lid-seated jar (CJ)
45. Fabric R06B; lid-seated jar (CJ)
46. Fabric R06B; necked jar (CD)
47. Fabric R06B; plain-rimmed dish (JB)
48. Fabric R06B; necked jar (CD)

Pottery from beam slot 8252 (ctx 8253)

49–52. Fabric R13; medium mouthed jars with a hooked rims (CD)
53. Fabric R12B; Nene valley grey-slipped grey ware trefoil-mouthed flagon (BD)

Site 9

Five sherds of residual Roman pottery (17 g) were recovered from Site 9. The fabrics (F30, R05D, F06A, R06B and a single sherd of South Gaulish samian) suggest an earlier rather than later Roman origin.

Overall discussion

In terms of pottery supply all the sites along the road scheme compare well with one another. All are dominated by shelly fabrics and reduced sandy wares throughout the Roman period. Small amounts of VER WH and sandy black ware, with levels of imported samian and the products of the regional British industries such as LNV CC never getting above 5% by weight for any individual fabric, supplement these. The only real contrast is in the late Roman phase from Site 8, where there is a greater range of regional imports such as LNV CC , LNV WH, HAD OX, MAH WH mortaria and OXF RS. Continental imports other than samian are minimal on all sites. This pattern may reflect the larger size and importance of Site 8 compared to Sites 1 and 4, or it may indicate that Sites 1 and 4 were less long-lived than Site 8, with most of the pottery from Phase 7 at these sites being residual.

Pottery supply

Pottery supply to the individual sites has been discussed above; this section seeks to put those patterns of supply in regional context. Similar patterns of supply to those seen on the Great Barford sites during the late Iron Age and earliest Roman period can be noted at contemporary local rural settlements such as Ruxox (Dawson 2004, 27–9) where the assemblage is also dominated by locally produced grog-tempered wares. However, small quantities of imports are also present at Ruxox, including Central Gaulish samian, Dressel 20 amphorae, *terra nigra* and North Gaulish white ware. Similarly, at Stagsden the assemblages are dominated by locally produced fabrics, although these are shelly rather than grog-tempered wares (Slowikowski 2000, 71–3).

At Ruxox pottery supply from the 2nd century onwards was dominated by locally produced sandy grey and black wares, with a substantial amount of shelly wares. As time went on, imports and specialist wares became more common, with products of the Nene Valley industry being supplemented with Oxfordshire wares, Hadham wares, small amounts of black-burnished ware, samian and Continental colour-coated wares (Dawson 2004, 28–31). At Aston Well, a Roman building (possibly part of a villa) produced a pottery assemblage of 2nd to 3rd-century date, which once again was dominated by locally produced grey and black sandy wares, with small quantities of samian, Hadham, Oxfordshire and Nene Valley products (Dawson 2004, 36–7). It is possible that pottery supply to this site was more heavily weighted toward the fine and specialist wares, although it is difficult to tell given the small size of the assemblage. At Kempston, pottery supply from the 2nd century to the mid 3rd century was dominated by shelly wares and sandy grey wares, with Central and Southern Gaulish samian and Verulamium region products accounting for many of the imports (Dawson 2004, fig. 3.26). During the 3rd and 4th centuries pottery supply continued to be dominated by locally produced shelly wares, but specialist wares and imports, including Verulamium region wares, Oxfordshire wares and Nene Valley wares increased their share steadily over time (Dawson 2004, Figs. 3.27–3.29). Mica-dusted wares, which were most prominent in the mid 3rd to early 4th century, decline thereafter. Samian ware appears to have peaked in the early to mid 4th century, presumably indicating a high degree of residuality. The settlements at Stagsden were similarly dominated by locally produced material largely made in shelly fabrics (Slowikowski 2000, 71–3).

The funerary pottery from Sites 4 and 8 can usefully be compared to the material from the early Roman cemeteries at Harlington (Dawson 2001) and Warren Farm near Sandy (Dawson and Slowikowski 1988). At Warren Farm there were 14 cremation burials, most of which were provided with a single cremation urn, either in shelly ware or sandy grey ware. Five of the fourteen cremations were provided with ancillary vessels and of these, four had only one extra vessel, while one had four ancillary vessels. Ancillary vessels comprised sandy jars, sandy beakers, a flagon, a poppyhead beaker, a burnished jar and a colour-coated lid. At Harlington the eight cremation burials contained a wider range of pottery, with seven of the burials containing ancillary vessels. A wide range of vessels, including a Hadham oxidised ware jar, a shelly jar, a handmade sandy jar, a gritty white ware jar, a gritty pink ware jar and two grog and sand-tempered jars were used as cremation urns (Dawson 2001, 23–6). Ancillary vessels included samian forms 18, 18/31 and 35, a fine white ware flagon, a white ware flagon and butt beaker, a *terra nigra* platter and a grog and sand-tempered jar. The funerary assemblage from Great Barford Site 4 compares fairly well with that from Warren Farm in that ancillary vessels are scarce and the cremation urns are shelly or sandy jars or beakers, although the presence of several samian vessels at Site 4 does contrast with Warren Farm. The cemetery from Harlington may be seen as slightly richer than that from Site 4, although the main differences lie in the quantity of ancillary vessels rather than the types of vessel present. The cremation burials from Great Barford Site 8 were clearly better provided for than those from Warren Farm or Harlington in terms of quantity of ancillary vessels. The quality of the vessels could be perhaps seen as comparable with Harlington, the lead-glazed bowl from Site 8 possibly being equivalent to the *terra nigra* platter from Harlington. However, it should be borne in

mind that there were fewer cremations from Great Barford Sites 8 and 4 than there were from either of the other two sites, a factor which may distort the comparison.

Pottery production

The presence of four probable kilns at Site 8 demonstrates that pottery was being manufactured on site, at least during the early Roman period. The manufacture of a limited range of jars in a coarse grey ware fabric indicates that production was primarily aimed at local markets, if not simply at supplying the needs of the immediate community. As pottery production in Britain became more dominated by the regional industries, such as the Oxfordshire, Nene Valley and Hadham industries in the late Roman period, so production at Site 8 seems to have declined and disappeared. However, it is possible that the rise of the Harrold industry over the course of the 2nd century had a greater impact on local production than did the development of the later Roman regional industries. A related question is the nature of pottery production at Site 8. Given the small number of kilns and the limited range of their products, it is possible that part-time potters within the community used these kilns. This was perhaps carried out on a seasonal basis, simply to supply the needs of the immediate community, with any surplus possibly being exchanged on the open market. Alternatively, the kilns at this and neighbouring sites could have been used by itinerant specialist potters (Gibson and Lucas 2002).

The kilns from Site 8 may be compared with the kiln from Warren Villas, Beds, which produced a similar range of reduced and oxidised sandy wares, along with white wares and Verulamium region white wares. However, the range of vessel types produced at Warren Villas was far more extensive, including wide-mouthed, narrow-necked and bead-rimmed jars, flagons, platters, bowls, reeded-rim bowls and poppyhead beakers (Slowikowski and Dawson 1993, 42). A better comparison may be the putative kilns adjacent to Great Barford Site 2 (Rudd 1973), where it appears that storage jars and channel-rimmed jars were manufactured in a pink/buff 'calcite-gritted' (shelly) fabric during the early Roman period (Swan 1984, microfiche 201–96).

Functional analysis: pottery consumption and socio-economic status

The functional composition of the assemblages is described below and inferences about the social status and pottery consumption of the inhabitants of the sites are drawn. Tables 8.26–30 show the percentages of different functional vessel classes by phase, using EVE as a measure.

The assemblage from Site 1 is dominated by jars throughout Phases 6, 6.2 and 7, with vessels of other classes never contributing more than 13% of EVE, except in the case of beakers in Phase 7, which contribute 18.5% (Table 8.26). These data fit well with those produced for the other sites and also fit the profile of a 'basic rural level site', to use Evans' terminology (J Evans 2001, 35). The pottery suggests that the socio-economic status of the inhabitants was relatively low, with their pottery mostly being procured from local sources and largely consisting of jars for storage or cooking. However, eating and drinking related vessels are present and these often correspond to the imported fabric types, especially in the case of cups and beakers. These data suggest a certain amount of higher status consumption and relatively wide ranging contacts with the outside world.

Unfortunately the paucity of the assemblage from Phase 7 at Site 4 means that it is impossible to trace the changing composition of the assemblage over time. However, the Site 4 assemblage can be fruitfully compared with that from Site 8 and other sites from the route of the Great Barford bypass. In Phase 6 the assemblage is dominated by jars, which account for 71% by EVE (Table 8.27). These are supplemented by beakers, dishes and platters, and cups. Flagons, bowls, jar/bowls, mortaria and lids are also present, each accounting for <1% of EVE. This distribution is typical for an early Roman rural site, as described by J Evans (2001). In Phase 7 (AD 160–400) the assemblage is divided evenly between jars and dishes/platters. However, the total EVE for this phase are only 0.06 and the assemblage is therefore too small for any meaningful analysis. These data fit well with those produced for Site 8 and also fit the profile of a 'basic rural level site'. As with Site 1, the pottery suggests that the socio-economic status of the inhabitants was relatively low, with most of their pottery being procured from local sources and consisting of jars for storage or cooking. The relative proportions of locally produced coarse ware to imported fine ware tell a similar story, with approximately 98% of all the Phase 6 pottery belonging to the former category. However, some eating and drinking related vessels are present and there is also some samian ware. Often, as in the case of cups, the vessels associated with eating and drinking come in imported fabrics.

The functional analysis of the funerary assemblage alone reveals a slightly different pattern to that for the assemblage as a whole (Table 8.28). Although still dominant, jars only account for 41.2% of the assemblage by EVE, while dishes, platters, beakers and cups account for 58.8% of the assemblage between them. As with Site 8, there is clearly a greater emphasis on vessels related to eating and drinking in the funerary assemblage than there is in the assemblage as a whole. Most of the arguments applied to the Site 8 funerary assemblage can therefore be expected to stand for the Site 4 assemblage (see below).

The late Iron Age to early Roman assemblage from Site 8 is overwhelmingly dominated by jars (Table 8.29). Beakers and bowls make a small contribution. This distribution is typical for a late Iron

Age/early Roman rural site, as described by J Evans (2001, 28). In the early Roman phase jars remain dominant, but are much reduced as a proportion of the overall assemblage, accounting for 54% by EVE. These are supplemented by beakers at 17% and dishes and platters at 15%. The remainder of the assemblage being made up of flagons, bowls, jar/bowls, mortaria, cups and lids. This distribution still fits the profile of a rural settlement, despite the reduction in the proportion of jars, as can be seen from the data collated by J Evans (2001, Figs. 5–7), with the diversification in the assemblage being explained as a function of chronology (see J Evans 2001, fig. 4). In the middle Roman phase, jars remain dominant at 67% of the assemblage by EVE, dishes and platters contribute 16% by EVE, beakers are reduced to 8%, bowls make up 4% and flagons make up 1.5%. When compared to the data presented by Evans, the middle Roman assemblage still presents a resolutely rural signature, having a very similar breakdown of vessel class proportions to most of his rural sites. In the late Roman phase the distribution of vessel class is similar to that seen in the middle Roman phase. Jars account for 61% by EVE, dishes and platters contribute 19%, bowls contribute 1.9% and mortaria contribute 1.6 %. The exceptions to this pattern are flagons, which now account for 11% and beakers that have declined to 2.3%. The increase in flagons is cancelled out by the corresponding decrease in beakers and the assemblage is still jar dominated, meaning that it remains a characteristic rural assemblage through the late Roman period.

When viewed as a whole, and especially when taken together with the information on proportions of locally produced coarse ware to imported fine ware, these data also fit the profile of a 'basic rural-level site' (J Evans 2001, 35). The pottery suggests that the socio-economic status of the inhabitants was relatively low, with most of their pottery being procured from local sources and some of it even being manufactured on site. Most of the pottery which the inhabitants of the site chose or were able to procure comprised jars for storage and cooking. Tablewares were relatively scarce, with perhaps only the most well to do families able to afford it. This suggests either that food preparation and consumption was communal, avoiding the social rituals surrounding dining that were characteristic of the wealthier populations of towns and villas, or that pottery was substituted by cheaper items, such as wooden bowls or platters.

Table 8.26: Functional analysis of Site 1 Roman pottery by phase in % Eves

Phase	Jar	Flagon	Dish and platter	Beaker	Bowl	Jar/bowl	Mortaria	Cup	Lid	Total Eves
6	56.6	4.2	12.2	7.5	12.5	2.5	-	-	4.2	3.99
6.2	59.7	10.2	8.8	5.2	8.4	<1	2.2	3.1	1.4	24.9
7	55	-	3.3	18.5	23	-	-	-	-	1.78

Table 8.27: Functional analysis of Site 4 Roman pottery by phase in % Eves

Phase	Jar	Flagon	Dish and platter	Beaker	Bowl	Jar/bowl	Mortaria	Cup	Lid	Total Eves
6	71	<1	8.9	12.3	<1	<1	<1	3.8	<1	20.43
7	50	-	50	-	-	-	-	-	-	0.06

Table 8.28: Functional analysis of Site 4 Roman pottery from cremation burials in % Eves

Phase	Jar	Flagon	Dish and platter	Beaker	Bowl	Jar/bowl	Mortaria	Cup	Lid	Total Eves
6	41.2	-	15.4	18	-	-	-	25.4	-	2.91

Table 8.29: Functional analysis of Site 8 Roman pottery by phase in % Eves

Phase	Jar	Flagon	Dish and platter	Beaker	Bowl	Jar/bowl	Mortaria	Cup	Lid	Total Eves
LIA-ER	91.7	-	-	7	1.7	-	-	-	-	5.94
ER	54.2	3	14.8	17.3	7	1	0.1	1	1.4	27.86
MR	66.8	1.5	16.1	8	4.1	0.4	0.5	0.8	1.3	45.69
LR	61.2	11	18.7	2.3	1.9	1	1.6	0.4	1.3	41.18

Table 8.30: Functional analysis of Site 8 Roman pottery from burials in % Eves

Phase	*Jar*	*Flagon*	*Dish and platter*	*Beaker*	*Bowl*	*Jar/bowl*	*Mortaria*	*Cup*	*Lid*	*Total Eves*
ER	34.6	4	28.2	23.7	9.27	-	-	-	-	8.41

A similar functional analysis carried out on the funerary assemblage alone, reveals a somewhat different pattern to that seen in the assemblage as a whole (Table 8.30). Although still dominant, jars only account for 35% of EVE, while beakers, bowls, dishes and platters contribute 61% between them and flagons account for 4%. Clearly there is a far greater emphasis on vessels related to eating and drinking in the funerary assemblage than there is in the assemblage as a whole. Furthermore, if compared to J Evans' (2001) data, the funerary assemblage would be positioned somewhere in the middle of the distribution, with the urban and villa sites. This over-representation of eating and drinking related vessels in graves when compared to domestic assemblages has been demonstrated at a number of sites in Essex by Biddulph (2005). Biddulph argues that the choice of such vessels does not simply indicate the presence of food and drink offerings, but relates to a complex series of choices about the representation of social status. He suggests that in Essex 'the domestic assemblage was never directly transferred to the funerary context. Some vessel types may be common between them, but such superficial similarities mask quite different, context specific, functions' (Biddulph 2005, 36). At Site 8, although funerary pottery was probably selected out of the normal domestic assemblage, it seems that, as in Essex, the inhabitants were going out of their way to select vessels that displayed a certain degree of social status.

POST-ROMAN POTTERY
by Paul Blinkhorn

The post-Roman pottery assemblage comprised 2196 sherds with a total weight of 24,496 g. The estimated vessel equivalent (EVE), by summation of surviving rim sherd circumference, was 19.18. The pottery was associated with Sites 3, 5, 8 and 9. The range of pottery types present indicates activity from the early Saxon period through to the middle-late 14th century. The four sites do show some variation in chronology, with Site 8 being the earliest, and producing pottery mostly from the early and late Saxon periods. The early Anglo-Saxon pottery from Site 8 appears to be mid-5th century in date, and is some of the earliest known from Bedfordshire. Site 9 produced middle and late Saxon pottery, whilst the other two sites were essentially Saxo-Norman foundations, and continued through most of the medieval period. Following the introductory sections discussing methodology, fabrics and chronology, Sites 8 and 9 are discussed first followed by the two slightly later Sites, 3 and 5.

Methodology

The pottery was initially bulk-sorted and recorded on a computer using DBase IV software. The material from each context was recorded by number and weight of sherds per fabric type, with featureless body sherds of the same fabric counted, weighed and recorded as one database entry. Feature sherds such as rims, bases and lugs were individually recorded, with individual codes used for the various types. Decorated sherds were similarly treated. In the case of the rim sherds, the form, diameter (in mm) and the percentage remaining of the original complete circumference was all recorded. This figure was summed for each fabric type to obtain the estimated vessel equivalents (EVE). All recording procedures and terminology follows Medieval Pottery Research Group recommendations (MPRG 1998; 2001).

Fabrics

Where appropriate, the codings and chronology of the Bedfordshire fabric type series held by Albion Archaeology were used.

Early/middle Saxon hand-built wares

A01: *Organic temper.* Moderate to dense organic voids up to 5 mm, rare shell fragments up to 2 mm

A19: *Quartz and organic temper.* Moderate to dense subangular quartz up to 1 mm, moderate to dense organic voids up to 3 mm

A23: *Sandstone.* Moderate to dense subangular quartz and sandstone grains up to 2 mm, rare subrounded calcareous material up to 2 mm

Middle Saxon and later

A11: *Southern Maxey-type ware.* Exact chronology uncertain, but generally dated *c* AD 650–850 (eg Hurst 1976). Wet-hand finished, reddish-orange to black surfaces. Soft to fairly hard, with abundant Jurassic fossil shell platelets up to 10 mm. Vessels usually straight-sided bowls with simple rims, and/or 'bar-lugs'. Differs in form from Lincolnshire Maxey-types, which tend to have upright, triangular, rim-mounted pierced lugs. Such vessels are found on many sites in Northamptonshire, Bedfordshire and Cambridgeshire, with local finds at, for example, Stratton.

B09: *Lyveden/Stanion 'A' ware* (McCarthy 1979). Dated *c* AD 850–?1400. Handmade/wheel finished. Moderate to dense, ill-sorted shelly limestone platelets up to 3 mm, sparse to moderate red ironstone up to 10 mm, occasional quartz, ooliths, black ironstone. Produced at numerous kilns in the villages of Lyveden and Stanion in north-east Northants. Fabric usually grey with blue-grey or brown surfaces, although other surface colours, such as buff, red, purple or orange not uncommon. The rest of the assemblage is coded according to the Bedfordshire system. It should be noted, however, that the St Neots ware assemblage is subdivided according to the system defined by Denham (1985). The range of fabric types is typical of sites in the county, and has many parallels (eg Blinkhorn 2005).

B01: *T1 (1) type St Neots ware*, *c* AD 900–1100

C08: *Thetford-type ware*, 10th–12th centuries

B01A: *T1 (2) type St Neots ware*, *c* AD 1000–1200

C12: *Stamford ware*, *c* AD 900–1200

B07: *Medieval shelly ware*, *c* AD 800–1400

C03: *Fine sandy reduced ware*, 12th–13th centuries

C09: *Brill/Boarstall ware*, mid 13th–15th centuries

C10: *Potterspury ware*, mid 13th–15th centuries

E01: *Late medieval reduced ware*, mid 14th–16th centuries

Chronology

Each context-specific assemblage was given a ceramic phase (CP) date, based on the range of pottery types present, as shown in Table 8.31. Ceramic phases CP3a and CP3b have been created as subphases rather than phases in their own right as glazed wares are rare at this site, and thus phases which depend on them for their definition will produce relatively small assemblages, giving a false impression of the activity at that site when they were current. Glazed medieval pottery seems relatively rare at rural medieval sites in parts of the county. For example, at Tempsford (Blinkhorn 2005) glazed wares only comprised around 5% of the medieval pottery assemblage. It is notable that 15th-century and later wares which are known from other sites in the region are completely absent here, indicating that activity had all but ceased by that time.

Table 8.31: Post-Roman pottery, ceramic phase dating scheme

Phase	*Defining ware*	*Date*	*Equivalent stratigraphic phase*
ES	Hand-built wares	AD 450 650	8.1
MS	Maxey	AD 650-850	8.2
ELS	T1(4) St Neots	AD 850-900	8.3
CP1	B01, C12	AD 900-1000	8.3
CP2	B01A	AD 1000-800	8.3
CP3	B07	AD 800-1350	9
CP3a	Lyveden 'A'	AD 850-1250	9.1
CP3b	C09, C10,	AD 1250-1350	9.2
CP4	E01	AD 1350-1400	9.2

Ceramic/stratigraphic concordance

The ceramic phases are based upon the range of pottery types present; Table 8.31 also indicates how the CP phases relate to the stratigraphic phasing.

Site 8

The post-Roman pottery assemblage from Site 8 comprised 70 sherds with a total weight of 1238 g. The estimated vessel equivalent (EVE), by summation of surviving rim sherd circumference, was 2.08. The assemblage consisted entirely of early Saxon hand-built wares and St Neots wares, indicating that there were two distinct phases of activity. The first of these was in the 5th–6th centuries, the second probably in the 10th century. The pottery occurrence was as follows:

A23: *Sandstone*. 6 sherds, 390 g, EVE = 0.94

A01: *Organic temper.* 1 sherd, 129 g, EVE = 1.00

A19: *Quartz and organic temper.* 2 sherds, 22 g

B01: *T1 (1) type St Neots ware*, *c* AD 900–1100. 60 sherds, 656 g, EVE = 0.74

C08: *Thetford-type ware*, 10th–12th centuries. 1 sherd, 41 g

Early Saxon pottery

The bulk of the early Saxon hand-built pottery occurred in a single context, 8842 (the upper fill of late Roman ditch 10744). This group mainly consisted of a near-complete miniature carinated vessel with a foot-stand, and a large sherd from a lugged jar (Fig. 8.13.1 and 3). A small rim sherd from a jar with burnished corrugated decoration was also present (Fig. 8.13.2). The rest of the assemblage comprised body sherds from other vessels.

It seems that the group is of early Saxon date. The Anglo-Saxons largely ceased decorating pottery in the early part of the 7th century (Myres 1977), but such wares were rare even when they were used. Usually, decorated wares only comprise around 3% of the pottery from settlement sites of the 5th and 6th century, such as Mucking, Essex (Hamerow 1993), and rarely occur in small assemblages. Thus, the presence of the decorated rim sherd suggests an early Saxon date. The type of decoration, corrugation, appears to be a relatively early style (cf Myres

1977, 34–7), and the miniature vessel, with its sharp carination and pedestal base, is reminiscent of the 5th century vessels categorised by Myres as the *Standfuss-schale* (Myres 1977, 34–7), a type which he considered to be evidence of 'the earliest presence of Anglo-Saxon folk in this country'. He made similar comments about vessels with corrugated decoration around the neck (Myres 1977, 17). On this basis, it seems highly likely that this group of pottery dates to around the middle of the 5th century. The vessels with the lugs (Fig. 8.13.3) cannot be closely dated, but such vessels are common finds amongst assemblages of early Anglo-Saxon pottery.

Ceramic Phase 1

The assemblage from this phase consisted of 61 sherds with a total weight of 697 g (EVE = 0.74). It entirely comprises St Neots ware, except for a single sherd from the base of a fairly large Thetford ware vessel. The St Neots ware assemblage is made up entirely of jars (EVE = 0.23) and bowls (EVE = 0.51), as is typical of the tradition. One full profile of a bowl was present (Fig. 8.13.4). The range of fabrics and forms are typical of the earlier part of the St Neots ware industry, and make it likely that the whole assemblage dates to no later than the 10th century.

Catalogue of illustrated sherds (Fig. 8.13)

1. Near-complete miniature carinated jar with footstand. Black fabric with a few brown patches on the outer surface. Small pinched 'blind' lug handle on the side. Fabric A01, mid 5th century. Ditch 10744, ctx 8842. Phase 8.
2. Small rim sherds with the beginnings of burnished corrugated decoration on the neck. Fabric A23, mid 5th century. Ditch 10744, ctx 8842. Phase 8.
3. Large sherd from rim and body of lugged jar. Dark grey fabric coloured brown on the outer surface below the shoulder. Fabric A23, early Anglo-Saxon. Ditch 10744, ctx 8842. Phase 8.
4. Full profile of a bowl. Dark grey fabric with brown surfaces. Fabric B07, CP1. Spread 8483. Phase 8.2.

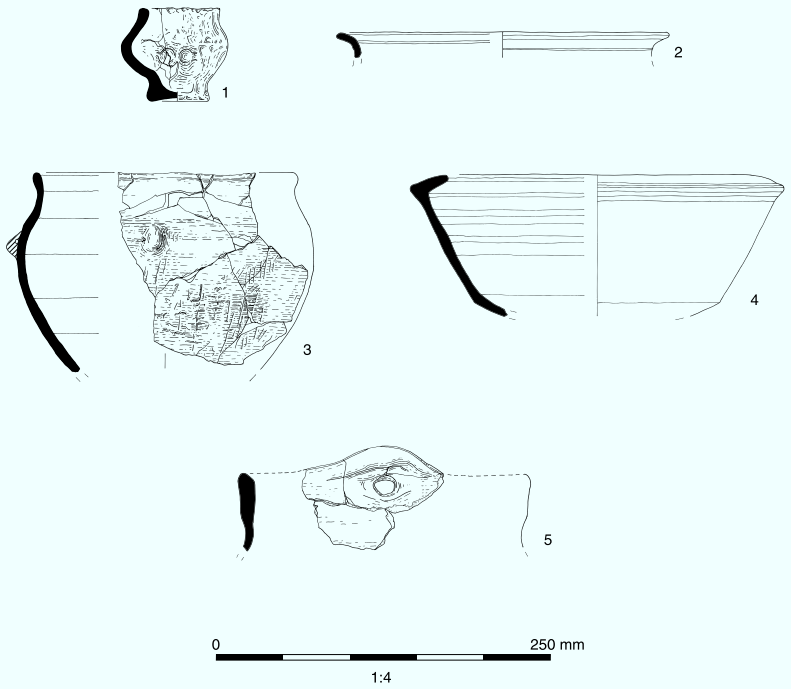

Fig. 8.13 Saxon pottery from Sites 8 and 9

Site 9

The post-Roman pottery assemblage from Site 9 comprised 153 sherds with a total weight of 1195 g (Table 8.32). The pottery occurrence was as follows:

A11: *Maxey ware*, AD 650–850. 13 sherds, 109 g. EVE = 0.07

B01: *T1 (1) type St Neots ware*, *c* AD 900–1100. 24 sherds, 238 g. EVE = 0.35

B01A: *T1 (2) type St Neots ware*, *c* AD 1000–1200. 84 sherds, 801 g. EVE = 0.61

B07: *Medieval shelly ware*, AD 800–1400. 2 sherds, 44 g. EVE = 0.08

The range of fabric types indicates that activity at the site began in the middle Saxon period, and continued until the post-conquest period, perhaps the early 12th century at the latest. The pottery occurrence by ceramic phase is shown in Table 8.32. The entire assemblage was examined for cross-fits, but none were noted other than within a single context.

Middle Saxon pottery

The middle Saxon assemblage entirely comprised Maxey ware, as is typical of many of the sites in the region. All the sherds were either body sherds or rims with simple upright profiles. Bar-lugs, one of the defining features of Maxey-type wares in the region, were absent. However, this is likely to be simply due to the relatively small assemblage size. The assemblage was very fragmented, and all the sherds appear to be from different vessels.

Earlier Late Saxon pottery

The pottery from this phase comprised a single large sherd of an early St Neots ware bowl with an upright lug handle (Fig. 8.13.5). Denham (1985) noted that such vessels date to the very early part of the St Neots ware tradition, *c* AD 850–900.

Table 8.32: Site 9, post-Roman pottery occurrence by ceramic phase

Phase	*No.*	*Weight (g)*	*EVE*
MS	11	96	0.07
ELS	1	147	0.13
CP1	23	92	0.25
CP2	116	816	0.63
CP3	2	44	0.08
Total	153	1195	1.16

Ceramic phase 1

The pottery from this ceramic phase entirely comprised T1(1) type St Neots ware, apart from a single small rim sherd from a Maxey ware vessel (8 g, EVE = 0.03). Three St Neots ware rims were noted, two from small jars (EVE = 0.18) and one from an inturned rim bowl (EVE = 0.04). The rest of the assemblage comprised plain body sherds.

Ceramic phase 2

This assemblage entirely comprised T1(2) type St Neots ware, apart from one sherd each of Maxey ware (5 g, EVE = 0.02) and T1(1) St Neots ware (7 g). The T1(2) St Neots ware assemblage mainly consisted of jars (EVE = 0.48) along with two rim sherds from bowls with inturned profiles (EVE = 0.13).

Ceramic phase 3

This consisted of two sherds of shelly ware, one of which was the rim from a jar.

Catalogue of illustrated sherds (Fig. 8.13)

5. Rim and upright lug of large jar. Dark grey fabric with pale grey-brown surfaces. B01, ELS. Pit 9607, ctx 9609. Phase 9.

Site 3

The post-Roman pottery assemblage from Site 3 comprised 1278 sherds with a total weight of 13,412 g. The pottery occurrence was as follows:

B01: *T1 (1) type St Neots ware*, *c* AD 900–1100. 2 sherds, 4 g

B01A: *T1 (2) type St Neots ware*, *c* AD 1000–1200. 5 sherds, 45 g. EVE = 0.14

C12: *Stamford ware*, *c* AD 900–1200. 3 sherds, 13 g

B09: *Lyveden/Stanion 'A' ware*, *c* AD 850–1400. 3 sherds, 67 g. EVE = 0.12

B07: *Medieval shelly ware*, AD 800–1400. 803 sherds, 7899 g. EVE = 6.34

C03: *Fine sandy reduced ware*, 12th–13th centuries. 34 sherds, 522 g. EVE = 0.24

C09: *Brill/Boarstall ware*, mid 13th–15th centuries. 1 sherd, 20 g

C10: *Potterspury ware*, mid 13th–15th centuries. 1 sherd, 1 g

E01: *Late medieval reduced ware*, mid 14th–16th centuries. 426 sherds, 4281 g. EVE = 2.00

The range of fabric types indicates that there was very little activity at the site in the pre-conquest period, and that the *floruit* at the site was prior to *c* AD 1400. The bulk of the assemblage comprised

Table 8.33: Site 3, post-Roman pottery occurrence by ceramic phase

Phase	*No.*	*Weight (g)*	*EVE*
CP2	2	20	0
CP3	332	2801	1.39
CP3a	0	0	0
CP3b	2	27	0
CP4	942	10564	7.45
Total	1278	13412	8.84

Table 8.34: Site 3, post-Roman vessel occurrence by ceramic phase (in EVE)

Phase	*Jars*	*Bowls*	*Jugs*	*Total*
CP3	1.31	0.08	0	1.39
CP4	5.20	0.70	1.48	7.38

unglazed shelly wares and reduced wares, with just two glazed sherds noted. The pottery occurrence by ceramic phase is shown in Table 8.33. The range of vessel types comprised entirely jars, jugs and bowls, as shown in Table 8.34. This pattern of vessel use is typical of medieval sites, with jugs rare in the early part of the period, then becoming more common in the high medieval period. The entire assemblage was examined for cross-fits, but none were noted other than within a single context. The phase assemblages were as follows:

Ceramic phase 2

This comprised two plain body sherds of type T1(2) St Neots ware. It is entirely possible that they are of post-conquest date.

Ceramic phase 3

This assemblage comprised mainly shelly wares, in the form of fabric B07 (308 sherds, 2461 g, EVE = 1.19). The remainder consisted of sandy coarse ware C03 (23 sherds, 338g, EVE = 0.17), along with one sherd each of Stamford ware, T1(2) St Neots ware and Brill/Boarstall ware.

The shelly ware rim sherd assemblage entirely comprised jars, although two strap handles from jugs were noted, along with two rouletted sherds. These were the only decorated sherds from the entire phase assemblage, and are likely to be from jugs, which were more commonly treated in this fashion than any other shelly vessel type.

All the sandy coarse ware sherds were from jars, as is common. The St Neots ware sherd was a small fragment of a jar rim, the Stamford ware a plain body sherd, and the Brill/Boarstall sherd a fragment of a base of a baluster jug which is a typical product of the industry.

Most of the assemblage was fragmented, and none of the vessels was reconstructable to any great degree. The mean sherd weight (8.5 g) is quite low for a medieval assemblage, and this all suggests that most of the pottery is a product of secondary deposition. It seems likely that most was held in domestic middens after the initial breakage, and that these were carted away as manure or thrown into convenient holes at a later date.

Ceramic phase 4

This assemblage is larger than that from ceramic phase 3, and also better preserved, with a mean sherd weight of 14.2 g. This is despite the presence of large quantities of reduced ware, a pottery type that is much thinner than shelly ware, and generally more likely to be broken into much small and lighter sherds.

Shelly ware again comprised a sizeable portion of this phase assemblage (495 sherds, 5438 g, EVE = 5.15), with the majority of the rest consisting of reduced ware (426 sherds, 4841 g, EVE = 2.00; eg Fig. 8.14.6–8). Sandy coarse wares were represented by just 8 sherds (184 g, EVE = 0.07), with the other types being Lyveden 'A' ware (3 sherds, 67 g, EVE = 0.12), two sherds of each type of St Neots ware, two sherds of Stamford ware, and a sherd of Potterspury ware.

Catalogue of illustrated sherds (Fig. 8.14)

6. Near-complete upper part of jug. Light grey fabric with pale orange surfaces. Fabric B07, CP4. Pit 3216, ctx 3190. Phase 10.3.
7. Rim and body of cylindrical jar. Dark grey fabric with slightly browner surfaces, patches of sooting on lower part of outer surface of body. Fabric E01, CP4. Spread 3304. Phase 10.3.
8. Rim and upper body of cylindrical jar. Grey fabric with orange surfaces, extensive sooting on outer body and rim. Fabric B07, CP4. Structure 3258, posthole 3353, ctx 3354. Phase 10.1–10.2.

Site 5

The post-Roman pottery assemblage from Site 5 comprised 695 sherds with a total weight of 8651 g. The pottery occurrence was as follows:

A23: *Early/middle Saxon hand-built wares*, AD 450–850. 2 sherds, 13 g. EVE = 0.02

F19: *Quartz and organic temper.* 1 sherd, 8 g

B01: *T1 (1) type St Neots ware*, *c* AD 900–1100. 3 sherds, 18 g. EVE = 0.05

B01A: *T1 (2) type St Neots ware*, *c* AD 1000–1200. 104 sherds, 707 g. EVE = 0.64

C12: *Stamford ware*, *c* AD 900–1200. 1 sherd, 4 g

B09: *Lyveden/Stanion 'A' ware*, *c* AD 850–1400. 4 sherds, 69 g

B07: *Medieval shelly ware*, AD 800–1400. 448 sherds, 5648 g. EVE = 5.43

C03: *Fine sandy reduced ware*, 12th–13th centuries. 40 sherds, 1424 g. EVE = 1.08

C09: *Brill/Boarstall ware*, mid 13th–15th centuries. 7 sherds, 63 g. EVE = 0.15

C10: *Potterspury ware*, mid 13th–15th centuries. 8 sherds, 84 g

E01: *Late medieval reduced ware*, mid 14th–16th centuries. 73 sherds, 565 g. EVE = 0.28

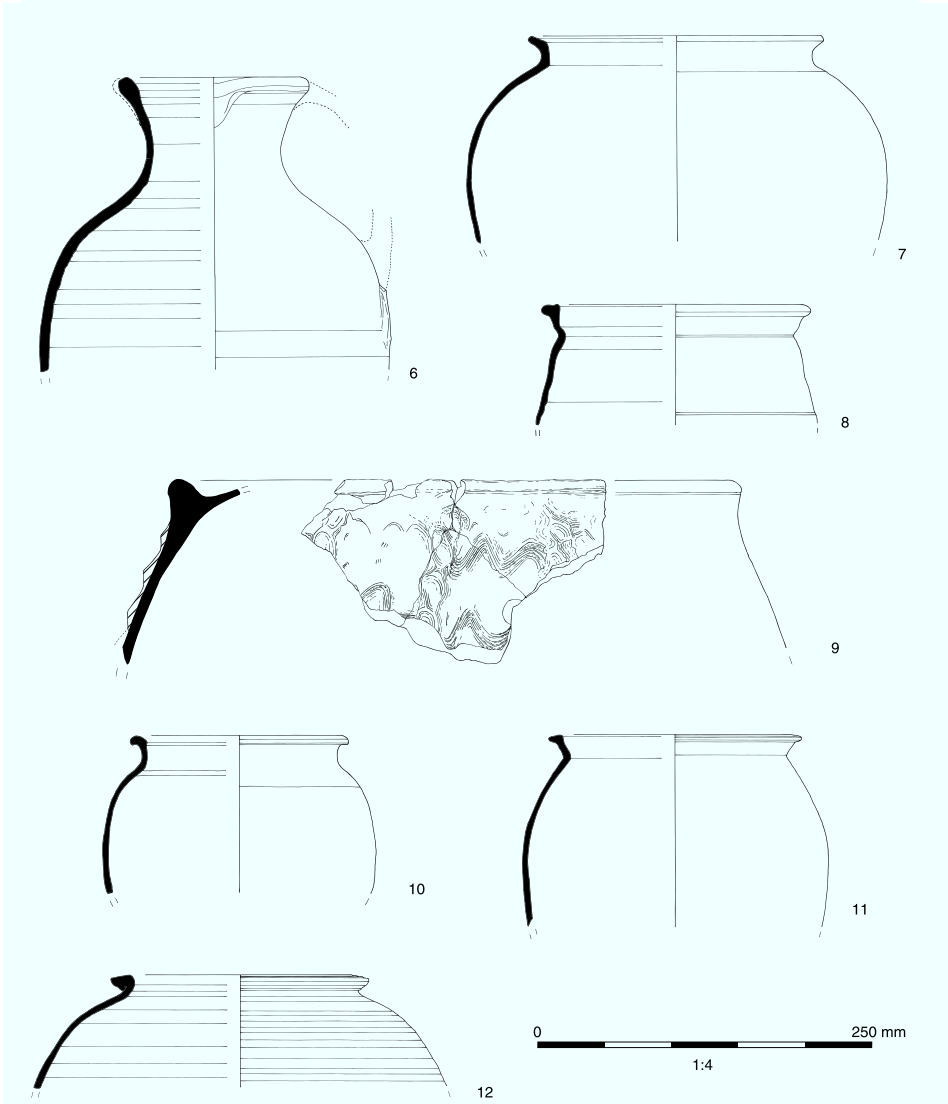

Fig. 8.14 Medieval pottery from Sites 3 and 5

The range of fabric types indicates that there was some activity at the site in the immediate pre-conquest period, and that the *floruit* at the site was from AD 800–1400. However, much less reduced ware was noted than at Site 3, suggesting that Site 5 may have fallen from use somewhat earlier, perhaps in the earlier part of the second half of the 14th century. This earlier date is reinforced by the fact that shelly ware cylindrical jars were much more in evidence than at Site 3, where they were rare. These vessels are a specialist cooking vessel which were an unique product of the shelly ware industries. Evidence from West Cotton, Raunds, Northants, indicates that they are generally of late 10th to 12th century date (Blinkhorn forthcoming).

The bulk of the assemblage again comprised unglazed shelly wares and reduced wares, but more glazed sherds were noted, despite the assemblage being considerably smaller. The pottery occurrence by ceramic phase is shown in Table 8.35.

The data show that there was more or less continuous occupation at the site from around the time of the Norman Conquest until the second half of the 14th century. It would appear that occupation began a little before that at Site 3, and the fact that there is considerably less pottery dating to CP4 suggests that it may have ended earlier.

The range of vessel types entirely comprised jars, jugs and bowls, as shown in Table 8.36. The pattern of vessel consumption is quite different to that at Site 3, and rather unusual for a medieval site in the region. The consumption of jugs increases from CP2 to CP3, but then they are entirely absent from CP4, which is not what would normally be expected. It may be that the vagaries of archaeological sampling are the cause. However, it is notable that no jug handles were found dating to CP4, and the only sherd of Brill/Boarstall ware was from a jar rather than a jug, the latter being a far more common product of the industry. The 8 sherds of Potterspury ware all occurred in pit 5191 (ctx 5192), and while some of these were glazed, it was not possible to tell if these were from jars or jugs as both vessel types of this date and type tended to have globular forms and glazing. It would appear therefore that they may have been a change in function at the site at sometime in CP3, with a change from domestic activity to a more specialised function. This is perhaps related to the structural changes in post-built structure 5196 (see Chapter 6), and the presence of smithing waste. There was little residual early medieval pottery in CP4 contexts, and it is clearly not the case that the lack of jugs is due to large quantities of residual pottery (Table 8.37). In addition, there is little difference in the fragmentation of the shelly ware. In CP3, it has a mean sherd weight of 8.6 g, and in CP4, the value is 10.3 g, suggesting very little of the CP4 shelly ware is redeposited material.

Table 8.35: Site 5, post-Roman pottery occurrence by ceramic phase

Phase	No.	Weight (g)	EVE
CP1	1	5	0
CP2	60	446	0.39
CP3	265	5105	4.98
CP3a	17	168	0
CP3b	39	304	0.25
CP4	313	2623	2.03
Total	695	8651	7.65

Table 8.36: Site 5, post-Roman vessel occurrence by ceramic phase (in EVE)

Phase	Jars	Bowls	Jugs	Total
CP2	0.30	0.09	0	0.39
CP3	4.62	0.26	0.35	5.23
CP4	1.92	0.8	0	2.03

Table 8.37: Site 5, post-Roman pottery occurrence by ceramic phase and ware type, major wares only

Phase	F200	F330	F360	F365	Total weight (g)
CP2	98.2%	-	-	-	446g
CP3	3.8%	71.9%	22.4%	-	5577g
CP4	2.2%	60.3%	6.7%	21.6%	2615g

It is also perhaps relevant that this site produced a large fragment of a sandy ware fire-cover (curfew), from context 5037 in pit 5036 (Fig. 8.14.9). This context dates to CP3, and may be associated with the earlier, perhaps domestic settlement at the site, but may equally be associated with the early part of the smithing phase. Certainly, if smithing was taking place inside a timber building, as seems to be the case here, then a fire-cover such as this one would be an eminently sensible safety precaution.

The entire assemblage was examined for cross-fits, but none were noted other than within a single context. The phase assemblages were as follows:

Ceramic phase 2

The pottery from this phase comprises almost entirely type T1(2) St Neots ware, apart from a single sherd (8 g) of early/middle Saxon hand-built pottery. The St Neots ware assemblage comprises mainly plain body sherds, although three rim sherds were noted, two from jars and the other from an inturned-rim bowl. It is a group which is typical of the 8th century.

Ceramic phase 3

This phase assemblage is dominated by shelly wares (251 sherds, 4,012 g, EVE = 4.24), although sandy wares also make up a significant proportion (27 sherds, 1250 g, EVE = 0.81), mainly due to the large curfew fragment (Fig. 8.14.9). The rest of the groups consists of 32 sherds of T1(2) St Neots ware (28 g, EVE = 0.13), six sherds from Brill Boarstall glazed jugs (32 g), four sherds of Lyveden 'A' ware (69 g), and a single small residual T1(1) St Neots ware rim sherd (3 g, EVE = 0.05).

The shelly ware assemblage comprised mainly jars (EVE = 3.76), along with bowls (EVE = 0.18) and a single jug rim (0.17). A similar picture was noted for the sandy ware, with jars the main vessel type (EVE = 0.90) along with a single jug rim (EVE = 0.18). The curfew sherd, which weighs 689 g, made up over half the sandy ware assemblage by weight. One sherd each of T1(2) St Neots ware and shelly ware was noted with applied strip decoration. These are probably fragments of large storage vessels.

Ceramic phase 4

Shelly wares again make up the bulk of the CP4 assemblage (197 sherds, 1676 g, EVE = 1.19). The rest of the phase group comprises reduced ware (73 sherds, 565 g, EVE = 0.28), along with small quantities of sandy coarse ware (13 sherds, 124 g, EVE = 0.37), 8 sherds of Potterspury ware (84 g), a Brill/Boarstall ware jar rim (31 g, EVE = 0.18) and residual material in the form of 13 sherds of T1(2) St Neots ware (EVE = 0.12), a single sherd of T1(1) St Neots ware (10g), and two sherds of early/middle Saxon hand-built material (13 g).

As noted above, jugs appear to be entirely absent from this phase assemblage, which is extremely unusual for high medieval pottery assemblages. The shelly ware assemblage comprised mainly jars (EVE = 1.08) along with a small quantity of bowls (0.8), with the sandy coarse ware and reduced ware assemblages entirely made up of jars. The rest of the assemblage entirely comprised plain body sherds

Table 8.38: Summary of structural fired clay and ceramic building material by site

	FC No.	FC Wt	FC MFW	CBM No.	CBM Wt	Phase
Site 1	38	166	4.37	8	292	6-6.2
Site 2	475	7205	15.17	6	330	4-5
Site 3	76	322	4.24	2	49	11-13.2
Site 4	1448	17712	12.23	6	517	4-6
Site 5	18	86	4.78	1	2	11/12-13
Site 6	33	138	4.18	5	153	4
Site 7	2	14	7	0	0	5
Site 8	1845	44420	24.08	46	7674	6-7.2
Site 9	35	515	14.71	0	0	9-13

Catalogue of illustrated sherds (Fig. 8.14)

9. Sherd from upper part of a curfew. Grey fabric with brown surfaces. Inner surface has entirely flaked away. Fabric C03, CP3. Pit 5036, ctx 5037. Phase 10.
10. Upper part of shelly ware jar. Grey fabric with orange surfaces, outer surface extensively sooted. Fabric B07, CP3. Ditch 5268, ctx 5051. Phase 11.
11. Rim and upper body of jar. Grey fabric with orange-brown surfaces, outer surface extensively sooted. Fabric C03, CP3. Pit 5094, ctx 5096. Phase 11.
12. Rim and upper body of jar. Uniform light grey fabric. Fabric E01, CP4. Pit 5191, ctx 5192. Phase 11.

STRUCTURAL CLAY AND CERAMIC BUILDING MATERIAL
by Cynthia Poole

Introduction and summary

Structural fired clay and ceramic building material (CBM) was recovered from all the sites excavated, but only occurred in any quantity at Sites 2, 4 and 8 (Table 8.38). Mean fragment weight (MFW) varied from under 5 g at Sites 1, 3, 5 and 6 up to nearly 25 g at Site 8. This measure can be broadly indicative of the level of diagnostic material likely to survive. In an assemblage with a figure less than 10–15 g few identifiable fragments are likely to survive and the results from these sites confirm this observation. The fired clay from the Iron Age and Roman settlements is dominated by kiln material, much of which was found within *in situ* kilns on Site 8. The implication of earlier varieties of kiln or oven material from Sites 2 and 4 is that these utilised portable furniture in above ground structures. CBM was infrequent in the Roman period and was used in construction or use of corn-driers, kilns or ovens, rather than buildings. Structural ceramics were particularly sparse from post-Roman levels implying buildings were largely constructed in organic materials or using cob or daub whilst there is little evidence for oven or kiln type structures.

Methodology

All the material has been examined visually, and basic quantification, characteristics and detailed description of structural features and organic impressions recorded by site on an MS Excel spreadsheet. Material recovered from sieved samples amounted to *c* 650 fragments weighing 685 g with a mean fragment weight (MFW) of 1.05 g. This has been listed on the database but it was decided not to fully record it as the MFW indicated such an exercise would be uninformative. Abrasion was assessed and assigned to one of three categories of high, medium or low, but allowing also for no abrasion. Fabrics were established using a binocular microscope at magnification of x20–x40.

The term oven is used in this report in relation to the fired clay as a generic term for any structure that had some element of permanent or portable superstructure and that has been subjected to some

degree of heating or firing. Furnace is used to indicate a structure for any industrial activity involving high temperatures. Kiln is used only where there is specific evidence to indicate such a structure. All evidence from the Great Barford sites suggests that these were pottery kilns.

Fabrics

Six basic fired clay fabrics have been identified, with subgroups when organic temper was added. The ceramic building material has been assigned to seven fabric categories. Two of these are the same as or equivalent to two of the fired clay fabrics.

Fired clay fabrics

FC A: yellowish brown, grey laminated fine silty clay, containing low density fine-medium quartz sand, rounded coarse white sand (?chalk or shell) and rare chert grit 2–3 mm

FC Ach: as for A plus fine chaff impressions, organic temper varying in quantity but can be dense, comprising straw stem fragments and chaff, varying from fine to coarse

FC B: yellowish brown, yellowish red, buff, grey clay sometimes laminated containing variable density of fine-medium quartz sand plus occasional coarser grits including angular burnt flint 2–3 mm

FC Bch: as for B plus additional organic/chaff temper

FC C: Red clay with a high density of sand including quartz, red Fe oxide clay pellets (rounded); frequent shell 1–2 mm

FC D: same as CBM4

FC E: Buff, pale yellowish brown, yellowish red, brown, grey laminated clay containing frequent quartz sand, chalk (rounded) 0.5–10 mm and flint (angular) 3–8 mm. Derived from natural boulder clay

FC Ech: as for fabric E plus additional chaff/organic temper

FC H: Reddish brown, grey sandy clay with high density of shell (fossil) 0.5–5 mm, occasionally up to 20 mm (equivalent to CBM 7). (There were some pieces that appeared to be a mix of fabrics E and H)

Ceramic building material fabrics

CBM 1: Yellowish red, purplish red, laminated clay containing rare quartz sand and occasional clay pellets

CBM 2: orange laminated clay, frequent medium-coarse quartz sand, rounded red grits (?chert/gravel) up to 7 mm; white grit (chalk/limestone) 2–4 mm

CBM 3: red, dark grey core, fine clay with very rare quartz sand

CBM 4: orange, red, grey core; laminated clay containing a high density of medium-coarse sand including quartz, red Fe ox/clay pellets and white sand (chalk/limestone)

CBM 5: pinkish cream laminated, variegated clay; marbled effect, containing frequent medium-coarse quartz sand and high density of unwedged clay fragments and rounded clay pellets (= Bedfordshire type series 10a)

CBM 6: orange, high density of medium-coarse quartz sand

CBM 7: Brown, grey containing high density of shell, mostly sand size and up to 6 mm plus occasional stone grit *c* 5 mm. Similar to Harrold shelly ware, but not necessarily from that production site; could be derived from Lias clay in the locality (= Bedfordshire type series 5a)

The local boulder clay formed the source of the fired clay fabrics except for fabric H, which is defined by the shell content and its probable source is the Oxford clay. However, much of the glacial till deposits contain Jurassic derived fossils and fabric H may come from an area of boulder clay that has churned up and incorporated the underlying geological deposits.

Fabric A occurred at all sites and in all phases and B at all except Site 6. Fabric E was found in all phases though quantities were variable and may reflect the availability at different sites. Fabric D is essentially medieval, occurring at Sites 3, 5 and 9. The small quantities assigned to this fabric at Sites 2 and 8 may be misidentified, as all fragments were very small. Fabric H occurred in the largest quantities at Site 4, especially during the Iron Age when it accounted for half of the fired clay. It decreased considerably in the Roman phase and was also present in small amounts on Site 8. In contrast, the equivalent shelly CBM fabric 7 only occurred on Site 8, where it accounted for almost all the ceramic building material.

The other fabric used exclusively for Roman tile was fabric 2. Medieval and post-medieval CBM fabrics were 3, 4 and 5. CBM fabrics 1 and 6 were used for both Roman and medieval/post-medieval tile and brick. In general the fabrics were distributed along the whole line of the road, except for CBM fabric 7.

Middle and late Iron Age: Phases 4–5

Site 2

A total of 475 fragments of fired clay weighing 7205 g were recovered from 87 contexts, predominantly ditch and less commonly gully, pit, posthole and grave fills. Of these contexts 19 are dated to Phase 4,

64 to Phase 5, one to the post-medieval period and the remaining three were unphased. There appears to be no difference between the forms and fabrics present in both phases and therefore all of the assemblage is discussed together. There was a wide range of fabric types, but fabric E formed three quarters of the assemblage. Quantification of the forms and fabrics is shown in Tables 8.39 and 8.40. The mean fragment weight for the assemblage was 15.2 g.

Oven structure: walls and base

Oven wall and lining was characterised by one flat or undulating surface, sometimes heavily fired to a yellowish brown colour, and wattle impressions on the reverse for wall fragments. The wattle impressions were too few to judge whether these were interwoven to form a basketry structure. However, the size range (6–20 mm diameter) is typical of interwoven wattles and suggests much of the structural oven material came from the upper walls of ovens. A small number of features have been interpreted as oven or hearth bases, though these have only produced undiagnostic amorphous fragments of fired clay or pieces with a single surface.

A small quantity of fragments was heavily fired to a purplish red colour with areas of vesicular cinder texture and a hint of vitrification. This is usually associated with high temperature industrial activity and may indicate the presence of industrial hearths or furnaces. Smithing activity during the middle Iron Age was identified from the analysis of the slag, and there is also some evidence for copper alloy working at the site during the late Iron Age (see below and Chapter 2).

Discs and oven plates

These portable elements of oven furniture formed the most frequent identifiable type. The discs were circular, either flat with a rounded rim or with a slightly raised lip or flange around the edge. Organic impressions were sometimes present on the

Table 8.39: Quantification (fragment count) of fired clay from Site 2 by fabric and form

Fabric	*A*	*B*	*Bch*	*C*	*D*	*E*	*Ech*	*Total*	*%*
Disc	12	1	3	0	1	20	0	37	8
Disc/oven plate	12	0	0	0	0	8	6	26	5.5
Oven plate	4	0	0	0	0	91	0	95	20
Fire bar	0	0	0	1	0	0	0	1	0.2
Pedestal	0	0	0	0	0	1	0	1	0.2
Triangular oven brick	0	13	0	0	0	31	0	44	9
Oven structure	2	1	0	0	0	66	0	69	14.5
Furnace lining	0	11	0	0	0	0	0	11	2.3
Utilised	6	18	0	7	1	124	0	156	33
Unidentified	2	7	0	3	3	19	0	34	7
Spindle whorl	0	0	0	0	0	1	0	1	0.2
Total	38	51	3	11	5	361	6	475	
%	8	8	0.6	2.3	1	76	1.3		

Table 8.40: Quantification (weight g) of fired clay from Site 2 by fabric and form

Fabric	*A*	*B*	*Bch*	*C*	*D*	*E*	*Ech*	*Total*	*%*
Disc	286	35	56	0	11	479	0	867	12
Disc/oven plate	160	0	0	0	0	215	133	508	7
Oven plate	60	0	0	0	0	2818	0	2878	40
Fire bar	0	0	0	180	0	0	0	180	2.5
Pedestal	0	0	0	0	0	11	0	11	0.15
Triangular oven brick	0	234	0	0	0	512	0	746	10
Oven structure	238	35	0	0	0	455	0	728	10
Furnace lining	0	56	0	0	0	0	0	56	1
Utilised	49	152	0	65	7	800	0	1073	15
Unidentified	13	16	0	19	13	91	0	152	2
Spindle whorl	0	0	0	0	0	6	0	6	0.1
Total	806	528	56	264	31	5387	133	7205	
%	8	7	1	4	0.4	75	2		

surface, which was always smooth and well finished. A range of sizes is represented, ranging from 9 mm to 32 mm thick and 100 mm to *c* 400 mm in diameter. The upper surface is usually fired to a pinkish brown or yellowish red colour, whilst the base is buff or grey.

The oven plates were larger than the discs, measuring 20–40 mm thick. The most complete was polygonal (possibly trapezoidal or hexagonal) in shape and measured 180 to more than 250 mm wide. It was thinner at the edges thickening to the centre and with a slight camber to form a domed or dished profile. There were common organic impressions over the surfaces.

One fragment of plate was pierced by a perforation 30 mm in diameter. It may indicate the fragment was part of a perforated plate or floor, or possibly a bellows plate with the perforation allowing access for the tuyère.

Triangular oven bricks

All examples of triangular oven brick were fragmentary and for two only could the thickness be estimated at *c* 60 and 100 mm. The length of the sides could not be established. Perforations across the corners ranged from 10–16 mm in diameter. In addition to a lateral perforation, one fragment also appeared to have a perforation through the triangular face. Such features are rare, but not unknown.

Oven furniture

The foot of a small pedestal had a circular cross-section 20 x 22 mm in size, thickening to 22 x 25 mm at the base, and measured over 20 mm high. This was too small to be a major structural element but probably formed a support for objects placed within an oven. A fragment of roughly made tapered fire bar measured 50–55 mm by 35–40 mm wide and over 80 mm long.

Site 4

From the Iron Age phase of Site 4 a total of 266 fragments of fired clay weighing 2046 g were recovered. All were from Phase 5 contexts, aside from 26 fragments from three Phase 4 contexts. The assemblage is dominated by portable oven furniture, especially flat discs and oven plates, utilising predominantly fabrics A and H. The assemblage is quantified in Tables 8.41 and 8.42.

Oven structure

There was very little evidence for material derived from permanent oven structures. A single fragment

Table 8.41: Quantification (fragment count) of fired clay by fabric and form from Site 4 (Phases 4 and 5)

Fabric	*A*	*B*	*C*	*E*	*H*	*Total*	*%*
Disc	42	1	0	7	47	97	36.47
Oven plate	0	0	0	0	11	11	4.14
Oven cover	0	0	0	0	15	15	5.64
Oven structure	0	0	0	0	2	2	0.75
Pedestal	0	0	0	0	6	6	2.26
Triangular oven brick	0	0	0	0	22	22	8.27
Utilised	45	11	0	8	4	68	25.56
Unidentified	28	3	1	0	13	45	16.92
Total	115	15	1	15	120	266	
%	43.23	5.64	0.38	5.64	45.11		

Table 8.42: Quantification (weight g) of fired clay by fabric and form from Site 4 (Phases 4 and 5)

Fabric	*A*	*B*	*C*	*E*	*H*	*Total*	*%*
Disc	323	52	0	46	214	635	31.04
Oven plate	0	0	0	0	171	171	8.36
Oven cover	0	0	0	0	325	325	15.88
Oven structure	0	0	0	0	13	13	0.64
Pedestal	0	0	0	0	183	183	8.94
Triangular oven brick	0	0	0	0	88	88	4.3
Utilised	243	117	0	36	43	439	21.46
Unidentified	124	22	7	0	39	192	9.38
Total	690	191	7	82	1076	2046	
%	33.72	9.34	0.34	4.01	52.59		

with a wattle impression measuring 17 mm may be oven wall. Some of the undiagnostic fragments (amorphous or with a single surface) could be oven wall or lining. There were few features excavated that could potentially represent oven bases.

Oven cover, discs and oven plates

These groups of portable fired clay objects accounted for over a half of the assemblage, and many of the nondiagnostic fragments are likely to derive from the same class of object. Oven covers usually take the form of a flat or slightly concave slab with a large circular flue or vent hole measuring *c* 150–200 mm diameter. Two ditches produced fragments of oven cover and one of these had sufficient of the curved rim of the vent surviving to estimate a diameter of *c* 200 mm. They measured 20 and 25 mm thick and both had some organic impressions on their surfaces. Oven plates may be circular, polygonal or rectangular and generally take the form of plain flat slabs with straight or rounded edges. Discs are similar in character though generally smaller and thinner and sometimes have a flange around the outer edge. All the material found on Site 4 consisted of fragmentary pieces, which could not easily be assigned to either category firmly. Fragments included parts of rectangular and polygonal plates or discs. Those with the complete thickness surviving measured 15 and 23 mm thick

Pedestal and triangular oven brick

Supports for the plates and discs were few. A pedestal and triangular oven brick probably served this function. The pedestal was prismatic in form with a flat top measuring 53 x 55 mm and parts of all four side surfaces flaring out to 60 x 60 mm. It survived to a height of 55 mm and was pierced by a perforation 20 x 17 mm. A triangular oven brick had an estimated thickness of 75–80 mm, suggesting a fairly standard size, and parts of two lateral perforations, which both measured 18 mm in diameter.

Site 6

Thirty-three fragments of fired clay (138 g) were recovered. The mean fragment weight was 4.18 g, which reflects the amorphous character of most of the fragments. Only one piece exhibited any shaping in the form of a flat surface with an edge and frequent chaff impressions. The character of this piece is compatible with discs or plates frequently associated with kilns or ovens.

Site 7

Two fragments of fired clay weighing 14 g were recovered from a ditch and a gully of late Iron Age date. One piece was amorphous and the other had a flat surface. Little significance can be attached to these pieces.

Discussion

Only Sites 2 and 4 produced fired clay in any quantity during Phases 4 and 5. At both sites the assemblages were dominated by discs and plates, with lesser quantities of other portable oven furniture. Structural elements suggesting permanent *in situ* superstructure are sparse and most of the surviving structural fragments could be interpreted as base or floor lining and lower oven walls, rather than upper walls forming a domed top. Few features were recognised on site as being ovens or hearths, though many of the shallow circular, oval or irregular hollows could have formed such structures. *In situ* burning may not be recognised unless intense.

Both the larger oven plates and the smaller discs could have been used in kilns supported on pedestals and/or fire bars. Most of these objects are well fired, often to a reduced grey, though upper surfaces may be more oxidised. The plates or discs would need to be supported over the fire pit and the triangular oven bricks and pedestal could have served for this purpose.

The dominance of portable oven furniture suggests structures were constructed on the surface or as semisunken structures with little permanent superstructure. It is possible both types of structure were present and their design would vary depending on purpose and function. A semisunken structure could develop almost by accident if a surface structure was used over a long time span, as the constant burning and raking out of the base would eventually create a hollow into the soil and subsoil.

This class of portable oven furniture, especially the plates and discs, are commonly found in the region and are frequently associated with kilns. There is little evidence of kilns at either Site 2 or 4, though some of the hollows with charcoal-rich fills may be kiln bases. One sherd from Site 2 has been interpreted as a waster. The Iron Age pottery fabrics suggest that boulder clay deposits were a major source of raw material, and this implies that pottery production was fairly local.

However, in the absence of strong evidence for pottery production or other artisanal activity, alternative functions should be considered. Cooking and food processing are the most obvious choices, though the absence of evidence for enclosed structures suggests baking was not taking place. It has been argued that the flat discs may have been used for cooking flat breads, though parching or drying grain may also be considered as a possible use, especially for those with flanged edges.

Roman period: Phases 6–7

Site 1

A total of 38 fragments of fired clay weighing 166 g were recovered from eight contexts, all ditch or gully fills of Phase 6 or 6.2 (1st–2nd centuries AD).

The overall average fragment weight (MFW) was 4.3 g. No diagnostic features were preserved on any fragments, the only deliberate shaping being a flat surface on a small number of fragments and two possible wattle impressions, both 12 mm in diameter. The only fabrics used were A and B, both of which were probably made from the local boulder clay on which the site lies. The fired clay is likely to derive from simple ovens, hearths or drying ovens of domestic or agricultural use. The absence of diagnostic characteristics is typical of Romano-British rural settlements. Three fragments of Roman brick, all 32–33 mm thick, were also recovered from an enclosure ditch and gully associated with CS8.

Site 4

A total of 1120 fragments weighing 15,347 g was recovered from 88 contexts, the majority being ditch, gully or palisade trench fills. However, a significant quantity of material came from pit fills, most of which have been reinterpreted as oven or kiln bases. The assemblage is quantified in Tables 8.43 and 8.44.

Oven structure

Oven base, wall or wall lining was identified from pits and ditch fills. The pits have all been interpreted as oven bases, and much of the structural clay was concentrated in oven 4149 with associated material redeposited in the adjacent later oven 4151. This included intensely fired blocks 30–75 mm thick with a flat surface and irregular underside, which probably formed part of the lower walls or base at subsurface level. In addition there was a large quantity of fragments with flat surfaces and wattle impressions on the reverse. There is some indication that wattles were interwoven, which is probably a result of a basketry type framework being used as a support for the upper walls. However, the size range of the wattles is much larger (20–40 mm diameter) than is commonly used for an interwoven framework (less than 20 mm diameter). This may indicate some of the fired clay derives from a suspended floor constructed on a base of parallel or criss-crossed poles. Larger sized poles or planks have been recorded for supports for perforated oven plates from Suddern Farm, Hants (Poole 2000, 130–5).

Oven plates and discs

A variety of discs and oven plates were identified in relatively small quantities scattered through a number of features, predominantly ditches but also some oven bases. This form was characterised by the presence of two flat surfaces, frequently covered with chaff or organic impressions forming a flat slab

Table 8.43: Quantification (fragment count) of fired clay by fabric and form from Site 4 (Phases 6 and 7)

Fabric	*A*	*B*	*C*	*D*	*E*	*H*	*Total*	*%*
Disc	86	0	0	0	14	1	101	8.57
Oven plate	108	2	12	0	14	77	213	13.57
Oven structure	0	396	3	0	5	0	404	36.07
Triangular oven brick	1	0	0	0	0	5	6	0.54
Oven furniture	5	0	0	0	0	5	10	0.89
Utilised	105	91	15	1	12	10	234	18.3
Unidentified	45	77	12	0	16	2	152	13.75
Total	350	566	42	1	61	100	1120	
%	31.25	50.54	3.75	0.09	5.45	8.93		

Table 8.44: Quantification (weight g) of fired clay by fabric and form from Site 4 (Phases 6 and 7)

Fabric	*A*	*B*	*C*	*D*	*E*	*H*	*Total*	*%*
Disc	380	0	0	0	170	8	558	3.66
Oven plate	1471	45	301	0	202	2521	4540	28.34
Oven structure	0	6817	115	0	211	0	7143	47.86
Triangular oven brick	195	0	0	0	0	40	235	1.57
Oven furniture	233	0	0	0	0	107	340	2.28
Utilised	611	537	191	8	132	130	1609	10.02
Unidentified	232	416	84	0	171	19	922	6.27
Total	3122	7815	691	8	886	2825	15347	
%	19.19	52.54	4.5	0.05	4.81	18.91		

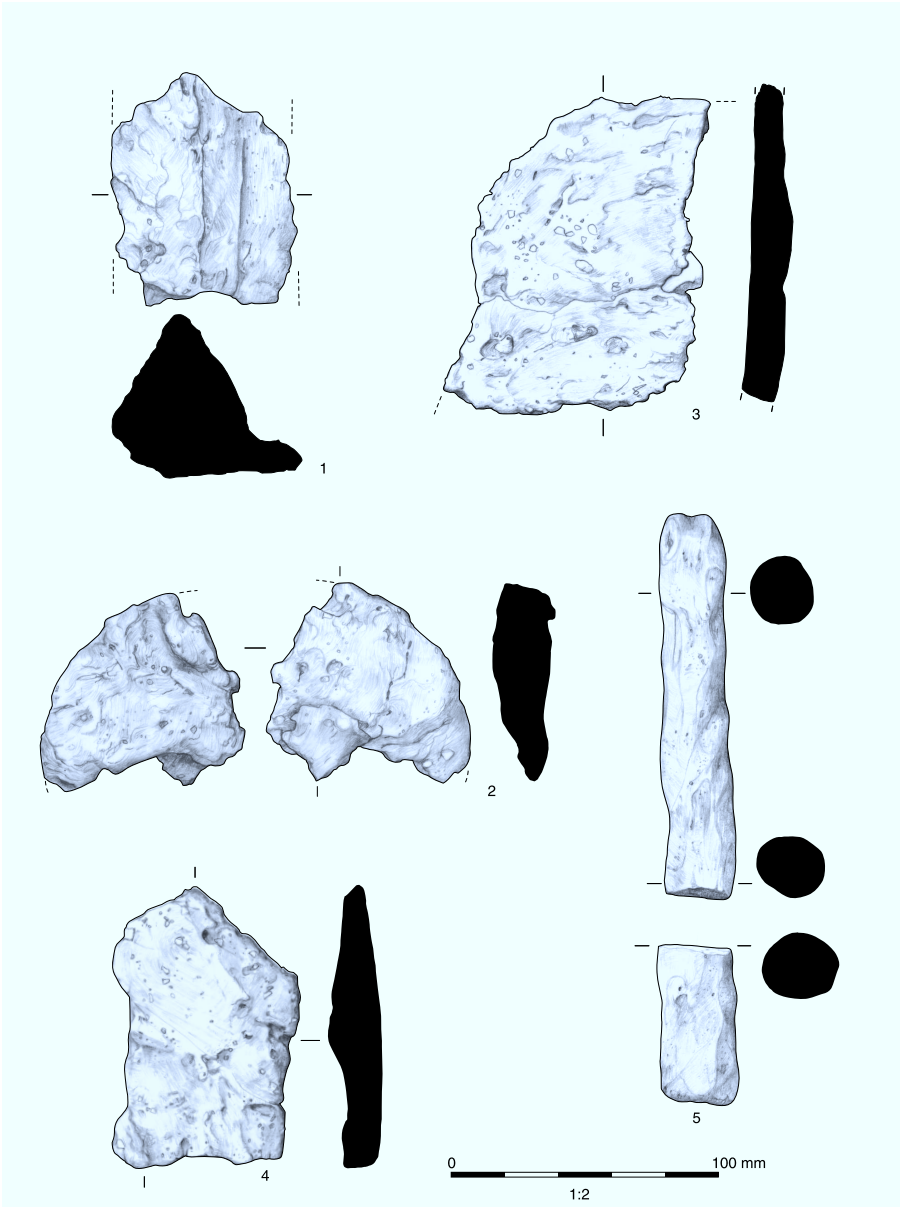

Fig. 8.15 Fired clay kiln furniture and clay object

with straight or curving sides. The discs were generally thinner (13–22 mm thick) and probably smaller in area than the oven plates, though none was large enough to provide any other indication of size. The sides could be in the form of rounded or straight edges, either at right angles or chamfered. One example had part of a flange or lip along the edge.

The oven plates were larger, ranging in thickness from 20–48 mm, and rectilinear or polygonal shapes appeared to be the norm. The largest surviving example measured 40 mm thick and in excess of 140 x 120 mm in area, and formed a rectangular slab with straight edges. Most fragments had straight edges, and several square corner fragments were identified. Only one piece had evidence of a curving edge, whilst another group had pieces with both straight and curving edges suggesting the plate had straight ends and bowed sides.

Two fragments of perforated oven plate were identified with perforations of 25 and 40 mm diameter. One of these had impressions of a large wattle and plank on one side suggesting it was a suspended oven floor constructed on wattles.

Triangular oven bricks

Three fragmentary triangular oven bricks were found. The largest formed one corner, and its side measured at least 90 mm long. No perforations were present on this piece and it is unclear whether it ever had any, but if they did exist it would have been a very large example. Two smaller fragments each had part of a perforation 13 and 19 mm in diameter.

Oven furniture

Three fire bars of different forms were found. One had a rectangular cross-section 46 mm wide and may be part of a 'cigar' shaped bar. A small bar with oval cross section 13–17 mm thick flared out at the surviving end. A third with subtriangular cross-section was larger, measuring 50–64 mm wide and over 90 mm in length (Fig. 8.15.1).

An irregular suboval cake with lenticular cross-section may have been a 'test-lump' or kiln spacer (Fig. 8.15.2). It had scalloped finger depressions along the edge and one side appeared to have been formed in the palm of a smallish (pre-adult?) hand. Alternatively it may have been a nonfunctional moulded lump or possibly a result of a child playing with clay.

Building material

The only building material consisted of a single fragment of brick found in an irregular oval hollow, possibly an oven base, and a small lump of white lime mortar from palisade 4962.

Site 8

The total quantity of fired clay from Site 8 amounted to 1845 fragments weighing 44,420 g with a mean fragment weight of 24 g. The assemblage was found in 200 contexts but nearly half derived from a single kiln (10490). Of the remainder, most was found in pits, other kilns and ditches, with small quantities from shallow hollows, quarries, postholes and miscellaneous features. The material is fired, much of it well fired, and it is all interpreted as derived from burnt structures, predominantly kilns and ovens. There is no evidence that any derived from buildings. The assemblage is quantified in Tables 8.45 and 8.46.

Kiln, oven and furnace structure: walls and lining

Walls or bases of kilns or ovens do not produce a distinct diagnostic form especially where the subsurface area of a structure utilised the *in situ* natural clay without further modification or lining. Certain general characteristics, including intensity of firing, thickness and surface finish, can be used as a broad indication. Occasionally a recessed ledge was observed, of the sort that would support the ends of fire bars or edges of plates. Many of the nondiagnostic fragments, with no surviving shape or just a single surface (assigned to the categories unidentified or utilised respectively), are likely to derive from oven or kiln walls or lining. No samples of *in situ* kiln or oven structure were taken that could be used as comparison with demolished elements of structure.

Fragments designated as kiln or oven wall had one flat or undulating surface and varied in thickness from 15 to 65 mm. Those described as kiln wall either were found in identifiable kilns or were directly associated with kiln furniture. Some fragments from kiln 10490 were described as fired turves on site, but there was no evidence to suggest the fragments were anything other than clay lining. None of the wall fragments had impressions that suggested turf was incorporated in the construction. However, fragments from kiln 10767 did not have the appearance of forming a continuous surface and often had a wedge-shaped back suggesting the clay had been daubed over blocks of some other material. There are no indications from impressions on the reverse of the clay whether these were blocks of turf, subsoil or stone rubble. Wall lining found in the corndrier was no different to that from other structures, and the irregular back suggested it had been daubed over surfaces of other material that formed the walls of the flues.

A small quantity of material identified as oven wall had impressions of wattles, though none were clearly interwoven. Interwoven wattle impressions may be associated with the upper walls or dome of an oven supported on a basketry framework. Only ten wattle impressions occurred and these had a wide range of sizes from 10 to 35 mm diameter. It seems they were only rarely used as reinforcement or support for oven structures at this site.

Some heavily or overfired clay fragments were found in quarry hollow 10096. No vitrification or cindering was present and the fragments may merely have derived from an area of overfired kiln

or oven structure, rather than indicating higher temperature activity of an industrial nature.

Kiln and oven furniture: pedestals (Plate 8.3)

All the pedestal fragments were found in kilns or in dumps of kiln debris. Pedestals may be free standing portable objects or constructed integrally with the oven or kiln floor and base. There is evidence from kiln 8750 that it had an integral tongue pedestal projecting from the rear wall. Only the base was found *in situ* and no fragments from the kiln fill could be identified as pedestal.

Free-standing pedestals are also common. The pieces from kiln 10490 formed the base of a square pedestal measuring 150 mm square at the base narrowing to 140 mm in the centre. It only survived to a height of 80 mm and it is unclear whether the top flared out to match the base. Another pedestal

Table 8.45: Quantification (fragment count) of fired clay by fabric and form from Site 8 (Phases 6 and 7)

Fabric	*A*	*Ach*	*B*	*Bch*	*D*	*E (& E/H)*	*H*	*Total*	*%*
Fire bar	0	0	0	0	0	7	0	7	0.3
Kiln misc.	37	0	36	0	0	6	0	79	4.28
Kiln furniture	0	0	0	0	0	17	3	20	1.08
Kiln pedestal	0	0	0	0	0	31	0	31	1.68
Kiln spacers	4	0	59	0	0	245	0	308	16.69
Kiln fire bar	1	0	0	0	0	106	0	107	5.8
Kiln structure	0	0	0	0	0	183	0	183	9.92
Kiln plate	0	19	0	0	0	0	0	19	1.03
Oven plate/disc	11	17	0	0	0	16	4	48	2.6
Oven structure	19	0	0	0	0	52	0	71	3.85
Pedestal	10	0	0	0	0	0	0	10	0.54
Platelets	0	0	0	0	0	5	0	5	0.27
Moulded lump	0	0	0	0	0	1	0	1	<0.1
Furnace lining	0	0	8	0	0	0	0	8	0.43
Vessel/mould	1	0	3	0	0	0	0	4	0.22
Utilised	33	11	74	14	2	546	4	684	37.07
Unidentified	87	0	69	0	2	102	0	260	14.09
Total	203	47	249	14	4	1317	11	1845	
%	11	2.55	13.5	0.76	0.22	71.38	0.6		

Table 8.46: Quantification (weight g) of fired clay by fabric and form from Site 8 (Phases 6 and 7)

Fabric	*A*	*Ach*	*B*	*Bch*	*D*	*E (& E/H)*	*H*	*Total*	*%*
Fire bar	0	0	0	0	0	327	0	327	0.74
Kiln misc.	217	0	122	0	0	86	0	425	0.96
Kiln furniture	0	0	0	0	0	494	93	587	1.32
Kiln pedestal	0	0	0	0	0	6177	0	6177	13.91
Kiln spacers	40	0	1202	0	0	5874	0	7116	16.02
Kiln fire bar	46	0	0	0	0	9574	0	9620	21.66
Kiln structure	0	0	0	0	0	3721	0	3721	8.38
Kiln plate	0	3096	0	0	0	0	0	3096	6.97
Oven plate/disc	270	726	0	0	0	4868	31	5895	13.27
Oven structure	81	0	0	0	0	1248	0	1329	2.99
Pedestal	220	0	0	0	0	0	0	220	0.5
Platelets	0	0	0	0	0	82	0	82	0.18
Moulded lump	0	0	0	0	0	160	0	160	0.36
Furnace lining	0	0	55	0	0	0	0	55	0.12
Vessel/mould	4	0	10	0	0	0	0	14	0.03
Utilised	145	128	461	252	20	3465	56	4527	10.19
Unidentified	301	0	189	0	9	570	0	1069	2.41
Total	1324	3950	2039	252	29	36646	180	44420	
%	2.98	8.89	4.59	0.586	0.07	82.5	0.41		

fragment 105 mm square by >170 mm high had a slightly flared prismatic form (Plate 8.3). It was found in a tip of kiln debris within pit 10769 and had possibly derived from nearby kiln 10767.

Kiln and oven furniture: plates and discs (Plates 8.1 and 8.2)

Fragments of flat plates or discs were identified, the majority discarded in pit or ditch fills, but the largest example was found in the fill of kiln 10490 (Plate 8.1). This was reconstructed to form somewhere between two thirds and three quarters of a complete circular plate measuring 355 mm in diameter and 23–43 mm thick. The surfaces were covered in frequent chaff and straw impressions and one surface was very slightly convex. It was evenly fired to a reduced grey colour. The edges formed a simple rounded rim, but were battered and worn suggesting reuse.

The majority of pieces identified as oven/kiln plate were of this form with a curving edge and with thicknesses ranging from 19 to 35 mm, though no other diameters could be estimated. Virtually all had chaff or straw impressions over the surfaces and those made in fabric A frequently had chaff incorporated as temper.

A group of material discarded in ditch 8580 (Plate 8.2) was composed of fragments from more than one oven plate, which showed evidence of both straight and curving edges. There is some indication that these were combined to form a flat slab with two bowed sides and straight ends. One corner fragment with two straight sides at right angles indicates rectangular forms were also present. One fragment with a straight edge had a raised flange 15 mm high. A thinner fragment (8–10 mm) in fabric H had a very shallow rounded flange with the inner edge delineated by an incised groove. This is similar to the discs from Sites 2 and 4.

Kiln and oven furniture: kiln and firebars (Plates 8.3 and 8.4)

Kiln or fire bars were found in two of the kilns with the largest group coming from 10490 (Plates 8.3 and 8.4) and a smaller number from 10767. Fragments from pit 10769 may derive from kiln 10767. All the kiln bars were of a standard tapering form generally described as cigar-shaped. Only one survived complete, measuring 344 mm long. The length of four partial examples could be estimated at 340 mm, 380 mm, 360–400 mm and 460–470 mm. Surviving incomplete lengths ranged from 235 mm to 340 mm. Based on the structure of kiln 10490, kiln bars would have varied in length from 550–700 mm if they had to reach from the walls to the central pedestal. The fact that all length measurements of bars from this kiln are less than this suggest there was either a substantial projecting ledge around the kiln wall or the bars rested on the oven plate set on the central pedestal.

The central cross-section of the bars was generally rectangular though sometimes trapezoidal or

Plate 8.1 Site 8. Kiln plate from kiln 10490

Plate 8.2 Site 8. Deposit of kiln or oven plates SF 8088 in ditch 8580. Scale: 0.5 m.

polygonal and measured 45–60 mm wide by 55–73 mm broad. The tips tapered to form a rounded chisel-shaped or pointed end, the latter sometimes flattened or indented.

Another type of bar measuring 30 x 33 mm wide and 103 mm long had a pentagonal cross-section with one end forming a wedge shape and the other with a rough depression. Two cylindrical clay objects may have been firebars, but they are described below in the section on the clay objects. Smaller bars may have been used as oven furniture in smaller structures than the kilns or may have been used as spacer bars in kilns.

Kiln and oven furniture: platelets (Figs. 8.15.3 and 8.15.4)

This term is used for small flat slabs, which range in size from 2 to 20 mm thick and from 38 x 58 mm up to 90 x 125 mm in area. Broken examples indicate sizes were originally in excess of 150 mm. Some have very angular tapered edges, whilst others have flat or rounded edges. Many with the thicker edge look broken and the edges worn suggesting reuse and that these may have continued to be used in the reduced size. The platelets generally have flat but undulating surfaces and are variable in shape including suboval, subrectangular and irregular.

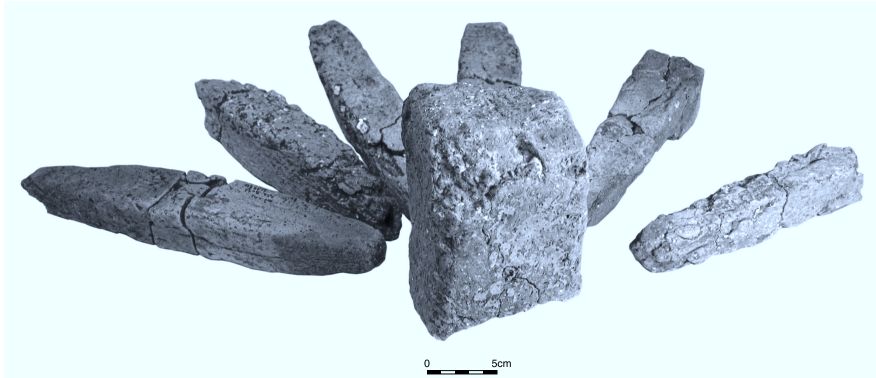

Plate 8.3 Site 8. Kiln pedestal from pit 10769 and kiln bars from kiln 10490

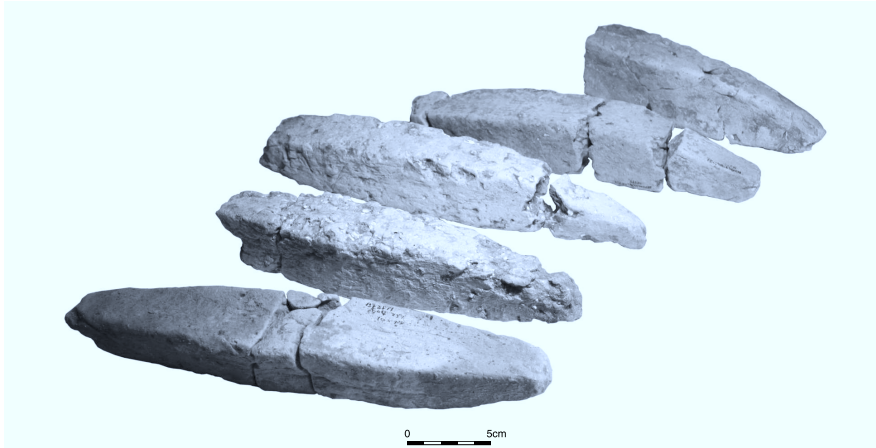

Plate 8.4 Site 8. Kiln bars from kiln 10490

These are probably spacers or setters used in the stacking of pots in the kiln to separate or stabilise items. The majority of these platelets were found within kiln 10490, with lesser quantities from kiln 8725, pit 10769 and ditch 10797.

Kiln and oven furniture: test lump

An oval rounded moulded lump of clay with depressions from shaping measured 45 x 65 x 85 mm. One part appears to be fired red, though most is the yellow colour of the natural unheated clay. This could be a discarded lump of waste clay, but may have been utilised in some way in an oven or kiln. It has been suggested such objects may be 'test lumps'. It was found in association with broken oven plate discarded in ditch 8580, some of which had not been fully fired and had clearly been made with the same clay.

Ceramic building material

A total of 46 fragments of brick and tile weighing 7674 g was recovered from a variety of contexts including pit and ditch fills and spread layers (Table 8.47). Apart from three fragments of medieval or post-medieval roofing material all the assemblage was Roman. None appeared to have been found in a primary context.

Tegula fragments dominated the assemblage. They were of standard type with rectangular or rounded flanges with widths of 18–30 mm and internal heights of 20–35 mm. The tile thickness ranged from 22–30 mm and one complete breadth measurement of 310 mm was obtained from the basal end of a tegula. It is likely that most of the undiagnostic flat tile which ranged in thickness from 17–35 mm was tegula, though the thickest fragment may be the only brick from the site. Two fragments of imbrex also occurred.

The quantities of tile relative to the size of site are very small and are insufficient to suggest any buildings were roofed with tile. The preference for large flat slabs of tile probably reflects their re-use in the construction of corndriers, oven or kilns, for spanning flues and supporting superstructure or as baffles to control air flow through flues and vents. A burnt piece of tile is evidence of such use.

Catalogue of illustrated material (Fig. 8.15)

1. Kiln or oven bar. Triangular sectioned bar, broken at both ends. Late Iron Age? or early Roman. 64 x 55 mm; 204 g. Ditch 4253 (4270) Group 4959. Phase 6, early Roman.
2. Kiln spacer or 'test lump'? Suboval cake with lenticular cross section. Fingers and palm impression of a smallish hand (?pre-adult). 80 x >75 mm x 23 mm; 93 g. Ditch 4553 (4552) Group 4961. Phase 6, early Roman.
3. Kiln spacer. A semicircular or oval object probably about a quarter of original object survives, but may also have been used in its broken condition. >120 x >60 x 5 mm; 170 g. Kiln 10490 (10575). Phase 6, mid 2nd century.

Table 8.47: Summary of ceramic building material from Site 8

	No.	*Weight (g)*	*Fabrics*
Tegula	15	4778	1, 2, 6, 7
Imbrex	2	347	7
Flat (Roman)	26	2455	1, 4, 7
Roof: flat	2	38	1, 4
Roof slate	1	2	Welsh slate

4. Kiln spacer. Broken polygonal platelet with one flat surface and one undulating; broken edges worn. 105 x 70 x 5–17 mm, 94 g. Kiln 10490 (10575) (north side of firepit). Phase 6, mid 2nd century.

Discussion

The fired clay assemblages from the Roman sites are variable in quality and character. The material from Site 1 is too small and undiagnostic to allow any conclusions to be drawn about activities on the site. It supports the view that the excavated area was on the periphery of the settlement.

The assemblages from Sites 4 and 8 contrast in the type of material surviving on each site. At Site 4 there is a clear continuity from the Iron Age with similar types of portable oven or kiln furniture for use in surface or semisunken structures. The forms are very similar to material used in pre-conquest pottery kilns (Swan 1984; Woods 1974). However, in the absence of pottery wasters or dumps of discarded pottery it is likely that the fired clay at Site 4 is not kiln debris, but from structures used in food processing or preparation. Some of the fired clay was found in shallow oven bases of different forms implying a range of basic designs, which could have served a number of functions. One of these (4149) contained a large quantity of fired clay with wattle impressions, which is interpreted as the upper walls of a permanent superstructure. This is the only group of upper oven wall daub from all the sites and may imply that most ovens had superstructures of impermanent materials such as turves or were open at the top.

The Site 8 material is dominated by kiln structure and furniture, which accounts for three-quarters of the assemblage and was mostly found in or close to the four *in situ* kiln bases. The fired clay from the kilns indicates a similar broad design using kiln bars supported on a central pedestal to form the floor above the firing chamber. The oven plate is generally interpreted as resting on the bars, but alternative functions have been suggested. These may have formed a second level on which pots were stacked or for use as a cover over the top of the kiln. It is worth noting that some care had usually gone into the making of the plates. The only example found in a kiln was fired evenly to a reduced pale to mid grey colour, whilst those found in secondary situations were more variable in colour, a mix of

oxidised and reduced colours. The use of chaff in the temper (almost exclusive to these and the smaller discs) suggests certain qualities were also required. The reduced quality of the definite kiln plate suggests it was used internally, not as a cover, which is more likely to be oxidised at least on one side. However some of the others may have served such a function. The degree of firing of the bars is different to the plates suggesting the plate may not have rested directly on the bars. Not all plates exhibited these characteristics and some may have served as covers or been used in structures other than kilns.

Evidence for nonkiln structures is limited, though small oven bases have been identified amongst the oval and elongated hollows. Most of the material not directly associated with kilns is largely undiagnostic, though some oven plates may also be considered in this context. There is no certainty that these too do not derive from kilns, but alternative functions may be suggested. None were complete, though the fragments discarded in ditch 8580 were large blocks when dumped (Pl. 8.2), but fragmented upon lifting. Their fragility can be attributed to the low temperature firing which had barely discoloured the clay in places. This suggests they may have been used as drying floors where a low consistent heat was required such as in grain drying or malting ovens. Some pieces had a recessed edge suggesting they slotted over the edge of the oven wall. The presence of a large circular venthole in one may have allowed warm air to circulate above the grain as well.

The T-shaped corndrier is clear evidence that grain drying and/or malting were carried out. It is likely that some of the small oval and figure of eight oven bases served as corndriers whilst others were used as domestic cooking hearths. In both cases fired clay would retain few features that could aid interpretation. Domestic cooking facilities may have been a simple hearth with no ancillary structures. Fired clay from corndriers is invariably undiagnostic and can usually only be identified when found within the structure, as with 10067.

Little evidence of high-temperature industrial processes such as metalworking was found. The small quantities of intensely fired clay, together with the vitrified and cindered clay identified with the slag suggests only a low level of smithing activity occurred, serving the limited needs of the community. No actual smithing hearths were identified.

Ceramic building material only occurred in any quantity on Site 8, though the small amount at Sites 1 and 4 exhibits the same characteristics. The quantities and proportion of types does not indicate the presence of any buildings that utilised the material in their construction or as roofing. There is a preference for flat tile, mainly in the form of tegulae with occasional bricks, which was probably being used in construction and use of hearths, ovens, kilns or corndriers.

Late Saxon and medieval periods: Phases 8.3–9.2

Site 3

A total of 76 fragments of fired clay weighing 322 g were recovered from 21 contexts, which included pits, postholes, gullies and ditches. The MFW of 4.3 g reflects the undiagnostic character of the fired clay. A flat surface was present in 26% of fragments, but the majority retained no diagnostic features. A few pieces had chaff or straw impressions on the surface, but no wattle impressions were present. Only two fragments were identified. They were found together in a Phase 9.1 pit (3095). These appeared to be parts of cylindrical pedestals, probably parts of the flared base, which may be associated with kilns or ovens. A small fragment of flat roof tile probably of 12th–14th century date was also found in an otherwise undated pit.

Site 5

Fired clay totalling 18 fragments and weighing 86 g was recovered from eight contexts including a pit, posthole and ditches. The MFW of 4.8 g reflects the undiagnostic character of the material. Fabrics A, B and D were used and boulder clay is likely to be the base of these fabrics which were sourced on or close to the settlement. Most fragments were amorphous, but three pieces had flat surfaces. One of these had two small stem impressions 4 and 7 mm in diameter and another may have been pierced by a perforation 10 mm in diameter. The assemblage is likely to derive from domestic oven or hearths.

Site 9

A total of 35 fragments of fired clay weighing 515 g was recovered from 14 contexts, mostly pits and postholes, plus some ditch, gully and trench fills. Fabrics used were A, B, D and E, which are all likely to derive from locally available clays. The MFW of 14.7 g points to the likelihood of some diagnostic fragments being present and is also a reflection of the larger quantities deposited in pits compared to the other medieval sites.

Four samples were identified as probable oven structure on the basis of fired surfaces and shaping, which suggest the pieces came from a more complex structure than a simple hearth. One piece with possible wattle impressions of 15 mm diameter may be part of an oven wall. Some pieces with two surfaces had a thickness of 30–60 mm and probably formed part of an oven floor or plate. Apart from fragments with flat surfaces, the only other shaped pieces were thin irregular discs with fine chaff and chopped straw impressions on the surfaces. These measured 8 mm thick by 26 mm wide. Their function is not known, but similar objects have been observed in association with Iron Age oven daub (Cunliffe and Poole 1991a, 149) and they are similar to crudely made kiln spacers or setters, possibly serving a similar function. The quantity of fired clay

is small but does indicate the presence of ovens, probably of a domestic nature.

Sites 2, 6 and 8

Small quantities of medieval or post-medieval roof tile fragments were found at these three sites in post-medieval ditches or superficial spreads. A post-medieval brick was found in one of the field drains. These have probably become incorporated as part of agricultural activity or casual disposal.

Discussion

The fired clay assemblage from these later periods is much less substantial than those from preceding phases, with little positively identified material. This may imply fewer and simpler structures were in use than in earlier phases and that these were domestic hearths or ovens. The only *in situ* structure to be identified was a hearth or oven base (3377) on Site 3. However, on Site 5 smithing was also clearly taking place in Building 5196, where substantial quantities of vitrified and cindered clay were found.

Conclusions

It is worth reiterating that fired clay will normally derive from oven or hearth type structures as opposed to buildings, which would have to be destroyed in a conflagration for any daub or cob to be preserved by firing. The design of ovens, corndriers, kilns and furnaces may leave very similar imprints in the ground, especially if heavily truncated or originally of surface construction. Similar structural fired clay from the superstructure and internal arrangements may exhibit similar characteristics. Therefore questions of function must take into consideration other material that may be relevant to the interpretation.

The fired clay from the Iron Age Sites 2 and 4 forms a distinct suite of forms dominated by portable oven plates, discs and pedestals, which suggests most structures were probably surface constructions or only slightly subsurface. Artefacts of this type have been associated with pottery production in the early Roman period and the pottery fabrics suggest production occurred locally. However, the scarcity of pottery wasters suggests alternative functions should be considered for the fired clay. These items could have been used on domestic cooking hearths or used for drying or parching grain. There is evidence from the carbonised grain at Site 2 that parching was taking place and the flat plates may have served as drying floors for this purpose. The similarity of the assemblage in the early Roman phase of Site 4 indicates a continuity of structure type and practices into the post-conquest period.

At Site 8 the fired clay assemblage is very different being dominated by kiln debris, most of which is clearly associated with *in situ* kiln bases. The kilns date from the 2nd and 3rd centuries and are of typical design and construction for the Ouse and Nene Valleys. The kiln material is comparable to other sites in the area such as Stagsden (Gentil 2000). There is also evidence from Site 8 for the development of kiln structure, from a free-standing pedestal to an integral tongue pedestal. This change may have occurred here in the late 2nd or 3rd century, slightly later than the mid 2nd century which is more usual in the main production sites (Swan 1984, 97). This perhaps implies that developments took longer to permeate into some of the outlying areas undertaking small scale production, and the number of kilns and quantity of fired clay at Site 8 suggests production was for the local community only. In spite of the dominance of kiln debris, food processing and domestic cooking is probably represented by the less diagnostic material, fired to lower temperatures.

In the post-Roman period diagnostic fired clay of any sort was sparse and pottery production had probably ceased. The presence of pedestal fragments at Site 3 and possible spacers at Site 9 may indicate pottery production was continuing in the vicinity. However, this material together with fragments of oven plate and wall are just as likely to have been used in domestic structures. The only industrial activity was iron smithing at Site 5, which probably served the needs of the settlement.

Throughout all periods the pattern is of domestic and agricultural activity being the norm undertaken by individual households. Grain drying may have been undertaken on a larger scale later in the Roman period with the construction of the T-shaped corndrier, which may represent a communal structure. Small scale craft and cottage industry in the form of pottery production or iron smithing provided for the needs of the immediate settlement and perhaps served any outlying farmsteads within their territory, but were not on a scale that implies more extensive trade.

FIRED CLAY OBJECTS
by Cynthia Poole

Four fired clay objects were recovered. These comprise three spindle whorls and a cylindrical bar of uncertain function.

Site 2

1. Spindle whorl. Cylindrical form with flat ends and slightly convex sides; about a third of the object survived. Cylindrical perforation 6 mm diameter. Diameter: 30 mm Ht: 20 mm. FC fabric E; fired. The surviving fragment weighed 6 g and its total weight is estimated at *c* 20 g. Ditch 2859, ctx 2862. Phase 5 (late Iron Age).
2. ?Spindle whorl. A small fired clay fragment weighing 4 g in fired clay fabric B had no surfaces surviving, but had a groove 4 mm diameter, which could be the central perforation of a spindle whorl. Gully 20081, ctx 2081. Phase 4 (middle Iron Age).

Site 8

3. Spindle whorl. Complete, disc made from pottery body sherd, shelly fabric R13. Probably Romano-British, though found in an early Saxon context (Phase 8.1). Wt: 40 g. Ditch 10744, ctx 8842. Phase 7.
4. Cylindrical bar (Fig. 8.15.5). Two fragments, either part of the same object (but not joining) or two different objects of same type, formed a cylindrical bar well fired to a reduced grey colour. It was made in a coarse sandy fabric that has more in common with pottery fabric RO6B than any of the fired clay fabrics. The main length of the bar had been moulded forming shallow grooves to create a twisted spiral effect over the surface. One end survived and this was rounded and slightly bulbous with a small linear groove on the tip. The moulding is subtle, but deliberate and this could be interpreted as purposely phallic. If this is the case it may imply that it was some form of votive or religious object. Alternative practical functions should also be considered. The obvious function would be as a firebar for use in an oven or kiln but it has also been suggested that the fragments formed part of a ceramic gridiron. Roman ceramic gridirons are rare but one is known from East Hanney, Oxon (Case and Sturdy 1960). The fact that it was not made in any of the usual fired clay fabrics, is atypical as a fire or kiln bar and was not disposed of with other oven or kiln debris suggests this may be part of an individual object rather than being structural in character. L: >140 and >60 mm Diam: 20 x 22 mm and 25 x 28 mm Wt: 118 g and 56 g. Ditch 10816, ctx 10270 and ditch 10077, ctx 10078. Phase 6.2

WORKED AND UTILISED STONE
by Ruth Shaffrey

The worked stone assemblage of 26 pieces comprises querns, whetstones, a grinding slab and various processors. A further 10 items of interest include flint spheres, lumps of yellow ochre and a small number of fossils. All the stone was examined with the aid of a x10 magnification hand lens and three specimens were thin-sectioned (nos 6, 7 and 20).

Middle and late Iron Age

Three items of utilised stone were recovered from middle Iron Age contexts at Sites 2 and 6 including a fragment of a Millstone Grit rotary quern, one probable postpad and a polishing pebble. A further two items from Site 2 came from late Iron Age contexts: an unidentified chalk object from pit 2726 (Fig. 8.16.1) and fragments of quern from inhumation burial 2509.

Catalogue of middle and late Iron Age worked stone

1. Smoothing/polishing pebble. Flat pink sandstone pebble with two very worn faces, one with signs of polish. Measures 63 x 29 x 22 mm. Site 2, ditch 2338, ctx 2194. Phase 4.
2. Upper rotary quern fragment. Probable Millstone Grit. Edges and centre are missing but the grinding surface shows concentric wear patterns on the original pecked surface. The base is rough. Measures 48 mm maximum thickness. Site 2, CS 23, ring gully 2733. Phase 4.
3. Possible postpad. Greensand. Large slab with one dressed edge. Site 6, pit 6144, ctx 6145. Phase 4.
4. Unidentified object (Fig. 8.16.1). Hard chalk. Unshaped but with partial piercing on both sides measuring 14 mm wide and 5 mm deep. Although the item is of unknown function, similar artefacts have been found in Iron Age contexts, for example at All Cannings Cross, Wilts (Cunnington 1923, pl. 24, nos 3–4) and Wittenham Clumps, Oxon (Hingley 1980, fig. 16.3). Site 2, pit 2726, ctx 2727. SF 2018. Phase 5.
5. Possible quern fragments. Fine grained well-sorted grey slightly micaceous sandstone. Four small fragments with evidence of worked surfaces. Site 2, inhumation grave 2509, ctx 2507. Phase 5.

Roman period

A total of 19 items of worked stone were recovered from Roman contexts at Sites 1, 4 and 8, including quern fragments, building stone and processors. Although stone was used for a variety of functions, there are only small numbers of each artefact type. The largest category is the quern fragments although in total the number is still fairly small with only four definite rotary quern fragments, two saddle quern or grinding stone fragments and two more probable rotary quern fragments.

The rotary querns are made from a surprisingly broad range of materials given the small size of the assemblage. This includes Millstone Grit (gully 1299), Old Red Sandstone (posthole 8688), Hertfordshire Puddingstone (ditch 8591 and posthole 8762), Lodsworth Greensand (ditch 4132) and a probable Upper Greensand example (pit 10488). Only the Hertfordshire Puddingstone is represented by more than one fragment. The Millstone Grit quern fragment is part of a large (900 mm diameter) mechanically operated millstone and was recovered from an early Roman context on Site 1. The two saddle querns/grinding slabs were both recovered from late Roman contexts on Site 8 (posthole 8688 and ditch 8031). Both may have served as slabs for grinding material other than corn, given their late date (see below).

Three pieces of likely building stone were retained, all quartzitic sandstones. Two from Site 4

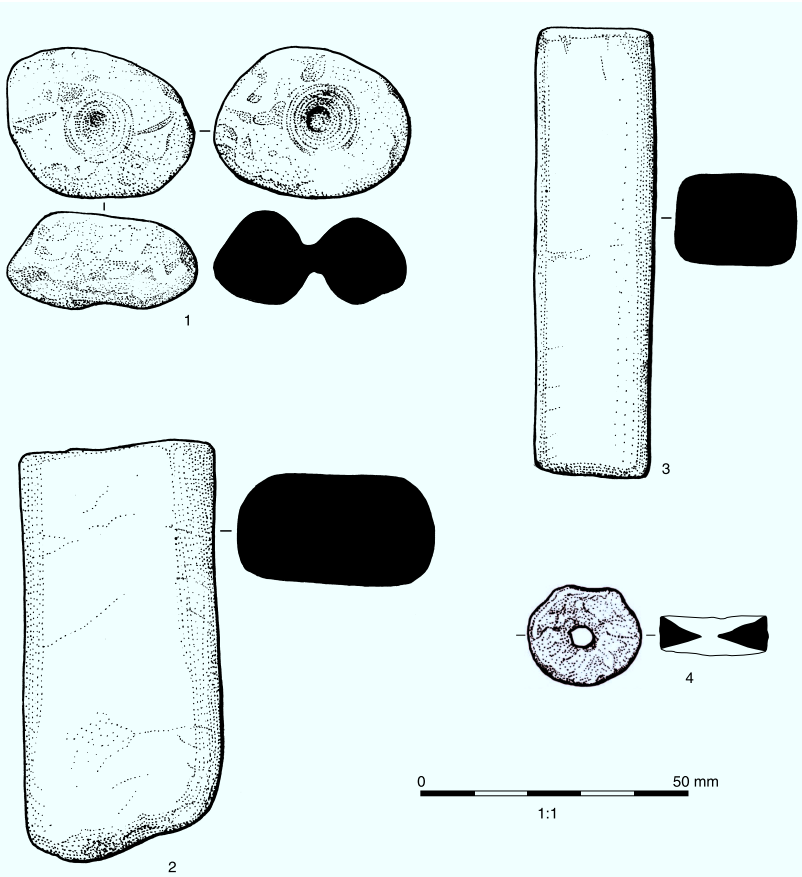

Fig. 8.16 Worked stone objects

Table 8.48: Unworked but utilised stone from Roman contexts

Site	*Ctx*	*Description*	*Phase*
1	1238	Flint sphere, possible hammerstone with one bashed edge	Early Roman
4	4322	Yellow ochre	Early Roman
4	4343	Yellow ochre	Late Roman
8	8579	Belemnite fossil	Roman
8	8783	Larger flint sphere, possible hammerstone	Roman
8	8786	Larger flint sphere	Roman
8	10277	Belemnite fossil	Roman
8	10594	Yellow ochre	Early Roman
8	10600	Flint sponge fossil	Roman
8	10613	Probable flint sphere - sponge fossil	Roman

include shaped blocks (pit 4172 and ditch 4795), the latter of which may have formed part of a structure containing running water. Another piece from Site 8 is a probable floor slab (ditch 8955). No other structural stone was recovered and there is no evidence that stone was used for roofing.

The range of other worked items is very small and includes one spindle whorl of hard chalk (ditch 8625). Two whetstones were also recovered from Site 8, both of typical Roman design and probably of Kentish Ragstone although only one of these was from a stratified Roman context (ditch 8346). Several processors were found (mostly on Site 8) including two small pebbles utilised as polishers (ditches 8704 and 4340) and three hammerstones or pounders (ditches 8616 and 8228 and posthole 8654).

Some unworked items are also of interest (Table 8.48), including two fragments of belemnite fossil, which served no purpose other than curiousity. These are found in Jurassic and Cretaceous rocks and were probably collected from the Cambridge Greensand which has produced large numbers of fossils (Edmonds and Dinham 1965, 54). A number of small pieces of yellow ochre (limonite) were found and are most likely to have been used as a dye. Limonite can occur in parts of the Lower Greensand (Edmonds and Dinham 1965, 41) and therefore may have been collected from sources within only a few kilometres of the site. Several flint spheres were also found and, although naturally occurring, were presumably collected either for interest or for use as missiles. They are most commonly found in the chalk, the nearest source of which was about 20 km to the south.

Catalogue of Roman worked and utilised stone

6. Millstone fragment, probable lower stone. Probable Millstone Grit. Measures approximately 900 mm diameter x 43 mm maximum thickness. Site 1, Gully 1453, ctx 1301. Early Roman.
7. Rotary quern, probably upper stone. Lodsworth. With flat faces and straight vertical edges, but less than 5% survives. Pecked all over but quite roughly. Measures approximately 390 mm diameter x 51 mm maximum thickness. Site 4, ditch 4132, ctx 4127. SF 408. Roman.
8. Possible building stone. Pale cream quartzitic sandstone. Chunk with flat faces and at least one roughly squared edge. Measures 97 x 90 x 45 mm. Site 4, pit 4172, ctx 4171. Roman.
9. Smoothing/polishing pebble. Pink quartzite. Fragment of small pebble with one flat, almost concave surface, which is very smoothed and shows slight signs of polish. Site 4, ditch 4922, ctx 4337. Early Roman.
10. Possible building stone. Fine grained pink quartzitic sandstone. Large block with flat faces and square edges. One face is very smoothed (but still flat) and may have been used in a floor or more likely as part of some water bearing structure, as there are some calcareous deposits on the surface. Measures 148 x 84 x 60 mm. Site 4, ditch 4962, ctx 4481. Early Roman.
8. Primary elongate whetstone (Fig. 8.16.2). Probable Kentish Rag. Central portion with part of one end remaining. Rectangular section although with rounded edges where well used. Measures >77 mm length x 36 x 20 mm. Site 8, ditch 8346, ctx 8347. Early Roman.
12. Possible floor stone. Pale brown very fine grained slightly micaceous sandstone. Naturally flat slab with one worn and slightly concave face. Measures 95 x 85 x 26 mm. Site 8, ditch 8955, ctx 8954. Early Roman.
13. Smoothing/polishing pebble. Orange quartzite. Small pebble with polish on one face. Possible linen smoother. Measures 46 x 28 x 18 mm. Site 8, ditch 8704, ctx 8705. Early Roman.
14. Possible hammerstone/pounder. Grey slightly micaceous sandstone. Large flat pebble with slight percussion wear on the edges. Site 8, posthole 8654, ctx 8653. SF 8094. Early Roman.
15. Probable quern fragment. Hertfordshire Puddingstone. Has one pecked surface. Site 8, ditch 8591, ctx 8592. SF 8091. Early Roman.
16. Processor. Quartzite pebble. Quartzite pebble with percussion on one corner from gentle rubbing or tapping as opposed to bashing. Measures 100 x 76 x 60 mm. Site 8, ditch 8616, ctx 8617. Early Roman.
17. Pounder. Pale brown quartzitic sandstone. Cobble with lots of percussion damage. Site 8, ditch 10818, ctx 8230. Early Roman.
18. Spindle whorl, half. Hard chalk. Of cylindrical form with curved sides and biconical perforation. Tool marks survive inside perforation. Measures 28.5 mm diameter x 10 mm thick. Perforation measures 6 mm diameter. Site 8, ditch 8625, ctx 8626. SF 8090. Early Roman.
19. Upper rotary quern fragment. Hertfordshire Puddingstone. Very slightly concave grinding surface with curved edges and roughly flat top. Measures approximately 330 mm diameter x 61 mm maximum thickness. Site 8, posthole 8762, ctx 10680. SF 8242. Early Roman.
20. Upper beehive rotary quern quarter. Greensand. Flat grinding surface with rounded edges and mostly flat top with slight hopper. Measures 350 mm diameter x 140 mm maximum thickness. Site 8, pit 10488, ctx 10489. SF 8231. Early Roman.
21. Probable saddle quern. Reddish quartzitic sandstone. Large slab with one slightly pecked and worn grinding surface. Site 8, posthole 8688, ctx 8690. Late Roman.
22. Grinding slab/saddle quern. Possible Lincolnshire limestone. Large thin slab with slightly concave grinding surface and mostly tapered edges. Measures >270 x >280 x 35 mm maximum thickness. Site 8, ditch 8031, recut of ditch 10811, ctx 8032. Late Roman.
23. Upper rotary quern fragment. Old Red Sandstone. In four pieces and burnt. Of flat-topped type possibly with shallow basin shaped hopper and with lateral handle slot. Measures 400 mm diameter x 26 mm maximum thickness. Site 8, posthole 8688, ctx 8690. SF 8187. Late Roman.
24. Fig. 8.16.3. Complete primary whetstone. Fine-grained grey slightly micaceous sandstone, probably Kentish Rag. Elongate, sub rounded rectangular section. Mostly used on the two widest faces. Measures 83 x 22 x 18 mm. Site 8, subsoil (8002). SF 8093.

Saxon and medieval periods (Phases 8 and 9)

Two pieces of worked stone were recovered from post-Roman contexts: a single pierced decorative item or large bead of limestone (posthole 9213, Phase 8.3), and one fragment of a Millstone Grit rotary quern (posthole 3271, Phase 9.2).

Catalogue of medieval worked stone

25. Fig. 8.16.4. Bead. Fine grained limestone. Oval and straight sided with concave faces on both sides and narrow perforation. Measures 18–21 mm diameter x 6.5 mm maximum thickness. Perforation measures 4 mm diameter. Site 9, structure 9150, posthole 9213, ctx 9213. SF 9000. Phase 8.3.
26. Upper rotary quern fragment. Millstone Grit. Wide conical eye probably functioning as hopper with moulded wavy edge. Also remains of possible rynd fitting on under side near the edge. Measures 40 mm thick. Site 3, structure 3258, posthole 3271, ctx 3272. Phase 9.2.

Discussion

Few worked stone objects of Iron Age or medieval date were recovered, although these do indicate some processing and craft activity, probably at the domestic household level. Much more material was recovered from Roman contexts, and most of the artefacts were associated with domestic activity, in particular food processing. The bulk of the querns were recovered from Site 8, with only single examples from Sites 1 and 2, but the assemblage from Site 8 is also small and not indicative of anything other than rural occupation. The fragment of mechanically operated millstone recovered from Site 1 is more informative as, despite being a single find, it indicates some intensification or centralisation of flour production perhaps related to the presence of a possible granary at the site. The presence of two saddle querns from Site 8 suggest that materials other than grain were being processed, especially in conjunction with a number of pebbles used as processors, some for pounding and some for rubbing or grinding. Saddle querns would have been better suited to tasks such as crushing nuts, pounding roots and powdering minerals than rotary querns (Barker 1985, 12). Some craft working in the Roman period is suggested by the spindle whorl and the yellow ochre, which might indicate some process involving dye. Two whetstones were also recovered, but small numbers of these are ubiquitous on Roman sites and they are therefore not indicative of any particular industry.

The assemblage of rotary querns from Great

Table 8.49: Later Iron Age and Romano-British sites with rotary querns within 25 km of Great Barford (Site 8). HPS: Hertfordshire Puddingstone; ORS: Old Red Sandstone; MG: Millstone Grit; LGS: Lodsworth Greensand; GS: Greensand

	Site	HPS	ORS	MG	LGS	GS	Lava	Reference
1	Baldock	Y		Y				Foster 1986
2	Bedford (Norse Road)			Y				Duncan 2001
3	Bletsoe		Y	Y				Shaffrey 2006
4	Blunham	Y						King 1980
5	Bromham	Y	Poss	Y		Y		Tilson 1973
6	Cambourne	Y	Poss			Poss	Y	WA 2003
7	Cardington	Y						King 1980, 72
8	Edix Hill			Y			Y	Malim 1997
9	Felmersham	Y						King 1980, 72
	Great Barford	Y	Y	Y	Y	Y		This volume
10	Great Staughton	Y						Greenfield et al. 1994
11	Harlington	Y						King 1980
12	Harrold			Y	Y	Y		Eagles and Evison 1970
13	Haynes Park			Y			Y	Luke and Shotliff 2004
14	Higham Ferrers	Y	Y	Y			Y	Shaffrey forthcoming
15	Kempston		Y	Y			Y	Dawson 2004
16	Odell	Y	Y	Y	Y	Y		Dix 1980
17	Radwell	Y		Y				Hall 1973 and King 1980
18	Redlands Farm		Y	Y				Shaffrey and Evans forthcoming
19	Salford	Y						King 1980, 74
20	Sandy		Y					Shaffrey 2006
21	Stagsden						Y	Gentil 2000
22	Stanwick	Y	Y	Y			Y	Shaffrey 2006 and unpub. English Heritage information
23	Stotfold	Y						Kennet 1970 and King 1980
24	Wimpole		Poss	Y			Y	Horton et al. 1994
25	Bancroft			Y	Y			Tyrell 1994

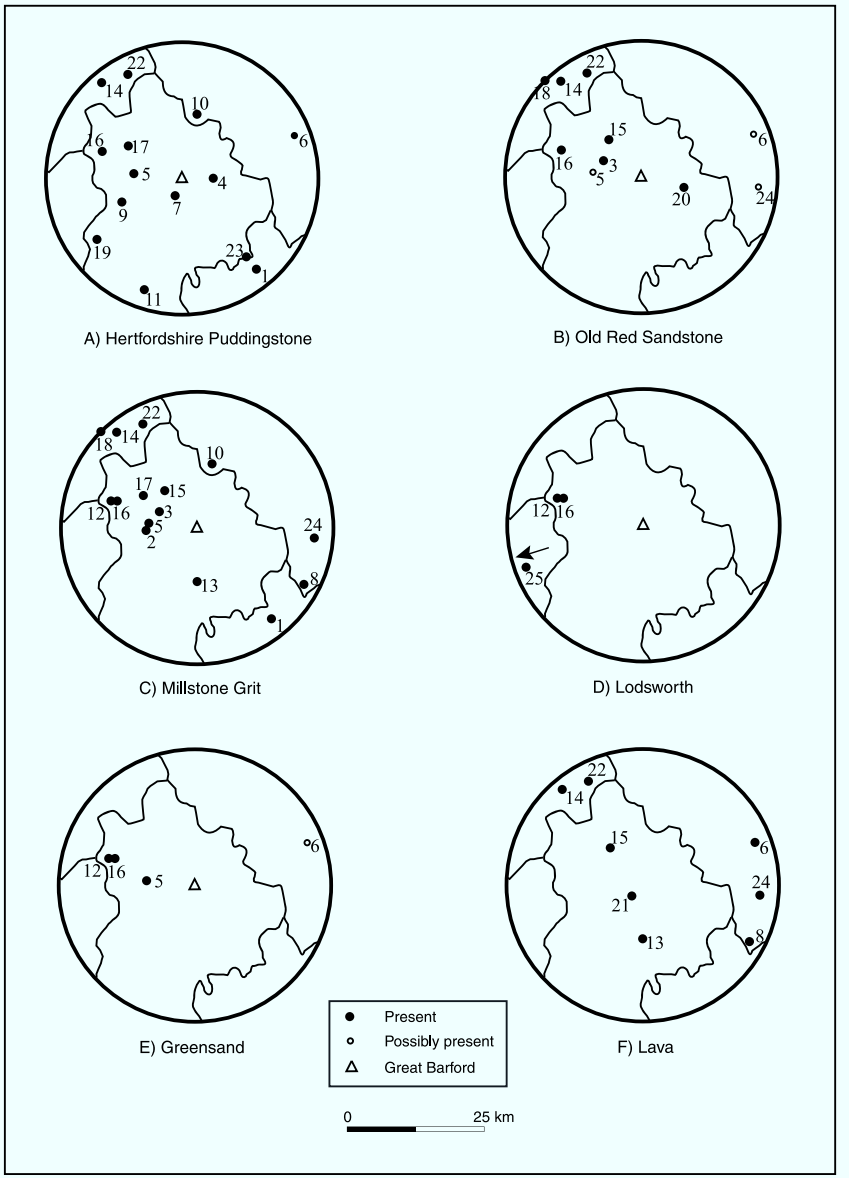

Fig. 8.17 Distribution of later Iron Age and Romano-British rotary querns within 25 km of Great Barford by stone type. See Table 8.49 for key to sites

Barford is of interest as, considering the small number of querns represented, it contains a broad range of materials from a number of sources. Millstone Grit, Old Red Sandstone, Hertfordshire Puddingstone, Greensand and Lodsworth Greensand are all present. Lava is noticeable by its absence given that it is known to have survived on some other nearby sites (Gentil 2000; Luke and Shotliff 2004). The occurrence of all six materials on later Iron Age and Romano-British sites within a radius of 25 km from Great Barford (Site 8) is shown by Table 8.49 and Figure 8.17.

Three of the rotary quern materials identified at the site are known in the region and have well understood sources (Fig. 8.17.a–c). Millstone Grit in particular is very common, and although erratics of this stone are found in the area (Edmonds and Dinham 1965, 65), the most commonly accepted source is Derbyshire. Old Red Sandstone is also commonly found in the region and has been found on nearby sites including Kempston (Dawson 2004) and Wimpole (Horton *et al*. 1994, 74) and as surface finds at Sandy and Bletsoe (Shaffrey 2006). This stone has been transported some considerable distance from its source in the Wye Valley, and the cluster of finds in Bedfordshire, Northamptonshire and Cambridgeshire are on the eastern periphery of its distribution (Shaffrey 2006). Hertfordshire Puddingstone is also commonly used, with relatively recent finds at Great Staughton (Greenfield *et al*. 1994) to add to those identified by King at nearby Blunham and Cardington (King 1980, 72).

The remaining two materials, both types of Greensand, are rather more unusual and represent contact with a further two regions. Lodsworth Greensand from Sussex is rare (Peacock 1986 and Fig. 8.17.d), with the only other recorded finds at Odell (Dix 1980) and a possible 'cherty Greensand' from adjacent Harrold (Ellis 1970, 38). No other finds of Lodsworth stone are yet recorded in the county, although occasional examples are appearing in the region with a possible find at Bancroft (Tyrell 1994, 371) and another more certain identification a little further away at Leavesden Aerodrome (Roe forthcoming). Use of other Greensands is also uncommon in this region (Fig. 8.17.e) even though they would have been suitable for use as querns (King 1980, 86). The few Greensand querns that occur are of both locally available and imported types from Kent—the Wealden Lower Greensands (King 1980, 76). The locally available Greensands are mainly ferruginous (Edmonds and Dinham 1965, 41) which suggests that the Great Barford Greensand quern was imported. A precise match has not been found, but a source in Kent seems likely. Types of Kentish Greensand have so far only been recorded in the county at Harrold and Odell, although Bromham produced a local Greensand (King 1980).

The assemblage of rotary querns includes stone from Sussex, Kent, South Wales, Derbyshire and Hertfordshire, a broad ranging number of sources matched only by the (much larger) quern assemblage from Odell (Dix 1980). This diversity is not a result of the number of different sites represented on the road scheme as the bulk of the querns are from Site 8. The range of materials indicates that there was no systematic acquisition of querns. The assemblage is too small to show how the sources changed with time, although it is worth noting that the only material from a late Roman context is the Old Red Sandstone—all the other materials are early Roman.

The geographical contacts represented may be with the individual source areas or with an intermediary distribution point. It seems most likely that the querns were acquired from a much more local source than the original quarry and a possible location for this source may have been Odell with its substantial quern assemblage and broad range of materials. Secondary distribution points have been proposed for a number of sites (Shaffrey 2006) and whether or not Odell was intended to be such, the easy availability of querns at that site would have made them ideal as gifts or for bartering. This is especially true in a region where no natural alternatives were available.

IRON AGE AND ROMAN COINS
by Paul Booth (Iron Age coin identifications by Philip de Jersey)

Forty-five Iron Age and Roman coins were recovered in the excavations, 41 of which came from Site 8. The coins were X-rayed and scanned briefly. A number were then submitted for cleaning. The level of detail achieved in the subsequent identifications even after cleaning makes it clear that many of the coins were in relatively poor condition, and some were very poor. Distinguishing between regular and irregular issues was sometimes difficult as a result of this.

A single Iron Age coin was found at each of Sites 2, 4 and 9 and have kindly been catalogued by Philip de Jersey, who comments that:

'The three coins are reasonably close in date and without knowing further details of their contexts could certainly have circulated … at the same time, probably in the last quarter of the first century BC. They are all typical finds for the region; SF 4031 stands out as being rather rarer than the other two, with only fifteen examples previously recorded'.

The Roman coins are listed in Table 8.50. Site 4 produced a single coin of late 3rd-century date. The 41 Roman coins from Site 8 date exclusively to the period from *c* AD 253 up to the end of the 4th century. The earliest identified coin here is probably an Antoninianus of Salonina (AD 253–268), while the latest pieces are a SALUS REIPUBLICAE issue, probably of Valentinian II, from Aquileia and dated 388–392, and a VICTORIA AUGGG issue of AD 388–402. Of the 41 coins 15 are certainly or probably of 4th century date and 3 are uncertain late 3rd or 4th century pieces. Thirty of the coins are from a single late Roman 'spread' 8824, which contains material covering the whole range of the coins present on the site—ie from late 3rd century to late 4th century—including the only two coins assignable to the latest coin importing period (AD 388–402).

In addition, two Roman coins were also recovered during the evaluation fieldwork from topsoil deposits at Site 1 (not listed in Table 8.50). These are reported to have comprised a coin of Constans (AE4) dating to AD 337–350 and an illegible early to mid 4th century coin (NA 2004a).

The majority of the coins are unremarkable. The Iron Age pieces are of interest and of some importance as site finds from settlement contexts. Otherwise, comment is confined to the Site 8 assemblage. At least 10 of the 15 3rd-century coins were probable or certain 'barbarous radiates', the condition of some of the other pieces making their status uncertain. One of the latter had a reverse of Victoria Aug. The obverse legend, mostly illegible, clearly begins with a C, perhaps for Carausius. The combination of this victory type with the legend Carausius Aug is recorded by RIC, but the present coin has Z in the left field of the reverse (unfortunately any other components of a mintmark are lost), not given by RIC. Only 8 of the 23 4th-century coins could be assigned to mints, but these showed a wide spread, with London, Trier, Arles, Rome, Aquileia and Thessalonica, all represented by a single coin except for Trier, from which there were three. The most striking characteristic of the assemblage from Site 8 is the relatively high proportion of late 3rd-century coins in relation to those of the 4th century. The ratio of coins of Reece's phase group B (*c* 260–294) to phase group D (330–402) is 3:4, which in broad terms puts the assemblage in a group typically dominated by urban and military sites and rarely by low status rural settlements (Reece 1991, 102–3). This issue has been considered for the region in more detail by Guest (2004), whose analysis of a number of relatively local assemblages shows that several of these, including rural settlements at Ruxox and Kempston, cluster on or near the mean ratio of phases B:D. Such a characteristic, which is shared by Great Barford Site 8, may therefore reflect one aspect of a regional pattern of coin-loss. Detailed analysis of the small coin list for Ruxox suggested that it may have been 'a particularly Romanised centre in the rural landscape' (Guest 2004, 80). It is questionable whether the number of coins (31) was sufficient to support such an interpretation and the slightly larger group from Great Barford has not been examined in this way, but the two collections have a number of similarities, the main difference being the total absence of early Roman coins from Great Barford. Overall, therefore, the coin list indicates that the Site 8 settlement correlates well with a variety (but not all) of the other sites in the region, including Ruxox, Kempston and Sandy, but the slightly above average levels of later 3rd-century coinage might suggest that the site had a higher status aspect not immediately apparent from other aspects of the record. The numbers of coins involved are, however, very small, so such a conclusion must be treated with caution.

Catalogue of Iron Age coins
by Philip de Jersey

1. Site 2, ditch 2404 (ctx 2406), SF 2005. Bronze unit, 13 mm, 1.89 g. Obverse: geometric design forming eight-pointed star around central pellet; [VERLAMIO] in between points of star.
   Reverse: bull standing left, tail curving above back. Catalogue references: Van Arsdell (1989), V1808; Hobbs (1996), BMC 1745. Recorded in the CCI as CCI 06.0105.
   The type is traditionally attributed to Tasciovanus, through stylistic links to other coinages that bear his name. Date *c* 25–0 BC.
2. Site 4, subsoil (ctx 4001), SF 4031. Bronze unit, 14 mm, 1.83 g. Obverse: wreathed head left (not visible here). Reverse: horse standing left, tail raised above back. Catalogue references: Van Arsdell (1989), V1822; Hobbs (1996), BMC 1759. Recorded in the CCI as CCI 06.0106.
   Attributed to Tasciovanus on stylistic grounds. Date *c* 25–0 BC.
3. Site 9, subsoil (ctx 9001), SF 9019. Bronze unit, 13 mm, 0.95 g. Obverse: head left (not visible here). Reverse: horse stepping left. Condition precludes a wholly certain identification, but this is most likely to be Van Arsdell (1989), V1615; Hobbs (1996), BMC 2450. Recorded in the CCI as 06.0107.
   An uninscribed type attributed by Van Arsdell to Addedomaros. This attribution is by no means certain, but it is definitely a North Thames type (centred on the territory of the Catuvellauni) and dates probably from *c* 45–20 BC.

MEDIEVAL COIN
by Martin Allen

The coin (SF 9008) is a silver penny of Edward III (1327–77), 'Florin' coinage (1344–51), type 2/I (North 1991, no. 814), London mint. Weight: 1.12 g (cracked, slightly bent, and scraped on both sides). Site 9, Ditch 9762, ctx 9749. Phase 9.1

The 'Florin' coinage was produced from January 1344 to June 1351, but most of the output of silver pennies at the London mint in this coinage occurred in 1344–45 (Challis 1992, 679–80), and this coin was probably minted in 1344. It shows some signs of wear, and it was probably deposited in the second half of the 14th century or the first half of the 15th century. Coins of this period deposited in the second half of the 15th century usually have significantly greater wear, and evidence of clipping of the edge. Pre-1351 pennies are absent from hoards deposited after 1500, and they seem to have been effectively eliminated from circulation by a recoinage of clipped coins in 1504–*c* 1506 (Allen 2005, 53).

Table 8.50: Roman coins

Site	*Context*	*Feature*	*SF*	*Date*	*Denomination*	*Reverse*	*Mint*	*Obverse*	*Reference*	*Comment*
4	4001	Subsoil	4005	late 3C	Antoninianus 18x15mm	?Standing figure		?Radiate head		Very poor
8	8001	Subsoil	8010	330-335	AE3 18mm	Victory on prow	TR·P Trier	CONSTANTINOPOLIS	LRBC1, 66	
8	8001	Subsoil	8017	?260-295	?barbarous radiate 10mm			?Radiate head		Fragmentary, very irregular
8	8001	Subsoil	8019	260-295	Antoninianus 15 mm	] AUG standing figure l, possibly Pax		Radiate head r, botched legend includes . C A . .		Irregular
8	8001	Subsoil	8266	3-4C	AE4 12 mm					Worn
8	8159	Pit 8160	8051	364-378	AE3 17 x 18 mm	Securitas Reipublicae		DNVALEN SPFAUG		
8	8458	Pit 8503	8085	253-268	Antoninianus 20 mm	? VENUS] VICTR[IX		SALONINA AUG		Reverse figure worn so type uncertain
8	8789	Ditch 8791	8095	346-350	AE2 22 x 20 mm	FEL TEMP REPA RATIO hut	R*T Rome	DNCONSTA NSPFAUG	as LRBC2, 604	
8	8824	Spread	8012	268-270	Antoninianus 16 mm	I [standing figure		]CLAUD[Claudius II		?Regular
8	8824	Spread	8024	late 3C	Antoninianus 17 mm	? IOVI V] ICTOR[I ?Jupiter l		Radiate head r		
8	8824	Spread	8023	260-295	Antoninianus 8 mm	?standing figure		Radiate head r		Irregular
8	8824	Spread	8097	260-295	Antoninianus 17 mm	?standing figure		Radiate head with part of illegible ?botched legend		Irregular
8	8824	Spread	888	260-295	Antoninianus 15 mm	Illegible		]AUG radiate head r		Irregular
8	8824	Spread	8138	260-295	Antoninianus 17 x 15 mm	Standing figure		Radiate head		Irregular, very poor
8	8824	Spread	8137	270-295	Antoninianus 15 x 14 mm			]TE[ ]SAU (Tetricus)		Irregular
8	8824	Spread	8142	270-295	Antoninianus 17 x 15 mm	Two standing figures, cf Concordia Mili type of Aurelian		?]TIS radiate head r		Irregular
8	8824	Spread	883	?260-295	Antoninianus 19 x 15 mm	Standing figure		?Radiate head r		?Irregular
8	8824	Spread	8150	?286-293	Antoninianus 21 x 19 mm	VICT ORI A [AUG Victory standing l raising wreath and holding palm	Z in l field	C[ ]AUG radiate head, poss Carausius	?cf RIC Vii, 176	Flaking
8	8824	Spread	8139	321	AE2 19 mm	BEATA TRAN QUILLITAS altar VOT IS XX	P A over PLON London	FL IUL CRISP US NOB CAES	RIC VII London, 208	
8	8824	Spread	8144	320-324	AE3 18 mm	BEATA TRAN] QU[ILLITAS altar		Head l, a Caesar		Eroded
8	8824	Spread	8013	330-335	AE4 13 mm	Gloria Exercitus 2 standards		Constantine II or Constantius II as Caesar		
8	8824	Spread	8145	330-335	AE3 17 mm	GLORIA EXERCITUS soldiers and 2 satndards		CONSTANTINUS IUN NOBC		
8	8824	Spread	8029	After 330	AE3 13.5 mm	??wolf and twins				Very worn
8	8824	Spread	8129	335-341	AE3 15 mm	GLORIA EXERCITUS 1 standard	·PTR· Trier	FL IUL CONSTANTIUS AUG	LRBC1, 108	
8	8824	Spread	8153	341-346	AE3 17 mm	VICTORIAE D]D AUGG Q NN	Dover TRP Trier	DN CON]STAN S PF AUG	LRBC I, 147	Damaged
8	8824	Spread	887	?351-3	AE3 15 mm	Two standing figures opposed, probably Victoriae dd nn aug et cae(s)		Head r		Very worn. Die axis 90 degrees
8	8824	Spread	8100	350-365	AE4 13.5 mm	?Fel Temp Reparatio fallen horseman		Head r		Irregular
8	8824	Spread	881	?350-365	AE4 9 mm					Irregular. Cut down from larger coin, just possibly late 3C
8	8824	Spread	8134	?330-365	AE4 8 mm	?Two standing figures (poss Gloria Exercitus type)		Head r		?Irregular
8	8824	Spread	8154	?330-365	AE3 17 mm	Possibly two figures		Head r		Very worn and damaged
8	8824	Spread	8146	330+	AE4 12 x 8 mm	Standing figure				Worn and very poor
8	8824	Spread	8033	364-375	AE3 17 mm	Gloria Romanorum (emperor and captive)	.C]ON Arles	?DN VALENTINIANUS PF AUG		Mint mark unclear
8	8824	Spread	8135	388-392	AE4 13 mm	SALUS] REIPUBLICAE	AQS Aquileia	?DNVALENTINI ANUS PF AUG	cf LRBC II, 805	
8	8824	Spread	8130	?388-402	AE4 12 mm	?VICTORI] A AU[GGG		Head r		
8	8824	Spread	808	?4C	AE3 15 mm					Worn flat
8	8824	Spread	884	?4C	AE3 14 mm					Worn flat and damaged
8	8824	Spread	8141	3-4C	10 mm fragment					Completely illegible
8	8824	Spread	885	?3-4C	Fragment					
8	8825	Spread	880	?260-295	Antoninianus 12 mm			?radiate head r		?Irregular
8	8825	Spread	8108	324	AE2 19 mm	DN CONSTANTINI MAX AUG, VOT XX in wreath	TSAVI Thessalonica	CONSTAN [TINUS AUG	RIC VII Thessalonica, 123	
8	10616	Ditch 10620	8108	*c* 270-275	Antoninianus 17 mm	CONSECR[ATIO altar	?Rome	DIVO CLAUDIO	as RIC V, 259	
8	10833	Ditch 10832	8245	330-337	AE3 16 mm	Wolf and twins	?Wreath, rest of mm missing	URBS] ROMA		?Irregular

METALWORK
by Chris Howard-Davies

Lead

A small assemblage of lead objects (30 fragments) was recovered from Site 8, with a single piece also recovered from Site 5. Almost all of the assemblage is likely to date to the Roman period, with the majority (76%) deriving from late Roman 'spread' 8824. The material was in fair condition, with most objects having a thin covering of white corrosion products and some of the sheet fragments showing signs of cracking. None of the objects can be independently dated, and none are illustrated.

There were three weights, two from subsoil 8001 (nos 1–2), and the third from spread 8824 (no. 3). There is no indication that they were made to a standard, and all three are perforated, suggesting that they were used as counterweights rather than as formal measure. It is possible that the example from 8824 (no 3) was a spindle whorl.

1. Weight. Conical, perforated cast weight. Fair condition, complete. L: 19 mm; Diam: 25 mm. Site 8, subsoil. SF 8015.
2. Weight. Approximately half of a cylindrical perforated weight. Fair condition, incomplete. L: 20 mm; W: 20 mm; Th: 12 mm. Site 8, subsoil. SF 8018.
3. Weight or plug. Perforated. Fair condition, complete. L: 13 mm; Diam: 19 mm. Site 8, spread 8824. SF 8030. Phase 7.2.

There is also a group of seven ties or weights of the kind that might be used to seal light net bags, or to weight fabric or cord, or for a number of other

purposes (nos 4–10). Made from tightly rolled rectangles of sheet metal, they are found on a wide range of Romano-British and later site types. All are from late Roman spread 8824.

4. Rolled tie. Made from thin sheet. Irregular edges. Fair condition, complete. L: 22 mm; W: 8 mm; Th: 4.5 mm. Site 8, spread 8824. SF 8050. Phase 7.2.
5. Large rolled tie. Cigar-shaped. Fair condition, complete. L: 36mm; W: 9 mm; Th: 5 mm. Site 8, spread 8824. SF 8120. Phase 7.2.
6. Rolled tie. One end deformed. Fair condition, complete. L: 29mm; W: 8.5 mm; Th: 4 mm. Site 8, spread 8824. SF 8122. Phase 7.2.
7. Rolled tie. Fair condition, complete. L: 44 mm; W: 7 mm; Th: 4 mm. Site 8, spread 8824. SF 8124. Phase 7.2.
8. Rolled tie. Made from very thin (*c* 0.5 mm) sheet, now opened out. Fair condition, complete. L: 17 mm; W: 14 mm; Th: 3 mm. Site 8, spread 8824. SF 8147. Phase 7.2.
9. Rolled tie. Slightly irregular and deformed. Fair condition, complete. L: 33 mm; W: 7 mm; Th: 5 mm. Site 8, spread 8824. SF 8156. Phase 7.2.
10. Rolled tie. Extensively hammered and deformed. Fair condition, complete. L: 42 mm; W: 9 mm; Th: 4 mm. Site 8, spread 8824. SF 8152. Phase 7.2.

In addition, there were three lead plugs, intended as repairs for pottery vessels. One came from Site 5 and two from Site 8. All three can be dated by the vessels they were intended to repair, and appear to be of Romano-British date, indicating that the example from Site 5 (no. 11) is residual. The very large plugs (no. 12) from Site 8 (Plate 8.5) both repaired the same large grey ware vessel dated to the later Roman period.

11. Cast plug for pottery vessel. Retains broken base of pot. Fair condition, complete. L: 28 mm; W: 28 mm; Th: 10 mm. Site 5, colluvium layer 5013. Phase 12.
12. Two very large cast plugs for a pottery vessel (Pl. 8.5). Fair condition, complete. L: 100 mm; W: 85 mm; Th: 20 mm. Site 8, gully 10089, ctx 10090. SF 8188. Phase 7.2.

The remainder of the lead from Site 8 comprised solidified drips (SFs 8016, 8021, 8037 and 8889); an irregular cast fragment (SF 8038), perhaps spillage; fragments of sheet ranging in thickness from *c* 1 mm to *c* 3 mm (SFs 8147, 8101, 8123, 8125, 8126, 8127, 8133, 8268 and 8274); and small rectangular-sectioned bars, perhaps *ad hoc* ingots (SFs 8148 and 8022). A final object in this group, not x-rayed but probably partly of iron, seems to have several elements, joined by the use of molten lead (SF 8042). Full details can be found in the archive.

Copper alloy

A small group of copper alloy objects was recovered from the excavations, with, in all, 59 fragments representing not more than 40 objects. Copper alloy objects were recovered from Sites 1 (1 fragment), 2 (15 fragments), 3 (1 fragment), 4 (8 fragments), 5 (3 fragments), 8 (26 fragments) and 9 (5 fragments), with Site 8 producing by far the largest group. The material was in poor to fair condition, with most objects having a considerable covering of powdery corrosion products, and many being fragile and incomplete as a result. Examination of several objects with recent damage suggested that in most

Plate 8.5 Site 8. Two very large cast lead plugs from Romano-British pottery vessels

instances little metal remained within the corrosion.

The majority of the objects examined could be assigned a Romano-British date, and were mainly small personal items, including brooches, a bangle, a finger ring, hairpins, and toilet implements. A small votive axe was amongst the finds from Site 8. Post-Roman finds are limited, but include a probably 9th century strap end from Site 9, and a finely-made buckle of later medieval date from Site 3.

Late Iron Age and Romano-British objects

Brooches

In all, seven brooches were found, from Sites 2, 4, 8 and 9. Where dated, all but the example from Site 9 are of late Iron Age to early Roman date, mainly spanning the period of the Roman conquest.

Sites 4 and 8 both produced Langton Down type brooches. Such brooches are thought to have Gaulish origins, probably in the Seine Valley (Hattatt 1985), and have a wide distribution in southern and eastern England, for instance at Dragonby (Olivier 1996, 244), Baldock (Stead and Rigby 1986) and Verulamium (Stead and Rigby 1989). Although occurring occasionally in pre-conquest contexts, their appearance seems to be linked to the arrival of Rome, and they continue in use into the third quarter of the first century AD (Hattatt 1985, fig. 15), perhaps going out of use around AD 60. The example from Site 4 (no. 1; Fig. 8.18.1) was found unstratified, whilst that from Site 8 (no. 2; Fig. 8.18.2) was from an early Roman context.

1. Langton Down brooch (Fig. 8.18.1). Bow eroded, part of foot and catchplate missing, pin missing. Surviving surfaces suggest reeded bow, more or less flat, with a well-defined angle between it and the spring cover. Detail of spring obscured, but probably cylindrical spring cover. Poor condition, incomplete. L: 41 mm; W: 16 mm. Late 1st century BC to 1st century AD? Site 4, unstratified. SF 4043.
2. Langton Down brooch (Fig. 8.18.2). Spring and spring cover incomplete, catch-plate and pin missing, and bow thinned and distorted. Bow reeded, with four parallel longitudinal grooves. Fair condition, incomplete. L: 56 mm; W: 19 mm; Th: 0.5 mm. Late 1st century BC to 1st century AD? Site 8, ctx 8371. SF 8081. Phase 6.1.

A single Colchester-type brooch (no. 3; Fig. 8.18.3) came from Site 2, where it was found in the fill above the burial of a neonate child within late Iron Age ditch 2500. This form, too, was current immediately before and after the conquest, *c* AD 20–75.

3. Colchester type brooch (Fig. 8.18.3). In two fragments. Spring broken but originally six turns, and catchplate absent. Fair condition, incomplete. L: 48 mm; W: 13 mm; Th: 15 mm. First century AD. Site 2, ditch 2500, ctx 2536. SF 2013. Phase 5.

Fragments of two other bow brooches, not identifiable to type, were also recovered from Sites 2 and 4 and are again likely to be of late Iron Age date (nos 4 and 5). The former was found in the upper fills of ditch 2404, along with a pair of tweezers (no. 8 below). Although insufficient remains for certainty, as the spring is missing, brooch 5 is similar to an example illustrated by Hattatt (1989, fig. 10.1457), which might identify it as a variant on the Colchester one-piece type.

4. Eleven small fragments of brooch spring and pin. Poor condition, very incomplete. No dimensions recorded. Late Iron Age? Site 2, ditch 2404, ctx 2406. SF 2008. Phase 5.
5. Possible part of bow and catchplate of brooch, now in three fragments. Faint stamped decoration on upper surface. Poor condition, incomplete. L: 39 mm; W: 5.5 mm; Th: 5 mm. First century AD? Site 4, ditch 4924, ctx 4827. SF 4040. Phase 5.

A single, well preserved penannular brooch (no. 6; Fig. 8.18.4) with a similar date range was recovered from an inhumation burial at Site 8.

6. Penannular brooch (Fig. 8.18.4). Fowler's (1960) type C. Fair condition, complete. Diam: 35 mm. First century BC to 1st century AD. Site 8, inhumation burial 8162, ctx 8164. SF 8052. Phase 6.1.

It is not possible to identify the single brooch (no. 7; Fig. 8.18.5) from Site 9 with confidence. It is reminiscent of the Hod Hill type; see for instance a damaged example from Iron Age grave 153 at King Harry Lane, Verulamium (Stead and Rigby 1989, 314 and fig. 84). As it was recovered from topsoil, however, it could well be residual from Romano-British activity in the wider vicinity.

7. Incomplete brooch (Fig. 8.18.5). Head, pin and catchplate missing. Fair condition, incomplete. L: 31 mm; W: 15 mm; Th: 3.5 mm. Site 9, topsoil (ctx 9001). SF 9020.

Other items of adornment

A finger ring of 3rd-century date (no. 8; Fig. 8.18.6) from Site 8 is a common type, Henig's type Xb (1974, 54, fig. 2), with plain D-section hoop and expanded shoulders, pinched at the junction with the bezel. The large, poorly preserved glass intaglio is set horizontally; the intaglio design cannot be identified. Such rings were of little value, and seem by the 3rd century to have been worn by a growing cross-section of the community. It would not therefore, seem out of place in a thriving rural settlement.

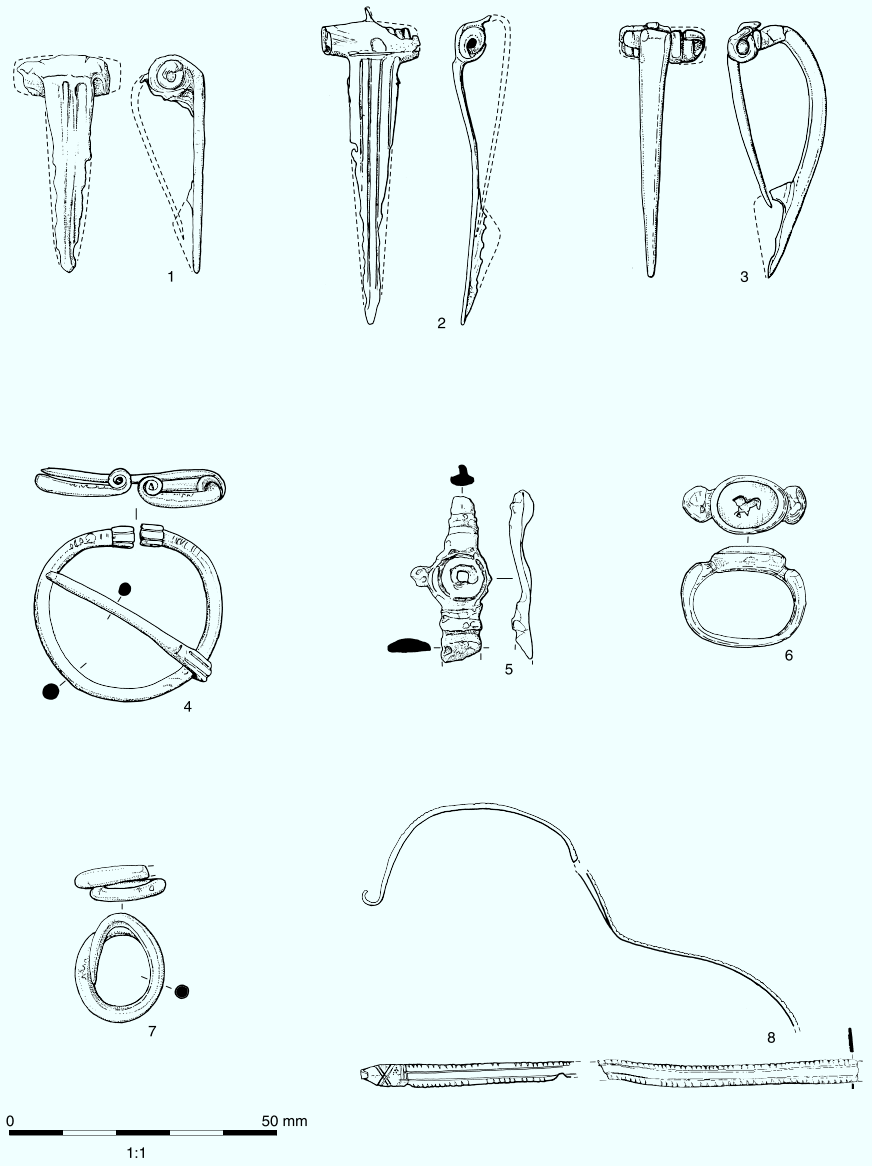

Fig. 8.18 Copper alloy objects, nos 1–8

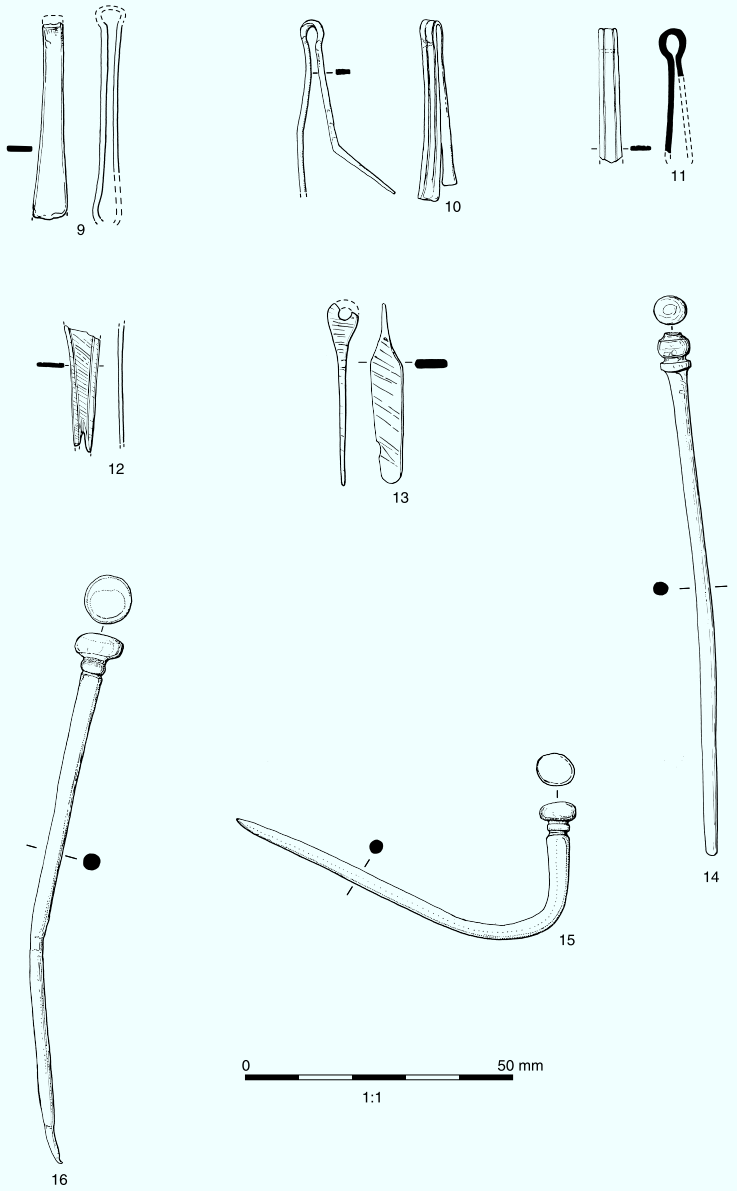

Fig. 8.19 Copper alloy objects, nos 9–16

A second possible ring from Site 4 (no. 9; Fig. 8.18.7) was made from a spiral of thick, oval-sectioned wire, although the pointed terminal of the wire raises the possibility of its being a rather ungainly earring.

8. Finger ring with flaring shoulders and a plain D-shaped hoop (Fig. 8.18.6). Oval glass intaglio (black?) with indecipherable design (possibly cockerel?). Henig's (1974) type Xb. Fair condition, complete. L: 23 mm; W: 19 mm. 3rd century AD. Site 8, spread 8824. SF 8102. Phase 7.2.
9. Wound spiral of relatively thick, round-sectioned wire (Fig. 8.18.7). The tapering point at one end raises the possibility that it was intended as an earring but it seems somewhat thick and clumsy for this identification. Fair condition, complete. Site 4, topsoil (4001). SF 4007.

A single bracelet (no. 10; Fig. 8.18.8) came from Site 5. A common type in the later Roman period, Cool (1998, 61) notes that 'copper-alloy bracelets are predominantly a late Roman phenomenon' probably indicating a 3rd- or 4th-century date for this piece.

10. Two joining fragments comprising about half of a bracelet (Fig. 8.18.8). Edges are decorated with irregular nicks bordered by two incised grooves. Saltire at terminal. Simple hooked clasp. Cf Crummy (1983, 38, fig. 43). Good condition, incomplete. L: 101 mm; W: 4 mm; Th: 0.75 mm. 3rd century AD or later. Site 5, medieval colluvial layer 5013. SF 5012.

Toilet implements

These are the most common copper alloy items recovered during the excavations. All five examples (three pairs of tweezers and two nail cleaners) are small enough to have been from chatelaine sets, carried about the person. Appearing in the late Iron Age and increasing in popularity during the 1st and 2nd centuries AD, it has been suggested that chatelaine sets are to some extent an indicator of personal status (Crummy and Eckhardt 2003, 48). They imply that the owners had sufficient time for personal grooming, and that appearance and cleanliness had a growing significance. It is perhaps of interest that the distribution of these objects seems to show a bias towards rural sites (Eckhardt 2005, 146), perhaps reflecting the stronger continuance of late Iron Age social patterns away from urban centres.

The tweezers (nos 11–13; Fig. 8.19.9–11) are all similar in appearance, being narrow and almost straight-sided, turning inwards slightly at the tip. All are decorated with marginal lines. The nail cleaners (nos 14 and 15; Fig. 8.19.12–13) both fall into Crummy's (1983) type 2a, which she dates to the mid to late 1st and 2nd centuries. The tweezers from Site 2 (no. 11) are from the same context as brooch no. 4, an upper fill of late Iron Age ditch 2404. At Site 8, tweezers no. 13 and nail cleaner no. 15—presumably from the same chatelaine set—were found together in inhumation burial 8104, along with penannular brooch no. 6 (see above).

11. Arms from tweezers, loop missing (Fig. 8.19.9). Flaring and slightly inward-pointing ends. Fair condition, incomplete. L: 37 mm; W: 6 mm; Th: 0.5 mm. Site 2, ditch 2404, ctx 2406. SF 2006. Phase 5.
12. Small pair of tweezers, probably from chatelaine set (Fig. 8.19.10). Made from strip with two marginal lines, flaring slightly to a blunt tip. Good condition, almost complete. L: 36 mm; W: 2.5 mm; Th: 0.75 mm. Site 8, ditch 10678, ctx 10658. SF 8241. Roman period.
13. Joining fragments of loop and arms of tweezers (Fig. 8.19.11). Decorated with two marginal lines. Fair condition, very incomplete. L: 18 mm; W: 5 mm; Th: 0.75 mm. Site 8, inhumation burial 8162, ctx 8164. SF 8053. Phase 6.1.
14. Nail cleaner (Fig. 8.19.12). Bifurcated tip of Crummy (1983) type 2a nail cleaner with a single groove along both edges. Good condition, incomplete. L: 18mm; W: 6.5 mm; Th: 0.75 mm. Mid to late 1st–2nd century AD. Site 4, topsoil (4001). SF 4030.
15. Chatelaine element, probably nail cleaner but incomplete (Fig. 8.19.13). Tip missing and suspension loop incomplete. Heavily filed, with numerous parallel grooves. Crummy (1983) type 2a. Fair condition, incomplete. L: 34 mm; W: 6 mm; Th: 0.5 mm. Mid to late 1st–2nd century AD. Site 8, inhumation burial 8162, ctx 8164. SF 8054. Phase 6.1.

Hairpins

Three hairpins (nos 16–18; Fig. 8.19.14–16) were recovered from Site 8. All are common types, their length reflecting the more complex hairstyles of the earlier Roman period (Allason-Jones 1989, 137) rather than those of the 3rd and 4th centuries, when hair was worn tighter to the head.

16. Hairpin with spherical head above a pronounced bead, point missing (Fig. 8.19.14). A round, iron-filled socket in the head might imply that it lacks a further element. Fair condition, almost complete. L: 99 mm; Diam head: 5 mm. Site 8, ditch 8297, ctx 8286. SF 8079. Phase 6.
17. Complete but bent hairpin with flattened round head above a slight collar (Fig. 8.19.15). Crummy (1983) type 5. Fair condition, complete. L: 85 mm; Diam: 6.5 mm. 2nd century AD. Site 8, ditch 10077, ctx 10078. SF 8167. Roman period.

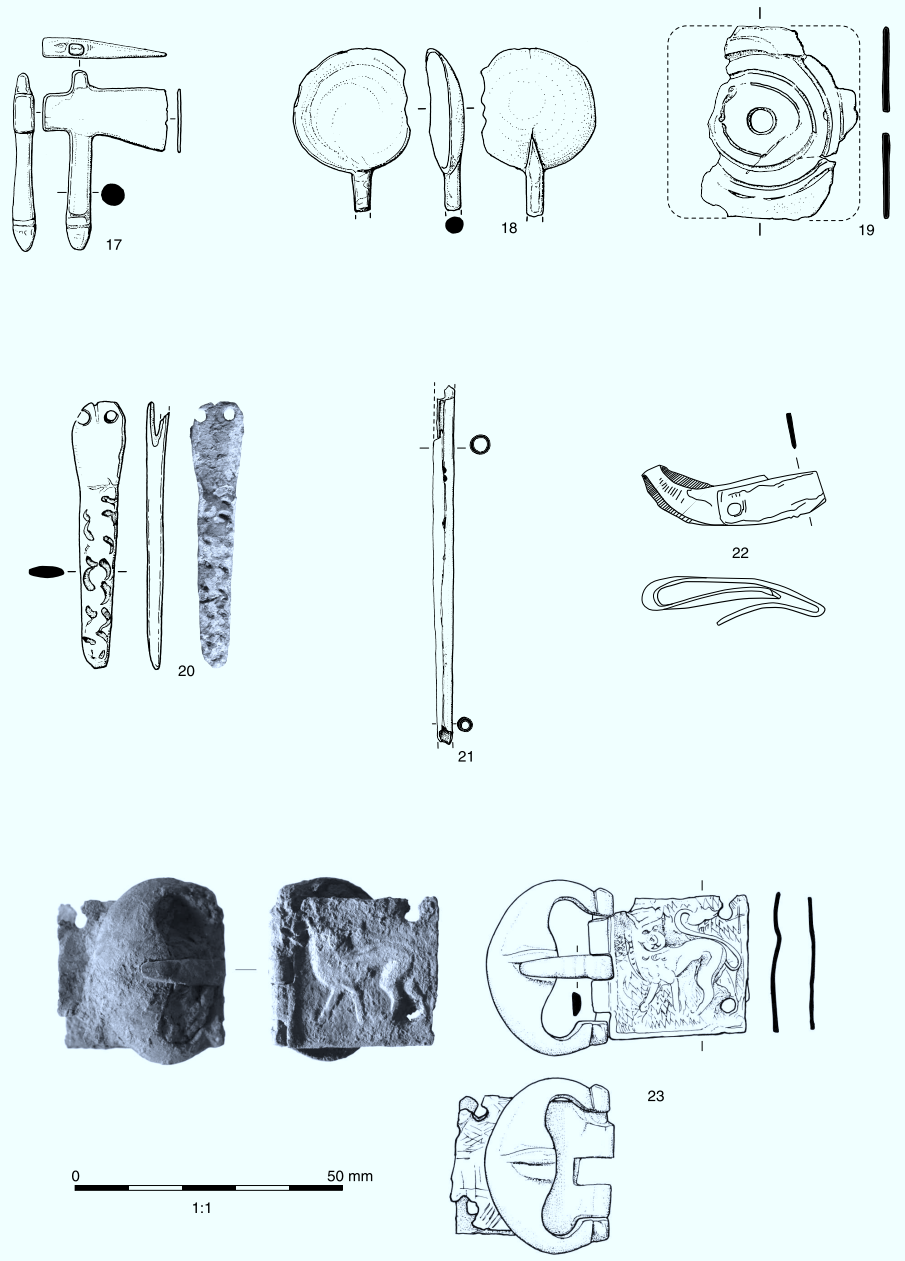

Fig. 8.20 Copper alloy objects, nos 17–23

18. Complete hairpin with flattened round head above a slight collar (Fig. 8.19.16). Crummy (1983) type 5. Good condition, complete. L: 99 mm; Diam: 8 mm. 2nd century AD. Site 8, ditch 10816, ctx 10270. SF 8189. Phase 6.2.

A small model axe (no. 19; Fig. 8.20.17), presumably votive, was also recovered from Site 8. Little is known of the use or significance of these items, and their dating is unclear (Green 1976, 60). A 3rd-century example from the settlement at King Harry Lane, Verulamium (Stead and Rigby 1989, fig. 16.136) was amongst an assemblage of metalwork very similar to that from Site 8. The Great Barford example came from a late Roman context.

19. Complete miniature axe (Fig. 8.20.17). Only slight damage at blade. Good condition, complete. L: 34mm; W: 23.5 mm; Th: 3.5 mm; Diam shaft: 4.5 mm. Site 8, spread 8824. SF 8136. Phase 7.2.

Only one other recognisably Roman object was noted, again from Site 8, being a spoon with a round bowl (no. 20; Fig. 8.20.18), probably dating to the mid-late 1st or 2nd century.

20. Spoon with round bowl (Fig. 8.20.18). Handle missing, broken close to bowl. Crummy (1983) type 1. Fair condition, incomplete. L: 31 mm; Diam bowl: 22 mm; Th: 0.5 mm; Diam handle: 2.5 mm. Mid-late 1st–2nd century. Site 8, ditch 8459, ctx 8461. SF 8086. Phase 6.

Miscellanea

Two further objects, of no recognisable purpose, came from Site 8 (nos 21 and 22). Three fragments of strip (SF 8014, SF 8026 and SF 8143) and five amorphous fragments (SF 8045, SF 886, SF 8121, SF 8128 and SF 8155) were also recovered from late Roman spread 8824.

21. Plain round-sectioned ring. Fair condition, complete. Th: 3.5 mm; Diam: 27.5 mm. Site 8, spread 8824. SF 8025. Phase 7.2.
22. Incomplete decorated, perforated sheet (edges battered) with a central perforation and a series of three concentric grooves (Fig. 8.20.19). Fair condition, incomplete. L: 65 mm; W: 63 mm; Th: 0.5 mm. Site 8, spread 8824. SF 8149. Phase 7.2.

Saxon and medieval objects

A distinctive strap end, probably of late Anglo-Saxon date (Phase 8.3), came from Site 9 (no. 24; Fig. 8.20.20). It is not obviously zoomorphic in nature, but might represent one of the much-debased versions characteristic of the 9th century (Haddenby 1992, 26), a date range supported by the rounded tip of the strap end and reflected by that of pottery from the same context. These are a well-known type, seen at a number of important sites, including York and Whitby (Rogers 1993, 1350–3).

23. Tongue-shaped strap end (Fig. 8.20.20). Broken in two but probably complete. Irregular punched decoration along both edges on the 'outer' side. Two holes for attachment. Fair condition, almost complete. L: 51 mm; W: 9.5 mm; Th: 3 mm. Site 9, Structure 9150, posthole 9165, ctx 9166. SF 9001. Phase 8.3.

Other finds from Site 9 are largely undiagnostic, comprising a folded length of binding from Phase 8.3 structure 9860 (no. 25), a fragment of sheet from Phase 8.3 pit 9490 (SF 9002), and a small spherical-headed pin from the topsoil. None of these items can be dated. A possible medieval aglet or lace tag (no. 25) was recovered from the topsoil of Site 4. For full descriptions of the fragments see the site archive.

24. Tube or pin made from rolled sheet (Fig. 8.20.21). Tapers towards both ends, which are missing. Possibly a medieval aglet or lace tag. Good condition, incomplete. L: 68 mm; Diam: 4 mm. Site 4, topsoil (4001). SF 4006.
25. Folded length of binding with the ends riveted together to make a loop 35 mm across (Fig. 8.20.22). W: 7–8 mm. Site 9, Structure 9860, posthole 9859, ctx 9858. SF 9007. Phase 8.3.

A single later medieval buckle in good condition (no. 26; Fig. 8.20.23) was the only fine metalwork from Site 3. This can be identified as a relatively high quality oval buckle with a decorative embossed buckle plate, perhaps bearing the image of a lion. Similar examples from London are decorated with a lion *passant regardant*, and examples from elsewhere have them *passant gardant* (Egan and Pritchard 1991, 81–2, no. 500; Margeson 1985, 204–5, no. 8), suggesting an established type. The style was in vogue during the mid-14th century, although it is possible that some examples are earlier. A similar example from King's Lynn, showing a centaur rather than a lion (Clarke and Carter 1977, 287 and fig. 130.7), was from a 13th-century context. The only object from Site 5 was a possible buckle pin (no. 27).

26. D-shaped medieval buckle with plate (Fig. 8.20.23). The plate has an embossed and engraved decoration of a ?lion looking back over its shoulder, set within a raised rectangular border. Good condition, almost complete. L: 29 mm; W: 32 mm. *Floruit* mid-14th century. Site 3, spread 3341. SF 3012. Phase 9.2
27. Small square-sectioned pin, opened-out loop suggests buckle pin. Fair condition, almost complete. L: 16 mm; W: 3.5 mm; Th: 1.5 mm. Site 5, pit 5190, ctx 5197. SF 5008. Phase 9.1

Iron

A total of 370 fragments of iron were recovered, representing not more than 343 objects. Every fragment of iron was x-rayed and all identifications were made with reference to the x-radiographs. Almost half of the fragments were nails (184 fragments, 49%) and another 88 (23.5%) were unidentifiable fragments, often very small (<15 mm maximum dimension). Ironwork was recovered from Sites 1 (14 fragments), 2 (65 fragments), 3 (10 fragments), 4 (37 fragments), 5 (19 fragments), 8 (217 fragments), and 9 (8 fragments). As was the case with other metals, Site 8 produced by far the largest group of ironwork. On the whole the material was in poor condition, with most objects having a thick coating of corrosion products and other concretions.

Middle and late Iron Age objects

Only three recognisable iron objects were recovered from Iron Age contexts, all at Site 2. The most notable find was a latch-lifter from the back-fill deposit within ditch 2742 (no. 1; Fig. 8.21.24). This deposit is dated to the latter stages of the middle Iron Age (2nd century BC to early 1st century AD). Latch-lifters such as this first appear in Britain in the middle to late Iron Age (Manning 1985, 88); at Danebury, Hants, they appear to have been introduced by the later middle Iron Age (Cunliffe and Poole 1991b, 353), matching the dating evidence from Great Barford. Two objects were recovered from late Iron Age contexts at Site 2, namely a fragment of a blade (no. 2) and a loop-headed pin or spike (no. 3; Fig. 8.21.25). The latter object can be paralleled at Skeleton Green, Herts (Partridge 1981, fig. 61.77–9).

1. Curved latch-lifter (Fig. 8.21.24). Poor condition, incomplete. L: 167mm; W: 37 mm. Site 2, ditch 2742, ctx 2009. SF 2000. Phase 4.
2. Blade fragment, whittle tang slightly offset from back. Poor condition, incomplete. L: 86 mm; W: 18 mm. Site 2, ditch 2759, ctx 2668. SF 2023. Phase 5.
3. Slender loop-headed pin or spike (Fig. 8.21.25). Condition fair, incomplete. L: 72mm; W: 8 mm. Site 2, ditch 2749, ctx 2980. SF 2022. Phase 5.

Romano-British objects

Nails

Hand-forged nails, typically of square section and with a flat round head, were recovered from a range of contexts. Most are incomplete, but appear to fall into a range between *c* 30 mm and *c* 90 mm in length, with only two exceeding 100 mm. Several nails from Site 4 (ctx 4343) had unusually large heads, some 22 mm in diameter, in contrast to the majority, which range from *c* 10 mm to *c* 16 mm in diameter. Few are obviously clenched and thus it is not possible to comment on the thickness of wood through which they were driven. The distribution of nails between the sites is presented below in Table 8.51. Only Sites 4 and 8 stand out as having relatively large numbers, and presumably the size of the group from Site 8 in part reflects the longevity of the site.

Little can be made of the distribution of nails from any of the sites, even Site 8, where most were found singly in contexts spread over the chronological range of the site. Only four contexts produced in excess of five nails: ditch 10818 (8), spread 10378 (19), pit 10467 (10), and subsoil 10928 (6), perhaps suggesting small nailed structures. It is clear that nails were not used extensively in the structures on the site, and the presence of clenched examples probably means that they were not reclaimed from defunct buildings.

Other structural components

Site 8 produced a large carpenter's dog (no. 4), intended to join substantial timbers, and a smaller holdfast (no. 5).

4. Large, short-armed carpenter's dog. Poor condition, incomplete. L: 104 mm; W: 40 mm. Site 8, posthole 8907, ctx 8906. SF 8161. Unphased.
5. Holdfast? Probably complete. T-shaped holdfast. Poor condition, complete. L: 65 mm; W: 27 mm. Site 8, ditch 10818, ctx 8230. SF 8077. Phase 6.

Double-armed split pins (nos 6–9) were found in three Site 8 contexts. Driven into wood, they were used largely for suspension. A fifth loop (no. 10), somewhat more elongated, came from the topsoil.

6. Head loop and arms of split pin, not clenched. Poor condition, incomplete. L: 38 mm; W: 18 mm; Th: 7 mm. Site 8, ditch 10744, ctx 8380. Phase 6.2.
7. Split pin. Arms only. Poor condition, incomplete. L: 46 mm. Site 8, ditch 10744, ctx 8380. Phase 6.2.

Table 8.51: Distribution of iron nails between sites

Site	*No. of nails*
Site 1	8
Site 2	8
Site 3	4
Site 4	36
Site 5	8
Site 8	106
Site 9	8
Total	178

8. Double-armed loop, clenched at *c* 47 mm. Poor condition, incomplete. L: 50 mm; W: 8.5 mm. Site 8, layer 8825. SF 8106. Phase 7.2.
9. Equal-armed loop, clenched. Head loop missing. Poor condition, incomplete. L: 30 mm. Site 8, pit 10467. SF 8225. Phase 7.2.
10. Elongated loop with rectangular section (in two fragments). Poor condition, incomplete. L: 70 mm; W: 25 mm. Site 8, topsoil (8001). SF 8272.

In addition, there were two fragments of hinges (nos 11–12), presumably used for doors or shutters, but possibly from furniture or large chests. A wall hook (no. 13) was also recovered.

11. Small plate with hooked end. Possible hinge. Poor condition, incomplete. L: 43mm; W: 20 mm. Site 8, topsoil (8001). SF 8264.
12. Looped hinge. Poor condition, incomplete. L: 148 mm; W: 32mm. Site 8, gully 10821, ctx

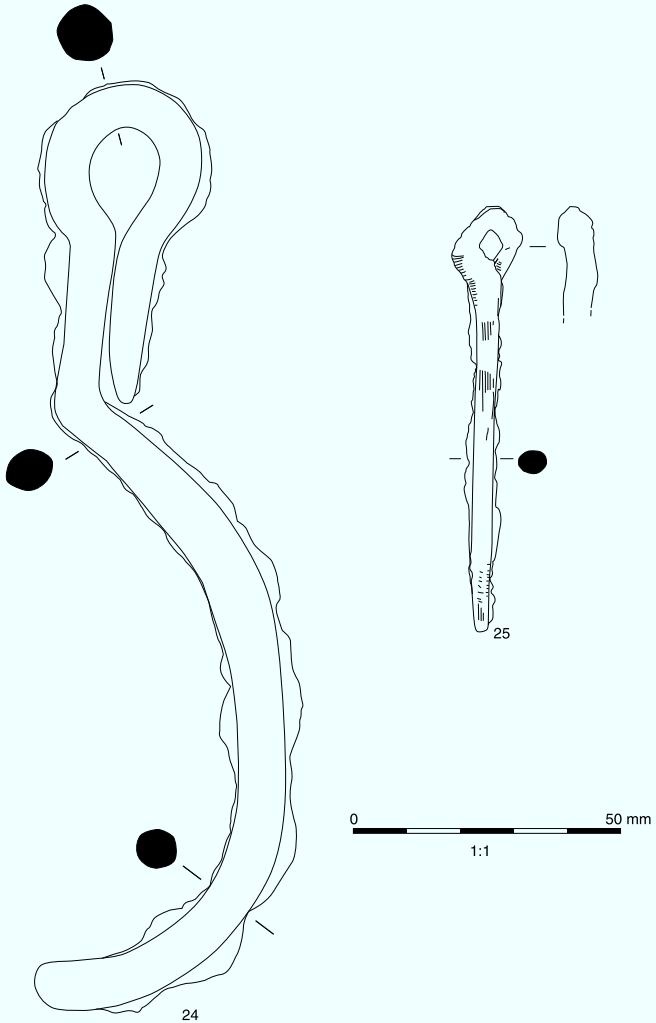

Fig. 8.21 Iron objects

8621. SF 8089. Phase 7.1.
13. Wall hook with two holes for suspension. Poor condition, incomplete. L: 57 mm; W: 16 mm. Site 8, ditch 10875, ctx 8821. SF 8096. Phase 6.1.

Hobnails

Seventeen typically Roman hobnails were recovered from six contexts at Site 8 (pit 8136, ditch 8339, pit 8806, ditch 10595, ditch 10819 and subsoil layer 10928). There is as yet no evidence to suggest that hobnails were used to reinforce footwear before the arrival of Rome, so they presumably reflect a small degree of Romanisation, although the numbers from Site 8 barely represent a single pair of shoes.

Knives

A small number of knife blades were recognised (nos 14–17). Where the sufficient survived for identification, all were small whittle-tanged blades. These are common, day-to-day objects, used for a number of purposes.

14. Two small fragments, possibly tip of a blade. Poor condition, incomplete. No relevant dimensions survive. Site 1, ditch 1399, ctx 1348. SF 1014. Phase 6.2.
15. Possible tang and part of blade of whittle-tanged knife. Poor condition, incomplete. L: 42 mm; W: 15 mm. Site 8, pit 10096, ctx 8948. SF 8172. Phase 7.2.
16. Whittle-tanged blade? Tang continues line of back. Poor condition, incomplete. L: 135 mm; W: 22 mm. Site 8, ditch 10908, ctx 10038. SF 10000. Roman period.
17. Possible blade fragment. Poor condition, incomplete. L: 55 mm; W: 20 mm. Site 8, ditch 10816, ctx 10435. SF 8297. Phase 6.

Other objects

The only further artefact from Site 1 was a rectangular-sectioned ring (no. 18). From Site 8, a tight spiral of rectangular-sectioned bar (no. 19) is probably the ferrule of a typical Romano-British ox-goad. A swivel (no. 20) was probably intended for suspension, possibly of something like lifting gear. Other recognisable objects comprise a possible lynchpin (no. 21) and a hoe-like socketed tool (no. 22; see Manning 1985, 49, pl 20.F17 for a similar example).

18. Rectangular-sectioned ring. Poor condition, almost complete. Diam head: 23mm; Th: 8 mm. Site 1, ditch 1445, ctx 1437. SF 1024. Roman period.
19. Spiral of rectangular-sectioned bar. Probably an ox-goad. Poor condition, incomplete. L: 17 mm; Diam: 13 mm. Site 8, ditch 8704, ctx 8705. Phase 6.
20. Looped swivel which passes through a perforated U-shaped strap. Poor condition, incomplete. L: 75 mm; W: 50 mm. Site 8, ditch 10744, ctx 8379. Phase 7.2.
21. Large pin with one end flattened. Possibly a lynchpin, but not of usual form. Poor condition, incomplete. L: 99 mm; W: 22 mm. Site 8, cobble spread 10378. SF 8256. Phase 7.2.
22. Flat, hoe-like tool with open socket. Poor condition, almost complete? L: 78 mm; W: 50 mm; Diam head: 32 mm. Site 8, pit 8838, ctx 8909. SF 8168. Phase 6.

Saxon and medieval objects

A small blade (no. 23) from posthole 9385 (Phase 8.2) at Site 9 cannot be dated with precision, but seems likely to be earlier medieval. A second object (no. 24) from the same context seems to be a blade with a markedly angled back, typical of the same period. In x-ray, however, there appears to be a row of small holes running along the line of the back of the blade, which might challenge this identification.

23. Small whittle-tanged blade with angled back, whittle more or less in line with back. Blade length 83 mm. Poor condition, complete. L: 85mm; W: 17 mm; Th: 3 mm. Site 9, posthole 9385, ctx 9386. SF 9005. Phase 8.2.
24. Long thin object with angled back. Probably a blade, but x-ray seems to suggest that it is perforated. Poor condition, incomplete. L: 81 mm; W: 18 mm. Site 9, posthole 9385, ctx 9386. SF 9006. Phase 8.2.

It is likely that the long narrow triangular blade (no. 25) from Site 3 is considerably later in date. This blade shape was common throughout much of the later medieval period, not losing popularity until the 15th century (Cowgill *et al*. 1987, 25).

25. Narrow, triangular blade, whittle-tang in line with back. No obvious maker's mark, but flecks of copper alloy on the x-ray plate could mark its former position. Condition fair, almost complete. L: 140 mm; W: 14 mm. Site 3, pond 3154, ctx 3151. SF 3004. Phase 10.

Horseshoes or horseshoe nails came from Sites 3, 5, and 8. Those from Site 8 (nos 26 and 27) came from late Roman spread 8824, which appears to be somewhat mixed in date and thus their dating remains uncertain. The fragments are small, but it is not impossible that they are Roman in origin. The use of nailed horseshoes during the Roman period is a matter of continuing debate, with some authors confident that on occasion Roman horses were shod (Manning 1995, 42) whilst others are equally confident that the use of nailed iron shoes is a post-Roman phenomenon (Clark 1995, 78–9). The horseshoe fragments from Site 3 (no. 28) can be confidently identified as medieval, probably of 13th to 14th-century date. A small number of horseshoe nails came from Site 5 and probably date to the same period or later (nos 29 and 30).

26. Small fragments of a horseshoe with rectangular nail hole. Poor condition, incomplete. L: 31 mm; W: 23 mm. Site 8, spread 8824. SF 8027. Phase 7.2.
27. Fragment, curvature suggests horseshoe? Poor condition, incomplete. L: 45 mm; W: 20 mm. Site 8, spread 8824. SF 8048. Phase 7.2.
28. Two fragments of heavily worn horseshoe, Clark's (1995) type 3. Web *c* 28 mm wide. Probably one calkin. Condition fair, almost complete. L: 95 mm; W: 93 mm. 13–14th century. Site 3, pit 3216, ctx 3190. SF 3008. Phase 9.2.
29. Two horseshoe nails. Both same length, both clenched. Poor condition, complete. L: 27 mm; Diam head: 8 mm. Medieval. Site 5, pit 5036, ctx 5037. SF 5000. Phase 9.1.
30. Fiddle-key horseshoe nail? Poor condition, incomplete. L: 20 mm; W: 10 mm Medieval. Site 5, pit 5036, ctx 5037. SF 5002. Phase 9.1.

Although fragmentary, what appears to be part of a rowel spur (no. 31) was recovered from Site 3. Rowel spurs were introduced in the 13th century, but did not become the dominant form of spur before the second quarter of the 14th century (Ellis 1995, 129), reflecting the dating of horseshoe no. 28 from the same site.

31. One arm and neck of rowel spur? Poor condition, incomplete. L: 130 mm. 13th century onwards. Site 3, layer 3494. SF 3013. Phase 9.2.

Unidentifiable fragments

Inevitably a large proportion of the ironwork recovered remains unidentifiable. This material is not discussed in this report, but more detail can be found in the site archive. The group comprises mainly small fragments of sheet metal, round-sectioned rods and square or rectangular-sectioned bars. Such material was recovered from Sites 2 (46 fragments), 3 (two fragments), 4 (2 fragments), 5 (7 fragments), 6 (1 fragment), 8 (67 fragments), and 9 (2 fragments).

WORKED BONE
by Chris Howard-Davies

A small assemblage of 10 worked bone objects was recovered. The group represents a small but disparate range of relatively common domestic objects, several of them utilising barely modified bones. Most are well preserved.

Late Iron Age objects

Five worked bone objects were recovered from Site 2; all can be placed within the late Iron Age (Phase 5) on stratigraphic grounds, but none are independently dateable artefact types. Two (nos 1–2) are simple bobbins, made by boring a single hole through the shaft of metapodials. These first appear in Iron Age contexts, continuing in use well into the medieval period; neither is illustrated. A third metapodial (no. 3) is unmodified but appears worn to a high polish, presumably by use. It has been suggested elsewhere that objects of this kind were either bobbins for yarn (Sellwood 1984, 392) or were used with a loom (Britnell 2000, 186). A large group of these distinctive objects has recently been recovered from an early Iron Age pit at Fairfield Park, Stotfold, Beds (Allen and Webley forthcoming). A fourth metapodial (no. 4), broken across the shaft, appears to have a central core of a hard substance (not bone), which might imply modification; neither is illustrated. Object 5 cannot be identified with certainty, but is most likely to be a toggle of some sort (Fig. 8.22.26). Although bearing some similarity to Roman bone hinge elements, its early date, rough finish and broadly square section suggests that it is unlikely to be part of a hinge assemblage, as these are normally made from turned longbones.

1. Bobbin. Midshaft fragment, sheep metapodial. Outer edge of bored hole survives at the break, suggesting its use as a bobbin. Good condition, very incomplete. L: 61mm. Site 2, ditch 2749, ctx 2561. Phase 5.
2. Bobbin. Broken sheep metapodial with hole bored in the centre of the shaft. Good condition, incomplete. L: 90 mm. Site 2, ditch 2749, ctx 2982. Phase 5.
3. Weaving tool. Unmodified sheep? metapodial. Polishing mid-shaft suggests utilisation. Good condition, complete. L: 125 mm. Site 2, ditch 20027, ctx 20030. Phase 5.
4. Metapodial fragment. Apparently unmodified, although there appears to be a central core of an unidentified introduced material (not bone). Good condition, incomplete. L: 43 mm. Site 2, ditch 2750, ctx 20010. Phase 5.
5. Toggle (Fig. 8.22.26). Made by boring two (or possibly three) holes, each *c* 7 mm diameter, through a fragment of ?antler cut square at both ends. Good condition, almost complete but fragmentary. L: 59 mm; W: 34 m; Th: 23 mm. Site 2, pit 2634, ctx 2636. Phase 5.

Romano-British objects

Only one of the three objects from Site 8 can be dated to the Roman period with certainty, being a small spherical-headed hairpin (no. 6, Fig. 8.22.27) of common form (Crummy 1983, 22–3, fig. 19), from cobble spread 10378. These pins have been dated to after AD 200 by Crummy, on the basis of finds from Colchester, but it is possible that elsewhere, for instance London, they are in use by the mid 2nd century (MacGregor 1985, 87). Other fragments from Site 8, a piece of knife-trimmed antler (no. 7), and a broken rib-bone (no. 8), possibly modified, cannot be dated. Neither is illustrated.

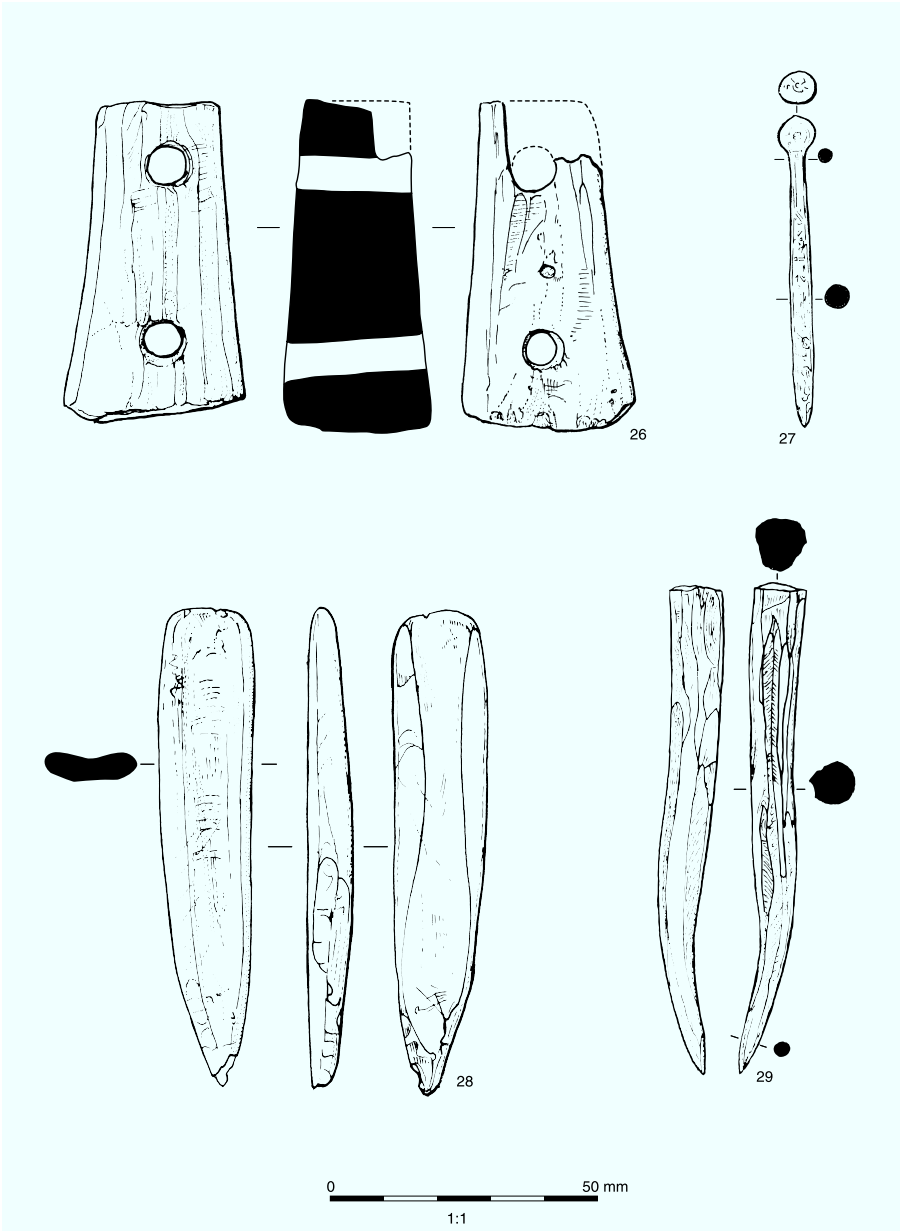

Fig. 8.22 Worked bone objects

6. Hairpin (Fig. 8.22.27). Short bone pin with spherical head. Centre of shaft slightly swollen. Crummy type 3A. Good condition, complete. L: 59 mm; W: 3.5 mm. After mid 2nd century? Site 8, cobble spread 10378. SF 8216. Phase 7.2.
7. Antler point. Fragment of antler tine, broken at both ends. Narrower end worked to a point with numerous narrow knife cuts, tip missing. Fair condition, almost complete. L: 61 mm; W: 18 mm; Th: 18 mm. Site 8, gully 10745, ctx 8905. SF 8186. Roman
8. Worked rib. Rib with cutmarks and possibly broken to a deliberate point. Good condition, incomplete. L: 89 mm; W: 22 mm; Th: 5 mm. Site 8, ditch 10048, ctx 10149. Phase 7.2.

Saxon and medieval objects

Two objects can be dated to the medieval period on stratigraphic grounds. Both seem likely to have been associated with domestic-scale textile production. An antler point from a Phase 8.3 context at Site 9 (no. 10, Fig. 8.22.29) is probably an awl or similar tool. It is not possible to assign a particular use to objects such as this, but the smooth surfaces perhaps point to its use in textile production (MacGregor 1985, 174). The other object (no. 9, Fig. 8.22.28), from a Phase 9.1 context at Site 5, is a pin beater used to beat down the weft in weaving (MacGregor 1985, 188 and fig. 101.17). This example, with a point at one end only, is a type closely associated with late Anglo-Saxon or Viking activity in York. MacGregor (1985, 188) suggests that it might have been associated with a specific type of textile, although it is quite possible, with such a simple form, that it was used for a number of purposes.

9. Pin beater (Fig. 8.22.28). Very worn and polished bone point (tip missing) made from a longbone fragment. Fair condition, almost complete. L: 89 mm; W: 16.5 mm; Th: 8.5 mm. Site 5, ditch 5275, ctx 5142. SF 5003. Phase 9.1.
10. Antler point (Fig. 8.22.29). Carefully made and polished antler point (awl?) with subtriangular section. Cut from tine, with knife-trimmed surfaces. Good condition, complete. L: 93mm; W: 10 mm; Th: 9 mm. Site 9, pit 9490, ctx 9491. SF 9004. Phase 8.3.

ROMAN VESSEL GLASS
by Chris Howard-Davies

The assemblage of Roman vessel glass was small, with only seven fragments recovered from Sites 1 (4 fragments) and 8 (3 fragments). What little was recovered, however, was in good to excellent in condition, suggesting that burial circumstances were conducive to its survival.

The fragments from Site 1 (ditch 1105, ctx 1028) represent the base of a small free-blown vessel in a pale-greenish natural metal. Those from Site 8 comprise an extremely small fragment of very thin colourless blown vessel glass from Phase 6 cremation 8103 (ctx 8127, SF 8020) and two joining fragments of a thin-walled mould-blown prismatic bottle in pale bluish bubbly metal from Phase 7 ditch 10097 (ctx 10098). The poor quality of the glass from ditch 10097 may suggest a 3rd century or later date.

SLAG
by Lynne Keys

A slag assemblage weighing 16.23 kg was recovered during excavation (Table 8.52); although some slag was found in soil samples, most had been recovered by hand. The assemblage was visually examined and categorised on the basis of morphology alone. Each slag type in each context was weighed; smithing hearth bottoms were weighed individually and measured to obtain their dimensions for statistical purposes. Additionally a magnet was run through the soil in bags to detect micro-slags such as hammerscale.

Table 8.52: Quantification of slag assemblage (weights in g)

Phase	*4 (MIA)*		*5 (LIA)*		*6 (E Rom)*		*6-7 (Rom)*	*7 (L Rom)*	*9 (Sax)*	*10 (Med)*	*11 (Med)*	*Unstratified*	
Site	2	6	2	4	4	8	8	8	9	5	5	5	8
Smithing hearth bottoms	-	-	-	-	-	704	-	850	-	3498	1176	-	646
Flake hammerscale	<1	-	-	-	-	-	-	-	-	-	-	-	-
Run slag	58	-	-	-	-	-	-	52	-	-	-	-	-
Iron-rich slag	40	-	-	-	-	-	-	-	-	-	-	-	-
Raked slag	-	-	-	-	-	-	-	-	-	246	-	-	-
Magnetic	864	-	-	-	-	-	-	-	-	-	-	-	-
Vitrified hearth lining	4	-	6	2	-	-	4	2	-	446	84	12	-
Cinder	26	-	16	1	-	-	13	-	-	126	84	-	-
Fuel ash slag	106	-	320	-	1	-	-	20	26	1	-	-	2
Undiagnostic	58	14	94	36	50	267	89	566	-	5024	440	34	122
Total	1156	14	436	39	51	971	106	1490	26	9341	1784	46	770

Description and catalogue

Some types of iron slag are diagnostic of smelting or smithing, while others are not. Slag described as undiagnostic could have been produced by either process or is diagnostic slag broken up during deposition, redeposition or excavation. Other types of debris sometimes encountered in the slag assemblage may be the result of a variety of high temperature activities—including domestic fires—and cannot be taken on their own to indicate ironworking was taking place. These include fired clay, vitrified hearth lining, cinder, and fuel ash slag.

The diagnostic slags from all sites are those produced by smithing activity, the hot working of an iron shape by a smith to turn it into a utilitarian object or high temperature welding to join two pieces of iron. Both these activities generate bulk slags and micro-slags. The most characteristic bulk slag is the smithing hearth bottom. This was formed during smithing activity as a result of high temperature reactions between the iron, iron-scale and silica from either a clay furnace lining or the silica flux used by the smith. The iron silicate material from this reaction slag dripped down into the hearth base forming slag which, if not cleared out, developed into the smithing hearth bottom. When removed from the hearth a smithing hearth bottom was usually deposited in the pit or ditch nearest the activity. The proximity of cut features or dumps with amounts of smithing hearth bottoms to a building is often a good indication the structure may have been used for smithing activity.

Hammerscale is a microslag so small it cannot be seen in the soil with the naked eye and so—unless detected with a magnet during excavation—is usually recovered during processing of soil samples taken for other purposes. It is of two types: tiny silver flakes produced by ordinary hot working of a piece of iron, or small spheres of varying sizes produced by high temperature welding to join pieces of iron. Hammerscale usually remains in the immediate area of smithing activity (around the anvil and between it and the hearth) when larger (bulk) slags are cleared out and the evidence for a hearth is later removed or damaged.

Discussion

Middle and late Iron Age

Middle Iron Age pit 2522 is a significant feature as its upper fill contained 238 g of slag, including vitrified hearth lining, iron-rich slag, run slag, and some flake hammerscale indicative of iron smithing. Although the quantity is not large the assemblage suggests that smithing took place on at least one occasion in the vicinity. A further 864 g of undiagnostic though magnetic slag was recovered from middle Iron Age gully 2894, 50 m to the east of this pit.

Other slag from middle and late Iron Age contexts at Sites 2 and 6 includes fuel ash slag, a very lightweight, highly porous, light coloured (grey-brown) residue produced by a high temperature reaction between alkaline fuel ash and siliceous material such as a clay lining or surface. It can be produced by any high temperature activity where these two constituents are present including domestic hearths, accidental fires, and even cremations. It is not indicative of any specific industrial activity and is often found on Iron Age sites.

Roman period

Six smithing hearth bottoms were recovered from Site 8, including examples from both early and late Roman contexts (Table 8.53). Some of the small undiagnostic pieces of iron from the site (see Howard-Davies above) may be pieces of bars or blanks used by a smith to produce objects. However, the ironwork assemblage from the site was generally poor and there is nothing specific in the artefacts to suggest on-site manufacture.

Medieval period

All of the medieval slag came from Site 5, and the majority was associated with Phase 9.1 post-built structure 5196. The slag evidence from structure 5196 may be interpreted in two ways. The first is that the building may have been used as a forge either sporadically or for a short period during its existence, and the second is that the slag formed part of the construction of the building.

The diagnostic slag (smithing hearth bottoms) indicates smithing activity. Unfortunately no hammerscale was present in the assemblage. It is not known whether this is because relevant layers and fills were not sampled to recover it or whether this slag type was entirely absent. Hammerscale generally remains in the immediate area of smithing activity and its type indicates the type of smithing taking place (ordinary hot working of objects or high temperature welding to join two pieces together). If smithing were taking place within the building one would expect hammerscale to be present in soil or samples. Its absence may imply the smithing hearth bottoms and the undiagnostic slag were used as postpads and/or postpacking in the construction of structure 5196. One smithing hearth bottom was found in posthole 5220. The other smithing hearth bottoms may have been disturbed at the same time as the remaining posts were removed at the end of the building's life and, being cast aside, became part of demolition layer 5197.

Phase 9.1

Two smithing hearth bottoms and a substantial quantity (1736 g) of undiagnostic slag were recovered from posthole 5220. If 5220 really does belong to the first phase of building 5196, the presence of this quantity of slag in the backfill of the hole indicates it was present when the post was inserted in the hole and backfilled. It is unlikely this amount would find its way into the posthole after the post

Table 8.53: Summary of smithing hearth bottoms

Site	Phase	Context	Feature	Weight (g)	Length (mm)	Width (mm)	Depth (mm)	Comments
8	6	10166	Ditch 10819	368	90	80	40	
8	6	10809	Pit 10808	336	90	90	40	
8	7	8824	Layer	578	120	80	60	
8	7	10314	Layer	92	60	50	25	
8	7	10616	Ditch 10819	180	80	50	35	
5	10	5197	Layer	114	90	60	25	
5	10	5197	Layer	730	140	90	70	
5	10	5197	Layer	164	80	60	40	
5	10	5197	Layer	230	80	70	50	
5	10	5206	Pit 5204	422	-	-	-	Half; flake hammerscale on surface
5	10	5206	Pit 5204	502	120	110	45	
5	10	5206	Pit 5204	238	90	80	35	
5	10	5221	Posthole 5220	688	130	100	40	
5	10	5221	Posthole 5220	410	120	90	45	
5	11	5180	Ditch 5272	416	120	80	50	
5	11	5187	Ditch 5272	224	90	70	40	
5	11	5187	Ditch 5272	536	110	100	45	
8	-	Unstratified	-	646	120	105	45	

was inserted; it is possible the slag indicates the fill is, in fact, backfill after the demolition of building 5196 or that the post was renewed during the life of the building. Alternatively the slag may have been deliberately placed in the hole during construction to create an impermeable surface on which to place the post, especially in an area liable to become waterlogged. Posthole 5007 also contained a very small amount of undiagnostic slag, which probably slipped down between the post and its cut during the life of the building.

The description of floor layer 5227 (which lay in the area not covered by floor deposit 5226) is intriguing. It is described as being a reddish-grey silty ash, with large heat-affected stones laid on top of the layer. Without hammerscale or any other slag evidence it is not possible to say whether this was a smithing hearth or merely a domestic one.

Pit 5204 (ctx 5206) adjacent to building 5196 contained three smithing hearth bottoms along with a significant quantity of undiagnostic slag. The presence of slag in this feature is the most secure evidence for building 5196 being used for smithing. Excavators initially postulated, on the basis of the slag, that this feature was a hearth. There is, however, no evidence for this; the slag merely represents dumping outside the forge so it was not continually underfoot (see above). Its presence indicates the pit was open at the time of the smithing activity but not that it was specifically dug to receive slag from the forge.

Demolition layer 5197 contained four smithing hearth bottoms, small amounts of raked and undiagnostic slag and some vitrified hearth lining. The smithing hearth bottoms may well have been used as post pads or hard packing during the life of 5196 and were removed at the same time as the posts.

Phase 9.2

Three smithing hearth bottoms were recovered from Phase 9.2 contexts. One of these came from ditch 5272, which cut structure 5196, and hence it may have been redeposited.

Chapter 9: Human Remains

by Jonny Geber, with contributions by Ceri Boston

Human skeletal remains were found on four sites (Sites 2, 4, 6 and 8). The material comprises one cremation burial dating to the later Bronze Age, four inhumations and four deposits of disarticulated bone dating to the middle and late Iron Age, two cremation burials dating to the late Iron Age or late Iron Age/early Roman period and 19 inhumations and 25 cremation burials dating to the Roman period. Throughout the report, the inhumations are referred to by their context (skeleton) number while the cremation burials are referred to by their cut number unless otherwise stated.

OSTEOLOGICAL METHODOLOGY

The anatomical terminology used in this report is strictly according to the international nomenclature described by Feneis and Dauber (2000). The descriptive teeth formula used is according to the Zsigmondy system (Hillson 2003, 8–9). The definitions of bone fractures are based on the descriptions by Koval and Zuckerman (2002). The vertebrae are usually only mentioned in a shortened form, for example, the fifth cervical vertebra is C5, the eighth thoracic vertebra is T8, the second lumbar vertebra is L2 and the first sacral vertebra is S1.

All bones have been examined macroscopically. An osteometric board with 0.50 mm accuracy and a digital sliding calliper with 0.01 mm accuracy were used to measure the length of the long bones. No weights were taken.

Estimation of age at death

Foetuses and neonates were aged using the measurements of the long bones, following Fazekas and Kósa (as adapted in Scheuer and Black 2000). The dimension of the basilar part of the occipital bone was also used (Redfield 1970). Juveniles have primarily been aged by the stage of dental eruption (Broadbent *et al.* 1975), stage of epiphyseal fusion (Scheuer and Black 2000) and measurements of the long bones (Maresh 1970).

The adult skeletons were primarily aged by the degenerative changes to the auricular surface on the hip bones (Lovejoy *et al.* 1985), by the sternal end of the ribs (Iscan *et al.* 1985), the pubic symphysis (Brooks and Suchey 1990; Gilbert and McKern 1973; McKern and Steward 1957; Nemeskéri *et al.* 1960), the sternal articular surface of the clavicles (Scheuer and Black 2000), dental attrition (Brothwell 1981; Miles 1962) and suture obliteration (Meindl and Lovejoy 1985). All individuals were assigned a suitable precise age group as defined in Table 9.1.

Estimation of sex

The sex of the individual skeletons from the excavation was estimated according to the descriptions used by Sjøvold (1988) with the following division:

-2	Hyperfeminine
-1	Feminine
0	Indeterminable sex *(allophysis)*
+1	Masculine
+2	Hypermasculine

Osteometric methods for sex estimations have been based on the length of the glenoid cavity (Bass 1995, 129), the length of the clavicles (Thieme in Bass 1995, 129), the biepicondylar width of the humerus (France 1998), the greatest diameter of the femoral head and the width of the condyle on the femur (Pearson in Bass 1995, 230). None of the sex estimations based on metrics were recorded as hyperfeminine or hypermasculine, even if the measurements were very indicative of sex.

The hip bones were primarily used as an indicator of sex. Cranial morphological traits were secondary indicators. After that, osteometrics, usually taken on the femora, were taken into consideration.

Table 9.1: Age groups employed in analysis

Age group	Range
Foetus	< 0 years
Neonate	0-1 months
Infant	0-1 years
Young child	2-5 years
Older child	6-12 years
Adolescent	13-17 years
Young adult	18-25 years
Prime adult	26-35 years
Mature adult	36-45 years
Older adult	> 46 years
Child	2-12 years
Subadult	< 18 years
Adult	> 18 years

Estimation of stature

Calculation of body stature or height, estimated from the length of the long bones, was based on the method for Caucasians developed by Sjøvold (1990) and Trotter and Gleser (Trotter 1970). According to Sjøvold, his method does not overestimate the stature of short persons and underestimate the stature of tall persons unlike the methods developed by Trotter and Gleser. Sjøvold's method is also independent of sex, which is suitable for archaeological materials where disturbed burials are often missing skeletal elements with specific and reliable sex characteristics.

The calculation of body stature or height was also estimated from the mid-line length of the metacarpals according to the method developed by Meadows and Jantz (1992) and the greatest length of the calcaneus and talus (Holland 1995). Depending on the bones available, the most accurate formula (ie the one with the smallest standard deviation) was used to determine stature. This was usually the femur, followed by the fibula and tibia. When both sides of a bone element were present, the mean value of both calculations was used.

For comparative studies of stature between populations, it is recommended that the actual bone measurements rather than the calculated estimates are used (see Brothwell and Zakrzewski 2004, 33). The raw longbone lengths are given in Table A9.2.2.

Nonmetric traits

The descriptions given in Berry and Berry (1967) and Finnegan (1978) were used to record nonmetric traits. Other epigenetic variations were recorded as well, but not accounted for in the statistics. The disarticulated remains were also accounted for in the calculation of prevalence (see Tables A9.1.1–4).

Metrics

Measurements on the skull and postcranial elements were taken in accordance with descriptions in Brothwell (1981).

Skeletal and dental pathologies

The terminology and descriptions of the skeletal pathologies used in the report are based upon Ortner (2003) and Aufderheide and Rodríguez-Martín (1998). Arthritic changes of the synovial joints have been recorded in three stages, depending on the degree of degeneration: osteophytic growth, porotic pitting and eburnation.

Dental pathologies were described according to Brinch and Møller-Christensen (1949), Dias and Tayles (1997), Hillson (2003) and Ortner (2003). Dental calculus was recorded according to Brothwell's methods (1981) and enamel hypoplasia according to Hillson (1986). Dental caries were described as occlusal caries, approximal caries or cervical caries (Brinch and Møller-Christensen 1949). Where possible, the location of the lesions has been noted. The statistics are based on CDIt or Comparative Dental Index on number of total teeth (Arcini 1999; Brinch and Møller-Christensen 1949).

Comparative materials

The osteological data from the Great Barford material has been compared with general data and mean data values for each period as presented by Roberts and Cox (2003). The discussion of the Roman burials makes reference to two additional late Roman rural inhumation cemeteries from the Bedford region, that at Bletsoe with 46 burials (Denston and Duhig 1994) and that at Kempston with 87 burials (Boylston *et al*. 2000; Boylston and Roberts 2004).

LATER BRONZE AGE BURIAL

A single cremation burial from Site 2 (2150) has been radiocarbon dated to 1130–930 cal BC (OxA-15672: 2868 ± 28 BP). This comprised a fairly large deposit of well-cremated bone placed in a small pit. The bones are those of a mature older adult of indeterminable sex (see Catalogue below).

MIDDLE AND LATE IRON AGE BURIALS

Provenance

The middle Iron Age (Phase 4) remains were all found within a single backfill deposit at the northern end of ditch 2742 at Site 2, and represent a contemporaneous act of deposition. The remains consisted of an inhumation burial placed in a supine position, with three cranium fragments placed to its north and south. The inhumation burial (2079) was of a mature adult male, radiocarbon dated to 160 cal BC–cal AD 50 (OxA-15513: 2036 ± 28 BP). One of the crania belonged to a mature-older adult (2074); one to a young-mature adult male (2176), radiocarbon dated to 370–180 cal BC (OxA-15514: 2196 ± 29 BP), and one comprised the complete parietal bone of an older child (2224). The early radiocarbon date of skull fragment 2176 compared to the date of the articulated burial suggests that this was a curated object. None of the skull fragments displayed any erosion, suggesting that they had not been exposed to the elements for a prolonged length of time prior to burial.

Two inhumation burials dating to the late Iron Age (Phase 5) were found at Site 2. One comprised a mature adult male (2508), placed in a grave on his right side with partially flexed legs and extended arms in a NE-SW orientation. The other comprised a perinatal burial (2566) placed in a supine posture in the terminus of ditch 2500. Also at Site 2, a disarticulated proximal fragment of a left humerus was found in one of the lower fills (2618) of late Iron Age ditch 2404. The bone derived from an adult individual, most likely female, and did not display

any indications of exposure or handling before the deposition into the ditch. A further inhumation dating to the late Iron Age was found on Site 4. This was a supine adult male skeleton (4227), placed in the upper fills of ditch 4941.

An isolated unurned cremation burial from Site 6 (6077) was found in a small shallow pit (6079), and contained the remains of at least two individuals, a juvenile and a possible adult male. A radiocarbon date of 100 cal BC–cal AD 60 (OxA-15671: 2020 ± 25 BP) was obtained.

Inhumation burials and disarticulated skeletal remains

Age, sex and stature

All three of the adult inhumation burials were males. It was possible to calculate the stature of two of them, giving values of 162 cm (5 ft 3 $^1/_2$ ins) by the Sjøvold method and 164 cm (5 ft 4 $^1/_2$ ins) by the Trotter and Gleser method for skeleton 2079, and 168 cm (5 ft 6 ins) for skeleton 2508. The mean male stature during the British Iron Age has been estimated as 168 cm (5 ft 6 ins; Roberts and Cox 2003, 396).

Nonmetric traits

Due to the small sample size of the data, the prevalence of the nonmetric traits of the Iron Age burials cannot be reliably calculated. The data is however presented in Tables A.9.1–2.

Skeletal pathologies

Possible nonspecific infection

The disarticulated humerus fragment from ditch 2404 displayed periosteal reactive new bone on the medial humeral neck. The lesion measured 16 mm x 14 mm. Whilst periosteal new bone formation may occur in response to a range of disorders, localised infection is most common. However, the location of the lesion is unusual as a site of infection. Unfortunately, the disarticulated and isolated nature of the find precludes identification of lesions on other parts of the skeleton, and hence a more specific diagnosis.

Mastoiditis

One of the disarticulated skull vaults (2176) displayed pathological changes on the left temporal mastoid process, which indicated mastoiditis. This is an infection of the process, often as a complication of a middle ear infection (otitis media) (Aufderheide and Rodríguez-Martín 1998, 253–4; Roberts and Cox 2003, 86)

Cribra orbitalia

The cause of cribra orbitalia has been controversial and the most common attribution has been iron-deficiency anaemia in childhood. It is more likely that there are various causes, and it is often found associated with other conditions such as parasitism, lead poisoning and malaria (Arcini 1999, 130; Stuart-Macadam 1991). It manifests itself as small porotic lesions on the roof of the orbitae and is a good indicator of the general states of health of ancient populations.

Cribra orbitalia was evident in two adult individuals, being bilateral in 2079 and unilateral in 2508. Both lesions were active at the time of death. It has been estimated, from 168 individuals, that cribra orbitalia affected 19% of Iron Age people in Britain (Roberts and Cox 2003, 103).

Spinal degenerative joint disease

Spinal degenerative joint disease was evident in skeleton 2079 as a small eburnation facet in the neck and minor osteophytes on the vertebral bodies (intervertebral osteophytosis) in the upper and lower spine. Only minor changes on the vertebral articular processes were present along the spine of skeleton 2508.

Intervertebral osteophytosis is the most common spinal degenerative joint disease, and today it affects more than 90% of the population over 60 years of age. It appears to be due to degeneration of the intervertebral discs that lose their elasticity with increasing age. Eventually, as the distance between the vertebral bodies is decreasing, osteophytic growth is generated around the margins of the intervertebral surfaces of the bodies *(facies intervertebralis)* in response to the mechanical stresses placed on the spine. In severe cases, this might result in osteophytic lipping and then possibly even fusion of adjacent vertebrae. It is most commonly located on the cervical and lumbar vertebrae. Symptoms are usually a stiff back and back pain (Møller-Christensen 1958, 62–4).

Minor Schmorl's nodes were present in the lower thoracic spine of 2079. Schmorl's nodes are depression injuries of the vertebrae, visible as pits in the surfaces of the bodies. They occur when compression of the vertebral discs cause them to protrude into the trabecular bone of the vertebral bodies (Aufderheide and Rodríguez-Martín 1998, 97). They usually occur during adolescence when the vertebral plates are not completely ossified.

Minor ossified *ligamentum flavum* were identified in vertebral fragments of 4227. The *ligamentum flavum* are elastic ligaments running between the laminae from the axis to the sacrum and they may ossify. If so, they will be visible on the skeleton on the interior of the vertebral foramen and the superior notch on the dorsal side between the laminae as sharp exostosises in the shape of a hook, a beak, a linear shape or a nodular shape (Kudo *et al.* 1983). The main function of the ligaments is to maintain an upright posture of the spine. Instability of the spine, often in combination with other degenerative conditions, may eventually cause the ligaments to ossify. Extensive calcification, usually

in the cervical spine, and ossification, in the thoracic spine, has been found associated with myelopathies (Kudo *et al*. 1983).

Extra-spinal degenerative joint disease

Degenerative changes of the synovial extra-spinal joints were found in the left forearm and left knee of the mature adult male individual dating to the middle Iron Age (2079). The arm displayed minor marginal osteophytes at both the distal ulna and radius, and a minor eburnation facet at the ulnar articular circumference. They were secondary to a well-healed spiral fracture of the distal ulna (see following section). The knee displayed notable eburnation facets on the medial articular facets on both the femur and patella.

Trauma

A spiral fracture of the left distal ulna was identified in skeleton 2079. It had resulted in a slight medial rotation and an approximately 10 mm shortening of the bone. The lesion was well healed although secondary osteoarthritic changes had occurred (see previous section). Fractures of the ulna, due to direct trauma to its subcutaneous border, are classically referred to an action where the affected has been trying to protect his head against an assault or a hard object (Koval and Zuckerman 2002, 129). It is not clear, however, whether this specific fracture did originate from an act of interpersonal violence.

Dental pathology

The Iron Age skeletons displayed a total of 57 erupted teeth in 60 alveoli from the three adult individuals. The dental pathologies noted were caries and periapical abscesses. Caries (10/57; 18% of total teeth) was present in both adult individuals with five molars affected in 2079 and two premolars and three molars affected in 2508. Caries is a destruction of the enamel, dentine and cement of the tooth which is caused by an acid which is formed when the bacteria in dental plaque acts on carbohydrates (Arcini 2003, 63; Hillson 2003, 269). The most common location for the lesion was at the mesial and distal cervix of the teeth.

It has been thought that the prevalence of dental caries decreased during the Iron Age and later increased significantly in the Roman period. The general percentage of teeth affected by caries during the Iron Age has been calculated as 2.9% of all teeth (Roberts and Cox 2003, 396). This assumption is however based on a relatively small sample of uneven empirical data (n = 8232).

One periapical abscess was noted in the dentition of 4227 (1/10; 2% of all alveoli). Chronic periapical periodontal abscesses occur when an infection has resulted in a local collection of pus that eventually breaks through the bone (Dias and Tayles 1997). A fracture, severe attrition or a carious lesion of the tooth that exposes the pulp to bacteria are the usual causes. The rate of dental abscesses for the Iron Age population in Britain has been estimated as 1% (Roberts and Cox 2003, 102).

Enamel hypoplasia was also evident on the front teeth of 2508, which indicated developmental disturbance at 2–3 years of age. This condition is a developmental defect in the dental enamel that manifests itself as horizontal bands, pits and/or grooves on the surface of the teeth. It is usually attributed to malnutrition and acute infection during the first seven years of life, but has also been attributed to genetic factors (Hillson 2005, 168).

Both adult individuals had lost teeth before death, in total three molars (4/60; 7% of all alveoli). Seven front teeth (8/60; 13% of all alveoli) were lost post-mortem. These are the teeth most likely to be lost as they generally only have one root (van Beek 1983).

Cremation burial

Despite being truncated by later agricultural activity, unurned cremation burial 6079 yielded quite a large bone deposit of 882 g. It is likely to contain the remains of at least two individuals. Most fragments belong to a juvenile individual but a few skull vault fragments, long bones (humerus, radius and femur) and a hip bone fragment are possibly adult. The adult was sexed as a possible male based on a fragment from the greater sciatic notch. Iron was corroded onto a number of bone fragments suggesting possible grave goods had been burnt on the pyre.

ROMANO-BRITISH BURIALS

Due to the quantitative limitations of the material, all the Romano-British burials will be discussed as a unity, independent of the site on which they were found or to which phase they have been dated. Due to the difference in character and recording strategies between unburned and cremated bones, inhumations and cremation burials will be discussed separately.

Burial practice in the Romano-British period

Both cremation and inhumation burial practices took place concurrently at the beginning of the Roman period in Britain. The cremation burial tradition was more common up until the mid 2nd century AD, after which inhumations took over as the normative rite (Philpott 1991; Taylor 2001, 87, 109). Ordinary domestic pots were usually used as cinerary urns. Cremated bone deposits not contained within an urn are generally thought to have been interred within a container made of organic material, such as wood, leather or cloth. In the inhumation tradition, the deceased were usually buried supine and extended, often within nailed wooden coffins or in high-status stone and/or lead coffins.

Provenance

Eight cremation burials and eleven inhumation burials were found at Site 4. Seven of the cremation burials were found together in an early Roman (Phase 6.2) cemetery in the north-east corner of the site. The cremation burials had suffered truncation to differing degrees. All burials contained the remains from single adult individuals and were urned (although this was uncertain in the case of burial 4194). A further isolated unurned burial in the western part of Site 4 (4231) may also belong to this period of activity, with a radiocarbon date of cal AD 0–130 (OxA-15673: 1946 ± 27 BP) indicating a late Iron Age or early Roman attribution. The inhumation burials from Site 4 belonged to a late Roman (Phase 7) cemetery, placed within abandoned early Roman Enclosure 47. A total of four subadults and seven adults were laid supine in a west-east orientation. The only exception was an adult male, who was found in a prone position (4314). Two individuals had been decapitated (4341 and 4382). One of the burials (4341) has been radiocarbon dated to cal AD 240–390 (OxA-15515: 1727 ± 28 BP).

At Site 8, 17 cremation burials and 8 inhumation burials were found. The earliest interments (Phase 5–6.1) were two unurned cremation burials in the eastern side of Enclosure 80/1 (8092 and 8144), one of which (8092) contained datable pottery of the mid to late 1st century AD. Later in date was a late 1st to 2nd century cremation cemetery (Phase 6) containing 15 cremation graves and two neonate inhumations (8094 and 8798), located in a discrete area in the south-west corner of Enclosure 82. Six further inhumation burials were found scattered across the site, and are believed to also date to the early to mid Roman period. Two crouched perinatal skeletons (10342 and 10472) were found buried within oval graves to the north of roundhouse CS81 within Enclosure 82. Three of the remaining four inhumations (8163, 8413 and 8563), all of adults, were found east and south of enclosure ditch 10819. The final inhumation (8939) was found disarticulated in a feature interpreted as a quarry or possibly a waterhole (8925).

Cremation burials

There are many obstacles in the osteological study of cremated bone. The main limitations are the often considerable fragmentation and the distortions caused by heat during the cremation process. Another factor is the loss of volume, from the burning to the deposition of the bones into the grave, which often is evident in ancient cremation burials. All these factors make many of the available osteological methods inadequate when analysing burnt skeletal materials (Rösing 1977, 54).

The Roman cremation deposits consisted of approximately 19,500 fragments of cremated bone weighing a total of 9206 g, giving a mean weight per fragment of about only 0.47 g. The largest bone fragments within the burials ranged from 6 mm (8097) to 83 mm (8098), with a mean largest fragment size of 44 mm. The weight of each burial varied between 1 g and 1171 g, with a mean of 329 g. All the cremation burials contained clean cremated bones, and all had been well incinerated.

Overall, 12% of all the fragments and 42% of the weight was identifiable in the deposits (Fig. 9.1). This illustrates the heavy fragmentation of the material and that larger fragments are more easily identified.

The relative distribution by weight of fragments of particular sizes by context is displayed in Fig. 9.2. Only cremation burials exceeding the weight of 200 g are considered. Most of the bone exceeded 10 mm in size, and only a very small amount of the bone was less than 5 mm in size. It appears that the highest degree of fragmentation was present on Site 4.

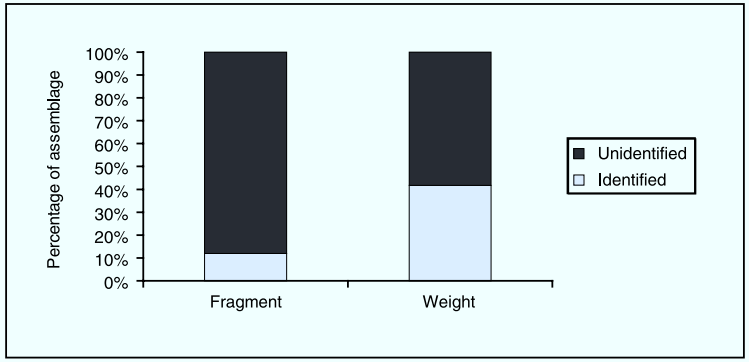

Fig. 9.1 Proportion of identified and unidentified cremated bone from the Roman cremation burials

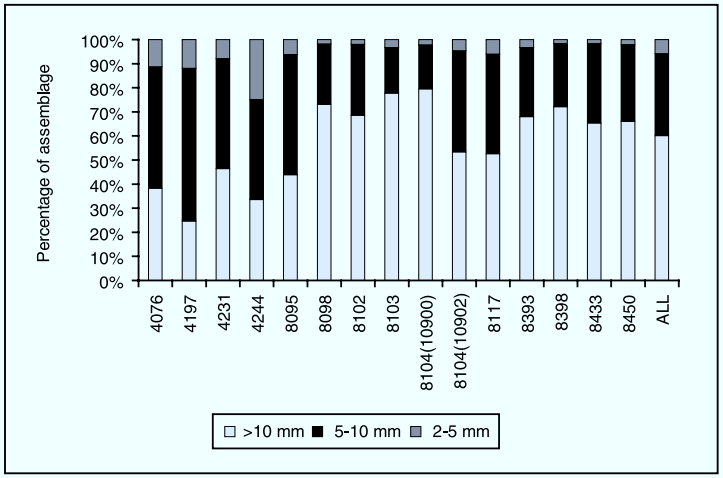

Fig. 9.2 Fragmentation of the bones from the Roman cremation burials exceeding 200 g in weight

Demographic profile

Of the total of 28 individuals, one was subadult, 25 were adults and two were indeterminable (Table 9.2). It was not possible to detect any mortality trend due to the small sample size. Only five individuals were sexed (based on very uncertain criteria): four females and one male were identified.

Pathology

Even though the bones had been fragmented and distorted by the heat of the cremation, some fragments displayed pathological lesions. Possible healed porotic hyperostosis was found on two cranial vault fragments from an adult female (4076). Due to the fragmentation, no definitive diagnosis could be made. A porotic patch, most probably pathological in origin, was noted at the superior margin of the left temporal meatus of a subadult (8099). Spinal degeneration was diagnosed in the neck of a mature-older adult (8098) where moderate marginal osteophytes, approximately 3 mm in size, had developed on the superior articular facets of the atlas.

Cremation technology

A successful cremation is only evident from bones with a whitish to white colour (Wahl 1982, 27). Most of the Great Barford cremation burials contained white bones, with a few deposits being more grey-white in colour. All burials can therefore be regarded as successful, obtaining a burning temperature which exceeded 700–800°C (*ibid*.).

Whether the burnt bones are clean or sooty reflects how they were handled after the cremation. It is believed that clean bones were picked out of the pyre debris and sorted after the burning. Sooty bones, on the contrary, would have been collected together with pyre debris and charcoal (Gejvall 1948, 155; 1961; Herrman 1972; Lisowski 1968, 78). The Roman cremation burials were all clean, which suggests that the bones were separated from the pyre remains before being placed within the urn. Chronological differences in the occurrence of clean and sooty bones are very evident in Scandinavian Iron Age cremation burials of *c* 500 BC–AD 1050 (Sigvallius 1994, 118–20), but no such trends have yet been noted in British materials (J McKinley pers. comm.).

Table 9.2: Demographic structure of the Roman cremation burials

Age group	*Age (years)*	*N: Total*	*N: ?Females*	*N: ??Females*	*N: ?Males*	*%*
Subadult	< 18	1				3.7
Young-mature adult	18-45	7	1	1		22.2
Mature-older adult	36-46+	7		1		25.9
Older adult	46+	1			1	3.7
Adult	> 18	10	1			37.0
Unknown	?	2				7.4
Total		28	2	2	1	100.0

Inhumations

Age, sex and stature

It was not possible to see any trends in mortality in the Roman inhumation sample due to inadequate quantitative data (Table 9.3). A total of eight subadults and 12 adults were aged. Nine males and only one female were identified.

Stature was estimated from eight individuals, giving a mean height of 168 cm (5 ft 6 ins) with a range of 13 cm. The only woman in the assemblage had a stature of 169 cm (5 ft 6 $^1/_2$ ins). The mean value of men, calculated from only five individuals, was about 170 cm (5 ft 7 ins) (Table 9.4).

The stature of Roman individuals from Great Barford corresponds well with comparative data. The mean stature of men during the Roman period was 169 cm (5 ft 6 $^1/_2$ ins) (Roberts and Cox 2003, 396), and the male stature in both the Bletsoe (Denston and Duhig 1994) and Kempston assemblages (Boylston and Roberts 2004) were estimated to be 170 cm (5 ft 7 ins). The mean female stature for the period was 159 cm (5 ft 2 $^1/_2$ ins) (Roberts and Cox 2003, 396), 10 cm (4 ins) shorter than the men (Table 9.5).

Nonmetric traits

A variety of nonmetric traits were noted in the material. However, due to the quantitative limitation of the data, no meaningful prevalence could be calculated from the results. The data is available in Tables A9.1.3–4.

Skeletal pathologies

Mastoiditis

A very considerable porotic lesion, caused by mastoiditis, was present on the left temporal bone of a 35–9 year old male (4341). The lesion took the form of a 110 by 70 mm crater in the pneumatic bone just superior to the mastoid process. It was apparent, from the rounded margins, that the healing process was underway at the time of death.

Cribra orbitalia

Only one case of unilateral cribra orbitalia in the right orbit was present among the Roman skeletons (4382). The rate of cribra orbitalia during the Roman period has been estimated from analysis of a relatively large number of individuals (n = 4773) from a number of sites, and it has been calculated to have affected 9 % of the population (Roberts and Cox 2003, 141).

Table 9.3: Roman inhumations (Sites 4 and 8)

Age group	*N: Total*	*N: Females*	*N: Males*	*%*
Foetus				0
Neonate	4			20
Infant	1			5
Young child	1			5
Older child	2			10
Adolescent				0
Young adult				0
Prime adult	1		1	5
Young-prime adult	1		1	5
Prime-mature adult	1		1	5
Mature adult	6		6	30
Older adult	2	1		10
Adult	1			5
Total	20	1	9	100

Table 9.4: Estimation of stature on individuals with measurable skeletal elements among the Roman inhumations (cm)

	Female (n = 1)	*Male (n = 5)*	*Total (n = 8)*
Shortest stature	-	167.85	162.19
Mean stature	169.28	169.61	168.00
Tallest stature	-	175.82	175.82
Range	-	7.97	13.63

Table 9.5: Mean stature of the Roman inhumations in Great Barford and contemporary populations (cm)

Site	*Period*	*Females*	*Males*
Great Barford (Sites 4 and 8)	Early-late Roman	169.28 (n = 1)	169.61 (n = 5)
Bletsoe	Late Roman	157.48 (n = 17)	170.18 (n = 21)
Kempston	Mid Roman	160.40 (n = 17)	170.00 (n = 38)
Various assemblages (Roberts and Cox 2003)	Roman	159.00 (n = 1042)	169.00 (n = 1296)

Spinal degenerative joint disease

As the vertebral columns generally were very poorly preserved, spinal joint diseases were not always possible to detect, and it is impossible to calculate true prevalence within different segments of the spine.

Osteophytosis was present, however, in the spine of at least four individuals, ranging from minor (4311, 4314 and 4330) to severe (8413). Schmorl's nodes were only identified on the first lumbar vertebra of skeleton 4330.

Spinal osteoarthritic changes, with minor eburnation facets, were noted on the articular processes of the cervical vertebrae of skeletons 4319, 4341 and 8413. Eburnation of an uncal process on C3 was also noted in skeleton 8413.

Mild porosity of the vertebral bodies, indicative of intervertebral osteochondrosis, was present in the cervical and thoracic spine of 8413. Osteochondrosis is a porotic lesion on the surfaces of the vertebrae caused by a degeneration of the intervertebral discs. It is suggested that the condition evolves to osteophytosis with increased age (Kelley 1982).

Minor ossified *ligamentum flavum* were identified in vertebral fragments from the upper thoracic spine of 8413, similar to those found on vertebral fragments of 4227 which are discussed above.

Extra-spinal degenerative joint disease

Degenerative changes were often evident on joints of the right side of the Roman skeletons. These were evident in the right wrist and hand of skeletons 4311, 4330, 8413 and 8563, which relates to activity patterns and suggests right-handedness in these individuals.

Another common location was the knees, which was evident in skeletons 4314, 4382 and 8413. Eburnated articular surfaces were noted in the left knee of skeleton 4382 (34–45 year old adult male) and in the right shoulder, both hands and right knee of skeleton 8413 (43–60 year old adult female). These changes are indicative of osteoarthritis.

Endocranial lesion

The endocranial surface of the occipital bone of the skull of neonatal skeleton 10342 was overlaid by active woven bone. There was no evidence for lysis of the bone. The lesion measured 27 mm x 20 mm. The occiput is the most common location for such lesions (Lewis 2007, 141). The aetiology of these lesions is unclear, but its location suggests involvement of the meningeal vessels, either through shearing of these vessels in a subdural haemorrhage or as a result of chronic meningitis. The former is suggestive of child abuse, so-called 'shaken baby syndrome' (Lewis 2004, 94; Lewis 2007, 142). No fractures that would substantiate this interpretation were found in the rest of the skeleton, however.

Dental pathology

Dental disease was only present in adult individuals, except for the only case of dental enamel hypoplasia, which was present on the deciduous teeth of a six-year-old child (4303). A total of 214 erupted permanent teeth in 200 alveoli from eleven dentitions were present among the adult individuals (see Table A9.3.1 for details of dental data).

Indications of periodontitis were identified in the dentitions of three mature adult males (4311, 4382 and 8563), 27% of the adults. The lesions were present in the mandibular molars, but were only manifested to a mild degree. Periodontitis is a reduction of alveolar bone, often beginning from an inflammation of the gums (gingivitis), which undermines the support structure of the teeth and eventually might lead to tooth loss (Ortner 2003, 593). There is, however, a normal reduction of alveolar bone with increasing age and dental wear, and this can sometimes make it difficult to distinguish pathological periodontitis in older adult individuals (Hillson 2005, 195).

Periapical abscesses were present in two individuals (18%). One lesion was noted on the buccal surface of the alveolar bone at the second right maxillary molar in the dentition of a 25–45 year old male (4314). A carious lesion affected the same tooth, and it seems likely that this was the cause of the abscess. The second case was identified on the buccal aspect of the first left maxillary premolar of a 35–45 year old male (8563). That specific tooth displayed an exposed pulp, probably caused by dental wear, which would have led to an infection.

The general frequency of alveoli with dental abscesses during the Roman period has been calculated to about 4% (Roberts and Cox 2003, 396). Both Great Barford and Kempston (Boylston and Roberts 2004) displayed a lower rate. A considerable higher

Table 9.6: Prevalence of alveoli exposed to chronic periapical periodontal abscesses in Great Barford and contemporary populations

Site	*Period*	*Alveoli affected*	*Total alveoli*	*%*
Great Barford	Early–late Roman	2	200	1.0
Kempston	Late Roman	34	?	1.9
Bletsoe	Mid Roman	75	874	8.6
Various assemblages (Roberts and Cox 2003)	Roman	970	24,995	3.9

frequency was however found in the Bletsoe material where almost 9% of all alveoli had periapical abscesses (Denston and Duhig 1994) (Table 9.6).

Caries was the most common dental pathology in the Great Barford assemblage, present in six dentitions (55%) and 17 teeth (8%). The most common location of the lesions was at the distal and mesial cervix of the molars. The prevalence of caries is similar to the frequency calculated from local comparative materials and the Roman period in general (Roberts and Cox 2003, 396). A higher frequency was however noted in the Kempston material (Boylston and Roberts 2004) (Table 9.7).

Dental calculus (tartar) is mineralised plaque that derives from the saliva. Teeth closest to the salivary glands are therefore most affected. During life, calculus may irritate the gums and initiate periodontal disease. It is a good indicator of oral health (Brothwell 1981, 159–60; Hillson 2003, 255–60). Calculus deposits were present on all but one of the adult dentitions (91%). Most were mild. An extreme case, however, was present on the right mandibular teeth of a 25–35 year old male (4319) where severe deposits were present on the buccal surfaces but much less so on the left teeth.

Tooth wear is dependent on several different factors. For example, the way an individual chews, the coarseness of the diet, the density of the teeth enamel and on how hard an individual is biting (Krogh-Poulsen 1963, 101–5). The wear of teeth was considerably higher in past populations than it is today. This is mainly due to the food intake, where meals were prepared differently. In agricultural societies, this can be attributed to grain grinding as a result of which particles from stone querns were included in the flour and then the final food product (Roberts and Cox 2003, 135).

Two adult dentitions displayed slight dental wear, while moderate wear was noted in five dentitions and considerable wear in four dentitions. Dental attrition was more evident in older individuals. A probable case of occupational abrasive wear was noted in the dentition of a 25–35 year old adult male (4319) where the mandibular incisors had been worn down in a mesio-distal direction. The activity which caused this wear is not known, although studies on dental abrasion in Inuit populations have shown a clear relationship to certain occupational activities (Alexandersen 1988, 31–2).

About half of the Roman adults suffered from antemortem tooth loss (45%), in total 8% of all alveoli. It affected only premolars and molars, and it was especially evident in the lower dentition. A total of 28 teeth (14%) had been lost post-mortem.

While the frequency of teeth lost antemortem during the Roman period has been estimated to about 14% (Roberts and Cox 2003, 396), a higher frequency is noted in the Kempston (Boylston and Roberts 2004) and Bletsoe (Denston and Duhig 1994) sites with 17% and 20% respectively. The low frequency of antemortem tooth loss in the Great Barford assemblage can probably be explained by the small sample of data (Table 9.8).

Decapitations

The Romano-British practice of post-mortem decapitation and placement of the severed head elsewhere in the grave (usually between the legs) most frequently occurs in the 4th century AD (O'Brian 1999, 7). Various theories have been put forward to explain this practice, including acts of punishments or a fear of the walking dead. An alternative theory is the belief that through decapitation, the spirit of the deceased was released so that it

Table 9.7: Prevalence of teeth affected by dental caries in Great Barford and contemporary populations

Site	*Period*	*Teeth affected*	*Total teeth*	*%*
Great Barford	Early–late Roman	17	214	7.9
Kempston	Late Roman	117	1339	8.7
Bletsoe	Mid Roman	48	711	6.8
Roman period (Roberts and Cox 2003)	Roman	2179	29,247	7.5

Table 9.8: Prevalence of teeth lost antemortem in Great Barford and contemporary populations

Site	*Period*	*Alveoli affected*	*Total alveoli*	*%*
Great Barford	Early–late Roman	16	214	7.9
Kempston	Late Roman	247	?	16.9
Bletsoe	Mid Roman	209	1062	19.7
Various assemblages (Roberts and Cox 2003)	Roman	5042	35,762	14.1

could safely reach the underworld (Anderson 2001; Taylor 2001, 123).

Two mature males (15% of 13 individuals with the cervical vertebrae preserved) buried within the late Roman inhumation cemetery at Site 4 were decapitated (4341 and 4382). The skull was placed between the legs in both cases. It was difficult to assess the perimortem cut marks on the bones due to post-mortem damage and erosion. There was no osteological evidence to indicate any perimortem trauma on skeleton 4341. It seems likely that skeleton 4382 was decapitated with a blow through the upper neck, in a lateral direction going from right to left slicing off a fragment of the left angle of the mandible.

A total of 12 decapitated skeletons (14% of all skeletons) were found at Kempston, of which four were female, six were male, one an adult and one a subadult. In all but one case the skull was placed near the feet (Boylston and Roberts 2004, 342–3). No decapitations were found in the Bletsoe material (Denston and Duhig 1994).

Quarry/waterhole burial

One interesting find was the lower legs and right ankle bones of an adult (8939) found within a large steep-sided pit, interpreted as a quarry or water-hole (8925). The bones were found disarticulated, but clearly were part of the same individual. The talus was found in the lower strata, while the legs were present in the upper fills. Both the legs and the talus were found in the north-west corner of the feature.

The tradition of depositing human remains in wet places during the Roman period is becoming increasingly well evidenced, and is a continuity of Iron Age practises (Esmonde Cleary 2002, 134). Complete or partial skeletons have been found in wells from various site types, including settlements (eg Higham Ferrers, Northants: Lawrence *et al*. forthcoming), villas (eg North Wraxall, Wilts and Brislington, Somerset) and temple complexes (eg Pagan's Hill, Somerset). They have often been explained as the result of death sentences (Esmonde Cleary 2002, 134–5).

DISCUSSION

The excavations at Great Barford revealed evidence of burial activity dating from the late Bronze Age to the late Roman period. The later prehistoric burials include cremations, inhumations, and deposits of disarticulated bone. The Roman burials are represented first by cremation burials, found in two separate cemeteries, and subsequently by an inhumation tradition.

Iron Age inhumation burials in ditches are frequently recorded across southern Britain (Wilson 1981, 138; Whimster 1981). The practice is seen at Great Barford in the four burials dated to this period. All the articulated Iron Age skeletons were found in extended burial positions within ditches or (in one case) in a grave cut into a ditch. This differs from the crouched burial position more common in this period. Of the two individuals from which stature could be estimated, one appeared to be of medium stature for the period (2508), while the other individual (2079) was approximately 4–6 cm shorter than average for his sex. The caries rate among these skeletons was high. Other pathological traits were consistent with those found in the Iron Age in Britain.

In the south-east of England, cremation burial preceded the Roman conquest. One unurned example of a late Iron Age cremation burial (6079) was a dual cremation, containing the remains of an adult possible male and a subadult. Such dual cremation burials are unusual, comprising only 2% of burials at Westhampnett, West Sussex (McKinley 1997, 70), 2.6% at King Harry Lane, St Albans, Herts (Stirland 1989) and 8.3% at Owslebury, Hants (Wells *et al*. 1968).

Cremation burial continued into the early Roman period, with the establishment of both large cemeteries outside large towns, and smaller rural burial grounds, of which those on Sites 4 and 8 are typical. A transition from the cremation burial tradition to the rite of inhumation occurred later in the Roman period. The few inhumation burials within the cremation cemetery at Site 8 may indicate some chronological overlap between the two traditions. Inhumation and cremation burial have been known to be practised concurrently within the same cemetery throughout the early and middle Roman periods. For example, at Pepperhill, Southfleet, Kent, inhumations outnumbered cremations throughout this period (Biddulph 2007). The age of the two inhumations on Site 8 may also be significant, however. Both were newborn. It is known from classical sources, such as Pliny and Plutarch, that the very young were not perceived as having souls until they could walk, talk and have teeth (Barber and Bowsher 2000, 312; Philpott 1991). This perception is thought to underlie the presence of neonatal burials within settlement sites, a location forbidden both by practice and by law, the corpse being seen as polluting both in a physical and spiritual sense. Such prohibitions did not apply to infants as they were without souls. Similarly, infants were rarely, if ever, cremated (Philpott 1991, 97–102). That the two neonates in the Site 8 burial ground had not been cremated but buried unburnt may be more reflective of Romano-British perceptions of infancy than of temporal changes in burial practice over the Roman period.

Mays (1993) has suggested that infanticide may have been responsible for a significant proportion of neonatal deaths at term in Roman Britain. Two neonates (8798 and 10472) from Site 8 could be confidently aged as term on the basis of long bone lengths, whilst skeleton 8122 was older, being over 6 weeks (using the same methodology). The precise

age of skeleton 10342 could not be ascertained. The number of neonates in this assemblage is too small to test the infanticide hypothesis in this population, and it is quite probable that these infants died of natural causes. The endocranial lesion on skeleton 10342 is the only very tentative suggestion of ill treatment of infants, although it must be stressed that the aetiology of such lesions is not yet well understood.

'The mean stature of the skeletons from Great Barford, Kempston and Bletsoe does not differ significantly from the mean Roman stature calculated by Roberts and Cox (2003). The frequency of caries appears to follow the same trend. Relatively few teeth had been lost antemortem from the Great Barford skeletons, but this is probably due to the small sample size.

The occurrence of decapitated burials in the late Roman cemetery at Site 4 is of some interest. Significant numbers of late 3rd to 4th-century decapitated burials have now been found at sites in Bedfordshire (eg Kempston: Boylston and Roberts 2004) and in neighbouring areas such as Cambridgeshire (Alexander *et al*. 2004, 84). Although a number of theories have been proposed, the ideology underlying decapitation burials remains poorly understood.

CATALOGUE OF BURIALS

Abbreviations:

1	=	dental alveolar present
~~1~~	=	dental alveolar not present
P	=	tooth present
X	=	antemortem tooth loss
/	=	post-mortem tooth loss
-	=	unknown antemortem or post-mortem tooth loss
CA	=	congenitally absent tooth
U	=	Unerupted tooth
PU	=	pulp exposed
FC	=	foramen caecum
C	=	unspecified caries
MAC	=	mesial approximal caries
CC	=	cervical caries
BCC	=	buccal cervical caries
DCC	=	distal cervical caries
MCC	=	mesial cervical caries
PD	=	periodontitis
A	=	chronic periapical periodontal abscess

Late Bronze Age burial

Site 2

Cut number: 2150
Context number: 2151
Container: Unurned
Period: Late Bronze Age (Phase 3). Radiocarbon dated to 1130–930 cal BC (OxA-15672: 2868 ± 28 BP)
Estimated number of fragments: 1479 (8.25% identified)
Weight (g): 779.00 (25.87% identified)
Maximal fragment size (mm): 69.64
Colour/Incineration: Grey–White (700–800°C)
Clean/Sooty: Slightly sooty
Skull: Vault, Temporal bone, Zygomatic bone, Mandible, Teeth
Axial: Not present
Upper limb: Humerus, Radius, Ulna
Lower limb: Femur, Tibia, Talus
MNI: 1
Age: 35–64 years (Mature–Older adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Iron Age burials

Inhumation burials and disarticulated bones

Site 2

Skeleton number: 2074
Cut number: 2132 (ditch 2742)
Completeness: 5%: Skull vault
Preservation: Good
Period: Middle Iron Age (Phase 4)
Age: 35–64 years (Mature–Older adult)
Sex: Indeterminable
Stature: Indeterminable
Dental inventory: Not present
Skeletal pathology: Not present
Metrical indices: Not present
Nonmetric traits and anomalies: Bregmatic bone (24 x 17 mm), metopism, lambdoid ossicle (left), bathrocephalic shape of the occipital plane.

Skeleton number: 2079
Cut number: 2132 (ditch 2742)
Completeness: 95%: Virtually complete skeleton
Preservation: Good
Period: Middle Iron Age (Phase 4). Radiocarbon dated to 160 cal BC–cal AD 50 (OxA-15513: 2036 ± 28 BP)
Age: 35–39 years (Mature adult)
Sex: Male (+1)
Stature: 161.50 ± 3.85 cm (Sjøvold); 163.75 ± 3.27 cm (Trotter and Gleser)
Position: Supine
Orientation: N-S
Dental inventory:

				MCC?								MAC		DCC	
CA	P	/	/	P	P	P	P	P	P	P	P	P	P	P	-
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	~~8~~
8	7	6	5	4	3	2	1	1	2	3	4	5	~~6~~	~~7~~	~~8~~
P	P	P	P	P	P	P	/	/	P	P	P	P	-	-	-
MCC			MCC												

Dental pathology: Cervical caries, approximal caries, minor calculus deposits, slight dental attrition
Skeletal pathology: Bilateral active cribra orbitalia. Minor eburnation in the atlas-dens axis articulation. Minor osteophytes on the bodies of the axis-C3, T6, T8 and L5-S1. Minor porosity on the bodies of T8 and T12. Minor Schmorl's nodes on T6-T7, T11 and L3. Well healed spiral fracture of the left distal ulna, excluding the posterior margin, resulting in an approximately 30∞ medial rotation, 9.50 mm shortening of the bone and a thickening of cortex (extent: 47 mm). Degeneration of the left distal ulna and radius, secondary to the ulnar fracture, with minor marginal osteophytic lipping and

eburnation facet at the ulnar articular circumference and osteophytic bone on the dorso-interossius margin of the ulnar notch. Eburnation facet (6 x 4 mm) on the medial patellar surface on the left femur and patella, and at the lateral margin of the lateral patellar surface (5 x 2 mm).
Metrical indices:
Platymeric (left): 74.28 *(Platymeria)*
Platycnemic (right): 67.22 *(Mesocnemia)*
Nonmetric traits and anomalies: congenitally absent third maxillary molar, unilateral (left) divided mental foramen, assessory right superior articular facet on L1, flattened distal articulation surfaces of the proximal phalanges of the first metatarsals. One sesamoid bone in each foot. Congenital blunt subchondral pit (5 x 4 mm) on the plantar aspect of the inferior articular surface of the left lateral cuneiform bone.

Skeleton number: 2176
Cut number: 2159 (ditch 2742)
Completeness: 5%: Skull vault
Preservation: Good
Period: Middle Iron Age (Phase 4). Radiocarbon dated to 370–180 cal BC (OxA-15514: 2196 ± 29 BP)
Age: 18–44 years (Young–Mature adult)
Sex: Male (+1)
Stature: Indeterminable
Dental inventory: Not present
Skeletal pathology: Minor inactive porotic lesions (~ 10 x 7 mm) at the superior margin of both temporal meati. Unilateral mastoiditis; lytic lesion (11 x 10 mm) on the left temporal mastoid process, from a medio-lateral direction, resulting in destruction of the inferior third part of the process.
Metrical indices: Not available
Nonmetric traits and anomalies: Unilateral parietal foramen (right), supra-orbital foramen (left), unilateral mastoid foramen (left).

Skeleton number: 2508
Cut number: 2509
Completeness: 70%: Virtually complete skeleton
Preservation: Good
Period: Late Iron Age (Phase 5)
Age: 35–45 years (Mature adult)
Sex: Male (+1)
Stature: 167.91 ± 5.10 cm
Position: On its right side
Orientation: NE-SW
Dental inventory:

								PU							
				MCC		DCC									
-	-	P	P	P	P	P	P	P	P	P	P	-	-	-	-
~~8~~	~~7~~	~~6~~	~~5~~	4	3	2	1	1	2	3	4	~~5~~	~~6~~	~~7~~	~~8~~
8	7	6	5	4	3	2	1	1	2	3	4	5	3	3	8
P	*X*	*X*	*P*	*P*	/	/	*P*	*P*	/	*P*	*P*	*P*	*X*	*P*	*P*
												DCC	*DCC*	*MCC*	
													BCC	*BCC*	

Dental pathology: Cervical caries, enamel hypoplasia (2–3 years) minor calculus deposits on the front teeth and heavy on the molars, moderate dental attrition
Skeletal pathology: Unilateral (left) active cribra orbitalia. Minor to moderate osteophyte on the dens of the axis and on the articular processes of C4, on one thoracic vertebra and on L4. Minor to severe porosity on the articular processes of C3-C4 and on one thoracic vertebra. Minor *ligamentum flavum* on T12. A marginal osteophyte was noted on a fragment of the right glenoid cavity. Subchondral pitting (7 x 2 mm) on the superior aspect of the anterior facet of the left navicular bone.
Metrical indices:
Platymeric (left): 72.84 *(Platymeria)*
Platymeric (right): 72.37 *(Platymeria)*
Platycnemic (right): 63.85 *(Mesocnemia)*
Nonmetric traits and anomalies: Bilateral hypotrochanteric fossae, bilateral double calcanea facets. A congenital subchondral pit (5 x 2 mm) in the posterior calcanean facet of the right talus. A small congenital pit (1 x 1 mm) in the plantar aspect of the anterior facet of the left medial cuneiform.

Skeleton number: 2566
Cut number: 2567 (ditch 2500)
Completeness: 70%: Parts of the skull, the spine, left shoulder, both arms, left ribs both femora and the right foot.
Preservation: Good
Period: Late Iron Age (Phase 5)
Age: ~ 0 years (Perinatal)
Sex: Indeterminable
Stature: Indeterminable
Position: Extended
Orientation: NE-SW
Dental inventory: Not present
Skeletal pathology: Not present.
Metrical indices: Not available
Nonmetric traits and anomalies: Not present

Context number: 2618 (fill of ditch 2404)
Completeness: Proximal half of left humerus only
Period: Late Iron Age (Phase 5)
Age: >18 years
Sex: ?Female
Stature: Indeterminable
Dental inventory: Not present
Skeletal pathology: Periosteal reactive new bone at the medial neck (16 x 14 mm)
Metrical indices: Not available
Nonmetric traits and anomalies: Not present

Site 4

Skeleton number: 4227
Cut number: Ditch 4941
Completeness: 40%: Right side skull fragments, vertebrae fragments, right shoulder and proximal humerus, distal femora and both lower legs and some foot bones.
Preservation: Good
Period: Late Iron Age (Phase 5)
Age: 17–38 years (Young/Prime adult)
Sex: Male (+1)
Stature: Indeterminable
Position: Supine, slumped on its right side
Orientation: N-S
Dental inventory:

P	P	P	P	P	P	P	/	-	-	-	-	-	-	-	-
~~8~~	~~7~~	~~6~~	5	4	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
8	7	6	5	4	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
CA	*P*	*X*	*P*	*P*	*P*	*P*	*P*	*P*	-	-	-	-	-	-	-
		A													

Dental pathology: Chronic periapical periodontal abscess, ante-mortem tooth loss, minor calculus deposits, slight dental attrition. Possibly mild periodontitis, manifested by minor porosity on the palatine process of the right maxilla and minor porosity on the buccal surface along the right incisors and premolars.
Skeletal pathology: Minor ossified *ligamentum flavum* on T1-T4, T9-T11 and L3. Possibly healed scurvy with inactive porotic hyperostosis on the parietal bones and the superior squamous part of the occipital bone, localised along the sagittal suture. Inactive porotic lesion (12 x 7 mm) at the superior margin of the right temporal meati with a 4 x 4 mm more pronounced patch. Healed periosteal reactive new bone alongside the lateral surface of the right mandibular body (43 x 11 mm). Also, a developed impression of the costo-clavicular ligament on the right clavicle and a congenital subchondral defect in the right inferior articular surface of the right tibia, at the articular surface of the malleous.
Metrical indices: Not present.
Nonmetric traits and anomalies: Congenitally absent third mandibular molar, bilateral parietal foramina, supra-orbital foramen (right), bilateral anterior condylar canals, acromial articular facet (right).

Cremation burial

Site 6

Cut number: 6079
Context number(s): 6077, 6078
Period: Late Iron Age (Phase 5). Radiocarbon dated to 100 cal BC–cal AD 60 (OxA-15671: 2020 ± 25 BP).
Container: Unurned
Estimated number of fragments: 2785
Weight (g): 857.50 (26.53% identified)
Maximal fragment size (mm): 81.01
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Zygomatic bone, Maxilla, Teeth
Axial: Cervical vertebrae, Thoracic vertebrae, Vertebrae, Hip bone, Rib
Upper limb: Scapula, Humerus, Radius, Ulna, Scaphoid, Metacarpal
Lower limb: Femur, Patella, Tibia, Fibula, Talus, Navicular
MNI: 2?
Individual 1:
Age: 9–18 years (Older child–Adolescent)
Sex: Indeterminable
Individual 2?:
Age: > 18 years (Adult)
Sex: ??Male
Pathology: Not present
Animal bones: Not present
Comments: Metal stain (Fe) on three unidentified bone fragments. Most fragments belong to a juvenile individual. A few skull vault fragments, long bones (humerus, radius and femur) and a hip bone fragment are possibly adult.

Roman burials

Cremation burials

Site 4

Cut number: 4076
Context number(s): 4073
Period: Early Roman (Phase 6.2)
Container: Urned
Estimated number of fragments: 2608 (2.45% identified)
Weight (g): 600.00 (28.58% identified)
Maximal fragment size (mm): 39.42
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Temporal bone, Frontal bone, Mandible
Axial: Cervical vertebrae, Thoracic vertebrae, Hip bone, Rib
Upper limb: Scapula, Clavicle, Humerus, Radius, Ulna
Lower limb: Femur, Patella, Tibia, Fibula
MNI: 1
Age: 18–64 years (Adult)
Sex: ?Female
Pathology: Possibly healed porotic hyperostosis on two cranial vault fragments
Animal bones: Not present

Cut number: 4080
Context number(s): 4079
Period: Early Roman (Phase 6.2)
Container: Urned
Estimated number of fragments: 57 (1.75% identified)
Weight (g): 7.50 (26.67% identified)
Maximal fragment size (mm): 19.35
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Temporal bone
Axial: Not present
Upper limb: Not present
Lower limb: Not present
MNI: 1
Age: > 18 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 4195
Context number(s): 4194
Period: Early Roman (Phase 6.2)
Container: Urned?
Estimated number of fragments: 930 (1.50% identified)
Weight (g): 141.50 (13.43% identified)
Maximal fragment size (mm): 26.74
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Temporal bone, Maxilla
Axial: Not present
Upper limb: Not present
Lower limb: Not present
MNI: 1
Age: > 18 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 4197
Context number(s): 4196
Period: Early Roman (Phase 6.2)
Container: Urned
Estimated number of fragments: 1035 (3.77% identified)
Weight (g): 251.00 (10.76% identified)
Maximal fragment size (mm): 32.81
Colour/Incineration: Grey–White (700–800°C)
Clean/Sooty: Clean
Skull: Vault, Temporal bone, Tooth
Axial: Not present
Upper limb: Not present
Lower limb: Femur, Tibia, Fibula

MNI: 1
Age: 50–89 years (Older adult)
Sex: ?Male
Pathology: Not present
Animal bones: Not present

Cut number: 4231
Context number(s): 4230
Period: Late Iron Age or early Roman (Phase 5–6). Radiocarbon dated to cal AD 0–130 (OxA-15673: 1946 ± 27 BP)
Container: Unurned
Estimated number of fragments: 628 (3.98% identified)
Weight (g): 278.00 (25.72% identified)
Maximal fragment size (mm): 63.14
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Maxilla
Axial: Not present
Upper limb: Radius, Ulna
Lower limb: Femur, Tibia, Fibula
MNI: 1
Age: > 18 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 4236
Context number(s): 4235
Period: Early Roman (Phase 6.2)
Container: Urned
Estimated number of fragments: 681 (8.37% identified)
Weight (g): 170.00 (16.76% identified)
Maximal fragment size (mm): 59.98
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, tooth
Axial: Not present
Upper limb: Not present
Lower limb: Femur
MNI: 1
Age: 35–64 years (Mature–Older adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 4244
Context number(s): 4243, 4245, 4246
Period: Early Roman (Phase 6.2)
Container: Urned
Estimated number of fragments: 2476 (8.32% identified)
Weight (g): 698.00 (24.93% identified)
Maximal fragment size (mm): 43.40
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Temporal bone, Frontal bone, Zygomatic bone, Mandible, teeth,
Axial: Axis, Cervical vertebrae, Thoracic vertebrae, Sacrum, Hip bones, Rib
Upper limb: Clavicle, Humerus, Radius, Ulna
Lower limb: Femur, Tibia, Fibula
MNI: 1
Age: 18–44 years (Young–Mature adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: One small mammal long bone fragment

Cut number: 4247
Context number(s): 4248–4250
Period: Early Roman (Phase 6.2)
Container: Urned
Estimated number of fragments: 135 (7.41% identified)
Weight (g): 54.00 (12.96% identified)
Maximal fragment size (mm): 22.76
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault
Axial: Not identified
Upper limb: Not identified
Lower limb: Tibia
MNI: 1
Age: > 18 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present
Comments: This deposit is back-fill covering urn 4249 containing fill 4246.

Cut number: 4308
Context number(s): 4307
Period: Early Roman (Phase 6.2)
Estimated number of fragments: 37 (43.24% identified)
Weight (g): 86.00 (75.58% identified)
Maximal fragment size (mm): 35.66
Colour/Incineration: Grey–White (700–800°C)
Clean/Sooty: Clean
Skull: Not identified
Axial: Not identified
Upper limb: Humerus
Lower limb: Femur, Tibia
MNI: 1
Age: Indeterminable
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present
Comments: This deposit was found within the lower fill of ditch terminal 4308, and could be the remains of a previously truncated cremation burial.

Site 8

Cut number: 8092
Context number(s): 8093
Period: 1st century AD (Phase 5–6.1)
Container: Unurned
Estimated number of fragments: 103 (13.59% identified)
Weight (g): 62.00 (15.32% identified)
Maximal fragment size (mm): 31.11
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Teeth
Axial: Not present
Upper limb: Not present
Lower limb: Not present
MNI: 1
Age: > 18 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 8095
Context number(s): 8126
Period: Early Roman (Phase 6)
Container: Unurned
Estimated number of fragments: 466 (5.58% identified)
Weight (g): 211.00 (28.74% identified)

Maximal fragment size (mm): 32.60
Colour/Incineration: Grey–White (700–800°C)
Clean/Sooty: Clean
Skull: Vault
Axial: Vertebrae, Hip bone
Upper limb: Humerus
Lower limb: Femur, Tibia, Fibula, Talus, Navicular
MNI: 1
Age: 18–44 years (Young–Mature adult)
Sex: ?Female
Pathology: Not present
Animal bones: Not present

Cut number: 8096
Context number(s): 8129, 8130, 8131, 8132, 8161, 8326, 8327, 8328, 10884–10889
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 972 (15.74% identified)
Weight (g): 667 g (42.5 % identified)
Maximal fragment size (mm): 82.95%
Colour/Incineration: White (> 700–800°C) / Grey–White (700–800°C)
Clean/Sooty: Clean
Skull: maxilla, cranial vault, frontal bone, R zygoma, mandible, occipital bone
Axial: atlas, axis, acetabulum, pelvis, lumbar vertebrae, thoracic vertebrae, cervical vertebrae, pelvis, sacrum
Upper limb: L MC IV, hand phalange, NC1, MC III, radial head, radial shaft, ulnar shaft, humeral shaft, clavicle
Lower limb: R femoral head, fibula, tibia, patella, calcaneus, talus,
MNI: 1
Age: Adult
Sex: Indeterminable
Pathology: Not present
Pathology: Nil noted
Animal bones: sheep/goat atlas, axis and skull fragments; two snail shells

Cut number: 8097
Context number(s): 8116
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 214 (7.01% identified)
Weight (g): 110.00 (30% identified)
Maximal fragment size (mm): 30.83
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Teeth
Axial: Vertebrae
Upper limb: Humerus, Ulna
Lower limb: Femur, Tibia
MNI: 1
Age: 18–44 years (Young–Mature adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 8098
Context number(s): 8192, 8193
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 514
Weight (g): 235 g (30 % identified)
Maximal fragment size (mm): 54.75 mm
Colour/Incineration: Grey–White (700–800°C)
Clean/Sooty: Clean
Skull: Occipital bone, Temporal bone, Maxilla
Axial: Atlas, Cervical vertebrae, Thoracic vertebrae, Vertebrae, Sacrum, Hip bone
Upper limb: Scapula, Humerus, Radius, Ulna
Lower limb: Femur, Patella, Tibia, Fibula, Calcaneus
MNI: 1
Age: 35–89 years (Mature–Older adult)
Sex: Indeterminable
Pathology: Marginal moderate osteophytes (~ 3 mm) on the superior articular facets of the atlas.
Animal bones: Nil present

Cut number: 8099
Context number(s): 8119, 8120, 8125, 10896
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 455 (18.90% identified)
Weight (g): 131.50 (50.19% identified)
Maximal fragment size (mm): 42.50
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Temporal bone, Frontal bone, Mandible
Axial: Vertebrae, rib,
Upper limb: Clavicle, Radius, Ulna
Lower limb: Femur
MNI: 1
Age: < 12–19 years (Subadult)
Sex: Indeterminable
Pathology: A probably pathologic porotic patch (~ 12 x 6 mm) at the superior margin of the left temporal meatus.
Animal bones: Contained a bird skeleton

Cut number: 8102
Context number(s): 8128
Period: Early Roman (Phase 6)
Container: Unurned
Estimated number of fragments: 561 (15.69% identified)
Weight (g): 275.50 (61.89% identified)
Maximal fragment size (mm): 54.81
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Temporal bone, Frontal bone, Tooth
Axial: Cervical vertebra
Upper limb: Scapula, Humerus, Radius, Ulna
Lower limb: Femur, Tibia, Fibula, Calcaneus, Talus
MNI: 1
Age: 35–64 years (Mature–Older adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 8103
Context number(s): 8124, 10890, 10891, 10892, 10893, 10894, 10895
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 599 (16.53% identified)
Weight (g): 537.50 (54.60% identified)
Maximal fragment size (mm): 82.03
Colour/Incineration: Black/Grey–White (400–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Maxilla, Mandible, Tooth
Axial: Thoracic vertebra, Vertebrae, Hip bone, Rib
Upper limb: Radius
Lower limb: Femur, Patella, Tibia, , Fibula, Calcaneus

MNI: 1
Age: 35–64 years (Mature–Older adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 8104A
Context number(s): 8127, 10899, 10900
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 608 (11.84% identified)
Weight (g): 514.00 (50.78% identified)
Maximal fragment size (mm): 44.80
Colour/Incineration: Brown/Black/Grey–White (300–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Maxilla, Mandible, Tooth
Axial: Thoracic vertebrae, Lumbar vertebrae, Hip bone, Rib
Upper limb: Scapula, Humerus, Radius
Lower limb: Femur, Patella, Tibia
MNI: 1
Age: > 18 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present
Comments: Within pot SF 8059

Cut number: 8104B
Context number: 10901, 10902, 10903, 10904
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 890 (8.47% identified)
Weight (g): 401.00 (28.63% identified)
Maximal fragment size (mm): 70.48
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Temporal bone, Mandible
Axial: Cervical vertebrae, Vertebrae, Hip bone, Rib
Upper limb: Scapula, Humerus, Radius, Ulna, Ph1-2Mc
Lower limb: Femur, Tibia, Fibula, Talus
MNI: 1
Age: 35–89 years (Mature–Older adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: One unburned fragment
Comments: Within pot SF 8055

Cut 8104 (8127): a small quantity of burnt human bone in the back-fill of this pit could have been spillage from either cremation A or B or displaced from the earlier burial when the second was deposited.

Cut number: 8117
Context number(s): 8166
Period: Early Roman (Phase 6)
Container: Unurned
Estimated number of fragments: 668 (12.27% identified)
Weight (g): 333.5 g (49.03% identified)
Maximal fragment size (mm): 41.08
Colour/Incineration: Grey–White (700–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Temporal bone, Frontal bone, Teeth
Axial: Vertebrae
Upper limb: Radius
Lower limb: Femur, Tibia,
MNI: 1
Age: 18–44 years (Young–Mature adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 8118
Context number: 8133
Period: Early Roman (Phase 6)
Container: Unurned
Estimated number of fragments: 82 (25.61% identified)
Weight (g): 59.00 (19.49% identified)
Maximal fragment size (mm): 42.86
Colour/Incineration: Grey–Blue/White (500–800°C)
Clean/Sooty: Clean
Skull: Vault, Teeth
Axial: Axis, Cervical vertebra, Thoracic vertebrae, Vertebrae, Rib
Upper limb: Scapula
Lower limb: Not present
MNI: 1
Age: 18–64 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 8144
Context number: 8145
Period: 1st century AD (Phase 5–6.1)
Container: Unurned
Estimated number of fragments: 25 (0% identified)
Weight (g): 5.00 (0% identified)
Maximal fragment size (mm): 10.00
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Not identified
Axial: Not identified
Upper limb: Not identified
Lower limb: Not identified
MNI: 1
Age: Indeterminable
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 8393
Context number(s): 8394, 8395, 8396, 8397, 10897
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 998 (10.62% identified)
Weight (g): 698.00 (46.13% identified)
Maximal fragment size (mm): 70.39
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Temporal bone, Teeth
Axial: Thoracic vertebrae, Vertebrae, Hip bone, Rib
Upper limb: Scapula, Humerus, Radius, Ulna
Lower limb: Femur, Tibia, Fibula
MNI: 1
Age: > 18 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Two unburned bird bone fragments and one burned animal bone fragment

Cut number: 8398
Context number(s): 8399
Period: Early Roman (Phase 6)
Container: Unurned

Estimated number of fragments: 311 (13.50% identified)
Weight (g): 309.00 (55.66% identified)
Maximal fragment size (mm): 30.12
Colour/Incineration: Grey–Blue/White (500–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone
Axial: Thoracic vertebrae, Vertebrae, Hip bone, Rib
Upper limb: Humerus
Lower limb: Femur
MNI: 1
Age: > 18 years (Adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 8433
Context number(s): 8434, 8435, 10898
Period: Early Roman (Phase 6)
Container: Urned
Estimated number of fragments: 921 (22.58% identified)
Weight (g): 610.50 (53.89% identified)
Maximal fragment size (mm): 60.78
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Temporal bone, Frontal bone, Zygomatic bone, Mandible, Teeth
Axial: Vertebrae, Hip bone, Rib
Upper limb: Scapula, Clavicle, Humerus, Radius, Ulna
Lower limb: Femur, Tibia, Fibula, Calcaneus, Talus
MNI: 1
Age: 18–44 years (Young–Mature adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Two unburned fragments

Cut number: 8450
Context number(s): 8451, 8452
Period: Early Roman (Phase 6)
Container: Unurned
Estimated number of fragments: 2099 (26% identified)
Weight (g): 1195 g (36.4% identified)
Maximal fragment size (mm): 58.34
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Temporal bone, Sphenoid, Frontal bone, Zygomatic bone, Teeth
Axial: Axis, Cervical vertebrae, Thoracic vertebrae, Lumbar vertebrae, Vertebrae, Sacrum, Hip bone, Rib
Upper limb: Scapula, Clavicle, Humerus, Radius, Ulna, Ph1-2Mc
Lower limb: Femur, Patella, Tibia, Fibula, Tarsal bones
MNI: 1
Age: 18–44 years (Young–Mature adult)
Sex: ??Female
Pathology: Not present
Animal bones: Not present
Comments: Bilateral zygomatic-facial foramina

Cut number: 10068
Context number(s): 10069
Burial container: Urned
Period: Early Roman (Phase 6)
Estimated number of fragments: 106 (4.72% identified)
Weight (g): 79.50 (28.93% identified)
Maximal fragment size (mm): 59.08
Colour/Incineration: White (> 700–800°C)
Clean/Sooty: Clean
Skull: Vault
Axial: Vertebrae
Upper limb: Not present
Lower limb: Femur, Tibia
MNI: 1
Age: 35–64 years (Mature–Older adult)
Sex: Indeterminable
Pathology: Not present
Animal bones: Not present

Cut number: 10567
Context number(s): 10563, 10564, 10565, 10566
Burial container: Urned
Period: Early Roman (Phase 6)
Estimated number of fragments: 914 (19.80% identified)
Weight (g): 770.50 (60.02% identified)
Maximal fragment size (mm): 73.24
Colour/Incineration: Grey–Blue/White (500–800°C)
Clean/Sooty: Clean
Skull: Vault, Occipital bone, Temporal bone, Parietal bone, Frontal bone, Zygomatic bone, Maxilla, Mandible, Teeth
Axial: Atlas, Thoracic vertebrae, Lumbar vertebrae, Vertebrae, Hip bone, Rib
Upper limb: Humerus, Radius, Ulna, Metacarpal
Lower limb: Femur, Patella, Tibia, Talus, Tarsal bones, Metatarsal
MNI: 1
Age: 35–64 years (Mature–Older adult)
Sex: ??Female
Pathology: Not present
Animal bones: Not present
Comments: A small metal nail (Fe) (23.12 mm) was incinerated into the ectocranial surface of a temporal vault fragment.

Disarticulated cremated bone: In addition to the above burials, one fragment (0.5 g) of a 1st metacarpal, possibly adult, was recovered from fill 8726 of early Roman kiln 8725.

Inhumation Burials

Site 4

Skeleton number: 4293
Cut number: 4295
Completeness: 5%: The teeth, skull fragments and postcranial fragments
Preservation: Poor
Period: Late Roman (Phase 7)
Age: ~ 4 years (Young child)
Sex: Indeterminable
Stature: Indeterminable
Position: Supine
Orientation: W-E
Dental inventory:

			P	-	-	*P*	*P*	*P*	*P*	*P*	*P*	*P*			
			e	~~d~~	~~c~~	~~b~~	~~a~~	~~a~~	~~b~~	~~c~~	~~d~~	e			
			e	~~d~~	~~c~~	~~b~~	~~a~~	~~a~~	~~b~~	~~c~~	~~d~~	e			
			P	*P*	*P*	*P*	*P*	*P*	*P*	*P*	-	*P*			

					U	*U*	*U*		*U*	*U*					
-	-	-	-	-	*P*	*P*	*P*	-	*P*	*P*	-	-	-	-	-
~~8~~	~~7~~	~~6~~	~~5~~	4	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	4	~~5~~	~~6~~	~~7~~	~~8~~
~~8~~	~~7~~	~~6~~	~~5~~	4	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	4	~~5~~	~~6~~	~~7~~	~~8~~
-	-	-	*P*	*P*	-	*P*	*P*	*P*	*P*	-	*P*	-	-	-	-
			U	*U*		*U*	*U*	*U*	*U*		*U*				

Dental pathology: Not present.
Skeletal pathology: Inactive porotic lesion at the suprameatal region of a temporal bone (11 x 7 mm).
Metrical indices: Not present.
Nonmetric traits and anomalies: Protostyloid on the right first permanent maxillary molar.

Skeleton number: 4296
Cut number: 4298
Completeness: 1%: The petrous parts of the temporal bones, teeth and some vertebral fragments
Preservation: Poor
Period: Late Roman (Phase 7)
Age: 6–12 months (Infant)
Sex: Indeterminable
Stature: Indeterminable
Position: Supine
Orientation: W-E
Dental inventory:

				U	U	U	U	U	U	U					
-	-			P	P	P	P	P	P	P	P	-			
e	**d**	**e**	**b**	**a**			**a**	**b**	**e**	**d**	**e**				
e	**d**	**e**	**b**	**a**			**a**	**b**	**e**	**d**	**e**				
-	*P*	*P*	*P*	*P*			*P*	*P*	*P*	*P*	-				
	U	*U*	*U*	*U*			*U*	*U*	*U*	*U*					

Dental pathology: Not present.
Skeletal pathology: Not present.
Metrical indices: Not present.
Nonmetric traits and anomalies: Not present.

Skeleton number: 4301
Cut number: 4299
Completeness: 20%: Fragments of both arms and legs.
Preservation: Poor
Period: Late Roman (Phase 7)
Age: 35–45 years (Mature adult)
Sex: ?Male
Stature: Indeterminable
Position: Supine
Orientation: W-E
Dental inventory:

			DCC												
P	P	P	P	P	P	P	P	-	-	-	-	-	-	-	-
8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
P	-	-	-	*P*	*P*	*P*	*P*	*P*	*P*	*P*	-	-	-	*P*	-
PU															
C														*DCC*	

Dental pathology: Cervical caries, moderate calculus deposits and considerable dental attrition.
Skeletal pathology: Not present
Metrical indices:. Not present
Nonmetric traits and anomalies: Not present

Skeleton number: 4303
Cut number: 4305
Completeness: 20%: The skull, right clavicle, arms, ribs and legs
Preservation: Poor
Period: Late Roman (Phase 7)
Age: ~ 6 years (Older child)
Sex: Indeterminable
Stature: Indeterminable
Position: Supine
Orientation: W-E
Dental inventory:

								-	P	P	P	P			
								e	d	c	b	a			
								e	d	c	b	a	a	b	c	d	e
								P	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
								FC					*FC*				
				U			*U*						*U*	*U*	*U*	*U*		*U*	
-	-	P	-	-	-	P	-						P	P	P	P	-	P	-	-
8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
-	-	*P*	-	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	-	*P*	-	-
		U		*U*	*U*	*U*	*U*	*U*	*U*	*U*	*U*		*U*		

Dental pathology: Pitted enamel hypoplasia on the deciduous teeth.
Skeletal pathology: Minor inactive porotic lesion superior of the right temporal meatus (9 x 7 mm), possibly developmental.
Metrical indices: Not available
Nonmetric traits and anomalies: Foramen caecum

Skeleton number: 4311
Cut number: 4313
Completeness: 70%: The skull, fragments the vertebral column, both shoulders, both arms and hands, fragments of the hip bones and the legs.
Preservation: Poor
Period: Late Roman (Phase 7)
Age: 40–49 years (Mature adult)
Sex: Male (+1)
Stature: 167.85 ± 5.52 cm
Position: Supine
Orientation: W-E
Dental inventory:

			MCC	DCC											
-	P	P	X	P	P	P	P	P	P	P	P	X	P	X	-
8	**7**	**6**	5	4	3	2	1	1	2	3	4	5	6	7	**8**
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
P	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*X*	*P*
															P
															D

Dental pathology: Ante-mortem tooth loss, cervical caries, periodontitis, slight calculus deposits and moderate dental attrition.
Skeletal pathology: Minor osteophytes on the concave articular surface, at the radial margin, on the right scaphoid. Minor osteophyte (3 mm) on the palmar-lateral part of the head articular surface of the first right metacarpal. Internal thickening of the cortex at the mid-diaphysis of the right femur.
Metrical indices:
Platymeric (left): 75.41 *(Platymeria)*
Platymeric (right): 74.07 *(Platymeria)*
Nonmetric traits and anomalies: Unilaterally bipartite left superior articulation on the atlas, additional articular facet between the left trapezoid and second metacarpal.

Skeleton number: 4314
Cut number: 4316
Completeness: 50%: Fragments of the skull, the vertebral

column, arms, hands, the right hip bone and both legs.
Preservation: Poor
Period: Late Roman (Phase 7)
Age: 25–45 years (Prime–Mature adult)
Sex: Male (+2)
Stature: Indeterminable
Position: Prone
Orientation: W-E
Dental inventory:

			A												
			DCC									*MCC*			
/	P	P	P	P	P	P	/	/	/	/	P	P	X	P	/
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
P	*X*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	/	*P*

Dental pathology: Ante-mortem tooth loss, cervical caries, chronic periapical periodontal abscess, slight calculus deposits and considerable dental attrition.
Skeletal pathology: Inactive patch of a porotic lesion (10 x 4 mm) at the superior margin of the right temporal meatus. Minor to moderate osteophytes on the bodies of C3-C4, minor to moderate osteophytes and porosity on the right articular processes of the axis-C4. Moderate eburnation facet on the right superior articular process of C3 and a minor facet on the left superior articular process of T1. Degeneration of the right hip joint with a small eburnation facet (10 x 6 mm) on the mid-anterior-superior aspect of the head of the right femur and osteophytic lipping around the anterior margin. A patch of irregular sclerotic bone (24 x 24 mm) around the fovea of the same joint. Also, active periosteal reactive new bone, in a vertical direction (38 x 18 mm) at the medial part of the neck of the same femur.
Metrical indices:
Platymeric (right): 78.96 *(Platymeria)*
Platycnemic (left): 62.75 *(Platycnemia)*
Platycnemic (right): 64.91 *(Mesocnemia)*
Nonmetric traits and anomalies: Bipartite left superior articulation on the atlas.

Skeleton number: 4319
Cut number: 4317
Completeness: 40%: Fragments of a virtually complete skeleton.
Preservation: Poor
Period: Late Roman (Phase 7)
Age: 25–35 years (Prime adult)
Sex: ? Male
Stature: Indeterminable
Position: Supine
Orientation: W-E
Dental inventory:

-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
8	7	6	5	4	3	2	**1**	**1**	2	3	4	5	6	7	**8**
X	*X*	*X*	*X*	*P*	*P*	*P*	-	-	*P*	*P*	*P*	*P*	*P*	*P*	-

Dental pathology: Ante-mortem tooth loss and moderate to severe calculus deposits. Probably occupational dental abrasion on the mandibular incisors in a mesio-distal direction.
Skeletal pathology: Minor osteophyte on the left inferior articular process of one cervical vertebra. Minor eburnation facets on the articular processes of two cervical vertebrae.
Metrical indices: Platymeric (right): 75.49 *(Platymeria)*
Platycnemic (left): 71.17 *(Eurycnemia)*
Platycnemic (right): 64.06 *(Mesocnemia)*
Nonmetric traits and anomalies: Enlarged left mental foramen (left: 4.48 x 2.42 mm; right: 2.46 x 1.44 mm). Acromial articular facet (left) and a patellar vastus notch (right).

Skeleton number: 4330
Cut number: 4331
Completeness: 80%: Virtually complete skeleton.
Preservation: fair
Period: Late Roman (Phase 7)
Age: 35–39 years (Mature adult)
Sex: Male (+1)
Stature: 170.59 ± 6.07 cm
Position: Supine
Orientation: W-E
Dental inventory:

-	P	P	P	P	-	-	P	P	/	P	P	P	P	P	-
8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	1	2	3	4	**5**	**6**	**7**	**8**
8	**7**	**6**	5	4	3	2	1	**1**	**2**	3	4	5	6	7	8
/	P	P	/	P	P	P	P	-	-	/	P	*X*	P	P	P
						PU	PU								

Dental pathology: Slight calculus deposits and moderate dental attrition.
Skeletal pathology: Minor to moderate osteophytes on the *facies intervertebralis* of L1 and L5 and on the articular processes of L3 and L5. Minor porosity on the *facies intervertebralis* of L4. Moderate Schmorl's nodes on L1. Marginal osteophytes (~ 4 mm) on the dorso-lateral part of the carpal articular surface of the right radius. Moderate eburnation facet (4 x 4 mm) on the superior-radial surface of the right scaphoid. Minor marginal osteophytes on the proximal articulation facet of one middle phalanx from the left hand. Inactive periostitis on the lateral surface on the mid-diaphysis of the left (115 x 25 mm) and right (50 x 19 mm) tibiae. An additional patch on the proximal medial surface of the right tibia (26 x 13 mm). Exostosis (> 2 mm) on the proximal metaphysis of the right fibula. Minor exostosis on the lateral margin at the frontal process of the right zygomatic (5.53 mm).
Metrical indices:
Platymeric (left): 76.90 *(Platymeria)*
Platymeric (right): 81.53 *(Platymeria)*
Nonmetric traits and anomalies: Unilateral (right) remnant *sutura mendosa*. Bilateral mandibular torii and bilateral third trochanteres.

Skeleton number: 4341
Cut number: 4342
Completeness: 50%: Fragments of the skull and mandible, both arms, fragments of the right hip bone and both legs and feet.
Preservation: Good
Period: Late Roman (Phase 7). Radiocarbon dated to cal AD 240–390 (OxA-15515: 1727 ± 28 BP)
Age: 35–39 years (Mature adult)
Sex: Male (+1)
Stature: 164.71 ± 5.15 cm
Position: Supine
Orientation: W-E
Dental inventory:

													DCC		MCC	
-	X	P	P	P	P	P	P	P	P	P	P	P	P	/	X	P
~~8~~	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	~~8~~	
P	*P*	*P*	*P*	*P*	*P*	/	*P*	*P*	/	*P*	*P*	*P*	*P*	*P*	*P*	-
MCC																

Dental pathology: Cervical caries, slight calculus deposits, moderate dental attrition.
Skeletal pathology: Button osteoma (3 x 3 mm) on the superior squama of the occipital bone, 24.02 mm inferior and 19.06 mm right of the lambda. Porotic lesion (10.94 x 7.03 mm and ~ 5.80 mm deep) at the suprameatal spine of the left temporal bone which had created a crater in the pneumatic bone. The superio-anterior margin of the lesion is rounded; undergoing a healing process. All is indicative of mastoiditis. The inferio-posterior part has sharp edges, probably ante-mortem. Moderate osteophytes and porosity on the articular processes of C3 and S1. Minor eburnation facet on the inferior left articular processes of C2-C3. Minor porosity on the ventral half of the sternal surface of the left clavicle. Bilaterally moderately developed linea aspera.
Metrical indices: Not present.
Nonmetric traits and anomalies: Bilateral parietal foramina, supra-orbital foramen (right), bilateral foramen spinosum and bilateral septal aperture. Congenital subchondral defect (blunt pit) on inferior aspect of the right humeral trochlea (4 x 4 mm).
Perimortem trauma: Decapitated burial. Skull was placed between the feet. No osteological evidence of any perimortal cuts due to post-mortem damage and erosion.
Further comments: Corroded metal (Fe) at the superior fibular articulation of the right(?) tibia (13 x 18 mm).

Skeleton number: 4349
Cut number: 4351
Completeness: 80%: Virtually complete skeleton.
Preservation: Good
Period: Late Roman (Phase 7)
Age: < 12–15 years (Older child)
Sex: Indeterminable
Stature: Indeterminable
Position: Supine
Orientation: W-E
Dental inventory:

-	/	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	-	*P*
~~8~~	7	6	5	4	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~
8	7	6	5	~~4~~	3	~~2~~	~~1~~	1	2	3	4	5	6	7	~~8~~
CA	*P*	*P*	*P*	-	*P*	*P*	-	*P*	/	*P*	*P*	*P*	*P*	*P*	-

Dental pathology: Slight calculus deposits
Skeletal pathology: Not present
Metrical indices: Not present.
Nonmetric traits and anomalies: Not present
Further comments: Metal stain (Fe) on the medial aspect of the neck on the right femur.

Skeleton number: 4382
Cut number: 4383
Completeness: 60%: Virtually complete skeleton.
Preservation: Poor
Period: Late Roman (Phase 7)
Age: 35–45 years (Mature adult)
Sex: ??Male
Stature: 169.06 ± 6.07 cm
Position: Supine
Orientation: W-E
Dental inventory:

P	P	P	P	P	P	P	P	P	P	P	P	P	P	/	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
P	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*X*	*X*	*P*	*P*
														PD	

Dental pathology: Periodontitis, ante-mortem tooth loss, enamel hypoplasia, calculus, considerable dental attrition.
Skeletal pathology: Unilateral cribra orbitalia (right), considerable marginal osteophytosis on two cervical vertebrae and moderate ditto on one thoracic vertebra. Eburnation on the uncal processes between two mid-cervical vertebrae. Severe eburnation facet (> 13 x 13 mm) in the femoral-tibial articulation of the left knee. Periosteal reactive new bone (46 x 7 mm) along one unknown margin of the mid-diaphysis of the right fibula.
Metrical indices: Not present.
Nonmetric traits and anomalies: Metopism, bilateral patellar vastus notch, at least one tarsal sesamoid bone in each foot.
Perimortem trauma: Decapitation; skull was placed between the lower legs. Uncertain osteological evidence of perimortal cut marks due to post-mortem damage and erosion. A cut through the gnathion of the mandible, in a right-left lateral direction. Angle is difficult to assess, approximately 5º. Two very uncertain possible sagittal cuts on the ventral aspects of the bodies of the axis and C3.

Site 8

Skeleton number: 8122
Cut number: 8121
Completeness: 60%: The skull, shoulders, arms, ribs, hip bone, legs and some hand and foot bones
Preservation: Good
Period: Early Roman (Phase 6)
Age: ~ 0–6.5 weeks (Neonate)
Sex: Indeterminable
Stature: Indeterminable
Position: Crouched
Orientation: W-E
Dental inventory:

								U	*U*							
/	/	/	/	/				*P*	*P*	/	/	/				
~~e~~	~~d~~	~~e~~	~~b~~	~~a~~				a	b	c	~~d~~	~~e~~				
~~e~~	d	c	b	a				a	b	c	d	~~e~~				
-	/	/	/	/				/	*P*	/	/	/				
									U							

Dental pathology: Not present
Skeletal pathology: Not present
Metrical indices: Not available
Nonmetric traits and anomalies: Not present

Skeleton number: 8163
Cut number: 8162
Completeness: 60%: The skull, some cervical vertebrae, upper limbs, lower limbs and some foot bones
Preservation: Poor

Period: Early Roman (Phase 6)
Age: > 50–89 years (Older adult)
Sex: Indeterminable
Stature: 162.19 ± 6.98 cm
Position: Supine
Orientation: NE-SW
Dental inventory:

-	-	*P*	-	*P*	-	-	*P*	*P*	-	-	*P*	-	*P*	-	*P*	
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	1	1	2	~~3~~	4	5	6	7	8	
-	*P*	-	-	-	*P*	*P*	*P*	*P*	*P*	-	*P*	/	/	/	/	
DCC																

Dental pathology: Cervical caries
Skeletal pathology: Not present
Metrical indices: Not available
Nonmetric traits and anomalies: Not present

Skeleton number: 8413
Cut number: 8411
Completeness: 70%: Parts of the skull, the spinal column, shoulders, arms, hands, parts of the left hip, both legs and some foot bones.
Preservation: Poor to good
Period: Early Roman (Phase 6)
Age: 43–60 years (Older adult)
Sex: Female (-2)
Stature: 169.28 ± 5.10 cm
Position: Crouched, on the left side
Orientation: NW-SE
Dental inventory:

		MCC														
-	-	*P*	-	-	*P*	-	*P*	/	/	/	-	-	-	-	-	
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	1	2	3	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	3	2	1	1	2	3	4	~~5~~	~~6~~	~~7~~	~~8~~	
-	-	*P*	-	-	*P*	*P*	*P*	/	/	/	/	-	-	-	-	
		MAC?			*MCC*		*DCC*									

Dental pathology: Cervical caries, possible approximal caries and calculus deposits.
Skeletal pathology: Mild to severe vertebral osteophytosis on the bodies of C5-C7 and T3-T12, most evident in the cervical region. Mild intervertebral osteochondrosis on C5-C7, T3, T6 and T8-T11. Osteophytes on the articular processes of the axis-C6, T1, T5, T11, T12 and L2-L4. Eburnation on one inferior uncal articulation of the axis and on the articular processes of C3, C6 and L4. Mild ossified *ligamentum flavum* on T7-T11. Fusion between the left articular processes of L4 and L5. Osteophytic growth in two right, and eburnation in one left, vertebral costal facets. A small eburnation facet in the right clavicular notch of the manubrium. Moderate marginal osteophytic growth at the medial part of the coronoid process of the right ulna. Minor osteophytes at the superio-dorsal margin of the glenoid fossa of the right scapula. Porotic appearance on the sternal articular surface of the right clavicle with minor osteophytes. Eburnation on the lateral aspect of the head of the second right metacarpal and on the associated phalanx. Marginal osteophytes and eburnation on the trochlei from four phalanges in the right hand and on five phalanges in the left hand. Minor eburnation facet on the intercondylar eminence of the right tibia.
Metrical indices:
Platymeric (left): 69.35 *(Platymeria)*
Nonmetric traits and anomalies: Zygomatic-facial foramen (left), anterior condylar canal (right), unilateral bipartite transverse foramina on C6 (left)

Skeleton number: 8563
Cut number: 8561
Completeness: 40%: Parts of the skull, the arms, pelvic fragments, the legs and fragments of both hands and feet.
Preservation: Poor to good
Period: Early Roman (Phase 6)
Age: 35–45 years (Mature adult)
Sex: Male (+2)
Stature: 175.82 ± 5.98 cm
Position: Extended, on the left side
Orientation: NNE-SSW
Dental inventory:

				MCC									*A*			
			PU	*PU*								*PU*	*PU*			
P	*P*	*P*	*P*	-	*P*	-	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	-
~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~	1	2	3	4	5	6	7	~~8~~	
8	7	6	5	4	3	2	~~1~~	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	
UE	*P*	*X*	*P*	*P*	*P*	*P*	-	-	-	-	-	-	-	-	-	*P*
			DCC													
			PD													

Dental pathology: Cervical caries, minor periodontitis, calculus deposits
Skeletal pathology: A small patch (13 x 13 mm) of healed porotic hyperostosis on the left parietal bone, at the occipital border. Minor marginal osteophytic bone on the radius margin of the ulnar articular circumference. Minor osteophytes on the convex margin of the right scaphoid. Osteoarthritic sclerotic pitting on the head of the left fifth metatarsal. Exostosis at the proximal soleal line of the right tibia, just proximal of the nutrient foramen, resulting in a 30 x 11 mm vertical patch of periosteal reactive new bone. Minor porotic patch (10 x 5 mm) at the dorsal margin of the inferior articular surface of the right tibia.
Metrical indices:
Platymeric (left): 67.56 *(Platymeria)*
Platymeric (right): 70.79 *(Platymeria)*
Nonmetric traits and anomalies: Exostosis in the trochanteric fossa (left), double calcanea facet (left), two sesamoid tarsal bones.

Skeleton number: 8798
Completeness: 20%: The skull, shoulders, arms and some hand and foot bones
Preservation: Good
Period: Early Roman (Phase 6)
Age: ~ 0 years (Neonate)
Sex: Indeterminable
Stature: Indeterminable
Position: Crouched
Orientation: N-S
Dental inventory:

U	*U*	*U*	*U*	*U*		*U*	*U*	*U*	*U*	*U*	
/	/	/	/	/		/	/	/	*P*	/	
e	d	c	b	a		a	b	c	d	e	
e	d	c	b	a		a	b	c	d	e	
/	*P*	/	*P*	*P*		/	/	*P*	*P*	/	
U	*U*	*U*	*U*	*U*		*U*	*U*	*U*	*U*	*U*	

Dental pathology: Not present
Skeletal pathology: Not present
Metrical indices: Not available
Nonmetric traits and anomalies: Not present
Comments: skeleton has been placed in top of ditch 8800

Skeleton number: 8939
Cut number: 8925
Completeness: 15%: Both lower legs and the right talus and calcaneus.
Preservation: Good
Period: Early Roman (Phase 6)
Age: > 17–20 years (Adult)
Sex: Indeterminable
Stature: 164.52 ± 4.69 cm
Position: Unknown
Orientation: Unknown
Dental inventory: Not present
Skeletal pathology: Pronounced tuberosity along the distal interossius margin of the right tibia (17.67 mm)
Metrical indices:
Platycnemic (left): 81.53 *(Eurycnemia)*
Platycnemic (right): 79.95 *(Eurycnemia)*
Nonmetric traits and anomalies: Not present
Comments: This skeleton comprises of two lower legs (8939), the right talus (8929) and the right calcaneus (8932).

Skeleton number: 10342
Cut number: 10344
Completeness: 30%: Fragments of the skull, the arms, ribs, hip bone and both legs.
Preservation: fair
Period: Early Roman (Phase 6)
Age: ~ 0 years (Perinatal)
Sex: Indeterminable
Stature: Indeterminable
Position: Crouched
Orientation: E-W
Dental inventory: Not present
Skeletal pathology: The endocranial surface of the occipital bone of the skull was overlaid by active woven bone
Metrical indices: Not present
Nonmetric traits and anomalies: Not present

Skeleton number: 10472
Cut number: 10473
Completeness: 50%: Parts of the skull, the arms, ribs, spine, hip bone, femora and fragments of the lower legs.
Preservation: fair
Period: Early Roman (Phase 6)
Age: ~ 0 years (Perinatal)
Sex: Indeterminable
Stature: Indeterminable
Position: Crouched, on the right side
Orientation: Unknown
Dental inventory: Not present
Skeletal pathology: Patch of woven bone (~ 27 x 20 mm) on the endocranial surface of the occipital bone.
Metrical indices: Not present
Nonmetric traits and anomalies: Not present

APPENDIX 9.1: NONMETRIC TRAITS

Table A9.1.1: Iron Age skeletons, cranial non-metric traits

Trait	*L (n:)*	*(n:)*	*R (n:)*	*L (N:)*	*(N:)*	*R (N:)*	*L (%)*	*R (%)*	*Total (%)*
Highest nuchal line	0		0	3		3	0%	0%	0%
Ossicle at lambda		0			3				0%
Bregmatic bone		1			3				33%
Metopism		1			4				25%
Lambdoid ossicle	2		1	3		2	67%	50%	60%
Coronal ossicle	0		0	2		3	0%	0%	0%
Ossicle at asterion	0		1	0		1		100%	100%
Parietal notch bone	0		1	0		1		100%	100%
Parietal foramen	1		3	4		3	25%	100%	57%
Accessory infraorbital foramen	0		0	1		0	0%		0%
Zygomatic facial foramen	0		0	1		1	0%	0%	0%
Frontal foramen	0		0	3		1	0%	0%	0%
Auditory torus	0		0	3		3	0%	0%	0%
Mandibular torus	0		0	2		2	0%	0%	0%
Torus maxillaryis	0		0	1		1	0%	0%	0%
Foramen ovale	0		0	1		0	0%		0%
Supra-orbital foramen	2		2	2		2	100%	100%	100%
Mastoid foramen	2		1	2		2	100%	50%	75%
Anterior condylar canal	1		2	3		3	33%	67%	50%

Table A9.1.2: Iron Age skeletons, post-cranial traits

Trait	*L (n:)*	*R (n:)*	*L (N:)*	*R (N:)*	*L (%)*	*R (%)*	*Total (%)*
Septal aperture	0	0	2	2	0%	0%	0%
Supra-condyloid process	0	0	2	2	0%	0%	0%
Acromial articular facet	2	0	2	0	100%		100%
Allen's fossa	0	0	2	2	0%	0%	0%
Poirier's facet	0	0	2	2	0%	0%	0%
Plaque formation	0	0	2	2	0%	0%	0%
Third trochanter	1	0	2	2	50%	0%	25%
Hypotrochanteric fossa	1	1	2	1	50%	100%	100%
Exostosises in trochanteric fossa	0	0	2	0	0%		0%
Patellar vastus notch	0	0	2	2	0%	0%	0%
Patellar vastus fossa	0	0	2	2	0%	0%	0%
Emarginate patella	0	0	2	2	0%	0%	0%
Medial squatting facet	0	0	1	1	0%	0%	0%
Lateral squatting facet	0	0	0	1		0%	0%
Double calcanea facet	1	1	2	1	50%	100%	100%

Table A9.1.3: Roman skeletons, cranial nonmetric traits

Trait	*L (n:)*	*(n:)*	*R (n:)*	*L (N:)*	*(N:)*	*R (N:)*	*L (%)*	*R (%)*	*Total (%)*
Highest nuchal line	0		0	6		5	0%	0%	0%
Ossicle at lambda		0			5				0%
Bregmatic bone		0			2				0%
Metopism		1			6				17%
Lambdoid ossicle	0		1	3		4	0%	25%	14%
Coronal ossicle	0		0	1		1	0%	0%	0%
Parietal foramen	1		1	3		2	33%	50%	40%
Zygomatic facial foramen	1		0	4		2	25%	0%	17%
Frontal foramen	0		0	3		5	0%	0%	0%
Auditory torus	0		0	4		7	0%	0%	0%
Mandibular torus	1		1	4		5	25%	20%	22%
Torus maxillaryis	0		0	3		3	0%	0%	0%
Precondylar tubercle	0		0	1		1	0%	0%	0%
Foramen ovale	0		0	3		1	0%	0%	0%
Supra-orbital foramen	0		1	1		4	0%	25%	20%
Postcondylar facet	0		0	2		2	0%	0%	0%
Foramen Spinosum	1		1	1		1	100%	100%	100%
Posterior condylar canal	0		0	1		1	0%	0%	0%
Condylar facet	0		0	1		1	0%	0%	0%
Anterior condylar canal	0		0	1		4	0%	0%	0%

Table A9.1.4: Roman skeletons, post-cranial nonmetric traits

Trait	*L (n:)*	*R (n:)*	*L (N:)*	*R (N:)*	*L (%)*	*R (%)*	*Total (%)*
Bipartite transverse foramina C6	1	1	1	1	100%	100%	100%
Septal aperture	1	1	4	5	25%	20%	22%
Supra-condyloid process	0	0	4	4	0%	0%	0%
Acromial articular facet	1	1	1	1	100%	100%	100%
Accessory ilium facet	0	0	1	1	0%	0%	0%
Allen's fossa	0	0	1	1	0%	0%	0%
Poirier's facet	0	0	1	1	0%	0%	0%
Plaque formation	0	0	1	1	0%	0%	0%
Third trochanter	2	2	4	4	50%	50%	50%
Hypotrochanteric fossa	1	1	4	4	25%	25%	25%
Exostosis in trochanteric fossa	1	0	2	1	50%	0%	33%
Patellar vastus notch	2	3	4	3	50%	100%	71%
Patellar vastus fossa	0	0	2	0	0%		0%
Emarginate patella	0	0	3	1	0%	0%	0%
Medial squatting facet	0	1	0	2		50%	50%
Lateral squatting facet	0	0	0	1		0%	0%
Double calcanea facet	1	0	2	3	50%	0%	20%

APPENDIX 9.2: METRICAL DATA

Table A9.2.1: Craniometrics (mm)

	Skeletons								
Measurement	*2079*	*2508*	*4311*	*4314*	*4319*	*4330*	*4341*	*4349*	*8163*
B′	107.76	-	-	-	-	-	-	-	-
S'_1	-	-	122.00	-	-	-	-	-	-
G'_1	44.82	-	-	-	-	-	-	-	-
W_1	-	-	-	-	-	-	109.20	-	-
GoGo	-	102.20	-	-	-	-	-	-	-
ZZ	42.71	46.85	46.48	48.11	-	46.31	42.76	48.00	39.80
H_1	-	-	-	33.25	-	-	29.89	-	-
MZ	-	-	-	-	43.33	-	-	-	-

Table A9.2.2: Post-cranial long bone measurements (mm). L = left, R = right

		Skeletons										
Measurement		*2079*	*2508*	*4311*	*4314*	*4319*	*4330*	*4341*	*4382*	*8413*	*8563*	*8939*
FeL_1	L	430.00	-	-	-	-	-	-	-	-	-	-
FeL_2	L	428.00	-	-	-	-	-	-	-	-	-	-
FeD_1	L	28.82	26.45	27.75	-	-	26.57	24.02	-	23.10	28.62	-
	R	-	26.82	27.02	25.82	27.44	28.20	22.33	27.55	-	29.20	-
FeD_2	L	38.80	36.31	36.38	-	-	34.55	30.98	-	33.31	42.36	-
	R	-	37.06	36.48	32.70	36.55	34.59	33.34	32.14	-	41.25	-
TiL_1	R	352.00	-	-	-	-	-	-	-	-	-	-
TiD_1	L	-	-	-	37.67	34.17	-	33.17	-	-	-	36.82
	R	37.01	37.51	-	37.34	37.54	-	32.98	-	-	-	35.86
TiD_2	L	-	-	-	23.64	24.32	-	22.97	-	-	-	30.02
	R	24.88	23.95	-	24.24	24.05	-	23.28	-	-	-	28.67
RaL_1	L	247.00	-	-	-	-	-	-	-	-	-	-
	R	246.00	-	-	-	-	-	-	-	-	-	-
UiL_1	L	263.00	-	-	-	-	-	-	-	-	-	-
	R	272.50	-	-	-	-	-	-	-	-	-	-

APPENDIX 9.3: DENTAL DATA

Table A9.3.1: Prevalences of dental data from the Iron Age skeletons.
AMTL = Antemortem tooth loss, PMTL = Post-mortem tooth loss

Skeleton no.	*Caries*		*AMTL*		*PMTL*		*Periapical abscesses*	
2079	5/23	21.74%	0/28	0.00%	4/28	14.29%	0/28	0.00%
2508	5/20	25.00%	3/23	13.04%	3/23	13.04%	0/23	0.00%
4227	0/14	0.00%	1/9	11.11%	1/9	11.11%	1/9	11.11%
Total:	10/57	17.54%	4/60	6.67%	8/60	13.33%	1/60	1.67%

Table A9.3.2: Prevalences of dental data from adult dentitions in the Roman skeletons.
Abbreviations: AMTL = Ante-mortem tooth loss, PMTL = Post-mortem tooth loss

Skeleton no.	*Caries*		*AMTL*		*PMTL*		*Periapical abscesses*	
4301	3/17	17.65%	0/1	0.00%	0/1	0.00%	0/0	0.00%
4311	2/26	7.69%	4/27	14.81%	0/27	0.00%	0/27	0.00%
4314	2/23	8.70%	2/32	6.25%	7/32	21.88%	1/32	3.12%
4319	0/9	0.00%	4/13	30.77%	0/13	0.00%	0/13	0.00%
4330	0/21	0.00%	1/15	6.67%	4/15	26.67%	0/15	0.00%
4341	3/25	12.00%	2/30	6.67%	3/30	10.00%	0/30	0.00%
4349	0/24	0.00%	0/17	0.00%	2/17	11.76%	0/17	0.00%
4382	0/29	0.00%	2/32	6.25%	1/32	3.13%	0/32	0.00%
8163	1/14	7.14%	0/9	0.00%	4/9	44.44%	0/9	0.00%
8413	4/7	57.14%	0/10	0.00%	7/10	70.00%	0/10	0.00%
8563	2/19	10.53%	1/14	7.14%	0/14	0.00%	1/14	7.14%
Total:	17/214	7.94%	16/200	8.00%	28/200	14.00%	2/200	1.00%

Chapter 10: Animal and Fish Bone

ANIMAL BONE
by Matilda Holmes

Introduction and methodology

A total of 10,888 fragments of animal bone were recovered of which 4733 were identified to species (Table 10.1). Bones were identified using the author's reference collection, and further guidelines from Cohen and Serjeantson (1986), Hillson (1992), Bass (1995), Prummel (1988) and Schmid (1972). Due to anatomical similarities between sheep and goat, bones of this type were assigned to the category 'sheep/goat', unless a definite identification using guidelines from Prummel and Frisch (1986) or Payne (1985) could be made. Bones that could not be identified to species were, where possible, categorised according to the relative size of the animal represented (small: rodent/rabbit-sized; medium: sheep/pig/dog-sized; large: cattle/horse-sized). Ribs were not identified to species. The majority of bones were hand collected, although a small proportion came from sieved samples. All fragments were recorded.

Tooth wear and eruption were noted using guidelines from Grant (1982) and Silver (1969), as were bone fusion (Amorosi 1989; Silver 1969), metrical data (von den Driesch 1976), anatomy, side, zone (Serjeantson 1996), pathology, butchery, bone working and condition (Lyman 1994).

As the sample sizes are so small, the faunal remains from Sites 1, 3, 5, 6 and 7 are only considered in terms of species representation. For the larger assemblages from Sites 2, 4, 8 and 9, however, the bones will be considered in terms of animal husbandry, economy and the provisioning of each respective site.

Table 10.1: Quantity of animal bone recovered by phase

Phase		*Sites*	*No. of identified bones*
1	Early Neolithic	2	16
4	Middle Iron Age	2, 4, 6, 7	742
5	Late Iron Age	2, 4, 7	1412
6	Early Roman	1, 4, 8	1352
7	Late Roman	1, 4, 8	640
6-7	Roman period	1, 8	246
8	Early-mid Saxon	8, 9	22
9	Late Saxon/Saxo-Norman	3, 8, 9	239
10	Early medieval	3, 5	64

Various methods were employed to investigate the species proportions, anatomical representation and age at death of the animal populations. Four methods were used to help understand the relative species proportions:

1. Fragment count of all recorded bones. Although useful as a basic quantitative tool, this does not take into account the degree of fragmentation which is likely to be greater in bones from larger animals and those from more friable anatomies such as the skull
2. Epiphysis or restricted count. Only the ends of the bones (epiphyses) were included, as detailed by Grant (1975a). This method attempts to address fragmentation bias present in the basic fragment count.
3. Minimum number of individuals (MNI), calculated from the highest number of left or right sided bones from the epiphysis count, as defined by Silver (1969).
4. A calculation of meat weight was also included, which gives a very basic indication of the potential contribution of each of the main domestic species to the diet of the population. This method is taken from Vigne (1992). It presumes that animals were mature at death, which may lead to a bias depending on the animal husbandry of each species.

The frequencies of various anatomical parts of the carcass were also considered, using an epiphysis count similar to the one used for calculating species representation. The presence of each bone was investigated in terms of the order of expected preservation, with regard to the relative frequency that specific bones occur in the assemblage after taking into account retrieval and preservation factors (Grant 1975a). The presence of bones from specific parts of the carcass was then considered, ie head (mandible, occipitale and zygomatic skull fragments), vertebrae (1st cervical vertebra and sacrum), feet (phalanges), shin (metapodia), fore leg (scapula, humerus and radius) and hind leg (pelvis, femur and tibia), in an attempt to understand the type of meat eaten, and consequently give some insight into the status or economy of the site.

A number of methods were also used to investigate the age at death of animals:

1. Fusion data based on the age that the ends of bones fuse, which varies between anatomical part and species (Amorosi 1989; Silver 1969).
2. Tooth wear data, from work done by Grant

(1982) for the main domestic species, based on the wear teeth were exposed to during life.
3. Tooth eruption which occurs in a specific order, and at certain ages, depending on the tooth and species concerned (Amorosi 1989).

The advantages and disadvantages associated with the above methods have been widely discussed elsewhere by authors such as Klein and Cruz-Uribe (1984), Maltby (1982; 1985a) and Payne (1972).

Shoulder and wither heights of animals were calculated using indices from various authors: cattle from Fock (1966) and Matolcsi (in von den Driesch and Boessneck 1974); sheep/goat and pig from Teichert (in von den Driesch and Boessneck 1974); dog from Harcourt (1974) and horse from Keiswalter (1888).

The deposition of bones in specific areas of the main sites was also considered. This spatial analysis focused on two main areas. Firstly, the concentration of species and activity in features such as pits, ditches and gullies, and secondly the concentration of species and activity within the site. The possibility that evidence for the deposition of refuse from certain activities may exist has been considered in detail by Wilson (1996), and in this report was investigated by considering the deposition of anatomical fragments likely to be associated with domestic waste (radius and tibia), industrial waste (antler and horn core) and butchery waste (1st cervical vertebra (atlas) and 1st phalange) (Maltby 1989; Knight 1984).

Taphonomy and condition

Bones were assigned a preservation category, depending on their condition (excellent, good, fair, poor and bad) after Lyman (1994). The bones from Site 9 had generally good to excellent preservation, Sites 1, 2, 3 and 8 good to fair, Sites 5 and 7 fair to good, and Sites 4 and 6 a fair to poor bias. Bones from all sites were fragmentary and complete bones relatively uncommon.

Other taphonomic factors affecting the material were recorded including burnt, gnawed, butchered and recently broken bones. Proportions were similar for most sites (2-3% burnt, 1-2% freshly broken, 2-6% butchered and 2-4% gnawed), with notable exceptions. Sites 6 and 9 had significantly higher numbers of burnt bones in their assemblages, yet none were recorded from Site 3. Sites 6 and 7 had high numbers of freshly broken bones, whereas Site 5 had none, and Site 6 had higher than average numbers of gnawed bones in its material record.

Table 10.2: Species representation for the early Neolithic (fragment count)

Species	*No.*
Cattle	5
Sheep/goat	3
Pig	4
Red deer	1
Total identified	16
Unidentified large mammal	16
Unidentified medium mammal	15
Total	44

Neolithic and Bronze Age

The early Neolithic was represented by 44 fragments of bone retrieved from pit 2183 at Site 2, of which 16 were identified to species (Table 10.2). Cattle, sheep/goat, pig, large mammal and red deer remains were present. No animal bone was recovered from Bronze Age contexts.

Middle and late Iron Age

Species representation: Phase 4 (middle Iron Age)

Site 2

As Table 10.3 shows, 674 bones from this site were identified to species, of which over half came from sheep/goat. Of these sheep were positively identified. Cattle made up over a third of the assemblage, and pig a tenth. Horse remains were found less commonly and fragments of dog, shrew and red deer bones were also retrieved, but in very small numbers. A number of species counts were considered for this site for the main domestic species (Table 10.4). There was some reduction in the bias produced by the fragment count towards larger mammals, particularly cattle, implied by the increase of sheep/goat and pig proportions in the epiphysis count.

Sites 4, 6 and 7

The number of bones identified from these sites during this phase was negligible (Table 10.3). Cattle and sheep/goat were predominant in all assemblages, followed by pig and horse. On Site 4 the number of cattle bones was more than double those of sheep/goat. Dog remains were also recovered from this site.

Comparisons

Similar species were present in Iron Age deposits from local sites at Willington (Clark and Hutchins 1996), Shillington Bury (Roberts 2004a) and West Stagsden, Beds (Roberts 2000), although sample sizes from these sites were too small for proportions to be comparable. In general, it is common for cattle to be the predominant species on low lying sites such as those considered here, and this is reflected in the species proportions typical of other sites in the region (Hambleton 1999). High numbers of cattle are seen at the local sites of Stagsden and Salford, Beds (Roberts 2005). However, the numbers recorded at Site 2 show a distinct difference from this trend, with sheep predominant. Although this has also been noted at the local sites of East Stagsden, Biddenham Loop (Luke forthcoming) and Fairfield Park, Beds (Holmes forthcoming), it is more commonly seen in sites from Wessex and the Upper Thames Valley (Hambleton 1999).

Table 10.3: Species representation for the Iron Age (fragment count).
** Associated fragments: Site 2 includes 9 fragments of young pig partial skeleton; Site 4 includes 48 fragments of sheep mandibles*

Species	*Phase 4*					*Phase 5*				
	Site 2	*%*	*Site 4*	*Site 6*	*Site 7*	*Site 2*	*%*	*Site 4*	*%*	*Site 7*
Cattle	230	34.1	28	6	1	288	31.9	160	37.1	7
Sheep/goat	328	48.7	12	7		416	46.0	176*	40.8	4
Sheep	21	3.1	2			31	3.4	6	1.4	
Goat						1	0.1			
Pig	82	12.2	5	1		116*	12.8	46	10.7	3
Dog	1	0.1	1			5	0.6	2	0.5	1
Horse	10	1.5	3	2		30	3.3	39	9	5
Chicken						3	0.3			
Corvid						1	0.1			
Red deer	1	0.1						1	0.2	
Deer						5	0.6			
Fox						2	0.2			
Vole						5	0.6	1	0.2	
Shrew	1	0.1								
Rodent						1	0.1			
Associated fragments*						9		48		
Total identified	674		51	16	1	913		479		20
Unidentified mammal	291		8	3		223		146		28
Unidentified large mammal	431		48	9	2	501		408		20
Unidentified medium mammal	343		31	9	2	464		213		18
Unidentified small mammal						7				
Unidentified bird						4		1		
Total	1739		138	37	5	2112		1247		86

Table 10.4: Species count comparison, Site 2, Phase 4

Species	*Epiphysis Count*	*%*	*Fragment Count*	*%*	*MNI*
Cattle	43	25	230	34	3
Sheep/goat	108	63	349	52	9
Pig	12	7	82	12	3
Horse	8	5	10	1	2
Dog			1		
Chicken					
Total	171		672		17

Table 10.5: Species count comparison, Site 2, Phase 5

Species	*Epiphysis Count*	*%*	*Fragment Count*	*%*	*MNI*
Cattle	83	33	288	32	7
Sheep/goat	116	46	448	50	9
Pig	35	14	116	13	4
Horse	15	6	30	3	2
Dog	2	1	5	1	1
Chicken	2	1	1	-	1
Total	253		888		24

Species representation: Phase 5 (late Iron Age)

Site 2

In this phase (Table 10.3) proportions of the main domestic species were very similar to those from Phase 4. Cattle made up approximately a third of the assemblage, sheep/goat a half and pig over a tenth. Horse remains were found in a slightly greater ratio than in the previous phase and chicken, dog and wild species (crow, deer, fox, vole and rodent) were also present, although in small quantities. Sheep and goat remains were both positively identified. A number of fragments were recorded from the partial skeleton of a piglet from ditch 2140 (ctx 2142).

As Table 10.5 shows, there was little difference between the various species counts for this site in Phase 5, although the epiphysis count indicates a greater number of horse remains and less sheep/goat, probably due to the better differentiation of horse from cattle bones when shaft fragments are not considered.

Site 4

As Table 10.3 shows, 479 bones were identified to species from this site in Phase 5, a significantly greater number than for the earlier period. Sheep/goat remains were again most common, making up two fifths of the assemblage, although cattle were found in only slightly lower numbers. Pig and horse remains made up about a tenth of the assemblage, and dog much lower numbers. There were very few wild animal remains, with the exception of one red deer and one vole bone fragment. No chicken bones were retrieved. Cattle and horse were better represented by the epiphysis count (Table 10.6), suggesting that cattle and sheep/goat may have been present in similar proportions.

Site 7

As with the earlier phase, Site 7 contained little faunal data, although all the main domestic species were present (cattle, sheep/goat, pig, dog and horse) as Table 10.3 shows.

Comparisons

Similar species were recovered from late Iron Age deposits at Salford and Ruxox, Beds (Hamilton-Dyer 2004), but in numbers too small to use for reliable comparison. Similar species proportions to those of Site 4 were recorded in contemporary deposits at the Stagsden Bypass, and are typical of those found on other sites in the region (Hambleton 1999). As with the earlier phase, Site 2 is again unusual for the region as such high numbers of sheep and relatively low numbers of cattle are rarely found on lowland sites in the area.

Detailed analysis: Site 2

Spatial analysis

Bones from both Phase 4 and Phase 5 were mostly those associated with domestic activity (ie predominantly from limb bones). No distinction seems to have been made between the disposal of bones from large (cattle and horse) and medium sized (sheep/goat and pig) species.

In Phase 4, the backfill deposit in ditch 2742 contained the greatest concentration of bones from the whole site: 60% of horse, 75% of sheep/goat, 76% of cattle and 77% of pig fragments were retrieved from these deposits. The age profiles and fragment representation of these animals were similar to those retrieved from the rest of the site. There were two concentrations of cattle and sheep/goat horn cores, which are often associated with industrial processing. The first came from ditch 2742, the second from Enclosure 22. However, the bones were highly fragmentary, and there was no evidence of butchery associated with deliberate horn removal or working.

During Phase 5 deposits of bones associated with butchery waste (feet and head) and industrial waste (antler and horn cores) were found in greatest concentrations in contexts associated with the large enclosure ditch (20191 and 2100). The area within the main enclosure contained high concentrations of domestic waste (limb bones).

In both phases the majority of bones were retrieved from ditch contexts (Table 10.7), followed by pit deposits. In the middle Iron Age phase the two wild animal remains came from a pit and a burial context. However, in the late Iron Age phase all fragments of wild species were retrieved from ditches. In both phases dogs were only found in pit or ditch contexts and horses in all feature types except eaves-gullies and gullies in the earlier phase. The main domestic species were found in consistent proportions in pits and ditches. During Phase 4 cattle

Table 10.6: Species count comparison, Site 4, Phase 5

Species	*Epiphysis Count*	*%*	*Fragment Count*	*%*	*MNI*
Cattle	40	39	160	37	4
Sheep/goat	37	36	182	42	3
Pig	13	13	46	11	2
Horse	13	13	39	9	2
Dog			2	-	
Chicken					
Total	103		429		11

Table 10.7: Species representation by feature type, Site 2, Phases 4 and 5 (fragment count)

Species	*Eaves-gully*	*Gully*	*Pit*	*Ditch*	*Ditch terminal*
Phase 4					
Cattle	9	4	16	195	4
Sheep/goat	5	11	31	274	25
Pig	2	5	3	71	1
Horse			2	7	1
Dog			1		
Chicken					
Wild species			1		
Total	16	20	54	547	31
%	2	3	8	82	5
Phase 5					
Cattle	4	12	36	230	6
Sheep/goat	11	15	73	332	15
Pig	2	5	12	101	5
Horse		5	2	21	2
Dog			1	4	
Chicken				3	
Wild species				14	
Total	17	37	124	705	28
%	2	4	14	77	3

bones were found in the greatest quantities in eaves-gullies, and sheep/goats and pigs were predominant in gullies. In the later phase sheep/goat remains were predominant in eaves-gullies.

Table 10.8 shows the ratio of selected anatomies associated with domestic, industrial and butchery activities found in each feature type. In both phases domestic refuse dominated the type of waste found in all feature types and there were no apparent large deposits of waste associated with industrial or butchery processing. In Phase 4 industrial deposits were only retrieved from ditch contexts, but in Phase 5 it was also found in pits. Butchery waste came from ditches and pits in both phases, as well as gullies in Phase 4.

It may be that bones associated with industrial processing (predominantly horn cores and antler) and primary butchery (head and feet) were not deposited within the same areas of the site as domestic waste. There was no apparent differentiation made between bones of different species being deposited in various feature types.

Fragment representation and carcass part analysis

Figure 10.1 and Table 10.9 show the fragment representation for the major domestic species (cattle, sheep/goat and pig) in order of expected preservation, with those bones expected to be best preserved at the top. In general, bones were present in quantities that may be expected if complete carcasses had been processed on site. This was especially true of the sheep/goat population in both phases.

Within the cattle assemblages a few anomalies were apparent. In Phase 4 fewer mandible fragments, proximal metapodials, distal metacarpals, distal humeri, and femurs were retrieved than may have been expected, and rather more scapulae and proximal tibiae. Similarly, in Phase 5 proximal metapodials and humeri fragments were underrepresented. The pig assemblage from Phase 4, represented by limb bones and mandibles, was generally too small for patterns in preservation to be inferred, but in Phase 5 there were fewer metapodials, distal humeri, proximal femora and tibiae and more scapulae than expected if complete carcasses were originally deposited on site.

Figure 10.2 shows the relative frequencies of bones recovered from different parts of the carcass. In both phases head fragments were predominant, except for the Phase 4 cattle assemblage, a trend which reflects the proportion of mandibles noted in the fragment representation. Although vertebrae were the most common part of the cattle carcass from Phase 4 deposits, this part of the body was generally poorly represented in the sheep/goat, pig

Table 10.8: Types of activity waste by feature type, Site 2, Phases 4 and 5 (fragment count)

	Ditch	*Ditch terminus*	*Eave-gully*	*Gully*	*Pit*
Radius	34			1	7
Tibia	54		2	1	5
Total domestic waste	88	0	2	2	12
Horn core	17	1			
Antler					
Total industrial waste	17	1	0	0	0
Atlas *2	2				
1st Phalange /2	4		1		1
Total butchery waste	6	0	1	0	1
Total	111	1	3	2	13
Phase 5					
Radius	57	4	2	3	13
Tibia	58	2	4	4	13
Total domestic waste	115	6	6	7	26
Horn Core	10				5
Antler	3				
Total industrial waste	13	0	0	0	5
Atlas *2	6				2
1st Phalange /2	7				2
Total butchery waste	13	0	0	0	4
Total	141	6	6	7	35

Table 10.9: Fragment representation in order of expected preservation, Site 2, Phases 4 and 5 (epiphysis count)

	Phase 4			*Phase 5*		
Anatomy	*Cattle*	*Sheep*	*Pig*	*Cattle*	*Sheep*	*Pig*
Mandible with molars	1	18	5	15	29	9
Metacarpal P	2	8		2	17	3
Metatarsal P	2	14		2	10	
Humerus D	1	6		5	16	1
Tibia D	2	11	1	11	12	4
Radius P	4	4	1	10	14	5
Pelvis	3	6	2	4	2	2
Scapula D	5	4	5	4	7	8
Calcaneum	2	2			3	3
Metacarpal D	1	4		6	4	2
Metatarsal D	3	8		5	6	
Femur P	2	7		7	2	
Radius D		3		3	9	2
Tibia P	5	8		2	2	
Femur D	4	8	1	3		1
Humerus P		3	1		3	1
1st phalange *	2	4		5	2	1
2nd phalange *		1		2		2
3rd phalange *	1	1		1		
Occipitale*	4	2	3	1		1
Zygomatic	4	1	1	3	1	
Atlas*	4			4	6	
Sacrum*	4	4	2		2	4
Total	56	127	22	95	147	49

* Figures adapted for anatomical frequency in relation to other bones in the skeleton

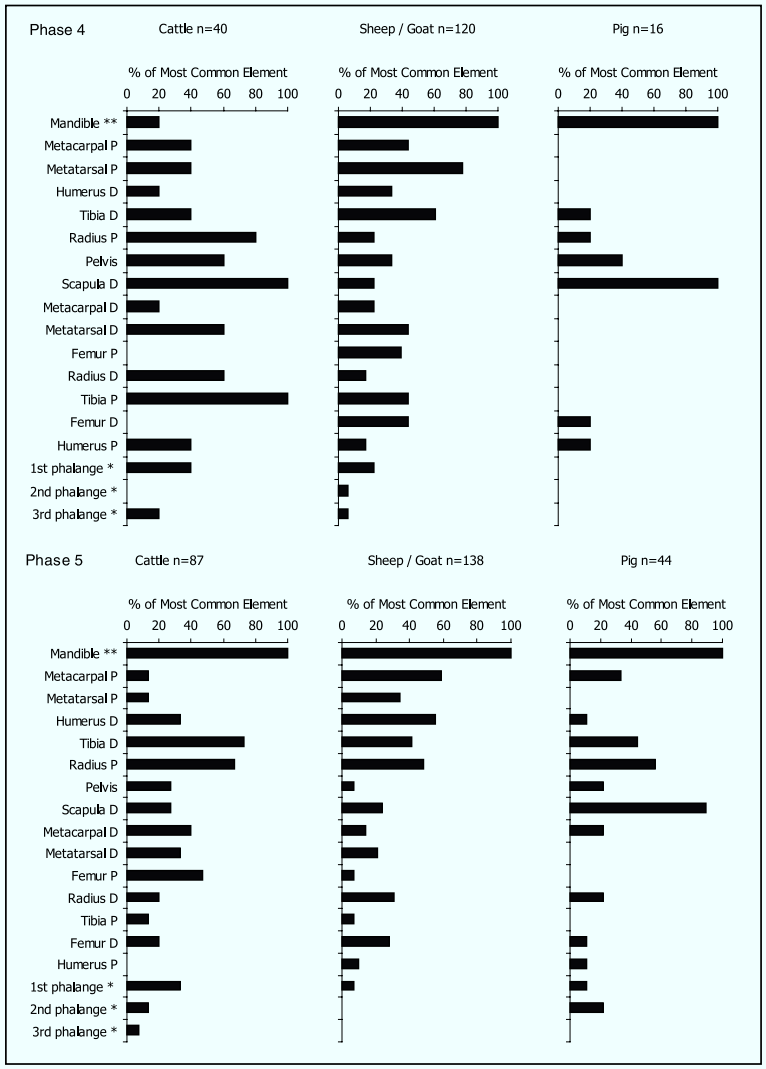

Fig. 10.1 Fragment representation in order of expected preservation (epiphysis count), Site 2, Phases 4 and 5

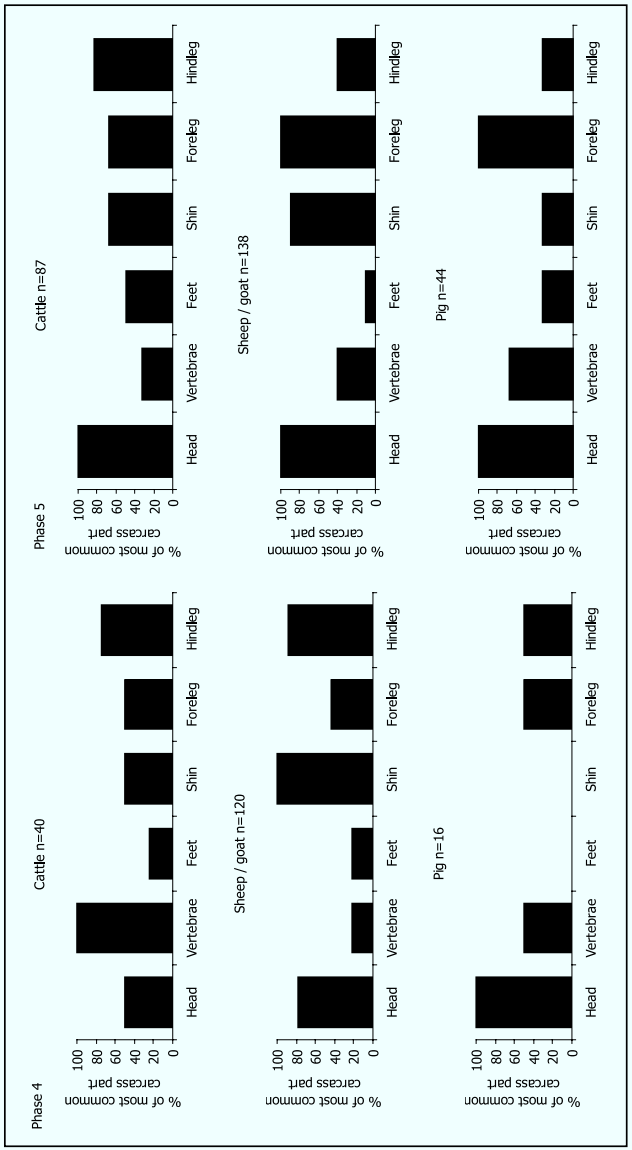

Fig. 10.2 Carcass representation (epiphysis count), Site 2, Phases 4 and 5

and Phase 5 cattle assemblages. Foot bones were found in small numbers for all species in both phases, which may reflect the poor recovery associated with these bones. Shin, fore and hind leg fragments were often found in similar proportions, although in Phase 4 there were fewer sheep/goat fore leg fragments. In Phase 5 there were lower numbers of sheep/goat hind leg and greater numbers of pig fore leg fragments in proportion to other leg bone fragments.

Both the fragment representation and carcass part analysis indicate that complete carcasses were disposed of on site. There were no significant patterns in the anomalies occurring, particularly in the cattle assemblage, in various fluctuations in carcass part proportions and differences in anatomical fragment representations. These could be due to preservation and deposition factors as implied by the spatial data, and reflect trends seen in many other Iron Age assemblages (Hambleton 1999). It seems that cattle and sheep/goat shins were treated the same as upper leg fragments, which suggests that they were eaten, possibly valued for their marrow as well as limited meat. The same is likely with mandibles, whose cheek meats were probably eaten.

Butchery

Butchery marks were found on cattle, sheep/goat, pig, horse and deer bones, nearly always in the form of chop marks, although knife marks were also present and a fragment of antler from Phase 5 had been sawn through. Bones were sometimes pierced which may indicate the meat was hung as part of the butchery process. Butchery marks were generally observed in areas that would have aided the disarticulation of the carcass, as shown on Figure 10.3, where the common sites of butchery marks are shown for cattle and sheep/goat. Many of the cattle and sheep/goat bones were treated similarly, the presence of such butchery evidence strongly suggesting that the assemblage is the product of food waste.

Diet

Although sheep/goat dominate the assemblages from both phases of Site 2, the apparent differences in domestic species proportions were less significant in terms of the potential contribution of these animals to the diet when the relative meat weights have been taken into account (Table 10.10). In all instances beef would have been far more common than other meat, and even pork would potentially have made a greater contribution to the diet than lamb. There was no evidence for butchery on dog bones that could indicate that they were eaten, although horse and deer bones were obviously butchered, and most likely eaten.

Animal husbandry

Cattle

During Phase 4 there was evidence for a neonatal fatality within the cattle population (Fig. 10.4, Table 10.11), but no significant mortalities after this until animals reached 42 months of age, when there was a cull of nearly 40% of animals, meaning nearly 60%

Table 10.10: Meat weights, Site 2, Phases 4 and 5

Species	*Phase 4*	*%*	*Phase 5*	*%*
Cattle (300 kg)	900	58	2100	73
Sheep/goat (30 kg)	270	17	270	9
Pig (130 kg)	390	25	520	17
Total	1560		2890	

Table 10.11: Cattle fusion data, Site 2, Phases 4 and 5

	Age (months)	*Phase 4*			*Phase 5*		
		Unfused	*Fused*	*%F*	*Unfused*	*Fused*	*%F*
Metacarpal P	0		2	100		2	100
Metatarsal P	0	1	1	50		2	100
Scapula	7-8		5	100		4	100
Pelvis	7-10		3	100		4	100
1st phalange	13-15		2	100		5	100
Humerus D	15-18		1	100	1	4	80
Radius P	15-18		4	100		10	100
2nd phalange	18				1	1	50
Metacarpal D	24-36		1	100	1	5	83
Tibia D	24-30		2	100	3	8	73
Metatarsal D	27-36	1	2	67	3	2	40
Ulna	42	1		0			
Femur P	42	2		0	1	6	86
Humerus P	42-48						
Radius D	42-48					3	100
Femur D	42-48	1	3	75		3	100
Tibia P	42-48	3	2	40	2		0

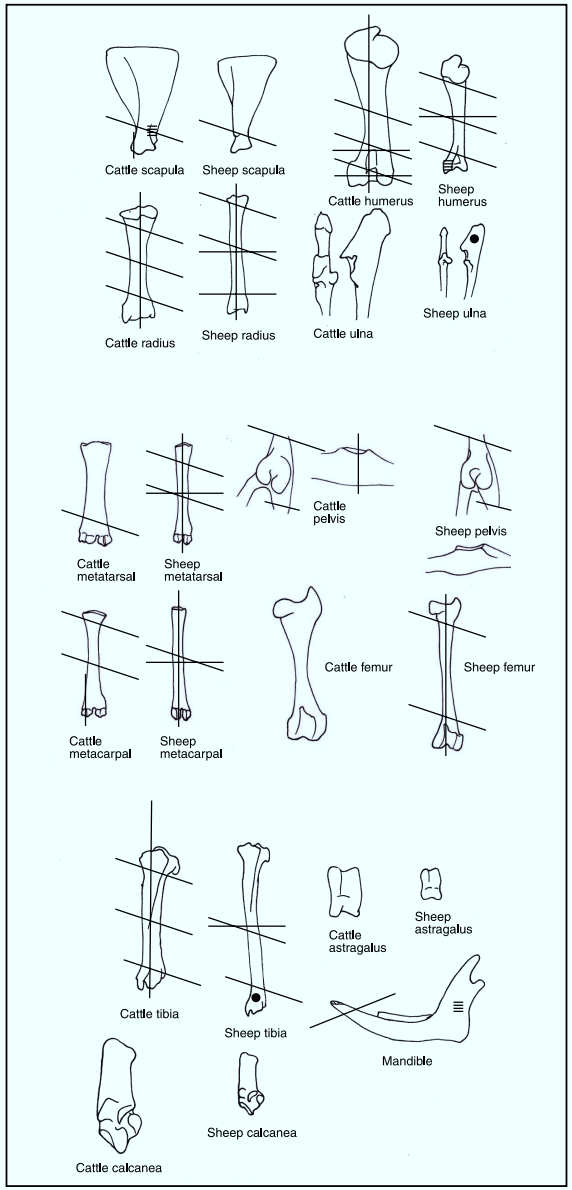

Fig. 10.3 Sites of common butchery marks for cattle and sheep/goat bones, Site 2, Phase 5

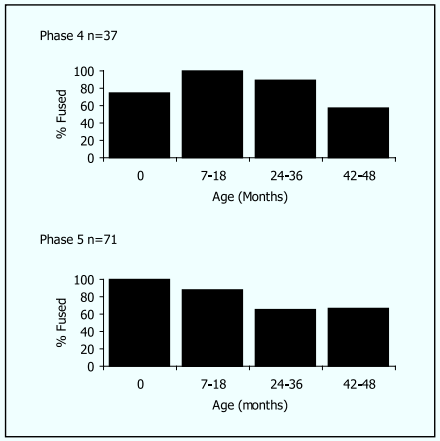

Fig. 10.4 Cattle fusion data, Site 2, Phases 4 and 5

of the surviving population were alive into maturity. There were no mandibles suitable for calculating tooth wear stages in this phase, although the few teeth useful for eruption analysis support the fusion data.

In Phase 5 there was no evidence for neonatal deaths within the cattle fusion data, although there were a higher number of mortalities at 7–18 and 24–36 months of age than seen in the earlier phase, and of the population alive at 42–48 months approximately 60% survived into maturity. This was supported by the little available tooth wear and eruption data, of which the majority came from older animals over 48 months at death, although there was also evidence for animals that died at 6-9 and 24–30 months of age.

Mortality profiles such as this are indicative of a compromise between meat and secondary product production. Animals may well have been bred on or near the site, as the presence of neonatal and first year mortalities indicates. The small cull of animals after 24 months of age suggests these animals were excess stock, killed for meat, whereas the relatively large number of mature animals implies that these were kept for secondary products such as milk and/or traction. Unfortunately there was not enough metrical data to explore the ratio of male and female cattle in the population, which can be used to indicate milk production, but the absence of a large number of young calves in the assemblage suggests that this was not intensively exploited at this site (Noddle 1989).

There were few bones suitable for calculating shoulder heights, but those that were complete enough indicated the presence of an animal 1.06 m high from Phase 4, one of 1.04 m and two at 1.14 m high in Phase 5. There was evidence for horned animals, at least one of which was from a short horned species.

Sheep/goat

Trends in the mortality data for the sheep/goat population were similar in both phases. There were a number of neonatal casualties (Fig. 10.5, Table 10.12), and a similar number of deaths in animals between 6–16 months. From 18 months there appears to have been a large cull of nearly half the population, then an even greater cull at 30-36 months of age, when only 24% of the sheep/goat

Table 10.12: Sheep/goat fusion data, Site 2, Phases 4 and 5

Age	*Phase 4*				*Phase 5*		
	(months)	*Unfused*	*Fused*	*%F*	*Unfused*	*Fused*	*%F*
Metacarpal P	0		8	100	1	16	94
Metatarsal P	0	4	10	71	2	8	80
Scapula	6-8		4	100	2	5	71
Pelvis	6-10	2	4	67		2	100
Humerus D	10	3	3	50	4	12	75
Radius P	10		4	100	3	11	79
1st phalange	13-16	1	3	75		2	100
2nd phalange	13-16		1	100			
Metacarpal D	18-24	1	3	75	2	2	50
Tibia D	18-24	6	5	45	6	6	50
Metatarsal D	20-28	4	4	50	3	3	50
Ulna	30	1	1	50	2	1	33
Femur P	30-36	6	1	14	1	1	50
Calcaneum	30-36	2		0	2	1	33
Radius D	36	2	1	33	7	2	22
Femur D	36-42	7	1	13			
Tibia P	36-42	8		0	2		0
Humerus P	36-42	3		0	3		0

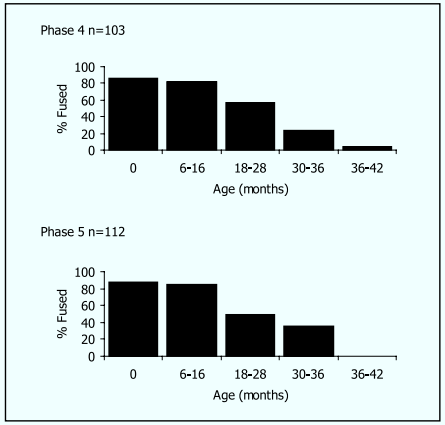

Fig. 10.5 Sheep/goat fusion data, Site 2, Phases 4 and 5

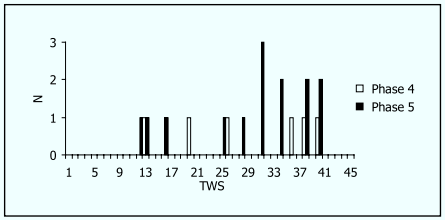

Fig. 10.6 Sheep/goat tooth wear stages, Site 2, Phases 4 and 5

flock survived. In Phase 4, of those animals reaching 36-42 months of age only a very small number (4%) survived into maturity, but there was no evidence for mature animals in the fusion data from Phase 5.

The tooth wear and eruption data (Fig. 10.6) reflect the fusion data in the small grouping noted at lower wear stages 12 to 20, and the much larger grouping of animals at higher wear stages 25 to 41. This suggests that although a small number of young animals died, the large culls took place later. It is likely that the older sheep/goats represented in the tooth wear data were older than those indicated by the fusion data, suggesting that mature sheep were present on site. Unfortunately, due to a number of environmental and genetic factors it is not possible to age ancient populations from the tooth wear of individual animals (Davis 1995).

The presence of neonatal deaths in the mortality data suggests that animals were bred on or near to the site. The numbers of neonatal and first year deaths seen on this site is a trend noted in wild sheep populations (Noddle 1989; Coy 1981), and suggests a loss of animals from natural causes. The large number of deaths of juvenile animals suggests they were utilised for meat rather than intensive secondary product production. The larger culls that take place from 18–24 months mean that animals would have been able to produce at least one season of fleece for wool production, but the absence of large numbers of mature animals suggests they were not intensively used for dairying or large scale wool production.

A number of shoulder heights were calculated for both phases. They varied between 0.56–0.58 m in Phase 4 and 0.54–0.59 m in Phase 5, with a large animal of 0.63 m also present. Horned species of sheep/goats were found.

Table 10.13: Pig fusion data, Site 2, Phases 4 and 5

Age	*Phase 4*				*Phase 5*		
	(months)	*Unfused*	*Fused*	*%F*	*Unfused*	*Fused*	*%F*
3rd metacarpal P	0					3	100
3rd metatarsal P	0						
Scapula	12	4	1	25	8		0
Pelvis	12	1	1	50		2	100
Humerus D	12					1	100
Radius P	12	1		0		5	100
2nd phalange	12				1	1	100
1st phalange	24				1		0
3rd metacarpal D	24				2		0
Tibia D	24		1	100	1	3	67
Calcaneum	24-30				2	1	33
3rd metatarsal D	27						
Ulna	36-42	1		0			
Humerus P	42	1		0	1		0
Radius D	42				2		0
Femur D	42	1		0	1		0
Tibia P	42						
Femur P	42						

Pig

There was little fusion data for the pig assemblage in Phase 4 (Table 10.13), but that available indicated that few animals were alive after reaching 24 months of age, and none after 36 months. Although most of the small amounts of tooth wear and eruption data support this, one mandible was recorded with a mandible wear stage of 38 and a loose 3rd molar was in wear, both of which indicate the presence of individuals over 3 years old when they died.

The pig assemblage was larger for Phase 5 (Fig. 10.7, Table 10.13) and the fusion data imply that a few animals died at around 12 months of age, but the majority (75%) were culled between 24 and 27 months. There was no evidence in the fusion data for animals being alive over 36 months. Again the tooth eruption data reflects the presence of older animals in the pig population that would have been over 36 months old when they died. Two tooth wear stages were calculated to be TWS 27 and one of TWS 22.

This is not an unusual mortality pattern for pigs, as their primary use is meat production, and generally they are at their most productive at between 12 and 24 months of age, depending on breed and diet. The few mature animals indicated by the tooth data may be indicative of breeding stock. However, the absence of neonatal mortalities may suggest they were not bred close by. One bone from Phase 5 was used to calculate the presence of an animal 0.72 m tall.

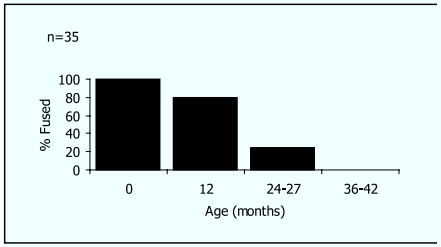

Fig. 10.7 Pig fusion data, Site 2, Phase 5

Table 10.14: Species representation by feature type, Site 4, Phase 5 (fragment count)

Species	*Burial*	*Ditch*	*Ditch terminus*	*Gully*	*Pit*	*Posthole*
Cattle	1	130	19	6	1	3
Sheep/goat	1	200	18	7	4	
Pig		37	4	1	4	
Horse		36		2		1
Dog		2				
Wild species			2			
Total	2	405	43	16	9	4
%	0.4	85	9	3	2	1

Other species

All bones in the horse assemblage in both phases were fused, suggesting that animals were all mature at death. One wither height was calculated for Phase 4, which indicated an animal 11.3 hh (hands high), and in Phase 5 animals of 11.2 hh and 12.1 hh were found, all of which would have been medium sized ponies or donkeys. Of the two dog bones from Phase 5 suitable for age analysis an unfused ulna would have come from an animal less than 15 months old at death, and a fused 1st phalange from an animal over 5 months old.

All deer remains came from antler fragments in Phase 5, and a heavily butchered red deer humerus was recovered from Phase 4. Fox remains were represented by mandible fragments. One fragment of rodent pelvis and a number of vole bones were retrieved from ditch contexts in Phase 5. A shrew mandible came from a burial context in Phase 4.

All chicken bones came from Phase 5 contexts, and were from a bantam like breed. All were from limb bones. One corvid humerus was retrieved from Phase 5.

Detailed analysis: Site 4

Spatial analysis

The distribution of bones was concentrated around the enclosures in the northern and western parts of the site. Deposits of domestic waste from large and medium sized species were most common, and were often found together. Exceptions to this can be seen within the enclosures associated with ditches 4883 and 4938 in the southern part of the site, where a predominance of fragments from medium-sized species occurred.

The majority (94%) of animal bone remains came from ditch contexts, the rest from gully, pit, posthole and burial deposits (Table 10.14). The main domestic species were found in all the main features, but horse bones were only retrieved from ditch, gully and posthole contexts, and dog and wild species only from ditch contexts. The smaller sized mammals (sheep/goat and pig) were abundant in pit deposits, where very few cattle and no horse remains were found.

When evidence for the disposal of waste from certain activities (domestic, industrial and butchery) was considered, small sample sizes were again problematic (Table 10.15). Domestic waste was abundant in all features, and bones typical of industrial waste and butchery debris were found in small proportions from ditch contexts. There were no large deposits of industrial or butchery waste.

Fragment representation and carcass part analysis

Nearly all faunal remains from Site 4 Iron Age contexts came from Phase 5. The major domestic species were generally represented by all parts of the carcass (Fig. 10.8 and Table 10.16). Bones from the sheep/goat assemblage were retrieved in proportions that may be expected if complete carcasses were processed on site. The same applies to the cattle assemblage, although there were fewer proximal metapodial, pelvis, proximal tibia and humerus and more distal humerus, tibia, scapula and phalange fragments than expected. The pig assemblage was too poorly represented to show any significant trends, but head and limb bones were present.

The presence of carcass parts was examined (Fig. 10.9), with head fragments best represented for the main domestic species. All other parts of the carcass were similarly represented for each species, although no pig vertebrae were found, which may have been due to the small sample size.

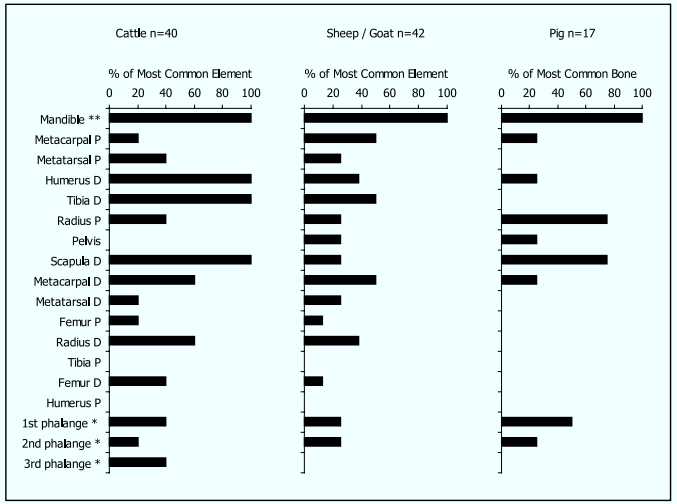

Fig. 10.8 Fragment representation in order of expected preservation (epiphysis count), Site 4, Phase 5

Table 10.15: Types of activity waste by feature type, Site 4, Phase 5 (fragment count)

	Ditch	*Ditch terminus*	*Gully*	*Pit*
Radius	28	3	1	
Tibia	34	3	2	1
Total domestic waste	62	6	3	1
Antler		1		
Horn core	3			
Total industrial waste	3	1	0	0
Atlas *2	4			
1st Phalange /2	6			1
Total butchery waste	10	0	0	1
Total	75	7	3	2

Table 10.16: Fragment representation in order of expected preservation, Site 4, Phase 5 (epiphysis count)

Anatomy	*Cattle*	*Sheep*	*Pig*
Mandible with molars	5	8	4
Metacarpal P	1	4	1
Metatarsal P	2	2	
Humerus D	5	3	1
Tibia D	5	4	
Radius P	2	2	3
Pelvis		2	1
Scapula D	5	2	3
Calcaneum		1	
Metacarpal D	3	4	1
Metatarsal D	1	2	
Femur P	1	1	
Radius D	3	3	
Tibia P			
Femur D	2	1	
Humerus P			
1st phalange *	2	2	2
2nd phalange *	1	2	1
3rd phalange *	2		
Occipitale*	4	4	2
Zygomatic	3		
Atlas *	2	2	
Sacrum *			
Total	49	49	19

* Figures adapted for anatomical frequency in relation to other bones in the skeleton

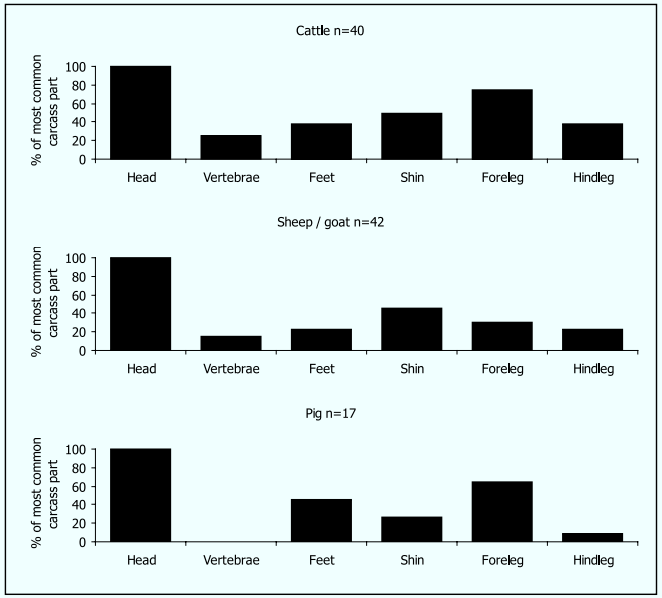

Fig. 10.9 Carcass representation (epiphysis count), Site 4, Phase 5

It is likely that complete carcasses were brought to and disposed of on site, and the presence of all parts of the carcass suggests that carcasses were butchered within the settlement. There were few vertebrae found, which may indicate that butchery was carried out on a different part of the settlement, as suggested by the spatial analysis. It is likely that all parts of the carcass were utilised for meat and marrow production.

Butchery

As with Site 2, butchery marks were noted on cattle, sheep/goat, pig, deer and horse bones, and again nearly always took the form of chop marks consistent with the disarticulation of the carcass. Although there were fewer examples due to a smaller sample size they were found on similar parts of the anatomies to those illustrated from Site 2 (Fig. 10.3).

Table 10.17: Meat weights, Site 4, Phase 5

Species	*Weight*	*%*
Cattle (300 kg)	1200	77
Sheep/goat (30 kg)	90	6
Pig (130 kg)	260	17
Total	1550	

Diet

In terms of meat weight (Table 10.17), beef would have made a far greater contribution to the diet than the species counts alone suggest, and pork may also have been eaten in greater proportions than lamb. There was no evidence that dog or wild species formed part of the diet, and meat from the main domestic species would probably have been the mainstay of the population.

Animal husbandry

Cattle

The fusion data from the cattle assemblage of Site 4 during Phase 5 (Fig. 10.10 and Table 10.18) indicate that the majority of animals were mature at death. There were no neonatal fatalities, and only two

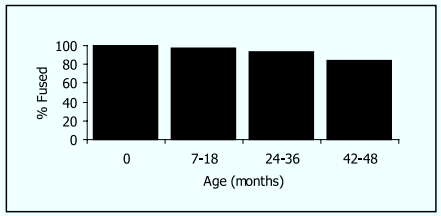

Fig. 10.10 Cattle fusion data, Site 4, Phase 5 (n = 36)

Table 10.18: Cattle fusion data, Site 4, Phase 5

	Age (months)	*Unfused*	*Fused*	*%F*
Metacarpal P	0		1	100
Metatarsal P	0		2	100
Scapula	7-8		5	100
Pelvis	7-10		1	100
1st phalange	13-15		3	100
Humerus D	15-18	1	4	80
Radius P	15-18		2	100
2nd phalange	18		2	100
Metacarpal D	24-36		3	100
Tibia D	24-30	1	4	80
Metatarsal D	27-36		1	100
Ulna	42			
Femur P	42	1		0
Humerus P	42-48			
Radius D	42-48	1	2	67
Femur D	42-48		2	100
Tibia P	42-48			

Table 10.19: Sheep/goat fusion data, Site 4, Phase 5

	Age (months)	*Unfused*	*Fused*	*%F*
Metacarpal P	0		4	100
Metatarsal P	0		2	100
Scapula	6-8		2	100
Pelvis	6-10		2	100
Humerus D	10		3	100
Radius P	10		2	100
1st phalange	13-16	1	1	50
2nd phalange	13-16	1	1	50
Metacarpal D	18-24	1	3	75
Tibia D	18-24		4	100
Metatarsal D	20-28	1	1	50
Ulna	30		1	100
Femur P	30-36	1		0
Calcaneum	30-36	1		0
Radius D	36	3		0
Femur D	36-42	1		0
Tibia P	36-42			
Humerus P	36-42			

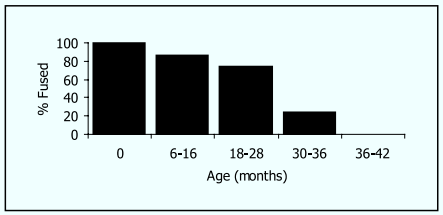

Fig. 10.11 Sheep/goat fusion data, Site 4, Phase 5 (n = 36)

instances of animals that died before reaching 36 months of age. From 42 months, however, the frequency of deaths increases slightly, one animal dying before reaching 42 months and another before 48. Despite this, nearly 85% of the population survived into maturity. There was very little tooth wear data, although two wear stages were calculated to be MWS 28 and 42, which would have been from animals over 36 months of age.

As there were no neonatal or very young animals present, it may be that animals were bred off site. The presence of a large number of old animals is indicative of a population important for their secondary products (traction or dairying), but the absence of animals that died in their first year could be due to poor preservation, and does not mean that milk production was not carried out.

No bones were complete enough for the calculation of shoulder heights. There was evidence for the presence of a horned species.

Sheep/goat

There was no indication for neonatal deaths from this site in the late Iron Age phase (Fig. 10.11 and Table 10.19). A small number of animals died before reaching 6-16 and 18-28 months of age (15% and 25% of the flock respectively), but the largest cull came at 30-36 months, when only 25% of animals were left alive. Of these none reached 42 months of age. This is reflected in the tooth eruption data, which suggests the presence of animals which were approximately 18 months old when they died. However, a number of wear stages were calculated to be MWS 34, 35 and 42, which indicate mature animals.

The absence of neonatal and first year fatalities from this assemblage may indicate that animals were bred elsewhere. The significant cull that occured at 30-36 months of age suggests that animals were kept alive long enough for them to produce two or three seasons worth of wool, and were then culled for meat as they neared maturity.

Two wither heights were calculated to be 0.56 and 0.57 m, which is within the range indicated by the Site 2 assemblage. There was evidence for the presence of a horned species. One pathological bone was retrieved from this site, a mandible with a pitted socket for the 4th premolar which may be indicative of a tooth infection.

Pig

Table 10.20 shows the fusion data for the pig assemblage. Although the sample size is again small, a consistent pattern is revealed, where all bones were fused until the 24 month stage, at which point only one bone came from an animal older than 24 months of age when it died. This is supported by the tooth eruption data which indicated the presence of two animals that died at around 16 months of age.

The absence of neonatal and juvenile mortalities suggests that pigs were bred elsewhere, and brought to the site when ready to be culled for meat,

Table 10.20: Pig fusion data, Site 4, Phase 5

	Age (months)	*Unfused*	*Fused*	*%F*
3rd metacarpal P	0		1	100
3rd metatarsal P	0			
Scapula	12		3	100
Pelvis	12		1	100
Humerus D	12		1	100
Radius P	12		3	100
2nd phalange	12		1	100
1st phalange	24	1	1	50
3rd metacarpal D	24	1		0
Tibia D	24			
Calcaneum	24-30			
3rd metatarsal D	27			
Ulna	36-42			
Humerus P	42			
Radius D	42			
Femur D	42			
Tibia P	42			
Femur P	42			

either alive or as a complete carcass. The age for optimum meat production appears to have been around 24 months of age.

Other species
Nearly all horse bones were fused, suggesting that most animals were mature when they died. The only exception was an unfused distal radius, which would have been from an individual less than 24–30 months of age when it died. One withers height was calculated which indicated an animal 14.2 hh: a large pony.

Both fragments of dog bone came from the maxilla, one with the third molar in wear, indicating the animal was over 6 months old when it died. One highly fragmented piece of antler was retrieved, and one fragment of vole maxilla.

Provisioning and site economy during the Iron Age

Iron Age sites in the region were nearly always based on a subsistence economy centred on arable and livestock production (Dawson 2000a; Knight 1984), a way of life reflected in the faunal assemblages of Sites 2 and 4. It is likely that animals lived and died on and around the sites. They were probably bred, herded and worked in surrounding fields, killed nearby and eaten by those living on site.

The geology of various sites in this region has been considered, but seems to have little connection with the types of animals or husbandry thereof. For example, sites with similar species proportions are found on clay (Stagsden, Wilby Way (Maltby 2003)) and gravels (Salford). Sites with similar husbandry regimes concerning sheep and cattle are also seen on clay (Stagsden, Wilby Way) and gravel (Salford, Wavendon Gate (Dobney and Jaques 1996)). It is likely that, although geology and topography may have been a factor in the animal husbandry of a settlement, local preferences and traditions were also important.

The fragment and carcass representation on both sites suggests that complete carcasses were processed on site, and that all parts of the animal were eaten. The distribution of bone fragments suggests that there were no large deposits of butchery or industrial waste, which may suggest that these activities took place away from the areas of excavation or, probably more likely, that it was not done on a large enough scale to produce significant deposits.

Differences in species proportions between the two sites, both in terms of the relative proportions of sheep and cattle and the diversity of species present, may indicate different social and economic practices at the two sites. Site 4 is more typical of the region, while the high sheep numbers at Site 2 are more commonly seen at sites in the Thames and Nene Valleys (Maltby 1981; Dawson 2000a).

The variety of the diet varies by site, although it is commonly accepted that beef, lamb, pork and horse meat were common components of the diet on most Iron Age sites. A greater number and diversity of wild mammals were retrieved from the later phase at Site 2 than corresponding Site 4 contexts, although even on this site they are not abundant.

The introduction of domestic fowl in Britain in the late Iron Age means their remains occur infrequently and in small numbers in deposits of this date, such as those seen at Site 2, although they have also been found at Salford and Stagsden. They were probably, but not necessarily, important for their meat and eggs, as it has been suggested that when they were first introduced they may have been used for fighting or ritual purposes (Coy 1983).

There is little direct evidence that dogs were eaten—they are rarely butchered, and when they are it is often interpreted as the product of skinning. Dogs may have been used for hunting, herding and guarding. The presence of a deer limb bone and fox bones from Site 2 suggests that hunting was occasionally employed as a means to supplement the diet with venison, and perhaps as a form of pest control and/or to catch smaller mammals for their skins.

Despite the differences seen in species proportions between the two sites, husbandry practices were similar in both the Site 2 and 4 assemblages. Trends are indicative of subsistence economies in the region (Hambleton 1999) which are also apparent at Stagsden, Salford and Fairfield Park (Holmes forthcoming), where animals were kept for nonspecialised purposes (a mixture of meat and secondary products). Sheep were probably kept for small-scale wool production before being culled for meat as they neared maturity. Cattle were important for traction and/or dairying before being eaten.

The presence of horned species of sheep and goats with heights similar to those from Great Barford Sites 2 and 4, ranging from 0.53–0.64 m is not unusual, and has been noted at many other Iron Age sites in the region, such as Salford and Fairfield Park.

Small and short horned cattle were common during this period, as is the small size of animals which, in this region falls between 1.0–1.2 m. Both these traits have been noted at Stagsden and Salford.

Pig husbandry is universally biased towards a greater number of juvenile animals, culled when at their optimum size for meat production, generally occurring between 1–2 years, which is a trend also noted at Salford and Fairfield Park. Small numbers of mature animals were also often seen at many of these sites as well as on Sites 2 and 4, and probably indicates the presence of breeding stock.

Horse remains are commonly found on Iron Age sites, and at Sites 2 and 4 the presence of mature animals suggests they were valued for secondary products (draught, riding and transport), a trend also noted at Salford and Fairfield Park. The size range for horses during this period is between 11.2 and 14.2 hh. Animals within this range have also been found at Salford and Fairfield Park. Much smaller animals were found at Stagsden (10.2 and 10.3 hh).

Roman period

Species representation: Phase 6 (early Roman period)

Site 1

There were few bones from this site as Table 10.21 shows. Of these, the majority came from cattle and sheep/goat. Horse and dog were found in greater numbers than pig; chicken remains were found in even smaller quantities and fox and crow bones were also present. The remains of a young dog burial were also recovered.

Site 4

Slightly more fragments were retrieved from this site, but still the sample was small (Table 10.21).

Table 10.21: Species representation for the Roman period (fragment count)

Species	*Phase 6*						*Phase 7*			
	Site 1	*%*	*Site 4*	*%*	*Site 8*	*%*	*Site 1*	*Site 4*	*Site 8*	*%*
Cattle	57	37.7	124*	43.8	205*	28.7	2	2	232	36.9
Sheep/goat	65	43.0	110	38.9	390	54.6		5	289	45.9
Sheep	2	1.3	4	1.4	15	2.1			10	1.6
Goat									3	0.5
Pig	5	3.3	33	11.7	27	3.8		1	44	7.0
Horse	10*	6.6	6	2.1	30	4.2			23	3.7
Dog/canid	7*	4.6	6	2.1	30*	4.2	1		16	2.6
Fox	1	0.7			2	0.3			3	0.5
Cat					1	0.1				
Rabbit/hare					1	0.1				
Deer									2	0.3
Roe deer										
Mouse										
Vole									5	0.8
Frog										
Chicken	3	2.0			10*	1.4			1	0.2
Goose									1	0.2
Corvid	1	0.7			1	0.1				
Falcon					2	0.3				
Associated fragments*	79		10		116					
Total identified	230		293		830		3	8	629	
Unidentified mammal	34		92		273			3	81	
Unidentified large mammal	81		113		359		2	1	384	
Unidentified medium mammal	88		151		401			7	414	
Unidentified small mammal	1		2		1				2	
Unidentified bird			1		42				4	
Unidentified fish					14				2	
Total	433		652		1920		5	19	1516	

* Associated fragments: Site 1 includes 9 fragments of horse hind legs and 70 fragments of young dog skeleton; Site 4 includes 10 fragments of cattle fore legs; Site 8 includes 39 fragments of cattle mandible, 42 fragments of canid skeleton and 35 fragments of partial chicken skeleton

Cattle were the predominant species, although sheep/goat were found in only slightly lower numbers. Pigs were the next most common animal, followed by dog and horse. No wild species were recorded.

Table 10.22 shows the comparison of species counts for Site 4. Both the epiphysis and minimum number counts suggest the presence of a greater number of cattle, horse and dog remains in the assemblage, and proportionally less from sheep/goat, than the fragment count indicates. Although the epiphysis count often reduces the bias of large mammal remains in favour of medium mammals, in this case the reverse is true. It is likely that this reflects the comparative ease with which shaft fragments of sheep/goat bones were distinguished from pig and dog compared to those of cattle and horses, which are easily confused, and so are often assigned to the unidentified large mammal category instead.

Site 8

A far more substantial assemblage was recovered for this phase from Site 8 (Table 10.21). Well over half the assemblage came from sheep/goat, and cattle made up nearly a third. Pig, horse and dog remains were retrieved in similar quantities (around 4%). Chicken was found in lower numbers and fox, cat, rabbit/hare, corvid and falcon were also present but in very small quantities. A number of fragments were recorded from partial chicken and dog skeletons.

Table 10.22: Species count comparison, Site 4, Phase 6

	Epiphysis		Fragment		MNI
Species	n	%	n	%	n
Cattle	29	55	124	44	3
Sheep/goat	14	26	114	40	2
Pig	4	8	33	12	2
Horse	4	8	6	2	1
Dog	2	4	6	2	
Total	53		283		8

Table 10.23: Species count comparison, Site 8, Phase 6

	Epiphysis		Fragment		MNI
Species	n	%	n	%	n
Cattle	53	35	205	29	4
Sheep/goat	75	49	405	57	6
Pig	4	3	27	4	1
Horse	16	10	30	4	2
Dog	4	3	30	4	1
Chicken	1	1	10	1	1
Total	153		707		15

In a comparison of different methods of species counts (Table 10.23) the epiphysis count again implies that cattle and horse were present in a greater proportion of the assemblage than the fragment count suggested, and conversely, that sheep/goat were less common. The species proportions indicated by the minimum number count are similar to those given by the fragment count.

Comparisons

The predominance of cattle over sheep/goat as the main domestic species in the Site 4 assemblage is common at sites of this period (Maltby 1982; Hamshaw-Thomas 2000). At other local sites along the Ouse Valley at Ruxox, Stagsden and Wavendon Gate, Bucks, cattle predominate in proportions varying from 47–65% of the major domesticates, with sheep more often making up 18–26% of the main domestic assemblage.

Such a high ratio of sheep to cattle, as seen in all methods of species counts at Site 8, is unusual in this area during the Roman period, the only similar local site being that of early Roman Kempston, Beds (Roberts 2004b) where 30% cattle to 54% sheep were recorded. However, it does seem to continue a trend set in the Iron Age (as at Site 2) for large numbers of sheep to be kept in the area, and may simply reflect a 'native-type' (rural, un-Romanised) dietry preference (Hamshaw-Thomas 2000).

Further afield at the roadside staging post of Wilcote, Oxon (Hamshaw-Thomas and Bermingham 1993) proportions of 15% cattle and 67% sheep were recorded, similar to Higham Ferrers, Northants (13-74%; Strid forthcoming). At Higham Ferrers there was an economy apparently geared towards intensive milk production, from the high numbers of very young lambs and older ewes. However, at Great Barford Site 8, there is no such clear cut trend, and the sheep husbandry is more closely related to that seen at Wilcote, where a mixed economy was operated (see below).

Species representation: Phase 7 (late Roman period)

As Table 10.21 shows, very few bones were recovered from Sites 1 and 4, which included cattle, sheep/goat, dog and pig bones. This is unsurprising as occupation had effectively ceased at these sites.

A significant number of bones were recovered from Site 8 during the later Roman phase (Table 10.21), of which sheep/goat and cattle predominate; both sheep and goat species were identified. Pig were the next most common species, then horse and dog. Other species such as fox, chicken, goose, vole and deer were also present but in very low numbers. In the comparison of species counts (Table 10.24), as with those from the early Roman phase at Site 4, the epiphysis and minimum number counts suggest that cattle and horse were present in far greater numbers than the fragment count alone indicates, and sheep/goat and pig proportionally less common.

Table 10.24: Species count comparison, Site 8, Phase 7

	Epiphysis		Fragment		MNI
Species	n	%	n	%	n
Cattle	75	65	232	38	8
Sheep/goat	27	23	302	49	3
Pig	4	3	44	7	1
Horse	8	7	23	4	2
Dog	2	2	16	3	1
Chicken			1	0.2	1
Total	116		618		16

Comparisons

As the ratio of sheep to cattle bones as a proportion of the main domesticates varies so much between species count (65% cattle to 23% sheep restricted count compared to 38% and 49% respectively in the fragment count) it is not so easy to make comparisons with other sites. Higher numbers of cattle are still the norm for sites during this period (Maltby 1981) and are seen locally at Wavendon Gate, Stagsden, Kempston and Ruxox. A high proportion of sheep/goat remains were again present in contemporary deposits from Wilcote and Higham Ferrers.

The decrease in proportions of sheep/goat remains and corresponding increase in cattle and pig numbers over time noted in both restricted and fragment counts at Site 8 is common on Roman sites (King 1978; Hamshaw-Thomas 2000) and is also seen at Wilcote, Higham Ferrers, Wavendon Gate, Kempston and Ruxox suggesting a move towards 'Romanization', and perhaps a demand for beef from urban and military sites.

Detailed analysis: Site 4

Only material from Phase 6 of Site 4 was recovered in sufficient quantity to be useful for detailed analysis.

Spatial analysis

Bone fragments were concentrated around the main settlement features for this phase. There was a concentration of bones from large species in contexts from the southern end of ditch 4959 and enclosures in the eastern part of the site, whereas a predominance of bones from medium-sized species were associated with ditch 4948 to the north of the site.

Bones from domestic waste were commonly found throughout the site, but those associated with butchery deposits were distributed along the length of ditch 4959 and in contexts associated with enclosures coming off this major ditch. The only deposits of horncore and antler fragments came from contexts grouped around the large hollow, 4259, and ditch in the centre of the site, and Enclosure 45 to the south of this area.

Table 10.25: Species representation by feature type, Site 4, Phase 6 (fragment count)

Species	Ditch	Ditch terminus	Palisade	Pit	Postpipe
Cattle	76	2	10	18	22
Sheep/goat	65	3	5	27	6
Pig	18		1	13	
Horse	2	1	2		1
Dog	6				
Total	167	6	18	58	29
%	60	2	6	21	10

Table 10.26: Activity waste by feature type, Site 4, Phase 6 (fragment count)

Species	Ditch	Ditch terminus	Palisade	Pit	Postpipe
Radius	8		1	5	3
Tibia	16	1	2	3	
Total domestic waste	24	1	3	8	3
Antler					
Horn core		1		1	
Total industrial waste	0	1	0	1	0
Atlas *2	2			2	
1st Phalange /2	2				2
Total butchery waste	4	0	0	2	2
Total	28	2	3	11	5

Table 10.25 shows the proportion of fragments for the main domestic species recovered from various feature types, the majority of which came from ditch contexts. Sample sizes were small for many of the feature types, particularly palisade and postpipe contexts. Domestic species were found in all the main feature types, in fairly similar proportions, except for the absence of pig from postpipe and horse from pit deposits. It appears that remains deposited in pits were biased towards smaller species (sheep/goat and pig) whereas palisade and posthole contexts contained more fragments from larger species (cattle and horse). All dog remains were recovered from ditch deposits.

As Table 10.26 shows, there were no large deposits of bones associated with butchery or industrial waste and such deposits were not abundant, although they were commonly found in features with domestic waste.

Fragment representation and carcass part analysis

The representation of anatomical fragments in order of expected preservation is illustrated in Table 10.27 and Fig. 10.12. Fragments were recovered from the cattle and sheep/goat assemblages in quantities that may be expected if complete carcasses were

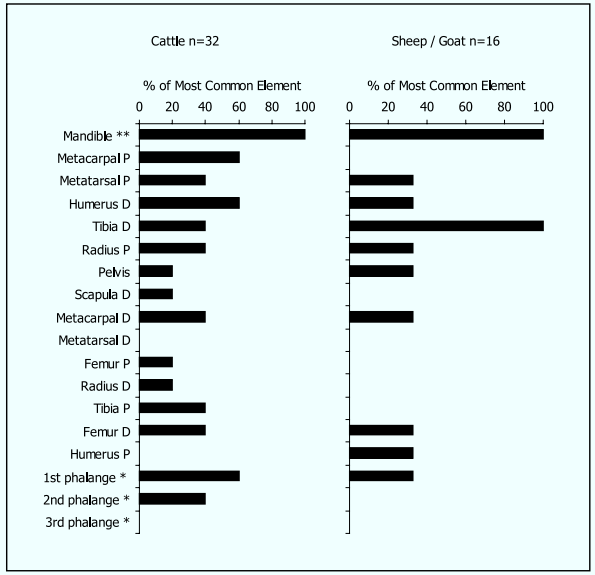

Fig. 10.12 Fragment representation in order of expected preservation (epiphysis count), Site 4, Phase 6

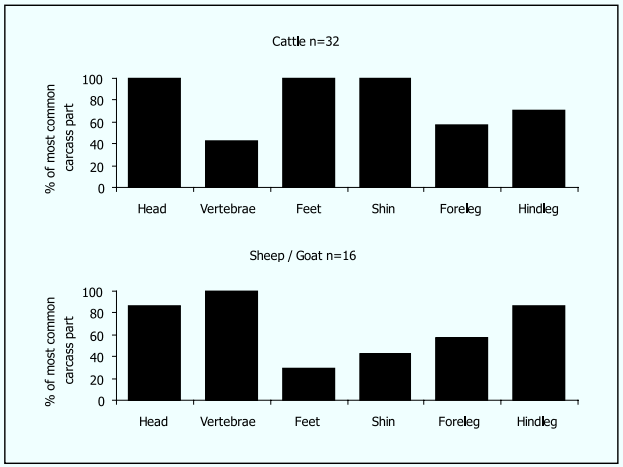

Fig. 10.13 Carcass part representation (epiphysis count), Site 4, Phase 6

Table 10.27: Fragment representation in order of expected preservation, Site 4, Phase 6 (epiphysis count)

Anatomy	*Cattle*	*Sheep*	*Pig*
Mandible with molars	5	3	1
Metacarpal P	3		
Metatarsal P	2	1	
Humerus D	3	1	
Tibia D	2	3	
Radius P	2	1	
Pelvis	1	1	
Scapula D	1		1
Calcaneum		2	
Metacarpal D	2	1	
Metatarsal D			
Femur P	1		
Radius D	1		1
Tibia P	2		
Femur D	2	1	
Humerus P		1	
1st phalange *	3	1	
2nd phalange *	2		
3rd phalange *			1
Occipitale	2		2
Zygomatic			
Atlas *	2	2	
Sacrum *			
Total	36	18	6

* figures adapted for anatomical frequency in relation to other bones in the skeleton

disposed of on site. The only anomalies occur in the slightly higher numbers of cattle phalanges and sheep/goat distal tibiae recovered, and the absence of cattle distal metatarsal and proximal humerus fragments, although small sample sizes may have affected these results. Sample numbers for the pig assemblage were too small for trends in anatomical representation to be interpreted, although mandible and limb bones were recovered.

Figure 10.13 shows the proportions of different parts of the carcass found for cattle and sheep/goat. Both species were well represented by head fragments and in slightly lower but similar proportions by limb bones. As indicated by the fragment representation, the cattle assemblage contained a high number of feet and shin bones, which were not so well represented in the sheep/goat material. Instead, sheep/goat were best represented by vertebrae. Although sample sizes were small, it is likely that complete carcasses were dismembered, utilised and disposed of on site.

Butchery and diet

There was little evidence for butchery marks, but those that were noted came from cattle, pig and sheep/goat bones only. Nearly all evidence for butchery was on limb bones, although a mandible had been chopped through distally. With the exception of an astragalus with knife marks on it, all butchery appeared to have been carried out by a chopper-type implement and was typical of the disarticulation of the carcass for meat.

The presence of bones of the main domestic species from all parts of the body and the occurrence of butchery marks suggests that the cattle, sheep/goat and pig represented in the faunal assemblage were eaten. Although dog and horse were represented by limb bones and may have formed part of the diet, there was no direct evidence for butchery on them. The relative meat weights for the main domestic species are shown in Table 10.28, which suggests that beef would have been eaten in the greatest quantities, over three times that of pork, and fifteen times that of lamb.

Table 10.28: Meat weights, Site 4, Phase 6

Species	*Weight*	*%*
Cattle (300 kg)	900	74
Sheep/goat (30 kg)	60	5
Pig (130 kg)	260	21
Total	1220	

Animal husbandry

Cattle

There was no evidence for mortalities of any cattle before the age of 42 months, at which point there was evidence for a cull of nearly 40% of the live population (Table 10.29 and Fig. 10.14). There was very little tooth wear and eruption data available, although the one wear stage calculated indicated a mature animal of MWS 47.

Table 10.29: Cattle fusion data, Site 4, Phase 6

	Age (months)	*Phase 6*		
		Unfused	*Fused*	*% F*
Metacarpal P	0		3	100
Metatarsal P	0		2	100
Scapula	7-8		1	100
Pelvis	7-10		1	100
1st phalange	13-15		3	100
Humerus D	15-18		3	100
Radius P	15-18		2	100
2nd phalange	18		2	100
Metacarpal D	24-36		2	100
Tibia D	24-30		2	100
Metatarsal D	27-36			
Ulna	42			
Femur P	42		1	100
Humerus P	42-48			
Radius D	42-48	1		0
Femur D	42-48		2	100
Tibia P	42-48	1	1	50

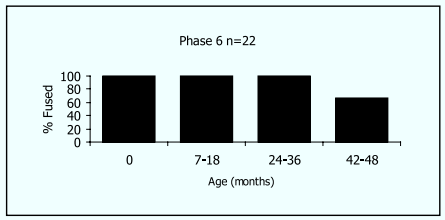

Fig. 10.14 Cattle fusion data, Site 4, Phase 6

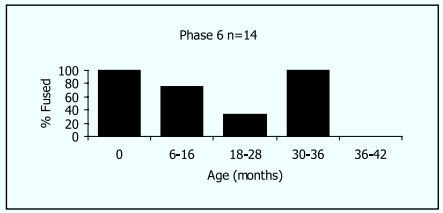

Fig. 10.15 Sheep/goat fusion data, Site 4, Phase 6

A mortality profile such as this is indicative of animals kept alive into old age for use for secondary products, most likely traction, as the presence of neonatal and juvenile animals, generally a trend common in dairy herds, is not seen here. It is possible that animals were bred away from this site, as there were no neonatal fatalities, or that meat was bought in from elsewhere.

Two bones were complete enough for shoulder heights to be calculated, and produced results of 1.07 m and 1.24 m. A 1st phalange showed signs of bony growths on both the proximal and distal articular surfaces, often associated with wear and tear consistent with the animals use for traction (Bartosiewicz *et al*. 1997).

Sheep/goat

The fusion data for the sheep/goat assemblage (Table 10.30 and Fig. 10.15) revealed no evidence for neonatal deaths, although the sample was small. There was evidence for an animal that died before reaching 16 months of age, and a large cull of those between 18 and 28 months left only 34% of the population alive. There was no evidence from the fusion data of animals living into maturity, although from the little tooth wear and eruption data one mandible was from a mature animal with a wear stage of 41, and an erupting third molar would have been from an individual around 21 months of age when it died.

Again the absence of neonatal and first year deaths suggests that animals were not bred in the vicinity. The large cull at around 18-24 months is indicative of a cull of animals for meat. The older animals would probably have produced one or two fleeces before being eaten. The absence of very old animals suggests they were not important for secondary products such as wool production or dairying.

One bone was suitable for calculating a shoulder height, and gave a result of 0.63 m. There was no evidence for pathological bones within the sheep/goat assemblage.

Table 10.30: Sheep/goat fusion data, Site 4, Phase 6

	Age	*Phase 6*		
	(months)	*Unfused*	*Fused*	*% F*
Metacarpal P	0			
Metatarsal P	0		1	100
Scapula	6-8			
Pelvis	6-10		1	100
Humerus D	10		1	100
Radius P	10		1	100
1st phalange	13-16	1		0
2nd phalange	13-16			
Metacarpal D	18-24	1		0
Tibia D	18-24	1	2	67
Metatarsal D	20-28			
Ulna	30			
Femur P	30-36			
Calcaneum	30-36		2	100
Radius D	36			
Femur D	36-42	1		0
Tibia P	36-42			
Humerus P	36-42	1		0

Table 10.31: Pig fusion data, Site 4, Phase 6

	Age	*Phase 6*		
	(months)	*Unfused*	*Fused*	*% F*
Metacarpal P	0			
Metatarsal P	0			
Scapula	12		1	
Pelvis	12			
Humerus D	12			
Radius P	12			
2nd phalange	12			
1st phalange	24			
Metacarpal D	24			
Tibia D	24			
Calcaneum	24-30			
Metatarsal D	27			
Ulna	36-42			
Humerus P	42			
Radius D	42	1		
Femur D	42			
Tibia P	42			
Femur P	42			

Pig

The pig assemblage was very small, but as Table 10.31 shows, although there was evidence from the fusion data for an animal alive at 12 months of age, the later fusing distal radius is unfused. One mandible was complete enough to give a wear stage of 10, and would have come from an individual of around 16 months of age.

Other species

Although the horse assemblage was small, all bones were fused, perhaps indicating that animals were mature at death. One metacarpal was complete enough to be used to calculate a wither height of 1.42 m, approximately 14 hh. The dog sample was also small, but again all bones were fused, and an animal of over 6 months of age was in evidence from tooth eruption data.

Detailed analysis: Site 8

Spatial analysis

Deposits of domestic refuse (limb bones) from large and medium sized species were often found together in various deposits throughout the site. However, in Phase 6 there was a greater concentration of fragments from larger animals (cattle and horse) from the area around the northern part of large enclosure ditch 10826, and a predominance of medium sized animal bones (sheep/goat and pig) to the east of the southern part of this ditch. In Phase 7 there were no apparent concentrations of bones from large or medium species, which were distributed throughout the site.

In both phases there were no bones associated with butchery (feet and head) or industrial (antler and horn core) processing in the northern part of the site. They were found in contexts in the central and southern areas, and bones from butchery deposits found in the greatest concentration in deposits associated with the enclosures to the south-east of the site.

In Phase 6 numbers of bones found in ditch and pit contexts were similar (Table 10.32), but in Phase 7 the majority come from ditch contexts. Bones were retrieved in much smaller quantities from the other main feature types (gully, posthole, spread, waterhole and cobble surface contexts). In both phases the main domestic species were found in most feature types. Sheep/goat bones were recovered in high proportions from pit, posthole and postpipe contexts, from which few other species were present. Conversely, waterhole deposits were biased towards a higher ratio of the larger mammals (cattle and horse).

In Phase 7 dog remains were only found in ditch and quarry/waterhole deposits. There were again a greater proportion of sheep/goat remains found in pit contexts, and the cobble surface contained greater numbers of medium sized than large mammals.

Table 10.33 shows the proportions of different types of waste by feature type. Domestic waste was most common, and Phase 6 quarry/waterhole deposits consisted exclusively of bones associated

Table 10.32: Species representation by feature type, Site 8, Phases 6 and 7 (fragment count)

Phase 6	*Ditch*	*Gully*	*Pit*	*Posthole*	*Waterhole*	
Cattle	181	2	47	3	8	
Sheep/goat	140	3	237	14	3	
Pig	17	2	7			
Horse	19		8		3	
Dog	17	1	10	17	14	
Chicken	4		2			
Wild species		2	1			
Total	378	10	312	34	28	
%	49	1	46	2	2	
Phase 7	*Ditch*	*Gully*	*Pit*	*Posthole*	*Waterhole*	*Cobble Surface*
Cattle	147	7	13	8	30	3
Sheep/goat	197	6	30	7	31	13
Pig	21		4	4	5	3
Horse	4	2	5	3	7	
Dog	14				1	
Chicken	1					
Wild species	6					
Total	390	15	52	22	74	19
%	68	3	9	4	13	3

Table 10.33: Activity waste by feature type, Site 8, Phase 6 (fragment count)

Phase 6	*Ditch*	*Ditch Terminus*	*Gully*	*Pit*	*Waterhole*
Radius	20	1	2	11	2
Tibia	34	2	1	36	
Total domestic waste	54	3	3	47	2
Antler					
Horn core	4		1	7	
Total industrial waste	4	0	1	7	0
Atlas *2				6	
1st Phalange /2	5			4	
Total butchery waste	5	0	0	10	0
Total	63	3	4	64	2
Phase 7					
Radius	16	2	2	3	5
Tibia	32	1		9	4
Total domestic waste	48	3	2	12	9
Antler	1				
Horn core	10			1	2
Total industrial waste	11	0	0	1	2
Atlas *2	2				2
1st Phalange /2	3	1		1	1
Total butchery waste	5	1	0	1	3
Total	64	4	2	14	14

Table 10.34: Fragment representation in order of expected preservation, Site 8, Phases 6 and 7 (epiphysis count)

Anatomy	*Phase 6*			*Phase 7*		
	Cattle	*Sheep*	*Pig*	*Cattle*	*Sheep*	*Pig*
Mandible with molars	11	17	2	6	13	6
Metacarpal P	6	4		8	3	
Metatarsal P	5	11		10	2	
Humerus D	7	5		4		1
Tibia D	6	8		3	5	1
Radius P	1	6		5		
Pelvis	2	2		1	3	
Scapula D	6	3	1	11		
Metacarpal D	4	5		4	1	
Metatarsal D	2	4		5	3	
Femur P	1	1	1	6	2	
Radius D		3		3	1	
Tibia P	4	4		2		
Femur D		2	1	2	1	1
Humerus P	2	3			1	
1st phalange *	3	2	1	5	2	
2nd phalange *	2					1
3rd phalange *					1	
Occipitale	10	4	1		2	
Zygomatic	2			4	1	
Atlas *		2		2		
Sacrum *				4		
Total	74	86	7	85	41	10

* figures adapted for anatomical frequency in relation to other bones in the skeleton

with domestic refuse. There were no large deposits of bones associated with industrial or butchery waste, but they were found in most feature types.

Fragment representation and carcass part analysis

Figure 10.16 and Table 10.34 show the numbers of anatomical fragments present on Site 8 in the expected order of preservation. Sample sizes in the Phase 6 cattle and sheep/goat assemblages were sufficiently large to suggest that elements were present in quantities that may be expected if complete carcasses had been deposited on site. The only exception to this is the apparent lack of distal radius and femur fragments from the cattle assemblage. Although pig was represented by mandible, limb and foot bones, the sample size was too small to be significant.

During Phase 7 there were fewer mandibles present in the cattle assemblage than expected and no proximal humerus fragments, although there were high numbers of scapulae and 1st phalanges. The sheep/goat sample was smaller for this phase, although anatomical elements were generally present in quantities consistent with the deposition of complete carcasses on site. The pig assemblage was too small for reliable analysis, although mandible, limb and foot bone fragments were retrieved.

Figure 10.17 shows the proportion of carcass parts represented in the cattle and sheep/goat assemblages. In Phase 6 head fragments were the most common parts of the body represented. Very few vertebrae and foot bones were recovered, and none of the former from the cattle assemblage. Shin bones were well represented for both species, and fore and hind leg fragments were found in similar, fairly high numbers for both species. The pig sample was too small to be considered.

In Phase 7 a different pattern emerges. Although head fragments were present in greatest numbers in the sheep/goat assemblage, shin bones were more often found in the cattle remains. This reflects the fragment representation data. Feet, shin and hind leg fragments were found in similar quantities in the sheep/goat assemblage, although fore legs were poorly represented, and there were no vertebrae remains. In the cattle assemblage, however, there were smaller numbers of feet and hind leg fragments and high quantities of shin and forelegs.

In general, it seems that elements from all parts of the carcass were present in both phases for all the main domestic animals. Feet and vertebrae fragments were generally found in lower numbers which may suggest that these parts traditionally removed as part of the primary butchery of the carcass (Maltby 1989) were deposited elsewhere, and may indicate that butchery of the carcass took place in a separate area.

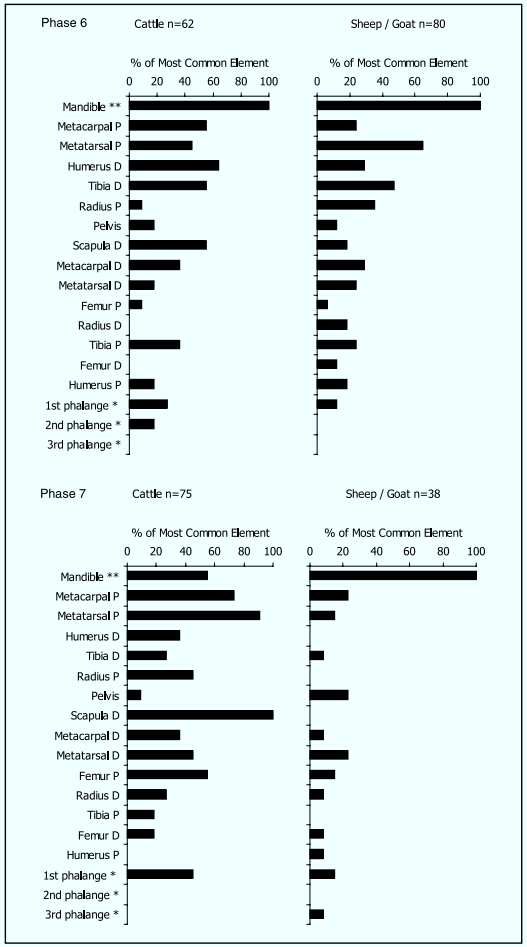

Fig. 10.16 Fragment representation in order of expected preservation (epiphysis count), Site 8, Phases 6 and 7

Butchery

Evidence for butchery marks was found in both phases on fox, canid, deer, horse, cattle, sheep/goat and pig bones. Nearly all were chop marks, although there was evidence for knife marks, both of which are commonly found methods of disarticulation. In Phase 6 two cattle metapodia, a scapula and horn core had been sawn through. Other horn cores had been removed from the skull and this, as well as sawn metapodia, can be indicative of waste from material that has been worked.

Figure 10.18 shows the common sites of butchery marks on cattle and sheep/goat bones. In both phases they are in sites typical of disarticulation (ie transverse chops to the mid shaft or ends of bones to break the carcass into manageable sized joints of meat) and cattle scapulae were found with the lateral spines removed, indicative of filleting.

The pattern of butchery, generally concentrated on the limb bones, is indicative of meat that has been prepared for the table, having been cut into joints or filleted. The assemblage is generally representative of domestic refuse, although the removal of horn cores and presence of sawn bones suggests that bone working was also taking place on site.

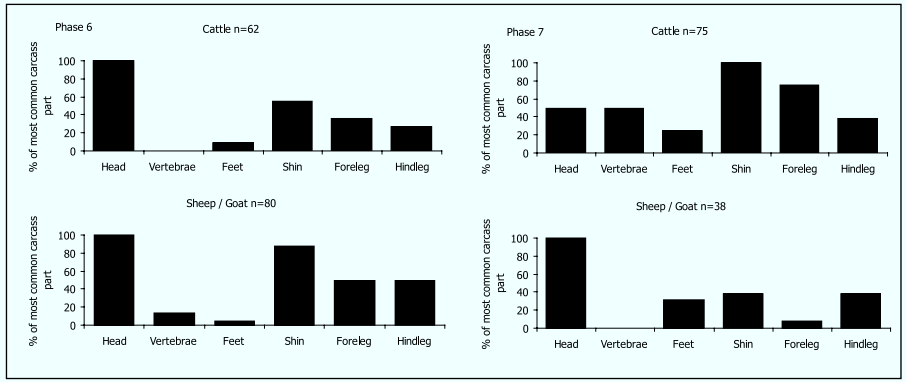

Fig. 10.17 Carcass part representation (epiphysis count), Site 8, Phases 6 and 7

Table 10.35: Meat weights, Site 8, Phases 6 and 7

Species	*Phase 6*	*%*	*Phase 7*	*%*
Cattle (300 kg)	1200	79	2400	92
Sheep/goat (30 kg)	180	12	90	3
Pig (130 kg)	130	9	130	5
Total	1510		2620	

Table 10.36: Cattle fusion data, Site 8, Phases 6 and 7

	Age (months)	*Phase 6*			*Phase 7*		
		Unfused	*Fused*	*%F*	*Unfused*	*Fused*	*%F*
Metacarpal P	0		6	100		8	100
Metatarsal P	0	1	4	80		10	100
Scapula	7-8		6	100		11	100
Pelvis	7-10		2	100	1		0
1st phalange	13-15		3	100	1	4	80
Humerus D	15-18	1	6	86	1	3	75
Radius P	15-18		1	100		5	100
2nd phalange	18		2	100			
Metacarpal D	24-36	1	3	75		4	100
Tibia D	24-30	1	5	83		3	100
Metatarsal D	27-36	1	1	50		5	100
Ulna	42					1	100
Femur P	42	1		0	2	4	67
Humerus P	42-48		2	100			
Radius D	42-48				3		0
Femur D	42-48				1	1	50
Tibia P	42-48	3	1	25		2	100

Diet

If the proportion of species entering the diet in terms of meat weight (Table 10.35) is considered, beef would potentially have been available in the greatest proportions in both phases, though more common in the later phase. In Phase 6 lamb would have been available in the next greatest quantities, and pork in similar but slightly lower amounts. In Phase 7 pork was potentially the most common meat after beef. Despite their high numbers within the assemblage it is probable that lamb formed the lowest contribution of meat of the diet in this phase.

Chicken was recovered from both phases, and its meat and eggs probably formed part of the diet. Other animals in Phase 6 that may have been eaten include horse and rabbit/hare, and in Phase 7 deer and geese were probably hunted and eaten.

Animal husbandry

Cattle

During Phase 6, there was evidence for a neonatal mortality from the fusion data (Fig. 10.19; Table 10.36), and one bone came from an animal less than 18 months old when it died. With these exceptions, however, the first significant cull of animals occurred at 24-36 months of age and continued so that by the time animals reached 42-48 months of age just over 60% of the population were left alive into adulthood. The small number of mandibles complete enough for tooth wear to be assessed (Fig. 10.20) suggests that there were two groups of animals which either died young (MWS 4-14 – probably 6-30 months) or very old (MWS 41-50 well over 48 months of age). There were very few teeth suitable for eruption analysis.

There were no neonatal deaths apparent in the Phase 7 fusion data, although there was an apparent small cull of juvenile animals between 7-18 months of age, but then no further deaths until animals reached 42 months of age, at which point nearly 60% of the population live into adulthood. Only two mandibles were suitable for wear stages to be calculated, which were from old individuals (MWS 46 and 52). There were very few loose teeth available for the interpretation of eruption patterns.

The mortality data from both phases suggest that the majority of cattle herds were mature, and used for secondary products such as traction or dairying. The relative absence of neonatal animals may indicate that animals were bred away from the site. In Phase 6 the very small numbers of neonatal or young calves suggests that dairying was not intensively practiced. The cull of 24–36 month old animals is indicative of a cull of excess animals for their meat. A larger cull of calves in Phase 7 at 7-18 months is more consistent with a cull of excess animals produced when milk production is important (McCormick 1992; Noddle 1989).

One 1st phalange was noted from Phase 6 with evidence for bony growths on the proximal anterior aspect. Such changes are often considered to be the result of trauma caused by using the animal for traction (Bartosciewicz *et al.* 1997). In Phase 7, a

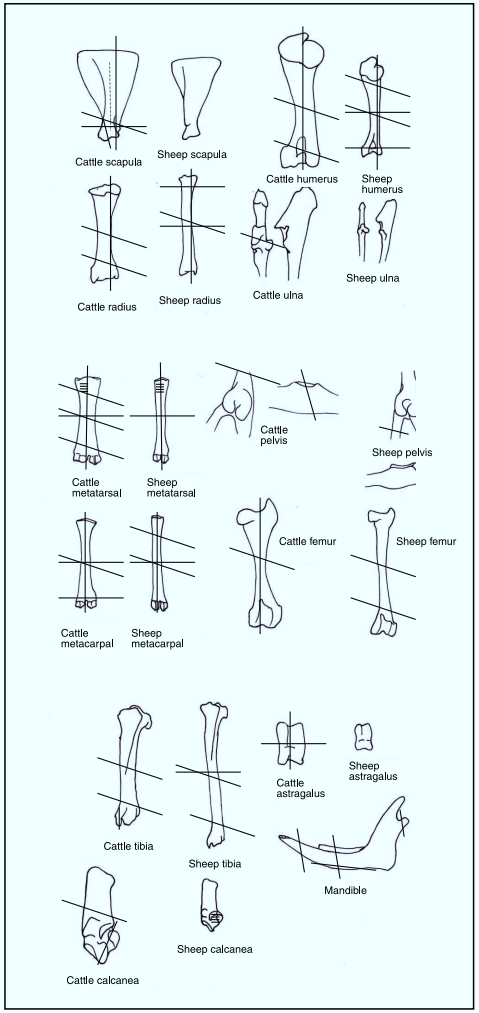

Fig. 10.18 Sites of common butchery marks for cattle and sheep/goat bones, Site 8, Phases 6 and 7

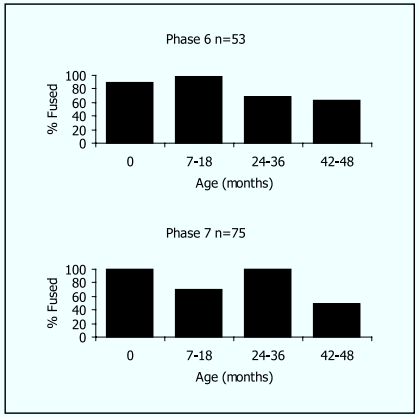

Fig. 10.19 Cattle fusion data, Site 8, Phases 6 and 7

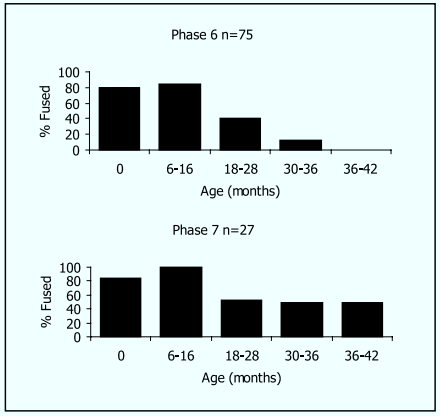

Fig. 10.21 Sheep/goat fusion data, Site 8, Phases 6 and 7

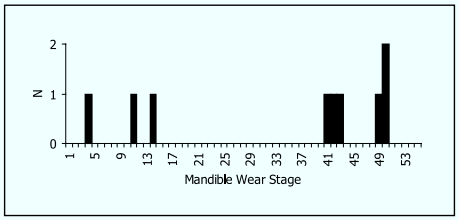

Fig. 10.20 Cattle tooth wear, Site 8, Phase 6

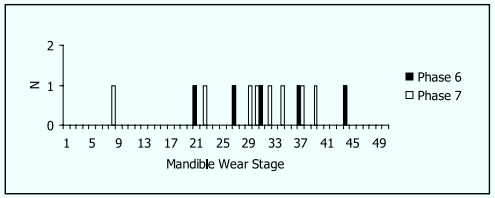

Fig. 10.22 Sheep/goat tooth wear, Site 8, Phases 6 and 7

metatarsal showed signs of bony growths on the proximal end, and a sacrum had signs of eburnation on the cranial articular surface, indicative of joint degeneration not uncommonly associated with age related changes.

Several shoulder heights were calculated, which suggested the presence of animals in both phases between 1 m and 1.5 m tall. In Phase 6 there was evidence for a small horned species to be present, and in Phase 7 a medium horned animal was recorded (Armitage 1976).

Sheep/goat

Both sheep and goat remains were positively identified in the Phase 7 assemblage and sheep in Phase 6. In both Roman phases there was evidence for neonatal deaths in the sheep/goat population (Fig. 10.21; Table 10.37). A small number of animals in the Phase 6 assemblage were also culled between 6 and 16 months of age, a cull which increased to 60% of the population between 18-24 months of age, and continued in animals between 30 and 36 months, of which nearly 90% died. No animals were apparently alive over 36 months old. The tooth wear data, however, suggests that older animals were present

Table 10.37: Sheep/goat fusion data, Site 8, Phases 6 and 7

	Age (months)	*Phase 6*			*Phase 7*		
		Unfused	*Fused*	*%F*	*Unfused*	*Fused*	*%F*
Metacarpal P	0	1	3	75	1	2	67
Metatarsal P	0	2	9	82		2	100
Scapula	6-8	1	2	67			
Pelvis	6-10		2	100		3	100
Humerus D	10	2	3	60			
Radius P	10		6	100			
1st phalange	13-16		2	100		2	100
2nd phalange	13-16						
Metacarpal D	18-24	4	1	20		1	100
Tibia D	18-24	4	4	50	2	3	60
Metatarsal D	20-28	2	2	50	3		0
Ulna	30	5	1	17		1	100
Femur P	30-36	1		0	1	1	50
Calcaneum	30-36	2	1	33			
Radius D	36	3		0	1		0
Femur D	36-42	2		0	1		0
Tibia P	36-42	4		0			
Humerus P	36-42	3		0		1	100

(Fig. 10.22), as wear stages were calculated between 21 and 44.

Animals were apparently kept alive longer in Phase 7, where the first significant cull occurred between 18-28 months of age, and continued at a steady rate of approximately 50% of the population between 30-36 and 36-42 months of age, leaving a significant number of animals alive into maturity. Although tooth wear and eruption data were scarce, mandible wear stages also indicate that older animals were kept.

The presence of neonatal deaths in the two phases suggests that sheep were bred nearby. The Phase 6 assemblage is indicative of animals kept purely for meat, although the presence of old animals may indicate breeding stock, or that some animals were kept for small scale wool or milk production. The difference seen in the Phase 7 mortality data, where a significant number of older animals were present, indicates that secondary products (milk and/or wool) were more important in this phase.

Very few bones were complete enough to be used to calculate shoulder heights, although two animals of 0.58 m were represented in the Phase 6 assemblage and one individual of 0.60 m in Phase 7.

Pig

The pig assemblages were small in both phases, and age data limited (Table 10.38). There was no evidence for fused bones from Phase 6, suggesting that pigs were culled as juveniles. In Phase 7, however, there was evidence for animals alive at 12 and 24 months, as well as at least one which died before reaching 12 months old. There was no evidence for animals living over 24 months of age. The tooth eruption data for both phases also indicated that animals died before reaching 16 months of age, and in Phase 7 two mandible wear stages were calculated at MWS 1 and 24. No bones were suitable for metrical analysis.

Table 10.38: Pig fusion data, Site 8, Phases 6 and 7

	Age (months)	*Phase 6*			*Phase 7*		
		Unfused	*Fused*	*%F*	*Unfused*	*Fused*	*%F*
Metacarpal P	0						
Metatarsal P	0						
Scapula	12	1					
Pelvis	12						
Humerus D	12				1		
Radius P	12						
2nd phalange	12					1	
1st phalange	24	1					
Metacarpal D	24						
Tibia D	24					1	
Calcaneum	24-30						
Metatarsal D	27						
Ulna	36-42						
Humerus P	42						
Radius D	42						
Femur D	42	1			1		
Tibia P	42						
Femur P	42	1					

Other species

The horse assemblage consisted of fragments from all parts of the body, and in both phases all bones were fused, suggesting that animals lived into maturity. All tooth eruption data came from animals over 42 months at death. A number of bones from Phase 6 were complete enough to be used to calculate wither heights, which suggested that ponies of 11.3 hh, 12.2 hh and 13 hh were present. A 1st phalange from Phase 7 was found with pathological bony growths on the lateral posterior shaft.

Very few dog bones were recovered, with the exception of those articulated remains belonging to the partial dog skeleton, from pit context 10001 of Phase 6, which was mature at death, and would have stood about 0.40 m tall at the shoulder. All other dog bones were fused, and no pathological bones were noted.

A cat femur from an animal over 9 months of age was recovered from a Phase 6 context. A deer scapula and antler fragments were recovered from Phase 7, and a metatarsal and other antler fragments from roe deer were retrieved from general Roman contexts. A number of fox mandibles were recovered, two of which, from both phases, had been chopped through the diastema (snout), which may indicate that animals were skinned and their pelts utilised. Fragments of a hare/rabbit skull were recovered from Phase 6, and a fragment of metatarsal from the general Roman phase. Two mouse limb bone fragments were recovered, both from the general Roman phase. A number of vole fragments were recovered from kiln contexts in Phase 7. A frog humerus was recovered from a postpacking context, and may have been the result of a pit fall, rather than a deliberate deposition.

Nearly all chicken remains came from Phase 6, with the majority from cremation burial 8099 (ctx 8125), where a juvenile chicken had been placed in the grave with the remains of an adolescent. Other domestic fowl remains came from all feature types, and were all from limb bones. There was only one chicken bone retrieved from the late Roman phase, and two from the general Roman phase, all being limb bones.

Only two goose bones were recovered from this site, one from Phase 7, and one from the general Roman phase. Both were limb bones. Two fragments of bone from a falcon and one from a corvid were recovered from Phase 6 ditch contexts.

Provision and site economy during the Roman period

In the Roman period settlement patterns become more diverse in the region, with the development of small towns, farms, villas, nucleated and

military settlements as well as a continuation of habitations established in the Iron Age (Dawson 2000a). Because of this, each site's population had specific requirements for food and clothing, and a greater diversity is apparent in the economies of settlements as different demands for production and supply were met. However, the apparent similarities of animal husbandry on Sites 4 and 8 to Iron Age practices seen elsewhere in the region suggests these were fairly un-Romanised settlements.

As with the Iron Age sites from Great Barford, Sites 4 and 8 showed no similarity or difference in the type of animals kept or husbandry undertaken in comparison with sites of different geologies. Contemporary sites showing similarities were found on clay (Ruxox, Kempston, Stagsden and the A120 sites in Essex (Evans forthcoming)), ironstone and sand (Higham Ferrers) and gravel (Wavendon Gate).

Fragment and carcass part analysis from both sites suggests that complete carcasses were processed on site, although the absence of large deposits of butchery or industrial waste indicates that such processing took place away from the area of excavation, or was carried out on a small scale, and large deposits were not produced.

There was no significant difference in the methods used to disarticulate the carcass between Site 2 Iron Age deposits and Site 8 Roman deposits, indicating the native un-Romanised nature of these settlements. However, there was a suggestion of the start of filleting meat from scapulae, and the increased use of a saw-like implement, both of which are typical of Roman butchery techniques (Maltby 1989).

The diets of those living on both Sites 4 and 8 were not unusual for the period, and were based on beef, lamb and pork. The increase in beef and pork consumption seen at Site 8 in the later Roman phase is consistent with trends noted by Hamshaw-Thomas (2000). The continued absence of wild species on Site 4 is unusual on Roman sites, where an increased diversity in species is often seen. This is particularly noticeable in the numbers of deer (red and roe), which are present on Site 8 and also at other sites such as Ruxox, Beds (Hamilton-Dyer 2004). The contribution of birds to the diet also appears to increase at this time (Parker 1988), as seen in the presence of goose, and the increase of chicken remains in Site 8 deposits, shadowed at Ruxox and Kempston, Beds (Roberts 2004b).

The scarcity of wild species and birds at Site 4 may suggest this site bought food in from elsewhere, and did not undertake hunting. This is emphasised by the lack of neonatal and very young animals at Site 4 which indicates that either they were bred away from the site, or that it was a consumer site where animals were bought in from elsewhere. Site 8 was more likely a producer site, based on a subsistence economy, where cattle, sheep/goat and pigs were bred on or close to the settlement.

Sheep/goats in the early phase on both sites were rarely left alive into maturity, which suggests they were kept for one or two years wool supply then culled for meat. Similar mortality profiles were noted at Wavendon Gate and Ruxox, and are consistent with patterns noted more widely during the early Roman period (Maltby 1981). A move towards a more mature sheep/goat population is seen in the later phase on Site 8, a husbandry practice which is common on rural Roman sites where the production of milk and/or wool is important (Maltby 1981). Examples of this are seen at Stagsden and Kempston.

Horned species of sheep/goat were noted, and animals ranged from 0.58–0.63 m in height. Similar morphologies were noted at Ruxox and Kempston.

The husbandry of cattle on Site 4 is again indicative of an economy where animals were bought in from elsewhere, as they fit such a consistent mortality profile, a pattern noted by Maltby (1981) as more typical of urban and military settlements. Nonetheless, cattle at Site 4 are from an economy where secondary products would have been important, as nearly all animals were adult when they died. Similar husbandry practices are noted at Kempston.

Although most cattle from Site 8 were mature at death, a number of juvenile animals, probably those excess to requirements, were also present, suggesting a mixed economy, where animals were used for meat as well as secondary products. In the later phase a small cull of cattle in their first 18 months is seen, which may be indicative of a cull of calves excess to requirements as a result of milk production. The lack of metrical data suitable for analysing sexual dimorphism means that the ratio of male and female animals cannot be understood, and the real nature of cattle husbandry must remain unknown. This form of husbandry has also been described by Maltby (1981) as indicative of rural producer sites, and similar practices have been noted at Ruxox and Kempston.

A number of cattle horn cores were recovered, but there was no evidence for polled species. Their sizes ranged from 1.0–1.5 m. Similar morphologies were seen at Ruxox and Kempston.

Pigs were culled at times when they would have been at their optimum meat production. This is a trend shared with most other Roman sites.

Horses were still found in significant numbers on both sites, and all fragments recovered indicate that mature animals were present, a trend common on many Roman sites, emphasising their importance for work (riding and draught). Sizes ranged from 11.3–13 hh on Site 8 and 14 hh on Site 4. Similar sized animals were found at Ruxox and Kempston.

Saxon period

Species representation: Phases 8.1 and 8.2 (early and mid Saxon period, 5th–8th centuries)

As Table 10.39 shows, there were very few bones recovered for this phase. Of those identified to species, cattle, sheep/goat, pig and dog were present.

Species representation: Phase 8.3 (late Saxon period, 9th–11th centuries)

Sites 3 and 8 again provided very little in the way of faunal remains, with cattle, sheep/goat, pig and goose bones recovered. Site 9 provided a larger assemblage. The high numbers of horse in the Site 9 assemblage are biased by the large number of mandible fragments which may or may not have been articulated at the time of deposition. If horse remains are not considered, pig fragments were the most abundant, sheep/goat slightly less common and cattle even less so. Dog, roe deer, chicken and mallard were present in smaller quantities.

Table 10.40 shows the species count comparison, where the epiphysis count indicates that, although pig remains made up a third of the assemblage, cattle were found in similar numbers to pigs, and sheep/goat and horse were much less common. These proportions were mirrored in the minimum number count. The low numbers of horse fragments in the restricted counts compensate for the large proportion of mandible fragments in the fragment count. The greater importance of the cattle assemblage within the restricted count is probably due to the relative ease that pig and sheep longbone fragments are differentiated compared to those of cattle and horse.

The species proportions apparent on Site 9 are not unusual. Cattle predominate at other Saxon settlements in the region, such as Tempsford (Hutchins 2005) and Willington, Beds (Grant 1975b), and at contemporary sites further afield in southern England (eg Coy 1989; Crabtree 1985; 1994; Grant 1978). Sheep/goat and pigs were often found in high numbers on these sites, with dog, deer, chicken and mallard remains also commonly found in small numbers.

Table 10.39: Species representation for the Saxon period (fragment count)

	Phase 8.1	Phase 8.2	Phase 8.3			
Species	Site 8	Site 9	Site 3	Site 8	Site 9	%
Cattle	2	1	6		47	20.8
Sheep/goat	7	3	2	3	54	23.9
Sheep					2	0.9
Goat					1	0.5
Pig	5	3	1		67	29.6
Horse					46	20.4
Dog					1	0.5
Canine	1					
Roe Deer					1	0.5
Chicken					6	2.7
Goose			1			
Mallard					1	0.5
Total Identified	15	7	10	3	226	
Unidentified mammal		1	14		74	
Unidentified large mammal	6	4	11		145	
Unidentified medium mammal	6	7	9	1	115	
Unidentified bird					6	
Unidentified medium bird					1	
Unidentified fish					2	
Total	27	19	44	4	569	

Table 10.40: Species count comparison, Site 9, Phase 8.3

	Epiphysis		Fragment		MNI
Species	n	%	n	%	n
Cattle	12	38	47	21	2
Sheep/goat	4	13	57	25	1
Pig	11	34	67	30	3
Horse	3	9	46	21	1
Dog	2	6	1	0.4	1
Chicken			6	3	1
Total	32		224		9

Table 10.41: Species representation by feature type, Site 9, Phase 8.3 (fragment count)

Species	Ditch	Beam Slot	Foundation Trench	Gully	Pit	Posthole
Cattle	12	1		3	22	9
Sheep/goat	9	1	5	6	22	14
Pig	5	1	5	14	30	12
Horse	44				1	1
Dog	1					
Chicken	1	2				3
Wild species					2	
Total	72	5	10	23	75	39
%	32	2	4	10	33	17

Table 10.42: Activity waste by feature type, Site 9, Phase 8.3 (fragment count)

Species	Ditch	Beam Slot	Foundation Trench	Gully	Pit	Posthole
Radius	1	1	2	2	5	
Tibia	2	1	1	3	5	4
Total domestic waste	3	2	3	5	10	4
Antler						
Horn Core					3	2
Total industrial waste	0	0	0	0	3	2
Atlas *2						
1st Phalange /2			1		1	1
Total butchery waste	0	0	1	0	1	1
Total	3	2	4	5	14	7

Detailed analysis: Site 9

Spatial analysis

Bones were concentrated in the area immediately around the settlement structures, as well as in various pits and ditches on the periphery of the site. Domestic refuse containing the limb bones from large and medium sized species was found abundantly throughout the site, although fragments from medium sized species were found in greater concentrations to the south west and south east of the site. Bones associated with butchery and industrial refuse were found in pits in the eastern area, and the east and west ends of structure 9150.

Table 10.41 shows the proportion of species found within the main feature types. Of these, the majority of remains were recovered from ditch and pit deposits, although a significant number also came from posthole and gully contexts. Beam slot and foundation deposits also contained faunal remains. Horse and dog bones nearly all came from ditch contexts, whereas the smaller species (sheep/goat and pig) were found in small quantities in these deposits, being more common than larger species in posthole, gully and foundation contexts.

Table 10.42 represents the proportions of domestic, industrial and butchery waste deposits by feature type. Domestic waste was by far the most common type of waste, and was present in all feature types. Butchery waste was found in foundation trench, pit and posthole contexts, and bones associated with industrial waste were only retrieved from the latter two feature types. No large deposits of butchery or industrial waste were apparent.

Fragment representation, butchery and diet

As Table 10.43 shows, although sample sizes were too small to show significant trends, bones were recovered from all parts of the carcass in the cattle and pig assemblages, and were found from sheep skull and limb bones. The few butchery marks

Table 10.43: Fragment representation in order of expected preservation, Site 9, Phase 8.3 (epiphysis count)

Anatomy	Cattle	Sheep	Pig
Mandible with molars	3	2	3
Metacarpal P			
Metatarsal P	1		3
Humerus D	2		
Tibia D	1		1
Radius P		1	
Pelvis	1		1
Scapula D	2	1	
Calcaneum		1	
Metacarpal D			
Metatarsal D	1		1
Femur P	1		
Radius D			
Tibia P			
Femur D			
Humerus P			
1st phalange *	1		2
2nd phalange *			2
3rd phalange *			1
Occipitale	2	2	
Zygomatic			1
Atlas*			
Sacrum*			
Total	15	7	15

* figures adapted for anatomical frequency in relation to other bones in the skeleton

Table 10.44: Meat weights, Site 9, Phase 8.3

Species	Weight	%
Cattle (300 kg)	600	59
Sheep/goat (30 kg)	30	3
Pig (130 kg)	390	38
Total	1020	

Table 10.45: Cattle fusion data, Site 9, Phase 8.3

	Age (months)	Unfused	Fused	%F
Metacarpal P	0			
Metatarsal P	0		1	100
Scapula	7-8		2	100
Pelvis	7-10		1	100
1st phalange	13-15		1	100
Humerus D	15-18		2	100
Radius P	15-18			
2nd phalange	18			
Metacarpal D	24-36			
Tibia D	24-30		1	100
Metatarsal D	27-36		1	100
Ulna	42			
Femur P	42		1	100
Humerus P	42-48			
Radius D	42-48			
Femur D	42-48			

noted on bones in the assemblage were present on chicken, roe deer, horse, cattle, pig and sheep/goat bones. They were seen as chop marks, and were found on limb bones and vertebrae.

When looked at in terms of meat weights, cattle again appear to have been a far more significant part of the diet than bone counts suggest, although pork was potentially also available in large quantities, particularly when compared to the far smaller proportion that lamb probably contributed to the diet (Table 10.44). It is likely that chicken and duck were also eaten, as well as their eggs. The presence of butchery marks on a horse calcaneus may suggest it was eaten, although it is just as possible that this was the result of disarticulation and/or skinning before deposition.

Table 10.46: Sheep/goat fusion data, Site 9, Phase 8.3

	Age (months)	Unfused	Fused	%F
Metacarpal P	0			
Metatarsal P	0			
Scapula	6-8		1	
Pelvis	6-10			
Humerus D	10			
Radius P	10		1	
1st phalange	13-16			
2nd phalange	13-16			
Metacarpal D	18-24			
Tibia D	18-24			
Metatarsal D	20-28			
Ulna	30			
Femur P	30-36			
Calcaneum	30-36	1		
Radius D	36			
Femur D	36-42			
Tibia P	36-42			
Humerus P	36-42			

Animal husbandry

Cattle

Although the number of bones suitable for fusion data was small (Table 10.45), all were fused, suggesting the cattle population was mature at death. This is reflected in the tooth wear data, where two mandible wear stages were calculated at 39 and 43, which would have been from old animals. One metatarsal was complete enough for a shoulder height to be calculated, which indicates an animal approximately 1.22 m tall. A scapula was found with signs of degeneration around the distal articular surface.

Sheep/goat

There were very few bones suitable for ageing (Table 10.46). Of those found, all were fused before 10 months of age, and there was no evidence for animals alive after 24 months. No tooth wear or eruption data were present. No bones were complete enough for shoulder heights to be calculated.

Pig

Again sample sizes were small for pig fusion data (Table 10.47), of which nearly all early fusing bones were fused, suggesting that most were alive over 12 months. Approximately half those between 24 and 27 months of age were still alive, but there was no evidence for animals surviving 27 months. This is supported by the tooth eruption data. An astragalus was complete enough to be used to calculate a shoulder height of 0.70 m.

Other species

Nearly all horse bones were fused at death, suggesting the majority of individuals were mature, although an unfused calcaneus was found, which

Table 10.47: Pig fusion data, Site 9, Phase 8.3

	Age (months)	Unfused	Fused	%F
Metacarpal P	0			
Metatarsal P	0		3	100
Scapula	12			
Pelvis	12		1	100
Humerus D	12			
Radius P	12			
2nd phalange	12	1	1	50
1st phalange	24	1	1	50
Metacarpal D	24			
Tibia D	24	1		0
Calcaneum	24-30			
Metatarsal D	27		1	100
Ulna	36-42	1		0
Humerus P	42			
Radius D	42			
Femur D	42			
Tibia P	42			
Femur P	42			

would have come from an animal less than 36 months old.

The only dog bone was a metacarpal from an animal at least 5 months old, and the only evidence for deer came from a fragment of roe deer antler. Chicken remains were all from limb bones. The one fragment of mallard bone was from a wing, and suggests that wild duck were hunted.

Provisioning and site economy during the Saxon phase

As all carcass parts were present in the assemblage, it is likely that complete carcasses were processed on the site. There were no neonatal remains or animals that died in their first year to indicate that they were bred or kept nearby, so it is possible that animals were brought in from elsewhere, or may have been bred and raised away from the area of excavation.

Cattle were important for their secondary products, a trend that is also seen at Willington. The only cattle shoulder height that was calculated (1.22 m) was from an animal larger than those found at Salford, although comparable to larger animals from Wicken Bonhunt, Essex and Ipswich, Suffolk (Crabtree 1994). Pigs were probably bred for meat. The sheep/goat assemblage was unfortunately too small to provide any details of the sheep economy, although it does suggest that they were culled at optimum meat producing ages.

It is likely that hunting took place, from the presence of mallard. Although deer remains were present, they consisted of antler fragments which could have been shed during the Autumn.

Medieval period

Very few bones were identified to species in Phase 9, as Table 10.48 shows. Cattle and sheep/goat predominated, but pig, horse, cat, goose and chicken remains were also found.

Discussion

The animal bones from the sites along the Great Barford Bypass have been used to investigate certain aspects of the economy and animal husbandry of the area in the past. There was little difference noted in the breeds of sheep and cattle between sites in both the Iron Age and Roman periods – both species were horned and representative of species found on other contemporary sites (Jewell 1963; Ryder 1993; Wild 1982). The range of sheep/goat heights calculated in the Roman phase were towards the higher end of the Iron Age range, but no taller, although taller cattle were found in the Roman assemblage. Ponies, too, were of a similar height range, although significantly taller animals were found on Site 4 in both phases.

In the Iron Age the predominance of sheep/goat remains recovered on both sites was greater than

Table 10.48: Species representation for the medieval period (fragment count)

Species	*Phase 9.1*	*Phase 9.2*	
	Site 3	*Site 3*	*Site 5*
Cattle	11	6	10
Sheep/goat	16	2	13
Goat	1		
Pig	5	1	3
Horse	2		1
Cat			1
Goose		1	
Chicken	1		
Total Identified	36	10	28
Unidentified mammal	12	14	9
Unidentified large mammal	30	11	24
Unidentified medium mammal	53	9	29
Unidentified small mammal			2
Unidentified bird			4
Total	176	44	96

that found on other sites in the region. In the Roman and Saxon phases the ratios of domestic species were similar to those on many sites regionally. Despite this, beef was still probably the most common meat eaten on all sites in all phases, followed by pork, then lamb. Domestic fowl appear on Site 2 in the later Iron Age and become more common with time. Although it is unclear what part chicken played in the Iron Age diet, by the Roman period it was probably used for meat and eggs. Butchery and the treatment of horse bones suggest that they formed part of the diet in the Iron Age and maybe also the Roman period.

It is likely that wild mammals (deer, fox and maybe hare and cat) and birds were hunted by those living on Sites 2, 8 and 9 during the Iron Age, Roman and Saxon phases. Site 4 is unusual in both phases as there was very little diversity in the species found that could be interpreted as contributing to the diet of those living there.

The pattern of sheep and cattle husbandry in the area is fairly consistent when the data from Sites 2, 4, 8 and 9 are considered. Sheep were probably kept mainly for their meat, but with some importance given to small scale fleece production in their early years. Cattle were apparently considered more important for secondary products – traction and possibly milk production, although there was little direct evidence for the latter – and only those excess to requirements were culled as juveniles. Pig husbandry followed a universal standard, where they were kept for meat, and only a few breeding animals lived to maturity. Horses were nearly always mature at death, suggesting they were held in high regard for their working capacity (draught or transport).

Butchery of carcasses was generally similar on Iron Age and Roman sites, a trend noted by Maltby

(1989), although some small differences were noted, many of which were consistent with those commented on elsewhere (Maltby 1985b; 1989). Knife marks were more commonly observed in the Iron Age assemblages, particularly on the scapula, humerus and mandible, and were comparatively rare on Roman sites. The removal of the spine of the scapula, commonly noted as a result of filleting, a Roman butchery trend, was noted on Site 8, but not on any of the Iron Age sites. The radius in Iron Age deposits was often chopped transversely at the proximal end, whereas in Roman deposits the distal radius and articular surface of the ulna were chopped through transversely in the disarticulation of the carcass. A similar difference is seen in the jointing of the hind leg, where in Iron Age remains the proximal tibia was often chopped through transversely, whereas Roman butchery commonly took place higher up, affecting the calcaneum and astragalus. The other main difference occurred in the butchery of the mandible: during the Iron Age the diastema was sometimes chopped through, but mandibles from the Roman assemblage were often heavily butchered on the diastema, tooth row and articular surface, providing evidence for the removal of the mandible from the skull, and separation of mandibles (Maltby 1989).

The use of spatial analysis has indicated that different parts of the sites were used for the deposition of particular types of waste, some of which were consistent over time. The most obvious example of this is the predominance of dog remains in ditch deposits in all periods, which suggests they were treated differently to the other main domestic mammals and may indicate that they were not eaten, whereas horses, which probably were eaten in the Iron Age, and maybe also the Roman period were more commonly found in deposits with sheep, cattle and pig remains. During the Saxon period, however, horses were more commonly found in ditches. The deposition of different sized species in certain feature types (pits – medium; ditches – larger) and/or in specific areas of the site was a trend seen in all phases and noted by Wilson (1996). The deposition of bones associated with butchery and industrial waste was also commonly concentrated in specific areas of the sites considered in Iron Age, Roman and Saxon assemblages, suggesting a controlled use of space within these settlements.

Conclusions

The settlements along the route now taken by the Great Barford Bypass appear to have remained similar in their animal husbandry practices in both the Iron Age and Roman periods. Site 2 was a settlement typical of Iron Age Britain, based on a subsistence economy, in which animals were bred and raised in the vicinity and used to feed the population of the settlement. Site 4 was probably also run on a subsistence basis, as many of the similarities with Site 2 suggest, but the absence of direct evidence for breeding animals may suggest that the main part of the settlement lay outside the area of excavation, or that animals were raised away from the site. The continuity of this site into the Roman period suggests that little changed within its economy, or the way that animals were used. The animal bones from Roman Site 8 suggested a similar, subsistence based economy to that of Site 2, where animals were bred, raised and eaten by those within the settlement. The evidence from the Saxon period may indicate a consumer or farm economy, in which animals found on this site were bought in from elsewhere, or bred and used away from the immediate vicinity of the site.

FISH BONE
by Rebecca Nicholson

Very few fish remains were recovered, although generally the animal bone assemblage was well preserved and the sieved residues included the tiny remains of voles, shrews and mice. Only one fish bone, a pike (*Esox lucius*) anterior vertebra, was recovered by hand-collection on site. This bone derived from Romano-British pit 10347 (ctx 10346) from Site 8. The sieved sample residues produced several more fish bones. From Site 2, a single pike tooth was recovered from pit 2634 (upper fill 2636), dated to Phase 5 (late Iron Age). Of the same date, a sample from ditch 2404 (mid fill 2498) contained a tiny cyprinid (carp family: Cyprinidae) cleithrum, from a fish under 150 mm long. From Site 9, a tiny eel (*Anguilla anguilla*) vertebra and a tiny cyprinid vertebra were identified in middle Saxon pit 9607 (ctx 9609) and late Saxon pit 9490 (ctx 9491) also contained an eel vertebra. Several unidentifiable fragments of fish bone were present in medieval pit 3381 (ctx 3512), on Site 3.

All the recovered bones were from fish found in inland lakes, rivers and streams, but the scarcity of fish remains implies that fish did not form a significant part of the local diet during any of the periods covered by the excavations. Marine fish were completely absent, which may be an indication of their perceived value against the cost of catching and transporting such fish. That perishable goods could and were transported inland from the coast is demonstrated by the presence of oyster shells (*Ostrea edulis*) from Romano-British and medieval contexts at Great Barford.

The scarcity of fish remains in the prehistoric and Romano-British contexts at Great Barford is typical for inland rural sites. While fish were highly prized by the Roman élite, the scarcity of fish remains from Romano-British settlements suggests that this enthusiasm did not extend into the countryside. Fish bones are also an unusual find at inland rural Saxon sites, despite historical and archaeological evidence demonstrating the use of wicker fish traps in the 7th to 9th centuries, for example in Essex (Strachan 1998) and Nottinghamshire (Losco-Bradley and Salisbury 1988), and the relative

frequency with which fish bones are recovered from coastal and urban sites. At West Stow only two species of fish—pike and perch (*Perca fluviatilis*)—were identified within a very large faunal assemblage (Crabtree 1985, 86), while at Mucking, Essex, a single flatfish vertebrae was reported, despite the proximity of the lower Thames (Done 1993, 79). In Bedfordshire, a small number of fish bones were recovered from Saxon contexts at Kempston, but were not further identified (Roberts 2004b, 302).

While fish remains are likely to be under-represented at all sites where extensive sieving of soil from refuse-rich deposits was not undertaken, this was not the case at Great Barford, where over 350 soil samples, generally of 20-40 litres volume, were processed. The scarcity of fish remains from all periods would therefore appear to reflect the fact that fish did not form a major part of the diet and that the fish which were eaten were all caught in local rivers and streams.

Chapter 11: Environmental Evidence

CHARRED PLANT REMAINS
by Denise Druce

Introduction

An extensive programme of environmental sampling was carried out, with a total of 332 bulk samples taken. The majority of samples (215) came from settlement features, including ditches, gullies, pits, postholes, pottery kilns and a corndrier. Of the remaining samples, 112 came from cremation burials, and five came from inhumation burials.

An assessment of the charred plant remains (CPR) was carried out on a total of 246 samples, of which 112 were from the cremation burials. The samples selected for assessment were those originating from the most secure and potentially datable contexts. The assessment demonstrated that very limited CPR were present in the cremation burials, and therefore no further work was carried out on these samples. By contrast, several other features, including the kilns and the corndrier, contained very abundant cereal grain, cereal chaff and weed seed assemblages.

Table 11.1: Quantification of samples from each site, excluding cremation samples

Site	*Period*	*No. assessed*	*No. with abundant CPR*	*No. analysed*
1	Early Roman	7	1	0
1	Mid Roman	1	1	1
1	Undated	1	0	0
2	Iron Age	4	1	0
2	Middle Iron Age	13	0	2
2	Late Iron Age	11	3	3
2	Undated	2	0	0
3	Medieval	15	12	6
3	Undated	9	3	0
4	Middle Iron Age	1	0	0
4	Late Iron Age	1	0	0
4	Early Roman	4	1	0
4	Early-mid Roman	2	0	0
4	Mid Roman	3	1	0
4	Undated	1	0	0
5	Medieval	1	1	0
6	Middle Iron Age	2	0	0
8	Roman	3	0	0
8	Early Roman	6	4	1
8	Early Roman (kiln)	6	4	2
8	Mid Roman	3	1	0
8	Mid Roman (corndrier)	9	6	4
8	Late Roman	7	3	1
8	Late Saxon	1	1	1
9	Late Saxon	18	2	2
Total		134	45	23

The samples assessed from each site, alongside the number containing abundant (>25) cereal remains and the number finally analysed are shown in Table 11.1. The data show the relative paucity of the charred plant remains from Sites 1, 2, 4, and 9. Site 2, the largest Iron Age site, was particularly poor in material with only four from a total of thirty samples containing abundant CPR. Similarly, at Site 9 just two from a total of eighteen samples were rich in CPR. It is not completely clear why charred plant remains were so rare at these sites, but it is possible that arable activity, and crop processing in particular, was not carried out in these areas. However, it is also possible that taphonomic or post-depositional processes and/or sampling decisions influenced the resulting palaeobotanical record. That context type is likely to play a significant part in the abundance of CPR may be illustrated by the relative richness of the assemblages from Site 8 (Table 11.6). Of the 35 samples assessed from this site, 19 contained abundant CPR, of which 10 came from corndrier or kiln contexts. The abundance of CPR from the corndrier is to be expected, and it is possible that kilns were used for the parching or drying of cereal grain as well as for pottery production (see below).

A total of 23 samples were chosen for CPR analysis (Table 11.2). In most cases, samples containing more than 100 identifiable items were chosen for analysis. However, in some instances samples containing fewer identifiable seeds were analysed or quantified in order to provide information, albeit limited, on certain phases of occupation and associated changes through time. Due to the paucity of charred plant remains, no samples were fully analysed from Site 4. Samples from Sites 5 and 6 were also only assessed and not fully analysed as they came from isolated features.

Methodology

Samples of up to 40 litres in size were processed using bulk flotation with a modified Siraf flotation machine and the flots collected onto a 250 µm mesh and airdried. Any identifiable charred plant remains were extracted, sorted and counted using a binocular microscope. Any cereal grain and chaff fragments were quantified whilst still in the flot. The residues from some of the samples were also

Table 11.2: Samples analysed for charred plant remains

Site		Phase	Sample no.	Context	Feature
2	4	Middle Iron Age	2099	2067	Gully 2743 (Enclosure 21)
2	4	Middle Iron Age	2121	20150	Clay-lined pit 20147
2	5	Late Iron Age	2049	2498	Ditch 2404
2	5	Late Iron Age	2101	2499	Ditch 2404
2	5	Late Iron Age	2118	20070	Pit 20069
8	6	Early Roman	8043	8786	Pit 8806
8	6	Early Roman	8068	10575	Kiln 10490 backfill
8	6	Early Roman	8069	10576	Kiln 10490 cleaning/fire pit
1	6.2	Mid Roman	1025	1376	Pit 1377
8	6-7.1	Mid/late Roman	8109	8887	Corndrier 10067
8	6-7.1	Mid/late Roman	8110	8887	Corndrier 10067
8	6-7.1	Mid/late Roman	8111	8887	Corndrier 10067
8	6-7.1	Mid/late Roman	8053	10026	Corndrier 10067
8	7	Late Roman	8103	8676	Hollow 10836
8	8.3	Late Saxon	8058	10354	Pit
9	8.3	Late Saxon	9018	9491	Pit
9	8.3	Late Saxon	9025	9844	Posthole
3	9	Medieval	3051	3434	Pit
3	9	Medieval	3019	3009	Pit
3	9	Medieval	3023	3010	Pit
3	9	Medieval	3031	3240	Pit
3	9	Medieval	3032	3325	Pit
3	9	Medieval	3034	3470	Pit

scanned, but found to be devoid of charred plant remains, indicating that incomplete floatation was not an issue. Identification of the plant remains was aided by comparison with the modern reference collection held at Oxford Archaeology North and with advice from Jacqui Huntley at Durham University. The results are given in Tables 11.6-11.8. Actual counts of charred plant remains are given in the results tables. Nomenclature follows Stace (1997).

Results

Phase 4: middle Iron Age (Sites 2, 4 and 6)

Two middle Iron Age samples from Site 2 were analysed, from gully 2743 (ctx 2067) and pit 20147 (ctx 20150). Context 2067 contained a single *Hordeum vulgare* (barley) grain and several *Triticum* sp. (wheat) grains. In addition, this sample contained limited crop weed seeds, including *Vicia/Lathryus* (vetch/tare) and *Galium aparine* (cleavers), along with a number of *Arrhenatherum elatius* var. *bulbosum* (onion couch) tubers. Context 20150 contained a number of *Triticum* sp./*Triticum spelta* (wheat/spelt wheat) grains and several *Triticum spelta* glume bases, which suggests that limited crop processing activities were being carried out at the site. In addition, ctx 20150 contained numerous *Bromus* spp. (brome) seeds and limited *Rumex* sp. (dock) seeds, which are typical plants of cultivated/disturbed land.

Although the CPR evidence from the middle Iron Age contexts suggests that some cereal cultivation and associated crop processing activities were taking place during this period, the limited data may suggest that this was being carried out on a very minor scale. A total of 16 middle Iron Age samples were assessed (13 from Site 2, 1 from Site 4, and 2 from Site 6; see Table 11.1 and Druce and Huckerby 2005), and not one of them contained appreciable amounts of CPR. In most cases, the samples contained either no material or less than five cereal grains or weed seeds, which may represent just background debris rather than deliberately dumped crop-processing waste.

Phase 5: late Iron Age (Sites 2 and 4)

A total of eleven late Iron Age samples were assessed from Site 2, of which only four contained appreciable numbers of charred seeds. However, nearly all of the samples were charcoal rich, which suggests that much of the material is likely to represent dumped fuel wood rather than the waste generated from crop processing activities. The four samples rich in CPR are discussed below, and suggest limited crop husbandry practices were taking place at the site during the late Iron Age.

Pit 2069 (ctx 20070) contained a number of *Triticum* sp. grains and very little cereal chaff, the latter consisting primarily of *Triticum spelta* (spelt wheat) glume bases. Ditch 2404 (ctxs 2498 and 2499) contained a mixture of cereal grains, which were

dominated by *Triticum* sp., some positively identified as glume wheat (probably *Triticum dicoccum/spelta*; emmer or spelt wheat) and *Triticum aestivum*-type (bread-type wheat). The glume wheat grains either exhibited the remains of the glume attachment or exhibited linear impressions on their surface, left as a result of grains being held tight by the glumes. The grains identified as bread-type wheat were of a short variety, often with sunken sides, which is a characteristic of starchy wheat such as this variety. In addition, they also exhibited a cellular-like pattern on their surface, which is a bread wheat characteristic recently put forward by Jacqui Huntley (pers. comm.). The sample from cxt 2498 also contained a number of *Hordeum vulgare* grains, and both ditch samples contained a number of chaff fragments, primarily *Triticum spelta* glume bases and spikelet forks, with limited cf. *Triticum dicoccum* glume bases and *Hordeum vulgare* rachis. The same sample also contained a single cf. *Triticum aestivum* rachis fragment.

Both the samples from ditch 2404 contained a number of charred weed seeds, which were especially abundant in ctx 2498. The weed seeds included *Agrostemma githago* (corncockle), *Stellaria media* (common chickweed) and *Tripleurospermum inodorum* (scentless mayweed), all three of which are ubiquitous weeds of cultivated and open ground. The former are apparently associated with an increased seed bank and contact with the continent during the late Iron Age and early Roman period in Britain. *Chenopodium album* (fat-hen) was very abundant in ctx 2498. Fat-hen is a common ruderal often associated with arable land. Both samples also contained abundant *Vicia/Lathyrus* seeds, and a number of Poaceae (grass) seeds, including *Bromus* sp. These seeds are often associated with weed crop assemblages, and again represent invasive species likely to have been harvested along with the crop. The abundant leguminous plants (vetches/tares) are interesting because as nitrogen fixers these plants are often associated with decreasing fertility due to soil exhaustion (Jones 1978). The presence of both *Rumex acetosella* (sheep's sorrel) and *Galium aparine* in the ditch samples suggests that a number of soil types were under cultivation during the late Iron Age. *Rumex acetosella* is often associated with lighter well-drained soils, whereas *Galium aparine* is associated with heavy clay soils, typical of the boulder clay in the Great Barford area. The *Isolepis* sp. (club-rush) and *Juncus* sp. (rush) seeds may represent vegetation growing in the damp field margins or boundary ditches, which was subsequently harvested accidentally along with the crop.

Both the ditch assemblages contained very abundant cereal grain, chaff remains and weed seeds associated with arable land. It is possible that at least part of the material represents cereal-processing waste. However, allowing for the possibility of chaff being less resistant to charring, the relative quantities of cereal grains to chaff fragments of over *c* 3:1 suggests that the remains may represent whole spikelets which were burnt and dumped in the ditch, perhaps as a result of a parching accident (Robinson 2004; Carruthers forthcoming a and b). Also of interest is the presence of abundant *Arrhenatherum elatius* var. *bulbosum* (onion couch) tubers in ctx 2498, which may have been collected and consumed as a wild food source (Engelmark 1984; Gustafsson 1995), or alternatively may represent burnt waste from clearance activity.

Pit 2069 contained a weed seed assemblage similar to that from the ditch, and contained species typical of arable land alongside wet ground indicators such as *Montia* sp. (blinks), *Carex* sp. (sedge), *Isolepis* sp. and *Eleocharis palustris* (common spike-rush). Like the ditch samples, it is possible that the assemblage from pit 2069 represents mixed waste material from cereal processing and/or land clearance activity.

The single assessed late Iron Age sample from Site 4 came from ditch 4924 (ctx 4827), close to roundhouse CS41. It contained limited indeterminate cereal and *Triticum* sp. grains, along with a number of weed seeds consistent with the other late Iron Age samples (Druce and Huckerby 2005).

Phase 6: early Roman period (Sites 1, 4 and 8)

Nineteen early Roman samples were assessed, of which three samples were taken to full analysis. The results of both the assessment and analysis are considered here.

A total of seven early Roman features were assessed from Site 1, although few samples contained appreciable amounts of charred material. Contexts 1238, 1283 and 1406 contained a number of indeterminate/*Triticum* sp. grains and charred crop weeds such as *Polygonum aviculare* (knot grass), Brassicaceae (cabbage family) and Fabaceae (bean family) weed seeds, which are all typically found as part of cereal processing waste. In addition, ctx 1238 contained fairly abundant glume bases from *Triticum spelta*, which suggests that this was the principle crop being grown and processed at the site.

One of the four early Roman samples from Site 4 (cxt 4307) contained abundant indeterminate and *Triticum* sp. cereal grains. Closer examination of this sample showed that it contained limited *Hordeum vulgare* and *Triticum aestivum* grains as well as a number of *Triticum spelta* glume bases. The feature is of interest as though it superficially appeared to be a ditch terminus it could have been an oven and/or cremation pyre feature.

A total of 12 early Roman samples were assessed from Site 8, and these are shown, along with the assessment data, in Table 11.3. Of the 12 samples, 6 came from kiln features, 3 came from storage pits (see below), 2 came from other pits, and 1 came from a posthole.

Three samples came from beehive-shaped storage pits, which may have been in use either at the end of the late Iron Age or at the start of the

*Table 11.3: Assessment data from early Roman samples from Site 8. * = analysed sample.*
Quantification of remains: 1 = present (<5 items); 2 = frequent (5-25); 3 = common (25-100); 4 = abundant (>100)

Sample no.	*Context*	*Feature*	*Phase*	*CPR (excluding charcoal)*
8021	8215	Storage pit 8212	6.2	Cereals (1), chaff (1)
8034	8455	Storage pit 8454 (tertiary fill)	Roman (probably no later than early Roman)	Cereals (4) incl. wheat/bread wheat, barley, chaff (1) incl. spelt glume bases, weed seeds (4) mostly Fabaceae
8036	8457	Storage pit 8454 (primary fill)	Roman (probably no later than early Roman)	Cereals (4) incl. wheat, poss. oat, weed seeds (2) incl. *Galium*, *Rumex*, Fabaceae, *Bromus*, Cyperaceae
8042	8653	Posthole 8654	6.1	Chaff (1), weed seeds (1)
8046	8726	Kiln 8725	6	Cereals (2) incl. indet., wheat/bread wheat, oat, chaff (2) incl. spelt wheat glume bases, weed seeds (3) incl. *Rumex acetosella*, Cyperaceae, Fabaceae
8047	8726	Kiln 8725	6	Cereals (4) incl. indet., wheat/bread wheat (poorly preserved), chaff (1), weed seeds (1)
8045	8763	Kiln 8725	6	Cereals (4) incl. indet., wheat, chaff (2) incl. spelt wheat glume bases, weed seeds (2)
8043*	8786	Pit 8806	6	Cereals (4) incl. wheat, barley, chaff (3/4) incl. glume bases, sp. forks, rachis, culm nodes, weed seeds (4) incl. Fabaceae, *Bromus*, *Chenopodium*, *Rumex*, *Polygonum*, Cyperaceae
8068*	10575	Kiln 10490	6	Cereals (4) incl. indet., wheat, chaff (2) incl. glume bases, weed seeds (2) incl. *Rumex acetosa*, *Bromus*, Poaceae <2mm, *Corylus avellana*, *Chenopodium*, *Plantago*
8069*	10576	Kiln 10490	6	Cereals (3) incl. indet., wheat, chaff (3) incl. glume bases, weed seeds (2) incl. *Rumex acetosa*, Cyperaceae, *Stellaria media* (1), *Polygonum aviculare* (1), *Polygonum convolvulus* (1), *Chenopodium* (1)
8072	10768	Kiln 10767	6	Cereals (1), chaff (1), weed seeds (1)
8125	10957	Pit 10956	6.1	Cereals (4) incl. indet., wheat/bread wheat, chaff (4) incl. spelt wheat glume bases, weed seeds (4) incl. mostly Poaceae plus *Rumex*, *Chenopodium*, *Bromus*, *Raphanus*

early Roman period. The sample from the primary fill of pit 8454 (ctx 8457) was very rich in cereals and weed seeds, and is interesting as it also contained demolished oven or kiln material. The tertiary fill of the same pit (ctx 8455) was also very rich in grain and Fabaceae (bean family) seeds. Charred plant remains were scarce from pit 8212.

The charred plant assemblages from the other early Roman features from Site 8 are consistent with the three analysed samples (see below), and are dominated by *Triticum* sp., *Triticum spelta* and *Triticum aestivum* cereal grains. In addition, the rich cereal assemblages from kiln 8725 suggest that this feature was used for drying corn at its last firing.

Two samples were analysed from kiln 10490. Context 10575 filled the main firing chamber and flue and represents the primary backfill deposit of demolition debris mixed with cinders from firing. Context 10576 is similar debris from cleaning and demolition that had accumulated in the stokehole. The very abundant charred cereal remains in both the samples suggest that the kiln was utilised for drying corn as well as for pottery production. The two samples (8068 and 8069) contained a mixture of both cereal grain and cereal chaff. They were dominated by *Triticum* sp, including *Triticum dicoccum/spelta* grains and *Triticum spelta* glume bases with a lesser amount of positively identified *Triticum aestivum*-type grains. In addition, both contexts contained a very limited number of *Hordeum vulgare* (barley), *Secale cereale* (rye) and *Avena* sp. (wild/cultivated oats). Although cultivated oat does appear to have been introduced into Britain by the late Iron Age/Roman period, its scant presence here, as at many other sites of this period in southern Britain, suggests that it did not form a major crop. Oat and rye grains have also been recorded from Romano-British contexts at Stansted, Essex, where the frequency of oats suggests that it was cultivated, perhaps as a fodder crop. Similarly, although rye was quite rare in Romano-British contexts at Stansted, it may represent fodder production waste (Carruthers forthcoming b). Context 10575 contained a number of detached embryos, which suggests that some of the cereals may have been in an early stage of germination prior to their charring. The ratio of grain to chaff in both samples (grains outnumber chaff by over 2:1) suggests that the assemblages may represent whole spikelets that had accidentally become charred, perhaps as a result of falling in or near the kiln fire. A similar assemblage from a Roman drying oven at Haynes Park, Beds, was also rich in spelt wheat, which was interpreted as representing accidentally burnt spikelets that were being parched in the oven (Robinson 2004).

Both the kiln samples contained a limited assemblage of charred weed seeds associated with waste/cultivated ground, including abundant *Chenopodium album*, *Vicia/lathyrus*, and *Stellaria media*. In addition, ctx 10575 contained a number of other arable/waste ground indicators, such as cf. *Lithospermum arvense* (field gromwell), *Centaurea* sp. (knapweeds), and *Chrysanthemum segetum* (corn marigold). It is likely that the single *Linum* sp. (flax) seed in this sample represents a wild variety, although as part of it was missing identification to species level was not possible. One possible *Pisum sativum* (pea) was also present in this sample, which suggests the possible cultivation of leguminous crops during the early Roman period. Examples of pea were also found in a mid-late Romano-British kiln at Stansted (Carruthers forthcoming b).

The third early Roman sample analysed from Site 8 came from pit 8806 (ctx 8786), which contained abundant cereals and cereal chaff. However, problems with possible contamination from later features mean that any data from the pit have to be treated with caution. In essence, the assemblage from the pit was much richer than the other early Roman samples, and contained a much more diverse range of cereal types. This diversity could be a result of the pit being utilised for the dumping of material from several activities, or it could reflect the increased incidence of cereal types from later phases. Nonetheless, the assemblage included abundant *Triticum* sp. grains, of which several could be tentatively identified to *Triticum dicoccum* (emmer wheat) and *Triticum aestivum*-type. The presence of a single *Triticum dicoccum* glume base and a number of *Triticum aestivum* rachis fragments support identification of both types of grain. Although emmer wheat is often present on Romano-British sites, its presence in small quantities suggests that it possibly existed as a weed of the major spelt crop (Pelling 2001). The sample also contained a single specimen of *Avena* sp. (oat) and abundant *Triticum spelta* glume bases and spikelet forks. The ratio of grain to chaff, of over 2:1, suggests that the assemblage is partly made up of whole spikelets which were accidentally charred and subsequently thrown into the pit.

Like the late Iron Age and other early Roman samples, ctx 8786 also contained abundant charred weed seeds from species associated with waste/cultivated ground, including *Chenopodium album*, *Polygonum aviculare*, *Vicia/Lathyrus*, and Poaceae (including wild grass awn fragments). In addition, seeds from other common ruderals were present, including those from *Rumex obtusifolius* (broad-leaved dock), *Rumex acetosella* (sheep's sorrel), and especially *Trifolium/Lotus* sp. (clover/trefoil), which are often associated with decreasing soil fertility. Like the sample from late Iron Age pit 20069, ctx 8786 contained abundant seeds from taxa of wet ground, including *Carex* sp., *Isolepis* and *Eleocharis palustris*. These may represent species growing in the field margins or boundary ditches, which were either harvested along with the crop or represent clearance waste.

Phase 6.2-7.1: mid/late Roman period (Sites 1, 4, 8)

The single sample from Site 1 came from pit 1377 (ctx 1376). This sample has been fully analysed (Table 11.7). The assemblage contained *Triticum* sp. grains with limited *Triticum spelta* chaff and fairly abundant charred weed seeds. The weed seed assemblage was dominated by *Chenopodium album*, *Vicia/Lathyrus* and Poaceae seeds, which were also abundant in the early Roman samples not associated with the corndrier. Similarly, like the other late Iron Age/early Roman pits, this sample contained abundant taxa of damp/wet ground, including *Isolepis* sp. and *Eleocharis palustris*. In addition, the sample contained several weed seeds exclusive to this feature, including *Veronica* spp. (speedwells) and *Fumaria* sp. (fumitories). The former is typical of open woodland/grassland, and the latter of arable and waste ground.

The assessment data from Site 4, though limited, showed that the charred plant assemblages from this site were consistent with the other assemblages from this phase. Ditch 4110 (ctx 4011) contained abundant indeterminate and *Triticum* sp. cereal grains, along with abundant *Triticum* sp. glume bases and crop weeds such as Chenopodiaceae and *Rumex acetosella*. Pit or oven base 4149 (ctx 4148) contained only very limited CPR.

Of the 12 mid to late Roman samples from Site 8, 9 came from various positions within corn-drier 10067 (Table 11.4). Five samples (8109-8112 and 8052) came from ctx 8887, which consisted of a charcoal and burnt debris layer covering the base of the corndrier. Samples 8110 to 8112 came from the central firing area of the corndrier, and their assemblages are therefore likely to contain a mixture of fuel and accidentally or deliberately burnt cereal remains. Sample 8109 came from the top end of the flue, and it was thus felt that any cereal remains here would represent material lost whilst being dried. It is unclear where sample 8052 came from within this layer, and it is difficult to ascertain why its CPR assemblage was so limited.

Context 10026 (sample 8053) represents a charcoal-rich burnt clay deposit situated in a worn hollow in the main area of the corndrier flue near to the stokehole. Again, this sample was situated in the main firing area of the corndrier, and therefore the assemblage is likely to consist of fuel debris and accidentally or deliberately burnt cereal remains, which were used as fuel or tinder.

Table 11.4: Assessment data from Roman corndrier samples from Site 8. Key as Table 11.3

Sample no.	Context	Feature	Phase	Sample size (l)	Location within corndrier	CPR (excluding charcoal)
8049	8883	10067	6.2-7.1	20	Flue?	Cereals (2) incl. indet., wheat/bread wheat, chaff (3) incl. spelt wheat glume bases
8050	8884	10067	6.2-7.1	10	Central firing area	Cereals (3) incl. indet., wheat/bread wheat, chaff (4) incl. spelt wheat glume bases
8051	8885	10067	6.2-7.1	10	Central firing area	Chaff (2)
8052	8887	10067	6.2-7.1	10	?	Chaff (1)
8112	8887	10067	6.2-7.1	2	Stoking chamber	Cereals (3) incl. indet., wheat/bread wheat, chaff (4) incl. spelt wheat glume bases, weed seeds (1)
8111*	8887	10067	6.2-7.1	2	Central flue and firing area	Cereals (4) incl. wheat, oat, chaff (4) incl. glume bases, sp. forks
8110*	8887	10067	6.2-7.1	2	Central flue and firing area	Cereals (4), chaff (4) incl. glume bases, sp. forks
8109*	8887	10067	6.2-7.1	2	Cross flue	Cereals (3) incl. wheat, indet., chaff (3) incl. glume bases
8053*	10026	10067	6.2-7.1	10	Central firing area	Indet. cereals (4) incl. wheat, chaff (4) incl. glume bases, sp. forks

As in the late Iron Age and early Roman samples, wheat grains dominated the assemblages. Detached coleoptiles were also present, suggesting that the feature may have been utilised for malting at some point during its use. The assemblages also contained limited *Hordeum vulgare* and *Avena* sp. grains, although their scarcity is likely to be consistent with the fact that, as possible fodder crops, they were unlikely to have been dried (R Pelling pers. comm.).

All of the samples from the central area of the corndrier contained very abundant *Triticum* sp. grains, including a few positively identified *Triticum dicoccum/spelta* and *Triticum aestivum*-type grains, and very abundant *Triticum spelta* glume bases/spikelet forks. The sample from the top end of the flue (8109), and that from the flue itself (8049) contained relatively limited assemblages, although in essence their contents were very similar to the samples taken from the central firing area.

All of the corndrier samples were notable for their lack of charred weed seeds (Table 11.4), which suggests that the grain had already undergone a fair degree of processing prior to its use in the corndrier. It is likely this would have involved threshing, raking, winnowing and coarse and fine sieving, which would have resulted in an assemblage of cereal grains still retained in their spikelets (Hillman 1981; Pelling forthcoming). The next stage in the processing would have been the pounding of the spikelets in order to release the grain from the glumes, and there is evidence to suggest that they were often dried before this stage in order to render them brittle (Hillman 1981). Alternatively, given the lack of charcoal in the corndrier samples (see Challinor below), the cereal remains could represent the cleaning debris of a previous drying event, which had subsequently been utilised as tinder or fuel for the last firing.

Phase 7: late Roman period (Site 8)

The seven late Roman samples assessed from Site 8 are shown, along with the assessment data, in Table 11.5. The sample from hollow 10836 (ctx 8676) was fully analysed (Table 11.7), and the nature of the assemblage suggests that it contained some element of waste generated during the use of nearby corndrier 10067. Like the corndrier samples, ctx 8676 contained very abundant *Triticum spelta* glume bases and even more numerous charred weed seeds, including *Rumex obtusifolius* (broad-leaved dock), and Poaceae seeds and awn fragments. In addition, the abundant (>50) detached coleoptiles in this sample are of particular interest. As noted above, there was some evidence in the corndrier samples to suggest the possibility of malting, but they did not contain much in the way of sprouted grains/coleoptiles. However, the abundance of coleoptiles in ctx 8676 suggests that, if this deposit was indeed related to the use of the corndrier, the malting of spelt wheat may have taken place during some stage of its use. There is now a fair amount of evidence to suggest that spelt wheat formed one of the main malting crops during the Romano-British period (Hillman 1982; van der Veen 1989; Druce forthcoming).

When the assessment data is considered alongside the more detailed records obtained from full analysis, it is clear that the chief crop being utilised at the site during the late Roman period was *Triticum* sp., with limited cultivation of *Hordeum* sp. and/or *Avena* sp. Context 8227, believed to represent a dump of oven debris, is notable for its lack of cereal chaff. This may suggest that the assemblage represents fully processed grain, which was perhaps being parched in the oven. The presence of charred cereal remains and associated crop weed seeds from kiln 8750 (10730) suggests that one of its uses may have been for drying grain. Alternatively, given the abundant crop weed seeds, it is possible

Table 11.5: Assessment data from late Roman samples from Site 8. Key as Table 11.3

Sample no.	Context	Feature	Phase	CPR (excluding charcoal)
8022	8227	Pit 8225	7	Cereals (3) incl. wheat, indet., barley, weed seeds (2) incl. Fabaceae, Cyperaceae
8037	8483	Spread 8483	Late Roman (C 3-4)	Cereals (4) incl. wheat, barley (mixed preservation), chaff (1/2) incl. glume bases, weed seeds (4) incl. Fabaceae, *Bromus*, *Anthemis*, Caryophyllaceae, *Polygonum*, *Rumex*, cultivated pea/bean (1)
8103*	8676	Hollow 10836, possibly containing corndrier waste	Late Roman (mid C 2-4)	Cereals (4) incl. wheat, indet., poss. oat, chaff (4) incl. glume bases, sp. forks, weed seeds (3) incl. *Rumex acetosella*, Cyperaceae, *Bromus*, *Polygonum*
8063	10334	Kiln 8750 (Group 10730)	Late Roman	Cereals (2) incl. indet., wheat/bread wheat, chaff (2) incl. culm nodes, weed seeds (2) incl. *Stellaria media*, *Rumex aviculare*, *Rumex acetosa*, *Fumaria*, *Chenopod.*, tubers (1)
8064	10379	Fire pit 8751, kiln 8750 (10730)	Late Roman	Cereals (1), weed seeds (1)
8062	10327	Kiln 8750 (Group 10730)	Late Roman	Cereals (2) incl. indet., bread wheat, chaff (1)
8108	10616	Ditch 10620	7.2	Cereals (2) incl. wheat, indet. (distorted, tarry), chaff (2) incl. glume bases, sp. forks, weed seeds (1)

that the assemblage (along with the abundant charcoal fragments) represents material used to fuel the kiln. However, the very limited charred remains from kiln fire pit ctx 10379 suggests that the feature was well cleaned prior to its abandonment.

Phase 8.3: late Saxon period (Sites 8 and 9)

The single sample from Site 8 clearly dated to the late Saxon period came from pit 10354 (Table 11.7). This sample was extremely rich in both the number and diversity of charred plant remains and, in addition, there was considerable variation in levels of grain preservation and distortion. In keeping with the other Saxon assemblages at Great Barford, the dominant cereal crop during this phase of settlement was *Triticum* sp/*Triticum aestivum*-type, where the identification of the latter was supported by the presence of a number of *Triticum aestivum* rachis fragments. The fairly abundant *Triticum spelta* glume bases and spikelet forks suggest that the cultivation of spelt wheat continued, perhaps as a minor crop. Elsewhere, hulled wheat grains have been discovered in a Saxo-Norman feature at Stansted (Carruthers forthcoming a). In addition, the presence of *Hordeum vulgare* and *Secale cereale* grains and rachis fragments in the sample suggests barley and rye were also being grown and processed at the site. This supports the interpretation that pit 10354 was contemporary with and peripheral to the late Saxon settlement at Site 9 (see Chapter 7).

Pit 10354 also contained a very abundant weed seed assemblage, which is likely to represent waste material generated during the processing of the grain. Notably abundant weed taxa included the ubiquitous *Chenopodium album*, *Vicia/Lathyrus* sp. and *Anthemis cotula* seeds. In addition, the sample contained Apiaceae (carrot family) and *Lapsana communis* (nipplewort) seeds, which are also associated with arable land and are likely to have been harvested along with the crop. *Anthemis cotula*, in particular, appears to have become a very dominant crop weed during this period. This, coupled with the abundant *Galium aparine* seeds, suggests that some of the land under cultivation at this time consisted of heavy clay soils. An apparent increase in weeds associated with heavy clay soils during later periods was also recorded at Stansted (Murphy 2004; Carruthers forthcoming b) and may be a sign of deteriorating soil conditions. In addition, the very abundant *Isolepis* sp. seeds and cf. *Bidens cernua* (nodding bur-marigold), which may represent plants growing in the wet field margins, suggest damp conditions around the site.

The differing levels of preservation/distortion of the cereals in this assemblage suggest that the material represents the waste from more than one activity and dumping episode. The distorted and fragmented nature of the wheat assemblage, for example, is in contrast to the remarkably well preserved rye grains.

Of the 18 samples taken from the late Saxon features at Site 9, only 2 contained appreciable amounts of CPR. The reason for this general paucity is unclear, although it is possible that the site was involved in other activities such as livestock rearing. Two CPR-rich contexts were fully analysed from pit 9490 (ctx 9491) and scoop 9843 (ctx 9844). The cereal assemblages were dominated by *Triticum* sp., although the majority of the wheat grains were positively identified as *Triticum aestivum*-type. Only two grains from pit 9490 contained any characteristics resembling glumed wheat such as *Triticum dicoccum/spelta*. *Hordeum vulgare* was slightly more abundant in these samples, which suggests that barley may have been a more important crop than before. In addition, both samples contained a

Table 11.6: Analysis of charred plant remains from late Iron Age, early Roman and early/mid Roman features. Figures given are actual counts.

	Context	*2498*	*2499*	*20070*	*8786*	*10575*	*10576*	*8887*	*8887*	*10026*
	Sample no.	*2049*	*2101*	*2118*	*8043*	*8068*	*8069*	*8110*	*8111*	*8053*
	Phase	*5 Late Iron Age*	*5 Late Iron Age*	*5 Late Iron Age*	*6 Early Roman*	*6/6.2 Early/mid Roman*	*6/6.2 Early/mid Roman*	*6-7.1 Early/mid Roman*	*6-7.1 Early/mid Roman*	*6-7.1 Early/mid Roman*
	Site	*2*	*2*	*2*	*8*	*8*	*8*	*8*	*8*	*8*
	Feature	*Ditch 2404*	*Ditch 2404*	*Pit 20069*	*Pit 8806*	*Kiln backfill 10490*	*Kiln cleaning/ stokehole 10490*	*Corndrier 10067*	*Corndrier 10067*	*Corndrier 10067*
	Sample size (l)	*40*	*10*	*10*	*40*	*20*	*30*	*2*	*2*	*10*
Charred cereal grain										
Triticum sp.	Wheat	>500	69	24	121	97	40	43	31	82
	Wheat with coleoptile attached	16						2	2	4
	Wheat with coleoptile impressions								2	4
Triticum dicoccum/spelta	Emmer/Spelt wheat		17			1	14			2
	Emmer/Spelt wheat with coleoptile impressions						1			
Triticum cf. *dicoccum*	Emmer-type wheat				4					
Triticum cf. *aestivum*	Bread-type wheat	32	20		6		4	6	5	3
	Bread-type wheat with coleoptile impressions								1	
Hordeum vulgare	Barley hulled	16								
Hordeum vulgare	Barley undiff.	24				2				2
Secale cereal	Rye						1			
Avena sp.	Oats		2		1		1		1	
	Oats with coleoptile attached									
Cerealia indet.	Indeterminate grains	>1000	108	27	110	218	110	86	48	100
	Total cereal grain	**>1000**	**206**	**51**	**242**	**318**	**171**	**137**	**90**	**197**
Cerealia indet. frag.		>1000	>100	>100	>1000	>1000	>100	>100	>100	>1000
Detached coleoptiles					4		1	7	12	18
Detached embryos			1		8	21	2	2	1	2
Charred cereal chaff										
Triticum spelta	Spelt wheat glume base	>1000	34	5	64	61	120	368	574	>1000
Triticum spelta	Spelt wheat spikelet forks	>100	23		12	1	1	14	18	
Triticum cf. *dicoccum*	Domestic emmer glume base	8			1					
Triticum cf. *aestivum*	Bread wheat rachis	1			10					
Triticum aestivum	Bread wheat rachis internodes				6					
Hordeum vulgare	Barley rachis	16	2							
	Indeterminate rachis frag.	8								
Culm nodes		88	4	1	11	1				
Avena awn frag.	Wild or cultivated oat				15		3	14	20	60
Total chaff	**>1000**	**63**	**6**	**119**	**63**	**124**	**396**	**612**	**>1000**	
Triticum sp.	Wheat glume base frag.	>1000	50-100	7	>100	>100	>100	>1000	>100	
Stem frag.		>100		3	4		1			
Charred weed seeds										
Ranunculus repens-type	Buttercup	8			1					
Urtica dioica	Common nettle				1	1				
Chenopodium album	Fat-hen	>100			15	12	21	1		
Agrostemma githago	Corncockle		1							
Stellaria media	Common chickweed	16	4		2	2	2			
Montia sp.	Blinks			1	7	2				
Polygonum undiff.	Knotgrasses	8		1	1					
Fallopia convolvulus	Black-bindweed	16		1	4		3			
Polygonum aviculare	Knotgrass	8		13	14		2			
Malva sp.	Mallows			1						
Rumex sp.	Docks	8								

Table 11.6 (continued): Analysis of charred plant remains from late Iron Age, early Roman and early/mid Roman features. Figures given are actual counts.

	Context	*2498*	*2499*	*20070*	*8786*	*10575*	*10576*	*8887*	*8887*	*10026*
	Sample no.	*2049*	*2101*	*2118*	*8043*	*8068*	*8069*	*8110*	*8111*	*8053*
	Phase	*5 Late Iron Age*	*5 Late Iron Age*	*5 Late Iron Age*	*6 Early Roman*	*6/6.2 Early/mid Roman*	*6/6.2 Early/mid Roman*	*6-7.1 Early/mid Roman*	*6-7.1 Early/mid Roman*	*6-7.1 Early/mid Roman*
	Site	*2*	*2*	*2*	*8*	*8*	*8*	*8*	*8*	*8*
	Feature	*Ditch 2404*	*Ditch 2404*	*Pit 20069*	*Pit 8806*	*Kiln backfill 10490*	*Kiln cleaning/ stokehole 10490*	*Corndrier 10067*	*Corndrier 10067*	*Corndrier 10067*
	Sample size (l)	*40*	*10*	*10*	*40*	*20*	*30*	*2*	*2*	*10*
Rumex obtusifolius	Broad-leaved dock	32	3	1	28	3	1	3	1	
Rumex acetosa	Common sorrel	32			6		1			2
Rumex acetosella	Sheep's sorrel	32	3		17		1			
Rosaceae	Rose family									
Potentilla anserina	Silverweed				1					
Potentilla erecta-type	Cinquefoils					1				
cf. *Sambucus* sp.	Elders							1		
Brassica sp.	Cabbages	24	2		2					
Pisum sativum	Garden pea					1				
Vicia/Lathyrus sp. <4mm	Vetch/tare	>1000	78	4	26	3	6			
Trifolium/Lotus sp.<4mm	Clover/trefoil	>100		5	114	3				
Linum perenne	Perennial flax	1								
Linum sp.	Flaxes					1				
Apiaceae	Carrot family			1	5	2			1	
Prunella vulgaris	Selfheat							1		
cf. *Lithospermum arvense*	Field gromwell					1				
Plantago lanceolata	Ribwort plantain	24		7	1	3				
Galium aparine	Cleavers	8	3	1						
Asteraceae	Daisy family			2						
Centaurea sp.	Knapweeds					1				
Chrysanthemum segetum	Corn marigold					1				
Cirsium sp.	Thistles				1	1	1			
Leontodon sp.	Hawkbits					1				
Tripleurospermum inodorum	Scentless mayweed		2		5		1			
Carex trigonous	Sedges- three sided	8		1	30	1				
Carex lenticular	Sedges- two sided	8		12	4					
Isolepis	Club-rushes		5	7	59	2	3		1	
Juncus sp.	Rushes	64								
Eleocharis palustrus	Common spike-rush			1	7		1			
Poaceae <2mm	Grass family	>500		6	14	1	1			
Poaceae 2-4mm	Grass family	>100	2	5	55	5	6	1	4	
Poaceae >4mm	Grass family	64	23		4			1		1
Bromus spp.	Bromes	96	9	2	4	1	1			
Unknown			1	1			5		1	
Indeterminate		>100	2	22	56	2	3	2	3	
	Total charred weed seeds	**>1000**	**138**	**76**	**434**	**51**	**59**	**10**	**11**	**3**
Other										
Corylus nut frag.	Hazel nut			8						
Fabaceae seed pod frag.	Pea family							1		
Arrhenatherum elatius var. *bulbosum* tubers	Onion couch	88	2							
Indet. tubers					4					
Raphanus cf. Ssp. *raphanistrum* capsule	cf. Wild radish				1					
Indet. buds					1					

Table 11.7: Analysis of charred plant remains from mid-late Roman and late Saxon features. Figures given are actual counts

	Context	*1376*	*8676*	*10355*	*9491*	*9844*
	Sample	*1025*	*8103*	*8058*	*9018*	*9025*
	Phase	*6.2 Mid Roman*	*7 Late Roman*	*8.3 Late Saxon*	*8.3 Late Saxon*	*8.3 Late Saxon*
	Site	*1*	*8*	*8*	*9*	*9*
	Feature	*Pit 1377*	*Hollow 10836*	*Pit 10354*	*Pit 9490*	*Pit/posthole 9843*
	Sample size (l)	*40*	*40*	*40*	*40*	*10*
Charred cereal grain						
Triticum sp.	Wheat	15	>500	>1000	44	48
	Wheat with coleoptile impressions		12			
Triticum dicoccum/spelta	Emmer/spelt wheat	1	39		2	
Triticum cf. *dicoccum*	Emmer-type wheat		3			
Triticum cf. *aestivum*	Bread-type wheat	5		>1000	58	121
	Bread-type wheat with coleoptile impressions			9		
Hordeum vulgare	Barley hulled				2	
	Barley undiff.	3	3	38	8	
Secale cereal	Rye			30		3
Avena sp.	Oats		12	20	5	2
	Oats with coleoptile attached					
Cerealia indet.	Indeterminate grains	68	144	>1000	37	169
	Total cereal grain	**92**	**>600**	**>1000**	**226**	**343**
Cerealia indet. frag.		>100	>1000	>1000	50-100	>1000
Detached coleoptiles			65			
Detached embryos		3	19	36		1
Charred cereal chaff						
Triticum spelta	Spelt wheat glume base	14	>1000	54		
Triticum spelta	Spelt wheat spikelet forks			>100		
Triticum aestivum	Bread wheat rachis			36		
Hordeum vulgare	Barley rachis			24		
Secale cereal	Rye rachis			102		
Culm nodes		1		24		
Avena sp. awn frag.	Wild/cultivated oat	4	362			
	Total chaff	**19**	**>1000**	**>300**		
Triticum sp.	Wheat glume base frag.	>100	>1000	>100	1	
	Rachis frag.			54		
Stem frag.		1				
lemma/palaea frag.			50-100	12		
Charred weed seeds						
Chenopodium album	Fat-hen	11		>100		2
Caryophyllaceae	Pink family			18	1	
Agrostemma githago	Corncockle			18	1	
Stellaria media	Common chickweed	2		6		
Montia sp.	Blinks	8				
Fallopia convolvulus	Black-bindweed		12	24		
Polygonum aviculare	Knotgrass			24		
Veronica sp.	Speedwells	1				
Fumaria sp.	Fumitories	1				
Rumex obtusifolius	Broad-leaved dock	3	96	48		
Rumex acetosa	Common sorrel	1		6		
Rumex acetosella	Sheep's sorrel	4	4	6	1	
Vicia faba	Broad bean			8		
Pisum sativum	Garden pea	2		45	2	
Vicia/Lathyrus sp. <4mm	Vetch/tare	17		>100	7	25

Table 11.7 (continued): Analysis of charred plant remains from mid-late Roman and late Saxon features. Figures given are actual counts

	Context	*1376*	*8676*	*10355*	*9491*	*9844*
	Sample	*1025*	*8103*	*8058*	*9018*	*9025*
	Phase	*6.2 Mid Roman*	*7 Late Roman*	*8.3 Late Saxon*	*8.3 Late Saxon*	*8.3 Late Saxon*
	Site	*1*	*8*	*8*	*9*	*9*
	Feature	*Pit 1377*	*Hollow 10836*	*Pit 10354*	*Pit 9490*	*Pit/posthole 9843*
	Sample size (l)	*40*	*40*	*40*	*40*	*10*
Trifolium/Lotus sp.<4mm	Clover/trefoil			18		
Apiaceae	Carrot family			>100	1	1
cf. *Bidens cernua*	Nodding bur-marigold			12		
Prunella vulgaris	Selfheal			6		
Plantago lanceolata	Ribwort plantain				1	
Galium aparine	Cleavers			48		
Galium palustre	Common marsh-bedstraw	1				
Asteraceae	Daisy family	4		6		
Anthemis cotula	Stinking chamomile			>100	2	3
Centaurea sp.	Knapweeds		1			
Chrysanthemum segetum	Corn marigold			24	3	
Lapsana communis	Nipplewort			48		
Tripleurospermum inodorum	Scentless mayweed	2				
Carex trigonous	Sedges- three sided			6		
Isolepis	Club-rushes	16		>100		1
Eleocharis palustrus	Common spike-rush	5			2	
Poaceae <2mm	Grass family	2		6		5
Poaceae 2-4mm	Grass family	8	118	30	1	8
Poaceae >4mm	Grass family		10	18	12	2
Bromus spp.	Bromes	2	15	45	2	13
Unknown				18		
Indeterminate		8		>100		2
	Total charred weed seeds	**98**	**256**	**>800**	**36**	**62**
Other						
Corylus nut frag.	Hazel nut			10	2	
Fabaceae seed pod frag.	Pea family	4		8		
Raphanus cf. Ssp. *raphanistrum* capsule	cf. Wild radish	1	1			

number of *Secale cereale* and *Avena* sp. grains, which may also have been grown for fodder.

Both the samples were notable for their lack of cereal chaff, which suggests that the assemblages contained little in the way of cereal-processing waste. The cereals may therefore represent a cleaned crop, possibly charred during cooking accidents and subsequently discarded as rubbish. However, the presence of a typical suite of crop weeds, such as *Agrostemma githago*, *Anthemis cotula* and *Chrysanthemum segetum* suggests that some cereal processing waste had also found its way into the features as general background material.

Phase 9: medieval period (Site 3)

A total of 15 medieval samples from Site 3 were assessed, and of these 12 contained abundant CPR. Six samples were selected for analysis. The evidence from Site 3 suggests that intensive management of the surrounding ditch system was implemented in order to maintain the drainage of the area, which is situated at the base of a slope adjacent to a stream (Chapter 6). Although conditions at the site are likely to have been too waterlogged for cultivation, the abundance of the cereal remains indicates that cereal processing took place. It is thus possible that harvested crops were brought onto the site from elsewhere.

One sample was analysed from posthole 3433 (ctx 3434), associated with Structure 3258. The sample was notable for its lack of weed seeds and cereal chaff, but did contain fairly abundant *Triticum* sp./*Triticum aestivum*-type cereals, and very limited *Hordeum vulgare* and *Avena* sp. grains. This assemblage is likely to represent fully

Table 11.8: Analysis of charred plant remains from medieval features. Figures given are actual counts

	Context	*3325*	*3434*	*3470*	*3009*	*3010*	*3240*
	Sample no.	*3032*	*3051*	*3034*	*3019*	*3023*	*3031*
	Phase	*9 Medieval*	*9 Medieval*	*9 Medieval*	*9 Medieval*	*9 Medieval*	*9 Medieval*
	Site	*3*	*3*	*3*	*3*	*3*	*3*
	Feature	*Pit 3322*	*Posthole 3433*	*Pit 3460*	*Pit 3006*	*Pit 3006*	*Pit 3175*
	Sample size (l)	*10*	*10*	*10*	*5*	*5*	*20*
Charred cereal grain							
Triticum sp.	Wheat	51	16	>1000	80	47	45
Triticum dicoccum/spelta	Emmer/spelt wheat	7					
Triticum cf. *dicoccum*	Domestic emmer-type wheat						
Triticum cf. *aestivum*	Bread-type wheat	53	71	795	210	28	86
Hordeum vulgare	Barley undiff.	2	2			1	
Secale cereal	Rye			6		1	
Avena sp.	Oats		1	27		2	1
	Oats with coleoptile attached						
Cerealia indet.	Indeterminate grains	29	59	>1000	77	46	67
	Total cereal grain	**142**	**149**	**>1000**	**367**	**115**	**199**
Cerealia indet. frag.		>100	>100	>1000	>1000	>100	>100
Detached embryos		1	1	12			6
Charred cereal chaff							
Triticum aestivum	Bread wheat rachis			258	44	2	14
Triticum aestivum	Bread wheat rachis fragments			>100	26		
Hordeum vulgare	Barley rachis				2	4	
Secale cereal	Rye rachis			51	4		
	Rachis frag.	3			26	8	12
Culm nodes		1	1	129	3	1	5
Avena sp. awn frag.	Wild/cultivated oat	2	5	3	34	3	2
	Total chaff	**6**	**6**	**>100**	**139**	**18**	**33**
Stem frag.			2	84	1	1	7
lemma/palaea frag.				<10	>1000		
Charred weed seeds							
Ranunculus repens-type	Buttercup		1	3		1	
Chenopodium album	Fat-hen		2	189	6		51
Chrysanthemum segetum	Corn marigold		1	6			1
Agrostemma githago	Corncockle			3			1
Stellaria media	Common chickweed		1				
Polygonum undiff.	Knotgrasses					1	1
Fallopia convolvulus	Black-bindweed						4
Polygonum aviculare	Knotgrass			9	1		14
Polygonum lapathifolia-type	Pale persicaria				1		
Malva sp.	Mallows		2				
Rumex sp.	Docks	1				1	
Rumex obtusifolius	Broad-leaved dock		1	75	17		2
Rumex acetosa	Common sorrel					1	
Rumex acetosella	Sheep's sorrel			9		1	
Potentilla erecta-type	Cinquefoils	1					
Sambucus sp.	Elders			6			
Vicia faba	Broad bean		6	36		1	
Pisum sativum	Garden pea	15	33	12			
Vicia/Lathyrus sp. <4mm	Vetch/tare			>1000	167	18	42
Trifolium/Lotus sp.<4mm	Clover/trefoil			27	13	3	98
Linum perenne	Perennial flax						2
Apiaceae	Carrot family						1
Plantago lanceolata	Ribwort plantain			3	1		1
Galium aparine	Cleavers			9			

processed grain, which may have been charred as part of a cooking accident and subsequently entered the feature as part of floor-space debris.

Two samples were analysed from pit 3006 (ctxs 3009 and 3010), possibly a clay extraction pit. Both samples contained a number of cereal grains including *Triticum* sp., of which many, especially from ctx 3009, were positively identified as *Triticum aestivum*-type. Context 3010 also contained one or two *Hordeum vulgare*, *Secale cereale* and *Avena* sp. grains. *Triticum aestivum* rachis fragments were also fairly abundant in ctx 3009, but like many of the assemblages at Great Barford the quantity of chaff relative to cereal grains suggests that the material represents whole ears as opposed to pure cereal processing waste. This is supported by the presence of very abundant lemma/palaea fragments in this context, which suggests that the spikelets were burnt *in situ*, as fine chaff fragments such as these are likely to be lost during any form of redeposition of the charred material. This suggests that the clay extraction pit was subsequently utilised as a bonfire or hearth. In addition to the cereal remains, both samples contained a number of weed seeds. Most notable were the very abundant *Chenopodium album*, *Rumex obtusifolius* and *Vicia/Lathyrus* seeds, which appear to have been consistent crop weeds throughout all phases at Great Barford. As is also apparent in the assemblages from the late Saxon/Saxo-Norman features, *Anthemis cotula* appears to have become a more notable crop weed during the medieval period. Context 3009 contained a number of *Vicia faba* (bean) and *Pisum sativum* (pea) seeds, which suggest that crops other than cereals formed part of the diet.

Pit 3460 (ctx 3470) produced by far the richest medieval assemblage. The sample contained very abundant *Triticum* sp., including *Triticum aestivum*-type grains and rachis, abundant *Secale cereale* grains and rachis, and limited *Avena* sp. grains. In addition, this sample contained a number of culm nodes and stem fragments, plus a very rich assemblage of weed seeds including *Chenopodium album*, *Rumex obtusifolius*, *Anthemis cotula* and *Vicia/Lathyrus*. The latter was extremely abundant, on a scale to suggest its use as a crop. However, none of the seeds displayed characteristics of the cultivated variety, perhaps as a result of distortion. Examples of cultivated vetch (*Vicia sativa* spp. *sativa*) were recorded at Stansted (Murphy 2004; Carruthers forthcoming a and b), and this variety was often grown as a fodder crop during the medieval period. Given the high number of cereal grains it is likely that the assemblage from pit 3460, or at least part of it, represents accidentally charred grain. The presence of the cereal chaff could suggest that the cereals were charred whilst still on their stalks. Alternatively, this element of the assemblage, along with the weed seeds, could represent processing waste from a separate processing event. That the assemblage represents a mixed deposit, including the waste from other food preparation activities, is

Table 11.8 (continued): Analysis of charred plant remains from medieval features. Figures given are actual counts

	Context	*3325*	*3434*	*3470*	*3009*	*3010*	*3240*
	Sample no.	*3032*	*3051*	*3034*	*3019*	*3023*	*3031*
	Phase	*9 Medieval*	*9 Medieval*	*9 Medieval*	*9 Medieval*	*9 Medieval*	*9 Medieval*
	Site	*3*	*3*	*3*	*3*	*3*	*3*
	Feature	*Pit 3322*	*Posthole 3433*	*Pit 3460*	*Pit 3006*	*Pit 3006*	*Pit 3175*
	Sample size (l)	*10*	*10*	*10*	*5*	*5*	*20*
Asteraceae	Daisy family			6			
Anthemis cotula	Stinking chamomile		1	66	22	2	18
Centaurea cyanus	Cornflower				1		
Centaurea nigra	Common knapweed				1		
Centaurea sp.	Knapweeds			3	3		
Carex trigonous	Sedges- three sided			15			
Carex lenticular	Sedges- two sided						1
Isolepis	Club-rushes			18	3	2	60
Eleocharis palustrus	Common spike-rush	3	1	3			
Poaceae <2mm	Grass family			3			
Poaceae 2-4mm	Grass family		1	3	17	5	3
Poaceae >4mm	Grass family	1		36	17	1	2
Bromus spp.	Bromes			9	5	1	2
Unknown		2	8	1	1		2
Indeterminate		1		21	8	5	59
Total charred weed seeds	**24**	**58**	**>1000**	**286**	**43**	**365**	
	2	5					
Other							
Poaceae floret base	Wild grass				1	2	
Rosaceae thorns	Rose family	1	1	15	1		2
Corylus nut frag.	Hazel nut	1					
Fabaceae seed pod frag.	Pea family			12	11		
Raphanus cf. Ssp. *raphanistrum* capsule	cf. Wild radish			6			

supported by the presence of several charred *Vicia faba* and *Pisum sativum* seeds. The Rosaceae (Rose family) thorns in the sample are likely to have originated from the abundant fuel wood, as Maloideae (including hawthorn) dominated the charcoal assemblage from this feature (see Challinor below).

The samples from pits 3175 and 3322 contained material consistent with the other medieval assemblages, and were dominated by *Triticum aestivum*-type grains with very limited *Hordeum vulgare/Avena* sp grains. In addition, the sample from pit 3175 contained abundant crop weed seeds, which were again dominated by *Chenopodium album*, *Vicia/Lathyrus* and *Anthemis cotula*, alongside very abundant *Trifolium/Lotus* sp. (clover/trefoil) and *Isolepis* sp. (club-rushes), which may represent the waste material from some other form of activity. The relatively limited assemblage from pit 3322 suggests that the material may have entered the feature as part of general background waste; the presence of a number of glume wheat grains may support this sugestion. Hulled wheat varieties were generally superceded by free-threshing wheat, such as bread-type wheat, by the post-Roman period (Carruthers forthcoming a). Where late examples are found, they are often regarded as residual, which may be the case in pit 3322.

Discussion

The earliest charred plant assemblages from Great Barford derive from the middle Iron Age, although the evidence from this phase is very limited. Nevertheless, the data is consistent with that from the late Iron Age and early Roman periods, where spelt wheat appears to have been the dominant crop, alongside a secondary crop of bread wheat. Evidence of early bread-type wheat was also recorded at Stansted, Essex, where it remained a minor crop in the later Romano-British period (Carruthers forthcoming a). Limited grains/chaff of emmer wheat from late Iron Age contexts at Great Barford suggests that it continued to grow at the site, but perhaps as a relic of former practices. Similarly, the limited evidence for barley and oat during the Iron Age suggests that these did not form major crops and, as at Stansted, may have been grown for fodder (Carruthers forthcoming b). This is in contrast to the evidence from the early Iron Age settlement at Fairfield Park, Beds, where spelt wheat and barley dominated the assemblages (Pelling forthcoming), and from some of the Stansted Iron Age sites, where barley was also common. However, the evidence does appear patchy, and barley was relatively rare on the Iron Age and Romano-British sites investigated during excavations along the A120 in Essex (Carruthers forthcoming b). The charred plant remains from Haynes Park, Beds, also contained very limited barley, although Robinson (2004) suggests that barley would have been an important crop during the Roman period, and that its sparseness was likely to be a result of the limited range of features analysed. Barley is a crop not well suited to heavy clay conditions (Carruthers forthcoming b), which may partly explain its relative scarcity at Great Barford.

The early Roman settlement at Site 1 produced only extremely limited charred plant remains. Site 8, on the other hand, produced very abundant assemblages from early Roman contexts, partly due to the fact that this site contained a corndrier and numerous kilns and ovens. In addition to wheat, barley and oats, early Roman kiln 10490 contained limited evidence of rye and pea. Examples of both were found in a similar context at Stansted (Carruthers forthcoming b), which suggests the cultivation of both in the south-east Midlands during the early Roman period. It is likely that rye, along with barley and oats, would have been grown as a fodder crop, and the cultivation of pea would have complimented the existing cereal diet. As Carruthers (forthcoming b) suggests, it appears that kilns were being used for drying leguminous crops as well as cereals, perhaps prior to storage or grinding into flour.

The relative abundance of grain to chaff in the late Iron Age and Romano-British samples suggests that the assemblages primarily represent whole spikelets, which were likely to have been burnt as a result of parching accidents. Similar evidence was also found at Haynes Park (Robinson 2004) and Stansted (Carruthers forthcoming b), where cereal-rich assemblages were interpreted in the same way. The remains were either scooped up and thrown as debris in the various pits or ditches, or remained on the floor of the kiln or corndrier. The hollow adjacent to the Roman corndrier contained abundant spelt glume bases, germinated wheat grains, and detached coleoptiles. This suggests that spelt wheat was also being malted, as in many other Romano British corndriers (Hillman 1982; Van Der Veen 1989; Druce forthcoming).

The high number of leguminous weeds, especially in the late Iron Age samples, at both Great Barford and Stansted (Carruthers forthcoming b) suggests that nitrogen depletion had become a problem as a result of over-cultivation. Although the evidence at Stansted suggests that this became less of a problem during the Romano-British period, probably as a result of manuring, the evidence at Great Barford is not so convincing. Other abundant and consistent weed seeds at Great Barford are fat-hen and, especially in the late Roman period, broad-leaved dock. The reason for this is unclear, although it is possible that crop-processing activities have resulted in assemblages containing a high proportion of large seeds such as these (Murphy 2004). Weed seeds of plants associated with damp/wet conditions were noticeable throughout the periods studied, which suggest that some of the land under cultivation was waterlogged, as might be expected on the boulder clay.

The late Saxon assemblages show a shift from primarily spelt wheat to bread-type wheat, which is a dominant theme in most areas of the British Isles (Carruthers forthcoming b). Barley is better represented during this period, and rye was now being cultivated and processed. It is interesting to note that both of the samples from Site 9 contained very little chaff, and since the assemblages from these contexts are interpreted as fully processed cereals and/or domestic waste, it may be telling that rye was more or less absent. Rye is thought to have been cultivated as a fodder crop (Carruthers forthcoming b), and the chances of examples being found in assemblages associated with food preparation is, therefore, minimal. Leguminous crops such as peas and beans appear to have become more important during and after the Saxon period at Great Barford, and vetch may have also been cultivated as a fodder crop, as suggested at Stansted (Murphy 2004; Carruthers forthcoming b). The abundance of crops associated with fodder production at Site 9 is notable.

The continuity of spelt wheat in these samples is of interest, as free-threshing wheat such as bread-type wheat is believed to have superseded glume wheats by the post-Roman period. However, in the light of other recent evidence from south-east England, it is possible that some cultivation of spelt wheat did continue into the early medieval period due to its suitability for growing on heavy clay soils (Carruthers forthcoming a). Similarly, the very abundant seeds of stinking chamomile, which prefers heavy clay soils, suggests that this weed became a particular problem at the site from the Saxon period onwards. Stinking chamomile also proved to be a very invasive crop weed during the later periods at Stansted (Murphy 2004; Carruthers forthcoming b), which may be an indication of a widespread deterioration in soil conditions.

The cereal evidence from medieval contexts shows a picture more or less unchanged from the preceding Saxon period. Bread wheat continued to be the dominant crop, and the abundance of barley, oat and rye appears to very much depend on the nature of the feature from which each assemblage came. The sample associated with Structure 3258 was dominated by fully processed bread wheat, which is likely to represent a cooking accident. Conversely, the sample from pit 3460 contained a mixture of grain and chaff of bread wheat, barley, and rye, which are likely to represent waste material from a number of different activities. Given the ground conditions and the evidence for an intensively managed drainage system at Site 3, it is possible that the cereal remains were cultivated elsewhere and brought onto the site semiprocessed.

Conclusion

Despite the under-representation of material from some of the phases, the charred plant remains have given an insight into crop husbandry practices in the area from the middle Iron Age to the medieval period. Spelt wheat and limited bread-type wheat appear to have formed the dominant crops during the Iron Age and Roman periods. The scarcity of barley, which is also typical during these periods at other sites, may be due to the fact that this crop is less suited to the heavy clay conditions prevalent in the area. A shift to the dominance of bread-type wheat during the Saxon and medieval periods is consistent with other areas in southern Britain. However, the continuation to some degree of spelt wheat during the Saxon (and possibly also the medieval) period at Great Barford may represent part of a regional trend. An increase in the cultivation of barley and rye can be seen, and the cultivation of leguminous crops such as peas and beans also became more important during these later periods. The persistence of the same abundant crop weeds in the assemblages from all the phases of occupation exemplifies continuity in the type of land under cultivation, and, indeed, continuity in the challenges facing these agricultural communities.

WOOD CHARCOAL
by Dana Challinor

Introduction

The assessment report (Druce and Huckerby 2005) showed that there was variable preservation of charcoal at the sites, and that analysis would offer the opportunity to examine the use of fuel wood for specific functions in different periods, and to look at the impact on/of local woodland resources. Twenty samples were subsequently selected for analysis on the basis that they came from reliable and suitable contexts. The results from the assessment by Druce, and some additional assessment carried out by the author, are included in this report where relevant.

Methodology

The quantity of charcoal varied considerably; some of the samples contained significantly less than the intended minimum of 100 fragments, and others were so rich that they needed to be subsampled. The spits from cremation samples were amalgamated to provide enough material for analysis. Samples were divided into fractions using a set of sieves and fragments >2 mm were identified. The charcoal was fractured and sorted into groups based on the anatomical features observed in transverse section at x7 to x45 magnification. Representative fragments from each group were then selected for further examination using a Meiji incident-light microscope, with darkfield capabilities, at up to x400 magnification. Identifications were made with reference to Schweingruber (1990), Hather (2000) and modern reference material. A total of 1917 fragments were examined.

In addition to species identification, the maturity of the wood was assessed where the condition of the wood permitted it. Most of the roundwood fragments were too fragmented to record diameter and age. Combined methods of ubiquity or presence analysis and quantification by fragment count have been used in this report. It is acknowledged that there are differential rates of fragmentation in charcoal and that quantification by fragment count is not always reliable, but this method has been used in this report to demonstrate relationships between individual taxa. Classification and nomenclature follow Stace (1997).

Results

The results by fragment count are given in period order in Tables 11.9-12. Eleven taxa were positively identified. The taxonomic level of identification varied according to the biogeography and anatomy of the taxa:

- Fagaceae: *Fagus sylvatica* (beech), tree, sole species. The identification of this species is provisional since the sole fragment was very small and it was not possible to check the characteristic large rays in the TLS section. *Quercus* spp. (oak), tree, two native species not distinguishable anatomically.
- Betulaceae: *Corylus avellana* (hazel), shrub or small tree, sole native species.
- Salicaceae: *Populus* spp. (poplars), tree, and *Salix* spp. (willows), tree/shrub. Many native and introduced species, it was not possible to distinguish between these genera anatomically.
- Rosaceae: *Rosa* spp. (rose), shrubs/small trees. The many native species are not distinguishable anatomically. *Prunus* spp., includes native species *P. spinosa* (blackthorn), *P. avium* (wild cherry) and *P. padus* (bird cherry). In many samples, it was possible to identify *P. spinosa* on the basis of ray width and many samples appeared to contain other species. Indeed, *Prunus* fragments from later samples may include non-native species such as *P. domestica* (plum). Maloideae, subfamily of various shrubs/small trees including *Pyrus* sp. (pear), *Malus* sp. (apple), *Sorbus* spp. (rowan/service/whitebeam) and *Crataegus* sp. (hawthorn), rarely distinguishable by anatomical characteristics.
- Cornaceae: *Cornus sanguinea* (dogwood), shrub, native.
- Rhamnaceae: *Rhamnus cathartica* (buckthorn), shrub, native.
- Aceraceae: *Acer campestre* (field maple), tree, sole native species. It is often possible to distinguish between *A. campestre* and other maples on the basis of ray width, but it is not certain that other species were represented here.
- Oleaceae: *Fraxinus excelsior* (ash), tree, sole native species.

The preservation of the charcoal was generally good, although there was great variability in the size of fragments and some were infused with sediment, making the anatomical characters difficult to determine. Indeterminate fragments were not identified because of poor preservation or an unusual cellular structure. Many were distorted due to knots in the wood and, in a couple of samples, there were burr fragments. It is likely that these indeterminate fragments represent additional specimens of taxa positively identified at the site.

Phase 3: Late Bronze Age

A single cremation burial (2150) from Site 2 has been placed in the late Bronze Age by radiocarbon dating. The charcoal assemblage contained three taxa; similar quantities of *Prunus* (cherry type) and *Fraxinus* (ash), with a few fragments of *Rosa* (rose; Table 11.9). This was the only instance of *Rosa* in the samples from any of the sites, which may be significant, given the ritual nature of the context. Certainly, *Rosa* has little value except ornamental and it seems unlikely that it was used as a deliberate fuel wood (Gale and Cutler 2000). The use of *Fraxinus* in cremations is frequent since it provides a good even heat with the high calorific value necessary to cremate a human body. The *Prunus* in this sample was not consistent with *P. spinosa*, but it was not possible to differentiate between *P. padus* (bird cherry) and *P. avium* (wild cherry). *Prunus* is

Table 11.9: Charcoal from later Bronze Age and Iron Age contexts, Sites 2 and 4. r=roundwood; s=sapwood; h=heartwood

	Phase	*Phase 2: later Bronze Age*	*Phase 4: middle Iron Age*		*Phase 5: late Iron Age*		
	Site	*2*	*2*	*2*	*2*	*2*	*6*
	Feature type	*Cremation burial*	*Pit*	*Ditch*	*Pit*	*Slot*	*Cremation burial*
	Feature number	*2150*	*2170*	*2101*	*2634*	*4469*	*6079*
	Context number	*2151*	*2171*	*2124*	*2636*	*4468*	*6077*
	Sample number	*2010*	*2014*	*2006*	*2051*	*4070*	*6001*
	Volume floated (litres)	*60*	*30*	*40*	*40*	*10*	*6*
	% flot identified	*100*	*12.5*	*50*	*100*	*25*	*100*
Quercus sp.	oak		51	25hs	35h	144	76
Corylus avellana L.	hazel			2	5		
Rosa sp.	rose	4					
Prunus spinosa L.	blackthorn		67r		22		
Prunus sp.	cherry type	34r		21r			
Maloideae	hawthorn, pear, apple		12	13r	17		
Rhamnus cathartica L.	buckthorn				2		
Acer campestre L.	field maple			5			
Fraxinus excelsior L.	ash	40hs	7	5	11		
Indeterminate		4	3r	9r	8		6
Total		82	140	80	100	144	82

frequently recovered from cremation burials of this date and was often utilised as kindling, but has also apparently been used as the main fuel wood (eg Jones 1978). Additionally, cherry logs provide a sweet-smelling scent while burning (Edlin 1949), and it has been suggested that this may have been a factor in the selection of wood for cremations (Challinor forthcoming a). It is notable that this sample does not appear (although the quantity of charcoal was low) to be dominated by a single species, which is often the case in Bronze Age cremations (Thompson 1999; Smith 2001).

Phases 4 and 5: middle and late Iron Age

Site 2

Three samples from Site 2 were analysed, one dating to the middle Iron Age, and the others to the late Iron Age (Table 11.9). These contexts produced a wide range of species; on average, 5.7 taxa per sample. None of the samples were dominated by a single species. There was nothing to distinguish the middle Iron Age pit sample, which produced the same species also present in the late Iron Age. All of the contexts suggest that the deposits were dumps of domestic waste, and such fuel wood tends to be gathered from the easily available local resources (Shackleton and Prins 1992). Three other Iron Age pits (2869, 2069 and 20147) contained very sparse charcoal, which was not quantified, but some identifications were made. This showed that the pits all had mixed assemblages of *Quercus, Prunus* and Maloideae, which is consistent with the results from the other Iron Age samples (Table 11.9).

The taxa suggest that the woody environment was quite cleared. There are a number of light-demanding species in the assemblage, such as *Rhamnus* and *Prunus* which are usually found in marginal woodland areas or hedgerows, and *Fraxinus* which is frequently a coloniser of cleared areas. Additionally, it may be noted that many of the species (*Quercus*, *Corylus*, *Acer* and *Fraxinus)* lend themselves to coppicing and pollarding and would be suited to such management regimes. A similar range of species was recovered from the Iron Age settlements at Shillington Bury (Cartwright 2004) and Fairfield Park (Thompson and Francis forthcoming) in Bedfordshire, suggesting that fuel wood collection practices were similar across the region.

Site 4

The single late Iron Age sample from Site 4 was from a probable beam slot (4469) and was analysed to confirm the on-site interpretation that the deposit contained ghosts of timber posts. Since this sample was entirely composed of *Quercus* (oak), with a mix of heartwood and sapwood, it is consistent with the interpretation. It is not clear from the charcoal whether one or more posts are represented. It also demonstrates that even if there were extensive clearance in this period, there was no shortage of mature oak trees for structural purposes – or at least that the woodland resources were appropriately managed.

Site 6

Charcoal from the late Iron Age cremation burial from Site 6 (6079) was entirely composed of *Quercus.* This taxon is also commonly used for cremation burials of all periods, and has excellent burning properties (Gale 1997). The dominance of a single taxon in the charcoal assemblage is consistent with the trend for prehistoric cremations. It has even been suggested that a single tree was felled for such occasions (Thompson 1999). The charcoal from the Great Barford burial was too small and sparse to determine maturity or to indicate whether a single tree was used. The contrast between the focused selection of species for ritual purposes and the diversity of species chosen for domestic purposes has been noted at other sites in the region (Thompson and Francis forthcoming).

Phases 6 and 7: Romano-British period

Site 4 (Phase 6)

A single early Roman pit sample from Site 4 (feature 4401) produced a mixed assemblage, dominated by *Fraxinus* (Table 11.10). The range of taxa is similar to those of comparable date from Site 8, and the assemblage is assumed to be of domestic origin. The pit was probably a hearth or oven base, and the charcoal is therefore likely to be fuel wood.

Site 8 cremations

The cremation samples (of which examples from *c* 40 contexts were assessed) proved to be disappointingly barren of charcoal remains, indicating that the bone had been carefully picked out of the pyre prior to deposition. This absence of data provides some information on the ritual practices at this site, since this is by no means the same at Romano-British cemeteries in other regions. The cremation cemeteries at Waterloo Connection, Kent (Challinor forthcoming b) and at Strood Hall, Essex (Challinor forthcoming c) produced large quantities of charcoal in pit burials, although vessel and urn fills were sparse. This was certainly the case in the cremation vessel 8104, which produced very little charcoal. Nonetheless, the assemblage was mostly *Quercus*, with *Prunus* and *Corylus*. Interestingly, the only other cremation burial to produce enough charcoal for analysis (8096) was dominated by *Fraxinus*, with a few fragments of *Quercus* and *Prunus.* While this seems to be very different from the vessel sample, these results are entirely consistent with the assemblages from other sites (*ibid*.). Certainly, *Quercus* and *Fraxinus* are the most commonly utilised taxa in Romano-British cremations (Gale 1997), no doubt because their burning properties are suitable both for cremating human bodies and providing the structural support of the bier.

Site 8 domestic contexts

It was intended to examine a range of domestic or industrial contexts, focussing on the corndrier and kiln deposits. However, the charcoal from these ovens was very small and sparse. Identifications from oven/kiln 8725 showed that *Prunus avium/padus* and *Quercus* were utilised, including a narrow (<10 mm) roundwood fragment of 11 years. Narrow *Prunus* roundwood (not complete) was also identified from late Roman kiln 8750. Corndrier 10067 was also very clean of charcoal; a number of samples were examined from this feature, but only small quantities of *Quercus* were found. The use of *Quercus* in corndriers is evident at other sites and narrow roundwood is often utilised as domestic fuel (eg Gale 1999). The paucity of charcoal in these features at Great Barford reveals that the stoking pits had been cleaned out. This might suggest regular maintenance of the corndrier and kilns, and that the assemblage of charred grain from the main fills therefore represents a single, final event.

Three samples from Roman pits (Table 11.10) were analysed in full. It is notable that these samples produced a far greater range of species than the cremation samples (Fig. 11.1). This is particularly interesting in the Romano-British period as evidence for the fuel used for other activities, domestic and industrial, suggest that there was little systematic collection of fuel wood (Murphy 2001). The results from Great Barford are consistent with recent charcoal analysis elsewhere which suggests that Romano-British fires were often the product of a range of woodland taxa, which had been collected in an apparently haphazard manner according to taxa locally available (eg Challinor 2003).

Quercus and *Fraxinus* are well represented in the pits and form the larger components of the assemblage as a whole. There is no indication of any shortage of wood resources, even though the area must have been cleared to some extent, as suggested by hedgerow-type species such as *Prunus*, Maloideae, *Cornus, Rhamnus* and frequent *Fraxinus*. Depending upon which species is represented, the *Populus/Salix* may have come from the river valley, since most of the Salicaceae species prefer damp soil conditions, on floodplains or next to streams/rivers. This is appropriate given that Site 8 is at the south-western end of the route, within a few hundred metres of the Great Ouse. Clearly the past inhabitants of this site did not commonly collect firewood from the river bank, since the only other occurrence of Salicaceae is from Site 9 (adjacent to Site 8).

Table 11.10: Charcoal from Romano-British contexts, Sites 4 and 8. Key as Table 11.9

	Phase			*Phase 6: early Roman*			*Roman (Phase 5-6.1?)*
	Site	*4*	*8*	*8*	*8*	*8*	*8*
	Feature type	*Pit*	*Cremation burial*	*Cremation vessel*	*Pit*	*Pit*	*Pit*
	Feature number	*4401*	*8096*	*8104*	*8212*	*8806*	*8454*
	Context number	*4404*	*8130*	*10902*	*8215*	*8786*	*8457*
	Sample number	*4068*	*8019*	*8073*	*8021*	*8043*	*8036*
	Volume floated (litres)	*40*	*3*	*40*	*40*	*5*	*20*
	% flot identified	*50*	*25*	*100*	*100*	*100*	*6.25*
Quercus sp.	oak	3	7	19h	51	23	39
Corylus avellana L.	hazel			1			32
Populus/Salix	poplar/willow					1	
Prunus spinosa L.	blackthorn		1		8		7r
Prunus sp.	cherry type	6r		8	8r		
Maloideae	hawthorn, pear, apple	4			6	6r	21r
Cornus sanguinea L.	dogwood						4
Rhamnus cathartica L.	buckthorn	1					
Acer campestre L.	field maple	3			1		9
Acer sp.	maple					3	
Fraxinus excelsior L.	ash	89	128hs			11	
Indeterminate		7	6	3	6	8	5
Total		113	142	31	80	52	117

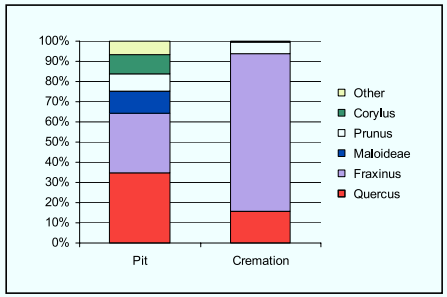

Fig. 11.1 Roman pits and cremations, proportions of charcoal taxa (based upon fragment count)

Phase 8.3: late Saxon period

Site 8

A single late Saxon sample from pit 10354 was analysed. The assemblage was mixed *Corylus* and Maloideae, with a range of other lesser taxa. There were a number of small diameter roundwood fragments, consistent with small branches and twigs.

Site 9

Three late Saxon samples were analysed, from pit 9490, pit 9582 and pit or posthole 9843 (Table 11.11). In the samples from 9490 and 9843, the charcoal was associated with large quantities of charred cereal remains, suggesting that the wood was used as fuel for crop processing or cooking activities. It is interesting that both of these samples produced a number of different taxa with *Quercus*, *Corylus* and Maloideae comprising the bulk of the fragments. The sample from pit 9582 was very rich in charcoal and dominated by *Quercus* heartwood and sapwood. It differs from all the other late Saxon samples in that it only has three taxa, whereas the others have on average six taxa per sample. This is interesting since the other samples (including the one from Site 8) are associated with cereal remains. The absence of other materials in pit 9582 suggests that the charcoal from this sample may have been associated with a different activity, possibly industrial or even charcoal-making.

The environment in the Saxon period appears to be consistent with the earlier periods – *Quercus*/*Corylus* woodland, with marginal/hedgerow species such as *Prunus*, *Rhamnus*, *Cornus* and Maloideae. However, there is a decrease in the use of *Fraxinus* from the earlier Roman period (Fig. 11.2). While this may be related to the specific selection of fuel wood, it is also plausible that a change in the character of the woodland had occurred. *Quercus* and *Corylus* comprise 77% of the Saxon charcoal. These trees associate well, and *Corylus* often forms an understorey in *Quercus* climax woodland. As mentioned above, *Fraxinus* is not tolerant of shade and, while it would have grown in less dense areas of such woodland, it rapidly colonises new areas. It is suggested that

Table 11.11: Charcoal from late Saxon contexts, Sites 8 and 9. Key as Table 11.9

	Phase		*Phase 8.3: late Saxon*		
	Site	*9*	*9*	*9*	*8*
	Feature type	*Pit*	*Pit/posthole*	*Pit*	*Pit*
	Feature number	*9490*	*9843*	*9582*	*10354*
	Context number	*9491*	*9844*	*9583*	*10354*
	Sample number	*9018*	*9025*	*9026*	*8058*
	Volume floated (l)	*40*	*10*	*30*	*40*
	% flot identified	*25*	*100*	*6.25*	*12.5*
Quercus sp.	oak	50hs	11	146hs	21h
Corylus avellana L.	hazel	31r	32		35
Populus/Salix	poplar/willow	1			
Prunus spinosa L.	blackthorn				6r
Prunus sp.	cherry type	1	2		
Maloideae	hawthorn, pear, apple	1	20r	6	36r
Cornus sanguinea L.	dogwood	1			
Rhamnus cathartica L.	buckthorn				1r
Acer campestre L.	field maple				9
Acer sp.	maple		1	2	
Fraxinus excelsior L.	ash	5			4
Indeterminate		3	4	1	6
Total		93	70	155	118

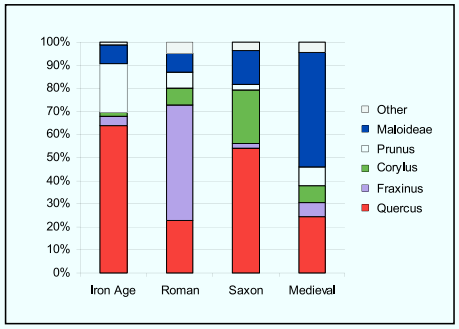

Fig. 11.2 Composition of charcoal from Iron Age to medieval periods, shown as percentage of fragment count

there had been some secondary woodland regeneration since the Roman period, and that there was consequently less *Fraxinus* in the Anglo-Saxon period. However, these comments must be taken as tentative, since the bias in charcoal analysis (selection, fragmentation etc) means that it cannot provide a reliable picture of the composition of past woodlands.

The selection of fuel wood for domestic activities in the Saxon period tended to be narrow roundwood from a range of species, although it must be noted that these deposits may represent more than a single burning event, in which case there is still a consistency in the choice of a variety of woods. Certainly, all of the taxa (with the exception of *Salix*) would have provided an adequate fire for cooking and parching.

Phase 9: medieval period

Four samples, all from the settlement at Site 3, were analysed (Table 11.12). Three of these (ctxs 3416, 3420 and 3427) were related to structure 3258. The samples consisted of mixed assemblages. With the exception of *Fagus* (beech), the taxa (*Quercus*, *Corylus*, *Prunus*, *Acer*, Maloideae and *Fraxinus*) were all present in earlier samples. There were, on average, five taxa per sample, and many narrow roundwood fragments. Clearly the assemblages do not represent any structural wood, at least not solely (the possibility of deposits with mixed burning events cannot be discounted). Given the quantity of charred plant remains in the samples, it is assumed that the charcoal came from domestic fires, which were subsequently dumped into pits or abandoned postholes. The burning of branch wood, left over from structural timber production, has been noted at other sites of similar date (Smith 2001), but it seems more likely, given the dominance of Maloideae (49%) in this period, that the fuel wood was gathered from hedgerow/scrub. Certainly, in contrast to earlier periods (Fig. 11.2), there is less *Quercus*, *Fraxinus* and *Corylus*.

Conclusions

The charcoal assemblages show that a variety of woody taxa were being exploited within the vicinity of the settlements along the Bypass corridor. It is interesting that there was a consistency in the selection of fuel wood throughout the periods – the same taxa were being utilised from the Iron Age to the medieval period. This suggests that the wood resources did not change greatly over the course of the centuries and/or that there was a genuine constancy in settlement. Woodland trees such as oak and ash are represented, together with shrubby

Table 11.12: Charcoal from medieval contexts, Site 3. Key as Table 11.9

	Phase	*Phase 9.1: early medieval*		*Phase 9.2: late medieval*	
	Feature type	*Posthole*	*Pit*	*Pit*	*Posthole*
	Feature number	*3425*	*3460*	*3415*	*3419*
	Context number	*3427*	*3470*	*3416*	*3420*
	Sample number	*3048*	*3034*	*3044*	*3047*
	Volume floated (litres)	*10*	*40*	*10*	*10*
	% flot identified	*100*	*3.125*	*100*	*100*
cf. Fagus sylvatica L.	beech		1		
Quercus sp.	oak	50h	9	10	4
Corylus avellana L.	hazel	1	8r	7	5r
Prunus sp.	cherry type	6r	6r	4	9r
Maloideae	hawthorn, pear, apple	43r	90r	6	9r
Acer campestre L.	field maple	9r	4		
Fraxinus excelsior L.	ash		12h		7
Indeterminate		7	3	3r	5
Total		116	133	30	39

taxa like hazel, cherry/blackthorn and hawthorn type. There is a tentative suggestion that some localised woodland regeneration took place at the end of the Romano-British period, which is reflected in the Saxon assemblages.

The Iron Age and Romano-British cremation deposits reveal a deliberate and focussed selection of fuel wood, in contrast to domestic fires, which were composed of typical hedgerow/scrub species and lesser quantities of useful timber trees (such as oak and ash). The Bronze Age cremation assemblage was not so focussed, but the taxa used are consistent with other burials of this date. The rose charcoal in this sample is of interest since it is not used as a deliberate fuel wood and may have a ritual provenance.

WATERLOGGED WOOD
by Steven J Allen

Twenty-four pieces of waterlogged wood were sent to the Wet Wood Laboratory for assessment. The assemblage is derived from the lower fill (ctx 4853) of late Iron Age ditch 4821 at Site 4.

All of the wood turned out to be bark chippings. Unfortunately, the species from which the bark was obtained is not identifiable. In order to successfully identify wood to a particular species, it is necessary to examine the wood structure in transverse, radial longitudinal and tangential longitudinal sections to inspect the microscopic wood structure. The diagnostic features present in heartwood and sapwood are not present in bark. Occasionally some wood may still be found adhering to the inner face of the bark and where present, this may then be identified. Unfortunately, no wood was present on the inner faces of any of these chippings.

However, the tangential longitudinal sections on several of the above chippings do indicate that they are derived from a wood species with short uniseriate medullary rays, between 5 and 15 cells high. Several wood species possess this characteristic (Schweingruber 1990) including horse chestnut (*Aesculus hippocastaneum* L.), alders (*Alnus* spp.), chestnut (*Castanea sativa* Gaertn.), hazel (*Corylus avellana* L.), spindle tree (*Evonymus europaeus* L.), poplars (*Populus* spp.) and willows (*Salix* spp.). Horse chestnut was introduced from the New World in the 16th century and chestnut is currently regarded as a Roman introduction. All of the other trees are native and would have been found in Britain during the Iron Age.

What can be said about these chippings is that they are from thicker bark such as is found on the trunk of a tree and not from branch wood or smaller diameter roundwood. Several of the ends have been cut at a steep angle suggesting they were still attached to the parent log when it was cut through, either during felling or trimming. Some of the larger pieces also have 'chatter' marks on their inner face, which would seem to have been made by a shaving tool meeting some resistance. This suggests that the bark was carefully removed from the parent log, not simply hacked off, although it cannot be determined whether the aim was to minimise damage to the bark, or to the wood to which it was attached. The fact that these pieces were found in an archaeological context would normally imply the latter, and we may be looking at the debris from the preparation of a large roundwood post. The bark is exceptionally well preserved, which suggests that had other organic remains been laid in the same context they would also have survived.

LAND AND FRESHWATER SNAILS
by Elizabeth Stafford

Twenty-six samples, from Sites 1, 2, 4 and 8, were examined for molluscan remains in order to provide information on the local environment of the sites during the period of occupation. The samples derived from pit and ditch contexts dating from the middle Iron Age to the late Roman period.

Methodology

All samples were processed at Oxford Archaeology. Incremental column samples, retrieved specifically for molluscan analysis, were weighed out to 1 kg, disaggregated in water, floated onto 0.5 mm nylon mesh and air-dried. The residues were also retained to 0.5 mm. Both flots and residues were scanned under a binocular microscope at magnifications of x10 and x20, and an estimate of abundance for each species was recorded. The flots of larger bulk samples (10-40 litres) from other features, primarily allocated for the retrieval of charred plant remains, were also examined in order to provide a more comprehensive assessment for all the periods represented. Unfortunately the residues from these samples were not available for examination.

The abundance of taxa was recorded on a scale of + 1-3, ++ 4-12, +++ 12-25, ++++ 26-50, +++++ >50. An estimate was also made of the total number of individuals in each sample. The identifications are divided into species groups in the tables of results (Tables 11.13-15). Nomenclature follows Kerney (1999) and habitat information has been indicated following Boycott (1934; 1936), Evans (1972) and Robinson (1979; 1993).

For the freshwater molluscs (F):

- Sl – Slum species are those able to live in water subject to stagnation, drying up and large temperature variations
- C – Catholic or intermediate species tolerate a wide range of conditions except the worst slums
- D – Ditch species require clean slowly moving water often with abundant aquatic plants

For the terrestrial fauna (T) habitat preferences consist of:

- O – Open-country
- S – Shade-loving
- C – Catholic or intermediate tolerating a wide range of conditions
- M – Marsh species
- (M) – Terrestrial species that can tolerate wet conditions

Fragments of *Cecilioides* were excluded from the abundance estimates because this species burrows deeply and provides no useful information on conditions as a sediment or soil formed. *C. acicula* can be extremely numerous and its inclusion in the total tends to obscure the results from the other species.

The mollusca

Preservation and abundance of molluscan remains was variable. Preservation was moderate within the column samples although generally most of the assemblages were of low diversity and dominated

Table 11.13: Molluscan assemblages from Sites 1 and 2.
** = non apical fragments. Abundance: + 1-3, ++ 4-12, +++ 12-25, ++++ 26-50, +++++ >50*

	Site	*1*	*1*	*2*	*2*	*2*	*2*
	Phase	*6 (ER)*	*6 (ER)*	*4 (MIA)*	*4 (MIA)*	*5 (LIA)*	*5 (LIA)*
	Feature	*1282*	*1406*	*2742*	*2742*	*2404*	*2749*
	Context	*1283*	*1405*	*2048*	*2009*	*2498*	*2984*
	Feature type	*Ditch*	*Pit*	*Ditch*	*Ditch*	*Ditch*	*Ditch*
	Sample number	*1027*	*1030*	*2000*	*2001*	*2049*	*2088*
	Volume floated (l)	*40*	*30*	*40*	*40*	*40*	*40*
	Individuals/litre	*4*	*1*	*11*	*9*	*4*	*4*
Taxa	**Habitat**						
Carychium spp.	T S, (M)		+	+	+++		+
Carychium tridentatum (Risso)	T S				+++		+
Carychium minimum (Müller)	T (M)				++		+
Lymnaea truncatula (Müller)	F Sl				+++	+	+
Lymnaea peregra (Müller)	F Sl, C			++			
Lymnaea spp.	F Sl, C			+		+	
Planorbis planorbis (Linnaeus)	F D	+					
Anisus leucostoma (Millet)	F Sl	++		+++++	++++	+++	+++
Oxyloma/Succinea spp.	T M					++	+
Cochlicopa spp.	T C			++	+		++
Truncatellina cylindrica (Férussac)	T O				+		+
Vertigo pygmaea (Draparnaud)	T O, (M)	++	+		+++		++
Pupilla muscorum (Linnaeus)	T O	++	+		++		+
Lauria cylindricea (Da Costa)	T S			++			++
Vallonia costata (Müller)	T O	+	+	+++++	++++	++++	++++
Vallonia pulchella (Müller)	T (M)						
Vallonia excentrica (Sterki)	T O	+++++	++++	++	+++++	+	
Vallonia spp.	T O, (M)						+
Acanthinula aculeata (Müller)	T S				+		
Ena obscura (Müller)	T S					+	+
Punctum pygmaea (Draparnaud)	T C						+
Discus rotundatus (Müller)	T S						+
Vitrea spp.	T S			+		+	+
Nesovitrea hammonis (Ström)	T C				+		
Aegopinella pura (Alder)	T S						+
Aegopinella nitidula (Draparnaud)	T S			++	+++	++	
Oxychilus cellarius (Müller)	T S			+++	++	++	+++
Clausilia bidentata (Ström)	T S			+	++		+
Helicella itala (Linnaeus)	T O	+			+	++	+
Trichia hispida (Linnaeus)	T C, (M)	+++++	++	++++	++++	++++	+++++
Cepaea/Arianta spp.	T C					+	
Cepaea spp.	T C					*	+
Estimated total number (excluding *Cecilioides acicula*)		150	40	450	350	150	150

by a few species. A number of the larger bulk samples, however, provided richer, more diverse assemblages.

Site 1

The flots from two bulk samples from the fills of an early Roman ditch (1283) and pit (1405) were examined. Both assemblages were of similar species composition. They were dominated by dryland terrestrial species, predominantly *Vallonia excentrica* (smooth grass snail), with lesser quantities of *Pupilla muscorum* (moss chrysalis snail), *Vertigo pygmaea* (common whorl snail) and the catholic species *Trichia hispida* (hairy snail). The assemblage is consistent with very open conditions of grazed grassland. There is no indication of more enclosed conditions such as woodland or unkempt grassland in the vicinity, or the presence of a hedgeline. The freshwater slum species *Anisus leucostoma* (button ram's-horn snail) was present in low numbers in sample 1027, along with a single specimen of the freshwater ditch species *Planorbis planorbis* (margined ram's horn snail). The former is regarded as a 'slum' aquatic species of drying ponds, marshes and stagnant ditches (Boycott 1936, 129-30, 144) which perhaps suggests the presence of standing water, at least seasonally.

Site 2

The flots from bulk samples from four middle and late Iron Age ditches were examined. The samples contained mixed assemblages of dryland terrestrial species. Open country snails were numerous (*Vallonia excentrica* and *Vallonia costata*, with lesser quantities of *Pupilla muscorum*, *Vertigo pygmaea* and *Helicella itala)*, along with the catholic species *Trichia hispida*. The assemblage is consistent with grazed grassland and/or arable. The obligate xerophile *Truncatellina cylindrica* (cylindrical whorl snail) was noted in two samples. This is a rare species which is extinct over most of Britain today, although it was probably more widespread during the prehistoric period. Its current distribution records it living at Potton, Bedfordshire. It is a species characteristic of short dry calcareous grassland or the base of rocks amongst *Sedum*, *Thymus* and *Artemesia* (Kerney 1999, 89).

Shade-demanding taxa were also present in the samples, particularly *Aegopinella nitidula* (smooth glass snail), *Oxychilus cellarius* (cellar snail) and *Carychium tridentatum* (slender herald snail) in appreciable numbers. This indicates the presence of more enclosed conditions, possibly a reflection of the microenvironment prevailing within the ditch where denser vegetation may have been growing. It is possible the ditch contained or was adjacent to scrub, unkempt grass or a hedgeline. Such environments must have prevailed in the vicinity, from which the snails could colonise.

In addition, damp conditions within the feature are indicated by the presence of *Carychium minimum*, more frequent in wetter environments than its congener *Carychium tridentatum*, though the two species are often found together. Freshwater species were present in numbers, predominantly the slum species *Anisus leucostoma* and *Lymnaea* spp. (in particular *Lymnaea truncatula*, dwarf pond snail, an amphibious species). The obligate marsh species *Oxyloma/Succinea* spp. (amber snails) was noted in samples 2049 and 2088. Both generally frequent wet marginal environments where they often climb erect vegetation such as reeds and sedges.

*Table 11.14: Molluscan assemblages from Site 4. * = non apical fragments. Key as Table 11.13*

Phase		*6 (LC1-EC2)*			*6 (EC2-LC2)*	*6 (LC2)*					*6 (LC2)*				
Feature		*Ditch 4286*			*Pit 4149*	*Ditch 4135*					*Ditch 4361*				
Sample number	*4125*	*4127*	*4128*	*4129*	*4021*	*4012*	*4086*	*4087*	*4088*	*4089*	*4090*	*4091*	*4092*	*4093*	*4094*
Fill number	*4284*	*4285*	*4285*	*4285*	*4148*	*4134*	*4344*	*4344*	*4345*	*4345*	*4345*	*4345*	*4345*	*4345*	*4345*
Volume floated (l)	*1*	*1*	*1*	*1*	*40*	*40*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Individuals /litre	*3*	*92*	*28*	*9*	*1*	*15*	*30*	*50*	*100*	*100*	*100*	*150*	*160*	*190*	*63*
Taxa	**Habitat**														
Carychium spp.	T S, (M)		+	+		++	+	+	+	++	++	++	+	+	+
Carychium tridentatum (Risso)	T S					+++	+	+	+++	+++	+++	++	+	+	
Carychium minimum (Müller)	T (M)					++	+	+	+	+	+			+	
Lymnaea truncatula (Müller)	F Sl				+	+++++	+	+							
Lymnaea spp.	F Sl, C					++									
Anisus leucostoma (Millet)	F Sl	+++++				++++		++	+++++	+++	++++	+++++	+++++	+++++	+++
Gyraulus crista (Linnaeus)	F C	+	++	++		++++							+	+++++	+++
Cochlicopa spp.	T C									++		+	+	+	+
Vertigo pygmaea (Draparnaud)	T O, (M)					++	+	+	+						
Pupilla muscorum (Linnaeus)	T O		+	+	+	++			+						
Vallonia costata (Müller)	T O	+	++	++		++		+	+	+	+	++	+	++	+
Vallonia pulchella (Müller)	T (M)													+	
Vallonia excentrica (Sterki)	T O	+	+	+	+	+++++		++	+	+	+	+	+	+	+
Vallonia spp.	T O, (M)		+	+	+			+	+		+			+	+
Acanthinula aculeata (Müller)	T S					+					+		+	+	
Ena obscura (Müller)	T S					+									
Punctum pygmaea (Draparnaud)	T C													+	
Vitrea spp.	T S					+				+	+	+		+	+
Nesovitrea hammonis (Ström)	T C								+		+			+	
Aegopinella pura (Alder)	T S					+									
Aegopinella nitidula (Draparnaud)	T S					+++	+	+	++	++	++	++	+++	++	+
Oxychilus cellarius (Müller)	T S					+				+	+				
Clausilia bidentata (Ström)	T S		++	+		++	+	+	+	+	+	+	++	+	+
Helicella itala (Linnaeus)	T O		+			++				+				++	
Trichia hispida (Linnaeus)	T C, (M)		++	++	+	+++	++	+	++	+	+	++	++	++	+
Cepaea/Arianta spp.	T C		+				+	+							
Cepaea spp.	T C	*	*	*			*	+	+	+	*	+	+	*	*
Estimated total number (excluding *Cecilioides acicula*)		3	92	28	9	20	600	300	50	100	100	100	150	160	190	63

Table 11.15: Molluscan assemblages from Site 8. Key as Table 11.13

	Site	*8*	*8*	*8*	*8*	*8*
	Date	*LIA-ER*	*RC1-2*	*R2C+*	*RMC2*	*Late Roman*
	Feature	*Ditch 10199*	*Ditch 10832*	*Ditch 8675*	*Ditch 10532*	*Hollow 10836*
	Sample number	*8107*	*8104*	*8105*	*8106*	*8103*
	Fill number	*10211*	*10833*	*8677*	*10499*	*8676*
	Volume floated (l)	*1*	*1*	*1*	*1*	*40*
	Individuals /litre	*8*	*16*	*1*	*8*	*1*
Taxa	**Habitat**					
Anisus leucostoma (Millet)	F Sl				+	+++
Cochlicopa spp.	T C	+				+
Pupilla muscorum (Linnaeus)	T O		++	+	+	+
Vallonia costata (Müller)	T O		+			++
Vallonia pulchella (Müller)	T (M)					+
Vallonia excentrica (Sterki)	T O	++	++		+	++
Trichia hispida (Linnaeus)	T C, (M)	+	+			++
Cepaea spp.	T C	*				
Estimated total number (excluding *Cecilioides acicula*)		8	16	1	8	50

Site 4

The flots from two bulk samples from a ditch and pit fill dated to the Roman period were examined. Sample 4021 contained only 20 individuals. Sample 4012, however, produced an assemblage of approximately 600 individuals. Two column samples comprising a total of 13 samples were also examined from Roman ditches 4361 and 4285. In these samples molluscan preservation was moderately good considering the smaller volume of sediment processed, and assemblages averaged between 100 and 150 individuals.

All of the assemblages from Site 4 were of similar character. They were dominated by freshwater slum species *Anisus leucostoma,* suggesting damp conditions, perhaps seasonal standing water within the features. The only appreciable difference was the increased presence of *Gyraulus crista* (nautilus ram's-horn) in some fills, particularly the lower fills of ditch 4361 and 4386, suggesting that wetter conditions prevailed within these features. This species lives in most kinds of lowland aquatic habitats including weedy ditches containing permanent bodies of water (Kerney 1999, 67). A smaller component comprised mixed assemblages of dryland taxa similar to those noted in Site 2. Open country terrestrial snails included *Vallonia excentrica*, *Vallonia costata*, *Pupilla muscorum*, *Vertigo pygmaea*, *Helicella itala* and the catholic species *Trichia hispida*. Shade-demanding taxa were also present (*Aegopinella nitidula*, *Oxychilus cellarius*, *Clausilia bidentata* and *Ena obscura*). *Carychium tridentatum* was particularly numerous.

Site 8

Five samples were examined from pit and ditch fills dated to the Roman period. Molluscan preservation was poor, averaging between 4 and 50 individuals per sample. Identifiable species comprised dry ground open country taxa, *Vallonia* spp., *P. muscorum* and the catholic species *T. hispida* and *Cochlicopa spp.* Shade-demanding species were absent, and freshwater species restricted to specimens of *Anisus leucostoma* in samples 8106 and 8103.

Conclusions

Although preservation was moderately good in some of the samples, many of the assemblages were very similar and the majority were dominated by a small number of species. There was little indication of significant environmental change between sites or periods of activity, although the following points are worthy of note.

Previous work on the floodplains of major lowland river valleys such as the Upper Thames, Nene and Ouse suggests a rise in ground water tables during the later prehistoric period and Roman periods. On the Ouse floodplain this appears to have occurred quite rapidly during the Roman period, with ensuing flooding but little or no alluviation until the medieval period (Robinson 1992, 200). Freshwater slum species (eg *Anisus leucostoma* and *Lymnaea truncatula*) were dominant in many of the samples examined from sites along the Bypass route. These species have a preference or tolerance of poor water conditions such as small bodies of water subject to drying, to stagnation and considerable temperature variation (Evans 1972, 200) and were probably living in water accumulating in the bases of ditches. This indicates wet environments within many of the features, possibly seasonal standing water, and on Site 4 permanent bodies of water (*Gyraulus crista*). This may suggest that the primary purpose of some of the ditches was drainage. There is no real evidence for flooding from an adjacent channel, however, as flowing water species are entirely absent. This is unsurprising given the distance of the sites from the floodplain of the Great Ouse.

Obligate marsh species and terrestrial species that can live in wet conditions were also noted in the assemblages. These were probably living in vegetation, reeds and damp grass on the edges of the ditches above the level of the water. These include *Succinea/Oxyloma* spp., *Carychium minimum*, *Vallonia pulchella* and *Trichia hispida*.

Terrestrial dry ground species probably represent the wider site environment and were dominated by open country fauna consistent with grazed grassland and/or arable (eg *Vallonia* spp., *Pupilla muscorum*, *Vertigo pygmaea* and *Helicella itala*). Shade-demanding taxa were also present in many of the samples in varying quantities. The assemblages were not, however, particularly indicative of enclosed woodland conditions. This is suggested by the abundance of open country xerophiles together with the conspicuous absence of some commonly occurring shade-demanding species, for example *Discus rotundatus*. The predominance of the zonitids and *Carychium* spp. suggests long grasses, although *Clausilia bidentata* and *Ena obscura* may indicate the presence of denser vegetation, scrub or hedgerows in the vicinity. However, the samples from Sites 1 and 8 are noticeable for the low numbers or paucity of freshwater species and shade-demanding species, perhaps suggesting drier and more open conditions in the vicinity of the features.

Chapter 12: Scientific Dating

RADIOCARBON DATING
by Leo Webley

Seven samples of human bone were submitted for accelerator mass spectrometry (AMS) dating to the Oxford University Radiocarbon Accelerator Unit (Table 12.1 and Fig. 12.1). The aims were as follows:

1. To refine the dating of the important middle Iron Age structured deposit from ditch 2742, and ascertain whether the human cranium fragments from this deposit were earlier curated objects (samples OxA-15513, OxA-15514 and P17868)
2. To date the inhumation cemetery from Site 4, suspected to belong to the late Roman period (sample OxA-15515)
3. To date three isolated, unurned and unaccompanied cremation burials of unknown phase attribution (samples OxA-15671, OxA-15672 and OxA-15673)

One of the samples from ditch 2742 (P17868) unfortunately produced a collagen yield below the acceptance threshold of 1%. The remaining six determinations were calibrated using the atmospheric data of Reimer *et al*. (2004), and the calibration program OxCal v.3.10 (Bronk Ramsey 1995; 2001). The calibrated ranges are cited at the 95% confidence level, and have been rounded outwards to the nearest 10 years.

The articulated skeleton from ditch 2742 produced a date range in the late 2nd century cal BC to early 1st century cal AD, compatible with the associated later middle Iron Age ceramics (Chapter 8). However, the disarticulated cranium fragment from the same deposit produced a date range earlier in the middle Iron Age, in the 4th to early 2nd centuries cal BC, with no overlap with the date range from the articulated skeleton. This suggests that the cranium fragment was a curated object.

The inhumation burial from Site 4 produced a determination of 240-390 cal AD, consistent with the late Roman date ascribed to the cemetery. The three cremation burials meanwhile produced date ranges falling in the middle to late Bronze Age (OxA-15672), later Iron Age (OxA-15671) and late Iron Age to early Roman period (OxA-15673) respectively. These are all periods in which unurned and unaccompanied cremation burials are attested elsewhere in the region.

ARCHAEOMAGNETIC DATING OF ROMANO-BRITISH KILN 10490
by Vassil Karloukovski and Mark W. Hounslow

Summary

Romano-British kiln 10490 at Site 8 was dated using archaeomagnetic techniques. Nine samples were collected from the kiln, although only four of these, from the floor of the kiln, provided useful archaeomagnetic directions. The remaining samples from the walls of the kiln have probably acquired a thermoremanence in a disturbed local magnetic field. The specimens from the four floor samples provided a mean direction (variation corrected) of

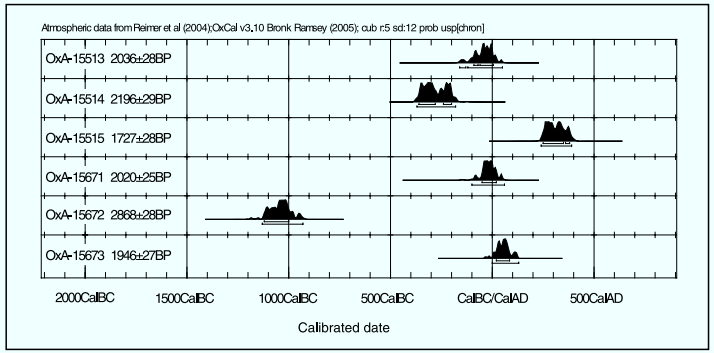

Fig. 12.1 Probability distributions of radiocarbon dates

Table 12.1: Radiocarbon dates

Lab no.	Site	Context	Radiocarbon age BP	$\delta^{13}C$ (‰)	Material	Context type	Calibrated date range 68.2% confidence	Calibrated date range 95.4% confidence
OxA-15513	2	2079	2036 ± 28	-18.9	Articulated human bone	Back-fill of Phase 4 ditch 2742	90 BC (12.2%) 70 BC 60 BC (56.0%) 5 AD	160 BC (4.7%) 130 BC 120 BC (90.7%) 50 AD
OxA-15514	2	2176	2196 ± 29	-19.8	Human bone (cranium fragment)	Back-fill of Phase 4 ditch 2742	360 BC (47.0%) 280 BC 240 BC (21.2%) 200 BC	370 BC (95.4%) 180 BC
OxA-15515	4	4341	1727 ± 28	-19.2	Articulated human bone	Phase 7 inhumation burial 4342	250 AD (63.3%) 350 AD 360 AD (4.9%) 380 AD	240 AD (95.4%) 390 AD
OxA-15671	6	6077	2020 ± 25	-13.4	Cremated human bone	Phase 5 cremation burial 6079	50 BC (68.2%) 20 AD	100 BC (95.4%) 60 AD
OxA-15672	2	2151	2868 ± 28	-13.1	Cremated human bone	Phase 3 cremation burial 2150	1120 BC (68.2%) 1000 BC	1130 BC (95.4%) 930 BC
OxA-15673	4	4230	1946 ± 27	-10.7	Cremated human bone	Phase 5-6 cremation burial 4231	20 AD (68.2%) 85 AD	0 (95.4%) 130 AD
P17868	2	2224	Failed	n/a	Human bone (cranium fragment)	Back-fill of Phase 4 ditch 2742	n/a	n/a

declination = 357.1º, inclination = 63.9º, a_{95} = 2.3º, K = 173. This produces a direction corrected to Meriden of declination = 356.9º, inclination = 64.2º, a_{95} = 2.3º. This direction and its confidence interval, when compared to the UK master curve of Clark *et al*. (1988), suggests that with an approximate 95% probability the date of the last major heating of the kiln was between AD 120 and AD 180.

Sample collection and preparation

Nine oriented monoliths were collected for archaeomagnetic dating from kiln 10490 at Site 8 (grid reference TL105514, Latitude 52.1502º, Longitude 0.386º). The kiln was oriented roughly east-west, with an entrance flue at the eastern end (Fig. 12.2). The base and the lower parts of the walls of the kiln were preserved sufficiently to allow the collection of samples approximately 80 x 80 x 80 mm in size. Four samples, GB1-GB4, were collected from the central clay lining of the floor of the kiln. One sample, GB8, was collected from the wall close to the eastern flue. Four more samples, GB5-7 and GB9, were collected from the eastern end wall of the kiln (Fig. 12.2). The clay lining was a uniform dark colour in its topmost part, passing downwards to a brown to dark reddish grey fired clay some 20 mm below the upper surface. This colour change probably indicates the strongly reducing conditions and high temperatures achieved in the kiln.

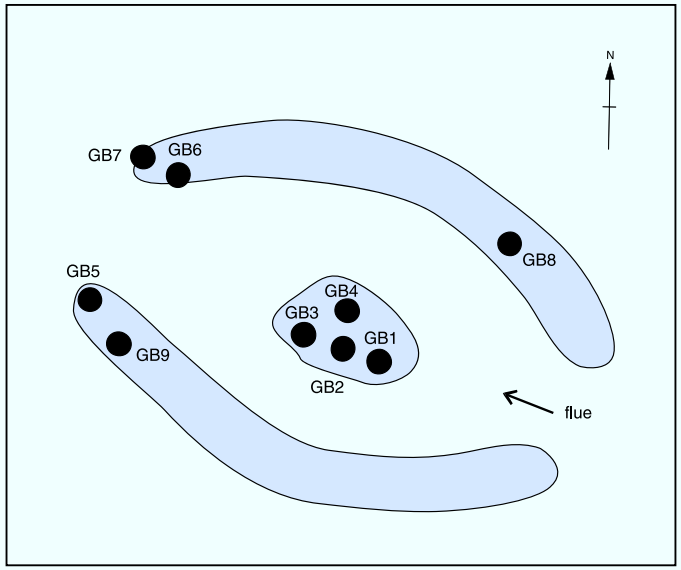

Fig. 12.2 Schematic diagram showing the locations of the oriented monoliths

All samples were oriented using a layer of plaster moulded onto the surface, which was fashioned to be flat using a plastic plate. Onto this flat surface a reference direction was determined with respect to magnetic north (using a magnetic compass), and its dip direction was determined to an accuracy of 1 degree.

In the laboratory sodium silicate solution was repeatedly applied to the sides of the monoliths in order to consolidate them for subsampling. Three samples (GB5, GB7 and GB9) were thick enough in order to be subdivided into a top layer (close to the former firing surface), labeled layer 'A', and below this an underlying layer 'B'. Six to eleven 22 x 22 x 22 mm cubic specimens were cut from each sample in the laboratory using a diamond saw. Six of the best preserved and intact specimens from each sample were used in the laboratory analysis.

Archaeomagnetic procedures and results

The direction and strength of natural magnetization of the specimens was measured at the CEMP, Lancaster University, using either a Minispin or a JR6A spinner magnetometer. The low-field magnetic susceptibility (χ_{LF}) was measured on a Bartington MS2 susceptibility meter.

Table 12.2 lists the mean sample values of the Natural Remanent Magnetisation (NRM), the χ_{LF} and the Koenigsberger factor (Q_{NRM}). The Koenigsberger factor is the ratio between the NRM and the induced magnetisation in a 0.5 Oe field (ie approximately earth's magnetic field intensity). Values larger than 1 indicate the net *in situ* magnetisation is dominated by a permanent remanence.

The collection as a whole has high values of NRM intensity, susceptibility and Q_{NRM}, indicating significant heating in the past. The B-layer samples as a general rule have lower values of all three magnetic parameters (Table 12.2). Comparing the A-layer subsamples a trend can be observed of an increase in the NRM intensity and Q_{NRM} in a westward direction, away from the eastern entrance flue (cf. Fig. 12.2; Table 12.2). The samples from the floor in the centre, GB1 to GB4, and sample GB8 from the wall close to the eastern flue have the lowest values of NRM intensity (1.4 to 5.2 A/m) and Q_{NRM} (4.7 to 8.6). The samples from the walls at the western and northern ends (GB5 to GB7 and GB9) in contrast have NRM intensities of 10.0-15.6 A/m and Q_{NRM} values of 15.4-20.9. The spatial changes probably reflect the degree of heating of the samples, or the spatial variation of the oxidation and reducing conditions within the kiln at firing time.

The NRM directions of the floor samples form a tight directional cluster (Fig. 12.3). The NRM directions of the specimens from the wall samples have anomalous directions and are considerably scattered. This is clearly contradictory to their larger

Table 12.2: Average volume specific magnetic parameters for kiln 10490, Site 8. Ns = number of specimens used in determining the mean. The –A and –B suffix on the samples indicate the sublayers of the sample.

Sample	N_s	NRM intensity, (A/m)	χLF, (x10-3 SI)	Q_{NRM}
Floor				
GB1	6	3.4	17.3	5.1
GB2	6	5.2	19.0	6.8
GB3	6	5.2	16.5	7.8
GB4	6	1.4	6.5	4.7
Walls				
GB5-A	3	12.8	15.4	20.9
GB5-B	3	0.3	2.2	3.6
GB6	6	15.6	19.6	19.8
GB7-A	4	10.0	16.2	15.4
GB7-B	2	0.6	3.8	4.0
GB8	6	4.5	12.6	8.6
GB9-A	3	12.5	18.2	16.9
GB9-B	3	0.4	2.8	3.6

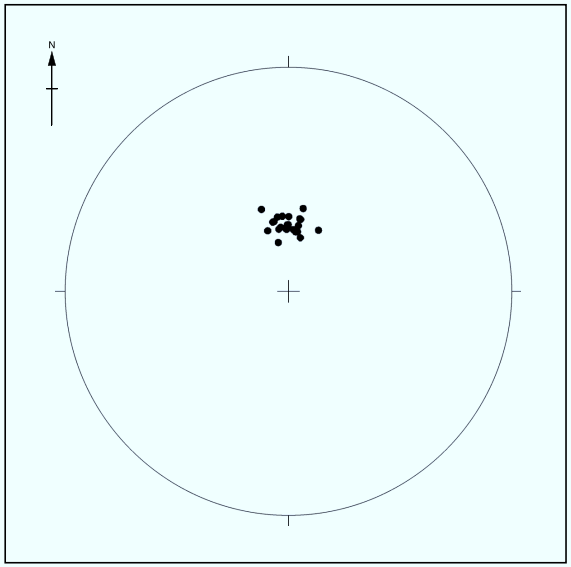

Fig. 12.3 Stereoplot of the NRM directions from the floor samples GB1, 2, 3 and 4 comprising 24 specimens in total

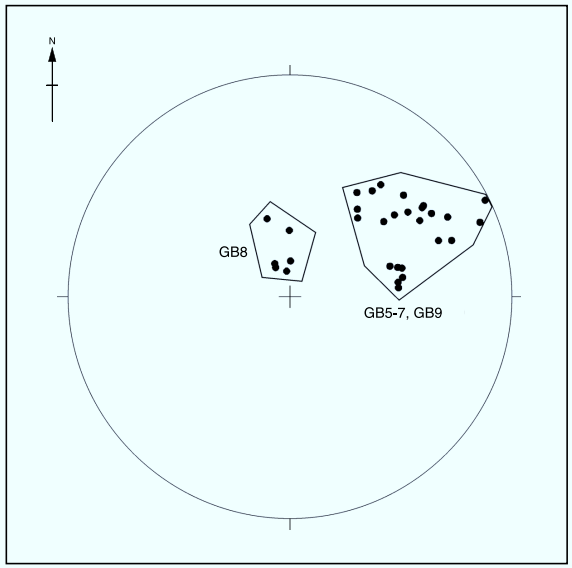

Fig. 12.4 Stereoplot of the NRM directions from the wall samples (30 specimens)

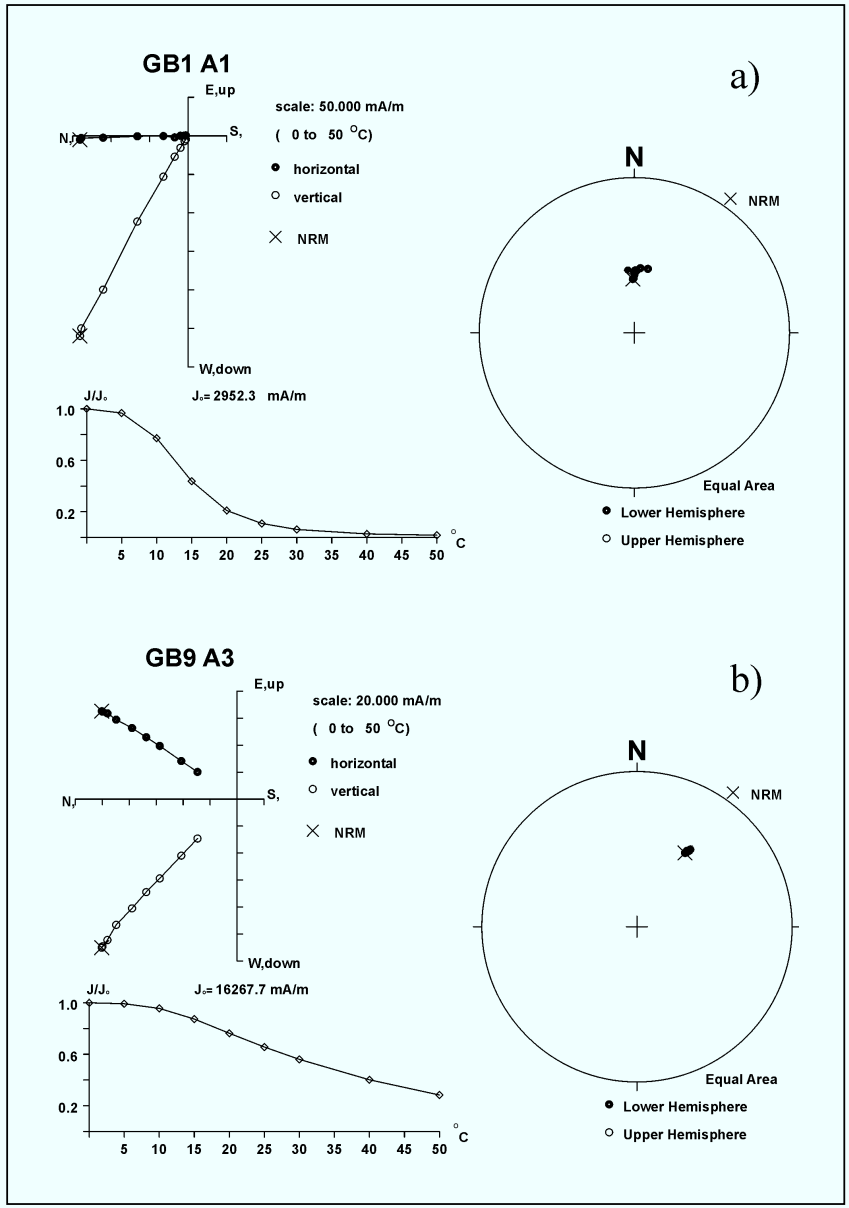

Fig. 12.5 Typical AF-demagnetization characteristics of dark clay lining specimens: (a) from the floor (GB1-A1) and (b) from the wall (GB9-A3) from the Great Barford Bypass kiln

mean Q_{NRM} values, which imply they have been heated to higher temperatures than the floor sample, and therefore would normally possess a better quality thermoremanent magnetisation. Only in sample GB8, the one closest to the eastern flue, is the mean direction not anomalous, yet the individual specimens still show considerable directional scatter (Fig. 12.4).

Ten pilot specimens were progressively demagnetised with alternating magnetic fields (AF) in eight steps up to 50 mT, using a Molspin AF demagnetizer. The NRM of most specimens contained only minor overprints (ie probably field and laboratory viscous magnetisations), which were removed in demagnetisation fields of 10-15 mT (Fig. 12.5 a, b). Demagnetisation in fields higher than 15 mT revealed a single stable medium to high coercivity magnetisation component. The Characteristic Remanent Magnetization (ChRM), is evident by a straight line on the Zijderveld diagram (Fig. 12.5).

The ChRM directions of all specimens were very stable, with median destruction fields (MDF) between 15 to 35 mT. The floor samples had MDFs between 15-20 mT with less than 15% of the NRM left after demagnetisation at 50 mT (Fig. 12.5a), reflecting the dominant presence of ferrimagnetic (magnetite) minerals and the generally reducing conditions in the kiln. The wall samples had higher MDFs, up to 35 mT (Fig. 12.5b), with 20-30% of the NRM remaining by 50 mT. This indicates the finer grain size of magnetite and/or the presence of significant haematite in these samples.

The extracted ChRM directions from the wall specimens repeat the scatter evident in the NRM directions, indicating that magnetisation processes later than the last heating have only a minor effect on the thermoremanence recorded by these samples. The same disparate floor sample to wall sample relationship is observed in the ChRM data, with the four samples from the floor forming a tight directional cluster and sample GB8 also gravitating towards this cluster (Fig. 12.6).

Similarly deviating directions are not uncommon in other kilns and other strongly magnetic structures. There an number of possible causes of such deviating directions:

Table 12.3: Mean directions and intra-sample scatter, α_{95}, for each of the four floor samples. N_s= number of specimens

Sample	N_s	*Declination*	*Inclination*	α_{95}
GB1	6	1.7	62.2	3.5
GB2	6	359.0	66.2	4.3
GB3	6	2.0	67.5	3.1
GB4	6	358.0	59.7	6.9

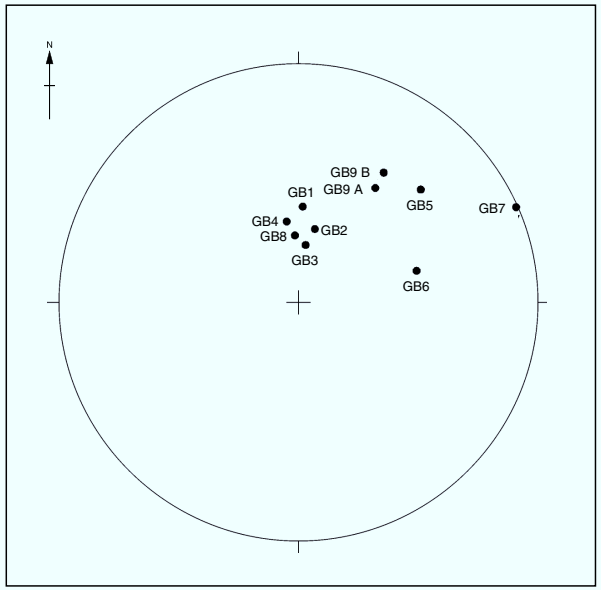

Fig. 12.6 Stereoplot of the ChRM directions from the specimens subjected to 'pilot' AF demagnetisation. The sample numbers of the specimens are indicated next to their directions

- **Tilt of the structure since last firing**. Whilst every attempt at time of sampling was made to avoid potentially structurally compromised-materials, its not possible to be 100% certain that this is the case. Suspected cases of kiln-all-tilt and other structural distortions have been described by Tarling *et al*. (1986) and Sternberg *et al*. (1999). Wall-tilt in Roman kilns is generally small (up to about 5-10 degrees; Tarling *et al*. 1986), and is unlikely to have produced the large directional variation seen in the data.

- **Large magnetic anisotropy**. This originates from the fabric of the sampled materials, having the ability to deflect the acquired thermoremanence into the axis of the maximum anisotropy. We believe this is not the primary cause of the scatter and anomalous directions. Firstly, the observed deflections are not directly related to the material of the samples, for example, some clay lining samples appear to show this deflection, and others not. Secondly, anisotropy is unlikely to account for more than 10-15° of directional distortion even in samples showing very strong thermoremanence (Stephenson *et al*. 1986; Karloukovski 2000; Hus *et al*. 2002).

- **Magnetic refraction**. This is the deflection of the magnetic field due to the concentration of the earth's magnetic field flux within highly magnetic materials, and is a frequently cited cause of deviation in archaeomagnetic directions in large kiln structures and intensely magnetic materials (Abrahamsen *et al*. 2003; Hus *et al*. 2004). Tarling *et al*. (1986) noted little systematic distortion for kiln/hearth materials with NRM intensity less than ~2 A/m, whereas materials measured by Abrahamsen *et al*. (2003) with NRM intensities of 5 to 50 A/m and Q_{NRM} of 2 to 20 found strong distortion. Hence the magnitude of any deflection will be related to the strength of the induced and remanent magnetisation. This may in part explain the anomalous directions, since they are shown by the more strongly magnetic parts of the Great Barford kiln. However, this effect commonly produces azimuthal variations in the declination of no more than 10-15°, much less than the 60-70° differences in declination observed in the kiln. Furthermore, not all kilns show the effects of magnetic refraction, the reasons for this being unclear (Tarling and Dobson 1995).

- **High Q_{NRM} materials in kiln construction**. If the constructors of the kiln used strongly magnetic materials (ie from previous kilns) in which the remanent magnetisation dominates (ie Q_{NRM} >>1) then local to this material the magnetic field will be distorted, producing net magnetisation directions which may strongly deviate from the earth's magnetic field direction. These remanence anomalies will only persist as long as the materials are not raised above their Curie temperature (580ºC). A similar effect could be produced by an external magnetic field affecting only the western parts of the kiln, generated perhaps by adjacent iron or other objects (eg pile of fired objects) with large Q_{NRM} values.

What is clear is that wall samples GB5, GB6, GB7 and GB9 record anomalous directions and are not suitable for use in archaeomagnetic dating.

Twenty-five more specimens in total from the floor samples GB1 to GB4 and the wall sample GB8 were demagnetised using four magnetic field steps between 15 to 40 mT. The ChRM direction of each specimen was calculated using principal components analysis based on the least-squares fitting technique of Kirschvink (1980).

The ChRM directions, obtained by AF demagnetisation from the thirty-five specimens from all samples, together with their NRM intensity, χ_{LF}, and Q_{NRM} values, are listed in Table 12.4. The six ChRM directions obtained from the wall sample GB8, although seemingly not having anomalous demagnetisation characteristics, proved to be very scattered, with declinations ranging between 324 and 9°, and inclinations ranging between 59 and 81° (Table 12.4). Hence this sample was rejected for dating purposes.

The mean directions of the four floor samples were well clustered (Table 12.3). They produced an overall sample-based mean archaeomagnetic direction (using the intra-sample scatter a_{95} as a weight factor) of D = 0.6°, I = 64.5°, a_{95} = 3.9°, K = 545, N = 4. The specimen-based mean archaeomagnetic direction is very similar at D = 0.1°, I = 63.9°, a_{95} = 2.3°, K = 173, N = 24, albeit with a slightly lower a_{95}. Hence either of these mean directions will produce essentially the same 'best estimate' last heating date, but the 95% uncertainty on this date will be considerably larger using the sample-based mean.

We consider the specimen-based mean direction as the more representative of the directional uncertainty, since the sample-based mean dispersion (ie a_{95}=3.9) is comparable to the within-sample dispersion (Table 12.3, ie a_{95}=3.9 to 6.9). This indicates the individual specimens represent magnetic field recorders as good as the larger volume sample from which they are derived. In essence the degree of inhomogeneity in the magnetic recording and measuring process is similar at the specimen or sample scale.

The specimen-mean archaeomagnetic direction was corrected for the magnetic declination of the site, which is 3.0° W for Bedford for the year 2005 (NASA 2005). This produced an archaeomagnetic direction for the Great Barford bypass kiln of (specimen-based mean) D = 357.1°, I = 63.9°, a_{95} = 2.3°.

*Table 12.4: Volume-specific NRM intensity(M), magnetic susceptibility (χLF), Koenigsburger ratio (QNRM) and ChRM directional results for each measured specimen from the Great Barford bypass kiln. D=declination, I=inclination. Range is the alternating field demagnetisation range over which the fit of the ChRM principle component was obtained. * = specimen used in the final archaeomagnetic dating.*

Specimen	*M(mA/m)*	*χLF(x10^{-6} SI)*	Q_{NRM}	*ChRM*		
				D	*I*	*Range*
GB1 A1*	3448.5	15200.0	5.7	2.5	57.0	> 15 mT
GB1 A2*	4205.8	28453.5	3.7	7.2	60.2	> 20 mT
GB1 A3*	3213.5	17564.4	4.6	359.0	61.2	> 20 mT
GB1 A4*	4128.3	17663.2	5.9	353.6	67.8	> 15 mT
GB1 A5*	3357.4	16414.1	5.1	3.2	64.3	> 15 mT
GB1 A6*	1912.2	8800.0	5.5	2.8	62.4	> 15 mT
GB2 A1*	4724.8	19040.0	6.2	12.5	64.3	> 15 mT
GB2 A2*	7781.7	21230.8	9.2	10.3	67.5	> 15 mT
GB2 A3*	6874.7	28604.7	6.0	349.0	69.5	> 15 mT
GB2 A4*	6316.3	19883.3	8.0	351.4	63.4	> 15 mT
GB2 A5*	3471.0	14240.0	6.1	3.8	66.8	> 15 mT
GB2 A6*	2246.0	10750.0	5.3	347.3	63.9	> 15 mT
GB3 A2*	6514.7	16443.3	10.0	7.1	70.3	> 15 mT
GB3 A3*	4535.1	16134.1	7.1	1.4	65.6	> 15 mT
GB3 A6*	4135.8	14550.6	7.1	5.4	65.7	> 15 mT
GB3 A7*	2750.1	11031.6	6.3	4.3	65.5	> 15 mT
GB3 A10*	8690.6	26222.2	8.3	345.6	69.5	> 15 mT
GB3 A11*	4713.1	14666.7	8.1	7.0	67.3	> 15 mT
GB4 A1*	584.9	4353.8	3.4	351.7	62.0	10-30 mT
GB4 A2*	258.9	2323.1	2.8	343.1	55.3	> 15 mT
GB4 A8*	563.4	3842.9	3.7	355.6	56.2	> 15 mT
GB4 A9*	2158.2	9175.8	5.9	350.1	59.3	> 15 mT
GB4 A10*	2250.4	9560.0	5.9	6.6	58.0	> 15 mT
GB4 A11*	2523.7	9744.9	6.5	26.2	63.3	> 15 mT
GB5 A3	10678.4	13214.3	20.3	47.2	31.1	10-50 mT
GB5 A5	17198.0	20125.0	21.5			
GB5 A6	10666.5	12898.0	20.8			
GB5 B1	169.7	1666.7	2.6			
GB5 B2	635.0	2771.4	5.8			
GB5 B4	200.4	2057.1	2.4			
GB6 A2	12424.8	15979.2	19.5	75.0	47.7	10-50 mT
GB6 A3	10238.4	14075.0	18.3			
GB6 A4	19038.6	22244.2	21.5			
GB6 A5	15860.8	19720.9	20.2			
GB6 A6	23540.7	28452.6	20.8			
GB6 A7	12691.3	17112.2	18.6			
GB7 A2	6918.2	12204.1	14.2	66.3	0.9	10-50 mT
GB7 A3	8152.5	16787.5	12.2			
GB7 A5	11396.0	17888.9	16.0			
GB7 A6	13674.1	17915.8	19.2			
GB7 B2	725.2	4096.2	4.4			
GB7 B3	504.3	3548.1	3.6			
GB8 A1	3190.4	8048.8	10.0	1.4	67.3	> 15 mT
GB8 A2	10128.3	23375.0	10.9	344.4	59.3	> 15 mT
GB8 A7	3354.4	12263.2	6.9	354.9	80.7	> 15 mT
GB8 A8	2258.4	8755.1	6.5	9.2	75.3	> 15 mT
GB8 A9	3961.1	10835.0	9.2	323.9	78.3	> 15 mT
GB8 A10	3945.0	12505.0	7.9	335.1	74.1	> 15 mT
GB9 A3	16675.4	24306.1	17.2	33.8	41.9	10-50 mT
GB9 A4	15580.4	21700.0	18.0			
GB9 A5	5224.6	8551.3	15.4			
GB9 B3	390.6	3276.2	3.0	33.2	35.3	10-40 mT
GB9 B5	276.0	2039.6	3.4			
GB9 B7	528.4	3000.0	4.4			

Archaeomagnetic dating of the kiln

The specimen-mean directional result was converted via the pole method of Noel and Batt (1990) in order to compare it to the revised British master curve of Clark *et al*. (1988). This corrects the direction to Meriden (f = 52.43º N, λ = 1.62º W). Converted to Meriden data (specimen-based mean): D = 356.9º, I = 64.2º, with an a_{95} = 2.3º.

When plotted on the UK master curve of Clark *et al*. (1988), the specimen-based mean direction gives a best estimate age of AD 150, with a 95 % confidence interval for the date range of AD 120-180 (Fig. 12.7). Using this same procedure for the sample-based mean direction gives a 95 % confidence interval for the date of last heating of between AD 60–200.

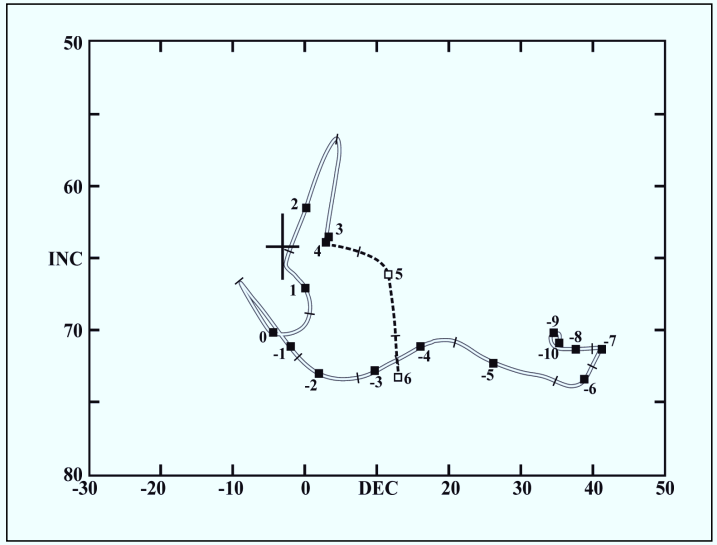

Fig. 12.7 Comparison between the UK master curve for 1000 BC–AD 600 of Clark et al. (1988) and the converted to Meriden specimen-based mean ChRM direction of the Great Barford Bypass with its error interval (black cross) based on the Fisher 95% confidence cone

Chapter 13: Overview

by Jane Timby

INTRODUCTION

Prior to the commencement of the work along the Great Barford Bypass knowledge of the likely archaeology to be encountered was limited. The fact that much of the route crossed the boulder clay plateau, an area that has received negligible attention in the past, might have, until recently, signalled a moderately low expectation in terms of the density and chronological range of occupation. Archaeology in southern and eastern Britain has very much focussed on urban, chalk and gravel sites with other terrains not so much excluded, but considered to have lower potential and also subjected perhaps to less intensive commercial development or exploitation.

It is only in the past two decades that our understanding of the development of such geologies throughout time has been radically challenged with projects such as the East Midlands Survey (Clay 2002) and the Raunds project (Parry 2006). Various road schemes and other development work has allowed large area excavations and transects through parts of the landscape that have not been previously examined in detail producing some interesting results. The A421 Great Barford Bypass, the subject of the foregoing report, has presented one such opportunity. Other recent examples include the upgrading of the A120 crossing the boulder clay plateau of Essex (Timby *et al.* forthcoming), work around the Cambourne area, Cambs (WA 2003; 2004) and the A428 Caxton to Hardwick road improvements, Cambs (Albion Archaeology 2006b).

Our perception of the claylands is, to some extent, influenced by the present day landscape and the heavy, sticky, impermeable soils associated with it. As Clay (2002, 116) has highlighted, prior to intensive cultivation, these soils were probably quite fertile, retaining a better soil structure and thus better drainage for small-scale cultivation. The environment would have been more wooded providing leaf litter which maintained an organic content. The woodland would itself have created a valuable resource as well as allowing pannage. Deforestation, medieval ploughing, the creation of ridge and furrow, and modern agriculture have served not only to destroy much of the underlying superficial archaeology but have also introduced a flattening of the microtopography and a breakdown of the soil structure.

The work along the Bypass has largely fulfilled expectation; it has provided a snapshot of the use of the landscape from early prehistoric times through to the present. There is slight evidence for low-key sporadic use of the landscape from early prehistoric times probably by mobile and semimobile groups. Unfortunately much of the early prehistoric evidence has probably been lost in the ploughsoil but is hinted at from a background scatter of utilised flint and the occasional feature. The Bypass work has demonstrated agricultural expansion from the middle Iron Age and Roman periods thus confirming the date of many of the enigmatic cropmarks already observed. With this comes an organisation of the landscape with defined droveways, paddocks, enclosures and small settlements. There are hints of a late Roman-Saxon transition with possible continuity of occupation around the same locale at Sites 8 and 9 at Water End (see Plate 6.1 for juxtaposition of these two sites) culminating in the establishment of a small settlement in the late Saxon–early medieval period at Site 9. In the medieval period the landscape appears to have been inhabited by small dispersed farms or isolated habitations.

RESEARCH AGENDAS

The Bypass project was undertaken as a consequence of developer-led archaeology and therefore the work was targeted at creating an archaeological record of sites likely to be affected by the development rather than being designed to address any specific research agendas. Despite this, the work has contributed significantly both to local issues involving aspects of rural archaeology for the later Iron Age, Roman and medieval periods and to some broader regional issues.

From the papers recently prepared for the Bedfordshire Research Frameworks (Oake *et al.* forthcoming) it is clear that one of the greatest contributions made by the recent archaeological work along the Great Barford Bypass is to start to fill a gap in knowledge about the type of settlement and activity to be expected on the boulder clay terrain at different points in time.

Although the Bypass project is a linear project and thus constrained by the line of the roadworks it nevertheless constitutes a slice of the landscape

and thus provides a starting point to address some of the broader research topics raised both at a national level (English Heritage 1997) and at a regional and local level.

At a national level the work has touched on a number of archaeological research priorities, namely the transition from Briton into Roman (*ibid*. PC4) and Empire into Kingdom (*ibid*. PC5) and rural settlement (*ibid*. T3). In addition it has contributed to an understanding of the chronology and evolution of a particular landscape. From this perspective the research framework for the Eastern Counties also highlighted a need for further work on the origin, nature and development of settlements on the claylands throughout the region (Brown and Glazebrook 2000, 46).

At a local level the work has also contributed to many issues raised in the draft papers for the Bedfordshire Research Frameworks project (Oake *et al*. forthcoming). The excavations have greatly expanded knowledge of the nature and chronology of rural settlement patterns and land use on the clay landscape to the east of Bedford. It has provided solid dating evidence for some of the cropmarks revealed in the 1996 and later aerial surveys. It has also demonstrated however that these are not revealing the full story and that for various reasons, possibly local landuse, past agricultural processes, different crop varieties or variations on the local soil/geological deposits, some areas remain obscured.

The work also highlighted other issues. Although a ceramic sequence has been established for the region there remain serious problems in the close dating of some ceramics, notably the shelly wares, which dominate the assemblages from the prehistoric through to the medieval period. Many vessels are relatively long-lived, and diagnostic forms or decorative styles relatively rare. The global fabric system applied to date can obscure local variations and chronology. Hopefully with the increased data available, alongside independent dating, this problem will be refined.

AN EVALUATION OF THE METHODOLOGY

The recent work along the Great Barford Bypass has achieved the stated objectives (cf aims and research frameworks, Chapter 1): it has defined the chronological parameters of each identified site from the archaeology and associated artefacts, and it has determined the nature of the archaeology and what it might represent in terms of economy, ritual or social activity, resource exploitation, and habitation. It has highlighted a moderately high density of occupation and activity on the clay plateau dating back to Neolithic times and has greatly contributed to our understanding of rural settlement from later prehistoric times onwards.

The nine sites identified for excavation were defined through a mixture of aerial photographic evidence, geophysical survey, fieldwalking and evaluation trenching. The methodology was effective in that, when it came to excavation the sites proved to be of the expected date. There were, however, some drawbacks, not least a dislocation between the completion of the evaluation and the commencement of excavation, and it seems appropriate to briefly review the methodology.

Bedfordshire County Council has been commissioning aerial photographic cover of the county at five to six-yearly intervals since the mid 1960s. The surveys have been done for a variety of reasons, not specifically archaeological, and have thus not necessarily been undertaken at the optimum time for revealing archaeology, but they have allowed a record to be built up of all cropmarks across the county. An exceptional dry summer in 1996, when such a survey was undertaken, resulted in a hitherto unsuspected density of cropmarks being revealed on the clay lands, allowing the identification of large numbers of new sites. Prior to this, coverage had been unrewarding particularly compared to the extensive cropmark complexes exposed on the valley gravels, reinforcing the notion that little would be expected archaeologically over much of the clay. It is now widely acknowledged amongst the aerial photographic community that clay terrain does have potential but as the crops reach their peak at a slightly different time compared to lighter soils such areas need to be flown at different times of the year (Palmer 2005). The Bedfordshire cropmarks were revealed mid July.

Thus both aerial photography and geophysical survey produced evidence of past activity in the form of cropmark and magnetic anomalies along the Bypass, and these have proved to be of value in determining general details of site morphology. However, some sites could not be adduced from this evidence alone and Site 4 was not exposed using this methodology. Sites 1 and 8 were only partially exposed; indeed the complexity of Site 8 could not have been anticipated from the various plots, and although the site was in pasture it had been ploughed in the past. Clearly there are other factors affecting the quality of the results.

The fieldwalking was perhaps the least successful in terms of highlighting sites with a moderate or low density of finds, particular for the pre-Roman period, although this might be expected for more fragile items such as pottery. Iron Age sites in particular are difficult to identify from fieldwalking; flint technologies have essentially finished and pottery is low fired and not very robust, especially in a ploughsoil environment. The evaluation trenches excavated by Northamptonshire Archaeology were, in general terms, more successful in identifying the position and chronology of the different sites subsequently investigated further, and identified settlement evidence belonging to the later Iron Age, Roman, Saxon and medieval periods (NA 2004a–d). In most cases the successive excavation work confirmed the evidence

produced during the evaluation work with some additions and much greater refinement. Of note is the identification of a small concentration of early Neolithic flintwork from near Site 2 (Chapman 2004) where subsequently a Neolithic pit was found. By contrast trenching in the area of Site 1 was thought to have located a Saxon sunken-featured building and Saxon pottery was found during fieldwalking. No evidence of this date was encountered during the stripping of Site 1.

The excavated areas revealed sufficient of the archaeology to determine the period and character of the occupation but failed in some instances to define the limits of occupation, (especially where this extended outside the limits of the road corridor) and to detect the finer details of chronology. The medieval evidence was in particular quite frustrating where incomplete structures were excavated and the ceramic assemblage only broadly datable. Further, in view of the fact that only 5% of the ditches and linear features were excavated and 25-50% of discrete large features, it is unlikely that any spatial patterning of finds would provide a reliable or accurate picture of activity at a detailed level. Whilst having a defined minimum amount of excavation is a useful measure for the contractor, and would in some situations, for example, fieldsystems, be more than sufficient, its application in a rigid manner in the field is not always the most useful tool in terms of understanding the archaeology in some circumstances. Whilst it is appreciated that a balance has to be struck between cost, time and return it does seem that rigidly applying the 5%, 25–50% sample can be too minimal in many instances to allow the interpretation of the use of the space defining these sites and to consider the lives of the people who occupied them. An element of more flexibility would perhaps be more beneficial, particularly where there is more complex archaeology, unexpected discoveries such as a cremation cemetery or a dearth of dating material. There needs to be an element of time allowed to change the methodology if appropriate. The presence of a dedicated archaeological employer's agent during the excavation might have allowed such flexibility.

For this particular project no watching brief was specified so it is impossible to evaluate what might have been missed, if anything. A similar project undertaken on the boulder clay plateau across Essex for the A120 roadscheme, a 19 km stretch, used fieldwalking, evaluation trenching (5%) and excavation, with a subsequent watching brief. In this case aerial photography and geophysical survey were not used. The sites were originally defined from the fieldwalking survey and of the 33 sites investigated archaeologically at least 11 produced no archaeology, the others showing a range spanning the early prehistoric period through to the post-medieval period. Unexpectedly an additional 17 sites were revealed during the watching brief, some as extensions of existing sites, but at least three unsuspected Roman sites were also found. It is possible that the A421 work by using more noninvasive work up front and having the advantage of the cropmark survey potentially targeted the archaeology more efficiently but this cannot unequivocally be proven. The fact that some detail was not revealed until the sites had been stripped and that there are clearly some cropmarks crossing the unexcavated areas might suggest there was still theoretically some potential in the excavated zones. A watching brief might have provided a strategy for investigating the field systems associated with the settlements or vice versa; it would have allowed the opportunity to look at the wider landscape rather than targeted sites within it. This might have proved particularly useful for earlier prehistoric features, which tend to be less dense and scattered across a less managed landscape.

CHRONOLOGY OF THE SETTLEMENTS

Apart from some sporadic evidence of earlier prehistoric activity (see Webley Chapter 2), it is not until the middle Iron Age that the transect across the boulder clay plateau investigated in this project started to see more systematic colonisation with settlements/evidence of land use at Sites 2, 4, 6 and 7 (see Fig. 13.1). Prior to this time there was probably a higher degree of population mobility leaving more ephemeral traces of their presence as seen in the isolated Neolithic and Bronze Age pits and wells seen at Sites 2 (High Barns Road) and 6 (Brewer's Hall Farm North). Settlements may well have been seasonal and it is perhaps no accident that Site 2 is one of the closest of the sites to the River Great Ouse. Work along the Bedford Southern Bypass demonstrated a higher intensity of activity on the river gravels in earlier prehistoric times, and the more permanent or semipermanent foci at this time could well have been here. Activity at Site 6 continued at an apparently reduced scale into the late Iron Age after which the location seems to have been abandoned. By contrast the occupation at both Sites 2 and 4 (Birchfield Road) showed a marked increase in intensity in the late Iron Age, that at Site 2 marked by a radical reorganisation of the layout. Site 7 (Brewer's Hall Farm West) had a modest level of occupation throughout the middle and late Iron Ages. If Sites 2, 6 and 7 lasted temporally into the Romano-British period they do not show any evidence of the adoption of Roman culture in terms of finds, although it is possible that Site 2 shifted south-east during the Roman period.

In the late Iron Age two new settlements appeared at Sites 1 (Roxton Road West) and 8 (Water End East), which together with Site 4 continued into the Romano-British period. There are thus no sites with evidence of occupation starting within the Romano-British period (ie after the mid 1st century). This pattern of development

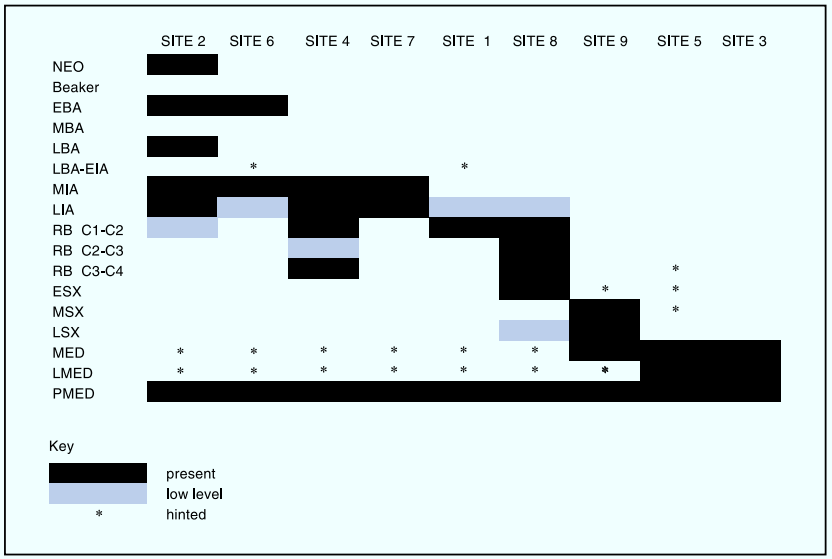

Fig. 13.1 Summary of main chronological phases across the nine sites investigated

very much mirrors that on the gravels at this time where most of the Romano-British sites have later Iron Age origins (Fulford 1992, 27).

Of the Bypass sites that continued into the Romano-British period, Site 1 lasted until the later 1st–early 2nd century, Site 4 appears to have been abandoned or to have undergone a shift in the later 2nd century but was subsequently reused for a late Roman cemetery, and Site 8 was occupied throughout the Roman period and possibly into the post-Roman period.

For settlement sites on the gravels whose origins lie in the early or middle Iron Age the trend appears to be that these did not continue beyond the 1st or rarely beyond the 2nd century (*ibid*). This pattern seems to be mirrored at Site 1 and perhaps to a lesser extent at Sites 2, 6 and 7. In this respect Site 4 deviates from the pattern to be expected on gravels but whether this is a reflection of its different setting or whether it is an atypical example is open to question. The overall pattern therefore, is a decline or consolidation of the settlement pattern and use of the landscape from the later 1st–2nd century onwards corresponding to a time when there would have been maximum demands on the land from the rapid development of the towns and the presence of the Roman army (Fulford 1992, 32). It has been suggested that population decline or migration to the towns, a reorganisation of the countryside into larger estate and changes in crop and stock regimes may all have been contributory factors.

In another situation Site 8 might have been expected to show some evidence of structural Romanisation before the end of the 2nd century. Whilst some CBM was recovered this was insufficient to have come from a roofed building (see Poole Chapter 8). However, a lack of local building material may have meant that any more such buildings would have been built of wood and thus less easy to detect and not necessarily lacking some level of sophistication. Certainly it seems unlikely that any such building existed within the road corridor.

The density of sites encountered on the A421 road section seems to be similar to that found on the 8 km section of road between Caxton and Hardwick (A428) which lies to the immediate east. Provisional results suggest that here the first clear evidence of colonisation similarly dates from the middle Iron Age. Roman activity was indicated on five sites although in two cases this was indicated only by parts of field systems, one undated, suggesting areas away from settlements. At least two of the Roman settlements seem to have Iron Age precursors and two settlements, A428 Sites 3 and 5, continued into the later Roman period (Albion Archaeology 2006b). Sites 3 and 5 on the A428 were also both characterised by a 'ladder system' of enclosures similar to those found at Site 4 on the A421. As with the A421 sites most of the house structures encountered in the Iron Age and early-mid Roman periods comprised roundhouses.

Whilst it would appear that out towards the east of Bedford and across to Cambridgeshire the first serious impact on clearing and settling the landscape dates from the middle Iron Age, this has not necessarily proven to be the case elsewhere within the county of Bedfordshire, and indeed further afield. Within the county two other sites have recently been investigated on clay geology: an early-middle Iron Age enclosed settlement and field system at Topler's Hill in the south-east part of the county (Luke 2004a) and to the NNW of Bedford, an unenclosed settlement at Yarl's Wood, Clapham, probably of later Bronze Age–early Iron Age date, although this is speculative in the absence of datable finds (Luke 2004b). At Fairfield Park, Stotfold, there is clearer evidence of late Bronze Age and early Iron Age occupation but this is on boulder clay and gravel overlying chalk (Webley *et al*. forthcoming). These sites, although geographically separate, intimate some more focussed colonisation of boulder clay upland terrain from the later Bronze Age/early Iron Age, although at Yarl's Wood, if correctly dated, the site was possibly seasonal. None of the sites appears to have survived into the later Iron Age nor was there evidence of middle Iron Age occupation at Yarl's Wood. The significant difference between Topler's Hill and Fairfield Park and the Great Barford sites is that the sites from the latter are on boulder clay overlying Oxford clay whereas elsewhere the clay overlies more permeable geology, and this might be a factor affecting early settlement along with availability of water and other considerations.

Looking further afield, recent work along the A120 in Essex between Stansted and Braintree and at Stansted Airport, both located on the boulder clay plateau, see an earlier use of this type of terrain, spectacularly marked by the discovery of a substantial middle Bronze Age settlement comprising nine roundhouses and a cemetery complex in the valley of the Pincey Brook, Stansted (Framework Archaeology 2004). Various middle and late Bronze Age pits and ditches excavated along the A120 suggest the establishment of prehistoric farming communities, developing a pattern of settlement that continued through to the Iron Age. At this point linear features also appear suggesting an opening up, defining and management of the landscape.

Off the clay geology, other sites in Bedfordshire dating from the early Iron Age include Haynes Park, where there was a shift in location in the later Iron Age-early Roman period (Luke and Shotliff 2004) and Hinksley Road, Flitwick, where a site dating from the early-mid Iron Age was reoccupied in the Roman period, but apparently abandoned in the later Iron Age (Luke 1999). On the west side of the county, excavations carried out at Salford located on gravels overlying Oxford clay revealed an extensive occupation also dating from the later Bronze Age/early Iron Age into the middle Iron Age. The settlement appears to have declined by the late Iron Age, which was marked by four cremation burials but no contemporary settlement. The land continued to be farmed in the Roman period, probably as pasture, but the low level of finds suggests any settlement at this time was some distance away (Dawson 2005).

Sites investigated to the immediate south of Bedford during the construction of the Bedford Southern Bypass include Eastcotts, characterised by a linear arrangement of enclosures dating from the later Iron Age to later Roman period, and Pear Tree Farm, also occupied throughout the Roman period but with later Iron Age origins.

Thus it seems in general terms that the patterns of landuse, settlement shift and reorganisation noted elsewhere between the middle Iron Age and late Romano-British period pertain as much to the clayland sites as the gravel and chalk upland sites not only in Bedford but in the south and east generally (cf Fulford 1992, 29).

At Site 8 it would appear that there was continuity of occupation beyond the end of the Roman period, with small amounts of early Saxon pottery being recovered from the upper fills of the Roman enclosure ditches. This pottery is amongst the earliest documented from Bedfordshire (see Blinkhorn, Chapter 8). Whether this signals a continuity of use of the land for farming purposes or whether people continued to live at this location is difficult to determine from the evidence (see Hardy and Leech, Chapter 7). A scatter of Saxon pottery was also reported from the evaluation from the eastern end of the bypass around Site 1 but nothing further was found during the subsequent excavation. Wingfield (1995, 32) notes that finds of mid Saxon pottery from the ploughsoil often bear no relationship to the underlying archaeology. A late Saxon pit also found at Site 8 and the establishment of a late Saxon settlement at the immediately adjacent Site 9 might strongly suggest continued occupation of this location throughout the entire Saxon period. To date few, if any, other sites in the county have provided any evidence for post-Roman occupation, although a number of Roman villa sites have graves cut into them, for example Newnham Marina and Totternhoe (Dawson 2004, 82). At Kempston the structural evidence suggested that the settlement continued into the 5th century but this is not supported by any artefactural finds (*ibid*.). There is however a 6th-century cemetery at this location. The three cemeteries at Toddington were probably associated with settlements (Edgeworth forthcoming). Finds from Farndish in north-west Bedfordshire and Sandy also hint at some possible post-Roman continuity (Wingfield 1995, 34) and several sites have produced scatters of 5th to 6th-century pottery, notably Harrold (Eagles and Evison 1970) and Puddlehill (Matthews and Hawkes 1985).

Slightly further afield at Wavendon Gate, Bucks, early Saxon pottery was recovered from the upper fills of the Romano-British ditches in a similar situation to that at Site 8, but no definite structures of this date were found other than some speculative

sunken-featured buildings (Williams *et al*. 1996, 94). If the 6th-century date suggested for the pottery is correct it suggests a resettlement of the locality in the 6th century rather than continuity. This phenomenon seems to be a recurrent one suggesting that new settlements were located near abandoned Roman settlements, possibly more for continuity in using and managing the land and to use the derelict buildings as a quarry of building material, rather than because of continuity of settlement. A similar situation may have prevailed in the area of Sites 8 and 9 culminating in the short-lived post-built settlement in the later Saxon–early medieval period.

Interestingly none of the sites occupied in the prehistoric and Roman period were reoccupied in the medieval period, nearly all of them showing evidence for ridge and furrow cultivation. The two medieval sites encountered in the Bypass work, located at Sites 3 (East End) and 5 (Barford Road) both appear at *de novo* locations and both had disappeared before the 14th century.

Edgeworth (forthcoming) suggests that the modern pattern of nucleated villages and dispersed settlement in Bedfordshire was largely established by the 9th–11th centuries. In this context the rural settlements at Sites 3, 5 and 9 could be seen as relatively short-lived components of this developing settlement pattern. In any case, this area of Bedfordshire is close to a zone characterised in part by late-surviving woodland, by areas of dispersed settlement and by relative concentrations of 'Green' and 'End' names (Roberts and Wrathmell 2002, 56), of which Salph End (see Hardy and Leech, Chapter 7) is representative, and the existence of settlement components away from the village nuclei may be expected.

ENVIRONMENT AND ECONOMIC BASIS

Landscape

The establishment of fields, paddocks and small settlements suggest that by the middle Iron Age substantial clearings had been made in what was probably a wooded landscape. The taxa revealed from the charcoal analysis showed a number of light-demanding species to be present suggesting marginal woodland or hedgerows. Gradually these cleared areas would have expanded out, and probably by the Roman period quite substantial areas would have been open. Archaeological work on the A428 east of Childerley Gate (Site 5) identified several tree throws around the periphery of the Roman enclosures (Albion Archaeology 2006b).

Oak features quite prominently, both in structural contexts and as fuel wood in cremations, in the later prehistoric period suggesting the management of woodland resources. Oak along with hazel, maple and ash, also all documented at the Great Barford sites, lend themselves to coppicing and pollarding and would be suited to such management regimes. Mollusc samples from a Site 2 ditch are dominated by dryland terrestrial species accompanied by some types characteristic of damper conditions, either from the feature itself, or adjacent scrub or hedge line vegetation.

Similar wood, plant and mollusc types from Roman samples again suggest the presence of an open landscape. Oak and ash feature as fuel wood both in domestic and cremation contexts. Various hedgerow species suggest these formed adjacent field boundaries, and the mixture of wood species found in Romano-British contexts suggests unsystematic collection of available material (see Challinor, Chapter 11), a pattern observed elsewhere.

Mollusc samples from Site 4 showed an increase of species preferring damper conditions, which could be a reflection of the particular sample, or may suggest a decline in maintenance leading towards the apparent abandonment of the site in the early Roman period. By contrast Site 8 showed a dominance of open dryland species.

On the basis of the charcoal analysed, the environment in the Anglo-Saxon period appears to be consistent with the earlier periods with oak and marginal/hedgerow species present. Ash was conspicuously absent, possibly suggesting a different character to the woodland. Ash prefers marginal less dense areas of woodland so possibly there had been some woodland regeneration since the Roman period.

Less material was available from the medieval sites, and the charcoal examined was reflective of domestic fuel, mainly from hedgerow collection. No structural wood was present even though it was undoubtedly used for building purposes.

The quantity of environmental evidence recovered from excavations across Bedfordshire has been generally very limited. From the archaeological evidence it is clear that certain areas of the landscape were cleared from the Neolithic period onwards, in particular the well-drained terraces of the River Great Ouse (Clark and Dawson 1995, 60) where numerous complexes are visible from cropmarks and attested by excavation. The restricted fieldsystems around some Iron Age and Romano-British sites might indicate the presence of managed woodland, as appears to be the case with the Bypass sites. At Odell the environmental evidence suggested that much of the same open grazed landscape of the Romano-British period continued to be exploited in the Saxon period (Wingfield 1995, 40). Pollen analysis at the Iron Age site at Salford indicated an open landscape comprising pasture and open soils (Wiltshire 2005, 154).

Agriculture

Although extensive sampling was undertaken along the Bypass sites the recovered environmental remains were in most cases not particularly rich in

cereal. This might suggest that in most, if not all, cases the grain was brought in for domestic or animal use rather than forming part of the agricultural regime for these particular settlements. In some cases the samples appear already cleaned, in others there is evidence for on-site processing but again largely on a domestic scale.

Charred plant remains indicated that in the middle Iron Age the main cereals grown were spelt wheat and barley. The quantities suggest that only limited crop processing activities were taking place at this time, probably at a domestic level, and that the sites should be seen as consumers rather than arable producers. The late Iron Age samples produced examples of both spelt and bread wheat and barley. The associated weed seeds in the charred remains suggest a number of soil types were under cultivation and thus the increased likelihood that the cereals were being brought into the site from various sources (see Druce, Chapter 11). The possibility of a deposit of cereal crop-processing waste from Site 2, probably part of a deliberate deposit (see Webley, Chapter 2), suggests the material was brought in as unprocessed grain. At least one Millstone Grit quernstone came from a middle Iron Age context with a possible second example from a later Iron Age context on Site 2.

The same range of crops appears in the early Roman period accompanied by some rye, limited wild oats and a single pea. Dumps of material recovered from one of the pottery kilns on Site 8 suggest it may have also been used to dry corn. Interestingly, many of the accompanying weed seeds are those associated with declining soil fertility. In the later Roman period the dominant cereal crop is again spelt wheat accompanied by some barley and oats. Eight fragments of quern were recovered, both saddle and rotary querns, mostly from Site 8. Of particular note is a large millstone from Site 1, which must have been mechanically operated and is thus more likely to have been producing flour for commercial purposes.

In the Saxon period bread wheat became the more dominant species although spelt was still present. It is likely that barley and rye were also being grown and processed. An increased presence of weeds associated with heavy clay soils were noted, which may be a sign of deteriorating soil conditions. Barley was well represented in samples from the later Saxon settlement on Site 9. Again it is likely that the cereal was present as processed grain for domestic consumption.

A similar picture prevails from the medieval evidence, where the charred plant remains indicated processed samples containing largely bread wheat with a little barley, oats and rye. A number of beans and pea seeds from Site 3 suggest that these formed a more important crop. Vetch was abundant in one sample from Site 3 suggesting deliberate collection, perhaps for fodder.

The pattern of preferred cereal crops seen on the clayland sites broadly mirrors the trends identified elsewhere: spelt wheat and bread wheat form the dominant crops in the Iron Age and Roman periods with a shift to bread wheat in the Saxon and possibly medieval periods. Barley and rye become more important over time and leguminous crops seem to become more important in the Saxon and later periods. The persistence of some of the weed crops across the periods suggests continuity on the type of land being cultivated. Associated weed seeds from Iron Age and Roman gravel sites show that more effort was being expended on growing crops on damp and heavy ground at this time (Jones 1989).

The preponderance of enclosed land, droveways and fenced paddocks from the sites of all periods suggests that animal husbandry probably formed a more important component of these settlements than crop growing. In addition the quite close proximity of some of the sites to the river might suggest the exploitation of different environmental zones on a seasonal basis. Surrounding woodland would have also provided pannage and grazing.

From the point at which the landscape became more managed in the middle Iron Age the animal bone assemblages suggest a dominance of sheep/goat followed by cattle and then pig. Horse and red deer are also present. A similar pattern is also seen in the later Iron Age assemblages from Site 4. The presence of neonatal remains suggests that both sheep/goat and cattle were being bred at Site 2 where the largest assemblage was recovered. In terms of meat weight, if the animal data can be taken as a direct reflection of the diet, beef would have been the most important component followed by pig and then sheep/goat. This does not take into account the importance of secondary products. Most Iron Age sites in the Ouse Valley have produced very small animal bone assemblages which tend to show a predominance of cattle followed by sheep/goat, pig and horse, as exemplified by Willington (Dawson 1996), Salford, (Roberts 2005, 146) and possibly Stagsden (Roberts 2000).

The same pattern is perpetuated in the Roman period, suggesting a continuity of Iron Age practices. At Site 8 cattle and pig became more common towards the later Roman period, a phenomenon noted on Roman sites elsewhere (see Holmes, Chapter 10). The evidence would suggest that Site 8 was a producer site, marked by a higher incidence of neonatal deaths and marked culls. If animals were being taken off site on the hoof for market there would clearly be a bias in the bone data, and this may explain why only a small proportion of the animal population survived into maturity. Holmes (Chapter 10) suggests that the animal bone profiles for Site 4 imply that secondary products were of more importance than on-site breeding.

The emphasis on domestic animals appears to have changed in the later Saxon period in which cattle and pig were present in almost equal amounts at around 30% of the assemblage and sheep/goats

made up only *c* 10%. Horse is particularly well represented. In keeping with the suggested high status of the settlement complex at Site 9 (see Hardy and Leech, Chapter 7), the animal bone indicates consumption rather than breeding. The horse might be seen as another indicator of status and the presence of some wild species such as roe deer and mallard could indicate hunting.

Animal bone from early-middle Saxon sites such as Odell, Beds and Pennyland, Bucks suggests that cattle predominate (Wingfield 1995, 35). At Puddlehill the occupants appear to have been primarily beef eaters whilst sheep and pigs were kept to supplement the diet and provide other commodities (Matthews and Hawkes 1985, 109).

As Site 9 does not appear to be a production site it is not possible to ascertain whether the Romano-British agricultural practices continued into the post-Roman period. Unfortunately the animal bone assemblages from the medieval sites were very poor, possibly again a reflection that they were not involved in livestock management. Cattle and sheep/goat dominate the few bones present.

The continuity from the Iron Age into the Roman period and the regional differences between the Bypass sites and other contemporary sites might indicate that agricultural regimes were as much conditioned by local geographical features, the environment and the proximity or otherwise of markets than by who was living where and their cultural background.

Industrial activity/craft specialisation

Evidence for on-site industrial activities or crafts is fairly limited. The bark chippings from a late Iron Age context on Site 4 (see Allen, Chapter 11) are a clear indication of wood working, an activity generally accepted but rarely identified, unless wooden or bark artefacts or structural components are present from waterlogged deposits. An absence or low level of open forms in the Roman and later pottery assemblages, such as platters or bowls, suggests that such forms were present in wood, bark, reed or basketry versions.

Other artefacts from the Iron Age and Roman levels suggest some bone/antler/horn working, with examples of an antler point and a worked rib, both from Roman levels. Two stone spindlewhorls, pottery perforated discs, perforated metapodials probably used as bobbins and a piece of yellow ochre possibly for dyeing, could indicate textile manufacture in the Iron Age and Roman periods. A pin beater and antler point from Sites 5 and 9 respectively might also indicate some weaving or other textile work in the post-Roman period. Small ovens and sparse slag suggest small-scale metal-working on Sites 2 (Iron Age) and Site 8 (Romano-British; see Keys Chapter 8). Evidence from the evaluation suggested some copper-alloy working was also carried out at Site 2. Most of these activities are likely to have been on a domestic level.

The discovery of pottery kilns on Site 8 indicates pottery production, but again probably for local consumption rather than for distribution beyond the immediate community. Small-scale pottery production is very in keeping with the pattern of rural production seen across the region in the early Roman period. Similar kilns have been found, for example at Willington (A Slowikowski pers. comm.), between Cardington and Harrowdene (White 1980), Biddenham Loop (Luke forthcoming), Stagsden (Dawson 2000b, 37) and further away at Caldecotte (Marney 1989) and Wavendon, Bucks (Williams *et al*. 1996).

Further localised activity is seen in the medieval period with a possible smithy site at Site 5. Other finds are sparse and largely utilitarian. A small antler awl from Site 9 may indicate leather working.

Other craft activities such as coppicing for hurdles, fencing poles and building construction (wattles) may be inferred. Charcoal burning may also have been a significant industry given the managed woodland in the locality and is hinted at on Site 9. Leather was probably made and wool used to make textiles. Indeed some of the four-post structures seen on the Iron Age, Roman and later sites could be for stretching skins.

TRADE, EXCHANGE, CONTACT AND STATUS

In the absence of other evidence the status of a settlement is often inferred from the quality and quantity of imported goods and commodities present or the size, form and layout of the structures on the site. For the later prehistoric, Roman and medieval periods the finds assemblages are overwhelmingly dominated by pottery with only a modest collection of other finds. Coinage although present is not plentiful with three late Iron Age issues, 42 Roman coins—largely late in date and nearly all from Site 8—and a single medieval silver penny. This suggests that there were few if any commercial transactions taking place in the immediate vicinity of the investigated areas. The slightly unusual pattern of coin loss, with a relatively high proportion of 3rd-century coins compared to 4th-century issues, is mirrored locally by the sites at Ruxox and Kempston and is thought to reflect a slightly higher status at this point in time (see Booth, Chapter 8).

Although there is little evidence, a network of tracks, droveways and paths would have linked the region. The River Great Ouse was navigable up as far as Bedford and this would have undoubtedly acted as an important routeway bringing commodities from the east. The presence of oyster shell in both Roman and Saxon deposits indicates some coastal contact either direct or via a local market. Unfortunately insufficient is known of the settlement patterns to know where such markets might have been. In the Roman period, the most obvious candidate is Sandy located on the Roman road linking Baldock with Godmanchester and close to a

road identified by St Joseph as running west towards Bedford (Simco 1984, 65). Unfortunately the extent and nature of the settlement at Sandy has not been established but the consensus is that it was probably a small roadside settlement (Dawson 1995, 176), but whether this was large enough to act as a local market for the region or whether this role was performed elsewhere cannot be deduced on present evidence. In the later Saxon and medieval periods Bedford and St Neots undoubtedly formed significant foci for the region.

Some evidence of mobility of raw materials or finished artefacts is evident from the earlier prehistoric period in the flint used to make artefacts. Although most flint is probably locally derived from the glacial clay and river gravels a small proportion of chalk-derived flint must have come from at least 20 km away (see Devaney, Chapter 8).

Evidence of trade or contact in the Iron Age is provided by worked stone and possibly some of the pottery. In general most prehistoric pottery is locally made. As most of the inclusions in pot manufactured in areas of sedimentary geology are fairly ubiquitous across much of southern and eastern Britain identifying traded pottery on the basis of its fabric alone is generally quite difficult unless accompanied by some distinctive typological trait or form of decoration. The Great Barford prehistoric pottery, generally tempered with flint, shell or grog, all of which is potentially of local origin, fits this trend of local production. One possible fabric has been highlighted as unusual for the region and may be an exception (see Webley Chapter 8). Specialised or fineware vessels are generally rare, most of the pottery being typical domestic utilitarian coarsewares. There are no continental imported wares in the pre-Roman assemblages, suggesting that the inhabitants did not adopt new patterns of drink and consumption associated with the import of new food commodities and changes in food preparation seen at some of the higher status sites across the south and east.

The worked stone from the middle Iron Age includes a Millstone Grit quern fragment and a Greensand slab, possibly a postpad. The source of the former is generally seen as from Derbyshire unless produced from a glacial erratic; the latter is probably local, possibly from the Greensand Ridge which runs roughly parallel with and to the south of the Bypass.

In the Roman period the pottery assemblage became more diverse but the quantity of continental imports remained low. Finewares are limited to samian, a single sherd of Central Gaulish Pompeian redware, Central Gaulish colour-coated ware, Cologne whiteware and Rhenish ware, overall less than 1% of the total recovered assemblage. Significantly, hardly any amphorae were present; the Bypass inhabitants were not obviously adopting Roman cooking methods or tastes for olive oil, garum or other exotic foodstuffs although clearly using mortaria, an adopted Roman form, for some purposes. In the later 1st–2nd centuries the emphasis appears to have been on local products augmented by a few regional imports, for example Verulamium whitewares, Nene Valley greyware and Colchester colour-coated ware. The domestic assemblages from all the sites are dominated by jars, a feature more typical of rural sites. In the later 2nd to 4th centuries the settlements were obtaining a greater range of regional imports, such as products from the Oxfordshire industries, Dorset black burnished ware, Mancetter-Hartshill mortaria, Hadham ware and, slightly nearer to home, various wares from the Nene Valley industries. This would suggest access to a local market. The general pattern of fabrics and forms is typical of that expected from fairly low status rural sites (see Stansbie, Chapter 8).

The worked stone, although limited in quantity, is remarkably diverse and does demonstrate wide ranging contacts, both local and further afield in terms of sources for the raw materials. Products were coming from the Wye Valley, Herefordshire, Hertfordshire, Lodsworth, Sussex, Kent and Derbyshire (see Shaffrey, Chapter 8). The stone and nonlocal pottery do not appear to complement one another in terms of source suggesting that different marketing mechanisms were at work. Unlike the pottery there are no natural alternatives for quern manufacture in the area. Shaffrey (Chapter 8) has highlighted a particular diverse range of querns from Odell, and it is possible that this was acting as a redistribution/marketing outlet for such items.

The small quantity of glass found is also likely to have been imported into the site along with many of the finished metal and bone dress items, such as pins, finger rings and brooches.

The Saxon pottery assemblage is more difficult to evaluate as the provenance of many of the wares is uncertain but the general impression is that material was coming from a variety of possible local and regional sources. The paucity of other finds from the Saxon deposits precludes much further comment on likely trade, but parallels for the 9th-century strap end with sites in Yorkshire (see Howard Davies, Chapter 8) might suggest a specific workshop producing such items with a fairly wide distribution pattern.

The medieval pottery was probably coming into the sites from various regional sources, such as Potterspury and Lyveden-Stanion, Northants, Brill/Boarstall, Bucks, and Stamford, Lincs, indicating likely procurement from a local market. A higher proportion of tablewares such as glazed jugs often indicate a higher status medieval assemblage. Site 5 in its earlier phase had a marked proportion of such tablewares, which disappear in the later stage perhaps associated with a change in function of the building. It also produced a high quality buckle, which is not only an established type but also could be reflective of the status of the site.

CONCLUSION

The work carried out on the Bypass has been very successful in reinforcing the changing perceptions regarding archaeology on clay terrain, and it is now clear that the boulder clay plateau of Bedfordshire has considerable potential archaeologically. The ability to tease out this potential has been challenging, both in the field because of the general problems of digging on clay soils in all weather conditions, and in the interpretation of the archaeology which has been heavily truncated both by medieval and modern agricultural practices, but also in the post-excavation phase trying to piece together the evidence to make a coherent story. Before this project, knowledge about rural settlement on clay in this region was scanty. Hopefully the report goes some way in showing that not only do the claylands have significant archaeological potential but that the inhabitants and settlers who lived and worked there may not have been materially rich, but were also not totally impoverished. The land supported a succession of fairly self-sufficient, and clearly at times successful, communities.

Bibliography

Abrahamsen, N, Jacobsen, B H, Hoppelt, U, Lasson, P de, Smekalova, T, and Voss, A, 2003 Archaeomagnetic investigations of Iron Age slags in Denmark, *Archaeol Prospection* **10**, 91–100

Albion Archaeology, 2006a Great Barford Flood Attenuation Scheme, Bedfordshire. Archaeological field evaluation, unpubl. report, Albion Archaeology

Albion Archaeology, 2006b A428 Caxton to Hardwick Improvement Scheme, Cambridgeshire: assessment of potential and updated project design, unpubl. report, Albion Archaeology

Alexander, M, Dodwell, N, and Evans, C, 2004 A Roman cemetery in Jesus Lane, Cambridge, *Proc Cambridge Antiq Soc* 93, 67–94

Alexandersen, V, 1988 Tændernes betydning i skeletforskningen, in *Gravskick och gravdata* (eds E Iregren, K Jennbert and L Larsson), Lund, 23–36

Allason-Jones, L, 1989 *Women in Roman Britain*, London

Allen, L, and Webley, L, forthcoming Worked bone, in L Webley *et al*. forthcoming

Allen, M, 2005 The interpretation of single-finds of English coins, 1279–1544, *British Numis J* 75, 50–62

Amorosi, T, 1989 *A postcranial guide to domestic neonatal and juvenile mammals*, BAR Int Ser **533**, Oxford

Anderson, T, 2001 Two decapitations from Roman Towcester, *Internat J Osteoarchaeology* 11, 400–5

Anon, 2006 Murder at Sedgeford Grange, *Curr Archaeol* 206, 6–7

Arcini, C, 1999 *Health and disease in early Lund*, Lund

Arcini, C, 2003 *Åderförkalkning och portvinstår*, Lund

Armitage, P, 1976 A system for classification and description of the horn cores of cattle from archaeological sites, *J Archaeol Sci* **3**, 329–48

Ashwin, T, 1999 Studying Iron Age settlement in Norfolk, in Davies and Williamson (eds) 1999, 100–24

Atkins, R, and Mudd, A, 2003 An Iron Age and Romano-British settlement at Prickwillow Road, Ely, Cambridgeshire: excavations 1999–2000, *Proc Cambridge Antiq Soc* 92, 5–55

Aufderheide, A C, and Rodríguez-Martín, C, 1998 *Cambridge encyclopaedia of palaeopathology*, Cambridge

Barber, B, and Bowsher, D, 2000 *The eastern cemetery of Roman London: excavations 1983–1990*, Museum of London Monograph **4**

Barker, G, 1985 *Prehistoric farming in Europe*, Cambridge

Bartosiewicz, L, Van Neer, W, and Lentacker, A, 1997 *Draught cattle: their osteological identification and history*, Musee Royal de L'Afrique Centrale Tervuren, Belgique, Annales Sciences Zoologiques **281**

Bass, W M, 1995 *Human osteology*, Columbia (Missouri)

Bayley, J, 2001 Human skeletal material, in *Excavations at Billingborough, Lincolnshire, 1975–8: a Bronze Age-Iron Age settlement and salt-working site* (P Chowne, R M J Cleal, A P Fitzpatrick and P Andrews), EAA Report **94**, 73–8

BCAS, 1992 *A428* Great Barford Bypass, archaeological assessment of the preferred route, Stage 1 Initial Appraisal Desk Study, unpubl. report, Bedfordshire County Archaeology Service

BCCHES, 2001 Brief for the archaeological field evaluation of the line of the Great Barford Bypass, Bedfordshire, unpubl. report, Bedfordshire County Council

Berry, A C, and Berry, A J, 1967 Epigenetic variation in the human cranium, *J Anatomy* 101, 361–9

Biddulph, E, 2005 Last orders: choosing pottery for funerals in Roman Essex, *Oxford J Archaeol* **24**, 23–45

Biddulph, E, 2007 *The Roman cemetery at Pepper Hill, Southfleet, Kent*, Channel Tunnel Rail Link Integrated Site Report Series, Archaeological Data Service

Bilikowski, K, 1980 Anglo-Saxon settlement in Bedfordshire, *Bedfordshire Archaeol J* **14**, 25–38

Blinkhorn, P, 2005 The Saxon and medieval pottery, in Maull and Chapman 2005, 3–70

Blinkhorn, P, forthcoming The post-Roman pottery, in *West Cotton: a study of medieval settlement dynamics. Excavations at West Cotton, Raunds, Northamptonshire 1985–89* (A Chapman)

Blinkhorn, P, and Jackson, D, 2003 The pottery, in A Thomas and D Enright 2003, 32–42

Booth, P, 2004 Oxford Archaeology Roman pottery recording system: an introduction, unpubl. report, Oxford Archaeology

Boycott, A E, 1934 The habitats of the land mollusca in Britain, *J Ecology* **22**, 1–38

Boycott, A E, 1936 The habitats of fresh-water mollusca in Britain, *J Animal Ecology* 5, 116–86

Boylston, A, Knüsel, C J, Roberts, C A, and Dawson, M, 2000 Investigation of a Romano-British rural ritual in Bedford, England, *J Archaeol Sci* **27**, 241–54

Boylston, A, and Roberts, C, 2004 The Roman inhumations, in M Dawson 2004, 322–50

Brinch, O, and Møller-Christensen, V, 1949 On comparative investigations into the occurrence of dental caries in archaeological skulls, *Odontologisk Tidskrift* 4, 357–80

Britnell, W J, 2000 Grooved and polished sheep/goat metapodials, in *Cadbury Castle, Somerset. The later prehistoric and early historic archaeology* (J Barrett, P W Freeman and A Woodward), 186, London

Broadbent, B, H, Broadbent B M and Golden W H, 1975 *Bolton standards of dentofacial developmental growth*, St Louis

Bronk Ramsey, C, 1995 Radiocarbon calibration and analysis of stratigraphy: the OxCal program, *Radiocarbon* **37**, 425–30

Bronk Ramsey, C, 2001 Development of the radiocarbon program OxCal, *Radiocarbon* **43**, 355–63

Brooks, S, and Suchey, J M, 1990 Skeletal age determination based on the os pubis: a comparison of the Acsádi-Nemeskéri and Suchey-Brooks methods, *Human Evolution* 5, 227–38

Brothwell, D, 1981 *Digging up bones*, Oxford

Brothwell, D, and Zakrzewski, S, 2004 Metric and non-metric studies of archaeological human bone, *Guidelines to the standards for recording human remains*, IFA Paper **7**, Reading

Brown, A, 1994 A Romano-British shell-gritted pottery and tile manufacturing site at Harrold, Bedfordshire, *Bedfordshire Archaeol* 21, 19–107

Brown, N, 1988 A late Bronze Age settlement on the boulder clay plateau: excavations at Broads Green 1986, *Essex Archaeol Hist* **19**, 7–14

Brown, N, and Glazebrook, J, 2000 (eds) *Research and archaeology: a framework for the Eastern Counties, 2. Research agenda and strategy*, East Anglian Archaeology Occ Paper **8**

Brück, J, l999 What's in a settlement? Domestic practice and residential mobility in early Bronze Age southern England, in *Making places in the prehistoric world* (eds J Brück and M Goodman), 52–75, London

Brudenell, M, forthcoming The prehistoric pottery, in Cooper and Edmonds forthcoming

Bryant, S, 2000 The Iron Age, in Brown and Glazebrook 2000, 14–18

Carlyle, S, 2006 Bedford, Cambridge Road, *South Midlands Archaeol* 36, 4–5

Carr, G and Knüsel, C, 1997 The ritual framework of excarnation by exposure as the mortuary practice of the early and middle Iron Ages of central southern Britain, in Gwilt and Haselgrove (eds) 1997, 167–73

Carruthers, W, forthcoming a The charred and mineralised plant remains, unpubl. report, Stansted Airport, Southgate-BAA SG 03

Carruthers, W, forthcoming b The charred, mineralised and waterlogged plant remains, in *From hunter gatherers to huntsmen—a history of the Stansted landscape* (N Cooke, F Brown and C Phillpotts), Framework Archaeology

Cartwright, C R, 2004 The wood charcoal assemblage, in M Dawson 2004, 285–90

Case, H and Sturdy, D, 1960 Notes and news, *Oxoniensia* 25, 131–6

Catherall, P D, Barnett, M, and McClean, H, 1984 *The Southern Feeder: the archaeology of a gas pipeline*, London

CgMs, 2004 *A421* Great Barford Bypass: brief for archaeological excavation, recording, analysis and publication, unpubl. report, CgMs

Challinor, D, 2003 The wood charcoal, in Prehistoric settlement and Roman pottery production at Blackbird Leys, Oxford, (P Booth and G Edgeley-Long), *Oxoniensia* **68**, 201–62

Challinor, D, forthcoming a The wood charcoal, in *Opening the wood, marking the land: the Mesolithic to early Bronze Age* (T Allen and A Barclay), Oxford

Challinor, D, forthcoming b *The wood charcoal from the Channel Tunnel Rail Link*, Oxford Archaeology

Challinor, D, forthcoming c The wood charcoal, in Timby *at al*. forthcoming

Challis, C E, 1992 A *new history of the Royal Mint*, Cambridge

Chapman, A, 2001 Excavation of an Iron Age settlement and a middle Saxon cemetery at Great Houghton, Northampton, 1996, *Northamptonshire Archaeol* 29, 1–41

Chapman, A, 2004, The worked flint, in NA 2004a

Clark, A J, Tarling, D H, and Noel, M, 1988 Developments in archaeomagnetic dating in Britain, *J Archaeol Sci* **15**, 645–67

Clark, J, 1995 Horseshoes, in *The medieval horse and its equipment c.1150–c.1450* (ed. J Clark), Medieval Finds from Excavations in London **5**, 75–123, London

Clark, R, and Dawson, M, 1995 The prehistoric and Romano-British landscape in Bedfordshire: recent fieldwork, in Holgate (ed.) 1995, 56–67

Clark, R, and Hutchins, E, 1996 Animal bone, in Dawson 1996, 30–1

Clarke, H, and Carter, A, 1977 *Excavations in King's Lynn 1963–1970*, Soc Med Archaeol Monogr Ser **7**, London

Clay, P, 2002 *The prehistory of the East Midlands claylands*, Leicester

Cohen, A, and Serjeantson, D, 1986 *A manual for the identification of bird bones from archaeological sites*, London

Cool, H E M, 1998 Personal objects other than brooches, in *Roman Castleford: Excavations 1974–85. Volume I, the small finds* (H E M Cool and C Philo), Yorkshire Archaeology **4**, 57–61, Wakefield

Cooper, A, and Edmonds, M, forthcoming *Past and present: land and time on the Broom gravels*, Cambridge

Cowgill, J, de Neergard, M, and Griffifths, N, 1987 *Knives and scabbards*, Medieval finds from excavations in London **1**, London

Coy, J, 1981 Animal husbandry and faunal exploitation in Hampshire, in *The archaeology of Hampshire* (eds S J Shennan and R T Schadla-Hall), Hampshire Fld Club Archaeol Soc Monogr **1**

Coy, J, 1983 Birds as food in prehistoric and historic Wessex, in *Animals and archaeology: 2. Shell middens, fishes and birds* (eds C Grigson and J Clutton-Brock), BAR Internat Ser **183**, 181–95, Oxford

Coy, J, 1989 Animal bones, in Excavation of prehistoric, Roman and Saxon deposits at Wraysbury, Berkshire (G G Astill and S J Lobb), *Archaeol J* 146, 111–24

Crabtree, P, 1985 The faunal remains, in *West Stow: the Anglo-Saxon village, vol. 1* (S West), E Anglian Archaeol **24**, 85–96

Crabtree, P, 1994 Animal exploitation in East Anglian villages, in *Environment and economy in Anglo-Saxon England* (ed. J Rackham), 40–54, York

Cramp, K, and Lamdin-Whymark, H, forthcoming Flint, in *Fen hinterland excavations at Parnwell, Peterborough: prehistoric, Roman and Saxon activity* (L Webley)

Cra'ster, M, 1969 The New Addenbrooke's Iron Age site, Long Road, Cambridge, *Proc Cambridge Antiq Soc* **62**, 21–8

Creighton, J, 2000 *Coins and power in late Iron Age Britain*, Cambridge

Critchley, S, 2004 Geological overview, in NA 2004a

Crummy, N, 1983 *The Roman small finds from excavations in Colchester 1971–9*, Colchester Archaeol Rep **2**, Colchester

Crummy, N, Crummy, P, and Crossan, C, 1993 *Excavations of Roman and later cemeteries, churches and monastic sites in Colchester, 1971–88*, Colchester Archaeol Rep **9**, Colchester

Crummy, N, and Eckhardt, H, 2003 Regional identities and technologies of self: nail-cleaners in Roman Britain, *Archaeol J* **160**, 44–69

Cunliffe, B, 1991 *Iron Age communities in Britain*, 3 edn, London

Cunliffe, B, 1992 Pits, preconceptions and propitiation in the British Iron Age, *Oxford J Archaeol* **11**, 69–83

Cunliffe, B, and Poole, C, 1991a *Danebury an Iron Age hillfort in Hampshire. Volume 4: the excavations, 1979–88: the site*, CBA Res Rep **73**, London

Cunliffe, B, and Poole, C, 1991b *Danebury: an Iron Age hillfort in Hampshire. Volume 5: the excavations, 1979–88: the finds*, CBA Res Rep **73**, London

Cunnington, M E, 1923 *An early Iron Age inhabited site at All Cannings Cross, Wiltshire*, Devizes

Davies, J, 1996 Where eagles dare: the Iron Age of Norfolk, *Proc Prehist Soc* 62, 63–92

Davies, J, and Williamson, T (eds), 1999 *Land of the Iceni: the Iron Age in northern East Anglia*, Norwich

Davis, S, 1995 *The archaeology of animals*, London

Dawson, M, 1992 A428 Great Barford Bypass: archaeological assessment of the preferred route. Stage 1: initial appraisal desk study, unpubl. report, Bedfordshire County Archaeology Service

Dawson, M, 1994 Biggleswade West, *Bedfordshire Archaeol* 21, 119–36

Dawson, M, 1995 Sandy, in *Roman small towns in eastern England and beyond* (ed. A E Brown), 167–77, Oxford

Dawson, M, 1996 Plantation Quarry, Willington: excavations 1988–1991, *Bedfordshire Archaeol* 22, 2–49

Dawson, M, 2000a The Ouse Valley in the Iron Age and Roman periods: a landscape in transition, in *Prehistoric, Roman, and post-Roman landscapes of the Great Ouse Valley* (ed. M Dawson), CBA Res Rep **119**, 107–29, York

Dawson, M, 2000b *Iron Age and Roman settlement on the Stagsden Bypass*, Bedfordshire Archaeol Monogr **3**, Bedford

Dawson, M, 2001 Harlington Roman cemetery, *Bedfordshire Archaeol J* **24**, 20–39

Dawson, M, 2004 *Archaeology in the Bedford region*, BAR Brit Ser **373/**Bedfordshire Archaeol Monogr **4**, Oxford

Dawson, M, 2005 *An Iron Age settlement at Salford, Bedfordshire*, Bedfordshire Archaeol Monogr **6**, Bedford

Dawson, M, forthcoming Research and archaeology: a framework for Bedfordshire: late Bronze Age to Roman period, in M Oake (ed) forthcoming

Dawson, M, and Slowikowski, A M, 1988 A Romano-British cemetery at Warren Farm, Deepdale, Sandy, *Bedfordshire Archaeol J* **18**, 25–32

Denham, V, 1985 The pottery, in *Middle Saxon palaces at Northampton* (J H Williams, M Shaw and V Denham), Northampton Development Corporation Monogr Ser **4**, 46–64

Denston, C B, and Duhig, C, 1994 Discussion: the human remains, in *A late Roman cemetery at Bletsoe* (M Dawson), Bedfordshire Archaeol Monogr **1**, 30–2; 41–53

Devaney R, and Lamdin-Whymark, H, forthcoming The flint, in *Appleford's earliest farmers: archaeological work at Appleford Sidings, Oxfordshire, 1993–2000* (P Booth and A Simmonds), Oxford Archaeology Occas Pap

Dias, G, and Tayles, N, 1997 'Abscess cavity': a misnomer, *Internat J Osteoarchaeology* **7**, 548–54

Dix, B, 1979 Odell: a river valley farm, *Curr Archaeol* 66, 215–18

Dix, B, 1980 Excavations at Harrold Pit, Odell, 1974–8. A preliminary report, *Bedfordshire Archaeol J* 14, 15–18

Dix, B, 1983 The first century 'Belgic' pottery, in Taylor and Woodward 1983, 16

Dobney, K, and Ervynck, A, forthcoming To fish or not to fish? The exploitation of aquatic animal resources during the late Iron Age around the North Sea, in *The later Iron Age in Britain and beyond* (eds C Haselgrove and T Moore), Oxford

Dobney, K, and Jaques, D, 1996 Mammal bone, in Williams *et al*. 1996, 203–230

Done, G, 1993 Animal bone in Anglo-Saxon contexts, in *Excavations at Mucking, Essex, vol. 2, the Anglo-Saxon settlement* (H Hamerow), 74–9, London
Dring, G J, 1971 Iron Age pottery from Mowsbury Camp, Ravensden, near Bedford, *Bedfordshire Archaeol J* **6**, 68–9
Druce, D, forthcoming Charred plant remains, in *Fen hinterland excavations at Parnwell, Peterborough: prehistoric, Roman and Saxon activity* (L Webley)
Druce, D, and Huckerby, E, 2005 Charred plant remains, in OA 2005, 129–32
Duncan, H, 2001 The non-ceramic finds, in Edgeworth 2001, 15–16
Dyer, J, 1971 Excavations at Sandy Lodge, Bedfordshire, *Bedfordshire Archaeol J* **6**, 9–15

Eagles, B N, and Evison, V, 1970 Excavations at Harrold, Bedfordshire, 1951–53, *Bedfordshire Archaeol J* 5, 17–56
Eckhardt, H, 2005 The social distribution of Roman artefacts: the case of nail cleaners and brooches in Britain, *J Roman Archaeol* **18**, 139–60
Edgeworth, M, 2001 An Iron Age and Romano-British farmstead at Norse Road, Bedford, *Bedfordshire Archaeol* 24, 1–19
Edgeworth, M, 2006 Changes in the landscape: archaeological investigations of an Iron Age enclosure on the Stoke Hammond Bypass, *Rec Buckinghamshire* **46**, 119–48
Edgeworth, M, forthcoming An archaeological resource assessment of 'Anglo-Saxon' and medieval Bedfordshire, in Oake (ed) forthcoming
Edlin, H L, 1949 *Woodland crafts in Britain: an account of the traditional uses of trees and timbers in the British countryside*, London
Edmonds, E A, and Dinham, C H, 1965 *Geology of the country around Huntingdon and Biggleswade*. Explanation of one inch geological sheets 187 and 204, New Series, London
Edmondson, G, and Mudd, A, 2004 Medieval occupation at 'Danish Camp', Willington, *Bedfordshire Archaeol* 25, 208–21
Egan, G, and Pritchard, F, 1991 *Dress accessories,* c *1150–c 1450*, Medieval finds from excavations in London **3**, London
Ellis, B M A, 1995 Spurs and spur fittings, in *The medieval horse and its equipment*, c *1150*–c *1450* (ed. J Clark), Medieval finds from excavations in London **5**, 124–56, London
Ellis, S E, 1970 The quern samples, in Eagles and Evison 1970, 38
Elsdon, S, 1975 *Stamp- and roulette-decorated pottery of the La Tène period in Eastern England: a study in geometric designs*, BAR Brit Ser **10**, Oxford
Elsdon, S, 1992 East Midlands scored ware, *Trans Leicestershire Archaeol Hist Soc* **66**, 83–91
Elsdon, S, 1996 Iron Age pottery in the East Midlands: a handbook, unpubl. report, Univ. Nottingham
Engelmark, R, 1984 Two useful plants from Iron Age graves in Central Sweden, *Archaeology and Environment* **2**, 87–92
English Heritage, 1997 *Research agenda*, London
Esmonde Cleary, S, 2002 Putting the dead in their place: burial location in Roman Britain, in *Burial, society and context in the Roman world* (eds. J Pearce, M Millett and M Struck), 127–42, London
Evans, C, 2001 Metalwork and 'cold claylands': pre-Iron Age occupation on the Isle of Ely, in *Through wet and dry: proceedings of a conference in honour of David Hall* (eds T Lane and J Coles), Lincolnshire Archaeol and Heritage Rep Ser **5**/WARP Occasional Paper **17**, 33–53, Lincoln
Evans, C, 2003 *Power and island communities: excavations at the Wardy Hill ringwork, Coveney, Ely*, East Anglian Archaeol **103**, Cambridge
Evans, C, and Hodder, I, 2006 *Marshland communities and cultural landscape: the Haddenham Project, volume 2*, Cambridge
Evans, C, Pollard, J, and Knight, M, 1999 Life in woods: tree-throws, 'settlement' and forest cognition, *Oxford J Archaeol* 18, 241–54
Evans, E-J, forthcoming Animal bone, in Timby *et al*. forthcoming
Evans, J, 2001 Material approaches to the identification of different Romano-British site types, in *Britons and Romans: advancing an archaeological agenda* (eds S James and M Millet), CBA Res Rep **125**, 26–35, York
Evans, J G, 1972 *Land snails in archaeology*, London

Feneis, H, and Dauber, W, 2000 *Pocket atlas of human anatomy, based on the international nomenclature*, 4 edn, Stuttgart
Finnegan, M, 1978 Non-metric variation of the infracranial skeleton, *J Anatomy* 125, 23–37
Foard, G, 1978 Systematic fieldwalking and the investigation of Saxon settlement in Northamptonshire, *World Archaeol* **9**, 357–74
Fock, J, 1966 Metrische Untersuchungen an Metapodien einiger europaischer Rinderrassen, unpubl. dissertation, Univ. Munich
Ford, S, 1987 Chronological and functional aspects of flint assemblages, in *Lithic analysis and later British prehistory* (eds A Brown and M Edmonds), BAR Brit Ser **162**, 67–81, Oxford
Ford, S, 1995 The excavation of a Saxon settlement and a Mesolithic flint scatter at Northampton Road, Brixworth, Northamptonshire, *Northamptonshire Archaeol* 26, 79–108
Foster, J, 1986 Querns, in Stead and Rigby 1986, 179–82
Foster, P J, 1998 Late Iron Age/early Roman Northamptonshire: a study in the use of ceramic analysis to investigate social, economic and landscape changes, *Northamptonshire Archaeol* 28, 129–35
Foster, P J, Harper, R, and Watkins, S, 1977 An Iron Age and Romano-British settlement at Hardwick Park, Wellingborough, Northamptonshire,

Northamptonshire Archaeol **12**, 55–96
Fowler, E, 1960 The origins and development of the penannular brooch in Europe, *Proc Prehist Soc* **26**, 149–77
Fox, C, 1924 A settlement of the early Iron Age at Abington Pigotts, Cambs, and its subsequent history; as evidenced by objects preserved in the Pigott collection, *Proc Prehist Soc East Anglia* **4**, 211–32
Framework Archaeology, 2004 Stansted Airport Project Design update note 2: archaeological assessment report for fieldwork 1999–2001, unpubl. report, Framework Archaeology
France, D L, 1998 Observational and metric analysis of sex in the skeleton, in *Forensic osteology: advances in the identification of human remains* (ed. K J Reichs), 163–86
Friendship-Taylor, R M, 1999 *Late La Tène pottery of the Nene and Welland Valleys, Northamptonshire*, BAR Brit Ser **280**, Oxford
Fulford, M, 1992, Iron Age to Roman: a period of radical change on the gravels in *Developing landscapes of lowland Britain. The archaeology of the British gravels: a review*, (eds M Fulford and E Nichols), Soc Antiqs London Suppl Rep **14**, 23–38, London
Fulford, M, and Timby, J, 2001 Timing devices, fermentation vessels, 'ritual' piercings? A consideration of deliberately 'holed' pots from Silchester and elsewhere, *Britannia* **32**, 293–7

Gale, R, 1997 Charcoal, in *Archaeological excavations on the route of the A27 Westhampnett Bypass, West Sussex, 1992* (A P Fitzpatrick), Wessex Archaeology Report **12**, 253, Salisbury
Gale, R, 1999 Charcoal [from Pomeroy Wood], in *Prehistoric and Roman Sites in East Devon: the A30 Honiton to Exeter Improvement DBFO, 1996-0. Volume 2: Romano-British Sites* (A P Fitzpatrick, C A Butterworth and J Grove), 372–82, Salisbury
Gale, R, and Cutler, D, 2000 *Plants in archaeology: identification manual of vegetative plant materials used in Europe and the southern Mediterranean to c 1500*, Westbury and Kew
Gardiner, M, 2000 Vernacular buildings and the development of the later medieval domestic plan in England, *Medieval Archaeol* 44, 159–79
Garrow, D, 2006 *Pits, settlement and deposition during the Neolithic and early Bronze Age in East Anglia*, BAR Brit Ser **414**, Oxford
Geddes, J, 1991 Iron, in *English medieval industries* (eds J Blair and N Ramsay), 167–88, London
Gejvall, N-G, 1948 Bestämning av de brända benen från gravarna i Horn, in *Gravfältet på kyrkbacken i Horns socken, Västergötland* (K E Sahlström and N-G Gejvall), 153–99, Stockholm
Gejvall, N-G, 1961 Anthropological and osteological analysis of the skeletal material and cremated bones from Simris 2, Simris parish, in *Simris II: Bronze Age problems in the light of the Simris excavation* (ed. B Stjernquist), 157–73, Lund
Gent, H, 1983 Centralized storage in later prehistoric Britain, *Proc Prehist Soc* **49**, 243–67
Gentil, P, 2000 The non-ceramic artefacts, in Dawson 2000b, 92–105
Gibson, D, and Lucas, G, 2002 Pre-Flavian kilns at Greenhouse Farm and the social context of early Roman pottery production in Cambridgeshire, *Britannia* **33**, 95–127
Gilbert, B M, and McKern, T W, 1973 A method for ageing the female os pubis, *American J Phys Anthrop* 38, 31–8
Grant, A, 1975a The animal bones, in *Excavations at Portchester Castle. Volume I: Roman* (B W Cunliffe), Res Rep Comm Soc Antiq London **32**, 378–408, London
Grant, A, 1975b The animal bones, in Excavations at Willington, 1973 (J Hassall), *Bedfordshire Archaeol* **10**, 38–40
Grant, A, 1978 Animal bones, in Rescue excavation in Dorchester-on-Thames 1972 (R Bradley), *Oxoniensia* 43, 32–6
Grant, A, 1979 The animal bones from Bedford, in Excavations in Bedford 1967–77 (D Baker, E Baker, J Hassall and A Simco), *Bedfordshire Archaeol J* **13**, 286–92
Grant, A, 1982 The use of toothwear as a guide to the age of domestic ungulates, in *Ageing and sexing animal bones from archaeological sites* (eds B Wilson, C Grigson and S Payne), BAR Brit Ser **109**, 91–108, Oxford
Green, M, 1976 Romano-British non-ceramic model objects in south-east Britain, *Archaeol J* **132**, 54–70
Green, M, 2001 *Dying for the gods: human sacrifice in Iron Age and Roman Europe*, Stroud
Greenfield, E, Poulsen, J, and Irving, P V, 1994 The excavation of a fourth-century AD villa and bath House at Great Staughton, Cambridgeshire, 1958 and 1959, *Proc Cambridge Antiq Soc* **83**, 75–127
GSB, 2000 Huntingdon to Willington gas pipeline, unpubl. report Geophysical surveys of Bradford
Guest, P, 2004 Coinage, in Dawson 2004, 392–413
Gustafsson, S, 1995 Finds of carbonised *Arrhenatherum elatius* ssp. *bulbosum* from the Bronze Age and Iron Age in Sweden, *Svensk Bot Tidskr* **89**, 381–4
Gwilt, A, 1997 Popular practices from material culture: a case study of the Iron Age settlement at Wakerley, in Gwilt and Haselgrove (eds) 1997, 153–66
Gwilt, A, and Haselgrove, C (eds), 1997 *Reconstructing Iron Age societies*, Oxbow Monogr **71**, Oxford

Haddenby, D, 1992 An Anglian site on the Yorkshire Wolds – continued, *Yorkshire Archaeol J* **64**, 25–40
Hagen, A, 2006 *Anglo-Saxon food and drink: production, processing, distribution and consumption*, Norfolk
Hall, D N, 1973 Rescue excavations at Radwell Gravel Pits, 1972, *Bedfordshire Archaeol J* **8**, 67–91
Hall, D N, and Hutchings, J B, 1972 The distribu-

tion of archaeological sites between the Nene and the Ouse valleys, *Bedfordshire Archaeol J* 7, 1–16
Hall, D N, and Martin, P W, 1979 Brixworth, Northamptonshire: an intensive field survey, *J Brit Archaeol Assoc* 132, 1–6
Hambleton, E, 1999 *Animal husbandry regimes in Iron Age Britain: a comparative study of faunal remains from British Iron Age sites*, BAR Brit Ser **282**, Oxford
Hamerow, H, 1993 *Excavations at Mucking. Volume 2: the Anglo-Saxon settlement*, English Heritage Archaeol Rep **21**, London
Hamilton, S, 1998 Using elderly databases: Iron Age pit deposits at the Caburn, East Sussex, and related sites, *Sussex Archaeol Collect* **136**, 23–39
Hamilton-Dyer, S, 2004 The animal bones from Ruxox, in Dawson 2004, 295–302
Hamshaw-Thomas, J, 2000 When in Britain do as the Britons: dietary identity in early Roman Britain, in *Animal bones, human societies* (ed. P Rowley-Conwy), 166–9, Oxford
Hamshaw-Thomas, J, and Bermingham, N, 1993 Analysis of faunal remains, in *The Romano-British roadside settlement at Wilcote, Oxfordshire* (A Hands), BAR Brit Ser **232**, 167–210, Oxford
Hancocks, A, 2003 Little Paxton pottery, in *Prehistoric pottery: people, pattern and purpose* (ed. A Gibson), BAR Int Ser **1156**, 71–110, Oxford
Harcourt, R, 1974 The dog in prehistoric and early historic Britain, *J Archaeol Sci* **1**, 151–75
Harding, D W, 1972 *The Iron Age in the Upper Thames basin*, London
Hardy, A, and Charles, B M, 2007 *Death and taxes: the archaeology of a Middle Saxon estate centre at Higham Ferrers, Northamptonshire*, Oxford
Haselgrove, C, Armit, I, Champion, T, Creighton, J, Gwilt, A, Hill, J D, Hunter, F, and Woodward, A, (eds.) 2001 *Understanding the British Iron Age: an agenda for action*, Iron Age Research Seminar and Prehistoric Society, Salisbury
Hather, J G, 2000 The identification of northern European woods: a guide for archaeologists and conservators, London
Hattatt, R, 1985 *Iron Age and Roman brooches*, Oxford
Hattatt, R, 1989 *Ancient brooches and other artefacts*, Oxford
Havis, R, and Brooks, H, 2004 *Excavations at Stansted Airport, 1986–91*, East Anglian Archaeol **107**
Henig, M, 1974 *A corpus of Roman engraved gemstones from British sites*, BAR Brit Ser **8**, Oxford
Herrman, B, 1972 Zur Beurteilung von Kohlenstoffverfärbungen bei Leichenbränden, *Ausgrabungen und Funde. Nachrichtenblatt für Ur- und Frühgeschichte* 17, 275–7
Hey, G, 2004 *Yarnton: Saxon and medieval settlement and landscape, results of excavations 1990–96*, Thames Valley Landscapes Monogr **20**, Oxford
Higham, N J, 1999 Danelaw, in *The Blackwell encyclopaedia of Anglo-Saxon England* (eds M Lapidge, J Blair, S Keynes and D Scragg), 136–7, Oxford
Hill, C M, 1979 The archaeology of pagan Anglo-Saxon England: a review, *Anglo-Saxon England* **8**, 297–329
Hill, J D, 1995a *Ritual and rubbish in the Iron Age of Wessex: a study on the formation of a specific archaeological record*, BAR Brit Ser **242**, Oxford
Hill, J D, 1995b The pre-Roman Iron Age in Britain and Ireland (*c* 800 BC to AD 100): an overview, *J World Prehistory* **9**, 47–98
Hill, J D, 1999 Settlement, landscape and regionality: Norfolk and Suffolk in the pre-Roman Iron Age of Britain and beyond, in Davies and Williamson (eds) 1999, 185–207
Hill, J D, 2002 Just about the potter's wheel? Using and depositing middle and later Iron Age pots in East Anglia, in *Prehistoric Britain: the ceramic basis* (eds J D Hill and A Woodward), 143–60, Oxford
Hill, J D, and Braddock, P, 2006 Iron Age pottery, in Evans and Hodder 2006, 152–94
Hill, J D, and Horne, L, 2003 Iron Age and early Roman pottery, in Evans 2003, 145–84
Hillman, G, 1981 Reconstructing crop husbandry practices from charred remains of crops, in *Farming practices in British prehistory* (ed. R Mercer), 123–62, Edinburgh
Hillman, G, 1982 Evidence for malting spelt, in *Excavations at Catsgore 1970–1973: a Romano-British village* (R Leech), Western Archaeol Trust Excavation Monogr **2**, 137–41
Hillson, S, 1986 *Teeth*, Cambridge
Hillson, S, 1992 *Mammal bones and teeth*, London
Hillson, S, 2003 *Dental anthropology*, Cambridge
Hillson, S, 2005 *Teeth*, 2 edn, Cambridge
Hingley, R, 1980 Excavations by R A Rutland on an Iron Age site at Wittenham Clumps, *Berkshire Archaeol J* 70, 21–55
Hobbs, R, 1996 *British Iron Age coins in the British Museum*, London
Holgate, R, (ed) 1995, *Chiltern Archaeology: recent work. A handbook for the next decade*, Dunstable
Holland, T D, 1995 Brief communication: estimation of adult stature from the Calcaneus and Talus, *American J Phys Anthrop* 96, 315–20
Holmes, M, forthcoming Faunal remains, in L Webley *et al*. forthcoming
Horton, W, Lucas, G, and Wait, G A, 1994 Excavation of a Roman site near Wimpole, Cambs, 1989, *Proc Cambridgeshire Antiq Soc* **33**, 31–74
Hull, G, and Preston, S, 2002 Middle Iron Age occupation at Mawsley New Village, Cransley Lodge, Kettering, *Northamptonshire Archaeol* 30, 1–20
Hurst, J G, 1976 The pottery, in *The Archaeology of Anglo-Saxon England* (ed. D M Wilson), 283–348, Cambridge
Hus, J, Ech-Chakrouni, S, Jordanova, D, 2002, Origin of magnetic fabric in bricks: its implications in archaeomagnetism, *Phys Chem Earth* **27**, 1319–31
Hus, J, Geeraerts, R, and Plumier, J, 2004 On the suitability of refractory bricks from a mediaeval brass melting and working site near Dinant (Belgium) as geomagnetic field recorders, *Phys Earth Planet Interiors* 147, 103–16
Hutchins, E, 2005 The faunal remains, in Maull and Chapman 2005, 101–4

Iscan, M Y, Loth, S R, and Wright, R K, 1985 Age estimation from the rib by phase analysis: white females, *J Forensic Sci* 30, 853–63
Jackson, D A, 1990 An Iron Age enclosure at Wootton Hill Farm, Northampton, *Northamptonshire Archaeol* 22, 3–21
Jackson, D A, and Ambrose, T M, 1978 Excavations at Wakerley, Northants, 1972–5, *Britannia* 9, 115–242
Jackson, D A, and Dix, B, 1987 Late Iron Age and Roman settlement at Weekley, Northants, *Northamptonshire Archaeol* 21, 41–94
Jewell, P, 1963 Cattle from British archaeological sites, in *Man and cattle* (eds A E Mourant and F E Zeuner), Royal Anthropological Institute Occas Pap **18**, 80–91, London
Johnston, D E, 1974 The Roman settlement at Sandy, Bedfordshire, *Bedfordshire Archaeol J* **9**, 35–54
Jones, M, 1978 The plant remains, in *The excavation of an Iron Age settlement, Bronze Age ring ditches and Roman features at Ashville Trading Estate, Abingdon* (M Parrington), CBA Res Rep **28**, 93–100, London
Jones, M, 1989, Agriculture in Roman Britain: the dynamics of change, in *Research on Roman Britain 1960–89* (ed. M Todd), Britannia Monogr **11**, 127–34, London
Jones, R, 2004 An Iron Age hillfort at Whittlebury, Northants, *Northamptonshire Archaeol* 32, 107–9
Juel-Jensen, H, 1994 *Flint tools and plant working: hidden traces of Stone Age technology*, Aarhus

Karloukovski, V K, 2000, Magnetostratigraphy and palaeomagnetism of the area around the Momchilgrad Paleogene depression, the East Rhodope massif, unpubl. PhD Thesis, Univ. East Anglia
Keiswalter, L, 1888 Skelettmessungen am Pferde als Beitrag zur theoretischen Grundlage der Beurteilungslehre der Pferdes, unpubl. dissertation, Univ Leipzig
Kelley, M A, 1982 Intervertebral osteochondrosis in ancient and modern populations, *American J Phys Anthrop* 59, 271–9
Kennet, D H, 1970 Bedfordshire Archaeology 1969–70, *Bedfordshire Archaeol J* **7**, 89–97
Kerney, M P, 1999 *Atlas of the land and freshwater molluscs of Britain and Ireland*, Colchester
King, A, 1978 A comparative survey of bone assemblages from Roman sites in Britain, *Bull Inst Archaeol London* **15**, 207–32
King, D, 1980 Petrology, dating and distribution of querns and millstones: the results of research in Bedfordshire, Buckinghamshire, Hertfordshire and Middlesex, *Bull Inst Archaeol London* 23, 65–126
Kirschvink, J, 1980 The least-squares line and plane and the analysis of the palaeomagnetic data, *Geophys J R Ast Soc* **62**, 699–718
Klein, R, and Cruz-Uribe, K, 1984 *The analysis of animal bone from archaeological sites*, Chicago
Knight, D, 1984 *Late Bronze Age and Iron Age settlement in the Nene and Great Ouse Basins*, BAR Brit Ser **130**, Oxford
Knight, D, 2002 A regional ceramic sequence: pottery of the first millennium BC between the Humber and the Nene, in *Prehistoric Britain: the ceramic basis* (eds A Woodward and J D Hill), 119–42, Oxford
Koval, K J, and Zuckerman, J D, 2002 *Handbook of fractures*, 2 edn, Philadelphia
Krogh-Poulsen, W, 1963 *Tændernes morfologi*, 2 edn, Copenhagen
Kudo, S, Minuro, O, and Russel, W J, 1983 Ossification of the thoracic ligamenta flava, *American J Roentgenology* 141, 117–21

Lawrence, S, Webley, L, Cramp, K, and Smith, A, forthcoming *Excavations at King's Meadow Lane, Higham Ferrers, Northamptonshire, 1995–2003: prehistoric activity and a Roman roadside settlement and shrine*, Oxford Archaeology
Lewis, C, Mitchell-Fox, P, and Dyer, C, 2001 *Village, hamlet and field: changing medieval settlements in central England*, Macclesfield
Lewis, M, 2004 Endocranial lesions in non-adult skeletons: understanding their aetiology, *Internat J Osteoarchaeol* **14**, 82–97
Lewis, M, 2007 *The bioarchaeology of children: perspectives from biological and forensic anthropology*, Cambridge
Lisowski, F P, 1968 The investigation of human cremations, in *Anthropologie und Humangenetik* (ed T. Bielicki), 76–83
Lock, G, 1995 Sampling the sample, in *Danebury: an Iron Age hillfort in Hampshire. Volume 6: a hillfort community in perspective* (B Cunliffe), CBA Res Rep **102**, 104–17, London
Losco-Bradley, P M, and Salisbury, C R, 1988 A Saxon and Norman fish weir at Colwick, Nottinghamshire, in *Medieval fish, fisheries and fishponds in England* (ed. M Aston), BAR Brit Ser **182**, 329–51, Oxford
Lovejoy, C O, Meindl R S, Pryzbeck, T R and Mensforth, R P, 1985 Chronological metamorphosis of the auricular surface of the ilium: a new method for the determination of adult skeletal age at death, *American J Phys Anthrop* 68, 15–28
Luke, M, 1999 An enclosed, pre-'Belgic' Iron Age farmstead with later occupation at Hinksley Road, Flitwick, *Bedfordshire Archaeol* **23**, 43–87
Luke, M, 2004a Evidence for prehistoric settlement

and medieval activity at Yarl's Wood, Clapham, *Bedfordshire Archaeol* **25**, 3–22
Luke, M, 2004b The investigation of an early-middle Iron Age settlement and field system at Topler's Hill, *Bedfordshire Archaeol* **25**, 23–54
Luke, M, forthcoming *Excavations on the Biddenham Loop*, Albion Archaeology
Luke, M, and Beswick, I, 2001 Kempston, Marsh Leys Farm, *South Midlands Archaeol* 31, 1–2
Luke, M, Bright, P, and Wells, J, 1998 Land at College Farm, Great Barford, Bedfordshire: archaeological field evaluation, unpubl. report, Bedfordshire County Archaeology Service
Luke, M, and Shotliff, D, 2004 Evidence for Iron Age, Roman and early medieval occupation on the Greensand Ridge at Haynes Park, Bedfordshire, *Bedfordshire Archaeol* **25**, 55–136
Lyman, R L, 1994 *Vertebrate taphonomy*, Cambridge

MacGregor, A, 1985 *Bone, antler, ivory and horn: the technology of skeletal materials since the Roman period*, London
Malim, T, 1997 Prehistoric and Roman remains at Edix Hill, Barrington, Cambridgeshire, *Proc Cambridgeshire Antiq Soc* **86**, 13–56
Malim, T, 2000 The ritual landscape of the Neolithic and Bronze Age along the middle and lower Ouse Valley, in *Prehistoric, Roman, and post-Roman landscapes of the Great Ouse Valley* (ed. M Dawson), CBA Res Rep **119**, 57–88, York
Maltby, M 1981 Iron Age, Romano-British and Anglo-Saxon animal husbandry: a review of the faunal evidence, in *The environment of man: the Iron Age to the Anglo-Saxon period* (M Jones and G Dimbleby), BAR Brit Ser **87**, 155–204, Oxford
Maltby, M, 1982 The variability of faunal samples and their effects on ageing data, in *Ageing and sexing bones from archaeological sites* (eds R Wilson, C Grigson, and S Payne), BAR Brit Ser **109**, 81–90, Oxford
Maltby, M, 1985a Patterns in faunal assemblage variability, in *Beyond domestication in prehistoric Europe* (eds G Barker and C Gamble), 49–74, London
Maltby, M, 1985b Assessing variations in Iron Age and Roman butchery practices: the need for quantification, in *Palaeobiological investigations: research design, methods and data analysis* (eds N Fieller, D Gilberston and N Ralph), BAR Int Ser **266**, 19–30, Oxford
Maltby, M, 1989 Urban-rural variations in the butchering of cattle in Romano-British Hampshire, in *Diet and crafts in towns: the evidence of animal remains from the Roman to the post-medieval periods* (ed. D T W Serjeantson), BAR Brit Ser **199**, 75–106, Oxford
Maltby, M, 2003 The animal bone, in Thomas and Enright 2003, 48–56
Manning, W H, 1985 *Catalogue of the Romano-British iron tools, fittings, and weapons in the British Museum*, London
Manning, W H, 1995 Horseshoes, in *Report on the excavations at Usk, 1965–1977: the Roman small finds* (W H Manning, J Price, and J Webster), 42–4, Cardiff
Maresh, M M, 1970 Measurements from roentgenograms, in *Human growth and development* (ed. R W McCammon), 157–200, Springfield (Illinois)
Margeson, S, 1985 The small finds, in *Excavations in Norwich 1971–1978, Part 2* (M Atkin *et al*.), EAA Rep **26**, 52–67, 201–13
Marney, P T, 1989 *Roman and Belgic pottery from excavations in Milton Keynes 1972–1982*, Buckinghamshire Archaeol Soc Monogr **2**, Buckingham
Marsh, G, and West, B, 1981 Skullduggery in Roman London? *Trans London Middlesex Archaeol Soc* 32, 86–102
Matthews, C L, 1976 *Occupation sites on a Chiltern ridge. Part 1: Neolithic, Bronze Age and Early Iron Age*, BAR Brit Ser **29**, Oxford
Matthews, C L, and Hawkes, S C, 1985 Early Saxon settlements and burials on Puddlehill, near Dunstable, Beds, *Anglo-Saxon Stud* **4**, 59–115
Maull, A, and Chapman, A, 2005 *A medieval moated enclosure in Tempsford Park*, Bedfordshire Archaeology Monogr **5**, Bedford
Mays, S, 1993 Infanticide in Roman Britain, *Antiquity* 63, 883–8
Mays, S, and Faerman, M, 2001 Sex identification in some putative infanticide victims from Roman Britain using DNA, *J Archaeol Sci* **28**, 555–99
McCarthy, M, 1979 The pottery, in *St Peter's Street, Northampton: excavations, 1973–76* (J H Williams), Northampton Development Corporation Monogr Ser **2**, 151–242, Northampton
McCormick, F, 1992 Early faunal evidence for dairying, *Oxford J Archaeol* 11, 201–9
McKern, T W, and Steward, T D, 1957 *Skeletal age changes in young American males*, Natick
McKinley, J, 1997 The cremated bone from burial and cremation-related contexts, in *Archaeological excavations on the route of the A27 Westhampnett Bypass, West Sussex, 1992. Volume 2: the cemeteries* (A Fitzpatrick), Wessex Archaeological Rep **12**, Salisbury
McKinley, J, 2000 Cremation burials, in Barber and Bowsher 2000, 264-77
McSloy, E, 1996 The ceramics assemblage, in Dawson 1996, 21–8
McSloy, E, 1999 The pottery, in Luke 1999, 62–73
Meadows, L, and Jantz, R L, 1992 Estimation of stature from metacarpal lengths, *J Forensic Sciences* 37, 147–54
Meindl, R S, and Lovejoy, C O, 1985 Ectocranial suture closure: a revised method for the determination of skeletal age at death based on the lateral-anterior sutures, *American J Phys Anthrop* 68, 29–45
Miles, A E W, 1962 Assessment of the ages of a population of Anglo-Saxons from their dentitions, *Proc Royal Soc Medicine* 55, 881–6

Miles, D, 2005 *The tribes of Britain*, London
Miller, D, 1985 *Artefacts as categories: a study of ceramic variability in central India*, Cambridge
Millett, M, and James, S, 1983 Excavations at Cowdery's Down, Basingstoke, Hampshire, *Archaeol J* **140**, 151–279
Mills, J, 2003 Aerial archaeology on clay geologies, *AARGnews* **27**, 12–19
Monckton, A, 2006 Environmental archaeology in the East Midlands, in *The archaeology of the East Midlands: an archaeological resource assessment and research agenda* (ed. N J Cooper), 259–86, Leicester
Moore, T, 2006 *Iron Age societies in the Severn-Cotswolds. Developing narratives of social and landscape change*, BAR Brit Ser **421**, Oxford
Morris, E, 1996 Iron Age artefact production and exchange, in *The Iron Age in Britain and Ireland: recent trends* (eds T C Champion and J R Collis), 41–66, Sheffield
Morris, J, (ed.) 1977 *Domesday Book, volume 20: Bedfordshire*, Chichester
Morris, P, 1979 *Agricultural buildings in Roman Britain*, BAR Brit Ser **70**, Oxford
Moss-Eccardt, J, 1988 Archaeological investigations in the Letchworth area, 1958–1974, *Proc Cambridge Antiq Soc* **77**, 35–103
MPRG, 1998 *Guide to the classification of medieval ceramic forms*, MPRG Occas Pap **1**
MPRG, 2001 *Minimum standards for the processing, recording, analysis and publication of post-Roman ceramics*, Medieval Pottery Res Group Occas Pap **2**
Mudd, A, 2002 A43 Towcester to M40 Dualling Project, *South Midlands Archaeol* 32, 25–6
Murphy, P, 2001 *Review of wood and macroscopic wood charcoal from archaeological sites in the West and East Midlands Regions and the East of England*, Centre for Archaeology Report **23/2001**, London
Murphy, P, 2004 Plant macrofossils from medieval contexts at CHS, MGS, RWS, in Havis and Brooks 2004, 445–57
Museums and Galleries Commission, 1992 *Standards in the museum care of archaeological collections*, London
Myres, J N L, 1977 *A corpus of Anglo-Saxon pottery of the pagan period*, Cambridge
Møller-Christensen, V, 1958 *Bogen om Æbenholt Kloster*, Copenhagen

NA, 2001 Archaeological field evaluation of the line of the Great Barford Bypass, Bedfordshire: geophysical survey and fieldwalking, unpubl. report, Northamptonshire Archaeology
NA, 2004a A421 Great Barford Bypass, Bedfordshire: trial trench evaluation, interim report (part 1) zones 1 and 2, February and March 2004, unpubl. report, Northamptonshire Archaeology
NA, 2004b A421 Great Barford Bypass, Bedfordshire: trial trench evaluation, interim report (part 2) zone 3, April and May 2004, unpubl. report, Northamptonshire Archaeology
NA, 2004c A421 Great Barford Bypass, Bedfordshire: trial trench evaluation, interim report (part 3) zone 4, May 2004, unpubl. report, Northamptonshire Archaeology
NA, 2004d A421 Great Barford Bypass, Bedfordshire: trial trench evaluation, February to May 2004, unpubl. report, Northamptonshire Archaeology
NASA, 2005 IGRF Geomagnetic Field Model, http://nssdc.gsfc.nasa.gov/space/model/models/igrf.html [12/5/05]
Nemeskéri, J., Harsányi, L. and Ascádi, G. 1960 Methoden zur Diagnose des Legensalters von Skelettfunden, *Anthropologischer Anzeiger* 24, 70–95
Nenk, B S, Margeson, S, and Hurley, M, 1994 Medieval Britain and Ireland in 1993, *Medieval Archaeol* **38**, 184–293
Noddle, B, 1989 Flesh on the bones, *Circaea* **7**, 31–51
Noel, M, and Batt, C M, 1990 A method for correcting geographically separated remanence directions for the purpose of archaeomagnetic dating, *Geophys J Int* **102**, 753–6
North, J J, 1991 *English hammered coinage, volume 2: Edward I to Charles II 1272–1662*, 3 edn, London

OA 2004, A421 Great Barford Bypass Bedfordshire project design for archaeological works, unpubl. report, Oxford Archaeology
OA, 2005 A421 Great Barford Bypass, Bedfordshire: post-excavation assessment and updated project design, unpubl. report, Oxford Archaeology
OA, 2007 Oxley Park (West), Milton Keynes, Buckinghamshire: post-excavation assessment, unpubl. report, Oxford Archaeology
Oake, M, (ed) forthcoming (2007) *An archaeological research framework for Bedfordshire*, Bedfordshire Archaeology Monogr **7**, Bedford
O'Brian, E, 1999 *Post-Roman Britain to Anglo-Saxon England: burial practices reviewed*, BAR Brit Ser 289, Oxford
Oetgen, J, and Pixley, J, 2003 Willington Quarry north, *South Midlands Archaeol* 33, 5–7
Olivier, A, 1996 Brooches of silver, copper alloy and iron from Dragonby, in *Dragonby: a report on the excavations at an Iron Age and Romano-British settlement in North Lincolnshire* (J May), Oxbow Monogr **61**, 231–64, Oxford
Ortner, D J, 2003 *Identification of pathological conditions in human skeletal remains*. 2 edn, New York
Oswald, A, 1997 A doorway on the past: practical and mystical concerns in the orientation of roundhouse doorways, in Gwilt and Haselgrove (eds), 87–95

Page, W, 1912 *The Victoria history of the county of Bedford, volume 3*, London
Palmer, R, 2005 Unpubl. paper given at the Populating Clay Landscapes conference, Univ of Leicester

Parker, A J, 1988 The birds of Roman Britain, *Oxford J Archaeol* **7**, 197–226
Parminter, Y, and Slowikowski, A, 2004 The ceramics assemblage, in M Dawson 2004, 442–97
Parry, S J, 2006 *Raunds Area Survey: an archaeological survey of the landscape of Raunds, Northamptonshire, 1985–94*, Oxford
Partridge, C, 1981 *Skeleton Green: a late Iron Age and Romano-British site*, London
Partridge, C, 1989 *Foxholes Farm: a multi-period gravel site*, Hertford
Payne, S, 1972 On the interpretation of bone samples from archaeological sites, in *Papers in economic prehistory* (ed. E S Higgs), 65–81, Cambridge
Payne, S, 1985 Morphological distinctions between the mandibular teeth of young sheep and goats, *J Archaeol Sci* **12**, 139–47
PCRG, 1997 *The study of later prehistoric pottery: general policies and guidelines for analysis and publication*, Prehistoric Ceramics Research Group occasional papers 1 and 2, Oxford.
Peacock, D P S, 1986 Iron Age and Roman quern production at Lodsworth, West Sussex, *Antiq J* **67**, 61–85
Pelling, R, 2001 Charred plant remains, in A Roman settlement at Mansfield College, Oxford (P Booth and C Hayden), *Oxoniensia* 65, 291–331
Pelling, R, forthcoming Charred plant remains, in Webley *et al*. forthcoming
Penn, W S, 1960 Springhead: temples III and IV, *Archaeol Cantiana* **74**, 113–38
Philpott, R, 1991 *Burial practices in Roman Britain*, BAR Brit Ser **219**, Oxford
Pinder, A, 1986 Excavations at Willington, 1984. II: Iron Age and Roman periods, *Bedfordshire Archaeol* **17**, 22–40
Pitts, M, 2005 Pots and pits: drinking and deposition in late Iron Age south-east Britain, *Oxford J Archaeol* **24**, 143–161
Poole, C, 2000 Structural oven daub, in *The Danebury Environs Programme: the prehistory of a Wessex landscape, volume 2—part 3. Suddern Farm, Middle Wallop, Hants, 1991 and 1996* (B Cunliffe and C Poole), OUCA Monogr **49**, 128–42, Oxford
Prummel, W, 1988 *Distinguishing features on postcranial skeletal elements of cattle, Bos primigenius f. Taurus, and red deer, Cervus elaphus*, Schriften aus der Archaeologisch-zoologischen Arbeitsgruppe Schleswig-Kiel **12**, Kiel
Prummel, W, and Frisch, H, 1986 A guide for the distinction of species, sex and body side in bones of sheep and goat, *J Archaeol Sci* **13**, 567–77

Rahtz, P, 1976 Buildings and rural settlement, in Wilson (ed.) 1976, 49–98
Ralston, I, and Thomas, R, 1993 *Environmental assessment and archaeology*, IFA Occasional Paper **5**, Birmingham
Redfield, A, 1970 A new aid to ageing immature skeletons: development of the occipital bone, *Amer J Phys Anthrop* 33, 207–20
Reece, R, 1991 *Roman coins from 140 sites in Britain*, Cotswold Studies **4**, Cirencester
Regan, R, and Evans, C, 1998 Excavations at Colne Fen, Earith, Site I, unpubl. report, Cambridge Archaeological Unit Rep **273**
Regan, R, and Evans, C, 2000 Excavations at Colne Fen, Earith, Sites III and IV, unpubl. report, Cambridge Archaeological Unit Rep **398**
Reimer, P J, Baillie, M G L, Bard, E, Bayliss, A, Beck, J W, Bertrand, C, Blackwell, P G, Buck, C E, Burr, G, Cutler, K B, Damon, P E, Edwards, R L, Fairbanks, R G, Friedrich, M, Guilderson, T P, Hughen, K A, Kromer, B, McCormac, F G, Manning, S, Bronk Ramsey, C, Reimer, R W, Remmele, S, Southon, J R, Stuiver, M, Talamo, S, Taylor, F W, van der Plicht, J, and Weyhenmeyer, C E, 2004 INTCAL04 terrestrial radiocarbon age calibration, 0–26 cal kyr BP, *Radiocarbon* **46**, 1029–58
Reynolds, A, 1999 *Later Anglo-Saxon England: life and landscape*, Stroud
Reynolds, A, 2003 Boundaries and settlements in later sixth to eleventh-century England, in *Boundaries in early medieval Britain* (eds D Griffiths, A Reynolds and S Semple), Anglo-Saxon Studies in Archaeology and History **12**, 98–135
Roberts, A, 2000 The animal bone assemblage, in Dawson 2000b, 116–22
Roberts, A, 2004a The animal bones from Shillington Bury, in Dawson 2004, 294–5
Roberts, A, 2004b The animal bones from Kempston, in Dawson 2004, 303–7
Roberts, A, 2005 Animal bone, in Dawson 2005, 146–9
Roberts, B K, and Wrathmell, S, 2002 *Region and place: a study of English rural settlement*, London
Roberts, C, and Cox, M, 2003 *Health and disease in Britain from prehistory to the present day*, Stroud
Robinson, M, 1979 The plants and invertebrates, in *Iron Age and Roman riverside settlements at Farmoor. Oxfordshire* (G Lambrick and M Robinson), CBA Res Rep **32**, 77–128, London
Robinson, M, 1992 Environment, archaeology and alluvium on the river gravels of the south Midlands, in *Alluvial archaeology in Britain* (eds S Needham and M G Macklin), 197–208, Oxford
Robinson, M, 1993 The scientific evidence, in *The prehistoric landscape and Iron Age enclosed settlement at Mingies Ditch, Hardwick-with-Yelford, Oxon* (T G Allen and M A Robinson), 101–39, Oxford
Robinson, R, 2004 Charred plant remains, in Evidence for Iron Age, Roman and early medieval occupation on the Greensand Ridge at Haynes Park, Bedfordshire (M Luke and D Shotliff) *Bedfordshire Archaeol* **25**, 102–8
Roe, forthcoming, The worked stone at Leavesden Aerodrome
Rösing, F W, 1977 Methoden und Aussagemöglichkeiten der anthropologischen

Leichenbrandbearbeitung, *Archäologie und Naturwissenschaften* 1, 53–80
Rogers, S H, 1993 *Anglian and other finds from Fishergate*, The archaeology of York: the small finds, **17/9**, York
Rudd, G T, 1964 Trial excavations of a Roman site at Tempsford in 1962, *Bedfordshire Archaeol J* **2**, 78
Rudd, G T, 1983 The adjacent cropmark site, in Taylor and Woodward 1983, 27
Ryder, M, 1993 Wool at Danebury: a speculation using evidence from elsewhere, *Oxford J Archaeol* **12**, 305–20

Scaife, R, 2000 The charred botanical remains, in Dawson 2000b, 107–15
Scheuer, L, and Black, S, 2000 *Developmental juvenile osteology*, London
Schmid, E, 1972 *Atlas of animal bones*, Amsterdam
Schweingruber, F, 1990 *Microscopic wood anatomy*, 3 edn, Swiss Federal Institute for Forest, Snow and Landscape Research
Scott, E, 1991 Animal and infant burials in Romano-British villas: a revitalization movement, in *Sacred and Profane: proceedings of a conference on archaeology, ritual and religion, Oxford, 1989* (eds P Garwood, D Jennings, R Skeates and J Toms), Oxford Univ Comm for Archaeol Monogr **32**, 115–21, Oxford
Sellwood, L, 1984 Objects of bone and antler, in *Danebury: an Iron Age hillfort in Hampshire. Vol. 2 The excavations 1969–1978: the finds* (B W Cunliffe), CBA Res Rep **52**, 371–95, London
Serjeantson, D, 1996 The animal bones, in *Refuse and disposal at area 16 East Runnymeade* (S Needham and T Spence), Runnymede Bridge Research Excavations **2**, London
Shackleton, C M, and Prins, F, 1992 Charcoal analysis and the 'principle of least effort' – a conceptual model, *J Archaeol Sci* 19, 631–7
Shaffrey, R, 2006 *Grinding and milling: Romano-British rotary querns made from Old Red Sandstone*, BAR Brit Ser **409**, Oxford
Shaffrey, R, forthcoming The worked stone, in Lawrence *et al.* forthcoming
Shaffrey, R, and Evans, J, forthcoming The worked stone, in *Redlands Farm, Stanwick, Northamptonshire: the Roman evidence* (E Biddulph, G D Keevill and I R Scott)
Shaw, M, 1994 The discovery of Anglo-Saxon settlement below fieldwalking scatters: settlement evidence at Brixworth and Upton, Northamptonshire, *Northamptonshire Archaeol* 25 (1993–4), 77–92
Shotliffe, D, 1993 Stratton, Biggleswade, *South Midlands Archaeol* **23**, 4
Shotliffe, D, 1995 Stratton, Biggleswade, *South Midlands Archaeol* **25**, 16–17
Shotliffe, D, 1996 Biggleswade, Stratton, *South Midlands Archaeol* **26**, 2–3
Shotliffe, D, 1998 Biggleswade, Stratton, *South Midlands Archaeol* **28**, 5–7
Sigvallius, B, 1994 *Funeral pyres: Iron Age cremations in North Spånga*, Theses and Papers in Osteology 1, Stockholm
Silver, I A, 1969 The ageing of domestic animals, in *Science and Archaeology* (eds D R Brothwell and E S Higgs), 283–302, London
Simco, A, 1973 The Iron Age in the Bedford region, *Bedfordshire Archaeol J* **8**, 5–22
Simco, A, 1984 *Survey of Bedfordshire: the Roman period*, Bedford
Sjøvold, T, 1988 Geschlechtsdiagnose am Skelett, in *Wesen und Methoden der Anthropologie. 1 Teil. Wissenschaftstheorie, Geschichte, morphologische Methoden* (ed. R Knussman), 444–80
Sjøvold, T, 1990 Estimation of stature from long bones utilizing the line of organic correlation, *Human Evolution* 5, 431–47
Slowikowski, A, 2000 The coarse pottery, in Dawson 2000b, 61–85
Slowikowski, A, 2001 The pottery, in Edgeworth 2001, 11–15
Slowikowski, A, 2005 The pottery, in Dawson 2005, 95–117
Slowikowski, A, and Dawson, M, 1993 An early Roman pottery kiln at Warren Villas Quarry, Upper Caldecote, Bedfordshire, *J Roman Pottery Stud* **6**, 37–49
Smith, W, 2001 *A review of archaeological wood analyses in southern England*, Centre for Archaeology Report, English Heritage
Spratling, M G, 1970 The late pre-Roman Iron Age bronze mirror from Old Warden, *Bedfordshire Archaeol J* **5**, 9–16
St Joseph, J K, 1972 Air reconnaissance, recent results 28, *Antiquity* **46**, 314
Stace, C, 1997 *New flora of the British Isles*, 2 edn, Cambridge
Stafford, P, 1985 *The East Midlands in the early Middle Ages*, Leicester
Stead, I M, and Rigby, V, 1986 *Baldock: the excavation of a Roman and pre-Roman settlement, 1968–72*, Britannia Monogr Ser **7**, London
Stead, I M, and Rigby, V, 1989 *Verulamium: the King Harry Lane site*, English Heritage Archaeol Rep **12**, London
Steadman, S, 1999 Later Neolithic and Bronze Age mortuary complex and Iron Age settlement at the Bunyan Centre, Bedford, *Bedfordshire Archaeol* **23**, 2–31
Steane, J M, 1985 *The archaeology of medieval England and Wales*, Beckenham
Stephenson, A, Sadikun, S, and Potter, D K, 1986 A theoretical and experimental comparison of the anisotropies of magnetic susceptibility and remanence in rocks and minerals, *Geophy J R Astron Soc* **84**, 185–200
Sternberg, R, Lass, E, Marion E, Katari, K, Holbrook, M, 1999 Anomalous archaeomagnetic directions and site formation processes at archaeological sites in Israel, *Geoarchaeology* **14**, 415–39
Stirland, A, 1989 The cremations from the Iron Age cemetery, in *Verulamium: the King Harry Lane site*

(I M Stead and V Rigby), English Heritage Archaeol Rep **12**, 240–1
Strachan, D, 1998 Intertidal stationary fishing structures, Essex, *Essex Archaeol Hist* **3**, 274–82
Strid, L, forthcoming Animal bone, in Lawrence *et al.* forthcoming
Stuart-Macadam, P, 1991 Anaemia in Roman Britain: Poundbury Camp, in *Health in past societies: biocultural interpretations of human skeletal remains in archaeological contexts* (eds H Bush and M Zvelebil), BAR Int Ser **567**, 101–13, Oxford
Swan, V, 1984 *The pottery kilns of Roman Britain*, Roy Comm Hist Monuments Suppl Ser **5**, London

Tarling, D H, and Dobson, M J, 1995, Archaeomagnetism: an error assessment of fired material observations in the British directional database, *J Geomag Geoelectr* 47, 5–18
Tarling, D H, Hammo, N B, and Downey, W S, 1986 The scatter of magnetic directions in archaeomagnetic studies, *Geophysics* **51**, 634–9
Taylor, A, 2001 *Burial practice in early England*, Stroud
Taylor, A, and Woodward, P J, 1983 Excavations at Roxton, Bedfordshire, 1972–1974: the post-Bronze Age settlement, *Bedfordshire Archaeol* 16, 7–28
Taylor, A, and Woodward, P J, 1985 A Bronze Age barrow cemetery and associated settlement at Roxton, Bedfordshire, *Archaeol J* 142, 73–149
Tebbutt, C F, 1957 A Belgic and Roman farm at Wyboston, Bedfordshire, *Proc Cambridge Antiq Soc* **50**, 75–84
Thomas, A, and Enright, D, 2003 Excavation of an Iron Age settlement at Wilby Way, Great Doddington, *Northamptonshire Archaeol* 31, 15–69
Thomas, J, 1999 *Understanding the Neolithic*, London
Thomas, R, 1997 Land, kinship relations and the rise of enclosed settlement in first millennium BC Britain, *Oxford J Archaeol* 16, 211–18
Thompson, G B, 1999 The analysis of wood charcoals from selected pits and funerary contexts, in *Excavations at Barrow Hills, Radley, Oxfordshire, volume 1: the Neolithic and Bronze Age monument complex* (A Barclay and C Halpin), Thames Valley Landscapes **11**, 247–53, Oxford
Thompson, G B, and Francis, R, forthcoming Charcoal, in Webley *et al.* forthcoming
Thompson, I, 1982 *Grog-tempered 'Belgic' pottery of south-eastern England*, BAR Brit Ser **108**, Oxford
Tierney, J J, 1960 The Celtic ethnography of Posidonius, *Proc Roy Ir Acad C* **60**, 189–275
Tilson, P 1973 A Belgic and Romano-British site at Bromham, *Bedfordshire Archaeol J* 8, 23–66
Timby, J, 2000 The pottery, in *Late Iron Age and Roman Silchester: excavations on the site of the Forum-Basilica 1977, 1980–86* (M Fulford and J Timby), Britannia Monogr **15**, 180–312, London
Timby, J, Brown, R, Biddulph, E, Hardy, A, and Powell A, forthcoming *A slice of rural Essex: archaeological discoveries from the A120 between Stansted Airport and Braintree*, OWA Monogr **1**, Oxford and Salisbury
Tipper, J, 2004 *The* Grubenhaus *in Anglo-Saxon England*, Landscape Research Centre Archaeol Monogr **2**, London
Tomber, R, and Dore, J, 1998 *The national Roman fabric reference collection: a handbook*, MoLAS Monogr **2**, London
Trotter, M, 1970 Estimation of stature from intact long limb bones, in *Personal identification in mass disasters* (ed. T D Steward), Washington
Tyler, S, 1996 Early Saxon Essex AD *c* 400–700, in *The archaeology of Essex: proceedings of the 1993 Writtle conference* (ed. O Bedwin), 108–16, Chelmsford
Tyrell, R, 1994 Querns and millstones, in Williams and Zeepvat 1984, 370–1

van Arsdell, R D, 1989 *Celtic coinage of Britain*, London
van Beek, G C, 1983 *Dental morphology: an illustrated guide*, 2 edn, Bristol
van der Veen, M, 1989 Charred grain assemblages from Roman-period corn driers in Britain, *Archaeol J* **146**, 302–19
Vigne, J-D, 1992 The meat and offal (MOW) method and the relative proportions of ovicaprines in some ancient meat diets of the north-western Mediterranean, *Rivista di Studi Liguri* **57**, 21–47
von den Driesch, A, 1976 *A guide to the measurement of animal bones from archaeological sites*, Cambridge (Massachusetts)
von den Driesch, A, and Boessneck, J, 1974 Kritische Ammerkungen zur Widerristhohenberechnung aus Langemassen vor- und fruhgeschichtlicher Tierknochen, *Saugtierkundliche Mitteilungen* 22, 325–48

WA 2003 Cambourne New Settlement, Cambridgeshire: archaeological excavations, unpubl. report, Wessex Archaeology
WA 2004 Cambourne New Settlement, Cambridgeshire: archaeological excavations at Monk Field Farm and Little Common Farm, unpubl. report, Wessex Archaeology
Wahl, J, 1982 *Leichenbranduntersuchungen: ein Überblick über die Bearbeitungs- und Aussagemöglichkeiten von Brandgräbern*, Berlin
Wait, G A, 1985 *Ritual and religion in Iron Age Britain*, BAR Brit Ser **149**, Oxford
Walker, K, 1990 *Guidelines for the preparation of excavation archives for long-term storage*, UKIC
Watson, W, 1949 Belgic bronzes and pottery found at Felmersham-on-Ouse, Bedfordshire, *Antiq J* **29**, 37–61
Webley, L, forthcoming Later prehistoric pottery, in *Excavations at Colne Fen, Earith, Cambridgeshire* (C Evans and R Regan), Cambridge
Webley, L, Timby, J, and Wilson, M, forthcoming *Fairfield Park, Stotfold, Bedfordshire: later prehistoric settlement in the eastern Chilterns*, Oxford

Wells, C, Stroud, G, and Collis, J, 1968 The burials from Owslebury, unpubl. report, Univ. Sheffield
Wells, J, 2006 The artefacts, in Edgeworth 2006, 137–40
West, S E, 1985 *West Stow: the Anglo-Saxon Village*, East Anglian Archaeol **24**
Whimster, R, 1981 *Burial practice in Iron Age Britain: a discussion and gazetteer of the evidence, c 700 BC–AD 43*, BAR Brit Ser 90, Oxford
White, R F, 1980, The Bedford Southern orbital sewer: a watching brief, *Bedfordshire Archaeol* **14**, 19–24
Wild, J, 1982 Wool production in Roman Britain, in *The Romano-British countryside* (ed. D Miles), BAR Brit Ser **103**, 109–22, Oxford
Wilkinson, D, 1992 Oxford Archaeology field manual, unpubl. Report, Oxford Archaeology
Williams, R J, 1993 *Pennyland and Hartigans*, Aylesbury
Williams, R J, Hart, P J, and Williams, A T L, 1996 *Wavendon Gate: a late Iron Age and Roman settlement in Milton Keynes*, Buckinghamshire Archaeol Soc Monogr **10**, Aylesbury
Williams, R J, and Zeepvat, R J, 1994 *Bancroft: a late Bronze Age/Iron Age settlement, Roman villa and temple-mausoleum*, Aylesbury
Williamson, T, 1986 The development of settlement in north-west Essex: the results of a recent field-survey, *Essex Archaeol Hist* 17, 120–32
Williamson, T, 2003 *Shaping medieval landscapes: settlement, society, environment*, Macclesfield
Wilson, B, 1996 *Spatial patterning among animal bones in settlement archaeology*, BAR Brit Ser **251**, Oxford
Wilson, C E, 1981 Burials within settlements in southern Britain during the pre-Roman Iron Age, *Bull Inst Archaeol Univ London* 18, 127–69
Wilson, D M, (ed) 1976 *The archaeology of Anglo-Saxon England*, Cambridge
Wilson, R, and Allison, E, 1990 The animal and fish bone, in *An Iron Age and Romano-British enclosed settlement at Watkins Farm, Northmoor, Oxon* (T Allen), 57–64, Oxford
Wiltshire, P E J, 2005 Palynological analysis of pond deposits, in Dawson 2005, 149–57
Wingfield, C, 1995, The Anglo-Saxon settlement of Bedfordshire and Hertfordshire: the archaeological view, in R Holgate (ed.) 1995, 31–43
Witkin, A, forthcoming Human bone, in Lawrence *et al.* forthcoming
Woods, P J, 1969 *Excavations at Hardingstone, Northamptonshire, 1967–8*, Northampton
Woods, P J, 1974 Types of late Belgic and early Romano-British pottery kilns in the Nene Valley, *Britannia* 5, 262–81
Woodward, A, and Blinkhorn, P, 1997 Size is important: Iron Age vessel capacities in central and southern England, in *Not so much a pot, more a way of life* (eds C Cumberpatch and P Blinkhorn), 153–62, Oxford
Woodward, P J, 1977 Excavations at Pear Tree Farm, Elstow, Bedfordshire, 1976, *Bedfordshire Archaeol J* 12, 27–54
Woodward, P J, 1978 Flint distributions, ring ditches and Bronze Age settlement patterns in the Great Ouse Valley, *Archaeol J* **135**, 32—56

Young, C J, 1977, *Oxfordshire Roman pottery*, BAR Brit Ser **43**, Oxford

Index

Copy to follow

Copy to follow