Early to Middle Iron-Age and Later Settlement at Grove Road, Harwell

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SUMMARY

Excavations in 2014 at Grove Road, Harwell revealed part of an early–middle Iron-Age settlement comprising roundhouses, storage pits, enclosures and burials, overlain by a Romano-British field-system, a possible droveway and two late Roman burials. One of the middle Iron-Age burials had evidence for a sharp weapon trauma. The date of two of the burials was confirmed by radiocarbon determination. At least one pit may be of Anglo-Saxon date, and there was extensive medieval ridge and furrow. Significant quantities of pottery and animal bone were recovered. Analysis of the latter supports an emphasis on sheep farming during the early to middle Iron Age. Other finds include an Iron-Age bone comb inscribed with the naturalistic representation of a human face – the earliest known from British prehistory.

The excavations at Grove Road, Harwell formed part of a programme of archaeological works undertaken by Wessex Archaeology in 2014–15 on behalf of Taylor Wimpey Oxfordshire prior to the development of the land for housing. The 2.6-hectare site (NGR 448879 189418) lies within the administrative boundary of the Vale of White Horse, approximately 400 metres to the north-west of the village centre of Harwell and 3.8 kilometres to the south-west of Didcot (Fig. 1). The main excavation area is bounded to the north by Grove Road, to the west by fields, by Harwell Primary School and playing fields to the south, and existing housing at Manor Green to the east. The site is generally flat, lying at an elevation of approximately 84 metres OD, at the eastern edge of a roughly north-east to south-west aligned valley. The solid geology of the site is Upper Greensand, overlain by head deposits of clay, silt, sand and gravel.[1]

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The site lies within a rich archaeological landscape and less than 4 kilometres from Great Western Park, Didcot where large-scale excavations have revealed evidence of settlement and funerary activity from the Mesolithic through to the Anglo-Saxon period.[2] In the vicinity of the site the Oxfordshire Historical Environment Record (HER) records a number of Neolithic and Bronze-Age discoveries and findspots (MOX7435, MO7480-MOX7482, MOX7488, MOX7489, MOX7505, MOX7506 and MOX7519), indicating activity in the area at this time.

[1] British Geological Survey Viewer – http://mapapps.bgs.ac.uk/geologyofbritain/home.html (accessed July 2014).
[2] 'Excavations at Great Western Park, Didcot', forthcoming OA report.

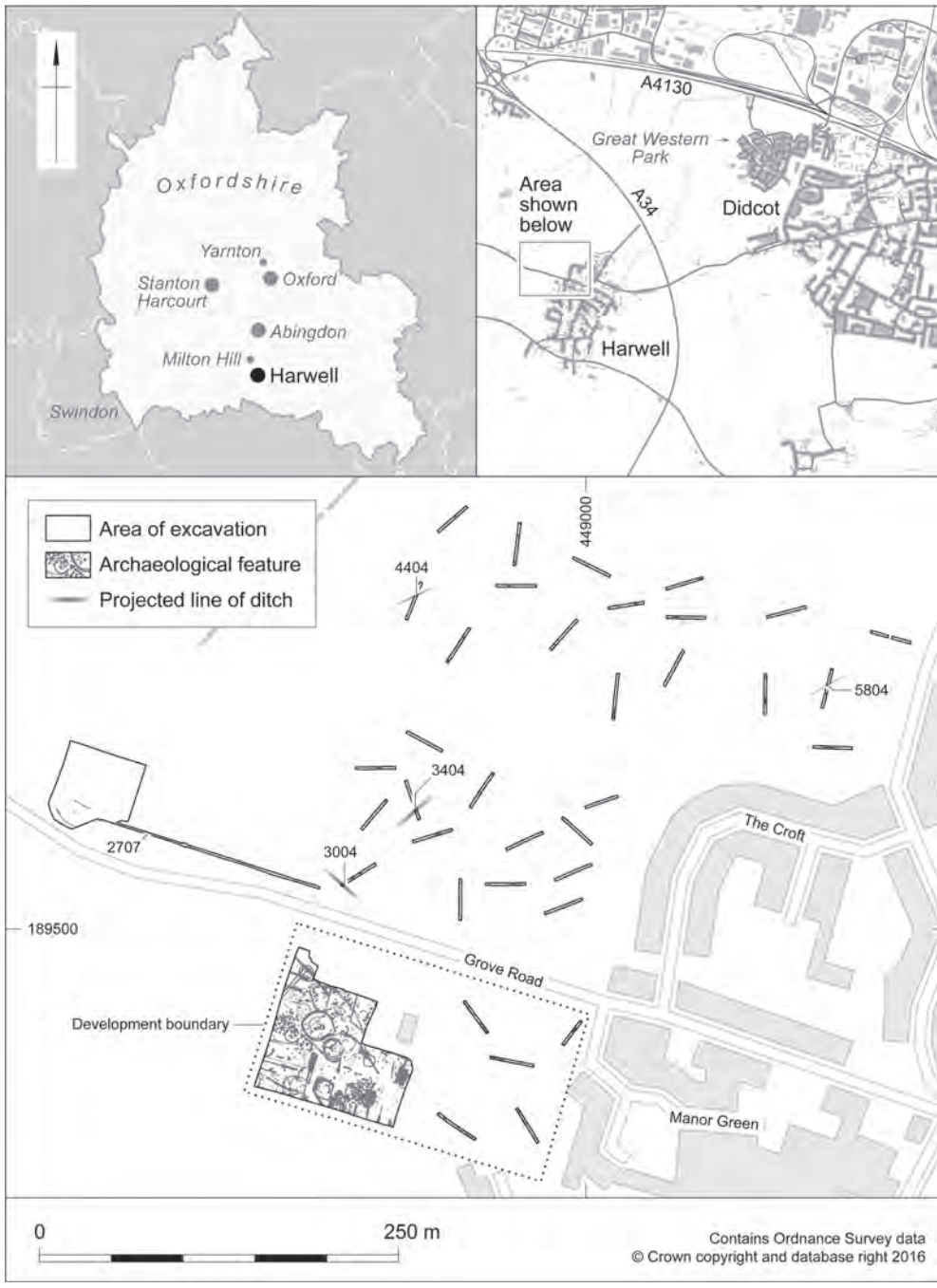

Fig. 1. Site and trench locations.

A little further away several ditches were identified 950 metres to the north-west of the site, which may demarcate an Iron-Age hilltop enclosure on the crest of Milton Hill (HER, MOX24724). Recent excavations to the north of Milton Hill have revealed an Iron-Age to Romano-British settlement with a possible Bronze-Age precursor.[3] Immediately east of the site a number of late Roman coins have been found on at least three occaision (HER, MOX10617, MOX 10486 and MOX10574), while to the south an evaluation at Orchard Way revealed Romano-British settlement.[4]

In the Anglo-Saxon period, Harwell (a place-name derived from the Old English *Hara* and *weilla* meaning 'stream or spring by the hill named Hara') lay within the kingdom of Wessex and is well documented from the mid tenth century onwards.[5] A cemetery from this period has been identified at the southern end of the present village, with at least seven graves located (HER, MOX10488). At the time of Domesday (1086), Harwell was a large settlement of at least 56 households.

The present church dates from the thirteenth century, though the listing of a church in the Domesday Survey indicates an earlier building must have been present. A number of the other buildings within the village originate in the medieval period and suggest settlement focused around the church, along the High Street, and by the junction of Grove Road and Drewitts Corner. Medieval finds have also been recorded from the northern end of the village (HER, MOX10606), suggesting some activity in that area too.

EXCAVATION METHODOLOGY

In 2014 the southern part of the site (south of Grove Road) was subject to a geophysical survey, and this was followed by a phase 1 evaluation which revealed a dense concentration of features, the majority of which were of Iron-Age or Romano-British date.[6] Unfortunately, due to an oversight in the planning procedure, a formal excavation was not requested. However, an arrangement between the curator and client subsequently enabled an 0.71-hectare area to be stripped under archaeological control, mapped and then subject to sample excavation to provide an indication of the general character of the archaeology in terms of land use, structural evidence, settlement sequences and dating (Figs. 1 and 2). The excavation strategy was reviewed throughout the course of the fieldwork and amended as necessary (with the agreement of the Principal Archaeologist of Oxfordshire County Council) to take account of changing circumstances and understanding of the site. Due to time constraints and the density of archaeological remains excavation concentrated on pits and structures. Approximately 30 per cent of the estimated 350 pits were investigated (see Table 1).

Following the excavation, a watching brief was undertaken on a 200 metre long pipe trench and adjacent area to the north of Grove Road (and north-west of the excavation area), but here few features were revealed (Fig. 1). Later, in 2015, a second geophysical survey and a phase 2 evaluation were undertaken in fields to the north of Grove Road (Fig. 1).[7] The 31 evaluation trenches showed a relatively low density of archaeological remains, with most areas devoid of features other than medieval ridge and furrow and, therefore, requiring no further

[3] J. Hart et al., 'The Archaeology of the Cleeve to Fyfield Water Main, South Oxfordshire: Excavations in 2006–7', *Oxoniensia*, 77 (2012), pp. 199–266.

[4] 'An Archaeological Evaluation at Land off Orchard Way, Harwell, Oxfordshire', unpublished JMHS report, 3180 (2014).

[5] M. Gelling, *The Place-Names of Berkshire*, 3 vols. (1973–6), vol. 2, pp. 521–2.

[6] 'Grove Road, Harwell, Oxfordshire, Detailed Gradiometer Survey Report', unpublished WA client report, WA ref 87551 (2014); 'Grove Road, Harwell, Oxfordshire, Phase I, Archaeological Evaluation Report', unpublished WA client report, 87552 (2014).

[7] 'Grove Road, Harwell, Oxfordshire, Phase II: Detailed Gradiometer Report', unpublished WA client report, 87554.02 (2015).

Fig. 2. Excavation area, showing all features.

Table 1. Excavated pits

Date	**Number of pits**
Early–Middle Iron Age	61
Late Iron Age–Early Romano-British	2
Romano-British	8
Anglo-Saxon	2
Undated	26
Total	**99**

investigation.[8] The ridge and furrow had caused some truncation of features, particularly in the northern and western parts of the site.

Given the limited scale of the excavation, only broad date ranges and phases have been assigned due to the problems of redeposition of earlier pottery within later features. Some additional information comes from stratigraphic relationships and two radiocarbon dates on human remains.

DISCUSSION

Earlier Prehistoric Activity

The earliest archaeological evidence at Grove Road, Harwell is artefactual, for the most part comprising small quantities of residual Mesolithic and late Bronze-Age worked flint, whilst pit 2707 of probable middle Bronze-Age date is the only pre-Iron-Age feature. Recent work in the area has recorded further remains from the Bronze Age, including a Beaker pit near Hagbourne Hill and, perhaps more pertinent to Grove Road, six late Bronze-Age pits within an early/middle Iron-Age settlement north of Milton Hill to the north-west of Harwell.[9]

Early to Middle Iron-Age Settlement

The main period of activity represented is early–middle Iron-Age, specifically the fifth to third centuries BC, based on the pottery and a small number of other datable finds. The settlement remains revealed at Grove Road are like a number of others of this period in the Thames valley, typified by 'long lived Iron Age settlements characterised by dense clusters of pits, small ditched enclosures and post-built structures…. most examples of such settlements originated in the early Iron Age or at least the late Bronze Age to early Iron Age transition and lasted well into the middle Iron Age, often with late Iron Age successor settlements'.[10] Such settlements include those found at Wyndyke Furlong, Abingdon,[11] Ashville Trading Estate, Abingdon,[12] Gravelly Guy, Stanton Harcourt[13] and Milton Hill North.[14]

The full extent of the settlement at Grove Road is unknown, with its extent to the south, east and west not established, and only on the rising ground to the north does the density of archaeological features fall off rapidly. However, it is most likely that the settlement was an unenclosed farmstead or possibly a small village, perhaps home to a few extended families. Analysis of the faunal remains indicates that their economy was mainly based on sheep.

Twelve roundhouse structures were identified at Grove Road of which only one (2689), the second smallest (6.8 metres in diameter), was of posthole construction, the remainder represented by circular or penannular ditches or gullies, in one case (2683), the smallest (6.5 metres in diameter), in apparent association with postholes (Fig. 3). The ditches or gullies ranged from 8.5 metres to 11.3 metres in diameter. Analysis of the roundhouse structures at Wyndkye Furlong indicated that construction techniques changed from the early Iron Age to the middle Iron Age, with a shift from post-built structures to circular or penannular ditches,

[8] 'Grove Road, Harwell, Oxfordshire, Phase II, Archaeological Evaluation Report', unpublished WA client report, 87554.06 (2015).

[9] Hart et al., 'The Archaeology of the Cleeve to Fyfield Water Main', pp. 199–266.

[10] G. Lambrick with M. Robinson, *The Thames Through Time: The Archaeology of the Gravel Terraces of the Upper and Middle Thames. The Thames Valley in Late Prehistory: 1500 BC–AD 50*, Thames Valley Landscapes Monograph, 29 (2009), p. 105.

[11] J. Muir and M.K. Roberts, *Excavations at Wyndyke Furlong, Abingdon, Oxfordshire, 1994*, Thames Valley Landscapes Monograph, 12 (1999).

[12] M. Parrington, *The Excavation of an Iron Age Settlement, Bronze Age Ring-Ditches and Roman Features at Ashville Trading Estate, Abingdon (Oxfordshire) 1974–76*, CBA Research Report, 28 (1978).

[13] G. Lambrick and T. Allen, *Gravelly Guy, Stanton Harcourt: The Development of a Prehistoric and Romano-British Community*, Thames Valley Landscapes Monograph, 21 (2004).

[14] Hart et al., 'The Archaeology of the Cleeve to Fyfield Water Main', pp. 202–4.

either representing wall trenches for vertical posts or, in the case of shallower features, drip gullies.[15] Such a sequence has been noted elsewhere and this may also have been the case at Grove Road, but could not be confirmed either by stratigraphy or pottery dating. Certainly, in the case of some of the ditches and gullies, the clustering and overlapping sequence of roundhouses demonstrates the rebuilding of one or more structures in the same location.

At the centre of the site, two roundhouses stand out: 2666 set within a slightly larger oval enclosure defined by drainage ditch (2667), and adjacent concentric ditches 2668 which could have been contemporary with 2666/2667 and together may have provided a focus within the settlement. Not all of the roundhouses need have provided accommodation space and some may have served as ancillary structures, with other ditches defining associated small enclosures or paddocks of various shapes, all focused around the principal structure(s). This seems particularly likely for the cluster of roundhouses and enclosure ditches in the central and western part of the site, with another, smaller cluster apparent in the central southern part.

A large number of pits were recorded, with the sixty-one or so early/middle Iron-Age examples excavated probably representing approximately 25 per cent of the total for that period (Table 1). Such large numbers are characteristic of similar early/middle Iron-Age sites in the upper Thames region, for example Wyndyke Furlong,[16] where they also occur in clusters or zones, generally reflecting the locations of groups or individual roundhouses. Although the dating evidence, in particular the pottery, is not precise enough to allow detailed chronological sequences to be unravelled at Grove Road, it is clear that certain clusters of pits were associated with groups of roundhouses, and when structures fell into disuse and were dismantled the area was often given over to pit digging.

The deeper, circular flat-bottomed pits are likely to have been used for storage and ultimately rubbish disposal, but the function of the smaller, more irregular examples is less certain though most contained domestic rubbish. No pits with any specialized purposes were found at Grove Road, and though a small number of wells or waterholes are likely to have been present, none was identified.

The disposal of human remains in pits associated with domestic rubbish is a typical Iron-Age burial practice, however it is noteworthy that as only sixty-one early/middle Iron-Age pits were investigated, and only two in situ burials (one of which is confirmed by radiocarbon dating – see Barclay and Wyles, below) and a few disarticulated remains were identified, it is by no means clear that pit burial was the predominant form of interment at Grove Road. Therefore, an associated cemetery in the vicinity is a possibility as has been found outside the settlement at Yarnton and elsewhere.[17] One of the skeletons has evidence for a sharp weapon trauma, most probably from the individual being stabbed between the shoulder blades.

The areas beyond the main focus of settlement would have been given over to agriculture, though the excavation and evaluation revealed no Iron-Age field boundaries or enclosures outside the core area. However, the animal bone and charred plant remains indicate a mixed agricultural economy, and the large number of storage pits are likely to have been used to keep grain.

The charred plant remains reflect a landscape of small rural settlement with the local cultivation of crops, in particular hulled wheat (mainly spelt) and barley, as was the case at Ashville Trading Estate, Abingdon, for example.[18] The quantity of chaff indicates on site processing and storage of grain in semi-cleaned or spikelet form. The animal bone assemblage demonstrates a livestock economy based on sheep farming as well as cattle, with a likely

[15] Muir and Roberts, *Excavations at Wyndyke Furlong*, pp. 61–2.
[16] Ibid. p. 63.
[17] Lambrick with Robinson, *The Thames Through Time*, pp. 303–6; G. Hey et al., 'Iron Age Inhumation Burials at Yarnton, Oxfordshire', *Antiquity*, 73 (1999), pp. 551–62; G. Hey et al., *Yarnton: Iron Age and Romano-British Settlement and Landscape. Results of Excavations 1990–98*, Thames Valley Landscapes Monograph, 35 (2011), pp. 60–2.
[18] M.K. Jones, 'The Plant Remains', in Parrington, *Ashville Trading Estate*, pp. 93–110.

focus on wool production rather than prime meat. The relatively large number of sheep is not unusual, but Grove Road has a higher percentage of mature sheep than most other sites in the upper Thames region.

A very limited range of domestic crafts is represented, primarily comprising a single spindle whorl indicative of spinning, possible loomweight fragments, and a couple of gouges and an awl which may have had associations with textile or leather working. Although some of the small quantity of iron smithing slag may be of Iron-Age date, it is more likely that it is all Romano-British. Of particular note, however, is a comb, probably also associated with weaving, which is unique in terms of its quality of decoration including the depiction of a human face (see Fig. 12). Its occurrence at Grove Road is seemingly out of character with what is otherwise an interesting but not exceptional assemblage of finds.

It seems likely that the Grove Road settlement was largely self-sufficient in terms of its agricultural production and textiles. Presumably, however, the small number of Iron-Age copper alloy and iron objects were brought in from outside, as were the two querns. The pottery assemblage, which includes a range of vessels mainly for cooking and storage, comprises mainly locally produced wares (though not made within the settlement itself), but a small number, most notably the oolitic-tempered wares, come from further afield.

Around the end of the third century BC there is clear evidence for abandonment of the early to middle Iron-Age farmstead/village, with a possible hiatus in settlement in the late Iron Age, followed by a renewed but slightly shifted focus in the late Iron Age/early Romano-British and subsequent period. Such a pattern of abandonment and shift in focus appears to have been widespread in the upper Thames region,[19] for example at Ashville Trading Estate and Wyndyke Furlong, Abingdon,[20] perhaps a combination of failing settlements and external factors, and at the latter sites it has been suggested that nitrogen depletion of the soil and falling crop yields were a factor in the settlement's demise.[21] A similar sequence of events may have led to the end of the early to middle Iron-Age settlement at Grove Road, Harwell.

Romano-British Fields and Settlement

Despite the recovery of a small amount of late Iron-Age pottery, re-establishment of the settlement appears to have been in the Romano-British period, beginning in the first century AD, albeit not exactly on the same site but seemingly focused a little further to the east, beyond the limit of excavation. The excavation did, however, reveal a series of ditches defining fields, as well as possibly one or two associated droveways or trackways, though the layout is not as clear as seen, for example, at Wyndyke Furlong, Abingdon.[22] No structural remains were present, but the relatively large quantity of Romano-British pottery (approximately a third of the ceramic assemblage) and other finds (including metalwork and quernstone fragments) indicate settlement in the vicinity. A metalled surface overlain by a spread of soil containing the majority of finds, exposed along the eastern edge of the site, may have been part of a yard surface associated with this settlement, and a scatter of pits were also present.

The pottery from the soil spread dated from the first through to the fourth century AD, with late Romano-British material predominant, and derived from a variety of sources, though there are very few continental imports and most of the assemblage is, as might be expected, from kilns in Oxfordshire. Amongst the limited range of other Romano-British finds from the site, a small number merit mention here. In particular, a small pewter platter and a possibly associated group of nine coins of the late 360s/370s, which together may constitute a hoard, were found in the soil spread overlying the metalled surface.

[19] G. Lambrick, 'The Development of Late Prehistoric and Roman Farming on the Thames Gravels', in M. and E. Nicholls (eds.), *Developing Landscapes of Lowland Britain. The Archaeology of the British Gravels: A Review*, Society of Antiquaries of London Occasional Papers, 4 (1992), p. 83.

[20] Muir and Roberts, *Excavations at Wyndyke Furlong*, p. 65.

[21] Jones, 'The Plant Remains', p. 109.

[22] Muir and Roberts, *Excavations at Wyndyke Furlong*, fig. 2.5.

The agricultural economy appears little changed from earlier, with spelt wheat and barley dominating the cereals and sheep still more important than cattle in terms of numbers. However, as elsewhere in the region the charred weed seeds indicate a wider range of soils being exploited, including heavier clays and lighter sands, and there is also some evidence for the likelihood of malting and brewing taking place on the site during the Romano-British period.

There were two inhumation burials, both late Romano-British, one unaccompanied, but the other with a coin, a beaker and apparently clutching a quartzite pebble in the left hand, perhaps an amulet of some form.

Anglo-Saxon and Later Activity

Two small pits and a few sherds of pottery of possible Anglo-Saxon date are difficult to interpret and their significance remains uncertain, except to hint at occupation in the vicinity, presumably related to the known pre-Domesday settlement at Harwell (see above). Subsequently, the entire site was overlain by medieval ridge and furrow agriculture.

STRATIGRAPHIC SUMMARY

The following section is presented by period, and should be considered as an overview of the more salient features to help characterize the settlement and the development of the site. This spans the Mesolithic to the medieval period, with the main periods of activity in the early–middle Iron Age and, to a lesser extent, the middle–late Romano-British period (Fig. 2). The phasing is somewhat problematic due to the limited number of features excavated and the redeposition of earlier pottery within later features. Therefore, broad date ranges and phases have been assigned, with additional information coming from stratigraphic relationships and two radiocarbon dates.

Towards the northern end of the site there was approximately 0.3 m of topsoil and subsoil, whereas at the south-eastern corner the overlying material thickened to 0.7 m. It must be assumed that a certain amount of truncation has occurred, in particular as a result of medieval ridge and furrow agriculture, this being most apparent in the northern and western parts of the site.

Pre-Iron Age

A few pieces of Mesolithic worked flint were recovered from Iron-Age and later features, providing evidence of early prehistoric activity in the vicinity. Bronze-Age activity was represented by a possible pit (2707) (Fig. 1), identified in the watching brief to the north of the main excavation area, which contained seven sherds of middle Bronze-Age pottery. Pit 2707 was oval in plan, 1 m long by 0.60 m wide and just 0.10 m deep, and filled with redeposited natural. Further, residual late Bronze-Age worked flint was recovered from a number of early/middle Iron-Age and Romano-British features.

Early–Middle Iron Age

The main period of activity can be dated to between the fifth and third centuries BC – the late early Iron Age into the early middle Iron Age, when the settlement was dominated by the construction of roundhouses and enclosures and pit digging (Fig. 3). It is clear that the intercutting ditches, gullies and pits indicate occupation extending over possibly two centuries with the abandonment of some structures while others were maintained and re-established, with the re-digging of ditches and gullies.

Structures The certain or possible roundhouses are mainly represented by sequences of one or more circular or penannular ditches or gullies, though there is still debate as to what these

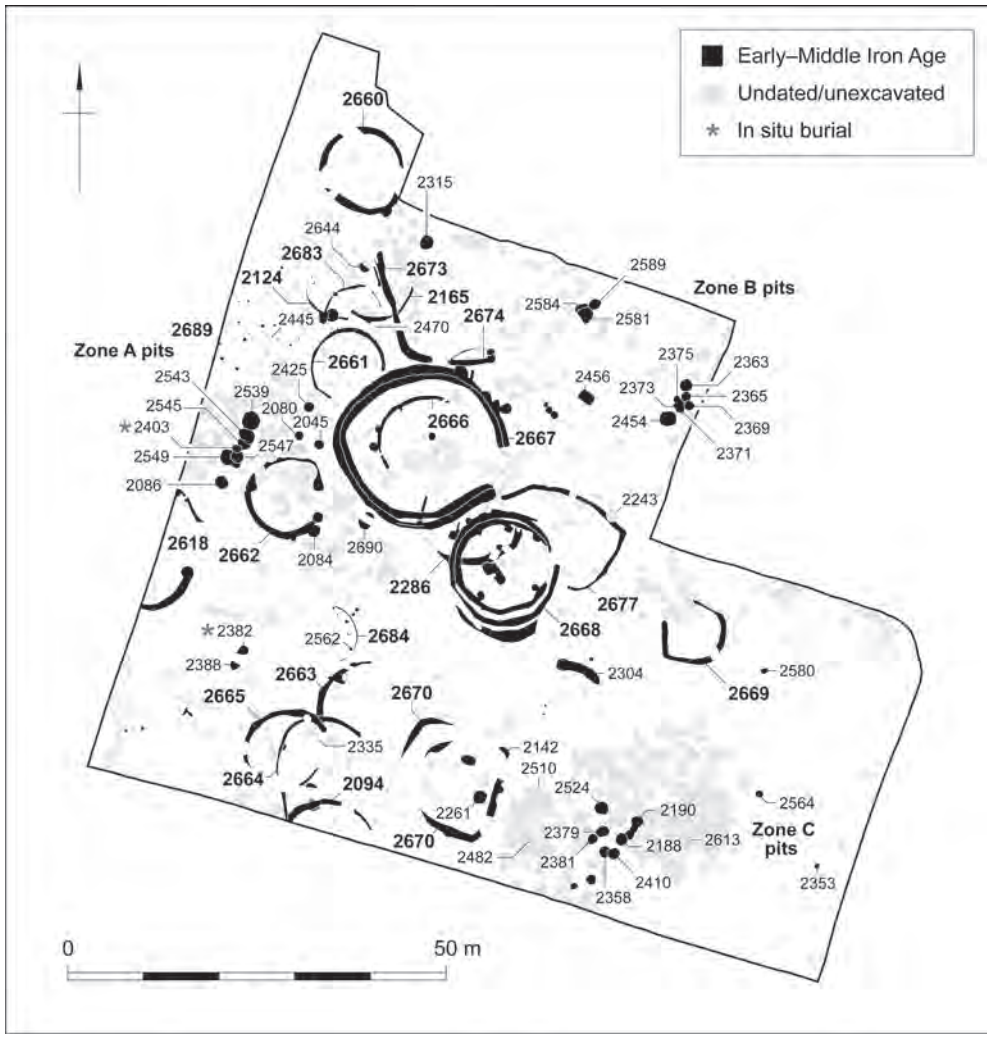

Fig. 3. Iron-Age and undated/unexcavated features.

features represent – post trenches for holding upright timber wall posts, or drip gullies to divert water from the eaves away from the wattle and daub walls of the buildings.[23] A number of these ditches and gullies were accompanied by curving arcs of postholes, and it is possible that different buildings (or phases of building) were constructed in different ways, for example discrete postholes for single posts or trenches for holding multiple posts. It was also evident that a number of the roundhouses were supplemented by an outer surrounding ditch, providing further drainage for the building and perhaps also demarcating space around the roundhouses. Not all the roundhouses have been identified with the same level of confidence and it is possible others are present amongst the various groups of postholes.

At least twelve relatively distinct roundhouse structures and five roundhouse-related structures or enclosures have been identified (Table 2; Fig. 3), and all showed similar infilling

[23] For example, Parrington, *Ashville Trading Estate*, p. 34; D.W. Harding, *The Iron Age Roundhouse: Later Prehistoric Buildings in Britain and Beyond* (2009), p. 75.

Table 2. Roundhouse and roundhouse-related structures

Number	Construction method	Type	Diameter (m)	Entrance facing
2124	Gully	RS	9.1	-
2165	Gully	RS	8.5	-
2660	Ditch	RS	10	?E
2661	Gully	RS	9.5	ESE
2662	Ditch	RS	9.3	ESE
2663	Gully	RS	10.7	?E
2664	Gully	RS	10.5	?E
2665	Gully	RS	9.6	?E
2666	Gully	RS	11.3	ESE
2683	Post hole and gully	RS	6.5	-
2684	Internal post hole and gully	RS	8.6	?W
2689	Post hole	RS	6.8	-
2094	Ditch	RRS/E	13.3	-
2286	Ditch	RRS/E	12.3	
2618	Ditch	RRS/E	17.4	E
2667	Ditch	RRS/E	17.5–19.6	ESE
2668	Ditch	RRS/E	11.2–13.7	ENE

RS–Roundhouse structure, RRS/E–Roundhouse related structure/enclosure

deposits within the associated ditches – a homogeneous deposit derived largely from erosion of the sides and adjacent ground surface.

Structure 2286 lay in the centre of the site and was one of the stratigraphically earliest structures. It was represented by a curvilinear ditch, of which only the south-eastern portion survived to any great degree, mainly due to truncation elsewhere by medieval ridge and furrow. The surviving part of the ditch was 1.30 m wide and 0.30 m deep. No internal postholes were identified and, if complete, the structure would have had a projected diameter of approximately 12.3 metres. Pottery recovered was sand and shell-tempered ware and sandy ware of the early/middle Iron Age. Following its abandonment, the structure was replaced by roundhouse 2666, surrounding enclosure ditch 2667, and roundhouse-related ditch 2668. Ditch 2286 was also cut by pit 2287 which contained a bone weaving comb (see below and Figs. 11, no. 5, 12) of fifth–fourth century BC date, and it is possible that this object derived from the fills of 2286.

A cluster of five, mostly relatively small, and in some cases poorly surviving, structures comprising 2124, 2165, 2661, 2683 and 2689 lay towards the north-west corner of the excavation area. All but 2689 overlapped, and they are likely to reflect a sequence of roundhouses.

Intercutting structures 2124, 2165 and 2683 possibly belonged to the earliest phase of settlement, along with structure 2286 (see above). All three had been heavily truncated and survived as short lengths of curvilinear ditch and/or postholes. Roundhouse 2124, with a projected diameter of 9.1 m, was defined by a gully 0.35 m wide and 0.10 m deep. It was undated but had been truncated by pits 2120 and 2122, both of which contained only early Iron-Age pottery. Structure 2165 was 8.5 m in diameter, the surviving gully being 0.48 m wide and 0.10 m deep. This contained grog-tempered Iron-Age sherds and was cut by enclosure 2673/2674 which appears to have predated structures 2666 and 2667. Structure 2683 was the smallest of the roundhouses at 6.5 m in diameter, with the surviving ditch 0.47 m wide and 0.08 m deep. This structure comprised a combination of postholes and gully segments following the same

arc, rather than a series of postholes on the inside of a ring gully. Plain, externally burnished sandy ware pottery was recovered from one of the postholes of roundhouse 2683.

Structure 2661, the most substantial of the group, was 9.5 m in diameter. The surviving penannular ditch was 0.55 m wide and 0.20 m deep with straight sides and a flat base, and had been cut by enclosure ditch 2667 on its south-eastern side. Ditch 2661 contained sherds of fineware bowls and red-finished ware.

Only one roundhouse of the five appeared to comprise postholes alone. Structure 2689 had a projected diameter of 6.8 m and was formed of at least five postholes, each approximately 0.40 m in diameter and 0.20 m deep. It was located in an area containing many postholes, but no other structures could be discerned within this concentration of features.

Located to the north of intercutting roundhouses 2124, 2165 and 2683, in the north-west corner of the site, was structure 2660. This had a diameter of 10 m, and was defined by a ditch 1 m wide and 0.39 m deep with moderately sloping sides and a concave base. The structure had been truncated by later features and there was no clear entrance or associated internal postholes. Pottery from the ditch comprised undiagnostic sandy and shell-tempered wares.

Structure 2662, to the south of 2661, had a projected diameter of 9.3 m and was defined by a penannular ditch 1.05 m wide and 0.39 m deep. This had moderately sloping sides and a concave base, and there was a 2.6 m wide gap on the eastern side probably defining an entrance. The ditch contained numerous early/middle Iron-Age pottery sherds including fragments of a tripartite cup (Fig. 7, no. 17). No contemporary internal features were identified, and following abandonment the area occupied by the structure was cut by a number of pits.

Structures 2663, 2664 and 2665 comprised a sequence of three intercutting curvilinear ditches towards the south-western corner of the site. The 1 m wide ditches represented roundhouses, all with projected diameters of approximately 9.5 m, though all three had been heavily truncated on their eastern sides by medieval ridge and furrow. The earliest was 2663, with a ditch 0.42 m deep, which was replaced by 2664, just 0.13 m deep, with 2665, at 0.33 m deep, being the last ditch in the sequence.

Located between structures 2662 and 2663–5, structure 2684 represented a roundhouse 8.6 m in diameter, though only the eastern portion survived. The remaining gully was 0.20 m wide and 0.10 m deep, and lay approximately 0.30 m outside an arc of five internal postholes. This was the only structure that showed reasonably clear evidence of being post-built with a surrounding (drip) gully. Pottery recovered from the gully included sherds of early/middle Iron-Age carinated vessels. Of particular interest was the southernmost posthole 2562, which contained a portion of skull from a 15–17-year-old possible female, the fragment possibly from the same individual as that in feature 2584 (see below).

Structure 2666 was one of the largest recorded roundhouses, with a projected internal diameter of 11.3 m, but it only survived on its north-western side, having been truncated on the south-eastern side by medieval ridge and furrow. The surviving ditch was 0.55 m wide and 0.19 m deep with concave sides and a flat base. There was a number of postholes cutting into the top of the ditch fills, though it is unclear if these features were contemporary with the use of the roundhouse, and perhaps indicate repairs, or were unrelated. Pottery from the ditch included undiagnostic sandy and sandy/shell-tempered body sherds. No structural remains were identified within the interior, though a contemporary ditch (2667) lay approximately 3 m from the edge of the roundhouse and surrounded it.

Enclosure 2667 had an internal diameter ranging from 17.5 m–19.6 m, with a 5.5 m wide entrance on the south-eastern side. The enclosure had been maintained and re-established over a period of time, with evidence of at least three episodes of re-digging.

Though containing similarly dated pottery to the earlier structures it is probable that structure 2666 and associated enclosure 2667 became the main focus of the settlement for a relatively lengthy period. Roundhouse 2666 and surrounding enclosure 2667 overlay structure

2286, and would also have prevented access to structure 2661 and enclosure 2673/2674 (see below). Indeed, it is likely that this area of the settlement was occupied with buildings for some considerable time as, for the most part, it was not affected by the extensive pit digging seen elsewhere on the site. However, there is a clear line of pits (Zone A – see below) located just to the west of these structures and enclosures which appears to respect them and, therefore, indicate broad contemporaneity. Only when roundhouses and related structures fell out of use and were abandoned did pit digging extend over them, as was the case, for example, with roundhouse 2662.

Roundhouse Related Features/Enclosures Five ditches were identified that appear to be related to the roundhouses and most likely represent drainage ditches and/or enclosures surrounding the buildings themselves,[24] rather than drip gullies or wall trenches, on the basis of their width, depth and diameter (see Table 2; Fig. 3).

Enclosure 2667, discussed above, is the clearest of the features, surrounding roundhouse 2666, and it is likely that 2286 had a similar function. Of the remaining three features (2668, 2618 and 2094) it is enclosure 2668 which is of most interest because of its longevity. This had an initial internal diameter of 11.2 m, the ditch subsequently being recut on at least two occasions, enlarging it to 13.7 m in diameter. The initial ditch was 0.82 m wide and 0.22 m deep, with subsequent recuts 0.86 m wide and 0.32 m deep and, finally, 1.03 m wide and 0.42 m deep. There was a narrow, 1.6 m wide entrance located on the eastern side which led into ancillary enclosure 2677 (see below). A number of features lay within the area enclosed by 2668, though it is unclear if any were contemporary.

Other Enclosures A small number of ancillary enclosures, perhaps animal stockades or similar, were identified, the majority square or sub-rectangular in shape (Fig. 3). The earliest was probably 2673/2764, which may have become redundant following the construction of structure 2666 and enclosure 2667, which blocked the entrance on the south side. However, only the western and southern sides of the enclosure were clear, defined by a 'U'-shaped ditch 1 m wide and 0.40 m deep, and the full extent remains unknown.

Enclosure 2677, somewhat irregular in shape, was a possible addition on the north-eastern side of structure/enclosure 2668, and was apparently set out so as to avoid blocking the entrance 2666/2667. The ditch was 0.77 m wide and 0.37 m deep, with concave sides and base, and had been truncated by Romano-British ditch 2676.

East of enclosure 2667 was a small sub-square enclosure, 2669, with internal dimensions of 7 m by 7 m and an entrance in the north-western corner. The ditch was 0.86 m wide and 0.36 m deep, and contained a small quantity of early/middle Iron-Age pottery.

Sub-square enclosure 2670 in the central southern part of the site had internal dimensions of approximately 10 m by 10 m, but the location of the entrance is not clear due to extensive later truncation. The ditch was 1 m wide and 0.40 m deep, and may have replaced an earlier palisaded enclosure defined by timber posts, represented in part by postholes 2072 and 2073, revealed below the base of the ditch in the excavated segment. Enclosure 2670 was subsequently recut on a number of occasions (2671 and 2672), its use apparently continuing into the Romano-British period. The function of this enclosure is unclear, as is the reason for its longevity and possibly changing form.

Pits Approximately 350 pits were identified within the excavation area, the majority comprising discrete features or small numbers of intercutting pits. There were, however, a number of large groups of intercutting pits (visible on the surface as spreads of dark soil with no individual cuts evident), particularly in the south-east corner, and so the true number of pits may be closer to 400. Of these, 99 were investigated during the course of the excavation.

[24] Lambrick with Robinson, *The Thames Through Time*, fig. 4.26.

Traditionally such features are viewed as storage pits for grain or other foodstuffs, and settlements such as Grove Road, Harwell with dense clusters of pits are typical of the upper Thames valley in the second half of the first millennium BC.[25] It is likely the pits had a number of uses including grain storage, rubbish deposition and the disposal of cess. It would appear that the storage pits had been excavated with considerably more care to avoid other features and so minimise the risk of contamination and spoiling of the stored grain. The grain storage pits were generally relatively deep, circular and steep-sided, whereas the rubbish pits were in some cases no more than shallow scoops or irregularly shaped deeper features.

There were three main zones of pit digging, with a clear concentration towards the western limit of the site to the south-west of structures 2661, 2666/2667 and 2689 (Zone A), a more dispersed group to the north-east of 2667/2667 and 2668 in the north-eastern part of the site (Zone B), and a notable concentration towards the south-eastern corner of the site (Zone C) (Fig. 3). These areas were possibly chosen as a result of the positioning of roundhouses during the initial establishment of the settlement. There were, in addition, isolated pits and small clusters across the entire site.

Pits – Zone A Pit 2086, located west of structure 2662, was possibly one of the earliest pits on site. It was oval with straight, slightly undercutting sides and a flat base, 1.90 m long by 1.68 m wide and 0.85 m deep. The characteristically bell-shaped nature and size is typical of a grain storage pit; the homogeneous fills are indicative of a mix of natural erosion deposits interspersed with deliberate dumps of waste material which included numerous sherds of early/middle Iron-Age pottery and bones of cattle, sheep/goat, pig, horse and dog.

Pit 2045, west of enclosure 2667, was roughly circular, 1.42 m long by 1.30 m wide and 0.47 m deep, with steep straight sides and flat base. It was filled with a single homogeneous deposit containing pottery and animal bone.

Pit 2690, immediately south of enclosure 2667, was truncated by late Romano-British ditch 2675. Pit 2690 was large, oval and bell-shaped, 2.4 m long by 1.8 m wide and 0.82 m deep, with undercut sides and a flat base. The shape suggests it was originally a storage pit but was then backfilled with deposits of domestic waste, interspersed with collapsed material from the feature edges. It was one of the few pits which showed this clear difference in the sequence of fills. The waste deposits contained pottery including a globular jar (Fig. 6, no. 10) and a thumb pot (Fig. 6, no. 12), numerous animal bones, a bone awl (Fig. 12, no. 6) and skull fragments from a 2-year-old infant. Further skull fragments from possibly the same infant were recovered from ditch 2675 which cut the pit and are probably, therefore, redeposited.

Pit 2425 was an isolated circular pit south of structure 2661, 1.45 m in diameter and just 0.12 m deep with an unusually irregular base. The single fill contained the remains of a middle Iron-Age globular jar with applied knobbed decoration (Fig. 8, no. 23).

Towards the western edge of the site was a north–south line of five intercutting pits (2539, 2543, 2545, 2547 and 2549). They were either circular or oval in shape, and ranged in size from 1.7 m (2547) to 2.4 m in diameter (2539), and in depth from 0.15 m (2545) to 0.60 m (2549). Their relatively shallow nature might suggest that there had been a certain amount of truncation, most likely a result of medieval ridge and furrow. A mix of early/middle Iron-Age pottery was recovered including a stamp-decorated round-bodied fine ware bowl (Fig. 7, no. 22), and numerous animal bones. Cut into the top of pits 2545 and 2547 was grave 2403; this contained the remains of a 35–45-year-old male radiocarbon dated to 390–200 cal. BC (2228±27 BP; SUERC-60244).

Two pits were investigated to the west of structure 2663, both truncated by medieval ridge and furrow. Pit 2388 was oval in plan with steep sides and a flat base, 1.30 m long by 1.05 m wide and 0.36 m deep, and showed clear evidence of deliberate capping. Pit 2382 was also oval in shape, 1.35 m long by 1.30 m wide and 0.68 m deep, with steep sides and a flat base. In pit

[25] Ibid. p.106.

2382, interleaved with natural silting and collapse, was a series of deposits containing early/middle Iron-Age pottery and, at the base, the disturbed remains of a probable in situ neonate burial.

Pits – Zone B Pit 2581, located north of enclosure 2667, and truncated by Romano-British ditches 2682 and 2581, was the largest of the pits excavated, at 5.02 m long, 2.70 m wide and 1.15 m deep. It was also one of the earliest, containing 435 sherds of pottery dating from the fifth–fourth centuries BC (see below). Initially bell-shaped, it is probable that collapse of the pit edges resulted in the top of the feature becoming considerably enlarged. The collapse deposits were interspersed with deliberate dumps of domestic waste including, as well as pottery, numerous fragments of animal bone, including cattle, sheep/goat, pig and dog, and a worked bone disc, possibly a pendant or button (Fig. 11, no. 9). Prior to the final infilling, a small feature (2584) was dug into the top of pit 2581, apparently for the deliberate placing of a portion of skull from a 15–17-year-old possible female. The reason for such deposition is unclear, and it is possible that the skull fragment is from the same individual as the remains recovered from roundhouse 2684 (see above).

Pit 2581 was subsequently cut by pit 2589, oval in shape, 1.60 m long by 1.50 m wide and 0.37 m deep, with steep straight sides and flat base. This was a probable storage pit, filled with a single homogeneous deposit containing early/middle Iron-Age pottery, some of it clearly derived from pit 2581 as joining sherds demonstrate.

Pit 2315 was located north-east of structure 2165, and was clipped by Romano-British ditch 2312. Circular in shape, 1.95 m in diameter and 0.23 m deep, pit 2315 had a possible deliberately placed deposit of cattle bones at the base. The group of bones, including the skull and fragments of scapula, pelvis and leg bones, had been packed around with stones and was associated with sherds of a carinated fineware vessel (Fig. 7, no. 16).

At the north-eastern limit of the site was a group of six intercutting pits (2363, 2365, 2369, 2371, 2373 and 2375). All were circular in shape and ranged in diameter from 0.95 m (2675) to 1.65 m (2363), and in depth from 0.07 m (2371) to 0.26 m (2363 and 2365), suggesting that considerable truncation had taken place. Numerous sherds of early/middle Iron-Age pottery were recovered from the fills of the pits, though little can be deduced about their function.

Pit 2456 located to the north-east of the site was the only sub-rectangular pit identified and investigated on site, measuring 2.08 m long by 1.50 m wide and 0.36 m deep. The pit contained evidence of deliberate capping, including crushed chalk, material which would have to have been brought to the site from elsewhere. Perhaps it was used to seal foul smelling waste of some kind, and a latrine pit is one possible interpretation of this feature.

Pits – Zone C Further pits recorded in Zone C shared similar characteristics to those in Zones A and B, many perhaps used initially for grain storage and subsequently for the deposition of domestic refuse. Excavated examples include 2524, 2379, 2381, 2190, 2188, 2410 and 2358.

Burials Two in situ burials belong to the early/middle Iron-Age (Fig. 3) and there are a further five occurrences of disarticulated human remains from pits and ditches of this date (see below).

A possibly truncated pit, 2403, 1.4 m long, 1.1 m wide and 0.14 m deep, contained the crouched burial of a 35–45-year-old male (2404), radiocarbon-dated to 390–200 cal. BC (2228±27 BP; SUERC-60244). This individual is notable because of a probably fatal penetrating stab wound to the back. The second burial comprised a disturbed but probably in situ neonate in storage pit 2382.

Romano-British

Towards the end of the Iron Age there appears to have been a slight shift in settlement to the east and a change in land use. The earlier roundhouses and storage pits were replaced by field

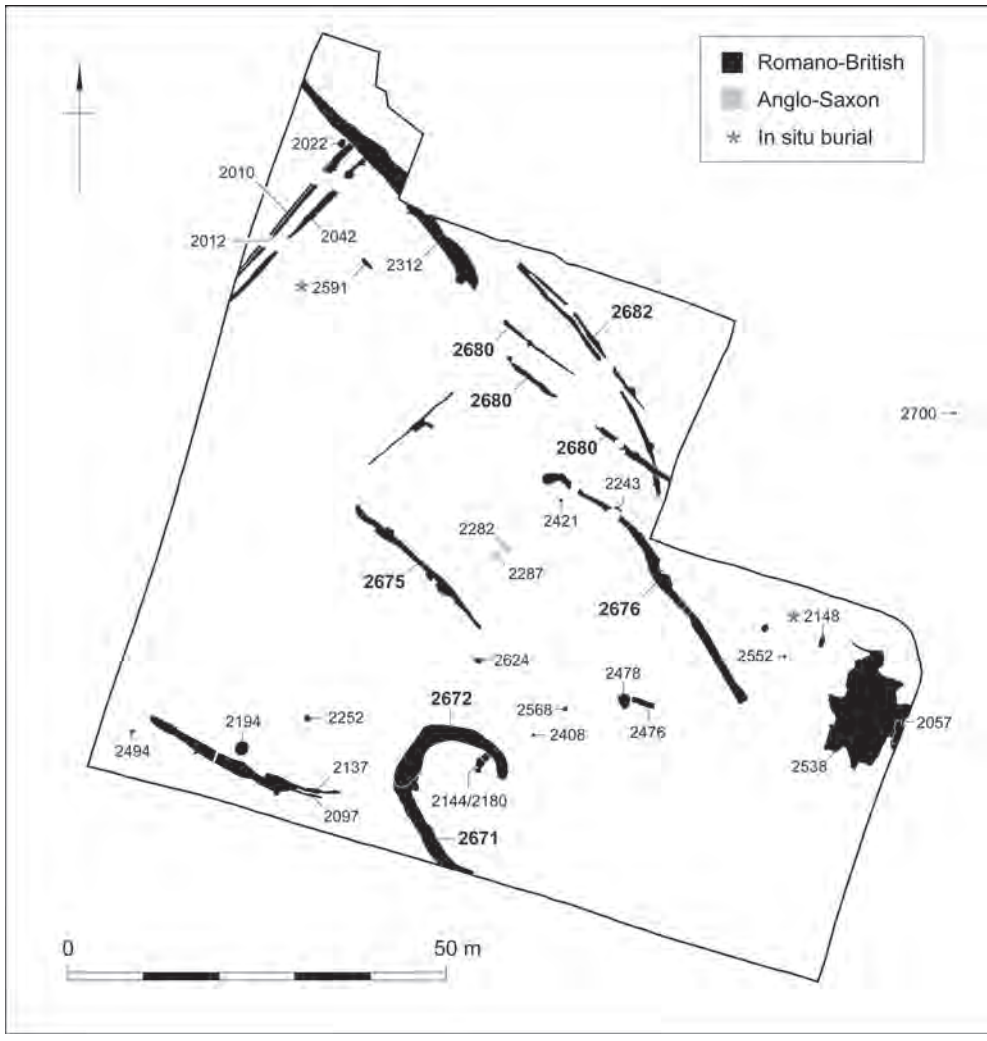

Fig. 4. Romano-British and Anglo-Saxon features.

boundaries and a possible droveway, while along the eastern edge of the site there was limited evidence for settlement during the later Romano-British period (Fig. 4).

Fields and Droveways A series of roughly north-west to south-east aligned ditches cut across the earlier settlement features (Fig. 4). These ditches appeared to form part of a somewhat irregular Romano-British field system that had been maintained over a lengthy period by re-cutting. Ditches 2671, 2675 and 2676, along with possibly 2137, 2312 and 2682, and phase 2 evaluation ditch 3004, comprised the principal features (see Fig. 1). These may have been associated with perpendicular ditches 2010, 2012 and 2042, appearing to define a trackway, as well as phase 2 evaluation ditches 3404, 4404 and 5804, creating a series of field boundaries.

Ditch 3404 was possibly the earliest of the Romano-British features, 2.3 m wide and 0.76 m deep, with tip lines indicating a possible bank on the south-western side. Pottery from the fill is dated to the first century AD and a small penannular copper alloy brooch (ON 88) is of similar, early date.

Ditch 2675, which cut two Iron-Age pits, was 0.90 m wide and 0.52 m deep with steep sides and a concave base. The single, homogeneous fill included skull fragments of a 2–4-year-old infant, most likely derived from pit 2690 (see above), and numerous sherds of residual Iron-Age pottery. Romano-British pottery included South-East Dorset Black Burnished ware and Oxfordshire colour coat.

Two parallel north-west to south-east aligned ditches, 2680, some 3 m apart, represent the remains of a possible droveway. The ditches were 1 m wide but only 0.14 m deep and had been truncated towards the north-west corner of the site. Here, a slightly narrower possible trackway (noted above) defined by ditches 2010, 2012 and 2042, lay perpendicular to 2680, though the relationship between them is unclear.

Settlement The remains of metalled surface 2057, formed of fragments of greensand, limestone and gritstone, lay on the eastern edge of the site, sealed by spread 2538 (Fig. 4). The heavily disturbed metalling, which covered an irregular area 3.5 m long by 1.3 m wide, and was 0.10 m thick, contained numerous finds (see below) and may have once formed a yard surface. It overlay a small undated posthole but no other structural evidence was revealed. Spread 2538, perhaps an occupation layer, was 15 m long by 9 m wide and 0.20 m thick, and also contained numerous finds including a small pewter platter (Fig. 11, no. 4) and a disturbed hoard of nine late Romano-British coins.

Eight Romano-British pits were identified, comprising 2022, 2144/2180, 2194, 2243, 2408, 2421, 2552 and 2568, scattered across the site (Fig. 4). Pit 2194, the largest, was oval in plan, 2.05 m long by 1.55 m wide, and at least 0.80 m deep with near vertical sides. It was not bottomed but the lowest fill contained fine greyware pottery and a stone possible loomweight (ON 89); analysis of the charred grain assemblage provided possible evidence of malting.

During this period, early/middle Iron-Age enclosure 2670 was partly recut, with ditch 2672 containing articulated parts of a horse skeleton.

Burials Grave 2591 lay towards the north-western corner of the site, was aligned north-west to south-east, and cut pit 2644 (Fig. 4). The grave was 2.2 m long, 0.70 m wide and 0.20 m deep, and contained the skeleton of a 50–60-year-old male accompanied by a coin of Constantine II, minted in AD 332 (ON 79), and a fineware beaker (Fig. 9, no. 31) of late 3rd–4th-century date. Both the coin and the beaker were placed close to the head of the individual, who also held a pale brown water-worn pebble (ON 83) within his left hand (Fig. 5).

A second grave, 2148, lay towards the eastern limit of the site and was aligned approximately north-south (Fig. 4). This grave was 1.55 m long by 0.80 m wide and 0.18 m deep, and contained the skeleton of a 40–50-year-old female, radiocarbon dated to cal. AD 230–400 (1736±34 BP; SUERC-61691). The grave was truncated by medieval ridge and furrow.

Post-Roman

Two, similar adjacent pits in the centre of the site may be of Anglo-Saxon date (Fig. 4). Both cut Iron-Age structure 2286 and were rectangular with steep sides and a flat base. Pit 2282, 1 m long by 0.6 m wide and 0.5 m deep, contained three sherds of probable Anglo-Saxon pottery, while pit 2287 (which contained the Iron-Age bone comb, on the exposed surface of the pit; see Fig. 12) was 1.5 m long, 0.98 m wide and 0.36 m deep, and contained four sherds of Iron-Age pottery, presumably redeposited, but no Anglo-Saxon finds. The phase 1 evaluation revealed further possible Anglo-Saxon material to the east, with three sherds of probable Anglo-Saxon pottery from pit 222, which measured 0.57 m by 0.33 m and 0.15 m deep.

Virtually the entire site to the north and south of Grove Road was covered with the remains of medieval ridge and furrow agriculture. The eastern two-thirds of the main excavation area was crossed by a series of furrows approximately 8.5 m apart (centre to centre) aligned

Fig. 5. Romano-British grave 2591 (view from north-east; scale = 1 metre).

perpendicular to Grove Road, whereas to the west they lay parallel to the road (see Fig. 2). A similar pattern was observed in most of the trenches to the north of Grove Road in the phase 2 evaluation.

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The assemblage consists of 3,448 sherds, weighing 56.3 kg. The bulk of the material dates to the early to middle Iron Age, with a moderate quantity dating to the late Iron Age–Romano-British period. Middle Bronze-Age, Saxon and medieval sherds are also present, although in very small quantities. Overall, the condition of the assemblage is moderately good with a mean sherd weight of 16.3 g, although some surface abrasion and edge damage is visible. Despite the average sherd size, many diagnostic rims are broken at the neck/shoulder junction and this, combined with elements of residuality and redeposition makes confident comparisons with other site collections, as well as dating, problematic. The assemblage was recovered from 250 individual contexts, many of which contained small groups of material. Just 31 feature groups contained more than 30 sherds and only 14 groups contained 50 sherds or more.

A small quantity of material (318 sherds, 3.9 kg) of comparable date range was recovered from two phases of evaluation work. This has been documented elsewhere and with the exception of the post-Roman sherds, is not discussed further here.[26]

[26] 'Grove Road, Harwell, Oxfordshire, Phase I, Archaeological Evaluation Report'; 'Grove Road, Harwell, Oxfordshire, Phase II, Archaeological Evaluation Report'.

Methodology
The collection has been recorded in accordance with current guidelines.[27] Full fabric and form analysis was not undertaken but sherds were assigned to a fabric group based on the most frequent or most obvious inclusion type. Prehistoric forms were briefly described and compared with other local assemblages while the Romano-British material was recorded using the standard corpora.[28] A breakdown of the fabric totals by period is presented in Table 3. Other variables such as surface treatment, decoration, firing and evidence of use were also recorded. A selection of the better preserved sherds has been illustrated.

Middle Bronze Age
Seven sherds (128 g) found in possible pit 2707 date to the middle Bronze Age. With the exception of one sherd containing slightly finer flint inclusions, they are all in coarse flint-tempered fabrics. Flint-tempered fabrics are documented amongst other middle Bronze-Age assemblages in the region such as Mount Farm.[29] The single diagnostic piece is from an upright, rounded rim; the remaining sherds are plain body fragments.

Iron Age
A total of 2,458 sherds of Iron-Age date, weighing 35,545 g were recovered. This amounts to 71.6 per cent by sherd count (63 per cent by weight) of the overall ceramic assemblage. Although the majority (1978 sherds, 30,846 g) could be dated to the early to middle Iron Age, 491 sherds (4,800 g) could only be assigned a broader Iron Age-date.

Fabrics In total, 17 fabric types are represented (Table 3). The Iron-Age assemblage is dominated by sandy wares (eight fabrics), accounting for 66 per cent by weight, followed by calcareous wares (limestone, oolitic limestone and shell-tempered) at 27 per cent. The malmstone-tempered ware comprises 6 per cent, with the grog-, flint-, organic- and mixed-tempered fabrics collectively amounting to just 1 per cent. Most of these wares are likely to be local products as the site lies on the Upper Greensand Formation with Gault and Kimmeridge Clay and Upper Chalk deposits all found within a 7 km radius. These could have provided suitable clay sources for the sandy (including glauconitic), fossil shell and flint-tempered fabrics. The malmstone would also be present locally as it occurs as a facies between Greensand and Gault Clay.[30] The single sherd with oolitic limestone inclusions may have a slightly more distant source, the nearest comparable limestone is found within the Kingston Formation, forming part of the Corallian group, located approximately 8 km to the north.

Predominantly sandy fabrics used in combination with varying proportions of glassy quartz, glauconite and calcareous/shell inclusions were common amongst the early to middle Iron-Age ceramic assemblage from Mount Farm, Berinsfield and their source is thought to be the Upper Greensand (or fluvial stream sediments derived from it) south of the Thames at Little Wittenham.[31] Similar sandy fabrics also dominated the assemblages

[27] Prehistoric Ceramic Research Group, Study Group for Roman Pottery, Medieval Pottery Research Group, *A Standard for Pottery Studies in Archaeology* (2016).
[28] See, for example, C.J. Young, *The Roman Pottery Industry of the Oxford Region*, BAR BS, 43 (1977); R.H. Seager Smith and S.M. Davies, 'Roman Pottery', in P.J. Woodward et al., *Excavations at Greyhound Yard, Dorchester 1981–4*, Dorset Natural History and Archaeology Society Monograph, 12 (1993), pp. 202–89.
[29] A.J. Barclay, 'Appendix 4 – Early Prehistoric Pottery', in G.H. Lambrick, *Neolithic to Saxon Social and Environmental Change at Mount Farm, Berinsfield, Dorchester-on-Thames*, Oxford Archaeology Occasional Paper, 19 (2010), p. 7.
[30] E.L. Morris, 'Petrological Report on Later Prehistoric Pottery Fabrics from Milton Hill North', in Hart et al., 'The Archaeology of the Cleeve to Fyfield Water Main', pp. 247–50.
[31] Lambrick, *Mount Farm, Berinsfield*, appendix 5, p. 5.

Table 3. Pottery totals by chronological period and ware type

Period	Ware type	Number	Weight (g)	MSW (g)
Middle Bronze Age	Flint-tempered ware	7	128	18.3
Iron Age				
Sandy wares	Sandy	1,084	12,669	11.7
	Sand and shell	551	8,399	15.2
	Sand and flint	10	64	6.4
	Sand and iron-oxides	7	93	13.3
	Sand and grog	6	49	8.2
	Glauconitic sand	85	1,257	14.8
	Glauconitic sand and shell	39	566	14.5
	Glauconitic sand and malmstone	23	387	16.8
Sandy ware sub-total		*1,805*	*23,484*	*13.0*
Calcareous wares	Shell	417	8,952	21.5
	Limestone	31	604	19.5
	Oolitic limestone	1	13	13.0
Calcareous ware sub-total		*449*	*9,569*	*21.3*
Other wares	Malmstone-tempered ware	182	2,199	12.3
	Grog and shell	9	110	12.2
	Grog	3	17	5.7
	Flint-tempered ware	7	136	19.4
	Organic-tempered ware	1	22	22.0
	Mixed-tempered ware	2	8	4.0
IA sub-total		***2,458***	***35,545***	***14.5***
Late Iron Age–Romano-British				
	Samian	11	93	8.5
	Fine greyware	18	163	9.1
	Fine whiteware	4	22	5.5
	New Forest colour-coated ware	1	7	7.0
	Mica dusted ware	11	206	18.7
	Fine oxidised ware	51	358	7.0
	Oxon colour-coated ware	118	1,394	11.8
	Oxon white-slipped redware	3	36	12.0
	Oxon whiteware	37	545	14.7
	Oxon burnt whiteware	4	114	28.5
	Oxon parchment ware	2	143	71.5
	Oxon whiteware mortaria	4	141	35.3
	Oxon colour-coated mortaria	18	541	30.1
	White-slipped redware	4	32	8.0
	Whiteware	21	273	13.0
	Verulamium Region whiteware	7	60	8.6
	Oxidised ware	22	152	6.9
	SE Dorset Black Burnished ware	37	483	13.1
	Savernake-type ware	6	124	20.7
	Overwey-Tilford ware	1	8	8.0

Table 3. (Continued)

Period	Ware type	Number	Weight (g)	MSW (g)
	Greyware	390	5,730	14.7
	Grog-tempered ware	134	8,498	63.4
	Shell-tempered ware	44	974	22.1
	Sandy ware	9	132	14.7
	Sand and flint-tempered ware	4	39	9.8
LIA–RB sub-total		***961***	***20,268***	***21.1***
Saxon	Sand and organic-tempered ware	11	217	19.7
Medieval	Abingdon ware	4	20	5.0
	Kennet Valley ware (B)	4	36	9.0
	Brill/Borstall ware	1	32	32.0
	Medieval sandy ware	2	5	2.5
Medieval sub-total		***11***	***93***	***8.5***
Total		**3,448**	**56,251**	**16.3**

at Ashville, Abingdon,[32] Wyndyke Furlong, Abingdon,[33] Milton Hill North,[34] and at Spring Road municipal cemetery.[35] Malmstone-tempered fabrics were recorded at Mount Farm[36] and Gravelly Guy,[37] as well as Milton Hill North where calcareous (oolitic, shelly limestone or shelly) fabrics were also represented.[38] Organic-tempered fabrics were present within collections at Wyndyke Furlong, Abingdon[39] and Gravelly Guy,[40] where a sand and grog-tempered fabric was also identified.[41]

Forms A broad range of vessels is represented including sharply carinated and tri-partite fineware cups/bowls (Fig. 6, nos. 6, 9 and Fig. 7, nos. 17, 19), almost exclusively in sandy fabrics, as well as round-bodied, sometimes necked, jar/bowls that are often decorated (Fig. 6, nos. 5, 8 and Fig. 7, no. 22). The latter are comparable to Cunliffe's Long Wittenham-Allen's Pit group dated to the fifth to third centuries BC.[42] Weakly shouldered and necked, shouldered jar/bowls are also present (including Fig. 7, nos. 13 and 18), along with straight-sided and slightly globular-bodied forms (Fig. 6, nos. 10, 11, Fig. 7, nos. 14–15, and Fig. 8, nos. 23–25) as well as a very small quantity of bead rim or proto-bead rim vessels. Upright rims, either rounded or flat, are the most common. The most distinctive rim form is 'T'-shaped, resulting

[32] C.D. De Roche, 'The Iron Age Pottery', in Parrington, *Ashville Trading Estate*, p. 41.
[33] J. Timby, 'The Pottery', in Muir and Roberts, *Excavations at Wyndyke Furlong, Abingdon*, p. 32.
[34] E.R. McSloy, 'The Pottery', in Hart et al., 'The Archaeology of the Cleeve to Fyfield Water Main', p. 231, table 2.
[35] J. Timby, 'Later Prehistoric Pottery', in T.G Allen and Z. Kamash, *Saved from the Grave: Neolithic to Saxon Discoveries at Spring Road Municipal Cemetery, Abingdon, Oxfordshire, 1990–2000*, Thames Valley Landscapes Monograph, 28 (2008), pp. 42–3, table 3.
[36] Lambrick, *Mount Farm, Berinsfield*, appendix 5, 5–6.
[37] D. Duncan et al., 'Final Bronze Age to Middle Iron Age Pottery', in Lambrick and Allen, *Gravelly Guy*, p. 272, fabric SA/35.
[38] Morris, 'Petrological Report on Later Prehistoric Pottery Fabrics from Milton Hill North', p. 248, fabric QZ6; McSloy, 'The Pottery', p. 248, fabric group LS.
[39] Timby, 'The Pottery', p. 68, fabric O1.
[40] Duncan et al., 'Final Bronze Age to Middle Iron Age Pottery', p. 272, fabric OG/15.
[41] Ibid., fabric SA/23.
[42] B. Cunliffe, *Iron Age Communities in Britain, An Account of England, Scotland and Wales from the Seventh Century BC Until the Roman Conquest* (1975), p. 324, A: 9.12; D.H. Harding, *The Iron Age in the Upper Thames Basin* (1972), p. 160, plate 58a.

from an internal and/or external thickening of the rims, a feature characteristic of the early Iron Age through to the earlier part of the middle Iron Age in the Thames valley.[43] At Grove Road, Harwell, these vessels are predominantly in shell-tempered or sand and shell-tempered fabrics (Fig. 6, no. 3 and Fig. 7, no. 21). Flared, everted and slightly inturned/almost ovoid rim forms (Fig. 6, no. 2) are also represented, although in far smaller quantities.

Fragments from six lug handles (including Fig. 6, no. 4 and Fig. 8, no. 26) were recorded in sandy, sand and shell- and malmstone- tempered fabrics, and appear to be from vessels with more rounded shoulders/profiles. With the exception of one slightly recessed base fragment in a limestone-tempered fabric (pit 2188), bases are generally flat or slightly externally thickened (Fig. 8, no. 27). A flat jar base in a sand and shell-tempered fabric (pit 2510) has very obvious coarse flint grits embedded on the underside indicating that the vessel stood on a flint gritted surface during its manufacture.

Surface Treatment Burnishing is by far the most common form of surface treatment, recorded on approximately 22 per cent of all Iron-Age sherds in 14 of the 17 fabric types. Fineware cups and bowls are commonly burnished both internally and externally whilst jars, especially the round or globular-bodied forms, are burnished externally, occasionally around the tops of rims as well as on the shoulder, such as on an upright, rounded rim from a globular bodied vessel in a fine limestone-tempered fabric (ditch 2662). Wiping was recorded on approximately 5 per cent of sherds, almost exclusively from coarseware jars in the shell- and sand and shell-tempered fabrics (Fig. 6, no. 3) with occasional sandy ware examples (Fig. 8, no. 25). It is commonly recorded on the shoulders of vessels, but also extends vertically down vessel walls to the base. Occasionally it appears as finger-smearing as seen on sand and shell-tempered body sherds from posthole 2470; part of roundhouse 2683 (Fig. 7, no. 13).

Seventy-one sherds were red-finished, or had the appearance of red-finish, 60 of these were in a sandy ware. The application of an iron-rich slip of haematite to create a polished, deep red finish was typical of the earliest Iron-Age All Cannings Cross style in Wiltshire and was imitated within the Thames valley during the early Iron Age through into the earlier parts of the middle Iron Age.[44] Most of the Grove Road pieces are from thin-walled, fineware vessels with exceptions being a sandy ware upright, rounded rim (pit 2581) and three sherds from the base of a vessel in a glauconitic sand and malmstone-tempered fabric with red finish surviving on the underside (pit 2382).

Decoration The assemblage includes 75 decorated sherds. Techniques include impressed, slashed, tooled, incised, furrowed and applied decoration. Finger-tip or finger-nail impressions (Fig. 6, no. 1 and Fig. 7, nos. 14, 18, 20) are by far the most common (45 sherds) and are predominantly found on the shoulders and/or rims of jars in coarser shell- and sand and shell-tempered fabrics (collectively 29 sherds), although some finer fabrics (sandy ware, glauconitic sand-tempered and sand and flint-tempered) are also decorated in this way. Several of the vessels with 'T'-shaped rims were decorated in a similar fashion, as seen elsewhere in the Thames valley,[45] however, one shell-tempered internally expanded rim from a jar/bowl (ditch 2167 part of 2673, Fig. 7, no. 21) has finger-nail impressions on its outer edge which is far less common. Diagonal slashes also occur on shoulders and rim tops/edges in a similar range of fabrics.

Several vessels, all in a sandy ware, are decorated with tooled or incised geometric motifs including a rim from a red finished, fineware carinated vessel (pit 2315, Fig. 6, no. 6) with diagonal lines at the base of the neck whilst an area of red finish is defined by parallel tooled

[43] Harding, *The Iron Age in the Upper Thames Basin*, p. 151, plates 44 and 45; De Roche, 'The Iron Age Pottery', fig. 31, forms A1–3.

[44] Lambrick with Robinson, *The Thames Through Time*, p. 199.

[45] P. Booth, 'The Iron Age and Roman Pottery', in Hey et al., *Yarnton*, fig. 14.6, pp. 170 and 173; Harding, *The Iron Age in the Upper Thames Basin*, pp. 151–2, plates 44 and 45.

lines on body sherds from pit 2190. Pit 2188 contained a fineware bowl with a transverse line just above the maximum girth of the vessel, with rough 'V'-shaped lines above (Fig. 7, no. 19). One body sherd from a carinated vessel, found residually in Romano-British ditch 2312, is decorated with oblique and horizontal lines comparable to decoration on a sherd of early Iron-Age date from Gravelly Guy.[46] Four further vessels decorated with tooled or geometric motifs were found in pit 2581; these are discussed more fully below.

More unusual decoration includes that seen on a long-necked, round-bodied, fineware bowl (pit 2547, Fig. 7, no. 22). The shoulder of the vessel is decorated with a vertical motif comprising an impressed cross, between two impressed circles. Illustrated parallels of this motif have not been found, although at Mount Farm a body sherd from a round-bodied vessel with a row of impressed crosses reflecting style characteristics of early Iron-Age material at Chinnor was found.[47]

Just one example of furrowed decoration was recorded on a glauconitic sandy ware carinated jar/bowl body from pit 2261.

Applied decoration, in the form of unperforated lugs/knobs, is present on a middle Iron-Age globular-bodied jar in a fine sand and shell-tempered fabric (pit 2425, Fig. 8, no. 23). Lugs/knobs occurred on body sherds within collections from Ashville and Gravelly Guy.[48]

Evidence for use Sooting survives on the exterior and/or interior of some, predominantly coarseware, vessels such as on the rim/neck area of a sandy ware globular-bodied jar from pit 2690 (ON 8, Fig. 6, no. 10), a sandy ware straight-sided jar (gully 2419, Fig. 8, no. 24) or the interior of a round shouldered jar in a sand and shell-tempered fabric (pit 2494). A sandy ware body sherd from a round-bodied vessel with a post-firing perforation has traces of probable limescale on the interior surface which extends onto the edges of the perforation (pit 2524). These suggest the use of vessels for cooking or the preparation of foodstuffs or other materials.

Distribution The Iron-Age pottery came from a variety of feature types including pits, postholes, gullies, ditches and residually within the backfills of three graves. Some of the larger groups containing featured sherds are discussed here.

By far the largest group of material came from pit 2581 (435 sherds, 6,687 g) representing almost 19 per cent (by weight) of the Iron-Age assemblage. Eight of the 17 fabric types are represented, with sandy wares (185 sherds, 1,959 g) and shell-tempered wares (161 sherds, 3,101 g) the most dominant. The majority of sherds derive from coarseware jar forms. These include a shouldered jar with finger-tip decoration (Fig. 6, no. 1) and an ovoid jar/bowl with a plain, slightly inturned rim (Fig. 6, no. 2). Others with upright, rounded rims, flattened rims and 'T'-shaped rims (e.g. Fig. 6, no. 3), are also present. At least one vessel has a ribbed handle (Fig. 6, no. 4). The fineware component includes fragments from several bowls, including red finished examples and four decorated vessels (Fig. 6, nos. 6, 7, 8 and 9). They include a large, round-bodied fineware bowl with an incised/scratched zig-zag motif above groups of vertical lines at the maximum girth of the vessel (Fig. 6, no. 6). The zig-zag elements find parallels in Cunliffe's Chinnor-Wandlebury group dated to the fifth to third centuries BC, with local examples known from Milton Hill North, whilst vertical groups of lines are seen on a round-bodied vessel from Mount Farm.[49] However, the elements are not seen in combination as on the Grove Road vessel. Other zig-zag motifs are present on two rejoining body sherds (Fig. 6,

[46] Duncan et al., 'Final Bronze Age to Middle Iron Age Pottery', p. 294, fig. 7.4, 68.

[47] Lambrick, *Mount Farm*, Berinsfield, appendix 5, 10.

[48] De Roche, 'The Iron Age Pottery', p. 54, fig. 43, 157; Duncan et al., 'Final Bronze Age to Middle Iron Age Pottery', p. 299, fig. 7.9, 146.

[49] Cunliffe, *Iron Age Communities*, p. 325, A: 10; McSloy, 'The Pottery', p. 237, fig. 14.27. Lambrick, *Mount Farm, Berinsfield,* p. 42, fig. 2.47.

no. 7) and on a larger round-bodied bowl with impressed semi-circles below on the shoulder (Fig. 6, no. 8). A rejoining sherd from this vessel was found in pit 2589 which cut pit 2581 on its eastern edge. The fourth decorated vessel from this pit has impressed circles (Fig. 6, no. 9) as seen on an angular vessel from a middle Iron-Age pit at Gravelly Guy.[50] A probable fifth to fourth century BC date would fit this group.

Fragments from at least 10 vessels (including Fig. 6, nos. 10–12), predominantly in coarsewares occur amongst the 64 sherds (1,544 g) recovered from pit 2690. Diagnostic pieces include three 'T'-shaped rims (not illustrated) in shell-tempered fabrics, two of which are decorated on the outer edge of the rim. The fragment from deposit 2048 is very similar to one illustrated from Mount Farm.[51] Other vessels include at least two globular-bodied jars, one in a sandy ware (Fig. 6, no. 10) and one in a shell-tempered ware (Fig. 6, no. 11). The sandy ware vessel (ON 8, Fig. 6, no. 10) has traces of soot around the outer edge of the rim and neck indicating its use in cooking or the preparation of foodstuffs; the form is comparable to Ashville form B2.[52] An externally burnished thumb-pot (Fig. 6, no. 12) and one handle fragment are also made in sandy fabrics. The fineware element of this assemblage includes rims from at least two bowls (one shell-tempered and one sandy ware), as well as thin-walled body sherds, some from internally burnished, red finished vessels, probably bowls. Chronologically, this group contains elements characteristic of both early and middle Iron-Age ceramics in the region, but the predominance of sandy fabrics in addition to the presence of globular-bodied forms suggests that it may fall within the earlier part of the middle Iron Age, although this is extremely tentative given the level of analysis that has been undertaken.

Pit 2700 contained an almost complete, weakly shouldered jar in a shell-tempered fabric (ON 84, Fig. 7, no. 13). No other finds were associated with this vessel but it was found in an inverted position resting on a 0.1 m thick deposit of light grey brown sandy silt in the base of the feature. It is likely that the vessel was deliberately deposited, but the reasons for this remain unclear. It has a slightly internally thickened, upright rim, a very thin (5–7 mm) base and the exterior surface has common coarse wipe/finger-smeared marks. This vessel has a probable date range of the later early Iron Age to earlier part of the middle Iron Age. The form is relatively common, comparable with some form 56 jars at Gravelly Guy and, from further afield, to Danebury jar forms JB2.2 and 2.3, dated to 470–360 BC.[53]

A total of 53 sherds (690 g) came from pit 2315. No exclusively shell-tempered sherds are represented, and sandy wares dominate the group (32 pieces), followed by sand and shell-tempered fabrics (17 pieces). This may reflect the broader shift from shelly fabrics to the increasing use of sandy wares occurring during this period within the Thames valley area. The pit contained fragments from at least five vessels, including a neutral profiled/almost barrel-shaped jar with decorated rim (Fig. 7, no. 14), a bowl (Fig. 7, no. 15) and decorated pieces from a red finished jar/bowl (Fig. 7, no. 16). Both the neutral profiled/barrel shaped jar and the bowl indicate a date within the earlier part of the middle Iron Age.[54]

Approximately 1 kg of sherds (59 pieces) came from roundhouse group 2662. Almost equal proportions of sandy ware and shell-tempered fabrics collectively dominate the group, along with smaller quantities of sand and shell-tempered, flint-tempered and malmstone-tempered wares. Diagnostic pieces include the complete profile of a tripartite cup (Fig. 7, no. 17), fragments from at least one carinated fineware bowl (both in sandy wares), an upright, rounded rim from a possible straight-sided jar and an upright, flattened rim from a globular-bodied vessel. One

[50] Duncan et al., 'Final Bronze Age to Middle Iron Age Pottery', p. 300, fig. 7.10, 167.
[51] Harding, *The Iron Age in the Upper Thames Basin,* pp. 151–2, plate 44, B.
[52] De Roche, 'The Iron Age Pottery', p. 43, fig. 32, 17.
[53] Duncan et al., 'Final Bronze Age to Middle Iron Age Pottery', p. 273, fig. 7.5, 83, phased to the transitional earlier middle Iron Age; L. Brown, 'The Regional Ceramic Sequence', in B. Cunliffe, *The Danebury Environs Programme, The Prehistory of a Wessex Landscape, Volume 1, Introduction*, English Heritage and Oxford University Committee for Archaeology Monograph, 48 (2000), p. 86, fig. 3.17.
[54] Comparable to De Roche, 'The Iron Age Pottery', p. 44, form D1, fig. 34, 36.

shell-tempered body sherd, probably from the shoulder of a jar, is decorated with finger-tip impressions. The broad range of fabric types and forms present within this roundhouse group span the early and middle Iron-Age period. Stratigraphically the gully is cut by a pit (2084) containing middle Iron-Age material, including pieces from a bead rim jar.

Roundhouse group 2665 contained the largest assemblage (65 pieces, 833 g, none illustrated) including at least 17 sherds from a glauconitic sand and malmstone-tempered globular-bodied jar. It has an upright, rounded rim and is heavily sooted on the interior and around the rim and neck. The only other diagnostic piece within this group is a proto-bead rim from a further globular-bodied vessel in a sandy ware. Both are probably of middle Iron-Age date.

Discussion The fabrics and forms present in the Grove Road, Harwell assemblage readily find parallels at other sites in the Thames valley. The range of fabrics reflects the diversity of the local geology and it is likely that most of the pottery was made locally, although some pieces such as the oolitic-tempered sherds, may have come from slightly further afield. There is no evidence for pottery being made on site. Overall, the higher proportion of predominantly sandy wares over calcareous wares suggests a date range within the early–middle Iron Age. This would fit with the recognised regional shift towards the use of sandier fabrics through the middle Iron Age alongside an increasingly broad range of more minor fabrics in far smaller quantities.[55]

The range of vessel forms, surface treatments and decoration suggest a broad fifth to third century BC date although traits such as the use of red finishing and the thickened/'T'-shaped rims continue into the earlier part of the middle Iron Age. Finger-nail/tip impressions, slashes and linear geometrical motifs are also characteristic of the early Iron-Age period in the upper Thames region but continue into the middle Iron Age.[56] The straight-sided and bead rimmed vessels are also characteristic of middle Iron-Age assemblages (for example, Watkins Farm, Northmoor),[57] but the limited number present at Grove Road suggests that the assemblage does not extend far into this period. However, as with other intensively occupied, long-lived sites in the area such as Mount Farm, Gravelly Guy and Ashville, redeposition of early Iron-Age material within middle Iron-Age features will undoubtedly have taken place although the degree to which this has occurred is extremely difficult to establish.

Despite these issues, the forms and fabrics present reflect a fairly diverse range of vessels that would have served various purposes including cooking and storage. A small number are also well-made and carefully decorated suggesting they may not just have been considered utilitarian items. In all main respects, however, the assemblage parallels the known small-scale and localised production patterns of the area alongside limited opportunities for trade and exchange.

Catalogue of Illustrated Iron-Age Pottery (Figs. 6–8)

(1) Shouldered jar with decorated rim and shoulder, sandy ware, context 2582, pit 2581.
(2) Jar/bowl with rounded, slightly inturned rim, shell-tempered ware, context 2582, pit 2581.
(3) Upright, flattened, slightly externally thickened jar rim, shell-tempered ware, context 2582, pit 2581.

[55] De Roche, 'The Iron Age Pottery', p. 40; Lambrick, *Mount Farm, Berinsfield*, p. 41; McSloy, 'The Pottery', p. 231.

[56] G.H. Lambrick, 'Pitfalls and Possibilities in Iron Age Pottery Studies – Experiences in the Upper Thames Valley', in B. Cunliffe and D. Miles (eds.), *Aspects of the Iron Age in Central Southern Britain*, University of Oxford Committee for Archaeology Monograph, 2 (1984), p. 172, appendix 5, 10; Lambrick, *Mount Farm, Berinsfield*, appendix 5, 10.

[57] T.G. Allen, *An Iron Age and Romano-British Enclosed Settlement at Watkins Farm, Northmoor, Oxon.*, Thames Valley Landscapes Monograph: The Windrush Valley, 1 (1990), p. 39.

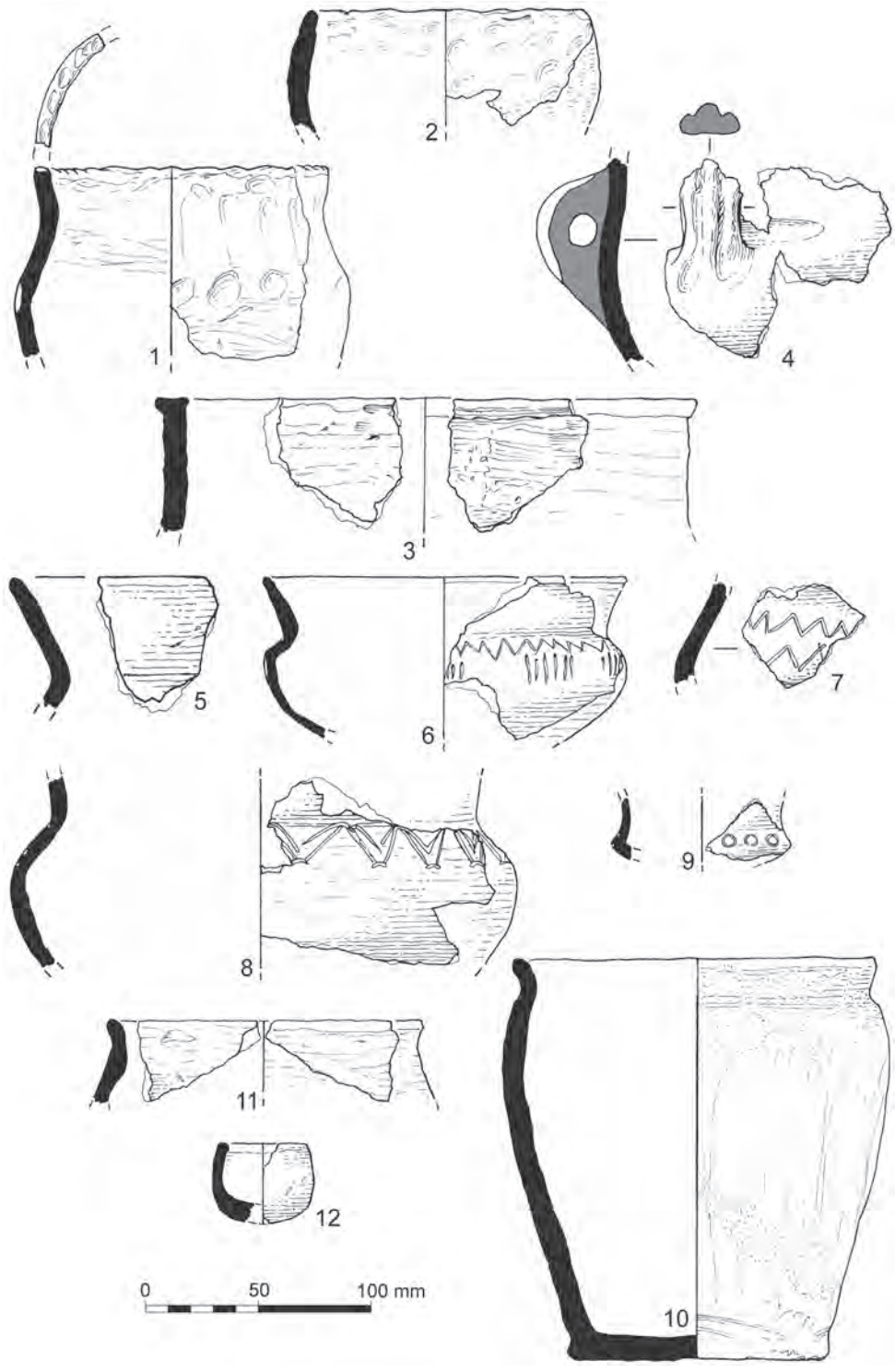

Fig. 6. Iron-Age pottery (nos. 1–12).

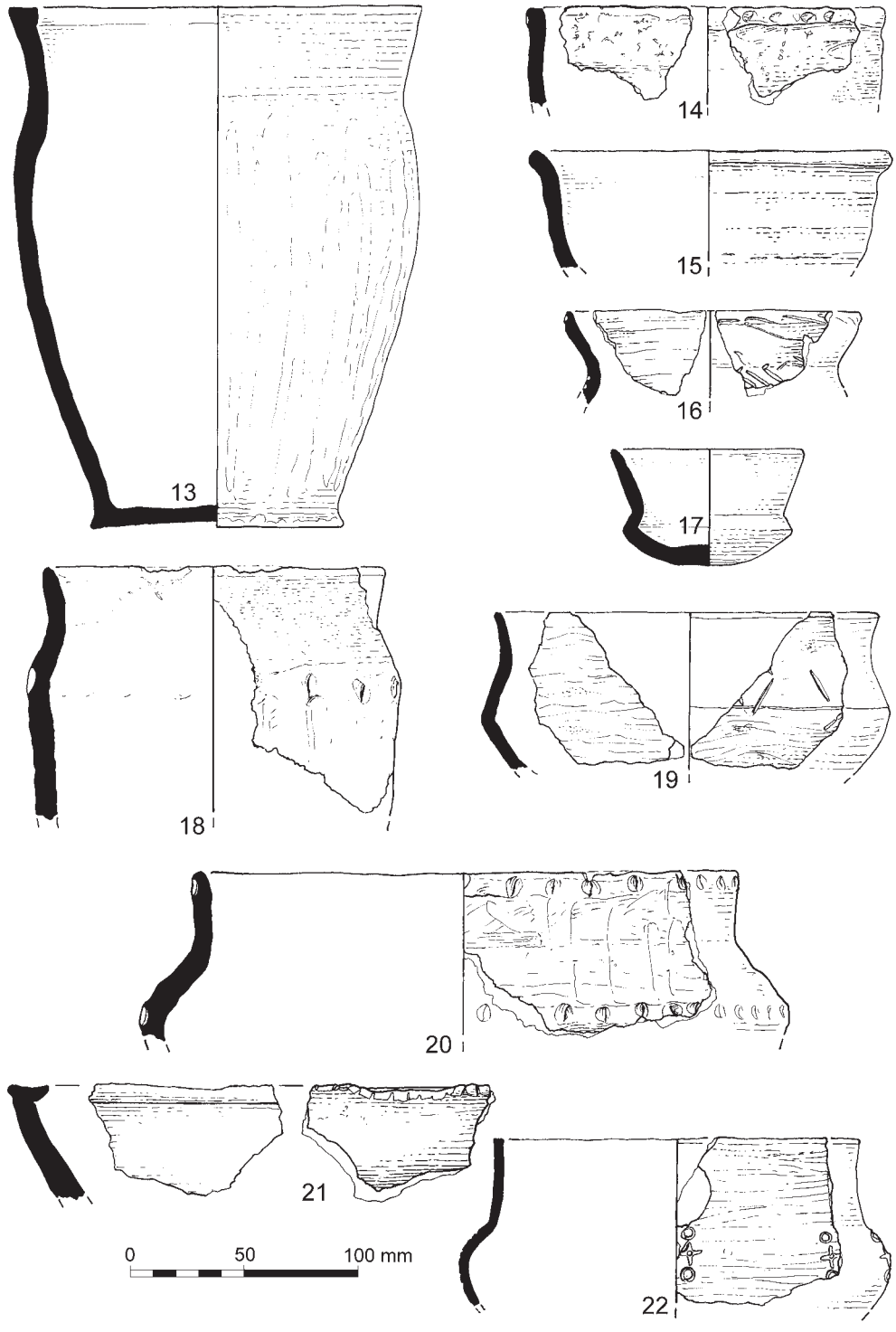

Fig. 7. Iron-Age pottery (nos. 13–22).

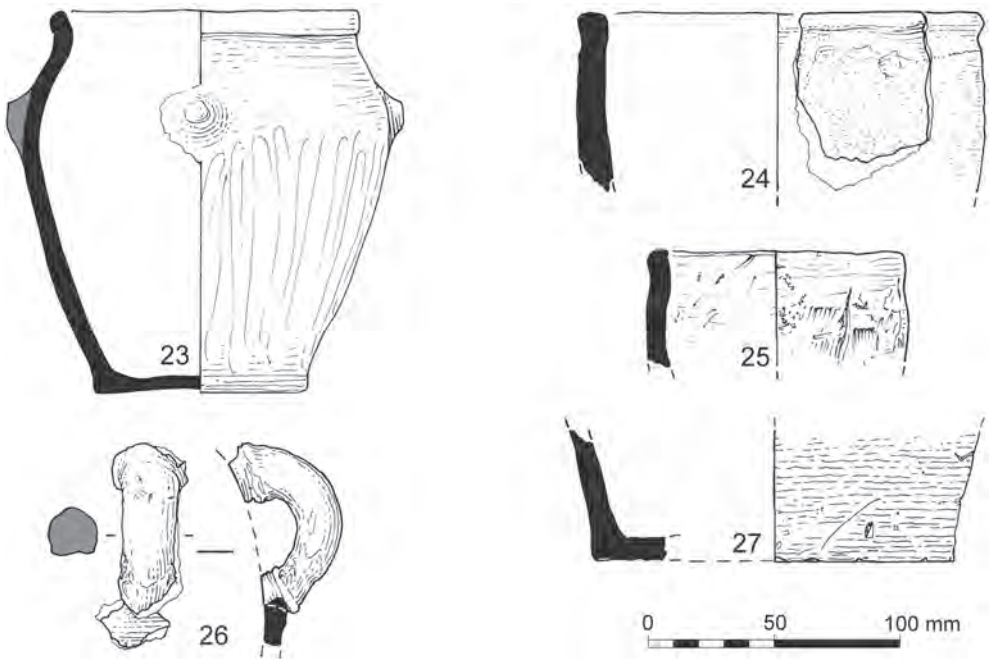

Fig. 8. Iron-Age pottery (nos. 23–27).

(4) Ribbed lug handle, sandy ware, context 2582, pit 2581.
(5) Fineware bowl rim, red-finished, sand and shell-tempered ware, context 2582, pit 2581.
(6) Round-bodied, decorated bowl, sandy ware, context 2586, pit 2581.
(7) Decorated body sherd (zig-zag motif), sandy ware, context 2582, pit 2581.
(8) Round-bodied, decorated bowl, sandy ware, contexts 2586/2590, pits 2581/2589.
(9) Fineware carinated bowl/cup body sherd decorated with impressed rings, sandy ware, context 2582, pit 2581.
(10) Globular jar, ON 8, sandy ware, context 2052, pit 2690.
(11) Globular-bodied jar rim, shell-tempered ware, context 2052, pit 2690.
(12) Thumb pot, sandy ware, context 2052, pit 2690.
(13) Weakly shouldered jar, ON 84, shell-tempered ware, context 2701, pit 2700.
(14) Straight-sided jar rim, sand and shell-tempered ware, context 2316, pit 2315.
(15) Bowl, sandy ware, context 2317, pit 2315.
(16) Decorated, red-finished fineware jar/bowl, sandy ware, context 2316, pit 2315.
(17) Tripartite cup, sandy ware, context 2070, ditch 2662.
(18) Shouldered jar with finger-tip/nail impressed decoration, sand and shell-tempered ware, context 2217, pit 2188.
(19) Decorated carinated bowl, sandy ware, context 2217, pit 2188.
(20) Carinated jar with finger-nail/tip impressed decoration on outer edge of rim and shoulder, sand and shell-tempered ware, context 2380, pit 2381.
(21) Internally expanded rim with finger-nail impressions on outer edge, shell-tempered ware, context 2170, ditch 2673.
(22) Decorated, round-bodied bowl, sandy ware, context 2548, pit 2547.
(23) Globular jar with applied knobbed decoration, ON 44, sand and shell-tempered ware, context 2424, pit 2425.
(24) Straight-sided jar with flat-topped rim, sandy ware, context 2420, gully 2419.

(25) Straight-sided jar rim with coarse wiping on body, sandy ware, context 2268, ditch 2677.
(26) Lug handle, malmstone-tempered ware, context 2567, pit 2564.
(27) Flat base, malmstone-tempered ware, context 2567, pit 2564.

Late Iron Age–Romano-British
The late Iron-Age to Romano-British pottery comprises 961 sherds (20,268 g), amounting to 28 per cent by sherd count (36 per cent by weight) of the total ceramic assemblage. Quantification by fabric type is presented in Table 3. Chronologically, with the exception of 43 sherds (954 g) dated to the first century BC to first century AD, this group spans the first to fourth centuries AD. The condition of the assemblage is good, reflected by a mean sherd weight of 21.1 g. Despite this, however, only four complete profiles are present, with the majority of diagnostic pieces broken at the neck/shoulder junction, meaning that full vessel form is quite often unidentifiable.

Of the sherds dated to the first century BC to first century AD, 34 fragments (886 g) are from a bead rim jar in a coarse shell-tempered fabric (ditch 2671, Fig. 9, no. 28). Although not fully reconstructable, the exterior surface of this vessel has coarse vertical wiping extending almost to the flat base. The only other featured sherd is a base fragment from a very flat, almost platter-like vessel (ditch 2682) in a sandy ware. The remaining eight sherds comprise plain bodies in a range of sandy, shell-, grog- and sand and flint-tempered fabrics. The range of fabrics within this small group, and the surface treatment on the bead rim jar appear to be a continuation of the early to middle Iron-Age ceramic traditions outlined above, but their forms are distinctly later.

Finewares and Specialist Wares Imported material is limited to 11 pieces of samian, representing 1.1 per cent of the sherds. Vessels from the Southern and Central Gaulish production centres are present, with identifiable forms including a form 15/17 platter (pit 2144) and two cups (form 27, ditch 2672; form 33, ditch 2312). The base of a bowl in a Central Gaulish fabric was recovered from layer 2057 but this, along with the samian collection as a whole, is likely to be residual within features of later date.

British finewares and specialist wares comprise 28 per cent (271 sherds, 3,670 g) of the late Iron-Age–Romano-British material. Unoxidised fineware vessels include fragments from at least one poppy head beaker (pit 2624) and three cornice rim beakers in fine greyware fabrics dating to the second century AD,[58] whilst the single sherd of New Forest colour-coated ware (deposit 2057) came from an indented beaker of late Romano-British date. The fine whiteware sherds are also from beakers, although no diagnostic pieces are present.

A total of 11 mica-dusted ware sherds were identified. Eight pieces are from a burnt, straight-sided dish with a flattened, reeded rim (ditch 2672, Fig. 9, no. 30) comparable to a vessel from Staines.[59] Straight-sided, carinated bowls with reeded rims are known within the Oxfordshire white ware and reduced ware repertoire and it is possible that this vessel is a local product.[60] Oxidised mica-dusted ware is known to have been produced at the early second century AD kilns at Lower Farm, Nuneham Courtenay, although documented forms are limited.[61]

The fine oxidised ware component (Table 3) may also be local products. All the sherds are from a single, almost complete, ring-and-dot decorated beaker (Fig. 9, no. 29). The vessel is

[58] Young, *The Roman Pottery Industry of the Oxford Region*, types R34 and R31.
[59] G. Marsh, 'Early Second Century Finewares in the London Area', in P. Arthur and G. Marsh (eds.), *Early Finewares in Roman Britain*, BAR BS, 57 (1978), p. 158, fig. 6.13, 26.25, type 26.
[60] Young, *The Roman Pottery Industry of the Oxford Region*, type W46 and R56.
[61] P.M. Booth et al., 'A Romano-British Kiln Site at Lower Farm, Nuneham Courtenay, and Other Sites on the Didcot to Oxford and Wootton to Abingdon Water Mains, Oxfordshire', *Oxoniensia*, 58 (1993), p. 138, fabric F35.

ovoid, high shouldered and has a short, sharply everted rim. The decoration consists of a panel of six white-slipped rings containing applied dots. Elsewhere, ring-and-dot beakers are dated to the third quarter of the first century AD.[62]

Sherds from the Oxfordshire industry account for almost 74 per cent (by count) of the British finewares and specialist wares, which is not unexpected given the proximity of the site to the known kiln centres. Bowl forms dominate the red colour-coated wares whilst closed forms are represented by one flagon (Fig. 10, unstratified) and other undiagnostic body sherds.[63] Brown colour-coated ware sherds are almost exclusively from beakers. Grave 2591 contained approximately 80 per cent of a beaker (ON 80, Fig. 9, no. 31) with faint rouletted decoration around the upper part of the body; this vessel had been placed by the head of a male.[64] Identifiable forms amongst the Oxfordshire white-slipped redware are limited to the base of a bowl,[65] whilst two further sherds (enclosure ditch 2672) are from a globular-bodied vessel, probably a jar. Parchment ware is represented by the lower part of a flagon with a double band of red painted lines around its maximum girth (pit 2252) whilst a painted body sherd, possibly from a wall sided bowl (not illustrated), was found in ditch 2680.[66]

Other Oxfordshire products include a small quantity of whiteware (Table 3), of which 25 sherds came from an unusual handled jug (Fig. 9, no. 32) with sharply carinated profile and plain cordon at the base of the neck, similar to a vessel from Lower Farm, Nuneham Courtenay.[67] The form is thought to copy metal proto-types and dates to the second century AD or later. Four undiagnostic body sherds of burnt whiteware, dating to AD 240–400, came from ditches 2672 (3 pieces) and 2682 (1 piece).

All 22 fragments of mortaria are also products of the Oxfordshire industry (Table 3). They are present in white wares, produced between AD 240–300, and red colour-coated wares.[68] The red colour-coated ware type C100 example (deposit 2057, Fig. 10) has a rouletted flange, and can be dated more specifically to the fourth century AD.[69]

Coarsewares This group forms the bulk of the late Iron-Age to Romano-British assemblage – 70 per cent by sherd count (81 per cent by weight, Table 3) comprising vessels mostly associated with utilitarian, everyday activities including the storage, preparation and serving of materials/foodstuffs with jars and jar/bowl forms the most common. The coarseware material is dominated by unoxidised fabrics (65 per cent by count), the majority of which are sandy greywares (57 per cent). Most of these are products of the Oxfordshire industry, although other probably local, unidentified sources may also have been used. Smaller quantities of sherds in grog-, shell-, sandy- and sand and flint-tempered fabrics were also recorded. Regional imports include South-East Dorset Black Burnished ware (5 per cent by count) from the Wareham/Poole Harbour region and Savernake-type wares from the Savernake Forest and other kilns to the west of Swindon.[70] Oxidised wares include Verulamium region whiteware and a single body sherd of fourth century AD yellow/cream ware of

[62] B. Davies et al., *The Archaeology of Roman London, Volume 5: A Dated Corpus of Early Roman Pottery from the City of London*, Council for British Archaeology Report, 98 (1994), p. 142.
[63] Young, *The Roman Pottery Industry of the Oxford Region*, types C45, C51 and C55, AD 240–400. Flagon Fig. 10 possibly type C8, AD 240–400.
[64] Ibid. type 23, AD 270–400.
[65] Ibid. type WC3, AD 240–400.
[66] Ibid. type P24, AD 240–400.
[67] Ibid. p. 105, fig. 31, type 31; Booth et al., 'A Romano-British Kiln Site at Lower Farm', p. 190, fig. 38.
[68] Young, *The Roman Pottery Industry of the Oxford Region*, types M17 and M20; ibid. types C97 and C100.
[69] Ibid. p. 174.
[70] F.K. Annable, 'A Romano-British Pottery in Savernake Forest, Kilns 1–2', *Wiltshire Archaeology and Natural History Magazine*, 58 (1962), pp. 143–55; V.G. Swan, 'Oare Reconsidered and the Origins of Savernake Ware in Wiltshire', *Britannia*, 6 (1975), pp. 36–61; A.S. Anderson, *The Roman Pottery Industry in North Wiltshire*, Swindon Archaeological Society Report, 2 (1979); A.S. Anderson, 'Romano-British Pottery Kilns at Purton', *Wiltshire Archaeology and Natural History Magazine*, 72/73 (1977/1978), pp. 51–8.

Overwey-Tilford type from the Hampshire/Surrey borders, along with a small quantity in unsourced orange, buff and white fired fabrics.

First- to second-century forms include a sandy ware imitation Gallo-Belgic platter (ditch 2010, Fig. 9, no. 33) and a rim fragment from an oxidised ware imitation butt beaker (subsoil 2002). An unsourced whiteware ring-necked flagon (gully 2097, Fig. 9, no. 34) is probably of second century AD date; its form is similar to Oxfordshire whiteware flagon type W6.[71] Jars dating to the earlier part of the Roman period comprise vessels with little or no necks (ditch 2675)[72] and a sharply carinated, necked jar found in gully 2097.[73] Other necked jar forms[74] continued to be used throughout the first to fourth centuries AD, whilst everted rim forms in greyware,[75] South-East Dorset Black Burnished ware,[76] whiteware and grog-tempered wares became more common from the second century AD onwards.

A wide range of bowls and dishes came into use during the second century AD, including straight-sided forms with out-turned/flattened rims[77] with South-East Dorset Black Burnished ware dog dishes[78] and their Oxfordshire variant[79] appearing during the third century AD. By the late Roman period, distinct forms including dropped flange bowls became more common.[80] One South-East Dorset Black Burnished ware form, an oval, handled 'fish-dish' from deposit 2057, is less commonly found outside the Dorset region and dates to the late third to fourth centuries AD.[81]

Distribution The late Iron-Age to Romano-British sherds were found in 69 deposits, mostly ditch fills, with 32 containing fewer than ten sherds, and only seven containing more than 50 pieces. By far the largest group came from deposit 2057 (161 sherds, 3,172 g) and is clearly of late Romano-British date. It includes a large group of Oxfordshire ware sherds (61 pieces, 1,060 g) with a range of red colour-coated ware bowls,[82] one decorated with white paint.[83] Other decorated pieces from this deposit include the rouletted mortaria noted above, other body sherds with white painted motifs and at least two bowl bodies with rosette stamps (ON 12) which date from AD 340.[84] This group also contained an Oxfordshire white-slipped red ware bowl base decorated with concentric red painted lines on the interior (not illustrated),[85] imitating parchment-ware forms. The other finewares comprise a fine greyware cornice rim beaker and the single New Forest colour-coated ware sherd. The grey coarsewares (70 sherds, 1,416 g) include a straight-sided carinated bowl with a moulded rim[86] and a narrow necked flagon/bottle[87] both dated to the fourth century AD.

Only two other features containing more than 50 sherds included pieces of particular interest. Amongst the 71 sherds (1,157 g) recovered from ditch 2672 is a greyware necked jar/bowl rim with an 'X' post-firing motif cut into the interior of the rim (Fig. 9, no. 35). 'X' was the most common graffito mark on Roman pottery and such marks are often interpreted

[71] Young, *The Roman Pottery Industry of the Oxford Region*.
[72] Ibid. type R21.
[73] Ibid. type R25.
[74] Ibid. types R15, R23, R24.
[75] Ibid. type 27.
[76] R.H. Seager Smith and S.M. Davies, 'Roman Pottery', in P.J. Woodward et al., *Excavations at Greyhound Yard, Dorchester 1981–4*, Dorset Natural History and Archaeology Society Monograph, 12 (1993), types 2 and 3.
[77] Young, *The Roman Pottery Industry of the Oxford Region*, type R43.
[78] Seager Smith and Davies, 'Roman Pottery', type 20.
[79] Young, *The Roman Pottery Industry of the Oxford Region*, type R53.
[80] Seager Smith and Davies, 'Roman Pottery', type R47.
[81] Ibid. type 21.
[82] Young, *The Roman Pottery Industry of the Oxford Region*, types C45, C51 and C55.
[83] Ibid. type C55.
[84] Ibid. p. 132.
[85] Ibid. type WC3, AD 240–400.
[86] Ibid. type C59.
[87] Ibid. type R13.

as initials or illiterate marks of ownership.[88] Pit 2408 contained 75 sherds, weighing 6,334 g. Of these, 37 (5,633 g) are from the lower part of a large storage jar (ON 42) in a hard-fired, grog and coarse sand-tempered fabric. Clear evidence for the slab construction of the vessel can be seen, with sharp lattice keying visible where the slabs have come apart. Although not an uncommon construction technique in this area, this vessel provides a 'text-book' example.[89]

Catalogue of Illustrated Iron-Age to Romano-British Pottery (Figs. 9 and 10)

(28) Bead rim jar, shell-tempered ware, context 2079, ditch 2671.
(29) Ring and dot decorated beaker, fine oxidised ware, context 2023, ditch 2010.
(30) Straight-sided dish with reeded rim, mica-dusted ware, context 2348, ditch 2672.
(31) Beaker, ON 80, Oxfordshire brown colour-coated ware, context 2592, grave 2591.[90]
(32) Jug, Oxfordshire whiteware, context 2197, pit 2194.[91]
(33) Imitation Gallo-Belgic platter, sandy ware, context 2023, ditch 2010.
(34) Flagon, whiteware, context 2140, gully 2097.
(35) Necked jar/bowl rim with 'X' graffito, greyware, context 2349, ditch 2672.
Fig. 10 (right) Flagon, ON 3, Oxfordshire red colour-coated ware, unstratified.[92]
Fig. 10 (left) Mortaria, Oxfordshire red colour-coated ware, deposit 2057.[93]

Post-Roman Pottery

Due to the absence of any diagnostic pieces, eleven sherds (weighing 217 g) have been tentatively dated to the Anglo-Saxon period based on fabric grounds alone. Eight were in a sand and organic-tempered fabric (five pieces from deposit 221 and three from pit 2282) while three, rejoining base fragments (pit 222) were made in a sandy ware. Comparisons for these fabrics may be found amongst the small Anglo-Saxon assemblage at Mount Farm for example, but, due to the similarities between Anglo-Saxon and Iron-Age sandy fabrics within the Thames valley region, it is possible that these few sherds may be of Iron-Age date.[94] However, the association between the sand and organic-tempered pieces and late Romano-British oxidised sherds within the same deposit in pit 222 suggests that they are more likely to be of Anglo-Saxon than Iron-Age date.

A total of 11 sherds (93 g) are of medieval date. The earliest of these comprise four sherds of Abingdon ware (OXAG) ranging in date from the eleventh to thirteenth century. Three pieces came from subsoil, whilst a jar/bowl rim fragment was found intrusively within the top of early/middle Iron-Age pit 2363. Four sherds are in a sandy/calcareous ware which falls within the 'Kennet Valley' tradition found widely across west Berkshire and north-east Wiltshire; in Oxfordshire it is known as 'East Wiltshire ware' (fabric OXAQ).[95] This variant of the Kennet valley tradition has a date range between the twelfth to fourteenth centuries; one jar rim is present here, but is not chronologically distinctive. These sherds came from medieval plough furrows recorded in the phase 2 evaluation.[96] One sherd from a Brill/Boarstall glazed jug (OXBB) is of thirteenth- or fourteenth-century date, while two sherds of fine sandy ware, one glazed, are likely to be fourteenth or fifteenth century in date. This small medieval group,

[88] J. Evans, 'Graffiti and the Evidence of Literacy and Pottery Use in Roman Britain', *Archaeological Journal*, 144 (1984), pp.191–204; E. Biddulph, 'What's in a Name? Graffiti on Funerary Pottery', *Britannia*, 37 (2006), pp. 355–9.
[89] J. Timby, personal communication.
[90] Young, *The Roman Pottery Industry of the Oxford Region*, type C23.
[91] Ibid. type W31.
[92] Ibid. type C8.
[93] Ibid. type C100.
[94] Lambrick, *Mount Farm, Berinsfield*, p. 88.
[95] M. Mellor, 'A Synthesis of Middle and Late Saxon, Medieval and Early Post-Medieval Pottery in the Oxford Region', *Oxoniensia*, 49 (1994), p. 29.
[96] 'Grove Road, Harwell, Oxfordshire, Phase II, Archaeological Evaluation Report'.

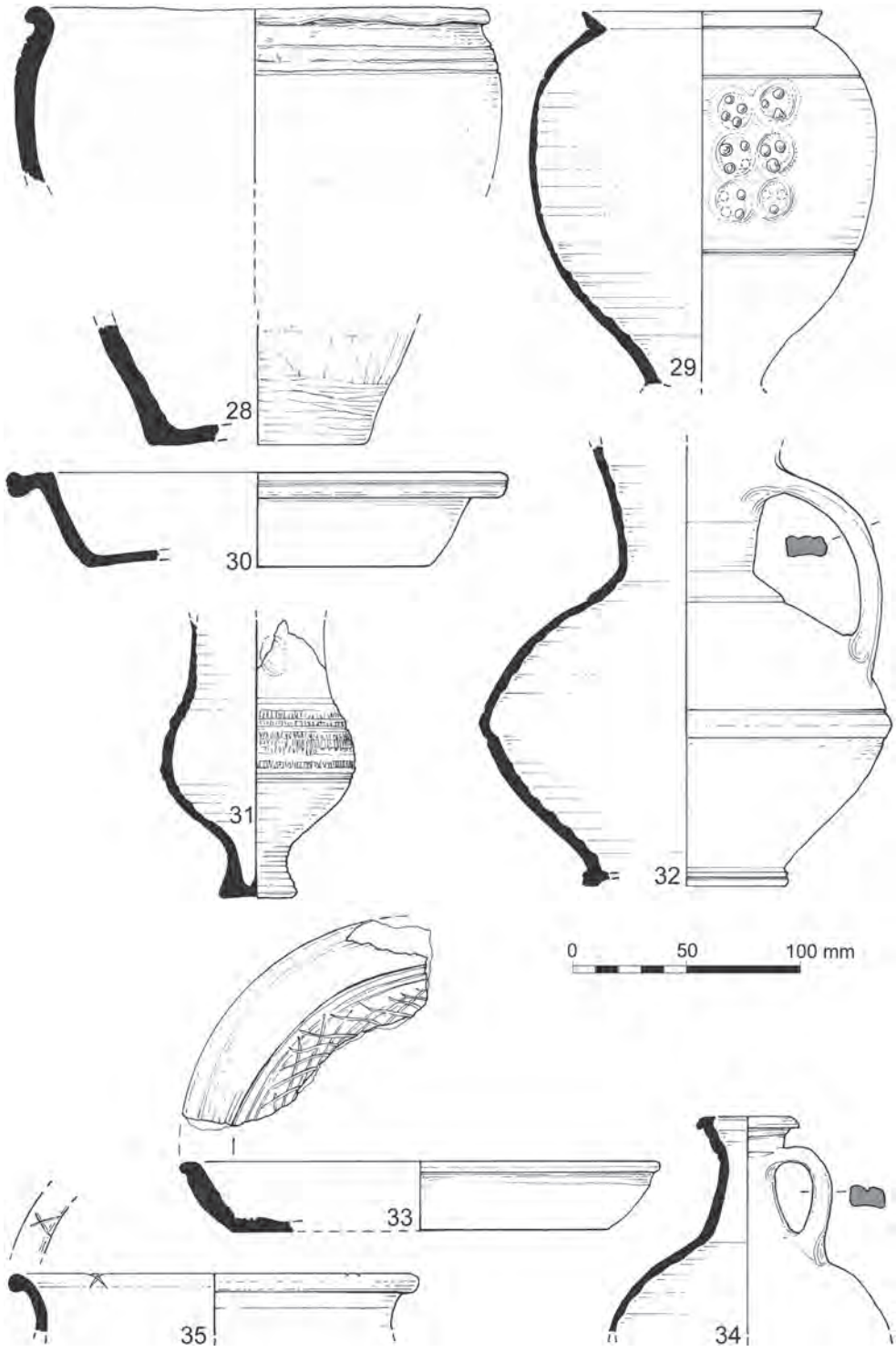

Fig. 9. Romano-British pottery (nos. 28–35).

Fig. 10. Mortaria (Young 1977, type C100), Oxfordshire red colour-coated ware, deposit 2057 (left); Flagon (Young 1977, type C8), ON 3, Oxfordshire red colour-coated ware, unstratified (right).

comprising small, relatively abraded sherds, is typical of material redeposited as a result of manuring practices.

WORKED FLINT by PHIL HARDING

A small assemblage of worked flint, comprising 68 artefacts, was recovered from 42 contexts, primarily pits and ditches. The assemblage was unpatinated and showed no great post-depositional edge damage. The raw material comprised small nodules of black flint which were apparently obtained from local gravels. Flaking quality was variable, often good but elsewhere reduced by thermal fractures which resulted in quantities of undiagnostic 'debitage' waste.

Despite the small number of pieces, the technology was generally consistent, comprising hard-hammer mode, broad butts and relatively unsophisticated knapping. This pattern was only contradicted by a microlith fragment from Iron-Age ditch 2304, a crested blade from ditch 1104, a blade from early/middle Iron-Age pit 2690 and a flake with an abraded butt from middle Iron-Age enclosure ditch 2677. These four pieces demonstrate that early prehistoric activity, including some Mesolithic occupation, is thinly represented in the area.

The bulk of the assemblage represented expedient use of flint to create sharp edges and typifies late Bronze-Age technology, but which has become increasingly acknowledged to continue into the Iron Age. The low density of material indicates that communities were no longer reliant on stone for day-to-day activity. The retouched forms, most notably

'miscellaneous retouch', including 'notches' from Iron-Age pit 2080 and inverse flaking to remove the bulb of percussion from early/middle Iron-Age enclosure ditch 2673 and Romano-British enclosure ditch 2672, are consistent components of the late Bronze-Age/Iron-Age tool kit. Similarly, the more recognisable forms, scrapers, were of poor quality. There was also a well-rounded flint hammer stone from early/middle Iron-Age ditch 2673. Although the assemblage has no major significance, it is an additional example of the final demise of flint working in Britain.

BURNT FLINT by ELINA BROOK

A very small quantity (18 pieces, 437 g) of burnt flint was recovered from ten contexts in seven pits and two ditches. This material type is intrinsically undatable, but is frequently associated with prehistoric activity, in this case, in features ranging in date from the early Iron Age through to the late Iron Age–early Romano-British period.

COINS by NICHOLAS COOKE

Twelve copper alloy coins of the late Roman period were recovered. The majority came from a single context (2538, spread). In general, they are in good condition and all are identifiable to period. Four coins show signs of post-depositional corrosion, whilst six show evidence of pre-depositional wear.

The earliest coin (ON 51, pit 2482) is an irregular copy of a radiate *antoninianus* dating to *c*.AD 270–296. These contemporary copies of 'official' coinage were perhaps struck to compensate for gaps in supply of coinage to Britain and to provide sufficient small change for the province's needs. It is unclear whether these copies were officially sanctioned, if at all, but they are not uncommon as site finds, and seem to have circulated in the same fashion as officially struck coins.

All of the rest date to the fourth century AD, with nine coins found in spread 2538 (ONs 53, 54, 55, 58, 59, 67, 68, 69 and 78). These range in date from a large issue of Maximinus II struck between AD 305 and AD 308 to the last third of the fourth century, with the latest coins being two of the House of Valentinian – one (ON 58) struck for Valens in AD 365 and the second (ON 59) struck between AD 365 and AD 378. The other coins comprise a mixed group of types and dates, including several common fourth-century types. Interestingly, all appear to be 'official' issues, rather than contemporary copies, large quantities of which appear to have been in circulation in Britain between the AD 330s and 370s. All are in relatively good condition, with few signs of wear, and it is considered likely that these represent a small but carefully selected group, probably a small hoard deposited in the late AD 360s or 370s.

The remaining coins comprise a *Gloria Novi Saculi* issue of Gratian (ON 48, ditch 2476) struck between AD 367 and 378 and a *Gloria Exercitus* issue of Constantine II, struck in AD 332 (ON 79, grave 2591). The absence of any later coins need not be significant in so small an assemblage.

METALWORK by ELINA BROOK

Copper Alloy

Eight other objects of copper alloy were found. Enclosure ditch 2667 contained a probable finger-ring (ON 9, Fig. 11, no. 1) found alongside sherds of early/middle Iron-Age pottery. The sub-rectangular sectioned, penannular hoop has one squared-off terminal surviving whilst the other, overlapping end is broken indicating that the object originally had more coils. Spiral finger-rings are a common type within Britain, known from contexts of Bronze-Age

date onwards, and are therefore not chronologically diagnostic. However, local examples found in middle Iron-Age contexts include those from Gravelly Guy and Farmoor.[97] A hollow, triangular-shaped object (ON 36, Fig. 11, no. 2) made from thin, silvered or tinned, sheet metal, was found in pit 2142 which also contained pottery of early/middle Iron-Age date. This item is possibly the head of a pin, although no comparable objects have yet been found. A fragment from a further possible pin (ON 77, not illustrated) with a circular, slightly concave head, was recovered from the surface of unexcavated pit 2613, along with sherds of early/middle Iron-Age pottery.

Three copper alloy pieces were found in features associated with Romano-British pottery. Two are undiagnostic fragments found in late Romano-British deposit 2057 (ON 11) and spread 2538 (ON 72). The third is a small (diameter 28 mm) penannular brooch (ON 88, ditch 3004, phase 2 evaluation, Fig. 11, no. 3), lacking its pin. The brooch has a circular-sectioned ring and coiled terminals, and is probably of first century AD date.[98] Surface collected finds include a dome-headed stud, possibly of Romano-British date (context 2485) and an undated flattened ring (context 2643).

Iron

A total of 61 iron objects (371 g) were recovered. The earliest are three rejoining fragments from a sub-rectangular sectioned ring (approximate diameter 60 mm) found within the backfill of middle Iron-Age grave 2403; they are possibly from a fastening/fitting. However, the majority of the iron objects came from contexts of probable Romano-British date. Thirty-one are domed-headed pyramidal hobnails (ON 26) from the sole of a nailed boot or shoe found within late Romano-British layer 2057. This deposit also contained several very fragmentary pieces from an open-socketed tool, which is not identifiable to type. Fragments from two fastenings/fittings were found; ON 49 is a loop-headed swivel,[99] probably from a cauldron hanger, found on the surface of pit 2478, whilst part of a hinge/angle bracket was found in spread 2538 that also contained a perforated sheet fragment.

The remainder of the iron objects are fragments from flat, round-headed nails with square-sectioned tapering shanks (11 examples)[100] or nail shank fragments (3 examples). One large, sub-rectangular, nail head was also recorded (spread 2538).

Lead

Six of the seven lead objects were found in late Romano-British spread 2538. These include an almost complete, small (diameter 112 mm), flat, dished platter with slightly beaded rim and a low footring base (ON 76, Fig. 11, no. 4). The form fits with Lee's type 2 dated to the fourth century AD.[101] Although they are not commonly found, by the third to fourth centuries AD the distribution of tin and lead alloy tablewares had broadened to include rural settlements as well as urban sites.[102] However, several rural finds of pewter dishes have come from hoards, and given the association of this object with the small collection of bronze coins deposited in the late AD 360/370s (see above) it is possible that the platter represents part of the same hoard.[103]

The remaining lead objects comprise a possible rivet/repair, four lead sheet fragments/offcuts and one lump of waste.

[97] Lambrick and Robinson, *Iron Age and Roman Riverside Settlements at Farmoor, Oxfordshire*, OAU Report, 2 (1979), p. 55, fig. 29, 1; A. Boyle and G.A. Wait, 'Copper Alloy', in Lambrick and Allen, *Gravelly Guy*, p. 361, fig. 8.5, 422.

[98] J. Bayley and S. Butcher, *Roman Brooches in Britain: A Technological and Typological Study Based on the Richborough Collection*, The Society of Antiquaries (2004), p. 186.

[99] W. Manning, *Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum* (1985), p. 138, plate 64, S4.

[100] Ibid. p. 134, type 1B.

[101] R. Lee, *The Production, Use and Disposal of Romano-British Pewter Tableware*, BAR BS, 478 (2009), p. 207, fig. 99, type 2b or 2b(i).

[102] Ibid. p. 76.

[103] Ibid.

Catalogue of Illustrated Metalwork (Fig. 11)

(1) ON 9, Copper alloy, finger ring, context 2032, enclosure ditch 2667.
(2) ON 36, Copper alloy, triangular shaped object, context 2143, pit 2142.
(3) ON 88, Copper alloy, penannular brooch, context 3005, ditch 3004.
(4) ON 76, Lead platter, spread 2538.

WORKED BONE by A.P. FITZPATRICK (IRON-AGE COMB) and ELINA BROOK

An Iron-Age comb (ON 38; Fig. 11, no. 5 and Fig. 12) from the surface of pit 2287 is made from the metapodial of a horse that was split and the interior then smoothed until it was flat. The resulting profile is slightly curved, or plano-convex. The great majority of Iron-Age combs found in southern England are made of antler but bones of larger animals such as horse were used occasionally.[104] The body of the comb is approximately rectangular but it flares slightly towards the base following the natural shape of the bone. The butt (or top) of the comb is hemispherical. There were originally seven teeth but only the stubs of the two right hand ones survive. The front of the comb (the convex outer surface of the bone) is decorated but the back is plain. The decoration is incised and was made using sharp metal tools. A knife may have been used for the straight lines and an awl for the curved ones. A compass-like tool was probably used for the ring-and-dot motifs. The comb is now 172 mm long, 31 mm wide and 6 mm thick. Some aspects of the decoration suggest that the comb may date between the fifth–third centuries BC but a more precise dating requires radiocarbon dating.[105]

The fronts of most weaving combs in southern England are decorated but the decoration on the Harwell comb is unique. There is a human face on the butt of the comb, set within a diamond-shaped frame. The face and nose are shown by straight lines. Above them are what could either be the cheek bone and the eyes, which are represented by scrolls, or the eyes and eyebrows, or possibly a headdress. The hair, which is represented by incised lines, is outside the diamond-shaped frame.

Below the chin, the lower lines of the diamond-shaped frame do not join but continue to become the top of an elongated diamond which is flanked by ring-and-dot motifs. There is a ring-and-dot motif in the centre of this elongated diamond. The lines do close the bottom of the diamond, below which is a second diamond. There are ring-and-dot motifs either side of the junction between the two diamonds and also in the centre of the lower diamond. At the bottom of the lower diamond the left-hand line curves around a ring-and-dot motif that is slightly offset to the left. In contrast, the right-hand line turns diagonally to the right and runs a short distance to the edge of the comb before making a diagonal return to the left side during which it is flanked by a second line below it. These double lines then return diagonally to the right and the space between them is filled with horizontal hatching. There is a ring-and-dot motif near to the centre of the triangular field formed by the two pairs of double lines but it is slightly offset to the right. The lower, right, end of the hatched field is closed by a single line. This line starts to return diagonally to the left before making a scroll-shaped loop that crosses over the original line before running diagonally to the right before joining the upper of two horizontal lines that run across the comb above the teeth. Although the small loop of the scroll is about the same size and shape as the ring-and-dot motifs, there is no trace that it had a central dot. The original leftwards direction of the single line is continued by a short single line. There is a ring-and-dot motif in the centre of the triangular field formed by the two

[104] T. Tuohy, *Prehistoric Combs of Antler and Bone*, BAR BS, 285 (1999), vol. 1, pp. 24, 34.
[105] Radiocarbon dating is proposed, the results of which will accompany a full report on this important object, placing it in its national context.

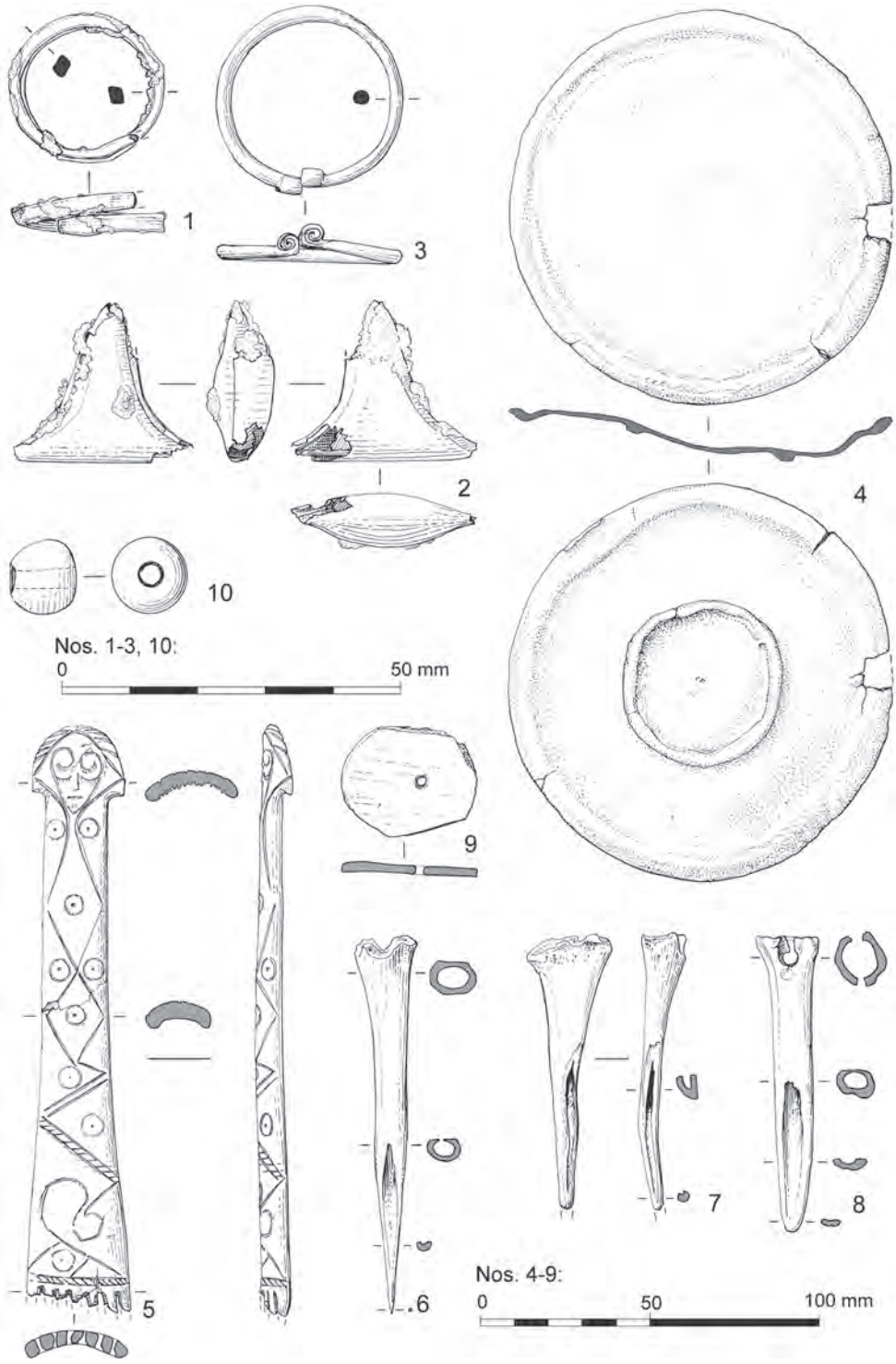

Figure 11. Metalwork (nos. 1–4), worked bone (nos. 5–9), and glass (no. 10).

Figure 12. Iron-Age weaving comb ON 38. (i) As exposed on the surface of pit 2287. (ii) Following cleaning. (iii) Detail from (ii).

single lines but the motif is slightly to the left of the centre of the comb. The space between the two horizontal lines above the teeth is hatched diagonally.

Figural representations are very rare in British prehistory and the Harwell comb supplies the earliest naturalist representation of a human face currently known.[106]

Of the remaining 12 worked bone objects, five are gouges and one is an awl. All three illustrated examples (ONs 1, 4 and 5, Fig. 11, nos. 6–8) are made of sheep bones and came from pits, two of which (2353 and 2379) contained Iron-Age pottery. The awl (ON 1, pit 2504, Fig. 11, no. 6) is complete and has a very fine point; it is also highly polished, probably through use. One gouge (ON 5, pit 2353, Fig. 11, no. 8) has a circular perforation drilled through the butt end. These objects are common finds on Iron-Age sites, such as Gravelly Guy, Ashville Trading Estate and Wyndyke Furlong.[107] Various interpretations for the use of gouges include pins, skewers, weaving shuttles or pin beaters in the weaving process.[108] A flat, sub-oval, perforated disc (Fig. 11, no. 9) from pit 2581 dated to the fifth to fourth centuries BC. The purpose of this object is unclear – it could possibly be a pendant, or a button.

Catalogue of Illustrated Worked Bone (Fig. 11)

(5) ON 38, Worked bone comb, context 2185, pit 2287.
(6) ON 1, Worked bone awl, context 2505, pit 2504.
(7) ON 4, Worked bone gouge, context 2377, pit 2379.
(8) ON 5, Worked bone gouge, context 2355, pit 2353.
(9) Worked bone perforated disc, context 2582, pit 2581.

[106] A.P. Fitzpatrick, in preparation.
[107] Lambrick and Allen, *Gravelly Guy*, p. 389–90; Parrington, *Ashville Trading Estate*, p. 81, fig. 60, pp. 36–8; K. Atherton, 'The Small Finds', in Muir and Roberts, *Excavations at Wyndyke Furlong*, p. 49.
[108] L. Sellwood, 'Objects of Bone and Antler', in B. Cunliffe, *Danebury: An Iron Age Hillfort in Hampshire, Volume 2, The Excavations, 1969–1978: The Finds*, Council for British Archaeology Research Report, 52 (1984), p. 387.

SHALE and OTHER STONE by ELINA BROOK

A single object of shale was recovered (ON 35); this is an incomplete, almost spherical spindle whorl measuring 38 mm in diameter (thickness 20 mm). It was found residually within the backfill of late Romano-British grave 2148.

Of the other stone, only items considered to be from portable stone objects were collected (19 pieces, 17,044 g). These comprise fragments from eight querns, one rubstone, one whetstone and a triangular-shaped object.

Of the quernstone fragments, six are of coarse gritty sandstone, one of Lodsworth Greensand and one of sandstone. Early/middle Iron-Age pits 2580 and 2581 each contained a single fragment of quern (Lodsworth Greensand and sandstone respectively); both pieces have small patches of polish, through use, surviving on their flat surfaces but otherwise they are unidentifiable to type. The six other quern fragments came from late Romano-British deposit 2057; three (ONs 15, 27, 29), all in coarse gritty sandstone, are from rotary querns, but the remainder are unidentifiable to type. This deposit also contained a rubstone fragment (ON 28), also of coarse gritty sandstone, and a bar-shaped whetstone (ON 33) of very fine-grained sandstone.

Part of a perforated, triangular-shaped object (ON 39) made of the locally available malmstone was found in possible Romano-British pit 2194. Its shape and profile are directly comparable to fired clay items interpreted as loomweights or oven bricks (see fired clay, below).

A fine-grained quartzite pebble (ON 83; see Fig. 5), with no obvious signs of working, was found clasped in the left hand of the adult male buried in grave 2591. It could have been collected relatively locally and may have had an amuletic significance.[109] The grave also contained a late Romano-British brown colour-coated ware beaker (ON 80) and a copper alloy coin (ON 79, Constantine II, struck in AD 332) indicating a mid fourth-century AD date for this burial. One other example of this is known – a pierced pebble was found among the bones of the left hand of the young adult male buried in a lead coffin in the fourth-century AD templer mausoleum at the Lullingstone villa (Kent), although this may have been strung around his wrist.[110]

FIRED CLAY by ELINA BROOK

The fired clay assemblage amounts to 153 fragments, weighing 3,790 g. Most pieces are small, abraded and featureless, made in a predominantly oxidised, sandy, slightly micaceous fabric sometimes with common malmstone and/or fine calcareous (shell) inclusions. Some pieces have flattish or slightly concave surfaces indicating they are derived from oven, kiln or hearth linings. Other pieces have rod impressions suggesting structural debris (for example, undated pit 2445). Several fragments from flat slabs/plates have been identified, some with smooth burnt surfaces and organic impressions on the underside (for example, Romano-British pit 2194; enclosure ditch 2667); they vary in thickness between 15–35 mm. Elsewhere, similar objects have been interpreted as 'oven plates'.[111]

Fragments from a possible triangular-shaped object (ON 25) with two partial perforations were found in ditch 2099. Perforated triangular objects are a well-known form in Iron-Age contexts across the whole of southern Britain, continuing well into the second century AD.[112] Traditionally, they have been interpreted as loomweights but are now considered more likely to have been bricks associated with ovens and/or kilns, and perhaps used as linings

[109] R. Philpott, *Burial Practices in Roman Britain*, BAR BS, 219 (1991), pp. 163–4.
[110] G.W. Meates, *The Roman Villa at Lullingstone, Kent. Volume 1 – The Site*, Kent Archaeological Society (1979), p. 128.
[111] C. Poole, 'The Structural Use of Daub, Clay and Timber', in Cunliffe, *Danebury*, pp. 115–21.
[112] J.P. Wild, 'The Textile Industries of Roman Britain', *Britannia*, 33 (2002), p. 10.

or pedestals.[113] Other pieces of interest within the fired clay assemblage came from features of early/middle Iron-Age date; these include six small, abraded fragments of briquetage (pit 2564) and a spindle whorl (ON 45; pit 2454) in a fine, glauconitic sandy fabric.

CERAMIC BUILDING MATERIAL (CBM) by ELINA BROOK

Seven pieces (131 g) of CBM were recovered. Four are possibly of Romano-British date and comprise two flat fragments (late Romano-British layer 2057) and featureless fragments from subsoil and Romano-British pit 2144. One intrusive post-medieval flat fragment, probably from a roof tile, was found in late Romano-British ditch 2681. The two remaining undatable, featureless fragments are also intrusive within early to middle Iron-Age ditch 2662.

A corner fragment of a Roman brick was found within possible Saxon deposit 221 during the phase 1 evaluation.[114] Based on its thickness (between 40–45 mm), it is possibly from a *bessales* or *pedalis*, both of which were used within the construction of hypocausts. Its presence within a deposit of (possible) Anglo-Saxon date indicates that it may have been subsequently re-used.

OTHER FINDS by PHIL ANDREWS and ELINA BROOK

A total of 1.49 kg of possible metalworking debris was recovered. A small quantity is undiagnostic ironworking slag, but there is one piece of vesicular fuel ash slag, and the remainder is derived from iron smithing. The latter comprises one smithing hearth bottom (100x85x40 mm; 489 g) from the surface of gully 2532 of probable Romano-British date, and two superimposed examples (115x85x30 mm and 110x90x20 mm; 819 g) from the fill of late Romano-British ditch 2472. None of the 79 g of undiagnostic slag is certainly of early–middle Iron-Age date, and it may all be Romano-British, attesting to small-scale iron smithing on or in the vicinity of the site at this time.

The two pieces of glass comprised a pale blue/green fragment from the base of a blown vessel found in late Romano-British spread 2538 and a turquoise blue, globular bead (ON 78, Fig. 11, no. 10) from the surface of ditch 2042. The bead is possibly of Romano-British date, although this kind of glass is still in use today and was much used in lace bobbins.[115]

Catalogue of Illustrated Glass Objects (Fig. 11)

(10) ON 78, Turquoise blue, globular bead, context 2616, ditch 2042.

Five pieces of oyster shell were also found in deposits of possible Romano-British date (layer 2057 and pit 2568), probably representing food remains.

HUMAN BONE by KIRSTEN EGGING DINWIDDY

Skeletal remains comprised four in situ inhumation burials (two Iron Age and two Romano-British) and redeposited bone from five contexts of the same periods (Table 4).

[113] A.W.G. Lowther, 'An Early Iron Age Oven at St Martha's Hill, near Guildford', *Surrey Archaeological Collections,* 43 (1935), pp. 113–115; C. Poole, 'Loomweights Versus Oven Bricks', in Cunliffe, *Danebury*, pp. 285–6; C. Poole, 'Fired Clay and Briquetage', in P. Andrews et al., *Digging at the Gateway, Archaeological Landscapes of South Thanet, The Archaeology of East Kent Access Phase II. Volume 2: The Finds, Environmental and Dating Reports*, Wessex Archaeology Monograph (2015), pp. 302–7.

[114] 'Grove Road, Harwell, Oxfordshire, Phase I, Archaeological Evaluation Report'.

[115] M. Guido, *The Glass Beads of the Prehistoric and Roman Periods in Britain and Ireland*, Reports of the Research Committee of the Society of Antiquaries (1978), p. 70, group 7(iv).

Table 4. Human bone analysis: summary of results

Context	Cut	Deposit type	Date	Quantity	Age/Sex	Pathology/Taphonomy/Indices
Iron Age						
2054	2051 (pit 2690)	R	E/MIA	< 1% s	neonate/ infant <2 yr.	
2383	2382 (pit)	disturbed inh. burial	E/MIA	*c* 40% a.u.l	neonate *c.* birth	poor mineralisation (slight); taphonomy – rodent gnawing
2404 ?=2548	2403	inh. burial (flexed right)	*MIA	*c* 60%	adult *c.*35–45 yr. male	amtl; apical void; calculus; dental caries; enamel hypoplasia; pd; infection – anterior maxilla; sinusitis; sharp blade trauma – T4–5 (*peri mortem*); Sch – T6-L3; ddd – T7–9, 12; oa – L3, 5 ap, right glenoid; op – C1–2 af, C1 as, C5, L2 ap, C6, T3, 8, L2–4 bsm, T11–12 c-v, 5 right, 7 left ribs, elbows, distal radii, 1 right, 3 left carpals, 1st & 2nd MtP (left hand), 1st MtP (left foot); pitting – T5, 9 ap, right acromio-clavicular; enth – radii, left calcaneum; plastic change – ulnae (activity); mv – asymmetric nasal aperture; dental variation; large squatting facets; *os calcaneus secondarius*; taphonomy – iron residue right forearm; indices – stature – 1.70 m
2548 ?=2404	2547 (pit)	R	EIA	3 frags a	adult c.25–45 yr.	enthesophytes – right rib
2563 ?=2585	2562 (posthole)	R	E/MIA	*c.*1% s	subadult *c.*15–17 yr. ?female	taphonomy – green/semi-green puncture marks (right temporal)
2585 ON 43 ?= 2563	2584 (pit 2581)	R	EIA	*c.*3% s	subadult *c.*15–17 yr. ??female	taphonomy – surface sheen

(Continued)

Table 4. (Continued)

Context	Cut	Deposit type	Date	Quantity	Age/Sex	Pathology/Taphonomy/Indices
Romano-British						
2005	2004 (ditch 2675)	R	LRB	*c.*1% s	infant *c.*2–4 yr.	
2149	2148	inh. burial (flexed left)	*M-LRB	*c.*65%	adult *c.*40–50 yr. female	amtl; apical void; calculus; dental caries; enamel hypoplasia; hypercementosis; pd; *cribra orbitalia*; ivory osteoma; solitary bone cysts – carpals; endocranial vessel impressions; sinusitis; fracture – 2 right ribs, right navicular; spondylolysis/?spondylolisthesis – L5; Sch – T10–11, L2–5; ddd – T6, L5–S1; oa – L4–5 ap, T1, 10–11 c-v, T5, 9 tp, 6 left, 6 right ribs, hips; op – C3, 5, 7, T1, L3, S1 ap, C7, T1–10, T12, L2–3, L5–S1 bsm, T2–7 tp, right sacro-iliac, right proximal ulna, right scaphoid, 1st MtPs (hands), proximal IP & distal IP (right hand), left trapezoid, medial right knee, 5 right tarsals, 1st MtP & 2 proximal IPs (right foot), 4 left tarsals; pitting – left temporo-mandibular, T1–5, 7, 12, L2–3 ap, T4–9 c-v, T8 tp, left acromio-clavicular, sterno-claviculars, left glenoid, left proximal femur; rotator cuff degeneration; enth – distal humeri, left clavicle, right distal ulna, finger phalanges, patellae, calcanea; cortical defect – 1st proximal phalanx (right foot); plastic changes – radii & ulnae (activity); mv – sutural ossicle, large squatting facets – tali, calcanea, tibiae, Vastus notch; taphonomy – green copper alloy staining – left fingers; indices – stature 1.55 m, platymeric – 75.1–78.4, platycnemic – 66.1–69.2, robusticity – 120.2–128.8

2617	2591	inh. burial (flexed left)	LRB	*c* 93%	adult *c.*50–60 yr. male	amtl; apical void; calculus; dental caries; hypereruption; impaction; rotation; fracture – nasal; avulsion – T7, T9 end plates; Sch – T8, 10, L3; ddd – C2–7, L2–4, S1; degenerative collapse – L4–S1 posterior; oa – C1–2 af, C2–5, T4–8, L4–S1 ap, T1, 11 c-v, T8 tp, 2 left ribs, medial left knee; op – C5, T3, 7–11, S1 ap, T5, 8, S1 bsm, T9 c-v, T6, 10 tp, 6 right ribs, sacro-iliacs, right hip, shoulders, sterno-claviculars, left distal humerus, 1st MtP (left hand), 2 proximal IPs (right hand), knees, 2nd MtP (left foot), 1st proximal IPs (feet); pitting – T4, 7–9 ap, T5, 8, 10 c-v, T9 tp, 3 right, 3 left ribs, left acetabulum, acromio-claviculars, sterno-claviculars, left knee; rotator cuff degeneration – humerus; enth – manubrium, ischia, right elbow, finger phalanges, femora, tibiae, calcanea; cortical defect – distal femora (cruciate ligament), left proximal fibula, left middle cuneiform; exos – left proximal tibia; ?plastic changes – 3rd MtTs; ossified cartilage – xiphoid, ribs; mv – wormian bones; S6; Vastus notch; indices – stature – 1.73 m, platymeric – 98.9, platycnemic – 72.2–77.7, robusticity – 131.9

KEY: * – radiocarbon dated; R – redeposited; inh. – inhumation; s.a.u.l. – skull, axial, upper limb, lower limb (where not all skeletal regions are represented); amtl – *ante mortem* tooth loss; pd – periodontal disease C, T, L, S – cervical, thoracic, lumbar, sacral vertebrae; Sch – Schmorl's node; ddd –degenerative disc disease; oa – osteoarthritis; op – osteophytes; enth – enthesophytes; exos – exostoses; ap – articular process; bsm – body surface margins; c-v – costo-vertebral; tp – transverse process; Mt – metaphalangeal; mv – morphological variation

Approximately 70 per cent of the assemblage came from early–middle Iron-Age contexts, a further 26 per cent from Romano-British contexts, less than 1 per cent from Anglo-Saxon contexts and the rest from a small number of undated contexts.

Methods

Analysis was undertaken using standard methodologies for ageing and sexing,[116] and the recording of metric and non-metric data.[117] Bone condition was recorded after McKinley (2004).[118]

Results

The results are summarised in Table 4. The small size of the assemblage limits the usefulness of rate calculations and comparative analysis.

One Iron-Age and both Romano-British burials were made in graves, each of which cut earlier features and survived to depths of 0.13 m and 0.18–0.20 m respectively. The other burial was found in an Iron-Age pit. The bone is in excellent condition (grades 0–1), with little to moderate fragmentation (old and new in dry-bone). Skeletal recovery was good, with most loss being due to modern disturbance. *Post mortem* manipulation or accidental disturbance is indicated by probable puncture marks (semi-green bone) in a fragment of skull from Iron-Age posthole 2562. The surface sheen on further fragments from pit 2581 may be the result of a different burial environment, or treatment such as curation and repeated handling.

A minimum of six individuals are represented (MNI) – three Iron Age (neonate, subadult, adult) and three Romano-British (infant, two adults). Skeletal indices, including stature, are listed in Table 4. The males were taller than the average calculated for their respective periods (Iron Age: 1.68 m; Romano-British: 1.69 m), though the Romano-British female was relatively short (period average: 1.59 m).[119]

Non-metric variation can indicate levels of population diversity and activity-related abnormalities, though, due to complex or undefined aetiologies, their interpretive potential is not straightforward.[120] A selection of those recorded from the site are summarised in Table 4. A noteworthy example is a pegged incisor, which developed fully within the horizontal plate of the right palatine of the Romano-British male (Fig. 13).

Pathological lesions were recorded in the neonate and the adults, and include those consistent with dental disease, metabolic deficiency, trauma, infection, and joint disease. Dental disease was observed in all the adults, each having examples of *ante mortem* tooth loss, apical voids, calculus build-up and dental caries.[121] Two had periodontal disease (gingivitis).[122]

[116] W.M. Bass, *Human Osteology*, Missouri Archaeological Society (1987); G.C. van Beek, *Dental Morphology: An Illustrated Guide* (1983); J.E. Buikstra and D.H. Ubelaker, *Standards for Data Collection from Human Skeletal Remains,* Arkansas Archaeological Survey Research Series, 44 (1994); L. Scheuer and S. Black, *Developmental Juvenile Osteology* (2000).

[117] A.C. Berry and R.J. Berry, 'Epigenetic Variation in the Human Cranium', *Journal of Anatomy*, 101:2 (1967), pp. 361–79; D. Brothwell and S. Zakrzewski, 'Metric and Non-Metric Studies of Archaeological Human Remains', in M. Brickley and J.I. McKinley (eds.), *Guidelines to the Standards for Recording Human Remains*, British Association for Biological Anthropology and Osteoarchaeology and Institute for Field Archaeology (2004), pp. 24–30; M. Finnegan, 'Non-Metric Variations of the Infracranial Skeleton', *Journal of Anatomy*, 125:1 (1978), pp. 23–37.

[118] J.I. McKinley, 'Compiling a Skeletal Inventory: Disarticulated and Co-Mingled Remains', in M. Brickley and J.I. McKinley (eds.), *Guidelines to the Standards for Recording Human Remains,* British Association for Biological Anthropology and Osteoarchaeology and Institute for Field Archaeology (2004), pp. 13–16, fig. 6.1–7.

[119] C. Roberts and M. Cox, *Health and Disease in Britain from Prehistory to the Present Day* (2003), pp. 106, 163.

[120] A. Tyrrell, 'Skeletal Non-Metric Traits and the Assessment of Inter- and Intra-Population Diversity: Past Problems and Future Potential', in M. Cox and S. Mays, *Human Osteology in Archaeology and Forensic Science* (2000), p. 292.

[121] S.W. Hillson, *Teeth* (1986), pp. 278, 287, 316–18.

[122] A.R. Ogden, *Identifying and Scoring Periodontal Disease in Skeletal Material* (2005).

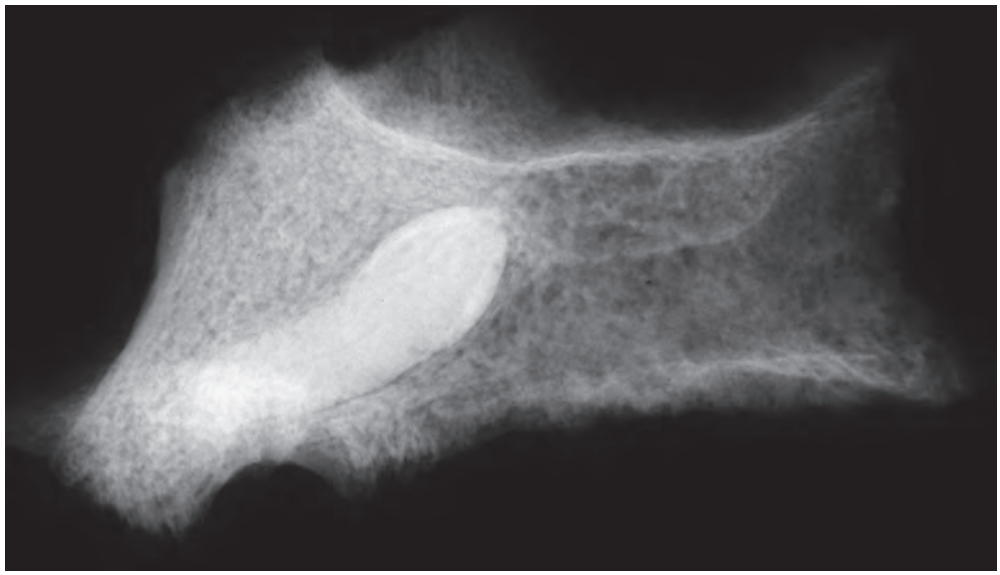

Fig. 13. Impaction: pegged incisor in right palatine of Romano-British male 2617.

Enamel hypoplasia – indicative of childhood nutritional/health stress – affected the Iron-Age male and Romano-British female dentitions.[123] Poor mineralisation of the neonatal skeleton was probably due to maternal metabolic deficiency. *Cribra orbitalia* – orbital pitting linked to iron deficiency anaemia, gastroenteritis and/or insufficient vitamin B_{12} – was recorded in the adult female.[124]

Around the time of his death, the Iron-Age male sustained a sharp weapon trauma to the upper thoracic region of the spine (Fig. 14). A cut mark extends 18 mm along postero-superior aspect of the right transverse process of the T5 and penetrates the right superior articular surface. The apex comprises a 2 mm square depression, tapering to a point – the bone within being crushed and folded. Thin slices in the supero-medial and infero-lateral corners indicate a double-edged blade as well as the angle of penetration. Hairline fractures radiate across the pierced articular surface and the posterior-left portion of the body (superior aspect). The inferior aspect of the T4 was also cut, immediately medial of the right inferior articular surface. The evidence implies that a thin, sharp blade was thrust between the shoulder blades – from above and to the right. Table 4 lists a number of other injuries in the adults, all were well-healed at the time of death.

As expected in a group with a high proportion of older individuals, lesions associated with joint disease are common. Degenerative disc disease and osteoarthritis were evident in all three adult spines, the latter also in at least one extra-spinal joints in each adult (Table 4).[125] Schmorl's nodes indicate that the adults participated in strenuous tasks involving heavy loading of the spine.[126]

[123] S.W. Hillson, 'Diet and Dental Disease', *World Archaeology*, 2:2, pp. 147–62; M. Lewis and C. Roberts, 'Growing Pains: The Interpretation of Stress Indicators', *International Journal of Osteoarchaeology*, 7 (1997), pp. 581–6.

[124] For parallels: M.E. Lewis, 'Life and Death in a Civitas Capital: Metabolic Disease and Trauma in the Children from Late Roman Dorchester, Dorset', *American Journal of Physical Anthropology*, 142 (2010), p. 408; P. Walker et al., 'The Causes of Porotic Hyperostosis and C*ribra Orbitalia*: a Reappraisal of the Iron-Deficiency-Anaemia Hypothesis', *American Journal of Physical Anthropology*, 139 (2009), p. 119.

[125] J. Rogers and T. Waldron, *A Field Guide to Joint Disease in Archaeology* (1995), pp. 27, 43–4.

[126] Ibid. p. 27; C. Roberts and K. Manchester, *The Archaeology of Disease* (1997), p. 107.

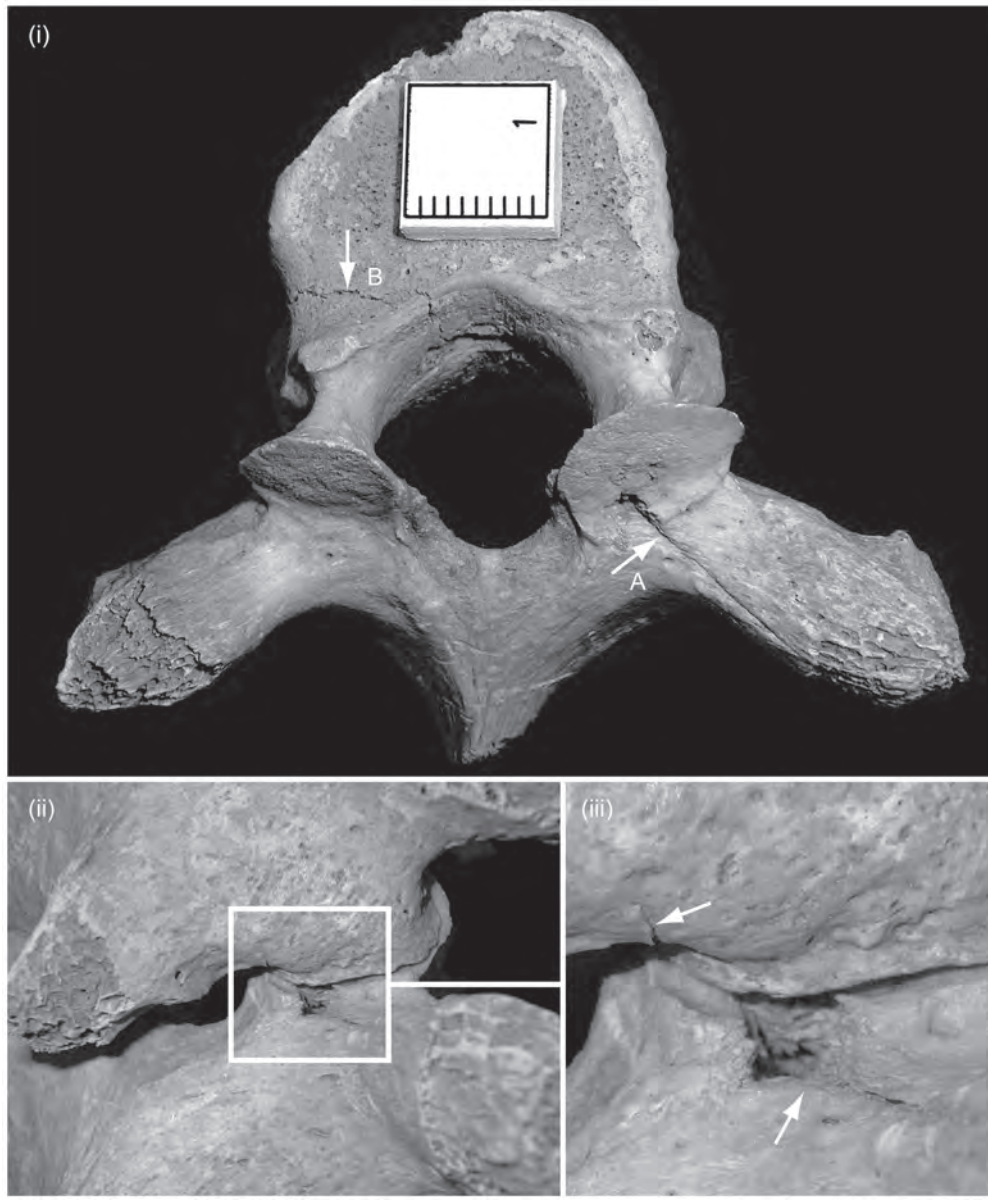

Figure 14. Middle Iron-Age adult male 2404. (i) Peri mortem trauma; T5 (superior aspect) – A: sharp blade cut; B: associated fractures. (ii) T4–5 (posterior aspect). (iii) Detail from (ii).

Discussion

The confirmation of a middle Iron-Age date for the burial remains from grave 2403 is important as, prior to the current practice of systematically radiocarbon dating unaccompanied remains, many such burials have been classified as broadly prehistoric, precluding their consideration within the correct temporal context. Singleton graves are commonly found in Romano-British rural settings.

The differential treatment of neonatal and young infant remains is well-recognised in both periods;[127] evidence for a variety of early and middle Iron-Age mortuary rites and *post mortem* treatments have been discussed elsewhere.[128]

Though some level of health/nutritional stress is indicated, there appears to have been adequate access to food resources, at least for some. Dental health was fairly typical for the periods, and considering the age-ranges represented. All adults had led physically active lives. Changes in the upper limbs and ankles imply that the Iron-Age male and Romano-British female habitually adopted a squatting position and participated in activities requiring repeated and/or strenuous movements of the upper limbs.

The majority of traumatic injuries are not unusual, most reflecting accidents and heavy labour. The rare manifestation of a *peri mortem* stab wound, however, is particularly noteworthy.

ANIMAL BONE by L. HIGBEE

The assemblage comprises 3,660 fragments (or 37.663 kg) of animal bone. This is a raw fragment count and once conjoins have been taken into account the figure falls to 2,825 fragments (Table 5). Most (98 per cent) fragments were recovered by hand during the normal course of excavation and the rest was retrieved from the sieved residues of five bulk soil samples.

Approximately 70 per cent of the assemblage came from early–middle Iron-Age contexts, a further 26 per cent from Roman-British contexts, less than 1 per cent from Anglo-Saxon contexts and the rest from a small number of undated contexts.

Methods

The following information was recorded for each identifiable fragment: species, element, anatomical zone,[129] anatomical position, fusion state,[130] tooth eruption/wear,[131] butchery marks,[132] metrical data,[133] gnawing, burning, surface condition, pathology,[134] and non-metric

[127] Philpott, *Burial Practices in Roman Britain*; M. Struck, 'Kinderbestattungen in romano-britischen Siedlungen-der archäologische Befund', in M. Struck (ed.), *Römerzeitliche Gräber als Quellen zu Religion, Bevölkerungsstruktur und Sozialgeschichte* (1993), pp. 313–18.

[128] R. Whimster, *Burial Practices in Iron Age Britain*, BAR BS, 90 (i and ii) (1991); B. Cunliffe, 'Pits, Preconceptions and Propitiation in the British Iron Age', *Oxford Journal of Archaeology*, 11:1 (1992), pp. 69–87; M.J. Aldhouse-Green, *Dying for the Gods: Human Sacrifice in Iron Age and Roman Europe* (2001), pp. 97–109; J.I. McKinley, 'Human Remains', in C. Ellis and A.B. Powell, *An Iron Age Settlement Outside Battlesbury Hillfort, Warminster, and Sites Alongside the Southern Range Road*, Wessex Archaeology Report, 22 (2008), pp. 71–83.

[129] D. Serjeantson, 'The Animal Bone', in S. Needham and T. Spence (eds.), *Refuse and Disposal at Area 16 East Runnymede: Runnymede Bridge Research Excavations, Volume 2* (1996), pp. 195–200; A. Cohen and D. Serjeantson, *A Manual for the Identification of Bird Bones from Archaeological Sites* (1996), pp. 110–12.

[130] After T.P. O'Connor, *Bones from Anglo-Scandinavian Levels at 16–22 Coppergate*, The Archaeology of York, 15:3, CBA (1989), pp. 137–207; I.A. Silver, 'The Ageing of Domestic Animals', in D.R. Brothwell and E.S. Higgs (eds.), *Science in Archaeology: A Survey of Progress and Research* (1969), pp. 283–301.

[131] After A. Grant, 'The Use of Tooth Wear as a Guide to the Age of Domestic Animals', in B. Wilson et al. (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites*, BAR BS, 109 (1982), pp. 91–108; P. Halstead, 'A Study of Mandibular Teeth from Romano-British Contexts at Maxey', in F. Pryor and C. French, *Archaeology and Environment in the Lower Welland Valley Vol. 1*, East Anglian Archaeology Report, 27 (1985), pp. 219–24; E. Hambleton, *Animal Husbandry Regimes in Iron Age Britain: A Comparative Study of Faunal Assemblages from British Archaeological Sites*, BAR BS, 282 (1999); S. Payne, 'Kill-Off Patterns in Sheep and Goats: The Mandibles from Asvan Kale', *Anatolian Studies*, 23 (1973), pp. 281–303.

[132] After R.C.G.M. Lauwerier, 'Animals in Roman Times in the Dutch Eastern River Area', *Nederlanse Oudheden 12/Projest Oostelijk Rivierengebied*, 1 (2007); N.J. Sykes, *The Norman Conquest: A Zooarchaeological Perspective*, BAR IS, 1656 (2007).

[133] After A. von den Driesch, *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin, 1 (1976); S. Payne and G. Bull, 'Components of Variation in Measurements of Pig Bones and Teeth, and the Use of Measurements to Distinguish Wild from Domestic Pig Remains', *Archaeozoologia*, 2 (1982), pp. 27–65.

[134] After S. Vann and R. Thomas, 'Humans, Other Animals and Disease: A Comparative Approach Towards the Development of a Standardised Recording Protocol for Animal Palaeopathology', *Internet Archaeology*, 20:5 (2006).

traits. This information was directly recorded into a relational database (in MS Access) and cross-referenced with relevant contextual information.

Quantification methods applied to the assemblage include the number of identified specimens (NISP), minimum number of elements (MNE), minimum number of individuals (MNI) and meat weight estimate (MWE).[135] The NISP count has been adjusted to take account of associated bone groups (hereafter ABGs);[136] these have been counted once so as not to over-inflate their significance. The following live weight values were used to calculate MWE: 275 kg for cattle, 37.5 kg for sheep and 85 kg for pig.

Preservation Conditions

Bone preservation is on the whole very good, cortical surfaces are intact and fine surface details such as knife cuts are clear and easily observed. A small number of poorly preserved fragments were recovered from a few features, mostly pits; the fragments show signs of physical and chemical weathering, and are assumed to be residual having been reworked and redeposited from earlier contexts.

There is limited direct evidence that the assemblage has been biased significantly by the scavenging habit of carnivores, indeed gnaw marks were present on only 8 per cent of fragments.

Early–Middle Iron Age

Composition and Distribution A total of 35 per cent of fragments are identifiable to species and skeletal element (Table 5). The assemblage is dominated by domestic species, in particular sheep which account for 47 per cent NISP, followed by cattle (28 per cent), pig (9 per cent), dog (8 per cent) and horse (6 per cent). Less common species include goat, cat, deer, domestic fowl and woodcock.

Most (69 per cent) fragments came from pits, a further 22 per cent from ditches and the rest from roundhouse gullies (Fig. 15(i)). The character of the animal bone assemblage is fairly consistent between the different feature types, all of which have high sheep (45–55 per cent NISP) and cattle bone frequencies (28–31 per cent NISP). The most significant difference between features is in the proportion of other domestic species, for example ditches and pits both have relatively high pig bone frequencies in comparison to roundhouse gullies. Similarly, horse bones are common from ditches and dog bones are common from pits. The deer and bird bones are distributed fairly evenly between feature types.

Livestock The assemblage meets the minimum NISP count deemed necessary for an accurate assessment of the relative importance of livestock species, however the MNI count is slightly below the minimum sample size of 30.[137] The Grove Road, Harwell assemblage has a NISP count for livestock species of 461 and a MNI count of only 25.

The NISP, MNE and MNI method of assessing the relative importance of species all indicate that sheep were of prime importance and account for between 56–67 per cent of livestock, however MWE indicates that cattle provided the bulk of the animal based protein consumed at the site during this period (Fig. 15(ii)). Pigs were of minor importance and account for

[135] After J. Boessneck et al., *Das Tierknochenfunde aus dem Oppidum von Manching. Die Ausgrabungen in Manching*, 6 (1971); and following J. Bourdillon and J. Coy, 'The Animal Bones', in P. Holdsworth, *Excavations at Melbourne Street, Southampton, 1971–76*, CBA Research Report, 33 (1980), pp. 77–121; J.M. Bond and T.P. O'Connor, *Bones from Medieval Deposits at 16–22 Coppergate and Other Sites in York*, The Archaeology of York 15:5, CBA (1999); K. Dobney et al., *Farmers, Monks and Aristocrats: The Environmental Archaeology of Anglo-Saxon Flixborough. Excavations at Flixborough, Volume 3* (2007).

[136] After A. Grant, 'Animal Husbandry', in Cunliffe, *Danebury*, p. 533; J. Morris, 'Re-Examining Associated Bone Groups from Southern England and Yorkshire, *c.*4000 BC to AD 1550', Bournemouth University Ph.D. thesis (2008), pp. 34–5; J. Morris, 'Associated Bone Groups; Beyond the Iron Age', in J. Morris and M. Maltby (eds.), *Integrating Social and Environmental Archaeologies; Reconsidering Deposition*, BAR IS, 2077 (2010), p. 12; J. Morris, *Investigating Animal Burials: Ritual, Mundane and Beyond*, BAR BS, 535 (2011).

[137] Hambleton, *Animal Husbandry Regimes in Iron Age Britain*, pp. 39–40.

Table 5. Animal bone: number of identified specimens present (or NISP) by period

Species	Early-Middle Iron Age	Romano-British	Anglo-Saxon	Undated	Total
cattle	197	96		10	303
sheep/goat	327	99	3	16	445
sheep	3	1			4
goat	1	1			2
pig	63	14	1		78
horse	42	21		2	65
dog	57	11		2	70
cat	1	1			2
red deer	1				1
roe deer	2	1			3
deer		1			1
domestic fowl	1	1			2
woodcock	1				1
Total identified	**696**	**247**	**4**	**30**	**977**
large mammal	404	216	4	63	687
medium mammal	672	75	2	9	758
mammal	204	184	3		391
rodent		9			9
amphibian		3			3
Total unidentified	***1,280***	***487***	***9***	***72***	***1,848***
Overall total	**1,976**	**734**	**13**	**102**	**2,825**

just 10–13 per cent of livestock. A similar pattern was noted for the small assemblage from Romano-British features.

The sheep bone assemblage includes a range of skeletal elements. There are some absences but in general most body parts are represented and this suggests that the assemblage comprises whole carcasses no doubt from animals brought to the site on the hoof to be slaughtered and butchered for local consumption. This said it is apparent that most elements are grossly under-represented in comparison to the tibia, mandible and radius. The range of different cattle bone elements also suggests the presence of whole carcasses and the representation of individual elements in relation to the most common (i.e. the scapula and radius) is more proportionate than was the case for sheep bone assemblage. Most parts of the pig carcass are also present in the assemblage and common elements include the mandible and humerus.

Differences in the body part data for sheep, cattle and pigs suggests that the size and robusticity of skeletal elements is a key factor in determining survival rates, and the observed patterns of relative abundance illustrate the effects of fragmentation and recovery bias.[138]

Age information based on epiphyseal fusion indicates that 27 per cent of sheep were slaughtered before the age of 10 months and almost 60 per cent before the age of 2 years, indeed less than 20 per cent survived beyond 4 years. However, analysis of tooth eruption and wear for mandibles retaining two or more teeth indicates that most sheep were slaughtered

[138] Ibid. pp. 31–2.

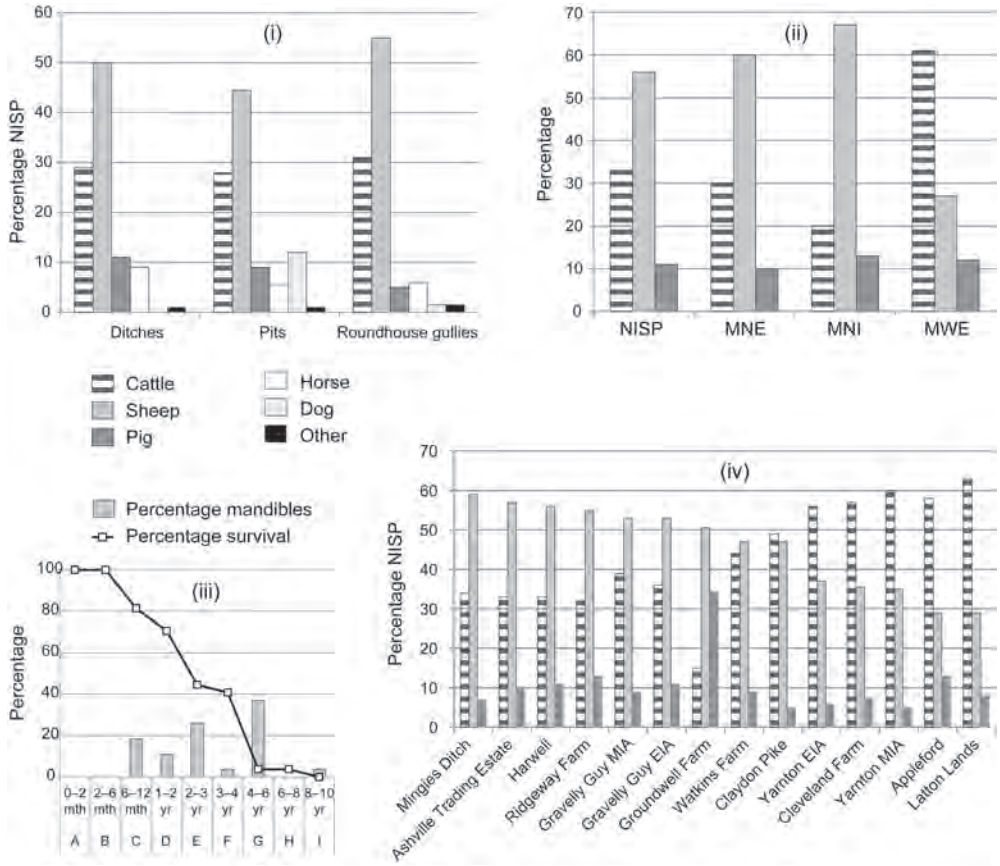

Fig. 15 i) Distribution of animal bones from main early–middle Iron-Age contexts; ii) Relative importance of livestock species from early–middle Iron-Age contexts by NISP, MNE, MNI and MWE; iii) Mortality profile for Iron-Age sheep based on a sample of 27 mandibles retaining 2+ teeth with recordable wear. Mandible wear stages (or MWS) and suggested ages after Payne (1973); iv) Relative importance of livestock species at major early–middle Iron-Age Sites in the upper Thames valley. Ordered by per cent sheep, the most common species in the Harwell assemblage. Includes assemblage with NISP for cattle+sheep+pig of 300+.

between the ages of 4–6 years (MWS G).[139] The mortality profile (Fig. 15(iii)) also shows a minor peak in the slaughter of sheep aged between 2–3 years (MWS E). The majority of the rest were slaughtered between the ages of 6–12 months and 1–2 years (MWS C and D), and a few survived to 8–10 years (MWS I). There is a considerable discrepancy between the mortality profile suggested by epiphyseal fusion and that suggested by mandibles, however the former is considered less accurate given the skewed representation of different bone elements outlined above. On the bases of the tooth wear evidence it would appear that sheep were primarily managed for wool, and meat production was a secondary consideration, as suggested by the minor peak in slaughter amongst animals in their prime (that is, MWS E). The culling of yearlings does not appear to reflect the intensive seasonal slaughter patterns recorded at some sites in the Thames valley.[140]

[139] Payne, 'Kill-Off Patterns in Sheep and Goats', pp. 281–303.
[140] Hambleton, *Animal Husbandry Regimes in Iron Age Britain*, p. 73.

Epiphyseal fusion information for cattle indicates that most were slaughtered between the ages of 3½–4 years. Only six complete cattle mandibles were recovered from early–middle Iron-Age contexts; one of the mandibles is from a juvenile animal aged between 18–30 months (MWS D) and the rest are from adult, old adult and senile animals (MWS G–I).[141] The mortality profile for cattle indicated that they were primarily managed for milk and as traction animals.

Most of the pig bones have unfused epiphyses and are therefore from immature animals, some less than 1 year old. Seven complete pig mandibles were recovered; four are from young animals aged 7–14 months and the rest are from animals aged between 14–27 months (MWS C–E). Pigs provide no secondary products and are generally slaughtered at a young age for meat.

Withers height estimates for sheep range from 0.56–0.57 m, and for cattle the range is 1–1.2 m. Butchery marks were evident on only 9 per cent of bones from livestock species, although the majority were chop marks recorded on cattle bones. The assemblage includes numerous worked sheep bone gouges.

Other Domestic Mammals Forty-two horse bones were recovered from a range of early–middle Iron-Age contexts. The range of bone elements is varied enough to suggest that whole carcasses are represented in the assemblage, and the most common elements are loose teeth and metapodials. Small groups of associated bones were noted from pits 2261 and 2581, the former including an articulating left radius and ulna, and the latter a pair of scapulae. With the exception of a juvenile radius from pit 2261, the horse bones were from adult animals. Withers height estimates range between 12.1–12.3 hands which is equivalent to a small pony. Butchery marks were evident on five horse bones, the marks relating to disarticulation and marrow extraction.

Most of the 57 dog bones recovered from the site are from five pits: 2086 and 2142 contained single bones, 2379 and 2410 both contained partial skeletons, and 2581 contained a skull and right mandible. A single third phalanx was recovered from roundhouse gully 2663. The skull from pit 2581 is from a juvenile animal, while all the other bones are from small, gracile adult animals. Cut marks were noted across the proximal articular surface of the ulna from pit 2142. Bones from less common domestic species like goat and cat were recovered from roundhouse gullies 2665 and 2668.

Deer Red deer antler was recovered from pit 2381, and a roe deer humerus and piece of antler were recovered from pits 2261 and 2358, respectively. Antler was probably collected after having been shed naturally during the autumn and no doubt used to make a range of items.

Birds Wing bones from a domestic fowl and a woodcock were recovered from ditch 2304 and pit 2581, respectively.

Romano-British

Composition and Distribution The Romano-British assemblage comprises 734 fragments, 34 per cent of which are identifiable to species (Table 5). Bones from livestock species dominate accounting for 85 per cent NISP; the number of sheep and cattle bones is near equal at 40 per cent and 39 per cent respectively, and the number of pig bones is quite low at only 6 per cent. Other identified species include horse (6 per cent), dog (4 per cent), followed by goat, cat, roe deer and domestic fowl.

The vast majority (55 per cent) of the animal bones came from ditches, in particular those forming enclosures 2671 and 2672. A further 27 per cent of fragments came from metalled

[141] Halstead, 'A Study of Mandibular Teeth from Romano-British Contexts at Maxey', pp. 219–24.

surface 2057, 18 per cent came from pits and the rest from a small range of other features. Most of the bones from ditches belong to sheep, cattle and horse in that order. Cattle bones dominate the material recovered from metalled surface 2057 and sheep bones were common from pits.

Livestock As already indicated, there is only a very slight difference in the relative amounts of sheep and cattle bones. In terms of livestock species, sheep bones account for 48 per cent NISP, cattle a further 47 per cent, and pig just 5 per cent. The assemblage size falls short of the minimum criteria required for an accurate assessment of the site economy (see above).

Most parts of the sheep and cattle carcass are present in the assemblage and any absences or under-representations are likely to be the product of small sample size. The most common sheep bones are the tibia, radius and metatarsal, while the most common cattle bones are the metacarpal, mandible and metatarsal. At least eight sheep and six cattle are represented. The small pig bone assemblage includes enough of a range of elements to suggest that whole carcasses are represented in the assemblage.

Age information based on epiphyseal fusion suggests that most sheep and cattle were adult animals when selected for slaughter. Eleven complete sheep mandibles were recovered; these show a wider range of ages than suggested by the fusion data including two 6–12 month old lambs, juveniles aged between 1–3 years and adult animals aged between 4–8 years (MWS C–E and G–H). The mortality pattern for sheep is similar to that for early–middle Iron-Age sheep and suggests a similar husbandry strategy. Of the four complete cattle mandibles recovered, two are from juvenile animals aged between 18–36 months and the others are from adult and senile animals. Pigs were once again slaughtered as immature animals less than two years old.

Butchery marks were evident on 11 per cent of bones from livestock species. The majority are chop marks recorded on cattle bones, in particular disarticulation marks around major joints. Withers height estimated for livestock indicate that sheep were 0.56 m and cattle just over 1 m.

Other Domestic Mammals Most of the horse bones recovered from the site came from ditches, in particular enclosure 2672. Most are disarticulated bones from adult animals, however there are also a few small groups that could potentially be from the same animal and one ABG. The former include a left metacarpal, astragalus and calcaneus from ditch 2675 and several ankle bones from metalled surface 2057. ABG 2294 is from enclosure 2672 and comprises the articulated remains of the shoulder, thorax and pelvic girdle, as well as small fragments of skull and other long bones.

Most of the eleven dog bones recovered from Romano-British contexts came from ditches. The bones are disarticulated but, as with the horse bone assemblage, there are a few small groups that could be from the same animal. These include skull and mandible fragments from a neonatal animal from ditch 219 and a pair of adult pelvises from ditch 2671. The only other domestic species identified from the assemblage are goat and cat. The former is represented by a horn core from gully 2137 and the latter by a single incisor tooth from ditch 2675.

Deer The pelvis from a roe deer was recovered from enclosure 2672 and a small piece of antler from ditch 2335.

Birds A single bird bone, a tibiotarsus from a domestic fowl, was recovered from ditch 2675.

Anglo-Saxon

Thirteen bones were recovered from Anglo-Saxon pit 2282 and spread 221. The identified fragments include a few sheep post-cranial bones and the mandible from a pig.

Table 6. Animal bone: relative importance of livestock species form major early–middle Iron-Age sites in the upper Thames valley (only sites with NISP 300+ included)

	Cattle		Sheep		Pig	
Site	**N**	**%**	**N**	**%**	**N**	**%**
Mingies Ditch	521	34	914	59	103	7
Ashville Trading Estate	1,072	33	1,841	57	326	10
Harwell	**197**	**33**	**330**	**56**	**63**	**11**
Ridgeway Farm	116	32	201	55	46	13
Gravelly Guy MIA	2,910	39	3,966	53	669	9
Gravelly Guy EIA	733	36	1,066	53	223	11
Groundwell Farm	556	15	1,882	50.5	1,288	34.5
Watkins Farm	405	44	429	47	87	9
Claydon Pike	270	49	258	47	26	5
Yarnton EIA	1,343	56	890	37	148	6
Cleveland Farm	347	57	216	35.5	46	7.5
Yarnton MIA	1,374	60	802	35	106	5
Appleford	198	58	99	29	43	13
Latton Lands	280	63	129	29	37	8

Discussion

Detailed analysis focused on the more substantial early–middle Iron-Age component of the assemblage, while the smaller Romano-British component provided an indication of continuity in farming practices. The evidence indicates that the livestock economy of the site was based on sheep-farming, the flock being managed for a variety of commodities, though perhaps with a greater emphasis on wool production rather than prime meat.

Comparison with other early and middle Iron-Age sites in the upper Thames valley (Table 6 and Fig. 15(iv)) indicates that although there is some variation in the relative importance of livestock species between sites, the animal bone assemblage from Grove Road is fairly typical of the majority of sites which have sheep bone frequencies of over 50 per cent NISP. Grove Road falls towards the top end of this range and the closest regional parallels are with Mingies Ditch near Hardwick, Ashville Trading Estate, Abingdon, Gravelly Guy, Stanton Harcourt, and Ridgeway Farm and Groundwell Farm near Swindon in north Wiltshire.[142] At Watkins Farm, Northmoor and Claydon Pike, Lechlade the proportion of sheep and cattle bones are near equal, while Yarnton, Cleveland Farm, Appleford and Latton Lands all have high cattle bone frequencies of between 56–63 per cent NISP.[143]

[142] B. Wilson, 'Reports on the Bones and Oyster Shell', in T.G. Allen and M.A. Robinson, *The Prehistoric Landscape and Iron Age Enclosed Settlement at Mingies Ditch, Hardwick-with-Yelford, Oxfordshire,* Thames Valley Landscapes: The Windrush Valley, 2 (1993), pp. 123–45; B. Wilson, 'The Animal Bone', in Parrington, *Ashville Trading Estate*, pp. 110–38; J. Mulville and B. Levitan, 'The Animal Bone', in Lambrick and Allen, *Gravelly Guy*, pp. 463–78; Higbee,'Animal Bone', in A. B. Powell 'An Early Bronze Age Burial, Early to Middle Iron Age Settlement and Romano-British Activity at Ridgeway Farm, Purton, Wiltshire', *Wiltshire Archaeological and Natural History Magazine*, 110 (2017), pp. 42–6; J. Coy, 'The Animal Bones', in C. Gingell, 'Excavation of an Iron Age Enclosure at Groundwell Farm, Blunsdon St. Andrew, 1976–7', *Wiltshire Archaeology and Natural History Magazine*, 76 (1982), pp. 68–72.

[143] B. Wilson, 'The Animal and Fish Bone', in Allen, *An Iron Age and Romano-British Enclosed Settlement at Watkins Farm*, pp. 57–64; N.J. Sykes, 'Animal Bone', in D. Miles et al., *Iron Age and Roman Settlement in the Upper Thames Valley: Excavations at Claydon Pike and Other Sites Within the Cotswold Water Park*, Thames Valley Landscapes Monograph, 26 (2007), pp. 53–5, 84–5, 151–3, 203–4; J. Mulville et al., 'The Animal Bone', in Hey et al., *Yarnton*, pp. 487–521; A. Powell et al., 'An Iron Age and Romano-British Settlement at Cleveland Farm, Ashton Keynes, Wiltshire', *Wiltshire Archaeology and Natural History Magazine*, 101 (2008), pp. 18–50;

Grove Road also falls into the group of sites with high survival rates (60–80 per cent) for sheep beyond MWS C.[144] The husbandry strategy at these sites appears to be focused on the exploitation of slightly older sheep for wool and meat. This is in contrast to sites such as Latton Lands and Ridgeway Farm where sheep were culled at the optimum age for prime meat.

CHARRED PLANT REMAINS by SARAH F. WYLES

A total of seven bulk samples were taken from early/middle Iron-Age pits 2051 and 2700, from middle Iron-Age pit 2425 and from Romano-British pits 2194 and 2408. These samples were processed for the recovery of charred plant remains and wood charcoal. As a result of the assessment a selection of three samples was made for further analysis of the charred plant assemblages. These were from early/middle Iron-Age pit 2051 and Romano-British pits 2194 and 2408.

Methods

The bulk samples for charred remains were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 5.6 mm, 2 mm and 1 mm fractions. The coarse fractions (>5.6 mm) were sorted for artefacts and ecofacts, weighed and discarded.

At the analysis stage, all identifiable charred plant macrofossils were extracted from the flots, together with the 2 mm and 1 mm residues. Identification was undertaken using stereo incident light microscope at magnifications of up to x40 using a Leica MS5 microscope, following the nomenclature of Stace for wild species and the traditional nomenclature as provided by Zohary and Hopf, for cereals and with reference to modern reference collections where appropriate, quantified and the results tabulated in Table 7.[145]

Early/Middle Iron Age

The rich charred assemblage recovered from pit 2051 was dominated by cereal remains. These included hulled wheat, emmer or spelt *(Triticum dicoccum/spelta*), grain, glume base and spikelet fork fragments and a barley (*Hordeum vulgare*) grain fragment. Some of the chaff elements were identifiable as being those of spelt wheat (*Triticum spelta*) and one glume base resembled that of emmer wheat (*Triticum dicoccum*). The glumes greatly outnumbered the grains in this deposit.

The assemblage is likely to be indicative of waste derived from the dehusking of hulled grain stored as semi-cleaned grain or in spikelet form.[146]

The few weed seeds included those of oat/brome grass (*Avena/Bromus* sp.), rye-grass/fescue (*Lolium/Festuca* sp.), clover/medick (*Trifolium/Medicago* sp.), vetch/wild pea

B. Wilson, 'Bone and Shell Report', in J. Hinchcliffe and R. Thomas, 'Archaeological Investigations at Appleford', *Oxoniensia*, 45 (1980), pp. 84–9; K. Poole, 'The Animal Bones', in K. Powell et al., 'A Late Neolithic/Early Bronze Age Enclosure and Iron Age and Romano-British Settlement' at Latton Lands, Wiltshire', *Wiltshire Archaeology and Natural History Magazine*, 102 (2009), pp. 98–104.

[144] Hambleton, *Animal Husbandry Regimes in Iron Age Britain*, p. 73; J. Mulville et al., 'The Animal Bone', in Hey et al., *Yarnton*, p. 496.

[145] C. Stace, *New Flora of the British Isles*, 2nd edition (1997); D. Zohary and M. Hopf, *Domestication of Plants in the Old World: The Origin and Spread of Cultivated Plants in West Asia, Europe, and the Nile Valley*, 3rd edition (2000), tables 3, 5, pp. 28, 65.

[146] G.C. Hillman, 'Reconstructing Crop Husbandry Practices from Charred Remains of Crops', in R.J. Mercer (ed.), *Farming Practice in British Prehistory* (1981), pp. 123–62; G.C. Hillman, 'Interpretation of Archaeological Plant Remains, the Application of Ethnographic Models from Turkey', in W. van Zeist and W.A. Casparie (eds.), *Plants and Ancient Man: Studies in the Palaeoethnobotany*, Proceedings of the 6th Symposium of the International Work Group for Palaeobotanists (1984), pp. 1–42.

Table 7. Charred plant remains

Phase		E/MIA	RB	
Feature Type		Pit	Pit	Pit
Feature		2051	2194	2408
Context		2054	2195	2646
Sample		1	9	10
Vol (L)		0.5	18	29
Flot size		4	35	175
Roots %		10	5	55
Cereals	**Common Name**			
Hordeum vulgare L. sl (grain)	barley	1	3	1
Hordeum vulgare L. sl (rachis frag)	barley	–	2	–
Triticum dicoccum (Schübl) (glume base)	emmer wheat	1	2	2
Triticum spelta L. (glume bases)	spelt wheat	8	56	20
Triticum spelta L. (spikelet fork)	spelt wheat	1	1	1
Triticum dicoccum/spelta (grain)	emmer/spelt wheat	3	18	6
Triticum dicoccum/spelta (germinated grain)	emmer/spelt wheat	–	2	–
Triticum dicoccum/spelta (spikelet fork)	emmer/spelt wheat	10	10	10
Triticum dicoccum/spelta (glume bases)	emmer/spelt wheat	94	135	140
Cereal indet. (grains)	cereal	5	32	24
Cereal frag. (est. whole grains)	cereal	4	14	10
Cereal frags (rachis frags)	cereal	1	6	1
Cereal frags (coleoptile)	cereal	–	34	2
Other Species				
Ranunculus sp.	buttercup	–	1	–
Corylus avellana L. (fragments)	hazelnut	–	1 (<1 ml)	–
Chenopodium sp.	goosefoot	–	2	–
Atriplex sp. L.	oraches	–	–	1
Stellaria sp. L.	stitchwort	–	–	1
Rumex sp. L.	docks	1	17	1
Brassica sp. L.	brassica	–	2	3
Erica/Calluna type (stems/rootlet)	heather/heath	–	–	4
Vicia L./Lathyrus sp. L.	vetch/wild pea	1	25	3 + 1 min
Vicia faba	celtic bean	–	2	–
Medicago/Trifolium sp. L.	medick/clover	1	26	1
Galium sp. L.	bedstraw	–	4	3
Anthemis cotula L. (seeds)	stinking mayweed	–	–	1
Tripleurospermum inodorum (L.) Sch. Bip.	scentless mayweed	–	4	–
Carex sp. L. trigonous	sedge trigonous seed	–	2	–
Poaceae culm node	grass	–	2	–
Lolium/Festuca sp.	rye-grass/fescue	2	1	1
Poa/Phleum sp. L.	meadow grass/cat's-tails	–	2	2
Avena sp. L. (grain)	oat grain	–	2	–
Avena sp. L. (floret base)	oat floret	–	2	–
Avena sp. L. (awn)	oat awn	–	1	–

Table 7. (Continued)

Phase		E/MIA		RB
Feature Type		Pit	Pit	Pit
Feature		2051	2194	2408
Context		2054	2195	2646
Sample		1	9	10
Avena L./*Bromus* L. sp.	oat/brome grass	3	20	4
Bromus sp. L.	brome grass	–	1	–
Monocot. Stem/rootlet frag.		–	1	6
Triangular capsule frag.		–	1	–
Tuber		–	1	–
Mineralised nodule		–	–	4

(*Vicia/Lathyrus* sp.) and docks (*Rumex* sp.). These are all species typical of grassland, field margins and arable environments.

Spelt and emmer wheat together with a greater amount of barley was recorded in a number of Iron-Age assemblages at Ashville Trading Estate, Abingdon, at Wyndyke Furlong, Abingdon, Gravelly Guy, Stanton Harcourt while at Yarnton there was spelt wheat and barley but no clear evidence for emmer wheat.[147]

Romano-British

Cereal remains were predominant in both large assemblages recorded from pits 2194 and 2408, with chaff elements outnumbering grains as seen in the early/middle Iron-Age assemblage. Again, the main cereal crop present was hulled wheat with a small amount of barley. The majority of the chaff elements identifiable to species were those of spelt wheat, with a smaller number of those of emmer wheat also being noted. A few of the grains within the assemblage from pit 2194 showed traces of germination and a relatively large number of coleoptile fragments were recovered from this pit. A few coleoptile fragments were also recorded in the assemblage from pit 2408. Remains of other potential crops within pit 2194 included a few seeds of celtic bean (*Vicia faba*) and a triangular capsule fragment, possibly of flax (*Linum usitasissimum*).

Again, spelt wheat was the dominant cereal, with small quantities of emmer wheat and barley, in these assemblages. Typically spelt wheat is the dominant wheat over much of England during the Romano-British period.[148] Spelt and emmer wheat and barley were recorded in Romano-British assemblages at Ashville Trading Estate Abingdon and Wyndyke Furlong Abingdon, and spelt wheat and barley at Gravelly Guy, Stanton Harcourt and Yarnton.[149]

[147] Jones, 'The Plant Remains', pp. 93–110; M. Robinson, 'Macroscopic Plant and Invertebrate Remains', in Muir and Roberts, *Excavations at Wyndyke Furlong*, pp. 51–7; L. Moffett, 'The Evidence for Crop-Processing Products from the Iron Age and Romano-British Periods and Some Earlier Prehistoric Plant Remains', in Lambrick and Allen, *Gravelly Guy*, pp. 421–45; R. Pelling, 'Charred Plant Remains from Cresswell Field', in Hey et al., *Yarnton*, pp. 523–34; C.J. Stevens, 'Crop-Husbandry as Seen from the Charred Botanical Samples from Yarnton', in Hey et al., *Yarnton*, pp. 534–68.

[148] J. Greig, 'The British Isles', in W. van Zeist et al. (eds.), *Progress in Old World Palaeoethnobotany* (1991), pp. 229–334.

[149] Jones, 'The Plant Remains', pp. 93–110; Robinson, 'Macroscopic Plant and Invertebrate Remains'; L. Moffett, 'The Evidence for Crop-Processing Products from the Iron Age and Romano-British Periods and Some Earlier Prehistoric Plant Remains', in Lambrick and Allen, *Gravelly Guy*, pp. 421–45; Pelling, 'Charred Plant Remains from Cresswell Field'; Stevens, 'Crop-Husbandry', pp. 534–68.

The glume rich assemblage from pit 2408 is likely to be representative of waste from the dehusking of hulled grain stored as semi-cleaned grain or in spikelet form. The assemblage from pit 2194 is different. The traces of germination on some of the grains together with the relatively large number of coleoptile fragments may be indicative of the charring of waste from the malting and brewing process together with some general settlement waste from the dehusking of semi-cleaned grain.

The crops are likely to have been harvested by sickle as indicated by the presence of low growing species such as clover, medick and dock, together with the occurrence of twining species such as vetches/wild pea and bedstraw.

There were a greater number of weed seeds within the assemblage from pit 2194, but they only represented around 25 per cent of the assemblage. The weed seeds in the Romano-British assemblages included oat/brome grass, rye-grass/fescue, clover/medick, vetch/wild pea and docks. There were also small quantities of seeds of a number of other weed species including bedstraw (*Galium* sp.), scentless mayweed (*Tripleurospermum inodorum*), stinking mayweed (*Anthemis cotula*), brassica (*Brassica* sp.) and sedge (*Carex* sp.). Other remains included a few fragments of hazelnut (*Corylus avellana*) shell and monocotyledon stem fragments. Some of these stems had the appearance of heather (*Calluna/Erica* sp.) type fragments.

The weed seed assemblages are again dominated by species typical of those from grassland, field margins and arable environments. There is an indication of the exploitation of a number of different soils, with the possible use of sandier soils shown by the presence of heather stems and of heavier clay soils as indicated by the seeds of stinking mayweed, together with lighter drier soils. The few seeds of sedge may point towards the presence of wetter environments in the vicinity. The occasional exploitation of a hedgerow/scrub environment may be indicated by the presence of a few hazelnut shell fragments.

An indication of the exploitation of a variety of different environments and soil types was also observed in some of the assemblages from Romano-British deposits at Ashville Trading Estate, Abingdon, Wyndyke Furlong, Abingdon, Gravelly Guy, Stanton Harcourt and Yarnton.[150]

RADIOCARBON DATES by ALISTAIR J. BARCLAY and SARAH F. WYLES

Two samples were submitted for radiocarbon dating to the Scottish Universities Environmental Research Centre (SUERC) (Table 8). They have been calculated using the calibration curve of Reimer et al. and the computer program OxCal (v4.2.3)[151] and cited in the text at 95 per cent confidence and quoted in the form recommended by Mook, with the end points rounded outwards to 10 years.[152] The ranges in plain type in the radiocarbon tables have been calculated according to the maximum intercept method.[153]

Examination of the $\delta^{13}C$ and $\delta^{15}N$ values for each radiocarbon dated human individual (see Table 8) are consistent with a terrestrial diet and, therefore, the potential for an age offset

[150] Jones, 'The Plant Remains', pp. 93–110; Robinson, 'Macroscopic Plant and Invertebrate Remains'; Moffett, 'The Evidence for Crop-Processing Products from the Iron Age and Romano-British Periods and Some Earlier Prehistoric Plant Remains'; Pelling, 'Charred Plant Remains from Cresswell Field'; Stevens, 'Crop-Husbandry', pp. 534–68.

[151] P.J. Reimer et al., 'IntCal13 and Marine13 Calibration Curves, 0-50,000 years cal BP', *Radiocarbon*, 55:4 (2013), pp. 1869–87; C. Bronk Ramsey and S. Lee, 'Recent and Planned Developments of the Program OxCal', *Radiocarbon*, 55:2–3 (2013), pp. 720–30.

[152] W.G. Mook, 'Business Meeting: Recommendations/Resolutions Adopted by the Twelfth International Radiocarbon Conference', *Radiocarbon*, 28 (1986), p. 799.

[153] M. Stuiver and P.J. Reimer, 'A Computer Program for Radiocarbon Age Calculation', *Radiocarbon*, 28 (1986), pp. 1022–30.

Table 8. Radiocarbon results

Lab ref.	Context	Material	Date BP	$\delta^{13}C$ 0/00	d15N‰	C:N Ratio	95% confidence
SUERC-60244	2403 (2404)	Human bone, right tibia	2228±27	−20‰	10.00	3.2	390–200 cal. BC
SUERC-61691	2148 (2149)	Human bone, right humerus	1736±34	−19.9‰	9.80	3.2	230–400 cal. AD

is unlikely.[154] A dietary offset can cause the radiocarbon measurement to appear older than its actual date, which in turn can lead to misleading conclusion about the date of the human remains and the phasing of a site.

The results (Table 8) indicate that burial 2403 was made during the earlier phase of the middle Iron Age (fourth or third century BC) and that burial 2148 was made during the late Roman period (third or fourth century AD).

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[154] See A. Bayliss et al., 'The Potential Significance of Dietary Offsets for the Interpretation of Radiocarbon Dates: An Archaeologically Significant Example from Medieval Norwich', *Journal of Archaeological Science*, 31 (2004), 563–75.