A Large Romano-British Trapezoidal Enclosure and Unusual Mortuary Rites at Greenwood Avenue, Chinnor

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SUMMARY

Excavations at Chinnor revealed the north-east end of a large Romano-British trapezoidal enclosure, much of the remainder having been exposed in an earlier investigation. The enclosure contained relatively few features, but these included a substantial, rectangular post-built structure, at least one 'structured' deposit and, just outside an entrance, the remains of two, probably associated, inhumation burials. Both were probably non-local elderly females, one having been decapitated with the head placed between the knees. Fine cut marks on a rib of this individual suggest she had been murdered or ritually killed, whilst similar marks on the cranium of the other indicate she may have been subject to scalping. A calcified soft tissue uterine tumour associated with the former is the only known Romano-British example of this type. Finds and environmental evidence was generally quite sparse but there was a higher than might be expected quantity of samian ware, with the pottery suggesting that the enclosure was probably established by the second century AD and its use may have spanned much of the Romano-British period. The function of the enclosure remains uncertain, but it was not obviously agricultural and its location at the base of the Chiltern escarpment, close to a Roman road and settlement, raises the possibility of a religious purpose.

In October and November 2021 Wessex Archaeology carried out excavations within a 3.9 ha parcel of land to the rear of Nos. 17 and 19 Greenwood Avenue, Chinnor (centred on NGR 475250 200275; Fig. 1). The archaeological works, undertaken in advance of housing development, comprised the excavation of 0.76 ha, split between two areas. Area 1, the larger, was 98 m long and 48 m wide, while Area 2 to the north-west was only 15 m long and 8 m wide, encompassing the rear gardens of the two houses. The excavation was preceded by a desk-based assessment, geophysical survey and trial trench evaluation,[1] which identified a concentration of archaeological features in the north-west corner of the development area.

Chinnor lies just to the north of the Chilterns Area of Outstanding Natural Beauty, approximately 500 m from the top of the escarpment on the northern side of the Chilterns. The excavation site comprised an arable field bounded on all sides by modern residential development,

[1] 'Land at Chinnor, Oxfordshire: Archaeological and Heritage Assessment', unpublished EDP report (2013); 'Land at Chinnor, Oxfordshire: Geophysical Survey', unpublished West Yorkshire Archaeological Services [WYAS] report (2013); 'Land Adjoining Greenwood Avenue, Chinnor, Oxfordshire: Archaeological Evaluation report', unpublished OA report (2021).

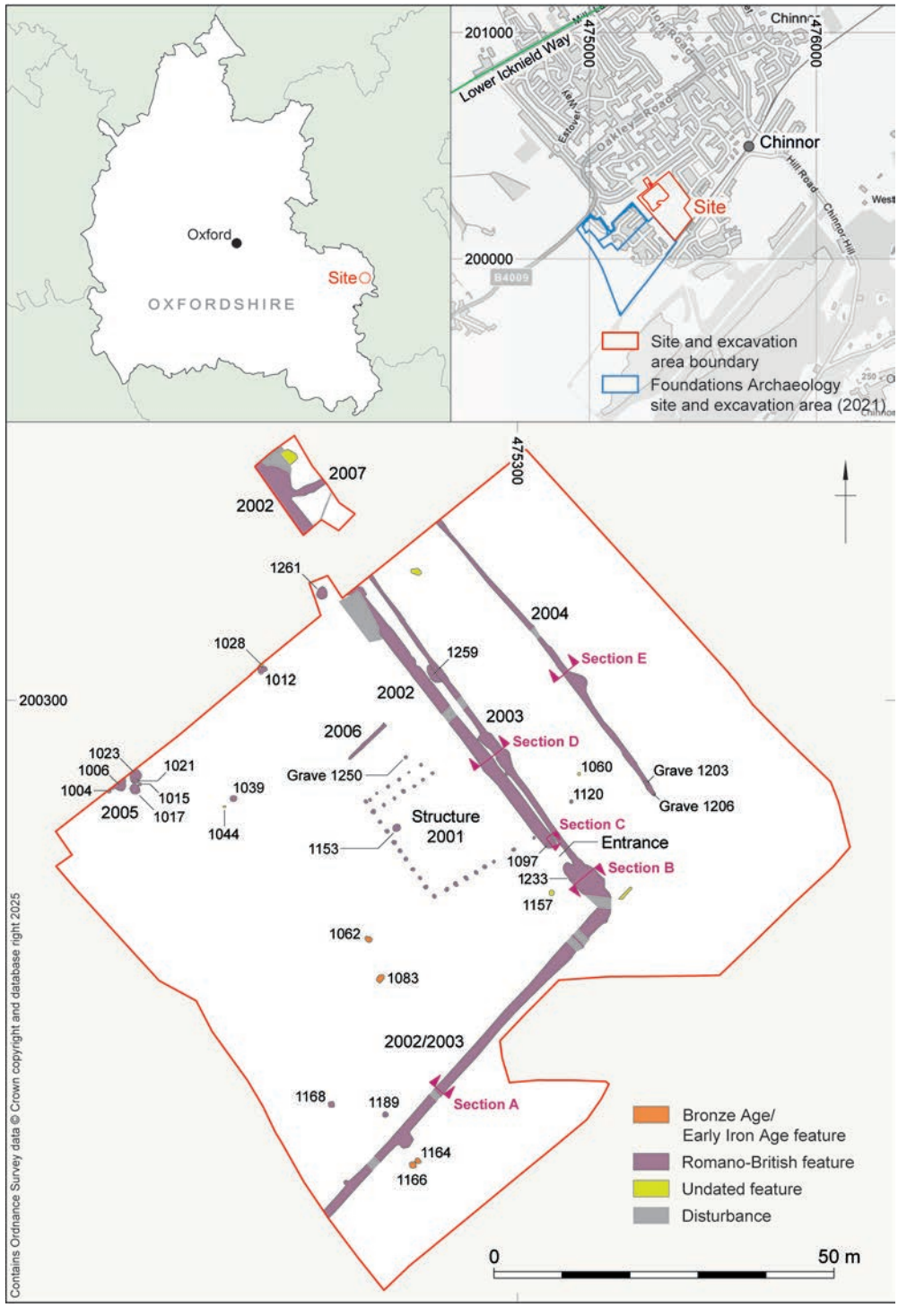

Fig. 1. Site location plan, showing 2021 excavation features.

including new-build estates to the north-east and the south-west. The ground slopes gently down from the south-eastern boundary, where it is approximately 129 m above Ordnance Datum (OD), to the north-west edge, where it drops to 122 m OD. The underlying geology consists of West Marly Chalk Formation, with no superficial deposits recorded within the site.[2]

Archaeological and Historical Background

Located approximately 2.25 km to the east of the site is the Chiltern Ridgeway, also known as the Upper Icknield Way, a trackway aligned broadly north-east to south-west and thought to have originated in the prehistoric period. The Lower Icknield Way lies 750 m to the north-west of the site (see Fig. 1), on the north-west side of Chinnor, and a recent trial trench evaluation recorded a large late Iron Age enclosure perpendicular to the line of this possible prehistoric trackway.[3]

Within the wider environs the Historic Environment Record (HER) holds records relating to three Bronze Age bowl barrows, and a late Bronze Age settlement site lies 1.1 km to the east of the site. Iron Age activity has also been recorded in the area, including important evidence 1.5 km to the east for early Iron Age pottery production with regional distribution,[4] as well as two Iron Age cremation burials which were discovered approximately 1.6 km to the south-west at Kingston Blount. In addition to these, late Iron Age/early Romano-British ditches were identified off Crowell Road, 450 m to the west during a trial trench evaluation.[5]

The Lower Icknield Way appears to have become the route of a Roman road by the second century AD and likely related to this was a series of ditches providing evidence of land management recorded approximately 250 m to the north of the site (EDP 2013).[6] Around 500 m to the south-east of the site the HER records a possible Romano-British temple and two parallel square enclosures, identified from aerial photographs. A trackway linked the possible temple to an elongated 'S'-shaped feature to the south-east but, unfortunately, this complex was destroyed by quarrying in the early twentieth century. Further away, 1.5 km to the west, Romano-British finds have led to the suggestion of a villa in the area.[7]

Although the site lies outside the historic core of the village, Chinnor is listed in the Domesday book of 1086 and this, coupled with the Anglo-Saxon name – possibly meaning Ceonna's hillside[8] – strongly suggest an Anglo-Saxon origin for the settlement. Later, much of the area continued in agricultural use and extensive traces of ridge and furrow cultivation have been recorded in the vicinity, including extending north-west to south-east across the site.

Of particular relevance to the current site is the relatively large excavation undertaken on the adjacent area to the south-west in 2017–18;[9] see Fig. 1. The earliest features were pits of late Bronze Age/early Iron Age date, with subsequent Iron Age settlement represented by a roundhouse and several possible four-post structures, a sinuous interrupted ditch extending over at least 90 m – this flanked by approximately eighty pits, and several inhumation burials. Most pertinent to the current site was the south-west end of a large Romano-British enclosure, a smaller internal sub-enclosure, several pits and possible structures, and an associated 'corridor' or trackway along the south-east side. There was also a concentration of medieval ditches and gullies, pits and fence lines in the western corner of the site.

[2] British Geological Survey, *BGS Geology Viewer* https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/ (accessed 26th February 2024).

[3] 'Land off Lower Icknield Way, Chinnor, Oxfordshire: Archaeological Evaluation', unpublished Cotswold Archaeology report (2017).

[4] D.W. Harding, *The Iron Age in the Upper Thames Basin* (1972), pp. 158–9, plates 56 and 57.

[5] 'Land at Crowell Road, Chinnor, Oxfordshire: Archaeological Evaluation', unpublished Wessex Archaeology report (2017).

[6] 'Land at Chinnor, Oxfordshire: Archaeological and Heritage Assessment'.

[7] E. Scott, *A Gazetteer of Roman Villas in Britain*, Leicester Archaeology Monographs, 1 (1993), p. 158.

[8] E. Ekwall, *The Concise Dictionary of English Place-Names*, 4th edition (1960), p. 105.

[9] 'Land South-East of Crowell Road, Chinnor, Oxfordshire. Archaeological Excavation: Post-Excavation Assessment', unpublished Foundations Archaeology report (2021).

EXCAVATION RESULTS by PHIL ANDREWS and SIMON FLAHERTY

The overburden, 0.35–0.4 m deep, was stripped by machine to the top of the natural chalk, no archaeological stratigraphy surviving outside of negative features. The topsoil comprised a dark greyish brown silty clay loam on average 0.25 m thick, this overlying mid greyish brown silty clay loam subsoil up to 0.2 m thick. The natural chalk was pale brown to off-white in colour. The shallow remains of several north-west to south-east plough furrows survived, evidence of more extensive medieval ridge and furrow agriculture which had truncated the surface of earlier features.

Late Bronze Age/Early Iron Age

The earliest features were a pair of small, sub-oval pits, 1062 and 1083, located in the centre of the site (Fig. 1). Pit 1062 was the smaller of the two, measuring 0.85 m by 0.75 m and 0.35 m deep, and contained just 76 g of late Bronze Age/early Iron Age pottery. Pit 1083 was larger at 1.3 m by 1 m and 0.4 m deep, the lower fill producing 729 g of pottery of similar date, as well as small quantities of animal bone and burnt flint. The upper fill contained a further 88 g of pottery and more than 250 g of burnt flint.

A second pair of small, shallow oval pits, 1164 and 1166, lay in the south of the site (Fig. 1), these examples 1–1.14 m in length, 0.7–1 m wide and 0.2–0.25 m deep. Finds were sparse, with only 15 g of probable Bronze Age/early Iron Age pottery from pit 1164 and 21 g of animal bone from 1166.

Romano-British

Enclosure The north-eastern end of a large, trapezoidal enclosure, known from previous work to extend to the south-west,[10] was revealed within the current site (Fig. 1). Ditch 2002 defined the south-east corner of the enclosure, with a narrow 3 m wide entrance approximately 7.5 m to the north-west of this corner. The two parts of the enclosure ditch here differed in size and profile. The north-west to south-east aligned section was more substantial and measured between 1.75–1.9 m wide and 0.70–1.5 m deep, the profile varying from wide and 'U'-shaped, to flat-bottomed and, in places, 'V'-shaped (Figs. 2c and 3d, right). Ditch 2002 extended to the north-west into Area 2, where it had an unclear relationship with perpendicular ditch 2007; they may have been contemporary. Ditch 2007 was at least 5 m long, up to 1.35 m wide but only 0.25–0.32 m deep and contained a few sherds of Romano-British pottery.

The south-eastern corner of enclosure ditch 2002, immediately to the south of the entrance, was relatively wide at 3.65 m, and deeper than elsewhere at up to 1.8 m (Fig. 2b). It comprised a series of recuts (1231, 1236, 1242) of original feature 1233, though some of the fills appeared to extend across the complex, before being cut by later ditch 1246 (=2003). The lower elements (1231, 1233 and 1236) may represent a large discrete feature such as a pit or waterhole, henceforth designated 1233. Overall, feature 1233 was sub-oval in shape, aligned in the same direction as ditch 2002, with steep stepped sides and an irregular base. This part of ditch 2002 contained a late Iron Age or Romano-British strip bow-type brooch (ON (Object No) 6; Fig. 7.2), 1.29 kg of early/middle Romano-British pottery and 1.37 kg of animal bone. There are, however, no environmental remains which might clarify its function, and no alluvial fills which would support an interpretation as a waterhole.

The north-east to south-west portion of ditch 2002 was a little smaller, at 1.2–1.5 m wide and 0.5–0.7 m deep (Fig. 2a), than the north-west to south-east section, but showed similar evidence for one or more recuts (see below). It produced approximately 0.7 kg of early–middle and undiagnostic Romano-British pottery, 0.76 kg of CBM (ceramic building material) that includes a tegula and two joining imbrex fragments, and 2.62 kg of animal bone, with two

[10] Ibid.

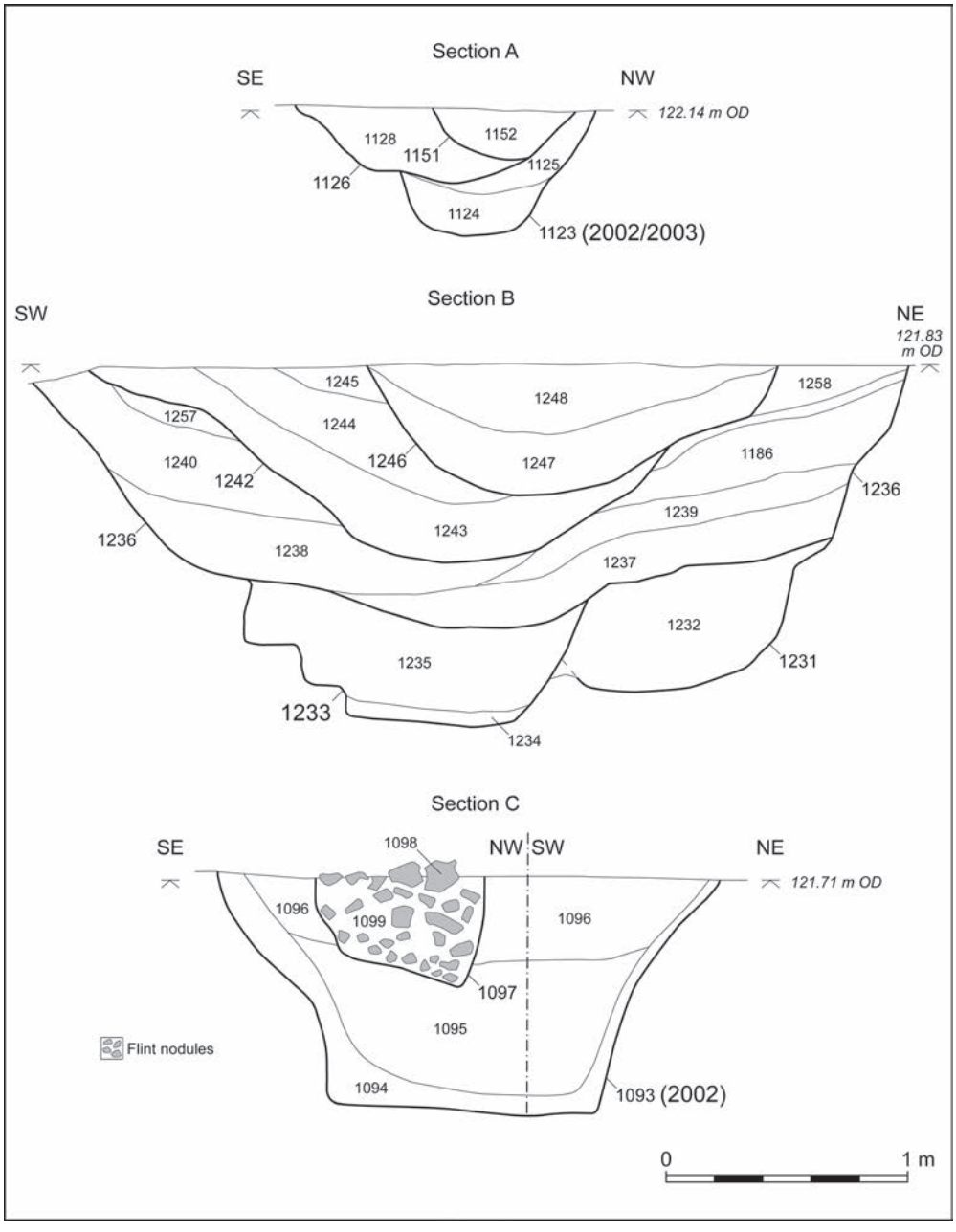

Fig. 2. Ditch sections.

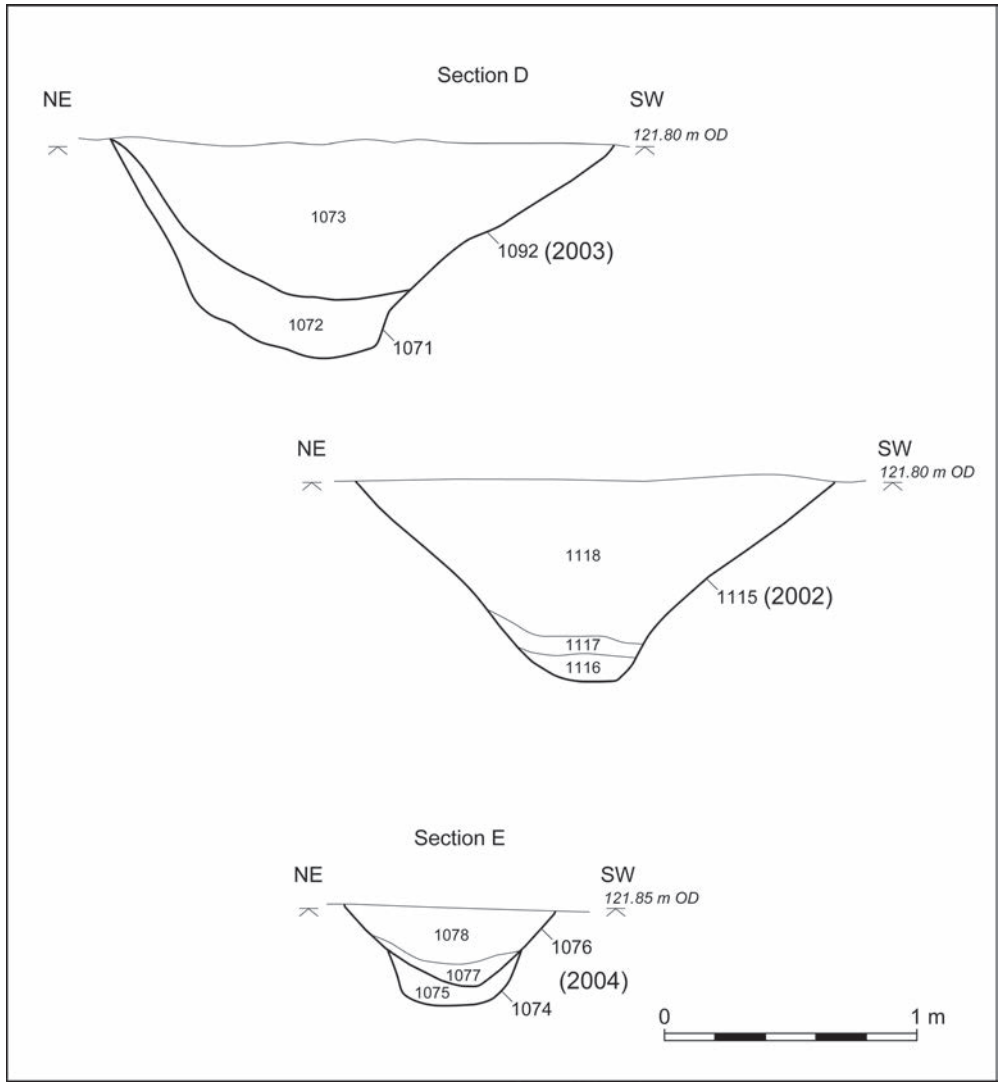

Fig. 3. Ditch sections.

discrete deposits of cattle bones towards the north-eastern corner of the enclosure ditch. Other finds include a millstone fragment (3.3 kg) and part of a hipposandal.

Enclosure ditch 2002 was replaced (in the north-east, as 1246) or recut (to the south-east, as 1126) by ditch 2003 (Figs. 2a, 2b and 3d, left); a possible later cut, 1151, appears to have been very localised, though it may simply have been a fill of recut 1126. To the north-east, ditch 2003 formed the south-west side of a 14 m wide possible trackway or droveway, bounded by ditch 2004 to the north-east, and extended across the narrow entrance to the enclosure here. Ditch 2003 was smaller than its predecessor and was between 0.6–2 m wide but only 0.2–0.6 m deep. The most notable finds were the fragments of at least one rectangular, flanged oven plate.

Ditch 2004, bounding the north-east side of the possible trackway, extended for approximately 50 m before terminating to the south-east. It was only 0.6–1 m wide and 0.3–0.45 m deep

(Fig. 3e) but contained 5.7 kg of Romano-British pottery (including parts of two samian bowls and a cup; Fig. 9, 3–4 and Fig. 10, 5) as well as a late Iron Age or early Romano-British La Téne III brooch (ON 2; Fig. 7.1), 0.57 kg of CBM and 0.63 kg of animal bone. Several iron objects, mostly nails but also a rod-like tool, were also recovered. Two inhumation graves, 1203 and 1206, had been cut into the south-east terminal of the ditch (see below).

Structure 2001 At the north-east end of the enclosure, close to ditch 2002 and immediately west of the entrance, was structure 2001 (Figs. 1 and 4). Although the layout appears clear, the precise form of this post-built structure is less so, as is its function. Structure 2001 comprised perhaps thirty-two postholes, twenty-nine forming three sides of a rectangular arrangement measuring approximately 17 m by 10 m, parallel and 7 m from ditch 2002. Other than at the ends, there were no postholes along the north-east side, suggesting the possibility of an open-fronted structure. Two of the remaining three postholes (1129 and 1148) continued the line of the south-east side up to the edge of the enclosure ditch, though these were set further apart (3.2 m centre-to-centre, rather than 1.5 m elsewhere), while the third posthole, 1097, was cut through the upper fill of ditch 2002. There were no corresponding postholes continuing the lines(s) of the north-west end of the structure.

Of the twenty-nine postholes defining the rectangular arrangement, eleven – including the corner posts – lay along the south-west side, with a further six defining the north-west and the south-east ends respectively. An additional six postholes lay parallel and 2 m (centre-to-centre) from the north-west side, appearing to create a narrow internal division (or a portico?) at this end, though not all the six postholes in each line formed matching pairs.

The postholes were relatively shallow, although those on the south-west and north-west sides were on average between 0.2–0.3 m in depth, while those on the south-east side were only 0.1–0.2 m deep, which could suggest these had been truncated. However, truncation is unlikely to have removed all traces of any postholes on the north-east side, unless perhaps there was a shallower beam slot here. The postholes were generally regularly spaced with gaps of approximately 1.1 m between them, and had steep to moderately sloping sides, with either concave or flat bases. Diameters varied between 0.35–0.6 m. Most of the postholes contained the remains of flint nodule post-packing, although many had been disturbed by the removal of the posts or later ploughing. Nevertheless, eleven had much of the packing still in situ, the evidence indicating that the posts were between 0.13 and 0.8 m in diameter. A total of 331 g of Romano-British pottery was recovered from the postholes, almost always in small quantities, with other finds including fragments of animal bone, eight iron nails and part of a possible rod.

Posthole 1097, which cut the upper fill of ditch 2002 (Fig. 2c), may also have been associated with structure 2001, located 2 m to the south-east and offset from the nearest posthole in the structure's south-east side. This example had a diameter of 0.7 m, was 0.45 m deep, and similarly contained flint post-packing, suggesting it was related to structure 2001, which may, therefore, have post-dated enclosure ditch 2002. The structure could, however, have been contemporary with ditch 2003 which lay immediately to the north-west and replaced ditch 2002.

Other Features Located to the north-west of structure 2001, on a similar north-east to south-west alignment and probably related to it, was shallow ditch 2006, up to 0.55 m wide and 0.12 m deep. The ditch survived for approximately 7.5 m but had been truncated to the north-east by a medieval furrow. It contained small quantities of Romano-British pottery and animal bone.

Several Romano-British pits were scattered across the enclosure. Towards the eastern end, on the north-west edge of the site, was pit cluster 2005 comprising six pits (1004, 1006, 1015, 1017, 1021 and 1023) that varied in size and shape, were circular to sub-circular in plan, 0.55–1.9 m across and 0.35–0.55 m deep. They contained no distinctive fills and finds were generally sparse, but approximately 0.25 kg of Romano-British pottery and a small quantity of animal bone was recovered.

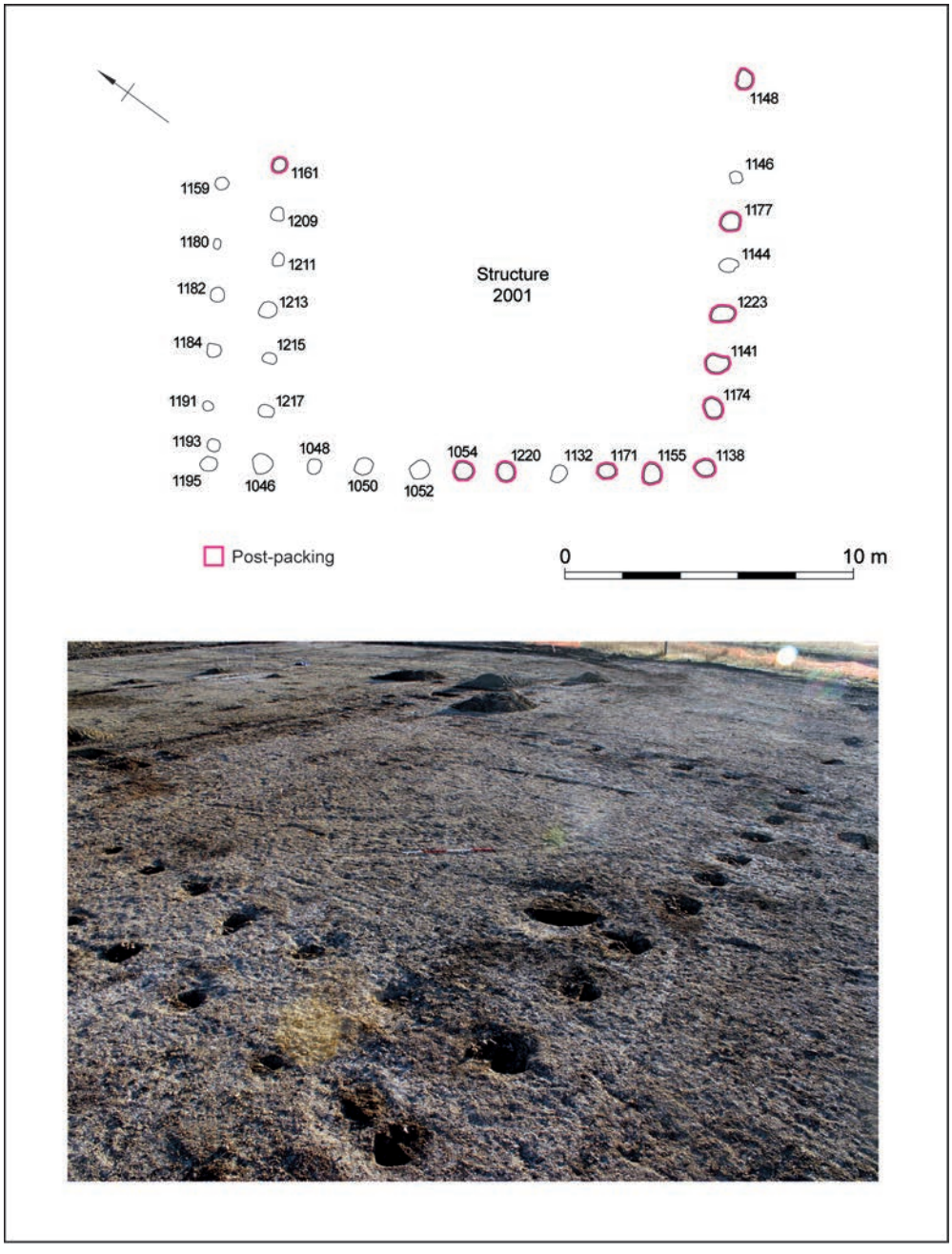

Fig. 4. Structure 2001, plan and view from the west; 2 m scale.

Fig. 5. Millstone (ONs 4 and 5) in pit 1168, view from the east: 0.4 m scale.

Nearer to the southern edge of the enclosure was sub-square pit 1168, approximately 0.8 m across and 0.4 m deep with steep, straight sides and flat base. The pit contained a structured deposit comprising two large, joining fragments of a millstone (ONs 4 and 5, weighing 30.3 kg) near the base (Fig. 5). The pit had then been backfilled with a dark organic-rich deposit, potentially derived from 'stable manure', cess or midden material, containing mineralised plant remains and rich in charred cereal grains of spelt wheat, the high concentration suggesting that it was a crop being cultivated in the vicinity. Pit 1168 also contained relatively large quantities of other finds including 0.75 kg of early to middle Romano-British pottery, several iron nails, and 0.75 kg of animal bone, with part of a goat skull coming from the base of the pit.

Several other pits were present, all but 1120 within the enclosure, and most of early to middle Romano-British date. The circular pits (1039, 1120, 1153 and 1189) were between 0.55–0.65 m in diameter and the oval/sub-oval examples (1021 and 1259) 0.95–2.85 m long and 0.5–0.9 m wide. Four were less than 0.25 m deep, with 1259 the deepest at around 0.7 m. They produced a total of 2.24 kg of Romano-British pottery and 0.75 kg of animal bone.

Close to ditch 2002 on the north-west edge of the enclosure was possible well 1261, partially exposed and investigated in the evaluation.[11] It was excavated to a depth of 1 m, the lowest fill exposed producing middle Romano-British pottery, the upper fill containing a few later sherds. Subsequent augering recorded a sequence of deposits with the probable natural encountered at a depth of around 2 m, suggesting the feature may have been a vertical-sided pit rather than a well.

Burials Located 2 m to the north of structure 2001 were the remains of cremation grave 1250 (Fig. 1). It measured 0.38 m in diameter and 0.1 m deep, had moderate concave sides and a concave base. The unurned burial comprised 600.1 g of cremated human adult bone, and three

[11] 'Land Adjoining Greenwood Avenue, Chinnor, Oxfordshire: Archaeological Evaluation Report'.

Fig. 6. Graves 1203 and 1206.

small iron nails were also recovered. The cremated bone returned a radiocarbon date of 150 cal. BC–cal. AD 110 (see below), likely placing it in the first century BC to first century AD, perhaps in the late Iron Age and thus predating the enclosure. However, the possibility of the 'old wood effect' (in this case mature oak being used in the pyre) may have resulted in an older than actual date being obtained for the cremation event (see below), and an early Romano-British date is considered most likely.

Two inter-cutting inhumation graves (1203 and 1206) had been dug into the south-east terminal of ditch 2004 bounding the north-east side of the possible trackway, on the same north-west to south-east alignment (Figs. 1 and 6). Both graves were sub-rectangular, with shallow concave sides and concave bases.

Grave 1203 was at least 0.77 m long, truncated on its south-eastern side by grave 1206, and was 0.6 m wide and 0.17 m deep. Three nails, two either side and one in the base of the grave, suggest the burial was coffined. The burial was that of an elderly female placed on her left-hand side, the body then having slumped back against the side of the coffin.

Grave 1206, cut through the south-eastern end of grave 1203, was 1.87 m long, between 0.32–0.65 m wide, and 0.2 m deep. The decapitated elderly female had been buried in a supine position with her arms crossed over the abdomen and her head and neck (first–fourth cervical vertebrae) placed between the knees (see Fig. 6). There were no coffin nails, but an iron hobnail or tack (ON 10) was found between the upper thighs of the individual, potentially representing an apotropaic deposit.

Residual sherds of Romano-British pottery were recovered from the backfill of the two graves, most likely deriving from the fill of ditch 2004.

METALWORK by KATIE MARSDEN

The metalwork comprises one item of lead alloy, two of copper alloy and seventy-eight of iron. The copper alloy items are both brooches of late Iron Age to early Romano-British date. One (Fig. 7, 1), is the head and pin of a La Téne III Nauheim-derivative brooch, dating from 25 BC to AD 100,[12] from possible trackway ditch 2004, while the other (Fig. 7, 2), is a strip-bow type, dating to 25 to 75 AD,[13] from ditch terminal/feature 1233.

The plate and one clip of an iron hipposandal, a type of horseshoe exclusively of Romano-British date, came from enclosure ditch 2002. Part of a rod-like iron tool (ON 14), with six decorative reels close to one of the broken ends, came from possible trackway ditch 2004. At just 112 mm long and 4 mm in diameter, the dimensions of this tool suggests a toilet, surgical or pharmaceutical use, although its fragmentary nature precludes exact identification.

All fifty-eight iron nails and nail fragments have square-sectioned, tapering shanks and flat, round heads. Lengths range between 25 and 70 mm which accords with common Romano-British types,[14] although this form is long lived, extending into at least the eighteenth century, so dating individual examples is therefore difficult. One small (25 mm long), complete nail with traces of mineral replaced wood on the shank and two nail shank fragments were found among the unurned cremated human remains in grave 1250. A radiocarbon determination obtained on the cremated bone indicates that the burial was probably made during the late Iron Age to early Romano-British period, but it remains unclear whether these nails represent re-used wood burnt as fuel for the pyre or an item, such as a wooden box or casket, placed as an offering on the pyre.

[12] J. Bayley and S. Butcher, *Roman Brooches in Britain: A Technological and Typological Study Based on the Richborough Collection* (2004), pp. 145–7.

[13] Ibid. p. 153, fig. 119.

[14] For example, W.H. Manning, *Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum* (1985), p. 134, type 1B.

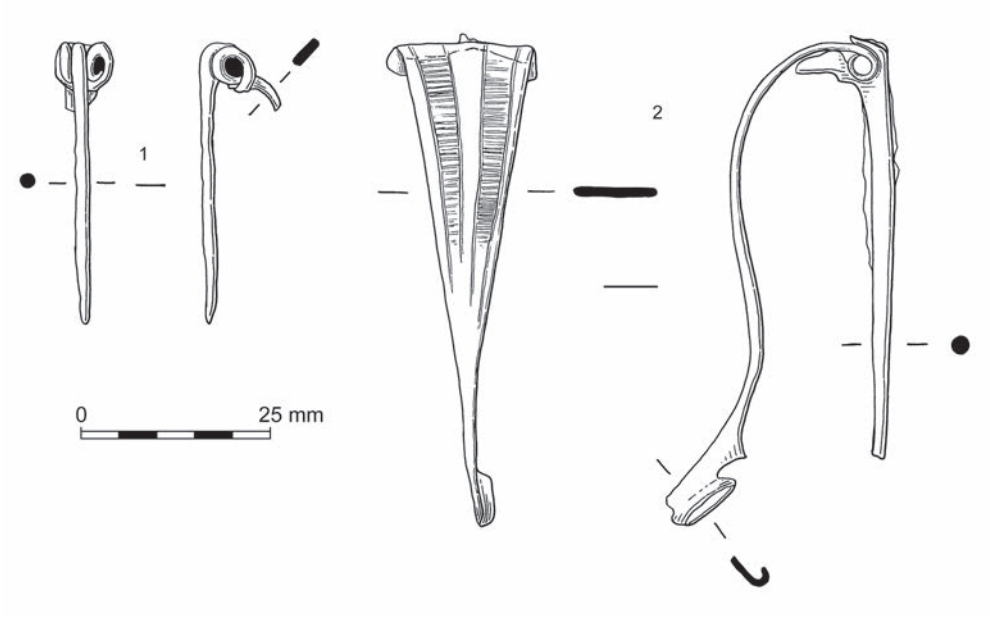

Fig. 7. Copper alloy brooches (1–2).

Three complete nails were also recovered from inhumation grave 1203. Two (ONs 8 (55 mm long) and 9 (60 mm long)) were positioned one either side of the body, with the third (42 mm long) extracted from residues of an environmental sample taken from the base of the grave. This grave was truncated by inhumation grave 1206, so whilst it is probable that the three nails are from a wooden coffin, the disturbance caused by this truncation means that any further details of the coffin's construction remain unrecoverable.

One dome-headed iron hobnail or tack (ON 10) was found between the upper thighs of the adult female buried in grave 1206 but it remains uncertain whether it was deliberately deposited, perhaps with an apotropaic significance, or represents a casual loss, accidentally incorporated as the grave was filled. Eight hobnails or tacks from trackway ditch 2004 could also be casual losses or from a single lost or discarded shoe/boot. The remaining iron objects are fragmentary or have no clearly defined function; they include fragments of sheets, strips, broken fittings, fixings and rings. The wedge-shaped lead alloy object (trackway ditch 2003) is of uncertain function, but possible uses could include a weight, tool, or simply a lump for later reworking.

Catalogue of Illustrated Metalwork (Fig. 7):

1. Copper alloy La Téne III Nauheim-derivative brooch fragment. Late Iron Age/early Romano-British. ON 2, fill (1077) of intervention 1076 through ditch 2004.
2. Copper alloy strip-bow brooch fragment. Late Iron Age/early Romano-British. ON 6, fill (1186) of ditch terminal/feature 1233.

POTTERY by KATIE MARSDEN and J.M. MILLS

The pottery (1,139 sherds, weighing 18,491 g) is primarily Romano-British with smaller amounts of later prehistoric and post-medieval date. The assemblage was initially scanned on a context-by-context basis, with the sherds from each one being subdivided and quantified (number of pieces and weight in grammes) according to fabric, based on the most frequent or obvious inclusions or known ware types. Where possible, a form type was assigned to all featured sherds and other variables, such as surface treatment, were recorded. The later prehistoric sherds from three feature groups (103 sherds, representing 9 per cent of the total assemblage), were then subjected to full fabric and form analysis. A breakdown of the fabric totals is presented in Table 1, but the post-medieval sherds are not considered further here.

Later Prehistoric

The later prehistoric pottery (Table 1) survives in fair condition, with a mean sherd weight of 8.5 g, although featured sherds are scarce. The sherds were recovered from just fourteen of the seventy-six contexts that contained pottery and of these, nine (42 g) from eight contexts are considered residual, occurring alongside later sherds; consequently, only the pieces from pits 1062, 1083 and 1164 were subjected to full analysis.

The fabrics are predominantly flint-tempered (Table 2), with only one containing additional quartz sand (fabric QF1). All are likely to be of local manufacture, with sources of flint being abundant in the Chiltern foothills,[15] less than 1 km from the site. The micaceous matrices of fabrics F3 and QF1 are also not out of place in the immediate area, occurring in multiple geological deposits.[16] Only two rim sherds were recovered, both from pit 1083 and represented by small fragments from a high-shouldered jar or bowl with smoothed interior and exterior surfaces (Fig. 8, 1) and a slightly in-turned rim with exterior smoothing (Fig. 8, 2). Other sherds from pit 1083 include two heavily-gritted base fragments and body sherds with slight rustication.

A late Bronze Age or early Iron Age date is considered likely for all these sherds. Their fabrics appear coarser than those from the known early Iron Age site at Chinnor,[17] but although sites of these periods are currently scarce within the area,[18] the use of flint as the predominant tempering agent is consistent with later prehistoric assemblages in east Oxfordshire and west Buckinghamshire.[19] Similarly, the two rim sherds would not be out of place within assemblages of either date, shouldered vessels being the most commonly occurring form in the late Bronze Age/early Iron Age transitional assemblage at East Hagbourne,[20] 25 km south-west of Chinnor, for example.

[15] R.J. MacRae, 'Palaeolithic Artefacts from Berinsfield, Oxfordshire', *Oxoniensia*, 47 (1982), pp. 1–11.

[16] A. Horton et al, *Geology of the Country Around Thame. Memoir of the British Geological Survey, Sheet 237 (England and Wales)* (1995).

[17] Harding, *The Iron Age in the Upper Thames Basin*, pp. 158–60, plates 56 and 57.

[18] G. Lambrick, 'The Later Bronze Age and Iron Age: Resource Assessment', in G. Hey and J. Hind (eds.), *Solent–Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, Oxford Wessex Monograph (2014), p. 118, fig. 9.1.

[19] F. Raymond, 'Prehistoric Pottery', in A. Taylor, 'Excavation of Late-Neolithic Pits, an Early Bronze-Age Ring Ditch and an Early Iron-Age Pit Alignment at Church Farm, Thame', *Oxoniensia*, 77 (2012), pp. 178–9; E. Edwards, 'Prehistoric Pottery', in T. Allen et al., *Castle Hill and its Landscape; Archaeological Investigations at the Wittenhams, Oxfordshire*, Oxford Archaeology Monograph, 9 (2010), p. 124; L. Brown, 'The Later Prehistoric Pottery', in G. Lock et al., *Segsbury Camp; Excavations in 1996 and 1997 at an Iron Age Hillfort on the Oxfordshire Ridgeway*, Oxford University School of Archaeology Monograph, 61 (2005), pp. 2–3; S. Ford, 'A Prehistoric Ditch and Other Features at Princes Risborough Swimming Pool, Buckinghamshire', *Records of Buckinghamshire*, 40 (2000), p. 21.

[20] P. Banks, 'Pottery', in 'Land Adjacent to the Village Hall, Main Road, East Hagbourne, Oxfordshire. Post-Excavation Assessment and Updated Project Design', unpublished CA report (2021), p. 61.

Table 1. Pottery totals by chronological period and ware type

Fabric	Fabric code (for full analysis)	No. Sherds	Weight (g)
Later prehistoric			
Fine flint-tempered ware	F1	59	422
Coarser flint-tempered ware	F2	25	411
Flint-tempered ware	F3	13	70
Sand and flint-tempered ware	QF1	6	9
Flint-tempered wares (general)	–	8	34
Shell-tempered ware (general)	–	1	8
Subtotal:		*112*	*954*
Romano-British			
Central Gaulish samian ware	– / S30	36	408
East Gaulish samian ware	– / S40	1	262
Central Gaulish black slipped ware	CNG BS / F43	1	5
Baetican amphora fabric	BAT AM / A11	10	811
Gallic amphora	GAL AM 1 / A13	2	45
North Gaulish white ware	NOG WH 4 / –	3	10
South-east Dorset Black Burnished ware	DOR BB 1 / B11	1	6
Nene Valley colour-coated ware	LNV CC / F52	1	4
Greyware		669	10,620
Oxidised ware		118	1773
Sand and grog-tempered ware		61	1595
White ware		47	429
Shell-tempered ware		25	234
Grog-tempered ware		18	641
Oxon white-ware *mortaria*	OXF WH / M22	10	460
Oxon colour-coated ware	OXF RS / F51	6	30
Subtotal:		*1009*	*17,333*
Post-medieval			
Refined white ware		9	93
Redware		5	64
Stoneware		2	26
Porcelain		1	11
Yellow ware		1	10
Subtotal:		*18*	*204*
Total		**1139**	**18,491**

Table 2. Later prehistoric fabric descriptions and quantification

Fabric code	Fabric description	Sherd count	Sherd weight (g)
F1	A soft fabric containing a moderate amount (10–15%) of moderately sorted angular flint (2 mm and less) and rare sub-rounded iron oxides (<1 mm) in a fine sandy matrix	8	34
F2	A soft fabric containing a sparse amount (7–10%) of poorly sorted angular flint (1–7 mm) and rare sub-rounded iron oxides (<1 mm) in a fine sandy matrix	59	422
F3	A soft fabric containing a sparse amount (7–10%) of poorly sorted, angular flint (1–5 mm) in a slightly micaceous sandy clay matrix with rare sub-rounded iron oxide inclusions	25	411
QF1	A soft fabric containing sparse amount (7–10%) of moderately sorted sub-rounded quartz grains (<1 mm) and sparse (3–5%) angular flint (<2 mm) in a slightly micaceous, silty matrix	13	70
Total		**105**	**937**

Romano-British

Within this period, the earliest sherds are represented by the sand and grog-tempered wares and some of the shelly wares (Table 1), which continue in the Iron Age ceramic traditions of the area. As across much of southern England, the Roman conquest in the mid-first century AD had little impact on local ceramic production, so that fabrics made during the later first century BC continued well into the second half of the first century AD.[21] All the sand and grog-tempered sherds derive from two vessels, one externally burnished with a flat base and the other thinner walled, found in ditch 2003 alongside sherds of middle Roman (AD 100/120–250) date.

The rest of the Romano-British assemblage is dominated by oxidised and unoxidized coarsewares from the Oxford industry,[22] with a small range of Continental and regionally imported wares (Table 1). Together, the Continental imports (samian and other fine tablewares, amphorae and North Gaulish whitewares) represent 5 per cent of the Romano-British assemblage by sherd count, with samian alone accounting for 3.7 per cent of the group, compared with totals rarely exceeding 1 per cent at most rural settlements.[23] The imported wares were primarily recovered from ditches 2002, 2003 and 2004.

The samian was predominantly sourced from Central Gaul and forms are limited in their range. Rims or featured sherds from sixteen vessels were found, although the small size of the pieces means that half of these can only be attributed to unidentifiable dish/bowl forms. Four further dishes or shallow bowls (form 18/31) were recorded, one from pit 1168 and three from ditch 2003, one of which features two in situ lead repairs. Cups are limited to two examples,

[21] M. Fulford, 'The Roman Period: Resource Assessment', in Hey and Hind (eds.), *Solent–Thames Research Framework*, p. 157; P. Booth, 'The Iron Age and Roman Pottery', in 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. 345–417.

[22] C.J. Young, *The Roman Pottery Industry of the Oxford Region*, BAR BS, 43 (1977).

[23] T. Brindle, 'Imported Pottery in the Romano-British Countryside, a Consideration of Samian and Amphora', in M. Allen et al., *The Rural Economy of Roman Britain*, Britannia Monograph, 30 (2017), p. 285, fig. 7.2; P. Booth, 'The Occurrence and Use of Samian Ware in rural Settlements in the Upper Thames Valley', in D.G. Bird (ed.), *Dating and Interpreting the Past in the Western Roman Empire: Essays in Honour of Brenda Dickinson* (2012), pp. 254–65.

one from ditch 2003 and the other, featuring part of a possibly inscribed grafitto, reading BII (Fig. 9, 3), from ditch 2004.

Sherds from two decorated bowls (form 37) from ditch 2004 feature mould-maker's stamps. One with an almost full profile (Fig. 9, 4) is the only East Gaulish (Rheinzabern) product from the site.

The Name Stamped and Decorated Samian by J.M. Mills

A large Drag. 37 rim sherd stamped in the mould by Reginus vi dates between AD 155 and 180.[24] The full depth of the decoration survives, but the base and foot-ring are missing. The ovolo (RF E65 or 66)[25] has a bead row below it. The design comprises arcades formed from (inverted) festoons (RF KB121), supported by palm leaf ornament (RF P20), with ornament RF P115 used as the arch spring; the arch spring is omitted either side of the Venus figure. An ovate leaf (RF P28) fills the space above the pillars. Each arch holds a different figure, all with a single trifid leaf filler (RF P128). From the left, there are three complete arcades with figures of Mercury, Satyr (RF M94a), and the small version of the basket carrier (RF M56a). At this point the arcade is interrupted; here the mould-maker's name stamp sits above Venus (RF M41) after which the arcade continues. The bottom edge of the decoration is marked with a single plain line; the palm fronds and the feet of some of the figures are impressed over this line.

The Mercury figure appears to be a previously unrecorded type. Facing right, head inclined, with left foot on a small mound (of rocks?) he holds his *caduceus* in the left hand, the right arm reaching down and forward with one finger (?) extended. A cloth is draped over the bent left leg. This is a more upright version of Déchelette 288/288a (Oswald O.518, O.519)[26] where Mercury has his foot raised on a column base and his right arm is bent and raised to chest height.

The overall decorative scheme is unusual, although undoubtedly in Ricken and Fischer's[27] Reginus I style. There are many points of difference from the examples illustrated by Ricken and Thomas.[28] Reginus I (vi) rarely used a bead row below the ovolo, a visible guideline with no border below the ovolo was the more usual method no matter which of his many ovolos was employed. Although a guideline is not visible on this bowl, both E65 and E66 are recorded as being used with one.[29] Reginus I's decorative style was usually based on repeated festoons, scrolls or medallions; although the festoon and palm leaf do occur together,[30] there are no examples of them used as an arcade. The ovolo and motifs are all exclusive to Reginus I. The satyr was used by many potters, and the basket carrier only by Reginus I, Janu(arius) II and Julius II–Julianus I. The Venus figure has not previously been recorded for Reginus I and is listed only for Pupus-Juventis II[31] and Primitivus I,[32] but these examples have no feet and a damaged right arm. It is interesting that the figure on this bowl is complete and may be the earliest use of this figure; it is possible that the poinçon broke early in its life and was later used in its broken state by Pupus-Juventis II and Primitivus I. The Mercury figure appears to be unique.

The other mould-stamped form 37 body sherd, is of the potter Doeccus i (Fig. 10, 5), active

[24] B.R. Hartley and B.M. Dickinson, *Names on Terra Sigillata, an Index of Makers' Stamps and Signatures on Gallo-Roman Terra Sigillata (Samian Ware). Volume 7 (P to RXEAD)* (2011), pp. 349–57, die 8a tab.

[25] H. Ricken and C. Fischer, *Die Bilderschüsseln der Römischen Töpfer von Rheinzabern (Textband)* (1963).

[26] F. Oswald, *Index of Figure-Types on Terra Sigillata ("Samian Ware")* (1936–7).

[27] Ricken and Fischer, *Die Bilderschüsseln der Römischen Töpfer*.

[28] H. Ricken and M. Thomas (eds.), *Die Dekorationsserien der Rheinzaberner Reliefsigillata. Textband zum Katalog VI der Wilhelm Ludowici in Rheinzabern 1901–14*. Bonn: Materialen zur Römisch-Germanischen Keramik, 14 (2005), Taf. 11–18.

[29] Ricken and Fischer, *Die Bilderschüsseln der Römischen Töpfer*, pp. 311–12.

[30] Ibid. Taf. 13, 25; Taf. 18, 12.

[31] Ibid. Taf. 130, 1, 5.

[32] Ibid. Taf. 191, 22.

at Lezoux between 170 and 200 AD.[33] The panelled design includes a dolphin[34] in a single plain festoon or medallion with an astragalus[35] in the panel corner and is faun O.607 above a large spindle with a striated motif to the left and mould stamp to the right. The large spindle may be the one used in combination with rams horn motifs on a bowl from Welwyn.[36] The faun, with a striated motif in the field and a wreath in his raised right hand, is on a Drag. 30 bowl from York,[37] dated AD 170–200.

Potter's stamps rendered unreadable by wear were also noted on sherds from structure 2001 and ditch 2003. A further stamped base sherd from the same ditch is of the potter Cerialis ii (Fig. 10, 11), active at Lezoux between AD 135 and 165.[38]

Other Imports

The amphorae indicate the import of wine from southern France (Pélichet 47/Gaulois 4 type; ditch 2002) and olive oil from Spain (Baetican Dressel 20; posthole 1097 and ditches 2002 and 1236/2003) between the mid-first and mid-third centuries AD, although such vessels were also traded in their own right as empty containers. Body sherds from a North Gaulish white-ware vessel and a sherd from the base of a Central Gaulish black slipped ware beaker were found in ditches 2002 and 2004 respectively.

Regional Imports

Very small quantities of pottery were obtained from British sources outside the local area. A Nene Valley colour-coated ware beaker with underslip barbotine scale decoration of second- to third-century date is represented by a body sherd from ditch 2002.[39] A single sherd from the base of a second- to fourth-century Southeast Dorset Black Burnished ware straight-sided bowl/dish from the Wareham/Poole Harbour region of Dorset came from ditch 2006.

Local Wares

The remainder of the assemblage mainly comprises products of the Oxfordshire kilns established in the second half of the first century AD and continuing until the end of the Roman period.[40] This industry produced a wide variety of fabrics and forms serving all food/drink preparation, serving and storage roles.

These wares are dominated by a wide range of utilitarian sandy grey coarseware fabrics here treated as a single group (Table 1). Although it is possible that other, as yet unlocated sources are represented, most are probably from the Oxfordshire kilns, which made a very wide range of 'reduced wares', including some containing grog.[41] Jar forms predominate (forty of the fifty-eight rims represented; Young types R17, 23, 24 and 27), along with necked bowls (for example, Young type R38), beakers with short, everted rims (Young type R35; ditches 2003 and 2004, post-built structure 2001 and pit 1153) and straight-sided bowls/dishes with out-turned flat, grooved or plain rims[42] (Young types R43, 45, 46 and 51; pit cluster 2005 and ditches 2002, 2003 and 2004).

[33] B.R. Hartley and B.M. Dickinson, *Names on Terra Sigillata, an Index of Makers' Stamps and Signatures on Gallo-Roman Terra Sigillata (Samian Ware). Volume 3 (Certianus to Exsobano)* (2008), p. 296, mould 13a tab.
[34] Oswald, *Index of Figure-Types on Terra Sigillata ("Samian Ware")*, O.2383.
[35] G.B. Rogers, *Poteries Sigillées de la Gaule Centrale I – les Motifs Non Figures*, Gallia Supplément, 28 (1974).
[36] J. Stanfield and G. Simpson, *Central Gaulish Potters* (1958), plate 147, 1.
[37] Ibid. plate 151, 55.
[38] B.R. Hartley and B.M. Dickinson, *Names on Terra Sigillata, an Index of Makers' Stamps and Signatures on Gallo-Roman Terra Sigillata (Samian Ware). Volume 2 (B to Cerotcus)* (2008), 350, die 4a.
[39] J.R. Perrin, 'Roman Pottery from Excavations at and near to the Roman Small Town of *Durobrivae*, Water Newton, Cambridgeshire, 1956–58, *Journal of Roman Pottery Studies*, 8 (1999), p. 93, fig. 60, 141 and 142.
[40] Young, *The Roman Pottery Industry of the Oxford Region*, p. 52.
[41] Ibid. pp. 202–3.
[42] Ibid. p. 220.

The oxidised wares include six white-slipped body sherds. Recognisable forms include three sherds forming the full profile of a bowl with curved walls and overhanging rim[43] (Fig. 10, 12; Young type O44), found in pit 1120 and ditch 2007, as well as fragments from straight-sided bowls/dishes with flat, out-turned rims (Young type O29) from ditch 2003. Both were made from around AD 240 to the end of the Roman period. The Oxfordshire colour-coated wares include sherds from a burnt, necked jar or bowl (ditch 2002), but additional, poorly preserved sherds may be included amongst the oxidised wares.

Oxfordshire white-ware *mortaria* are comparatively well-represented, with sherds from wall-sided types[44] from pit cluster 2005 and ditch 2004. Flanged types are also present (pit 1168, ditch terminal/feature 1233 and ditches 2003 and 2004), but all are broken at the rim/flange junction. Several of the *mortaria* sherds are burnt, consistent with the vessels being used for cooking[45] or as lamps,[46] rather than solely for food preparation. Other white-ware sherds include pieces from jars, beakers and flagons (Fig. 10, 13).

The grog-tempered sherds (pits 1168 and 1189, structure 2001, ditches 2002 and 2004 and pit cluster 2005) predominantly derive from thick-walled storage jar forms, with rims from at least three vessels. The only known source of the late Roman shell-tempered fabric is at Harrold in Bedfordshire,[47] although more local areas of supply could include the Corallian limestone to the west of Calne, Wiltshire and the Cotswolds.

Discussion

Of the twenty-six features containing pottery, nineteen yielded between one and twenty-eight sherds, too few to provide reliable dates for their use. All the sherds from pit 1083 (817 g) are of late Bronze Age/early Iron Age date indicating a prehistoric date for this feature. Amongst the larger groups of Romano-British date are ditch terminal/feature 1233 (ninety sherds, 2,052 g) and ditch 2002 (sixty-nine sherds, 703 g), but since ditches require frequent maintenance, resulting in the repeated reworking of the material accumulating within them, the artefacts are only rarely linked to the use of the ditch itself. Instead, they represent material, often spanning a wide date range (in this instance, the second to fourth centuries AD), present in the area once the feature has gone out of use and is allowed to fill up. The thirty-nine sherds (311 g) from post-built structure 2001 can also be broadly dated to the Romano-British period, while those from pit 1168 (fifty-eight sherds, 746 g), with rims from just seven vessels, span the second to fourth centuries AD.

The two largest groups are of second to mid-third century AD date and come from ditches 2003 (321 sherds, 4,673 g) and 2004 (277 sherds, 5,697 g), the latter situated close to the two inhumation burials. As noted above, the samian ware from the site is concentrated in these two features, but the rest of their assemblages is made up from local coarsewares. However, some difference in the condition of the sherds in these two groups is apparent from their mean sherd weights (14.5 g from 2003 and 20.5 g from 2004), and while the number of rims is almost identical (thirty-one and thirty-two respectively), those from ditch 2004 survive as more complete parts of the profile (Fig. 9, 3–4; Fig. 10, 5–10). These include the only almost complete vessel, an Oxfordshire greyware necked bowl (Fig. 10, 8: Young 1977, 220, fig. 80, type R38), in the whole assemblage.

[43] Ibid. p. 199.

[44] Ibid. p. 72, M14; AD 180–240.

[45] H.E.M. Cool, *The Roman Cemetery at Brougham Cumbria: Excavations 1966–67*, Britannia Monograph, 21 (2004), p. 32.

[46] J.M. Mills, 'Lamplighters and Plate-Spinners: The Final Phase of Use for Some Samian Vessels from Kent?', in D. Bird (ed.), *Dating and Interpreting the Past in the Western Roman Empire* (2012), pp. 319–20.

[47] A. Brown, 'A Romano-British Shell-Gritted Pottery and Tile Manufacturing Site at Harrold, Bedfordshire', *Bedfordshire Archaeology*, 21 (1994), pp. 19–107.

Only scant traces of Roman activity have been found in Chinnor previously,[48] but the composition of this assemblage is broadly comparable with that from earlier investigations along Crowell Road[49] and Thame, 7 km to the north.[50] The reliance on Oxfordshire products is unsurprising, given the prolific output of this industry and the proximity of the kilns, situated less than 20 km away.[51] However, there are sufficient regional and continental imports to suggest good trade links and perhaps a degree of affluence.

Catalogue of Illustrated Pottery (Figs. 8–10):

1. High-shouldered jar or bowl with smoothed surfaces; fine flint-tempered ware. Late Bronze Age/early Iron Age. Fill (1084) of pit 1083.
2. Vessel with a slightly in-turned rim and smooth surfaces; fine flint-tempered ware. Late Bronze Age/early Iron Age. Fill (1084) of pit 1083.
3. Central Gaulish samian Dr 33 cup with graffiti. ON 1, fill (1078) of intervention 1076 through ditch 2004.
4. East Gaulish samian Dr 37 bowl with mould-maker's stamp, Reginus vi, die 8a (tab). ON 3, fill (1038) of intervention 1036 through ditch 2004.
5. Central Gaulish samian Dr 37 bowl body sherd with mould-maker's stamp, Doeccus i (Doveccus), die 13a (tab). Fill (1078) of intervention 1076 through ditch 2004.
6. Greyware everted rim jar. Fill (1075) of intervention 1076 through ditch 2004.
7. Oxfordshire greyware necked bowl (Young 1977, 220, fig. 80, type R38). Fill (1078) of intervention 1076 through ditch 2004.
8. Oxfordshire greyware necked bowl (Young 1977, 220, fig. 80, type R38). Fill (1078) of intervention 1076 through ditch 2004.
9. Oxfordshire greyware straight-sided bowl with out-turned rim and chamfered base (Young 1977, 220, fig. 81, type R43). Fill (1078) of intervention 1076 through ditch 2004.

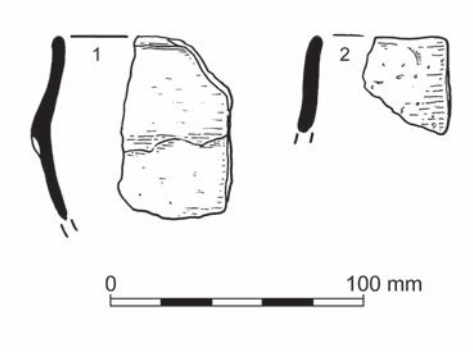

Fig. 8. Prehistoric pottery (1–2).

[48] South Oxfordshire District Council, 'Chinnor Neighbourhood Plan 2011–2034' (2021), accessed online 27 June 2022.

[49] J. Timby, 'The Ceramics', in 'Land South of Crowell Road, Chinnor, Oxfordshire. Archaeological Excavation: Post-Excavation Assessment', appendix 1.

[50] P. Booth, 'Late Iron Age and Roman Pottery', in C. Ellis and A. Davies, *Early Thame: Archaeological Investigations at Oxford Road, Thame, Oxfordshire 2015, Volume 2: The Roman and Saxon Periods*, Oxford Cotswold Archaeology Monograph, 2 (2024), pp. 41–75.

[51] Young, *The Roman Pottery Industry of the Oxford Region*, p. 4, fig. 2.

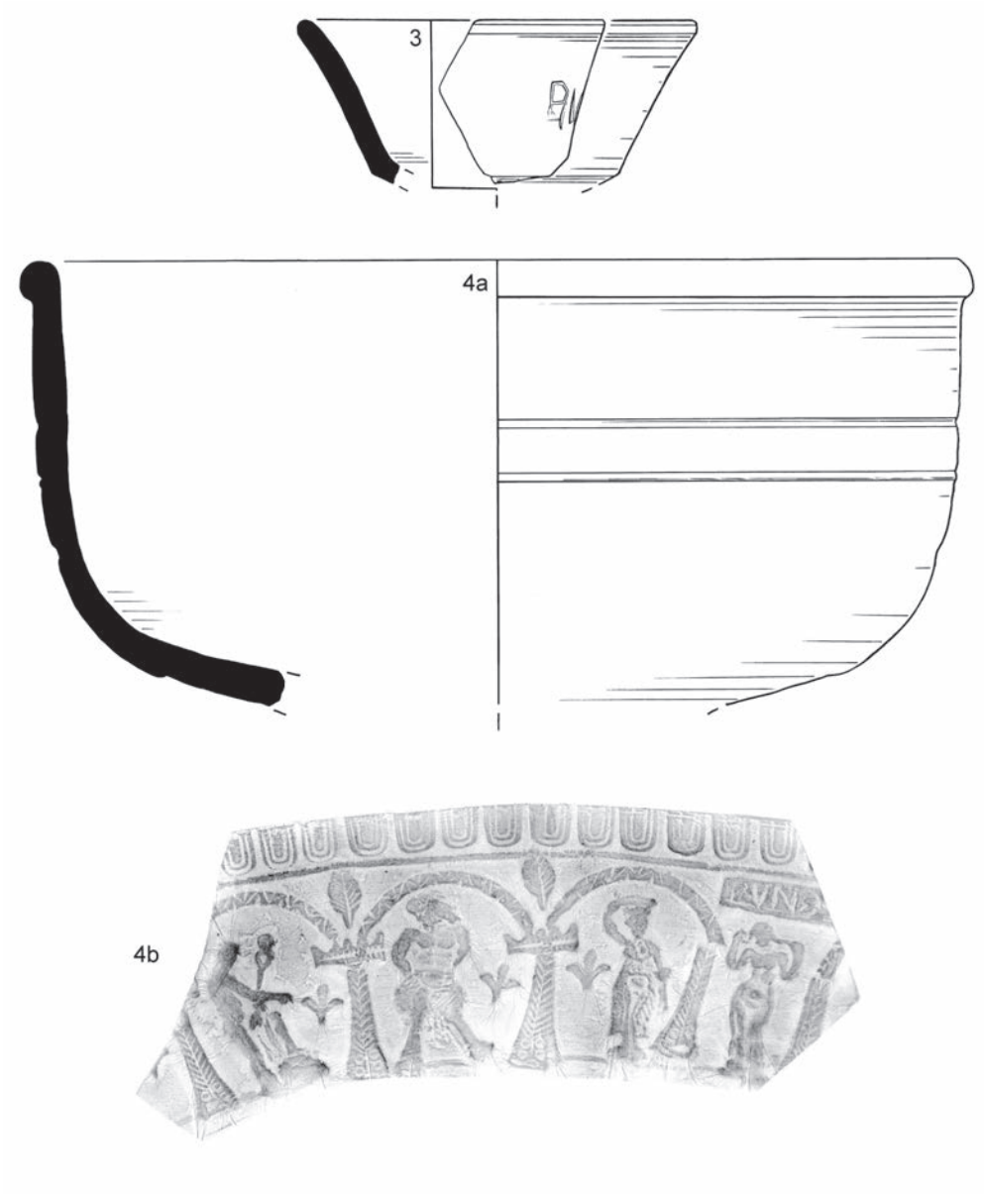

Fig. 9. Roman pottery (3–4a/b).

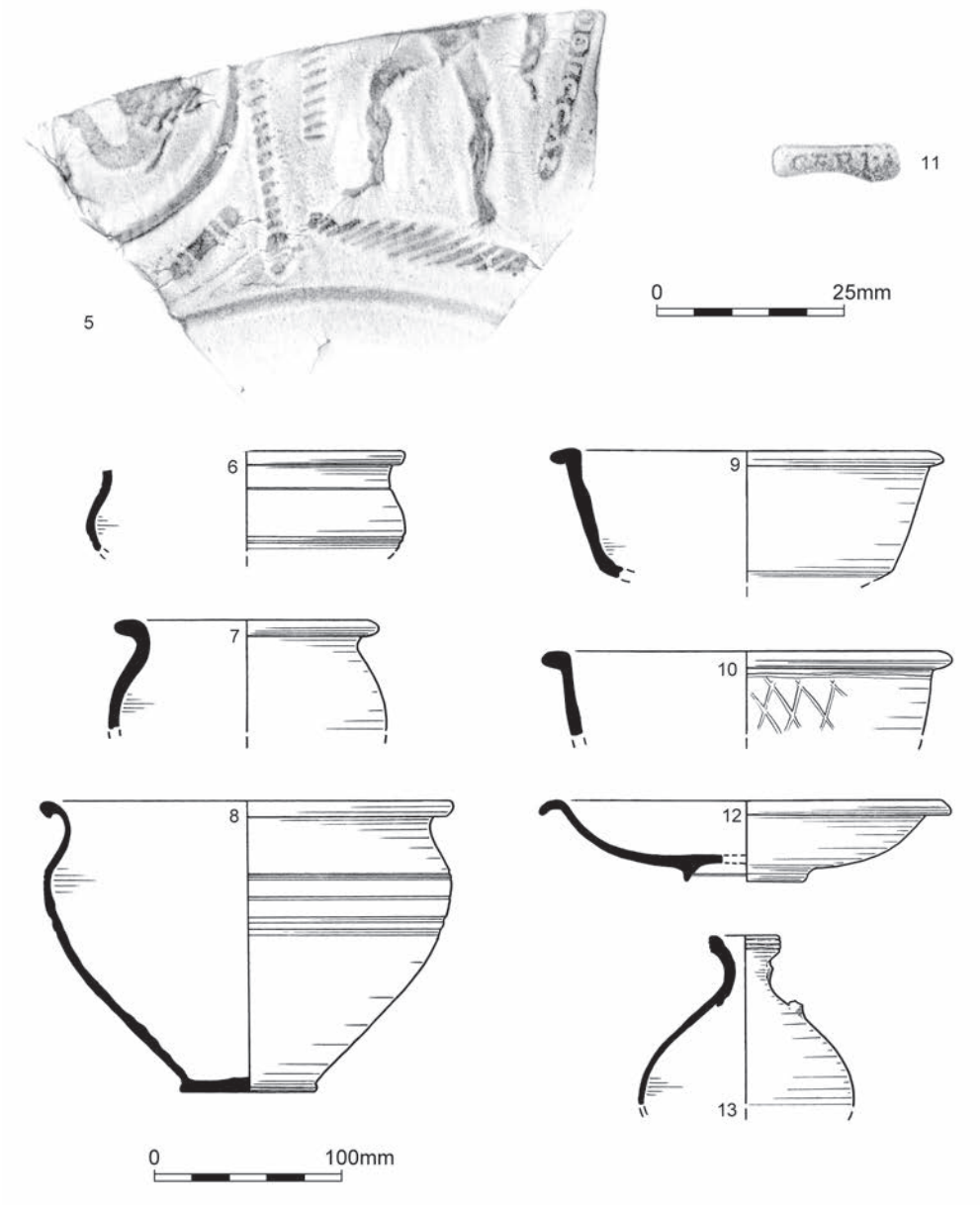

Fig. 10. Roman pottery (5–13).

10. Oxfordshire greyware straight-sided bowl with out-turned rim and burnished lattice decoration (Young 1977, 220, fig. 81, type R43 or R46). Fill (1078) of intervention 1076 through ditch 2004.
11. Central Gaulish samian bowl/dish base with potter's stamp, Cerialis ii, die 4a. Fill (1248) of intervention 1246 through ditch 2003.
12. Oxfordshire oxidised ware bowl copying Dr 36 (Young 1977, 199, fig. 73, type O44). Fill (1087) of intervention 1088 through ditch 2007 and fill (1122) of pit 1120.
13. Oxfordshire white-ware wall-sided flagon (Young 1977, 102, fig. 30, type W15). Fill (1170) of pit 1168.

OTHER FINDS by KATIE MARSDEN

The ceramic building material (twenty-four pieces, 1928 g) includes Romano-British *imbrex* and *tegula* roof tile fragments, one of the latter (ditch 2002) preserving a small part of the upper cutaway. Brick fragments (30–40 mm thick), from ditch terminal/feature 1233 and ditches 2003 and 2004, probably derive from the smaller, thinner types – *bessalis*, *pedalis* or *lydion*, which were generally used in hypocausts or as bonding/lacing courses in walls.[52] Any such Romanised structure, however, clearly lies well beyond the limits of the current site.

Five pieces of fired clay (two joining) representing one or more rectangular, flanged oven plates came from ditch 2003. None of the pieces provide complete measurements of length or width; the maximums are 170 mm and 185 mm respectively, with thicknesses ranging from 42–45 mm. The vertical flanges on two pieces are sub-rectangular in profile with slightly sloping inner edges, the flange on one piece terminating at a corner (Fig. 11). The flanges are up to 30 mm wide, with a maximum external height of 62 mm and an internal height of 22 mm. All the plate surfaces are smooth and neatly finished, with flat or slightly rounded perpendicular surfaces, and some evidence of knife trimming. The pieces occur in a pale-firing, organic-tempered fabric, the clay matrix containing some silicified cereal awns, while the surfaces are covered with abundant impressions of cereal chaff, mainly spelt wheat glumes and spikelets (identified by Ed Treasure), which prevented them sticking to other items during firing.

Rectangular, flanged oven plates are a not uncommon find amongst late Iron Age and early Roman fired clay assemblages across central England, including the Thames Valley.[53] The flanged edges on the long sides are reminiscent of tegula, but in other aspects they differ in both fabric and form, and such plates – rectangular, polygonal and disc-shaped, occur on domestic settlement sites as well as being associated with pottery production, and grass-tempered, grey-firing kiln furniture is known from Hanborough, Oxfordshire,[54] approximately 35 km to the north-west.

The other fragments of fired clay (ditches 2002, 2003 and 2004), are amorphous, retaining no features to help identify date or function.

[52] G. Brodribb, *Roman Brick and Tile* (1987), pp. 34–43.

[53] C. Poole, 'Fired Clay', in C. Ellis and A. Davies, *Early Thame: Archaeological Investigations at Oxford Road, Thame, Oxfordshire 2015, Volume 2: The Roman and Saxon Periods*, Cotswold Archaeology Monograph, 2 (2024), pp. 87–96.

[54] D. Sturdy and C.J. Young, 'Two Early Roman Kilns at Tuckwell's Pit, Hanborough, Oxon.', *Oxoniensia*, 41 (1976), p. 60.

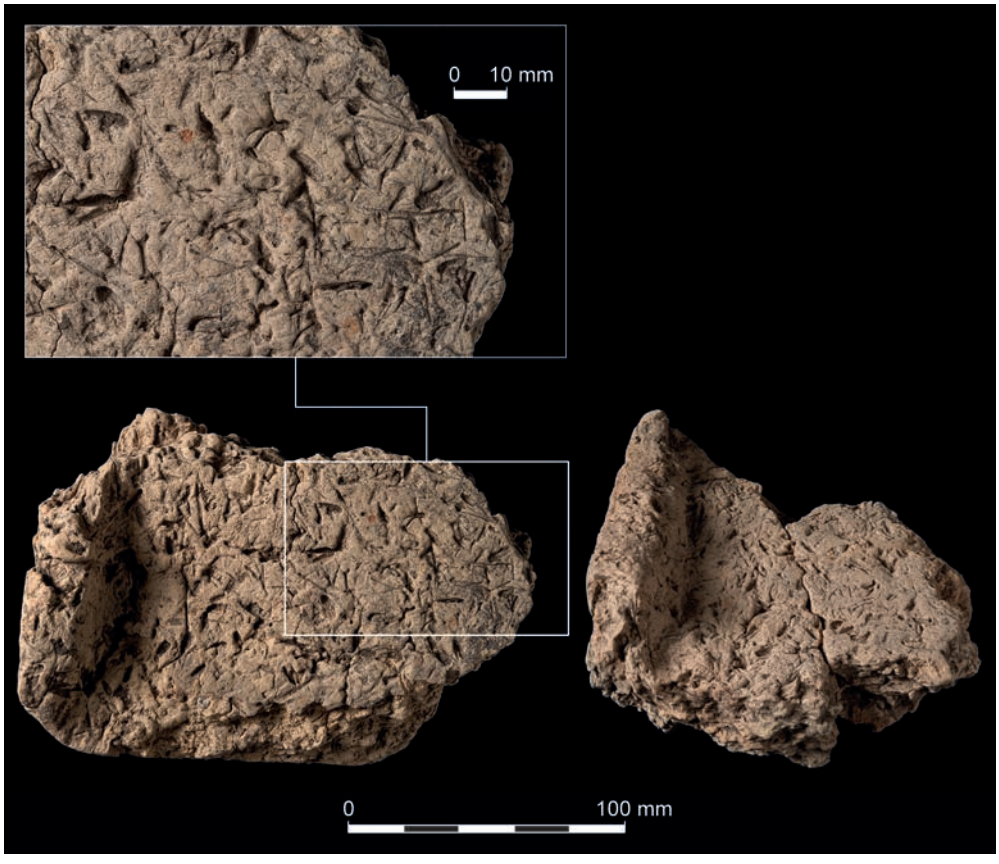

Fig. 11. Fired clay oven plate fragments.

Catalogue of Illustrated Fired Clay (Fig. 11):

1. Fired clay; three fragments (two joining) of rectangular, flanged oven plate; no complete dimensions, thicknesses 42–45 mm. Romano-British. Backfill (1152) of ditch 2003.

Evidence for craft activity at the site is limited. Small pieces of undiagnostic slag from ditches 2002 and 2003 are probably indicative of smithing. A fragment of undiagnostic ironworking slag was also recovered from inhumation grave 1206 (ON 11), although it is likely to be an accidental inclusion from ditch 2004 into which the individuals were interred.

Six oyster shells from structure 2001, ditches 1248 and 2004 and pit 1168 provide very limited evidence for diet and resource exploitation during the Romano-British period. Three joining fragments from a substantial millstone (800 mm in diameter (Fig. 12, 1) derived from pit 1168. Additional pieces of Millstone Grit, probably from millstones or querns (ditches 1242 and 2002), provide further evidence for crop processing in the immediate vicinity.

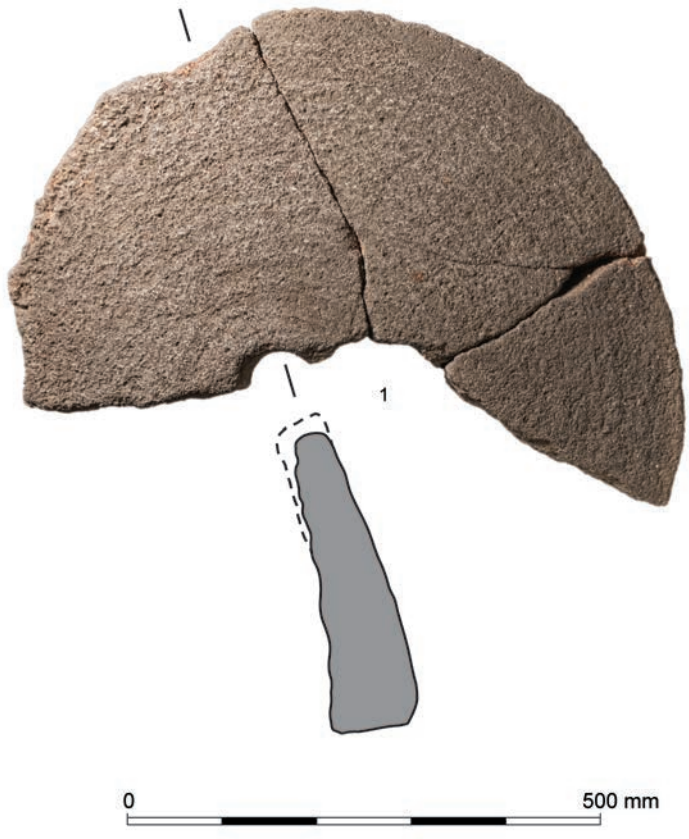

Fig. 12. Millstone.

Catalogue of Illustrated Stone (Fig. 12):

1. Millstone; Millstone Grit; lower disc Shaffrey type 5b,[55] 800 mm diameter. Romano-British. Backfill (1170) of pit 1168.

HUMAN BONE AND ASPECTS OF THE MORTUARY RITES by JACQUELINE I. McKINLEY

Human bone was recovered from the remains of three burials – two inhumation and one cremation. The inhumation graves (1203 and 1206) had been cut through the upper fills within the south-east terminal of Romano-British ditch 2004, the alignment of which they followed; the later of the two graves (1206) cutting through the distal half of the earlier one (Fig. 6). Cremation grave 1250 lay some 36 m to the west, approximately 2 m to the north of the early Romano-British post-built structure 2001. Stratigraphic and artefactual evidence indicates a

[55] R. Shaffrey, *Grinding and Milling: A Study of Romano-British Rotary Querns and Millstones made from Old Red Sandstone*, BAR BS, 409 (2006), p. 45, fig. 4.21.

non-specific – but likely early to middle Romano-British date for the two inhumation graves (see above). As the date of the cremation burial was less clear, a bone sample was submitted for radiocarbon analysis and returned a late Iron Age–early Romano-British date (see above).

Methods

Recording and analysis of the cremated bone follow the writer's standard procedures.[56] Age and sex (unburnt and cremated bone) was estimated following standard methods.[57] Skeletal indices (unburnt remains) were calculated in accordance with Bass,[58] Brothwell[59] and Trotter and Gleser.[60] Non-metric traits were recorded according with Berry and Berry[61] and Finnegan,[62] and grading of the unburnt bone preservation with McKinley.[63] Cremated animal bone species and element identification are by Lorrain Higbee.

Bone samples (rib, long bone and petrous temporal) from the inhumation graves were submitted to AIPRL at Durham University for carbon and nitrogen (diet) and sulphur (geographic origins) isotope analysis.

A summary of the results is presented in Table 3; details, including the full isotope report[64] are held in the archive.

Taphonomy

The inhumation graves had survived to between 0.17 m and 0.20 m in depth. The position of the body in the shallowest grave (1203) – placed on the left side, the body having then slumped back against the side of the coffin (possibly having been displaced due to the coffin having been tipped slightly in transportation or deposition) – had resulted in the right side of the skeleton laying higher in the grave than the left. Parts of some skeletal elements had clearly been lost due to horizontal truncation (Fig. 6). A more catastrophic level of disturbance had occurred with the insertion of grave 1206 which removed all the lower limb elements excepting the left femoral head (the grave cut would have accommodated an extended body, possibly with slightly flexed legs). Only two skeletal elements affected by this intrusion – a tarsal and a carpal bone – were recovered from the fills of either grave (the former redeposited in 1203, the latter in 1206). This observation indicates the remains within grave 1203 were skeletalised by the time grave 1206 was cut (i.e. that at least 2–3 years separated the burials) and suggests a 'casual' redeposition of the disturbed bones in the upper fills of the later grave (i.e. no 'curation' and placed redeposition of the disturbed material).

[56] J.I. McKinley, *The Anglo-Saxon Cemetery at Spong Hill, North Elmham. Part VIII: The Cremations*, East Anglian Archaeology, 69 (1994), pp. 5–6; J.I. McKinley, 'Compiling a Skeletal Inventory: Cremated Human Bone', in M. Brickley and J.I. McKinley (eds.), *Guidelines to the Standards for Recording Human Remains* (2004), pp. 9–12.

[57] W.M. Bass, *Human Osteology* (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); N.G. Gejvall, 'Determination of Burnt Bones from Prehistoric Graves', *OSSA LETTERS*, 2 (1981), 1–13; L. Scheuer and S. Black, *Developmental Juvenile Osteology* (2000).

[58] Bass, *Human Osteology*, pp. 214 and 233.

[59] D.R. Brothwell, *Digging Up Bones* (1972), p. 88.

[60] M. Trotter and G.C. Gleser, 'Estimation of Stature from Long Bones of American Whites and Negroes', *American Journal of Physical Anthropology*, 10:4 (1952), pp. 463–514; M. Trotter and G.C. Gleser, 'A Re-Evaluation of Estimation of Stature Based on Measurements of Stature Taken During Life and of Long Bones after Death', *American Journal of Physical Anthropology*, 16:1 (1958), pp. 79–123.

[61] A.C. Berry and R.J. Berry, 'Epigenetic Variation in the Human Cranium', *Journal of Anatomy*, 101:2 (1967), pp. 261–379.

[62] M. Finnegan, 'Non-Metric Variations of the Infracranial Skeleton', *Journal of Anatomy*, 125:1 (1978), pp. 23–37.

[63] 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* (2004), fig. 6.

[64] J. Moore and J. Montgomery, 'Specialist Report: Multi-Isotope Study of Two Roman Skeletons Recovered from Chinnor, Oxfordshire', AIPRL Report, 177 (2023).

Table 3. Human bone summary

Context	Cut	Deposit type	Quantification	Age/sex	Skeletal indices and pathology
1204	1203 (0.17 m)	inh. burial (coffined; truncated by grave 1206)	44%	adult >55 yr female	extensive amtl (13); dental caries (3); dental abscess (3); calculus; *cribra orbitalia* (bi-lateral, slight porotic); fine cut marks (frontal vault) ?scalping; oa – 2C, right acromion (?shoulder dislocation), right 5th prox. & distal IP (hand), left 1st MtC-P & prox. IP, 1 left distal IP (hand), left elbow (humerus & radius); ddd – 1C, S1; plastic changes – right clavicle (?shoulder dislocation); op – C1 anterior facet, 2C ap, 1T bsm, 1T c-v, right glenoid & distal humerus, prox. ulnae, right 1st C-MtC, 4 right & 1 left prox. IP (hand), 1 left distal IP (hand), right 12th rib, left prox. femur; pitting – both temporo-mandibular, left prox. femur; fine-grained pitting endocranial (right parietal); enth – iliac crest (inside), left olecranon; solitary bone cyst – right scaphoid; MV – Plaque (femoral neck), enamel pearl (maxillary M3)
1207	1206 (0.22 m)	inh. burial (decapitated)	81%	adult >60 yr female	estimated stature 1.70 m (approx. 5′ 7″); cranial index 72.0 (dolichocrany); platymeric index (74.9); platycnemic index (64.0–64.2) amtl (4); dental caries (8); calculus, dental abscess (4); pd (1); osseous mass – calcified soft tissue (?fibroid); cut marks – visceral surface right rib; fracture – left clavicle, left distal radius (Smith's/Barton's), left middle phalanx (?2nd/3rd/4th?; crush), left ?4th MtC (proximal 1/3rd); secondary sinusitis (right maxilla); oa – 2C (lower), S1, left elbow (humerus & radius), right wrist, right 2nd–5th distal IP (hand), right 1st T-MtT; ddd – S1; plastic changes – mandibular condyle (extended lateral pterygoid attachment?), right clavicle; pitting – right acromio-clavicular; op – C1–2 anterior facets, right temporo-mandibular, left distal radius, right 1st & left 5th C-MtC, 4 right prox. & 1 left distal IP (hand), acetabulae rims, left talus; enth – prox femoral shafts; MV – plaque (bi-lateral femora), double zygomatic-facial foramen (right), mandibular tori
1251	1250 (0.10 m)	un. burial inc. fuel ash	600.1 g	adult 30–40 yr female	dental caries; ?dental abscess; ddd – 1; op – auricular surface sacrum, distal humerus, distal phalanx (hand); enth – prox femur shaft; MV – metopic suture

KEY: inh. – inhumation; un. – unurned; amtl – *ante mortem* tooth loss; pd – periodontal disease; oa – osteoarthritis ddd – degenerative disc disease; op – osteophytes; enth – enthesophytes; MV – morphological variation; C-MtC/T-MtT – carpal-metacarpal/tarsal-metatarsal joint; MtC-P – metacarpal-phalangeal joint; bsm – body surface margins; c-v – costo-vertebral joint; IP – interphalangeal joint; C/T/S – cervical/thoracic/sacral vertebra; prox – proximal; ap – articular process

The bone from the inhumation graves is moderately eroded (Grades 2–3), that from grave 1203 also being slightly abraded. In both cases the trabecular bone had suffered preferential damage, the axial skeleton from grave 1206 being in very poor condition, a consequence of the acidic sandy silt/silty clay burial environment. Most of the skeletal elements from both graves are heavily fragmented and, with the exception of the right ulna from grave 1206, no complete long bones were recovered.

The cremation grave had survived to 0.10 m in depth, and a few bone fragments and patches of fuel ash were evident at surface level, consequently, an unknown quantity of bone could have been lost due to horizontal truncation. The bone is, however, in good condition, with a representative proportion of trabecular bone (commonly subject to preferential destruction in adverse burial conditions) being observed in addition to the more robust compact bone.

The Individuals

A minimum of three individuals (MNI) are represented, one from each of the three graves. All three were adult females, and it is notable that both individuals inhumed in the ditch – which appears to have delineated one side of a trackway – were elderly (Table 3). Similarities between these two women in terms of some pathological conditions, robusticity of the forearms and at least one non-metric trait, suggest some connection between them other than just the location of their graves. The sulphur isotopes suggest neither woman was local to where they were buried, rather that they were from 'an inland environment unaffected by low riverine/floodplain sulphur' as would be expected at Chinnor or 'a high marine sulphur from coastal regions or carbonate rocks', and that they might have moved into the area 'within the last five years of their lives'.[65]

The estimated stature of the woman from grave 1206 is well above the average of 1.61 m for the period presented by Roberts and Cox (Table 3).[66] The platycnemic index (meso-lateral flattening of the tibia) is almost identical for each side indicating equality of stress, and falls within the platycnemic range suggesting a highly mobile lifestyle for this individual.[67] Both women had marked supinator crests and tuberosities in the ulnae indicating long-term occupational activity involving physically strong – bi-lateral – pronator movements of the arms/hands; an observation reinforced by the strongly marked groove for *extensor carpi ulnaris* (extends and adducts hand at the wrist) in the left distal ulna from burial 1207. It is interesting to note that despite this woman's relatively high estimated stature, the femoral necks were short with obtuse angles only around 10 degrees to horizontal.

Both elderly women had experienced *ante mortem* tooth loss (True prevalence rate (TPR) 35 per cent), the high rate largely reflecting the extensive loss in one case (burial 1204). Whilst tooth loss tends to increase with advancing age, numerous factors might be involved in the process: The surviving teeth show heavy occlusal wear (1207 anterior crowns worn almost to the roots); moderate (1207) to extensive (1204) deposits of dental calculus (calcified plaque/tartar) were recorded,[68] the latter harbours the bacteria which predispose to periodontal disease and the development of dental caries (destruction of the tooth by the acids produced by oral bacteria) – the former condition was rarely observed but may have been more extensive prior to *ante mortem* tooth loss, whilst the latter was common (TPR 35 per cent) and undoubtably represented a major factor affecting tooth loss. Molars and premolars were preferentially affected, carious lesions commencing at the enamel/root junction, with frequent destruction of the entire crown, and the spread of infection into the supportive structure of the same or

[65] Moore and Montgomery, 'Specialist Report: Multi-Isotope Study of Two Roman Skeletons'.

[66] C. Roberts and M. Cox, *Health and Disease in Britain from Prehistory to the Present Day* (2003), p. 86.

[67] S. Mays et al., 'Lives Before and After Stonehenge: An Osteobiographical Study of Four Prehistoric Burials Recently Excavated from the Stonehenge World Heritage Site', *Journal of Archaeological Science: Reports*, 20 (2018), pp. 692–710.

[68] Brothwell, *Digging Up Bones*, fig. 58.

adjacent tooth socket. Dental abscesses were observed in both dentitions (TPR 12.5 per cent), the infection in the right maxillary second molar of 1207 having tracked (via a 3 mm diameter fistula) into the antrum (floor and walls having a thin covering of healed new bone) causing secondary sinusitis.

The presence of heavy calculus deposits and location of the carious lesions suggest a diet largely dependent on carbohydrates (such as breads and pottages/stews), with fibrous foods getting trapped between the teeth, and limited attempts to remove them (restricted dental hygiene).[69] However, the above average height of the female from grave 1206, together with the lack of childhood stress indicators other than slight porotic *cribra orbitalia* (a metabolic condition manifest as pitting in the orbital vaults) in burial 1204 (TPR 2/4), suggests these two women had relatively nutritionally stable and healthy childhoods. The carbon and nitrogen isotope analysis indicates they had a similar diet, which showed little change as they grew older and were less able to chew (e.g. no tough meat). The data demonstrates a terrestrial C_3 diet with little or no inclusion of marine resources which, Moore and Montgomery[70] state, is typical of Romano-British populations.

The numerous well-healed fractures observed to elements of the left upper limb of the woman from grave 1206 (Table 3) seem likely to have been sustained in one traumatic event involving a fall onto the shoulder (clavicle fracture) whilst she was carrying something clutched close to the body with her left arm, meaning she fell onto the back of the hand whilst it was flexed at the wrist (rather than the more common occurrence of falling onto an outstretched hand). The x-radiograph of the left radius shows a well-healed transverse fracture, 35 mm from the distal end of the bone with the slightly mis-aligned distal end angled anteriorly rather than with the more common backwards tilt (Fig. 13). Termed a 'Smith's' (entirely extra-articular) or 'Barton's' fracture, it is difficult to manage even in clinical cases, hence the permanent misalignment.[71] The breaks to the hand bones also indicate a hard blow to the medial side of the left hand. Plastic changes observed to the right clavicle of the other woman (from grave 1203), together with lesions indicative of osteoarthritis (pitting, eburnation, osteophytes and remodelling) in the acromion of the right scapula, also suggest injury to the shoulder – in this instance a probable dislocation, and again most likely related to a fall on the shoulder.

Enthesophytes (new bone growths at tendon insertions) commonly develop as a consequence of repeat micro-trauma associated with muscle exertion.[72] The location and severity of lesions seen in all three individuals at Chinnor are commensurate with their indicated age and levels of physical activity, the lesions in the left olecranon of the ulna (1204) potentially being linked with the activities indicated by the osteoarthritis (see above).

Two short (8 mm and 10 mm), fine cut marks were recorded in the visceral surface of a right rib from grave 1206. The cuts were probably located mid-shaft, in a rib from the mid-chest area. Set 3 mm apart, at an approximately forty-five degree angle from the lower medial to the upper dorsal point on the shaft, the cuts suggest 'assaults' made with a short, fine-bladed knife angled up into the chest from behind and to one side. The other ribs are in a very poor condition, but no other lesions were observed. Made peri- or post-mortem (green bone, no signs of healing), the lesions suggest that this elderly woman, who was subsequently subject to decapitation (see below), was deliberately killed. The question is, was this a case of murder or some form of ritual dispatch?

The right parietal and frontal bones from grave 1203 are heavily fragmented and could not be reconstructed, meaning a fragment of ?frontal bone with two fine cut marks could not be placed in position. The cuts, made to green/semi-green bone with no signs of healing, each 9–11 mm long and set 14 mm apart, extend across the broken edges of the fragment, and appear

[69] S.W. Hillson, *Teeth* (1986); S.W. Hillson, *Dental Anthropology* (1996).
[70] Moore and Montgomery, 'Specialist Report: Multi-Isotope Study of Two Roman Skeletons'.
[71] J.C. Adams, *Outline of Fractures* (1987), pp. 164, 173.
[72] J. Rogers and T. Waldron, *A Field Guide to Joint Disease in Archaeology* (1995), pp. 23–5, 53.

Fig. 13. Elderly female (burial 1207): Left radius, (top to base) anterior, medial and dorsal views, showing well-healed Smith's or Barton's fracture.

to be traversing the bone horizontally as seen in cases of scalping.[73] There is ample evidence for various forms of mutilation, ritual display and curation of skulls in the Iron Age, the victim commonly comprising a vanquished foe or 'criminal',[74] but less evidence is forthcoming for the Romano-British period.[75] Though such an interpretation here cannot be taken as conclusive, given the incomplete recovery of the cranium, the possibility remains that this elderly woman was subject to such unusual treatment, though why this would have occurred in this instance is something of a mystery.

A semi-spherical (34 × 36 × 30 mm, 14.5 g), dense osseous mass was recovered from grave 1206

[73] E.M. During and L. Nilsson, 'Mechanical Surface Analysis of Bone: A Case Study of Cut Marks and Enamel Hypoplasia on a Neolithic Cranium from Sweden', *American Journal of Physical Anthropology*, 84 (1991), pp. 113–25; C. Roberts and K. Manchester, *The Archaeology of Disease*, 2nd edition (1997), p. 85.

[74] B. Cunliffe and C. Poole, *Danebury, an Iron Age hillfort in Hampshire. Vol. 5, The Excavations 1979–1988: The Finds*, CBA Research Report, 73 (1991), p. 425; C.R. Craig et al., 'Fragmentation, Mutilation and Dismemberment: An Interpretation of Human Remains on Iron Age Sites', in M. Parker Pearson and N. Thorpe, *Warfare, Violence and Slavery in Prehistory*, BAR IS, 1374 (2005), pp. 165–80; R. Redfern, 'New Evidence for Iron Age Secondary Burial Practice and Bone Modification from Gussage All Saints and Maiden Castle (Dorset, England)', *Oxford Journal of Archaeology*, 27:3 (2008), pp. 281–301.

[75] S. Mays and J. Steele, 'A Mutilated Human Skull from Roman St. Albans, Hertfordshire, England', *Antiquity*, 70 (1996), pp. 155–61.

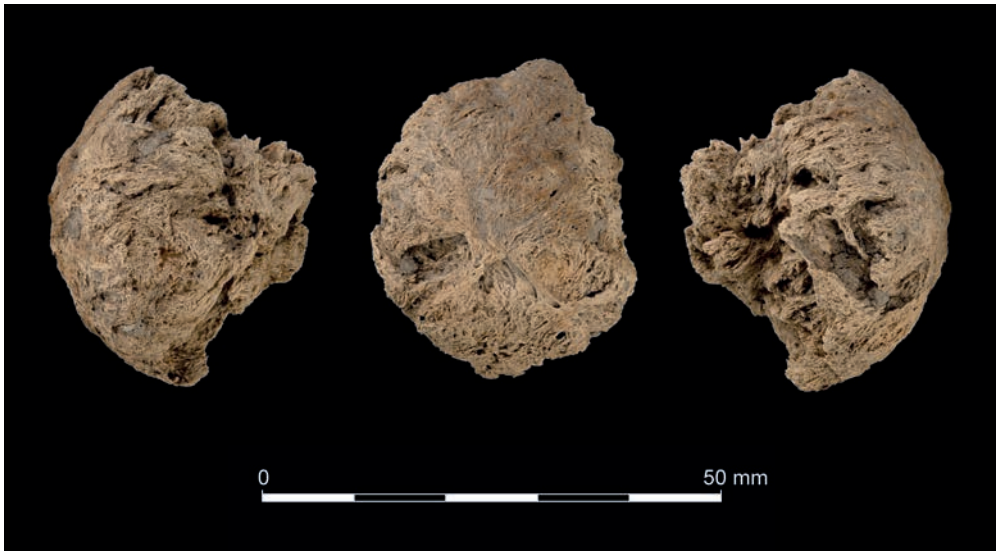

Fig. 14. Elderly female (burial 1207): Composite image showing three views of the ossfied mass, probably a calcified fibroid (a non-cancerous uterine tumour).

(Fig. 14). Its precise location was not recorded, only that it was found 'with the skull' which itself had been placed between the knees; consequently, it could have laid anywhere within the space described by the lower limbs (Fig. 6). Comprising woven bone with no 'architectural' arrangement of the trabeculae, it has a relatively smooth external surface with a convex profile over one half and a disorganised amorphous appearance over the other half. It most likely represents a calcified soft tissue tumour, probably a calcified fibroid – a non-cancerous uterine tumour. The cause of fibroids is unclear, but they are very common, with two-thirds of women developing a fibroid at some stage. Growth is believed to be stimulated by oestrogen and progesterone hormones, and they appear to be more common in overweight/obese women due to increased level of oestrogen. They can develop at various locations within or external to the uterus, intramural lesions being most common. These monoclonal tumours increase in incidence with age and, although often asymptomatic, the types and severity of affects vary depending on the size and location of tumour; a large lesion causing compression of adjacent urinary or digestive organs, with resultant pain, cramping and loss of bladder control,[76] and possible complications including anaemia, thromboembolism (blood clots) and uterine prolapse. Calcification typically occurs after menopause as the fibroid ages and degenerates; as the fibroid loses volume, blood circulation to the mass decreases allowing calcium to accumulate in the vessels and leach into the surrounding tissues.

The lack of clarity regarding the location of this example from Chinnor renders a confident diagnosis difficult. Were it to have lain between the skull and the pelvis, it might mean that the mass was discharged from the uterus during decomposition of the body (especially were the woman to have suffered a prolapse). An unlikely alternative diagnosis exists in the form of a possible parosteal osteosarcoma to which the mass is similar in appearance.[77] However, it was

[76] C. Martin, 'What to Know about Calcified Fibroids: Symptoms and Treatment', https://www.verywellhealth.com/calcified-fibroids-519040 (2004).

[77] D.J. Ortner and W.G.J. Putschar, *Identification of Pathological Conditions in Human Skeletal Remains* (1985), pp. 384–5, figs. 626, 630.

not 'attached' to any bone (the proximal tibia/distal femur represent the most common locations for such tumours but none of the elements recovered exhibits lesions – outside of bone on/near periosteum – though the left proximal tibia was badly damaged and incomplete). Such tumours are slow growing and can occur across the adult age range, penetration of the marrow cavity being late or absent.[78] This rare example from Chinnor appears to represent the only one of its type currently in the Romano-British archaeological record.

Degenerative joint disease of various forms was observed in all the adult remains with different degrees of extent and severity (Table 3). Similar lesions – osteophytes and other forms of new bone formation, micro- and macro-pitting – may develop as a consequence of one of several disease processes, some also occurring as lone lesions largely reflective of age-related wear-and-tear.[79] Lesions indicative of osteoarthritis were observed in spinal and extra-spinal joints of the upper limb in both inhumed women. With the exception of the lesions affecting the right shoulder joint described above, in both women the same joints appear to have been affected including the left elbow and multiple joints in the hand. Together with the previous observations regarding forearm use, this pattern suggests they were engaged in similar and potentially specific occupational activities which were physically demanding of these areas of the body. Lone lesions (pitting and osteophytes) followed a similar pattern. A complete picture is not, however, forthcoming given the very poor preservation of the axial skeleton with a maximum thirty vertebrae being counted, most excluding the vertebral body.

Mortuary Rituals

The skull and first–fourth cervical vertebrae within grave 1206 were recovered from between the individual's legs at knee level (Fig. 6). The remaining cervical vertebrae were recovered in their normal anatomical position with the rest of the spine. The third–fifth cervical vertebrae are in particularly poor condition, with only parts of each surviving, and no physical evidence for a cut survives. Removal of the head must, however, have occurred between the fourth and fifth cervical vertebrae. The grave was of sufficient length to accommodate the head in its correct anatomical position, the woman's feet being placed up against the end of the grave. This then begs the question as to the stage at which the head was removed; the burial position is neat, supine and extended with the arms laid across the abdomen, having apparently been made un-coffined within the grave. Why, were the head already removed and to be placed between the knees, would the appropriate space be left for the head in its anatomical location? Might this suggest that the head was removed after the body went in the grave or even some short time after burial?

Decapitated burial remains represent a regular – if not exactly frequent – feature of Romano-British urban and rural funerary deposits, including numerous examples from Oxfordshire.[80] Most pertain to the later stages of the period; the head was most commonly placed in the area of the lower limbs/feet; in rural areas more females tended to have undergone decapitation than males; and there are indications that – as at Chinnor – there might have been an association between visible trauma/pathology and decapitation.[81] No evidence for cuts to the vertebrae survived in the case of burial 1207 and the precise mode of removal (front/back, single/multiple blows, number of vertebrae involved) is unknown. However, no lesions were observed elsewhere in the skeleton suggestive of defensive wounds or vitality in the body and this, together with the aforementioned context information, suggests this decapitation was not the cause of death and might even have been undertaken after initial burial. Post-mortem decapitation and displacement of the skull was viewed as a way of 'stilling' the potentially unquiet dead

[78] Ibid. pp. 384–5.

[79] Rogers and Waldron, *A Field Guide to Joint Disease in Archaeology*.

[80] R. Philpott, *Burial Practices in Roman Britain*, BAR BS, 219 (1991), table A24; A. Smith, 'Death in the Countryside: Rural Burial Practices', in A. Smith et al., *Life and Death in the Countryside of Roman Britain*, Britannia Monograph 31 (2018), fig. 6.16, pp. 226–31.

[81] K. Tucker, *An Archaeological Study of Human Decapitations* (2015), pp. 46–92.

and ensuring they did not return to haunt the living.[82] Given the evidence presented above suggesting this elderly woman was murdered or subject to a ritual killing, together with the implication that the decapitation might have occurred after burial, it could be that unexplained occurrences after the woman's death were being linked to the actions of her 'ghost' and that this was viewed as a mechanism by which she could be contained.

The majority of the cremated bone from grave 1250 is white in colour, indicative of full oxidation.[83] However, numerous skeletal elements – particularly those of the hands and to a lesser extent the feet – show hues of blue and grey indicative of incomplete oxidation, with several finger phalanges being blue/black demonstrating charring of the bone. Numerous factors, both intrinsic to the process and imposed by external mechanisms, might have an impact on the efficiency of oxidation.[84] Here, the predominant involvement of the limb extremities in poor oxidation suggests the pyre might have been of insufficient size to comfortably accommodate the body, with these parts lying too close to the cooler peripheries, or the hands could have been 'insulated' from flames/heat due to them being placed across the deceased's chest.

The weight of bone recovered represents around 50–65 per cent of the average expected from a modern adult cremation,[85] the higher figure including the estimated proportion of bone in the unsorted small fraction residues (<2 mm). The recorded weight falls within the median-upper range of those recovered for the Romano-British period,[86] with full recovery of bone from the pyre site apparently not forming a universal requirement of the rite either in the Romano-British or any other period in which it was practised in the British Isles. The majority of the bone was recovered from the 5 mm sieve fraction (approx. 36–48 per cent by weight), with a maximum fragment size of 59 mm, and there is no evidence to suggest deliberate fragmentation of the bone prior to deposition.

Fragments from all four skeletal areas (skull, axial skeleton, upper and lower limb) were amongst the 41 per cent (by weight) of the bone identified to skeletal element. The proportion of upper and lower limb elements were close to the 'norm',[87] with the commonly observed bias in favour of skull elements (readily identifiable even as very small fragments) at the expense of the more taphonomically fragile axial skeleton (predominantly trabecular bone).[88] The small bones of the hands and feet, together with tooth roots found in the absence of the supportive structures (tooth sockets), regularly feature amongst the remains of cremation burials, and their frequency of occurrence offers an indication of the mode of recovery employed in the collection of bone from the pyre site for burial.[89] A substantial number of these elements were recovered at Chinnor (thirty-five small bones, twelve loose teeth) suggesting *en masse* recovery and winnowing of remains rather than hand-collection of individual bone fragments, thereby

[82] A. Boylston et al., 'Investigation of a Romano-British Rural Ritual in Bedford, England', *Journal of Archaeological Science*, 27 (2000), pp. 241–54; M. Harman et al., 'Burials, Bodies and Beheadings in Romano-British and Anglo-Saxon Cemeteries', *Bulletin of the British Museum Natural History (Geology)*, 35:3 (1981), pp. 145–88; Philpott, *Burial Practices in Roman Britain*, pp. 77–83.

[83] J.L. Holden et al., 'Scanning Electron Microscope Observations of Incinerated Human Femoral Bone: A Case Study', *Forensic Science International*, 74 (1995), pp. 17–28; J.L. Holden et al., 'Scanning Electron Microscope Observations of Heat-treated Human Bone', *Forensic Science International*, 74 (1995), pp. 29–45.

[84] McKinley, *The Anglo-Saxon Cemetery at Spong Hill, North Elmham. Part VIII: The Cremations*, pp. 76–8; J.I. McKinley, 'The Human Remains and Aspects of Pyre Technology and Cremation Rituals', in Cool, *The Roman Cemetery at Brougham Cumbria: Excavations 1966–67* (2004), pp. 293–5; J.I. McKinley, '"In the Heat of the Pyre": Efficiency of Oxidation in Romano-British Cremations – Did it Really Matter?', in C.A. Schmidt and S. Sims (eds.), *Beyond Recognition: The Analysis of Burned Human Remains* (2008), pp. 163–84.

[85] J.I. McKinley, 'Bone Fragment Size and Weights of Bone from Modern British Cremations and its Implications for the Interpretation of Archaeological Cremations', *International Journal of Osteoarchaeology*, 3 (1993), pp. 283–7.

[86] McKinley, 'The Human Remains and Aspects of Pyre Technology', tables 6.5 and 6.6.

[87] McKinley, *The Anglo-Saxon Cemetery at Spong Hill, North Elmham. Part VIII: The Cremations*, p. 6.

[88] McKinley, 'The Human Remains and Aspects of Pyre Technology', pp. 298–9.

[89] Ibid. pp. 299–301.

favouring recovery of these small bones.[90] Comparative data for the period presents a variable picture and is currently insufficient to demonstrate any consistent regional variations.

Slight blue/green 'spot' staining on a fragment of clavicle suggests the presence of a copper-alloy pyre good – no such item was recovered from the grave. Evidence from some Romano-British cemeteries indicates deliberate selection of certain types of pyre good for burial, others being left with the pyre debris.[91] Another potential pyre good, in the form of a small quantity (6.1 g) of cremated animal bone, was also recovered; the fragments are small/eroded rendering elements/species identification difficult but seems likely to have included sheep.

The majority of the bone (68 per cent by weight) was recovered from the western half of the grave, predominantly the south-west, the burial probably being made in an organic (e.g. textile/skin bag) container, with some pyre debris being incorporated in the backfill of the grave. The presence of the latter material suggests the cremation was undertaken within the general vicinity of the place of burial.

ANIMAL BONE by LORRAIN HIGBEE

A total of 1,063 fragments (10.762 kg) of animal bone were recovered by hand and via sieving from the excavation area. Once refits and associated bone groups (hereafter ABGs; for definition see Grant;[92] Morris)[93] are considered the raw count is reduced to 412 fragments (Table 4). The assemblage includes material of late Bronze Age/early Iron Age and early/middle Romano-British date.

Methods

The assemblage was analysed following current guidelines[94] and standard information was recorded where applicable (further details in archive). The entire assemblage has been quantified in terms of the number of identified specimens present (or NISP), and where appropriate, the minimum number of individuals (or MNI). Caprines (sheep and goat) were differentiated based on the morphological criteria of Boessneck,[95] Payne[96] and Halstead et al.[97]

Late Bronze Age/Early Iron Age

Three sheep/goat bones, consisting of fragments of rib, femur and tibia, and a pig incisor tooth, came from pit 1083. The two sheep/goat long bones from this pit are both from the right hindquarter and potentially derive from the same juvenile animal but were recovered from different fills. A cattle astragalus came from pit 1166, and had been cleaved down the midline during dismemberment of the lower limb.

[90] Ibid. pp. 300–1.

[91] Cool, *The Roman Cemetery at Brougham Cumbria: Excavations 1966–67*, p. 437; M. Polfer, 'Reconstructing Funerary Rituals: The Evidence of *Ustrina* and Related Archaeological Structures', in J. Pearce et al. (eds.), *Burial, Society and Context in the Roman World* (2000), pp. 30–7.

[92] A. Grant, 'Animal Husbandry', in B. Cunliffe (ed.), *Danebury: An Iron Age Hillfort in Hampshire. Volume 2, the Excavations, 1969–78: The Finds*, CBA Research Report, 52 (1984), p. 533.

[93] J. Morris, *Re-Examining Associated Bone Groups from Southern England and Yorkshire, c.4000BC to AD1550*, Bournemouth University, PhD 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), pp. 12–13.

[94] P. Baker and F. Worley, *Animal Bones and Archaeology: Recovery to Archive* (2019).

[95] J. Boessneck, 'Osteological Differences Between Sheep (*Ovis aries*) and Goat (*Capra hircus*)', in D. Brothwell and E.S. Higgs (eds.), *Science in Archaeology*, 2nd edition (1969), pp. 331–58.

[96] S. Payne, 'Morphological Distinction Between the Mandibular Teeth of Young Sheep *Ovis* and Goats *Capra*', *Journal of Archaeological Science*, 12 (1985), pp. 139–47.

[97] P. Halstead et al., 'Sorting the Sheep from the Goats: Morphological Distinctions Between the Mandibular Teeth of Adult Ovis and Capra', *Journal of Archaeological Science*, 29:5 (2002), pp. 545–53.

Table 4. Animal bone: number of identified specimens present (or NISP) by phase

Species	Late Bronze Age/ Early Iron Age	Early/middle Romano-British	Undated	Total
Cattle	–	85	1	86
Sheep/goat	3	67	–	70
Pig	1	11	1	13
Horse	–	7	–	7
Dog	–	10	–	10
Total identified	*4*	*180*	*2*	*186*
Total unidentifiable	*10*	*253*	–	*263*
Overall total	***14***	***433***	***2***	***449***

Late Iron Age–Early Romano-British
Several small, calcined fragments of animal bone were recovered from cremation grave 1250. The elements which include possible pieces from a scapula and a carpal or tarsal, are all sheep-sized. The fragments have been cremated to the same degree as the human remains, indicating that animal parts representing food offerings were placed on the pyre and formed part of the mortuary rites.

Early/Middle Romano-British
Most (96 per cent) of the animal bones came from features of this date, with particularly large concentrations from ditches 2002, 2003 and 2004, and ditch terminal/feature 1233. The assemblage comprises mostly disarticulated bones, including a discrete dump of butchered cattle bones, but also two ABGs.

Livestock The overall number of identified bones from cattle, sheep/goat and pig is well below the minimum required (of NISP 300+) to accurately assess the local livestock economy.[98] However, the basic evidence suggests that the economy was largely based on cattle and sheep/goat farming, with pigs a minor consideration (Table 4).

Age information is limited but most cattle and sheep/goat have fused epiphyses indicating that these animals were maintained into adulthood. Tooth wear suggests that some were extremely old (mandible wear stages (or MWS) H and I, after Halstead;[99] Payne).[100] The emphasis on older animals implies that secondary products (milk and wool) were important, although adult cattle were probably more valued as traction animals for arable cultivation. A few bones from calves and juvenile (MWS D) cattle were also found which were undoubtedly culled specifically for meat, although this appears to have been a secondary consideration. The few pig bones recovered are all from immature or juvenile animals.

The wide range of skeletal elements from cattle and sheep/goat is sufficient to indicate that these animals were slaughtered and butchered nearby, and the meat distributed locally. Two

[98] E. Hambleton, *Animal Husbandry Regimes in Iron Age Britain: A Comparative Study of Faunal Assemblages from British Archaeological Sites*, BAR BS, 282 (1999), pp. 39–40.

[99] 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, Volume 1*, East Anglian Archaeology Report, 27 (1985), pp. 219–24.

[100] S. Payne, 'Kill-off Patterns in Sheep and Goats: The Mandibles from Aşvan Kale', *Anatolian Studies*, 23 (1973), pp. 281–303.

discrete deposits of cattle bones were recorded from enclosure ditch 2002, both in the upper part of the fill sequence. These comprise an articulated section of ribs and vertebrae from the north-east corner, and a dump of extensively processed long bones from the north side ditch, adjacent to structure 2001. The latter comprises fragments of shaft from several radii, ulnae and femora, with some humeri and tibiae; all chopped into small pieces and split lengthways (axially) to access the marrow. These are from a minimum of at least four animals, as indicated by the number of left ulnae.

Filleting marks were recorded on three cattle scapulae, these consisting of fine knife cuts along the cervical and thoracic sides of the spina, and shaving nicks along the thoracic margin. Filleting marks on cattle scapula are often interpreted as evidence for specialist processing to cure shoulder joints for longer-term storage. However, this usually involves trimming around the glenoid cavity and removal of the spina to open the muscle mass before curing,[101] but these features are absent on the three examples from Chinnor. Most of the other butchery marks recorded on cattle and sheep/goat bones relate to the initial stages of carcass reduction[102] and processing for marrow (as outlined above), with limited evidence for skinning recorded on a cattle skull and two mandibles.

Two fragmented but largely complete sheep skulls, one from a horned breed probably a ram, and the other naturally polled (i.e., hornless), potentially from an ewe of the same breed, were recovered from near the base of ditch terminal/feature 1233, together with a pair of mandibles. The tooth wear recorded on the mandibles matches that seen on the maxillary teeth of the horned sheep skull and indicates the animal was aged between 8–10 years (MWS I, after Payne).[103] Another horned sheep skull was recovered from the base of pit 1168, potentially deliberately placed beneath a millstone.

Measurements taken on six cattle bones, comprising equal numbers of metacarpals and metatarsals, indicate that the Chinnor cattle had an estimated shoulder height of between 1.20–1.37 m (mean = 1.3 m, based on conversion factors after von den Driesch and Boessneck).[104] The range in statures probably reflects size differences between the sexes, and while those in the upper size category are probably from oxen, these were relatively large animals for the period. One of the metacarpals shows signs of pathology consistent with a soft tissue injury (e.g., sprain or torn ligament). This takes the form of a bony spur on the proximal-medio aspect of the anterior shaft, below the articular surface, and could potentially result from use as a traction animal.

Other Domestic Species The assemblage also includes a small number of horse and dog bones, the majority recovered from ditches. The disarticulated horse elements comprise three lumbar vertebrae, including two found in articulation from ditch 2004, a calcaneus, first phalanx and several loose teeth.

Dogs are represented by several disarticulated elements including the fragmented remains of a skull from a subadult animal, a mandible, several vertebrae, and a few post-cranial bones. Measurements taken on a right tibia provide an estimated shoulder height of 0.35 m (after Harcourt).[105] In addition, a dog burial was found on the base of pit 1012 within the main

[101] K. Dobney et al., *Of Butchery and Breeds: Report on the Vertebrate Remains from Various Sites in the City of Lincoln*, Lincoln Archaeological Studies, 5 (1996), pp. 26–7; K. Dobney, 'A Place at the Table: The Role of Vertebrate Zooarchaeology Within a Roman Research Agenda', in S. James and M. Millet (eds.), *Britons and Romans: Advancing an Archaeological Agenda*, CBA Research Report, 125 (2001), pp. 40–1.

[102] T.P. O'Connor, 'Process and Terminology in Mammal Carcass Reduction', *International Journal of Osteoarchaeology*, 3 (1993), pp. 63–7.

[103] Payne, 'Kill-off Patterns in Sheep and Goats'.

[104] A. von den Driesch and J. Boessneck, 'Kritische Anmerkungen zur Widerristhöhenberechnung aus Längenmassen vor- und frühgeschichtlicher Tierknochen', *Säugetierkundliche Mitteilungen*, 22 (1974), pp. 325–48.

[105] R.A. Harcourt, 'The Dog in Prehistory and Early Historic Britain', *Journal of Archaeological Science*, 1 (1974), pp. 151–75.

enclosure. The articulated remains are those of a small, terrier-type animal with an estimated shoulder height of 0.4 m. The ulna from a prenatal dog was also recovered from this feature, although it is unclear if this was associated with the dog burial.

CHARRED PLANT REMAINS AND CHARCOAL by INÉS LÓPEZ-DÓRIGA and ED TREASURE

Sixteen bulk sediment samples from a range of late Bronze Age/early Iron Age and Romano-British features were processed for the recovery of environmental evidence. Following the assessment, a selection of four samples was analysed further and fully quantified. This report incorporates the results of both the assessment, which have been revised, and the analysis of charred and mineralised (mineral-replaced) plant remains.

Materials and Methods

The samples were processed by standard methods on a Siraf-type flotation tank; the flots were retained on a 0.25 mm mesh, and residues on a 1 mm mesh. The coarse residue fractions (>4 mm) were sorted with the naked eye, and the fine residues and the flots sorted with a binocular microscope at up to x40 magnification. For the assessment, charred plant remains were recorded semi-quantitatively on an abundance scale and preliminary identifications of plant taxa were undertaken. Selected charcoal fragments were identified through examination of the transverse, tangential longitudinal, and radial longitudinal sections at up to x400 magnification. Charcoal identifications were assisted by the descriptions of Gale and Cutler,[106] Hather[107] and Schweingruber,[108] together with modern reference material held by Wessex Archaeology.

For the analysis, all identifiable charred plant remains were extracted and fully quantified, with quantifications given as MNI (minimum number of individuals) and based on anatomy (generally whole items or the highest number of anatomically diagnostic fragments; cereals, based on Antolín and Buxó;[109] glume bases and legume cotyledons divided by two), or size (hazelnut pericarp fragments, based on Antolín and Jacomet).[110] The identifications have been undertaken in consultation with the modern seed reference collection held by Wessex Archaeology and specialised literature where appropriate.[111] Plant nomenclature follows Stace[112] for wild plants and Zohary et al.[113] for cereals and other cultivated plants (using traditional names).

Results

Most of the samples assessed produced small flots containing varying quantities of wood charcoal and charred plant remains, together with a few mineralised plant remains, small animal bone

[106] R. Gale and D. Cutler, *Plants in Archaeology: Identification Manual of Vegetative Plant Materials Used in Europe and the Southern Mediterranean to c.1500* (2000).

[107] J.G. Hather, *The Identification of Northern European Woods: A Guide for Archaeologists and Conservators* (2000).

[108] F.H. Schweingruber, *Microscopic Wood Anatomy*, 3rd edition (1990).

[109] F. Antolín and R. Buxó, 'Proposal for the Systematic Description and Taphonomic Study of Carbonized Cereal Grain Assemblages: A Case Study of an Early Neolithic Funerary Context in the Cave of Can Sadurní (Begues, Barcelona Province, Spain)', *Vegetation History and Archaeobotany*, 20 (2011), pp. 53–66.

[110] F. Antolín and S. Jacomet, 'Wild Fruit Use Among Early Farmers in the Neolithic (5400–2300 cal BC) in the North-East of the Iberian Peninsula: An Intensive Practice?', *Vegetation History and Archaeobotany*, 24 (2015), pp. 19–33.

[111] W.J. Carruthers and D.N. Smith, *Mineralised Plant and Invertebrate Remains: A Guide to the Identification of Calcium Phosphate Replaced Remains* (2020); S. Jacomet, *Identification of Cereal Remains from Archaeological Sites* (2006).

[112] C. Stace, *New Flora of the British Isles*, 3rd edition (2010).

[113] D. Zohary et al., *Domestication of Plants in the Old World: The Origin and Spread of Cultivated Plants in West Asia, Europe and the Nile Valley*, 4th edition (2012).

and terrestrial molluscs (including the abundant remains of the burrowing blind snail *Cecilioides acicula*, which is a medieval introduction), as well as modern roots and uncharred seeds. Whilst the late Bronze Age/early Iron Age samples are very sparse in remains, the Romano-British samples are richer.

The sample from cremation grave 1250 stands out from the remainder of the Romano-British samples which are similar in composition, with a variable level of preservation (ranging from poor to good) and abundance (analysed samples being moderately richer; Table 5).

Discussion

The late Bronze Age/early Iron Age assessed sample contains only poorly preserved remains which provide no detailed information on plant use on the site, however the Romano-British samples contain more substantial evidence.

The dominance of spelt wheat grains and chaff is consistent with the final stages of processing, which would have been undertaken within or close to settlements.[114] Spelt wheat may have been the most important crop cultivated and exploited in the area, although its apparent dominance may also be due to taphonomic factors.[115] Spelt wheat is a hulled wheat which requires dehusking (the separation of the grain from the chaff) prior to certain food preparation (for example, for grinding into flour). This process is greatly aided by the parching of the cereal spikelets after threshing, prior to dehusking, thus increasing the likelihood of hulled wheat remains entering the archaeological record through the routine exposure to fire in hearths, kilns or ovens.

Other crop taxa are present in smaller quantities in the assemblage, including barley, which could be underrepresented due to processing biases (it does not require parching to aid processing and may not be dehusked for consumption, for example if cooked as a porridge or gruel or used as animal fodder). Pulses may also be present (fragments of large legume seeds were recorded, although they could belong to wild vetches, which are also present) and again, their small number could signify that their preparation for food did not involve direct exposure to fire (roasting) but could have been consumed green (as green peas) or boiled, minimising the chances of becoming charred.

Other plant remains include a series of probably incidentally charred wild plant seeds. Whilst some of these plants may grow in a variety of habitats and could have arrived via multiple pathways, it is possible to hypothesise, for some of them, the probable routes by which they entered the archaeological record. Some seeds may be present due to their accidental collection alongside the cereal crops during harvest (as arable weeds). Some of these species include introduced plants, called archaeophytes,[116] such as field madder and stinking mayweed. Others likely represent vegetation growing in the area of the settlement (plants typical of disturbed ground, such as buttercups, knotgrasses, or docks/sorrel) and others redeposited from domestic animal dung (grassland plants such as wild grasses, including rye grass/fescue, meadow grass/cat's tail, oat and brome, trefoils/medicks/clovers, red bartsia and sedges). Some of these plants may have been intentionally exploited for a range of uses (e.g. sorrel and cleavers/bedstraw for food, medicine or dye),[117] and there are remains of edible fruits/nuts such as elderberries and hazelnuts.

A small number of mineralised plant remains in pits 1168 and 1153 likely reflect the deposition of refuse rich in organic waste. These include a seed in the carrot family, knapweeds, field gromwell, sedges, grasses, and mustard/charlock, together with indeterminate 'nodules'.[118] Some

[114] G.C. Hillman, 'Reconstructing Crop Husbandry Practices from Charred Remains of Crops', in R. Mercer (ed.), *Farming Practice in British Prehistory* (1981), pp. 123–62.

[115] M. van der Veen, 'Formation Processes of Desiccated and Carbonized Plant Remains – The Identification of Routine Practice', *Journal of Archaeological Science*, 34 (2007), pp. 968–90.

[116] C.D. Preston et al., 'Archaeophytes in Britain', *Botanical Journal of the Linnean Society*, 145 (2004), pp. 257–94.

[117] K. Fern, *Plants for a Future: Plant Species Database* (1995–2024), http://www.pfaf.org (accessed 23/07/2024).

[118] Carruthers and Smith, *Mineralised Plant and Invertebrate Remains*.

Table 5. Analysis of Romano-British charred plant remains

Feature Type			**Pit 1168**	**Ditch 2004**	**Ditch 2003**	**Pit 1153**	
Context			1170	1078	1073	1156	**Total**
Sample			2	5	38	39	
Bioturbation (Root %; US + CA scale of abundance)			50%, US = B, CA = A***	50%, US = C, CA = A***	50%, US = A, CA= A***	90%, US = A, CA= A***	–
Fragmentation index (MNI/NR)			0.32	0.39	0.47	0.35	–
Density (MNI/l)			8.90	4.00	3.25	7.41	–
Scientific name	**Common name**	**Plant part**					
Cereals							
Hordeum vulgare s.l.	Barley	grain	–	–	–	3	3
Triticum spelta	Spelt	grain	17	8	7	–	32
Triticum spelta	Spelt	spikelet fork	5	3	–	9	17
Triticum sp.	Wheat	grain	–	11	7	10	28
Triticum sp.	Wheat	spikelet fork	19	11	4	30	64
Nuts/fruits							
Corylus avellana	Hazelnut	whole nut	–	1	1	1	3
Sambucus nigra	Elder	seed	1*	–	–	–	1
Other plant seeds							
Ranunculus tp. acris/bulbosus/ repens	Meadow/ bulbous/ creeping Buttercup	seed	1*	–	–	–	1
Polygonum sp.	Knotgrass	seed	–	–	–	1	1
Rumex sp.	Docks/sorrel	seed	–	–	–	1	1
Brassica/ Sinapis	Mustard/ Charlock	seed	–	–	–	1	1
Rosaceae	Rose family	fruit	–	–	–	1	1
Trifoliae	Trefoil/medick/ clover	seed	–	–	1	8	9
Vicieae	Vetch/grass pea	seed	2	2	3	2	9
Fabaceae	Legume family	seed	1	–	–	1	2

Apiaceae	Carrot family	seed	1*	–	–	–	1
Lithospermum arvense	Field gromwell	achene	1*	–	–	–	1
Odontites vernus	Red bartsia	seed	–	–	–	3	3
Sherardia arvensis	Field madder	seed	–	1	–	–	1
Galium sp.	Cleavers/ bedstraw	seed	–	–	–	1	1
Centaurea sp.	Cornflower/ Knapweed/ Star-thistle	seed	3*	–	–	–	3
Anthemis tp. cotula	Stinking mayweed	seed	–	1	–	–	1
Cyperaceae	Sedge	seed	2*	1	–	–	3
Lolium/Festuca	Rye grass/ Fescue	grain	5	2	1	10	18
Poa/Phleum	Meadow grass/ Cat's tail	grain	–	1	4	3	8
Avena sp.	Oat	grain	–	1	–	2	3
Bromus sp.	Brome	grain	–	1	–	–	1
Avena/Bromus	Oats/Brome	grain	1	–	–	–	1
Triticeae	Cereal	grain	15	19	19	29	82
Poaceae	Grasses	grain	2 (1*)	7		3	13
Poaceae	Grasses	culm fragments	–	2	2	1	5
Poaceae	Grasses	culm base fragment	–	–	–	2	2
Indeterminata (charred)		seed	–	4	3	4	11
Other (mineralised)		nodule	4*				4
NR			**277**	**197**	**111**	**361**	**938**
MNI			**80**	**76**	**52**	**126**	**335**

NR = Number of remains, MNI = minimum number of individual; US = Uncharred seeds, CA= Cecilioides acicula; Scale of abundance: C = <5, B = 5–10, A = 10–30, A = 30–100, A** = 100–500, A*** = >500; * = mineralised (mineral-replaced)*

of these could belong to intentionally exploited plants of culinary interest, and possibly even cultivated species (e.g., carrot family and mustard/charlock), and may be indicative of the deposition of cess material. The mineral-replaced plant remains assemblage is largely composed of wild plant seeds and likely represent some of the natural vegetation growing around waste/midden areas.[119]

Wood charcoal is present in very small quantities in all of the samples, and a range of taxa have been identified including oak (*Quercus* sp.), apple subfamily (Maloideae), cherries (*Prunus* sp.), hazel (*Corylus avellana*) and willows/poplars (*Salix*/*Populus* sp.). Much of the evidence reflects typical fuel debris generated in a settlement context where wood was used for cooking and heating.

However, the sample from cremation grave 1250 is notably different in composition since it only contains oak charcoal. The small quantity of roundwood fragments potentially derive from a single piece of wood, due to their distinctive growth ring curvature and ring widths. The wood charcoal was identified together with a range of herbaceous tubers and stems, alongside other plant remains indicative of 'grassy vegetation' such as ribwort plantain and vetches/wild peas.[120] These remains are typically recorded in cremation-related deposits and could originate from the charring of turf beneath the pyre, the collection of dried grass-stems as a source of kindling, or the creation of a fire-break around pyres.[121] The oak charcoal may reflect fuel from the pyre, or part of a pyre good (e.g., an artefact). Oak was commonly used as a fuel in cremation pyres due to its excellent burning properties.[122]

RADIOCARBON DATING by INÉS LÓPEZ-DÓRIGA

A single radiocarbon date was obtained on the cremated human bone from grave 1250 in order to refine the chronology of the mortuary activity at the site. The sample of cremated bone was submitted for radiocarbon dating to the Scottish Universities Environmental Research Centre (SUERC), where it was measured following standard methods.[123] The calendar age ranges were calculated with OxCal 4.4[124] using the IntCal20 curve.[125]

Results

The sample was successfully measured, and the date confirms the probable late Iron Age/early Romano-British attribution of the human remains (Table 6). However, the result is imprecise due to the convoluted calibration curve which reflects the fluctuations of the levels of carbon in the atmosphere during the middle Iron Age/early Romano-British periods.

In addition, there is a possible 'old wood effect' (the radiocarbon age is older than it should be) associated with the exchange of gasses in the cremation atmosphere between the bone and

[119] L.M.E. McCobb et al., 'Phosphatisation of Seeds and Roots in a Late Bronze Age Deposit at Potterne, Wiltshire, UK', *Journal of Archaeological Science*, 30:10 (2003), pp. 1269–81.

[120] H. Roehrs et al., 'Evaluating Prehistoric Finds of *Arrhenatherum elatius* var. *bulbosum* in North-Western and Central Europe with an Emphasis on the First Neolithic Finds in Northern Germany', *Archaeological and Anthropological Sciences*, 5 (2013), pp. 1–15.

[121] C.J. Stevens 'Cereal Agriculture and Cremation Activities', in M.J. Allen et al., 'Neolithic Causewayed Enclosures and Later Prehistoric Farming: Duality, Imposition and the Role of Predecessors at Kingsborough, Isle of Sheppey, Kent, UK', *Proceedings of the Prehistoric Society*, 74 (2008), pp. 296–9.

[122] W. Smith, *A Review of Archaeological Wood Analyses in Southern England* (2002), English Heritage, Centre for Archaeology Report, 75 (2002).

[123] E. Dunbar et al., 'AMS 14C Dating at the Scottish Universities Environmental Research Centre (SUERC) Radiocarbon Dating Laboratory', *Radiocarbon*, 58:1 (2016), pp. 9–23.

[124] C. Bronk Ramsey, 'Bayesian Analysis of Radiocarbon Dates', *Radiocarbon*, 51 (2009), pp. 337–60.

[125] P. Reimer et al., 'The IntCal20 Northern Hemisphere Radiocarbon Age Calibration Curve (0–55 cal kBP)', *Radiocarbon*, 62:4 (2020), pp. 725–57.

Table 6. Radiocarbon dating

Laboratory reference	Provenance	Material	Radiocarbon Age (BP)	δ13C‰	Calibrated date range (95% probability)
SUERC-123381 (GU65700)	Grave 1250 burial 1251	Bone (cremated human bone): Fragments of bone shaft (2.8 g)	2028±34	–21.2‰	150 cal. BC–cal. AD 110

the fuel used.[126] This effect is likely to have occurred if a fuel with an old reservoir of carbon, such as a long-lived species of tree (for example, oak or pine), was used in the cremation pyre. The charred remains from the cremation grave indicate the use of oak, albeit what remains likely originates from a single roundwood piece and may have been part of a pyre good (artefact) rather than the fuel (see above), only a proportion of which would remain in the preserved charcoal assemblage[127] and oak was a frequently used fuel for cremation purposes, probably valued due to its excellent burning properties.[128] Therefore, an old wood effect is likely present in this sample and, in the absence of a dated pair on material from the same chronology (e.g. pyre material), it is not possible to ascertain the date of the individual with more precision, but it could date up to a century later (the end of the second century AD).

DISCUSSION by PHIL ANDREWS, JACQUELINE I. McKINLEY, LORRAIN HIGBEE and INÉS LÓPEZ-DÓRIGA

The excavation in 2021 at Greenwood Avenue, Chinnor cannot be considered in isolation as the results, particularly for the Romano-British period, correlate closely with those from the adjacent site to the south-west excavated by Foundations Archaeology in 2017–18[129] (Fig. 15). At Greenwood Avenue, two pairs of small pits have been assigned to the later prehistoric period, more specifically the late Bronze Age/early Iron Age, one pair (1062 and 1083) fairly definitely of that date, the other pair (1164 and 1166) less so. Their function is uncertain, but they can be seen as outliers to a much greater concentration of features recorded 150–250 m to the south-west, these comprising a roundhouse, clusters of postholes including probable four-post structures, several segmented enclosure ditches – one group being the focus of numerous pits, and possibly four inhumation burials. Together this arrangement can be seen as part of a late Bronze Age/early Iron Age rural settlement, of which the pits on the current site form a peripheral element.

The context of the rather shadowy middle–late Iron Age activity is less clear. However, it can be noted that a small assemblage of middle Iron Age pottery and several broadly contemporary pits were identified on the adjacent site to the south-west,[130] hinting at some activity prior to the late Iron Age–early Romano-British period. Cremation grave 1250 is the only feature possibly of this period on the 2021 site, burial 1251 providing a radiocarbon date of 150 cal. BC–110 cal. AD (SUERC-123381) and appearing isolated here. Overall, a late Iron Age–early Romano-British date for this burial is considered most probable, it most likely occurring within the latter period

[126] J. Olsen et al., '"Old Wood" Effect in Radiocarbon Dating of Prehistoric Cremated Bones?', *Journal of Archaeological Science*, 40:1 (2013), pp. 30–4.
[127] I. Théry-Parisot et al., 'Anthracology and Taphonomy, from Wood Gathering to Charcoal Analysis. A Review of the Taphonomic Processes Modifying Charcoal Assemblages in Archaeological Contexts', *Palaeogeography, Palaeoclimatology, Palaeoecology*, 291:1–2 (2010), pp. 142–53.
[128] Smith, *A Review of Archaeological Wood Analyses*.
[129] 'Land South-East of Crowell Road, Chinnor'.
[130] Ibid.

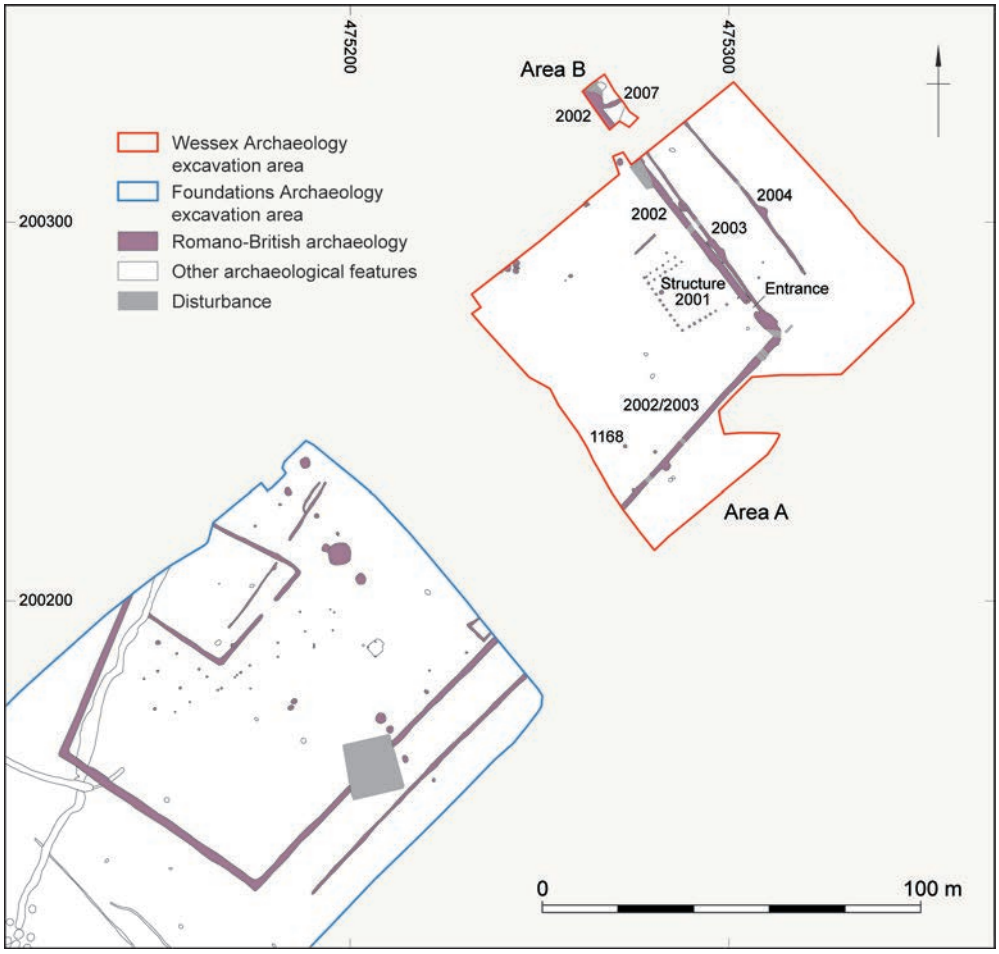

Fig. 15. Plan showing 2016 and 2021 Romano-British features.

(see below). How unurned cremation burial 1251 related to subsequent Romano-British activity is uncertain, but it may have been an early – possibly the earliest – event in the sequence that was to follow.

The ceramic evidence suggests that the main phase of settlement began in the early Romano-British period rather than the Late Iron Age, with the production of grog-tempered wares continuing well into the Roman period. It was then that a large trapezoidal enclosure was established, measuring approximately 200 m long by between 60 m and at least 80 m wide (Fig. 15). The south-west end was exposed in the earlier excavation, lying beyond the focus of the late Bronze Age/early Iron Age settlement. The first phase of enclosure ditch, 2002, was relatively substantial in comparison with other ditches on the site, with a maximum width of generally around 2 m and a depth of up to 1.5 m; an internal bank can be presumed but no clear indication of this was evident. A narrow entrance (later blocked) near the corner in the north-east side was the only access identified, and it seems most likely that a second, larger entrance lay somewhere along the unexposed sections of ditch, either along the north-west or the south-east side. For reasons that are unclear, the northern ditch terminal (1233) defining the narrow entrance had been made larger and deeper than the ditch elsewhere around the

circuit, being up to 3.65 m wide and 1.8 m deep, potentially serving as a waterhole, though there is no convincing evidence for this. However, this feature appears to have fallen out of use before the boundary on this side was reaffirmed by shallow ditch 2003 which was dug across the entrance. On the south-east side of the enclosure, ditch 2003 was identified cutting the upper fills of its predecessor, 2002, while on the north-east side it lay adjacent to ditch 2002 and parallel to similar-sized ditch 2004, these possibly defining part of a trackway or droveway up to 14 m wide. Two inhumation graves (1203 and 1206; see below), which cut the south-east end of ditch 2004, suggest that this was a genuine terminus rather than having been truncated here. A possible continuation of the trackway/droveway along the south-east side of the enclosure was recorded in the earlier excavations, here around 10 m wide, but this did not appear to continue into the current excavation area or extend around the south-western corner of the enclosure. An alternative, and possibly more plausible interpretation of smaller, outer ditch 2004 is that it created a partly double-ditched enclosure, perhaps contemporary with similar-sized recut 2003 of large ditch 2002. Ceramic dating evidence suggests that the use of the trapezoidal enclosure, with its recut ditches, continued into the later Romano-British period, though whether this use was continuous or not is unclear.

Only a scatter of small, discrete pits and postholes lay beyond the confines of the enclosure, and there was a very moderate number of features within it. The most notable were an approximately 30 m by 30 m sub-square enclosure towards the south-west corner, apparently empty but with an entrance in the south-east side, this sub-enclosure investigated in the earlier excavation, and posthole structure 2001 approximately centrally positioned at the north-eastern end (see Figs. 4 and 15). This structure was rectangular, quite large at 17 m by 10 m, with a narrow area partitioned off at the north-west end, but with no postholes defining the north-east side. The postholes were characterised by their regular spacing and flint packing, an additional but similar example cutting the uppermost fill of ditch 2002 at its south-east terminus. This relationship suggests that structure 2001 is of later Romano-British date, but its form and function remain unclear. Was it, for example, open-sided to the north-east, or possibly with a portico to the north-west, or perhaps a form of enclosure rather than a roofed building, for which an agricultural function might be considered most likely? Should the trapezoidal enclosure have had a religious function, then structure 2001 is likely to have had a more specialised purpose. This is considered further below.

There were very few features within 30 m of structure 2001 but these included a possible well or deep, straight-sided pit to the north, a cluster of pits to the north-west, and a 'structured deposit' in shallow, sub-square pit 1168 to the south-west. The latter contained, most obviously, a substantial part of a millstone which filled much of the pit (see Fig. 5), as well as a relatively large group of pottery, animal bone including a portion of a goat skull, and a moderately rich assemblage of charred plant remains, mainly comprising spelt wheat grain and chaff, as well as some mineralised remains. The possibly broadly contemporary cremation burial, close to structure 2001, has been noted above.

A further scatter of pits lay in the previously investigated south-western two-thirds of the enclosure, but there were no clear structures other than a probable L-shaped fence line and the possible end of a 5-m wide rectangular or sub-square structure defined by a gully. It can be noted that there is space for at least one further structure towards the northern, unexcavated corner of the enclosure, perhaps in the vicinity of a postulated entrance in the north-west side.

Outside of the enclosure, two inter-cutting inhumation graves (1203 and 1206) cut through the south-east terminus of outer possible trackway ditch 2004 and lay on the same alignment (see Fig. 6). The earlier burial (1204) was coffined, the later (1207) apparently not. Aspects of the mortuary rites have been discussed above by McKinley, including the potential link between the two women buried in the ditch, the possible nature of their demise (perhaps murdered) and their post-mortem treatment (perhaps scalping in the case of burial 1204 and decapitation for 1207).

Late Iron Age and Romano-British singletons and small burial groups were relatively common

in rural settings,[131] some 24 per cent of burial remains within Smith's survey laying outwith a 'cemetery' in locations such as that seen at Chinnor.[132] Burial did not represent an isolated ritual act, rather the choice of location and potentially the choice of who was placed where appears to have been of consequence. The dead continued to play a role within the living community. The placement of these two elderly women – one potentially functioning as a 'replacement' of the other – in a ditch terminal located almost opposite the entrance to the enclosure to the south-west appears significant. Particularly so in view of the various similarities that seem to exist between these women, and their potential 'non-normative' peri- and post-mortem treatment. The activities being undertaken within the confines of the various enclosures and structures to the south-west (Fig. 15) might have been key to the placement of the dead in this instance.

More generally, the finds as well as the environmental assemblages provide some further information on the nature of activity, though those from the earlier excavation have yet to be fully analysed and published (these are not detailed here). Apart from two brooches, there is little metalwork of note from the current site. However, amongst the moderate quantity of pottery there is an above average percentage of continental imports, particularly samian ware, for a normal rural assemblage (3 per cent versus 1 per cent in the case of the samian ware).

The small assemblage of animal bones from early/middle Romano-British contexts provides some, albeit limited evidence that the local livestock economy was primarily based on cattle and sheep/goat farming. Indeed, the slightly higher proportion of cattle to sheep/goat is in general keeping with broader trends both locally[133] and in the wider region.[134]

One interesting aspect of the biometric data is the relatively large size of cattle, something which has been noted at other local sites.[135] Estimated shoulder heights are comparable to later Romano-British examples from sites in eastern England, which it has been suggested were 'first generation, imported breeding stock' from continental Europe.[136] Larger cattle are stronger and therefore more efficient as traction animals, particularly in areas where cereals were intensively farmed. The broken millstone from pit 1168 certainly indicates that cereal production formed part of the economy, and many of the cattle were maintained beyond the optimum age for beef production, presumably to use in plough teams or possibly as breeding stock since dairying is generally considered to have been insignificant in Roman Britain.[137] Pathological changes on a metacarpal provide corroborating evidence for the animal's use for traction.

Aspects of the butchery recorded on cattle bones, notably the discrete dump of extensively processed long bones from the main enclosure ditch and evidence for filleting seen on scapulae, are typical characteristics for the period.[138] However, while this type of evidence is often recovered from some rural sites, it is more commonly found in urban assemblages.[139] The processed long bones were probably added to stews and soups to provide additional nutrition and flavour, which implies a degree of thrift over food resources rather than, for example, industrial-scale processing to produce fat/grease.[140]

[131] Smith, 'Death in the Countryside: Rural Burial Practices', fig. 6.1, table 6.3.
[132] Ibid. p. 231.
[133] M. Holmes, in 'Land South-East of Crowell Road, Chinnor', appendix 2.
[134] A. Smith, 'The Central Belt', in A. Smith et al., *New Visions of the Countryside in Roman Britain, Vol. 1: The Rural Settlement of Roman Britain* (2016), p. 188; M. Allen, 'Pastoral Farming', in T. Brindle et al., *New Visions of the Countryside in Roman Britain, Vol. 2: The Rural Economy of Roman Britain* (2018), p. 91.
[135] Holmes, in 'Land South-East of Crowell Road, Chinnor', appendix 2.
[136] U. Albarella et al., 'The Development of Animal Husbandry from the Late Iron Age to the End of the Roman Period: A Case Study from Southeast Britain', *Journal of Archaeological Science*, 35 (2008), p. 1833.
[137] Allen, 'Pastoral Farming', p. 113.
[138] Dobney et al., *Of Butchery and Breeds*; Dobney 'A Place at the Table'; M. Rizzetto et al, 'Livestock Changes at the Beginning and End of the Roman Period in Britain: Issues of Acculturation, Adaptation and "Improvement"', *European Journal of Archaeology*, 20:3 (2017), pp. 543–4.
[139] M. Maltby, 'The Exploitation of Animals in Roman Britain', in M. Millet et al. (eds.), *The Oxford Handbook of Roman Britain* (2016), p. 793.
[140] Dobney, 'A Place at the Table'.

Minor species include pig, horse and dog, all of which are often found on rural settlements in Roman Britain. The dog buried in pit 1012 was probably kept as a working animal, nevertheless, it was interred with some care, which would suggest an element of human emotional consideration. Further examples of animal burials were recorded from pits in the previously excavated area to the west, including the partial remains of a cat from a pit of possible Romano-British date within the south-west corner of the trapezoidal enclosure.[141]

Given the possible interpretation of the enclosure as a 'sacred space' it is tempting to see these animal burials as individual acts of votive deposition[142] and the rest of the animal bone assemblage, much of which came from the main enclosure ditch, as 'domestic' in character, including the dump of extensively butchered cattle bones. However, these general characteristics have been noted at some religious sites and potentially represent waste from meals or feasts consumed by worshippers.[143]

Most of the Romano-British charred plant remain assemblage is typical of domestic settlement in southern England,[144] containing crop-processing debris (with evidence for spelt wheat and hulled barley) and the remains from other plant exploitation activities (e.g., fuel waste from ovens/hearths). Overall, this is a typical tertiary assemblage where the remains of several activities are mixed and redeposited.[145]

The absence of positively identified exotic plant remains typically available in Roman settlements with access to luxury foods[146] could be indicative of the purely rural character of the settlement. This somewhat contrasts with the ceramic evidence, which includes an above average presence (for a rural site) of imported wares and products such as Gallic wine and Spanish olive oil. However, it is also possible that the remains of exotic plants are underrepresented in the charred archaeobotanical record due to taphonomic biases associated with how they were prepared and consumed,[147] or due to identification biases (e.g., the mineralised carrot family seed fragment could belong to a condiment such as dill or fennel).

In conclusion, the interpretation of the site remains equivocal – was this a rural domestic/agricultural enclosure or was there a religious element involved? It does bear some resemblance to the former, for example a later Romano-British trapezoidal enclosure at Rattle Road, Stone Cross, East Sussex,[148] this example measuring 114 m long by 49–59 m wide with several internal subdivisions, relatively few associated features, but no clear structures or noteworthy deposits or finds. A late Romano-British polygonal enclosure complex containing a post-built rectangular building against one side at Stansted, Essex, is seemingly also agricultural in nature.[149] Perhaps the most suggestive indication of a religious function at Chinnor are, in addition to its shape and size, the nature of some of the features and deposits which appear to have been associated with the trapezoidal enclosure. These elements have been highlighted in various places above and include the unusual ground plan of post-built structure 2001 centrally placed at the north-east end, the samian ware and elements of the animal bone assemblage, the 'structured' deposit of

[141] 'Land South-East of Crowell Road, Chinnor', appendix 2.

[142] A. King, 'Animal Remains from Temples in Roman Britain', *Britannia*, 36 (2005), p. 359.

[143] Ibid. p. 363.

[144] L. Lodwick, 'Arable Farming, Plant Foods and Resources', in T. Brindle et al., *The Rural Economy of Roman Britain* (2017), pp. 11–84; C.J. Stevens, 'An Investigation of Agricultural Consumption and Production Models for Prehistoric and Roman Britain', *Environmental Archaeology*, 8 (2003), pp. 61–76.

[145] D.Q. Fuller et al., 'Routine Activities, Tertiary Refuse and Labor Organization: Social Inference from Everyday Archaeobotany', in M. Madella and M. Savard (eds.), *Ancient Plants and People. Contemporary Trends in Archaeobotany* (2014), pp. 174–217.

[146] M. van der Veen et al., 'New Plant Foods in Roman Britain – Dispersal and Social Access', *Environmental Archaeology*, 13:1 (2008), pp. 11–36.

[147] van der Veen, 'Formation Processes of Desiccated and Carbonized Plant Remains'.

[148] A.R. Bradley et al., 'An Anglo-Saxon Cremation Cemetery, and Prehistoric, Romano-British and Medieval Activity at Rattle Road, Stone Cross, East Sussex', in preparation.

[149] *From Hunter Gatherers to Huntsmen: A History of the Stansted Landscape*, Framework Archaeology Monograph, 2 (2008), pp. 162–5.

a millstone, and the two elderly, non-local female burials just outside the north-east entrance to the enclosure – one decapitated, perhaps after being murdered or ritually killed, the other possibly having been scalped.

It is difficult to find parallels for such an enclosure, but an early–middle Iron Age example measuring 82 m long by 32–50 m wide was excavated near Cliffs End on the Isle of Thanet, occupying a high point with views over the Channel.[150] This had a more substantial enclosure ditch than that at Chinnor, the Thanet example around 3 m across and 1.6–2 m deep, with a 4 m wide entrance at the narrower south-eastern end, and a single, large sunken-featured structure (6.5 m square and 0.8 m deep) at the north-west end. Built over an earlier henge monument, and with relatively few features within it, this enclosure has been suggested to have possibly had a religious function.[151] A possible later Roman example comes from Teffont in Wiltshire, where a ditched and banked enclosure measuring approximately 155 m long by 60–80 m wide has been identified within woodland on relatively high ground. Because it lies in woodland details are less clear, but several building terraces are apparent, and at least one relatively substantial stone structure, conceivably a temple, is present towards the broader east end, with one or more entrances including one at the west end.[152]

Although the trapezoidal enclosure at Chinnor does not occupy a high point like those at Cliffsend and Teffont, it does lie at the base of the steep escarpment forming the Ridgeway, 1.5 km to south-west of a Roman road now followed by the Lower Icknield Way, with some evidence for settlement in the immediate vicinity. Perhaps future work in the area will shed further light on the context of this enigmatic enclosure.

ACKNOWLEDGEMENTS

Wessex Archaeology would like to thank Persimmon Homes (North London) for commissioning the archaeological mitigation works, in particular James Cross. We are also grateful for the advice of Steven Weaver (Planning Archaeologist, Oxfordshire County Council), who monitored the project for South Oxfordshire District Council. The fieldwork was directed by Luke Jarvis and managed by Kirsty Nichol, with the post-excavation and publication programme managed by Lorrain Higbee. Rachael Seager Smith and Amy Thorp edited and enhanced the finds texts, and comments by Fiona Pink have been incorporated into the overall text. Foundations Archaeology are thanked for making available details relating to their adjacent excavation in advance of publication. The site illustrations are by Will Foster and the finds have been drawn by Nancy Dixon, with additional photographs by Tom Westhead and Doug Bartram-Weight. The samian graphite rubbings are by J.M. Mills. Finally, an anonymous referee is warmly thanked for various pertinent comments and helpful suggestions which have significantly improved this report. The archive will be deposited with Oxfordshire County Museums Service under the accession code O2021.85.

[150] P. Andrews et al., *Digging at the Gateway: Archaeological Landscapes of South Thanet. The Archaeology of East Kent Access (Phase II). Vol. 1: The Sites*, Oxford Wessex Archaeology Monograph, 8 (2015), pp. 157–62.

[151] A.P. Fitzpatrick, 'Discussion' [Chapter 3]', in Andrews et al., *Digging at the Gateway … Vol. 1*, pp. 181–4.

[152] David Roberts, personal communication.