Evidence for Iron-Age Land-Use and Settlement in the University Parks, Oxford

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with contributions by L. Higbee, Lorraine Mepham, Sarah F. Wyles, and illustrations by Rob Goller

SUMMARY

Excavations and a watching brief within the University Parks before and during construction works related to a Rainwater Attenuation Scheme identified a range of middle to late Iron-Age features, including possible enclosure ditches, land boundaries and pits. The recovery of small assemblages of pottery, animal bone, slag and other finds indicates settlement in the vicinity, although no structures were identified on the site, possibly due to historic cultivation. The site lies within a rich archaeological landscape containing prehistoric and Romano-British remains, and aerial photographs show an extensive area of enclosures and field systems to the north and west. The fieldwork indicated that despite heavy truncation there were still significant remains surviving within the University Parks.

A programme of excavation and a watching brief within the University Parks, Oxford was undertaken by Wessex Archaeology in February and June 2009 (Fig. 1). The site, centred on NGR 451560 207150, is located some 400 metres beyond the northern edge of the medieval city of Oxford (Fig. 1). The underlying geology comprises the Pleistocene Summertown–Radley (second) Gravel Terrace (BGS sheet 236) which forms a north–south aligned ridge of higher ground between the River Thames (Isis) 1 km to the west, and the River Cherwell 200 metres to the east. The site lies at approximately 62 m OD.

The work was preceded by a geophysical survey and desk-based assessment.[1] The latter included analysis of archaeological parch marks digitally plotted as part of English Heritage's National Mapping Programme (Fig. 1) as well as those previously published by Hassall.[2] Based on their form, many of the parch marks have been tentatively dated as either late Bronze Age or Iron Age, although they lie within and adjacent to an earlier, Bronze Age, barrow cemetery.[3] The site forms part of the rich archaeological landscape recorded through excavation and survey in the Oxford area and on the gravel terraces of the upper Thames valley.[4] Parch marks at Binsey and Port Meadow to the north-east indicate an extensive late Neolithic to early Bronze-Age barrow cemetery superseded by a succession of settlements on both sides of the river in the Iron Age and the Romano-British period.

[1] 'Geophysical Survey, Oxford University Parks', unpublished Oxford Archaeotechnics report (2008); 'Rainwater Attenuation Scheme Oxford University Parks, Oxford, Archaeological Desk Based Assessment', unpublished MoLAS report (2008).

[2] T. Hassall, 'Archaeology of Oxford City', in G. Briggs et al. (eds.), *The Archaeology of the Oxford Region*, Oxford University Department for External Studies (1986), pp. 115–34.

[3] R. Beckley and D. Radford, 'Oxford Archaeological Resource Assessment 2011: The Iron Age'.

[4] A. Barclay et al., 'The Earlier Prehistory of the Oxford Region in the Light of Recent Research', *Oxoniensia*, 61 (1996), pp. 1–20; G. Lambrick. 'Prehistoric Oxford', *Oxoniensia*, 78 (2013); G. Lambrick with M. Robinson, *The Thames Through Time: The Archaeology of the Gravel Terraces of the Upper and Middle Thames. The Thames Valley in Late Prehistory: 1500 BC–AD 50*, Thames Valley Landscapes Monograph, 29 (2009).

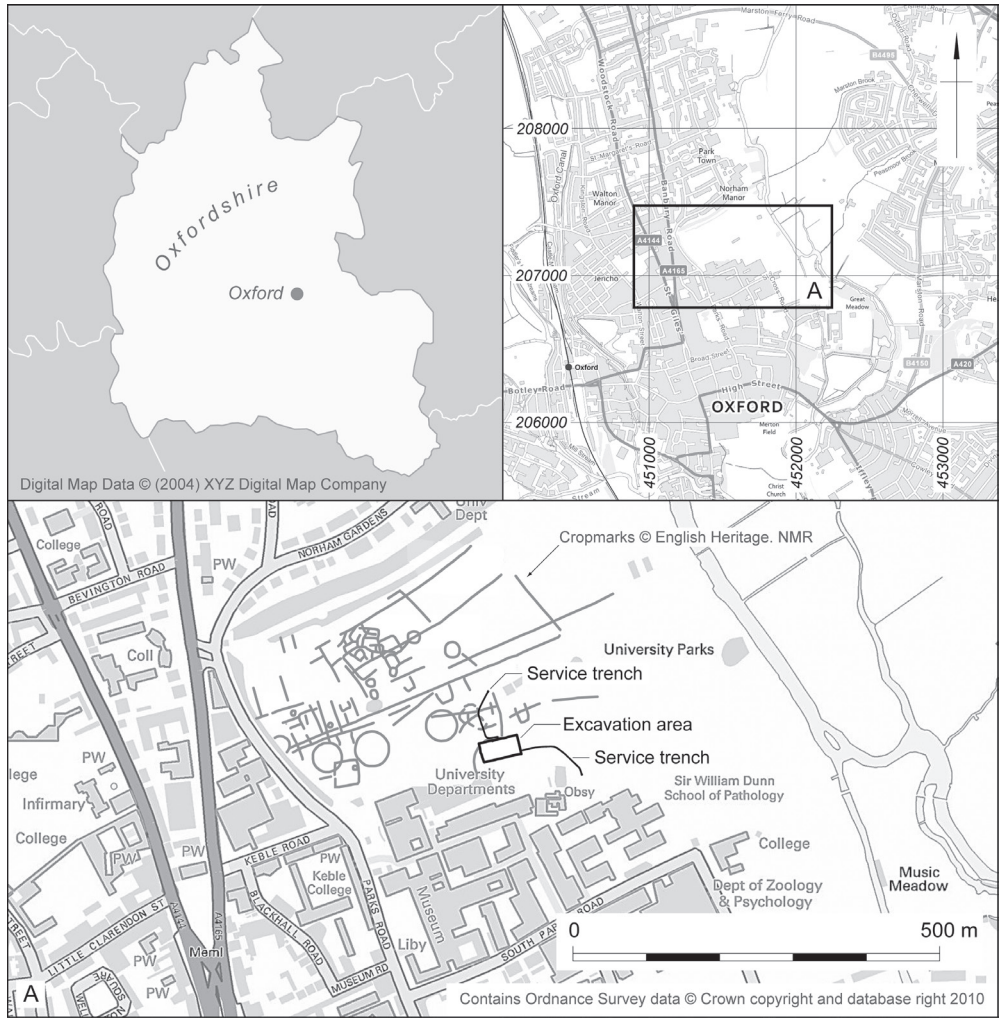

Fig. 1. Site location, and relationship to parch marks recorded by English Heritage's National Mapping Programme.

A Written Scheme of Investigation set out the archaeological strategy for the fieldwork, outlining its research aims and methodology.[5] The scheme took account of the period summaries in the Solent Thames Research Framework,[6] and a brief by the Oxford City Archaeologist.[7] The primary aim of the fieldwork was to identify and record any significant archaeological features or deposits which would be affected by the development, with particular regard to any Palaeolithic remains within the Pleistocene gravels on the site, any Neolithic remains and their relationship to a suggested Neolithic ritual landscape, and any relationship between Bronze-Age barrow remains and the possibly Iron-Age/Romano-British features seen in the parch marks.

[5] 'Rainwater Attenuation Scheme Oxford University Parks'.

[6] G. Hey and J. Hind, *Solent-Thames Research Framework for the Historic Environment: Resource Assessments and Research Agendas*, Oxford Archaeology (2014).

[7] D. Radford, 'Oxford City Council Planning Control and Conservation Brief for an Archaeological Excavation at Oxford University Parks, Rainwater Attenuation Scheme', unpublished report (2008).

The works comprised the excavation of a 1,400 sq m area, measuring 53 metres by 27 metres, and a watching brief carried out during the digging of two 0.5-metre wide service trenches extending north and east from the excavation area (Fig. 2).

DISCUSSION

Activity in the Early Landscape

A number of tree-throw holes, some of them cut by later ditches, are assumed to be the earliest features on the site, although the very limited dating evidence recovered from them was Iron Age. It is possible that some of them represent woodland cleared during the Neolithic and Bronze Age.

Aerial photographs show a series of linear parch marks running north-east to south-west across the University Parks, some of which have been suggested to represent a Neolithic cursus,[8] although there is no convincing evidence to support this.[9] There is also a probable Bronze-Age barrow cemetery, but this lacks dating evidence.

Iron Age

One aim of the fieldwork was to attempt to identify when in later prehistory a fully settled agricultural way of life replaced the more mobile pastoralism of the Neolithic and early Bronze Age,[10] and to what degree agriculture encroached upon the former possible ritual landscape, changing its character. The terminal of an early and relatively substantial ditch (511) marks the end of a curving feature recorded both as a geophysical anomaly and as a parch mark; this ditch appears to define an early enclosure, rather than being associated with the Bronze-Age barrow cemetery.

The secondary fills of the barrow ring-ditches at the Radcliffe Infirmary, 600 metres to the west, appear to have accumulated during the late Bronze Age and Iron Age,[11] while the double ring-ditch at the Rex Richards Building to the south was infilled in the early to middle Iron Age.[12] Most of the archaeological features from the present site date from the middle to late Iron Age, and it is possible that the presence of the earlier monumental and funerary landscape inhibited the establishment of settled farming communities in this area until relatively late in the Iron Age.[13] The other, less substantial ditches may be associated with animal husbandry. These include those defining another possible enclosure with an externally ditched funnel structure at its entrance, perhaps indicating its use as a stockade. Human bone from one or possibly two foetal or neonatal individuals was recovered from one of its ditch terminals, but whatever the enclosure's function it appears to form part of a much wider landscape of enclosures, fields and land boundaries extending to the north and west within the University Parks, as indicated by the geophysical survey and aerial photographs (Fig. 1).

The site occupies a ridge of high ground between the Rivers Thames (Isis) and Cherwell which would have been an ideal location for settlement, with easy access to water but safe from flooding. No clear settlement features were identified, possibly due to the heavy truncation of the site. Nonetheless, a small number of pits contained probable settlement waste, including

[8] A. Dodd (ed.), *Oxford before the University*, Thames Valley Landscapes Monograph, 17 (2003), p. 9; S. Wallis, *The Oxford Henge and Late Saxon Massacre with Medieval and Later Occupation at St John's College, Oxford*, TVAS Monograph, 17 (2014).

[9] R. Beckley and D. Radford, 'Oxford Archaeological Resource Assessment 2011: Neolithic to Bronze Age'.

[10] G. Lambrick, 'Prehistoric Oxford', p. 32.

[11] T. Baybrooke, 'Oxford University: Radcliffe Observatory Quarter, Radcliffe Infirmary Site, Oxford, Post-Excavation Assessment', unpublished MoLA report (2011), pp. 14–17.

[12] A. Parkinson et al., 'The Excavation of Two Bronze Age Barrows, Oxford', *Oxoniensia*, 61 (1996), pp. 51–4.

[13] Lambrick, 'Prehistoric Oxford', p. 44.

pottery, pieces of fired clay loom weight, animal bone, fuel ash slag and worked flint; further quantities of these materials were recovered from the ditches. It is possible that the curving dog-legs in two ditches (501 and 502) were intended to respect and avoid existing structures in the landscape, such as roundhouses, traces of which have been removed by truncation.

However, the relatively small quantities of finds suggest that the excavated features lay at the periphery of any settlement. While it is possible that some of the material derived from the manuring of adjacent arable land, the environmental evidence for cultivation, in the form of charred cereal remains, is extremely sparse. The evidence for a pastoral activity is stronger, comprising sheep/goat and cattle bones, as well as the possible stockade; the functions of the other ditches are unclear.

A single intrusive sherd of Romano-British pottery is a pointer to the continuing use of the wider landscape in the Romano-British period. There is more substantial evidence for Roman rural settlement, spanning the first to fourth centuries AD, some 300 metres south of the site, at Mansfield College and the Chemistry Research Laboratory on the south side of South Parks Road,[14] and at the Radcliffe Science Library extension on the north side.[15]

Medieval, Post-Medieval and Modern

Medieval and later activity was limited to plough furrows, and a group of seven post holes on the southern edge of the site that formed part of a structure, possibly associated with the use of the site as a park.

EXCAVATION RESULTS

Natural Deposits and Soil Sequence

Pleistocene river gravels were identified at 61.4 m OD, 0.5 m below the current ground surface. These gravels were cut by the archaeological features observed (Fig. 2), and overlain by 0.15 m of sterile, gravel-rich subsoil/levelling material (102) and 0.35 m of turf and topsoil (101) (Fig. 3, section 1). Considerable truncation of the site is indicated by the shallow depth of the excavated features, resulting from post-medieval agriculture and modern levelling and landscaping for the creation of playing fields.

Tree-Throw Holes

Approximately sixty tree-throw holes were identified, over a quarter of which were excavated; there were also larger spreads of root-disturbed ground (Fig. 2). The tree-throw holes varied in size and shape, from 1.1 to 2.6 m wide and 0.3 to 1.2 m deep. The larger features were filled with similar homogeneous and sterile deposits, indicating where the roots had decayed in situ. The smaller features contained upper deposits of sterile material, but with disturbed deposits at the base where gravel had been dragged up as the trees had been blown or pulled over, a characteristic typical of tree-throw holes.[16] Only four tree-throw holes produced finds, mainly animal bone, and only one (322), which was cut by an Iron-Age ditch and a pit, contained any datable material – six sherds of Iron-Age pottery. A number of the holes were cut by Iron-Age ditches.

[14] P. Booth and C. Hayden, 'A Roman Settlement at Mansfield College, Oxford', *Oxoniensia*, 55 (2000), pp. 291–331; P. Bradley et al., 'Prehistoric and Roman Activity and a Civil War Ditch: Excavations at the New Chemistry Research Laboratory, 2–3 South Parks Road, Oxford', *Oxoniensia*, 70 (2005), pp. 141–202.

[15] T.G. Hassall, 'Roman Finds from the Radcliffe Science Library Extension, Oxford, 1970–71', *Oxoniensia*, 37 (1972), pp. 38–50.

[16] J. Moore and D. Jennings, *Reading Business Park: A Bronze Age Landscape*, Thames Valley Landscapes, 1 (1992), p. 10, fig. 6.

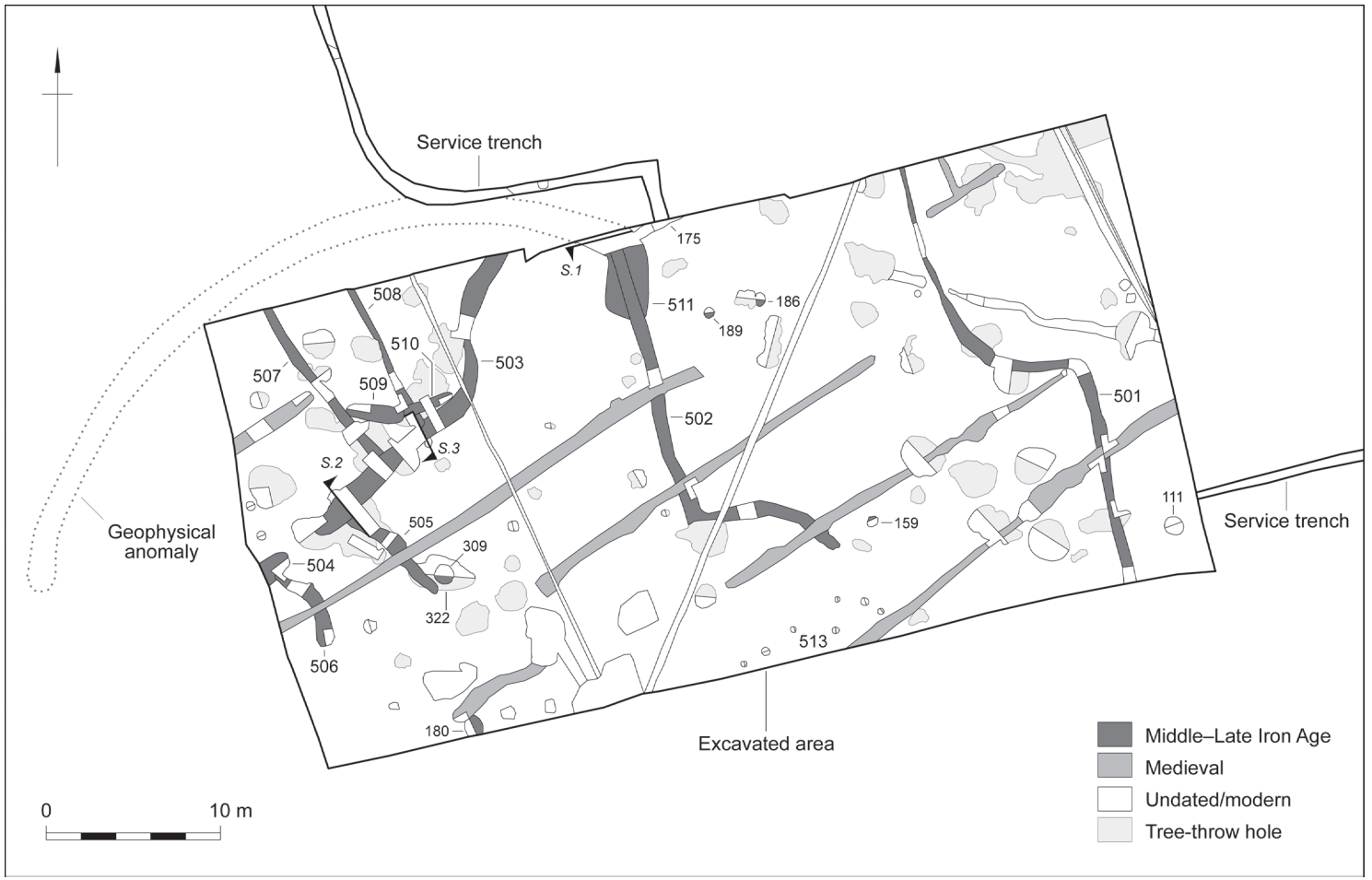

Fig. 2. The excavation area, showing all features.

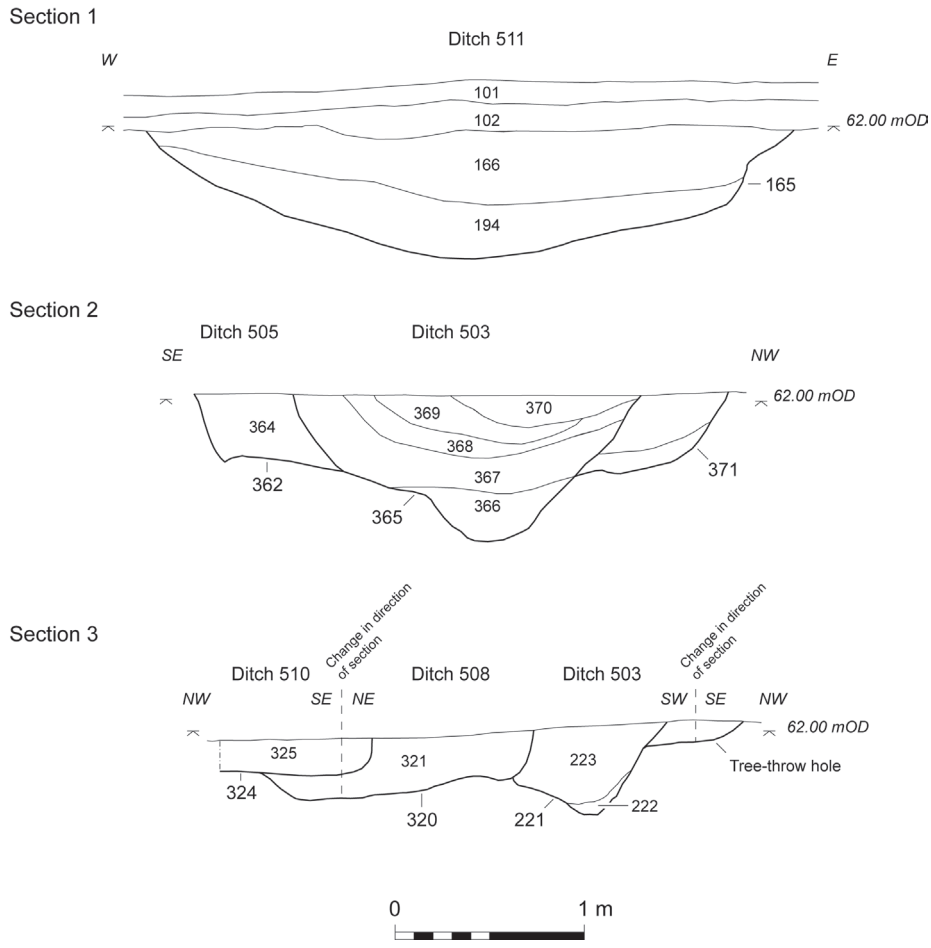

Fig. 3. Sections through selected ditches.

Iron Age

The majority of prehistoric features can be dated to the Iron Age (Fig. 2). The pottery recovered spans the middle to late Iron Age. A single probably intrusive sherd of Romano-British greyware was recovered from the upper fill of a stratigraphically early ditch (511). Most of the features were ditches, which appear to represent a number of phases of enclosure and agricultural land division.

The truncated southern terminal of a 'U'-shaped ditch (511), 3.2 m wide and 0.7 m deep (Fig. 3, section 1), was recorded on the northern edge of the excavation. It contained two fills, a sterile lower fill (194), and an upper fill (166) which contained thirty-nine sherds of middle/late Iron-Age pottery (and the greyware sherd). The position of the ditch terminal corresponds closely to the apparent end of a curving ditch recorded both as a geophysical anomaly (Fig. 2) and as a parch mark (Fig. 1). This ditch's proximity to a number of ring-ditches also visible as parch marks, which are assumed to represent Bronze-Age round barrows, might indicate a similar function, but the geophysical anomaly has a less regular curved form, perhaps indicating a subcircular enclosure. The ditch terminal was cut by ditches 175 and 502 (below).

Also stratigraphically early was a much less substantial ditch (507), 0.5 m wide by 0.25 m deep, with steep, straight sides and a concave base. This was aligned north-west to south-east and appears unrelated to ditch 511; as with the majority of ditches recorded on the site, its line was not evident from the geophysical survey, nor visible as a parch mark. It produced seven sherds of middle Iron-Age pottery (400–100 BC), along with animal bone and a fragment from a Greensand rotary quernstone.

Ditch 507 was cut by ditch 503, which, in association with ditch 504, appeared to define the south-eastern part of some form of enclosure, having a 2-m wide entrance flanked externally by two short lengths of ditch (505 and 506) (Fig. 3, section 2). This entrance feature, 6.5 m long and narrowing from 6 m at the outside to 4 m at the entrance, created a short 'funnel', suggesting the enclosure's possible use as an animal stockade. The cleaning out of the entrance terminals of ditches 503 and 504 indicates the maintenance of the enclosure ditch.

Ditches 503 and 504 were 1–1.2 m wide and 0.5–0.6 m deep, with variable profiles. Together they produced fourteen sherds of Iron-Age pottery, animal bone, and small quantities of undiagnostic fired clay, as well as, from ditch 504, unburnt human bone from one, or possibly two, foetal or neonatal individuals. Together, the two entrance ditches (505 and 506) produced a further twenty-four Iron-Age sherds, as well as animal bone and, from ditch 506, a fragmentary stone loom weight, small pieces of fuel ash slag, and pieces of partially vitrified fired clay (possibly hearth lining).

Within the enclosure interior there were three intercutting lengths of ditch (508, 509 and 510), 0.2–0.5 m wide and up to 0.3 m deep. Their function and relationship to the enclosure are unclear, although the southern end of ditch 508 cut the upper fill of ditch 503 (Fig. 3, section 3). Small quantities of late Iron-Age pottery were recovered from ditches 509 and 510, and all three ditches contained animal bone.

In the central and eastern part of the site there were two ditches (501 and 502) aligned roughly north–south, but each with a distinct curving dog-leg. Ditch 502 cut ditch terminal 511, indicating that the latter was largely silted up by that time. Although ditches 501 and 502 were of broadly the same phase, only ditch 501 produced any finds – three Iron-Age sherds, a tapering iron strip of unknown function, three small pieces of fuel ash slag, and animal bone. The function of the ditches is unclear, as is the reason for their matching dog-legs; it is possible that they were avoiding some existing structures, possibly related to settlement activity, of which no traces survive.

No evidence for structures was observed, but the identification of a number of truncated pits (159, 180, 186, 189 and 309) containing middle to late Iron-Age pottery (pit 180 contained 43 sherds; 474 g) suggests settlement close by, although all were too shallow to determine their function; two of the pits (180 and 309) also contained parts of fired clay loom weights.

Medieval

Five parallel gullies, aligned north-east to south-west, crossed the site, four of which cut Iron-Age features (Fig. 2). These gullies represent the remains of medieval ploughing, the pottery recovered from them including wares with a potential date range of eleventh/twelfth to thirteenth/fourteenth centuries. At the northern edge of the excavation area, a short length of ditch (175) on the same alignment may also form part of this group, the single sherd of late Iron-Age pottery from it being possibly residual (it is shown as 'undated' on Fig. 2).

Post-Medieval to Modern

A group of seven post holes (group 513) on the southern edge of the site appear to form part of a structure related to the use of the park (Fig. 2); modern pottery and glass was recovered from these features.

Undated

Nine undated features identified in the northern service trench correspond approximately with parch marks and geophysical anomalies interpreted as a series of sub-rectangular enclosures, possibly for settlement.

POTTERY by LORRAINE MEPHAM

The small pottery assemblage recovered from the site amounts to 191 sherds (3,042 g). The bulk of the assemblage is Iron Age, with later activity represented by one 'Romanised' sherd and a few sherds of medieval and post-medieval date. Only the Iron-Age material is discussed here (176 sherds; 2,518 g); details of later sherds are included in the project archive.

The Iron-Age assemblage has been analysed using the standard Wessex Archaeology recording system for pottery,[17] which accords with nationally recommended guidelines for the analysis of prehistoric pottery.[18] Fabrics have been defined on the basis of the range, size and frequency of macroscopic inclusions; coding is based on the dominant inclusion type (C = calcareous; G = grog; Q = quartz sand).

Fabrics and Vessel Forms

Sixteen fabric types were defined; brief descriptions and quantifications are given in Table 1. Calcareous wares predominate (nine fabric types; 100 sherds; 1,249 g), and these include wares tempered with shell, shelly limestone and oolitic limestone. Eleven rim sherds are present, of which nine can be assigned to vessel form. These comprise slightly convex jars with upright rims (three examples; pits 180, 309; Fig. 4, nos. 2–3); rounded jars with slightly everted rims (three examples; pit 159, ditches 503, 511); one necked jar (ditch 510); one convex jar with pointed, slightly inturned rim (ditch group 507; Fig. 4, no. 1); and a bead rim jar (ditch 505).

Grog-tempered wares, generally fine and some possibly wheel-thrown (three fabrics; 69 sherds; 1,206 g), are found mainly in necked jar forms (four examples; ditches 505, 506, 510, 511), with one jar with an upright, pulled bead rim (ditch 503). One body sherd comes from a high-shouldered, probably necked bowl (ditch 510). Two body sherds have horizontal scoring or tooling, and one sherd may be deliberately roughened or 'rusticated' on the exterior surface.

Sandy wares form a very minor component of the Iron-Age assemblage (four fabrics; seven sherds; 63 g); there is one small, undiagnostic rim, and no other diagnostic sherds.

Chronology and Affinities

All fabric types and vessel forms represented here can be accommodated within the regional traditions of the middle to late Iron Age, possibly in some cases extending into the post-conquest period. In the immediate area, parallels for the calcareous and sandy wares can be found within the middle Iron-Age assemblages from earlier excavations in the Oxford University Science Area, immediately to the south of the current site,[19] and Whitehouse Road, south Oxford.[20] Grog-tempered ('Belgic-type') wares are characteristic of the late Iron Age, and shelly wares also continued in use. Further afield, there are parallels with the period 2/3

[17] E.L. Morris, 'The Analysis of Pottery', unpublished Wessex Archaeology guideline, 4 (1994).

[18] PCRG, *The Study of Later Prehistoric Pottery: General Policies*, Prehistoric Ceramics Research Group Occasional Paper, 1, revised edn (1997).

[19] P. Booth, 'Iron Age and Roman Pottery', in Parkinson et al., 'The Excavation of Two Bronze Age Barrows, Oxford', *Oxoniensia*, 61 (1996), pp. 51–4.

[20] J. Timby, 'Pottery', in A. Mudd, 'Excavations at Whitehouse Road, Oxford, 1992', *Oxoniensia*, 58 (1993), pp. 56–63.

Table 1. Pottery totals by fabric type

Fabric code	Fabric description	No. sherds	Weight (g)
C1	Moderately coarse fabric with very common, well sorted, crushed fossil shell, mostly < 2 mm	22	175
C2	Coarse fabric with common, poorly sorted limestone fragments < 5 mm	4	89
C3	Moderately fine fabric with very common, well sorted limestone < 1 mm; well finished	33	523
C4	Moderately coarse fabric with common, poorly sorted, oolitic limestone < 3 mm	2	23
C5	Coarse fabric with common, poorly sorted, crushed fossil shell < 4 mm	11	155
C6	Moderately coarse fabric with sparse, poorly sorted fossil shell < 6 mm	7	55
C7	Coarse, vesicular fabric (moderate, irregular voids < 6 mm) with a slightly 'corky' texture	11	69
C8	Moderately coarse fabric with common, fairly well sorted limestone < 2 mm; well finished with a soapy feel	9	154
C9	Relatively fine fabric with rare calcareous flecks < 1 mm	1	6
G1	Relatively fine fabric, with moderate, well sorted grog < 1 mm; well finished, with a soapy feel	66	1140
G2	Coarse fabric with common, poorly sorted grog < 2 mm; 'lumpy' texture and soapy feel	2	45
G3	Coarse fabric with moderate, poorly sorted grog < 2 mm and sparse flint (< 2 mm); 'lumpy' texture	1	21
Q1	Moderately coarse fabric with common, fairly well sorted, rounded quartz < 0.5 mm; 'gritty' feel	3	14
Q2	Fine fabric	2	34
Q3	As Q1 but with the addition of some glauconitic sand	1	6
Q4	Moderately fine fabric	1	9
	Total	**176**	**2518**

(middle/late Iron Age) assemblage from Ashville, Abingdon and the phase 2 (middle Iron Age) assemblage from Farmoor.[21]

Distribution

The assemblage has a broad potential date range, and the identification of unambiguously middle Iron-Age features is difficult. The distribution of the finds also implies a relatively high level of residuality: pottery was recovered from 29 separate features, but occurred in relatively

[21] C.D. DeRoche, 'The Iron Age Pottery', in M. Parrington, *The Excavation of an Iron Age Settlement, Bronze Age Ring-ditches and Roman Features at Ashville Trading Estate, Abingdon (Oxfordshire) 1974–76*, Oxfordshire Archaeological Unit Report, 1 (1978), pp. 40–74; G. Lambrick, 'The Iron Age Pottery', in G. Lambrick and M. Robinson, *Iron Age and Roman Riverside Settlements at Farmoor, Oxfordshire*, Oxfordshire Archaeological Unit Report, 2 (1979), pp. 35–46.

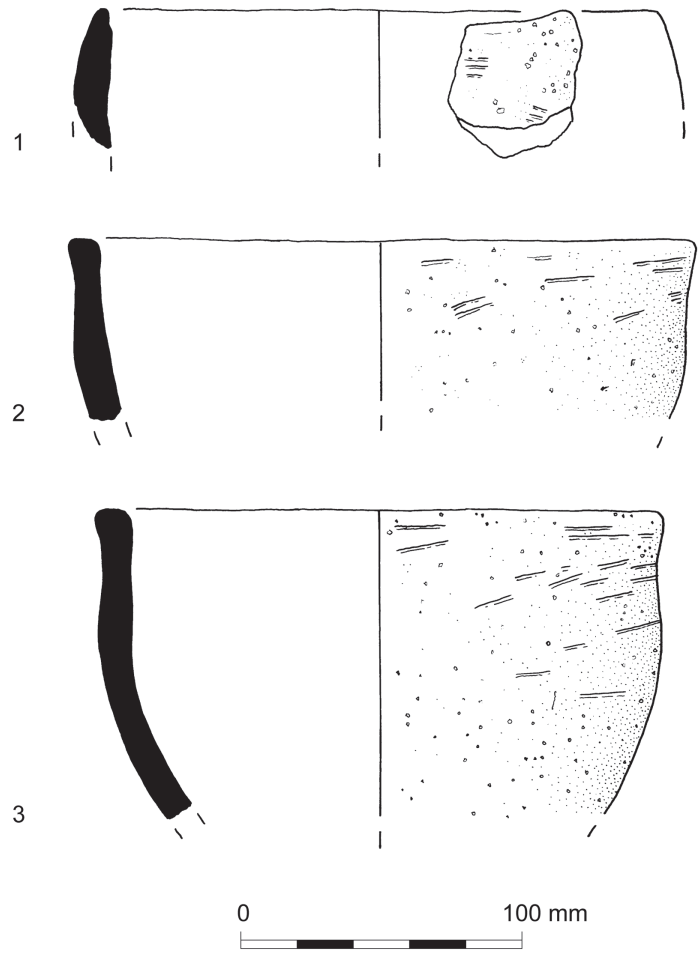

Fig. 4. Iron-Age pottery, nos. 1–3.

small quantities in each – only two features yielded more than 20 sherds (39 sherds from ditch 511; 43 sherds from pit 180). When the features are grouped, 39 sherds belong to the stock enclosure (ditches 503–506), but there are no other large groups (Table 2).

In all three of the largest feature groups (ditch 511, enclosure ditches 503–506, pit 180), the two main fabric groups (calcareous, including both shelly and limestone-tempered, and grog-tempered) both occur, suggesting that all are of late Iron-Age date, despite the presence of some middle Iron-Age forms (for example, Fig. 4, no. 3). It may be noted here that one sherd of definite 'Romanised' wheel-thrown greyware, from a necked jar, was intrusive in the upper fill of ditch 511.

Ditch 507 produced only eight sherds (shelly and limestone-tempered) and is less easy to place within the chronological framework, but was cut by one of the enclosure ditches (503); a middle Iron-Age date is possible, supported by the presence of a convex jar with inturned rim (Fig. 4, no. 1). Parallel ditches 501 and 502 contained only three sherds of sandy wares, but ditch 502 cut ditch 511, so must be late Iron Age or later.

Table 2. Distribution of pottery by feature group (number/weight in grammes)

Group description	Shell	Limestone	Grog	Sandy	Total
Ditch 511	4/26	10/160	24/525	1/9	39/720
Ditch 507	6/69	2/58			8/127
Enclosure ditches 503–506	12/125	3/42	24/553		39/720
Ditches within enclosure (508–510)	6/98	1/21	4/16	1/6	12/141
Parallel ditches (501 and 502)				3/19	3/19
Pit 180	7/43	29/401	7/30		43/474
All other Iron-Age features	3/18	15/182	10/82	2/29	30/311
Later and unphased features	2/6				2/6
Totals	**40/385**	**60/864**	**69/1206**	**7/63**	**176/2518**

Catalogue of Illustrated Vessels (Fig. 4):

(1) Convex vessel with pointed, slightly inturned rim; fabric C5. PRN [Pot Record Number] 19; context 235; ditch 507.
(2) Gently convex vessel with short, upright rim; fabric C3. PRN 32; context 310, pit 309.
(3) Gently convex vessel with short, upright rim; fabric C3. PRN 85; context 181, pit 180.

ANIMAL BONE by L. HIGBEE

A small assemblage of animal bone (324 bones, weighing 6.375 kg) was recovered from the site; the majority (87 per cent of the total) was recovered during the normal course of hand-excavation and a further small quantity retrieved from the sieved residues of seven bulk soil samples. Most of the assemblage is from middle and late Iron-Age contexts, with smaller amounts from medieval, modern and undated contexts.

All anatomical elements were identified to species where possible, with the exception of ribs, which were assigned to general size categories. All conjoining fragments were counted as one specimen. Where appropriate, the following information was recorded for each fragment: element, anatomical zone, anatomical position, fusion data, tooth ageing data, butchery marks, metrical data, gnawing, burning, surface condition, pathology and non-metric traits. This information was directly recorded into a relational database (in MS Access) and cross-referenced with relevant contextual information.

Results

Bone preservation across the site was generally good, but the proportion of gnawed bones is relatively high at 12 per cent and this suggests that the assemblage has been significantly biased by the destructive habits of scavenging carnivores.

Approximately 41 per cent of fragments are identifiable to species and element; cattle and sheep/goat bones are common and account for *c.*78 per cent of identified bones. Less common species include pig, horse and duck (mallard-sized). The assemblage is quantified in Table 3; only the bone from Iron-Age contexts is discussed here. This totals 251 bones, deriving from 26 contexts.

A complete horse tibia gave a withers height estimate of *c.*10.2 hands (a small pony). Five complete sheep/goat mandibles are present; tooth wear analysis indicates that two are from individuals under two years of age, one between two and three years, one between three and

Table 3. Number of identified specimens present (or nisp) by chronological period

Species	Iron Age	Medieval	Modern	Undated	Total
Cattle	45	1		10	56
Sheep/goat	42	2		5	49
Pig	6			10	16
Horse	7			3	10
Duck	3				3
Total identified	**103**	**3**	**0**	**28**	**134**
% total identified	31.7	1	0	8.6	41.3
Bird	1				1
Small mammal	2				2
Mammal	145	1	5	36	187
Total unidentifiable	**148**	**1**	**5**	**36**	**190**
% total unidentifiable	45.8	0.3	1.5	11.1	58.7
Overall total	**251**	**4**	**5**	**64**	**324**
% overall total	77.5	1.2	1.5	19.8	100

four years and one between four and six years (MWS F).[22] A complete pig mandible is from a 21–27 month old (MWS F).[23]

Butchery evidence consistent with dismemberment using a sharp knife was noted on a small number of cattle bones.[24] Most of the marks were recorded on mandibles and are located just below the condyle (associated with detaching the mandible).

Due to the small sample size, intra- and inter-site comparisons are not possible.[25] Equally the small amount of age, biometric and butchery information available from the assemblage is insufficient for interpretation.

OTHER FINDS by LORRAINE MEPHAM

Other finds comprise very small quantities of ceramic building material (six fragments, including two of medieval roof tile and four of post-medieval brick); fired clay (forty-two fragments, including two triangular loom weights); worked flint (seven pieces, including a retouched flake and a broken scraper); stone (two pieces, comprising a Greensand rotary quernstone fragment and a possible pyramidal loom weight); slag (ten fragments, including iron smithing slag and fuel ash slag); metal (three iron objects, comprising two nails and a small strip fragment); and human bone (right humerus, left humerus and left tibia from one, possibly two foetal or neonatal individuals).

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

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

[24] J.M. Maltby, 'Assessing Variations in Iron Age and Roman Butchery Practices: The Need for Quantification', in N.J.R. Fieller et al., *Palaeobiological Investigations: Research Design, Methods and Data Analysis*, BAR IS, 266 (1985), pp. 19–32.

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

CHARRED PLANT REMAINS AND WOOD CHARCOAL
by SARAH F. WYLES

Thirty-one bulk samples, of between 4 and 28 litres, were taken from a range of features, including pits, post holes, ditches and tree-throw holes. These were processed by standard flotation methods and assessed for charred plant remains and wood charcoal.

The flots were generally small with very high numbers of roots and modern seeds, as well as the occasional fragment of coal. This is indicative of stratigraphic movement and the possibility of contamination by later intrusive elements. Charred material was poorly preserved. Only very small quantities of charred plant remains and wood charcoal were recovered from the samples. The charred remains included cereals (indeterminate grain fragments, some possibly free-threshing wheat, *Triticum turgidum/aestivum* type, some possibly barley, *Hordeum vulgare*), shell fragments of hazelnut (*Corylus avellana*), a grape pip (*Vitis vinifera*), weed seeds of knotgrass (Polygonacaeae), oats/brome grass (*Avena/Bromus* spp.) and vetch/wild pea (*Vicia/Lathyrus* sp.). Grains of free-threshing wheat and grape pips are rarely recorded from Iron-Age settlements, and as the grape pip was well preserved it is likely to be intrusive, and it is probable that the wheat grains and, by association, the barley, are also.

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