

A LATE IRON AGE AND EARLY ROMAN LANDSCAPE AT MIDDLETON SCHOOL, MILTON KEYNES

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In 2013 excavation was undertaken on land north-east of Middleton Primary School, Middleton, Milton Keynes. The excavated evidence defined activity associated with settlement of the Late Pre-Roman Iron Age (LPRIA) and early Romano-British periods. LPRIA activity comprised two superimposed roundhouses and three small enclosures. By the mid-1st century AD the excavated area was probably in largely agricultural use, represented by four phases of ditched enclosures, centred on a substantial north-south boundary ditch. The recovered artefacts suggest that the area was little used by the latter part of the 1st century, although the boundary ditch may have only partially silted up. Remains of other periods comprised one early Saxon pit and furrows of the medieval open-field system of Milton Keynes parish.

INTRODUCTION

In July and August 2013 an excavation was undertaken by Archaeological Services & Consultancy Ltd (ASC) on land to the north-east of Middleton Primary School, Noon Layer Drive, Middleton, Milton Keynes, in advance of the construction of drop-off parking facilities and sports pitches for the school. The work was required as a condition of planning permission by Milton Keynes Council (MKC), and was undertaken in accordance with a written scheme of investigation (Hancock 2012) approved by MKC's Senior Archaeological Officer. The investigations were also commissioned and funded by MKC. Following the closure of ASC in March 2014, this report has been completed for MKC by Bancroft Heritage Services.

The event number allocated to the project in the MKC Historic Environment Record (HER) is EMK1351. On completion of this report, the project archive will be deposited with Buckinghamshire County Museum: the accession number is AYBCM 2013.111. Copies of the project reports can be accessed at the MKC HER, and online through the Archaeology Data Service (ADS: ref 153234).

LOCATION & DESCRIPTION

The site on which the excavation was located is an irregularly shaped land parcel covering about one hectare, approximately 200m west of the historic core of Middleton (previously 'Milton Keynes village'), in the civil parish of Milton Keynes, on the eastern side of the new city, centred on NGR SP 8851 3910 (Fig. 1). Modern hedgerows border it to the north and east; Noon Layer Drive marks the north-west boundary, and to the south are the existing playing fields of Middleton Primary School. A former quarry haul road, flanked to the west by the remains of a post-medieval field boundary, bisected the site from south to north.

TOPOGRAPHY & GEOLOGY

The site lies on relatively level ground at an elevation of c.65m OD on the eastern edge of the Ouzel valley. The present modified course of the river passes c.350m to the north-west: originally its course ran further to the west. Natural soils in the area belong to the Bishampton 2 Association, described as a '*deep fine loamy and fine loamy clayey soils with slowly permeable subsoils and slight seasonal waterlogging associated with similar slowly permeable seasonally waterlogged*

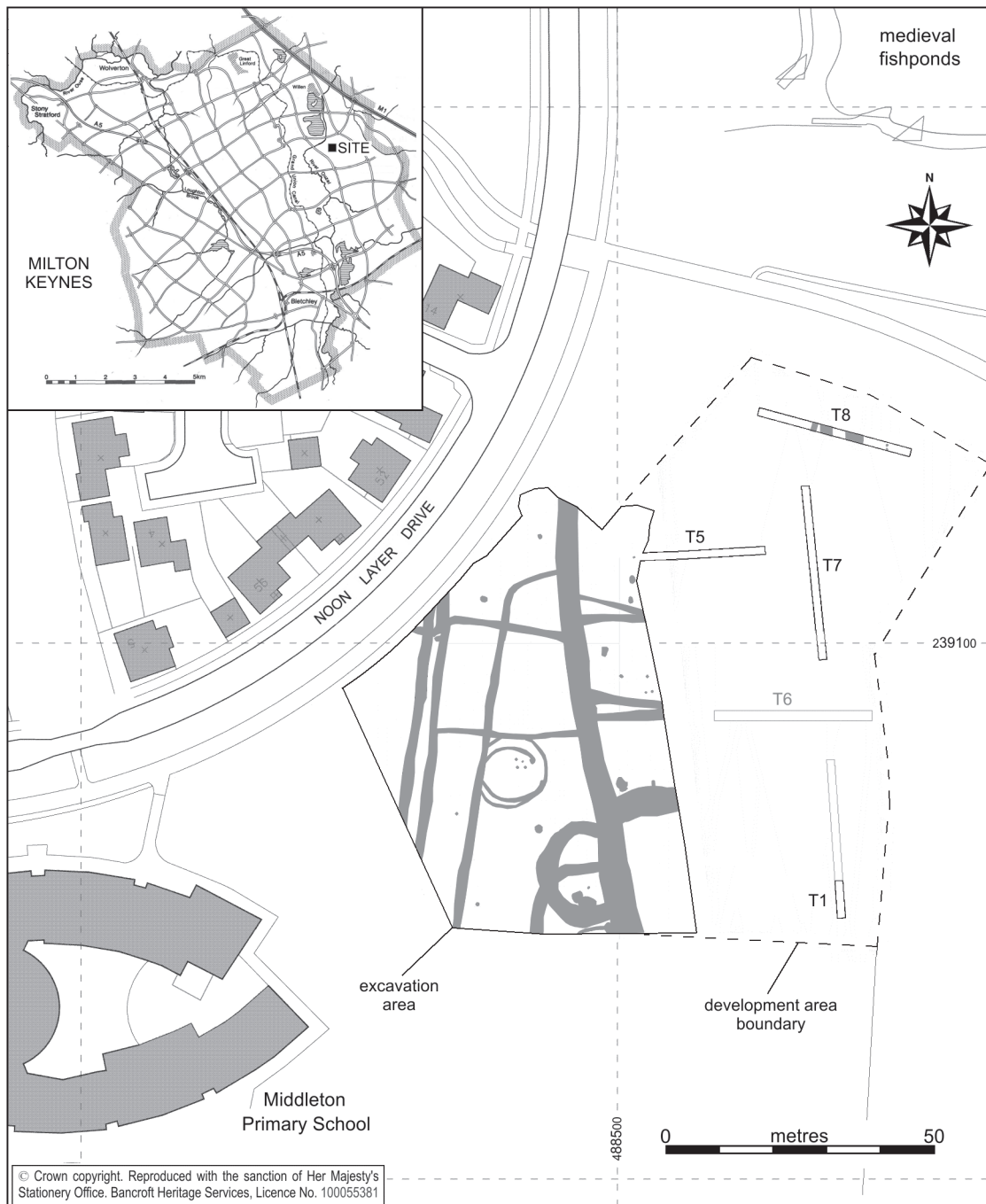


FIGURE 1 Site location

soils' (Soil Survey, sheet 6, 572t). The soils are developed on Second Terrace river gravels, overlying Oxford Clay (BGS, sheet 203). Prior to the excavation the site was covered with relatively dense scrub.

ARCHAEOLOGICAL BACKGROUND

The earliest evidence of a human presence in the Ouzel valley area of Milton Keynes comprises significant quantities of flints representing a typical earlier Mesolithic 'narrow blade' industry, discovered on the west side of the valley at Little Woolstone, c.1km west of the excavation site (Williams in Croft & Mynard 1993, 5). The earliest evidence of activity in the Middleton area was identified c.0.7km south-west of the present village, on the terrace gravels east of the Ouzel. In the early 1970s, excavations in advance of gravel extraction at Hartigan's quarry, south-west of the excavation site in what is now the Oakgrove district of the new city, revealed two Bronze Age ring ditches with evidence of contemporary settlement, Iron Age enclosures and structures, and Saxon pits and sunken-featured buildings (Williams 1993). Trial trenching to the immediate north of the quarry in 1976 and 1989 revealed further evidence of Iron Age activity, along with occupation of the Roman period, represented by pits, ditches and a well (*ibid*, 188–189). More recently, excavations in advance of housing development east of the Ouzel at Monkston Park, 1km south of the site (Bull & Davis 2006) and at Broughton, 1.2km to the north-east (Thompson & Zeepvat 2013; Atkins *et al* 2014) have revealed extensive evidence of occupation and activity covering a similar time period. Roman and late Saxon pottery has also been found within the historic core of the village, during works in and around the churchyard (Croft & Mynard 1993, 121; Summerfield-Hill 2009). A late Saxon cemetery, along with evidence suggesting mid-Saxon occupation, has been located a short distance to the north-east of Middleton village hall (Parkhouse *et al* 1996).

The village of Middleton appears in the Domesday Survey as *Midelstone* (Morris 1978). In the 13th century it became *Middleton* (also spelt *Myddleton*) *Keynes*, with the addition of the name of the family who held the manor at that time. Settlement developed around a triangular

green at the intersection of roads from Willen, Broughton, Walton and Woolstone, with the 14th-century parish church to the north. Extending over a considerable area north of the site are earthworks comprising a moat and fishpond complex, probably constructed in the early 14th century, and now a Scheduled Ancient Monument (SAM 19006). During the medieval period the site lay within the open-field system of the parish in *Town Field* (Croft & Mynard 1993, fig. 49): evidence of ridge-and-furrow ploughing survived on the site until the latter part of the 20th century (*ibid*).

The parish of Middleton appears to have changed relatively little, prior to the establishment of the new city of Milton Keynes in the late 1960s. There is no enclosure award for Middleton (*ibid*, 128), but the earliest enclosures in the parish date from the 1560s, and by 1685 most of the parish had been enclosed. The earliest extant map showing the village in any detail dates from 1685 (Croft & Mynard 1993, fig. 45): at this time, the site appears to straddle a boundary between *Fothering Yard* to the east and *Great Ground* to the west. A map of 1782 (Croft & Mynard 1993, map L6) shows the site straddling two smaller fields, *Fothering Yard* and *Ten Pound Ground*. The first edition Ordnance Survey map of 1881 and subsequent editions prior to the 1970s show little change to the site and its surrounds. Middleton School and the housing on Noon Layer Drive were constructed c.2001/2.

In response to development proposals, in June 2013 ASC undertook trial-trench evaluation of the development site. Poorly-dated ditches and postholes were identified at the north end of the site and Late Pre-Roman Iron Age (LPRIA) or early Romano-British ditches and pits were found to the west (Muldowney & Hancock 2013). A sequence of intercutting pits in the south-west quarter of the site possibly represented quarrying of LPRIA or early Roman date. The south-east part of the site had been significantly disturbed by activity associated with late 20th-century gravel extraction. Two of the proposed evaluation trenches (1 and 6) fell within the latter area, and consequently were not fully excavated (Fig. 1). Following a review of the evaluation results and details of the development, the MKC Senior Archaeological Officer required mitigation of the impact of the development by excavation of the western half of the development site.

THE EXCAVATION

Introduction

Topsoil and overburden was mechanically stripped from an area of 3354 square metres on the west of the development site, under close archaeological supervision. Subsequent excavation of archaeological features and deposits was carried out by hand (Fig. 2). The soil profile varied across the site, but in general comprised the following horizons:

Modern ploughsoil (c.0.3m deep). Dark brown organic loam

Older ploughsoil (c.0.2m deep). Mid orange-brown silty clay

Natural (below c.0.5m). Light yellow clay with chalk marl and light orange clay-silt

Summary of Results

Most of the archaeological features present in the excavated area dated to the Late Pre-Roman Iron Age (LPRIA) and early Romano-British (RB) periods (Fig. 3), representing both settlement and agricultural activity. An early Saxon pit suggests activity peripheral to a settlement of this period, presumably in the vicinity of the present village. The presence of broad plough furrows shows that the area was subsequently incorporated into

the medieval open-field system of Milton Keynes village.

Late Pre-Roman Iron Age & Early Romano-British periods

(Late 1st century BC to late 1st century AD)

This period was represented by superimposed phases of occupation and enclosure or boundary ditches, along with a number of discrete pits and postholes. While it was possible to determine stratigraphic relationships between many of these features, the pottery recovered from their fills mostly fell within a narrow date range, thus making it difficult to determine a detailed sequence of activity across the site.

Settlement

Evidence for settlement comprised two intercutting enclosure ditches (454, 455), two penannular hut gullies (192, 193), also intercutting, and group of postholes within the latter (209, 220, 222). Some of the other discrete pits and postholes on the site may also be related to occupation.

The enclosure ditch, 454, was c.1.6m wide and 1.09m deep, with a U-section (Fig. 4, S1). It had been recut at least twice: the fills of the recut (330, 333) each contained two sherds of handmade pottery of early to mid-1st-century AD date. The



FIGURE 2 Overall view of site, looking west

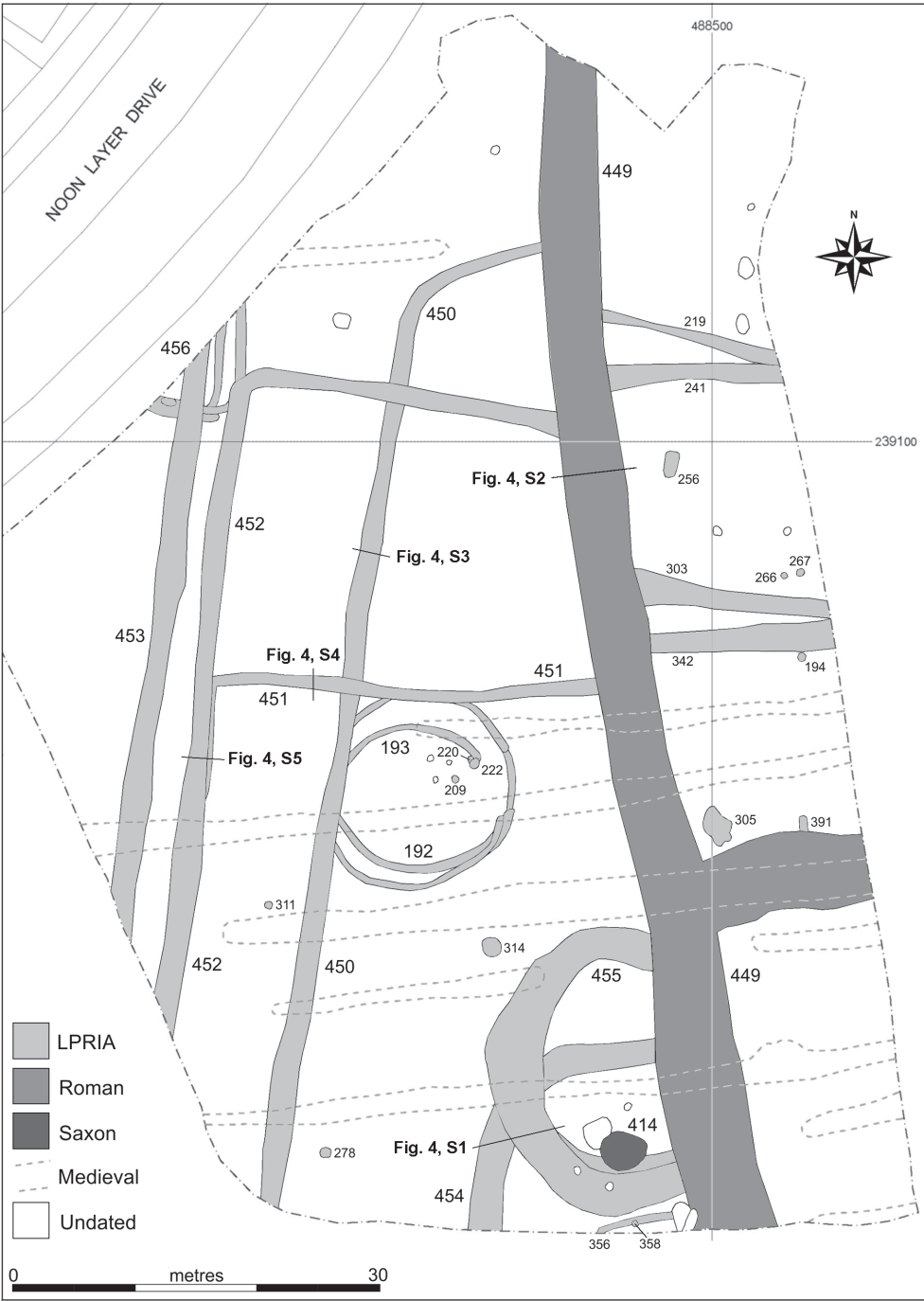


FIGURE 3 Overall site plan

enclosure was truncated by a later boundary ditch (449) to the east and extended beyond the southern boundary of the site. It must have been at least 15m across, but it could not be determined whether it was sub-circular, or was part of a larger sub-rectangular enclosure, as was the later one defined by Ditch 455.

Ditch 455 delineated a sub-circular enclosure c.18m in diameter, slightly to the north of the aforementioned enclosure and cutting it. Its east side was truncated by Ditch 449. It had a shallow concave profile c.2.2m wide and c.0.5m deep (Fig. 4, S1), and had been recut at least once. Its entrance had presumably been to the east, and had been destroyed when Ditch 449 was cut. The pottery incorporated within the fills of the ditch was largely 'Belgic' wheel-thrown ware of early to mid-1st-century date, although a few sherds of

earlier handmade shell and sand-tempered ware were also present. A fragment of a large triangular loom weight (RF2) was recovered from its upper fill.

Two intercutting penannular gullies of huts, 192 and 193, were located 10m to the north of Ditch 455 (Fig. 5). The earlier of the two, 192, enclosed an area c.13m in diameter, and was 0.5m wide and 0.3m deep, with an east-facing entrance 3.8m wide. A shallower gully (300), 0.1m deep, bridged the entrance gap and was truncated by the terminals of Gully 192. It is possible that gully 300 is a survival from an earlier hut gully in the same location as 192, or was cut in error during the creation of the latter. The fills of 192 contained sherds of predominantly Iron Age handmade sandy ware, along with some sherds in a grogged fabric, all of early to mid-1st-century date.

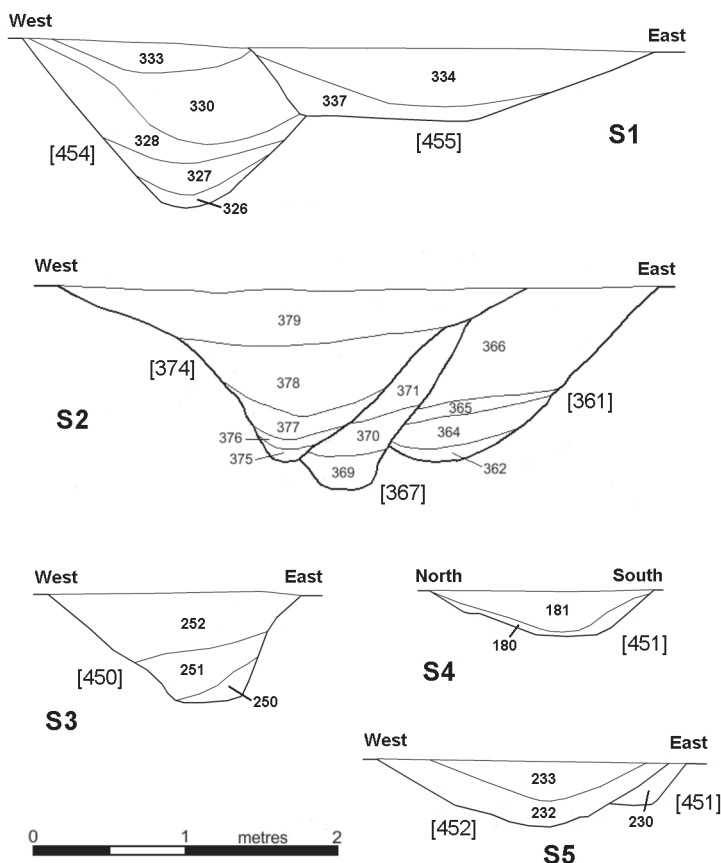


FIGURE 4 Sections, S1-S5

The later Gully 193 enclosed an area c.11m in diameter, slightly smaller in size to that within Gully 192. The gully was c.0.4m wide and 0.2m deep, with an east-facing entrance gap c.3.9m wide. Pottery recovered from its fill comprised handmade shell and sand-tempered wares, along with a few sherds of 'Belgic' wheel-thrown pottery, suggesting a date range of the mid to late 1st century.

Six postholes, three of which (209, 220, 222) contained dating evidence, were located just inside the entrance of Gully 193. Posthole 209 contained four sherds of handmade Iron Age pottery, 220 four sherds of early to mid-1st-century ware, and 222 sherds of grog- and shell-tempered wares, dated to the mid to late 1st century. It seems likely that the three undated postholes are contemporary, though their layout cannot be assigned to a particular type of structure.

A number of small pits, all of indeterminate function but possibly related to occupation, were located across the site. Pit 314, south of penannular gullies 192 and 193, contained seventy-one pottery sherds of early to mid-1st-century date and fragments of fired clay (Fig. 6). Pit 256, east of boundary ditch 449, contained early to mid-1st-century sherds, a complete dog skeleton and seventeen nails. Pit 305, located between the two arms of 449, contained sherds of South Gaulish

samian, along with ubiquitous shelly and grogged Iron Age wares.

Enclosures

At some point in the 1st century AD occupation on the excavated area appears to cease. Subsequently the area was divided by a broad north-south boundary ditch (449) with an arm extending to the east, and much of the area was further subdivided into smaller rectilinear ditched enclosures. Two, possibly three phases of enclosures have been recognised to the west of the main boundary, in the formerly occupied area, and two phases have been noted to the east, each following slightly different alignments.

The principal boundary ditch 449 was found upon excavation to comprise at least three phases of the same feature, which migrated slightly to the west with each recut (Fig. 4, S2). The original ditch, 361, comprised a V-section cut c.3m wide and 1.2m deep. It appears to have been completely backfilled or allowed to silt up before being recut. The first recut, 367, was probably of a similar width but was 1.3m deep, with steeper sides and an uneven base. It too appears to have largely silted up before being recut. The final cut (374) was also about 3m wide and 1.1m deep, with flared sides and a rounded base.

Although the stratigraphic sequence of ditch

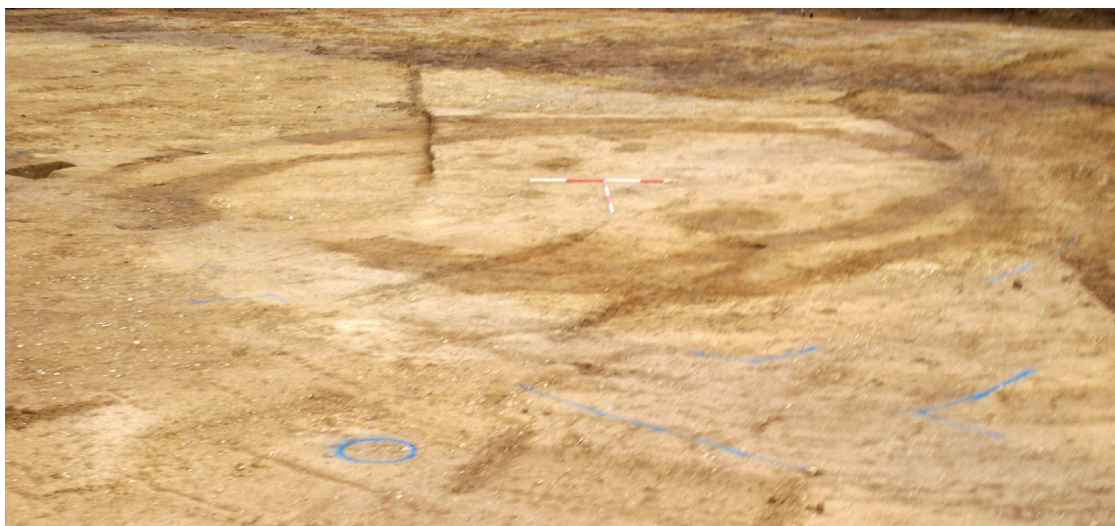


FIGURE 5 Penannular gullies 192 and 193, looking north-eastwards



FIGURE 6 Pit 314, looking south-eastwards

cuts comprising this major boundary is clear, the dating evidence for the three cuts is less so. None of the primary fills contained pottery, which was confined to the upper fills of each cut, and comprised predominantly handmade sandy and shelly Iron Age wares and wheel-thrown 'Belgic' sherds, and dated almost entirely to the early to mid-1st century. However, a few sherds of later fabrics that were present in the fills of 374 suggested that the final phase of the boundary ditch remained open to the end of the first century, into the Roman period. Other finds from 449 comprised a copper-alloy ring (RF1) which was recovered from an upper fill of the ditch during the evaluation trenching.

To the west of the principal boundary ditch 449, possibly the earliest subdivision of the area is represented by 456, a complex group of inter-cutting gullies forming the corner of a possible

rectilinear enclosure extending beneath Noon Layer Drive, to the north-west of the excavated area. The proximity of these features to the edge of the excavation made it impossible to provide a definitive interpretation for them. Their fills contained in total five sherds of handmade Iron Age shelly and sandy wares, suggesting that these features may have silted up in the late 1st century BC or early 1st century AD.

Probably the next enclosure boundary to be cut was 450 (Fig. 4, S3). This ditch was up to 1.6m wide and 1.0m deep, with a U-section, extending south-westwards then southwards down the length of the site from a junction with 449. It cut through the western part of both penannular gullies 192 and 193. Pottery recovered from its fills was Iron Age, dated to the early 1st century.

Stratigraphically, the next enclosure ditch to be cut was 451 (Fig. 4, S4). This ran westwards



FIGURE 7 Enclosure ditch 450, looking north

from 449, truncating the north side of penannular gully 192 and cutting ditch 450 before abruptly turning southwards to meet later ditch 452. The latter appeared from this point to follow the course of 451 southwards, truncating it in the process. Ditch 451 had a rounded profile, c.0.8m wide and 0.4m deep: two sherds of early to mid-1st century grog-tempered pottery were recovered from its single fill. Ditch 452, though stratigraphically later than 451, was of similar profile, and contained pottery of a similar date to that from 451. Ditch 452 (Fig. 4, S5) followed the same north-south alignment as 451, but continued northwards for c.23m, meeting 456 and turning abruptly eastwards to meet 449, cutting through the alignment of ditch 450 *en route*.

Ditch 453 ran north-south, parallel to and c.2m west of the north-south arm of 452, cutting through 456 at its north end. It had a U-shaped profile, up to 1.9m wide and 0.7m deep (Fig. 7): its fills contained pottery of predominantly mid to late 1st-century date.

To the east of ditch 449, four enclosure ditches (219, 241, 303, 342), similar to those described above, ran eastwards. It is likely that two phases of enclosure are represented here: Ditches 241 and

342 were both aligned east-west, each had a single recut, and each contained early to mid-1st-century pottery. Ditches 219 and 303 were again roughly parallel but aligned more north-west to south-east, each had a single fill, and each contained late 1st-century pottery. The ditches in each phase were c.16m apart.

About 15m south of ditch 342 a larger boundary ditch previously noted and identified by the excavator as part of the principal boundary ditch 449, ran eastwards. Its original cut (421) was a broad V-section, about 3m wide and 1m deep, containing early to mid-1st-century sherds. A single recut (315) on a more southerly alignment, had a similar profile, and contained pottery of late 1st-century date.

Early Saxon (5th to 6th century)

A single feature of early Saxon date was located towards the south end of the site. Pit 414 was c.1.5m in diameter and 0.9m deep, with steep sides and a flat base. Thirteen sherds of undecorated pottery of 5th-6th-century date, including some burnished sherds, were retrieved from the primary and final fills of the pit.

Medieval

A series of plough furrows crossed the excavated area on an east-west alignment at roughly 6-8m intervals. This is broadly in line with the results of the ridge-and-furrow survey of the parish undertaken by the former Milton Keynes Archaeology Unit (Croft & Mynard 1993, fig. 49). Finds were not recovered from these features.

THE FINDS

Copper-Alloy

by Alastair Hancock

Undecorated D-shaped object, probably a harness fitting. Ext. dia. 23mm, int. dia. 16mm. The loop has a rounded section (2-3mm thick); the straighter part of the circumference projects 1-2mm from the shoulder of the loop and has a slightly flattened profile.

RF1: Context 379, upper fill of final recut (374) of Ditch 449

Iron

by Alastair Hancock

Fragments of at least twelve iron nails were recovered from the upper fill (254) of Pit 256. The nails are handmade and most are of similarly large size. The best preserved example has a flattened head with a diameter of c.20mm and the near-complete square-sectioned shaft is 55mm long. Three smaller nails are also present: two have flattened head diameters of c.10mm and incomplete shaft lengths of 12mm. The final nail is slightly larger with a flattened head diameter of c.15mm and a surviving shaft length of 19mm.

Fired Clay

by Nicholas J. Cooper (ULAS)

A clay loom weight, along with one hundred and twenty-three fragments of fired clay weighing 2.122kg, were recovered from thirty-two contexts on the site. The fired clay occurs in a range of poorly-prepared sandy fabrics, occasionally micaceous, or with quartz or flint pebbles, often showing indications of mixing with chaff or straw, which leaves impressions on the surface or voids in the interior. While some of the amorphous fragments may be burnt daub from the fire-destruction of wattle and daub structures, only one, from the evaluation (121), displayed a circular perforation indicating a wattle impression. Fired

clay fragments occur widely across the site, though notably not in the eaves-drip gullies of round houses 192 and 193.

1. Triangular loom weight, substantially complete: length of complete side 150mm, height 110mm, thickness 65mm, width of perforation 10mm, weight 937g. Two upper faces are represented, each with a perforation stabbed through the side. In one case the perforation was not fully opened and the other does not show the signs of wear that would be expected from suspension as part of a warp-weighted loom, unless suspension was via the missing corner. The weight is made of poorly-prepared sandy clay with occasional fragments of flint. The surfaces are oxidised to a light buff and the interior is light grey due to the insufficient burn-out of carbon.

Triangular loom weights are of Iron Age date (e.g. examples from Willington, Derbys: see Elsdon 1979, 208, fig. 87), although it is recognised that the use of warp-weighted looms continued in rural areas into the early Roman period, as indicated by the occurrence of similar examples from the Roman farmstead at Empingham, Rutland (Fraser 2000, 115, fig. 55.44 and 45).

RF2: Context 338, the upper fill of Ditch 445.

2. Fragments of oven plates. Better-preserved examples from the fired clay assemblage are clearly from slab-like plates, 20-30mm thick, with right-angled or curved sides and straight or slightly curving edges. It is most likely that these are parts of plain oven plates, or oven floors when no lower surface is apparent. There are good parallels for these from Higham Ferrers, Northants (Poole 2009, 272-4, fig.5.56.1).
Examples from Pit 314 (fill 313), Ditch 315 (fill 316) and 426 (fill 425)

The Pottery

by Nicholas J. Cooper (ULAS)

Introduction

A total of 707 sherds of late Iron Age and Early Roman pottery weighing 12.301kg and with an estimated vessel equivalent (EVEs) value of 4.05 was recovered from stratified deposits during the evaluation and excavation phases of the project.

Additionally, an assemblage of twelve early Anglo-Saxon sherds was recovered from a single context during the excavation.

The average sherd weight of 17.5g for the Iron Age and Roman pottery is relatively good for a rural assemblage and the vast majority of the material was in good condition, with numbers of conjoining sherds indicating comparatively low levels of disturbance and re-deposition, bearing in mind the number of intercutting features. Where abrasion was noted it was usually on sherds which were later in date than the groups to which they belonged, and probably represented intrusive material from cleaning layers immediately above the features.

In summary, the Iron Age and Roman assemblage indicates that the site was occupied for somewhat less than 100 years, probably from the late 1st century BC to the later decades of the 1st century AD. The assemblage is dominated by 'Belgic'-style grog-tempered ware vessels, with increasing numbers of local shell-tempered ware lid-seated jars, indicating that occupation was concentrated between about AD30 and 70. The small numbers of handmade Iron Age vessels of earlier date were largely confined to specific contexts relating to the roundhouses: the occurrence of the later-dating early Roman sandy wares was negligible, and was again confined to specific features. Occasionally, regional wares of later 1st- or 2nd-century date also occurred in specific isolated features.

Methodology

The Iron Age pottery was recorded using the fabric series developed by David Knight on the material from Bancroft (Knight 1994, 383) with reference to the fabric descriptions used for Wavendon Gate (Elsdon & Parminter 1996, 169). The Belgic and Roman material was classified according to the Milton Keynes Fabric Series developed by Pauline Marney (Marney 1989), and the early Anglo-Saxon pottery was classified using the fabrics devised by Paul Blinkhorn on the assemblages from Pennyland (Blinkhorn 1993) and Wavendon Gate (Blinkhorn 1996). The entire stratified assemblage was recorded by fabric and vessel type and quantified by sherd count, weight and EVEs (Estimated Vessel Equivalents) using rims only. All data were recorded on an MS Excel spreadsheet held in

the archive, from which the summary presented below is drawn.

Quantitative Overview of the Assemblage

Stratigraphically, the excavation assemblage can be divided between the features filled prior to the cutting of the large north-south boundary ditch 449 (Phase 1), and the fills of that ditch (Phase 2). The Phase 1 assemblage totalled 351 sherds (7238g and 1.98 EVEs) and that from Phase 2 totalled 221 sherds (3462g and 1.34 EVEs). The evaluation phase assemblage (139 sherds/1640g/0.73 EVEs) is not included in these figures. A quantified summary of the assemblage by fabric across the two phase groups is presented below (Tables 1 & 2).

Ostensibly, in terms of the major fabrics present, the two phase assemblages look broadly similar, but the changing proportions of those fabrics reflects the shifting pattern of production across the 1st century AD, either side of the conquest. The main differences concern the final disappearance of handmade Iron Age vessels (Fabrics Q1 & S1) which were in use during the earlier part of Phase 1, and becoming increasingly residual thereafter, and the decline of the 'Belgic'-style vessels (Fabric 46), as shell-tempered wares (Fabric 1a) increased and the early Roman sandy wares (Fabrics 9/47), begin to emerge. The two phase assemblages are therefore very similar in character to the published groups from the Milton Keynes sites at Walton and Cotton Valley, dated to the early to mid and mid to late 1st century AD respectively (Marney 1989, 7–12 & 195; appendix 2, tables 1 & 2), the proportions of Fabrics 46 and 1a from Phase 2 being identical those at Cotton Valley. The following sections detail those developments as indicated by this assemblage.

Iron Age Pottery

A total of 98 sherds (1313g 0.76 EVEs) of mid-late Iron Age pottery was recovered, comprising a range of handmade slack-shouldered jars with upright or splayed rims, manufactured in sandy and shell-tempered fabrics (MK fabrics Q1 & S1 respectively; Knight 1994, 383). The material is comparable to that from the mid-late Iron Age phase at Bancroft (Knight 1994). It was primarily recovered from the fills of successive round house gullies 192 and 193 which represent the earliest evidence for settlement on the site. The rims of three jars with upright flattened rims in Fabric

TABLE 1 Quantified pottery summary by fabric, Phase 1

<i>Fabric</i>	<i>Sherds</i>	<i>%sherds</i>	<i>Wt (g)</i>	<i>%weight</i>	<i>EVEs</i>	<i>%EVEs</i>
Q1 Iron Age sandy	37	11	842	12	0.32	16
S1 Iron Age shelly	55	16	369	5	0.2	10
45/46 'Belgic' grog	222	63	5334	74	1.24	63
1a E/Roman shelly	30	9	591	8	0.17	9
9 early Sandy 9	3	<1	30	<1		0
*2a Soft Pink Grogged	3	<1	60	<1		0
*24 OxfRedCC	1	<1	12	<1	0.05	2
Total	351	100	7238	100	1.98	100

* = intrusive material

TABLE 2 Quantified pottery summary by fabric, Phase 2

<i>Fabric</i>	<i>Sherds</i>	<i>%sherds</i>	<i>Wt (g)</i>	<i>%weight</i>	<i>EVEs</i>	<i>%EVEs</i>
**Q1 IA sandy	2	1	31	1	0.1	7
**S1 IA shelly	4	2	71	2	0.14	11
45/46 Belgic grog	88	40	1379	40	0.23	17
1a E/Roman shelly	78	35	1264	37	0.81	60
9/47 early sandy	17	8	145	4	0.06	5
14 Upper Nene VGW	11	5	155	4		
*12 Lower Nene VGW	1	<1	4	<1		
18 white ware	3	1	85	2		
Gaul4 Amphora	16	7	323	9		
20 SG Samian	1	<1	5	<1		
Total	221	100	3462	100	1.34	100

* = intrusive material ** = residual material

Q1, with diameters between 90 and 200mm were recorded (comparable to Knight 1994, 396, fig. 204 nos. 60, 61 and 68). A single sherd with scored decoration in S1 and the base from a large jar in Q1 were also recovered. In contrast, the postholes associated with these structures (209, 220 and 222) contained pottery of slightly later date, 'Belgic' Fabric 46 and shell-tempered 1a, which may reflect the difference in date between the disuse of the gullies and the rotting of the house timbers. It would certainly support the contention that the Iron Age pottery from the site probably dates to the very late 1st century BC or early 1st century AD, and that its use overlapped

slightly with that of the new 'Belgic' styles. The occasional occurrence of scored decoration, characteristic of the East Midlands scored ware tradition at the southernmost extreme of its distribution, would also support a Late Iron Age date (Elsdon 1992; Knight 1994, 390). Other Iron Age pottery was recovered, as a small component, from other Phase 1 contexts also containing early to mid-1st century 'Belgic' fabrics, such as the nearby Pit 314, to the south of the roundhouses, and enclosure ditches 454 (fills of recuts 329 and 331), which comprised a scored ware vessel and one with a flared, finger-tip decorated rim (Knight 1994, figs 205.84 & 204.51 respectively). The six

sherds from Phase 2 contexts probably represent residual material.

'Belgic'-Style Pottery

With the exception of the roundhouse gully fills, most of the assemblage during Phase 1 comprises 'Belgic'-style grog-tempered vessels (primarily in Fabric 46 but occasionally in Fabric 45, a shelly grog-tempered ware) totalling 63% by sherd count, but falling to 40% during Phase 2. The vessel forms include a wide range of necked jars with out-curving and bead rims (similar to Marney 1989, fig. 36.52-55) and others with carinated or, occasionally, corrugated profiles, for example from 241. An ovoid-shaped jar with a beaded rim and horizontal grooves down the profile came from a Phase 2 ditch fill (347) [315] and is similar to an example from Caldecotte (Marney 1989, 91, fig. 36.76). Large storage jars with short necks and beaded rims were also produced in Fabric 46, including examples with wavy line decoration on the shoulder from 179 (Marney 1994, 413, fig. 216.76), and another from Phase 2 ditch fill 449 (378) [373] with a narrow band of burnished lattice. Only two examples of 'Belgic' platters or shallow dishes were recovered, the most complete profile coming from pit fill (401) [400], similar to an example from Cotton Valley (Marney 1989, 90, fig. 34.8).

Shell-Tempered and Early Sandy Wares

During the middle and later decades of the 1st century AD, locally made shell-tempered wares (Fabric 1a) and early sandy wares (Fabrics 3, 9 and 47) gradually begin to eclipse the 'Belgic' grog-tempered fabrics, and this is demonstrated well by the two phase groups here. Shelly ware comprises 16% of the Phase 1 assemblage, rising to 35% in Phase 2: sandy wares rise from less than 1% to 8%. If occupation had continued on this site into the later 1st and early 2nd century then these levels would have risen to 44% and 26% respectively, as demonstrated by groups of this date from elsewhere in Milton Keynes such as Bancroft, whilst grog-tempered wares would have fallen to 12% (Marney 1989, 196, tables 1 & 2). The characteristic vessel form produced in shell-tempered ware during the 1st century and continuing into the early 2nd century is the lid-seated (or channel-rimmed) jar, of which there are two examples from Phase 1, including one

from the fill of Pit 314, rising to eight examples from Phase 2. The form of the rim varies widely on these jars (Marney 1989, 11, group 2, fig. 6.1-12) and while some bodies are plain, most have horizontal combed rilling or, in one case, swirling comb marks. As noted by Marney in the earliest group from Milton Keynes at Walton, lid-seated jars were also produced in early sandy ware Fabric 47 (Marney 1989, 7, fig. 5.3) and this is also the case here, with three examples from evaluation context (121) and another from Pit 305 to the east of Ditch 449. No other forms were identifiable amongst the early sandy wares at this time.

Other Local, Regional Wares and Imports

A single sherd from a South Gaulish samian ware plate of Form 18, recovered from Pit 305, is the only imported fine ware in the assemblage, and judging by the small vessel diameter, probably dates between about AD70 and 90 at the latest. The only other import is represented by body sherds from a very large flagon or amphora (c.400mm in diameter) from the upper fill of cesspit 256. The fabric is fine, buff and micaceous and used in the manufacture of the Gauloise series of wine amphorae from Southern Gaul from the 1st century onwards (Peacock & Williams Class 27; Tyers 1996, 95). However, the body is rather thin for Gauloise 4, the most widespread type, and the others in the series would be a very unusual occurrence in this area.

The occurrence of fully Romanised grey wares is limited to the fills of the east-west boundary ditch 315. Alongside sherds of early sandy ware Fabric 9 were eleven sherds of Upper Nene Valley grey ware (Fabric 14), dating from the later 1st century onwards, and a single abraded sherd of Lower Nene Valley grey ware (Fabric 12), dating from c.AD125 onwards, which may probably be regarded as intrusive. The only other regional ware broadly contemporary with the rest of the assemblage was represented by the handle of a large white-ware flagon, probably from the Verulamium area (Fabric 18g) from ditch fill [433], and dating from after c.AD55. In addition, three sherds of soft pink grogged ware (Fabric 2a), dating from the mid-2nd century onwards, and one abraded sherd of Oxford red colour-coated ware (Fabric 24) dating to the later 3rd or 4th century, were intrusive elements within Phase 1 deposits.

TABLE 3 Early Anglo-Saxon pottery, mid-5th to 7th century

<i>Context</i>	<i>Cut</i>	<i>Fabric</i>	<i>Form</i>	<i>Decoration</i>	<i>Sherds</i>	<i>Wt (g)</i>	<i>Dia (mm)</i>
415	414	F2	Decorated urn	Bossed	1	19	
415	414	F2	Misc	Burnished	1	13	
415	414	F5	Misc		8	64	
417	414	F2	Globular jar		1	89	160
417	414	F10	Misc		1	5	
Total					12	190	

Early Anglo-Saxon Pottery

A small assemblage of 12 sherds (190g) with an average sherd weight of 16g was recovered from the fills of Pit 414, at the southern end of the excavated area. The pottery is in good condition, with one substantial profile and a number of joining sherds, suggesting that it represents a primary rubbish deposit. Five different vessels are represented, as detailed below (Table 3).

The fabrics used to manufacture the vessel are broadly similar in range to those at Bancroft (Blinkhorn 1994, 512) with F5 (angular quartz) and F2 (fine quartz sand) again being the most common and with a single sherd in a granite-tempered fabric (F10) characteristic of a Charnwood, Leicestershire source (Williams & Vince 1997). Two diagnostic vessel forms were recorded. The first is the upper profile of a globular jar with a plain upright rim which was recovered from fill (417). The vessel is oxidised with fire clouds on internal and external surfaces, with no attempt to treat either surface. The second is a sherd from the girth of a small burnished urn in a reduced fabric, decorated with two small parallel bosses with faintly incised lines running obliquely beside and vertically between them. The parallel bosses were produced by simply pushing the pot body outwards with the index and forefinger. This small group adds to picture of ceramic use at this time captured by the larger assemblages from Pennyland (Blinkhorn 1993) and Wavendon Gate (Blinkhorn 1995).

THE ENVIRONMENTAL EVIDENCE

Animal Bone

by Jennifer Browning (ULAS)

Introduction

The bones were recovered both by hand and from the sieved residues of bulk environmental samples (4mm, 2mm and 1mm fractions and flots). The hand-recovered assemblage comprised 397 specimens from 73 contexts, in addition to two partial skeletons. A further c.1000 fragments were recovered during the sieving of environmental samples. The assemblage has been treated as a single phase due to the difficulties in establishing a detailed sequence of events at the site and the relatively short span of time that it was occupied.

Methodology

Specimens were identified with reference to comparative modern and ancient skeletal material held at the School of Archaeology and Ancient History, University of Leicester. A *pro forma* spreadsheet was used for recording data on preservation, taxa, bone element, state of epiphyseal fusion and completeness to elicit information on species proportions, skeletal representation, age and taphonomy. Where possible, the anatomical parts present for each skeletal element were recorded using the 'zones' defined by Serjeantson (1996), with additional zones ascribed to mandibles based on Dobney and Reilly (1988). Surface preservation was assessed after Harland *et al* (2003). The occurrence of burning, gnawing and pathologies was noted and described. Butchery was recorded using simple coding and description. Joining fragments were re-assembled and the resulting

specimen counted as a single fragment, although a record of the original number of fragments was retained. Measurements were taken, as appropriate, following von den Driesch (1976).

Age at death was assessed for the three main species using a combination of epiphyseal fusion and dental eruption and attrition. For the purposes of analysis, ‘fusing’ specimens (defined as where the fusion line was clearly visible) were considered to be fused. Although there is no definitive sequence and age at which epiphyseal fusion of each element occurs, it is possible to use the ranges provided by various authors as a guide. This report follows the figures from Silver (1969), grouping epiphyses into ‘early’, ‘middle’, ‘late’ and ‘final’ after O’Connor (2003, table 34). Tooth wear was recorded following Grant (1982) but mandibles were grouped in age stages after O’Connor (1988).

Identifiable fragments were considered to be those that could be confidently assigned to element and taxon. Undiagnostic shaft and skull fragments and incomplete vertebrae and ribs were categorised as large, medium or small mammal or indeterminate bird. Fragments that did not even meet these criteria were classed as indeterminate.

Provenance and Dating

The bones were recovered primarily from ditches, gullies and pits dating from the late pre-Roman Iron Age up to the 1st century AD. A small number of fragments (n=28) were recovered by during the evaluation phase of the site. More than half of the assemblage was recovered from ditches (Table 4), with fewer bones recovered from pits and gullies. Pit 414 was early Anglo-Saxon in date and contained a single butchered cattle femur.

TABLE 4 Proportion of the bone assemblage recovered in each feature type

<i>Feature type</i>	<i>%</i>
ditch	67
pit	16
gully	15
posthole	1

The average number of bones per feature was low; no ditch contained more than 15 identifiable elements. Most groups contained a mixture of taxa and elements, presumably an accumu-

lation of occupational debris. The largest gully assemblage was recovered from cut 288, which contained identifiable elements of cattle, sheep and pig, including age-able mandibles. Good pit assemblages were equally rare; only those that contained articulated remains produced reasonable quantities of identifiable material. The features with the most bones were therefore pit 256 (which included articulated dog bones and had the greatest species variety), gully terminus 288 (n=44), ditch 383(n=88) and ditch 315 (n=43). The remainder of the assemblage was distributed across the site in smaller quantities.

Preservation

Surface condition was assessed following Harland *et al* (2003) and was classed as good for the majority of bones (64%), permitting examination for butchery marks and other modifications (Table 5). Thirty-four percent of bones were considered fair. No bones were considered to be in excellent condition though only 2% were poorly preserved; flaking and abrasion would have obliterated surface detail, such as fine cut marks.

The assemblage had evidence for modern and ancient breakage, probably partly due to the clay subsoil – the expansion and contraction causes fragmentation – as well as human activities such as trampling. Seventy-six percent of fragments were either un-zoned or had only one zone present, while less than 2% of bones were complete and unbroken. A high proportion of the assemblage (42%) consisted of undiagnostic shaft fragments, there were few articular ends and 5% of the total assemblage consisted of loose teeth.

Quantification and Species Representation

The assemblage contained a relatively small range of taxa: the domestic nature of the site was indicated by the dominance of cattle, sheep/goat and pig. Although sheep and goat bones were mostly indistinguishable from each other, only sheep was positively identified, primarily through the morphology of metapodials and horncores (e.g. Boessneck *et al* 1969). The term ‘sheep’ will therefore be used throughout the remainder of this report, although it is possible that this category may include some unrecognised goat bones.

Relative species proportions were calculated using two different quantification methods (Table 6). A simple count of bones attributed to each taxa,

TABLE 5 Surface preservation of the assemblage (after Harland *et al* 2003)

<i>Preservation</i>	<i>Description</i>	<i>%</i>
good	lacks fresh appearance but solid; very localized flaky or powdery patches	64
fair	surface solid in places, but flaky or powdery on up to 49% of specimen.	34
poor	surface flaky or powdery over 50% of specimen	2

Table 6 Taxa represented in hand-recovered material

<i>Taxa</i>	<i>Latin names</i>	<i>Number of Identified Specimens (NISP)</i>	<i>Minimum Number of Individuals (MNI)</i>
cattle	<i>Bos taurus</i>	82	5
sheep	<i>Ovis</i>	1	
sheep/goat	<i>Ovis/Capra</i>	27*	9
pig	<i>Sus scrofa</i>	17	2
<i>cf</i> crow	<i>corvid sp.</i>	2*	1
dog	<i>Canis domesticus</i>	4*	2
domestic fowl	<i>Gallus sp.</i>	2	1
horse	<i>Equus caballus</i>	8	1
frog	<i>Rana sp.</i>	1	1
Total identified		138	
large mammal		189	
medium mammal		46	
indeterminate		25	
Total		398	

* adjusted for articulated material. Partial dog sheep/goat and bird skeletons count as '1'

Number of Identified Specimens (NISP), suggested that cattle were by far the most common species at the site. However, this method tends to overestimate large mammals, whose bones fragment into more pieces than their smaller counterparts. A controlled count based on the Minimum Number of Elements (MNE) was used to both assess the representation of skeletal elements and to estimate the Minimum Number of Individuals (MNI). MNI was calculated using the most frequently occurring non-repeatable zone of the most common bone element (after Serjeantson 1996). This indicated that sheep were present in greater numbers, although their carcasses were clearly

less fragmented than those of cattle. However, MNI can overemphasise less frequent species and is also determined by the frequency of particular elements, which could be misleading if they are abundant compared with other elements. Pigs are poorly represented in both counts; in keeping with many sites they are probably disproportionately affected by poor preservation, as many pig bones are likely to have been juvenile. Dog bones are rare but occur primarily as articulated parts and partial skeletons. Domestic birds are represented by two domestic fowl bones, one of which was immature. Wild taxa are rare in the hand-recovered material, represented only by crow bones from pit 256.

The evidence suggests that both cattle and sheep were horned, as would be expected in this period. There were insufficient numbers of bones to carry out analysis of skeletal representation, however it was noted that all regions of the cattle skeleton were represented. The sheep skeleton was biased towards the mandible; post-cranial bones were less frequently represented by comparison. Cranial elements were also most common for pig, while the bones of other species were too infrequent to present patterns. In all cases, the robustness of the bone element is likely to have influenced the recovered assemblage.

Sieved Samples

The sieved residues (4mm, 2mm and 1mm fractions and flots) were examined for the presence of small taxa, including birds, amphibians and fish. They mostly comprised small, undiagnostic fragments of burnt and unburnt mammalian bone. Further diagnostic sheep and pig bones were recovered, including teeth and mandibular elements. Amphibians, consistent with frog (*Rana* sp.), were recovered from some ditch fills (315; 380; 381 421) and pit 256. These almost certainly represent the remains of accidental casualties, attracted by the dampness of the open features. Rodent limb bones and teeth, primarily vole, were seen in ditches and gullies (339; 380; 381; 382 and 421). A shrew mandible was identified in pit 256. Bird bones were uncommon and no diagnostic elements were noted.

Ageing and Metrical Information

The age profile of the main domesticates was assessed using tooth eruption and wear, supplemented by the state of epiphyseal fusion for post-cranial bones (Table 7). Unfortunately, there was little available data with which to explore of husbandry and slaughter patterns.

Seven cattle mandibles with age-able teeth were recorded, following Grant (1982) and grouped

into age categories after O'Connor (1989). These included both sub-adult and adult animals, with an emphasis on elderly animals. Only one pig mandible was present, in the sub-adult age category (Fig. 8). Four sheep mandibles were recorded, two of immature sheep and two from adults. The number of post-cranial bones for which the state of fusion could be determined was in single figures for sheep and pig. Fused and unfused sheep bones were recorded but, for pig, unusually, all three epiphyses were fused. The data for cattle bones were barely more substantial, but there was a predominance of fused bones (81%, n=13). The unfused bones were present in the later fusing categories (after 18 months), broadly confirming the pattern suggested by tooth wear.

Despite the fact that measurements were taken on teeth and articular ends as well as complete bones, only 43 specimens were measureable. This dataset is, therefore, too small to provide reliable information on the size of the animals at the site. The measurements taken are included in the archive bone report and could therefore contribute to regional studies.

A small number of greatest length measurements were taken on complete bones, providing two withers heights for cattle and one for sheep (from the articulated skeleton). This is not a statistically viable sample but does indicate these particular animals were towards the larger end of the range often encountered in the late Iron Age (Table 8). At Danebury, cattle ranged from 0.9m to 1.20m in height (Grant 1984, 513).

Butchery, Burning and Gnawing

Butchery marks in the assemblage were few, affecting only 2% of bone fragments. However, fragmentation and later taphonomic damage may have obscured some butchery marks, particularly in the case of fine knife cuts. A pig mandible had been chopped sagittally through the symphysis. All

TABLE 7 Available ageing and biometrical data for the main domesticates

<i>Cattle</i>	<i>No.</i>	<i>Sheep/goat*</i>	<i>No.</i>	<i>Pig</i>	<i>No.</i>
Mandibles	7	Mandibles	4	Mandibles	1
Epiphyses (fused)	15	Epiph F	0	Epiph F	1
Epiphyses (unfused)	3	Epiph U	1	Epiph U	1

* excluding partial skeleton

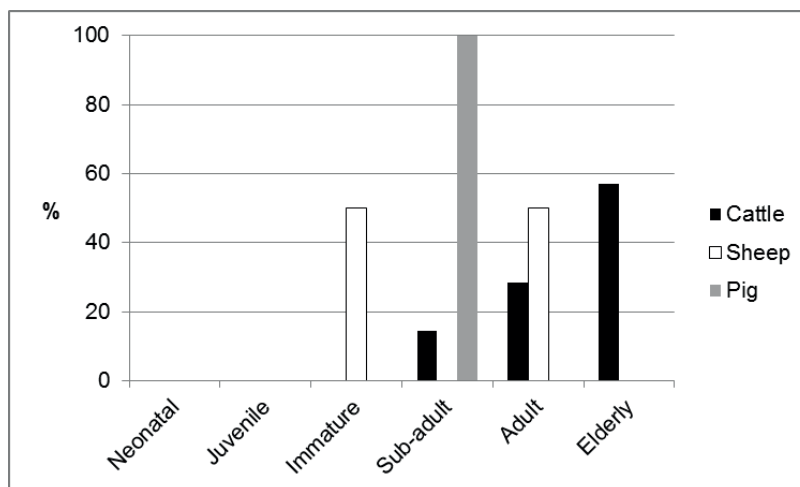


FIGURE 8 Age-able mandibles categorised after O'Connor (1988, 85)

TABLE 8 Estimated withers heights for sheep (after Matolcsi 1970)

<i>Taxon</i>	<i>Element</i>	<i>Greatest length (mm)</i>	<i>Calculation Factor</i>	<i>Estimated withers height (m)</i>
sheep/goat	metacarpal	115	4.89	0.56
cattle	metacarpal	192	6.33	1.22
cattle	tibia	331	3.56	1.18

other butchery was observed on cattle bones and included fine knife cuts, heavy marks produced by a cleaver or axe. Various bone elements were affected, including a mandible, radius and rib. Four out of five tibiae in the assemblage were butchered; three were roughly chopped through the shaft, while one had fine cut marks suggestive of filleting or, more likely, skinning, since the tibia has little meat. The base of a cattle horn core had been sawn, severing it from the skull.

Burnt bones occurred rarely, but were more common among the sieved material. Within the assemblage they tended to be small, undiagnostic shaft fragments, with the exception of the coronoid process from a cattle mandible and a cervical vertebra fragment from a medium mammal. The burnt bones were mostly calcined, therefore heated to a higher degree than would be necessary in normal cooking. They probably represent

fragments accidentally incorporated into fires or possibly deliberately disposed of by burning.

Gnawing was noted on 5% of the assemblage and appeared to have been carried out by dogs. Cattle, sheep, pig and horse bones were affected across a wide range of elements, most commonly elements from the hind leg including tibiae and calcanea.

Abnormal Bones

Four bones with pathological changes were recorded, including one incidence of malocclusion in a cattle mandible; the deciduous 4th premolar had grown at an angle, resulting in an overlap with the deciduous third premolar. Another cattle mandible exhibited an enlarged mandibular foramen, but with no associated swelling or bone modification. A pig maxilla had lost two premolars in life, leading to the development of bone growth

within the alveolar sockets. An unfused dog calcaneum had an enlarged shaft, with associated distortion and pitting surface, probably resulting from trauma.

Articulated Bone Groups (ABGs)

Articulated Bone Groups (ABGs), sometimes termed ‘special deposits’, can indicate archaeological contexts which have not been extensively re-worked or disturbed. They occur as the result of a number of different activities (Morris 2010, 259), including the purposeful burial of whole or partial carcasses, the deposition of butchery or craft waste or could even have been placed during religious or ritual practises. The type of animal, parts represented, attitude of deposition, butchery marks and associated finds are all aspects that might influence the interpretation of such remains.

Articulated material was noted in several features (Table 9). Pit 256 contained an articulated dog skeleton and bones consistent with carrion crow. Three articulated large mammal cervical vertebrae noted in the fill of ditch 270 probably represent butchery waste.

Pit 174 contained a partial sheep skeleton, which appeared to have been exposed to fire. The skeleton comprised skull fragments, the atlas and axis, several vertebrae and the sacrum. The forelimbs were represented only by the right distal humerus and a metacarpal. The hind-limbs were better represented; comprising the left and right pelves and proximal femora and the left tibia, astragalus, calcaneum, metatarsal and phalanges. Further elements, including phalanges and horncore fragments, were recovered from the sieved residues. No unfused bones were noted, suggesting that the animal was skeletally adult

at the time of death. Partial charring was noted across the skeleton: skull fragments, including the interior of the temporal and occipital bone, were affected, as were the ventral bodies of the axis and thoracic vertebrae, and the left distal humerus and carpals. The distribution of burning may suggest that the sheep was partially disarticulated before being exposed to heat. An alternative is that these are the remains of a spit roast, the location of the burning indicating the spit was passed through the animal close to the vertebrae.

A partial dog skeleton was deposited in pit 256. The upper limbs and fragmented skull and mandibles were recovered from context 255. Further articulated elements from the same skeleton were recovered from context 254, including the tibiae, a fibula, calcanea and metatarsals. Smaller bones, including carpals, tarsals and phalanges were noted among the sieved residues. Baculum fragments suggested that the dog was male. The available evidence indicates that the dog was close to 9 months at death. Epiphyseal closure was only noted among the earlier-fusing bones, indicating that the animal was aged between 6 and 9 months at death (Silver 1969, 285–6, table A). However, the presence of permanent dentition, including incisors, canines, most of the premolars and molars, indicated an age greater than 8 months (Silver 1969, 299, table H). The animal was not skeletally mature, so it was not possible to estimate its stature, except to note that it was not the dwarf type often found in the Roman period.

Discussion

The small size of the animal bone assemblage can, unfortunately, provide only limited information concerning the economic basis of the site, and

TABLE 9 Articulated material noted in the assemblage

<i>Context</i>	<i>Cut</i>	<i>Feature</i>	<i>Description</i>
187	174	pit	sheep spine and limbs; some elements are burnt, indicating partial exposure to direct heat
254	256	pit	Bird elements (<i>cf</i> <i>Corvus corone</i>), possibly from the same individual
255	256	pit	partial dog skeleton; some limb bones are unfused
254	256	pit	partial dog skeleton (hind-limbs)
270	268	ditch	large mammal cervical vertebrae, possibly articulated

extensive fragmentation suggests that the assemblage has been affected by taphonomic factors. However, it may also be the case that little faunal waste was deposited, perhaps reflecting the decline in occupation activity suggested by the establishment of the enclosures. The sieved residues produced small numbers of rodent and amphibian bones, including vole, shrew and frog, suggesting that bones perhaps survived better in the moist conditions within some of the ditches.

Cattle, sheep and pig bones form the majority of the assemblage. In common with most sites of this period and geographical region (e.g. Dobney & Jacques 1995; Mynard 1987; Levitan 1994), cattle contributed most to the diet, followed by sheep, while pig was the least well-represented of the three main domesticates. Horse, dog, domestic fowl and crow were also present in small numbers. Previous work at Milton Keynes has also shown a dominance of cattle and sheep over pig, with few horses and a high degree of fragmentation (Mynard 1987, 180).

Low numbers of age-able mandibles and a shortage of epiphyses have restricted the analysis of kill-off patterns to a few observations. There were no juveniles represented, but levels of cattle mortality rose with age, with an emphasis on older cattle at the site. A culinary preference for mature beef may be tentatively inferred, but an emphasis on traction and possibly dairying is also implied. At Bancroft villa, cattle exhibited a similarly mixed husbandry regime, with peaks of slaughter at a young age and during early adulthood, but with the majority surviving into late adulthood (Levitan 1994, 544–545). Two kill-off peaks for sheep were noted in the Belgic/early Roman phases at Bancroft villa; one among juveniles and one among older adults (Levitan 1994, 533). Both young and adult sheep were present in the Middleton assemblage, and it is possible that there may have been a similar regime, although the evidence is insubstantial. No particular concentrations of bone elements or carcass parts were noted, which might have suggested the types of activities taking place.

The partial skeletons within pits 174 and 256 and their context are of interest; there are several possible explanations for these types of remains and they indicate that the deposit has been largely undisturbed. Although Iron Age examples have been given the most attention, articulated/associated bone groups (ABGs) are more likely

to occur on Romano-British sites, and in this period sheep are the most common species after dog (Morris 2010, 262). The partial sheep skeleton from pit 174 exhibits an unusual pattern of burning on the ventral bodies of several vertebrae, and may conceivably represent a spit-roasted animal. A young male dog from pit 256 was evidently buried in an articulated state and was substantially complete, differentiating it from the other faunal remains within the feature. These included a few elements from cattle, horse, sheep and domestic fowl, as well as several, possibly articulated, bones from a crow wing. In the absence of further evidence it is unclear whether the dog represents a natural mortality, deposited in a convenient pit, or if there is a less prosaic explanation for its presence.

Archaeobotanical Analysis

by Anita Radini and Rachel Small (ULAS)

Introduction

A total of twenty-four samples were taken from dated features across the site for the recovery of plant and animal remains. The samples were processed by ASC and the flots sent to ULAS for analysis. The flots were scanned in their entirety using a stereoscope with magnifications ranging from x7 to x45. Charred remains were recorded (Table 10) using a semi-quantitative scale (x = present, xx = common and xxx = abundant >25 items) to estimate their abundance. Morphological criteria were used for the identification of plant species, based on modern reference material. Plant names follow Stace (1997).

Results

Overall the archaeobotanical assemblage in most samples was poor. Only one sample, 18 (312) contained a significant amount of charred plant remains.

Samples 8 (223) and 5 (210), consisted mainly of small charcoal fragments and flecks, and only a very low number of charred seeds, which were too damaged to be identified. These samples had a very large proportion of modern contaminants, and cannot provide any information on human activity on the site. They are not included in Table 10, and will not be discussed further.

All samples contained a large amount of modern biological contaminants comprising modern roots and rootlets, leaf fragments, snails and, in some

TABLE 10 Summary of semi-quantified analysis of sieved samples

<i>Sample</i>	<i>Context</i>	<i>Weight (g)</i>	<i>Chgr</i>	<i>Chcf</i>	<i>ChSe</i>	<i>Chc</i>
1	187	87		x		xxx
9	239	119	x	x	x	x
11	254	11	x		x	xx
13	281	49	x	x	x	xxx
14	290	59	x	x	x	xxx
15	292	4	x		x	x
16	340	30	x			xx
17	346	26	x		x	x
18	312	92	xx	x	xx	xx
24	347	10	x		x	x

Chgr=charred cereal grains; Chcf=charred chaff; Chse=charred seeds; Chc=charcoal and charcoal flecks.

cases, modern seeds of grasses (Poaceae) and other modern seeds, mainly represented by elder (*Sambucus nigra*) and blackberry (*Rubus* spp.) pips, both often found uncharred on archaeological sites. Moreover, earthworm egg capsules were also recovered in all samples, suggesting a high degree of soil disturbance. Charred plant remains were found to be in poor state of preservation, and many were abraded. This could be explained by the level of bio-disturbance and/or by prolonged burning.

The plant assemblage was remarkably similar across the samples: sample 18 (312) contained the largest amount of charred plant remains, while all the other samples were found to have a low amount of charred cereal grains and seeds, though very similar in species composition to those found in sample 18.

The most common remains were represented by cereal grains, most in a poor state of preservation. The identifiable cereal grains were those of glume wheat, either emmer or spelt (*Triticum dicoccum/spelta*). The grains were often recovered as single item, but were common in sample 18, where spelt wheat (*T. spelta* L.) seems the predominant type. One single charred grain of bread wheat (*T. aestivum/durum*) was found in sample 24 (347). Barley grains (*Hordeum vulgare*) were also found in small numbers in sample 18, and could possibly be of a twisted form, suggesting the barley to be six-row. Chaff of glume wheat including spelt (*Triticum spelta*), was recovered in very low numbers, a single example or two, in samples:

1 (187), 9 (239), 11 (254), 13 (281), 14 (290), 18 (1629).

Charred seeds were recovered too, almost in equal proportion to cereal grains. They were mainly of plants of arable or disturbed ground; commonly grasses including brome grass (*Bromus* sp.), but vetches (*Vicia* type), goosefoots (*Chenopodium* sp.) and docks (*Rumex* sp.) were also present. All can grow as arable weeds and are likely to have been included with the cereals. They do also have edible leaves and the grasses could be used as fodder, flooring and roofing material and also as kindling.

All the samples contained at least a few flecks of charcoal, and a few larger fragments of oak charcoal (*Quercus* spp.) were identified.

Discussion

The main cereal found here was glume wheat, in which the grains are held firmly in the chaff even after initial threshing. After threshing the straw is removed and the spikelets winnowed to remove light contaminants and coarse sieved to partly clean the spikelets (Hillman 1981). The presence of waste chaff shows that dehusking of glume wheat was carried out at the site. A high ratio of weed seeds and/or chaff to grains can indicate cereal cleaning waste (van der Veen 1992). However, the stage and scale of crop processing on site cannot be addressed due to the low number of charred remains recovered. Spelt and (six-row) barley are the common cereals of the Iron Age

and Roman periods (Greig 1991), with sporadic occurrences of emmer and bread wheat grains. The lack of evidence for other food plants and fruits is a common feature of Iron Age and Roman rural sites. Moreover, Late Iron Age and early Roman sites are typified by a low density scatter of charred remains from settlement features, and few samples with more abundant remains. This can be interpreted as dehussing small batches of glume wheat for domestic consumption, and the hand-sorting of contaminants including large seeds and chaff fragments. In summary, the assemblage is consistent with domestic preparation and consumption of cereal crops such as glume wheat and barley, and is typical of the Late Iron Age and Roman period in Britain.

CONCLUSIONS

The excavation at Middleton School revealed part of a primarily agricultural landscape, established in the late Iron Age and probably continuing in use into the early Roman period, a time-span of probably 100-150 years. During that relatively short space of time the site appears to have seen an initial phase of occupation represented by two, possibly three structures, one of which was itself rebuilt. Contemporary 'occupation' features such as hearths, pits, and post-built structures associated with this phase were not found, so presumably the occupation phase was transient, or the structures were agricultural rather than domestic. This interpretation is supported by the relatively low level of domestic refuse, pottery and other artefacts associated with them. Structures 192 and 193, represented by narrow penannular gullies, are ubiquitous: similar examples have been recorded on contemporary sites in the area, such as Bancroft (Williams & Zeepvat 1994), Pennyland and Hartigans (Williams 1993). The larger structure, 455, is similar in many respects to the sub-circular ditched enclosures examined at Pennyland and Hartigans, and there interpreted as stock enclosures (*ibid.*, 19).

At some point in the relatively narrow time-span of the site, there appears to have been a distinct change of emphasis in its management. The structures and enclosures fell out of use, to be replaced by successive phases of ditched enclosures. Whether these were paddocks for stock, or fields for cultivation, remains uncertain; the excavated

area presents too small a sample to make sense of the changes in land division, of which the stratigraphic evidence suggests there were three or four in total. Taken together, these land divisions are all single-phase ditches of similar width and depth, more or less aligned north-south or east-west. They are located on either side of a broader, deeper ditch (449), running NNW-SSE across the site, evidently forming a more significant boundary than the smaller ditches. Ditch 449, which was recut twice, appears to have remained in use longer than the smaller ditches, as the fill of its final recut contained the only early Roman sherds recovered during the excavation.

As noted above, the Iron Age / Roman phases of the site were characterized by generally low levels of artefactual and environmental material. The pottery assemblage consists almost entirely of vessels in soft pink grogged and shelly wares, characteristic of the early to mid and mid to late 1st-century groups from Milton Keynes sites at Walton and Cotton Valley (Marney 1989, 7-12 & 195 appendix 2, tables 1 & 2). The negligible quantity in the assemblage of early sandy wares and grey wares from the Upper Nene valley suggests that activity on the site does not extend much beyond c.AD70. Similarly, the triangular loom weight RF1, though typically of Iron Age date, could equally have been in use in the early Roman period.

Environmental evidence from the site is also limited. In the animal bone assemblage, the predominant taxa are cattle and sheep/goat, which are almost equally represented. However, as the number of sheep/goat and dog bones is boosted by the presence of partial skeletons, statistical adjustment to redress this imbalance indicates that cattle are the most numerous. In comparison, pigs and horses are poorly represented, and there is only a single domestic fowl/goose. Wild taxa are rare in the hand-recovered material, represented only by a possible corvid (crow) in Pit 256. Bone from the environmental samples includes mostly amphibians and rodents. This range of taxa is comparable to other contemporary sites in the area (Williams, *in* Croft & Mynard 1993, 9).

Processing of the environmental samples produced only limited floral evidence. The main cereal present is glume wheat: the presence of waste chaff shows that de-hussing of glume wheat was carried out at the site. Spelt and (six-row) barley are

also present, with sporadic occurrences of emmer and bread wheat grains. The lack of evidence for other food plants and fruits is a common feature of Iron Age and Roman rural sites. The assemblage is consistent with domestic preparation and consumption of cereal crops such as glume wheat and barley, and is typical of the Late Iron Age and Roman period in Britain.

Although at first glance the pattern of late Iron Age and early Roman activity revealed at Middleton School provides no great new insights into that period, it adds to an increasing body of information, summarized earlier in this report, relating to prehistoric and Roman settlement and activity on the eastern flank of Milton Keynes, in the Ouzel valley and its tributary Broughton Brook.

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