A MIDDLE IRON AGE FARMSTEAD AT CAMPBELL PARK, MILTON KEYNES

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with contributions by
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In December 2006, excavations by Albion Archaeology at Campbell Park, Milton Keynes, revealed the southern edge of a small enclosed farmstead of middle Iron Age date. The enclosure contained the partial remains of a roundhouse, as well as evidence of internal division and truncated structural features. A single rubbish pit was also identified outside the enclosure. The enclosure ditch displayed several phases of use and appears to have been deliberately backfilled after the abandonment of the farmstead. The inhabitants processed wool, kept horses for transport and cattle, sheep and pigs for meat, and grew barley and spelt wheat. The surrounding environment was characterised by open pasture and scrubland with bramble and hawthorn. Also in the middle Iron Age, a boundary ditch was created, following the abandonment of the farmstead and the deliberate backfilling of the enclosure. The positioning of this ditch may have connections with the later medieval parish boundaries of Willen and Little Woolstone. By the Middle Ages, the area had been completely reorganised into a largely arable landscape.

INTRODUCTION

In 2006, English Partnerships (now the Homes and Communities Agency) submitted a planning application to develop land at Campbell Park, Milton Keynes. Because of the potential for archaeological remains in the area, Milton Keynes Council's Archaeological Officer prepared a brief for a programme of archaeological evaluation (MKC 2006). Acting on behalf of English Partnerships, Archaeologica commissioned geophysical survey (Bartlett 2006) and trial trenching evaluation (Albion Archaeology 2007), which revealed the remains of Iron Age ditches to the south of the H5 Portway. Because these remains were under threat from the proposed construction of an electrical substation, the Archaeological Officer requested a scheme of mitigation works. On behalf of English Partnerships, (now the Homes and Communities Agency) Archaeologica commissioned Albion Archaeology to undertake this work, in accordance with a written scheme of investigation (Archaeologica 2006).

Site location and geology

The site lies to the immediate south of the H5 Portway in central Milton Keynes (NGR SP 8622 3992) and covers an area of *c.*1600sq m. It occupies a gentle, south-facing slope at *c.*96.5m OD that dips towards the foot of a ridge (*c.*79.5m OD). The underlying geology is boulder clay.

Archaeological Background

Figures 1 and 2 show the locations of the archaeological sites referred to below. Extensive development in Milton Keynes has revealed a rich Iron Age landscape (Brown *et al.* 2009, 43). Middle Iron Age (MIA) sites include recently excavated farmsteads at Tattenhoe Park (Taylor 2006), Oxley West (Brown *et al.* 2009), and Kingsmead South (Taylor 2009) in the south-western part of the city. Evidence of early-middle Iron Age (E-MIA) farming activity was also identified during the construction of the northern link of the Stoke Hammond bypass, south of Bletchley (Edgeworth 2006). Other Iron Age sites include those at Pennylands and Hartigans (Williams 1993), Bancroft (Williams and Zeepvat 1994),

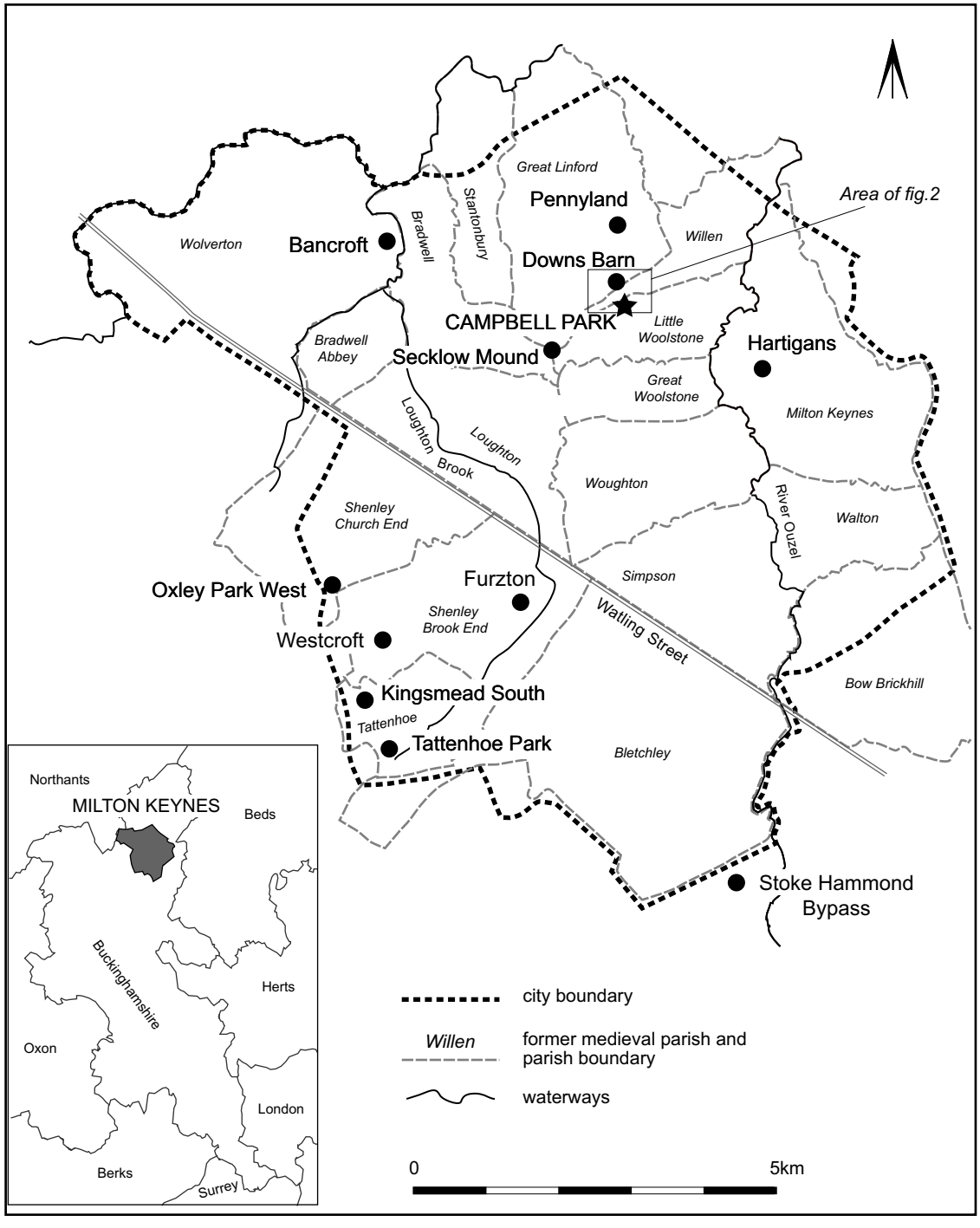

FIGURE 1 Site location showing medieval parish boundaries and sites mentioned in text

Furzton (Williams 1988) and Westcroft (Anthony 2003).

Nearer to Campbell Park, excavations at Downs Barn, *c.*150m north of the substation site, revealed a system of late Iron Age (LIA) linear and curvilinear enclosures (Weale 1999; Last 2001). Other LIA remains were also identified during the construction of the H5 Portway that forms the northern border of the site. During the Middle Ages, the area of the site was under extensive ridge and furrow cultivation, in common with most of the land now within Milton Keynes (Croft and Mynard 1993, figs. 72 and 81).

Results of the excavations

Introduction

The remains of two distinct periods of activity were identified: a MIA enclosed farmstead that was replaced by a boundary ditch following its abandonment; and medieval ridge and furrow cultivation (Fig. 2). The evidence has been organised into chronological and spatial units called Landscapes, which are sub-divided into Groups (G) representing distinct areas of activity or types of features (Figs 3-6). In turn, these have been divided into Sub-Groups (SG) representing smaller units relating to feature types or parts of features.

Landscape 1: MIA Farmstead

Most of the sub-surface evidence relates to the MIA. Although the pottery recovered is broadly datable to the E-MIA (*c.* 650–350BC), the range of fabric types is comparable with assemblages from MIA sites in Milton Keynes (Appendix 1). The site is dominated by the partial remains of a curvilinear ditched enclosure (G2 and G6). The western part of the enclosure G2 was re-cut by a second ditch on the same alignment. It contained silted/backfilled

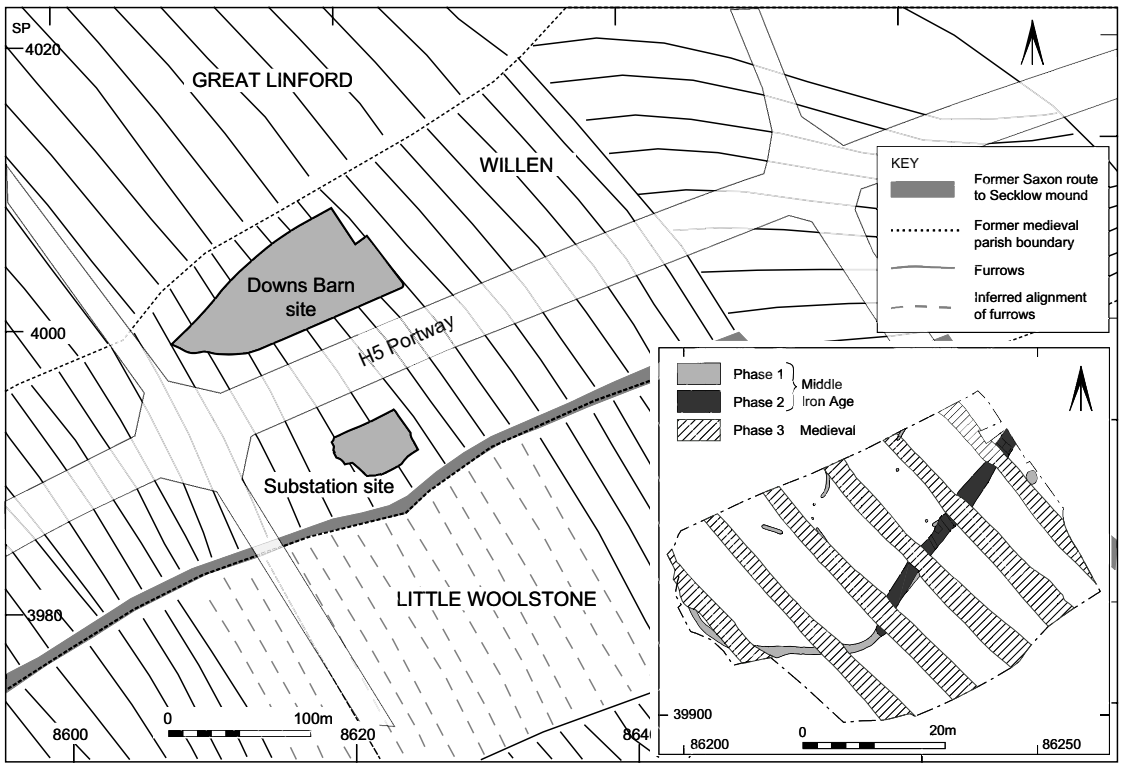

FIGURE 2 All periods plan and alignment of medieval ridge and furrow and Willen/Woolstone parish boundary and routeway (after Croft and Mynard 1993, figs 72 and 81)

deposits that produced MIA pottery, a small quantity of animal bone and fragments of an E-MIA loom weight (Appendix 2).

The eastern part of the enclosure G6 displayed similar evidence of ditch re-cutting and maintenance; it had been largely infilled by natural silting processes. However, deposits within SG15.01 produced E-MIA pottery and a small assemblage of animal bone, suggestive of the localised disposal of domestic waste. The enclosure ditch also produced two flint debitage flakes and a hollow scraper. These are likely to be Neolithic to late Bronze Age in date and are thought to be residual.

It is likely that the deposits within the enclosure ditches formed towards the end of farmstead's existence. Re-cut SG3 within ditch G2 (Figs 3, 4g & 5t) represents the latest in a longer sequence of maintenance and modification carried out while the farmstead was in use. The maintenance of such features is often not reflected in their deposit sequences because much of the silted material would have been almost entirely removed as the ditch was cleaned out. Indeed, SG3 (Fig. 5t) may only be visible because its darkly coloured deposits contrasted with the paler, silty fills below it. These deposits are likely to represent deliberate backfilling, indicating a cessation of the use of the ditch and its removal from the landscape.

The removal of the enclosure is further evinced by its partial truncation during the later phase of MIA activity (Landscape 2). The eastern part of the enclosure G6 was almost entirely truncated by a ditch on a similar alignment (G7, Fig. 6). The terminal of this ditch was cut through the backfilled enclosure ditch, indicating that it had been filled in (at least to an archaeologically visible level) before the new ditch was created. This suggests deliberate re-organisation of the landscape after the farmstead went out of use.

Within the enclosure, human occupation was indicated by a shallow curvilinear gully SG8. It contained naturally accumulated deposits that produced several sherds of E-MIA pottery (Table 2, Appendix 1). Although only part (*c.*4.5m) of the gully extended into the excavation area, its curvature and profile were similar to the characteristic penannular rainwater drip gullies of Iron Age roundhouses (Figs 3 and 5).

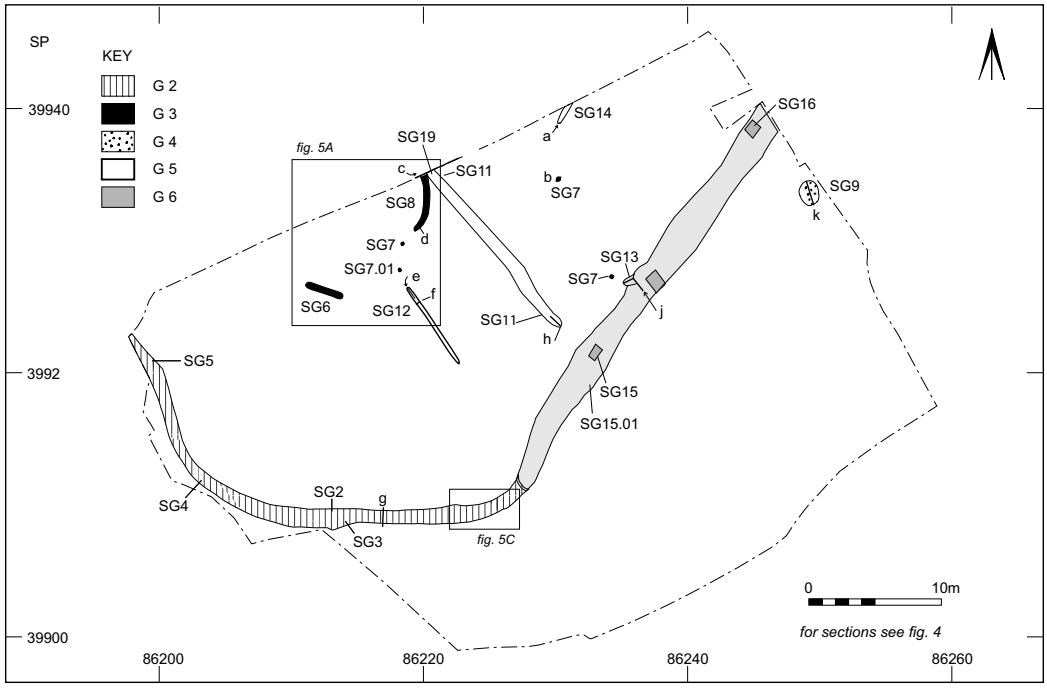

FIGURE 3 Landscape 1 farmstead (Groups 2–6)

The enclosure also contained the remains of four shallow postholes G3, two of which were close to the roundhouse. Three of the postholes SG7 contained naturally accumulated deposits derived from the surrounding clay, while SG7.01 had been deliberately backfilled and yielded E-MIA pottery. The shallow depth of the postholes is indicative of significant truncation across the site. It is therefore reasonable to assume that the surviving evidence represents only a small fraction of the structures originally within the enclosure. Notwithstanding their poor preservation, the postholes are thought to represent parts of structures and/or fences.

A short beam slot SG6 (G3) was also identified *c.*8m south-west of the roundhouse gully terminal (Fig. 5). Although unlikely to form part of the roundhouse itself, it probably represents the surviving part of a structure associated with it and the adjacent postholes.

Sampled deposits within G3 produced small amounts of animal bone, charred wheat seeds (probably spelt), barley seeds, and numerous bramble seeds as well as goosefoots, thistle and water-blinks (Appendices 3-5).

The enclosure also contained a series of non-structural gullies (G5, Fig. 3). Two (SG11 and SG12) were on a broadly NW-SE alignment, beneath medieval furrows (in this case serving as indicators of the direction of land drainage) and are considered to represent drainage features and/or internal divisions within the farmstead enclosure. They produced most of the site's animal bone assemblage. Cattle, sheep/goat, pig and horse bones were identified in SG11. Fragments of cattle maxilla, horncore and pelvis, a horse humerus and femur (with fine cut marks) and a pig scapula were also recovered. Wear was noted on all three upper molars from the fragmented cattle maxilla, along with some porosity of the alveolar bone, indicating an adult and potentially aged animal. Sheep/goat teeth and mandibular fragments indicate a minimum of two animals, one adult and the other immature (Appendix 3). In SG12, the only identifiable fragments were cattle teeth. Charred plant remains included chaff and probable spelt grains (Table 3, Appendix 3).

SG11 was re-cut as SG19, indicating localised maintenance of the gully (Fig. 4c). SG11 was phys-

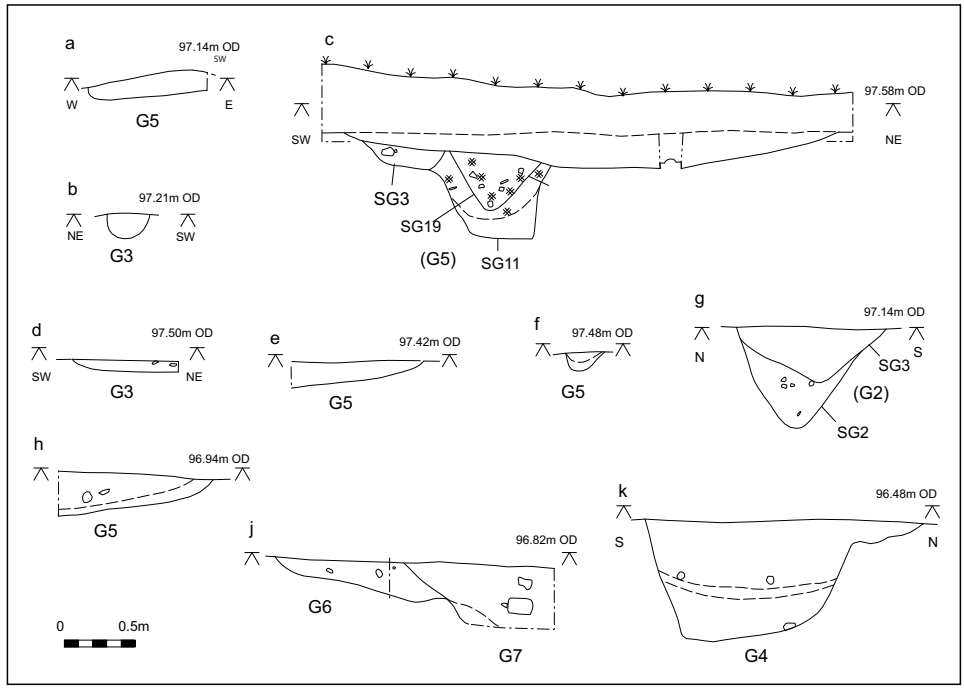

FIGURE 4 Landscape 1 farmstead – sections related to Figure 3

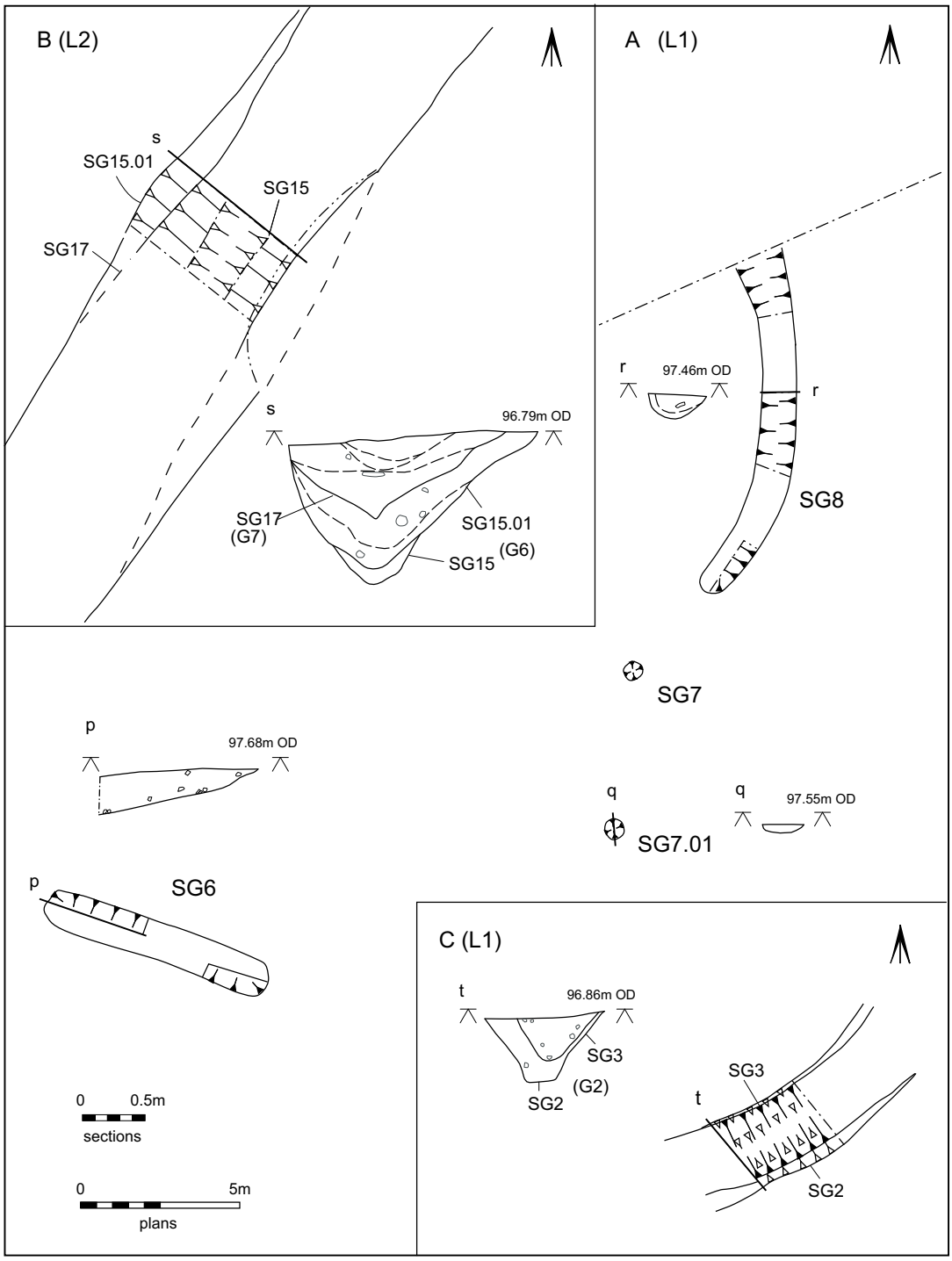

FIGURE 5 Landscape 1 farmstead – detailed plans and sections for G2, G3 and G6

ically connected to the roundhouse drip gully. However, the stratigraphic relationship was unclear and it is possible that they formed part of the same system, perhaps draining water down-slope to the south, away from the roundhouse.

Molluscan remains from G5 comprised snails of open, disturbed ground with damp vegetation such as pastureland. This picture is supported by evidence of possible disturbed ground plant species like thistles and goosefoots (Table 5, Appendix 5). Charred seeds of bramble and hawthorn suggest woody scrub vegetation and/or hedgerows.

A single pit was located outside the enclosure. It contained deliberately backfilled deposits that produced E-MIA pottery and the charred remains of probable spelt seeds (Table 4, Appendix 4). These were capped by a silted deposit representing the disuse of the pit. Its position outside the settlement enclosure suggests its contents were deliberately separated from the living areas; it was probably a rubbish pit.

Landscape 2: MIA Boundary Ditch

The final phase of MIA activity comprised a sequence of ditches G7 on a similar NE-SW alignment to the eastern part of the farmstead enclosure. Stratigraphic evidence indicates the earlier ditches were fully silted/infilled (at least to an archaeologically visible level) when the new boundary ditch was dug (Fig. 6).

The deposits of G7 produced 60 sherds of E-MIA pottery, over half the assemblage for the entire site (Table 2, Appendix 1). Isolated bones of cattle and sheep/goat were also recovered along with a small quantity of fragments that could not be identified to species. Soil samples yielded small amounts of chaff (possibly emmer) and occasional wheat grains, likely to be spelt (Table 4, Appendix 4). Numerous snail shells were also recovered, mostly of the water snail *Anisus leucostoma,* with smaller numbers of other species, indicative of wet conditions prone to drying (Table 5, Appendix 5). The materials within these deposits, particularly

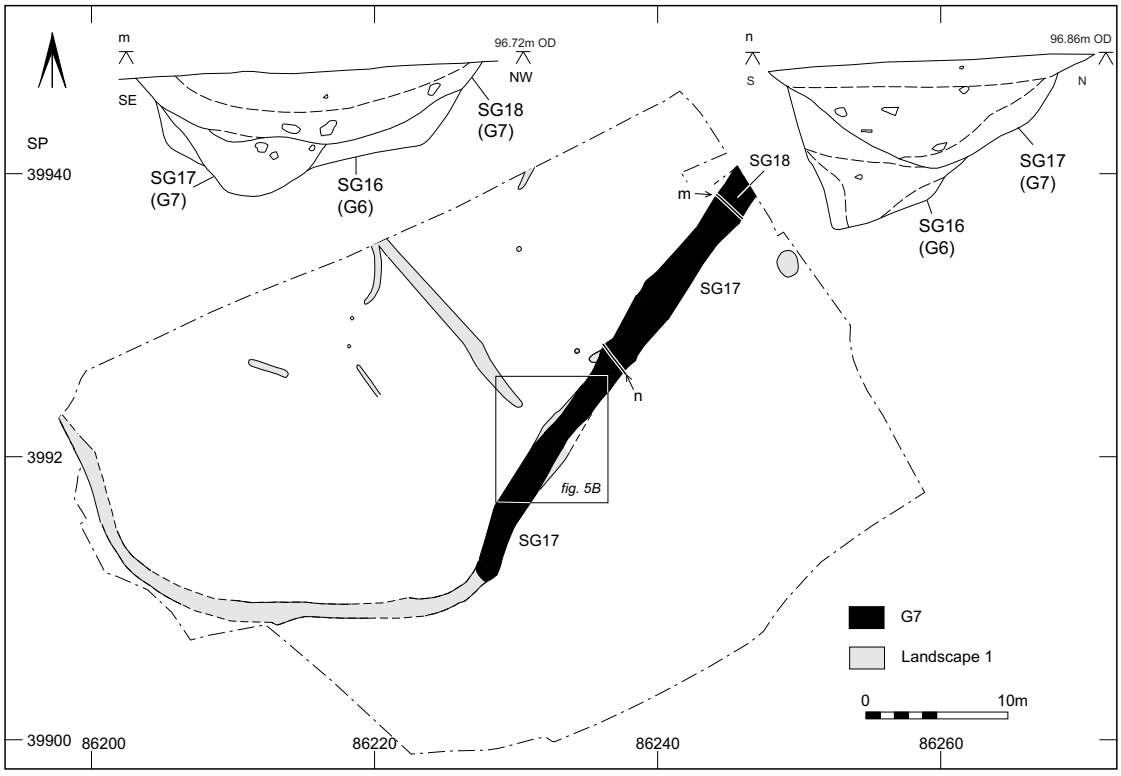

FIGURE 6 Landscape 2 boundary ditch

SG17, indicate that they were created as a result of deliberate backfilling, suggesting that, like the earlier enclosure, the boundary ditch was also abandoned and deliberately filled in after an unknown period of use. SG17 was itself cut by SG18, a relatively shallower ditch identified in the eastern part of the site (Fig. 6m) and indicating reuse of the later boundary.

Although the pottery assemblage from G7 is relatively large, it may be composed, in part, of residual material derived from activity associated with the earlier farmstead. Construction of the new ditch is likely to have disturbed earlier artefacts from soils within the enclosure. It is therefore feasible that some of the more durable artefactual material within ditch G7 was reworked from Landscape 1.

The earlier enclosure must still have been visible as a landscape feature to allow the diggers of the later ditch to follow its alignment so closely. However, the later ditch disregards the continuation of the enclosure to the west and north-west supporting the hypothesis of deliberate re-organisation of the landscape, following the abandonment/removal of the earlier farmstead.

Landscape 3: Ridge and Furrow Cultivation

The most recent sub-surface evidence at the site was the basal remains of six NW-SE aligned furrows. Although no datable material was recovered from them, their morphology and spacing suggest they represent medieval ridge and furrow cultivation. Indeed, their position and alignment correspond with Croft and Mynard's mapping (1993, figs 72 and 81).

During the Middle Ages, the site would have been located within the parish of Willen, just to the north of the medieval parish boundary with Little Woolstone (*op. cit.*, fig. 10). The landscape surrounding the site can be imagined as a patchwork of ploughed fields giving way to meadowland nearer the river Ouzel and the village of Little Woolstone, *c.*2km to the south-east.

Synthesis

Character and Development

The investigations at Campbell Park revealed the southern edge of a small, enclosed farmstead with an external pit, internal divisions, a roundhouse and other partial structural remains. After its abandonment it was replaced by a land boundary. The form and character of the physical remains are broadly similar to those of other Iron Age settlements in Milton Keynes (cf. Anthony 2003; Brown *et al.* 2009; Taylor 2009).

Throughout the sequence at Campbell Park, the pottery assemblage is broadly datable to the E-MIA (*c.*650–350 BC). The small quantity of pottery recovered and the lack of diagnostic forms preclude detailed chronological refinement (Fig. 7, Appendix 1). However, although there are no definite MIA forms or decoration, there is an absence of EIA flint-tempered fabrics. Indeed, the range of fabric types is broadly comparable with those noted at other MIA sites in Milton Keynes, *e.g.* Oxley Park West (Webley 2009, 53), Kingsmead South (Blinkhorn 2009, 82), Pennyland, Hartigans (Knight 1993, 220 and 230) and Bancroft (Knight 1994, 384), although the relative proportions differ, perhaps highlighting the very localised nature of pottery manufacture. This supports the assertion that the Milton Keynes boulder claylands, on which the site lies, were first settled in the M-LIA (Williams 1993a).

The faunal, molluscan and plant assemblages are similarly typical for an IA settlement (Appendices 3-5). Animal bone evidence confirmed the presence of horned cattle, sheep/goat, horse and pig. Soil samples produced snail species similar to those found in Iron Age and Roman ditches at a number of sites in the East of England (summarized in Murphy 2001) and are comparable to results from LIA ditches in Leicestershire (Monckton 1992). Charred plant remains were found in very low densities, mostly below one item per litre but up to 2.7 items per litre of sediment, which is not unusual for sites of this period in central England. Remains included glume wheat (probably spelt) and barley, species frequently found on Iron Age sites.

Environment

Despite the limited size of the charred plant and molluscan assemblages, it is possible to create a broad picture of the farmstead's environment. The range of snail species is very restricted and similar throughout, suggesting little change during the lifetime of the farmstead (Table 5, Appendix 5).

The farmstead ditches and gullies contained seeds of bramble and hawthorn, indicative of

woody scrub vegetation with possible hedgerows. Open, disturbed ground is suggested by goosefoots and snail species such as *Pupilla muscorum,* which may have lived on bare ground resulting from the construction, maintenance and/or erosion of features (Appendix 5). It is possible that some of the land was given over to pasture. Indeed, the open country snail species (*Vallonia spp*.) and thistles point to open pastureland. The presence of damp vegetation is also likely with water-blinks and snails of marshy ground. Damp conditions may have been present within some of the features where vegetation may have grown in the shade.

Samples from the later boundary ditch G7 yielded numerous shells of slum species *Lymnaea truncatula*, which is characteristic of damp grassland near ditches. It is also host to the liver fluke that affects grazing animals and is therefore often found on pasture land. The animal bone assemblage attests the presence of grazing livestock such as cattle, horse and sheep/goat. No evidence of standing water was found, suggesting the ditch was not permanently filled with water. The near absence of water species within the farmstead generally is likely to reflect the fact that the features were generally shallow and above the water table.

Craft and farming

The presence of a loom weight (Appendix 2) implies access to wool (supported by the presence of sheep bone) and an element of domestic occupation; the production of textiles during the IA would have been a home-based industry, with each household geared to supplying its own needs. Fragments of triangular loom weights were also found at Pennylands in association with roundhouses (Williams 1993b, 121–3).

The faunal assemblage indicates the presence of horned cattle, sheep/goat, horse and pig. However, the largest proportions of bone were assigned to the large and indeterminate mammal categories (Table 3, Appendix 3). This, along with a lack of evidence for wild animals, birds, fish or small mammals, probably reflects mixed preservation and the small assemblage size. No articulated remains were noted, and most of the bones are likely to represent the waste products of processing and consumption associated with domestic refuse. Indeed, fine cut marks, typical of Iron Age butchery, were noted on the proximal part of a horse femur, a cattle tibia and two shaft fragments.

Due to poor survival conditions, information available for the ageing of individuals was limited to the following examples. A pig scapula was in the process of fusing suggesting that the animal was aged around 12 months at the time of death (Silver 1969, table A). For sheep/goat, the teeth present and their state of wear were representative of both immature and adult animals (O'Connor 2003, table 31).

The small assemblage size precludes discussion of the use of animal resources. However, the presence of pasture, as indicated by the palaeo-environmental evidence, implies some form of pastoral activity, perhaps with sheep for meat, horses for transport and cattle possibly providing both (cf. Last 2001, 75). Furthermore, comparison with other nearby Iron Age sites with similar assemblages suggests an economy based largely on pastoral farming; *i.e*. Kingsmead South (Taylor 2009, 95), Stoke Hammond northern bypass (Edgeworth 2006, 143) and the Stoke Hammond-Linslade bypass (Moore *et al.* 2007, 34).

Arable activity was indicated by typically Iron Age species, glume wheat (probably spelt) and barley. Spelt chaff was present but sparse, and very few charred weed seeds and large grasses were present (Table 4, Appendix 4). The chaff may represent part of a scatter of waste from food preparation, suggesting the consumption of glume wheat and barley. Preparation of spelt may have been in the form of small scale de-husking, which is likely to have been done in small batches. The density of charred seeds falls into the lower end of cereal density on Iron Age sites and, as with similar sites in the region, this may suggest mixed farming with an emphasis on pastoral activity.

With such small assemblages as those from Campbell Park, the balance of pastoral and arable farming is difficult to determine, although evidence points to a mixture of the two. In general, Iron Age plant remains are often sparse in the Midlands, even in domestic contexts. Indeed, at Oxley Park West, it has been suggested that grain may have been imported from elsewhere (Brown *et al.* 2009, 62). The scarcity of palaeoenvironmental evidence on the clay lands of Milton Keynes has often been explained by the dominance or exclusivity of pastoral farming (Edgeworth 2006; Moore *et al.* 2007; Taylor 2009). However, it has also been

pointed out that clay soil seriously hinders the recovery of charred remains (de Moulins 1996, cited in Brown *et al.* 2009, 62).

Recent discoveries of prehistoric settlements in the eastern region have caused archaeologists to rethink the potential of clay lands (Mills and Palmer 2007, 7–8). Similarly, the interpretation of prehistoric clay sites should make allowances for the relative preservation potential of their palaeoenvironmental remains.

Landscapes and boundaries

The southern part of the former medieval parish of Willen tapered, causing its northern and southern boundaries to converge toward the south-eastern part of the parish (Fig. 1). Its southern boundary, between Willen and Little Woolstone parishes (to the north of which the MIA settlement is located) is thought to follow an early route leading to Secklow Mound, the location of the Saxon Secklow Hundred meeting place, *c.* 1.3km south-west of the MIA settlement (Fig. 2, Croft and Mynard 1993, 195). The northern boundary with Great Linford broadly followed a ridge of higher ground also leading toward Secklow mound (Croft and Mynard 1993, 91).

It has been suggested that linear Iron Age settlements such as Oxley West (Brown *et al.* 2009), Bancroft (Williams and Zeepvat 1994) and Salford, Beds. (Dawson 2005) were deliberately located along existing land boundaries. Some are laid parallel to, or are succeeded by, ditched boundaries perhaps related to divisions between pastoral and arable use (Lambrick and Allen 2004, cited in Brown *et al.* 2009, 61) or on the division between common lands and green-way boundaries (Brown *et al.* 2009, 61). In Cambridgeshire, such greenways have been shown to follow parish boundaries, which themselves follow boundaries dating back to prehistoric times (Abrams and Ingham 2008, 116–117).

The position of the MIA farmstead on or adjacent to the parish boundary/Secklow route may be significant. After the abandonment of the farmstead, the ditch G7 apparently disregarded the enclosing function of the farmstead ditch (Fig. 6). It was also aligned broadly parallel to the Secklow route / parish boundary (Fig. 2). It is possible that, like the ditches at Oxley Park West, the later ditch represents evidence of the definition or re-definition of an existing land boundary after the abandonment of a settlement. Indeed, the smaller LIA enclosures and ditches at Downs Barn, *c.*200m to the north of the site, were also apparently replaced by a larger ditch, which ran broadly parallel to the Willen/Great Linford parish boundary (Fig. 2, Last 2001, figs 2-3). This raises the intriguing possibility that the medieval parish boundaries of Willen, and consequently the Saxon Secklow route, may have had prehistoric origins, perhaps influencing the narrow, tapered shape of medieval Willen parish.

Discussion

Following analysis of the contextual, palaeoenvironmental and artefactual evidence from Campbell Park, a landscape emerges, much like those suggested at other sites in the region. The small farmstead is likely to have been centred on the roundhouse, surrounded by bare, disturbed weedy ground where people were de-husking spelt and processing wool. Other structures probably lay nearby, as well as fences and drainage gullies taking water to the lower land to the south. The farmstead lay in a generally open environment with areas of scrub, bramble and hawthorn, possibly on the edge of an area of common land or a routeway. Nearby grassland was probably used as pasture for cattle, sheep/goats and horses, at times prey to liver fluke. After the farmstead was abandoned, the new boundary ditch was probably inhabited by damp vegetation, with the ditch drying out in warmer periods.

After this boundary was partially filled in and allowed to silt up, it appears that people moved elsewhere in the landscape. Eventually, newer settlements appeared at Downs Barn to the north. By the Middle Ages, the area had been completely reorganised into a largely arable landscape, although traces of the prehistoric landscape may have survived in the parish boundary of Great Linford and Willen.

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James Newboult was project officer during post-excavation assessment and analysis. Analysis of the data was undertaken by Jennifer Browning (animal bone), Holly Duncan (other artefacts), Angela Monckton (charred plant and molluscan remains) and Jackie Wells (pottery). Illustrations are by Cecily Marshall and James Newboult.

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Appendix 1: Pottery – Jackie Wells

The investigations produced 110 pottery sherds, representing 40 individual vessels, weighing 1.3kg. Most sherds are highly abraded and the fragmentary nature of the material is evidenced by a low average sherd weight of 12g, and vessel to sherd ratio of 1:3. No complete vessel profiles and few partial profiles are present. Twelve fabric types were distinguished. Hand made vessels with a soapy feel, tempered with a mixed range of inclusions (calcareous, grog and organic matter) dominate the assemblage (53% by sherd count), with smaller numbers of sand- and shell-tempered vessels (43% and 4% respectively).

Diagnostic forms are round-shouldered vessels with upright or slightly everted rims, some of which are flattened, an ovoid jar and a partial handle. Surviving bases are all flat. Decoration is rare and comprises single incidences of burnishing, finger nail, and finger tip impressions. Illustrated vessels are shown in Figure 7, at one quarter size, external view on the right and internal view on the left. The pie diagram at the base of each illustration indicates the proportion of the vessel recovered.

Given the absence of a standardised Buckinghamshire / Milton Keynes prehistoric type series, fabrics are listed using common names and type codes in accordance with the Bedfordshire Ceramic Type Series, currently held by Albion Archaeology. Bracketed figures denote sherd number.

F03 Grog and sand (21)
Fairly harsh, hard fired fabric with grits rubbing off when handled. Core and interior surface generally dark grey; with a more variable exterior surface colour, ranging from orange-brown to dark grey. Contains abundant, well-sorted rounded or subangular fine-medium black or red-brown grog 0.4-

Table 1 Catalogue of illustrated pottery

Illust No.	*Description*	*Landscape*	*Group*
1	Ovoid vessel (fabric F15)	2	7
2	Open vessel with upright rounded rim (fabric F19)	2	7
3	Vessel with upright rim (fabric F29)	2	7
4	Handle fragment (fabric F14)	1	5
5	Round shouldered vessel with slashed decoration to rim (fabric F29)	1	5

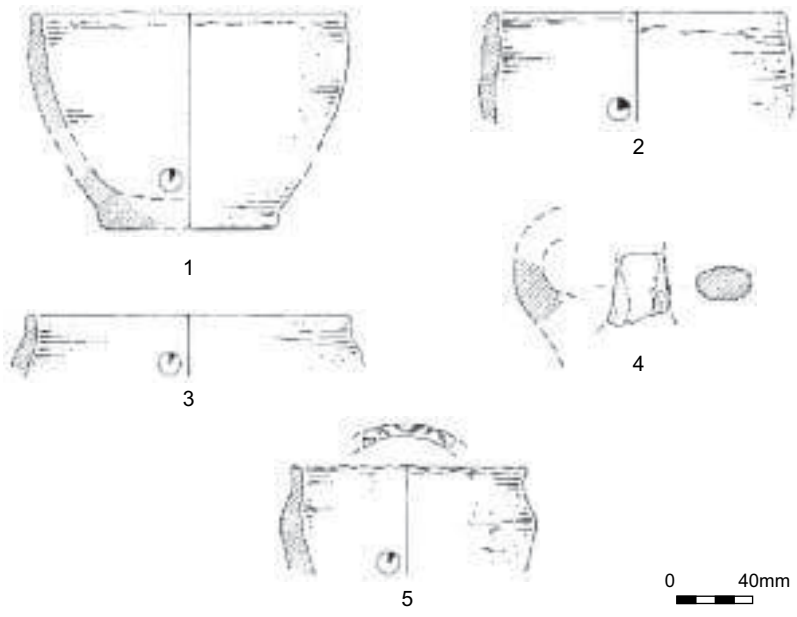

FIGURE 7 Selected pottery

1.2mm; frequent fine subangular white quartzite and iron ore, generally less than 0.2mm.

F14 Fine mixed (7)
Fairly hard and moderately smooth, but with a lumpy feel. Usually a dark grey fabric, with occasional buff-orange to grey-brown patchy surfaces. Contains sparse to moderate, poorly sorted shell 0.3-1.0mm; moderate, poorly sorted, subangular to subrounded orange-buff to grey grog 0.5-2.0mm; sparse to moderate, moderately sorted, subrounded quartz, 0.2-0.5mm; elongated black voids from organic matter, either grass or chopped straw, which has burnt out, in varying proportions from sparse to abundant; very occasional subangular black iron ore, 0.5-3.0mm. Additionally, some examples also contain very occasional angular flint, approx. 0.5mm. The general appearance of this fabric is of a highly mixed, poorly sorted suite of inclusions, with great variation in their proportions between the vessels. There is some overlap with F15, the coarse version of this fabric.

F15 Coarse mixed (41)
Hard fired, lumpy fabric, dark grey with patchy orange-buff to brown surfaces. Contains frequent, poorly sorted, coarse shell, 0.5-3.5mm, moderate subrounded grog, 1.0-3.0mm, sparse to moderate black voids from burnt out organic matter, sparse to moderate subrounded quartz, 0.5-0.8mm and very occasional rounded black iron ore, approx. 0.5mm.

F16 Coarse shell (1)
Soft fired, soapy to feel, with an uneven, laminated fracture, and a tendency to crumble. Typically, buff to mid-brown surfaces and mid-grey core, although often a reddish brown throughout. Characterised by densely packed, coarse shell, 0.3-2.0mm. Also sparse, medium, subrounded to subangular quartz 0.24-0.4mm, black or red iron ore, and occasional coarse grog 0.4-0.8mm.

F17 Grog (2)
Soft, soapy smooth fabric with variable mid-grey to orange surfaces and darker core. Contains frequent, grey-brown or orange-brown, poorly to moderately sorted, subangular grog, 1.5-3.0mm or 0.5-1.0mm depending on the coarseness of the vessel. Also sparse poorly sorted, sub-rounded quartz, 0.5-1.5mm, and rounded black iron ore 0.5-1.0mm.

F19 Sand and organic (9)
Fine, fairly hard fired fabric, with buff-brown surfaces and a grey core. Smooth and occasionally soapy to the touch, often with burnished exterior surfaces. Contains abundant, subrounded to subangular quartz, 0.3-0.5mm. Frequent elongated voids are present where organic matter has burnt out.

F21 Shell and organic (3)
Fairly hard, smooth fabric; orange in colour with buff patches although interior surfaces and core can be mid-grey. Characterised by the extremely coarse nature of the shell inclusions and the obvious black organic voids. Contains sparse to moderate, very poorly sorted shell, 1.0-10.0mm; moderate elongated black voids where organic matter has burnt out; very sparse and only occasional rounded quartz, approx. 0.5mm.

F22 Grog and organic (5)
Soft, soapy smooth fabric with variable buff-orange surfaces and darker core. Contains abundant subangular medium black or buff grog, 0.4-1.8mm. Core has flaky layered appearance and both surfaces and core display frequent elongated voids where organic matter has burnt out.

F28 Fine sand (6)
Hard-medium fired, sandy or occasionally harsh to feel with even fracture. Variable colour, can be dark-grey throughout, or have mid brown or reddish brown surfaces. Contains abundant, well-sorted, rounded or sub-rounded, clear or milky-white quartz 0.1-0.4mm (occasionally up to 0.8mm); sparse, well-sorted, rounded, black and red iron ore 0.2-0.5mm. Additionally, the matrix may contain sparse, greenish glauconite inclusions 0.1-0.2mm.

F29 Coarse sand (9)
Hard-medium fired, harsh to feel with uneven fracture. Colour variable; may be dark grey throughout, or may have mid-brown or reddish brown surfaces. Contains abundant, moderate-poorly-sorted, rounded or sub-rounded, clear or milky-white quartz 0.5-1mm (occasionally very coarse-up to 3.5mm); sparse, well-sorted, rounded, black and red iron ore 0.2-0.5mm. Additionally matrix may contain sparse, greenish glauconite inclusions 0.1-0.2mm.

F30 Sand and calcareous (1)
Fairly hard fired with a rough texture, although the fabric can vary from fine to coarse. Typically, reddish-brown surfaces and dark grey core, although may be dark grey or brown throughout. Contains abundant, well sorted, rounded or subrounded quartz, 0.2-0.5mm and well sorted rounded calcareous inclusions, 0.4-0.7mm. Also sparse quantities of fine black or red iron ore.

F Non-specific Iron Age (4)
Sherds (mainly crumbs) which could not be assigned a fabric type, but whose form or context suggest an early-middle Iron Age date. These are described in the site archive.

Appendix 2: Other Artefacts – Holly Duncan

Loom weight. Coarse sand-tempered fabric (F29) datable to the E-MIA (*c.*650–350 BC). Five joining fragments forming a corner of a triangular loom weight of a type in use throughout the Iron Age, with outer edge of a diagonal perforation (made pre-firing) surviving. Diameter of perforation *c.*11mm; weight 87g. The abraded and fragmented condition of the weight precludes estimating original weight or dimensions. RA1, context 5021,

Table 2 Pottery quantification by Landscape and Group

Landscape	*G*	*Group Description*	*Sherd No.*	*Wt (g)*
1	2	Western part of enclosure ditch	2	5
	3	Roundhouse and structural remains	5	48
	4	Pit	11	67
	5	Interior drainage gullies / ditches	21	360
	6	Eastern part of enclosure ditch	11	164
2	7	Boundary ditch	60	671

feature ditch 5090, SG3, G2, Landscape 1

Flake. Flint (patinated). Short squat flake, hinge fracture. Length 19.7mm; width 31.2mm;thickness 4.5mm; weight 2.6g. Context 5021, feature 5090, SG3, G2, Landscape 1

Hollow scraper. Flint (grey brown with cherty inclusions). Hard hammer struck, possibly struck from previously struck flint as platform appears to be patinated, hinge fracture. Small area of cortex on dorsal surface. Lateral edge near proximal end has abrupt retouch forming a concave edge. Step termination on flake scar at proximal end on dorsal surface. Edges nicked. Length 48.8mm; width 45.8mm; thickness 8mm;weight 16.1g. Context 5062, feature ditch 5058, SG15.01, G6, Landscape 1

Flake. Flint (grey brown). Flake fragment from previously struck flint, one lateral edge patinated. Hard hammer struck, part of striking platform removed. Length 19.5mm; width 31.3mm; thickness 3.5mm; weight 3.4g. Context 5025, feature ditch 5022, SG16, G6, Landscape 1

Core. Flint (opaque grey with frequent white cherty inclusions). Three flake removal scars, striking platform broken off exposing large imperfection. Weight 30.8g. Context 5074, feature ditch 5073, SG11, G5, Landscape 1

Flake. Flint (dark grey with frequent off-white cherty inclusions). Tertiary flake, hinge fracture, remains of removal scars on dorsal surface. Burnt. Length 56.8mm; width 37.5mm; thickness 9.9mm; weight 24.9g. Context 5075, feature ditch 5073, SG11, G5, Landscape 1

The flakes are of irregular shape and fairly broad and exhibit many of the characteristics expected of LBA-EIA flintworking (cf. Young and Humphrey 1999, 232–3). However, the very small number of artefacts precludes definite attribution. It is more likely that they date from the late Neolithic to the late Bronze Age. The flint quality is variable. Three of the flints have frequent cherty inclusions running through them. Indeed, with the platform core fragment, damage to the striking platform coincided with a large imperfection in the flint. Most of the pieces have some nicking on their edges. Evidence for earlier prehistoric activity in the immediate vicinity of the investigation is sparse; the LIA settlement at Downs Barn yielded only four residual stuck flints (Last 2001, 74). A larger assemblage (sixteen struck flints) from the MIA settlement at Kingsmead South was considered to be residual (Ford 2009, 91). Indeed, the nicked edges evident on most of the Campbell Park flints suggest residuality. However, they nonetheless represent evidence of pre-Iron Age activity in the vicinity.

Appendix 3: Animal Bone – Jennifer Browning

Bones were identified with reference to the skeletal collection housed at the School of Archaeology and Ancient History, University of Leicester. Information on element, completeness, species, state of fusion and condition was recorded for each specimen, while butchery, burning, pathologies and tooth eruption and wear were noted where present. A zoning method (Serjeantson 1996) was employed to assess the parts of bones present: as a general principle, each element is divided into eight diagnostic zones, the presence or absence of which can quickly be determined. Measurements were taken when bone completeness permitted, following von den Driesch (1976) and Payne and Bull (1988). Recording of tooth eruption and wear for cattle, sheep and pig followed Grant (1982), but assignment of age categories followed O'Connor (2003). Data were recorded into a pro forma Microsoft Excel spreadsheet. Where fragments were not sufficiently diagnostic to identify to species, they were assigned to one of the following categories, based on characteristics such as size and thickness of the cortical surface. 'Large mammal' represents indeterminate fragments probably from cattle, horse or red deer, while 'medium mammal' bones were likely to derive from sheep, goat, pig, roe deer or possibly dog. The remainder were classed as indeterminate mammal or bird.

A small faunal assemblage was recovered from Landscapes 1 and 2, both by hand-collection and from the sieved residues of soil sample. SG11 contained the largest number of bones and had the greatest species variety. Only a small number of bones (n=5) were measurable and no bones were complete enough to allow greatest length measurements.

The assemblage was fragmented with no whole bones. 38% of bone fragments were less than 20mm long. Bones exhibited both old and modern breaks. Joining fragments were counted as a single specimen, which reduced the total from 195 to 167. The condition of the bone surfaces was variable;

TABLE 3 Summary of identified and unidentified bones within the assemblage

Landscape	*G*	*SG*	*Cattle*	*Sheep*	*Pig /goat*	*Horse*	*Lrg mml*	*Med mml*	*Indet*	*Total*
1	2	3	–	–	–	–	2	–	–	2
	3	8	–	2	–	–	–	–	–	2
	5	11	3	4	1	3	55	6	17	89
	5	12	3	–	–	–	3	–	21	27
2	6	15.01	1	2	–	–	–	–	–	3
	7	17	2	1	–	–	7	1	27	38
	7	19	–	–	–	–	4	–	10	14
		Total	**9**	**9**	**1**	**3**	**71**	**7**	**75**	**175**

bones from SG17 were the best preserved, whilst those from SG11, SG12 and SG8 were the poorest. Many bones showed signs of root etching; shallow tracks on the bone surface caused by acids associated with the growth and decay of roots or fungus (Lyman 1994, 375–6). Other bones had a 'rolled' appearance, possibly suggesting exposure to acidic conditions within the substrate. The pitted texture observed can be caused by enlargement of naturally present spaces as the bone dissolves (Lyman 1994, 422).

APPENDIX 4: PLANT REMAINS – ANGELA MONCKTON

A total of 23 samples taken for the recovery of remains were wet-sieved in a York tank using a 0.5mm mesh with flotation into a 0.3mm mesh sieve. The flotation fractions (flots) were air-dried and packed carefully in self-seal polythene bags. The residues were also air-dried and sorted for finds by Albion Archaeology staff.

The flots were sorted for plant and animal remains using a ×10-30 stereo microscope and the remains were removed to glass specimen tubes. The plant remains were identified by comparison with modern reference material at the University of Leicester Archaeological Services and were counted and recorded in Table 4 below. The plant names follow Stace (1991), both botanical and common names. The proportions and ratios of the different types of remains, i.e. cereal grains, chaff and weed seeds were considered to help interpret the samples (Veen 1992).

APPENDIX 5: MOLLUSCAN REMAINS – ANGELA MONCKTON

Snails from the bulk samples which contained shells were examined. The samples were processed mainly for the recovery of charred plant remains by wet-sieving as bulk samples in a 0.5mm mesh with flotation into a 0.3mm mesh sieve and the residues were all air-dried and shell fragments recovered. The flots were examined with a ×10 to ×30 stereo microscope and the snails identified, some to genus level only, with reference to Macan and Douglas Cooper (1969), and Kerney and Cameron (1979). The assemblage was very restricted and dominated by water snails so quantities were estimated because it was thought that counting would not provide more useful results. The snails were recorded with an estimate of quantity.

Almost all the samples contained a few snails but only three further samples contained 20 or more shells (Table 5). Shells of the burrowing snail (*Cecilioides acicula*), which can burrow to depths of 2 metres and indicate modern contamination, were rare on the site suggesting that this was an uncontaminated early assemblage. The snails were identified and found to belong to the following groups (after Evans 1972), indicating the types of habitat in the vicinity of the ditches.

TABLE 4 Summary of plant remains

Landscape	*G*	*SG*	*Feat type*	*Sample Vol. litres*	*Flot Vol. mls*	*Chc*	*Gr ch*	*Cf ch*	*Se ch*	*Se un*	*SN*	*i/L*	*Charred plant remains and comments.*
1	2	3	Ditch	20	55	–	–	–	–	2	40	–	Uncharred seeds of bramble.
	3	6	Gully	10	20	–	–	–	–	1	5	–	Uncharred buttercup seed, modern straw.
	3	7	Post-hole	20	25	Fl	1	–	–	6	12	0.1	A wheat grain, uncharred seeds of bramble and goosefoots.
	3	8	Gully	20	37	+	2	–	–	32	16	0.2	A barley grain, uncharred seeds mostly bramble, a barley grain.
	4	9	Ditch	20	37	–	2	1	–	1	26	0.3	A grain of spelt or emmer, uncharred seed of bramble, a cereal grain, a wheat glume.
	5	11	Ditch	20	45	++	3	–	4	11	14	0.7	A cereal grain, a grain of spelt, a few charred seeds, uncharred seeds of thorns of hawthorn, waterlogged.
	5	12	Gully	20	50	+	–	–	–	14	14	–	Uncharred seeds of goosefoots.
	5	14	Gully	10	12	Fl	–	–	–	4	–	–	–
	5	19	Ditch	10	40	++	9	14	4	11	20	2.7	Wheat grains, spelt chaff and grass seeds all charred, most for the site.
	6	13	Gully	10	15	+	–	–	–	9	5	–	Uncharred seeds 5 spp, modern straw.
	6	15.01	Ditch	10	7	Fl	–	–	1	1	–	0.1	A charred grass seed.
2	7	17	Ditch	30	62	++	1	1	3	7	117	0.5	Wheat chaff small glume, charred vetch seeds, uncharred thorn and buttercup, goosefoot seed, a cereal grain, a tuber of couch grass.
	7	18	Ditch	10	25	+	–	–	–	–	100	–	Water snails and others. No evidence of sewage.

Key: Gr = cereal grain, Cf = chaff, Se = seed, ch = charred, un = uncharred, t = tuber, st = straw, Chc = charcoal, fl = flecks, fr = fragments, lg = large, sm = small, + = present, ++ = moderate amount, +++ = abundant. i/L = charred items per litre of soil.

TABLE 5 Quantification and identification of snails

	Landscape	*1*	*1*	*1*	*1*	*2*	*2*
	G	*4*	*5*	*5*	*5*	*7*	*7*
Environmental	*SG*	*9*	*11*	*14*	*19*	*17*	*18*
conditions	*Feature type*	*Ditch*	*Ditch*	*Gully*	*Ditch*	*Ditch*	*Ditch*
Fresh water (slum)	*Anisus leucostoma* (Millet)	–	–	–	–	+++	+++
	Lymnaea truncatula (Muller)	+	–	–	+	+	++
Marshy ground	*Carychium* spp.	–	–	–	+	+	+
Intermediate	*Trichia* spp.	+	1	4	+	+	++
	Cochlicopa lubrica (Muller)	–	–	–	–	+	
	Cepaea spp.	+	–	–	+	+	+
	Oxychilus sp.	–	1	–	–	–	–
Disturbed ground	*Pupilla muscorum* (Linnaeus)	+	2	2	+	+	+
Open ground	*Vallonia excentrica* (Sterki)						
	Vallonia spp.	+	2	4	+	+	+
Other	*Cecilioides acicula*	–		1	–	1	+
	Indet apices	–	3	4	–	+	–
	TOTAL (apices) approx	25	9	15	20	130	100

Key: + = 1-9, ++ 10-50, +++ = over 50-hundreds.