EXCAVATION OF A MIDDLE IRON AGE SETTLEMENT AT KINGSMEAD SOUTH, MILTON KEYNES, BUCKINGHAMSHIRE, 2004–5

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with contributions by

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Three open-area excavations revealed several phases of activity relating to an unenclosed middle Iron Age farm, with a primarily pastoral economic base. Area 1 contained a single ditch and a posthole. Area 2 contained eight roundhouses, a series of pits and postholes. Area 3 contained two roundhouses, two enclosure ditches, and further pits and postholes. The site may have been a specialist livestock centre, though evidence for this is circumstantial. Radiocarbon dating supports the ceramic chronology but does not permit a determination of whether the several structures represent a number of buildings in use broadly at the same time, or fewer buildings over a longer period.

Introduction

An archaeological excavation was carried out by Thames Valley Archaeological Services at Kingsmead South, Milton Keynes (Fig. 1) between 15 September 2004 and 15 January 2005. The archaeological potential of the site had been highlighted by an evaluation (Taylor 2003), which identified Iron Age pits, gullies and ditches and what was thought to be a Roman ditch terminal. As a result, it was decided to carry out an excavation in order to mitigate the archaeological impact of development on the site (Fig. 2; Areas 1–3). This work followed a specification approved by Mr Brian Giggins, Archaeological Officer for Milton Keynes Council.

Three irregular shaped areas were excavated: Area 1 centred on SP 8240 3393 covered approximately 500 sq m; Area 2 was 10,000 sq m centred on SP 8220 3378; Area 3 covered 4000 sq m centred on SP 8232 3370 (Fig 1). The site slopes from 112m above Ordnance Datum in the north to 120m in the centre of the site, down again to *c*.112m at the southern end. Geological maps (BGS 1992) indicate that the underlying geology is on glacial till overlying Oxford Clay. Oxford Clay and patches of gravel were observed in all areas.

Archaeological background

Recent fieldwork to the north-east had located an Iron Age occupation site (Anthony 2003) and early prehistoric, Iron Age and Saxon remains have been identified to the north-east at the Westcroft District Centre (Ford 2000). While this report was in preparation, two very similar Iron Age sites were also excavated at Tattenhoe Park immediately to the south (Taylor 2006) and Oxley Park to the north-west (Brown *et al.* 2009.). The nearby Saxon and medieval settlements at Tattenhoe and Westbury-by-Shenley have also been extensively examined (Ivens *et al*. 1995).

The evaluation

The evaluation was carried out during April and May 2003 in two stages: a fieldwalking survey followed by trenching. An area of *c*. 13ha was

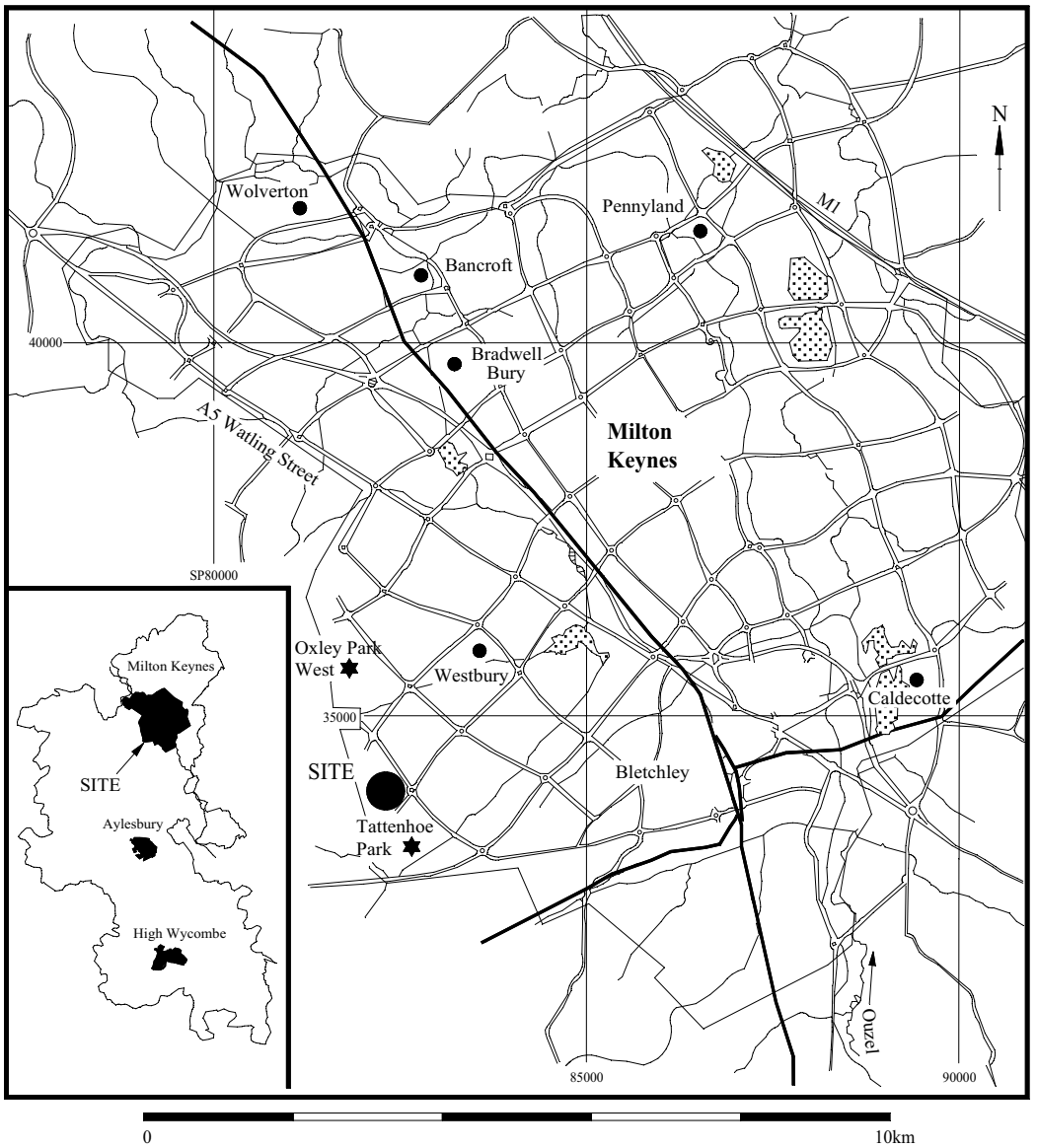

Figure 1 Kingsmead South: Location of site in Milton Keynes.

fieldwalked by two individuals. This located eleven struck flints of late Neolithic/Bronze Age date and twenty-seven sherds of pottery. Of the latter only one was prehistoric (Bronze Age/Iron Age), two were medieval and the remainder all post-medieval. Four fragments of brick and tile and three clay pipe stems were the only other finds. Had this been the sole information available, it is unlikely this site would have been excavated. The second stage of evaluation comprised 135 trenches, each of 1.80m width and averaging 20m long. Around 30 pits, gullies and ditches were discovered. Where datable, all the features appeared to be Iron Age or Roman. Two portions of the site (Areas 2 and 3) were therefore designated as of high potential with two more thought to be peripheral.

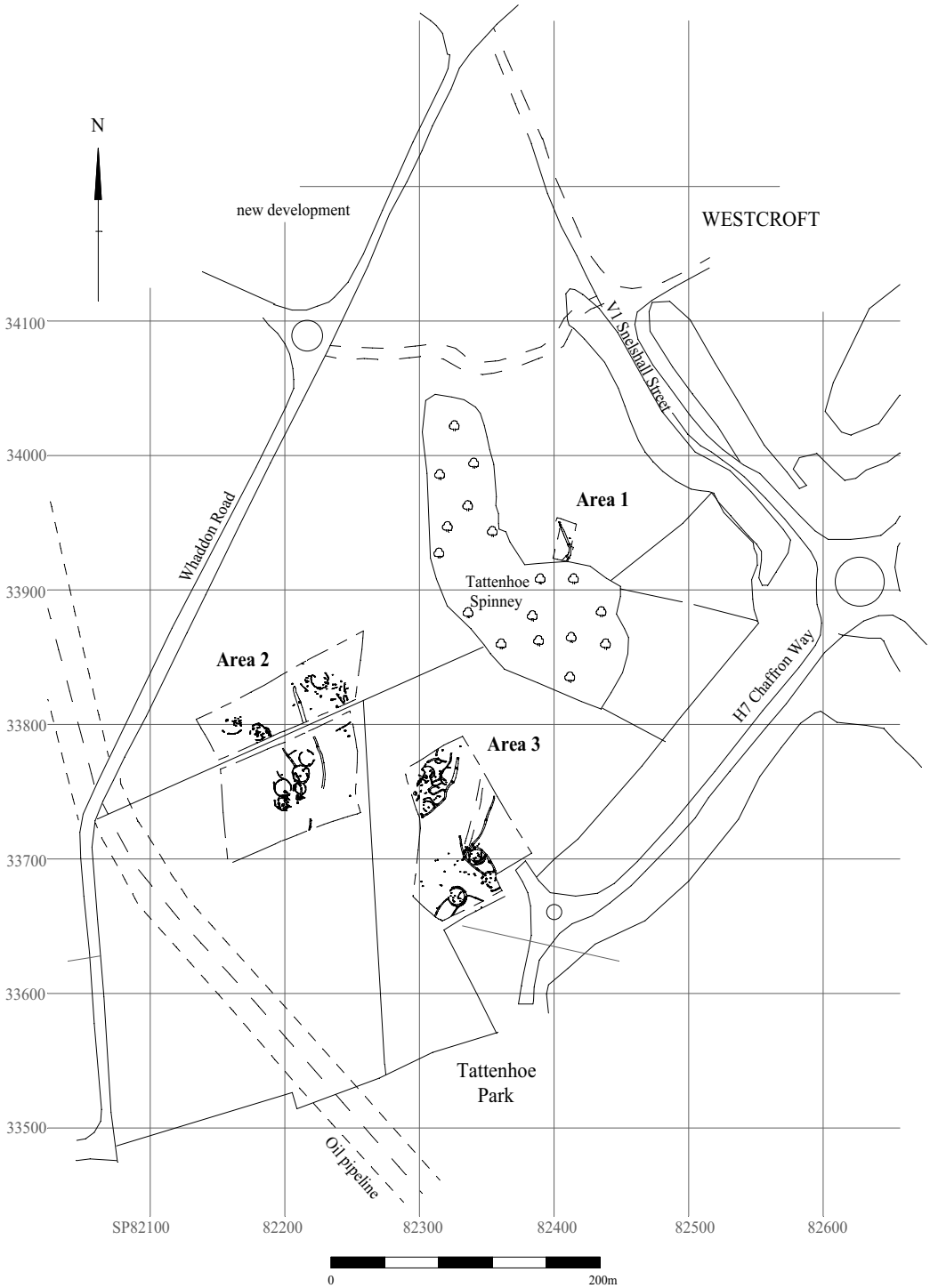

Figure 2 Kingsmead South: Plan of Areas excavated, showing all features.

The excavation

Area 1 (Fig. 2)

Excavation Area 1 (17m x 25m) was towards the north-east of the development area, in one of the areas of lower potential, and concentrated on evaluation trench 7 which had a shown a single ditch with a relatively high density of pottery. The excavation confirmed the presence of a ditch (2000) curving from NE–SW to NW–SE. Four slots across it showed that it varied between 0.54m wide, at its tapering terminus, and 2.54m at its widest, and between 0.25m and 0.83m deep. It contained either one or two fills along its length and produced 72 sherds of pottery dating it to the middle Iron Age period. It may be part of an enclosure, but this could not be determined as it continued south into Tattenhoe Spinney and the excavation area could not be extended. A single undated post hole was the only other feature in this area.

Area 2 (Fig. 3)

Area 2 was divided into two parts by a modern field boundary consisting of a hedge and a stream. The southern excavation was 100m x 70m and the northern 130m x 30m. They corresponded closely to the extent of the first area shown in the evaluation to have high archaeological potential, with numerous Iron Age features present. This area contained eight roundhouses (designated 'RH' on Fig. 3), several pits and postholes, several gullies, and two ditches. It is possible that the roundhouse groups either side of the stream may have been contemporary, with chronological depth within each group; it appears unlikely that the stream (or even a previous course of it) was a part of the Iron Age landscape. Detailed plans of the roundhouses are given in Fig. 6.

Roundhouse 1

This comprised a penannular gully in two arcs with evidence of a possible porch in the form of a gully on its western side. It had an internal diameter of *c.*9m. It produced 192 sherds of pottery dating to the middle Iron Age. Several internal features were observed. It is not possible to determine if these are associated with Roundhouse 1 or with the adjacent Roundhouse 2, however, due to their size it is more likely that they represent exterior features associated with Roundhouse 2. The building was circular in plan with an entrance on both the western and the eastern sides, and from surface indications seemed to be cutting the adjacent Roundhouse 2: this relationship was not, however, visible in section.

Roundhouse 2

This was a penannular gully, *c.*11.50m in diameter with an entrance on its ESE side. A total of 91 sherds of Iron Age pottery were retrieved from the eight slots excavated across it. Two internal pits (1040, 1041) contained 56 and seven sherds of Iron Age pottery respectively. It is difficult to say if the internal features are contemporary with the ring gully or if they are associated with the adjacent Roundhouse 1. Two further gullies (2004, 2005) were connected to the northern side of this structure. These may be for drainage or indicate a further structure attached to the roundhouse. No stratigraphic relationships between these gullies and the roundhouse was evident but it is likely that they were contemporary.

Roundhouse 3

Eight slots were dug through this penannular gully. It was *c.*8.00m in diameter with an entrance on its southern side. No contemporary internal features were evident. A total of 48 sherds of Iron Age pottery were retrieved from the gully. It was cut by gully 2010, again only broadly dated to the Iron Age. It was also cut by Roundhouse 4, although this was only visible on the surface of the feature and unusually not actually in the section when dug.

Roundhouse 4

A penannular gully through which seven slots were excavated. It measured *c.*11.50m in diameter and no entrance was evident. It cut Roundhouse 3 and was itself cut by ditches 2009 and 2010, which may be the same feature. Some 76 sherds of middle Iron Age pottery and a single intrusive Roman sherd were collected from the gully. There were six internal postholes and a single pit. These may form part of an internal structure.

Roundhouse 5

This comprised a penannular gully in two sections, measuring 10.00m in diameter. Seven slots were excavated through it. Two possible entrances were evident, one on the east-south-eastern and the other on the northern side. No internal features were observed. Fourteen sherds of Iron Age pottery were

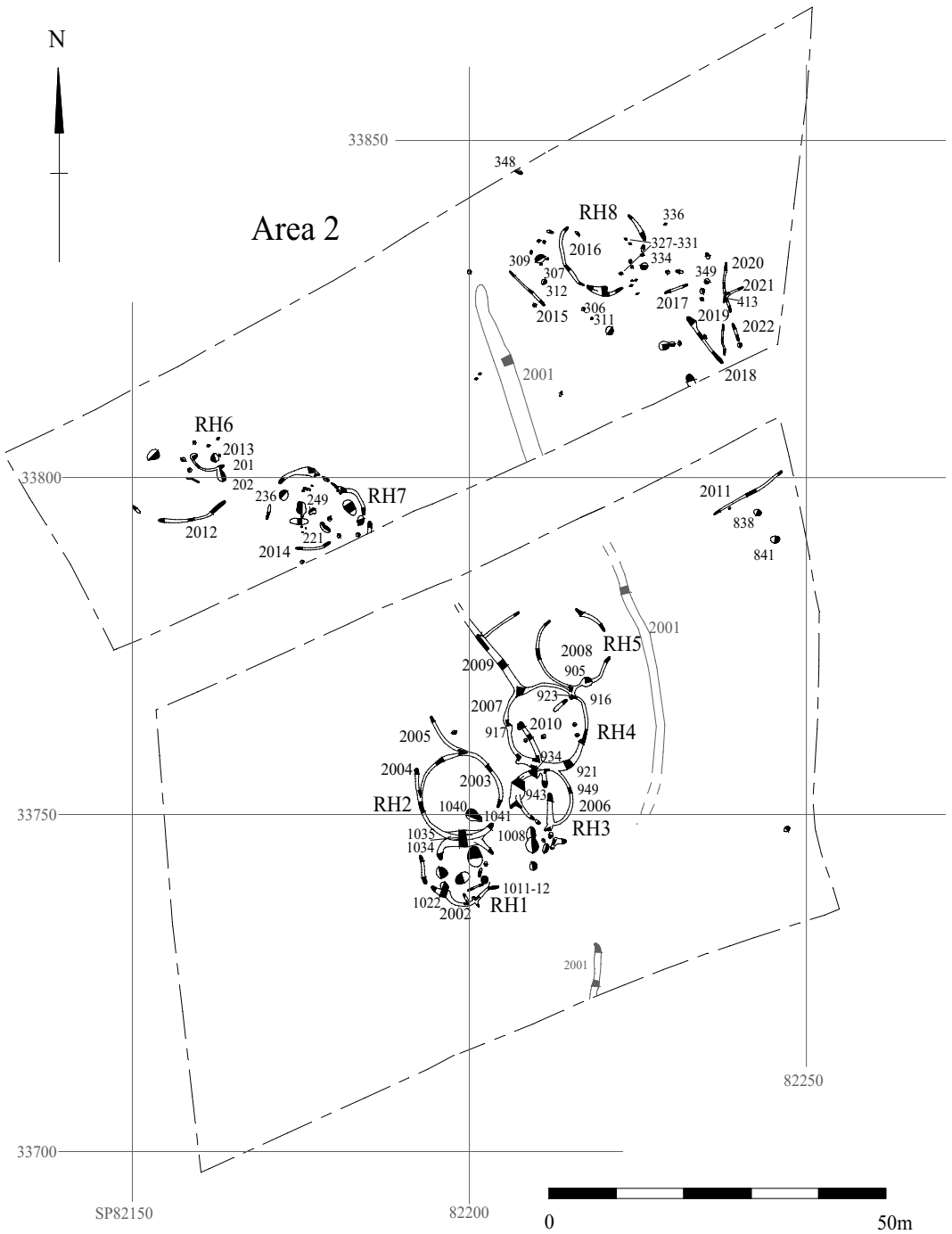

Figure 3 Kingsmead South: Plan of Area 2 showing all features.

retrieved from the ring gully. Pit 905 cut the ring gully and so may be associated with Roundhouse 4.

Roundhouse 6
This structure was indicated by a small curving gully (2013), which may form a quarter of a penannular gully. It would have had an internal diameter of approximately 5m making it by far the smallest roundhouse structure on the site: it should be noted, however, that this provides a floor space of almost 20 sq m, by no means tiny. Five postholes were present, which would have been in its interior if this interpretation is correct. The whole may be an enclosed stacking area for hay and other animal fodder. It was not possible to identify an entrance as the gully's remains were limited, although it could possibly be on the south-eastern side. A total of 13 sherds of broadly-dated Iron Age pottery was retrieved from the gully. Gully terminus 201 cut pit 202, meaning that the pit must be earlier than this structure. The ephemeral nature of this structure (the gully was no more than 0.06m deep) may suggest either a limited period of use or that it has been damaged more extensively by ploughing, on account of the slope of the field.

Roundhouse 7
Roundhouse 7 was an irregular, incomplete penannular gully, approximately 11m in diameter (95 sq m internally). No entrance can be postulated due to its irregularity and the discontinuous gully. Assuming it conforms to other structures on the site and those found within the general locale, its entrance is likely to have been on the south-eastern side, away from the prevailing north-westerly winds. Two hundred and fifteen sherds of Iron Age pottery were retrieved from this roundhouse, and a single sherd of Roman greyware, presumably intrusive. Several internal features were observed including shallow pits and postholes, but it is not possible to ascertain if they are contemporary with the main structure.

Roundhouse 8
This structure comprised a penannular gully in three sections, approximately 11m in diameter. Eighty-five sherds of Iron Age pottery were retrieved. Several internal features were identified. Postholes 327 and 329–31, which formed an arc, are probably the remains of the wall of the roundhouse. The postholes in the entrance, again on the south-eastern side, may represent the remains of a porch. Pit 334, within a possible entrance, was selected for carbon dating as it was the only feature from this structure containing independently datable material alongside Iron Age pottery. The Neolithic date obtained on, presumably redeposited, charcoal from this feature is the only substantial evidence (other than residual struck flints) for an earlier phase of activity on the site.

Associated features
Several associated features were observed in the southern part of Area 2. These include a ditch (2009) linked to a perpendicular gully, which may represent part of an enclosure, three isolated pits, and postholes. Only pits 838 and 841 produced any dating evidence, just eight and three sherds of Iron Age pottery respectively. The northern part of Area 2 included several postholes, which may form a fenceline around Roundhouse 8. Of these 306, 307, 309, 311, 312 produced Iron Age pottery.

A series of gullies (2017–2022) south-east of Roundhouse 8, along with gully 2015 to its west, may represent stock management features, similar to those in Area 3. All of these were dated to the Iron Age; gully 2015 was middle Iron Age. Only gully 2019 did not contain any dating evidence.

The only post-Iron Age feature present was ditch 2001 for which the only dating evidence was a piece of clay pipe stem.

Area 3 (Figs. 4 and 5)
Area 3 (200m x 200m) was at the southern end of the site and concentrated on the second area identified in the evaluation as being of high potential (in fact covering a slightly larger area than that suggested). This area had a natural dip down from both north and south towards the centre, where what appeared to be a palaeochannel was located, although this was ill-defined and ephemeral. The area was found to contain two roundhouses (Fig. 6), enclosure ditches, several pits and postholes and gullies. The area lying within the dip contained no Iron Age features and may well have been consciously avoided, suggesting the ancient watercourse was still active during the Iron Age, or its former course was boggy.

Roundhouse 9
This structure was composed of two penannular gullies, one evidently a recut, measuring approxi-

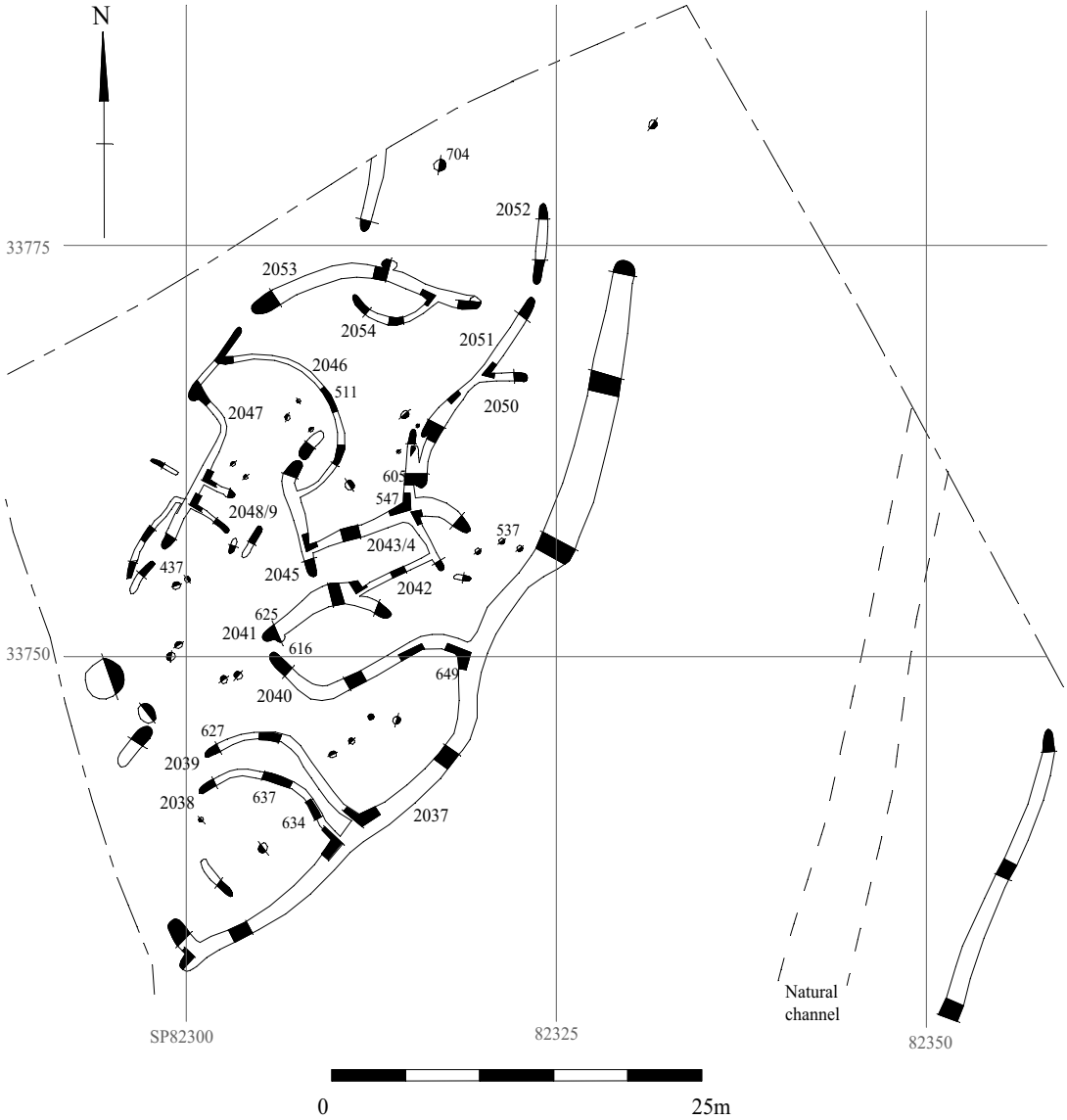

Figure 4 Kingsmead South: Plan of Area 3, north, showing all features.

mately 12m in diameter (113 sq m internally). The inner ring (2024) was cut by the outer (2025) and both were cut by a further gully (2026), possibly forming an enclosure, which continued out of the excavation area. An entrance to the roundhouse was evident on the north-west side. A large dump of stone was found in this entranceway, presumably hard standing. Gully 2024 produced 52 sherds of pottery while gully 2025 only produced two, all Iron Age. Several internal features were also evident within the roundhouse including postholes, which may be part of the structure within the ring gully, and a small gully.

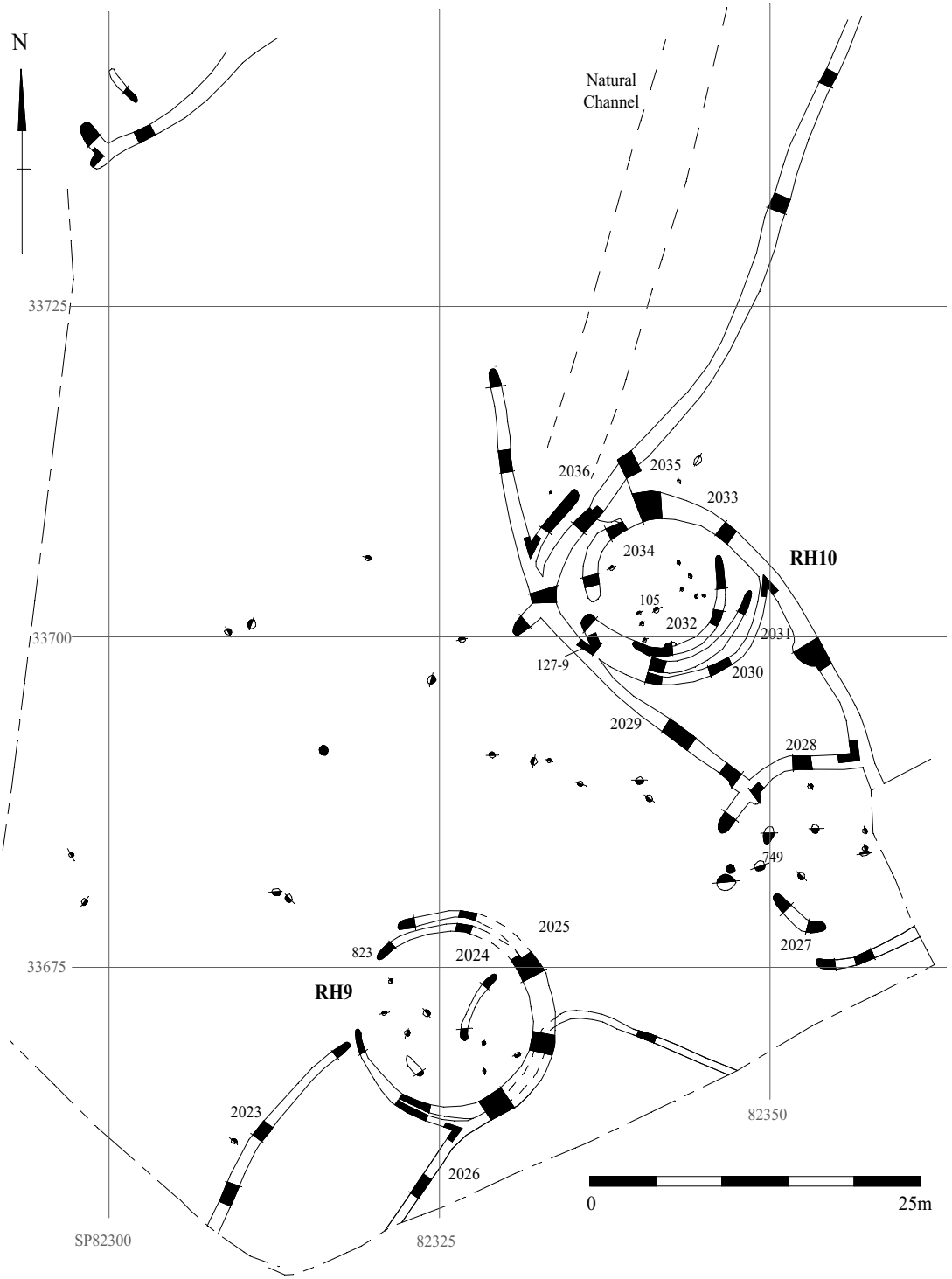

Figure 5 Kingsmead South: Plan of Area 3, south, showing all features.

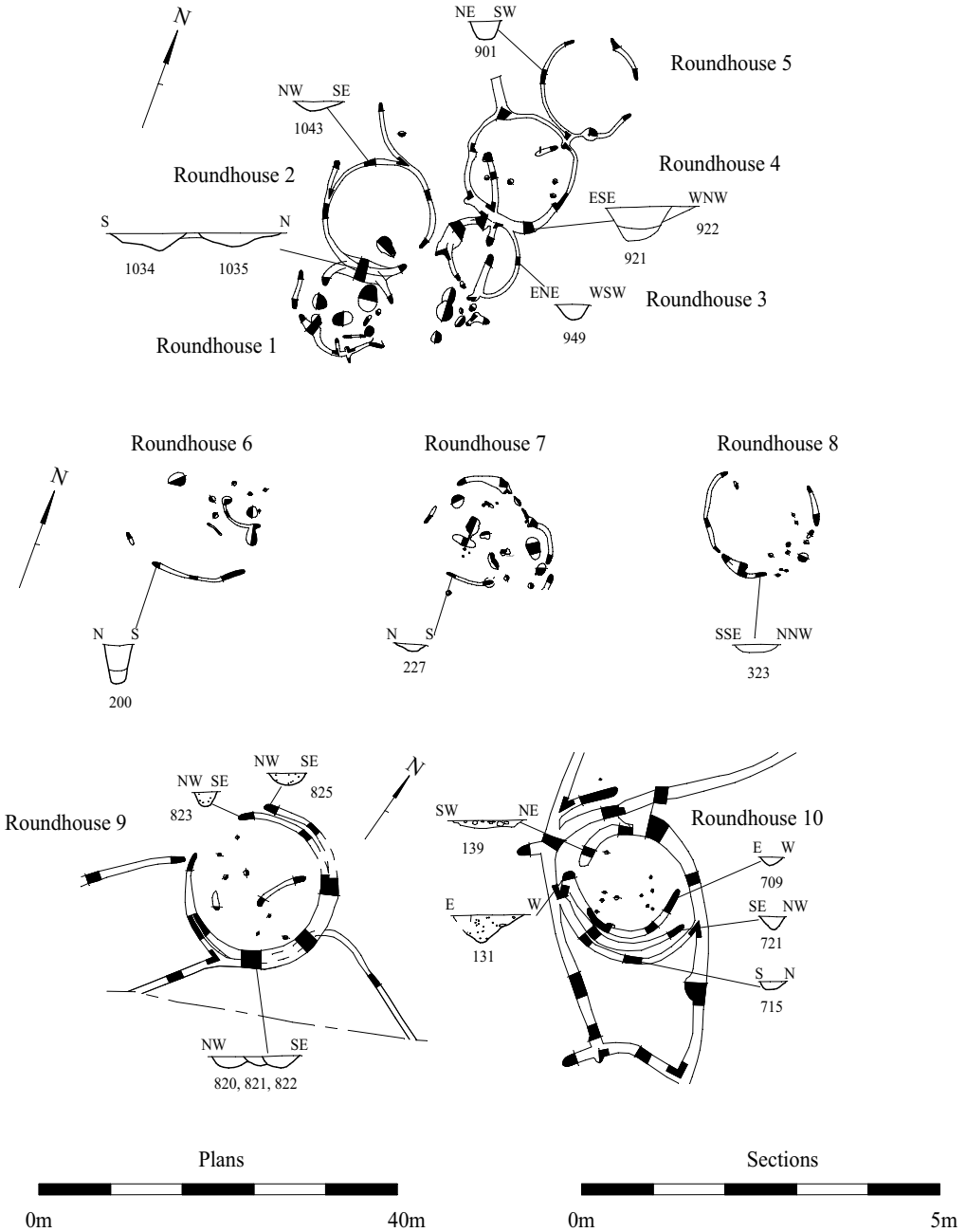

Figure 6 Kingsmead South: Detailed plans and selected sections of the roundhouses.

Roundhouse 10

This structure comprised a penannular gully of several phases (2030–2), approximately 10m in diameter. It was surrounded by a rectilinear enclosure (2029/2035) and by another ditch (2033) connecting it with a smaller enclosure to the south (2027, 2028). Gully 2030 contained seven sherds of pottery and 2031, thirteen sherds of pottery, all dated to the Iron Age, while 2032 did not contain any dating evidence. The connecting ditch 2033 cut the outer ring of the roundhouse but may still be associated with the later roundhouse recuts. Several internal features were observed within the structures. Four of the postholes formed an arc suggesting the presence of a building. A possible entrance was identified on the north-western side, as with Roundhouse 9 although another possible entrance could be on the south-eastern side as for majority of the structures on the site.

Ditch 2035 marked the northern limit of this occupation area; it may have marked the southern edge of boggy ground associated with the palaeochannel, which may still have been active, or at least whose course was still a feature in the landscape.

At the northern end of Area 3, Ditch 2037 formed the southern boundary of an area containing several linear and curvilinear gullies. These may represent small enclosures possibly for stock management. Several postholes were also observed within this area, however none appeared to form either roundhouses or 4-post structures. They were often in pairs and may represent tethering posts for animals. The majority of these features were dated to the Iron Age with some more specifically middle Iron Age. A radiocarbon date on charcoal from the terminal (627) of gully 2039 suggests it was more likely to be contemporary with Roundhouse 4 in Area 2 than with Roundhouse 9 in Area 3 (Table 6) but the broader ranges for the buildings overlap and in any case, it is probable this 'stock management' area includes features of more than a single phase of use. On the southern edge of this area, gullies 2023 and 2026, both containing Iron Age pottery, probably marked an enclosure extending beyond the excavated area, and perhaps a droveway alongside.

Finds

Pottery by Paul Blinkhorn

The pottery assemblage comprised 3,255 sherds with a total weight of 25,373g. The estimated vessel equivalent (EVE), by summation of surviving rimsherd circumference, was 9.73. The bulk of the assemblage was of Iron Age date, the range of vessels and decoration suggesting that it probably dated entirely to the middle Iron Age. Four Roman sherds were present. (The archive contains data not presented here, such as a comparison of rim diameters.)

Fabric

The following Iron Age fabrics were noted:

F1: Sparse to moderate sub-rounded quartz up to 1mm, rare to sparse shell, organic material and/or occasional flint. 2,789 sherds; 20,473g; EVE = 8.93.

F2: Moderate to dense shell fragments up to 10mm. 288 sherds; 2,379g; EVE = 0.69.

F3: Sparse to moderate sub-angular grog up to2mm. 62 sherds; 1,297g; EVE = 0.

F4: Flint and grog. Sparse to moderate white burnt flint up to 2mm, sparse sub-rounded red grog up to 2mm. Sparse to moderate quartz up to 1mm. 70 sherds; 839g; EVE = 0.

F5: Fine Sandy. Fine sandy ware with few visible inclusions, often with burnished outer surface. 42 sherds; 315g; EVE = 0.11.

The range of fabrics is typical of those noted at other contemporary sites in Milton Keynes. The proportions, however, are a little different. At Pennyland, a site which appears broadly contemporary (see below), the assemblage was dominated by shell-tempered wares, with sand-tempered fabrics representing only about 20% of the assemblage (Knight 1994, 220). Conversely, at the nearby Hartigan's site, sandy fabrics represented 'the great majority of the pottery from the site' (Knight 1994, 230).

Chronology

All the evidence from the pottery suggests this settlement is largely middle Iron Age in date. All the vessels are hand-built, and the only decoration is scoring on the body of vessels, and modification to the rim-top, usually in the form of fingernail

impressions or slashing. Such vessels are typical of the Scored Ware tradition of the middle Iron Age in the south-east Midlands (Elsdon 1992). The tradition is thought to have started in the 5th or 4th century BC, and generally to have died out in the 1st century BC, although in some areas, a case can be made for it lasting until the 1st century AD (Knight 2002, 133–4). Scored ware is scarce on Iron Age sites in Milton Keynes, and in the Great Ouse Basin area generally (Knight 1994, 390), being very much on the southern edge of its distribution. This is perhaps the largest group yet from Milton Keynes.

This site did not produce any carinated and fingertip decorated pottery, typical of the earlier Iron Age. Late Iron Age wheel-thrown 'Belgic' pottery, which probably came into use in this area in the first decades AD (Marney 1989, 89) is also absent, so it seems highly unlikely that there was any significant activity here by the end of the 1st century BC. It is therefore assumed that the Roman pottery present represents a later phase of activity, not related to the Iron Age settlement.

The bulk of the assemblage comprised small sherds, as much of the pottery was extremely friable and disintegrated during or after excavation. Nevertheless, there appear to have been two main vessel forms: ellipsoidal bowls with inturned rims; and ovoid jars with rounded shoulders and upright or slightly everted rims, some of which were flattened. These forms are typical of the middle–late Iron Age in the region (Knight 2002, 134).

In total, 141 sherds (2,045g; EVE=2.39) of pottery from this site were scored or had fingernail or slashed rims, some 8.2% of the Iron Age assemblage by weight (only 4% by sherd count). A total of 20 rims were modified in this manner, out of a total of 124 for the site (16.1%).

The assemblage has many similarities with the large assemblage of mainly middle Iron Age pottery at Pennyland in Milton Keynes, which produced 2,730 stratified sherds with a total weight of 10,604g (Knight 1993, 219). That assemblage was dominated by round-shouldered and ovoid vessels. The vast majority had flat bases; just two out of 68 bases were not flat. Here, all the bases were flat. It is noteworthy that scoring at Pennyland was restricted to just three vessels (Knight 1993, 223). At the nearby Hartigan's site nine Scored Ware vessels were noted, out of an assemblage of 60 (Knight 1993, 232). That site also had a similar fabric profile to this one, with sandy wares being far more common than shelly; the reverse was true at Pennyland. Small quantities of 'Belgic' and early Roman pottery were noted at Hartigan's, but all were residual or unstratified. At Bancroft in Milton Keynes, just one scored ware vessel was noted (Knight 1994), also in a sandy fabric. That site produced an assemblage of pottery which appears broadly contemporary with the Kingsmead South site, and with a similar range of forms, although shelly wares were much more common, and late Bronze Age and Early Iron pottery was also present in fairly large quantities. At Fenny Lock, Milton Keynes, a multi-phase prehistoric and Roman site produced a small assemblage of middle Iron Age pottery (Timby 2001), although the lack of detail in the report does not allow any sort of comparison with this assemblage.

Overall, this assemblage appears typical of the middle Iron Age in the area.

TABLE 1 Pottery (by weight in g) from each roundhouse group

Roundhouse	*F1*	*F2*	*F3*	*F4*	*F5*	*Total*
1	1073	–	596	–	–	1669
2	639	34	5	66	–	744
3	203	45	–	–	–	248
4	237	–	–	419	–	682
5	67	–	–	–	–	67
6	213	–	–	13	–	226
7	993	36	–	–	–	1045
8	450	36	–	–	7	493
9	8	–	–	–	–	8
10	84	5	–	–	–	89

Pottery from the Roundhouses

Roundhouse 1. Middle Iron Age. *191 sherds; 1,669g; EVE = 0.60.* The bulk of the assemblage comprised plain bodysherds, although some large fragments of a scored ware jar with a fingernail impressed rim were noted in slot 1011, context 1169 (Fig. 7: 1), the gully terminus. This dates the feature fairly reliably to the middle Iron Age. Further support for this date comes from the presence of a fingertipped rim from the same context (Fig. 7: 2). A large portion of the lower part of a vessel with at least one, probably two, vertical lug handles occurred in slot 1022, context 1180 (not illustrated). A number of such vessels are known from the Milton Keynes region, e.g. the middle Iron Age sites at Pennyland and Hartigan's (Knight 1994, figs. 94.57 and 97.91). Further sherds of this vessel were present, but could not be joined, due to the highly friable nature of the pottery.

Roundhouse 2. Iron Age. *91 sherds; 744g; EVE=0.05.* The bulk of the assemblage was plain bodysherds, apart from two small rimsherds, one with an upright profile and the other slightly inturned. A small fragment of a flat base was also noted.

Roundhouse 3. Iron Age. *48 sherds; 248g; EVE=0.04.* One small rimsherd with a slightly inturned profile aside, it consisted of entirely plain bodysherds.

Roundhouse 4. Middle Iron Age. *77 sherds; 682g; EVE=0.29.* One sherd (25g) was a presumably intrusive sherd of Romano-British greyware from context 1086. The assemblage included a rimsherd with fingernail impressions, likely to be of middle Iron Age date (Fig. 7: 3). Five other small rimsherds were noted. This is one of the rare features where fabric 1 is not the dominant fabric, although this is due to the fact that a single large (but disintegrated) bodysherd in fabric 4 was present, which is likely to have distorted the data due to the somewhat small overall assemblage size.

Roundhouse 5. Iron Age. *14 sherds; 67g; EVE=0*. All bodysherds in fabric 1, one of which was burnished on the outer surface.

Roundhouse 6. Iron Age. *36 sherds; 226g; EVE=0.* Entirely plain bodysherds, four of which were in fabric 4 (13g), the rest in fabric 1.

Roundhouse 7. Iron Age. *216 sherds; 1045g; EVE = 0.97.* All the pottery was plain, and could not be given a date other than to within the broad Iron Age period. It produced a total of 12 rimsherds, some of which were quite large and well preserved. A single sherd of Romano-British greyware (16g) was also noted, and is presumably intrusive.

Roundhouse 8. Iron Age. *85 sherds; 493g; EV =0.15.* Four small rimsherds were present.

Roundhouse 9. Iron Age. *2 sherds; 8g; EV=0.* Both sherds were plain bodysherds in fabric 1.

Roundhouse 10

2030: Iron Age. *7 sherds; 12g; EVE=0.* All were plain bodysherds in fabric 1, and undateable.

2031: Iron Age. *13 sherds; 58g; EVE=0.* One sherd (5g) was in fabric 2, the rest in fabric 1. They were all plain bodysherds.

2034: Iron Age. *10 sherds; 19g; EVE=0.* All plain bodysherds in fabric 1.

Pottery from other gullies, ditches, etc.

(Assemblages consisting purely of plain bodysherds in fabric 1 are not discussed; assemblages purely of fabric 1 are not included in the table.)

2000. Middle Iron Age. *72 sherds; 501g; EVE=0.18*. The assemblage included a single scored ware sherd, suggesting a date of the middle Iron Age. The rest of the assemblage comprised plain bodysherds, apart from three rimsherds, all from vessels with closed forms and upright profiles. A large base sherd with a flat profile was also noted.

2001. Iron Age. *15 sherds; 78g; EVE=0.08.* All fabric 1. Most were plain bodysherds, although 2 rimsherds form vessels with upright rims and closed forms were also noted.

2009. Iron Age. *17 sherds; 197g; EVE=0.13.* All fabric 1, and included two rimsherds from vessels with closed forms and upright rims.

TABLE 2 Pottery (by weight in g) from other gullies, ditches, etc.

Group	*F1*	*F2*	*F3*	*F4*	*F5*	*Total*
2000	320	181	–	–	–	501
2012	77	–	18	–	16	111
2015	157	178	–	–	–	335
2029	113	104	–	–	–	217
2037	555	102	268	–	–	925
2038	1350	24	–	–	75	1464
2041	1094	323	–	–	–	1417
2042	86	125	100	–	–	311
2044	457	62				519

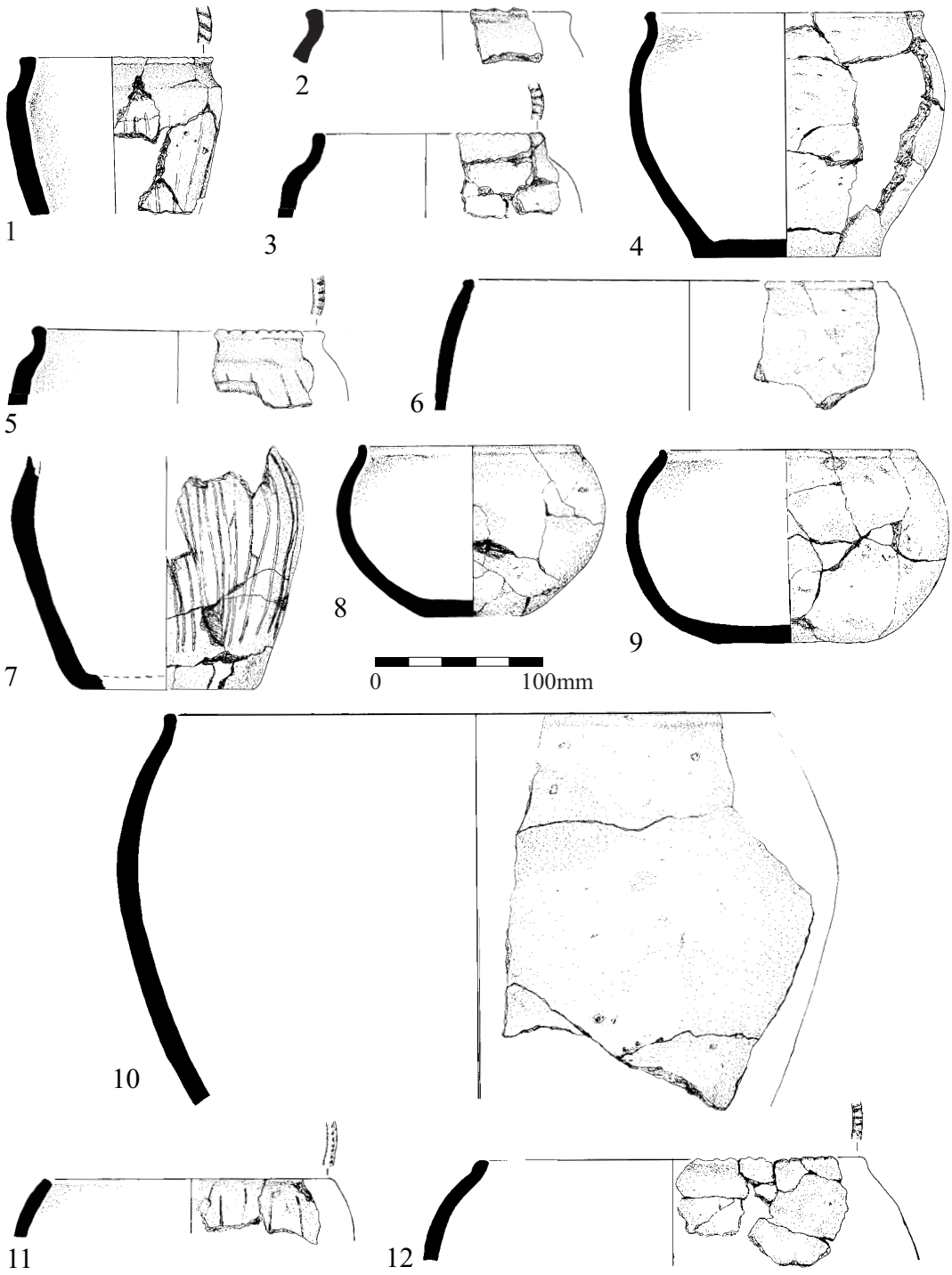

Figure 7 Kingsmead South: Selected pottery (see text for details). Scale 1:4.

2010. Iron Age. *3 sherds; 24g; EVE=0.06.* All sherds in fabric 1, and included a single small rimsherd.
2012. Iron Age. *13 sherds; 111g; EVE=0.04.* This included a small rimsherd in fabric 1.
2015. Middle Iron Age. *31 sherds; 335g; EVE=0.* All bodysherds, apart from a single fragment from a flat base. It included three scored ware sherds, indicating a date in the middle Iron Age.
2017. Iron Age. *19 sherds; 103g; EVE=0.03.* All fabric 1, and included a small rimsherd from a vessel with a closed form and upright profile.
2018. Iron Age. *22 sherds; 187g; EVE=0.04.* All plain bodysherds, apart from a single small inturned rimsherd from a vessel with a closed form. It was all fabric 1, apart from a single sherd of presumably intrusive Roman Greyware.
2020/1. Iron Age. *67 sherds; 342g; EVE=0.04.* All plain bodysherds in fabric 1, apart from a single small rimsherd, and a bodysherd in fabric 5.
2022. Iron Age. *2 sherds; 10g; EVE=0.* Two plain bodysherds in fabric 1.
2023. Iron Age. *105 sherds, 245g, EVE=0.18.* All bodysherds in fabric 1 apart from three small rimsherds, one in fabric 1 and the others in fabric 2.
2024. Iron Age. *52 sherds; 187g; EVE=0.* All plain bodysherds in fabric 1 (26 sherds; 123g), fabric 2 (18; 51g) and fabric 4 (8; 13g).
2026. Iron Age. *8 sherds; 25g; EVE=0.* All plain bodysherds in fabric 1 except 3 sherds (6g) in fabric 2.
2028. Iron Age. *53 sherds; 457g; EVE=0.11.* All plain bodysherds in fabric 1 except for a single small rimsherd in the same fabric, and another in fabric 2.
2029. Iron Age. *54 sherds; 217g; EVE=0.03.* All plain bodysherds except for a single very small rimsherd in fabric 1, and a small fragment of a flat base in fabric 2.
2033. Iron Age. *36 sherds; 212g; EVE=0.* All plain bodysherds in fabric 1, except for two (37g) in fabric 2.
2035. Iron Age. *13 sherds, 122g, EVE=0.* All plain bodysherds in fabric 1 except for a single rimsherd with an upright and flattened profile.
2037. Iron Age. *80 sherds; 925g; EVE=0.52.* A total of seven rimsherds were noted, all of which were in fabric 1 except for a single example in fabric 2. All the forms were upright and slightly everted and/or flattened.
2038. Middle Iron Age. *83 sherds; 1,464g; EVE=0.63.* This feature produced some of the best-preserved pottery from the entire excavation. The assemblage included the full profile of a jar from context 763 (Fig. 7: 4), a rimsherd with fingernail impressions and scoring from context 762 (Fig. 7: 5) and a large rimsherd from a closed vessel from context 760. A sherd of Romano-British greyware is presumably intrusive.
2039. Iron Age. *26 sherds; 191g; EVE=0.08.* Alll plain bodysherds in fabric 1, except for a single small rimsherd in the same fabric, and eight sherds (78g) in fabric 2.
2040. Middle Iron Age. *184 sherds; 1,208g; EVE=0.24.* All sherds in fabric 1. The assemblage included two scored ware bodysherds, one of which was large but highly fragmented, and a rimsherd with fingernail impressions. Two other rimsherds were noted, one of which was from a closed form with a burnished outer surface.
2041. Middle Iron Age. *93 sherds; 1,417g; EVE=0.42.* The assemblage included a rimsherd from a scored ware vessel with a fingernail impressed rim, a full profile of another, similar vessel (Fig. 7: 7), and two large scored ware bodysherds. The full profile had joining sherds from contexts 750 and 751.
2042. Middle Iron Age. *11 sherds; 311g; EVE=0.10.* The assemblage included a small scored ware bodysherd in fabric 1, and a large rimsherd with fingernail impressions in fabric 2. Another small, plain rimsherd in fabric 2 was noted, along with four burnished bodysherds in fabric 1.
2043. Iron Age. *57 sherds; 294g; EVE=0.05.* All plain bodysherds in fabric 1 except for a single small rimsherd.
2044. Middle Iron Age. *26 sherds; 519g; EVE=0.40.* All in fabric 1 except for sixteen plain bodysherds (62g) in fabric 2. A rimsherd from a scored ware vessel was noted, along with the full profile of a small bowl (Fig. 7: 8).
2045. Iron Age. *5 sherds; 69g; EVE=0.09.* One sherd was from the rim of a vessel with an upright profile and light burnishing on the outer surface, the rest were plain bodysherds, all in fabric 1.
2046. Iron Age. *5 sherds; 49g; EVE=0.* All plain bodysherds, one of which (13g) was in fabric 2, the rest in fabric 1.
2047. Middle Iron Age. *27 sherds; 293g; EVE=0.21.* All the sherds were in fabric 1. The assemblage included a fingernail impressed rim and three scored ware bodysherds.
2048. Iron Age. *4 sherds, 23g, EVE=0.10.* The only pottery was a fragmented rimsherd in fabric 1.
2049. Middle Iron Age. *19 sherds; 234g; EVE=0.04.* All in fabric 1. It included a small rimsherd with fingernail impressions and a small scored ware bodysherd. Nine burnished bodysherds were also present, as was a flat basesherd.
2053. Iron Age. *89 sherds; 268g; EVE=0.08.* All in fabric 1, and mainly comprised the highly fragmented remains of a vessel with a closed form and burnished surfaces.

Illustrations:

Fig. 7: 1: Upper part of scored ware jar. Black fabric with a yellowish brown outer surface. Patches of a burnt black residue on the inner surface. Fabric 1. Gully 2002 (1011, fill 1169).

Fig. 7: 2: Fingertipped rim sherd. Uniform dark grey fabric. Fabric 1. Gully 2002 (1011, fill 1169).

Fig. 7: 3: Rimsherd with fingernail impression. Black fabric with brown patches on both surfaces. Fabric 1. Gully 2007 (921, fill 1075).

Fig. 7: 4: Full profile of a jar. Black fabric with a variegated brown and brick red outer surface, brown and black inner surface. A few small sooting patches on the outer surface. Fabric 1. Gully 2038 (637, fill 763).

Fig. 7: 5: Rimsherd from a jar. Black fabric, reddish-brown patch on inner surface. Rim fingernail impressed, vertical scoring on the body. Fabric 1. Gully 2038 (636, fill 762).

Fig. 7: 6: Rimsherd from ?bowl. Light grey fabric with darker surfaces, fabric 5. Gully 2038 (634, fill 760).

Fig. 7: 7: Full profile of scored ware jar. Black fabric with patchy orange and light brown outer surface. Gully 2041 (terminus 625, fills 750 and 751).

Fig. 7: 8: Full profile of a small bowl. Black fabric with small brown patches on both surfaces. Outer surface lightly burnished. Fabric 1. Gully 2044 (547, fill 666).

Fig 7: 9: Iron Age. Near-complete closed bowl. Black fabric with reddish-brown patches on the outer surface. Fabric 1. Pit 413, fill 475.

Fig. 7: 10: Middle Iron Age. Sherd from large closed bowl. Black fabric with reddish-brown patches on the outer surface. Fabric 1. Pit 236, fill 293.

Fig. 7: 11: Middle Iron Age. Scored ware with stabbed rim-top. Uniform black fabric 1. Pit 236, fill 293.

Fig. 7: 12: Middle Iron Age. Closed vessel with fingernail impressed rim-top. Black fabric with reddish brown patches on both surfaces. Fabric 1. Gully 2006 (949, fill 1155).

Animal Bone by Claire Ingrem

The animal bones were identified in the Laboratory for Zooarchaeological Research at the University of Southampton using the Centre for Applied Archaeological Analysis's standard methodology. A total of 1,147 fragments of animal bone were recovered by hand collection (Table 3a) and a further 767 specimens were amongs the sieved samples (Table 3b). Some of the material was in poor condition and some contexts were dominated by loose teeth. Despite this, many of the bones are identifiable with 76% of the hand-collected and 25% of the sieved material assigned to species or animal size categories. The majority of the material came from features dated to the broad Iron Age period while more firmly middle Iron Age and features assumed to be Iron Age in date produced smaller samples. The archive contains full data, which are summarized here.

Taxa frequency

Overall, the assemblage is dominated by the remains of cattle and sheep/goat, with cattle slightly more frequent than caprines (when partial skeletons are counted as one each). The hand-collected assemblage conforms to this pattern with cattle and sheep/goat almost equally represented (Table 3a). Horse and pig bones recovered by hand represent relatively small proportions of the assemblage (3% and 1% respectively). A single lagomorph specimen, a partial ulna, probably hare *(Lepus europaeus)* was found. The majority of fragments assigned to mammal size categories belong to large mammal (horse or cattle). The sieved material is dominated by bones belonging to caprines; however, most of these represent one partial skeleton, a few fragments belong to cattle but horse and pig are absent. A sizeable proportion of the caprine assemblage (51%) but only 4% of the cattle came from pits and postholes (Table 4).

Anatomical representation

Loose teeth comprise a large proportion of the remains from both linear features and pits/postholes. However, the cattle and sheep/goat assemblages recovered from linear features include elements from all parts of the body – crania, major limb bones and feet. In respect of material from the pits and postholes, a similar pattern is visible for sheep/goat but the sample of cattle bones is small and, apart from a radius is represented solely by loose teeth and foot bones. All the horse remains came from linear features; the majority are loose teeth although a few fragments of limb and foot bones are present. The few pig specimens also derive from various parts of the body.

Age at death

There is evidence for both immature and adult horses. Measurements taken from adult teeth suggest an age range of between 3 and 9¼ years of age (Levine 1982). In addition, the recovery of isolated deciduous second and third premolars and molars with undeveloped roots, belonging to both left and right sides of the mouth, from a single ditch context (750, ditch 2041), attest to the death of at least one animal aged below 2½ years (Silver 1969). Most horse limb bones possess fused epiphyses, except for an unfused distal radius that would have belonged to an animal younger than 42 months (Getty 1975).

TABLE 3 Animal bone: taxa representation (NISP)
a) in hand collected material

	IA	*MIA*	*Assumed IA*	*Total*	
	N	N	N	N	%*
Horse	11	13	3	27	*3*
Cattle	105	26	23	154	*18*
Sheep	4	3	** 28	35	*4*
Sheep/goat	79	46	11	136	*16*
Pig	7	2		9	*1*
Lagomorph	1			1	*<1*
Lg. mammal	290	86	38	414	*47*
Med. mammal	37	28	***32	97	*11*
Sm. mammal	1			1	*<1*
Unidentifiable	186	64	23	273	
Total	721	268	158	1147	
Total identifiable	535	204	135	874	*100*
% identifable	*74*	*76*	*85*	*76*	

***single skeleton*
****28 bones belong to sheep skeleton*

b) in sieved samples

	IA	*MIA*	*Assumed IA*	*Total*	
	N	N	N	N	*%**
Cattle	10		3	13	*7*
Sheep/goat	13	8	**52	73	*38*
Lg.mammal	41	4	7	52	*27*
Med.mammal	15	16	***20	51	*27*
Unidentifiable	298	117	162	577	
Total	378	145	244	767	
Total identifiable	80	28	82	190	*100*
% identifiable	*21*	*19*	*34*	*25*	

* *% of identifiable asssemblage*
**includes 50 bones belonging to a sheep/goat skeleton
*** includes 11 bones belonging to sheep/goat skeleton

Ageing data for cattle are scarce. Of four loose teeth or mandibles able to provide an indication of age, three belong to animals estimated to have been between 26 and 36 months at the time of death and one to an animal with an estimated age of between 3 and 6 years (Legge 1992). Only one bone epiphysis is unfused – a calcaneum, thereby lending support for the presence of cattle below 36 months of age (Getty 1975).

A larger sample of caprine teeth provided ageing data. Several deciduous fourth premolars belong to animals aged between 6 and 24 months, however a larger proportion are isolated third molars from animals whose estimated age at death is between 3 and 4 years (Payne 1973). Epiphyseal fusion data, although based on a fairly small sample, supports the proposition that a considerable proportion of the caprine population survived into adulthood.

TABLE 4 Comparison of faunal material according to feature type

a). Taxa representation (NISP and %)

	Ditch		*Gully*		*Pits/postholes*		*Other*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Horse	18	*7*	9	*2*				
Cattle	44	*16*	116	*23*	7	*2*		
Sheep/goat	47	*17*	71	*14*	125	*44*	1	*100*
Pig	6	*2*	1		2	*1*		
Lagomorph	1							
Lg.mammal	130	*48*	263	*52*	73	*26*		
Med.mammal	26	*10*	46	*9*	76	*27*		
Sm mammal			1					
Total	272	*100*	507	*100*	283	*100*	1	*100*

b) date (NISP and %)

	IA		*MIA*		*Assumed IA*	
	n	*%*	*n*	*%*	*n*	*%*
Ditch terminus	28	*3*				
Ditch slot	193	*18*	86	*21*	32	*8*
Gully slot	287	*26*	51	*12*	35	*9*
Gully terminus	446	*41*	117	*28*	73	*18*
Pit	131	*12*	145	*35*	250	*62*
Posthole	11	*1*	14	*3*	5	*1*
Other	3				7	*2*
Total	1099	*100*	413	*100*	402	*100*

The only indications of pig age come from an unfused pelvis belonging to an animal younger than 12 months and a fused distal metapodial from a pig aged over 2 years at death (Getty 1975).

Articulated remains

Two animal burials are represented. The partial remains of a sheep aged between 3 and 4 years were recovered from pit 537. The left pelvis displays transverse cuts on the medial surface of the acetabulum, suggestive of disarticulation. A second partial skeleton, belonging to an animal aged between 3 and 4 years, was recovered by sieving from pit 249. Preservation of the bones is poor and consequently the remains are very fragmentary.

Taphonomy

There is evidence to suggest that caprines (and probably other medium sized mammals such as pig) were originally present in greater numbers than their remains suggest. The poor condition of much of the material and the high incidence of loose teeth suggests that density-mediated taphonomic processes have biased the assemblage. The relatively high frequency of caprine remains in pits and postholes compared with linear features may, therefore, be a consequence of the protective burial environment afforded by pits.

A small proportion of bones possess evidence for butchery in the form of cut marks. A horse calcaneum has a single cut mark on the sustentaculum tali. Several transverse cuts are visible on the proximal anterior surface of two cattle metatarsals. Two cattle humeri also have cut marks: one, oblique marks on the distal medial surface; the other, transverse cuts on the distal lateral surface. Transverse cut marks are also visible on the distal end of a cattle astragalus. The only caprine bone to display evidence of butchery belongs to the animal buried in pit 437 (above). Only four cattle bones display evidence for gnawing. A considerable

number of specimens have been burnt but most are either unidentifiable or assigned to the medium mammal category.

Metrical data

Metrical data are held in the archive. Compared with bones recovered from other Iron Age sites (data held on the ABMAP database (http://ads.ahds.ac.uk/catalogue/specColl/abmap/index.cfm)), most fall within the ranges seen at contemporary sites but one horse and a few cattle measurements are slightly smaller.

Discussion and interpretation

Animal husbandry at Kingsmead was centred on cattle and caprines, which suggests that both good quality pasture and dry grazing land were available locally. In general, the animal bone assemblage conforms to patterns at contemporary sites and suggests a mixed husbandry strategy. Clearly, the assemblage has suffered from the effects of density-mediated taphonomic processes and as a result the numbers of caprines and pig are likely to be deflated. It has been suggested that relative taxa frequency reflects local environmental conditions (Grant 1984; Hambleton 1999). Cattle are best suited to grazing on the lush pastures and water meadows found in proximity to river valleys, while dry downland areas with their relatively poor quality grazing are more suitable for sheep. This disparity is evident at many Iron Age sites in southern and middle England; assemblages recovered from sites in Wessex generally contain high proportions of caprines whereas those in the Upper Thames Valley tend to comprise higher frequencies of cattle. At Danebury, Hampshire, caprines make up at least 60% of the animal bone during all phases of occupation (Grant 1984, 498). Similarly, at Ashville Trading Estate (Wilson 1978, 111), Groundwell Farm (Coy 1982, 69), Winnall Down (Maltby, 1985: 102) and Balksbury Camp (Maltby nd) fragments belonging to sheep/goat outnumber those of cattle. In contrast, at Whitehouse Farm (Hamilton-Dyer 1992), and Farmoor, both in Oxfordshire (Wilson 1979), high proportions of cattle have been recovered. At Kingsmead, the importance of both cattle and caprines suggests that the inhabitants probably had access to both pasture and downland.

Horse bones are common components of animal bone assemblages from Iron Age sites. The general predominance of adult animals has led to the theory that horse breeding was not a deliberate activity but instead, feral animals were periodically rounded up (Harcourt 1979, 158). Some communities may have specialized in horse breeding (Grant 1984, 522), a suggestion supported by evidence at Rooksdown, Hampshire (Powell and Clark, in press) where the remains of male and female horses, ranging in age from foetal to neonatal were recovered. The presence of immature horse at Kingsmead is not necessarily suggestive of breeding but may signify the training of a young feral animal. The single cut mark visible on a calcaneum was probably inflicted during carcass dismemberment. Although horses were probably kept primarily for transport (Maltby 1996, 23), old animals that had reached the end of their working lives were probably utilized for meat. At Winnall Down, cut-marked horse bones provide evidence that after death, cattle and horse carcasses were treated similarly (Maltby 1985).

Kingsmead is not alone in having a low proportion of pig. A similar pattern occurs at Warrens Field (Sykes nd), Whitehouse Road (Hamilton-Dyer 1992) and Farmoor (Wilson 1979) where pigs are less numerous than horse. Of course, as was suggested for caprines, pig may have originally been more numerous than their remains suggest, particularly given that pigs are often culled before reaching skeletal maturity when the bones are still relatively porous and susceptible to destruction.

The variation in taxa representation according to feature type suggests that animal frequency is dependent upon the types of deposits excavated. This phenomenon has been observed at other sites such as Winnall Down (Maltby 1985), where sheep were more numerous in the pits and cattle dominated the ditches. This has been explained partly as resulting from the practice whereby large animals were butchered on the periphery of settlements with meat stripped from the bones and the waste thrown into surrounding ditches. In contrast, meat from smaller animals such as caprines and pig is better suited to being cooked on the bone; consequently the waste may have been disposed of in a convenient pit located close to areas of habitation. The bones of smaller animals are also more likely to be preserved in pits than ditches as the former afford a closed, and thus protected, burial environment.

The high proportion of loose teeth also indicates

that the assemblage has been affected by density-mediated preservation. Teeth are generally considered more robust than bones (Lyman 1994) and therefore more likely to survive. Their presence indicates the original disposal of jawbones, which, along with the recovery of major limb bones and metapodia, provide evidence that whole carcasses of cattle and sheep/goat were originally present. The small size of the horse and pig samples is likely to account for the restricted range of elements belonging to both animals, as it is probable that most livestock came to the site on the hoof.

At Iron Age sites in the Thames Valley the tendency to cull prime aged cattle has been noted, while in Wessex a steadier mortality profile is visible (Hambleton 1999, 82). Ageing data at Kingsmead are scarce and cannot provide evidence for herd structure, although they do indicate that cattle were culled at both below and above three years. Immature animals would have been valued for prime beef, while older animals are more likely to have been kept primarily for their secondary products (milk, traction and manure) although meat would also have been provided.

The larger sample of sheep/goat ageing data suggests a mixed husbandry strategy at Kingsmead. A small proportion of animals died during the first two years of life: almost certainly the culling of surplus stock to avoid over-wintering. Most caprines, however, were slaughtered at between three and four years and would have provided not only good quality mutton, but throughout their lives, several clips of wool and other secondary products. The presence of a few older animals attests to the importance of these secondary products and the need to retain good breeding stock. This pattern, however, is at odds with the high mortality of yearlings noted by Hambleton (1999, 87) and in light of the evidence for poor preservation, it may be that fragile bones of young caprines have not survived. The absence of very young individuals may also result from a combination of factors associated with density-mediated bone survival.

The evidence for immature pig is not unusual. Pigs are generally slaughtered before reaching adulthood because apart from manure and bristles, they do not provide useful secondary products and tend to be kept solely for meat. The scarcity of pig suggests that meat production was not of primary importance and that greater value was placed on animals able to provide the community with a variety of resources.

Animal burials are commonly found on Iron Age sites and many are considered to have symbolic associations (Grant, 1991; Wilson, 1999). Cut marks on one sheep pelvis suggest that this animal was to some extent disarticulated before burial but whether this occurred simply to remove the meat, to facilitate its disposal in the pit, or as part of a symbolic act, is impossible to ascertain from the information available.

Struck Flint by Steve Ford

Only sixteen struck flints were recovered during both phases of the project. Twelve pieces (10 flakes, a spall and a retouched flake) were recovered during fieldwalking. None of these were closely datable but they are likely to be of Neolithic or Bronze Age date. They did not form a cluster and are likely to be casually lost or discarded items. Three flakes and a blade (narrow flake) came from stratified Iron Age contexts and all are likely to be residual. The blade is likely to be of Mesolithic or earlier Neolithic date whereas the others are less closely datable and are likely to be Neolithic or Bronze Age.

The use of flint alongside metal tools is well documented for the whole of the Bronze Age and the earliest part of the Iron Age (Ford *et al*. 1984) and this duality has prompted a consideration of the role of flint in the middle Iron Age. While it is clear that *ad hoc* use of flint has taken place at all times, and continues to the present day, the evidence for significant Iron Age flint use is far from convincing (Saville 1981) despite renewed assessment of more recent data (Humphrey and Young 1999). The few flints from Kingsmead hardly point to significant usage in the Iron Age and are best regarded as residual finds.

Other finds by Andy Taylor

A very small assemblage of burnt flint, eight pieces (27g), was recovered from the excavation, with no particular concentrations evident. A collection of 749 pieces of fired clay, weighing a total of 2591g, were retrieved from both the evaluation and excavation. Two fabrics are evident, one a dark orangey-red colour and the other a beige colour with large rounded limestone inclusions. Fragments from several contexts and most notably pit 749 showed evidence of wattle impressions. Gully 2040

terminus 616 contained a large piece of loomweight and several associated fragments.

The metalwork comprised two iron nail stems from gully 128 and pit 348, and two highly fragmentary iron blades from gullies 2046 (511) and 2037 (649) weighing 30g and 46g respectively. Six pieces of iron bloom slag were collected weighing a total of 352g; five of these came from pit 1008 and the other (just 1g) from ditch 2000. This is not enough of this material to base any conclusions on. A single fragment (3g) of clay pipe stem was recovered from ditch 242.

Carbonized Plant Remains by Lucy Cramp

One hundred and thirty-one samples were taken to obtain palaeoeconomic and palaeoenvironmental information. Bulk samples of between 6 and 25 litres of sediment were floated over a 0.25mm mesh. Flots were examined under a low-power (x7–x45) binocular microscope. Wood charcoal was present in low abundance, cereal grains were uncommon, weed seeds and chaff entirely absent. Thirteen samples (from Areas 2 and 3) which contained larger and more abundant wood charcoal were therefore selected for analysis. Table 5 presents a qualitative summary of the abundance of the plant taxa.

Two samples containing frequent large fragments of charcoal were dominated by oak (*Quercus* sp.) heartwood, while the lower concentrations of charcoal from the remaining samples usually contained a mixture of oak, alder/hazel (*Alnus* or *Corylus* sp.) and the Pomoideae family indicating that fuel was both selected from oak woodlands and more randomly collected from nearby shrubland in separate episodes of burning. Isolated grains of spelt wheat (*Triticum spelta*) and barley (*Hordeum* sp.) were present. There is no evidence for either crop processing or significant culinary or domestic activity in these samples. There was no indication of any significant difference between the areas excavated.

Radiocarbon Dating

Four samples of charcoal were submitted to the radiocarbon laboratory at the University of Kiel. Details of methodology are in archive; in summary the results are considered reliable. Calibration follows Stuiver *et al*. 1998. The measured age difference between KIA 28508, 28509 and 28511 is statistically not significant (28 ± 39yr, ~ 0.7). These three ages are in the expected range. Fluctuations in the atmospheric ^{14}C content, unfortunately, lead to rather wide calibrated age ranges.

KIA 28510 is older than the other charcoal samples and yielded about as much humic acids as alkali residue. Between the humic acid fraction and the alkali residue of KIA 28510 a statistically significant age difference of 139 ± 42 (3.3s) exists, which probably indicates the presence of younger mobile contaminants in the sample. Such contaminants are generally removed by acid-alkali-acid extraction. The age difference between alkali residue and humic acid fraction is significant, yet too small to make it likely the charcoal could belong to the activity period of the three other samples.

TABLE 5 Carbonized plant material

Sample		***5***	***13***	***28***	***47***	***54***	***84***	***96***	***102***	***126***				
Cut		*105*	*127*	*221*	*336*	*349*	*605*	*704*	*749*	*1025*	*916*	*923*	*934*	*943*
Deposit		*156*	*180*	*276*	*396*	*461*	*677*	*791*	*896*	*1183*	*1069*	*1077*	*1088*	*1099*
Sample volume (l)		*5*	*10*	*20*	*5*	*5*	*20*	*10*	*20*	*20*				
Cereal grain														
Triticum spelta	spelt wheat	+								+				
Hordeum sp.	barley								+					
Charcoal														
Quercus sp.	oak				+++	+++		+++	+		+			+
Alnus or *Corylus* sp.	alder or hazel		+				+							
cf. Pomoideae	Hawthorn etc.		+											
Pomoideae	Hawthorn etc.			+++			+					+	+	

+ present ++ some +++ much

Conclusion

Five concentrations of activity have been identified.

Area 1 identified a single curving ditch, which may represent the eastern edge of an unexamined settlement beneath Tattenhoe Spinney.

Area 2 contained two occupation areas, with eight roundhouses in total and associated postholes and gullies. It is not clear if both parts of Area 2 were contemporary or were a single settlement shifting over time. The modern stream dividing them could have been a feature of the ancient landscape too, but this is thought unlikely. A post-medieval ditch crossed both parts of the Area.

Area 3 contained two concentrations of features, more plausibly divided by a contemporary stream or at least a boggy area where a stream had previously flowed. To the south was an occupation area comprising two roundhouses, with associated features, and to the north an area of what appeared to be stock management enclosures.

All of these areas are dated to the middle Iron Age period although closer dating within this period is, as usual, difficult since the pottery is not particularly diagnostic. However, stratigraphic relationships show several occupation periods, each of which may be supposed to cover *c.*30–50 years. It seems likely that the two areas of different character identified in Area 3 would be contemporary with each other, but it is unclear if the settlements of Areas 2 and 3 were one site shifting over time or were themselves contemporary. Unfortunately, the radiocarbon dates from Roundhouses 4 and 9 and from stock pen gully 2039 can be read to support either argument.

Obviously, this makes population estimation fraught with uncertainty, however, the overall impression, when combined with the very similar density and phasing of the settlements to the south at Tattenhoe Park, and north at Oxley Park West, is of a well-populated landscape. If continual shifting is a feature of the settlement pattern, suggesting plenty of open space, then the recutting of at least some elements in the same place for several phases may, on the other hand, suggest some pressure on land. Demand for land may have led later Iron Age settlements (and in this context, perhaps the later phases of the Iron Age site at Tattenhoe Park to the south) to be enclosed, or at least formally defined.

Four phases were present on the site as a whole. Phase 1 was early Neolithic and wholly unrelated to what followed. It consisted of residual worked flints and possibly a single pit (334), initially thought to be associated with the Roundhouse 8. Only C14 dating allowed this date to be revised and the pottery from this feature, dated as Iron Age, must either be intrusive (quite possible from its size), or, perhaps more likely, the charcoal was redeposited and the pit contemporary with the surrounding archaeology.

Phases 2 and 3 were close in date, the distinction between the two coming from stratigraphy alone. It is unclear how early in the Iron Age the beginning of the occupation can be placed. It seems likely that successive roundhouses replaced one another, especially in Area 2 where their close proximity suggests the presence of two houses at any one time, moving across the landscape through the generations. Allowing an approximately 50 year life span for each building phase (two roundhouses and presumably outbuildings for each phase) would cover the centuries of the middle Iron Age period suggested by the pottery dating. The two occupation areas identified in Areas 2 and 3 may represent a settlement shift to the adjacent area (and back again?); or twin settlements. Both settlement areas were roughly equidistant from the stock enclosure area, which could thus belong (spatially and chronologically) to both. An important point to note is the continuation of features to the south beyond the excavated Area 3. The Kingsmead South site is nevertheless a separate settlement from that excavated in Tattenhoe Park, to the south, where it is suggested that the settlement's northern limit is marked by a major territorial boundary (ditch B6 in Taylor 2006). Comparison of the pottery assemblages may show if there is a marked cultural separation going beyond the 200m or so of spatial difference.

There are functional differences too between the Kingsmead site and Tattenhoe Park. There was less animal bone at Tattenhoe Park, and apparently no charred cereals, but a number of four- and six-post structures were present, presumably granaries, querns (absent from Kingsmead) and more loomweights (only one was found here). At Kingsmead, there were no human burials, which were present at Tattenhoe Park; and again, metal-working crucibles were present only at the latter site. Overall Tattenhoe Park appears to be a more fully 'rounded' settlement, Kingsmead more specialized.

Table 6 Radiocarbon dates

KIA28508: Charcoal. Roundhouse 9, gully 2024, slot 823, fill 973		
Radiocarbon Age:	BP 2178 ± 23	
Calibrated Ages:	cal BC 337, 325, 202	Probability
One Sigma Range:		
(Probability 68.3 %)	cal BC 351–316	33.5 %
	310–302	4.8 %
	230–219	8.9 %
	209–197	10.2 %
	191–175	10.9 %
Two Sigma Range:		
(Probability 95.4 %)	cal BC 357–277	50.6 %
	259–242	4.8 %
	234–168	40.1 %
KIA28509: Charcoal. gully 2039, slot 627, fill 753		
Radiocarbon Age:	BP2150 ± 31	
Calibrated Ages:	cal BC 197, 190, 176	Probability
One Sigma Range:		
(Probability 68.3 %)	cal BC 348–319	17.8 %
	228–222	2.7
	205–153	39.6 %
	133–117	8.2 %
Two Sigma Range:		
(Probability 95.4 %)	cal BC 354–289	25.8 %
	257–249	1.0 %
	232–216	4.8 %
	213–90	62.0 %
	76–61	1.9 %
KIA28510: Charcoal. Pit 334, fill 394		
Radiocarbon Age:	BP4850 ± 30	
Calibrated Age:	cal BC 3644	Probability
One Sigma Range:		
(Probability 68.3 %)	cal BC 3662–3636	58.7 %
	3551–3542	9.6 %
Two Sigma Range:		
(Probability 95.4 %)	cal BC 3701–3631	79.2 %
	3577–3571	1.0 %
	3561–3538	15.3 %
KIA28511: Charcoal. Roundhouse 4, Gully 2007, slot 917, fill 1070		
Radiocarbon Age:	BP2159 ± 23	
Calibrated Ages:	cal BC 198, 186, 183	Probability
One Sigma Range:		
(Probability 68.3 %)	cal BC 347–321	25.3 %
	227–223	3.4 %
	204–169	39.6 %
Two Sigma Range:		
(Probability 95.4 %)	cal BC 354–291	34.9 %
	256–251	0.9 %
	232–217	6.6 %
	212–145	47.2 %
	141–114	5.7 %

Some, possibly most, of the roundhouse gullies lack internal features, which points to a building method without earthfast foundations, such as the turf constructions suggested for the roundhouses at Pennyland (Williams 1993). A similar structure was identified at Westcroft (Anthony 2003) and apart from the occasional doorpost, the ring ditches at Tattenhoe Park and Oxley Park also rarely showed contemporary internal structures (Taylor 2006; Brown *et al.* 2009). However, daub associated with the roundhouses indicates the use of wattling. The presence of both turfed and wattled structures again may relate to separate phases of occupation, but the lack of evidence of postholes does not necessarily mean that they were never present, as they do not always penetrate below topsoil level (Reynolds 1995).

Phase 4 only comprises a few sherds of Roman pottery collected as surface finds and from the ploughsoil. Three sherds retrieved from secure Iron Age contexts are regarded as intrusive. There is no indication that the Iron Age occupation continued into the Roman period.

The unenclosed Kingsmead site is similar to that at Westcroft. Other Milton Keynes sites such as Pennyland, Hartigan's and Wavendon Gate (Williams 1993; Williams *et al.* 1995) are characterized by ring-gully structures within small ditched enclosures. In contrast at Bancroft (Williams and Zeepvat, 1994) the main settlement features comprised a linear arrangement of 15 ring gully houses, which as at Kingsmead, were not all in use at the same time. This, it is becoming apparent, is a functional difference. Sites such as Pennyland and Kingsmead appear to be designed for the handling of stock, with the presence of stock management features such as small pens and gullies 'funnelling' into larger pens. At sites such as Bancroft (Williams and Zeepvat, 1994), Westcroft (Ford 2000) and Fenny Lock (Ford and Taylor 2001), on the other hand, the lack of faunal remains suggests a less stock-orientated economy (although unfortunately, we should remember that many factors contribute to a lack of bones on a site, not simply the absence of animals from the original population). The absence of four-post storage structures or large grain storage pits, and a lack of quernstones on the Kingsmead site also point to a stock managing specialism. The environmental evidence also supports this, as virtually no seeds were present (although charcoal was recovered), and although there can be many reasons for the absence of charred plant remains, all these absences combined point in the same direction, especially as these features were all present immediately to the south in the Tattenhoe Park site, excavated using similar methods and in similar conditions.

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