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Neolithic occupation, with an early date for Mortlake Ware, at Parsons Mead School, Ashtead

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with contributions by
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Two small ditches containing Neolithic pottery are tentatively considered to represent very early field boundaries, and are associated with two pits and a posthole of similar date. A pit containing Mortlake-style pottery also held charcoal radiocarbon dated to 3775–3659 cal BC (KIA41320), which is some two centuries earlier than the currently accepted chronological scheme for this style.

Introduction

An archaeological excavation was carried out in October 2009 by Thames Valley Archaeological Services (TVAS) Ltd at Parsons Mead School, Ottway's Lane, Ashtead, Surrey (TQ 1822 5773) (fig 1) following evaluation of the site in September of that year. The work was funded by Bewley Homes plc in order to comply with an archaeological condition on planning consent for a residential development.

The evaluation had revealed archaeology concentrated within an area of former tennis courts, and follow-up excavation covered 1030m^2 in this area.

The site is located on the south side of Ottway's Lane, near the centre of Ashtead (fig 1). The school covers an area of 4.6ha on gently sloping land, at 69m above OD at the south-east, sloping down to 63m above OD at the north-west. The site of the excavation was an area of tarmac of former tennis courts and grass surrounded by former school buildings and playing fields. The site lies at the junction of three geological units with Thanet Beds (sand) at the south and Reading Beds (sand and clay) to the north, with Taele Gravel crossing the site (BGS 1978). The geology encountered within the excavation area consisted of fine-grained sand with silt and patches of gravel that might have been either the Reading Beds or the Taele Gravels.

Archaeological background

The archaeological potential of the site had been highlighted in a desk-based assessment (RPS 2008). In summary, the site lies in an area of archaeological interest, with Bronze Age and Iron Age features and deposits, including an Iron Age enclosure, excavated immediately to the west and further to the south. Other finds from the wider area include Mesolithic tranchet axes, Neolithic or Early Bronze Age flint and stone axes, prehistoric pottery, Roman coins and a late Saxon execution cemetery. The evaluation (Weale & Milbank 2009) revealed a ditch/gully and a pit that contained pottery of Neolithic and/or Bronze Age date and undated ditches/gullies were by association thought to be of similar date.

The specific research aims of the excavation, linked to the research framework for the archaeology of Surrey (Cotton *et al* 2004) were to answer the following questions:

> Do the identified prehistoric remains represent settlement, and if so can the function and limits of this settlement be identified?
> Are there any cremations/burials associated with the potential settlement?
> Is there any evidence for the survival of later remains on the site?

Fig 1 Parsons Mead School, Ashtead. Site location within Surrey and Ashtead and location of evaluation trenches and excavated area within the school grounds. (© Crown copyright Ordnance Survey. All rights reserved)

Results (figs 2–4)

Tarmac, topsoil and other overburden were removed by a machine fitted with a toothless ditching bucket under continuous archaeological supervision down to the natural silty sand. The natural sand oxidised very quickly after it had been exposed to the atmosphere, necessitating hand-cleaning of the exposed surface to define the archaeological features.

DITCHES

Ditch 19 was aligned roughly south-west/north-east. The western half of ditch 19 was hard to observe owing to the oxidisation of the background natural geology to the same colour as the ditch fill, and so it could only be traced by the presence of charcoal flecks along its course. Six sections (2, 5, 9, 12, 13 and 16) were excavated through ditch 19. The ditch varied between 0.75 and 1.00m in width x 0.10–0.25m in depth with a U-shaped profile and terminated to the east (section 16). Ditch 19 was filled with predominantly brownish-red silty sand with moderate amounts of flint gravel and very occasional charcoal flecking, with patches of greyish-red silty sand (53, 56, 62, 67 and 70), contained six sherds of Neolithic pottery and three struck flints.

Ditch 20 was aligned north-west/south-east. The whole length of ditch 20 was similar to ditch 19 and again could only be traced by the presence of charcoal flecks. Two slots (14 and 18) were excavated showing it to be 1.2m wide x 0.59m deep with a U-shaped profile. Ditch 20 was filled with mid-reddish-brown silty sand with moderate amounts of flint gravel and very occasional charcoal flecks (65 and 69). Two charred cereal grains were recovered from sieved soil samples. Ditch 20 contained three sherds of Neolithic pottery. No relationship could be established between ditches 19 and 20, but they are presumably contemporary.

Ditch 6 was shown to be modern and not further examined.

PITS

Pit 3 from the evaluation was re-examined in the excavation as pit 8. It was roughly circular, 1.43m in diameter, 0.34m deep with a concave profile and filled with mid-reddish-brown silty sand with moderate to abundant large flint nodules and moderate amounts of flint gravel (59). Nine sherds of Neolithic pottery were recovered.

Pit 11 was immediately to the north of pit 3/8 and was roughly circular with uneven edges, 1.2m in diameter and 0.41m deep (fig 4). It had steep, near-vertical, sides and a convex base (fig 4), and was filled with mid-brownish-red silty sand with moderate amounts of flint gravel (61). It contained 23 sherds of Neolithic Mortlake Ware pottery together with eleven struck flints, abraded bone fragments and burnt flint. A few pieces of oak charcoal were recovered by wet sieving. A radiocarbon determination on the oak charcoal produced a date of 3775–3659 Cal BC (KIA41320), thus placing the pit firmly within the Early Neolithic.

Feature 4 from the evaluation, initially considered to be a ditch, on excavation was observed to have rounded ends that continued for only short distances outside the line of the evaluation trench and is reinterpreted as a pit. It was 2.10m long, 0.7m wide x 0.15m deep, and contained a single fill of grey/brown silty clay with small amounts of gravel (55). No finds or charcoal were recovered from this feature.

Pit 7 was 1.15m in diameter x 0.25m in depth, with a bowl-shaped profile. It was filled with mottled red-brown/grey-brown silty sand with moderate amounts of flint gravel and occasional flint nodules (58). No artefacts or charcoal were recovered from the fill of pit 7.

Pit 17 was elongated and sub-rectangular in plan, aligned north-west/south-east. It was 2.8m long, 0.75m wide x 0.13m deep. The north-western end of the pit where it entered evaluation trench 15 had been truncated by a modern land drain. The pit was filled with greyish-brown silty sand with moderate to frequent flint nodules and abundant flint gravel (68). No artefacts or charred plant remains were recovered from the fill.

Fig 2 Parsons Mead School, Ashtead. Plan of all excavated features. (© Crown copyright Ordnance Survey. All rights reserved)

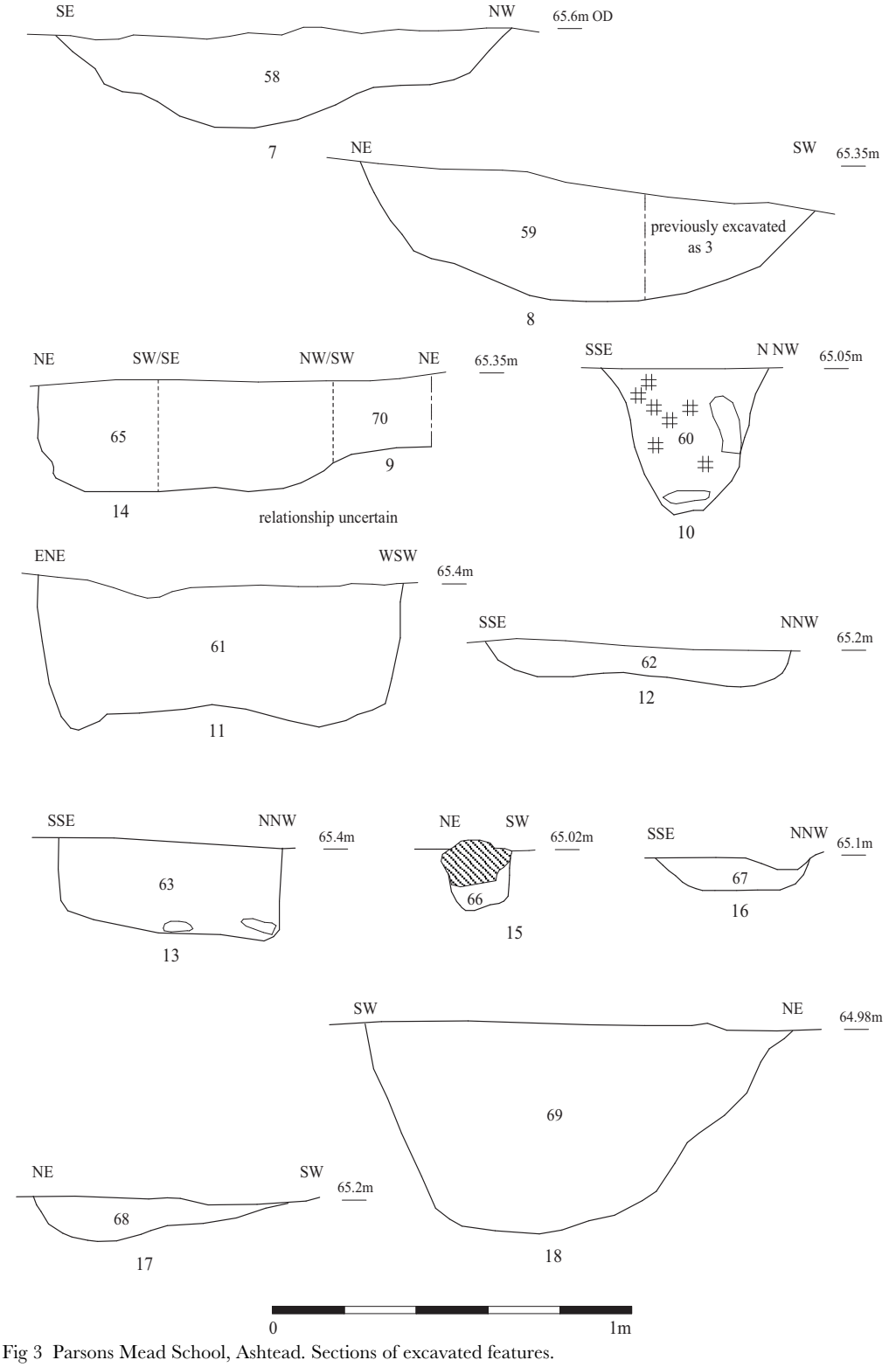

Fig 3 Parsons Mead School, Ashtead. Sections of excavated features.

Fig 4 Parsons Mead School, Ashtead. Pit 11 looking south; horizontal scale 1m, vertical 0.5m.

POSTHOLES

Posthole 10 was located towards the western limit of the excavation. It was 0.40m in diameter, 0.23m deep with steep sides and a flat base (fig 3). It was filled with a mottled mid-reddish-brown to reddish-grey silty sand with abundant charcoal and large flint nodules (60). The flint nodules were predominantly around the edges of the posthole and may have been deliberate packing. Two struck flints were recovered from the fill together with burnt flint. Charcoal recovered by wet sieving was mostly oak with some ash.

Posthole 15 lay immediately to the east of ditch 20. It was 0.21m in diameter, 0.18m deep with steep sides and a concave base. Posthole 15 was filled with a mid-reddish-brown silty sand (66). Within the upper portions of 66 was a single large piece of sandstone that may have been post packing. No artefacts or charred plant remains were recovered.

Finds

THE POTTERY, by Frances Raymond

A small assemblage of Neolithic pottery was recovered from four features (table 1). The largest group of sherds is derived from a Mortlake bowl from pit 11, while a single decorated wall fragment from a Peterborough vessel came from ditch 19. The other two deposits produced featureless wall sherds in similar fabrics, likely to be of Neolithic origin.

The pottery was analysed in accordance with the guidelines of the Prehistoric Ceramic Research Group (PCRG 1997). The variables recorded included fabric, rim form, decoration, surface treatment, colour, wall thickness, sherd size and condition. The pottery was quantified within each of these categories both by number and weight. The descriptive data relating to these attributes are available in the archive.

Table 1 Quantity of pottery by context

Feature	Cut	Deposit	Number	Wt (g)
Ditch 19	2	53	6	26
Pit	3/8	54/59	9	11
Pit	11	61	23	174
Ditch 20	18	69	3	4

Pottery from the ditches

Both ditches produced a few small wall fragments (1–3cm across) of lightly to moderately abraded pottery. The sherds from ditch 19 are derived from four vessels: three in similar flint tempered wares (FMS/1, FS/1 and FS/2), and the fourth in a contrasting grog tempered fabric (GS/1). The only decorated fragment is from a Peterborough Ware vessel of indeterminate sub-style, embellished with a row of short crescentic impressions made using an implement of uncertain type. The ends of two twisted cord impressions are additionally visible close to one of the fractures, but the sherd is too small to determine its orientation, or to allow for a reconstruction of the motifs and design. The fabric is the same as that used for the Mortlake bowl from pit 11 (FS/1) and most of the plain wall fragments from ditch 19 are in similar flint-tempered wares. The only exception is the single grog-tempered sherd (weighing 4g), which is most probably from a beaker but might possibly be part of a Fengate vessel. If the fragment is from a beaker, the association with Peterborough Ware suggests a date when the two styles overlapped between *c* 2600 and 2500 BC (cf Kinnes *et al* 1991; Gibson & Kinnes 1997). However, even leaving aside the uncertainties over the attribution of the beaker sherd, this dating is far from secure given the potential for the presence of residual material in a small and relatively poorly preserved assemblage.

The few fragments of pottery from ditch 20 are made from the same fabric as the Peterborough vessel from ditch 19 and the Mortlake bowl from pit 11 (FS/1). Without stylistically diagnostic material these sherds cannot be phased and could be of earlier or later Neolithic date.

Pottery from the pits

The Mortlake bowl sherds from pit 11 are lightly to moderately abraded and are mostly small (1–5cm across). Such a vessel is conventionally dated anywhere between 3400 and 2500 BC (Gibson & Kinnes 1997), but in this instance, charcoal from the same deposit with a date of 3775–3659 Cal BC (KIA41320) pre-dates this by at least 200 years. The pot is made from a coarse fabric (FS/1) and has walls of variable thickness (6–13mm) with an apparently untreated reddish-brown exterior (2.5YR3/4 and 4/3). Evidence for form is limited to a small expanded rim fragment (fig 5, no 1) of typically Mortlake character, which has lost its interior surface and is too small for a diameter measurement. The outer lip of the rim is embellished with a fingernail row (fig 5, no 2), while the upper part of the cavetto neck is undecorated (the lower part is missing). Single fingernail rows are repeated on two of the larger wall sherds, which are otherwise plain. The rest of the assemblage is composed of undecorated wall fragments (twenty sherds, weighing 115g), most probably derived from the lower part of the bowl.

The sherds from pit 8 are in variable condition and are made from a single coarse flint-tempered fabric (FS/3). This is similar in character to the Peterborough Ware (Mortlake bowl) from pit 11 and ditch 19, but as with the material from ditch 20, it has a currency also encompassing the earlier Neolithic.

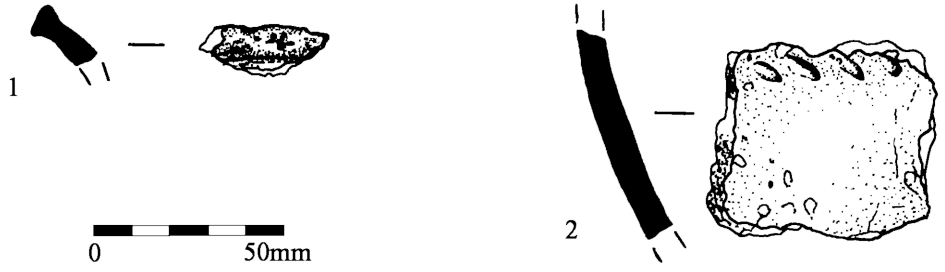

Fig 5 Parsons Mead School, Ashtead. Pottery from pit 11.

The fabrics

All the fabrics are soft, low-fired wares with oxidised outer surfaces and margins, with unoxidised core. The range of identified inclusions would have been available locally and there is no evidence for the movement of pottery or raw materials from any great distance. In three of the wares (FS/1, FS/2 and FS/3) there is a contrast between the distribution of the flint tempering, which has a tendency to cluster, and the even appearance of the quartz grains. This suggests that the sand is likely to have been already present in the raw clay and that the added tempering was poorly combined. The occurrence of silt-sized to very fine sand in the fourth of the flinty wares (FMS/1) also points to the exploitation of naturally sandy clay.

The fabric descriptions are as follows:

FMS/1: A coarse fabric including sparse burnt flint (<5mm); sparse mica (<0.06mm); and very common sub-angular evenly distributed quartz sand (<0.125mm).

FS/1: A coarse ware tempered with moderate quantities of burnt flint with an uneven distribution (<6mm); and additionally incorporating common sub-rounded and evenly distributed quartz sand (0.125–0.5mm).

FS/2: A medium-grade fabric filled with moderate amounts of unevenly distributed burnt flint (<4mm); and common, sub-rounded quartz sand with an even distribution (0.25–0.5mm).

FS/3: A coarse ware containing moderate proportions of unevenly distributed burnt flint (<5mm); and very common sub-rounded and evenly distributed quartz sand (0.125–0.5mm).

GS/1: A fine fabric tempered with common angular grog (<2mm); and also including sparse sub-rounded quartz sand (0.25–0.5mm).

Discussion

All the features produced flint-tempered wares typical of fabrics introduced during the earlier Neolithic, which continued to be used for the Peterborough series. The apparently simple and restrained decoration of the Mortlake bowl (fig 5, no 2) may simply reflect the virtual absence of sherds from its upper walls. The interior surface of the small rim fragment is so badly eroded that any decoration that might have been present would not have survived. Undecorated zones on better-preserved vessels often include a band around the upper part of the neck and a larger area encompassing the lower walls. Fingernail impressions occur on all three sub-styles within the Peterborough series, and on Mortlake Ware are frequently accompanied by a range of other decorative devices. Examples in Surrey include Mortlake sherds from Brockham (Smith 1956, fig 87) and Mortlake itself, where one vessel carries multiple fingernail rows on its rim and walls (*ibid,* fig 96).

ANIMAL BONE, by Ceri Falys

A very small amount of unburnt animal bone (a total of twelve fragments were present, weighing just 2g) was recovered from sample 3 from Early Neolithic pit 11 (fill 16). All pieces were small (with a maximum fragment size of 23mm) and nondescript. It was not possible to determine element, nor species of origin.

STRUCK FLINT, by Steve Ford

Seventeen struck flints comprised nine flakes, two narrow flakes and six spalls (pieces less than 20 x 20mm) (table 2). From the cortex remaining, several pieces seem to be derived direct from a chalk source, although other pieces with thin cortex may be derived from secondary sources. Most of the pieces (eleven) were recovered from pit 11 associated with the Mortlake bowl pottery, and thus of Early Neolithic date, though none of the flints would be chronologically distinctive in their own right. The two narrow flakes, one of which is cortical, are not obviously of Mesolithic or earlier Neolithic date as the typical shape range of later Neolithic or Bronze Age flint assemblages includes a small proportion of narrow flakes, produced more by accident than design (Ford 1987). The struck flints from the other deposits on the site are likewise not chronologically distinctive in their own right, but there is no reason to doubt a Neolithic date on the basis of their associations here.

Table 2 Catalogue of struck flint

Feature	Cut	Deposit	Type(s)
Treehole?	1	52	spall
Ditch 19	2	53	broken narrow flake (patinated)
Pit	10	60	intact narrow flake; spall
Pit	11	61	5 intact flakes; 3 broken flakes; 3 spalls
Ditch 19	13	63	broken flake; spall

BURNT FLINT

Just 4g of burnt flint was recovered from posthole 10 (60) and 25g from pit 11 (61).

CHARRED SEEDS AND CHARCOAL, by Rosalind McKenna

Five processed bulk soil samples were assessed for their palaeoenvironmental potential. Charred plant macrofossils were present in four of the samples, in all cases just single items. There were two indeterminate cereal grains in sample 5, but they were very badly preserved and are of no interpretative value. The rest of the plant macrofossils were weed seeds, which are likely to be modern contaminants.

Charcoal fragments were present in all the samples, but in very small concentrations, with the exception of sample 2, which was mainly composed of charcoal fragments: a selection of 100 of these was examined, consisting of 90% oak and 10% ash. Sample 3 from pit 11 produced 24 charcoal fragments, but only four could be identified (all oak). Bark was also present on some of the charcoal fragments, and this indicates that the material is likely to have been firewood. Both oak and ash have good burning properties and would have made a fire suitable for most purposes (Edlin 1949).

RADIOCARBON DATING

One sample of oak charcoal was submitted to the University of Kiel for radiocarbon dating. Details of methodology and assessment of the reliability of the results are held in the archive.

In summary, the laboratory considered the result to be reliable. The date was calibrated using the IntCal04 curve (Reimer *et al* 2004) and is presented in table 3.

Table 3 Radiocarbon determination

KIA41320	Pit 11 fill 61 oak charcoal	Probability (%)
Radiocarbon age:	BP 4947 ± 24	
One sigma range:	cal BC 3763–3723	37.9
	3716–3694	24.1
	3677–3669	6.2
Two sigma range:	cal BC 3775–3659	95.4

Conclusion

The excavation located two lengths of intersecting ditch, together with five pits and two isolated postholes. One of the gullies observed in the evaluation proved to be modern and another was found to be an elongated pit. Both of the ditches, together with two of the pits and one of the postholes, contained pottery dating from the Neolithic, and although the remainder are undated, they may all be contemporary. Significantly, one of the pits produced an Early Neolithic radiocarbon date.

The chronology of the linear features is unfortunately not clear. The pottery recovered is mostly of fabrics that can be of either earlier or later Neolithic date, and one sherd with a grog-tempered fabric perhaps even of Early Bronze Age date. It is possible therefore that the modest amount of pottery recovered is mostly residual, yet, on a sandy substrate with relatively shallow features, it is equally possible that some sherds such as the grog-tempered one, could be intrusive. Similarly, while a small amount of charred plant material was recovered from the linear features and would be capable of providing a radiocarbon determination, neither residuality nor intrusiveness can be wholly discounted (and some of the charred seeds appear to be modern), thus severely limiting the potential value of any date that might be obtained.

Non-monumental sites dating from the Neolithic in Surrey, the London area and indeed across southern England, are very rare, usually indicated only by artefact scatters or small numbers of pits. Recent reviews of the regional evidence suggest a river terrace emphasis, with the Thames, Colne, Lea, Mole and Wey all being prominent locations (Field & Cotton 1987; Cotton 2004; Cotton & Johnson 2004). The Grooved Ware pit group at Franks' Sand Pit, Betchworth, is a significant exception (Williams 2004). The dominance of pits as the below-ground record, and quite frequently the contents of the pits (such as whole, intact pots), has led to the suggestion that they are not a product of domestic waste disposal but are indicative of a ritual or ceremonial function (Thomas 1999, 64), even if this includes deposition of material with a prior subsistence or occupation-related use (Miket *et al* 2008, 98). Perhaps it should be expected that there may be a mixture of utilitarian and ritual functions represented in Early Neolithic pit use (cf Ford 2003, 153–5).

The site at Parsons Mead School therefore stands out from this background as unusual. The pits and postholes with modest quantities of pottery, a few utilitarian struck flints and minimal amount of animal bone give the impression of domestic rather than ritual activity. It is, though, the associated linear features that are particularly noteworthy. The rectilinear layout of these features, with a 'T' junction, simple fills and the casual occurrence of fragmented artefacts bear most resemblance to field boundaries. They appear neither to form a settlement enclosure nor any recognised ceremonial or ritual monument. Yet comparative examples of even approximately similar date are very rare. The study by Yates (2007) of the emergence of field systems in southern England is dominated by discussion of events of later Bronze Age date. Tentative evidence for small-scale earlier Bronze Age fields has been noted on sites such as East of Corfe River, or Warmwell Quarry, both in Dorset (Cox & Hearne 1991; Ellis 1994) and at Wallingford Road, Didcot, Oxfordshire (Ruben & Ford 1992). The

ephemeral nature and limited extent of these bears some comparison even though they may be many centuries later than the deposits recorded here.

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