NEOLITHIC SETTLEMENT AND SPECIAL DEPOSITS AT TEMPLE GRANGE, ROTHLEY, LEICESTERSHIRE

Gavin Speed

with contributions from:
Matthew Beamish, Patrick Clay, Lynden Cooper, Nicholas J. Cooper, Angela Monckton, Graham Morgan, Göran Possnert, Anita Radini and Ingela Sundström

This article presents the results of an excavation at Temple Grange, Rothley, Leicestershire that revealed significant evidence for settlement activity during both the Early and Late Neolithic, and it is one of a growing number of sites of this date in the Soar Valley, close to its confluence with the River Wreake. The Early Neolithic settlement, dated *c*.3500–3300 BC, comprises a possible sunken-featured building, and a series of pits containing structured deposits of flint and 'modified' Carinated Bowl pottery. The Late Neolithic settlement, associated with Grooved Ware and dated *c*.2900–2500 BC, contained a circular timber building, and other ephemeral post-built structures and pits. The evidence for a Late Neolithic settlement at nearby Rothley Lodge Farm is also summarised here in advance of fuller publication. These two sites represent the most tangible evidence of Neolithic settlement so far found in Leicestershire, and the discussion attempts to place these discoveries within the context of current thinking on settlement of this date in Britain, arguing that the practice of 'special deposition' occurring at this location may be a form of 'place making'.

INTRODUCTION

University of Leicester Archaeological Services (ULAS) undertook excavations at Temple Grange, Rothley, Leicestershire (SK 58817 12357, Figs 1–2), located on the southern edge of the village, south of Hallfields Lane and west of Loughborough Road. Covering an area of 5.5ha (Fig. 2), the site is located at a height of *c*.65m OD, on glaciofluvial deposits of sands and gravels that overlie Mercia Mudstone bedrock.

A trial trench evaluation in January 2010 was followed immediately by an excavation of four areas between February and May 2010. Evidence of Early and Late Neolithic, Bronze Age, Iron Age, Roman and Anglo-Saxon activity was revealed. This paper outlines the evidence for the Neolithic settlement, including a sunken-featured, post-built structure and six large pits of Early Neolithic date (some containing structured deposits), and a circular post-hole building and other clusters of pits and post-holes of Late Neolithic date.

Rothley lies on the River Soar, a tributary of the Trent, and this part of its valley, around the confluence with the River Wreake, has emerged as an area of significance during the Neolithic and Bronze Age in recent years (Fig. 2). Major discoveries of

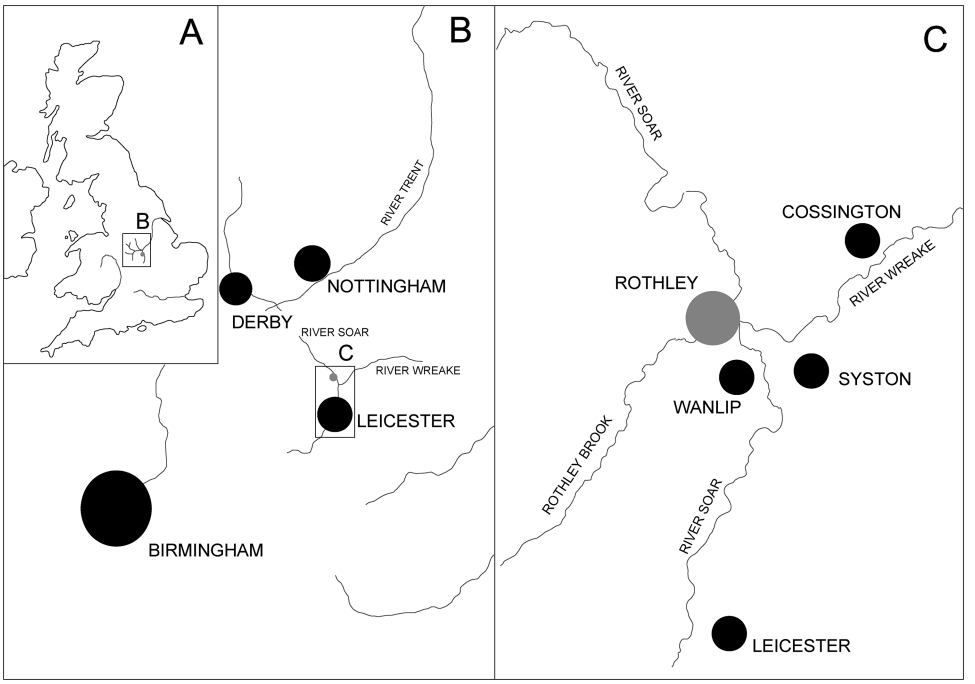

Fig. 1. The location of Rothley: A, within the UK; B, within the Midlands; and C, in relation to the Soar/Wreake confluence.

burnt mounds have been published recently from Watermead Country Park, to the south of Rothley (Ripper and Beamish 2012), alongside the barrow cemetery at Cossington, on the opposite side of the river (Thomas 2008). The initial results of work at the Late Neolithic site at Rothley Lodge Farm, which included the discovery of an incised stone plaque in the fill of a possible sunken-featured structure, have also been published (Cooper and Hunt 2005; Hunt 2006), and their significance is discussed below alongside the evidence from Temple Grange. These sites lie within a landscape containing 50 flint scatters or findspots, four enclosures and 12 ring ditches within a 5km radius of the Soar/Wreake confluence (Fig. 2). Neolithic activity is known from various excavations in the area, including Leicester (Albone 1999), Castle Donington (Coward and Ripper 1998), Eye Kettleby (Finn 2011), Melton Mowbray (Harvey 2011) and Syston (Meek 1998), along with numerous fieldwalking assemblages (Clay 2002). However, at most of these sites, evidence is limited to discrete pits or residual finds (Clay 2006, 77), rather than the structural evidence found here.

THE EARLY NEOLITHIC SETTLEMENT

The excavated area of Early Neolithic settlement (Fig. 3) comprised a sunken-featured structure (Structure 1) towards its centre, with six large, shallow pits to the south and west. All of the feature groups are dated by the occurrence of sherds of

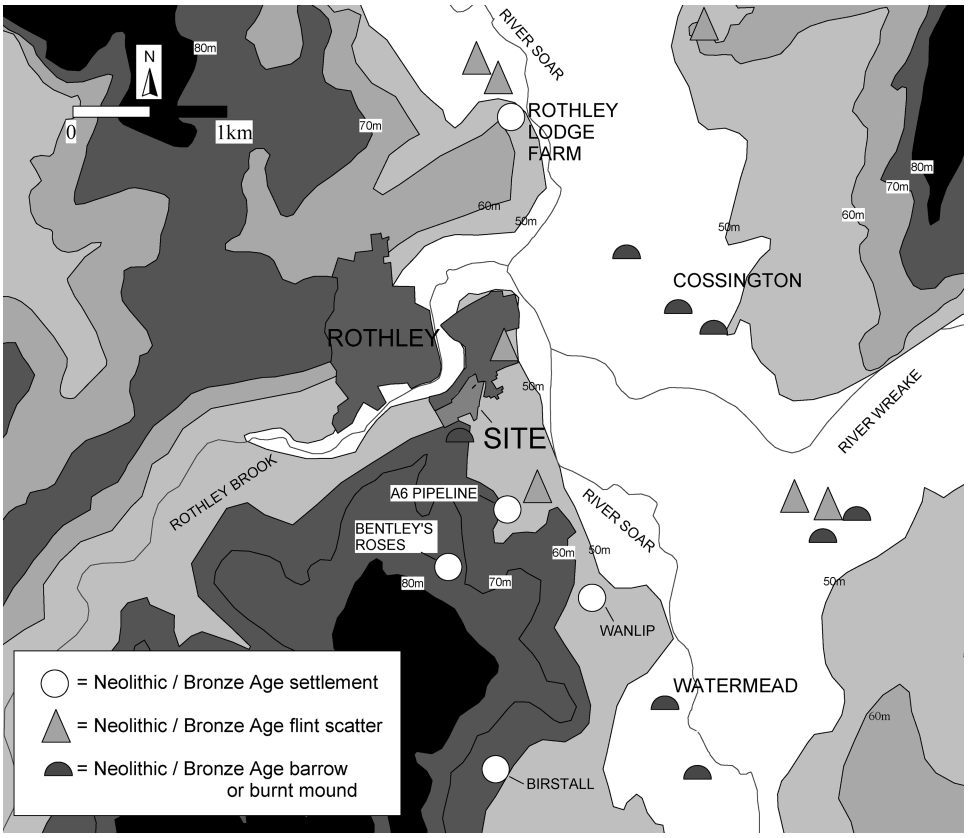

Fig. 2. Location of Temple Grange, Hallfields Lane, Rothley in relation to other known Neolithic and Bronze Age sites, including Rothley Lodge Farm to the north.

'modified' Carinated Bowl pottery (from here-on termed 'modified CB') and Early Neolithic flint. A single radiocarbon date of 3510–3340 cal BC (95 per cent) Ua-40795 came from the upper fill of Pit 4 [406] (Table 1).

Structure 1

Structure 1 comprised a shallow irregular pit [414] measuring 2.8m across, a deeper pit [416] cut within its north-western corner, and five associated post-holes located on the sloping sides of the pit, with two more immediately outside. The post-holes varied from 0.2m to 0.4m in diameter and from 0.2m to 0.07m in depth (Figs 5–6), and yielded no dating evidence. The overlying fill of the pit (415), sealing the post-holes, contained ten sherds of modified CB, a laurel leaf point, a discoidal scraper and over 20 pieces of flint débitage, displaying a mix of blade and flake technology of Early Neolithic date. Additionally, a flake removed from a ground axe, probably of Group VI, was recovered, and is considered to be from the same axe as that found in Pits 1 [397] and 5 [319] (see below).

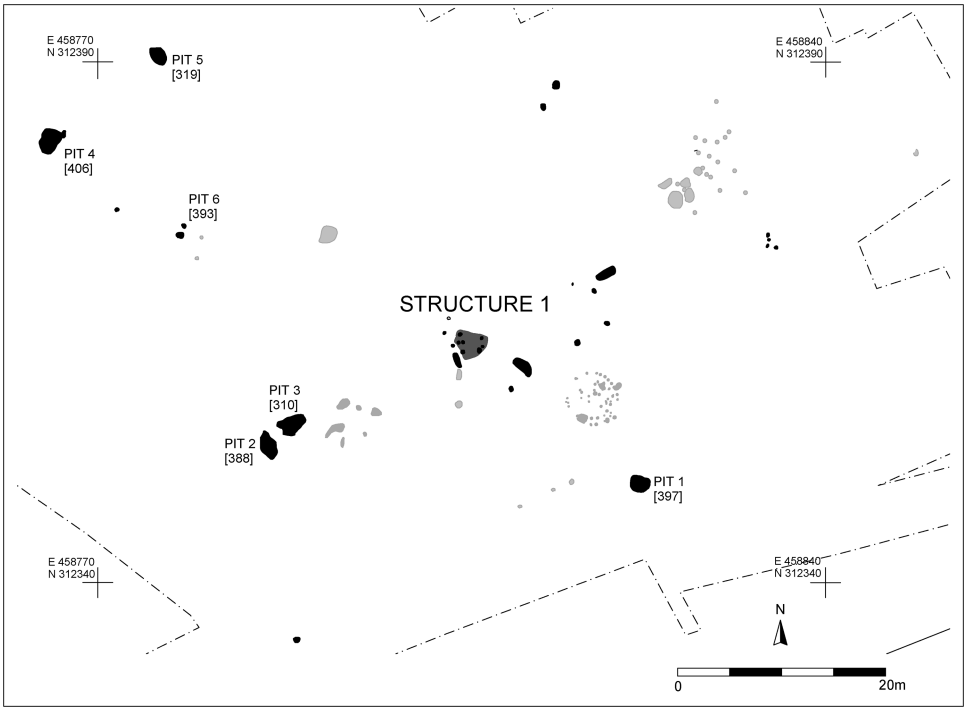

Fig. 3. Early Neolithic features shaded black (later Neolithic features faded grey for reference).

Pit Features

Five large, shallow and irregularly shaped pits, containing significant quantities of Early Neolithic pottery and worked flint, were located on the southern and western edges of the site. These will be considered in a clockwise direction from the south (Fig. 3).

Pit 1

Pit 1 [397] lay 17m south-east of Structure 1 (Fig. 7), and its single fill (398) contained some fire-cracked pebbles, 224 sherds of modified CB (Fig. 14.9) together with 188 pieces of worked flint, including a serrated bladelet, utilised pieces that are likely to be worn examples of serrated blades, a piercer and a blade with worn corners, used in a similar way to a burin. The pit also contained a ground axe fragment, probably of Group VI, which had been reduced to a core by undressing it through the removal of surface flakes which are likely to be those with ground dorsal surfaces found in Pit 5 [319] and Structure 1. Within Pit 1, most of the pottery was located in the central areas (Fig. 7), and whilst the flint was slightly more widespread, six of the seven tools were located towards the central base.

Pits 2 and 3

Pits 2 and 3 (Fig. 8) were located together in the south-western part of the site (Fig. 3). Pit 2 [388] was sub-oval in shape, with a primary silting (399) containing

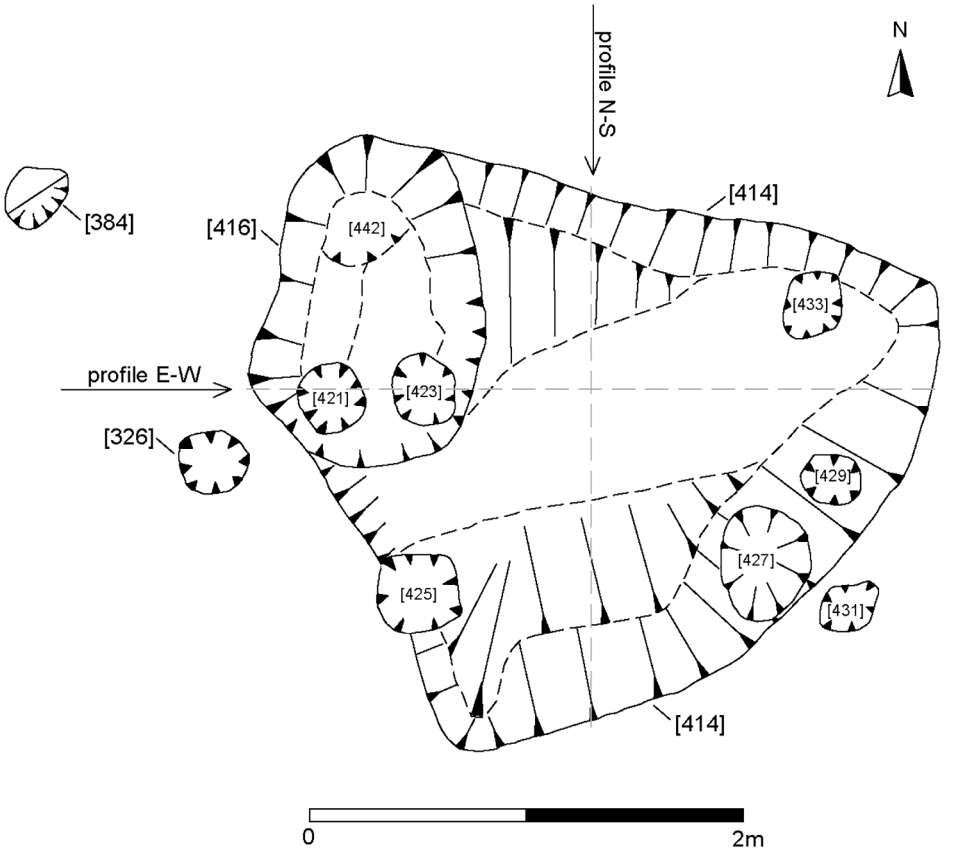

Fig. 4. Plan of Early Neolithic Structure 1.

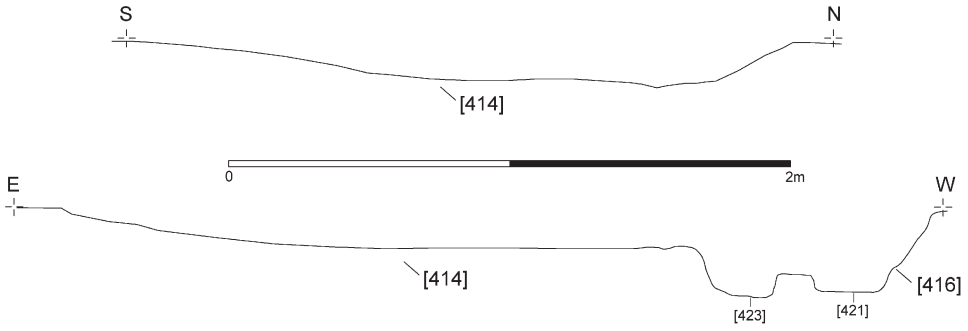

Fig. 5. Sunken-featured Structure 1 profile.

two sherds of modified CB and two pieces of flint débitage. The main fill (389) contained 93 pieces of worked flint of Early Neolithic date, including a scraper, a microlith, a serrated flake and a strong blade component, alongside 87 sherds of modified CB.

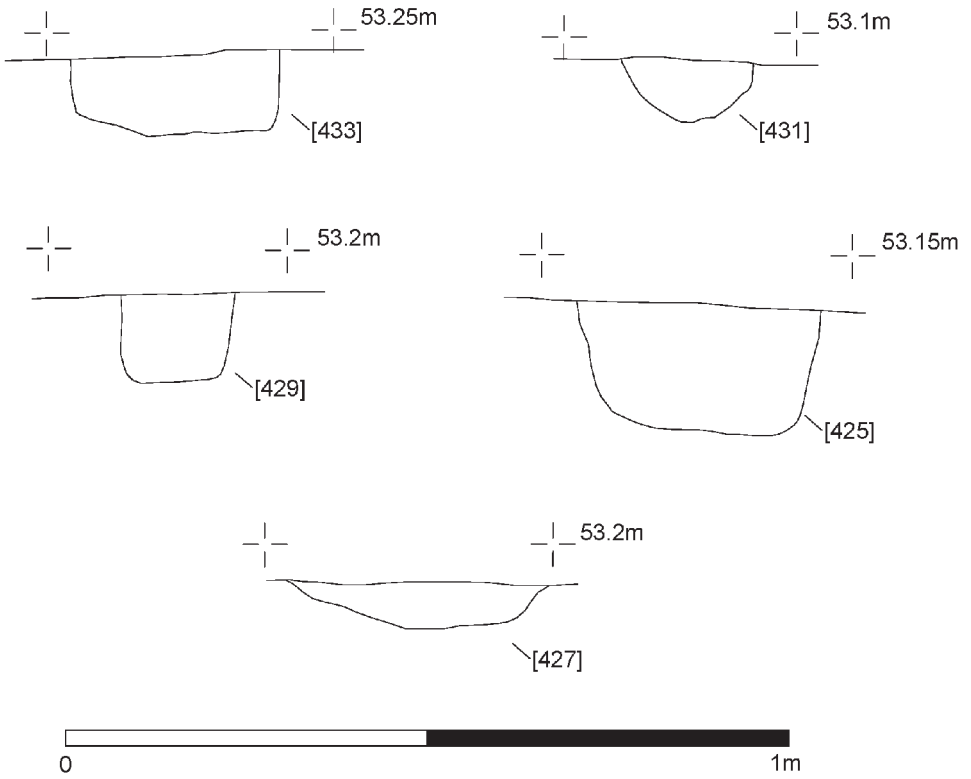

Fig. 6. Sunken-featured Structure 1. Sections through post-holes.

Pit 3 had a small but deep primary cut [438], the fills of which – (437) and (439) – contained no finds. The shallower secondary cut [310] (309) created a larger pit which contained a flint piercer and over 20 pieces of débitage, alongside 29 sherds of modified CB.

Pits 4 and 5

Pits 4 and 5, located in the north-western part of the site, comprised two large oval features – [406] and [319] – both measuring 2m × 3m in size, and containing primary deposits of Early Neolithic flint with a significant blade and bladelet component, all in as fresh a condition as the flake débitage, and modified CB pottery. Within Pit 4 [406] were three deposits (Figs 9–10). In the eastern half, the primary deposit (413), although only 0.12m thick, contained 195 sherds of modified CB, two flint scrapers and 127 pieces of débitage. Overlying this was (323), which contained worked flint including a scraper, over 60 pieces of débitage and 316 sherds of modified CB (Fig. 13.1–6). The finds are concentrated in the central part of the pit (Fig. 9), but extend into the northern half, perhaps indicating that they were deposited from that side. As with pit [393], which lay 15m to the south-east (see below), a leaf-shaped arrowhead had been deliberately placed on the base of the feature. Radiocarbon dating of charcoal from (323) provided a calibrated date, at 95.4 per cent probability, of 3510–3340 BC (Table 1 below).

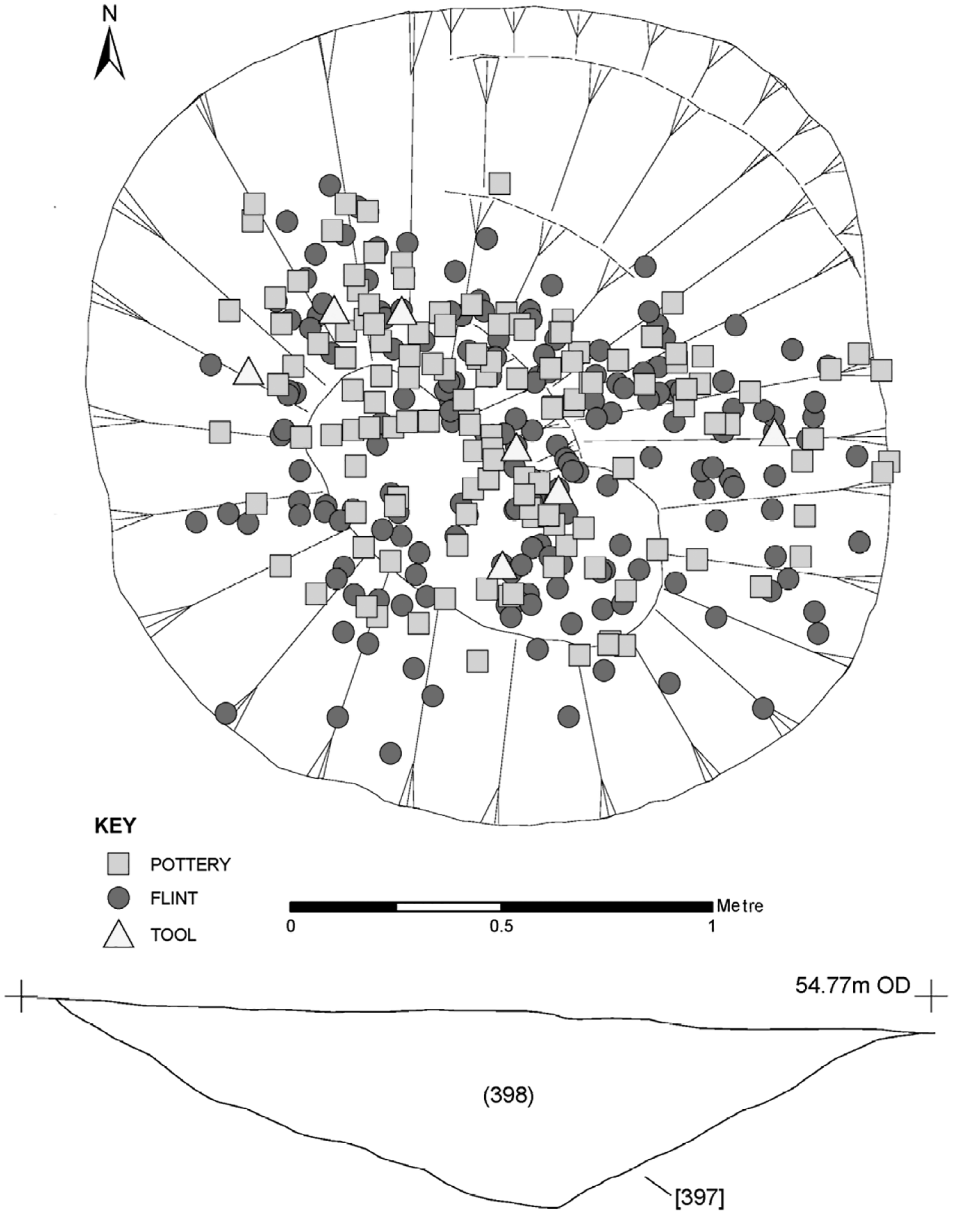

Fig. 7. Pit 1 [397] plan and section, and spatial distribution of finds.

Located 12m to the north-east of Pit 4, Pit 5, in a similar fashion to Pit 3, had a deeper, narrower primary cut [394] with a largely sterile fill (322), save for a little charcoal. The shallower but larger recut of Pit 5 – [319] (Fig. 12) – contained a thin primary deposit (396), containing three sherds of modified CB and a secondary fill (321) with abundant charcoal flecks, 143 sherds of modified CB (Fig. 14.8), and

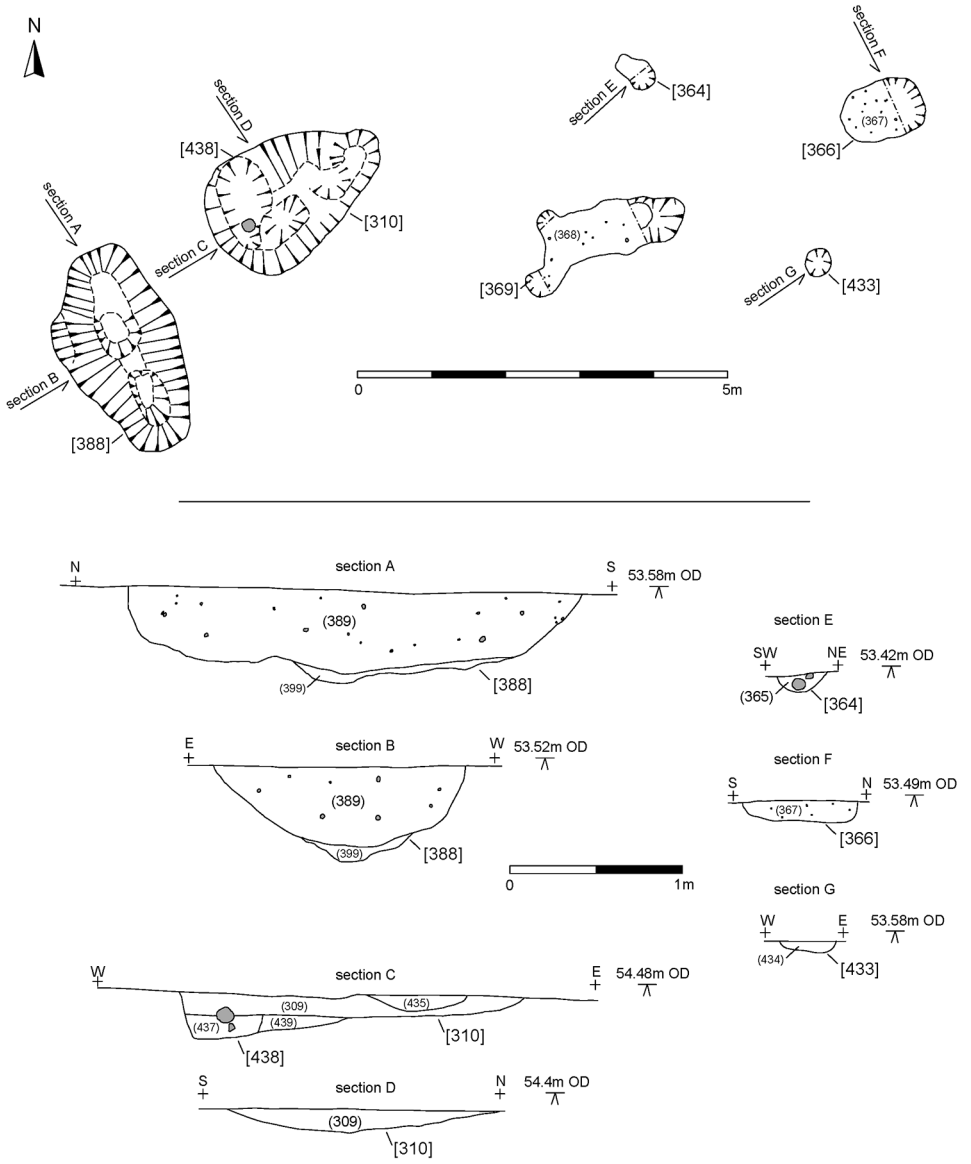

Fig. 8. Plan and sections of Pits 2 [388] and 3 [310].

flint, comprising five serrated blades, a utilised blade with sickle gloss, one scraper and 179 pieces of débitage that displayed careful reduction with a soft hammer. Ten flakes from a ground axe of probable Group VI source were also deposited and are probably the 'undressing' debris from the axe core found in Pit 1 [397] (398) that lay 60m to the south-east. Upper fill (320), a lighter silt with occasional charcoal flecks, contained a further ground axe fragment, along with seven pieces of débitage and 17 sherds of modified CB (Fig. 13.7).

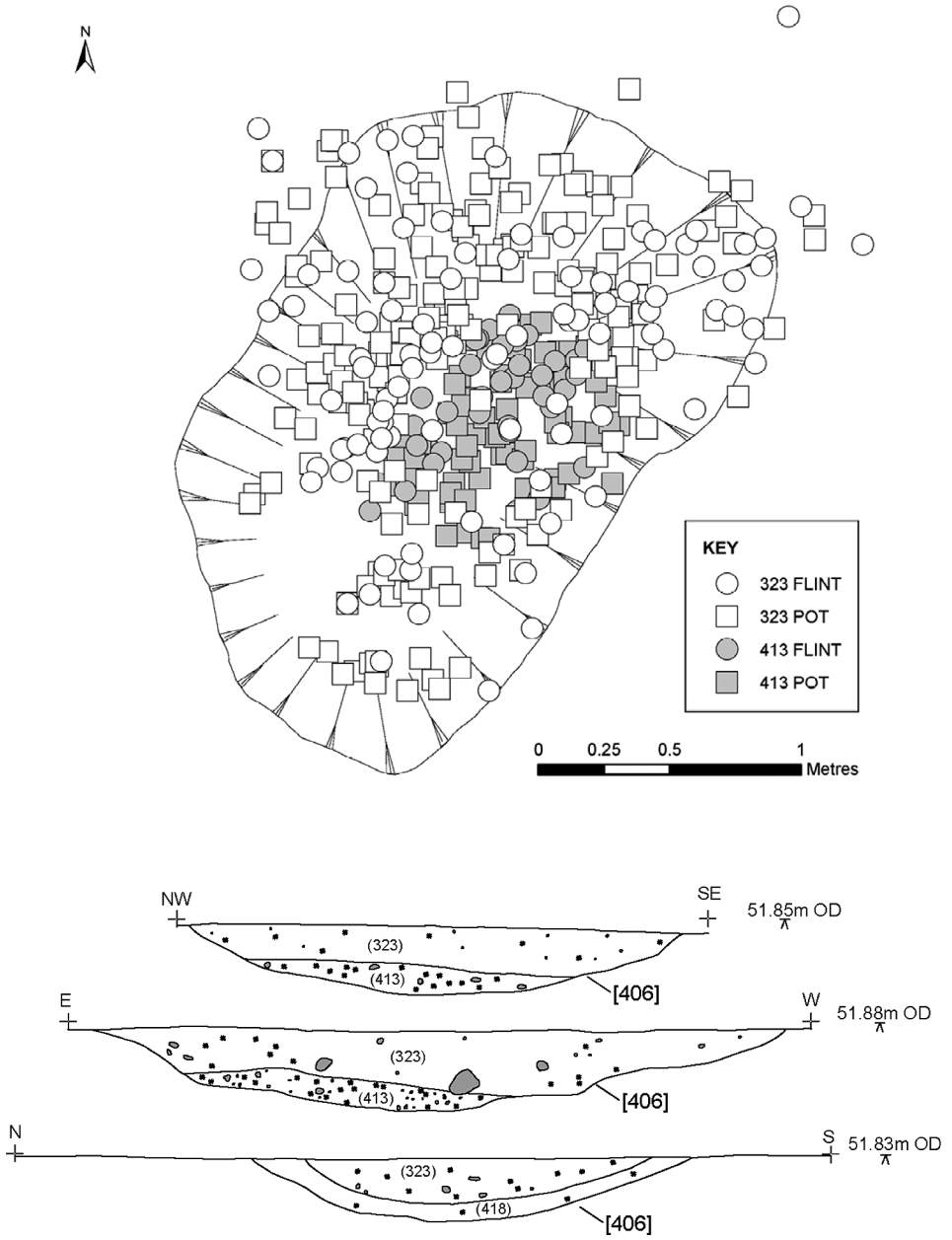

Fig. 9. Pit 4 [406] plan (showing overall finds distribution) and sections.

Pit 6

Across the excavated area, other, smaller pits were located, containing significant quantities of Early Neolithic material. Amongst these, lying 15m to the south-east of Pit 5, the oval Pit 6 [393] contained a small Charnwood granite boulder, centrally

Fig. 10. Pit 4 [406] under excavation.

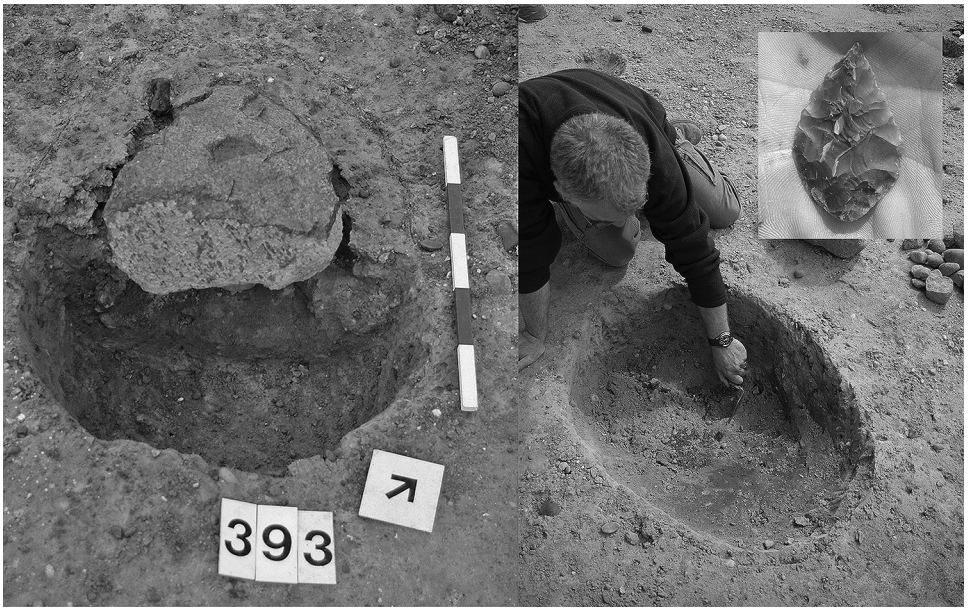

Fig. 11. Pit 6 [393], mid-excavation with large stone capping *in situ* (left), fully excavated (right) with flint arrowhead visible in base and close-up inset.

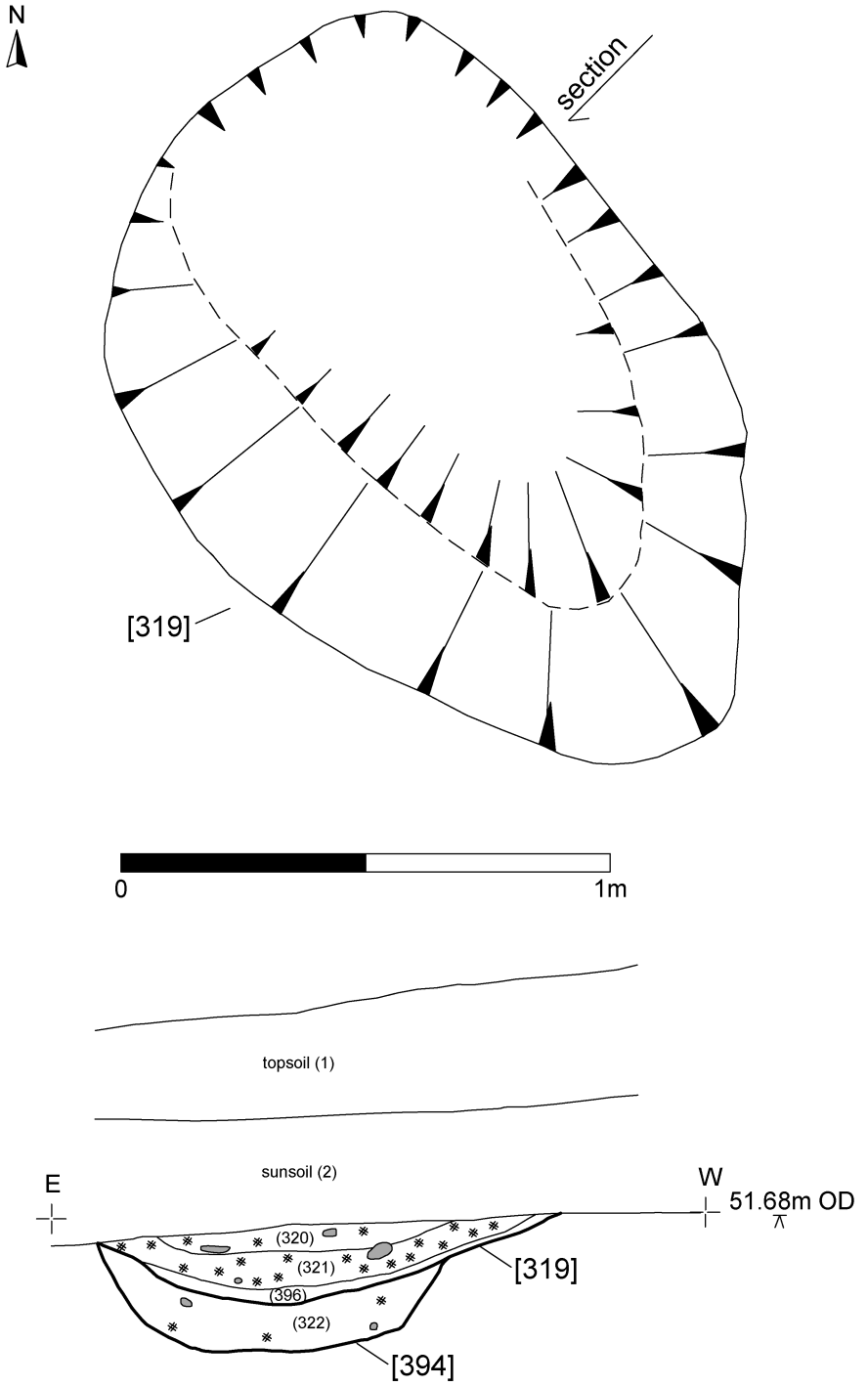

Fig. 12. Pit 5 [319] plan and section.

located on top of the backfill (392). Within this backfill were 16 pieces of worked flint débitage and burnt bone. In common with Pit 4, a leaf-shaped arrowhead of Early Neolithic date, in pristine condition, had been placed on the base of the pit (Fig. 11).

THE RADIOCARBON DATING FROM THE EARLY NEOLITHIC SETTLEMENT

Matthew Beamish with Göran Pössnert and Ingela Sundström

A single sample of charcoal from Pit 4 [406] in the Early Neolithic settlement was submitted for dating by Accelerator Mass Spectrometry (AMS) at the Angström Laboratory, Tandem Laboratory, Uppsala University, Sweden. The date was calibrated using the computer program OxCal (v4.2.2).

The determination from the charcoal from Pit 4 [406] provides a *terminus post quem* for the upper fill of 3510–3340 cal BC (95 per cent probability).

THE LITHICS

Lynden Cooper

The excavation recovered some 962 lithics, mostly flint, but also including axe fragments of a green tuff-like material. The identifications of the material has been incorporated into the site description above. The flint was typical for the East Midlands, generally a fine-grained type, yellow-brown in colour and semi-translucent. It is likely to be derived from glacial erratics in superficial deposits. A very few pieces were made of Wolds flint, an opaque grey-white flint, which could also be from superficial deposits. The over-riding impression from the lithic collection is that a majority of it is of Early Neolithic date, and despite the evidence for the overlying Late Neolithic occupation indicated by Grooved Ware, there is little lithic material of that period (see below).

The content of Structure 1, and the Early Neolithic Pits 1 to 6, suggest the formal disposal of objects by burial with some evidence for spatial and compositional arrangement. The deposits include many tools that were capable of further use, as well as a group of sharp, apparently unused, axe fragments, suggesting more than just the burial of midden deposits. Such depositional practices have been recorded across the later prehistory of Europe (Chapman 2000). During the Neolithic, the careful selection and burial of settlement debris in pits and ditches is well recorded (Thomas 1999), and such deposits seem to be linked to the establishment and abandonment of places. Here the pits can be considered formalised closure deposits, perhaps undertaken at a time when the group was to move on (Pollard 2001).

Lab No.	Context	Cut	Material	Radiocarbon age BP	$d^{13}C$	Calibrated date 95.4% probability
Ua-40795	(323)	[406]	purging buckthorn charcoal	4,609 + 37	–25.0	3510–3340 cal BC

Table 1. Radiocarbon results.

Pollard (2001, 323) and others (e.g. Thomas 1999) have suggested that the burial of *transformed* materials is an act of special treatment bound up in ideologies of symbolic renewal and regeneration. The axe treatment is of considerable interest, as a similar practice has been recorded at a Late Neolithic site in Rothley (Cooper and Hunt 2005). The deposition of axes in special places is well known in the Neolithic, as is their deliberate destruction. At both sites we have the systematic 'undressing' of the axes, with formal burial of the remaining 'core' and a few select examples of the flakes. Axes were potent symbols often having long biographies, probably symbolising both individuals and a group identity, and possibly redolent of ancestral homes in the past (Sheridan 2007, 464). The acts of destruction and deposition at Rothley allowed such references, and probably helped to forge a link between people and place.

THE EARLY NEOLITHIC 'MODIFIED' CARINATED BOWL POTTERY (MODIFIED CB)

Nicholas J. Cooper

Introduction

The assemblage of 1,262 sherds, including 66 rim sherds, and weighing 8.369kg, is the largest of this date to be excavated in Leicestershire, and came from a series of shallow pit features, one of which, Pit 4 (323) [406], produced a radiocarbon date of 3510–3340 cal BC. The character of the pottery assemblage across these features is very consistent in terms of fabric and form, and is comparable with published assemblages from the Trent Valley, at Willington, Mercia Marina and Aston on Trent in Derbyshire (Manby 1979; Gibson 2012; Waddington 2012) and Great Briggs, Holme Pierrepont in Nottinghamshire (Guilbert 2009). The assemblage has been analysed with reference to the Leicestershire Prehistoric pottery fabric series (Allen 2008; Marsden 2011).

Assemblage Deposition and Condition

The fragmentary nature of the assemblage, indicated by the average sherd weight of 6.6g, is misleading, as the complete lack of abrasion on the vast majority of sherds, and the freshness of the breaks, suggests that a relatively small number of vessels were comprehensively smashed and buried immediately.

Forms

The fragmentary condition of the vessels has not allowed their reconstruction despite many sherds clearly belonging to the same vessel. However, 12 vessel rims are illustrated and described in detail within their context groups below (Figs 13–14). Typologically these vessels exhibit many characteristics of the 'traditional' Carinated Bowl repertoire with out-curving rims, sometimes beaded or everted, and giving way to a shoulder or carination (e.g. Gibson 2002, fig. 34 and fig. 7; Sheridan 2007, fig. 8), or occasionally defined by a cordon (see no. 7 below). However, the

slack shoulders of Vessels 1 and 7, for example, indicate that there are elements of 'modified' or 'developed' Carinated Bowl which are characteristic of the end of the tradition, and the radiocarbon date would agree with this contention. The vessels are generally large (diameters of 220–320mm) and body thickness varies from 15mm down to 4mm, although smaller bowls with plain upright rims and diameters around 100mm also occur (Sheridan 2007, 460, fig. 9.1). The quality of the manufacture of the vessels is consistent (*ibid*, 461), exhibiting a high degree of surface preparation particularly on the interior, which is invariably dark grey, smoothed and sometimes burnished, whilst the exterior is also often smoothed.

Fabrics

The pottery is also very consistent in terms of fabric; the opening materials being entirely mineral in origin, and split between a granitic source and one which is quartz-based. Being close to the Charnwood outcrop, the greater proportion of the pottery employs granitic opening materials (Leicestershire Prehistoric Fabric R1 and R2, with angular crushed white granite up to 4mm and occasional plates of biotite mica), a source used continually up to the Mid-Late Iron Age (Knight *et al.* 2003) and again in the Early Anglo-Saxon period (Williams and Vince 1997). As a proportion of the Early Neolithic assemblage as a whole, granitic inclusions are used in 85 per cent of the pottery by sherd count, and within the largest group from [406] this rises to 90 per cent.

The remaining 15 per cent is opened using predominantly angular white quartz inclusions (Leicestershire Prehistoric Fabric Q5, with smaller amounts of Q4 with angular quartz up to 5mm and the finer Q1). Again, these fabrics have a long pedigree through Prehistory, and are still being used in the Mid–Late Iron Age scored ware at Trent Valley sites such as Lockington (Johnson 2011). Most significantly, though, this is the characteristic fabric of the Carinated Bowl vessels from Aston on Trent (Carney 2012, fabrics Q, QQ and QS; Gibson 2012), as well as being used in Peterborough Wares along this part of the Trent and the Soar Valley; for example, at Lockington (Cooper 2011), Willington (Marsden *et al.* 2009, 85–8, fabrics Qu1 and Qu2) and the nearby Rothley Lodge Farm. Gibson's macroscopic fabric divisions of the Aston material (2012, 94) were subjected to thin-section analysis by Carney, who suggested that the angular white quartz inclusions came from the crushing of pebbles (of probably metamorphic origin) that had been selected out from alluvial gravels or river terrace deposits along the Trent floodplain, for reasons which will be discussed below (Carney 2012, 99–100).

The Stratified Groups

Pit 4

Pit 4 [406], with upper fill (323) and lower fill (413), contained the best-preserved and consistent group of material from the assemblage as a whole (509 sherds weighing 4,023g). A very high proportion of sherds come from internally smoothed

vessels which appear to be carinated with out-curving rims, one of which can be reconstructed alongside five other single rims (Fig. 13):

1) Lower fill (413) [406], Sf840–42. Fabric R1. Out-curving rim with bead and four sherds from the shoulder or top of a carination. Surfaces grey and smoothed; core and margins red-brown (Fig. 13.1).
2) Upper fill (323) [406], Sf543. Fabric Q5. Single out-curving rim. Surfaces grey and smoothed, core and margins red brown (Fig. 13.2). Similar to Gibson 2012, fig. 7, P2–P4.
3) Upper fill (323) [406], Sf738. Fabric R1. Slightly beaded rim sherd from a small convex-sided bowl. External surface grey and smoothed; core, margins and internal surface red-brown and untreated (Fig. 13.3).
4) Upper fill (323) [406], Sf601. Fabric Q5. Bowl with poorly rolled bead rim. External surface is buff to top of bead; internal surface margins and core grey. Interior of rim smoothed (Fig. 13.4). Similar to Gibson 2012, fig. 7, P2–P4.
5) Upper fill (323) [406], Sf508. Fabric R1. Thin-bodied bowl with flattened everted rim. Surfaces, margins and core grey; upper surface of rim and interior smoothed (Fig. 13.5). Similar to Gibson 2012, fig. 7, P1 or P6.
6) Upper fill (323) [406], Sf599. Fabric R1. Small convex-sided bowl with stubby everted rim. Surfaces grey and internally smoothed; core red-brown (Fig. 13.6).

Pit 5

Pit 5 [319], with upper fill (320) and lower fill (321), contained 163 sherds (1,013g). Four vessels are represented by separate rims, with a number of 'shouldered' or carinated sherds:

7) Upper fill (320) and lower fill (321) of [319]. Fabric R1. Bowl with slightly carinated profile and horizontal cordon. External surface smoothed grey-brown; internal surface lightly burnished grey; core and margins red-brown (Fig. 13.7).
8) Lower Fill (321) [319]. Fabric R1. Large S-profile bowl with out-curving rim. External surface and margin red-brown; core, internal margin and surface grey; internal surface burnished from the top of the rim to the inside of the shoulder (Fig. 14.8).

Pit 1

Pit 1 [397] contained 224 sherds (1,170g). The group has a high proportion of internally smoothed and, in three cases, burnished sherds from a limited number of vessels represented by nine out-curving rims, and several 'shouldered' or carinated sherds (Fig. 14):

9) (398) [397], Sf150. Fabric R1. Thin-bodied bowl with out-curving beaded rim. Buff fabric throughout, with untreated surfaces (SF 150, Fig. 14.9).

Pit 2

Pit 2 [388] contained 87 sherds (336g) and (309) [310] contained 29 sherds (248g), the latter including two rims:

10) (309) [310], Sfs929 and 930. Fabric R1. Carinated Bowl with out-curved rim. Slight cordon defines top of the carination. External surface and margin grey-brown; core and internal margin brown; internal surface grey and lightly burnished (Fig. 17.10). Similar to vessel from Aston (Gibson 2012, fig. 7, P1) or Great Briggs (Guilbert 2009, 101).
11) (309) [310], Sf918. Fabric R1. Bowl with plain upright rim. Surfaces, core and margins grey-brown. Some smoothing on external rim (Fig. 17.11). Similar to rim from Great Briggs (Guilbert 2009, 101).

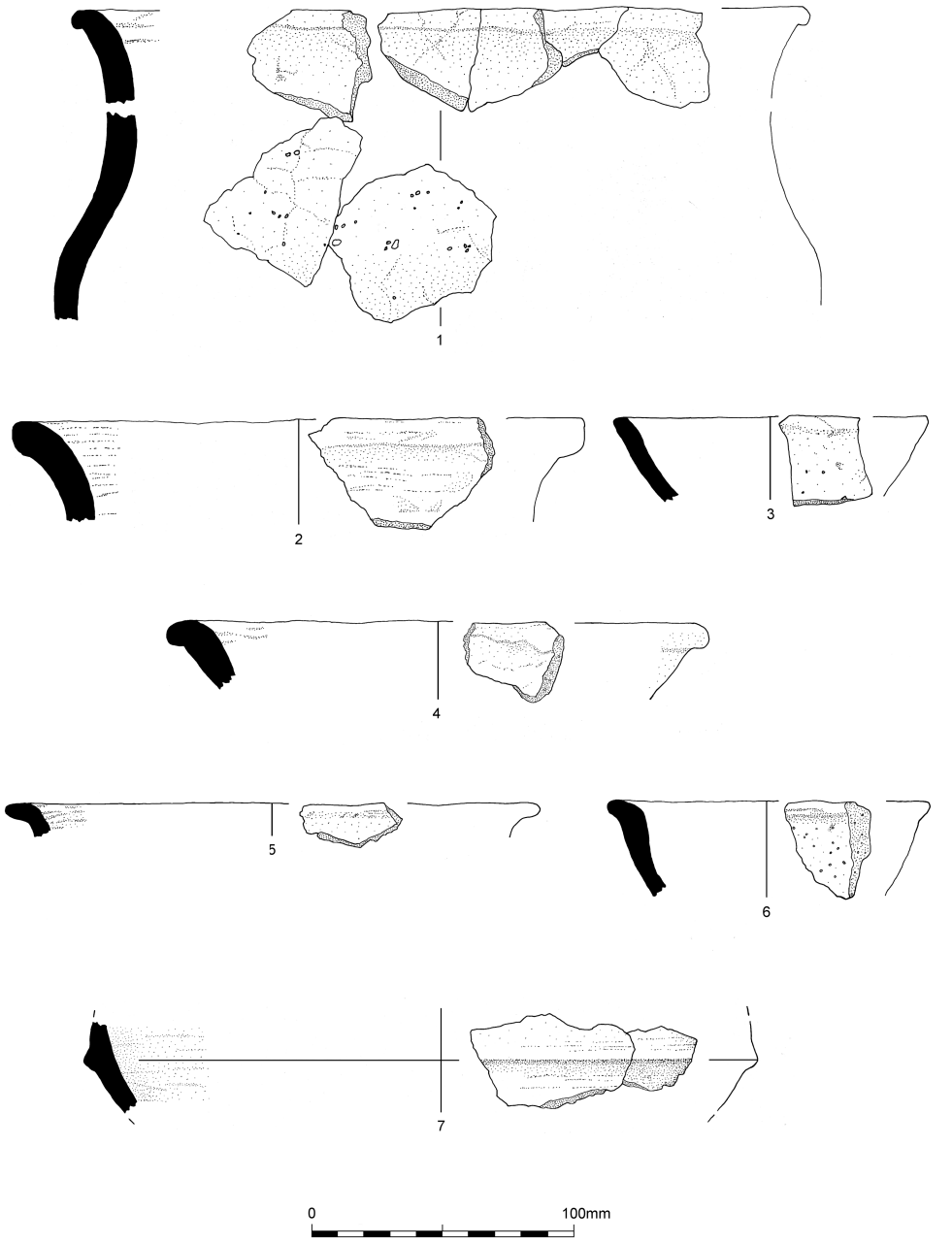

Fig. 13. Early Neolithic 'modified' Carinated Bowl Pottery 1–7 from Pits 4 and 5.

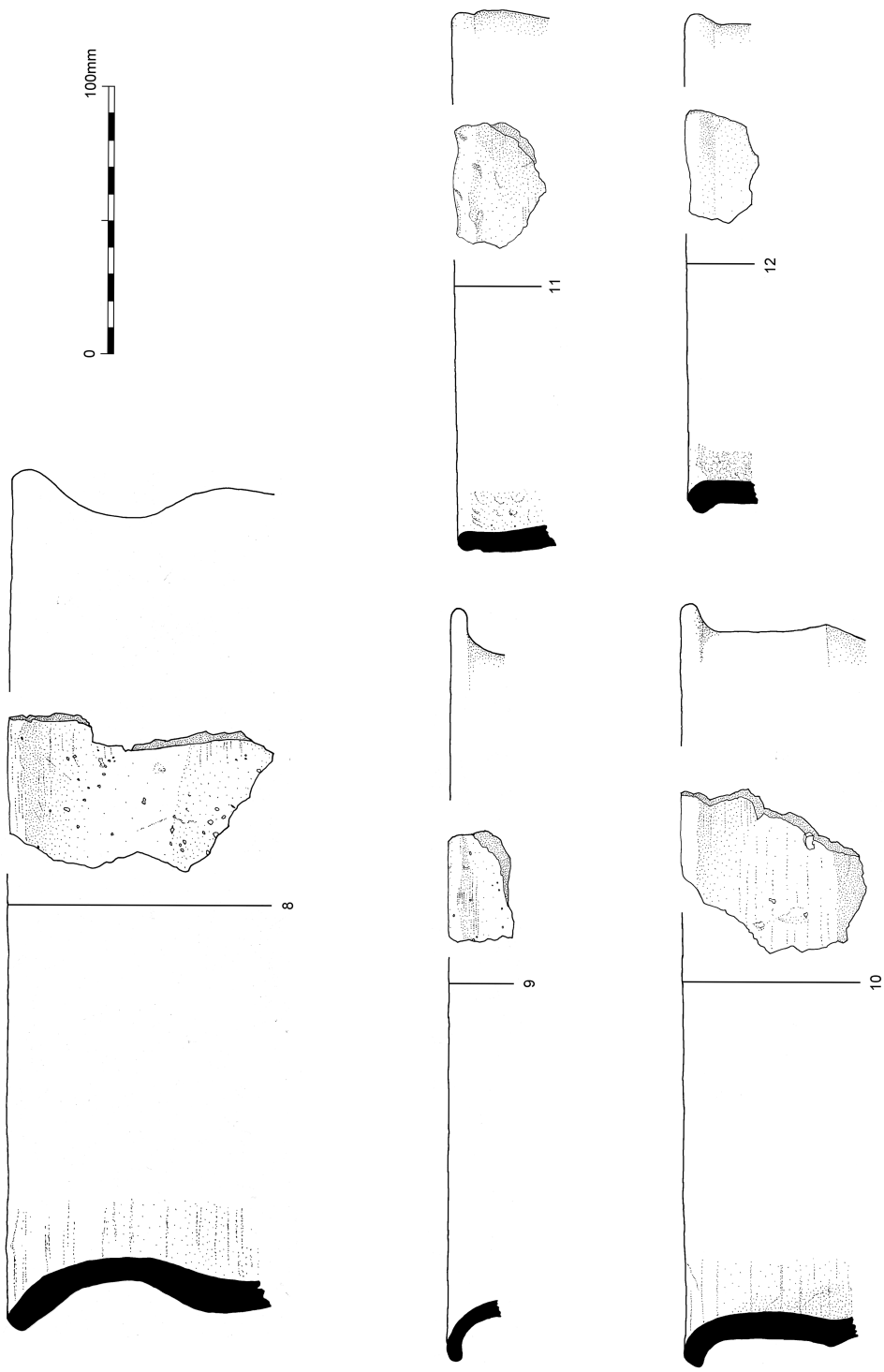

Fig. 14. Early Neolithic 'modified' Carinated Bowl Pottery 8–12 from Pits 5, 1, 2 and [307].

Pit [307]

Pit [307] contained 61 sherds (330g) including two rims, one of which is illustrated:

12) (308) [307]. Fabric R1. Bowl with almost upright bead rim. External surface grey and smoothed; margins, core and internal surface red-brown (Fig. 17.12). Similar to rim from Great Briggs (Guilbert 2009, 101).

Discussion

The assemblage exhibits the main characteristics of other Carinated Bowl groups, including the out-curving rims and carinated or 'shouldered' forms, and the consistency of smoothed or burnished surface preparation and colour, particularly internally. The occurrence of smaller, convex-sided bowl forms and plain-rimmed forms is consistent with other 'traditional CB' assemblages from Northern Britain (Sheridan 2007, 460; Whittle *et al.* 2011, 759). Occasional occurrences of unusual vessels might demonstrate a degree of diversification away from the tradition, as might be expected at the local level in any assemblage at this time (Gibson 2002, 70). The dating relies on a *terminus post quem* of 4,609+/–37 BP (3510–3340 cal BC) from a single determination on charcoal in the upper fill (323) of Pit 4 [406], the feature which produced the largest group of material. Current research indicates that Carinated Bowls were going out of use in in southern Britain more generally by 3685–3595 BC (Whittle *et al.* 2011, 759), and this would support the contention that the assemblage lies right at the end of the tradition and should be termed 'modified CB' (A. Gibson pers. comm.)

The *terminus post quem* derived from Pit 4 coincides with the beginning of the Peterborough Ware sequence at Willington, Derbyshire (Marsden *et al.* 2009, 96), dated to 3510–3360 cal BC (68 per cent probability), and whilst none of this pottery occurred at Temple Grange, the largest group of this ware so far found in Leicestershire has come from the nearby site of Rothley Lodge Farm, and is awaiting detailed analysis (Hunt 2006). The continued use of the same opening materials in the Peterborough Wares suggests a degree of continuity between the two traditions, at least in terms of the location of production in the Trent and Soar Valleys. The selection of crushed meta-quartzite pebbles might have been due to hardness or brittleness as Carney suggests, but, as both he and Gibson discuss (Carney 2012, 100; Gibson 2012, 95), and as also observed by this author on the Leicestershire material, the most significant factor is the bright white colour of the quartz inclusions, which are highly visible when they protrude through the surfaces of the Peterborough Ware. The symbolic significance of white quartz has previously been discussed in relation to Peterborough wares from Wales (Gibson 1995, fig. 3.8) and Willington (Marsden *et al.* 2009, 86), but it is worth noting that, due to the preparation of the surfaces of CB vessels, the visibility of these inclusions is much reduced in comparison. Notwithstanding this observation, the granitic inclusions used in the CB material are also noticeably whiter than those used in Iron Age pottery and therefore might similarly have been subject to a selection process. Perhaps visibility during use was not the primary consideration, but that simply containing the material was important; its visibility becoming more noticeable only at the point of breakage coinciding with the formal closure of these deposits.

THE CHARRED PLANT REMAINS FROM THE EARLY NEOLITHIC SETTLEMENT

Angela Monckton, Anita Radini and Graham Morgan

Soil samples from eight pits of Early Neolithic date were examined, and contained small amounts of charcoal and charred plant remains. Structure 1 (417) <84> contained a spikelet fork and a glume base of emmer wheat (*Triticum dicoccum*) (Jacomet 2006, 21–2), along with two indeterminate wheat grains, a probable barley grain (*Hordeum* sp.), another cereal grain and two fragments of hazel nutshell (*Corylus avellana*). Pit [315] <55> contained two grains, probably of emmer, and five fragmentary cereal grains. Pit 2 [338], sample 62 (337), contained two indeterminate cereal grains and some charred root fragments. Pit [334], sample 59, contained an abraded cereal grain. Pit 5 [319] (396) <73> contained a grain of emmer (length 5.1mm, width 3.6mm, thickness 2.7mm). Large Pit 4 [406] (323) <81> also contained a fragment of a cereal grain. The remains appear to form a very low-density scatter of waste from food preparation, burnt in hearths and dumped or accumulated in features. Charcoal from these features comprised mainly oak and hazel, along with other occurrences of willow/poplar and purging buckthorn.

Cereals have been known in the region from the first half of the fourth millennium at two sites, namely Lismore Fields and Aston on Trent; both with exceptional deposits of emmer grains, compared with other deposits across the region where occurrences are usually sparse (Moffett *et al.* 1989; Monckton 2004; 2006). At Lismore Fields, Buxton, charred emmer was found in contexts associated with Earlier Neolithic houses, and was thought to represent food preparation waste (Jones and Rowley-Conwy 2007). Aston on Trent was possibly a Neolithic settlement (Reaney 1968; Clay 2006, 71) and emmer grain from there has recently been dated to the first half of the fourth millennium (Loveday 2012). Neolithic sites generally have fewer remains (Moffett *et al*. 1989), but cereals are known to be a common resource in the Neolithic period because they are found on many sites. Grains are usually found in small numbers because they are the food to be consumed, whilst nutshell fragments are sometimes more numerous because they are a waste product, often found associated with pits (Moffett *et al*. 1989; Robinson 2000).

DISCUSSION OF THE EARLY NEOLITHIC SETTLEMENT

Sunken-featured buildings of the Neolithic period, similar to Structure 1, are known from as far away as south-east Europe (Tipper 2004, 4), as well as being recognised more widely now within Britain; for example, at Thirlings, Northumberland, where it was interpreted as a latrine due to its high organic content (Miket and Edwards 2009). Two other potential examples of sunken-featured structures come from Leicestershire, both associated with Later Neolithic Grooved Ware. The first lies just 2km to the north, at Rothley Lodge Farm, where a 5m diameter pit with steep sides and a flat base, containing large quantities of flint, Grooved Ware and other stone artefacts (see below), was interpreted as a sunken-pit structure, although no associated post-holes had survived (Clay *et al*. 2006; Hunt 2006).

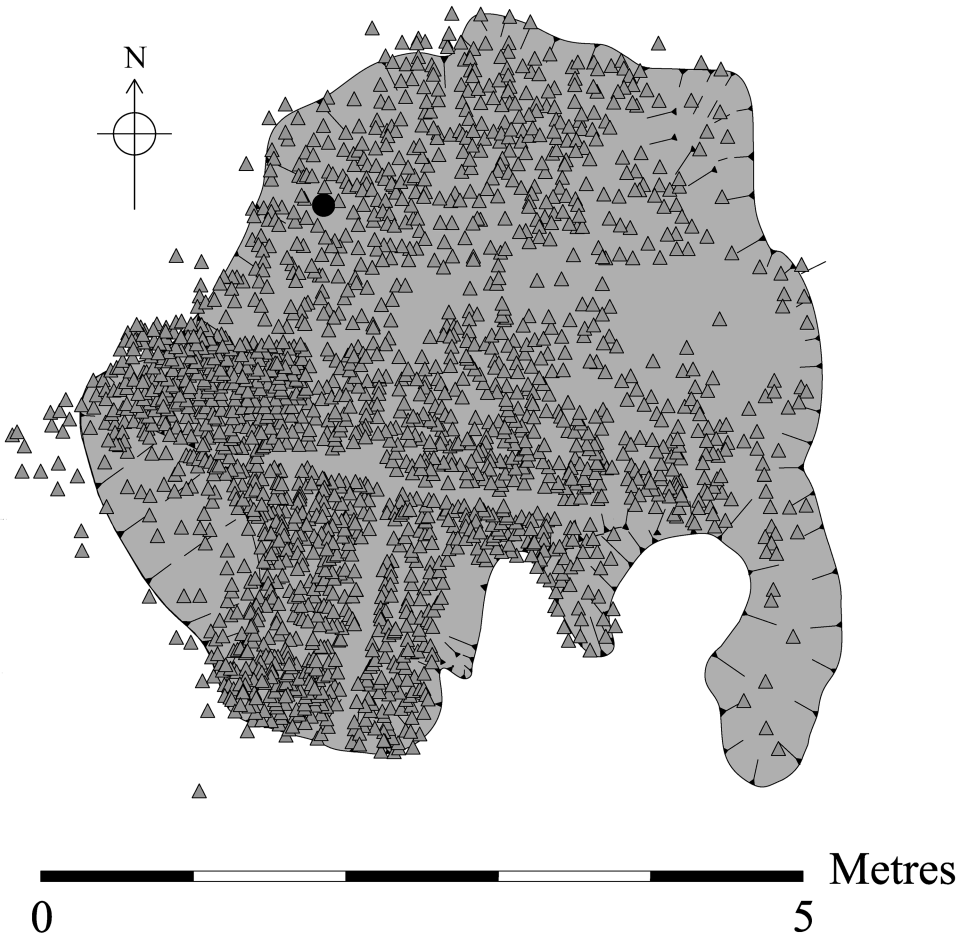

Fig. 15. A possible Later Neolithic sunken-featured building from Rothley Lodge Farm showing distribution of artefacts (Clay *et al.* 2006, 5). The black dot denotes the location of the decorated plaque (see Conclusion).

The second, Late Neolithic Pit 3252, at Eye Kettleby near Melton, had a single internal post-hole along its southern edge, and contained a large assemblage of flint and a Grooved Ware cup (Finn 2011, 17 and 27). Across the county boundary at Stanton on the Wolds in Nottinghamshire, a saucer-shaped depression, 7.4m across and 1.25m deep, containing a hearth and assemblages of Neolithic flint and animal bone, has been interpreted as a building in which separate food preparation and bone working activities could be identified (Bird and Bird 1972; Clay 2006, 77).

The fills of Pits 1–6, to the south and west of Structure 1, contained significant quantities of unabraded pottery and lithics, often in pristine condition, which appear to have been deliberately deposited over a short space of time, rather than gradually accumulating as midden deposits. Though fragmentary, the pottery sherds derived from the crushing of a small number of possibly complete, or at least substantially

complete, vessels, and it is important to remember that their breakage might simply have been the final act in a sequence linked to the consumption of their contents (Garrow 2012, 107–9), perhaps during a feasting ritual. Such a process might have seen substantial fragments of a vessel (rather than the entire vessel) gathered up and deposited in a pit after breakage, a parallel with which might be drawn with the deposition of about 30 per cent of a rusticated Beaker, at the centre of the base of a pit at Asfordby near Melton, with parts of 15 other Beakers in the fill above (Cooper 2012, 9–20). Elsewhere, at Thirlings in Northumberland, for example, analysis of the Middle Neolithic pottery demonstrated the deliberate selection of small sherds for deposition in pits marked by posts; a practice repeated over a long period of time, emphasising its social importance to the community (Edwards 2012, 89).

The flint tools in Pits 1 to 6 were often unused, and their deliberate placing on the base of pits, in the case of the six tools in Pit 1 and the pristine leaf-shaped arrowheads from Pit 4 and Pit 6, indicates structured deposition, perhaps a ritual possibly relating to the formal closure of the settlement. Further ritual is indicated by the undressing of the polished stone axe core found in Pit 1, the flakes from which were deposited in the fills of Structure 1 and Pit 5; behaviour that is widely recognised and was specifically found at nearby Rothley Lodge Farm. The acts of destruction and deposition seen at Rothley are believed to have reinforced links between communities and places in the landscape (Edmonds 1999, 29); the burial of 'transformed' materials perhaps symbolising renewal and regeneration, integral to a process of 'place making' (Pollard 1999; Harris 2009; Carver 2011).

THE LATE NEOLITHIC SETTLEMENT

Across the excavated area, and interspersed with the earlier features, was evidence of a second phase of settlement of Late Neolithic date (*c*.2900–2500 BC), which comprised a circular post-built structure, 'Structure 2', and two groups of post-holes and associated pits (Fig. 16), dated by the occurrence of Grooved Ware and radiocarbon determinations. Very little worked flint was recovered from the features and, when they occurred, diagnostic tools were residual Early Neolithic types.

Structure 2

A cluster of 49 features, comprising small post-holes, two large pits and a thin soil layer ((292) on Fig. 17), was located to the centre of the site (Figs 17 and 18). A circular post-built structure (Structure 2), 5m in diameter, has been reconstructed, defined by 20 of the excavated post-holes. The post-holes ranged in diameter and depth; 25 were 0.2m diameter, and these were mainly on the outer-edge of the structure, with slightly smaller post-holes in the central area. The deepest post-holes were *c*.0.2m in depth, six being located in the north-east corner ([161], [163], [165], [167], [171] and [173]) and four on the south side ([205], [207], [209] and [211]). The remaining post-holes were shallower, ranging in depth from 0.05m to 0.15m. The differences in the depths of the post-holes may be a true reflection of differing depths for the posts, or simply due to differing levels of plough damage. There were ten smaller post-holes or stake-holes, with diameters of 0.1m. Three of

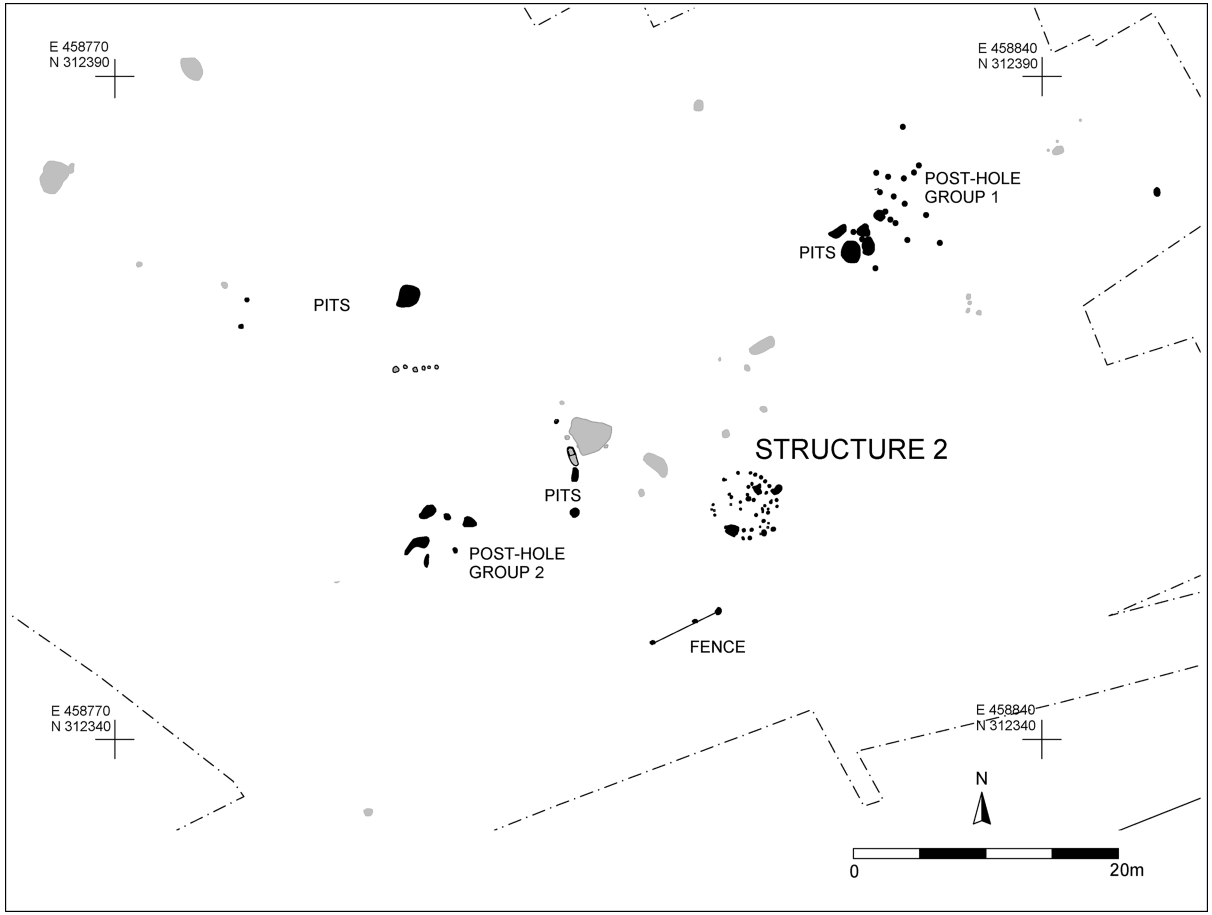

Fig. 16. Late Neolithic Settlement features shaded black (early Neolithic features faded grey for reference).

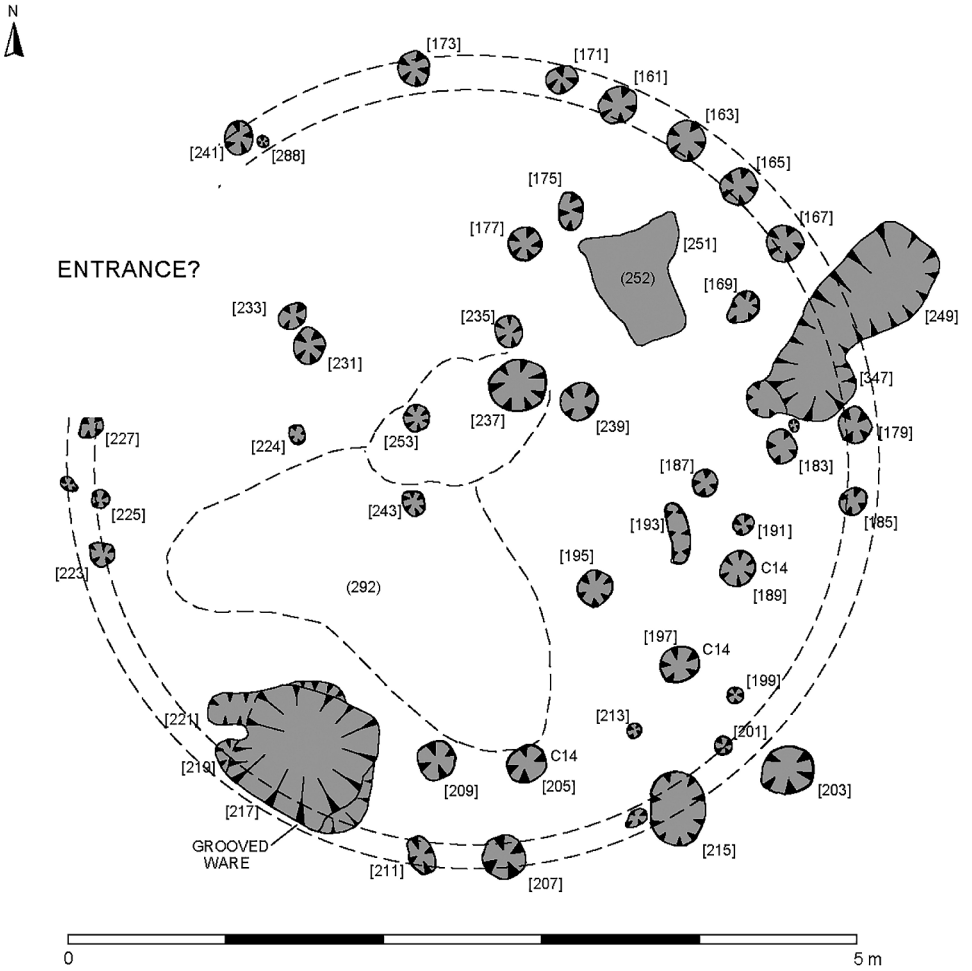

Fig. 17. Circular Structure 2 indicating possible diameter, thin soil layer (292), location of radiocarbon samples and Grooved Ware pottery.

these contained charred hazel nutshell fragments that were suitable for radiocarbon dating. Post-hole [189] provided a radiocarbon date of 2880–2580 cal BC; [197] a C14 date of 2700–2480 cal BC; and [205] a radiocarbon date of 2780–2570 cal BC (all at 95.4 per cent probability – see below).

On the east-side of the structure was pit [249] (250) which is probably an amalgamation of two intercutting pits and a post-hole, the central one [347] containing a single lithic flake. On the south-west side of the structure was another pit [217] (218), cutting two post-holes, and containing a Grooved Ware rim (Fig. 19, no. 13) and a serrated blade, the latter of which is likely to be residual from the Early Neolithic occupation (Robertson-Mackay 1987; Butler 2005). The larger post-hole [237], towards the centre of the postulated structure, may have provided a central support, whilst the smaller ones may have provided internal divisions.

Fig. 18. View of Circular Structure 2 – room for three archaeologists.

Fence Line

To the south of Structure 2 was a linear arrangement of post-holes – [344], [378] and [380] in a line, and a fourth [382] offset. The fill of [344] contained a discoidal flint scraper, a knife, a blade, three pieces of débitage and 53 sherds of Grooved Ware (Fig. 18.16). The fills of [378] and [380] contained fire-cracked pebbles, while [382] contained a flint core and débitage.

Post-hole Group 1

About 25m north-east of Structure 2, a poorly defined, post-built structure was recognised (Fig. 15), comprising 20 post-holes and six pits. No coherent building plan could be reconstructed, but towards the centre of the group a slightly larger post-hole [278] was packed with flat sandstone pieces forming a post pad. Pottery was only recovered from seven features; much of it was abraded but was Late Neolithic in character, including the rim of a Grooved Ware vessel from [268] and a linear-decorated base from [152].

Post-hole Group 2

About 20m west of Structure 2, a second group of four features ([364], [366], [369] and [433]) has been interpreted as the possible remains of a post-built structure (Fig.

16). Post-hole [364] (365) contained a small number of fire-cracked pebbles and ten sherds of Grooved Ware. Post-hole [433] (434) was of similar size and lay 3m to the south-east, but only contained one piece of flint débitage. Two further post-holes are suggested by the lobed projections at the western end of pit [369], which may be later features cutting what otherwise appears, on the basis of the four sherds of CB pottery and flint, to be an Early Neolithic pit associated with Pits 2 and 3 immediately to the west. Pit [366] (367), in the north-east of the group, contained no finds.

THE RADIOCARBON DATING FROM THE LATE NEOLITHIC SETTLEMENT

Matthew Beamish with Göran Pössnert and Ingela Sundström

Single samples of charred hazelnut shell fragments, recovered from three post-holes belonging to Structure 2 in the Late Neolithic settlement, were submitted for dating by Accelerator Mass Spectrometry (AMS) at the Angström Laboratory, Tandem Laboratory, Uppsala University, Sweden (Table 2). All have been calibrated using the computer program OxCal (v4.2.2).

The dates from the three post-holes of Structure 2 are statistically consistent (T'=1.7; v=2; T'(5%)=6.0) and could therefore be of the same age. They suggest a short period of use of the structure some time in the first half of the fourth millennium cal BC.

THE LATE NEOLITHIC GROOVED WARE POTTERY

Nicholas J. Cooper

Introduction

The occurrence of sherds of Grooved Ware is confined to small numbers of contexts in the two Structures and scattered pits. In each case, they are usually the only pottery from those contexts. A total of 102 sherds (338g), including rims from four vessels, were recovered. All but two of the vessels were in a shell-tempered fabric (S1); the two exceptions being in a fine sandy fabric (Q1). In all cases the small sherds were abraded and the shell content leached, and the possibility of residuality and re-deposition in features, following long exposure on the ground surface, should

Lab no.	Context	Cut	Material	Radiocarbon age BP	$d^{13}C$	Calibrated date 95.4% probability
Ua-40792	(190)	[189]	Carbonised hazelnut shell	4,137 ± 37	–26.3	2880–2570 cal BC
Ua-40793	(198)	[197]	Carbonised hazelnut shell	4,069 ± 36	–25.3	2860–2480 cal BC
Ua-40794	(206)	[205]	Carbonised hazelnut shell	4,106 ± 35	–25.8	2880–2500 cal BC

Table 2. Radiocarbon results from Structure 2 in the Late Neolithic settlement.

be taken into consideration. The most diagnostic material is described below and four vessels are illustrated (Fig. 19.13–16).

Spatial Distribution

Pit [217] (218) (which lies across the circumference of the proposed Circular Structure) contained a vessel rim (Fig. 19.13). Additionally, there was a shell-tempered flat base from the same context, but from a different vessel. Radiocarbon dates were obtained from post-hole fills (190) [189], (198) [199] and (206) [205] in the adjacent part of the circumference, indicating a short period of occupation in the first half of the fourth millennium cal BC:

13) Pit [217] (218). Fabric S1. Grooved Ware vessel rim with internal grooves and vertical incised lines (using finger nail), both internally and externally, between horizontal lines. External surface and margin orange; core, external surface and margin grey. The internally grooved rim and use of incised lines would place this vessel in the Clacton style (Manby 1999, 60 and fig. 6.2), and a similar vessel came from Willington (Manby 1979, 160, fig. 61.59).

A layer of colluvium (263) adjacent, but not associated with the features, contained another rim described below (Fig. 19.14):

14) (263). Fabric S1. Grooved Ware vessel rim, internally grooved, with horizontal and diagonal incised lines in the Clacton style. Dark grey throughout.

Two joining body sherds (Fig. 19.15) and an abraded, damaged rim (Fabric S1), both in the Clacton Style, came from (312) [313], whilst the fragmentary remains of another came from (343) [344] (Fig. 19.16):

15) (312) [313]. Fabric Q1. Decorated sherds with horizontal and diagonal incised lines, and stabbed infill decoration of the Clacton style. Dark grey throughout.

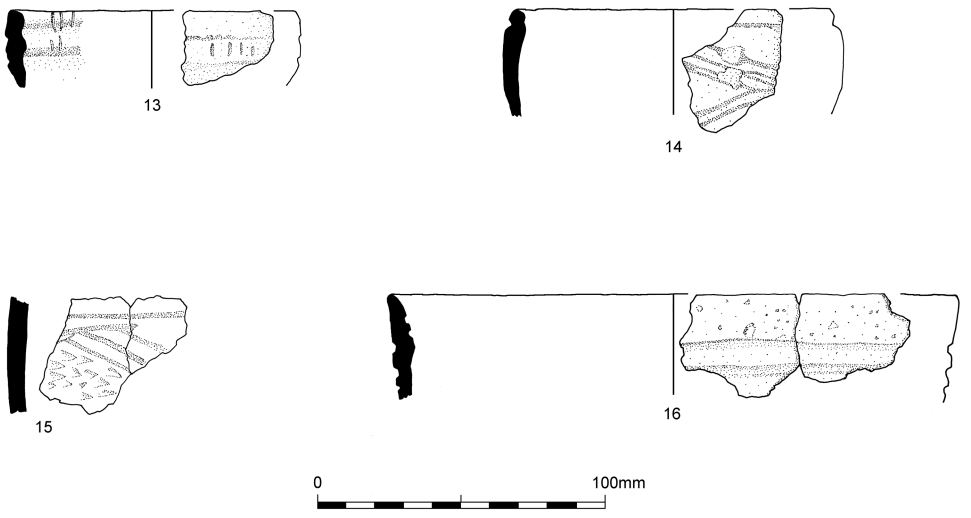

Fig. 19. Grooved Ware pottery (13–16).

16) (343) [344]. Fabric S1. Internally grooved rim and incised horizontal and diagonal lines externally in the Clacton style. Dark grey throughout.

Discussion

Two other assemblages of Grooved Ware in the Clacton style have been excavated in Leicestershire: first, from the nearby site of Rothley Lodge Farm, which has yet to undergo formal analysis (Hunt 2006, 237–8); and second, from Elmsthorpe Rise, Braunstone (Albone 1999; Allen 2001). Additionally, a single rim sherd in the Clacton style had previously been recovered from Thurmaston gravel quarry (Longworth and Cleal 1999, 190; Manby 1999, 60, fig. 6.3.7), alongside a small group of 11 sherds in Durrington Walls style from Kirby Muxloe (Longworth and Cleal 1999, 190) and a Woodlands style cup from Eye Kettleby (Gibson 2011, 18–20, fig. 16.2). In the discussion of this vessel, Gibson also lists a number of other recent finds, mainly in the Durrington Walls style, from Leicestershire sites including Syston, Wanlip, Castle Donington, Queniborough and Husbands Bosworth (Gibson 2011, 20). The Braunstone assemblage comprised 98 sherds from which at least 16 vessels adhering to the Clacton style were recognised and illustrated, including a cup with infilled wavy line decoration (Allen 2001, figs 1–3; Beamish 2004, 37, fig. 6). The Clacton style is the earliest type of Grooved Ware, originating at the end of the Middle Neolithic *c*.3110 BC, and continuing in use through the first half of the third millennium BC and occasionally beyond (Garwood 1999, 156, illus. 15.5). The radiocarbon dates obtained from the post-holes of Structure 2 are therefore in agreement with the range expected from other sites in southern Britain.

THE CHARRED PLANT REMAINS

Angela Monckton, Anita Radini and Graham Morgan

Twenty soil samples were analysed from the post-holes of Structure 2 and associated pits, and four of those contained charred remains of food plants. Context (164) <27> contained a fragment of hazel nutshell (*Corylus avellana*), (168) <29> contained a wheat grain and a fragment of crab apple (*Malus sylvestris*), (198) <31> contained an indeterminate cereal, and (212) <47> a grain of glume wheat. Charcoal was recovered from 70 per cent of the samples, and oak and hazel were again the most common species represented, with willow/poplar, maple and elder also occurring. The evidence indicates the small-scale generation of cereal waste from food preparation and the gathering of wild foods.

DISCUSSION OF THE LATE NEOLITHIC SETTLEMENT

There are few Neolithic structures known from the East Midlands, and none closely comparable to Structure 2; the nearest examples being possible trapezoidal buildings at Willington, Derbyshire (Wheeler 1979, 58), and a possible sub-circular Neolithic structure at Ratcliffe on the Wreake (Moore 2007, 19; Moore 2008, 16–19). However, there are a growing number of comparably small Neolithic circular stake-built structures now being found across Britain (Fig. 20).

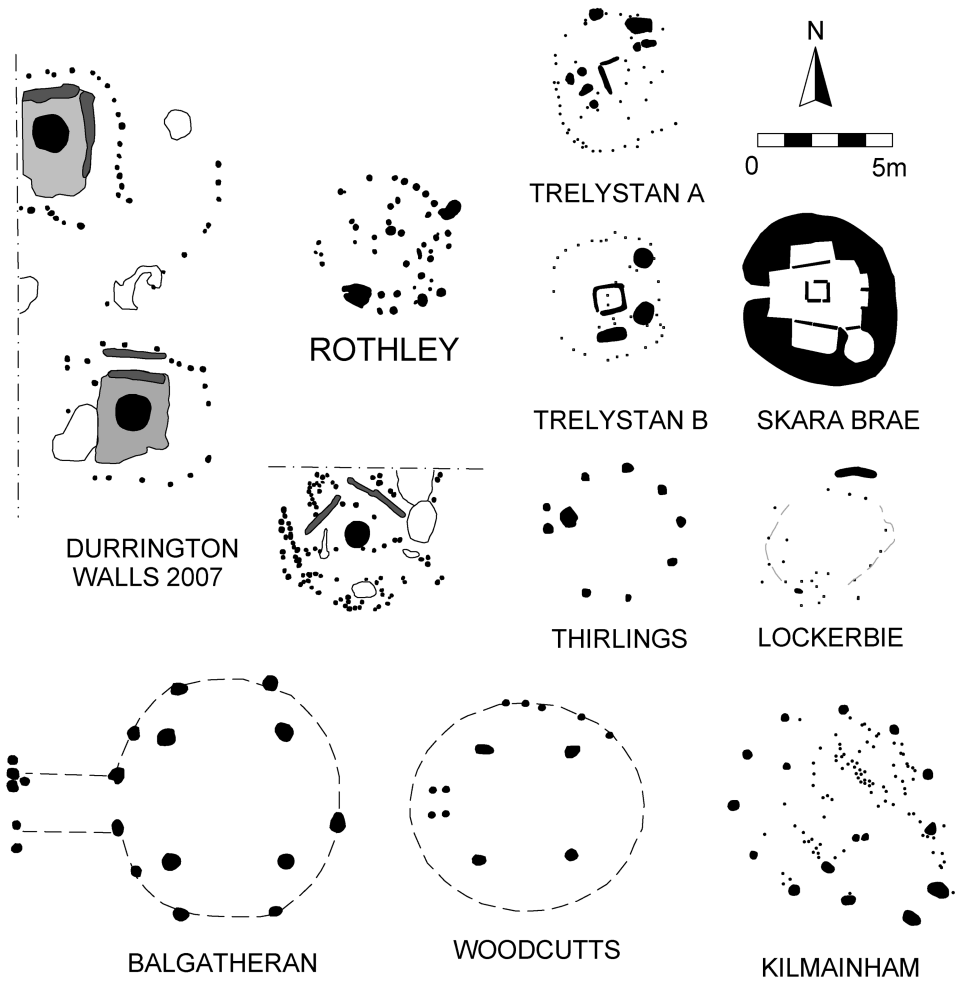

Fig. 20. Structure 2 compared to similar Neolithic structures (drawn by the author at the same scale, after Childe 1931; Britnell 1982; Eogan and Roche 1999, 10; Parker Pearson *et al.* 2007, 632; Lyne 2008a and b; Miket and Edwards 2009).

At Thirlings, Northumberland (Miket and Edwards 2009), a building consisted of just nine post-holes forming a circle 7m in diameter. Each of the post-holes were of a similar diameter to those found in Structure 2, but were shallower and V-shaped. The entrance – like Structure 2 – was probably to the north-west. This was slightly earlier in date, being radiocarbon dated to 3640–2890 cal BC (*ibid*, 14). At Trelystan, Powys, two buildings were found on high ground overlooking the Severn Valley (Britnell 1982). Both were *c.*4.5m diameter with a central hearth surrounded by stake-holes. They were radiocarbon dated to between 3086 and 2626 BC, and 2834 and 2207 BC, and so broadly contemporary with Structure 2. These were interpreted by the excavator as being only seasonally occupied, as the structures

were flimsy, and the environmental evidence indicated numerous wild plants in the surrounding area (*ibid*, 143). Not far from these, at Hindwell, Powys, another pair of buildings, again 5m in diameter with a central hearth and an east entrance, was radiocarbon dated to 3020–2620 BC (Darvill 2009, 142). A similar structure was excavated at Lockerbie in Dumfries and Galloway (Pollard 1997), consisting of *c*.25 stake-holes set around a probable clay-floor, or that may alternatively have been collapsed daub walls. A further eight, stake-built, structures have been excavated at Cowie, Stirling (Barclay 2003).

Excavations at Durrington Walls since 2005 have excavated at least ten extremely well-preserved Late Neolithic (*c*.2500 BC) houses (Parker Pearson *et al*. 2007, 633; Parker Pearson 2012, 92), possibly part of a much larger 17-hectare settlement (Parker Pearson 2012, 103). Many of the houses are of a broadly similar size to Rothley (*c*.5m diameter, see Fig. 20), although the Durrington Walls examples have central square areas, often with surviving chalk floors, and slots for beds and internal furniture (*ibid*, 98), and some are surrounded by stake-holes in a rectangular plan with rounded corners (*ibid*, 75). Some of these structures are radiocarbon dated to 2830–2470 cal BC (95 per cent) (Parker Pearson *et al*. 2007, 633). The most well-known and impressive domestic circular structures of this date are those stone-built examples in the Western and Northern Isles of Scotland; for example, at Skara Brae in Orkney (Childe 1931). Here the settlement dates to 3100–2500 BC and consisted of ten stone buildings clustered together; each building had a central square hearth and stone beds either side of the entrance.

Structure 2 appears to have been a far more substantial structure than some, being constructed with wide posts rather than thin stakes, although whether these supported a wattle and daub superstructure is unclear. The various internal post settings (see Fig. 17) make little clear sense in plan, as they may represent several phases re-building or internal reorganisation which may have included internal fixtures and fittings, such as beds and furniture. As for the function of the structure, the environmental remains hint at domestic activity, with evidence of food preparation and the gathering of wild foods.

CONCLUSION
with Patrick Clay

Neolithic settlement and structural evidence in the East Midlands is extremely rare. In his national survey of Neolithic buildings in 2002, Darvill identified 109 in England, Wales and the Isle of Man, 12 of which were from the East Midlands and none from Leicestershire (Darvill 2002, 79). More have been discovered nationally in the last ten years (e.g. Barclay *et al*. 2012), but these still remain very elusive. As a county with a successful agricultural history, Leicestershire is a 'plough zone' area, with virtually all Neolithic evidence being restricted to surface lithic scatters (Clay 1999; 2002). Isolated pits containing Middle Neolithic Peterborough Ware – for example, at Rearsby (Clarke and Beamish 2007, 47) – and Late Neolithic Grooved Ware, at Syston (Meek 1998), have been located, but with little evidence of associated activity. The presence of settlement evidence at Rothley is therefore highly significant.

The ephemeral nature of the structures confirms Darvill's interpretation that houses were modest and exhibit a wide range of forms (Darvill 2002, 77; Bradley 2007, 94). The Late Neolithic circular Structure 2 fits broadly within a wider trend in Britain of a change from Early Neolithic rectangular housing to round houses by the Bronze Age (Parker Pearson 2012, 99). The structural evidence perhaps suggests temporary settlement, and this may indicate the practice of mobile stock herding to preferred seasonal pasturing areas, combined with the beginnings of longer maintenance of cleared land and 'short-fallow' agriculture; hence the cereal remains (Barrett 1994). The maintenance of cleared land suitable for cultivation would have increased the importance of certain areas to these groups, leading to their being considered 'significant places'.

Remarkably, the two most significant Neolithic settlement sites known from Leicestershire are both from Rothley. Excavations in 2005 at Rothley Lodge Farm (Hunt 2006; 2010), 2km to the north of Temple Grange (Fig. 2), revealed settlement evidence on a north-facing slope with boulder clay and Mercia Mudstone substrata, in contrast to the light sandy soils at Temple Grange. The most significant feature was an amorphous pit, *c*.5m in diameter which may have been the remains of a sunken-featured building (Fig. 15). The fill produced several thousand finds including Grooved Ware, and an engraved stone plaque displaying figurative art. As a complete artefact it would have been symmetrical, possibly showing a stylised face with a rectangular frame (Cooper and Hunt 2006; Hunt 2006, 239). The lithic finds included several thousand flint flakes, 25 flint scrapers, flint arrowheads and two Group XX (Charnwood) polished stone axes, which had been heated to destruction. These were associated with Grooved Ware of Clacton/Woodlands style, much of which was highly decorated. The form of the 'building' at Lodge Farm actually has more in common with Structure 1 and pits of the Early Neolithic phase of activity at Temple Grange. While Neolithic settlement at Rothley Lodge Farm is unlikely to have been contemporary, the presence of Neolithic settlement evidence does, however, suggest that this part of the Soar valley was a significant and active place throughout the Neolithic.

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