NEOLITHIC AND BRONZE AGE ACTIVITY ON THE TRENT FLOOD PLAIN: AN INTERIM NOTE ON RECENT EXCAVATIONS AT WILLINGTON QUARRY EXTENSION

By Matthew G. Beamish

INTRODUCTION

Recent excavations by University of Leicester Archaeological Services (ULAS) at Willington Quarry Extension (Derby City Museums Accession 1998–46) will add a missing piece of the region's archaeological jigsaw for the later third to early second millenium BC, and contrast with other local and regional data. Evidence of Late Neolithic activity has been found which compliments current thoughts of mobility and diverse landscape use in a period otherwise dominated by monuments and lithic scatters. The work is an example of the systematic investigation of sub-alluvial areas, a topography noted for its under-representation (Knight and Howard 1994, 14). Two burnt mounds have been excavated, one with rare evidence of use perhaps for ceremonial feasting, and the other of outstanding preservation.

THE SITE

Areas for gravel extraction in a Quarry Extension were granted Planning Permission in 1991. A separate consent for a haul road and processing plant (The Plant Site) was granted with an archaeological condition, and a scheme of works was prepared by Oxford Archaeological Associates in 1996.

The site is on low-lying ground, and periodically flooded by the partly canalised Eggington Brook, which flows west to east on its way to meet the Trent 500m to the south, in contrast with the area of terrace-edge Neolithic and Iron Age settlement excavated to the north-west (Fig. 1: SK 285278) where there was only localised evidence of flooding (Wheeler 1979, 60). Earlier pre-canalised forms of this watercourse still exist as landscape features in the north of the fields, to the south of the railway. Twelve palaeochannels have been recorded on the site to date, demonstrating the dynamism of the watercourses and the resulting changing topography. The palaeochannels are dated by initial assessment of environmental indicators, stratigraphy, association and a few finds, and span from the early post-glacial to the Roman and/or Medieval periods. Seven column samples have been taken through waterlogged deposits to date.

The archaeology, which was found at between 41 and 43m OD, has included hearths, ovens, areas of fire-cracked stone and possible midden material. Initial assessments of charred plant remains show wild resources, such as hazel nuts and sloes, predominate over cultivated cereals. Groups of post-holes and pits have been excavated, some in clearly related clusters. The archaeological deposits were most dense on the gravel

islands, but also continued towards and into the channel clays. Many burnt deposits, some burnt *in situ* and some re-deposited have been recorded. To the north of Zone 2, part of a polished stone axe of a chalky flint was recovered from a channel, whilst fragments of an alluvially abraded Beaker were found to the east (Fig. 2: B). In the west of Zone 2, a complete saddle quern had been deposited on low ground (Fig. 2: Q).

At the eastern end of Zone 2, shallow features, possibly post-holes, delineated a trapezoidal area roughly 3.5m by 5m immediately adjacent to a large tree-throw pit. Other examples of archaeological activity adjacent to or incorporating tree-throw pits have been recorded. The association between tree-throws and increased archaeological deposition has been recognised elsewhere, and the suggestion has been made that the mass root walls of fallen trunks would form suitable anchors for light skin or bush covered structures (Evans *et al.* 1999). The possible role of fallen trunks as places of occupation, settlement foci and landscape markers has also been discussed (*ibid.*) for the Early Neolithic period. The Willington evidence would appear to compliment these suggestions although the detail of such evidence awaits analysis.

Other features derived from falling trees (Fig. 2: T) both before and after the archaeological activity. A number of these tree-throws and widespread ancient surfaces below the alluvium show clear signs of burning *in situ* and may relate to prehistoric floodplain clearances.

In a watching brief area to the north-east of Zone 2, a two-lobed feature filled with reddened clays and some charcoal stained soil had the plan form of a developed pottery kiln. However, as no related pottery wasters were found, and the area in general was peppered with burnt features with similar fills, the origin of this feature remains unclear. Work at the Ancient Monuments Laboratory has shown that the soils at Willington redden at anomalously low temperatures, with a concomitant rise in magnetic susceptibility.

Pottery has mostly comprised Peterborough Wares, and dates the features to the third millenium BC, or later Neolithic. The worked flint from the site mostly comprised contemporary pieces but also significant material from earlier activity. The make-up of the later Neolithic assemblage perhaps indicates task specific activities rather than settlement (L. Cooper *pers. comm.*).

Near the apex of a gravel island (Zone 2) the first of two burnt mounds was recorded. Fragments of Peterborough Wares and flints were recovered in some abundance from a shallow mound, 7m by 5m, partly skirted in the north by a wide linear approach that had been lined with pebbles, perhaps a measure against muddy conditions. A hearth, trough and another pit were in a line at the centre, with another possible hearth and another pit to south and south-west of centre. Charred hazel-nut shells and sloe stones were present in the mound and trough deposits, and fragments of calcined cattle tooth were also found in the latter, pointing strongly toward food preparation and perhaps feasting.

In the west of Zone 2, a ring ditch of 11m diameter was cut through alluvial clays that sealed some features, and was itself sealed by alluvium. The central burial pit was empty, probably due to the acidity of the soils; hand excavation of the alluvial soils over the ancient surface demonstrated that no mound had been constructed over it, the surface and ditch having been alluvially buried. The monument is not clearly dated, but on the basis of its form it is Bronze Age or earlier, giving a *terminus ante quem* for alluviating

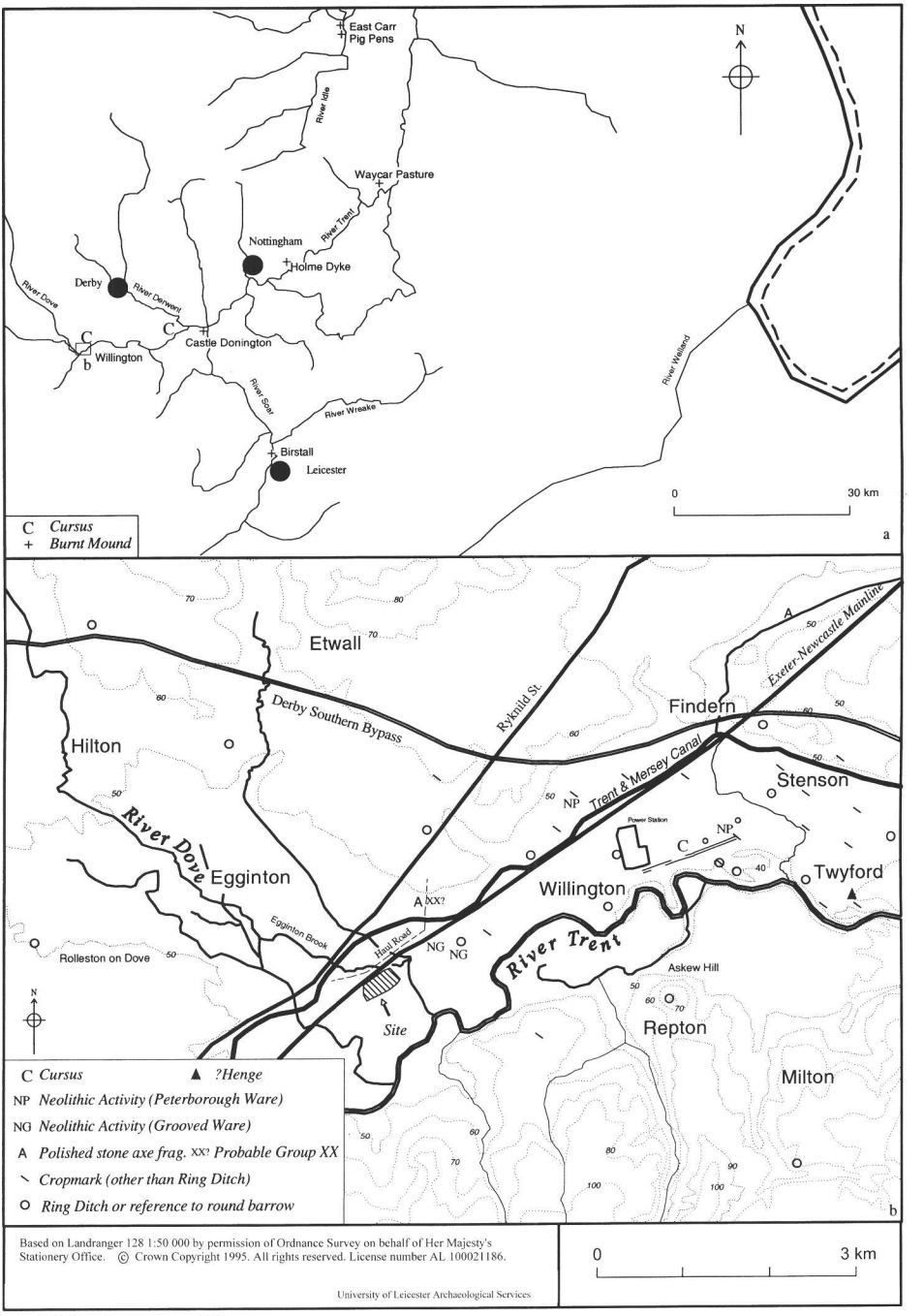

Fig. 1: a, Location of Willington and other sites mentioned in the text, in the east Midlands.b, Location of site in relation to schematic location of prehistoric entries on the Derbyshire SMR within 6km, and contours (m).

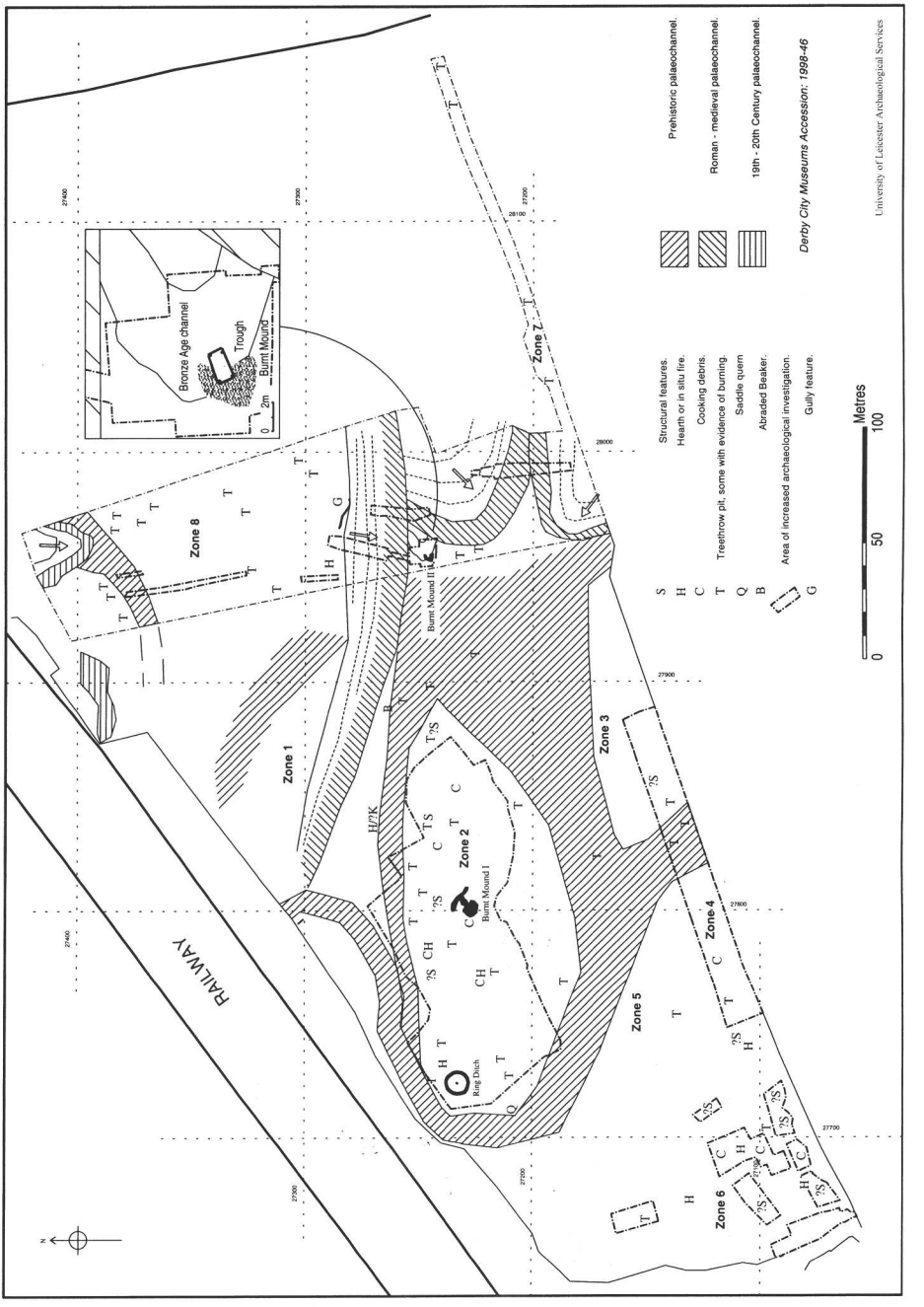

Fig. 2: Willington Quarry, south Derbyshire. Neolithic and Bronze Age. Zones 1–7 with selected and simplified results. March 1998–November 1999.

conditions in the area. This, together with evidence of extensive burning on the pre-alluvial land surface, compliments Knight and Howard's model of the extensive clearance of some areas of the Middle Trent by at least the Late Neolithic (Knight and Howard 1994, 119).

The second burnt mound was isolated and located on the edge of a silted palaeochannel. The location had been the site of reuse despite extensive silting and had clearly been a favoured area. Early burnt mound activity next to a live channel was later augmented by a substantial timber-lined trough after the channel had become partly choked with silts. The round wood lining consisted of a base raft of 13 timbers, with 4 stacked timbers for each side wall retained by corner stakes. Charcoal packing was found behind the timbers at one end. The feature measured 2m × 1m × 0.20m deep, and would have held *c.* 400 litres (88 gallons); it was large enough to have been lain in by two people. It had been abandoned with layers of gritty fire cracked stone and charcoal against one end (from which one broken flint blade was recovered), filling just over half its volume. A central area had been lightly scorched black. Within the silted channel beside the trough lay a spread of cut branches and logs perhaps dumped to consolidate the marshy ground. A similar phenomenon has been suggested at Waycar Pasture, Girton, Nottinghamshire (Garton 1993, 149). Channel fills contained rare fragments of ox, and ox or horse, whilst an ox or horse rib from initial cleaning 5m south-east of the trough had parallel scrapes on the surface which may have resulted from butchery. These may have derived from either the top of the burnt mound channel or from an intrusive channel in the south-east of the area. A piece of horse femur also showing cut marks was recovered from the fill of the later channel immediately to the east. Part of an adult male human femur was recovered from the interface of these channels, and may have derived from either. A base sherd of Middle or Late Bronze Age pottery was found some 25m to the south.

Initial assessment of the trough timbers clearly shows tooling by metal blades, dating Burnt Mound II to the Bronze Age or later. On the basis of form and topography a late second millenium date may be expected when radiocarbon and possibly dendrochronological dates are obtained.

A LOCAL CONTEXT

Between 1970 and 1972, excavations at Willington Quarry were undertaken by the Trent Valley Archaeological Research Committee, on an area of first terrace cropmarks to the north-east of the current quarry (SK 285277 centre). Evidence of intermittent occupation from Neolithic to the Saxon period was recovered; the main features being Late Neolithic settlements (Fig. 1b: NG) dated by Grooved Ware and some Beaker, with possible trapezoidal buildings; Iron Age settlement and field system with at least three separate foci; three prehistoric ritual monuments; two Romano-British farmsteads; and a small Saxon settlement (Wheeler 1979, 58).

A watching brief by ULAS (Derby City Museums accession 1997–89) (Fig. 1b), during the construction of a haul road immediately to the north, identified the continuation of many of the later prehistoric and Roman enclosures and field systems, along with further evidence of terrace edge occupation of probable Neolithic date

(Beamish 1997), including a pit at 48m OD, containing a reworked fragment of polished stone axe (probable Group XX, Charnwood).

Three kilometres to the east the ditches of a cursus have been recorded by aerial photography and partly investigated by excavation (Wheeler 1972; Guilbert 1994; Knight 1998, 33). To the north of the cursus, excavations at Hill Farm (SK 299295) have investigated a number of cropmarks which appeared possibly to relate in part to a ritual or mortuary monument dating to the late third or early second millennium BC (Hughes 1995). Pottery groups of Early Neolithic, Late Neolithic, Early Bronze Age and Late Bronze Age/Early Iron Age date were found (A. Woodward *pers. comm.*). At Swarkestone Lowes, Beaker dated features were excavated beneath the mound of a round barrow (Greenfield 1960).

A REGIONAL CONTEXT

The combination of the clear popularity of this part of the Middle Trent Valley in prehistory with some earthwork preservation and cropmark evidence from the terraces, and gravel extraction on a large scale throughout the later part of the twentieth century, has given rise to a local archaeology rich in quality, quantity and duration. This ranges from large groups of Palaeolithic hand-axes (Posnansky 1963) to cursus and possible henge monuments, numerous ring ditches and other elements of Neolithic, Beaker and Bronze Age occupation all within a few kilometres (Fig. 1b). The Middle Trent, between the confluences of the rivers Dove and Derwent has been noted as the backdrop for important complexes of ceremonial and funerary monuments of Late Neolithic-Early Bronze Age date (Knight and Howard 1994, 14), including another cursus monument at Aston-on-Trent some 10km to the east (SK 432295, Gibson and Loveday 1989). At Lockington, Leicestershire, 5km east of Aston, a remarkable group of Early Bronze Age metalwork has been excavated adjacent to a round barrow (Hughes 1996; Clay 1999, 11) and radiocarbon dated to 2580–2200 and 2190–1880 cal. BC. Although of unclear context and relationship with the earlier cursus, this group may reflect the continued regional importance of the Middle Trent in the late third or early second millenium BC.

The flood plain site at Willington has many similarities with recently excavated areas of prehistoric activity on the flood plain of the River Thames at Yarnton, Oxfordshire (Hey and Bell 1997). Here Neolithic and Bronze Age 'domestic' areas have been recorded, with some possible Late Neolithic structures and clearer formal structures of Bronze Age date (Hey and Bell 1997; Hey 1997). Evidence of the exploitation of wild resources (e.g. hazelnuts and sloe berries) with few finds of cereal grains is very comparable.

ANALYSIS AND FURTHER WORK

Future analysis will hopefully provide radiocarbon dates for aspects of the site's prehistory and detail the nature and possible functions of the many different features recorded. Questions remain regarding the possible fire-clearance and its relationship with the other archaeological deposits. Analysis of charred remains should give further evidence of resource use, and the incorporation of use-wear analysis on the flint tools for

this important alluvially sealed Neolithic assemblage may develop ideas of task specific activities.

Fabric analysis, including thin sectioning, of the pottery may provide some evidence of artefact or materials movement in this important area. The context of the nearby cursus as a possible sanctioning mechanism between peoples, and mediator of artefact movement is pertinent (Loveday 2000). This lowland site will also compliment the nearby regional survey of the Neolithic in the Peak (Barnatt 1996). Barnatt suggests that the inhabitants of the Peak were probably isolated and socially self-contained, and with an identity different to those people using the resource rich Trent (Barnatt 1996, 46).

The two south Derbyshire burnt mounds excavated at Willington, compliment other recent east Midlands examples from Leicestershire at Birstall (Ripper 1997, 88) and Castle Donington (Coward and Ripper 1999), and Nottinghamshire at East Carr (Morris and Garton 1998, 138), Holme Dyke (Elliot and Knight 1998, 19), Pig Pens (Garton & Priest 1998, 139) and Waycar Pasture (Garton 1993). On the basis of lack of food debris and site location burnt mounds have been interpreted as the sites of sweat lodges (Barfield and Hodder 1987); the recent evidence from Birstall, Castle Donington and Willington where animal bone, some with signs of butchery, and other food debris has been found, is new and compelling evidence of use, and perhaps ceremonial feasting (Beamish and Ripper 2000).

ACKNOWLEDGEMENTS

Thank you to all staff who have toiled on site, and in laboratory and office. Archaeological work at Willington Quarry was commissioned by RMC Aggregates Western Ltd, through their consultant, Dr. Simon Collcutt of Oxford Archaeological Associates, in consultation with Dr. David Barrett, County Archaeologist, Derbyshire County Council. Work in Zones 2 and 6 was financially assisted by English Heritage who also kindly provided the services of environmental specialists James Greig and Mark Robinson.

I would like to thank the Quarry Manager, Mr. Brian Johnson for his co-operation and patience, and Patrick Clay (ULAS) for his management, advice and useful comments on this report.

REFERENCES

Barfield, L. and Hodder, M. (1987) Burnt mounds as saunas, and the prehistory of bathing. *Antiquity* 61: 370–79.

Barnatt, J. (1996) Moving beyond the monuments: paths and people in the Neolithic landscapes of the Peak District. In P.Frodsham (ed.) *Neolithic Studies in No Man's Land, Papers on the Neolithic of Northern England from the Trent to the Tweed.* Northern Archaeology vol. 13/14: 45–62.

Beamish, M. G. (1997) *An Archaeological Watching Brief during Haul Road Construction at Willington Quarry Derbyshire.* Unpublished ULAS Report 97/97.

Beamish, M. G. and Ripper, S. A. (2000) Burnt mounds in the East Midlands. *Antiquity* 75: 37–8.

Coward, J. and Ripper, S. (1999) Castle Donington, Willow Farm. Archaeology in Leicestershire and Rutland 1998. *Transactions of the Leicestershire Archaeological and Historical Society* 73: 87–91.

Clay, P. N. (1999) The Neolithic and Bronze Age of Leicestershire and Rutland. *Transactions of the Leicestershire Archaeological and Historical Society* 73: 2–18.

Evans, C., Pollard, J. and Knight, M. (1999) Life in Woods: Tree throws, "Settlement" and Forest Cognition. *Oxford Journal of Archaeology* 18: 241–254.

Garton, D. (1993) A Burnt mound at Waycar Pasture near Girton. *Transactions of the Thoroton Society of Nottinghamshire* 97: 148–149.

Garton, D. and Priest, V. (1998) Pigs Pens, Tiln. In K. Challis (ed.), Fieldwork by Trent & Peak Archaeological Trust in Nottinghamshire, 1996–7. *Transactions of the Thoroton Society of Nottinghamshire* 102: 139–142.

Gibson, A. and Loveday, R. (1989) Excavations of the cursus monument of Aston-on-Trent, Derbyshire. In A. Gibson (ed.) *Midlands Prehistory*. Oxford: British Archaeological Reports, British Series 204: 27–50.

Greenfield, E. (1960) *The Excavation of Barrow 4 at Swarkestone*, *DAJ* 80: 1–48.

Guilbert, G. (1994) *Potlock, Derbyshire: Excavations 1994.* Unpublished TPAT Summary Report.

Hey, G. and Bell, C. (1997) Yarnton Floodplain 1996 (SP 469 107). *South Midlands Archaeology* 27: 62–4.

Hey, G. (1997) Neolithic Settlement at Yarnton, Oxfordshire. In P.Topping (ed.) *Neolithic Landscapes.* Neolithic Studies Group Seminar Papers 2. Oxford: Oxbow monograph 86: 99–112.

Hughes, G. (1995) *An Archaeological Evaluation at Hill Farm, Willington, Derbyshire, 1995.* Unpublished Birmingham University Field Archaeology Unit Report no. 343.

Hughes, G. (1996) Lockington. *Current Archaeology* 46: 44–49.

Knight, D. (1998) The Derby Southern Bypass. *Current Archaeology* 157: 32–33.

Knight, D. and Howard, A. (1994) *Archaeology and alluvium in the Trent Valley. An archaeological assessment of the flood plain and gravel terraces.* Nottingham: Trent & Peak Archaeological Trust.

Loveday, R. (2000) *Contextualising Monuments —1 The exceptional potential of the Middle Trent Valley.* Unpublished.

Morris, T. and Garton, D. (1998) East Carr, Mattersey. In K. Challis (ed.) Fieldwork by Trent & Peak Archaeological Trust in Nottinghamshire, 1996–7. *Transactions of the Thoroton Society of Nottinghamshire* 102.

Posnansky, M. (1963) The Lower and Middle Palaeolithic Industries of the British East Midlands. *Proceedings Prehistoric Society* 29: 357–394.

Ripper, S.A. (1997) Birstall. Archaeology in Leicestershire and Rutland, *Transactions of the Leicestershire Archaeological and Historical Society* 71: 87.

Wheeler, H. (1972) The Findern Cursus. *DAJ* 90: 4–7.

Wheeler, H. (1979) Excavation at Willington Derbyshire 1970–1972. *DAJ* 99: 58–220.

The Society gratefully acknowledges the financial support of RMC Aggregates (Western) Limited in the publication of this paper.