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An Iron Age pit alignment near Upton, Northampton

by

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with contributions by
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SUMMARY

A short length of an Iron Age pit alignment, identified by geophysical survey, was excavated by Northamptonshire Archaeology in April 2007 during the construction of the Cross Valley Link Road (CVLR) at Upton, on the western outskirts of Northampton. A small ditch, possibly part of a Roman or medieval field system, and medieval furrows were also identified. In addition, between April and July 2007, an archaeological watching brief was maintained during construction work on the new road and river crossing over the River Nene. No significant archaeological remains were identified within the road corridor, although a sharpened wooden stake/peg, radiocarbon dated to the middle Saxon period, was recovered from beneath a depth of alluvial silt on the edge of a possible river palaeochannel.

ACKNOWLEDGEMENTS

The work was commissioned by Birse Civils Ltd, on behalf of English Partnerships and Northamptonshire County Council. The project was managed by Anthony Maull and directed by Simon Carlyle, with fieldwork by Jason Clarke and Anne Foard-Colby. The pottery was analysed by Andy Chapman, while the worked wood was reported on by Ian Meadow with species identification by Rowena Gale. The ecofacts were analysed by Karen Deighton and illustrations were by Jacqueline Harding, Adrian Butler and John Walford. The client report (Carlyle 2008) has been revised and extended by Pat Chapman and Andy Chapman to incorporate the results of the geophysical survey (Butler 2006) and trial trench evaluation (Foard-Colby 2006b).

INTRODUCTION

Between April and July 2007, a watching brief over an area of 23ha was maintained by Northamptonshire Archaeology during the initial stages of construction of the Cross Valley Link Road (CVLR), to link the A45 Weedon Road at Upton, on the western outskirts of Northampton, with a stretch of link road to the south of the River Nene (NGR SP 708 602 to SP 710 587; Fig 1). In addition, an area of 0.14ha was excavated at the northern end of the CVLR to investigate part of a pit alignment and other features, which had been identified by geophysical survey (Butler 2006) and partial investigated by trial trench evaluation (Foard-Colby 2006b) (Figs 2 and 3).

The remainder of the road corridor was subject to a watching brief, but groundworks only entailed the removal of the topsoil/ploughsoil so no archaeological remains, had they been present, would have been exposed. A straight channel, cut across a meander in the River Nene where it was to pass beneath the new bridge, exposed the depth of alluvial deposition within the Nene valley, below which the wooden stake was found. The cut-off was subsequently backfilled.

The work was requested by Northamptonshire County Council's Archaeological Advisor to mitigate against the impact of the road scheme on buried archaeological remains within the area of the road corridor and the infrastructure associated with the construction (ie the haul road and compound).

BACKGROUND

TOPOGRAPHY AND GEOLOGY

The route of the Cross Valley Link Road extends across the valley of the River Nene from the A45 Weedon Road, *c* 1 km west of Upton, to a point on the south bank of the river (Fig 2). The route crosses several fields, formerly used for pasture and arable agriculture. The northern end of the route, at the A45 Weedon Road, lies at approximately 75m aOD, and descends to *c* 60m aOD on the floodplain.

To the north of the River Nene the underlying geology comprises Upper Lias mudstones on the upper slope and Middle Lias Silts and Clays on the lower slope, with a narrow bed of Marlstone Rock in between (BGS 1980). On the floodplain there are deposits of alluvium. On the south bank the underlying geology consists of glacial sand and gravel. The overlying soils belong to the Fladbury 2 soil association (SSEW 1983).

ARCHAEOLOGICAL BACKGROUND

In 2005 a desk-based assessment by Northamptonshire Archaeology (Brown 2005) identified a number of sites in the vicinity dating to the prehistoric, Roman and medieval periods (Fig 1). They included possible prehistoric ditches investigated between 1991 and 1992 by Northamptonshire Archaeology (Fig 1, 1475/0/1-2; Jackson 1993, 74-75); pits and ditches of Iron Age date excavated during the widening of the A45 in 1965 (5134; Jackson 1969); and the extensive open area excavation

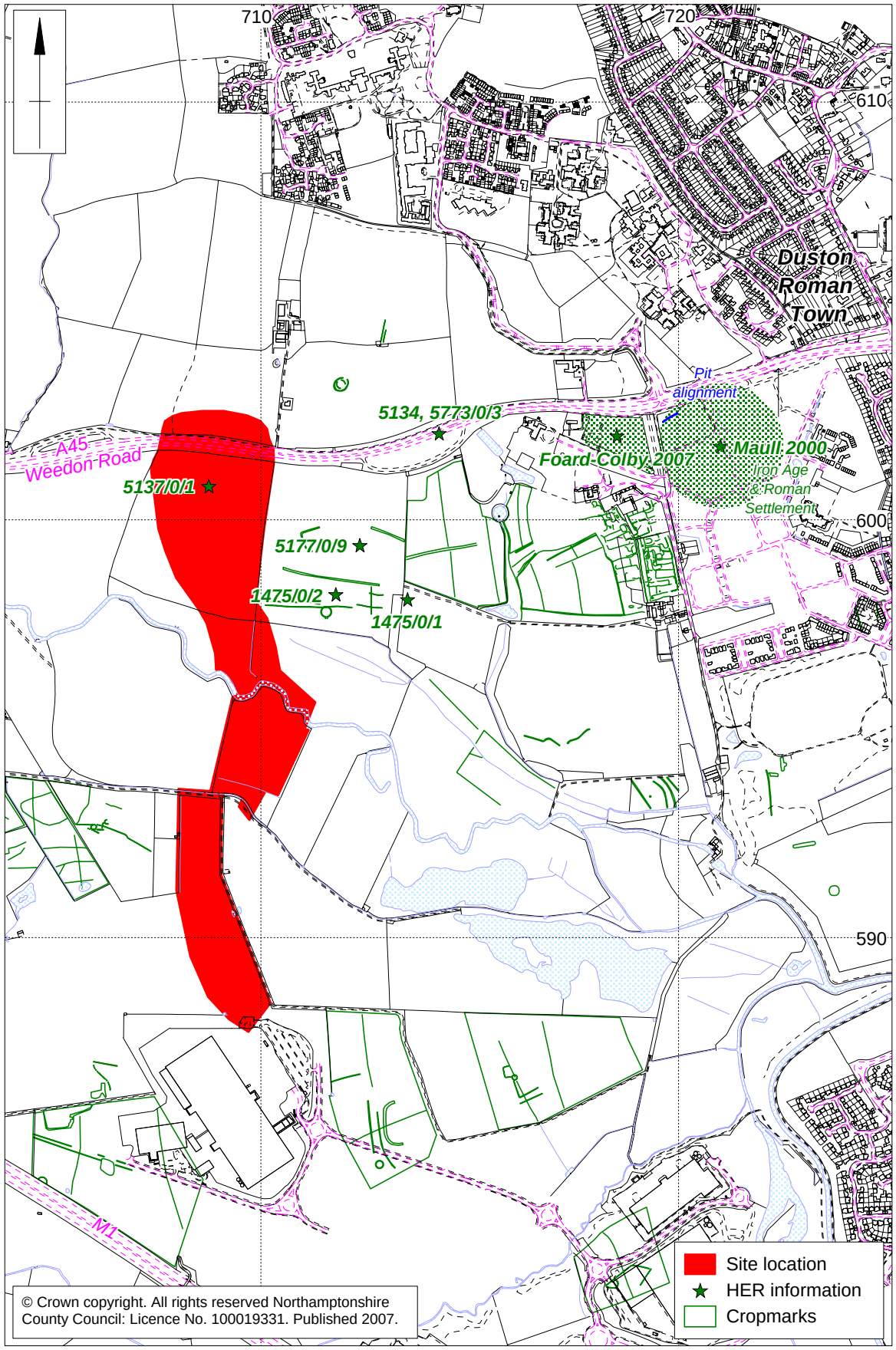

Fig 1 Site location and Historic Environment Record (HER) sites

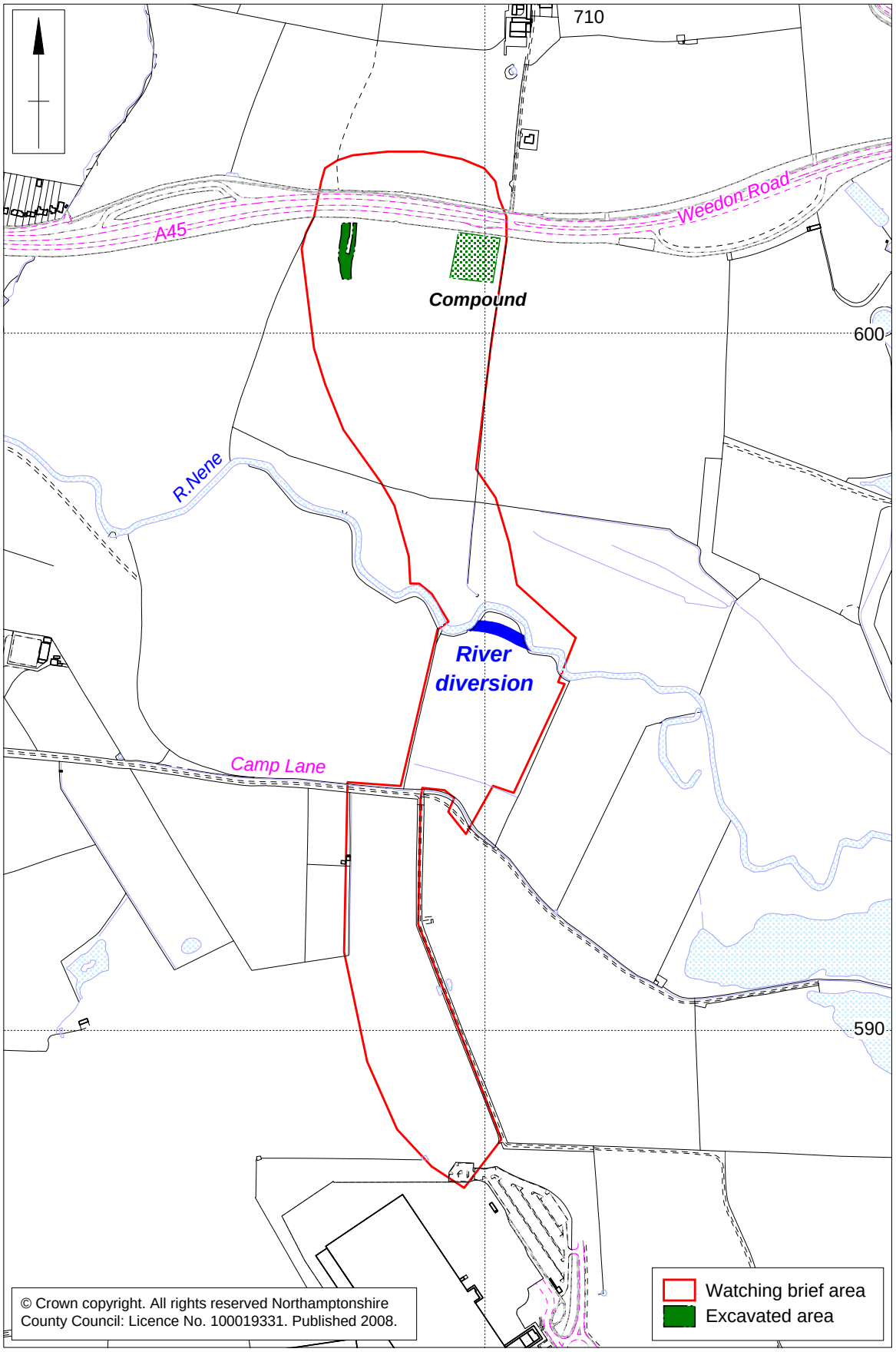

Fig 2 Site plan, showing excavation area and river diversion

Fig 3 Geophysical survey showing pit alignment and trial trenches

of a pit alignment, late Iron Age settlement and Roman settlement in 2000 (Maull 2000: Maull and Walker this volume) and smaller-scale excavation of Iron Age and medieval settlement at Quinton House School in 2007 (Foard-Colby and Walker 2007: Foard-Colby and Walker this volume).

A Saxon *Grubenhaus* was excavated during widening of the A45 in 1965 (5773/0/3; Jackson 1969, 213) and possible Saxon or medieval linear features have been identified from aerial photographs (5177/0/9).

There were no known sites within the road corridor; the only entry in the Sites and Monuments Record (SMR) related to the finding of a number of medieval pottery sherds just south of the A45 (NSMR 5137/0/1).

A geophysical survey of the area of the road corridor to the south of the River Nene detected a number of linear anomalies (GSB 2005). A programme of trial trenching by Northamptonshire Archaeology, determined that they were of no archaeological significance (Foard-Colby 2006b).

Geophysical survey of the area to the north of the river in September 2006 by Northamptonshire Archaeology identified the prehistoric pit alignment, a number of ditches and remnant furrows of medieval ridge and furrow cultivation (Fig 3; Butler 2006). The findings of the geophysical survey were confirmed by subsequent trial trenching (Fig 3; Foard-Colby 2006b).

THE PIT ALIGNMENT

The pit alignment was recorded by geophysical survey for a total length of 230m (Fig 3). It is aligned west to east and appears to follow a gentle curve, but this may comprise several shorter straighter lengths, each *c* 50m long. Towards the western end there is an abrupt change of direction to a more south-westerly alignment for about 30m, including the excavated length on the road corridor, and the alignment was not detected by the geophysical survey to the west of the excavated area. To the east the pit alignment continued into the next field.

In the three excavated areas, the natural substrate comprised mid brownish-orange sandy clay, containing manganese flecks and frequent fine to coarse, angular pebbles, with irregular bands of greyish-blue silty clay throughout. The subsoil was up to *c* 0.3m thick and comprised mid brown, occasionally sandy, slightly clayey silt with brashy inclusions. The ploughsoil, which was of a similar thickness, was mid greyish-brown organic slightly sandy silt with occasional to moderate pebbles.

Two trial trenches (Fig 3, T 9 and T 11) intersected the central part of the alignment. A single pit was uncovered in trench 9, while a length of trench 11 was widened and two pits were located (Foard-Colby 2006b, 6-7 & fig 5). These were sub-rectangular in plan, 2.0-2.5m wide by 0.45m deep, steep-sided with flat bottoms. The two sectioned pits had fills of homogeneous orange-brown silty clay with small pebbles. In trench 11, the two pits were 1.0m apart; 3.0m centre-to-centre.

In 2007 on the road corridor, a line of five pits at the western end of the recorded alignment were excavated (Fig 4; 11, 20, 16, 22 and 5). Four of these were of similar sizes, 1.5-2.0m long, with the longest dimension roughly along the line of the alignment. The plan forms of these pits varied between square to sub-circular, but it is suggested that they had probably all been rectangular in plan but had suffered from subsequent erosion to the edges (Figs 4, 5 and 6). Two pairs of pits were 1.0m apart, around 3.0m centre-to-centre, as seen to the east, but there was a broader spacing of 2.4m, over 4.0m centre-to-centre, between pits 20 and 16. These pits were only 0.15-0.35m deep, with steep sides and flat bottoms.

The westernmost pit, 5, was oval in plan and lay 1.2m from its neighbour to the east. It was significantly smaller than the other pits, at 0.89m long by 0.62m wide and 0.22m deep, with steep sides and a concave bottom. Unfortunately, as this pit lay at the western limit of excavation, it has not been determined whether pit 5 was merely an oddity within the continuing line of pits, or whether it may have marked the western terminal of the alignment, which was not recorded any further to the west on the geophysical survey.

Pit 11 had a thin primary fill, 70mm thick, of mid bluish-grey silty clay with frequent orange-brown mottles and occasional pebbles. The remainder of the fill, and the fills of the other pits, were mid-brown silty clay with moderate orange-brown mottles with occasional charcoal flecks and occasional pebbles. In addition to the six sherds of pottery from the trial trenching, a further 40 sherds of pottery were recovered.

THE PREHISTORIC POTTERY
by Andy Chapman

In the trial trench evaluation in 2006, a total of six sherds (18g) was recovered from two pits in the pit alignment (Chapman 2006). As small plain body sherds these offered little in the way of diagnostic features, but it was concluded that they 'would not be out of place within the broad late Bronze Age/early Iron Age to middle Iron Age date range' .

The further work on this pit alignment produced an additional 40 sherds, weighing 185g. There is a single, small sherd from the fill, 19, of pit 20. The greater part of the assemblage has come from the upper fill of pit 11. It comprises numerous sherds and fragments, largely from the flat base and body of a single vessel. The fabric contains voids, probably from leached shell inclusions, and the core and interior are dark grey and the outer surface is brown.

This pottery offers no diagnostic features and, as with the material from the trial trench, it can only be assigned to a broad Iron Age date.

ENVIRONMENTAL REMAINS
by Karen Deighton

Charred seeds, including cereal, were present as 'back-ground' in the pits. The most abundant seeds present; redshank, bistort and knotgrass, indicate open ground with water courses. Less well represented taxa such as wild carrot and sheep sorrel also indicate open ground. In fact, the presence of taxa such as redshank and curled dock could indicate arable ground. Sheep sorrel prefers drier conditions, so was possibly growing further away from the water source.

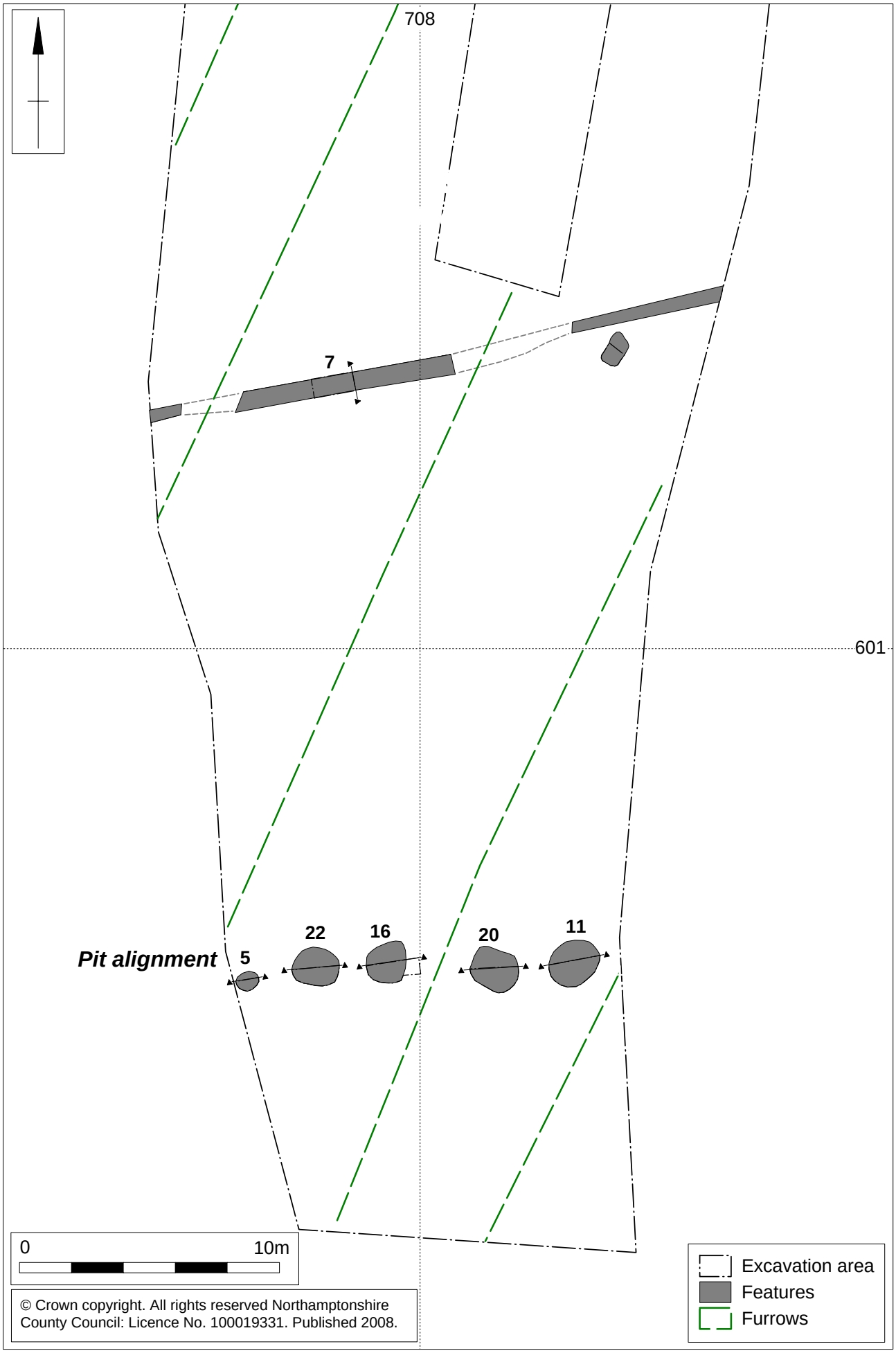

Fig 4 Pit alignment and ditch

Fig 5 Iron Age pit alignment, looking north

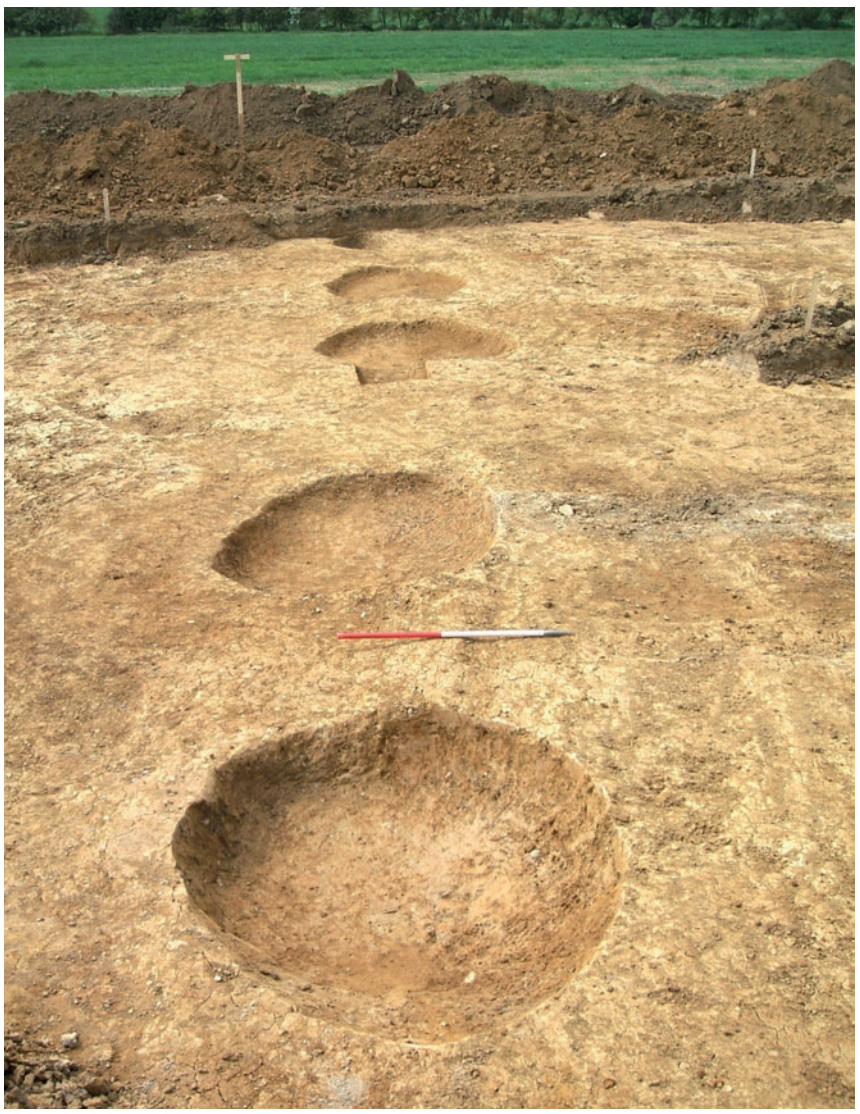

Fig 6 Iron Age pit alignment, looking west

LATER FEATURES

THE DITCH

Extending across the road corridor on an east-north-east to west-south-west alignment was a narrow, linear ditch, 7 (Figs 3 and 4). It had a steep-sided V-shaped profile, typically 0.5m wide and 0.32m deep. The fill comprised mid brownish-grey clayey silt with moderate pebbles and occasional charcoal flecks and orange-brown mottles. No dating evidence was recovered, but the ditch was cut by medieval furrows. Association with a regular pattern of other ditches identified in the earlier evaluation (Butler 2006; Foard-Colby 2006b) suggests that it probably formed part of a Roman field system.

RIDGE AND FURROW

In the north-western half of the field, furrows of a ridge and furrow field system were aligned north-east to south-west, roughly parallel to existing field boundaries (Fig 3). The furrows are medieval in origin, but the open field system of ridge and furrow, prevalent in much of the Midland region, could have been maintained into the post-medieval period (Rackham 1986, 167-180).

THE BRIDGE AND RIVER DIVERSION

As part of the construction programme, a straight channel was cut across the neck of a meander in the course of the River Nene, where it was to pass beneath a new bridge. The new channel was excavated through the alluvium to the top of the gravel deposits (Figs 2 & 7-9). The cut-off was subsequently backfilled.

Gravel, 34, was exposed at a depth of *c* 2.8m below ground level (Fig 9). The main units of the overlying alluvial sequence were reasonably uniform across the full width of the cut; they were intercalated with thin lenses of organic silt and silty sand. At the base of the main sequence was mid to dark grey slightly sandy clayey silt, 33, with thin seams of black sandy silt. This deposit varied in thickness between 0.1m and 0.4m, the variations in thickness probably being the result of erosion of its upper surface. This deposit had probably accumulated within an active river channel. A sharpened wooden stake of hazel was recovered from the base of this deposit (Fig 10). It has been radiocarbon dated to the early/middle Saxon period, the mid-7th to mid 8th centuries (Cal AD 650-780, 95% confidence, 1300+/-40BP, Beta 238064), suggesting that the channel was active at this time (Fig 10). The overlying deposit, 32, which was black organic slightly sandy silt up to 0.3m thick, contained leaf fragments and organic fibres from decayed plants, indicative of a stagnant or near-still flow, suggesting that the river channel had probably been cut-off to form an oxbow lake. A soil sample was taken from this deposit, but the plant remains were too degraded for collection and identification.

Sealing the organic layer was a sterile, stone-free deposit of mid to dark grey slightly silty clay, 31, approx-

Fig 7 Machining of new river channel

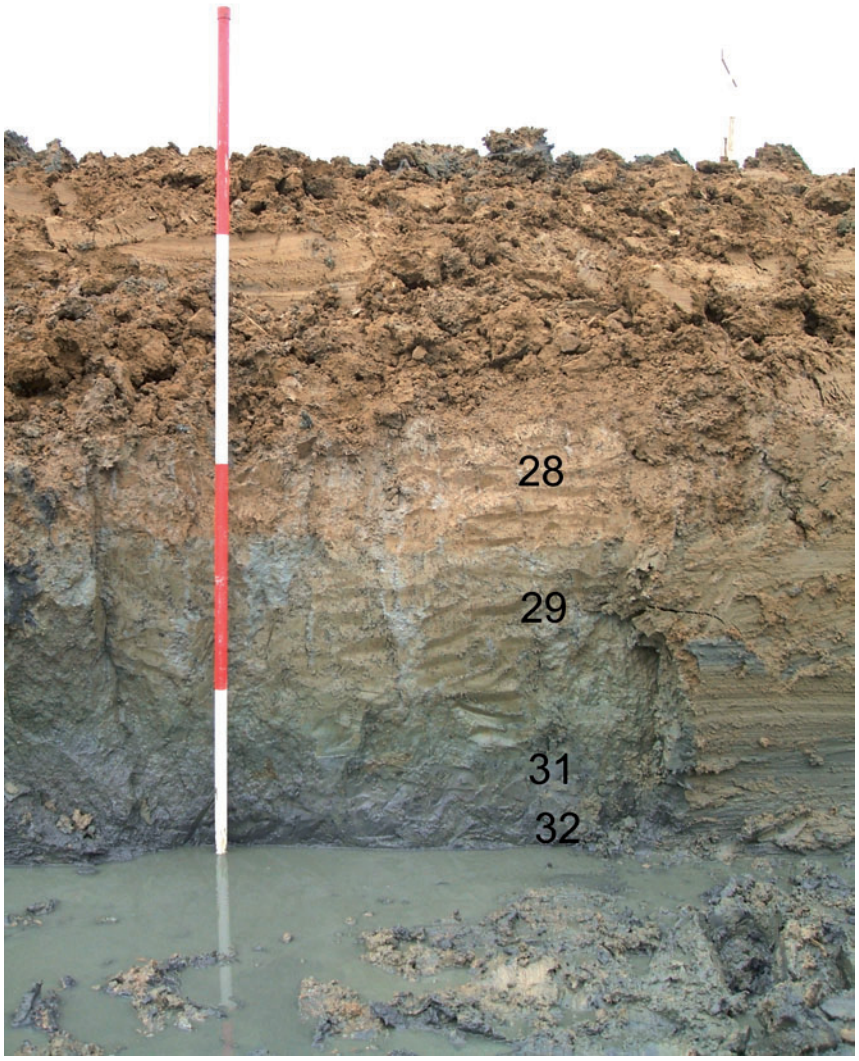

Fig 8 Alluvial sequence overlying river gravel, facing south

imately 0.4m thick, its upper boundary marked with black smears of organic clayey silt, 30. Overlying this deposit was another sterile, stone-free layer, approximately 0.6m thick, comprising light to mid bluish grey silty clay, 29, with frequent orange-brown mottles. The alluvial deposit at the top of the main sequence was light to mid yellowish-brown silty clay, 28, with very occasional orange-brown mottles. The subsoil, 27, was mid brown clayey silt, approximately 0.4m thick, and the topsoil, 26, which was *c* 0.25m thick, comprised mid to dark greyish-brown organic slightly sandy clayey silt.

THE WOODEN STAKE
by Ian Meadows

The pointed stake was cut from a length of hazel (*Corylus avellana*) pole, about 35mm in diameter (Fig 10). The stake measured 160mm long and preserved part of the bark on one side. The wood did not preserve the complete round, having been split diagonally from one side to form a wedge; this was further trimmed diagonally on one edge to create the point.

Whilst rough tool marks were visible, these surfaces had become eroded either through driving the stake or through surface attrition in the ground. The trimming/splitting of the stake was presumably the product of a blade such as a hook. The top end had been roughly trimmed with two cuts and a third facet indicated where the wood was broken rather than cut; this presumably occurred once the stake/peg had been driven home, either to stop it protruding or to trim it to a required length.

The function of a piece such as this is uncertain although it could have been used to anchor something in position on or in the ground.

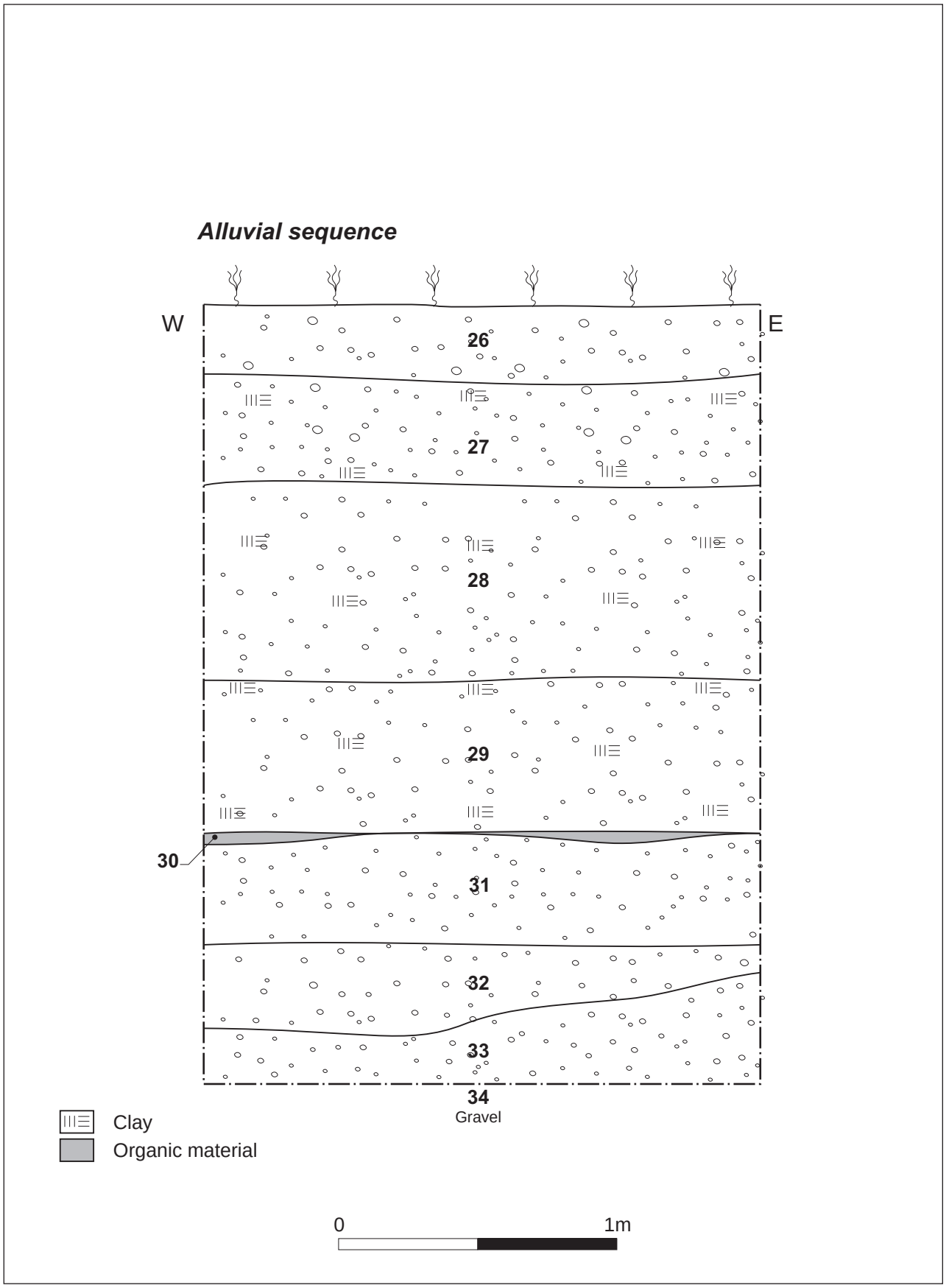

Fig 9 Schematic section through alluvial deposits in new river channel

Fig 10 Wooden stake recovered from base of alluvial deposits, showing tool marks

SPECIES IDENTIFICATION
by Rowena Gale

Three pieces of waterlogged wood, one of which had been sharpened (Item 2), were submitted for species identification. They consisted of short sections of rather degraded roundwood. Where possible, the maturity of the wood was assessed (ie heartwood/sapwood) and stem diameters recorded. They have been identified as follows:

Item 1, hazel (*Corylus avellana*), fast grown roundwood, diameter 10mm, 2 growth rings
Item 2, hazel (*Corylus avellana*), fast grown roundwood, diameter 35mm, 6 growth rings, bark and worked surfaces present
Item 3, oak (*Quercus* sp.), roundwood, diameter 25mm, *c* 6 growth rings

RADIOCARBON DETERMINATION

Laboratory Number	Origin of sample	Sample details	13C/12C ratio	Conventional radiocarbon age BP	Cal AD 68% confidence 95% confidence
Beta-23806	Wooden stake/peg	Hazel roundwood	-26.2 0/00	1300 +/-40	660-770 650-780

Radiocarbon dating laboratory: Beta Analytic, University of Florida, Miami, USA
Method of analysis: AMS-standard
Calibration: INTCAL98 (Stuiver, M, *et al* 1998 Radiocarbon 40 (3), 12-13)

DISCUSSION

THE IRON AGE PIT ALIGNMENT

Geophysical survey, trial trenching and a small area excavation has defined the characteristics of a length of pit alignment that extends for at least 230m. The alignment appears to have comprised regularly-sized rectangular pits, with steep sides and flat bottoms; although the original plans forms had been partly lost to erosion. The alignment may have comprised elongated straight lengths of about 50m, meeting at slight angles to create a gentle curve. To the west there was an abrupt change in direction and it is possible that a smaller, shallower pit at the western limit of excavated length may have marked the true end of the alignment, as the geophysical survey failed to record it any further to the west.

The alignment evidently continues eastward, but how far is unknown. It is possible that it may be the same alignment as that recorded on the northern edge of a new housing development at Upton (Maull 2000 and Maull and Walker this volume) and also in the grounds of Quinton House School (Foard-Colby and Walker 2007 and Foard-Colby and Walker this volume). If so, it would have had a length of at least 1.3km, and at Upton it was still continuing to the east, running beneath the Weedon Road.

The regularity of the pits is typical of other pit alignments, a characteristic that has been noted at Gretton, Briar Hill, Aldwincle, Ringstead (Jackson 1974; 1977; and 1978), Pitsford (Hallam *et al* 2003), Harlestone Quarry (Field and Chapman 2006) and Raunds (McAree 2005) in Northamptonshire, and further afield at St Ives in Cambridgeshire (Pollard 1996), Tallington, Lincolnshire (Simpson 1966) and Gayhurst,

Buckinghamshire (Chapman 2007). Other pit alignments identified from aerial photographs and excavation both in Northamptonshire and across the country show that regular spacing of the pits is a common feature (Hollowell 1971, Cunliffe 1991, Pollard 1996).

Due to the short length of the alignment revealed in the road corridor and the small number of pits investigated, it is not possible to comment on the method of construction of the monument. At Aldwincle, Briar Hill, Gretton and Pitsford slight displacements in the line of the pits have been noted; at Gretton (Jackson 1974) this occurred at intervals of every five or six pits and was taken to indicate gang work, as has been suggested for Tallington, Lincolnshire (Simpson 1966, Pollard 1996) and Harlestone Quarry, Northamptonshire (Field and Chapman 2006).

The pits generally contained homogeneous fills and appear to have silted up due to natural weathering; there was no evidence for deliberate in-filling or recutting. Pottery recovered from the upper part of the fill of one of the pits can only be broadly dated to the late Bronze Age to middle Iron Age (9th to 4th centuries BC). Pit alignments generally date to the early/middle Iron Age, but there is evidence that some examples were constructed or maintained until as late as the late Iron Age, such as Tallington, Lincolnshire (Simpson 1966) and Langford Downs, Oxfordshire (Williams 1946-7).

The regularity in the form and spacing of the pits that form pit alignments suggests that they were a deliberate monumental statement, not simply quarry pits to extract material to construct a bank or a series of mounds. Indeed, there is no clear evidence to suggest that the monuments had any other component features. However, excavations at a twin pit alignment at St Ives (Pollard 1996) produced evidence of hedgerow tree species and distinctive right-angled wood remains, as found in managed and laid hedgerows, so it is possible that pit alignments may have been associated with pre-existing land divisions, or were reinforced as a landscape boundary with hedgerows or brushwood fences. A bank constructed from soil excavated from the pits would have been negligible in size, which further reinforces the view that it was the pits that were the important component of the monument and not any other associated structure.

Pit alignments, by their very nature, probably functioned as symbolic landscape divisions, not as physical barriers to the movement of people or livestock. The uniformity in the form of pit alignments over a relatively wide geographical area suggests that the possible presence of a hedgerow or fence may have been a secondary consideration, and it was the pits that were the primary concern of the people who invested their time and labour in digging them. The purpose and meaning of the pits remains enigmatic, but they probably demarcate local territorial divisions or land-use boundaries. Indeed, they date to a period when there is evidence in the middle Nene Valley and elsewhere for the gradual expansion of settlement from the lighter, well-drained soils of the terrace gravels onto the heavier, higher ground overlying the boulder clay (Parry 2006), and the attendant social pressures that this engendered.

SAXON STAKE

The sharpened wooden stake recovered from the diverted river channel, which was radiocarbon dated to the mid-7th to mid-8th centuries AD, was an isolated find and was recovered from deposits probably at the margins of a river palaeochannel.

The importance of this find is that it provides a date at the base of the accumulated alluvium, indicating that the alluvium along the floodplain of the Nene valley largely derives from medieval and later silting. This has been suggested from work at Raunds, but here absolute dating evidence from the base of the alluvium had been lacking (Chapman 2010, 113-150).

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