

## EXCAVATIONS AT SOUTH WITHAM QUARRY, LINCOLNSHIRE

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### SUMMARY

*Archaeological excavations at South Witham Quarry (NGR SK 9137 1875) were carried out by Archaeological Solutions Ltd (formerly Hertfordshire Archaeological Trust) in October to November 2002 and July to August 2004. Although two small, truncated pits/postholes of late Neolithic/early Bronze Age date were present, activity at the site dated mainly to the mid to late Iron Age and 1<sup>st</sup> century AD. A series of boundary systems were represented in the northern part of the site, the best attested of these being a large scale system of parallel linear ditches, a feature type well attested in the East Midlands. In the 1<sup>st</sup> century AD a boundary marked by a double ditch was created in the southern part of the site, closer to an enclosure revealed by gradiometer survey (Rylatt and Bunn 2000). Other significant features at the site were two large pits with the bell-shaped profile which characterises Iron Age grain storage pits; among the animal bone assemblages from both of these were cattle skulls and/or articulated bones thought to represent acts of structured deposition.*

### INTRODUCTION

The archaeological excavation of land at South Witham Quarry (centred on NGR SK 9137 1875) was carried out in two stages, in October to November 2002 and July and August 2004, by Archaeological Solutions Ltd (formerly Hertfordshire Archaeological Trust) (Fig 1). The work was funded by Mick George Haulage Ltd and was carried out in advance of open cast mineral extraction at the site. Prior to the excavations, the archaeological potential of the site had been demonstrated by a geophysical survey (Rylatt and Bunn 2000) and trial trench evaluation (Boyer *et al.* 2001).

### SITE DESCRIPTION

The site comprised two sub-rectangular fields (total area *c.* 54816m<sup>2</sup>) *c.* 1km west of South Witham and *c.* 1km north of Thistleton (Fig 1). The fields were located to the north and south of a dismantled railway line at *c.* 120 – 125m OD; the land sloped downwards to the south of the dismantled railway line and to the north of the site, the River Witham ran *c.* 375 – 500m to the north of the northern site boundary at a height of *c.* 115m OD. To the north the site was bounded by Mill Lane, and the county boundary between Lincolnshire and Rutland ran along its southern edge; a disused quarry lay to its immediate west, and a working quarry to its immediate east. The site had been in agricultural use prior to the commencement of work.

The solid geology of the area is of cornbrash limestone, and the investigation found that the frost shattered upper reaches of this were overlain only by a thin (up to 0.4m thick) topsoil. The Ordnance Survey map shows a shake hole to the immediate west of the southern part of site, and a second was identified to the south east during the gradiometer survey (Rylatt and Bunn 2000).

## ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

### The South Witham area (Fig 1)

Finds of worked flint attest human presence in the south Lincolnshire/ Rutland area from at least the Mesolithic period. An assemblage of mainly Mesolithic worked flint was found in the course of an archaeological watching brief in South Witham (Thomas 2002). Flint implements dating to the Neolithic and early Bronze Age have been recovered in/ near South Witham as residual finds during archaeological investigations (Young 1997; Kipling 2002) and as chance finds (Lincs SMR 33696, 33695), as well as during field walking in the vicinity of Roman Thistleton, to the south south west (Don 2003, 2004). These periods are also represented in the landscape by cropmarks and earthworks representing enclosures, boundaries and barrows. Barrow fields are located to the north west of Skillington (*c.* 10km north west of the site) and north of Little Bytham (*c.* 10km east of the site) but single barrows are attested across the area, including a possible example *c.* 1.5km east south east of the site (Leics SMR 5781) and a second, along with a pit alignment and enclosure, at Greetham (*c.* 4.5km south east of the site (Leics SMR 5340)).

From the Iron Age onwards, all periods are represented in the archaeological record of this part of south Lincolnshire and Rutland. In South Witham itself, late Iron Age or early Roman activity was revealed, in the form of a 1<sup>st</sup> century AD pit, pair of parallel ditches and further ditch, during excavation (Kipling 2002). Roman activity is also well attested, though the most substantial findings of that period (a cemetery of at least 24 individuals *c.* 500m east of the site and a burial group at an unrecorded location in the parish) were made during gravel extraction in the early 20<sup>th</sup> and 18<sup>th</sup> centuries and consequently little information about them is recorded (Taylor and Collingwood 1923, 227-8; Lincs SMR 33690). Pottery and a javelin found with the burial group are thought to have been of Roman date, but no further details are known. The finds recovered from the cemetery are similarly undated beyond 'Roman', but a coin of Claudius Gothicus found nearby, close to a well, is of 3<sup>rd</sup> century date. Further Roman finds, including pottery, 1<sup>st</sup> century coins and a limestone coffin have also been recovered in the village (Lincs SMR 36114, 35736, 3689, 33692).

Evidence for late Iron Age to Roman occupation has been recovered by excavations to the north east and south of the site, between North Witham and Colsterworth and between Thistleton and Market Overton. Excavations by W.F. Grimes north west of North Witham in 1942-3 revealed a D- shaped wide and deep enclosure ditch surrounding an area of about half a hectare within which were ring gullies and postholes representing circular structures; the pottery assemblage was mainly Belgic but included a few Roman items, suggesting a mid 1<sup>st</sup> century AD date (Grimes 1961, 23-24; May 1976a, 192). 1950s excavations by E. Greenfield between Thistleton and Market Overton revealed evidence of occupation dating from the Iron Age through to the 2<sup>nd</sup> to 3<sup>rd</sup> century AD and beyond. The 3<sup>rd</sup> century basilical temple had a 1<sup>st</sup> century precursor, wood- built and circular in plan (Lewis, 1966, 84). Iron Age coins of Cunobelin and Tasciovanus have been found alongside Coritani coins and the (much larger) Roman coin assemblage recovered by metal detecting on the Temple site in the 1970s, and the pottery recovered by fieldwalking in 2003 included Iron Age sherds (Don 2004).

The site lies *c.* 2.5km west of the modern A1, which follows the course of the medieval Great North Road and Roman Ermine Street. Approximately 6km south of the site, east of modern Greetham, a road (known at various points along its course as Sewstern Lane, the Drift and Fosse

Lane) leaves Ermine Street on a north north westerly course. This route, which passes c. 1.2km east of the site, is thought to be of Roman origin (Margary Route 580) between Ermine Street and Croxton Kerrial (c. 13km north north west of the site) where it meets Margary Route 58 (Margary 1967, 223). This route is reputed to follow the line of a prehistoric trackway (South Witham Archaeology Group, 2004), but this remains unproved. The Victoria County History of Rutland mentions traces of a road or trackway aligned parallel to Fosse Lane running west south westwards from the Iron Age and Roman site between Thistleton and Market Overton (Walters and Keate, 1908, 87) but no further records of this have been found.

Little is known of South Witham during the Saxon period, though the *-ham* ending suggests that the modern settlement (along with North Witham and Thistleton) has its origins in this period. South Witham is mentioned in the Domesday Survey as being of mainly under cultivation but also with substantial wooded areas. By the later 12<sup>th</sup> century, a preceptory of the Knights Templar had been built on Temple Hill, approximately 2km north east of the site (Mayes 2002).

### The site (Fig 2)

Aerial photographs taken by J. Pickering in 1976 show a series of faint cropmarks in a field to the south and south east of the site (EH NMR JAP 1334/16 SK9118/1 and JAP 1334/ 17 SK9118/2). Most prominent among these are linear marks running approximately north north west to south south east, but other linear and curvilinear marks, including faint and fragmentary coaxial arrangements can also be discerned. One of the photographs also shows a linear ditch running west south west to east north east across a field to the east (separated by one) of the southern field of the site.

Gradiometer survey of the site was carried out in 2000 by Preconstruct Geophysics (Rylatt and Bunn 2000). It covered both fields, as well as the area of the new haulage road from Witham Road to the south east. The survey revealed a dog- legged linear anomaly traversing the northern field from west north west to east south east, as well as two parallel linear anomalies (c. 10m apart) running from west south west to east north east across the northern part of the southern field, curving northwards towards its eastern boundary. Natural (glacial) features and the continuation of a known geological fault were also identified, as well as anomalies which could represent ridge and furrow, pits (or natural solution hollows) and areas of burning. The alignment of the possible ridge and furrow anomalies matched those of the most prominent cropmarks seen in aerial photographs of the field to the south/ south east (see above).

At the northern end of the road corridor, c. 125m east south east of the southern field, the gradiometer survey revealed anomalies apparently representing three sides of a square/ rectangular enclosure around at least one, possibly three, circular structures; a further linear anomaly ran parallel to the north eastern side of the enclosure separated by a gap of c. 11m. A mitigation strategy was designed to allow the preservation of these potential buried archaeological remains *in situ*, and no further investigation was carried out.

Trial trench evaluation of the southern field was carried out by HAT (now AS) in January 2001 (Boyer *et al* 2001). Guided by the results of the gradiometer survey, 10 trenches were excavated to confirm the presence of archaeological features in this part of the site, and to clarify the nature of those features. The parallel linear anomalies were confirmed as a pair of linear ditches, the more southerly of which had been recut twice, and the presence of pits between these at their

western end was confirmed. No trace was found of the possible ridge and furrow system suggested by the gradiometer survey, and the only other archaeological feature identified was an isolated pit in the south east of the site. The results of the evaluation are considered below, alongside those of the excavations; because of repetition in the numbers assigned to features in different phases of the investigation, features from the evaluation have been re-numbered from the 1000 series to the 3000 series, so that F1009 becomes F3009, etc.

## METHODOLOGY

The excavation took place in two stages, during which three areas were investigated (Fig 3). Area 1 comprised a sub-rectangular area (20500m<sup>2</sup>) covering the majority of the northern field. The southern field was not fully excavated; instead two areas (Areas 2 (3184m<sup>2</sup>), and 3 (843m<sup>2</sup>)) were chosen for open excavation on the basis of the archaeological potential revealed by the trial trench evaluation. Archaeological monitoring was carried out during the removal of topsoil in the remainder of the southern field and between the two fields, but no features were identified.

The three excavation areas were stripped of overburden under close archaeological supervision using a 360° tracked mechanical excavator fitted with a smooth bladed ditching bucket. Thereafter, exposed surfaces were cleaned by hand. All features and deposits were recorded, using a single context recording system, on *pro forma* context sheets, drawn to scale and photographed as appropriate. Cleaned surfaces and spoil heaps were scanned with a metal detector.

## RESULTS

### Overview

Phasing has been carried out on the basis of finds evidence, supported by stratigraphic and spatial/ functional relationships between features. The majority of the archaeological features revealed by the investigation dated to the middle to late Iron Age (Phase 2), with a few attesting continuation into the 1<sup>st</sup> century AD (Phase 3) (Figs 4 and 5). Low level activity in the late Neolithic/ early Bronze Age (Phase 1) and in the medieval and post medieval periods was also attested. A small number of features remain undated. The phasing of all features is shown in Figs 4 and 5.

A number of natural features were also revealed by the excavation (see Fig 3). Some of these, including a large depression in the central part of Area 1, had been formed by the dissolution of the cornbrash bedrock by water; such features are common in limestone and chalk areas with several large examples shown on the Ordnance Survey map in the vicinity of South Witham. Other natural features were two glacial scars/ fractures and a tree hollow. With the exception of the tree hollow, natural features were consistently filled with compact mid reddish orange clay/ silty clay.

### Phase 1: late Neolithic/ early Iron Age

Only two features attest activity at the site in the late Neolithic/ early Bronze Age: F1097 and F1099 had been truncated by ploughing, the deeper of the two surviving to a depth of 0.29m,

they had flat bases and may have been small pits or postholes. They were located alongside one another and in isolation from later archaeological features, being the most southerly archaeological features in Area 1 (Fig 4). F1097 contained 37 sherds of Beaker pottery and F1099 15; the sherds from both features were small and abraded but are thought to have represented a single vessel, or partial vessel, in each pit. Both pits also contained struck flint, eight flakes in F1097 and two flakes and a scraper in F1099; the assemblage from F1097 was one of the largest found at the site. Bulk environmental samples from these features contained only charcoal.

As there is no further evidence for activity at the site at this time (with the exception of residual worked flint which cannot be precisely dated), the presence of these two features can tell us little beyond confirming that people were present in the area at this time.

### **Phase 2: middle to late Iron Age**

A middle to late Iron Age date has been assigned to Phase 2 because of the presence of sherds characteristic of this date range in the pottery assemblage; these were primarily Scored ware sherds which first appeared in this area from the 5<sup>th</sup> century BC but which were most common in the 2<sup>nd</sup> and 1<sup>st</sup> centuries BC (see Thompson, this report). However, the majority of the pottery was undiagnostic of date more specific than 'Iron Age', and a few sherds of early Iron Age pottery were also present though only one feature contained more than one or two early Iron Age sherds, and these derived from a single vessel. Difficulties in refining the chronology of the Iron Age are not unique to this site, but are encountered across the East Midlands (Willis 2006, 90-91).

Features containing few or no sherds specifically diagnostic of middle to late Iron Age date may in fact date to the early to middle rather than middle to late Iron Age. In some cases the presence of single early Iron Age sherds coincided with the absence/ near absence of Scored ware, supporting the case for an early date, though it remains possible that such sherds were residual.

As well as tentatively identified early features, Phase 2 includes a small number of late features. These contained small numbers of pottery sherds of types (including Scored ware) which continued to be manufactured in the 1<sup>st</sup> century AD, after the Roman Conquest.

Because the basis for the identification of late and (especially) early features within Phase 2 is tentative, and because of the presence of features which could not be specifically assigned to either group, the phase has not been subdivided. However, potentially earlier and later features are identified in the following descriptive text. Fig 6 shows the Phase 2 features in Areas 1 and 2 (those in Area 3 were both of generic 'Iron Age' date) and distinguishes between those of potentially early and late date.

#### *Pits in the west of Area 1*

Two large pits (F1080 and F1082) and a posthole (F1081) formed a distinct spatial cluster north of Ditch F1077 and west of Ditch F1076. Undated Posthole F1079, c. 7m to the south west, may also have been associated with this group (Fig 4).

Pits F1080 and F1082 had irregular, sub-oval, shapes in plan but were more regular in profile, both having vertical sides, very slightly undercut in places, and flat bases (Fig 7). The fills of Pit F1080 seemed to represent four backfill deposits of the site's natural shattered limestone and silty clay mixed with burnt and other waste (pottery, animal bone and flint) above a primary deposit (L1130) which had a greenish colouration, perhaps resulting from the deposition of organic waste. The two upper fills of Pit F1082 also resembled the site's natural deposits and included finds of pottery and animal bone; an extensively weathered hearth bottom was also recovered from the upper fill of F1082. Pottery from the basal fill of F1080 included a rim sherd of early Iron Age date, and Scored ware was conspicuously absent from the large pottery assemblage (95 sherds) from these features. This may indicate that they were among the earliest of the Phase 2 features, though selection of certain pottery types for deposition in certain features (cf. McOmish 1996) could also explain the difference between the assemblage from these pits and those from others at the site.

Postholes F1081 and F1079 both had near vertical sides and flat bases; the configurations and natures of their fills indicated (limestone) packing deposits around postpipe voids filled with compact silty clay (Fig 7). F1081 contained a sherd of Iron Age pottery as well as daub and animal bone fragments, but only daub was recovered from F1079. These postholes are associated with the large pits by their proximity (see Figs 4 and 6), the association of F1081 being more definite than that of F1079 (which consequently remains unphased).

A further pit (F1074) and (truncated) posthole (F1083) were located east of Pits F1080 and F1082, north of the terminus of Ditch F1067 (Figs 4 and 6). The pottery recovered from F1074 included two sherds of Scored ware, but also a rim sherd probably dating to the end of the early or beginning of the middle Iron Age. The assemblage from F1083 also included an early Iron Age sherd. These features may also date to the earlier part of Phase 2.

#### *Boundary ditches*

A number of Phase 2 ditches in Area 1 (Figs 4 and 6) attested the presence of a changing system of boundaries in this part of the site in the mid to late Iron Age.

Ditch F1110 stratigraphically preceded the others in the north of Area 1, and contained only 1 small assemblage (17 sherds) of undiagnostic Iron Age pottery. This ditch was narrow and shallow (0.33 x 0.11m), possibly having suffered from plough-truncation. It ran approximately north north east to south south west, but curved towards the north western site boundary, extending beyond it at its northern end. Its curving form may indicate that it formed the south eastern edge of an enclosure lying mainly outside of Area 1.

Intercutting Ditches F1125 and F1127 were located adjacent to the north western boundary of Area 1. Their positions and alignments would be consistent with their forming part of the same boundary system as F1110 (Fig 4), and they were similarly narrow and shallow, but there is nothing to prove their contemporaneity or association with that ditch. Very few finds were recovered from these ditches, but each contained a single sherd of Scored ware pottery.

Ditch F1110 was cut by Ditch F1064, a linear feature which ran across Area 1 from west north west to east south east. It seems likely that the north west to south east linear feature seen on aerial photographs in a field east of the site (Fig 2) was the south easterly continuation of Ditch

F1064. Parallel to F1064 and *c.* 60m to its south were Ditches F1005 and F1067 (Figs 4 and 6), which formed part of a ditch system previously identified during the gradiometer survey of the site (see above and Fig 2) as a dog-legged anomaly. Approximately 12m south south west of F1067's west north western terminus lay the east south eastern terminus of Ditch F1077; Ditch F1076 ran between the two, perpendicular to their alignment and cut by F1067. Ditch F1077 curved northwards towards the north western boundary of Area 1.

These ditches all resembled each other in profile, though F1064 tended to have a narrower, more concave base, and smaller dimensions than the southern ditches (Fig 8). The majority of the pottery from these ditches was not diagnostic of date more precise than 'Iron Age'; however, Ditch F1064 included a Scored ware sherd, and a second possible example of this was found among the assemblage from Ditch F1076; the latter also contained two rim sherds of possible early Iron Age date, and a further early Iron Age rim sherd was present in the assemblage from Ditch F1077 (see Thompson, this report). Assuming that none of the diagnostic sherds was intrusive or residual, it seems most likely that these ditches dated to the beginning of Phase 2, the 5<sup>th</sup> to 4<sup>th</sup> centuries BC, with the Scored ware sherds being early examples of their kind. Also recovered from Ditch F1077 was a pierced miniature copper-alloy axe blade (SF1.9), thought to have been an amulet or harness pendant (Crummy, this report).

The spatial relationship between Ditches F1067, F1076 and F1077 and Pits F1080 and F1082 (described above) is of interest (see Figs 4 and 6). The offset between Ditches F1067 and F1077 may have been deliberately designed to avoid the destruction or disturbance of the pits by the boundary ditch. If the pits were not clearly visible (or if they were no longer open), their position may have been marked by Posthole F1081. F1077's changed course west of the pits may have served to return it to the line of F1067 beyond the limits of Area 1.

The latest of the Phase 2 ditches was F1104, located in the north of Area 1 and running perpendicular to Ditch F1064, which its south south western terminus truncated (Figs 4 and 6). Although much shallower close to its terminus, Ditch F1104 was a substantial feature (1.39m wide, 0.64m deep), having steep sides and a flat base (Fig 8). As well as pottery (including three Scored ware sherds) it contained animal bone and two flint flakes. The position of this ditch within the landscape may have been visible from a distance, marked by posts held in Postholes F1115 and F1118, each located *c.* 2.8m from its east south eastern edge and separated from each other by a gap of *c.* 7.2m. Although F1104 cut F1064, the positioning of its terminus implies continuing awareness of the position of the former boundary; it may be that a conceptual boundary still existed on this line in the minds of the people using the site.

#### *The pit/posthole alignment*

A posthole (F1056) and four pits/postholes (F1046, F1049, F1058 and F1053) formed a widely spaced (*c.* 7 – 12m) double line running parallel to and *c.* 10m south south west of Ditch F1064. This line may have been contemporary with the ditch or may have been an earlier or later version of the same boundary, offset to the south south west.

The pits/postholes had vertical/near vertical sides and flat bases (Fig 9), resembling postholes at the site; F1056 is classed as a posthole because of its small size in plan (0.39 x 0.20m). The others were all within the size range of postholes at the site (the largest being F1046, 0.79 x 0.79 x 0.44m), but none had the distinctive fill configuration (packing deposit and filled in postpipe

void) seen in other postholes; this may have been due to truncation as all but F1046 and F1049 had been severely truncated by ploughing. These two features (especially F1049) were slightly undercut near their bases on at least one side (Fig 9); this was a feature of pits, not of postholes, at this site.

Dog bones were recovered from F1046 (including rib fragments and parts of a femur, humerus and atlas, probably all from one animal) and F1058 (a fragmented skull from a different animal); only two other dog bones (a metatarsal in Phase 2 Pit F1068 and a femur in undated Pit F1069) were recovered from the site. Cut marks on dog bones from F1046 indicate disarticulation of the limbs and removal of the head. F1046 also contained a small piece of fuel ash slag, 118 fragments of daub, including large, unabrased pieces, and 40 sherds of pottery, mostly deriving from a single thick walled bowl of early Iron Age date. A bulk environmental sample from the basal fill of this feature contained charred remains consistent either with in situ burning (for which there was no further evidence) or with the use of uprooted dried plant material as kindling or fuel. The other features in this group (with the exception of F1053) all contained small quantities of pottery and animal bone.

These features were too widely spaced to represent a fence, but they may originally have held upright posts, marking (though not enforcing) a boundary. If this interpretation is accepted, then this post alignment may have stood in relation to Ditch F1064 just as postholes F1115 and F1118 later did to Ditch F1104 (see above). Conversely, pit alignments are common features of the 1<sup>st</sup> millennium BC in this part of the country (Pickering and Hartley 1984; Willis 2006, 121), often stretching over distances far greater than attested by these excavated features; boundary systems incorporating both linear ditches and pit alignments are also attested (Willis 2006, 123). However, the pits forming such alignments are typically oval/ sub- rectangular, rather than circular, as well as being somewhat larger than the features in question at South Witham Quarry. The rubbish- like finds assemblages (especially that from F1046) suggest that these features would be better interpreted as pits than as postholes, though it is possible that the excavated fills were deposited after posts (and packing) had been removed. The domestic nature of the finds and the presence of daub in F1046 and F1049 indicate the presence of structures and occupation in the vicinity, but these features are not thought to have been a part of any such structures.

### *The bell- shaped pits*

Although several large pits were identified at the site, only two (F1089 and F1036) had the distinctive bell shaped profiles and layered fills which characterise Iron Age grain storage pits (Fig 10). Both of these were located in Area 1, F1089 *c.* 2m north of Ditch F1064 and F1036 *c.* 7m north of Ditch F1005.

The process by which both pits were filled following their use for grain storage is thought to have been analogous to the 'fast cycle' identified at Danebury, Hampshire (Cunliffe 1995, 81-82). In both cases, initial silting and erosion from the sides of the pit (L1093 and L1094 in Pit F1036, L1164, L1163 and L1162 in Pit F1089) was followed by deliberate deposition of deposits thought to derive from the site's soil and shattered limestone, in some cases with occupation debris incorporated (Fig 10). In Pit F1089 there is evidence of one pause in this process, when L1095 slumped into its north side following the deposition of L1092 but before the deposition of L1091; there is no evidence of any pause between the deposition of the fill of F1036 following the accumulation of L1094.



With the exception of the basal silty accumulation L1093, finds (mainly pottery and animal bone) were recovered from all fills of Pit F1036, including L1094 which derived mainly from the erosion of the pit sides. The shaft of a bone needle (SF1.1) was recovered from L1039, and an unusual pottery rim sherd of probable 1<sup>st</sup> century BC to 1<sup>st</sup> century AD date from L1037 (Thompson, this report). Burnt plant material was recorded in all fills; L1037 also contained a significant quantity of burnt bone (Phillips, this report). Bulk environmental samples taken from L1037 and L1040 showed the burnt plant material to be mainly charcoal, with cereal grains and seeds present in very small quantities (Fryer, this report). The quantities of finds (pottery, daub and animal bone) from L1094 are small by comparison from later fills of this pit, and probably reflect accidental accumulation resulting from activity in the pit's vicinity. The finds in subsequent deposits are thought to represent deliberate deposition of domestic waste. The analysed burnt plant material is consistent with this hypothesis, though remains possible that it was incorporated only accidentally into the deposits in question; the patterning of burnt material in L1038 was, however, observed on site to be consistent with the repeated dumping of burnt debris.

In Pit F1089, pottery and animal bone were recovered from basal fill L1164, perhaps suggesting that it resulted from an initial episode of dumping. Of the subsequent erosion derived deposits, L1163 incorporated occasional charcoal flecks (thought to result from activity in the pit's vicinity) but neither contained any finds. Charcoal/ burnt plant material was also present in L1165 and all subsequent fills. In L1092 this burnt material (shown by analysis of a bulk sample to be almost exclusively charcoal (Fryer, this report) formed lenses suggestive of deliberate tips of burnt waste into the pit. Finds (mainly animal bone, worked flint and pottery) were present in all of the deliberate deposits, with the exception of L1165. Although earlier, residual sherds were present, the pottery assemblage from Pit F1089 indicates that its fills were deposited between the late 2<sup>nd</sup> century BC and 1<sup>st</sup> century AD. Other finds from this pit included a punch made from an antler tine (SF1.3 from L1090), a sawn and chopped red deer antler (from L1091; not the antler from which the punch was made) and a piece of probable debris from copper- alloy working (SF1.5 in L1091).

Among the animal bone recovered from L1092 was the partial skeleton of a frog or toad. If a toad, it is possible that it was hibernating in this deposit (which would have been relatively loosely packed and sheltered during the pause in infilling represented by the slump of L1095 above it) when it died. This suggests that L1092 had been deposited by October of the year in which the pit was infilled, but it is not clear whether the pause in infilling lasted the winter (during which the toad may have succumbed to extreme cold) or whether L1091 and L1090 were deposited during this time (thus suffocating the toad as it hibernated).

The animal bone assemblages from both pits included noteworthy elements. In Pit F1036, fill L1037, already noted as containing a large assemblage of burnt bone, contained a complete cattle skull. Fill L1092 of Pit F1089 contained the articulated ribs and spine of a young cattle, as well as limb bones which may be associated, and a cattle skull was found in the overlying deposit L1091. While it is possible in both cases that these bones represent no more than the disposal of rubbish, the lack of any butchery marks supports the contention that they may constitute special deposits, indicative of structured deposition, as have been identified in disused grain storage pits at Iron Age sites across southern Britain (cf. Grant 1984a, 1984b; Wait 1985; Cunliffe 1992; Hill 1995; Cunliffe 1995). Although initial work on the interpretation of such deposits focused on

those placed on/ close to the base of disused storage pits, analysis of the data from Danebury has shown that special deposits also occurred in the later fills of pits filled by both the slow and fast cycles (Cunliffe 1995, 84).

#### *Features associated with the bell-shaped pits*

Two other large pits (F1102 and F1060) were located close to Pit F1089; both contained mid to late Iron Age pottery, worked flint and animal bone. Although both were large in plan, neither had the distinctive profile or fills of a grain storage pit; F1102 had been truncated by ploughing.

Pit F1036 lay within a cluster of contemporary pits and postholes (Fig 11). Pit F1068 was located c. 7m west of Pit F1036; it was large and deep with layered fills but, though undercut on one side, did not resemble F1089 and F1036 in profile. Pottery was recovered only from its secondary fill (L1136) and included a sherd similar to the unusual 1<sup>st</sup> century BC to 1<sup>st</sup> century AD sherd from F1036, L1037. The animal bone assemblages from the upper and tertiary fills of this pit included water vole remains; the only other feature from which this species was recovered was Pit F1036 (L1037).

Postholes F1030, F1027, F1024, F1019, F1042, and F1044 formed a right angled line around two sides of Pit F1036, with Posthole F1022 lying between the line and the pit (Fig 11). Three of these postholes had been severely truncated by ploughing though their flat bases remained evident; the remaining four had vertical sided, flat based profiles and the configuration of their fills attested packing deposits around filled in postpipe voids. These features are thought to represent a fence or open structure around the bell-shaped pit.

Posthole F1009 was positioned to the north west of Pit F1036, approximately mirroring the position of Posthole F1024, at the corner of the right angled fence line. It was larger than the untruncated postholes of the fence line (0.87 x 0.82 x 0.44m, as compared to 0.51 x 0.48 x 0.31m for F1019, the largest of the fence line postholes) but resembled them in plan, profile and the configuration of its fills. The presence of two fragments of flue tile in its clay and limestone packing deposit indicated that it was cut after the mid 1<sup>st</sup> century AD; whilst it is possible that all features in this group shared this late date it seems more likely that F1009 was cut later than the large pit or the other postholes. It is not clear whether the other features of this group remained open or functional when F1009 was cut. Also recovered from the packing deposit of F1009 were 110 chalk tempered pottery sherds representing a single vessel, approximately one third complete. The compact silty clay fill of the postpipe void of F1009 contained burnt sheep/ goat bones possibly indicating the deposition of a (partially) articulated burnt carcass; such a deposit may have been made when the post was removed from this feature as a deliberate act of finalisation, marking the disuse of this feature and this part of the site.

Medieval Pit F1033 also lay close to Pit F1036, to the south of the right angled fence line. This feature was dated by seven sherds of medieval pottery in its basal fill. However, it also contained 50 sherds of Iron Age pottery, as well as worked flint (including two refitting flakes) and prehistoric daub; the contents of a bulk sample taken from its upper fill strongly resembled those of samples from Phase 2 features. It is thought that the digging of Pit F1033 in the medieval period obliterated an Iron Age feature and that, once dug, the pit was quickly backfilled with material deriving from that feature.

### *The pits and possible structure in the south of the site*

Eight pits (F2046, F2039, F2041, F3013, F3031, F3037, F2035 and F2056) containing Iron Age pottery formed part of a cluster revealed by trial trench evaluation and excavation in the west of Area 2 (Fig 5). The pottery assemblage from F2046 included Scored ware sherds, suggesting a later rather than an earlier date within Phase 2, but the pottery from the others could not be dated beyond 'Iron Age'. Further pits and possible postholes in this cluster contained no datable finds, with the exception of a single small post medieval sherd (possibly intrusive) in Pit F2027; these remain undated. The Phase 2 pits in this part of the site were generally large and deep (up to 2.5 x 2.00 x 0.85m) with somewhat irregular profiles (generally vertical sided or undercut) and fill configurations. Finds (pottery, animal bone, flint, daub and a fragment of ceramic building material from F2046) were recovered in negligible quantities, probably having been incorporated accidentally into the fills of these features. It is possible that they were originally dug for the extraction of the site's cornbrash limestone, though the presence of fragments of this in several of their fills seems to belie this interpretation.

The trial trench evaluation revealed only one feature (a pit) in the extreme south of the site; a further ten (eight pits and two postholes) were revealed by the excavation of Area 3. Of these features, three pits (F3034, F2005 and F2009) dated to the Iron Age, the others remained undated (Fig 5).

A group of eight small postholes and/ or stakeholes (F2074, F2072, F2088, F2078, F2090, F2080, F2084 and F2082) located in the east of Area 2 form two approximately parallel, north to south aligned, lines (Figs 5 and 12). An undated Pit (F2076), which yielded no finds, was located between the two lines; it may or may not have been contemporary and associated with them. The postholes/ stakeholes are thought to represent parallel fence lines or possibly a rectangular structure/ pen measuring approximately 8.75 by 3.63m. The absence of daub may suggest the former, rather than the latter interpretation. Pottery was recovered in negligible quantities from three of these features, but no other finds were present.

### **Phase 3: 1<sup>st</sup> century AD**

It is not unusual in this region for the Roman Conquest not to be clearly identifiable in the archaeological record (Willis 2006, 91); this appears to be case at this site. The 29 sherds of 1<sup>st</sup> century AD pottery from Phase 3 features include two sherds dating to the later part of that century, but the remaining 27 could have been manufactured at any point. In addition to these, 57 sherds were recovered which were typical of the mid to late Iron Age; the low average sherd weight of these (see Thompson, this report) may indicate that they are residual, but they could have been manufactured in the 1<sup>st</sup> century AD. The chronological overlap between Phases 2 and 3 is acknowledged: although some Phase 2 features are thought to date to (or have continued in use into) the 1<sup>st</sup> century AD, the two parallel ditches have been assigned to a separate phase because they appear to represent a change in activity carried out in the southern part of the site.

Ditches F2025 and F2060 had previously been encountered during the gradiometer survey and trial trench evaluation of the site. They ran approximately parallel to each other, separated by a gap of between c. 7 and 11m, on a west south west to east south east alignment across Area 2; the gradiometer survey and trial trench evaluation suggested that they continued beyond this to

the east, curving slightly northwards before reaching the edge of the southern field (see Fig 2). The excavation showed these ditches to have concave bases and moderately sloping sides (Fig 13). The southern ditch (F2064) had been recut towards its eastern end as F2064; the trial trench evaluation had suggested the presence of at least two recuts of this ditch further to the west, but these were not attested during the excavation.

As well as from pottery, a small animal bone assemblage was recovered from these ditches along with three flint flakes. Ditch F2025 also contained the blade and partial tang of an iron knife of Iron Age or Roman date.

Although these parallel ditches could represent two consecutive phases of boundary construction, farmers today generally avoid moving boundaries in this manner as the filled in former boundary ditch tends to drain badly, forming a mud trap (Pryor 1996, 315). It seems more likely that the ditches were contemporary with one another, perhaps marking the sides of a trackway or driveway, or forming a double boundary line, or both. It seems highly unlikely that the Phase 2 pits located between the ditches at the western end of Area 2 were open when the ditches were in use.

### **Significant undated features**

F1072 was a large (5.91 x 3.97m) but comparatively shallow (0.47m), sub-rectangular pit-like feature which cut Phase 2 Ditch F1067 (Fig 14). It was filled by two consecutive deposits of limestone blocks in a matrix of compact silty clay. These resemble the site's natural deposits so strongly in both components and proportions that it seems likely that they are made up of the material originally removed when the feature was cut. A small amount of animal bone was recovered from its lower fill, and a larger amount, along with a copper alloy ring headed pin (early to middle Iron Age) and six small pottery fragments (Iron Age), from its upper fill. All of these finds may be residual (this would be consistent with the very small average sherd weight of the pottery), perhaps originally deposited in Ditch F1067.

F1072 was cut by small Pit/ Posthole F1072 and by large Pits F1070 and F1069; F1069 cut F1070 and also cut Pit F1154, to the east of F1072 (Fig 14). Of these, only F1069 and F1070 contained pottery (a total of 16 sherds); this included pieces of both early and late Iron Age date, and it is thought likely that the whole assemblage is residual.

Although the finds recovered from F1072 and the pits which cut it are consistently indicative of an Iron Age date, it remains possible that all are residual. F1072 stratigraphically post-dated Ditch F1067, one of the main elements of the Phase 2 site. Its shape in both plan and profile was distinctive and did not resemble other pits at the site; although not so distinctive, the pits which cut it also had profiles which differed from the flat based, vertical sided or undercut norms of pits at this site. It is possible that the cutting of F1072 and subsequent features post-dated the end of Iron Age/ 1<sup>st</sup> century AD activity at the site by a significant margin.

Although no corroborating evidence was present to support this interpretation, it should be noted that in form and dimensions, F1072 resembled the archaeological remains of sunken featured buildings; these are commonly found on Anglo Saxon sites, but examples of other dates are also known. Whatever its date, its very regular shape is suggestive of a structural association. Given

the lack of any finds evidence or further feature evidence to support this interpretation, perhaps F1072 represents an aborted attempt at construction, backfilled soon after its initial excavation.

## SPECIALISTS' REPORTS

### The struck flint Martin Tingle

#### *Introduction*

The worked flint comprised 76 pieces weighing 667g, with a further two pieces (23g) being burnt but apparently unworked. The bulk of the assemblage was recovered from the fills of middle to late Iron Age pits and ditches, but 11 pieces (127g) came from the fills of two late Neolithic/ early Bronze Age small pits/ postholes, three pieces (11g) from 1<sup>st</sup> century AD ditches, one piece (16g) from a medieval pit, and eight pieces (96g) from unphased or unstratified contexts.

#### *Raw Materials*

Most of the flint with surviving dorsal cortex appears to derive from secondary sources although only a few show signs of water rolling. There is also a small component of chalk derived flint.

#### *Composition and Technology*

Find	Number	Weight (g)
Primary Flake	1	10
Secondary Flake	8	50
Tertiary Flake	27	300
Uncorticated Flake	13	112
Broken Flake	20	117
Blade Segment	1	1
Core Fragment	2	60
Burnt Flint	4	31
Retouched Flake	1	5
Scraper	1	4
<i>Total</i>	<i>78</i>	<i>690</i>

*Table 1 The composition of the assemblage*

The assemblage is principally composed of Tertiary and Uncorticated flakes suggesting that, the initial stages of flint reduction were taking place elsewhere. There is however some evidence of *in situ* flint working in the form of two core fragments. Two secondary flakes from medieval Pit F0133 (L1035) can be refitted, though these are residual in this context, their previous depositional context is thought to have been a feature in the same approximate location, obliterated by the cutting of F1033 which was quickly backfilled.

#### *Distribution*

The worked flint derived from 27 features (41 contexts). The greatest concentrations within a single context were in L1098, fill of Phase 1 Pit F1097 (six broken flakes, a Secondary flake and

a Tertiary flake), and L1092, a middle fill of Phase 2 bell-shaped Pit F1089 (four Tertiary flakes and four Uncorticated flakes). Pit F1089 also contained the largest worked flint assemblage of any feature at the site (18 flakes). Over half of the features (52%, 68% of the contexts) containing flint contained only a single piece.

### *Dating*

There are no datable pieces within the assemblage and therefore it is impossible to date precisely. Worked flint was present in middle to late Iron Age and 1<sup>st</sup> century AD features, as well as in those of late Neolithic/ early Bronze Age date. The low density of its occurrence probably indicates that it is residual in the later features, possibly dating from the late Neolithic/ early Bronze Age.

### *Conclusion*

It would seem likely that most of the assemblage formed part of an unstratified deposit that became incorporated within the fills of later features. It is a small dispersed assemblage of which little can be said.

### **The pottery**

Peter Thompson

### *Quantification and methodology*

In total, 1,183 sherds weighing 7.939 kg were recovered from 48 features and 2 unstratified layers during the excavation of Areas 1, 2 and 3. Table 2 details the periods represented in the pottery assemblage.

Period	Sherd count	Sherd weight (g)	% of total sherd count
Late Neolithic to early Bronze Age	53	111	4.48
Iron Age	1,083	7,574	91.54
Roman	31	111	2.62
Medieval	7	82	0.59
Post-medieval	9	61	0.76
Total	1,183	7,939	-

Table 2 *Quantification of sherds by chronological period*

Fabrics were examined through x35 binocular microscope and divided into broad groups based on their inclusions and recorded on Excel database which is included in the site archive.

### *Regional chronology*

As can be seen in Table 2, over 91% of the pottery assemblage was of Iron Age date. More precise dating of these sherds was carried out with advice from David Knight and in accordance with his ceramic sequence for later prehistoric pottery from the East Midlands (Knight 2002, 123-6). The diagnostic Iron Age pottery from South Witham is described below, by main feature groups, with reference to this framework.

The earliest forms at South Witham Quarry (with the exception of those of late Neolithic to early Bronze Age date) comprise mainly ovoid and shouldered vessels. Finger decoration to body and

rims is present in several cases. These correspond with and are broadly datable to the late Bronze Age/ early Iron Age ceramic tradition which covers approximately the period 850 - 350 BC.

A new ceramic phase commenced in the region between the 5<sup>th</sup> and 3<sup>rd</sup> centuries BC (possibly at different times in different places) with the introduction of early La Tene influence. A higher proportion of ovoid, globular and ellipsoid vessels appear, finger decoration is restricted to rims while a new range of decorative motifs is introduced and there is an introduction of 'Scored ware' (Knight 2002, 131). The latter is a technique applied usually randomly to the body of a pot either by brushing with twigs or making incisions with a sharp implement, and was probably done to facilitate handling, but might also have been evidence of a broad regional social identity. Suggestions of an early date for the development of Scored ware include sherds from Ancaster Quarry (Lincolnshire) and Fengate, Peterborough (Cambridgeshire) which provide possible 5<sup>th</sup> century dates (Knight 2002, 134). However the use of this technique was most intensive in the 2<sup>nd</sup> and 1<sup>st</sup> centuries BC, as attested at the late Iron Age sites of Wakerley (Northamptonshire) and Werrington (Cambridgeshire) where 45% and 44% respectively of the sherds were scored (Mackreth 1988, 116). In some areas Scored ware appears to have continued in use well into the 1<sup>st</sup> century AD (Knight D 2002, 134); at Weekley some of the earliest vessels in Phase 2 still contained a little wide spaced scoring suggesting the technique lasted at least until the mid 1<sup>st</sup> century AD (Jackson and Dix 1988, 77).

The La Tene decorative pottery comprising geometric designs can broadly be split into two regional styles. In Lincolnshire (e.g. at Dragonby), rouletting, circular stamps, tooled lines and pattern burnishing are characteristic, while in Northamptonshire (e.g. at Hunsbury), curvilinear motifs were adopted. These regional styles reach their *floruit* throughout the 2<sup>nd</sup> and 1<sup>st</sup> centuries BC and continue in places into the Roman period (Knight 2002, 131-2). South Witham appears to be located equidistant between these two style zones.

A further major change in forms and surface treatment occurs around the mid 1<sup>st</sup> century BC and new ceramic types include wheel-made forms having close parallels in the Aylesford-Carling tradition of south-eastern England. Gallo-Belgic imports such as butt beakers, cups and platters also appear. In Lincolnshire a blend of Early and Late La Tene decorative styles was created datable between the 1<sup>st</sup> century BC and mid 1<sup>st</sup> century AD (Knight 2002, 136).

### *The Beaker pottery*

The earliest human activity on the site is indicated by 53 fragments of Beaker pottery with a mean weight of 3.9 grams from small Pits/ Postholes F1097 and F1099. F1097 contained 37 thin body sherds with external criss-cross incised decoration and one fragment of flat base (Fig 15.1). The fabric has a grey-brown core with orange-buff surfaces and contains voids from dissolved shell, with rare to sparse rounded quartz, angular flint and sub-angular chalk. F1099 (L1101) contained 15 sherds similar to those from F1097 but from a different vessel, as indicated by a slight difference in the fabric which lacked the flint and chalk but contained sparse to moderate sub-angular to rounded grog, rounded quartz and voids (Fig 15.2). There was no other pottery present in these contexts but the pottery is broadly dated between c. 2,400 and 1,500 BC.

## *The Iron Age pottery*

The condition of the Iron Age pottery is mixed. Approximately two thirds of the assemblage comprises small sherds, some quite abraded (see Table 3 for average sherd size) with surface treatment, where present, often faint; there are relatively few diagnostic sherds present in this assemblage. However, there are several contexts containing comparatively large amounts of pottery where some sherds are better preserved, being larger and less abraded. Table 3 quantifies by feature type the main phase of activity at the site, represented by 45 features containing pottery broadly datable to the Iron Age.

Feature	No. of features	Sherd count	Sherd Weight (kg)	Average sherd weight
Ditches	10	220	0.952	4.32
Pits *	21	614	4.748	7.73
Pits/post-holes	4	59	0.950	16.1
Post-holes	9	187	0.893	4.77
Posthole/stakehole	2	2	0.004	2
Total	46	1,082	7.547	6.97

\* This figure includes 50 sherds weighing 0.682kg from medieval Pit F1033

*Table 3 Quantification of stratified Iron Age sherds by feature type*

A number of Iron Age sherds are residual in later features. Ditches F2025 and F2060 contained a total of 57 shell tempered sherds which could be residual, as suggested by their low average sherd weight (2g), but could also represent a continuation of Iron Age traditions into the early Roman period. Pit F1033 contained 50 residual sherds alongside medieval pottery. There also appears to be some residuality within Iron Age features which is discussed below.

### The fabrics

Fabric 1a: Coarse to very coarse moderate to abundant shell, up to 5mm across. Occasionally a little sand, chalk or crushed grog

Fabric 1b: Medium to coarse moderate to common shell up to 4mm across but usually 1- 3 mm across. Occasionally a little sand, chalk or crushed grog

Fabric 2: Moderate to common sub-rounded to rounded chalk up to 5mm across

Fabric 3: Moderate fine to medium sand

Approximately 90% of the fabrics comprise sparse to abundant platy shell which occurs naturally in the local Jurassic clays. This is reasonably in keeping with the 98% shelly fabrics found from all Iron Age periods located on the Jurassic Ridge, the small discrepancy being caused by the chalk tempered F2 fabric (which may be of later date as 110 of the 111 sherds recovered came from a feature which also contained Roman flue tile). Occasionally small amounts of sand, grog and fragments of chalk might also be present, but the pottery is perhaps more easily characterised as having coarser and finer ware components. The 'coarse wares' contain shell that can exceed 6mm in length, and have generally rougher surfaces whilst the 'finer wares', accounting for approximately 18% of the shelly fabrics, have smoothed and occasionally burnished surfaces and contain finer crushed shell, usually 1-2mm across. However, there is also grading between the two groups making it difficult to clearly categorise them. Some



coarser wares and larger vessels are oxidised orange or buff, but the majority of the assemblage is reduced dark brown or dark red, with cores being grey or black.

The exceptions to the shelly fabrics are three sand tempered sherds from Ditch F1076 (L1146) and Posthole F2072 (L2074), and the 110 chalk tempered sherds from Posthole F1009 (L1010) with another single sherd from Posthole F1081 (L1144).

### The vessels

Owing to the generally poor condition of the pottery only a limited number of forms could be identified, meaning that the full range and frequency of vessels in the assemblage are inevitably underestimated. Ovoid forms are the commonest type (Table 4) whilst vessels with round or carinated shoulders are also well- represented. Out of 21 identifiable rims the commonest type is everted and relatively simple (Table 5). In addition, nine flat bases and a fragment of rod handle (the latter from Ditch F1005) complete the more diagnostic forms.

Profile description	Forms	Number
Ovoid	Jars and bowls	14
Shouldered (round or carinated)	Jars and bowls	10
Straight sided	Open bowls?	2
High convex neck with concavity beneath lip	Jar	1

*Table 4 Profiles*

Rim Type	Description	Number	Figure numbers
Type 1	Everted, can be simple or slightly expanded	10	xx.7, 10
Type 2	Inturned	1	-
Type 3	Everted and flattened	5	xx.5, 9
Type 4	Flanged externally with hollow inner neck	1	xx.6
Type 5	Upright with slight groove on top, expanded externally	2	xx.8
Type 6	Expanded internally and externally	3	Xx.4, 14
Type 7	Flanged	1	xx.12
Type 8	Double cordoned	1	-

*Table 5 Rim Types*

### Decoration

With the exception of the scoring applied to approximately 7.5% of the sherds, the assemblage has only a limited amount of decoration. The types and amount present are recorded in Table 6 below.

Decoration Type	Location	Number
Burnished	Body	5
Finger tip or nail	Rim	5
	Rim and body	2
Cordon	Rim	6
	Neck	3
Incised	Body	4
Scored	Body	80

*Table 6 Decoration*

Although there is a reasonable quantity of pottery from South Witham most of it has proved to be undiagnostic body sherds whilst there is also evidence for sherds being re-deposited, so dating of some contexts and even groups of features is ambiguous. In the absence of diagnostic profiles pottery has been dated according to Knight's ceramic sequence, so that sherds with scored decoration are probably middle or late Iron Age whereas contexts containing a reasonable number of sherds where scoring is absent possibly pre-date the 4<sup>th</sup> century BC. The main diagnostic elements are described below by feature groups.

#### The dog-legged ditch system and its northern counterpart

Ditch F1077 yielded 36 sherds including a distinctive finger decorated rim sherd with a pronounced concavity to the inner neck (Fig 15.6). This is an early Iron Age form (David Knight, pers. com), its internal corrugation being comparable to examples from Gretton (Northamptonshire) and Fiskerton (Lincolnshire) (Jackson and Knight 79, 80; Knight 2002, 128, 129, No. 19). At the latter site an example of this corrugated type had been placed whole beneath a wooden causeway used for ritual deposition of artefacts. The latest phase of repair of the causeway, prior to its collapse, was 339 BC providing a *terminus ante quem* for the pottery. La Tene I metalwork, although not in direct association with the pottery, was discovered around the causeway indicating a mid 6<sup>th</sup> to mid 4<sup>th</sup> century date.

Ditch F1076 contained 17 sherds including two rims. One of these is from an ovoid vessel with a rim similar to Fig 15.9 although without the finger decoration and possibly with faint, spaced scoring. The profile could therefore be middle Iron Age (or later), but this not certain and none of the remaining 81 sherds in the three ditches had evidence of scoring. The other rim is ambiguous comprising a black burnished ware with a finger decorated neck cordon which could be early or late Iron Age. On balance, if it is assumed the cordoned rim is early Iron Age, than a date centred on the 5<sup>th</sup>-4<sup>th</sup> centuries would accommodate the remaining evidence (an early Iron Age rim, a possible middle Iron Age one and a lack of Scored wares), but this remains highly tentative.

Ditch F1005 contained 29 sherds but none were diagnostic. Ditch F1064, the northern counterpart to the dog-legged ditch system, contained 37 sherds including a single scored sherd and the flattened, inturned rim of an open vessel, probably a bowl. Ditch F1110 which stratigraphically preceded Ditch F1064 contained 17 sherds but none were diagnostic.

#### Pits and postholes north of Ditch F1077

Another ambiguous area is the small group of features located just north of Ditch F1077. Two adjacent pits (F1080 and F1082) contained 95 sherds weighing 581g. Pit F1080 (L1130) included two rim profiles of early Iron Age appearance, including a flat topped rim to a shouldered vessel reminiscent of an example from Fengate (Hawkes 1943, 203 B2); however, one scored sherd also present in Pit F1080, suggesting a later date. Nearby Posthole F0183 and Pit F1074 each contained sherds with early Iron Age parallels (a finger decorated cordon and a rim with a raised cordon (Fig 15.3), respectively) as well as one or two scored sherds. The rim sherd from Pit F1074 (which contained a total of 34 sherds) has parallels with examples such as West Harling, near Thetford which is a type site for early Iron Age pottery between Norfolk and East Yorkshire (Clarke and Fell 1953, Plate III, No 11; Cunliffe 1974, 353). Given the mix of

early and later Iron Age sherds in these features, it is likely that they are of similar date to the dog-legged ditch system.

#### The pit/ posthole alignment

Postholes/Pits F1046, F1049, F1053 and F1058 contained a total of 59 sherds, 40 of which were recovered from F1046. The majority of the sherds in F1046 came from a single fairly thick walled vessel with finger decoration at the neck, perhaps representing nearly 50% of the original vessel (Fig 15.7). The upper profile bears similarities with examples from Gretton (Jackson and Knight 1985, 78 and Knight 2002, 129 No. 18). Sherds from an ovoid vessel were also present along with a rim from an open bowl with finger decoration to the body and rim. An early Iron Age date is likely for this assemblage.

#### Ditches F1104, F1125 and F1127

Ditch F1104 which stratigraphically post-dated Ditch F1064, contained 17 sherds, including three of scored ware. A total of just six sherds were recovered from intercutting Ditches F1125 and F1127, but each contained a single scored sherd.

#### Pits north of Ditch F1064

Bell-shaped Pit F1089 contained 190 sherds, 45 (24%) of which were Scored ware. The scoring here, both by brushing and incising, was deeper than elsewhere suggesting either that it was applied with greater emphasis or that the pottery is not as worn as sherds from other contexts. Profiles include a residual early Iron Age cordoned rim (Fig 15.4) and two upper profiles from ovoid jars, (Fig 15.10). These profiles are similar to examples from Aslockton (Nottinghamshire), Wakerley and Weekley (Northamptonshire). The Wakerley rim is postulated a 2<sup>nd</sup> century BC date, and the Weekley rim is thought to be 2<sup>nd</sup> - 1<sup>st</sup> century BC (Knight 2002, 128 No.20; Jackson and Ambrose 1978, 176, No 1; Jackson and Dix 1988, 41 and 74 No.11). A small body sherd containing diagonal (possible chevron-type) patterning below the neck (Fig 15.11) possibly bears similarities to an example from Wakerley dated to the early 1<sup>st</sup> century AD (Jackson and Ambrose 1978, 176 No.24) although the sherd is incomplete. David Knight suggests that stylistically the assemblage is compatible with both early and late La Tene ceramic traditions indicating an area of overlap this should place it between the later 2<sup>nd</sup> century BC and mid 1<sup>st</sup> century AD (David Knight; pers com; Knight 2002, 122).

Pottery from Pits F1102 and F1060, both located close to F1089, was also indicative of a mid to late Iron Age date. Pit F1102 contained 27 sherds including Scored ware and a neckless ovoid rim. Pit F1060, whose assemblage totaled 32 sherds, yielded two ovoid part profiles including an everted Scored ware rim, 21 cm in diameter (Fig 15.9). The rim type is similar to examples from Werrington (north Cambridgeshire) which are dated between the 2<sup>nd</sup> century BC to mid 1<sup>st</sup> century AD (Mackreth 1988, 117, No.84) and also has some similarities to late Iron Age forms from Group 15 jars from Dragonby, north Lincolnshire (May 1996, 496-7).

#### Pit F1036 and associated postholes

Bell-shaped Pit F1036 contained a total of 50 sherds, including an unusual highly decorated sherd with an expanded rim containing double cable decorated cordons on top and vertical

fluting to the outside surface. The fabric is harder fired than the rest of the prehistoric pottery and does not appear to be of any recognized prehistoric, Roman or medieval ware. A medieval date is not implausible, but the fabric is not one produced locally at that time (pers com. Jane Young). Given the characteristic bell shape of the pits and the prehistoric date of the associated pottery, it is possible that this sherd is of an unrecognized late Iron Age ware. The closest parallel that possibly might be made is a necked bowl from Dragonby dated mid 1<sup>st</sup> century BC to early 1<sup>st</sup> century AD (May 1996, 507-8). However, this vessel had no double cordon and the vertical decoration to the neck was achieved by burnishing. The 28 sherds recovered from Pit F1068 included conjoining sherds of a thick coarse ware vessel in a hard fabric, similar to that of the unusual sherd from F1036, with a sinuous, undecorated applied clay strip on top of an everted rim (Fig 15.14).

Of the postholes around Pit F1036, five contained pottery. A straight flattened rim to an open bowl including possible dispersed scoring on the sides came from Posthole F1030; pottery was also recovered from F1022, F1019 and F1024, including scored sherds in the latter two. Posthole F1009 contained 114 sherds of Iron Age pottery, but also two pieces of Roman flue tile. 110 of the pot sherds (all from L1010) were from a single vessel with chalk inclusions. The pottery may be residual but it could represent the disposal of items in use for a long time or the continuation of manufacture of this fabric (which was otherwise seen only as a single sherd in F1081) into the early Romano British period.

Pit F1033 was located in this part of the site and contained 50 sherds of Iron Age pottery in its upper fill (L1035) but 7 medieval sherds (described below) in its basal fill. Although residual, the Iron Age pottery included some of the best preserved pottery from the site suggesting an Iron Age feature was dug through in the medieval period. This includes a finger decorated globular bowl (Fig 15.5). The profile has parallels with a scored example from Breedon-on-the-Hill (Leicestershire) of the middle Iron Age (Knight 2002, 128, No 21). Two early Iron Age carinated sherds show the mixed nature of this assemblage.

#### Pits and postholes in Area 2

Six pits (F2035, F2039, F2041, F2046 and F2056) situated on the west side of Area 2 contained 26 fragmented sherds none containing any diagnostic profiles or decoration with the exception of two scored sherds from Pit F2046. In addition Postholes F2072, F2074 and F2084, in the east of Area 2, contained a total of 13 small sherds; a single small sherd from F2074 with very coarse, angular quartz temper suggests a possible late Iron Age date.

#### F1072 and intercutting pits

A total of just 15 sherds of pottery were recovered from this group of features. The latest pit in this stratigraphic sequence, F1069, contained two sherds of Scored ware, indicating a middle or late Iron Age date; it also contained a piece early Iron Age cordon.

## *The Roman pottery*

### The fabrics

Fabric A1: (Same as Iron Age Fabric 1a). Coarse to very coarse moderate to abundant shell, up to 5mm across. Occasionally a little sand, chalk or crushed grog

Fabric A2: (Same as Iron Age fabric 1b). Medium to coarse moderate to common shell up to 4mm across but usually 1- 3 mm across. Occasionally a little sand, chalk or crushed grog

Fabric B: A coarse sand-based, unoxidised fabric with buff/brown to dark grey core. Smooth surfaces. Abundant quartz temper with rare grog and calcareous inclusions.

Fabric C: Unsourced Buff Ware with mid grey surface, buff margins and a cream core. Micaceous surface with a fine matrix containing common fine black iron rich inclusions and sparse medium quartz.

Fabric D1: Unsourced oxidised ware with a moderately micaceous fabric. Black iron rich, fine quartz and sparse calcareous inclusions are present. Some sherds show evidence of a micaceous dark grey/black slip.

Fabric D2: Unsourced oxidised ware with coarse quartz and poorly sorted flint and shell inclusions. Fine common gold mica is also present throughout the fabric.

### Roman pottery from the parallel ditches

Parallel Ditches F2025 and F2060 contained 29 sherds attributable to the very late pre-Roman Iron Age to Roman period i.e. to the 1<sup>st</sup> century AD. In particular a flared rim and shoulder of an ovoid jar in Fabric B has parallels at Wakerley dating to the second half of the 1st century AD (Jackson and Ambrose 1978, 200, 204). Fabric C, the unsourced buff ware is also likely to date to the 1<sup>st</sup> to early 2<sup>nd</sup> century AD (Peachey 2002, 3). A further 57 sherds in shelly ware Fabric A (broadly equivalent to Iron Age Fabric 1) was also recovered from these ditches. As discussed these might be residual, but the majority are of Fabric A2 type with smooth surfaces and finer crushed shell and are probably evidence of Iron Age traditions continuing into the 1<sup>st</sup> century AD. A flanged rim in shell temper (Fig 15.12) bears some similarities to examples from Wakerley.

## *The medieval pottery*

The basal fill (L1034) of Pit F1033 contained 7 sherds of medieval pottery. These included four sherds of St Neots-type ware with a shelly fabric similar in fabric to the Iron Age pottery but better made and including an everted hollowed bowl rim similar to an example from Tempsford near Bedford. This ware with its heartland in south and west Cambridgeshire, Bedfordshire and Northamptonshire is found as far north as the upper reaches of the Trent, to the north of South Witham (Hurst 1956, 45 and 57). The other medieval sherds are Stamford and Lyveden-type wares suggesting a date of around the 12<sup>th</sup> century.

## *Discussion*

The South Witham assemblage contains sherds spanning much of the Iron Age and it appears that activity continued into the early Roman period. There is a degree of residuality in the assemblage but owing to the relatively small sample of diagnostic sherds and generally poor state of preservation it is difficult to refine much of the dating. Other than the two small Beaker pits (of late Neolithic/early Bronze Age date), there is nothing to suggest any of the pottery predates the early Iron Age.

Several body sherds and cordon decorated rims together with the distinctive rim with a concave inner neck (Fig 15.6) denote early Iron Age activity at the site. The early Iron Age sherds may indicate that certain features (e.g. Ditches F1077 and F1076, Pits F1080 and F1082) predate others at the site, but it remains possible that the early sherds are residual in later features.

Scored ware is attributable to the mid to late Iron Age although there is evidence that it was used over a long period of time, possibly from the 5<sup>th</sup> century BC into the Roman period; approximately 8% of the South Witham Iron Age assemblage is scored. Significant amounts of scoring came from Pits F1089, F1068 and F1104 (24%, 23%, and 22% scored, respectively), whilst Ditch F1104 had just 17% scored sherds. Ovoid vessels including those from Pits F1060 and F1089 (Figs 15.9 and 15.10) are probably 2<sup>nd</sup> - 1<sup>st</sup> century BC based on comparisons with similar examples.

Pits F1036 and F1068 contained unusual elaborate rims in hard shelly fabric including applied rim cordons. No close parallels have been found to date but these can probably be placed between the 1<sup>st</sup> century BC and mid 1<sup>st</sup> century AD (Fig 15.14). A small rim sherd from Pit F1086 with applied finger decorated cordon, probably from a bowl can also be dated to the late Iron Age (Fig 15.13). It contains grog tempering with the shell and is probably wheel-finished. At Weekley Ditch Z contained similar decorated body profiles which are dated to the second quarter of the 1<sup>st</sup> century AD (Jackson and Dix 1988 86, 116).

## *Conclusion*

The condition and small size of the assemblage makes identification of the number and full range of forms difficult, whilst in some cases close dating is also not possible. However, the overall assemblage spans a period of some 700 years (c. 6<sup>th</sup> century BC to 1<sup>st</sup> century AD) indicated by the presence of early and late Iron Age forms and Scored ware decoration; it is not clear, however, whether this assemblage represents continued or intermittent activity. Most of the early Iron Age pottery is redeposited indicating disturbance by later activity.

Features of particular interest are Pit F1089 which contained the largest quantity of pottery from any feature on the site (190 sherds weighing 1.556kg) including the highest proportion of Scored ware (24%). It is not uncommon on some Iron Age sites, particularly relating to field systems, to find a pit with a comparatively large amount of pottery deposited, this could have a ritual connotation or simply be a site clearance operation, although the two acts don't have to be mutually exclusive. Pits F1068 and F1036 each contained an unusual rim sherd of a hard fired fabric with elaborate decoration including applied rim cordons. These unusual sherds have been classed as late Iron Age because of the nature of their archaeological contexts. Posthole F1009 contained 110 sherds from a chalk tempered vessel. The fabric was almost unique (bar one other

sherd from Posthole F1081) and shows a change in clay source or provenance rather than necessarily a chronological change.

Other than the two features with Beaker pottery (F1097 and F1099) there is nothing to suggest any of the pottery is earlier than the Iron Age. The assemblage as a whole has regional influences seen in sites including Fengate, Gretton and Fiskerton for the early Iron Age and Weekley, Wakerley and Werrington for the later Iron Age and early Roman periods. However, the overall assemblage does not closely parallel any of these sites and La Tene decoration also appears largely to be absent (although the sample is small). A precise end date is also difficult to ascertain. In south Lincolnshire Iron Age shelly fabrics are known to continue, with no discernible change, into the early Roman period (Knight 2002, 137).

### *List of Illustrations*

- Fig 15.1 - F1097, L1098 – Beaker decoration
- Fig 15.2 - F1099, L1101 – Beaker decoration
- Fig 15.3 - F1074, L1149 – Applied cordon to rim
- Fig 15.4 - F1089, L1092 – Rim sherd with applied strip with cabling
- Fig 15.5 - F1033, L1035 – Globular jar with finger decoration to shoulder and rim 24 cm
- Fig 15.6 - F1077, L1153 – Flattened inturned rim sherd finger decoration to outside rim and hollow or corrugated internal neck
- Fig 15.7 - F1046, 1047 – Bowl rim 24-26 cm, internal decoration
- Fig 15.8 - F1046, L1047 – Bowl rim with decoration to rim and body
- Fig 15.9 - F1060, L1063 – Ovoid vessel with stubby rim with finger nail decoration 20-22cm diameter
- Fig 15.10 – F1089, L1092 – Ovoid jar with everted rim and score decoration
- Fig 15.11 – F1089, L1092 – Small sherd with incised decoration
- Fig 15.12 – F2025, L2026 – Flanged rim
- Fig 15.13 – F1072, L1086 – Cordoned rim and corrugated/cordoned sides
- Fig 15.14 – F1068, L1136 – Expanded rim with sinuous applied clay strip
- Fig 15.15 – F1036, L1037 - Expanded rim containing double cable decorated cordons on top and vertical fluting to the outside surface

## **The ceramic building materials and daub**

Andrew Peachey

### *The Ceramic Building Materials*

In Area 1 two fragments (613g) of Romano British CBM were recovered from L1010, the packing deposit of large Posthole L1009. Both of these were fragments of flue tile marked with three incomplete comb marks. The fabric is of the oxidised sand tempered variety ubiquitous in Romano British assemblages and probably produced locally. In addition to this, three fragments (146g) of Romano British tegula roof tile were recovered from the topsoil (L1000); these were manufactured in the same fabric as the flue tile from L1010. A single fragment (42g) of medieval CBM (a highly abraded fragment of flat tile with traces of a white slip, that may have been used as a floor tile) was also recovered from L1000.

In Area 2 one fragment (9g) of CBM was recovered from the subsoil (L2001) and four from the upper fill (L2047) of Pit F2046. All of these fragments were very small (average weight 5.6g) and highly abraded. The CBM fabrics from Area 2 were oxidised and sand tempered like the Romano British CBM from Area 1 but it is not possible to assign either a form or a date to such insubstantial fragments.

## *The Daub*

A total of 301 fragments of daub (7194g) were recovered from 29 stratified contexts in the northern part of the South Witham Quarrysite (Area 1). Of these, 218 fragments (3949g) came from Phase 2 contexts, 76 fragments (3174g) from medieval Pit F1033, and the remainder from unphased features.

The daub from the northern part of the site was manufactured from the same material and is consistent across Area 1. The fabric of the daub is oxidised pale red 10R 6/8-2.5YR6/8 throughout, moderate – soft (unfired) with very powdery surfaces. Inclusions are confined to those that occur naturally in the clay (common fine quartz (<0.1mm), sparse iron rich and calcareous grains (<0.2mm)). Occasional elongate plate-like fragments of shell and (burnt organic?) voids, both to 5mm, were probably added accidentally during manufacture/construction rather than added deliberately. Fragments in Pits F1068, L1136, and F1154, L1155, may have been fired or burnt although this may have been before or after their original use, and could represent recycling of fired/baked clay as temper for daub. The daub recovered from contexts in Area 2 are oxidised red-orange or darker to red brown if burnt; they have no consistent inclusions. One daub fragment from F2041, L2042, and all three fragments from F2046, L2049, were burnt.

With the exception of two contexts (medieval Pit F1033, L1035, and Pit/ Posthole F1046, L1047) the daub comprised small, abraded rounded/sub-angular fragments with an average fragment weight of 9.63g (Area 1)/ 3.5g (Area 2), and measuring less than 50mm on any of their dimensions (a full quantification by context is included in Table xx1). The daub in medieval Pit F1033, L1035 (76 fragments, 3174g) is entirely composed of residual prehistoric daub, alongside residual prehistoric pottery, and has an average fragment weight of 41.84g. Three fragments in L1035 warrant further comment. One has the impression of a pole/branch (diameter 60mm) that it had been pressed around. The other two bare the impressions of up to 4 parallel sticks/poles, each approximately 12mm thick and spaced 5mm apart that would appear to have formed part of a structural panel that the daub was pressed against. The daub in Phase 2 Pit/ Posthole F1046 L1047 has an average fragment weight of 26.62g with sparse impression too small for meaningful measurement. In both pits the small fragments characteristic of the assemblage are common, but also present are sparse-common sub-angular fragments that range up to 130mm long and at least 50mm wide and deep.

Feature	Context	Fragment count	Weight (g)
F1009	L1010	1	19
F1009	L1011	3	26
F1019	L1021	2	6
F1024	L1026	2	8
F1033	L1035	75	3138
F1033	L1035	1	36
F1036	L1039	1	33
F1046	L1047	118	3141
F1049	L1051	1	19
F1060	L1063	2	12
F1089	L1091	6	46
F1089	L1092	4	31
F1036	L1094	1	4
F1102	L1103	3	5
F1104	L1105	2	3



F1064	L1123	1	6
F1110	L1124	2	18
F1080	L1132	7	38
F1080	L1133	1	10
F1080	L1134	8	56
F1068	L1136	3	74
F1068	L1138	8	50
F1082	L1141	10	124
F1082	L1142	21	192
F1081	L1143	2	3
F1074	L1149	3	4
F1079	L1151	4	52
F1154	L1155	1	1
F1069	L1157	1	5
F1070	L1160	1	13
F2039	L2040	1	4
F2041	L2042	2	10
F2046	L2049	3	7
<i>Total</i>		<i>301</i>	<i>7194</i>

*Table 7 Quantification of daub by context*

### **The small finds**

Nina Crummy

This small assemblage contains some objects typical of Iron Age sites, such as a bone needle fragment, a copper-alloy ring-headed pin and part of a spindlewhorl (Fig. 16.1 – 16.3), and some more unusual pieces, such as an antler punch and a miniature axe blade probably used as a votive offering.

A variety of crafts are represented. The spindlewhorl, needle and pin, are evidence for the production of spun thread and the use of woven fabric for garments and other cloth items. Antler-working is shown by the punch and an antler tine offcut, and the punch may have been used to decorate locally-made pottery. A small fragment of copper-alloy debris is evidence for bronze-smithing, and a fragment of a Millstone Grit quern represents the grinding of seeds for flour, and by extension both cereal farming and the domestic arts.

The miniature axe might represent either wood-working or warfare, but in either case it demonstrates the importance of ritual and belief in rural societies, and this may also be true for other or all of these items, as the Iron Age practice of formally placing deposits in pits may pertain here. At the Caburn hillfort in East Sussex placed deposits were found representing nearly all the broadly defined functions and activities that might be expected to be the major concern of a largely self-sufficient rural community, such as agriculture, care of the body, metal- or wood-working, dress, animal harness, textile manufacture and even warfare (Hill 1995, 108-9; Hamilton 1998). The range of crafts directly referenced or implicit in the objects found in pits at South Witham quarry strongly suggests that at least some were similarly formal deposits, their choice dictated by the seasons and the pre-occupation of the settlement as a whole, or of some individuals, in ensuring that the cycles of production continued successfully and so ensured the survival of the community.

## Catalogue

Fig. 16.1. SF 1.1. (L1039) F1036. Pit fill, Iron Age. The shaft of a bone needle, broken across the top. The section is subrectangular; One face is slightly irregular, retaining features of the original bone surface. Length 54 mm. Similar bone needles are often found on several Iron Age sites, such as Maiden Castle, and Danebury has produced a large number, usually found in association with pottery of ceramic phase 7, c. 300-100/50 BC (Laws 1991, fig 188, 8-14; Sellwood 1984, fig 7.32; Cunliffe & Poole 1991, 359).

Fig. 16. 1.2. (L1086) F1072. Pit fill, Iron Age. An Early to Middle Iron Age copper-alloy ring-headed pin, in two fragments (Dunning 1934; James & Rigby 1997, fig. 6; Jope 2000, 51, pl. 268). Though severely corroded over much of the surface, in places it is well-preserved and in small patches the metal is unpatinated as if it came from a waterlogged context. Length 98 mm.

Fig 16.3. SF 1.8. (L1144) F1081. Posthole fill, Iron Age. Fragment of a ceramic spindlewhorl with decoratively ribbed surface. The fabric contains fine flecks of calcite, and is hard-fired, with even reduction of the core but some slight patches of dark orange-brown on the surface. Diameter 43 mm, height 25 mm; maximum surviving diameter of spindle hole 7 mm.

Fig. 16. 4. SF 1.9. (L1153) F1077. Ditch fill, Iron Age. Miniature copper-alloy axe blade, with a circular piercing at the haft end, and an oval piercing on the straight upper side. Neither hole is markedly worn, and the reason for two piercings is unclear, unless the round one was used for attaching an organic haft (by wrapping thread or a thong around the haft and passing it through the hole) and the oval one was used for suspension. The end opposite the round hole is worked to an edge and is worn. Length 21 mm, maximum width 12 mm. Probably a purpose-made votive piece, with the piercings representing deliberate mutilation of the piece to make it an acceptable offering.

Fig. 16. 5. SF 1.3. (L1090) F1089. Pit fill, Iron Age. The tip of a red deer antler tine, sawn and partially broken across the lower end. A shallow groove has been cut into the point, and its sides, base and edges have all been worked smooth and probably further smoothed by wear-use. Length 30 mm. When pressed into a soft substance it produces a pair of opposed crescents (i.e. a circle with a broad bar across the centre). The most likely use for such a fragment is as a punch for decorating pottery. A close parallel to this object is an Iron Age antler-tine punch found at Harston Mill, Cambridgeshire, the tip of which had been worked to a produce a semicircle (Crummy, forthcoming).

Fig 16.6. SF 1.6. (L1091) F1089. Pit fill, Iron Age. Offcut from a red deer antler tine, sawn and partially broken at each end and split along its length. The split edges may have had the roughest elements removed, as they are irregular but smooth. Length 60 mm, maximum diameter 28 mm.

Fig. 16.7. SF 2.1. (L2026) F2025. Ditch fill, 1<sup>st</sup> century AD. The blade and part of the tang of a knife of Manning's Type 24 (1985, 118-19, fig. 29, 24). The back is concave and the edge is convex, rising up to meet the tip, which is broken. Length 129 mm. The form originated in the Iron Age and occurs on sites such as Hunsbury, Northamptonshire, and Cold Kitchen Hill, Wiltshire, but some examples have also been found in early Roman contexts at London and at the Roman fort at Newstead, Borders.

SF 2.2. (L2061) F2060. Ditch fill, 1<sup>st</sup> century AD. Fragment of an iron nail shank, split along its length. Length 27 mm.

SF 1.5. (L1091) F1089. Pit fill, Iron Age. Small amorphous copper-alloy fragment, probably metal-working debris. Weight 1 g.

(L1149) F1074. Pit fill, Iron Age. Fragment from a quernstone of Millstone Grit, with smooth grinding surface. Maximum surviving dimensions of grinding surface 76 by 53 mm; 46 mm thick.

(L2001). Subsoil, Area 2. Large copper-alloy buckle frame with the centre of each long side thickened and perforated to take a central bar on which the tongue would have been hinged. Length 78 mm, width 53 mm. The type occurs from the 18th century onwards.

### The slag

Jane Cowgill

### Recording Methodology

A total of 325g (12 pieces) of slag and associated finds were submitted for recording. The finds were identified solely on morphological grounds by visual examination, sometimes with the aid of a x10 binocular microscope. It was recorded on a *pro forma* recording sheet and this information was entered directly into the catalogue below. A note of probable fuel type has been recorded when fragments were incorporated within the slag.

Feature	Context	Description	Type	Count	Weight	Comments
F1033	L1034	Medieval pit	Vitrified clay	9	43g	Knobbly clay; purple/dark grey colour; sandy; not flowed; no surfaces; under heated IAGrey?
F1046	L1047	Phase 2 pit/posthole	FAS	1	1g	Fawn exterior; mid grey interior.
F1082	L1142	Phase 2 pit	HB	1	274g	Charcoal fuel; abraded; dense.

HB: Plano-convex slag accumulation (commonly known as hearth bottom). FAS: Fuel ash slag. IAGrey: Iron Age Grey slag.

### Table 8 Slag catalogue

### Discussion

Only one piece of iron-smithing slag was recovered from the site. It is a very abraded and dense hearth bottom from Pit F1082, L1142, which has either been redeposited a number of times or suffered from extensive weathering on a ground surface before becoming buried. Charcoal was the only fuel noted incorporated within it. The slag from F1046 has been identified as fuel ash slag, though this is usually more brightly coloured than the piece in question.

The nine pieces of vitrified knobbly sandy clay are unusual. There are no surfaces so their original form cannot be identified, but as they have obviously been submitted to a high

temperature, this may have deformed their original shape/s. It is possible that they are 'under fired' pieces of Iron Age Grey slag, but as it is not known what high temperature process generated this type of slag, this can only be speculation. Iron Age Grey slags have evidently been molten and flowed and have a glassy-grainy structure and compositionally are high in silica and alumina. This type of slag has so far been exclusively found on late Iron Age sites, regardless of underlying geology or site type/ status and is commonly found in association with domestic rubbish.

## **The animal bone** Carina Phillips MA

### *Introduction*

A moderately large animal bone assemblage of 2806 fragments was excavated from South Witham Quarry. 38 features containing bone were datable. The majority of these features dated to Phase 2, the middle to late Iron Age. Small numbers of bones were also recovered from features dating to the 1<sup>st</sup> century AD (Phase 3) and from the site's single medieval feature. A single bone fragment came from the only post medieval feature at the site; this and 227 undated bone fragments have been excluded from the analysis. The bone from Area 1 was of varied preservation including a proportion of highly eroded and fragmented bone and some bone that had retained a greasy texture caused by the amount of collagen remaining in the bone. All bone from Areas 2 and 3 were poorly preserved. Most of this bone exhibited some degree of surface erosion and a moderate proportion of assemblage was highly eroded and brittle. The brittleness of the eroded bone has caused much post-excavation fragmentation. The fragmentation and erosion of some of the assemblage has hindered identification of the bone to species, and may also have obliterated some evidence of butchery.

### *Method*

Bones were identified and recorded to species and element when possible. Unless it was possible to clearly identify the species sheep (*Ovis sp.*) or goat (*Capra sp.*) using the features stated by Bosseneck (1969), the category sheep/goat has been used. Tooth wear for cattle, sheep and pig were recorded using the method of Grant (1982) and ages assigned following the method of Hambleton (1999). Tooth wear ageing for horses follows Farbenfabriken (1994). Measurements were taken when viable following the methods of Jones *et al* (1976) and von den Driesch (1976), and are contained in the site archive. Withers heights for horses were calculated following Kiesewalter in Driesch & Bosseneck (1974). When available the fusion state of identifiable bones was also recorded and ages were assessed following Silver (1969). Fragments unidentifiable to a particular species were recorded under the categories of 'large sized', consisting of cattle (*Bos sp.*), large deer and horse (*Equus sp.*), sized fragments and 'small sized' consisting of sheep/goat, small deer, pig (*Sus sp.*) and dog (*Canis familiaris*) sized bone fragments. All other unidentifiable bone fragments were recorded as such. Evidence of burning, sawing, chopping, knife-cutting and gnawing was also recorded, as was smashed bone. The minimum number of individuals (MNI) of a species was calculated from most frequent left or right skeletal element (minimum number of elements).

## Results

Table 9 presents a summary of all the animal bone excavated at South Witham Quarry.

	Phase 2: mid-late Iron Age	Phase 3: 1st century AD	Medieval	Post medieval	Undated	Total
Cattle	226	12	7	1	28	274
Sheep/goat	198	2	9	0	12	221
Sheep	2	0	0	0	0	2
Goat	1	0	0	0	0	1
Pig	86	2	8	0	7	103
Horse	43	1	3	0	2	49
Dog	7	0	0	0	1	8
Red deer	37	0	0	0	0	37
Water vole	1	0	4	0	0	5
Frog/Toad	1	1	0	0	0	2
Large sized	333	21	20	0	54	428
Small sized	571	7	22	0	66	666
Unidentifiable	897	48	9	0	57	1011
<i>Total</i>	<i>2403</i>	<i>94</i>	<i>82</i>	<i>1</i>	<i>227</i>	<i>2807</i>

Table 9 Number of identified specimens/fragments (NISP) in each phase/ period

### Phase 2: Middle to late Iron Age

	NISP	MNI	Chop	Cut	Smashed	Sawn	Gnaw	Burnt
Cattle	226	11	13	28	19	0	13	3
Sheep/goat	198	11	2	10	10	0	22	7
Sheep	2	1	0	0	0	0	0	0
Goat	1	1	0	0	0	0	0	0
Pig	86	4	1	4	0	0	5	2
Horse	43	3	0	1	1	0	3	0
Dog	7	1	0	3	0	0	0	0
Water vole	37*	3	0	0	0	0	0	0
Frog/toad	1**	1	0	0	0	0	0	0
Red deer	1	1	1	0	0	1	0	0
Large Sized	333	-	12	16	31	0	2	9
Small sized	571	-	2	20	47	0	28	21
Unidentifiable	897	-	0	4	0	0	2	106
<i>Total</i>	<i>2403</i>	<i>-</i>	<i>31</i>	<i>86</i>	<i>108</i>	<i>1</i>	<i>75</i>	<i>148</i>

NISP=number of identified specimens/fragment, MNI=minimum number of individuals.

\*includes one skeleton (counted as 1), \*\*33 bones from one skeleton

Table 10 The animal bone from Phase 2

### Species present

A substantial assemblage of 2403 fragments was recovered from Phase 2; this formed the majority of the overall assemblage from South Witham Quarry. 75% of the assemblage was unidentifiable to species. Of those bones identifiable to species, a majority came from domestic animals (Table 10). Cattle bones were present in the highest numbers, forming 38% of the identified assemblage. Sheep/goat bones were present in slightly lower numbers than cattle (33%

of the identified assemblage). MNI counts suggest similar numbers of sheep/goat and cattle (both had an MNI of 11). There is continuing debate over which method is more reliable (see Klein and Cruz-Urbe 1984 and O'Connor 2000 for a discussion of both methods and debate). Two horn cores were positively identified to sheep and one to goat. Pig bones accounted for 14% of the identified assemblage and horse bone accounted for 7%, however both produced an MNI of 3. Seven bones indicate the presence of dogs; the 3% of the phase 2 assemblage exhibiting carnivore gnawing attests the presence of dogs and/or foxes (Table 10).

Three wild species were identified in this phase. One fragment of antler indicated the presence of red deer (*Cervus elaphus*). The fragment consisted of a sawn section of antler (c. 61mm in length) with a chop mark on the shaft. Water vole (*Arvicola terrestris*) was found in three contexts L1037 (Pit F1036), L1137 and L1139 (both in Pit F1068). A substantially complete skeleton was present in L1139. A minimum of three skeletons were present in total in this phase. One frog/toad (*Rana sp./Bufo sp*) (partial) skeleton was present in L1092 (Pit F1089); due to similarities of frog and toad skeletons it is not possible to positively state which was represented by these remains.

#### Age Estimations

Only a small number of mandibles were complete enough to produce age estimates. It was not possible to indicate age for any cattle mandibles. Five sheep/goat mandibles produced ages (see Chart 1) and two pig mandibles were aged at 7-14 months and 21-27 months. One horse incisor came from an animal aged c. 8-12 years at death.

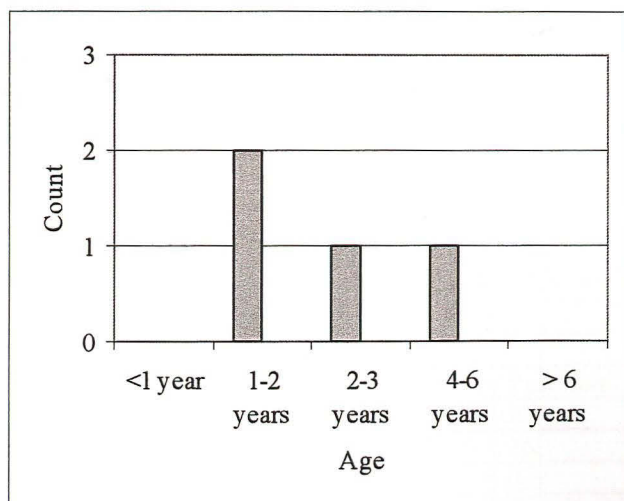


Chart 1 Sheep/goat ages based on mandibular dentition in Phase 2

#### Butchery

Butchery in the form of cut, chop, smashed and sawn bone were recorded in moderate numbers (Table 10). Smashed and cut bone was most common. The position of the cut marks suggests de-fleshing and disarticulation, the smashed bone can occur at the cookery stage, during which the bone is smashed with a blunt object to get to the marrow. Utilisation of horse meat was illustrated through a cut mark on a femur suggestive of filleting and a smashed tibia. Five of the seven dog bones present came from L1047, fill of pit/post hole F1046, and included two rib

fragments, parts of a femur, humerus and atlas; they most likely belong to the same individual. The femur, humerus and atlas exhibited cut marks; the position of these indicates removal of the head, and disarticulation of the limbs.

Burnt bone was also recorded, 60 burnt fragments came from Pit F1036, L1037. Fill L1011 of Posthole F1009 contained some burnt sheep/goat remains including vertebrae, front long bones and three foot bones, some 'small sized' fragments were also present, probably also sheep/goat bones. This may therefore have been an articulated or partially articulated sheep/goat carcass when it was burnt and/or deposited. The degree of burning is indicated by charred and whitened changes to the bone suggesting that part of the carcass was subjected to a high heat.

### Skeletal Elements

The skeletal elements present for the most frequent domestic species are presented in Table 11. Meaty and non-meaty elements were present for the three main domestic (and meat producing species), cattle, sheep/goat and pigs. Cattle and pigs exhibited meaty and non-meaty bones in similar proportions; sheep/goat exhibited slightly higher numbers of non-meaty bones. This may indicate a disposal of more butchery waste, possibly suggesting that sheep/goat meat was removed from the site. However this is tentative due to the small size of the sheep/goat assemblage.

	Cattle	Sheep/goat	Pig	Horse
Phalanx 3	2	0	2	0
Phalanx 2	2	0	0	0
Phalanx 1	8	3	1	0
Metacarpal	3	12	5	3
Metapodial	9	8	1	0
Metatarsal	14	8	1	1
Astragalus	4	3	1	2
Calcaneus	5	0	1	2
Carpal/tarsal	3	1	1	5
Tibia	9	19	2	3
Fibula	0	0	4	0
Patella	1	0	0	0
Femur	13	6	1	4
Pelvis	19	7	2	0
Sacrum	1	0	0	0
Vertebrae	13	4	1	0
Rib	7	0	0	0
Sternum	2	0	0	0
Radius	6	20	2	0
Ulna	5	3	5	0
Humerus	9	9	1	1
Scapula	9	9	6	0
Mandible	27	15	6	4
Maxilla	3	2	3	1
Skull	17	3 (1 goat)	0	0
Horn core	5	2 (2 sheep)	-	0
Loose Teeth	54	67	40	17
Total	250	201	86	43

Table 11 The skeletal elements present for Phase 2 identified species

## Measurements

An articulated horse femur and tibia were noted in Pit F1089, L1092. Length measurements of these produced a withers height estimation of 139.5 cm, the equivalent to 13.7 hands (Clutton-Brock 1974)

## Feature Type

The majority of the Phase 2 bone assemblage was recovered from pits; this may have been due to the frequency of pits (relative to ditches and postholes) among the Phase 2 features (Table 12). Despite the higher amount of bone in pits, the percentages of identified and unidentified bones were similar in all three feature types (Table 13). Small counts of butchered and gnawed bone were found in all feature types (Tables 14-15). Pits contained more burnt bone than the other feature types (Table xx6), but only accounted for 5% of all the bone recovered from pits, due the large size of this assemblage (Table 14). A majority of the burnt bone from pits was contained in L1037 of Pit F1036 (60 fragments). Postholes also contained a significant count of burnt bone (Table 14). Burnt bone accounted for 46% of the total bone assemblage from postholes (Table 15), all of this came from a single context, L1011, the upper fill of Posthole F1009 (see above).

The largest pit on the site was bell-shaped Pit F1089 which also produced the largest animal bone assemblage (570 fragments). Included in this feature were the articulated vertebrae and ribs of a young cattle from L1092. Possibly associated with this are a radius, femur and metapodial of an animal less than 2 – 3 ½ years based on fusion (Silver 1969). It is unclear whether the spine and ribs and the long bones are associated as the radius was the only bone to be separated as 'articulated remains', however it is probable that the unfused long bones came from the same animal. The fill (L1091) above that containing the articulated vertebrae and ribs contained 181 of the 570 fragments in Pit F1089. Among these was a fragmented cattle skull. Another large bell-shaped pit (F1036) also produced a substantial amount of animal bone totalling 503 fragments. Included in L1037 was a substantially complete, but highly fragmented, cattle skull with no evidence of butchery; however the identification of butchery marks may have been affected by the fragmentation. F1009 is one of a cluster of pits and post holes surrounding F1036; L1011 the upper fill of F1009 contained the burnt bone of a partial sheep/goat skeleton (see above).

	Ditch	Pit	Post hole	Pit/Posthole
Cattle	28	195	2	1
Sheep/goat	45	137	16	0
Sheep	0	2	0	0
Goat	0	1	0	0
Pig	12	71	1	2
Horse	10	32	0	1
Dog	0	1	0	6
Frog/toad	0	1	0	0
Water vole	0	37	0	0
Red deer	0	1	0	0
Large sized	71	260	1	1
Small sized	85	441	33	12
Unidentifiable	205	638	47	7
Total	456	1817	100	30

Table 12 Number of identified bones in each feature type in Phase 2



	Ditch	Pit	Posthole	Pit/Posthole
Cattle	6%	11%	2%	3%
Sheep/goat	10%	8%	16%	0%
Sheep	0%	<1%	0%	0%
Goat	0%	<1%	0%	0%
Pig	3%	4%	1%	4%
Horse	2%	2%	0%	7%
Dog	0%	<1%	0%	20%
Frog/toad	0%	<1%	0%	0%
Water vole	0%	2%	0%	0%
Red deer	0%	<1%	0%	0%
Large sized	16%	14%	1%	3%
Small sized	19%	24%	33%	40%
Unidentifiable	45%	35%	47%	23%

Table 13 Percentage of identified bones in each feature type in Phase 2

	Ditch	Pit	Post ole	Pit/Posthole	Total
Chop	6	24	1	0	31
Cut	4	78	1	3	86
Smashed	8	93	5	2	108
Sawn	0	1	0	0	1
Gnawed	12	58	5	0	75
Burnt	1	100	46	1	148
Total	31	354	58	6	449

Table 14 Counts of butchered, burnt and gnawed bone in Phase 2 features

	Ditch	Pit	Post hole	Pit/Posthole
Chop	1%	1%	2%	0%
Cut	1%	4%	2%	10%
Smashed	2%	5%	5%	7%
Sawn	0%	<1%	0%	0%
Gnawed	3%	3%	5%	0%
Burnt	<1%	5%	46%	3%

Table 15 Percentage of bone with butchery, burning or gnawing in Phase 2 features

### Pathology

A healed fracture was noted on a pig scapula (F1080, L1134). It occurred on the proximal blade of the scapula and was probably caused by the animal being hit on the back (R. Jones pers comm.).

### Phase 3: 1<sup>st</sup> century AD

A small animal bone assemblage came from the two 1<sup>st</sup> century AD ditches at South Witham Quarry. A large proportion of the assemblage was unidentifiable to species. Cattle, sheep/goat, pig and horse were the domestic species identified; frog/toad was the only wild species present (Table 16). Cattle bones were recorded in the highest numbers of the identifiable assemblage. However the same MNI of 1 was calculated for all identified species. Only one cut and one burnt bone were recorded, there was no other evidence of butchery.

	NISP	MNI	Chop	Cut	Smashed	Gnawed	Burnt
Cattle	12	1	0	0	1	0	0
Sheep/goat	2	1	0	0	0	0	0
Pig	2	1	0	0	0	0	0
Horse	1	1	0	0	0	0	0
Frog/toad	1	1	0	0	0	0	0
Large sized	21	-	0	0	0	0	0
Small sized	7	-	0	0	0	0	0
Unidentifiable	48	-	0	0	0	0	1
<i>Total</i>	<i>94</i>	<i>-</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>

NISP=number of identified specimens/fragment, MNI=minimum number of individuals

*Table 16: The animal bone from phase 3*

### Medieval Pit F1033

Medieval Pit F1033 produced a small animal bone assemblage of only 82 fragments. Cattle, sheep/goat and pig were identified in similar numbers (Table 17). Unexpectedly the pig MNI was three times the MNI for the other species identified, probably a factor related to the MNI method. Smashed bone was the only evidence of butchery. The majority of the finds recovered from this feature were residual, probably having been initially deposited during Phase 2; it is likely that this is also true of the animal bone.

	NISP	MNI	Chop	Cut	Smashed	Gnawed	Burnt
Cattle	7	1	0	0	1	1	0
Sheep/goat	9	1	0	0	0	1	0
Pig	8	3	0	0	0	1	0
Horse	3	1	0	0	0	0	0
Water vole	4	1	0	0	0	0	0
Large sized	20	-	0	0	3	0	0
Small sized	22	-	0	0	0	1	0
Unidentifiable	9	-	0	0	0	0	0
<i>Total</i>	<i>82</i>	<i>-</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>4</i>	<i>0</i>

NISP=number of identified specimens/fragment, MNI=minimum number of individuals

*Table 17 The animal bone from medieval Pit F1033*

### *Discussion*

The poor preservation of some of the bone hindered the analysis of bone from all phases, resulting in a large proportion of the assemblage being unidentifiable to species and possibly also resulting in an under-representation of observable butchery marks. Of those bones identifiable to species, domestic animals were most common, a usual occurrence. The small sizes of the assemblages from Phase 3, 4 and 5 and the large proportion of unidentifiable material inhibits detailed discussion of these phases. The bone from Phase 2 appears to consist of domestic and butchery waste.

The Phase 2 (middle to late Iron Age) assemblage provided the most animal bone and hence the most results. Due to the absence of neonatal or very young animals it is not possible to consider whether domestic species were bred on site. The results indicate that cattle were utilised and possibly kept in the highest numbers. Sheep/goat were utilised in similar or slightly smaller

numbers. Using NISP counts cattle: sheep/goat proportions were roughly 53:47%. Other Iron Age sites in the Midlands have found cattle and sheep percentages ranging between 30-60% (Hambleton 1999). Cattle require a substantial water supply and lush pastures and may have been located close to the river. Such damp conditions would be less favourable for sheep (Maltby 1996, 20) and therefore perhaps they were kept in slightly lower numbers possibly on higher dryer land.

Both sheep and goat were positively identified, but due to difficulties in separating the species the proportions of sheep and goats is unknown. Cattle are likely to have provided the most meat due to their larger size, however it was not possible to analyse the primary use of this species due to the absence of ageing evidence. The ages of the sheep/goat from this phase suggest that a proportion were also killed for meat, having been aged at the prime meat age of 1 ½-3 ½ years at death. The presence of an older sheep/goat mandible (4-6 years) suggests that sheep/goats were also being kept for other purposes such as for breeding or wool production. Pigs were kept in the lowest numbers of the three main domestic animals. It is usual for pigs to be kept in numbers third to cattle and sheep/goat. All aged pigs died before maturity; this is a common pattern, as pigs can produce litters from one year onwards. The slaughter of adolescents allows the most meat to be yielded as at this age pigs reach (or almost reach) adult size therefore resources are not wasted keeping the animal at the same size of a longer period of time (Hambleton 1999, 69).

Horses were present in small numbers. Size was indicated by an articulated femur and tibia, which produced a withers height estimation of 139.5 cm, the equivalent to 13.7 hands. This height is consistent with other Iron Age samples, producing evidence for the keeping of small ponies 10-14 hands high (Maltby 1981, 192). Therefore a horse of 13.7 hands at South Witham would have been one of the larger horses in this period. Iron Age horses are a lot smaller than those of later periods, for example a modern pony is less than 14.2 hands in height (Hambliton-Dyer 2003). Utilisation of horse carcasses was indicated through cut and smashed bone. The type of butchery marks suggests filleting of the carcass for meat and use of the bone marrow. Butchered horse bone has been found on other Iron Age sites and it is suggested that the consumption of horse meat commonly occurred during this period, in some areas forming an important contribution to the diet (Wilson 1973; Maltby 1981, 184). The use of horses for meat however would not have been the primary reason for keeping them. Instead they would have been exploited for their speed and ability to be trained and ridden. In fact it has been suggested that these were the only advantages a horse has over a cow during this period (Grant 1984a, 521). As a horse requires a more expensive diet, cannot provide milk and until later inventions of improved harnesses during the Saxon period (Trow-Smith 1957), it could only pull relatively light loads and was of no use as a plough animal (*ibid*). This probably accounts for the much lower number of horses found at South Witham Quarry and other Iron Age sites.

Dogs were the only other domestic species identified in this phase. The number of bones suggests they were present in smaller numbers than the other species. Carnivore gnawing on some of the bone was probably caused by dogs and/or foxes, indicating that some of the assemblage was available to these animals before deposition. The presence of cut marks on some dog bones indicates the utilisation of dog carcasses. The position of the cut marks indicates removal of the head and disarticulation of the limbs. Although no direct evidence of meat removal was indicated it is proposed that the carcass was disarticulated for use of the meat; possibly for human and/or animal consumption. Evidence for the disarticulation and meat

stripping of dogs have been frequently recorded at other Iron Age sites (Maltby 1981, 1992), e.g. Gussage All Saints, Ashville Harcourt (1979), Danebury (Grant 1984a).

Three wild species were identified in the Phase 2 assemblage. Red deer is the only wild species that is likely to have been exploited by humans. The presence of red deer was indicated through a fragment of antler. Utilisation is indicated through saw and chop marks, this is also supported by the recovery of worked red deer antler in L1090 (Crummy, this report). The antler may have come from a hunted animal or could have been shed antler that was collected; as the antler fragment did not include the pedicle it is not possible to determine this. Nevertheless it does suggest that woodland was situated at a close distance to the site. Both frog/toad and water vole are likely to have been natural casualties making their way into the assemblage. The presence of water vole probably relates to the river near the site, as this species is most abundant in marshes, rivers and other aquatic habitats, although they have also been found at a considerable distance from water (Burton 1982, 94). Water voles have also been identified at other Iron Age sites (see Yalden 1999, 117). The frog/toad skeleton may also be related to the river situated close by to the site as hibernacula for both frogs and toads are generally close to the ponds in which they breed (R. Jones per comm.). Hibernation lasts from October to February/March. A partially filled pit or ditch would be highly suitable for toads in particular to hibernate in. Frogs and toads only die in exceptionally cold weather, so it is likely this animal died when temperatures were particularly cold, or the pit continued to be filled during the winter months, so the animal could not escape when spring arrived.

Unusual or special deposits in Iron Age pits have been discussed and deliberated on at a number of sites and continue to be debated. Three instances of possible unusual deposits have been noted in Phase 2 (middle to late Iron Age): the articulated spine and ribs of a young cattle and possibly related long bones from Pit F1089, L1092, the cattle skull from the Pit F1036, L1037, and the burnt sheep/goat bones from F1009, L1011, which may represent part of an originally articulated carcass. No obvious butchery evidence was present on the articulated remains in Pit F1089 or the cattle skull in F1036, though in the latter case fragmentation may have prevented identification. Grant (1984b) defined three main types of 'special deposits' some of which could be applied to the South Witham assemblage. These types are, whole non-butchered skeletons; articulated limbs and carcass parts and complete skulls, all of which could have been utilised for meat (or brain), but have not. Although criteria for the ritualised deposition of animal bone have been defined, describing an animal bone deposit as a 'special deposit' continues to be problematic (see Wilson 1992). Because of this the possible unusual deposits at South Witham cannot be termed 'special' with any great certainty, although the possibility of ritual involvement in their deposition cannot be excluded.

### *Conclusions*

Analysis of a substantial amount of the assemblage was hindered by the poor preservation of the bone. Phase 2, the mid to late Iron Age assemblage, produced the most results. Cattle probably produced the most meat. Sheep/goats and pigs would also have provided meat, but in smaller quantities than cattle. Horses and dogs were kept in small numbers and were also utilised for meat, but would have been primarily have been exploited for their other abilities. Three examples of possible special deposits were also identified in this phase.

## The charred plant macrofossils and other remains

Val Fryer

Samples for the extraction of the plant macrofossil assemblages were taken from contexts in Areas 1 and 2. A total of 24 samples were submitted for assessment (Table 18). The samples were bulk floated by Archaeological Solutions, and the flots were collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16, and the plant macrofossils and other remains noted were tabulated; tables are included in this report where appropriate (Tables 19 and 20). Nomenclature within the tables follows Stace (1997). All plant remains were charred. Modern contaminants including fibrous roots, seeds and arthropods (Area 1 samples only) were present throughout.

Phase	Area	No. of samples
1	1	2
2	1	13
2	2	2
3	2	3
Medieval	1	1
Undated	2	3
Total		24

Table 18 Samples submitted for assessment

### Results

#### Phase 1

Samples from both of the Phase 1 pits were submitted for assessment (Samples 1.3 and 1.4). Both contained large amounts of charcoal (more than 100 fragments), but no further charred or other remains were present.

#### Phase 2 (Table 19)

##### Plant macrofossils

Cereal grains were present in all but five of the Phase 2 samples, but at very low densities. Preservation was generally poor, with the majority of grains being puffed and distorted, probably as a result of combustion at very high temperatures. Wheat (*Triticum* sp.), barley (*Hordeum* sp.) and oat (*Avena* sp.; Sample 2.28 only) grains were present, though all were too fragmentary for specific identification. Unidentifiable cereal grains were also present in seven samples, and wheat chaff was noted in Sample 1.6.

Seeds were noted in only five samples, and most occurred as single specimens within an assemblage. However, onion-couch (*Arrhenatherum* sp.) tubers were moderately common in Sample 1.15. All the seeds identified were of common segetal taxa namely brome (*Bromus* sp.), goosegrass (*Galium aparine*), small grasses (Poaceae) and dock (*Rumex* sp.). Charcoal fragments were present throughout along with pieces of charred root/stem and a single charred bud.

## Molluscs

Although specific sieving for molluscan remains was not undertaken, shells were present in all but one of the Phase 2 assemblages. Most were very well preserved, retaining delicate surface structures and/ or coloration, and were almost certainly modern contaminants within the features. It should be noted that shells of *Cecilioides acicula*, a burrowing species, were abundant in samples from Area 1. Only those shells which displayed signs of abrasion and/ or fragmentation, and which may therefore have been contemporary with the sampled features, are included in Table 19.

All four of Evans (1972) ecological groups of terrestrial molluscs were represented. In Area 1, shells of open country species occurred most frequently, but in Area 2 the shells of open country and woodland/ shade loving species were present in equal numbers. Marsh species and catholic species occurred in Area 1 only. The only specimen to be burnt was a fragmentary *Vertigo* sp. shell in Sample 1.8.

## Other materials

Other material types were exceedingly rare. The fragments of black porous and tarry material, the ferrous globules and the vitreous concretions which were present may all be residues of small-scale industrial activities.

Sample No.	1.1	1.2	1.5	1.6	1.7	1.8	1.9	1.10	1.16	1.11	1.12	1.14	1.15	2.28	2.19
Context No.	1037	1040	1090	1091	1092	1095	1103	1134	1130	1142	1144	1010	1047	2043	2067
Feature No.	1036	1036	1089	1089	1089	1089	1102	1080	1080	1081	1081	1009	1046	2041	2066
Feature type	Pit	Pit	Pit	Pit	Pit	Pit	Pit	Pit	Pit	ph	ph	ph	Pit/ ph	Pit	Pit
<b>Cereals</b>															
<i>Avena</i> sp. (grains)														xcf	
<i>Hordeum</i> sp. (grains)	x	x	x							x				x	
<i>Triticum</i> sp. (grains)			x		xcf	x				x			x	x	
(glume bases)				x											
Cereal indet. (grains)	x					x			x	x			x	x	x
<b>Herbs</b>															
<i>Arrhenatherum</i> sp. (tubers)													xx		
<i>Bromus</i> sp.					x										
<i>Galium aparine</i> L.	x												x		
Small Poaceae indet.			x											x	
<i>Rumex</i> sp.					x										
<b>Other plant macrofossils</b>															
Charcoal <2mm	xxx	xx	xxx	xx	xxx	xx	xx	xx	xx	xx	x	x	x	xxx	x
Charcoal >2mm	xx		x	x	xx	xx		x							
Charred root/stem	x	x		x	x	x	x						x		
Indet. bud	x														
Indet. seeds	x	x	x						x			x		x	
<b>Molluscs</b>															
<b>Woodland/shade loving species</b>															
<i>Aegopinella</i> sp.	x				x									x	
<i>Discus rotundatus</i>															x
<i>Vitrea</i> sp.										x		x	x	x	x
Zonitidae indet.															x
<b>Open country species</b>															
<i>Helicella itala</i>				x	x	x			x			x		x	
<i>Pupilla muscorum</i>														x	
<i>Vallonia</i> sp.	x	x	x	x		x	x	x	x	x		x		x	x

<i>V. pulchella</i>														xcf	
<b>Catholic species</b>															
<i>Cochlicopa</i> sp.						x									
<i>Trichia hispida</i> group			x										x		
<b>Marsh species</b>															
<i>Vertigo</i> sp.			x			xb			x						
<b>Other materials</b>															
Black porous 'cokey' material	x					x	x		x					x	
Black tarry material		x													x
Bone	x		x												
Ferrous globule					x										
Vitreous material	x												x		
<b>Sample volume (litres)</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>
<b>Volume of flot (litres)</b>	<b>0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>
<b>% flot sorted</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

x = 1-10 specimens; xx = 10-100 specimens; xxx = 100+ specimens; b = burnt; ph = posthole

Table 19 Contents of the Phase 2 environmental sample



### Phase 3 (Table 20)

A few fragments of charcoal were present in Samples 2.32 and 2.34, but no further plant macrofossils were present. Three of Evans (ibid.) ecological groups of terrestrial molluscs were represented, with open country species predominating.

Sample No.	2.32	2.33	2.34
Context No.	2061	2026	2026
Feature No.	2060	2025	2025
Feature type	Ditch	Ditch	Ditch
<b>Plant macrofossils</b>			
Charcoal <2mm	x		x
<b>Molluscs</b>			
<b>Woodland/shade loving species</b>			
<i>Carychium</i> sp.	x		
<i>Punctum pygmaeum</i>	x		
<i>Vitrea</i> sp.			x
<b>Open country species</b>			
<i>Pupilla muscorum</i>	x		x
<i>Vallonia</i> sp.	xx	x	x
<i>V. costata</i>	x		
<b>Catholic species</b>			
<i>Nesovitrea hammonis</i>	x		
<i>Trichia hispida</i> group	x	x	
<b>Other materials</b>			
Bone			x
Sample volume (litres)	15	15	15
Volume of flot (litres)	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%

x = 1-10 specimens; xx = 10-100 specimens; xxx = 100+ specimens

Table 20 Contents of the Phase 3 environmental samples

### Medieval and undated samples

Sample 1.13, taken from the upper fill of medieval Pit F1033, contained a small number of wheat (*Triticum* sp.) and unidentified cereal grains, as well as charcoal fragments. Shells of open country and catholic molluscs (cf. Evans, ibid.) were also present, along with black porous cokey material and vitreous globules.

The three undated samples contained no plant remains other than charcoal. Shells of woodland/ shade loving, open country and catholic snails (cf. Evans, ibid.) were the only other remains present.

### Conclusions

The Phase 1 samples contained only charcoal. No further comments can be made.

The differences between the mollusc shell assemblages from Phase 2 features in Areas 1 and 2 may indicate that more open conditions prevailed in the north of the site (where activity was focused) than in the south. The dominance of open country species in the Phase 3 mollusc shell assemblage from Area 2 may imply a shift towards open conditions in that part of the site by the 1st century AD. However,

because of the small size of the mollusc assemblage and the lack of specific sieving for molluscan remains, these suggestions can be no more than tentative.

Although more Phase 2 features were sampled, the assemblages were all small. It would appear most likely that the material contained within them is derived from either scattered refuse or wind-blown detritus. Although the precise origin of the material is not known, certain components may be derived from burnt cereal processing waste and/or domestic rubbish. The presence of grains in most of the samples implies that cereals may have been used by the occupants of the site, but the near absence of chaff possibly indicates that cereal processing did not take place in the near vicinity. However, it should be noted that this paucity of material may also be an accident of preservation. Other contemporary sites with low densities of chaff are known from elsewhere within the eastern region. These have been interpreted as possible pastoral centres, which were importing prime grain rather than producing and processing cereals themselves. The assemblage from Sample 1.15 is somewhat unusual and may be indicative of either in situ burning or the use of uprooted dried plant material as kindling or fuel.

The resemblance of the assemblage from medieval Pit F1033 to those from Phase 2 contexts may support the hypothesis (see above) that this feature was backfilled soon after it was dug, using material originally derived from the fill of an Iron Age feature which was destroyed by the cutting of F1033.

## DISCUSSION

### *The late Neolithic/ early Bronze Age pits/ postholes (Phase 1)*

Although significant early Bronze Age activity is attested on a regional scale by clusters of round barrows, as well as scattered enclosures, ditches and find spots, evidence in the nearer vicinity of South Witham Quarry has been more limited (see above). The two excavated pits/ postholes and their associated finds confirm the evidence of stray finds of flint and pottery and of a single (probable Bronze Age) cropmark ring ditch, attesting human activity in this area in the late Neolithic/ early Bronze Age.

The presence of sherds probably deriving from a single vessel in each pit may imply that vessels were complete when deposited and may indicate deliberate placement. However, the remaining sherds are so small and worn that this cannot be asserted with any certainty.

### *Summary of the middle Iron Age to 1<sup>st</sup> century AD site (Phases 2 and 3) (Figs 4-6)*

The substantial majority of features dated to the mid to late Iron Age (Phase 2), with two ditches representing continuation into the 1<sup>st</sup> century AD (Phase 3). Although no formal distinctions have been made in the phasing of the site, it has been possible to tentatively identify earlier and later features within Phase 2 (see Fig 6).

It seems most likely that the earliest feature of Phase 2 was a curvilinear boundary ditch, located in the northern part of Area 1. Three parallel linear boundaries (two ditches and a line of pits/ postholes) ran from west north west to east south east across

Area 1; at least one of these post-dated the curvilinear ditch, and their pottery assemblages suggested an early date, probably 5<sup>th</sup> to 4<sup>th</sup> century BC. A single boundary ditch with associated postholes postdated the parallel boundaries; it ran north north eastwards, beyond the northern limits of Area 1.

Later in Phase 2, two large bell-shaped pits were dug; each was located within 10m to the north of the line of one of the boundary ditches, though it is not certain that these remained open when the pits were dug. The pottery assemblages from both pits included sherds which suggested that they remained open in the 1<sup>st</sup> century AD. The more northerly of these pits had two adjacent large but not bell-shaped pits; the southern one was located within 7m of another large, non bell-shaped, pit and was surrounded on two sides by postholes thought to represent a right angled fence. A further posthole a little to the north west of the bell-shaped pit was probably dug after the others, as it contained Roman flue tile, but while they remained in use. It is thought that when the post was finally removed from this posthole, a burnt sheep/goat carcass (or partial carcass) was deposited in its postpipe void.

In Area 2 activity was represented during this time by a cluster of pits and two short parallel (north to south aligned) fence lines, or possibly a small post-built structure. One of the pits dated to the later part of Phase 2, but no other of these features could be dated with such precision.

During the 1<sup>st</sup> century AD, two parallel ditches were dug running west south west to east north east across Area 2. They ran either side of the cluster of pits, which are not thought to have remained open by this time. These ditches were shown by gradiometer survey and trial trench evaluation to curve northwards to the east of Area 2. The pottery recovered from these features indicates that they remained open in the later part of the 1<sup>st</sup> century AD, but after this point no further activity is attested at the site.

### *Boundary features*

#### Summary of excavated boundary features

Four successive systems of boundary definition are represented by features at South Witham Quarry, the first three located in the north the site (Area 1), and the fourth in the south (Area 2). Stratigraphic relationships indicated the succession of boundary features in Area 1: the earliest and latest boundary systems in this area were focused outside of the excavated site, to the north west and north, respectively. The earliest of the boundary ditches (F1110) may have been part of a rounded enclosure; the latest (F1104) was a substantial feature running approximately perpendicular to the line of the River Witham, it may have stretched as far as the river bank, forming a division of the valley side. F1104 would have been clearly visible within its contemporary landscape, the two postholes to its east possibly being part of a line running along its entire length.

The intermediate boundary system in Area 1 was represented by two ditch systems and a line of widely spaced pits or postholes running parallel to one another across Area 1. Part of the dog-legged ditch system had previously been identified during the gradiometer survey of the site (Rylatt and Bunn 2000), and a probable continuation of

the northern ditch is shown on an aerial photograph of 1976. No perpendicular boundary features were present between the ditches, indicating that they did not delineate rectangular fields.

The final system of land division revealed by excavation was the 1<sup>st</sup> century AD parallel ditches in Area 2. These were located at least 170m south of the dog- legged ditch system, and on a different alignment; although there were no stratigraphic relationships between these ditches and any of the Area 1 boundary features, finds evidence (pottery) indicate their later date.

#### Large scale linear boundaries in the East Midlands

Linear boundaries extending over long distances (a few hundred metres up to 3km) are common features of the late Bronze Age and Iron Age of the East Midlands (Boutwood 1998, 29; Willis 2006, 121-125). Double, triple and even quadruple parallel boundaries are attested, as well as single linear features; the majority of these are aligned north west to south east or south west to north east. The inclusion of pit alignments in such systems is not unknown, though it is not typical, and the relationships between the two types of boundary is not well understood (Boutwood 1998, 29; Willis 2006, 124). Palisade fence lines represented by postholes have also been identified (Boutwood 1998, 39). Although excavations of these boundary features have been carried out, dating evidence has been inconclusive, in most cases Iron Age dates seem most likely (Boutwood 1998, 39).

The function of such large scale boundary features remains unknown. Similar features have been identified in various parts of the country (cf. Boutwood 1998, 39; Mackie 1993, 7), but it is not thought that any single interpretation can be applied to them, especially given the lack of clear evidence for their contemporaneity. As boundaries, these features probably marked territorial divisions, but the scale and significance of these is uncertain (Willis 2006, 125): they may be political and economic boundaries between tribal territories, but could equally divide and subdivide the land holdings of much more modestly sized communities; given the lack of evidence for consistent boundaries running over very large distances, the latter interpretation is preferred (Boutwood 1998, 39). Function as boundary markers does not preclude function as markers of trackways or droveways; it is likely that this interpretation is accurate (though not necessarily comprehensive) for double ditches boundaries, and that large scale boundary features more generally had a function in controlling the movements of people and livestock (Boutwood 1998, 41; Willis 2006, 123.)

#### The Phase 2 ditches

It is possible that the dog- legged ditch system, its northern counterpart and the pit/posthole alignment represent part of a large scale boundary system running from west north west to east north east across this part of south Lincolnshire. Neither of the ditch systems terminated within Area 1, and the cropmark continuation of the northern ditch implies a much greater overall length. The wide (c. 60m) spacing of the two ditch systems is inconsistent with their representing a double ditch on the scale normally seen in the region but they are, nonetheless, considered to represent parallel boundaries traversing the landscape.

The dog- legged bend in the southern ditch system at South Witham Quarry has parallels in the extensive system at Stubton (Boutwood 1998, 29 and fig 5). The relationship of the pit/ posthole alignment to the ditches is unclear. Given the small size of its features, and the short distance over which the alignment was observed, it is thought that this alignment is better interpreted as representing a line of posts running alongside part of Ditch F1064 (like those which later ran beside Ditch F1104) than as a pit alignment. It is thought that when these postholes ceased to be used, posts and packing deposits were removed from them, and they were filled with domestic rubbish. The ditches were probably not intended to form physical barriers to the movement of people or livestock, rather to delineate in the minds of the local population areas of land to be used for different purposes.

The spatial arrangement of pits in Area 1 – generally in closely spaced groups close to either the dog- legged ditch system (F1080, F1082 and related features; F1036 and related features) or its northern counterpart (F1089 and related features) – invites comparison to the ‘washing line’ enclosures seen as cropmarks across the Rutland area and parts of Lincolnshire (cf. Boutwood 1998, 35), including one example *c.* 3.2km west north west of the site, to the north of Market Overton and east of Wymondham (Pickering and Hartley 1984, 50-51). These comprise long linear/ sinuous ditches with small rectilinear enclosures, presumably the foci of activity (pounds for stock is the interpretation suggested by Willis (2006, 123)). Although not bounded by enclosing ditches, the pit and posthole clusters at South Witham Quarry also represent distinct areas of activity at points alongside a large linear boundary.

### The Phase 3 ditches

The Phase 3 parallel ditches fit well with Boutwood’s (1998, 29) description of multiple or double linear boundaries, their *c.* 10m spacing being at the wider end of the typical inter- ditch spacing and their individual dimensions also being consistent. It is interesting that the gradiometer survey and trial trench evaluation both attest these ditches curving northwards to the east of Area 2 (Fig 2), rather than southwards, towards the enclosure and circular structures which the gradiometer survey identified to the east south east of Area 3. This need not imply that the enclosure was not contemporary or associated with the Phase 3 ditches, merely that the function of the ditches was not to channel people or livestock towards the enclosure.

The position and alignment of this boundary (and that represented by the Phase 2 parallel ditches) remain uninterpreted. It may simply have functioned to mark a division of land use or ownership, or to contain livestock (though the effectiveness of such ditches for this purpose in the absence of palisades or other additional features has been questioned (cf. Boutwood 1998, 39). If, however, it also functioned to control or facilitate the movement of people and/ or livestock then the question arises of where they were moving from and to.

One possibility is that the ditches marked a route running from an unknown point eastwards but curving northwards to arrive at the Roman cemetery located *c.* 500m east of Area 1. As the precise date of the cemetery is not known, it cannot be said with any certainty that it was in use in the 1<sup>st</sup> century AD, and so this interpretation can be no more than speculative.

Another possibility is that the ditches mark a trackway or droveway (possibly also a boundary) running between Ermine Street (known to have been a 1<sup>st</sup> century construction) and Margary Route 580 (which may follow the course of an earlier route) which are separated at this point by a distance of *c.* 4km. Although this suggestion is tentative, it is plausible that such a route existed. As has been stated above, archaeological investigation on Church Lane, South Witham, revealed a small number of 1<sup>st</sup> century AD archaeological features including a pair of parallel ditches on a south west to north east alignment (Kipling 2002); the spacing between these ditches was *c.* 8m, consistent with the *c.* 7 to 11m spacing of Ditches F2025 and F2060. Although there is nothing but circumstantial evidence to support it, the possibility must be mentioned that the parallel ditches at South Witham Quarry and Church Street represent different parts of the same 1<sup>st</sup> century AD route, running between Ermine Street and Margary Route 580. Traces of another local route perpendicular to (and west of) Margary Route 580, *c.* 2km to the south west of the site, are recorded in the Victoria County History for Rutland (see Fig 2).

#### The significance of the boundary features

The main Phase 2 and the Phase 3 boundary ditches represent large scale land divisions of a type well attested in this region, mainly by cropmark evidence. Neither of these sets of boundaries was visible as cropmarks (though a probable continuation of one of the Phase 2 ditches has been identified as a cropmark), indicating the importance of large scale excavation for the identification and investigation of such features. The difference between the earlier and later boundary systems (widely spaced single ditches, one with an adjacent post line Vs narrowly spaced parallel ditches) may be significant, potentially indicating a chronological aspect of boundary morphology (cf. Boutwood 1998, 39); such a contention could be proved only through further excavation of such features in the East Midlands region. The morphological difference may also indicate a functional or perceptual difference, the more narrowly spaced Phase 3 ditches forming a more robust boundary, but also being more clearly suited to channeling the movement of people and/ or livestock.

#### *The Phase 2 bell- shaped pits and structured deposits*

Pits F1036 and F1089 have the distinctive bell- shaped profiles of Iron Age grain storage pits. Such pits are well known features of the Iron Age in southern Britain; they have also been identified at Ancaster Quarry, Lincolnshire (May 1976a, 135-136; 1976b, 166; Willis 2006, 101), which lies in an area of limestone bedrock, though not at East Midlands sites on clay or gravel deposits.

Pits of this type are thought to have been used for the storage of seed grain, sealed so as to create an anaerobic environment following the conversion of oxygen to carbon dioxide by germination of the outermost grains in the pit (Reynolds 1977a, 127). The configuration of fills and analysis of bulk samples from the pits indicates that burnt plant material within these pits derived from deliberately or accidentally incorporated burnt waste (including crop processing and/ or domestic debris), and not from the burning of grain remaining in the pits prior to reuse for storage. When these pits ceased to be used for grain storage, they were filled in so as not to be a hazard to those using the site. At this site, the two storage pits are thought to have been infilled

quickly (cf. Cunliffe 1995, 80-83), though with a pause of unknown duration before the two upper fills of F1089 were deposited.

The significance of the right angled fence line and Posthole F1009 around Pit F1036 is unclear. F1009 (containing flue tile and so post dating the Roman conquest) is thought to have post dated the other Phase 2 features in this part of the site, but the chronological relationship between the fence line and Pit F1036 is unknown. The fence or open structure represented by these features may thus have been contemporary with the original digging of the pit and the deposition of grain, with the removal of grain, with the beginning of the infilling process, with the end of the infilling process, or with any point between these events. The function of the right angled fence line is similarly unknown: it may have served to mark the position of the pit in the landscape, acted as a safety barrier around (two sides of) the pit when it stood empty, or supported an open structure over the pit. The marking of the positions of cut features in the landscape was also attested in the cases of Pits F1080 and F1082 (marked by Posthole F081) and of Ditch F1104 (marked by Postholes F1115 and F1118).

The presence of unusual deposits of animal bone in disused grain storage pits have been recognised as distinct phenomena since the 1980s (Grant 1984a; 1984b; Wait 1985) and have since been the subject of extensive discussion (cf. Wilson 1992; Cunliffe 1992; Hill 1995; Cunliffe 1995). The identification of such deposits away from the 'wet' locations in which they most frequently occur has been noted as an objective of the research agenda for the East Midlands (Willis 2006, 132). It is now understood that the initial identification of a rigidly defined group of animal bone deposits was too narrow (Hill 1995), and that special or structured deposition can be attested by a wide range of items, including human remains (originally considered a separate phenomenon). It is suspected that these included biodegradable items (e.g. wool bales, skins or cheeses) as well as items which have been recovered archaeologically (including pottery, iron tools and quernstones) (Cunliffe 1992, 1995). Although not the only contexts to have been so used, disused grain storage pits seem to have frequently been the focus for structured behaviour resulting in the deposition of items for purposes beyond waste disposal.

Both bell-shaped pits at South Witham Quarry contained animal bone deposits (a cattle skull in F1036 and a second in Pit F1089, as well as articulated vertebrae and ribs, possibly with associated limbs) which may represent structured deposition. Although all three of these deposits were recovered from contexts which yielded significant quantities of other animal bone, the two skulls and the articulated spine and ribs stood out as being different, as having been deliberately placed in the positions in which they were found, thus having Hills (1995, 96) 'alerting quality' which marked them as representing acts of structured deposition.

It is interesting to note that, despite the movement away from focusing on rigidly defined animal bone deposits in grain storage pits in the study of Iron Age structured deposition (cf. Hill 1995; Cunliffe 1995), the deposits described above fit easily into those categories in all aspects but their location outside of the basal fill. Two further possible examples of structured deposits at this site are the miniature copper-alloy axe blade recovered from Ditch F1077, and the burnt sheep/goat carcass from Posthole F1009. The small finds assemblage from Phase 2 features was remarkable in

the variety of crafts represented (thread and textile production, antler working, bronze smithing, grain processing and possibly also pottery production), though none was represented by more than a few items. It is possible, that this is the result of deliberate selection of items representative of the community's activities and lifestyle for placement in certain features (Crummy, this report); the location of these features, away from the settlement area where many of these activities were probably carried out, lends support to this theory.

The beliefs from which acts of structured deposition resulted would have been complex, and it is unlikely that they will ever be fully revealed by interpretation of archaeological deposits. However, Cunliffe (1992, 1995) proposes that such deposits occurring in disused grain storage pits may have been placed as an offering to the chthonic deities in whose care the grain previously stored in the pit had been placed. The use of large scale linear boundary features for acts of structured deposition is a documented phenomenon in the East Midlands (Willis 2006, 124, 126; cf. Mackie 1993, 7; Chowne *et al* 2001, 94), though no specific meaning is ascribed to such deposits. Posthole F1009 is thought to have been the latest of the features surrounding Pit F1036; the burnt sheep/ goat carcass recovered from its postpipe void may have been deliberately placed when its post was removed as an act of finalization, to mark the end of use of this posthole and a part of the site which had previously been a focus for structured deposition.

#### *The enclosure revealed by gradiometer survey*

As stated above and shown in Fig 2, the gradiometer survey of the access road east south east of Area 3 revealed a rectangular enclosure around a (possibly two or three) circular structure(s). At least some of the cropmark features in this area (Fig 2) are likely to relate to this enclosure, but they are too indistinct for their forms or precise relationships to be determined.

The enclosure was only partially revealed within the road corridor but appears to have been sub rectangular, measuring 50m by at least 45m (0.44ha). Rectangular enclosures of up to 0.5ha containing one or two circular structures are common features of the middle to late Iron Age, as represented by both cropmark evidence and excavated sites, in the East Midlands (Liddle 1982, 25; Winton 1998, 51, fig 2; Willis 2006, 101; cf. Pickering and Hartley 1984, fig 12), with several sites of this type having remained in use into the early Roman period (Willis 2006, 145). The morphology of earlier (late Bronze Age and early Iron Age) settlements in the region is less well known, but there does not appear to be such a strong tendency towards rectangular enclosures (Willis 2006, 95, 99). It thus seems likely that the enclosure and its circular structures were contemporary with the pits and boundary features of Phase 2, and probably also with the droveway/ trackway of Phase 3. However, the decision to preserve this part of the site *in situ*, without archaeological investigation, means that this cannot be confirmed.

#### *The site as a whole*

The archaeological investigation of land at South Witham Quarry has revealed a series of boundary systems and two grain storage pits, probably related to a small enclosed settlement. The precise dating of Phase 2 activity is unclear, but it seems



likely that the grain storage pits and their associated features dated to the late Iron Age, with the main boundary ditches and a small group of pits and postholes being of earlier date (possibly as early as 5<sup>th</sup> century BC), but possibly having remained open into the late Iron Age. The Phase 3 parallel ditches are thought to have been cut in the earlier part of the 1<sup>st</sup> century AD, but to have remained open into its later part.

The dog- legged ditch and its northern counterpart are thought to have delineated areas of different land use. In the 1<sup>st</sup> century AD, a new boundary was marked, significantly to the south of the earlier system, and on a different alignment; it seems unlikely that the earlier ditches remained open at this time. Though a middle to late Iron Age date seems most likely for the enclosure and its roundhouses, it is not possible to say which, if either, of these boundary systems were associated with it (and the possibility of an unattested earlier phase of unenclosed settlement remains plausible). Cropmark evidence indicates that many large scale linear boundary features have some form of settlement attested within their close or wider vicinity (Boutwood 1998, 35), but (by the nature of cropmark evidence) contemporaneity cannot be proved and the nature of the association is unclear. The presence of a contemporary settlement somewhere in the vicinity of the Phase 2 boundary features is indicated by the domestic rubbish and daub dumped into the features of the pit/posthole alignment (particularly F1046) when it went out of use.

If settlement in (or at the site of) the enclosure could be shown to be contemporary with the Phase 2 and/ or Phase 3 ditches, it would support the hypothesis that large scale linear boundaries of this sort related to the land holdings/ land use of modestly sized communities (cf. Boutwood 1998, 39), rather than to larger scale territorial divisions. It is also plausible that these boundaries marked land divisions associated with the Iron Age occupation at Thistleton, or even that between North Witham and Colsterworth (though the latter is *c.* 5km distant from South Witham Quarry and the excavated evidence suggests a later date for the enclosed settlement).

The proximity of the bell- shaped grain storage pits to the Phase 2 boundary ditches suggests that even if the latter were no longer open by the late Iron Age, their lines were remembered, and may have remained as conceptual land divisions. The presence of grain storage pits indicates that arable crops were grown by the people who used the site (it being grain for sowing rather than grain for consumption which is thought to have been stored in such features (Reynolds 1974, 130)); the animal bone assemblage was consistent with cattle and (in smaller numbers) sheep/goat having been reared. It thus seems that a mixed agricultural strategy was in operation at the site, though it is not clear to which use the excavated areas were put. The near absence of chaff in the assemblages derived from the analysed bulk samples suggests that cereal processing was not carried out in this area, though it is likely that such activities would be carried out closer to the domestic area of a settlement.

### *Conclusions*

The investigation of Land at South Witham Quarry has revealed a suite of features of types known to be typical of the Iron Age both regionally (large scale linear boundaries) and nationally (grain storage pits with structured deposits). The date, extent and nature of the enclosed settlement identified by gradiometer survey are

likely to be key to full understanding of the development of the site and the relationships between the excavated features.

Nonetheless, the excavated evidence provides a clear picture of an established system of land division changing, becoming in the late Iron Age a focus for grain storage. This seems to have been an important function, associated with episodes of structured behaviour. As this activity ceased, a post was erected to mark the location of one of the storage pits, and later removed with another associated act of structured deposition. This part of the site seems to have been abandoned after this, but a new boundary was established at about the same time further to the south, perhaps representing the contraction of activity towards the settlement enclosure. No further activity is attested, and the site had been abandoned by the end of the 1<sup>st</sup> century AD.

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## **APPENDIX 1: Terminology used in the struck flint report**

Throughout this analysis the term 'cortex' refers to the natural weathered exterior surface of a piece of flint while 'patination' denotes the colouration of the flaked surfaces exposed by human or natural agency. Following Andrevsky (1998, 104) dorsal cortex is divided into four categories; the term primary flake refers to those with cortex covering 100% of the dorsal face while secondary flakes have cortex on between 50% to 99% of the dorsal face. Tertiary flakes have cortex on 1% to 49% of the dorsal face while flakes with no dorsal cortex are referred to as non cortical

A blade is defined as an elongated flake whose length is at least twice as great as its breadth. These often have parallel dorsal flake scars, a feature that can assist in the identification of broken blades that, by definition, have an indeterminate length/breadth ratio

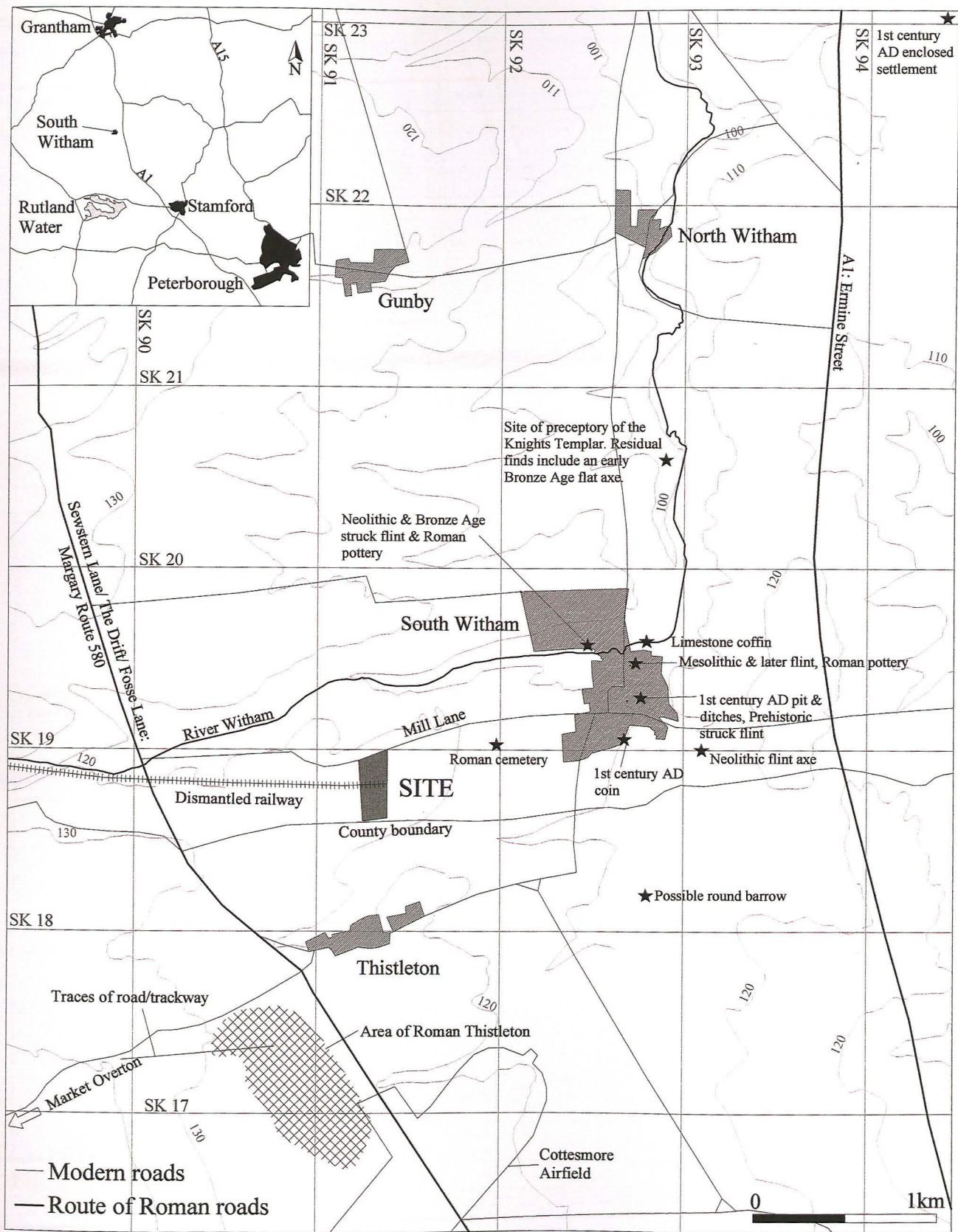


Fig. 1 Site location plan

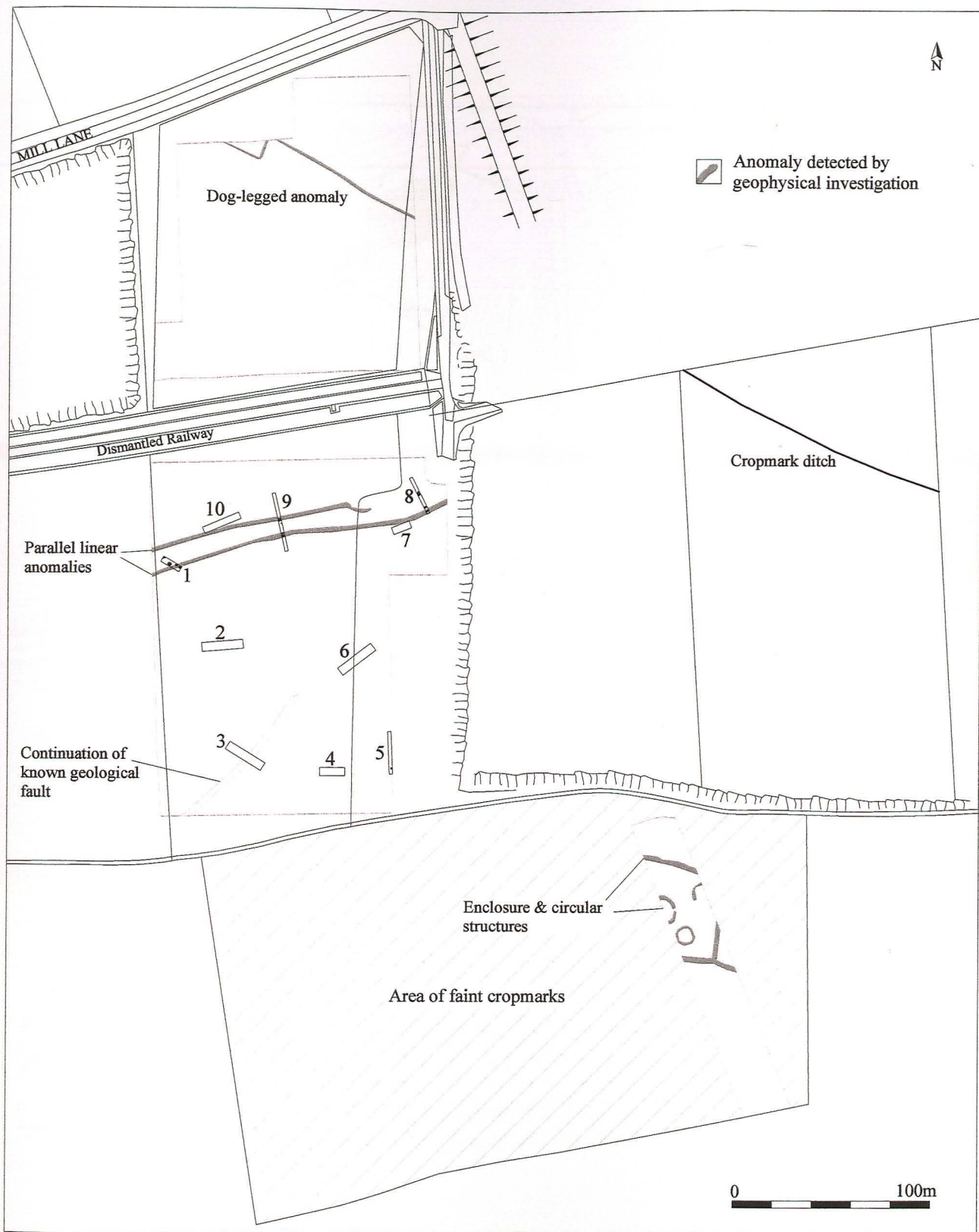


Fig. 2 Previous phases of investigation

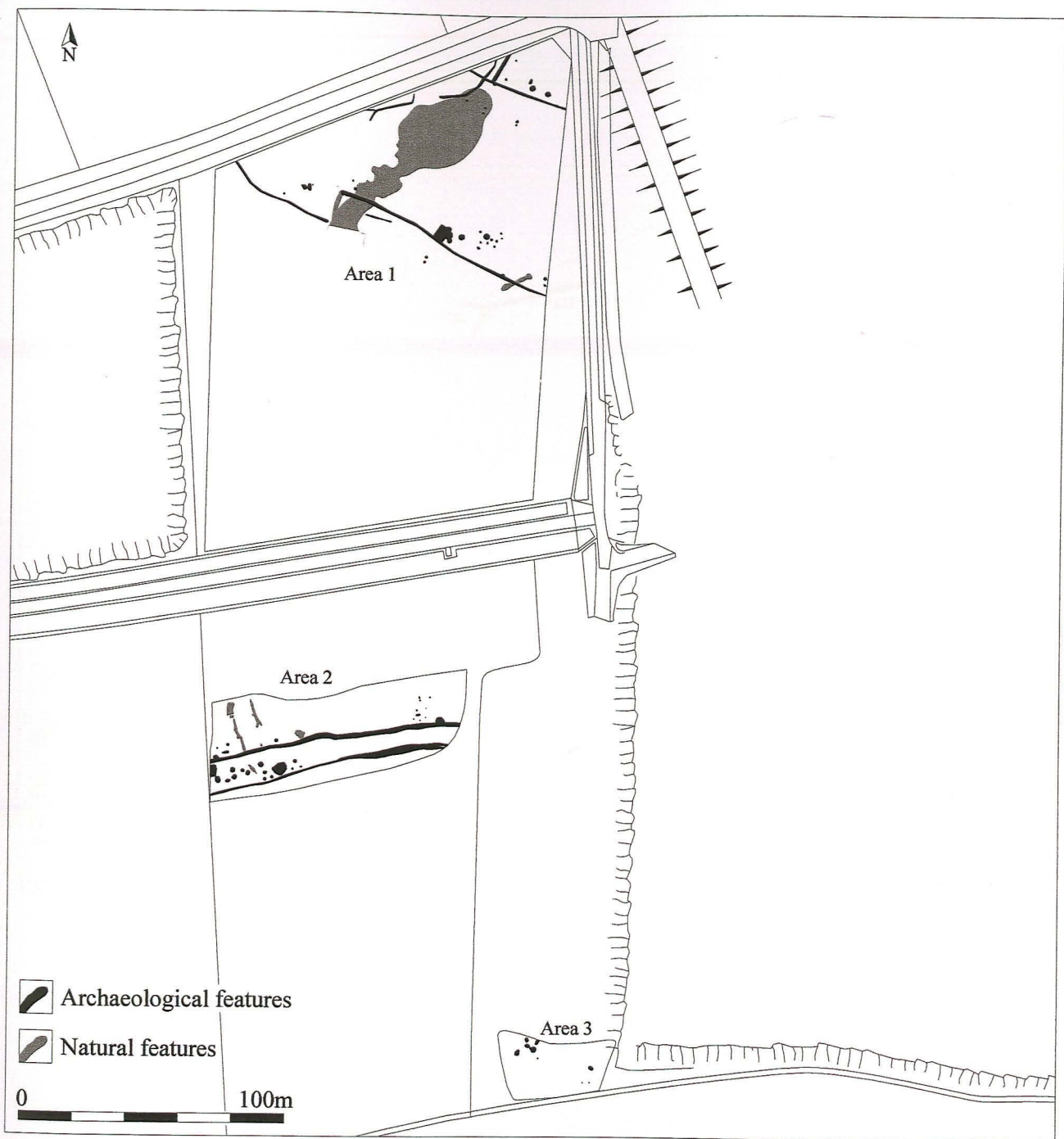


Fig. 3 All features plan

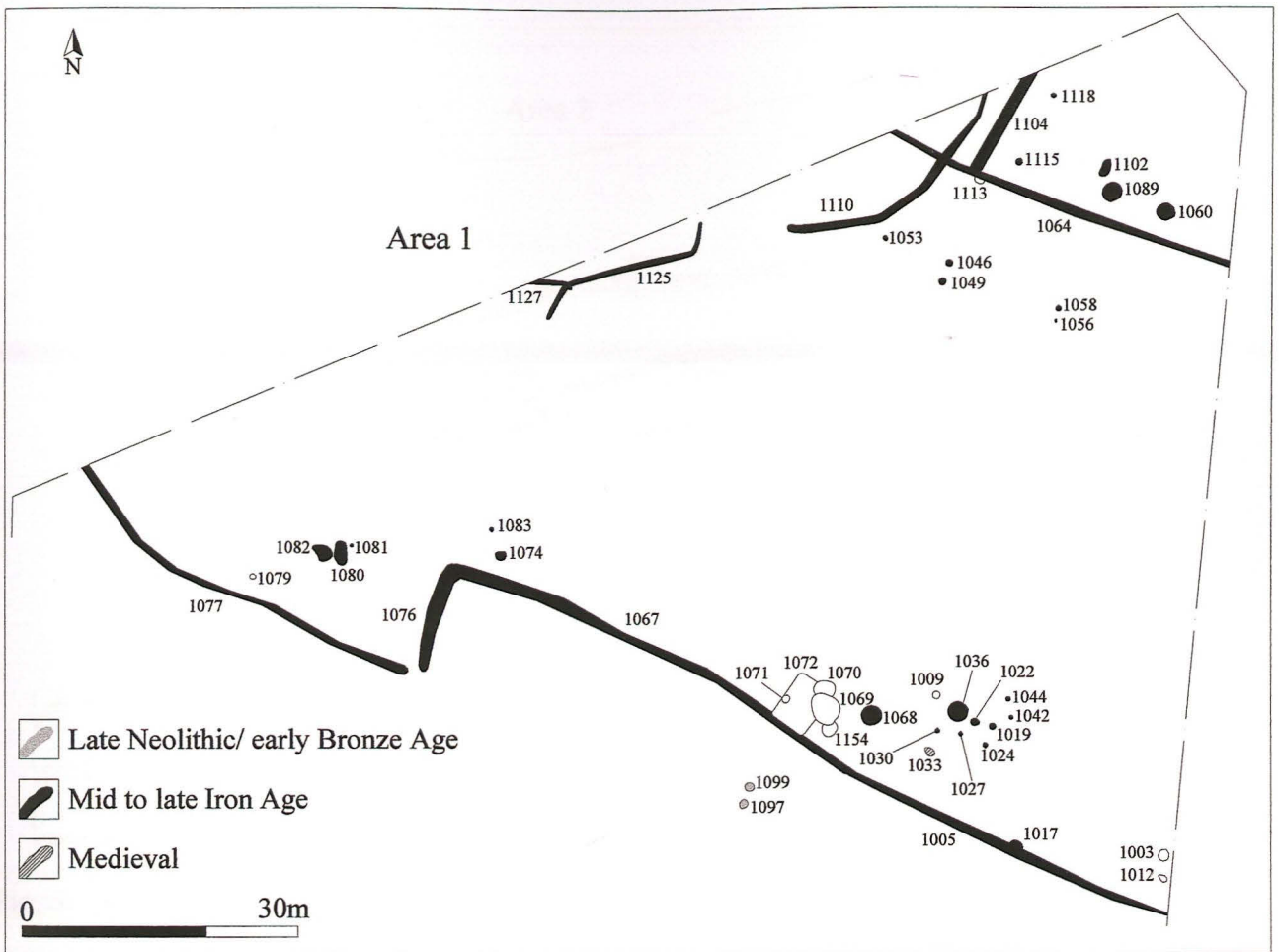


Fig. 4 Area 1 phase plan

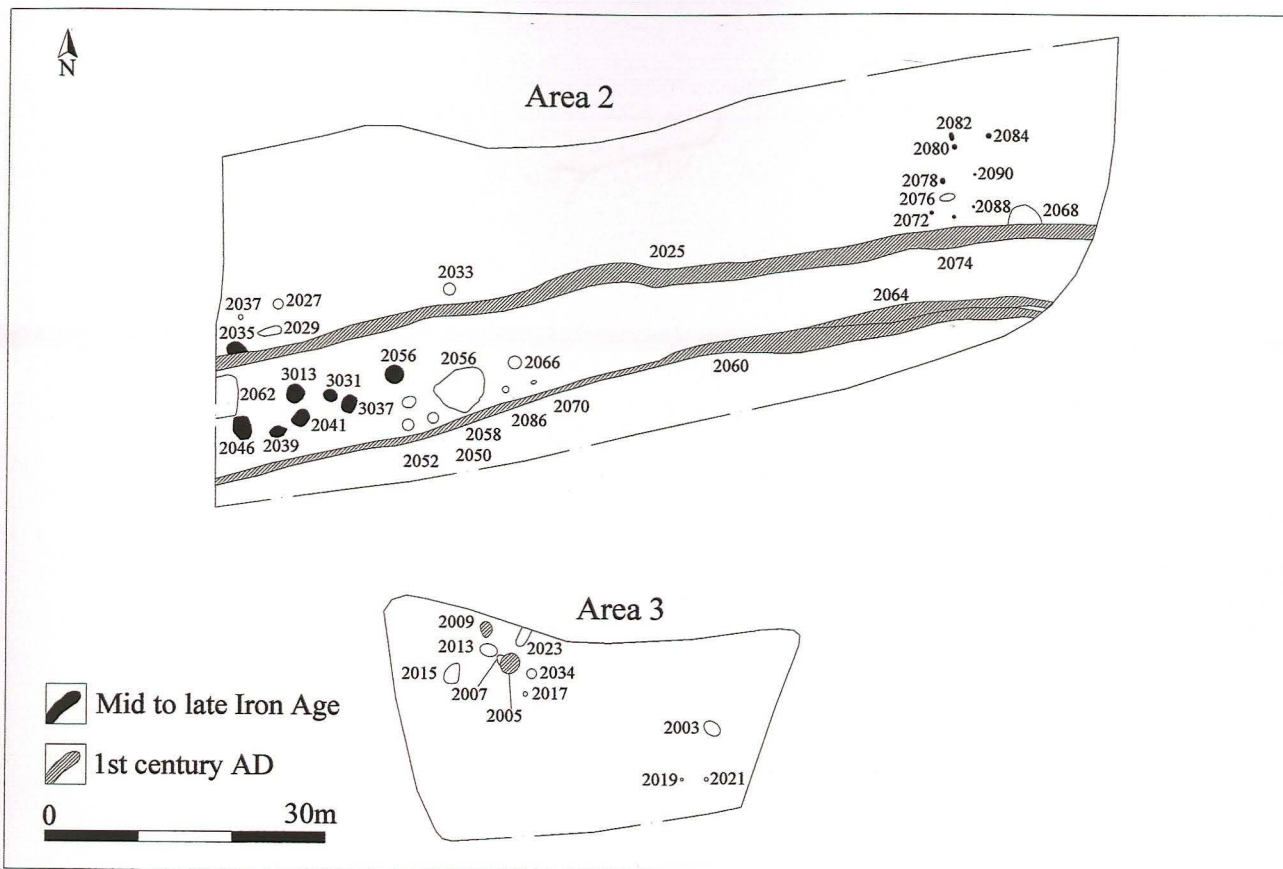


Fig. 5 Areas 2 and 3 phase plan

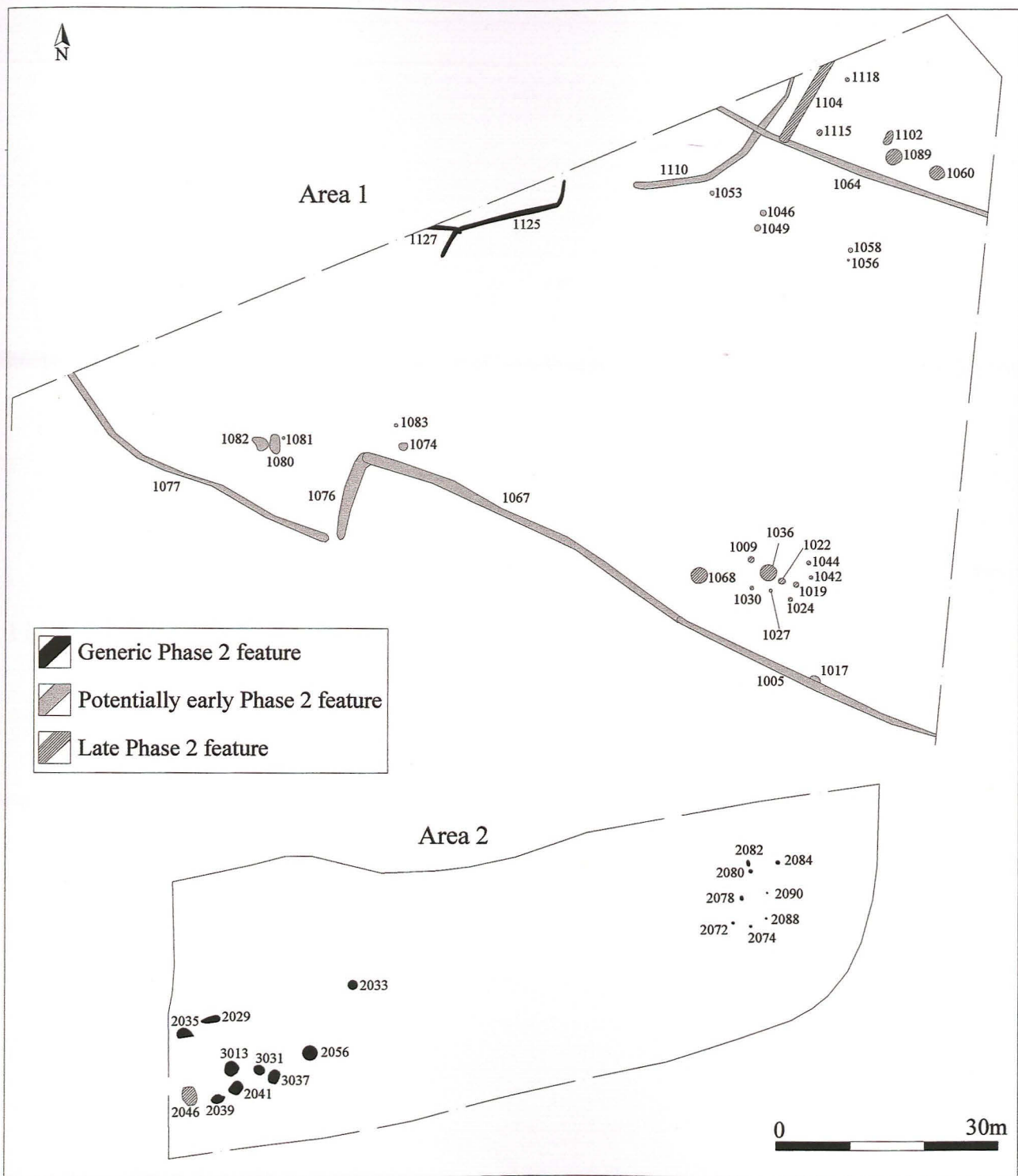


Fig. 6 Potentially early and late features within Phase 2

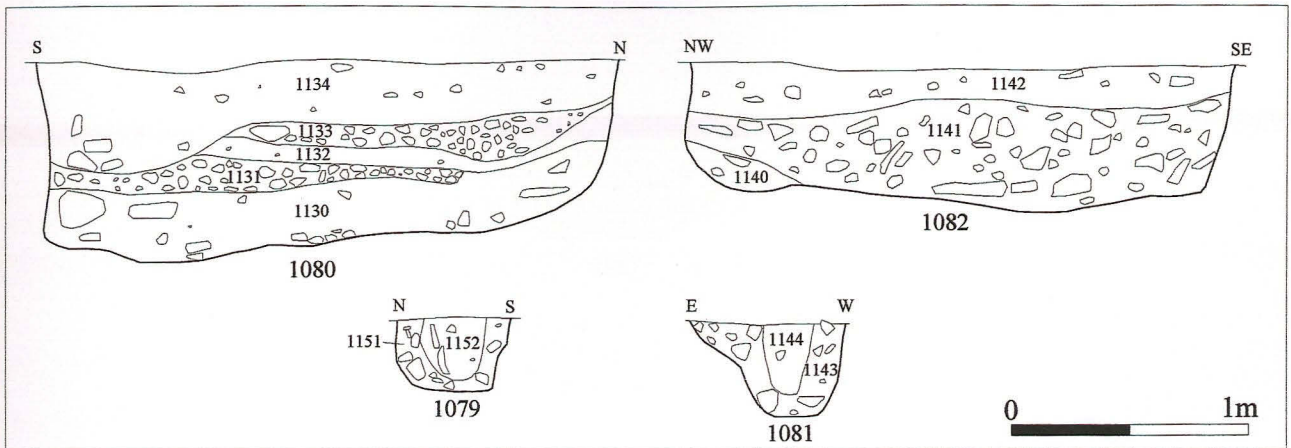


Fig. 7 Sections through Pits F1080 and F1082, and Postholes F1081 and F1079



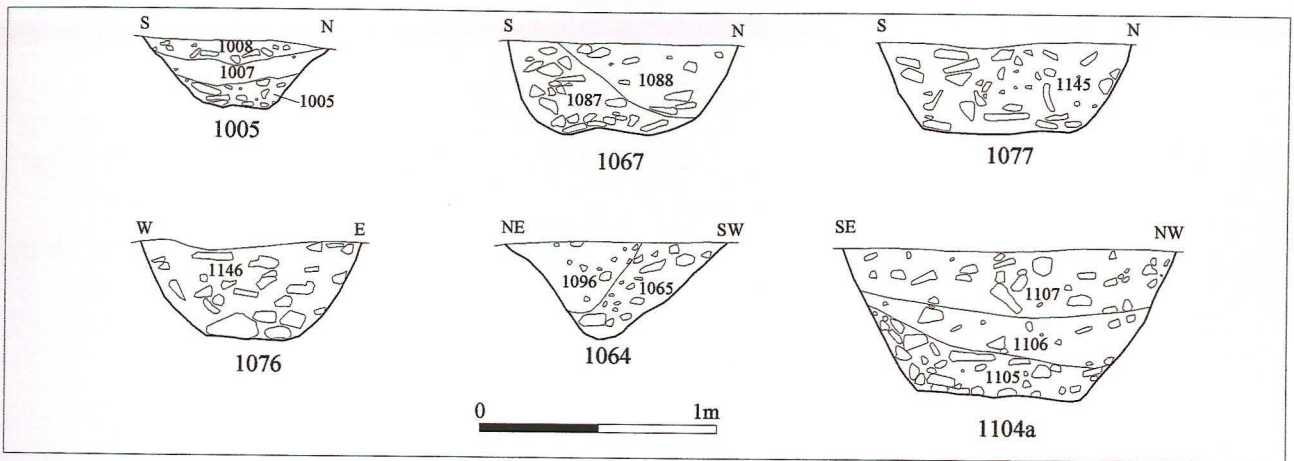


Fig. 8 Sections through the boundary ditches

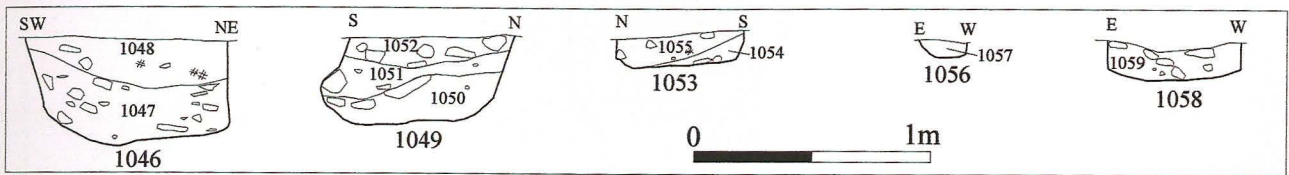


Fig. 9 Features of the pit/posthole alignment

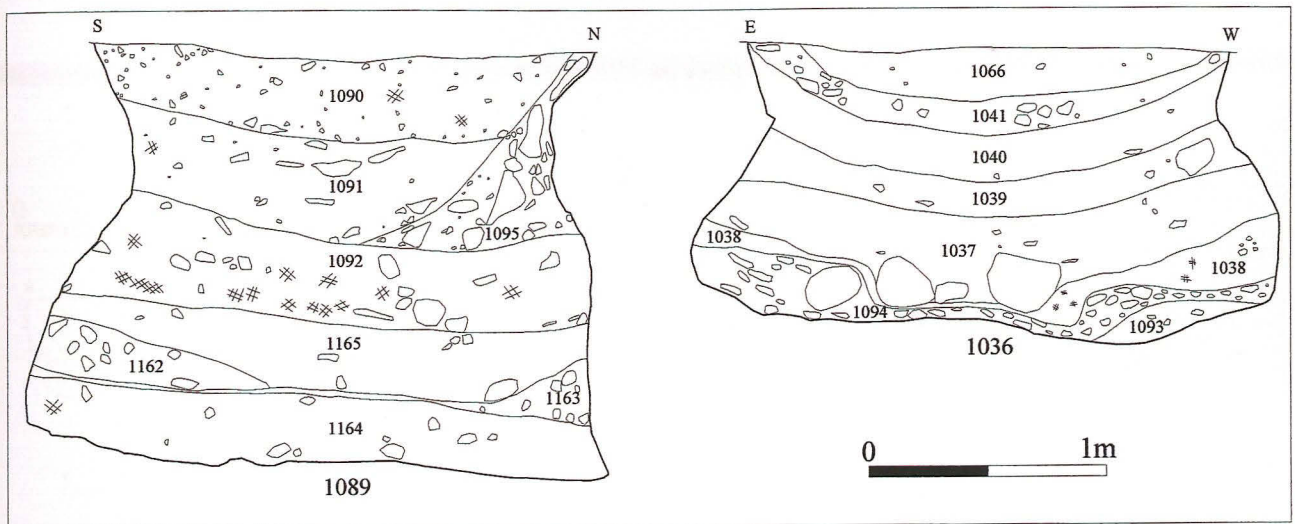


Fig. 10 Sections through the bell-shaped pits

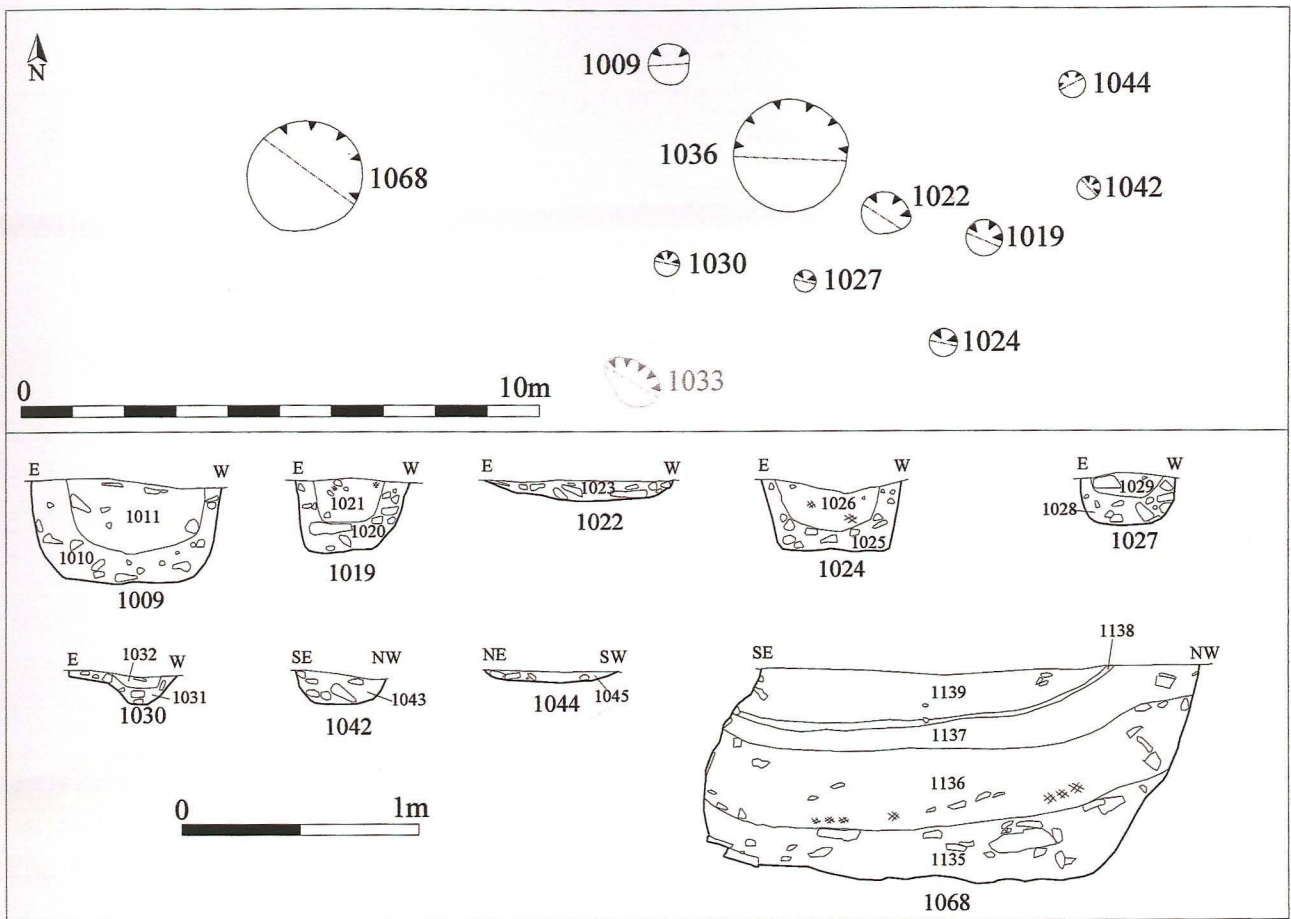


Fig. 11 Features associated with Pit F1036

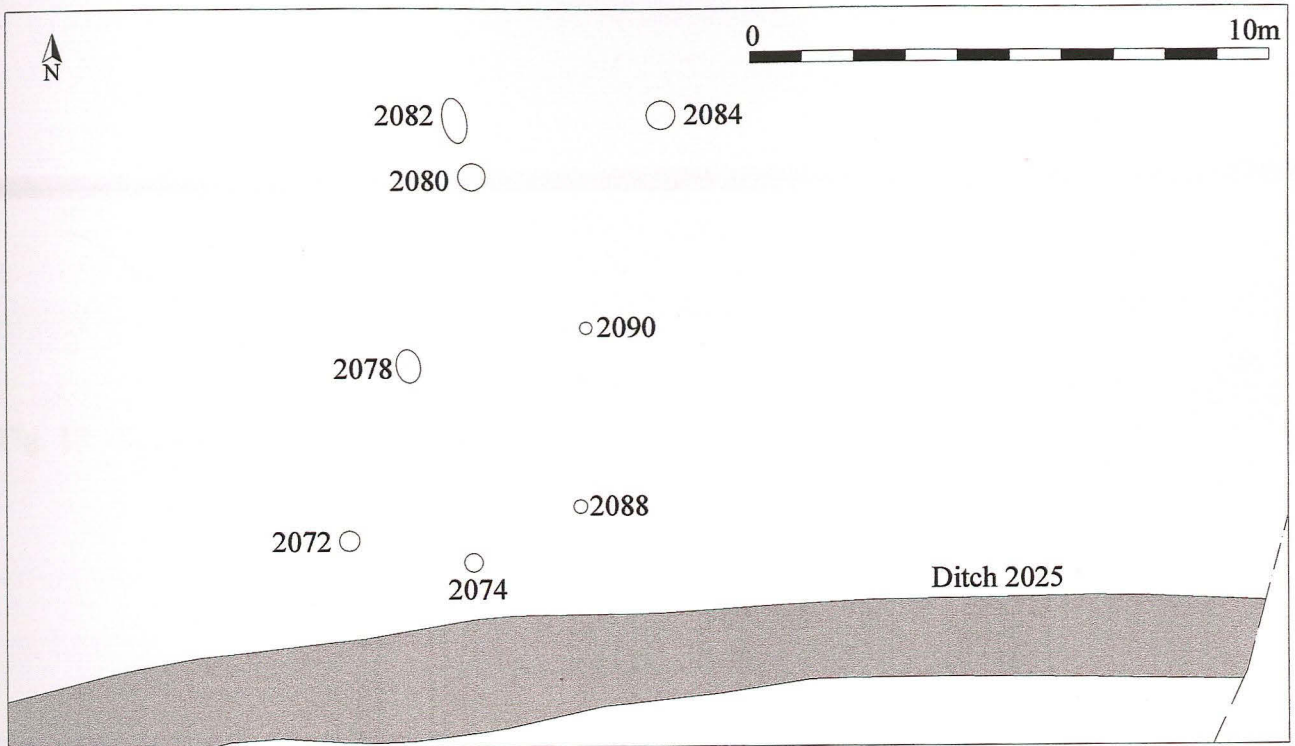


Fig. 12 The fence lines or possible structure

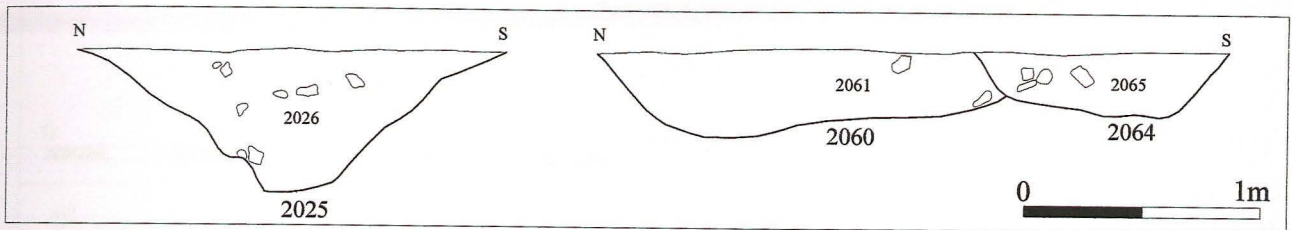


Fig. 13 Sections through the parallel ditches

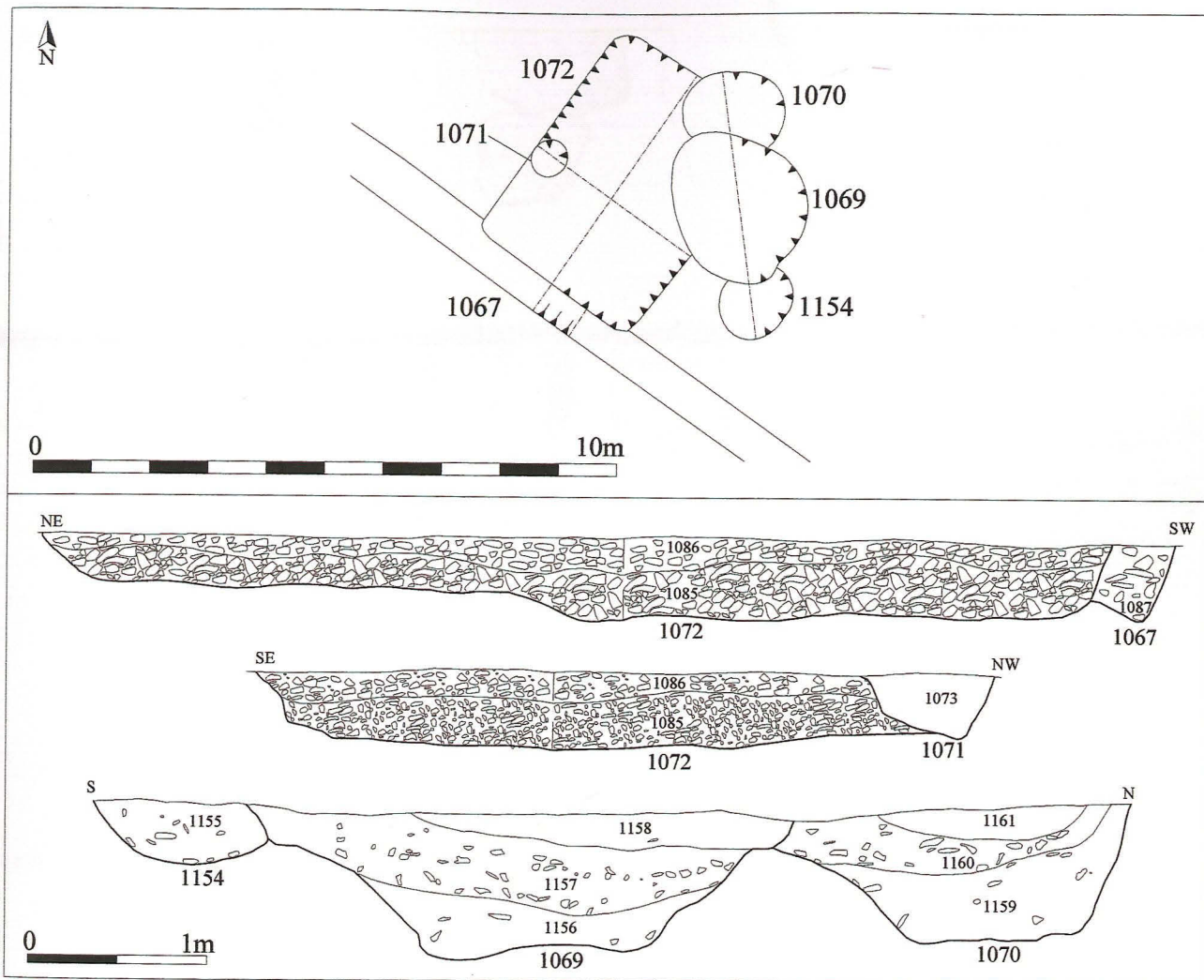


Fig. 14 F1072 and associated features

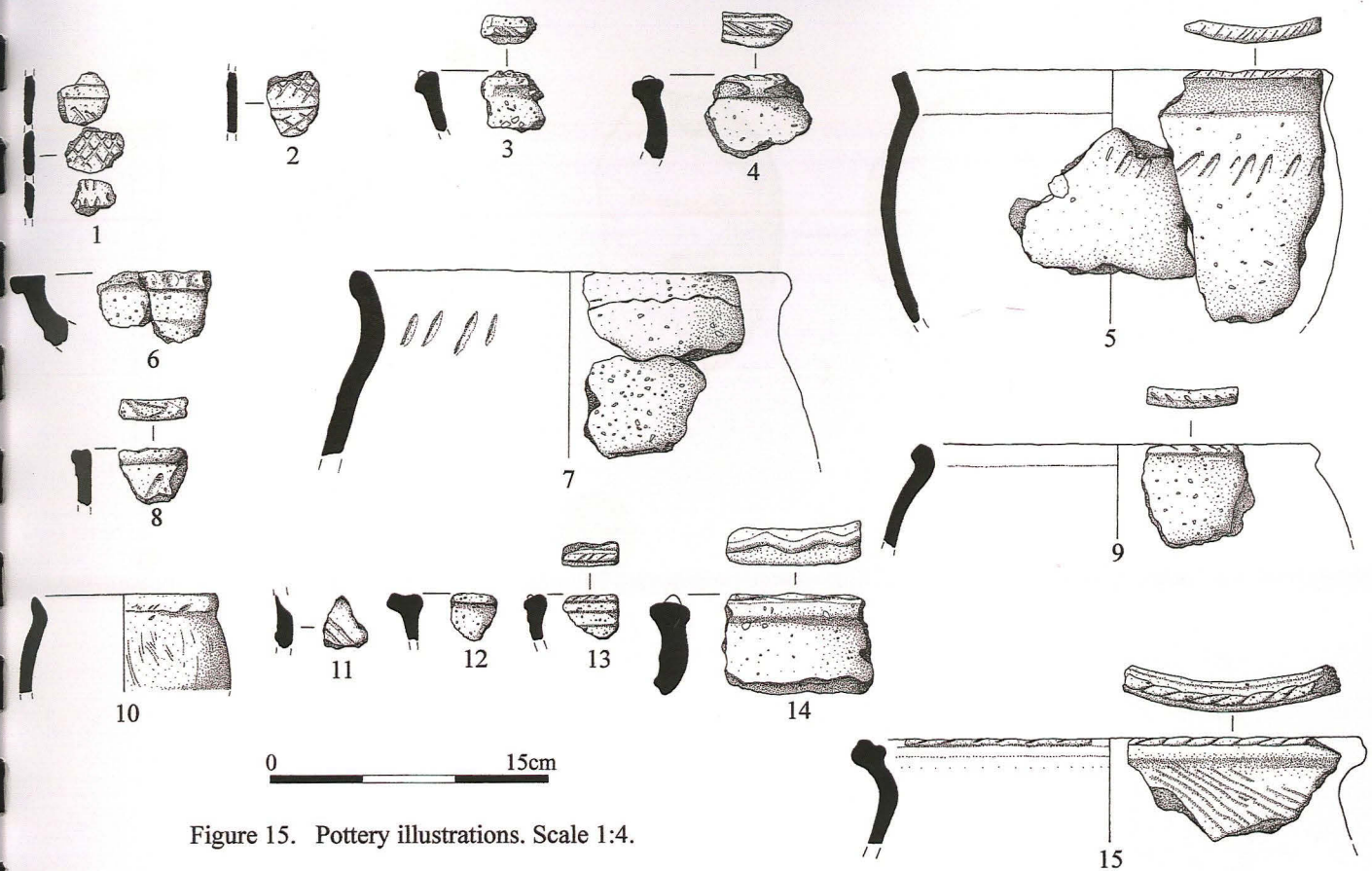


Figure 15. Pottery illustrations. Scale 1:4.



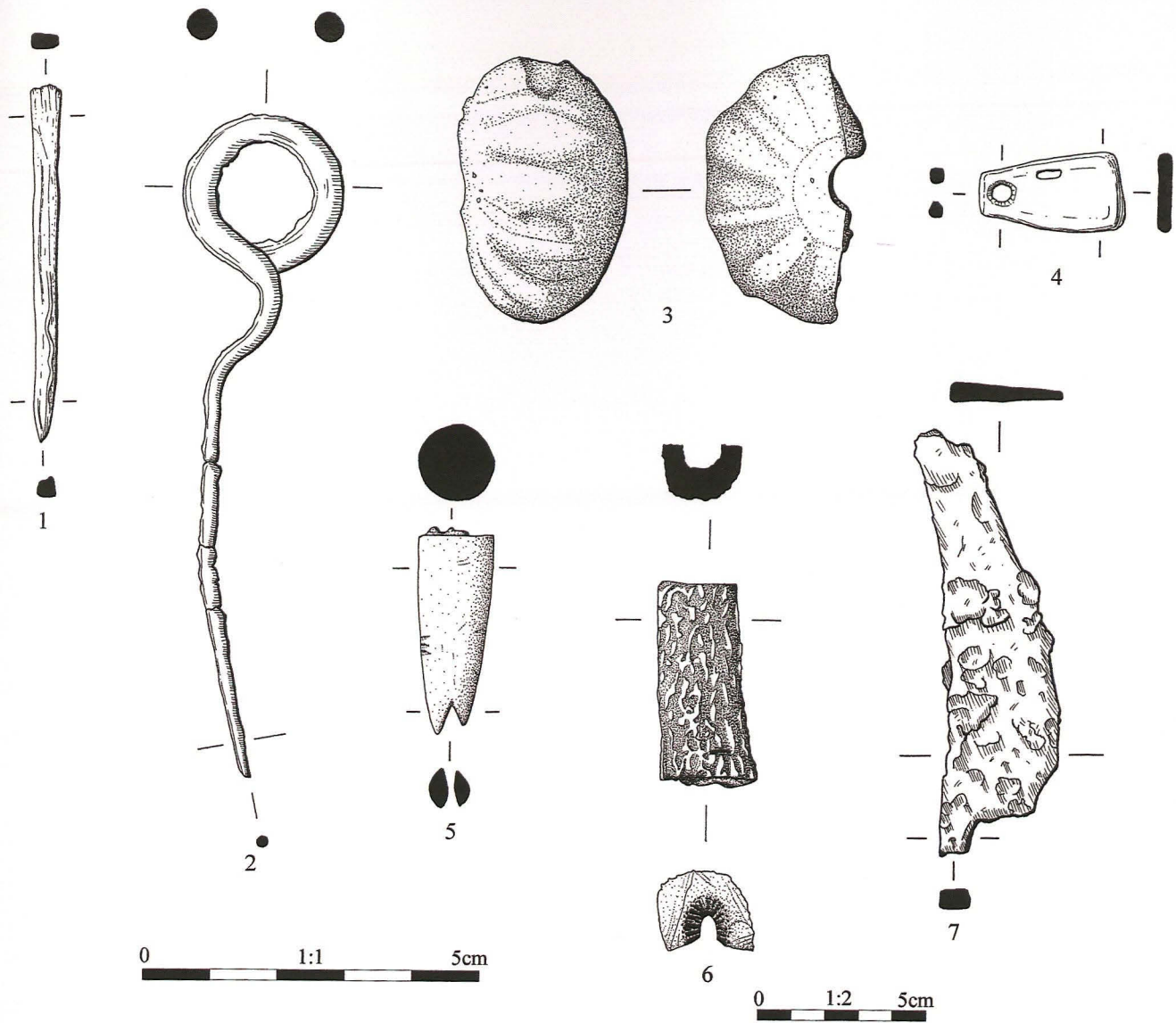


Figure 16. Small finds illustrations. 1-5 scale 1:1; 6 & 7 scale 1:2.



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