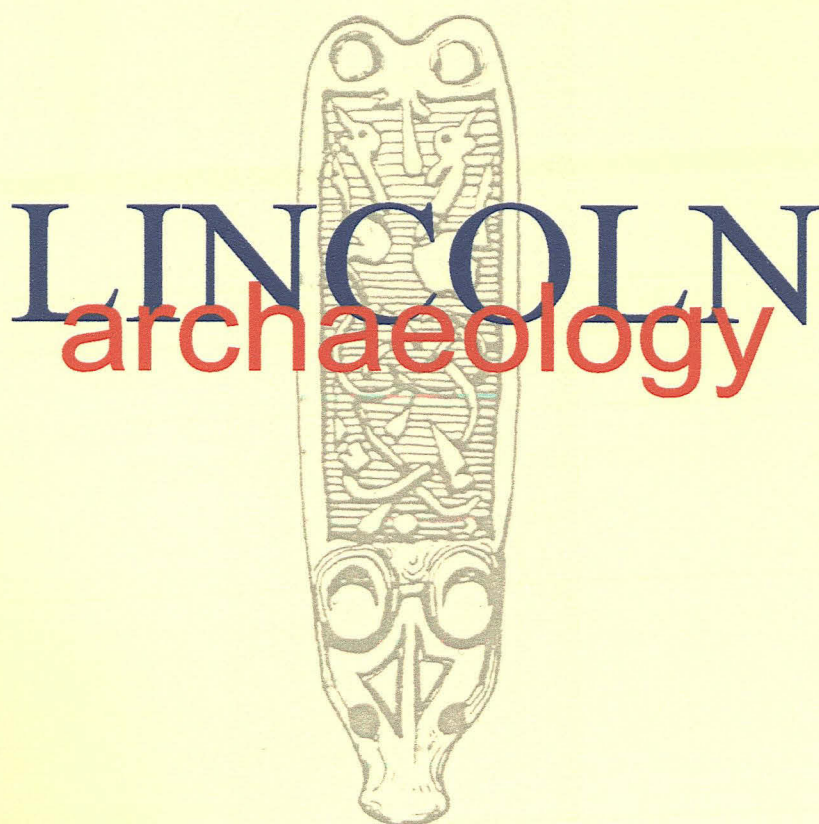


A Report to Greetwell Developments

February 2002



The Prehistoric Triple-ditched Boundary at Bunkers Hill, Lincoln

Archaeological Excavation

By R Trimble

Report No.: 476

LINCOLN
archaeology

EVENT 43388
SOURCES 418106 418107
50348 Prehistoric
70220 Roman
54248 Med to Mod

THE PREHISTORIC TRIPLE-DITCHED BOUNDARY AT BUNKERS HILL, LINCOLN

Site Code: GBHB01
LCCM Accession No.: 2001.112
Planning Application No.:
NGR: TF 0043 7292

Archaeological Excavation

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THE PREHISTORIC TRIPLE-DITCHED BOUNDARY AT BUNKERS HILL, LINCOLN

ARCHAEOLOGICAL EXCAVATION

SUMMARY

This report describes the results of an archaeological excavation undertaken by the City of Lincoln Archaeology Unit (CLAU) in advance of a residential development at Bunkers Hill, Lincoln. The work, commissioned by Greetwell Developments, was carried out during the period 13 August – 10 October, 2001.

The site is traversed by part of a prehistoric triple-ditched boundary extending between Greetwell to the south and Grange-de-Lings to the north. The feature, which is visible as a cropmark on aerial photographs, had already been investigated by geophysical survey (survey Area 5) and by a programme of trial trench evaluation.

The excavation revealed that a break in the boundary occurred approximately 50m north-west of the area previously examined by geophysical survey. The terminal of the easternmost ditch proved to be of particular interest having been recut on several occasions. The final fill of the ditch at this point contained a relatively large assemblage of pottery dated to the Late Iron Age.

A linear hollow, interpreted as a track, passed the ditch terminals at right-angles to the north-west, while to the north-east a concentration of Late Iron Age (possibly some Early/Middle Iron Age) pits and postholes was identified. It is believed that this activity might relate to the control of movement across the boundary. An abraded fragment of iron smelting slag from one of the pits or postholes, in addition to hammerscale and slag found in the easternmost-eastern ditch during the earlier evaluation, hints at probable Iron Age iron-working in the immediate vicinity of the site.

The track may have continued in use into the early Romano-British period and some relatively large pits (function unknown) may also be attributed to this period. The pottery, mostly unstratified or residual, points to a concentration of activity in the 2nd century AD. This would appear to predate the establishment of the nearby settlement at Greetwell (see main text).

Furrows forming part of medieval ridge and furrow field systems were present across the entire area of excavation. Interestingly, the layout of the furrows appeared in part to respect the prehistoric boundary, suggesting that, beforehand, the feature survived as a recognisable landmark.

1.0 INTRODUCTION

An archaeological excavation, at Bunkers Hill, Lincoln, was undertaken by the City of Lincoln Archaeology Unit (CLAU) during the period 13 August – 10 October 2001. The work, commissioned by Greetwell Developments, was carried out in accordance with the requirements of the local planning authority as set out in a brief by the Heritage Team, Department of Planning, City of Lincoln.

The site forms part of an area scheduled for housing development under outline planning permission granted conditionally on 28 June 1999 (Ref. LD01/0120/89). The current work (carried out under Condition 14) is a component part of measures approved by the Department of Planning to evaluate, preserve and/or record the archaeological content of Area 5 (as designated during the geophysical survey).

The information in this document is presented with the proviso that further data may yet emerge. Lincoln City Council cannot, therefore, be held responsible for any loss, delay or damage, material or

otherwise, arising out of this report. The document has been prepared in accordance with the Code of Conduct of the Institute of Field Archaeologists.

2.0 SITE LOCATION, TOPOGRAPHY & GEOLOGY (Figs. 1 & 2)

The site is situated on land immediately to the west of the boundary between the City of Lincoln and the District of West Lindsey, c. 3km north-east of Lincoln city centre (NGR TF 0043 7292 - approximate site centre). The land is bounded to the north-west and north-east by properties fronting on to Wragby Road and Hawthorn Road respectively, to the east by Greetwell Lane (leading to Greetwell Farm), to the south-east by a small stream, and to the south and west by a quarry and adjacent fields.

Situated on the south-east slope of the Jurassic scarp known as the Lincoln Edge, the site lies upon a geology of (listed from most recent) Great Oolite Limestone with thin clays, Upper Estuarine Beds/Clays with thin limestones in upper parts, Lincolnshire limestone, Lower Estuarine beds, and Northampton sand and Ironstone (1973 *Geological Survey map of Great Britain (England and Wales), Solid and Drift, Sheet 114*). The excavated area is generally level (c. 37m OD) but the ground slopes downwards further to the south-east to meet the line of a small stream which forms the boundary of the field on that side (c. 30m OD). A footpath follows the scarp along the upper edge of this small valley.

3.0 ARCHAEOLOGICAL & HISTORICAL BACKGROUND

The principal focus of archaeological interest was a prehistoric triple-ditched boundary. This feature is one of several sections of cropmark extending discontinuously for 5.7 kilometres between Greetwell to the south of the study area and Grange de Lings to the north, to produce the longest recorded section of prehistoric multiple-ditched boundary in Lincolnshire (Bountwood 1998).

Previous archaeological work on the site, carried out as part of the current application for planning permission, includes a desk-based archaeological assessment (John Samuels Archaeological Consultants 1994), a topsoil magnetic susceptibility and gradiometer survey by Oxford Archaeotechnics Ltd (Johnson, 1997) and field-walking by Lindsey Archaeological Services (McDaid 1997). In April and May 2000 an archaeological evaluation was carried out by the City of Lincoln Archaeological Unit (Trimble 2000).

Previous investigations elsewhere along the line of the cropmark include large-scale excavations recently carried out by Lindsey Archaeological Services on adjacent land (hereafter referred to as 'Greetwell') to the south (Field & Armour-Chelu 2001). Prior to this, investigations were carried out at Nettleham Glebe (Field 1980) and Nettleham (Palmer-Brown 1994). Despite this work, the date of the boundary has yet to be satisfactorily ascertained. At Greetwell, separate ditches yielded pottery of Middle Iron Age and Late Iron Age/Romano-British date respectively, while Romano-British pottery in the fills of the ditches at Nettleham Glebe and Nettleham appears to have accumulated during a late phase of silting (see Bountwood 1998).

The evaluation by CLAU within Area 5, immediately south of the current study area at Bunkers Hill, located a recut to the north-eastern ditch (Trimble 2000) which produced a radio-carbon date of (CAL BC 520 - CAL BP 2470, ref Beta-150256) from a sample of charcoal found in association with pottery of possible Late Bronze/Early Iron Age date. Further to the south, at the base of the valley, the boundary-ditches were located beneath thick deposits of alluvium/colluvium. Trenches to determine the locations of other potential features located by the geophysical survey, including a c. 9-10m diameter ring-form set within a curvilinear or oval anomaly and another 'ring-like' anomaly on the edge of the valley scarp, produced a negative result.

Wragby Road, which lies a short distance to the north-west of the site, is known to follow the line of an important Roman road which proceeded in a north-easterly direction before dividing into separate roads, one heading north-east to the coast via the wolds, and the other south-east past Horncastle to Burgh-le-Marsh (Whitwell 1970).

4.0 OBJECTIVES

The principal objectives of the evaluation as set out in a CLAU specification of 30 July 2001 were to:

- *excavate, examine and record remains likely to be destroyed by the development scheme by prior archaeological recording within an area defined by the Archaeological Brief.*
- *produce a project archive for deposition with the City and County Museum, Lincoln.*
- *provide information for accession to the County Sites and Monuments Record (SMR) and the Lincoln Urban Archaeology Database (UAD).*

5.0 METHODOLOGY

Topsoil and other non-archaeological overburden was removed along the line of the triple-ditched boundary between Evaluation Trench 1 (see Fig. 4) to the south and the site boundary to the north, a distance of approximately 155m. This was achieved by means of a 360° tracked excavator using a c. 2m wide toothless ditching bucket.

Following completion of the above, the area adjoining Evaluation Trench 1 (hereafter referred to as Area 1) was hand-cleaned prior to further limited excavation to the north of the evaluated section of ditched boundary. The surface of the remainder of the stripped area was then inspected for areas of particular archaeological interest. By these methods, a concentration of activity was identified in a c. 20 x 20m area (designated Area 2) approximately 30m to the north-west of Area 1. From work in Area 2 it became apparent that important remains extended into contiguous areas to the north-east and south-west. It was therefore agreed, following discussion between the City Archaeologist, CLAU and Greetwell Developments, that the excavations should be extended to include these areas (designated Areas 3 and 4). The majority of the area north-west of Area 2 was re-scraped by machine to check for archaeological features including any further extents of the triple-ditched boundary. However, the extreme northern end of the trench was not examined in this way but was subjected to a thorough visual inspection.

Linear features extending beyond those areas investigated in detail were plotted by EDM Total Station.

6.0 RESULTS

The following account of the excavation generally excludes detailed context descriptions. For more detailed information refer to Appendix A below.

6.1 Natural/Geological Deposits

Fragmented limestone extended across the southern part of the stripped area within Area 1. Further to the north, within Areas 2, 3 and 4 and extending to the northern site boundary, the geology changed to a mix of limestone and yellow/grey silty clay.

Two small, irregularly shaped features (168 & 189) in Area 2 (Fig. 5) were interpreted as being natural in origin.

In Area 3 (Fig. 5 & Fig. 8, Sections 15 & 16), a shallow (undated) linear 'cut' (184), truncated by a medieval furrow at its western end, was also interpreted as natural (a fissure?) but an archaeological origin cannot be altogether dismissed.

6.2 Iron Age

The triple-ditched boundary proceeded in a north-westerly direction before terminating at a point c. 61m (centre ditch) from Evaluation Trench 1 (see Trimble 2000).

The Triple-ditched Boundary (Areas 1 & 2, for plans see Fig. 4 & 5)

Detailed recording of the triple-ditched boundary was carried out in Area 1, the segments previously excavated within Evaluation Trench 1 being extended in a north-westerly direction, and in Area 2 where the terminals of the ditches were fully excavated. As a result of this work, the boundary was found to vary in total width between a minimum of c. 12m to the south-east and a maximum of c. 15m at the ditch terminals to the north-west. At the same time, there was a progressive widening of the individual ditches to the north-west.

In Area 1, immediately to the north of Evaluation Trench 1, a c. 1.1m extension to the previously excavated segment of the easternmost ditch confirmed that (as suspected following the evaluation) the primary ditch (145) had been partly truncated by a recut (142) along its eastern side (Fig. 4, Section 1). Furthermore, it was observed that the primary ditch (145) appeared to terminate at a point c. 2.00m north-west of the excavated segment. This hints at possible discontinuities in the original line of the ditch. A very small quantity of iron (smithing) slag (total weight: 78g) was recovered from the fills of 142 (139, 141 and 143).

At the terminal of the same feature(s), within Area 2, there was even more pronounced evidence for recutting - the position of the ditch having shifted progressively eastwards (Fig. 7, Section 40). The primary cut (269) at this point was steep sided on its surviving western side and displayed a broad/slightly concave base. Its eastern side had been cut away by a deeper ditch (267) which itself had been almost entirely removed by yet another ditch (158) even further to the east. The latter feature attained a greater depth (c. 810mm from ground level) than either of the earlier ditches and was characterised by fairly steep sides sloping to a rounded base. A further recut, confined to the upper levels of 158, may have been defined by a sequence of deposits (261, 262, 263) including a primary fill (264) of silty clay; alternatively the deposits may have represented the tertiary infilling of 158.

The final infill, a silty sand (159), contained the only pottery recovered from the easternmost ditch terminal. Dated to the Late Iron Age, this comparatively large (compared to that from other excavated segments across the triple-ditched boundary) assemblage of 36 sherds could reflect both temporal and physical proximity to the main phase of activity in Area 3 (see below).

The excavated segment of the central ditch (148), in the area immediately adjacent (Area 1) to Evaluation Trench 1, was extended by 1.2m. There was no indication of a recut to the feature which displayed a rounded v-shaped profile (Fig. 4, Section 2). It decreased in depth as it progressed to the north-west - changing in form to a broader/concave profile. There were no datable finds in its primary fill (147), of compact angular limestone (70%) with silty sand (30%). However, two sherds of Iron Age pottery were recovered from its upper fill (146) of sandy silt with 15% limestone inclusions.

At its terminal (in Area 2), the central ditch (252) had broadened to a width of 1.85m (max). Its irregular sides sloped at c. 45° from horizontal to a flattish base (Fig. 7, Section 39). Its single fill (251) of clayey silt with c. 5% limestone inclusions was devoid of pottery. There was no clear indication of recutting at this point but the breadth of the feature does suggest the presence of an otherwise unidentifiable recut.

The westernmost ditch, where investigated in a 1.9m wide segment in Area 1, consisted of a primary cut (153) displaying an approximately v-shaped profile with rounded base (Fig. 4, Section 3). Its primary fill, a sandy silt (152), containing 25% limestone inclusions, was sealed by another sandy silt (151) containing only 5% limestone. It had been partially truncated by a recut (150) which terminated just inside (by c. 600mm) the north-western edge of the excavated segment. The latter ditch contained a fill of reddish brown sandy silt with 10% limestone inclusions (149) along with a number of fragments of a Roman creamware flagon (see Section 6.3 below) dated 120 – 160 AD recovered from its upper levels (see Appendix B). At its terminal, the ditch displayed a primary cut (180) with a steep surviving side and concave base. It had been partially truncated, on its western side, by a recut displaying a more v-shaped profile (256 – Fig. 7, Section 38).

Other Features (see Fig. 5)

A linear hollow, interpreted as a track, passing immediately to the north-west of the ditch terminals in Area 2 and then extending into Area 4, was probably in existence by the Late Iron Age. However, the only dating evidence, from a fill in a possible continuation of the feature (166), was Roman in date. The feature is therefore discussed in more detail the relevant section (6.3) below.

The end of a curving ditch (176) with a generally V-shaped profile (see Fig. 6, Section 8) was located in Area 2, extending across the projected line of the westernmost ditch (180/256) forming the triple-ditched boundary. The ditch, which was filled by a sandy silt (70%) with 30 % limestone fragments (175), was also encountered in Area 4 (245 – see Fig. 8, Section 41) where its fill (244) produced a single sherd of Iron Age pottery. The feature may be interpreted as an enclosure ditch.

Pits and Postholes in Area 3 (Fig. 5)

A group of small pits and post-holes was located immediately east of the termination of the easternmost ditch. Several of the features contained pottery in their fills, all prehistoric but predominantly Late Iron Age where diagnostic sherds were included in the assemblage (see Appendix B). Two sherds of potentially Early to Middle Iron Age date were recovered.

Three small cut features, of approximately similar dimensions and set at precise 2.6m intervals to form a slightly curving north - west alignment, were interpreted as probable post-holes (215, 225 and 227 – see Fig. 8, Sections 28, 30 & 31). Fragments of fired clay, interpreted as probable prehistoric pottery, were found in samples from 215 (fill 214) and 227 (fill 226), while the fill of 225 (224) produced a single sherd of pottery interpreted as being of possible Early to Middle Iron Age date together with a fragment of fired clay. The alignment may represent a fence-line (possibly a windbreak) or perhaps (more tenuously) part of a circular structure with a projected diameter of c. 13.5m (see Fig. 5).

Another small cut feature (229 – see Fig. 8, Section 32), which lay to the south of 227, may have been related (particularly if interpreted as a fence-line or windbreak) but has been excluded from the alignment on the grounds of its greater size and depth, and because it lies on a different spacing to the other probable postholes. The feature's fill (228), from which a single sherd of prehistoric pottery and a fragment of fired clay (probably pot) was recovered (in sample <3>), was unique in containing a high proportion of fired clay. The sample also produced fragment of abraded smelting (tap) slag.

A very small, shallow cut, interpreted as a possible stake-hole (217), lay in close proximity to 215. The feature was not dated but may have performed a structural function together with the alignment of postholes.

On the basis of their form, size and contents, a pair of cut features, approximately circular (211 & 209 – see Fig. 8, Sections 25 & 26) in plan, and each packed with irregular fragments of stone were interpreted as post-holes belonging to a common structure. The fill of 209 (208) also contained small fragments of reddened clay (daub?). Set c. 3.85m apart, the features were not dated, but an Iron Age date is considered highly likely in view of their location within a concentration of (probably structural) activity relating to the period.

A sub-circular cut (223) and an oval cut (233) were interpreted as probable pits (Fig. 8, Sections 29 & 27) or possibly as further postholes. These features were more productive than the other features in terms of the pottery retrieved and have been dated to the Late Iron Age Period. The primary fill (240) of 233, a sandy clay containing two fragments of Late Iron Age pottery, was sealed by soft greenish grey clay (239) which could have been deliberately placed in view of the general absence of clay sedimentation in excavated features across the site. This implies a possible liquid-holding function. The latest fill, a silty sand (232), produced two sherds of pottery dated to the Late Iron Age. The silty sand fill (222) of the other feature (223), produced a small group of finds including fragments of iron and copper alloy, a very small piece (2gm) of smithing slag, and several sherds of pottery, again dated to the Late Iron Age.

Two other features interpreted as pits (174 & 231 – see Fig. 8, Sections 10 & 47) were undated but may once again be attributed to the (Late?) Iron Age period.

A small 'cut' (243) at the south-eastern corner of Area 3 may best be interpreted as a hollow of ploughsoil unrelated to the Iron Age activity.

6.3 Roman

The small assemblage of Roman pottery from the site mostly occurred in unstratified contexts or as residual material in later contexts. There was, however, some contextual evidence for continued activity into the Roman period in the immediate environs of the site. This included the discovery of a 11 sherds belonging to a single cream ware flagon attributed to the period AD120-160, in the uppermost level of the fill (149) of a recut (150) along the line of the north-west ditch in Area 1 (see section 6.2 above). This indicates that the triple-ditched boundary survived (at least in the form of an earthwork) into the early Roman period.

Possible track (for plan see Fig. 5)

The latest fill (165) of a shallow hollow (166 – see Fig. 6, Sections 19, 20, 21 & 22) immediately north-west of ditch-terminals 252 and 158/267/269 may also be attributed to this period. The feature, of irregular plan, contained a primary fill of reddish brown silty sand (191). This was in turn sealed by a brown silty sand (190) and finally by another reddish brown silty sand (165) containing pottery dated to the period AD100-200+.

Although deepening at this point, the feature could have formed the north-eastern end of a trackway represented by several lengths of shallow, linear hollow (otherwise undated but possibly originating in the Iron Age – see Section 6.2 above) passing the north-west of the boundary terminals on a south-west to north-east axis. The hollows (including 166) all displayed base surfaces of rounded limestone (compatible with interpretation as a worn surface) which was also evident in higher patches between the hollows.

To the south-west of 166 the alignment was continued by a hollow (187 – see Fig. 6, Section 24), c. 50mm deep (max), containing a reddish brown sandy silt (186). A patch extending south-eastwards from the latter area could represent the remains of a track leading between the nearby ditches 256/180 and 252. A similar projection from feature 166, seen but not investigated, could represent movement within the corridor between 252 and 158/267/269. The next hollow (197), yet further to the south-west, attained a maximum depth of only 40mm and contained a sandy silt fill (196).

At its south-westernmost recorded extent the probable track (within Area 4) was represented by a linear cut (249 – see Fig. 8, Section 42), 200mm deep, which appeared to terminate within the trench to the south-west but continued beyond the limit of excavation to the north-east. It was filled by a mid yellow-brown deposit (248). To the north-west it was flanked by a narrower linear cut (247 – see Fig. 8, Sections 43, 44 & 45), 50mm deep, this time terminating within the trench to the north-east. It was filled by yellow-green/brown silty clay (246) and can be interpreted as an individual rut within the general alignment of the track.

Other Possible Roman Features

A single sherd of Roman pottery, dated AD 120-200, was recovered from a comparatively large pit (177 – see Fig. 6, Sections 34 & 35) flanking the 'track'. The pit, c. 320mm deep (max), was sub-oval in plan with sides (steeper at its north-eastern end) generally sloping gradually to a concave base. It was filled by a reddish brown sandy silt (178). A slightly smaller pit, c. 290mm deep, on the opposite side of the 'track' (164) filled by a greyish brown sandy silt was not dated but can be grouped with 177 on the basis of typological affinities and physical proximity.

Another feature (156), interpreted as a possible pit but possibly of natural origin, lay in close proximity to one of the ditch terminals (158/267/269). It was of irregular but generally linear plan, widening from south-west to north-east. Its sides were generally steep, breaking to a gently rounded base. Its fill (157), a yellowish brown sandy silt contained a single sherd of Late Iron Age or Early Roman pottery. It is possible that this feature belongs to the same phase of activity as pits 177 and 164.

6.4 Medieval (for plan see Figs. 3 & 5)

A thick soil, sealing the natural limestone brash but overlain by the existing topsoil, was present in all the areas examined (138). The material, which extended into linear hollows interpreted as medieval plough furrows, appears to represent a relict plough-soil associated with the medieval ridge and furrow pattern of arable cultivation. To the north-west of Area 2, the material gradually reduced in thickness before disappearing altogether. This coincided with a reduction in width of the furrows, arising from increased truncation by post-medieval ploughing.

Extensive remains of three furrows (161 & 170 – see Fig. 5; additional furrow to the south-west plotted by EDM Total Station only – see Fig. 3) were recorded running generally south-east to north-west (then curving slightly to the north) between a headland lying just to the north-west of Area 1 and the point at which they eventually tapered out c. 25m from the northern site boundary. A length of a fourth furrow (182) set further to the north-east was recorded in Area 3. Remarkably, the two centrally placed furrows (170 & 161) overlapped, and respectively followed, the lines of the central and easternmost boundary ditches. From this it may be inferred that the earthworks survived into the medieval period and were at this time pronounced enough to influence the subsequent development of the landscape. The features, each measuring around 2m across and c. 150mm (max) deep (where excavated), maintained fairly constant intervals between one another of c. 8-9m from centre to centre. Material from the excavated segments, including pottery and tile, indicates activity ranging between the late 13th and the 16th centuries.

A gap of c. 14m wide, almost certainly denoting a headland, separated these furrows from three further furrows, aligned at right angles on a south-west to north-east axis in Area 1. These furrows were less eroded, attaining widths of up to 3.5m. The only excavated segment (221), against the north-east trench edge, revealed a depth of c. 200mm and gradually sloping concave sides. The feature was filled by a sandy clayey silt (220).

6.5 Modern

A ditch (plotted by EDM Total Station – see Fig. 3), on the line of a former field boundary shown on earlier 20th century OS maps, was recorded at the north-western end of Area 1. The ditch coincided with the north-western edge of the furrow adjacent to the probable headland (see above), apparently respecting the medieval pattern of land allotment.

Another ditch (see Fig. 5), encountered at the south-western edge of Area 2, followed the line of the adjacent hedged field boundary.

Ceramic pipe land-drains were located in Areas 1 (not shown) and Area 3 (235). Modern plough scores, generally running north-south, were particularly evident in Area 1.

7.0 DISCUSSION

7.1 Prehistoric (Iron Age?)

The actual position of the boundary terminal, c. 32m north-west of the former field boundary recorded on aerial photographs, accords well with interpretations of the aerial photographic evidence - the most recent (John Samuels Archaeological Consultants 1994) placing the terminals of the south-western and north-eastern ditches at distances of 50m and 10m respectively beyond the line of the boundary (the central ditch does not continue beyond the hedge-line); the earlier (Everson 1979) showing the terminals a short distance north-west of the field boundary.

The break in the prehistoric boundary (for a distance of at least 100m) could respect a natural obstacle (such as an area of woodland) in the prehistoric landscape, or possibly a territorial entity. Alternatively it may be suggested that the boundary was, at this point, defined by an archaeologically unrecognisable feature – for example, a fence or hedge. On aerial photographs the ditches are again visible (heading

north) to the rear of properties lining the north-western side of Wragby Road. The triple-ditched boundary must therefore recommence at a point within the intervening built-up area.

In their final form, the ditches (across the stripped area) were apparently continuous. They displayed occasional variations in depth (notably the central ditch in Area 1) and maintained generally v-shaped profiles. Interruptions in the earlier phases of the ditch system (such as the primary north-eastern ditch in Area 1) might indicate a more piecemeal development of the system but is equally likely to reflect a process of partial and intermittent recutting to maintain the boundary.

Evidence for repeated recutting, particularly at the north-east ditch terminal, could indicate that the ditches were maintained as an integral part of the boundary. To some extent this conclusion conflicts with findings at Greetwell, where parts of the boundary were represented by pits (interpreted as quarries), leading to the suggestion that the more visible banks (no longer in existence) formed the main elements of the boundary, while the ditches served primarily as sources of upcast material (Field & Armour-Chelu 2001).

While the occurrence of Roman pottery (dated to the 2nd century AD) in more recent fills, according with the evidence from previous excavations at Nettleham (Palmer Brown 1994) and at Nettleham Glebe (Field 1980), indicates silting up over a long period of time, the excavated ditch segments generally yielded low quantities of datable material. An exception was the comparatively large assemblage of Late Iron Age pottery found in the latest fill of the north-eastern ditch terminal, providing conclusive evidence for the final silting up of at least some parts of the ditch system during the Late Iron Age period.

With regard to the earlier development of the feature, the sequence of recuts (again most evident at the easternmost ditch terminal) indicates a long period of use preceding the Late Iron Age. This could permit an Early/Middle Iron Age or even earlier (Late Bronze Age?) date which would better accord with the Middle Iron Age date (CAL BC 520 - CAL BP 2470, ref Beta-150256) obtained for a context in a recut of the easternmost ditch in Evaluation Trench 1 (Trimble 2000). This date is, however, to some extent problematic in that the pottery associated with the radiocarbon dated material (although originally designated as possibly Late Bronze Age/Early Iron Age) has affinities with probable Late Iron Age material from the current work.

The character of the activity represented by the probable Late Iron Age pits and postholes (contemporary with the final phase of silting into the nearby ditch?) identified in the immediate vicinity of the ditch terminals is difficult to ascertain, given the limited nature of the evidence. However, the probability of structural remains and the comparatively frequent occurrence of pottery hints at an element of domestic occupation as does the evidence from the environmental samples (see Appendix E), while the recovery of a single fragment of iron-smelting slag from a small pit or posthole (229) and the fragment of slag from the pit 222, in addition to the earlier discovery of hammerscale and slag in a section across the easternmost boundary ditch in Trial Trench 1 (Radio-carbon dated to BC520 – see Trimble 2000) and in the widened segment, provides convincing evidence for iron-working in the immediate locality. There was some evidence, in the form of two sherds of more crudely manufactured pottery sherds, for Early and/or Middle Iron Age activity in Area 3. One of these sherds, from posthole 225, comprises the only dating evidence for the alignment represented by postholes 227, 225, and 215.

The occurrence of possible structures in association with breaks in multiple-ditch boundaries has been noted from previous fieldwork in Lincolnshire. At Nettleham Glebe (Field 1980) a posthole structure aligned with the ditch system was positioned at the end of a break in the central ditch, while at Brauncewell (Tipper 1994) a series of post-holes was interpreted as a possible fence-line or perhaps another type of barrier. At Greetwell, a group of postholes (undated) was found in close proximity to the ditches. This type of arrangement has prompted the suggestion that they may represent the provision of control over the movement of livestock and/or people (Bountwood 1998). At Bunkers Hill, the probable track passing the ditch terminals appears to provide concrete evidence for such activity.

The ditch (176) curving across the projected line of the south-western boundary ditch, and dated by a single sherd of pottery to the Late Iron Age, could represent part of an enclosure flanking the triple ditched boundary system. There are at least seven examples, recorded from aerial photographs, of enclosures associated with multiple-ditched boundaries. In addition, excavations at Brauncewell have

revealed enclosures both overlying and respecting a triple-ditched boundary (Bountwood 1998, 34-5). One of these enclosures contained a post-built structure and was interpreted as a Late Iron Age livestock enclosure.

7.2 Roman

The pottery, much of it unstratified or occurring residually in later contexts, was primarily of 2nd century date with an emphasis on the first quarter of the century. This contrasts with a probable mid 3rd century date for the establishment of the Greetwell settlement, and therefore suggests an unrelated focus of activity. Evidence for the character of this activity was sparse and although some of the larger pits may have dated to this period, it seems likely that the Roman pottery indicates continued use of the track - possibly still recognising the ditched boundary as a prominent feature in the landscape. However, the potential for occupation in the immediate locality should not be discounted.

7.3 Medieval

The remains of furrows, belonging to the medieval ridge and furrow pattern of arable cultivation, extended across the entire stripped area. Evidence for ridge and furrow has also been found further to the west in Area 1 (Trimble 2002). Pottery from the furrows dated mainly to between the late 13th to mid 14th centuries with a small amount of mid 15th to early 16th century material.

8.0 CONCLUSIONS

The project has furthered understanding of the prehistoric triple-ditched boundary feature but an accurate chronology of its development has yet to be determined. This could, to some extent, be remedied by Accelerator Mass Spectrometry dating of charcoal samples from postholes/pits (contexts 226 & 232) in Area 3 to augment the radio-carbon date obtained from the ditch in Evaluation Trial Trench 1 (see Appendix E). An integrated analysis of pottery from both the evaluation and the excavation would also be of considerable benefit (see Appendix B).

In the expectation of future development groundwork in the area of the ditch terminals, topics for further research could include the establishment of the extent and character of activity in Area 3, the possible track, and the possible enclosure (possible settlement?) to the south-west, and their relationship to the triple-ditched boundary. Further to this, any evidence for the date, character and extent of iron production would be of key importance especially if shown to be of Early or Middle Iron Age date.

9.0 ACKNOWLEDGEMENTS

The author of this report would like to thank Greetwell Developments for funding of the project and for excellent cooperation throughout the project. Thanks are also due to Darren Pullen for contributing towards the successful completion of fieldwork, to all of the specialists for their contributions towards this report, and to Mick Jones (Lincoln City Archaeologist) for general advice.

9.1 Project Staff

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CLAU Unit Manager
Environmental Analysis
Finds Supervisor
Iron Age & Roman pottery
Post Roman pottery and tile
Site staff

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The Environmental Archaeology Consultancy
Y Rose (CLAU)
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11.0 PROJECT/ARCHIVE DETAILS

11.1 LHA NOTE DETAILS

CLAU CODE: GBHB01

PLANNING APPLICATION No.:-

FIELD OFFICER: R. Trimble

NGR: TF 0043 7292

CIVIL PARISH: Lincoln

SMR No.: -

DATE OF INTERVENTION: 13 August – 10 October, 2001

TYPE OF INTERVENTION: Excavation

UNDERTAKEN FOR: Greetwell Developments

11.2 ARCHIVE DETAILS

PRESENT LOCATION: City of Lincoln Archaeology Unit, Charlotte House, The Lawn, Union Road, Lincoln, LN1 3BL

FINAL LOCATION: The City and County Museum, Friars Lane, Lincoln

MUSEUM ACCESSION No.: 2001.112

ACCESSION DATE: -

The Archive Consists of:

Context Records	134
Plans at Scale 1:20	36
Section Drawings at Scale 1:10 & 1:20	47
Colour Print Photographs	136

It is intended that transfer of the archive, in accordance with current published requirements, will be undertaken following completion of this project.

COLOUR PLATES



Plate I – General view of Area 1 (looking NW).



Plate II – Easternmost ditch in Area 1 showing cuts 142 & 145 (looking NW).

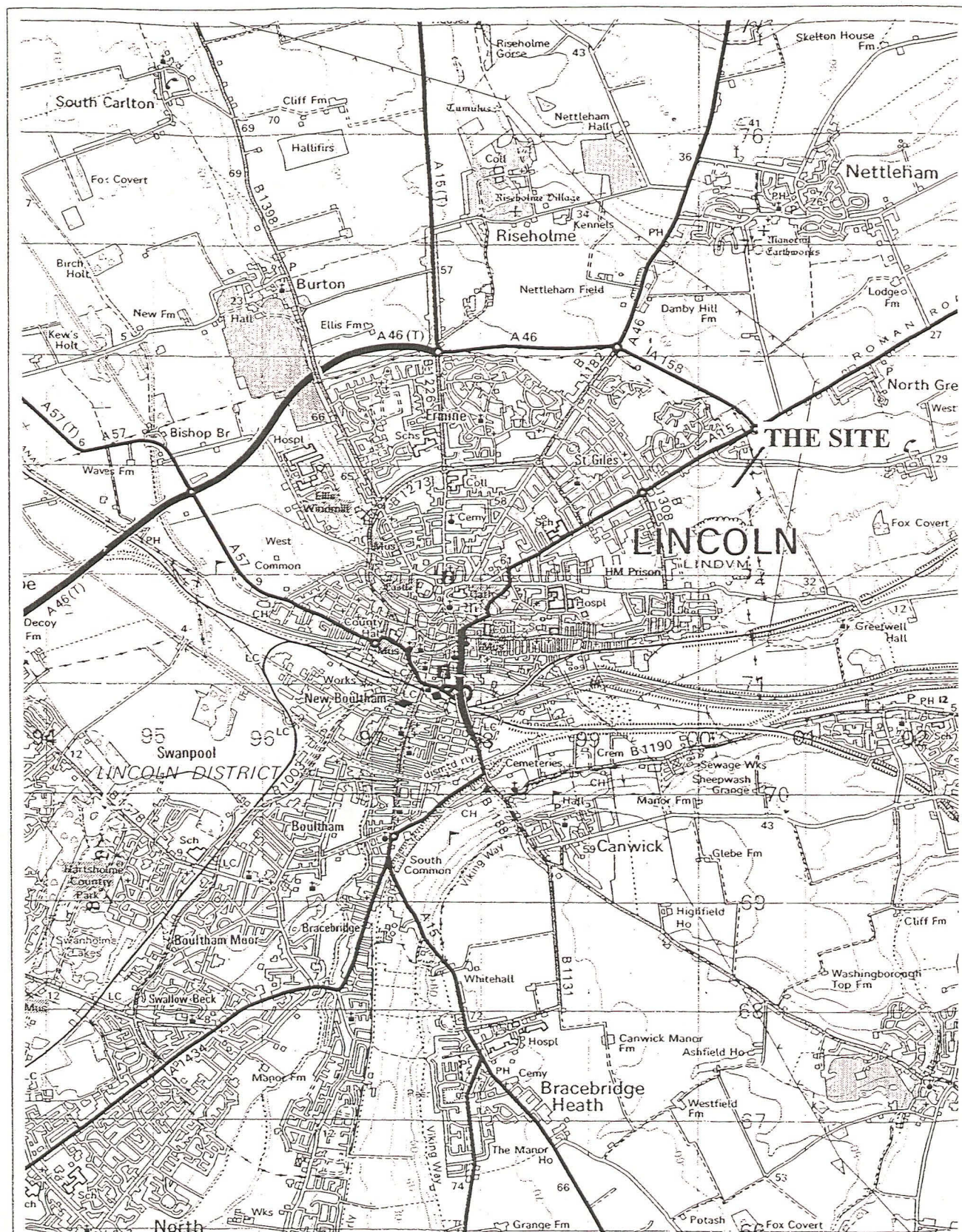
COLOUR PLATES (Cont.)



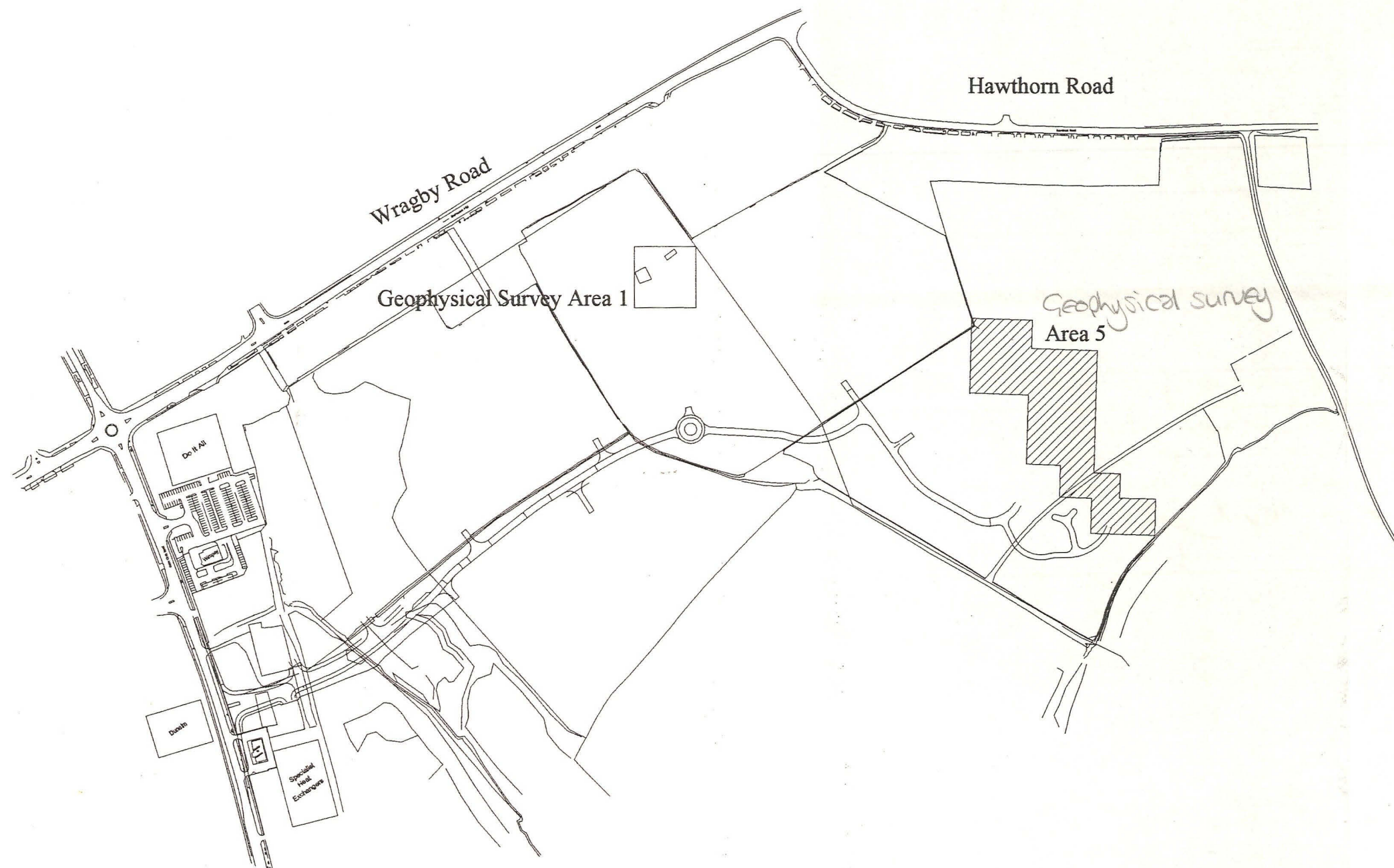
Plate III – General view of Area 2 (looking WNW).



Plate IV – Terminal of easternmost ditch in Area 2 (looking SE).



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Hawthorn Road

Limit of Excavation

Medieval furrows

see Fig. 5 (Areas 2, 3 & 4)

Medieval furrows ends

Medieval furrows

Area 1

Evaluation Trench 1

Geophysical survey Area 5

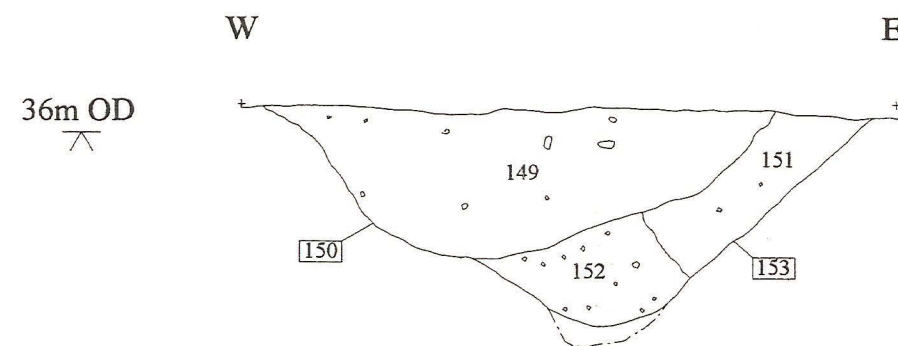
Projected line

Geophysical survey plot

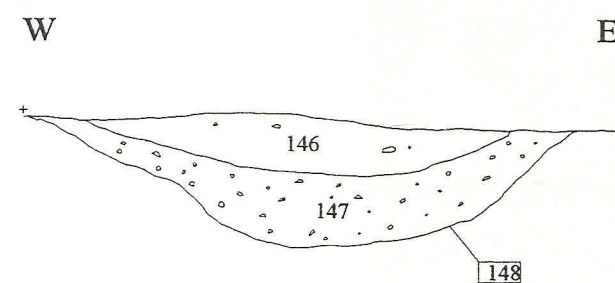
Projected line



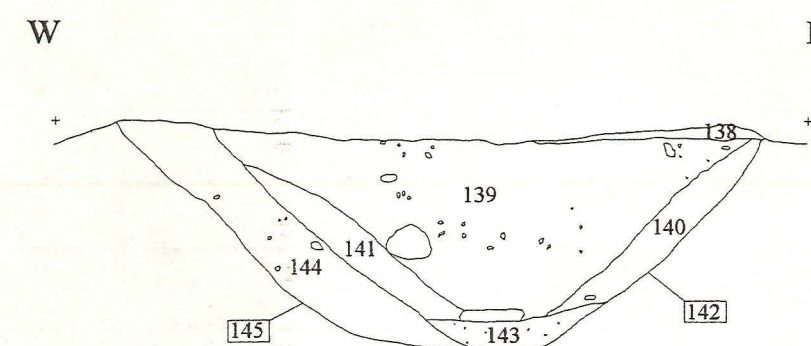
SECTIONS SCALES 1:20



Section 3

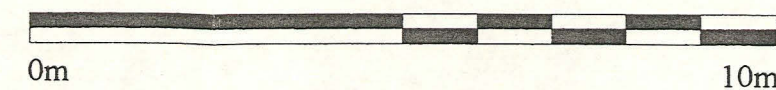
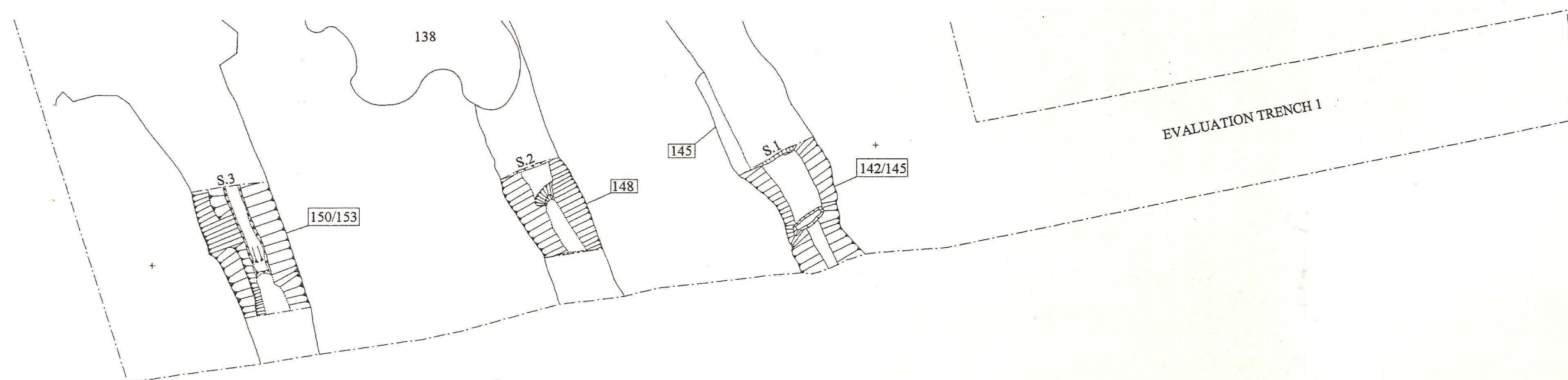
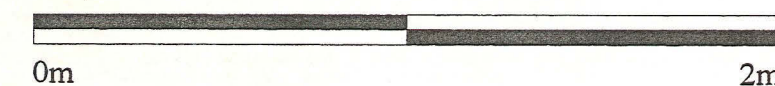


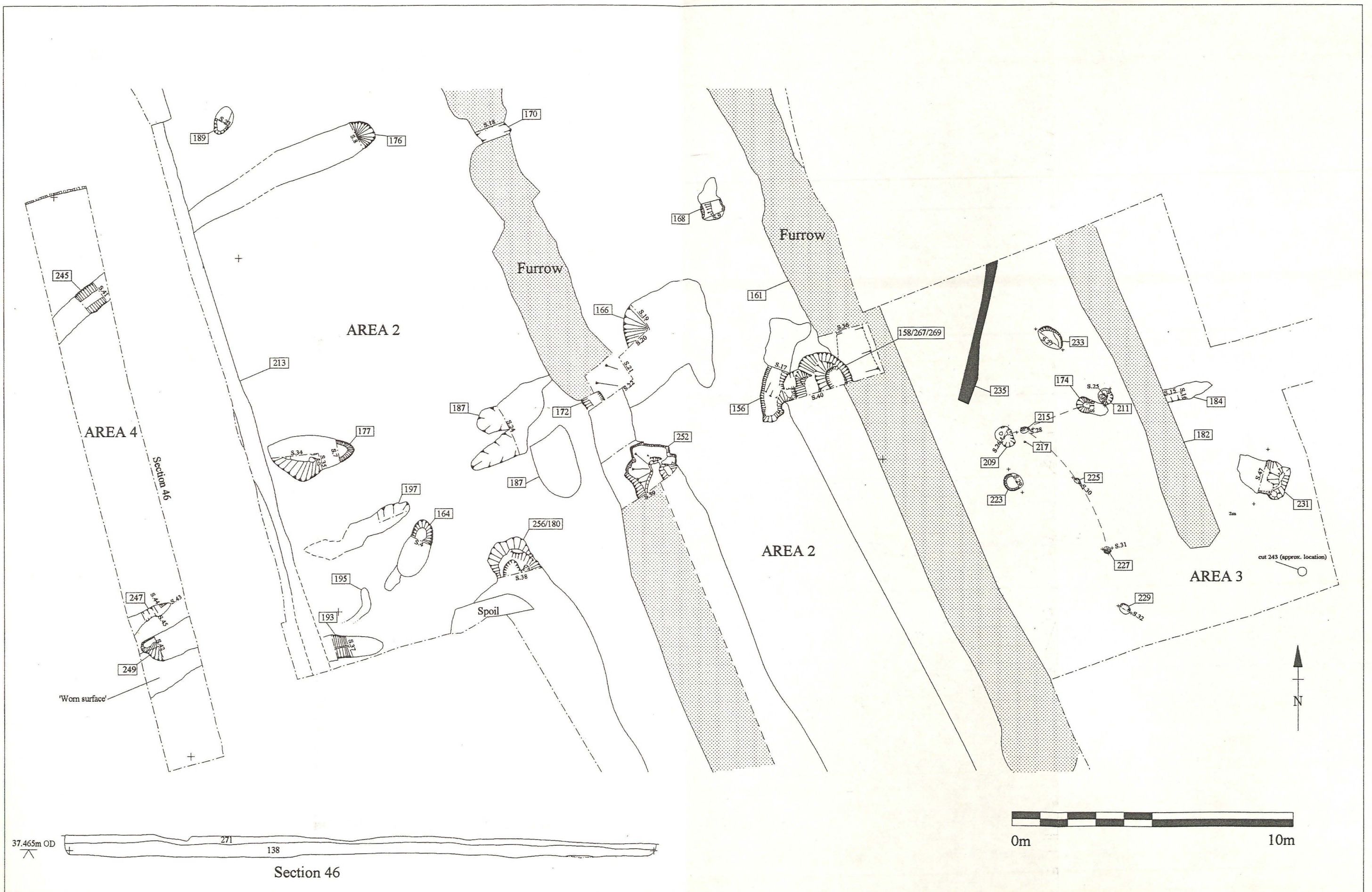
Section 2

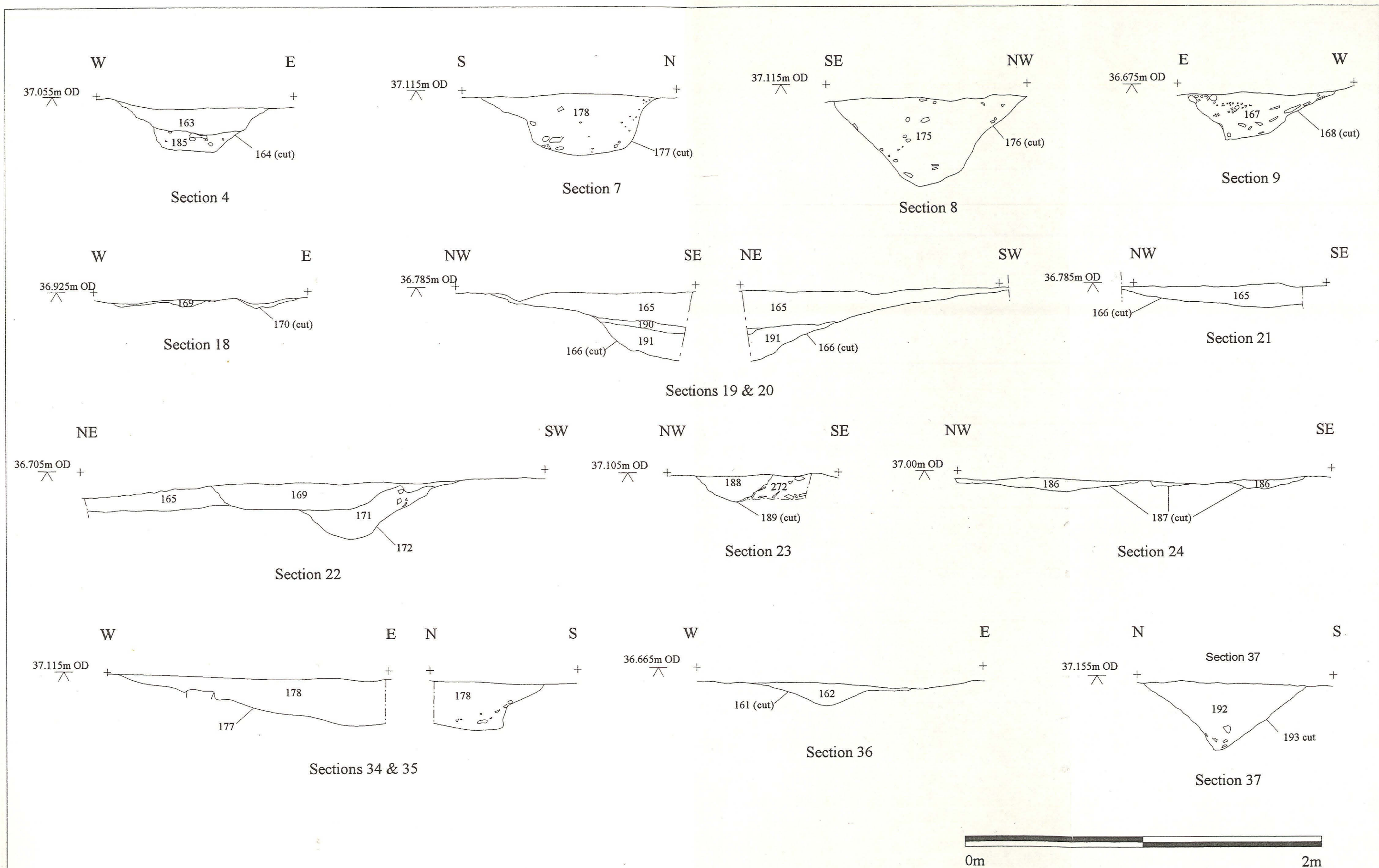


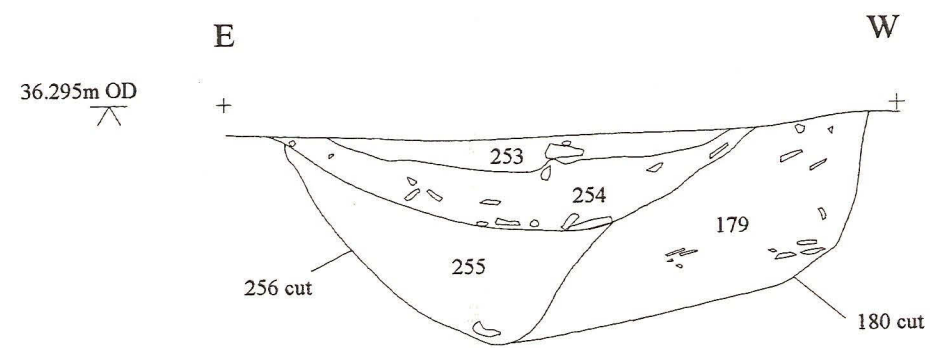
Section 1

PLAN SCALE 1:100

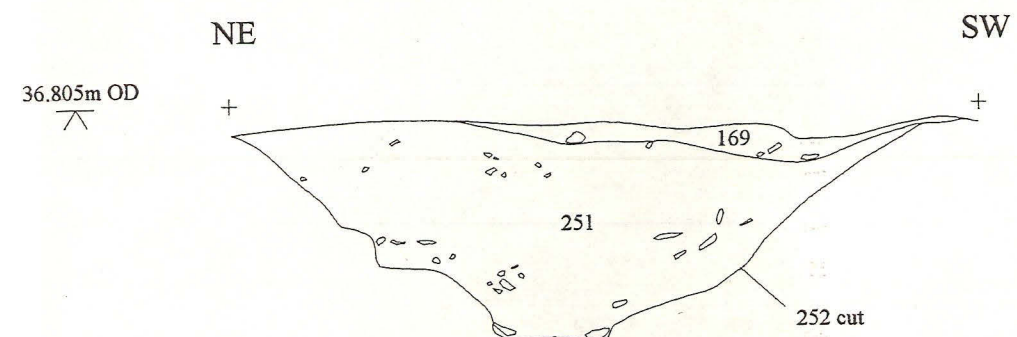




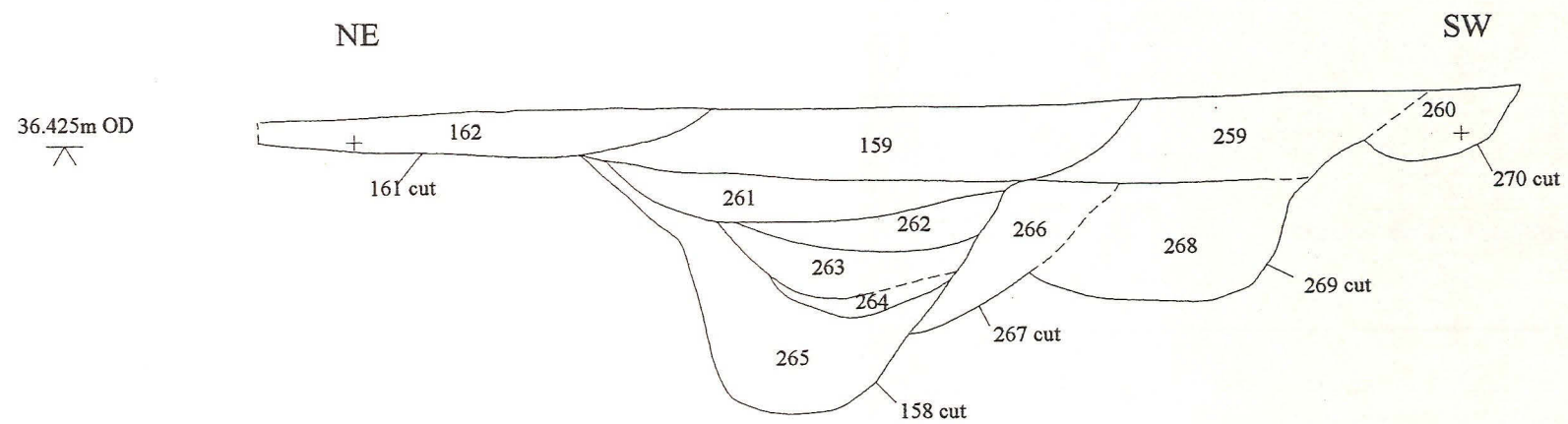




Section 38

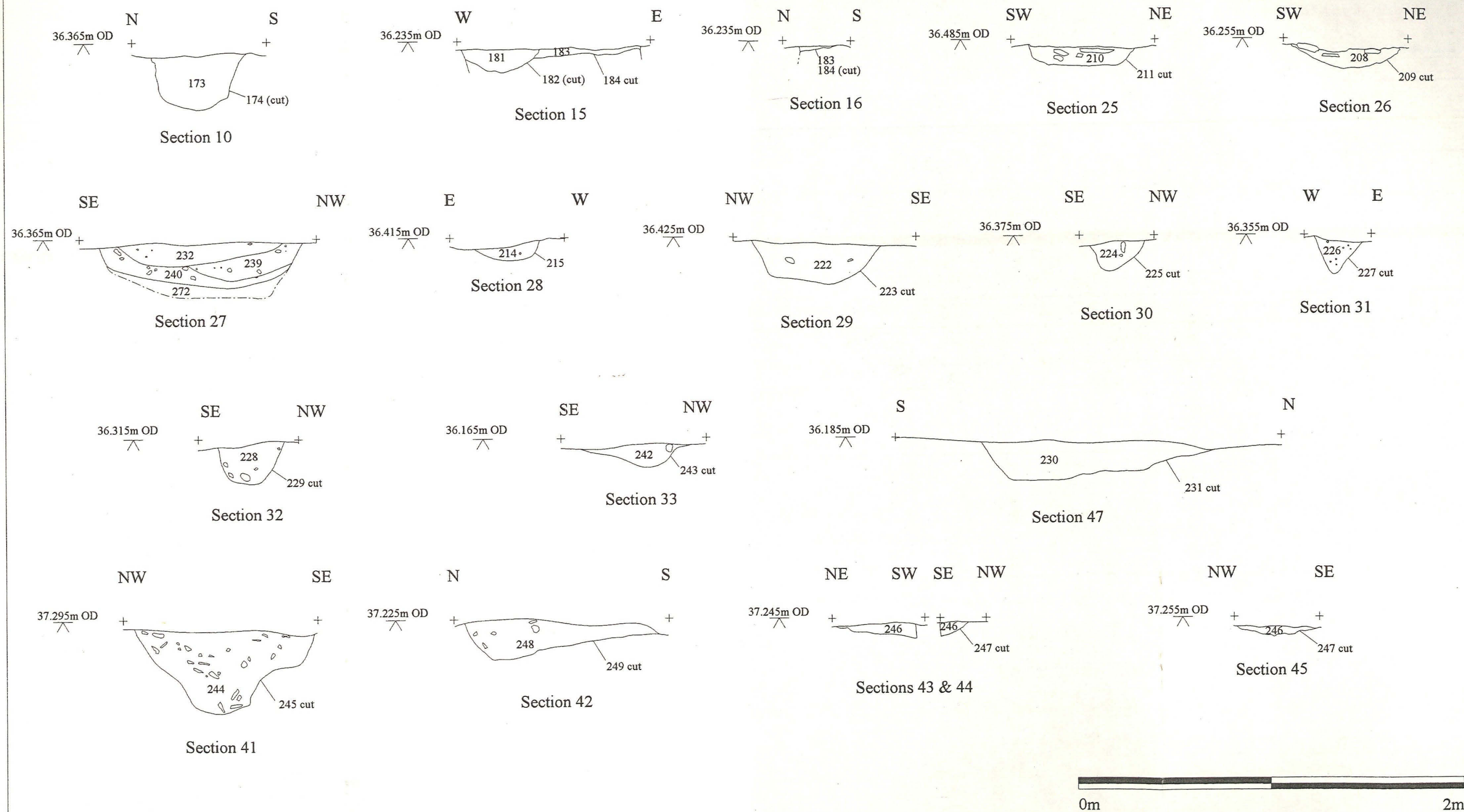


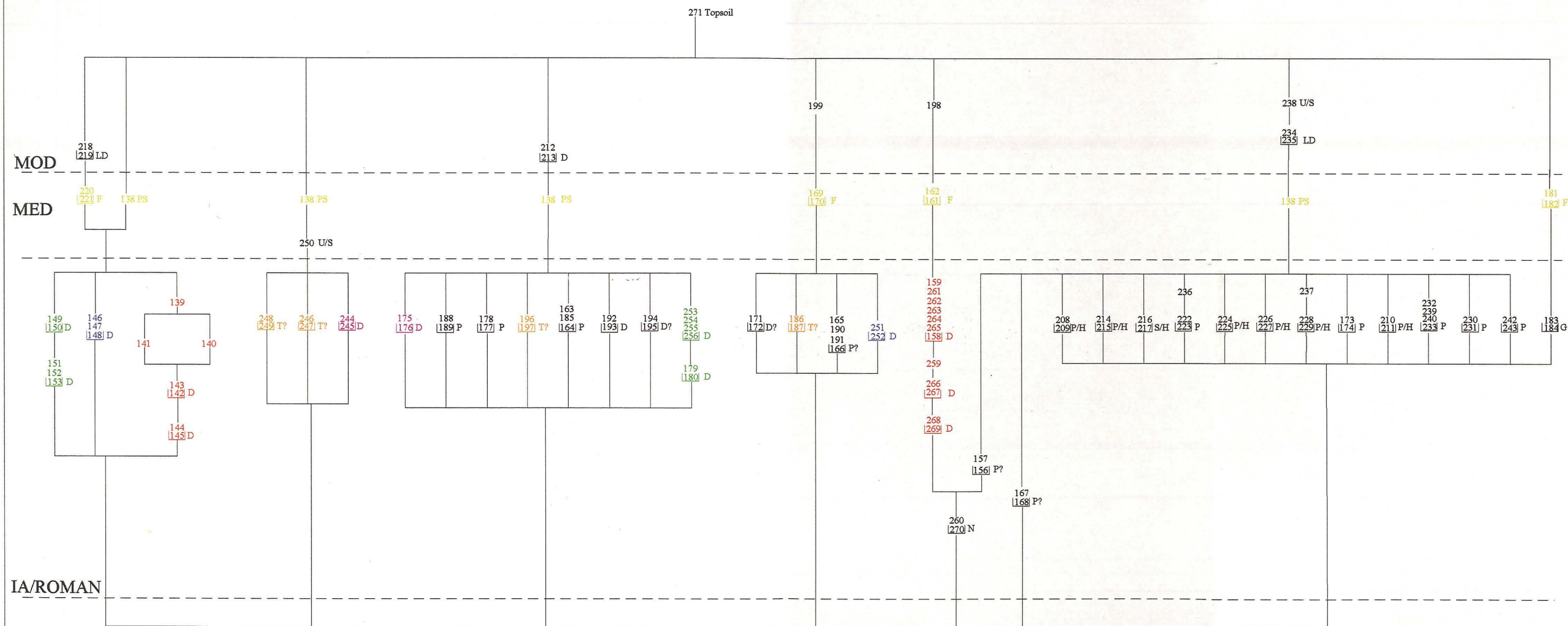
Section 39



Section 40







KEY TO COLOUR CODES

TRIPLE DITCHED BOUNDARY - NE SIDE
 TRIPLE DITCHED BOUNDARY - CENTRE
 TRIPLE DITCHED BOUNDARY - SW SIDE
 POSSIBLE TRACK
 CURVILINEAR DITCH
 MEDIEVAL RIDGE AND FURROW

KEY TO ABBREVIATIONS

D = DITCH
 F = FURROW
 LD = LAND DRAIN
 N = NATURAL
 P = PIT
 PH = POST HOLE
 PS = PLOUGH SOIL
 SH = STAKEHOLE
 T = TRACK
 U/S = UNSTRATIFIED

APPENDIX A - CONTEXT DESCRIPTIONS

No.	Tr.	Interpretation	Description
138	All	Plough-soil	Loose-mod comp, mid reddish brown silty sand, cont 5% l/s frags to 20mm
139	1	Fill of 142	Mod comp slightly clayey silty sand. Freq l/s frags ave 20mm
140	1	Fill of 142	Mod comp, mid reddish brown sandy silt cont occ l/s frags & flecks to 10mm
141	1	Fill of 142	Mod comp, mid reddish brown + greyish brown mottles sandy silt cont 3% l/s frags to 30mm, snails +c/c flecks
142	1	Recut 142	SE-SW Linear cut 45° sides concave base 1.45m wide 0.6m deep
143	1	Primary 142	Comp, mid reddish brown silty sand 30%, ang l/s to 20mm 70%. occ snails
144	1	Primary fill 145	Mod comp, light-mid reddish brown silty sand cont. ang l/s to 50mm (20%)
145	1	Primary cut	SE-NW linear, continuing beyond LOE. Poss. termination 2m beyond sect. Truncated by recut to NE, SW edge 45° side broad concave base. 0.54m deep width unknown
146	1	Secondary fill 148	Mod comp mid reddish brown sandy silt cont l/s frags to 40mm (15%)
147	1	Primary fill 148	Compact, ang l/s to 40mm (70%), and mid reddish brown silty sand (30%)
148	1	Ditch cut (centre)	SE-NW linear SW side steepens toward base, NE 45° grad break to broad concave base 0.63-0.36m deep, 1.4 – 1.43m wide, 1.2m wide excavated segment
149	1	Fill of 150	Mod comp to comp, mid reddish brown sandy silt, cont. ang l/s frags to max 80mm (10%)
150	1	Recut of SW ditch	SE-NW linear sides 45° broad concave base probably ends 0.6m SE of section. 1.32m wide x 0.42 deep
151	1	Secondary fill 153	Mod comp mid reddish brown sandy silt cont. occ sm. l/s frags & flecks
152	1	Primary fill 153	Mod comp-comp, lt reddish brown slightly clayey sandy silt, freq. ang l/s frags 80mm max (25%) occ snails
153	1	Primary cut SW ditch	SE-NW linear SW side cut by 150 NE side 45° (less at top) rounded V base. Width unknown, depth 0.59m
154	1	U/S general trench	N/A
155	1	U/S general field	N/A
156	2	Pit cut	Irreg shape – linear S end rounded butt end to N, steep sided 45° or more concave base, deepening from S to N, 0.7m - 1.4m wide, 3.4m long x 0.3m deep. Respects NE ditch terminal
157	2	Fill of 156	Mod comp mid yellowish brown sandy silt cont. freq. ang l/s frags to 20mm + grit to 5mm
158	2	Cut	Linear, orientated SE-NW, semi-circular terminal end to NW. Sides at around 45° (steeper tp NE). At least 2.3m wide, 1.62m deep.
159	2	Upper fill 158	Mod comp, reddish brown silty sand cont. l/s frags to 30mm
160		VOID	
161	2	Cut of furrow	SE-NW linear shallow concave, 1.4m wide 0.12 m max depth

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Archaeological Excavation*

162	2	Fill of 161	Mid orange brown sandy silt + v. mixed l/s inc. to 50mm
163	2	Fill of 164	Mod comp, mid greyish brown sandy silt cont. rare ang l/s to 30mm
164	2	Cut of pit	Elongated oval N-S, 45° sides concave base, 2.08m long x 0.9m wide x 0.24m deep
165	2	Fill of 166	Mod comp mid reddish brown sandy silt cont. occ ang l/s to 20mm + occ snails
166	2	Pit cut/ poss track	Oval N-S, sides 45° or steeper towards base, base truncated by 170, 1.45m E-W
167	2	Fill of 168	Mod comp, mid reddish brown sandy silt cont. occ l/s to 20mm
168	2	Linear cut	Irreg 45° sides concave base E-W 1.5m+ x N-S 0.7m x depth 60 - 180mm
169	2	Fill of 170	Mod comp, mid reddish brown sandy silt cont. occ ang l/s to 50mm
170	2	Furrow	SE-NW linear. Excavated in 0.38m wide segment. V shallow with v grad sloping sides and broad slightly concave base 1.4m wide x 0.8m deep
171	2	Fill of 172	Comp 70% ang l/s to 20mm, 30% reddish brown sandy silt
172	2	Part of furrow 170? Or natural?	SE-NW linear, SW side 45° shallower slope on NE, base narrow concave, end to NW steeply sloped. upper levels truncated. 0.38m wide segment, 0.67m width, 0.3m deep
173	2	Fill of 174	Mod comp mid greyish brown sandy silt cont. freq. l/s frags to 40mm (10%)
174	2	Pit cut	Elongated oval E-W wider to W steep sides concave base, 1.2m long 0.37-0.53 wide
175	2	Fill of 176	Mod comp to comp lt reddish brown sandy silt 70%, ang l/s frags to 50mm + lt brown/cream flecks (similar to natural)
176	2	Ditch cut	E-W linear terminates in rounded end to E, cont. beyond LOE to W, sides 45° steeper at base, 1.08m wide, 0.5m deep, 0.6m wide excavated segment
177	2	Pit Cut	Generally oval. Rounded E end widening to W. S side grad to steep N side steep, To east has 45° sides and concave base. 1.6m+ long x 1.45m wide x 0.32 deep
178	2	Fill of 177	Mod comp mid reddish brown sandy silt cont. occ (1%) ang l/s frags to 50mm + flecks (1%) to 10mm
179	2	Fill of 180	Mod comp- comp Lt reddish brown sandy silt 90%, 10% l/s to 50mm +freq. grits
180	2	Cut of NW ditch terminal	SE-NW linear terminates to NW in a rounded end, steep sided on surviving SW side with rounded break to base sloping to NE. Cut to NE by 256. Width not known. Depth 0.55m
181	2	Fill of 182	Mod comp mid brown silty sand cont. freq. l/s frags to 40mm (10%)
182	2	Furrow	SE-NW linear, v shallow, grad sloping sides, broad v slightly concave base c. 1.5m wide x 50mm deep
183	2	Fill of 184	Mod comp mid reddish brown silty sand cont freq. l/s frags to 30mm
184	2	Gully/natural?	SW-NE cut turning slightly E-SW, v shallow with a slightly concave base, 0.25m ave width x 0.2m max depth.. Cut by 182
185	2	Primary fill 164	Mod comp to comp, mid brown slightly clayey sandy silt (50%), l/s flecks/frags (50%)
186	2	Fill of 187	Mod comp mid reddish slightly grey brown sandy silt, freq l/s frags to 80mm
187	2	Hollow/Track?	Irreg shape in plan with semi circular spur to SE corner. Excavated

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Archaeological Excavation*

			segment shallow with undulations forming SW-NE hollows. 3.85m long x 1.85m wide 50mm deep
188	2	Fill of 189	Mod comp mid slightly grey reddish brown sandy silt cont freq l/s frags to 20mm
189	2	Pit/Natural?	Irreg SW-NE feature, 45° sides, broad concave base, 1m long x 0.7m wide x 0.14m deep
190	2	Fill of 166	Mod comp lt brown silty sand, occ ang l/s frags to 10mm
191	2	Primary fill 166	Mod comp lt mid reddish brown silty sand, occ l/s frags (ang) to 20mm
192	2	Fill of 193	Firm mid yellow-brown sandy silt with occ l/s frags to 50mm
193	2	Cut cont. 192	E-W linear, terminates to E, cut by modern field boundary to W, v-shaped profile, 2.5m long x 0.9m wide 0.4m deep
194	2	Fill of 195	Mid grey brown firm sandy silt
195	2	Cut	Narrow gully with irreg concave base and shallow sides, 0.35m wide 2.2m long 70mm max depth (not excavated).
196	2	Fill of 197	Mid to light grey-brown sandy silt, v firm, occ limestone frags poss natural
197	2	Track?	Irreg SW-NE linear, very shallow sides and flat base, 0.04m deep x 0.75 wide
198	2	Finds No	Collected from above furrow fill 162
199	2	Finds No	Collected from above furrow fill 170
200	2	Fill of 158	Yellow grey clay silt, 5%l/s frags to 80mm pitched at 15° toward centre of feature, 1.0m wide 0.45m deep
201	2		VOID
202	2		VOID
203	2		VOID
204	2		VOID
205	2		VOID
206	2		VOID
207	2	Natural	L/s frags grey clay
208	2	Fill of 209	Mod comp-soft yellowish grey-brown slightly sandy silt occ l/s frags
209	2	Posthole cut	Sub-circular plan shape, bowl-shaped profile, 0.50m – 0.60m diameter x c. 0.10m deep
210	2	Fill of 211	Mod comp mid yellow brown & brown-grey sand silt 50%, l/s frags to 150mm 50%
211	2	Posthole cut	Circular, concave sides 45°, gently rounded base 0.56m diameter x 0.11m deep
212	2	Fill of 213	Soft light grey brown silt occ l/s frag to 80mm
213	2	Modern Field Boundary Ditch	NW-SE 0.6m wide, not excavated.
214	2	Fill of 215	50% l/s frags with yellow grey silty clay
215	2	Posthole	Oval, E-W orientated, 45°sides, rounded base, 0.3m long x 0.25 wide x 70mm deep
216	2	Fill of 217	Mod comp mid yellow brown sandy silt occ yellow flecks
217	2	Stakehole	Circular 45° sides concave pointed base 0.1m diameter x 40mm deep
218	2	Fill of 219	Firm mid brown silt, occ l/s frags forming land drain

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Archaeological Excavation*

219	2	Land drain	Linear E-W, 0.25m wide x 0.25 deep
220	2	Fill of 221	Firm mid yellow-brown sandy clay silt, 5% l/s frags to 70mm at base
221	2	Furrow	NE-SW linear, 30° sides, concave base, 2m wide x 0.2m deep
222	3	Fill of 223	Mod comp slightly grey mid reddish brown silty sand freq. l/s frags, occ snail
223	3	Posthole	Sub-circular, steep 70° sides, broad concave base 0.7m diameter x 0.2 deep
224	3	Fill of 225	Soft mod comp mid reddish brown silty sand cont v occ sm l/s to 10mm, 1 large l/s of 50mm
225	3	Posthole	Oval, SE-NW, 45° sides, concave base, 0.28m long x 0.2m wide x 0.11m deep
226	3	Fill of 227	Mod comp mid reddish brown silty sand, occ sm. l/s frags, v occ c/c
227	3	Posthole	Sub-circular, nr 90° side on W, 45° on E, pointed base, 0.25m dia x 0.18m deep
228	3	Fill of 229	Mod comp mid reddish brown sandy silt, freq fired clay, occ l/s to 20mm, occ c/c
229	3	Posthole	Circular, steep sides, concave base, 0.35m diameter x 0.22m deep
230	3	Fill of 231	Soft mid grey-brown clayey silt, occ ang l/s frag to 50mm + reddish clay to N edge
231	3	Pit? Natural?	Squarish, irreg sides and base, 2.0m x 1.1m x 0.2m deep
232	3	Fill of 233	mid reddish grey-brown silty sand, mod ang l/s frags to 100mm, occ c/c flecks, sm. frags snail
233	3	Posthole/pit	Oval, SE-NW, sides 45°, broad flattish base, 1.02m x 0.6m x 0.22m deep
234	3	Fill of 235	Large l/s against sides of cut, mid red brown sandy silt in centre
235	3	Land drain	SW-NE linear, steep sides, concave base, 4.9m+long x 0.3m x 0.2m deep
236	3	Finds No	Collected from immediately above 222
237	3	Finds No.	Collected from immediately above 228
238	3	U/S Finds	Area 3
239	3	Fill of 233	Soft mid greenish grey clay, freq l/s frags, c/c flecks
240	3	Primary fill 233	Loose/mod comp, mid yellowish brown sandy clay, occ ang l/s frags to 50mm
241	4	U/S Finds	Field adjacent to Area 4
242	3	Fill of 243	Mod comp, mid reddish brown sandy silt, v occ l/s frags
243	3	Natural?	Irreg. Ovoid, irreg sides and base
244	4	Fill of 245	Mod comp, mid yellow-brown silty clay, 5% ang l/s
245	4	Ditch	SW-NE linear, 45° - 70° sides, flat base, part of 176, 0.9m wide x 0.38m deep
246	4	Fill of 247	Mod comp, mid yellow-green-brown silty clay/sand, occ l/s frags
247	4	Track?	NE-SW narrow linear, v shallow sides 10-30°, flattish base
248	4	Fill of 249	Mod comp, mid yellow-brown clay silt, rare l/s frags
249	4	Track?	SW-NE linear, semi-circular SW end, 20-45° sides, flattish base 1.1m wide x 0.23m deep (max)
250	4	Finds No	Area 4

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251	2	Fill of 252	mid green brown clay silt, mod-soft comp, 5% l/s frags ave 30mm
252	2	Terminal central ditch	Irreg ovoid terminal of central ditch 45° sides flattish base, , 1.9m wide x 0.6m deep
253	2	Upper fill 256	Soft yellow-brown clay silt with rare l/s frags
254	2	Fill of 256	Mod-soft green-brown sandy clay silt, 10% ang l/s frags
255	2	Primary fill of 256	Soft yellow-brown clay silt, occ l/s frags toward base
256	2	Recut of 180	Sub rounded terminal, 45° sides, concave base, 1.3m wide x 0.55m deep
257	2		VOID
258	2		VOID
259	2	Fill of 267?	Mod comp mid yellow-brown sandy silt, mod l/s to 15mm, v occ c/c flecks
260	2	Fill of 270	Mod comp mid yellow-brown silty sand, freq ang l/s to 20mm
261	2	Fill of 158	Mod comp mid yellow-brown sandy silt (80%), ang l/s to 30mm (20%)
262	2	Fill of 158	Mod comp lt yellow-brown sandy clayey silt, 5% l/s to 15mm
263	2	Fill of 158	Mod comp, mid yellow-brown sandy silt (80%), ang l/s to 30mm (20%)
264	2	Fill of 158?	Soft, light yellow-brown sandy/silty clay
265	2	Fill of 158	Lt yellow-brown silty sand (50%), ang l/s to 40mm 50%
266	2	Fill of 267	Mod comp lt-mid yellow-brown sand/silt, 20% ang l/s to 40mm
267	2	Recut of NE ditch	Linear, orientated SE-NW, surviving SW side gradual/concave, base rounded, width not known, depth at least 0.60m
268	2	Fill of 269	Mod comp lt-mid yellow-brown sand/silt, 20% ang l/s to 40mm
269	2	Primary NE ditch	Linear, orientated SE-NW, SW side steeply sloping, concave base, cut by 267 to NE, width 1.1m + x depth 0.55m
270	2	Natural?	Uncertain plan, cut to NE by 269, side 45°, generally rounded profile, 0.40m wide + x 0.30m deep
271		Topsoil	Fairly compact, brownish grey silt/clay, freq l/s
272		Natural	Areas 2, 3, 4 50% l/s with yellow-grey silty clay, In Area more solid l/s. In Area 2 lower ditches reveal more solid l/s

Key to Abbreviations:

ANG	ANGULAR	L/S	LIMESTONE
CONT	CONTAINING	IRREG	IRREGULAR
C/C	CHARCOAL	LT	LIGHT
COMP	COMPACTION	OCCA	OCCASIONAL
DK	DARK	SM	SMALL
FRAG	FRAGMENT	V	VERY
FREQ	FREQUENT		

APPENDIX B – IRON AGE & ROMAN POTTERY

B J Precious

The Pottery has been recorded according to the Study Group for Roman Pottery (SGRP) guidelines, using codes currently in use at the City of Lincoln Archaeological Unit, and sherd count and weight as measures for statistical analysis (see below -*The Ceramic Archive*).

Introduction

The site produced a small assemblage of pottery, 143 sherds weighing 590 grams, composed of both Iron Age and Roman ceramics. Several very small, undiagnostic fragments came from soil samples and are denoted by 'S' after the Context number. Table 1, below, demonstrates that most of the Roman pottery came from Trenches 1 and 2, whilst the bulk of the Iron Age material occurred in Trench 3. Almost all of the contexts produced sherds of single vessels, the largest of Roman date being a single, fragmented flagon from Context 149 (the fill of recut 150). In most cases the Iron Age material is very fragmented and friable with the majority occurring in Contexts 159 (upper fill of terminal of NE ditch), 222 (fill of small pit 223), and 240 (primary fill of pit 233).

Table 1: The date range of the Roman and Iron Age pottery from GBHB01 by context, trench, sherd count and weight

Context	Trench	Sherds	Grams	Date range
146	1	2	1	IA
149	1	11	98	120-160
154	0	8	61	150-300+/POSTRO
157	2	1	1	LIA-EROM
159	2	36	149	LIA
162	2	9	27	IA
165	2	4	7	100-200+
169	2	1	3	100-200+/POSTRO
178	2	1	1	120-200
198	0	1	2	IA
214S	3	6	1	PREHIST
222	3	10	17	LIA
222S	3	12	2	PREHIST
224	3	1	6	EMIA?
224S	3	4	1	PREHIST
226S	3	6	2	PREHIST
228S	3	3	7	PREHIST
232	3	3	26	E-LIA
232S	3	4	1	PREHIST
236	3	2	4	IA
238	3	1	2	100-200+/POSTRO
240	3	15	164	LIA
244	4	1	5	IA
250	4	1	2	100-200+/POSTRO

Condition

The majority of the sherds are abraded; some are very worn, in particular those from the soil samples, and the Iron Age pottery is fragmented and friable. The average sherd weight of 4gm reflects the fragmentary nature of the assemblage. There are no sherd links but similar fabrics occurred in Contexts 224 and 232.

Dating, Fabrics and Forms

Prehistoric and Iron Age pottery (see Tables 2-4)

The very fragmented nature of much of the pottery, in particular the material from soil samples, tends to distort the statistical evidence: the sherd count is deceptively large but the average sherd weight, as noted above, is very low. These are very small, abraded fragments and almost entirely undiagnostic, therefore they are broadly dated as prehistoric although most of the fabrics are similar to the Iron Age pottery. Similarly small, undiagnostic sherds, but with clearer fabric definitions, are assigned a general Iron Age date.

Tentative evidence for early to mid-Iron Age material is provided by two sherds with identical fabrics from Contexts 224 and 232. These contexts are apparently unrelated, being the fills of a probable posthole and a small pit, but both lie within the same area of Trench 3. The fabrics are red brown in colour with blackened interiors containing common amounts of medium sized shell. They appear to be more crudely manufactured than the bulk of the Iron Age pottery which suggests an early or mid-Iron Age date.

The evidence for the bulk of the material dating to the Late Iron Age period relies on the presence of several vessels which can be paralleled amongst the Late Iron Age material from Dragonby (May 1996, fig 19.23 no 50; fig 19.24 no 73; fig 19.26 nos 122 and 126).

The fabrics are relatively homogeneous consisting of predominantly, black-coloured shell-tempered, in particular those with common or sparse medium-sized shell that are likely to have been manufactured locally. The vessels, which are all handmade and fairly high-fired, are often smoothed on the exterior. The forms are all of native tradition, consisting of curve-rimmed jars or bowls, one of which is bent over, and a bowl or jar with an upright rim.

Table 2: The date range of the Roman and Iron Age pottery from GBHB01 by sherd count

Date range	Sherds	%
PREHIST	35	24.48%
IA	15	10.49%
E-LIA	3	2.10%
EMIA?	1	0.70%
LIA	61	42.66%
LIA-EROM	1	0.70%
100-200+	4	2.80%
100-200+/POSTRO	3	2.10%
120-160	11	7.69%
120-200	1	0.70%
150-300+/POSTRO	8	5.59%
TOTAL	143	100.00%

Roman pottery (see Tables 2-4)

In contrast, the Roman pottery consists of more precisely datable sherds. A single oxidised sherd is of grog-tempered ware, a fabric of probable Iron Age origin that may have continued in production into the early Roman period. However, the bulk of the material is 2nd century in date, most probably dating from the 1st quarter of the 2nd century, *c.* AD 120. This is based on the presence of a Cream ware flagon with a prominent top ring, a sherd of Central Gaulish samian, and the curved rim of a beaker in colour-coated ware. Specifically late Roman pottery is absent but a sherd of Black-burnished 1 could have continued in manufacture into the later 3rd to 4th century. This sherd came from Context 154, which also contained post-Roman pottery. (Context 169 also produced post-Roman as well as Roman pottery.)

The majority of the Roman pottery is composed of body sherds of grey ware cooking vessels. Two vessels are particularly interesting: a flagon with a prominent top ring in Cream ware (Drawing 1) and a beaker with a curved rim in a colour-coated fabric. The fabrics and forms of both these vessels are very similar to those produced at the South Carlton kilns to the west of Lincoln.

Table 3: The Roman and Iron Age fabrics from GBHB01 by sherd count and weight

Fabric	Code	Sherds	%	Grams	%
Black-burnished 1	BB1	1	0.7	5	0.85
Colour-coated ware	CC	1	0.7	1	0.17
Cream Ware	CR	11	7.69	98	16.61
Central Gaulish samian	SAMCG	1	0.7	1	0.17
Fine grey ware	GFIN	1	0.7	8	1.36
Grey ware	GREY	12	8.39	61	10.34
Sub Total		27	18.88	174	29.5
Iron Age oxidised grog-tempered ware	OXGR	1	0.7	1	0.17
Iron Age shell-tempered - abundant and fine	SHAF	3	2.1	74	12.54
Iron Age shell-tempered - abundant and medium	SHAM	4	2.8	22	3.73
Iron Age shell-tempered - common and medium	SHCM	42	29.37	159	26.95
Iron Age shell-tempered - sparse and medium	SHSM	40	27.97	149	25.25
Sub Total		90	11.19	405	68.64
Fired clay	FCLAY	16	11.19	7	1.19
Fired clay?	FCLAY?	10	6.99	4	0.68
		26	18.18	11	1.87
Total		143	100%	590	100%

Table 4: The Iron Age and Roman forms from GBHB01 by sherd count and weight

Form	Code	Sherds	%	Grams	%
Body sherds		85	59.44	148	25.08
Native type curve-rim jar	JNCUR	4	2.8	54	9.15
Native type bowl	BNAT	1	0.7	9	1.53
Native type curve-rim bowl	BNCUR	13	9.09	94	15.93
Sub total		18	12.59	157	26.61
Flagon - prominent top ring	FTR	11	7.69	98	16.61
Curve-rim beaker	BKCR	1	0.7	1	0.17
Jar	J	5	3.5	48	8.14
Curve-rim jar	JCUR	1	0.7	7	1.19
Sub Total		18	12.59	154	26.11
	CLSD	22	15.38	131	22.2
Total		143	100%	590	100%

Discussion

It is clear that there is Late Iron Age occupation at this site and, as evidence of such occupation, the pottery should be treated (in common with that from all prehistoric archaeological interventions) as high-priority and sensitive material. The pottery from this site is important for the understanding of Iron Age occupation in this area and is particularly notable, given its relatively close proximity to Lincoln, as it resembles the assemblages from Dragonby (May 1996) rather than those found within the city (Darling 1988). It therefore provides strong evidence for the development of culture and trade in this area.

There is tentative evidence for continuation of occupation from the Late Iron Age into the early Roman period, but the main period of Roman occupation on this site occurred in the first quarter of the 2nd century, *c.* 120 AD. Although the assemblage is small there is evidence that the occupants were relatively wealthy because they had access to markets supplying pottery from the Continent, *i.e.* fine samian ware from Central Gaul. The presence of Black-burnished ware from a Dorset source could possibly indicate a military presence, as its transportation from Dorset was frequently associated with military contracts for its use, eventually, at either the Hadrianic or Antonine wall. The presence of wares in fabrics similar to those produced at South Carlton is also notable; vessels from these kilns are uncommon within the city itself and the occurrence of these wares at Greetwell is therefore important for understanding trading patterns.

Recommendations

Iron Age Pottery

The fabrics of the bulk of this pottery are similar to those previously recovered from this site, in particular to that from Context 106 of the evaluation (GBH99: Knight 2000). It is therefore recommended that the prehistoric and Iron Age assemblages from all the Greetwell/Bunker's Hill sites should be compared for detailed fabric analysis and typological studies. Fabrics designated as reference sherds ('FS' in the archive database) require particular attention. The results should be published in a local journal together with illustrations (full illustration of the archive drawings from GBHB01 and additional illustrations from GBH99).

Roman Pottery

Similarly, the Roman pottery from the all the Greetwell/Bunker's Hill sites should be collated and analysed together with the stratigraphy of the area. This study should serve as a comparison between assemblages of similar date from the Roman city of Lincoln and those from the immediate hinterland. The archive drawings should be inked to preserve them.

Storage and Curation

The pottery should be retained for further study. The Iron Age pottery is fragmented and friable and should be packed with acid-free tissue to prevent any further deterioration.

References

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APPENDIX B (Cont.) – IRON AGE & ROMAN POTTERY

IRON AGE AND ROMAN POTTERY LIST

CONTEXT	FABRIC	FORM	DECORATION	VESSEL NO	DRAWING NO	CONDITION	COMMENTS	JOIN	SHERDS	WEIGHT
146	SHCM		HM	1			SCRAPS; BLK EXT PALE BN INT; CF 162 IA SCRAPS ONLY		2	1
149	CR	FTR		1	DWG1	ABR	RIMS NECK BSS CF SCARLTON/TECH COLL; 6D 120-160 CR FTR ONLY; GREY STAIN INT		11	98
154	BB1	J	B;HM				BS BASAL; W SHALE; DORSET		1	5
154	GFIN					VABR	BS THICKISH		1	8
154	GREY	CLSD	B			VABR	BS		1	1
154	GREY	J				VABR	BASE		1	35
154	GREY	J					BS		1	3
154	GREY	JCUR				ABR	RIM		1	7
154	GREY					VABR	BS		1	1
154	SAMCG					VABR	SCRAP 150-300+/POSTRO SMALL SHS MOST ABR		1	1
157	OXGR						BASE MIN GROG W SR Q; PALE BN GRY CORE; FS LIA-EROM SCRAP ONLY		1	1
159	SHSM	JNCUR	HM	1	DWG3		RIMS GIRTH; BLK; ILL SORT F + C; SMOOTH; 16D; FS		2	26
159	SHSM	JNCUR	HM	1	DWG4		RIM GIRTH; BLK; ILL SORT F + C; SMOOTH; 18D; FS		2	28
159	SHCM		HM	1		ABR	BS SCRAP; RDBN SURFS GRY INT; ILL SORT; FS		2	8
159	SHSM		HM	1			CRUMBS C 47; WT ONLY; FAB AS REST; BLK PALE BN INT			7
159	SHSM		HM	1			BSS J; SMOOTH BLK AS DWGS; NO DEF JOIN		8	52
159	SHSM		HM	1			BSS SCRAPS; SMOOTH BLK AS DWGS; NO DEF JOIN GOOD GROUP; SHELL CF GBH99 106 LIA		22	28
162	SHSM	CLSD	HM	1			BSS SCRAPS; BLK W R Q; ID 159		6	8
162	SHCM		HM				SCRAP; BLK EXT PALE BN INT; CF 146		1	1
162	SHAM		HM	1		ABR	BSS EXT SURF LOST; BLK; FS UNDIAGNOSTIC; MOST SHERDS SURFS LOST IA		2	18
165	GREY	CLSD		1		STAIN	BSS J; SURFS STAINED BROWN 100-200+ GREY ONLY		4	7
169	GREY	J				VABR	BS FAIRLY COARSE SAND; LGE FE INC 100-200+/POSTRO GREY ONLY		1	3
178	CC	BKCR			DWG2	VABR	RIM NECK CF SCARLTON; 6D 120-200 BKCR ONLY		1	1

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198	SHCM	CLSD	HM			ABR	BS EXT LOST;BN EXT RDBN INT IA FLAKE ONLY;UNSTRAT		1	2
222	SHCM	BNAT	HM		DWG5		RIM NECK;REDBN;20 D		1	9
222	SHCM					ABR	SCRAPS BLK REDBN; MAGNETIC		3	1
222	FCLAY?					ABR;BURNT	FRAGS; R CLAY PELLETS; MIN SHELL; V ROUNDED		2	2
222	SHCM			1?		ABR	BSS; BLK GYBN		3	4
222	SHCM						SCRAP;RDBN; ?FCLAY SOME FRAGS MAGNETIC LIA		1	1
224	SHCM	CLSD	HM				BS;NECK?;RDBN EXT BLK INT;CF 232;CRUDE EMIA?;FS EMIA UNDIAGNOSTIC PROB EMIA		1	6
232	SHAF	CLSD	HM			SOOTINT	BS;RDBN EXT BLK SMOOTH INT;LIA?;FS		1	4
232	SHCM	CLSD	HM	1			BSS;RDBN EXT BLK INT;CF224;CRUDER EMIA?;FS E-LIA IASH ONLY UNDIAGNOSTIC; SOME EMIA?		2	22
236	SHAM	CLSD	HM	1?			BS RDBN EXT GRY CORE + FLAKE;FS IA IASH ONLY UNDIAGNOSTIC; PROB MLIA		2	4
238	GREY	CLSD					BS FAIRLY COARSE SAND 100-200+/POSTRO MIX DATES UNSTRAT		1	2
240	SHAF	CLSD	HM	1		SOOTINT	BASE BS J;PALE BN EXT;BLK INT;LIA;FS		2	70
240	SHCM	BNCU R	HM	1	DWG6		RIMS GIRTH;BSS SCRAPS;BLK;D? LIA ILL SORT SHELL		13	94
244	SHCM	CLSD	HM			SOOTEXT	BS;BURNT COOK;BN BLK EXT;FS IA UNIDAGNOSTIC PROB LIA		1	5
250	GREY	J				VABR	BS 100-200+/POSTRO GREY ONLY		1	2
214S	FCLAY					VABR	FRAGS PALE BN;SILTY MIN SHELL;VROUNDED;SAMPLE 4 FROM SAMPLE 4 PREHIST		6	1
222S	SHCM					VABR	FRAGS GYBN;SAMPLE 6		5	1
222S	FCLAY?					VABR	FRAGS GYBN; SILTY MIN SHELL;SAMPLE 6 FROM SAMPLE 6 PREHIST		7	1
224S	SHCM					VABR	FRAGS; VROUNDED RDBN; POT?;SAMPLE 1 FROM SAMPLE 1 PREHIST		4	1
226S	FCLAY?					VABR	FRAG; VROUNDED RDBN; SHCM;POT?;SAMPLE 2		1	1
226S	FCLAY					VABR	FRAGS; VROUNDED RDBN; SHCM;POT?;SAMPLE 2 FROM SAMPLE 2 PREHIST		5	1
228S	SHCM					ABR;BURNT	BS FRAG;SAMPLE 3		2	3
228S	FCLAY					ABR;BURNT	FRAG; SILTY ROUNDED;SAMPLE 3 FROM SAMPLE PREHIST		1	4
232S	FCLAY					VABR	FRAGS PALE BN;SILTY MIN SHELL;VROUNDED;SAMPLE 7 FROM SAMPLE 7 PREHIST		4	1
							TOTAL		143	590

Key to Iron Age & Roman pottery codes:

Fabrics

<i>BB1</i>	BLACK BURNISHED 1
<i>CC</i>	COLOUR-COATED
<i>CR</i>	CREAM WARE
<i>FCLAY</i>	FIRED CLAY
<i>GFIN</i>	FINE GREY WARE
<i>GREY</i>	GREY WARE
<i>OXGR</i>	IRON AGE OXIDISED GROG-TEMPERED WARE
<i>SAMCG</i>	CENTRAL GAULISH SAMIAN
<i>SHAF</i>	IRON AGE SHELL-TEMPERED.- ABUNDANT AND FINE
<i>SHAM</i>	IRON AGE SHELL-TEMPERED.-ABUNDANT AND MEDIUM
<i>SHCM</i>	IRON AGE SHELL-TEMPERED - COMMON AND MEDIUM
<i>SHSM</i>	IRON AGE SHELL-TEMPERED - SPARSE AND MEDIUM

Forms

<i>BKCR</i>	CURVE-RIM BEAKER
<i>BNAT</i>	NATIVE TYPE BOWL
<i>BNCUR</i>	NATIVE TYPE CURVE-RIM BOWL
<i>CLSD</i>	CLOSED
<i>J</i>	JAR
<i>JCUR</i>	CURVE-RIM JAR
<i>JNCUR</i>	NATIVE TYPE CURVE-RIM JAR

Decoration

<i>B</i>	BURNISHED
<i>HM</i>	HANDMADE

Condition

<i>ABR</i>	ABRADED
<i>SOOTINT</i>	SOOTED INTERIOR
<i>SOOTEXT</i>	SOOTED EXTERIOR
<i>STAIN</i>	STAINED
<i>VABR</i>	VERY ABRADED

Other

<i>BLK</i>	BLACK
<i>BN</i>	BROWN
<i>BS(S)</i>	BODY SHERD(S)
<i>C</i>	COARSE
<i>COOK</i>	BURNT BY COOKING
<i>EIA</i>	EARLY IRON AGE
<i>EXT</i>	EXTERIOR
<i>F</i>	FINE
<i>FAB</i>	FABRIC
<i>FE INC</i>	IRON INCLUSIONS
<i>FS</i>	FINE SHELL
<i>FTR</i>	RINGED DOMINANT TOP RING
<i>GRY</i>	GREY
<i>GYBN</i>	GREY-BROWN
<i>ILL SORT</i>	ILL-SORTED
<i>INT</i>	INTERIOR
<i>LLA</i>	LATE IRON AGE
<i>PREHIST</i>	PREHISTORIC
<i>POSTRO</i>	POST-ROMAN
<i>RDBN</i>	RED-BROWN
<i>R Q</i>	ROUNDED QUARTZ
<i>SHS</i>	SHERDS
<i>SR Q</i>	SUB-ROUND QUARTZ
<i>SURFS</i>	SURFACES

APPENDIX C - POST-ROMAN POTTERY

By Jane Young (Lindsey Archaeological Services)

Introduction

Sixteen sherds of post-Roman pottery representing fourteen vessels were recovered from the site. The material ranges in date from the medieval to the post-medieval period. The pottery was examined both visually and using a x20 magnification, then recorded on an Access database using locally and nationally agreed codenames.

Condition

The pottery recovered was in variable condition with most sherds showing a high degree of abrasion.

Overall Chronology and Source

A range of six different, identifiable post-Roman pottery ware types was found on the site, the types and general date ranges for these fabrics are shown in Table 1. A very limited range of vessel types was recovered including single examples of a cup and a dripping pan.

Table 1: *Pottery codenames and date range with total quantities by sherd and vessel count*

codename	full name	earliest date	latest date	sherds	vessels
CIST	Cistercian-type ware	1480	1650	1	1
LMLOC	Late Medieval local fabrics	1350	1550	2	2
LSW3	14 th to 15 th century Lincoln Glazed Ware	1280	1450	1	1
MEDLOC	Medieval local fabrics	1150	1450	7	7
NOTG	Nottingham glazed ware	1250	1500	1	1
POTT	Potterhanworth-type Ware	1250	1500	4	2

All of the material dates to between the 13th and early 16th centuries with the possible exception of a single Cistercian cup that may be of slightly later date. Pottery was recovered from only one stratified context (169); this small group probably dates to between the late 13th and mid 14th centuries.

Medieval to Late Medieval

Most of the sherds can only be identified as probable local products (MEDLOC) of 13th to 14th century date. Single jugs from Lincoln (LSW3) and Nottingham (NOTG) are present, together with undiagnostic shell-tempered Potterhanworth sherds. Two late medieval jugs (LMLOC) are of mid 15th to early 16th century date and may be contemporary with the Cistercian ware cup (CIST) found unstratified.

Summary and Recommendations

This is a small assemblage of post-Roman pottery suggesting activity in the area through the medieval and late medieval periods, continuing into the early post-medieval period. The earliest diagnostic sherd

is of early to mid 13th century date. The assemblage should be kept for future study, and for use as part of any characterisation of the local fabrics for a type series.

Table 2: Post Roman Pottery – Archive List

context	cname	sub fabric	form type	sherds	vessels	decoration	part	description	date	condition
154	CIST		cup	1	1		BS		mid 15th to mid 17th	slightly abraded
154	MEDLOC	OX/R/OX;fine-med sandy & comm fe;hard	dripping pan	1	1		rim to base	fabric incl fe cemented sst	13th to 15th	very abraded
154	MEDLOC	reduced;fine-med sandy;hard	jug	1	1	applied notched fe strip	BS	reduced glaze	early to mid 13th	abraded
154	NOTG	light firing	jug	1	1		BS		13th	slightly abraded
169	LSW3		jug	1	1	lower body cordon	BS		13th to 14th	abraded
169	MEDLOC	bright OX/R/OX;coarse sandy & comm fe;med hard	jug	1	1	thumbed base	BS	fabric inc some Greensand	13th to 14th	very abraded
169	MEDLOC	light oxid;fine-med sandy;med hard	?	1	1		BS		13th to 14th	very abraded
169	MEDLOC	OX/R/OX;fine-med sandy	small jug	1	1		BS	reduced glaze ? LSW	13th to 14th	abraded
169	MEDLOC	oxid;fine sandy;med hard	?	1	1		BS		13th to 14th	very abraded
198	LMLOC	reduced whiteware;fine-med sandy;hard	jug	1	1		BS	reduced glaze;? ID or Nottingham reduced	15th to 16th	
198	LMLOC	reduced;med sandy;hard	jug	1	1		BS	fabric inc sst & comm metased;pocked reduced glaze; Toynton-type ?	15th to 16th	abraded
238	POTT		?	1	1		BS		13th to 15th	abraded
250	MEDLOC	OX/R/OX;fine-med sandy;hard	jug	1	1		BS		13th to 15th	very abraded
250	POTT		?	3	1		BS		13th to 15th	

Key to Ceramic Codenames

CIST	CISTERCIAN WARE
LMLOC	LOCAL LATE MEDIEVAL FABRICS
LSW3	13TH TO 14TH CENTURY LINCOLN WARE
MEDLOC	LOCAL MEDIEVAL FABRICS
NOTG	NOTTINGHAM GLAZED WARE
POTT	POTTERHANWORTH WARE

APPENDIX D - CERAMIC BUILDING MATERIAL

By Jane Young (Lindsey Archaeological Services)

Introduction

Nineteen fragments of ceramic building material weighing 613g were recovered from the site. The material was examined visually and then recorded using locally and nationally agreed codenames on an Access database. The CLAU tile type series was consulted for comparative material.

Condition

The material is in variable condition with most fragments showing a slight amount of abrasion.

The Ceramic Building Material

A range of ceramic roof tile was found on the site; the types and general date ranges are shown in Table 1. A single fragment could not be identified as either Roman or post-Roman with any certainty, three fragments may be post-medieval and one of early modern date; the remaining material is all of medieval date.

Table 1: Ceramic Building material codenames and total quantities by fragment count and weight

codename	full name	frags	weight
GPNR	glazed peg, nib or ridge	2	86
PNR	Peg, nib or ridge tile	15	397
RID	Unidentified ridge tile	1	8
RTMISC	Roman or post-Roman tile	1	122

Medieval

Most of the identifiable post-Roman ceramic building material recovered from the site is undiagnostic flat roof tile. The fabric types recovered suggest that with two exceptions (contexts 162 and 198) the material in use in the area was not of Lincoln origin. The presence of two Lincoln glazed roof tiles is surprising as these tiles are not a common find even within the city. This type of flat roof tile dates to between the late 12th and mid 13th centuries and is found both with suspension nibs and peg holes. The main fabric type found on the site includes common white clay and iron-rich inclusions.

A single fragment of a post-medieval or early modern ridge tile (context 154) was recovered together with three undiagnostic fragments of medieval to post-medieval tile.

Summary and Recommendations

The ceramic building material recovered is a small but important group. Apart from a few exceptions the material is not typical of that found on sites in the city of Lincoln. None of the material has therefore been discarded and all of the remaining fragments should be retained. Fabric analysis of the main fabric type should take place to characterise the fabric and identify a possible source area for manufacture.

Table 2: Ceramic Building Material – Archive List

context	cname	fabric	frags	weight	description	date
154	PNR		1	21	flat roofer;light oxid very sandy fabric	med
154	PNR		3	15		med to pmed
154	RID		1	8		pmed to modern
162	GPNR	7	1	42	thick tile;early Lincoln roofer	late 12th to mid 13th
162	PNR		1	13	flat roofer;comm white inclusions	med
169	PNR		1	10	flat roofer;poor fabric with comm white clay & fe inclusions	med
169	PNR		1	67	flat roofer;poor fabric with comm white clay & fe inclusions	med
169	PNR		2	40	flat roofer;poor fabric with comm white clay & fe inclusions	med
198	GPNR		1	44	spots of glaze;light reduced fabric oxid surfaces	13th
198	PNR		1	33	flat roofer;poor fabric	med
198	PNR		1	106	light firing comm white clay incl	med
198	PNR		1	5	thin tile;sandy fabric	med
198	PNR		1	3	flake	med
198	PNR		1	38	flat roofer;light firing with mod fe	med
199	RTMISC		1	122	very thin odd tile tempered with slag ?/large fe lumps;? Odd tegula	Roman or medieval
250	PNR		1	46	light oxid sandy fabric	medieval

Key to ceramic building material codes:

GPNR	GLAZED PEG/NIB/RIDGE TILE
PNR	UNGLAZED PEG/NIB/RIDGE TILE
RID	UNGLAZED RIDGE TILE
RTMISC	MISCELLANEOUS ROMAN TILE

Key to Abbreviations:

COMM	COMMON
OXID	OXIDISED

APPENDIX E – ENVIRONMENTAL ARCHAEOLOGY

By Andrea Snelling & James Rackham (The Environmental Archaeology Consultancy)

Introduction

Following evaluation excavations conducted by the City of Lincoln Archaeology Unit at the site of a proposed housing estate at Bunkers Hill in 2000, further excavation was carried out to the north of trial Trench 1, up to the northern site boundary. The triple ditch system, revealed in previous excavations was found to terminate within the newly stripped area, with a concentration of activity in the immediate vicinity of the terminals. Nine samples were taken from the fills of the post holes and pits in Area 3, immediately east of the SW ditch terminal, and three charcoal samples, and submitted to the Environmental Archaeology Consultancy for processing and analysis (Table 1).

Table 1: Bunkers Hill. Samples taken for environmental analysis

sample	context no.	sample vol. in l.	sample wt. in kg	feature
1	224	2	3	Fill of post hole 225
2	226	4	3	Fill of post hole 227
3	228	7	8	Fill of post hole or small pit 229
4	214	1.5	2	Fill of post hole 215
5	216	0.25	0.219	Fill of stake hole 217
6	222	9	10	Fill of pit 223
7	232	8	9	Fill of pit 233
8	239	5	6	Fill of pit 233
9	230	5	6	Fill of pit/natural cut 231
10	222	charcoal	6g	Fill of pit 223
11	232	charcoal	5g	Fill of pit 233
12	230	charcoal	15g	Fill of pit/natural cut 231

Methods

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet-sieve of 1mm mesh for the residue. Both residue and float were dried, and the residues subsequently re-floated to ensure the efficient recovery of charred material and mollusc shells. The dry volume of the flots was measured, and the volume and weight of the residue recorded. The three charcoal samples were rinsed in a 300 micron sieve and dried.

The residue was sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheet and bagged independently. A magnet was run through each residue in order to recover magnetised material such as hammerstone and prill. The residue was then discarded. The flot of each sample was studied using up to x30 magnifications and the presence of environmental finds (ie snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. The flot was then bagged and along with the finds from the sorted residue constitute the material archive of the samples.

The individual components of the samples were then identified and the results are summarised below in Tables 2, 3 and 4.

Results

Most of the samples contained modern root fragments and shells of the blind burrowing snail, *Cecilioides acicula*. Occasional modern seeds and modern insect fragments were recorded in some of the samples and worm egg capsules were sometimes present. This material represents low levels of recent contamination and is not considered contemporary with the deposits. Five of the samples contained small amounts of magnetized material however no hammerscale was recorded. Some of these features produced pottery during excavation, which is similar to that found during the evaluation and has been interpreted as possibly Late Bronze Age/Early Iron Age. Pottery additionally recovered from the latest fill of the nearest ditch terminal is also of a similar nature and suggests that the sampled features might be contemporary with the latest phase of the triple ditch.

Table 2: Bunkers Hill. Finds from the processed samples

samp no	context no.	samp vol. (l)	feature	residue volume (l)	pot #/g	fired earth/daub (g)	slag (g)	mag. (g)	bone (g)
1	224	2	Fill of post hole 225	0.6	24/<1			<1	
2	226	4	Fill of post hole 227	1.5	1/<1	1			
3	228	7	Fill of post hole or small pit 229	2.5	2/3	340	99	<1	
4	214	1.5	Fill of post hole 215	0.45		<1			
5	216	0.25	Fill of stake hole 217	0.03					<1
6	222	9	Fill of pit 223	2.5	11/3			<1	1
7	232	8	Fill of pit 233	2.75	2/4	<1		<1	
8	239	5	Fill of pit 233	0.3					
9	230	5	Fill of pit/natural cut 231	2				<1	

#/g - sherd no/weight in g.

Four possible post holes were sampled, three of which contained pottery and three included fired earth/daub. Context 228, from post hole/small pit 229, had the highest weight of fired earth and also the only identified slag (Table 2) and a little cindery material in the flot. Small amounts of charcoal were present in all four of the post holes and charred cereal grain was present in three. This was the only charred grain recorded and was represented by one or two grains only, predominantly barley. A few charred seeds were recorded, represented by one or two seeds only (Table 3). Molluscs were present in all four of the post holes and are discussed below. The fill of stakehole 217, contained very little other than small fragments of bone and snail shells.

Samples were taken from four pits, two of which contained pottery and one a small amount of fired earth. There was no charred grain recorded in any of these pit samples and only a small charred grass seed fragment in one. Molluscs were recorded in all four (Table 4).

Table 3: Bunkers Hill. Environmental Finds from the processed samples

sample	context no.	sample vol (l)	feature	flot vol. (ml)	charcoal */<2*	charr'd grain *	charr'd seed *	snails *	comment
1	224	2	Fill of post hole 225	<1	1/2			1	
2	226	4	Fill of post hole 227	<1	2/2	1	1	2	Barley, knotweed
3	228	7	Fill of post hole or small pit 229	<1	1/2	1		2	barley
4	214	1.5	Fill of post hole 215	<1	1/3	1	1	2	oat
5	216	0.25	Fill of stake hole 217	<1	1/2			1	
6	222	9	Fill of pit 223	<1	2/3		+	2	grass

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7	232	8	Fill of pit 233	<1	2/2			2	
8	239	5	Fill of pit 233	<1	0/1			1	
9	230	5	Fill of pit/natural cut 231	<1	1/2			2	
10	222	10ml	Fill of pit 223	-	2/2				
11	232	10ml	Fill of pit 233	-	2/2				
12	230	20ml	Fill of pit/natural cut 231	-	2/2				

* = abundance: 1=1-10, 2=11-50, 3=51-150, 4=151-250, 5=250+

/<2 = abundance/adundance <2mm

The mollusc shells from all nine soil samples were identified and counted (Table 4). The most abundant snail, *Cecilioides acicula*, the blind burrowing snail is almost certainly an intrusive taxon in these 1st millennium BC deposits (see Evans 1972), but the remainder of the snails have been treated as *in situ*. The assemblages are not large and their individual interpretation is therefore limited. However collectively they give some character to the local environment at the time the features were infilling. The dominant taxa are those of dry calcareous grassland and catholic habit.

Table 4: Bunkers Hill. Mollusc taxa identified from the processed samples

Sample	1	2	3	4	5	6	7	8	9
Context	224	226	228	214	216	222	232	239	230
Open country/grassland habitat									
<i>Cecilioides acicula</i>		++	++	++		++	++	+	++
<i>Vallonia excentrica</i>	1	1	3			15	8	6	3
<i>Vallonia costata</i>		1	8			8	3	1	
<i>Vallonia</i> sp.	3	3	4	2		10	3		3
<i>Pupilla muscorum</i>		1	1			7	1		3
<i>Vertigo pygmaea</i>	1			1		4			
<i>Helicella caperata</i>							1		
<i>Helicella</i> sp.				1		2	3		1
Catholic habit									
<i>Trichia hispida</i>		1	4	4		9	14		5
<i>Cochlicopa</i> sp.			1						
<i>Helix</i> sp.						2	2		2
Woodland/shaded habitat									
<i>Discus rotundatus</i>			1						
<i>Oxychilus</i> sp.			1			1			
<i>Retinella nitidula</i>							3		1
Punctum pygmaeum									1
<i>Carychium tridentatum</i>									9
Clausilidae				1					
Damp ground/marsh habitat									
<i>Succinea</i> sp.						1			
<i>Lymnaea truncatula</i>					1				

habitat groupings broadly taken from Evans, 1972; Macan 1977; Ellis 1969; Cameron and Redfern 1976

A few individuals of characteristically shaded or woodland habitats occur but even some of these are tolerant of more open environments or long grassland. Only two taxa normally associated with wet grasslands or marsh environments were recorded.

Discussion

The material collected from the nine samples, although relatively sparse, is generally indicative of a domestic setting with charred grain, a little bone, pot and fired earth. Larger sample sizes would certainly have been more productive but the size of the features was a limiting factor. The fill of post hole/small pit 229 provided the richest assemblage although very little charred material was present. Only three samples contained charred grain most of which was identified as barley, although only one or two grains were present in each. It is unlikely that the features sampled were actively used for dumping domestic debris since the concentrations are relatively low and the pits, in general contain fewer finds. The absence of hammerstone in this area suggests that the industrial activity highlighted in the evaluation of Trench 1 (Rackham 2000) did not occur in the immediate vicinity. The few flakes identified in the earlier season of excavation probably indicate a very localized activity some distance from the new trenches. A single piece of abraded smelting (tap) slag in feature 229 cannot unfortunately be used as evidence of smelting in association with these features since it may well be residual, although clearly re-inforcing the evidence from the evaluation that there is iron working in the early to middle Iron Age in the area. The most revealing palaeoenvironmental evidence from the samples are the molluscs which provide evidence for an open grassland environment in the immediate area of the excavation at the time the postholes and pits were infilling. This contrasts somewhat with the assemblage from the pit with iron smithing evidence in the evaluation, which included an abundance of woodland and shaded habitat taxa. This might reflect local differences in habitat or perhaps a chronological change.

None of the samples has produced sufficient material for a standard radiocarbon date, including the charcoal samples 10-12. If material is to be dated from this site it would have to be by Accelerator Mass Spectrometry (AMS) dating where only very small samples are required. The level of rootlet intrusion and other material into the sampled deposits makes the dating of such small samples problematic but contexts 226 and 232 both contain material that is suitable for AMS dating if more than one sample from each is dated. This would be needed to ensure that any anomalous dates are recognized.

Apart from the possible radiocarbon analyses if these are required, and the identification of the charcoal samples selected for such analyses, there is no further work needed on these samples.

Acknowledgments

We should like to thank Trude Maynard for the sample processing.

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24th December 2001
The Environmental Archaeology Consultancy

APPENDIX F – OTHER FINDS

By Jenny Mann (CLAU)

REGISTERED FINDS: ARCHIVE LIST

Trench	Context	Finds No.	Material	Object	Date/Comments
1	155	1	COPPER	COIN	ROMAN; M3-L3C RADIATE; 270-284 AD
2	162	2	IRON	-	TOOL/STRUCTURAL?
3	222	3	COPPER	-	-
3	222	4	IRON	-	X5 SHEET (4 JOINING) CURVED + ORGANIC/CHARCOAL? ADHERING
3	222	5	IRON	-	TOOL? APPLIED NON-FERROUS STRIP + ORGANIC (WOOD?)
4	244	6	FLINT	FLAKE	PREHISTORIC; WASTE OR MESOLITHIC CORE
3	222	7	IRON	-	RING? PLATED?

BULK FINDS: ARCHIVE LIST

Trench	Context	Type	Count	Comments
1	139	SLAG	5	70GM SMITHING
1	141	SLAG	1	4GM SMITHING
1	143	SLAG	2	4GM SMITHING
2	159	WOOD	1	<1GM CHARCOAL
2	159	FIRED CLAY	4	4GM (POSITIVE MAGNETIC RESPONSE)
2	179	WOOD	3	<1GM CHARCOAL
3	210	WOOD	0	7GM CHARCOAL + SOIL/FIRED CLAY
3	210	FIRED CLAY	15	27GM
3	214	WOOD	4	1GM CHARCOAL
3	214	FIRED CLAY	7	8GM
3	222	SLAG	1	2GM SMITHING
3	222	FIRED CLAY	7	1GM
3	226	WOOD	0	10GM CHARCOAL
3	226	FIRED CLAY	4	11GM
3	228	SLAG	1	99GM TAP ABRADED
3	228	FIRED CLAY	140	340GM
3	230	WOOD	3	<1GM CHARCOAL
3	232	WOOD	1	<1GM CHARCOAL
3	232	FIRED CLAY	4	1GM
3	237	FIRED CLAY	8	7GM
3	238	OTHER	1	MODERN; 20C; IRON FILE DISCARDED
2	251	FIRED CLAY	4	13GM

ANIMAL BONE: ARCHIVE LIST

Trench	Context	Count	Comments
1	140	6	-
1	141	22	SMASHED
1	152	13	-
2	159	8	-
2	162	1	-
2	163	6	-
2	179	7	SPLINTERED
2	196	6	-
4	250	1	-
2	251	3	-